

02/2015



water passion

1959

WHO WE ARE

WE WANT TO CONTINUE THAT WHICH WAS STARTED MANY YEARS AGO BY VINICIO METTIFOGO, FOUNDER AND PIONEER.

Calpeda is a family owned company with an history of 56 years.

Today, we are a reality that has evolved over the years, always looking to the future with a spirit that has brought us to being a respected reference point in the great world of water.

Our history has taken our tradition and strength to you, acknowledged for our professionalism, quality, reliability and service.



2015

CALPEDA TODAY

Employees: 250

Offices: Montorso V. (Vicenza) Italy

Main factory: 30,000 sq. metres (covered)

Types of pumps: more than 2,000

Power outputs: from 0.5 kW to 200 kW

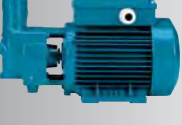
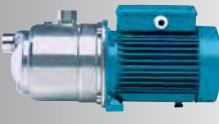


INDEX

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	1 pag. 7 NM, NMD Close coupled centrifugal pumps with threaded ports
	2 pag. 19 NM, NMS Close coupled centrifugal pumps with flanged connections
	3 pag. 31 NM4, NMS4 Close coupled centrifugal pumps n = 1450 rpm
	4 pag. 47 N, N4 End-suction centrifugal pumps EN 733
	5 pag. 73 NR, NR4 In-line pumps
	6 pag. 85 MXH, MXHL Horizontal multi-stage stainless steel pumps AISI 304, AISI 316L
	7 pag. 97 MXP Horizontal multi-stage close coupled pumps
	8 pag. 99 MGP Horizontal multi-stage close coupled pumps
	9 pag. 101 MXSU Vertical multi-stage close coupled stainless steel pumps
	10 pag. 105 MXV-B Vertical multi-stage close coupled stainless steel pumps
	11 pag. 111 MXV, MXVL Vertical multi-stage stainless steel pumps AISI 304, AISI 316L
	12 pag. 135 SPA Compact Spa Self-draining whirlpool pumps

	13 pag. 137 MPC Compact Pool Self-priming swimming pool pumps
	14 pag. 141 NMP Self-priming centrifugal pumps with built-in strainer
	15 pag. 145 PF Pre-filters in stainless steel
	16 pag. 147 A Self-priming centrifugal pumps with open impeller
	17 pag. 153 C Centrifugal pumps with open impeller
	18 pag. 159 CT Peripheral pumps
	19 pag. 163 T, TP Peripheral pumps
	20 pag. 169 CA Self-priming liquid ring pumps
	21 pag. 173 NGL Self-priming pumps
	22 pag. 177 NGX Self-priming pumps
	23 pag. 181 NG Self-priming pumps
	24 pag. 189 MXA Horizontal multi-stage Self-priming pumps



25 pag. 191 **I, IR**

Gear pumps



26 pag. 193 **B-VT**

Peripheral immersion pumps



27 pag. 195 **VAL, SC**

Vertical submerged pumps



28 pag. 199 **GM 10**

Submersible drainage pump



29 pag. 201 **GXR(R), GXV** **NEW**

Submersible stainless steel pumps



30 pag. 213 **GQR** **NEW**

Submersible drainage pumps



31 pag. 217 **GX 40**

Submersible stainless steel pumps



32 pag. 221 **GQS, GQV**

Submersible sewage and drainage pumps



33 pag. 225 **GM 50**

Submersible sewage and drainage pumps



34 pag. 229 **GQG** **NEW**

Submersible pumps with high power grinder



35 pag. 233 **GM**

Submersible pumps



36 pag. 295 **GEO**

GEOTRIT - GEOCOMP - GEOCLEAN
Automatic lifting station



37 pag. 301 **GEO**

Automatic waste water collecting and lifting station



38 pag. 327 **MP** **NEW**

Multi-stage submersible clean water pumps



39 pag. 331 **MPS** **NEW**

Multi-stage submersible clean water pumps



40 pag. 335 **MXS**

Stainless steel multi-stage submersible clean water pumps



41 pag. 339 **SFM 70**

Peripheral submersible borehole pumps for 4" wells



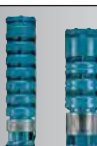
42 pag. 341 **SD, SDF, SDN**

Submersible borehole pumps for 4" and 6" wells



43 pag. 358 **SDX**

Stainless steel submersible borehole pumps for 6" and 8" wells



44 pag. 371 **SDS**

Submersible borehole pumps for 6" - 8" and 10" wells



45 pag. 383 **CS, FK** **NEW**

Submersible motors for 4" - 6" - 8" and 10" wells



46 pag. 395 **NC, NCE** **NEW**

Heating and conditioning



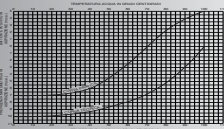
47 pag. 465 **IDROMAT** **NEW**

Electronic regulator for pumps



48 pag. 471 **EASYMAT**

Variable speed system driven by frequency converter

	49 pag. 475	VARIOMAT 2	
Variable speed system driven by frequency converter			
	50 pag. 477	I-MAT	NEW
Variable speed system driven by frequency converter			
	51 pag. 481	BS	NEW
Pressure boosting sets			
	52 pag. 571	AUE, AUD, AUED	
UNI-EN 12845 units for feeding fire-extinguishing systems			
	53 pag. 591	QM, QT	
Control panels			
	54 pag. 616	Accessories	
Accessories for pumps			
	55 pag. 623	Technical appendix	

NM, NMD

Close Coupled Centrifugal Pumps with threaded ports



The electropumps NM, B-NM series comply with the European Regulation no. 547/2012.

Materials

Components	NM, NMD	B-NM, B-NMD
Pump casing	Cast iron	Bronze
Lantern bracket	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Impeller	Brass P- Cu Zn 40 Pb 2 UNI 5705	
NM 17	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Shaft	Cr steel AISI 430	Cr Ni Mo steel AISI 316
	Cr Ni steel AISI 303 1,1 -1,5 - 2,2 kW	
Mechanical seal	Carbon - Ceramic - NBR	

Construction

Close-coupled, centrifugal pumps; electric motor with extended shaft directly connected to the pump.

NM: single-impeller

NMD: with two back-to-back impellers (with axial thrust balancing).

Connections: threaded ports ISO 228/1 (BS 2779).

NM, NMD: version with pump casing and lantern bracket in cast iron.

B-NM, B-NMD: version with pump casing and lantern bracket in bronze.
(the pumps are supplied fully painted).

Applications

For clean liquids without abrasives, which are non-aggressive for the pump materials (solids content up to 0.2%).

For water supply.

For heating, air-conditioning, cooling and circulation plants.

For civil and industrial applications.

For fire fighting applications. For irrigation.

Operating conditions

Liquid temperature from -10 °C to +90 °C.

Ambient temperature up to 40° C.

Total suction lift up to 7 m.

Maximum permissible working pressure up to 10 bar

(16 bar for pumps NMD 25/190; NMD 32/210; NMD 40/180).

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

NM, NMD: three-phase 230/400 V $\pm 10\%$ up to 3 kW;

400/690 V $\pm 10\%$ from 4 to 9,2 kW;

NMM, NMDM: single-phase 230 V $\pm 10\%$, with thermal protector.

Insulation class F. Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 from 7,5 kW.

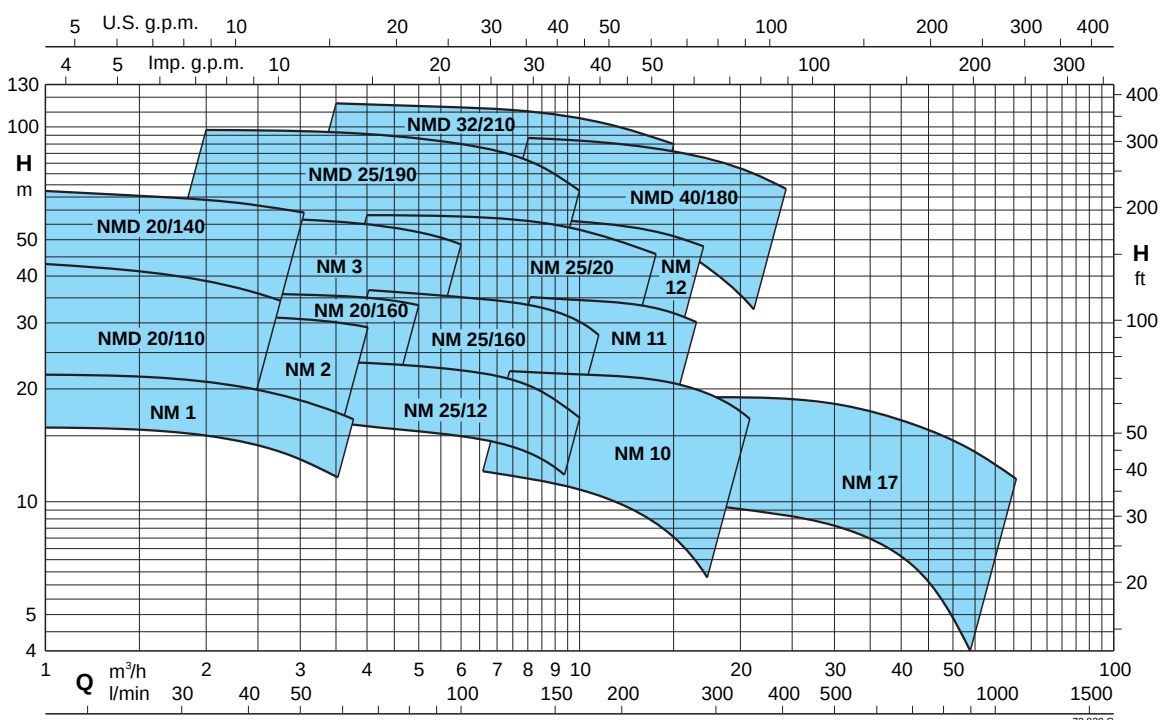
Constructed in accordance with EN 60034-1; EN 60034-30.

EN 60335-1, EN 60335-2-41.

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.
- Motor suitable operation with frequency converter.

Coverage chart $n \approx 2900$ rpm



NM, NMD

Close Coupled Centrifugal Pumps
with threaded ports



Performance n ≈ 2900 rpm

	NM	P ₂		Q m³/h	1	1,2	1,5	1,89	2,4	3	3,6	4,2	4,8	5,4	6	6,6	7,5	8,4
		kW	HP		16	20	25	31,5	40	50	60	70	80	90	100	110	125	140
				l/min														
	NM 1/AE●	0,37	0,5	H m	22	21,6	21,3	20,9	20,3	19,4	18,1	16,3						
	NM 2/B/A●	0,55	0,75		27	26,5	26	25,5	25	24	23	22	20					
	NM 2/S/A●	0,55	0,75		31	30,5	30	29	27,5	25,5	23,5	20	16					
	NM 2/A/A●	0,75	1		33,5	33	32,5	32	31,5	30,5	29,5	28,5	27	26	24			
	NMM 3/CE	1,1	1,5			37,5	37,5	37	36,5	36	35	34	32					
	NM 3/CE	1,1	1,5			37,5	37,5	37	36,5	36	35	34	32	30,5	28,5			
	NMM 3/BE	1,5	2			42	42	41,5	41	40,5	40	39	37	35	32			
	NM 3/BE	1,5	2			47	47	46,5	46	45,5	45	44	43	41,5	40	37,5	33	26
	NMM 3/A	1,8	2,5			47,5	47,5	47	46,5	46	45,5	44,5	43,5	42	40,5	38	33,5	26,5
	NM 3/A/A	2,2	3			56	55,5	55,5	55	54,5	53,5	52,5	51,5	50	48	46	42	36

B-NM B-NMD	NM NMD	P ₂		Q m³/h	1	1,2	1,5	1,89	2,4	3	3,6	4,2	4,8	5,4	6	6,6	7,5	8,4
		kW	HP		16	20	25	31,5	40	50	60	70	80	90	100	110	125	140
				l/min														
B-NMD 20/110B/A●	NMD 20/110B/A●	0,45	0,6	H m	33	32	31	29	26,5	23	18							
B-NMD 20/110Z/A●	NMD 20/110Z/A●	0,55	0,75		37	36	35	33	30,5	27,5	23	18						
B-NMD 20/110A/A●	NMD 20/110A/A●	0,75	1		43	42	40,5	39	36,5	33	29	25						
B-NMDM 20/140BE	NMDM 20/140BE	1,1	1,5		52	51,5	51	50	48,5	47	45							
B-NMD 20/140BE	NMD 20/140BE	1,1	1,5		53	52,5	52	51	50	48	46	43,5	40					
B-NMDM 20/140AE	NMDM 20/140AE	1,5	2		57,5	57	56,5	55,5	54	51,5	49	46	43	40	36			
B-NMD 20/140AE	NMD 20/140AE	1,5	2		67	66,5	66	64,5	63	61,5	59	57	53,5	50	46			
B-NM 20/160BE●	NM 20/160BE●	0,75	1					30,5	30	29,5	28,5	27,5	26,5	25,5	24	22		
B-NM 20/160AE●	NM 20/160AE●	1,1	1,5					36	35,5	35	34,5	33,5	32	30,5	29	27		

B-NM B-NMD	NM NMD	P ₂		Q m³/h	2,4	3	3,6	4,8	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18
		kW	HP		40	50	60	80	100	110	125	140	160	180	200	220	250	280	300
				l/min															
B-NM 25/12B/A●	NM 25/12B/A●	0,55	0,75	H m	20	19,9	19,8	19,3	18,5	18	17,3	16,3	15	13,2	11				
B-NM 25/12A/A●	NM 25/12A/A●	0,75	1		23,5	23,4	23,3	22,9	22,1	21,7	20,9	20	18,7	17,1	15,2				
B-NM 25/160BE●	NM 25/160BE●	1,1	1,5			31	30,7	30	28,5	28	27	26	23						
B-NM 25/160AE●	NM 25/160AE●	1,5	2			36,5	36,2	35,5	34,5	34	33,5	32,5	31	28,5	26				
B-NM 25/200B/B	NM 25/20B/B	2,2	3			42,6	42,3	41,8	41,1	40,7	40,2	39,6	38,6	37,6	36,3	34,7			
B-NM 25/200A/B	NM 25/20A/B	3	4			50,3	50,2	49,8	49,3	49	48,6	48,1	47,3	46,5	45,5	44,3	42,1	38,9	
B-NM 25/200S/B	NM 25/20S/B	4	5,5			57,8	57,7	57,4	57,2	57	56,7	56,4	55,8	55,2	54,3	53,3	51,2	48,2	45,6
B-NMD 25/190C/A	NMD 25/190C/A	2,2	3		62	60,5	59	55,5	51	48,5	44	38							
B-NMD 25/190B/A	NMD 25/190B/A	3	4		76	75	74	70	66	64	60	54	46						
B-NMD 25/190A/A	NMD 25/190A/A	4	5,5		98	97	96	93,5	90	88	84	79	70						

	NM	P ₂		Q m³/h	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27	30
		kW	HP		110	125	140	160	180	200	220	250	280	315	350	400	450	500
				l/min														
	NM 10/FE●	0,55	0,75	H m	12,5	12,5	12	11,5	11	10	9	7,5						
	NM 10/DE●	0,75	1		18	18	17,5	17	16,5	16	15,5	14						
	NM 10/AE●	1,1	1,5		23	23	22,5	22	21,5	21	20,5	19						
	NM 10/SE●	1,5	2		23,5	23,5	23	22,5	22	21,5	21	20,5	19	18,5	16,5	13		
	NMM 11/BE	1,5	2		26,5	25,5	25	24	23	22,5	21,5	19,5	17,5					
	NM 11/BE	1,5	2		29,5	29,5	29	28,5	27,5	27	26	25*	22,5*					
	NM 11/A/A	2,2	3		35,5	35,5	35	34,5	34	33,5	33	32*	30*					
	NM 12/D/A	2,2	3		38	37,5	37	36	35	33,5	32							
	NM 12/C/A	3	4		45	44,5	44	43,5	42,5	41	40	38	36					
	NM 12/A/A	4	5,5		57,5	57	56	55,5	55	54,5	53,5	51,5	49					

NM, NMD

**Close Coupled Centrifugal Pumps
with threaded ports**



Performance $n \approx 2900$ rpm

1

B-NMD	NMD	P ₂		Q m³/h l/min	5,4	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24
		kW	HP		90	100	110	125	140	160	180	200	220	250	280	315	350	400
B-NMD 32/210D/A	NMD 32/210D/A	4	5,5	H m	71	69	67,5	65	62,5	58	53	46	37*					
B-NMD 32/210C/A	NMD 32/210C/A	5,5	7,5		84	83	82	81	79	76	73	69	64*	54*				
B-NMD 32/210B/A	NMD 32/210B/A	7,5	10		104	103	102	100	98	95	92	88	84*	76*				
B-NMD 32/210A/B	NMD 32/210A/B	9,2	12,5		114	113	112	110	108	105	103	99	96*	90*				
B-NMD 40/180D/A	NMD 40/180D/A	4	5,5					60	59,5	57	56	53	51,5	48	44	39	34*	25*
B-NMD 40/180C/A	NMD 40/180C/A	5,5	7,5					69	68	67	66	64,5	63	60	57	53	48*	40*
B-NMD 40/180B/A	NMD 40/180B/A	7,5	10					87	86	85	84	82,5	81	78	75	71	66*	59*
B-NMD 40/180A/B	NMD 40/180A/B	9,2	12,5					94	93	92	91	89,5	88	85	82	78	74*	67*

B-NM	NM	P ₂		Q m³/h l/min	21	24	27	30	33	37,8	42	48	54	60	66	75	84	96
		kW	HP		350	400	450	500	550	630	700	800	900	1000	1100	1250	1400	1600
B-NM 17/HE●	NM 17/HE●	1,1	1,5	H m	9,5	9,2	9	8,6	8,2	7,5	6,7	5,5	3,5*					
B-NM 17/GE●	NM 17/GE●	1,5	2		12	11,7	11,5	11,2	11	10,3	9,7	8,5	7*	4*				
B-NM 17/F/A	NM 17/F/A	2,2	3			16	16	15,5	15	14,5	14	13	11,5*	10*	8*			
B-NM 17/D/A	NM 17/D/A	3	4				18	18	17,5	17	16,5	15,5	14*	13*	11,5*			

NM, NMD Standard construction.
B-NM, B-NMD Bronze construction.

P₂ Rated motor power output.
H Total head in m.

- With single-phase motor = NMM - NMDM.
- * Maximum suction lift 1-2 m.
Tolerances according to UNI EN ISO 9906:2012

Rated currents

	P ₁		P ₂		230 V 1~ In A	IA/IN
	kW	kW	HP	HP		
	0,62	0,37	0,5	3	2,7	
	0,72	0,45	0,6	3,6	2,9	
	1	0,55	0,75	4,5	2,3	
* NMM 25/12B/A	0,9	0,55	0,75	4,2	2,5	
* NMM 10/FE	0,9	0,55	0,75	4,2	2,5	
	1,3	0,75	1	6	3	
* NMM 25/12A/A	1,2	0,75	1	5,4	3,3	
* NMm 10/DE	1,2	0,75	1	5,8	2,6	
	1,6	1,1	1,5	7,4	3	
	2	1,5	2	9,2	3,8	
	2,5	1,8	2,5	11,2	4,5	

	P ₂		230 V Δ / 400 V Y 400 V Δ / 690 V Y			IA/IN
	kW	HP	In A	In A	In A	
	0,37	0,5	2,3	1,3		3,8
	0,45	0,6	2,3	1,3		3,5
	0,55	0,75	3	1,7		3,6
* NM 25/12B/A	0,55	0,75	2,8	1,6		3,9
* NM 10/FE	0,55	0,75	4	2,3		4,8
	0,75	1	3,7	2,2		4
* NM 25/12A/A	0,75	1	3,5	2		4,3
* NM 10/DE	0,75	1	4	2,3		4,8
	1,1	1,5	4,6	2,7		5,6
	1,5	2	7,5	4,3		5,5
	2,2	3	9,15	5,3		7,4
	3	4	11,5	6,6		8,2
	4	5,5		9,6	5,5	7,6
	5,5	7,5		10,9	6,3	9,1
	7,5	10		14,3	8,3	9,1
	9,2	12,5		18,5	10,7	8,2

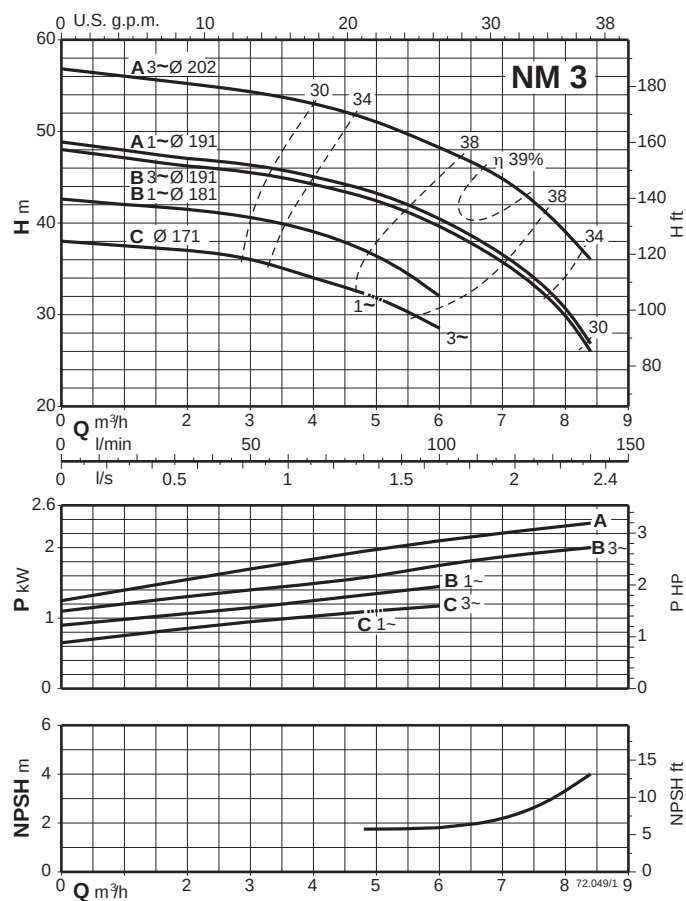
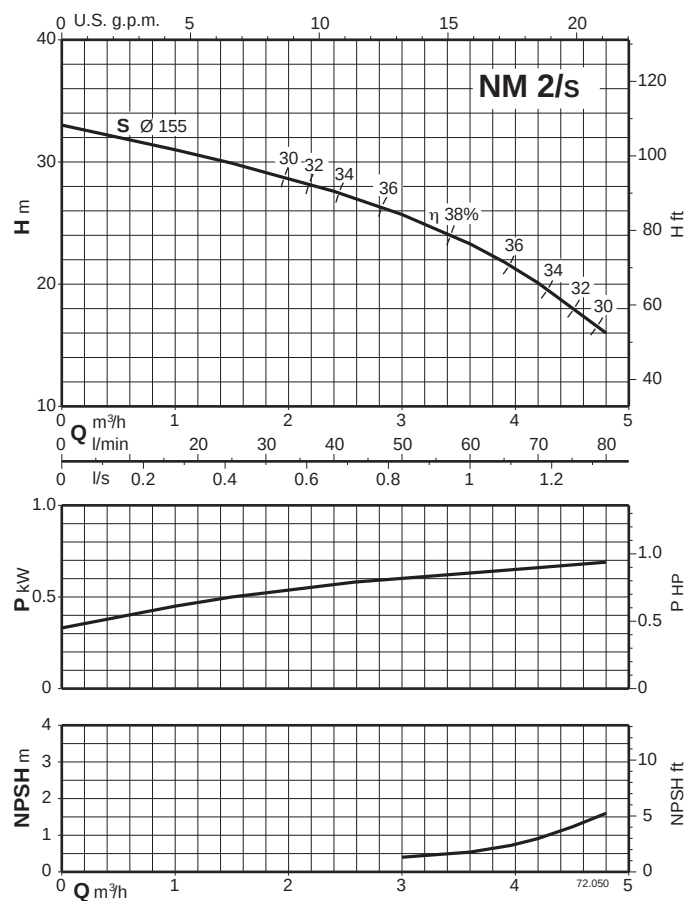
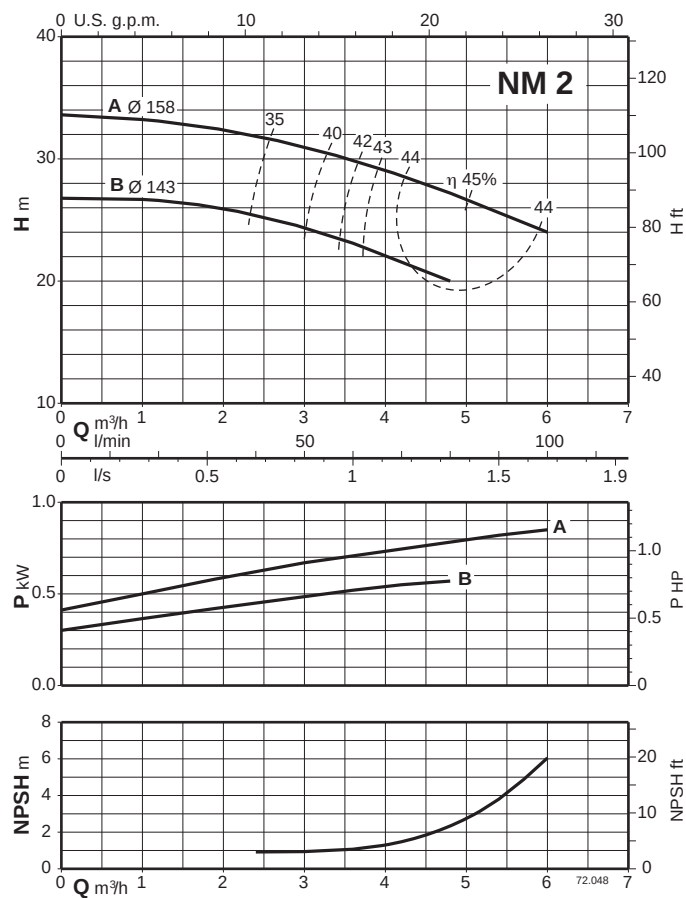
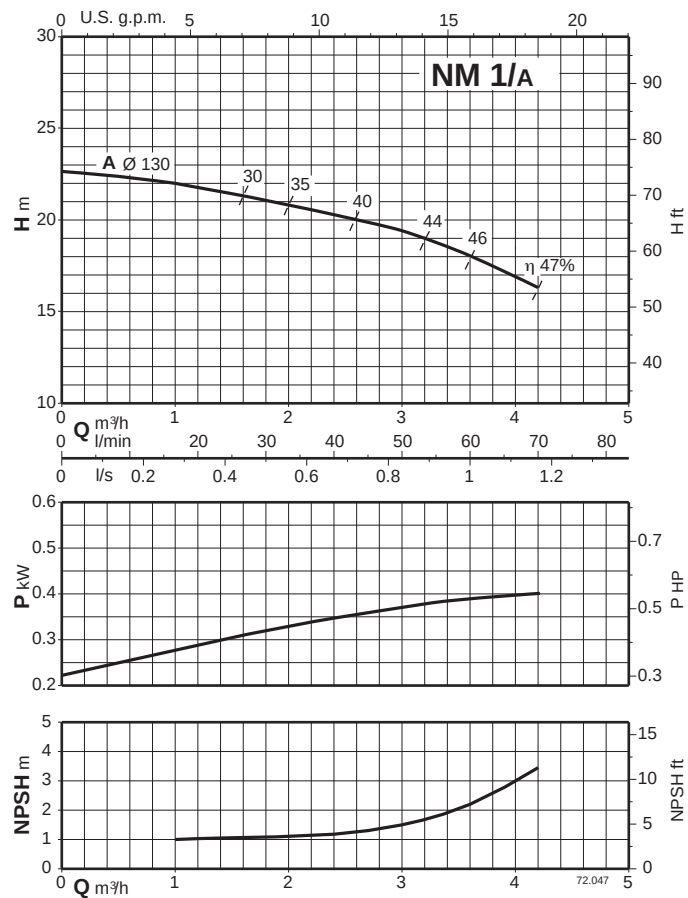
P₁ Maximum power input.
P₂ Rated motor power output.
IA/IN D.O.L. starting current / Nominal current



Close Coupled Centrifugal Pumps with threaded ports



Characteristic curves $n \approx 2900$ rpm



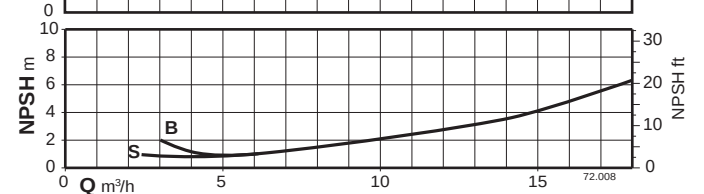
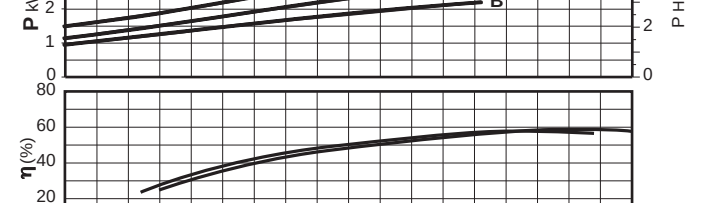
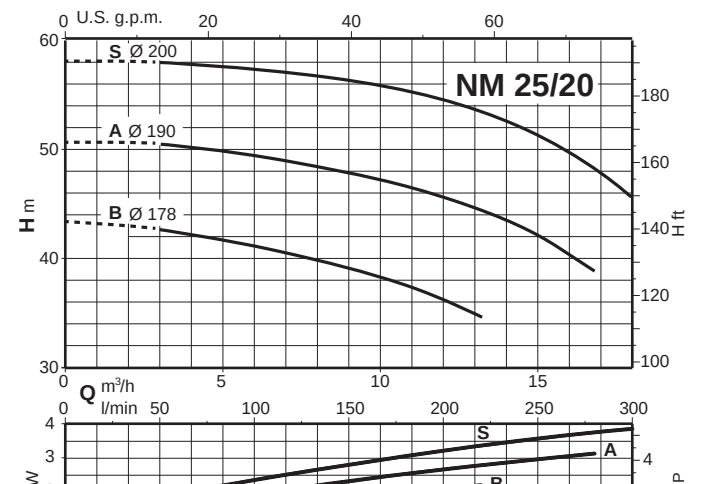
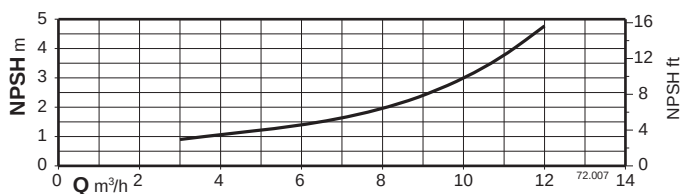
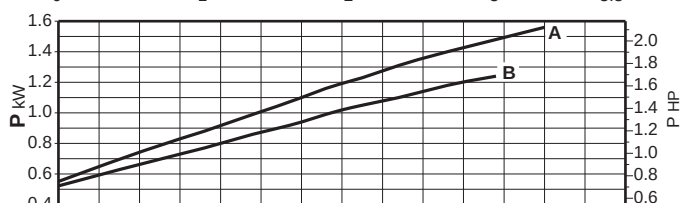
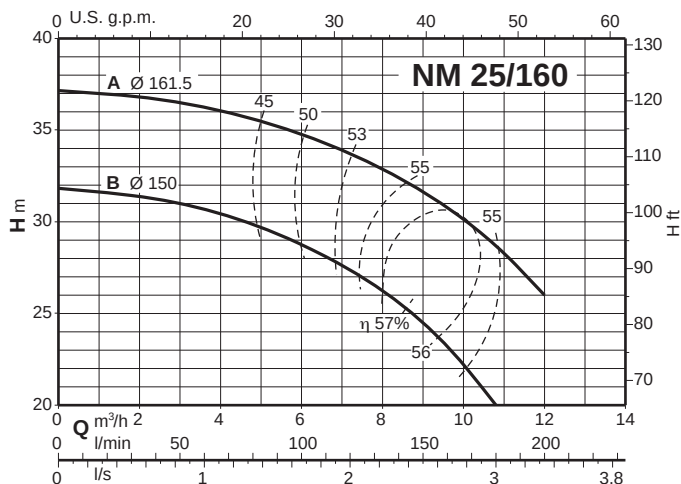
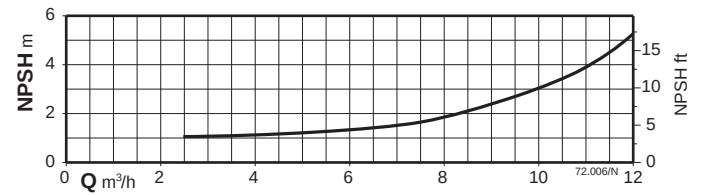
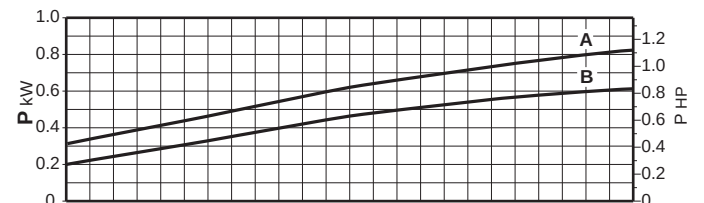
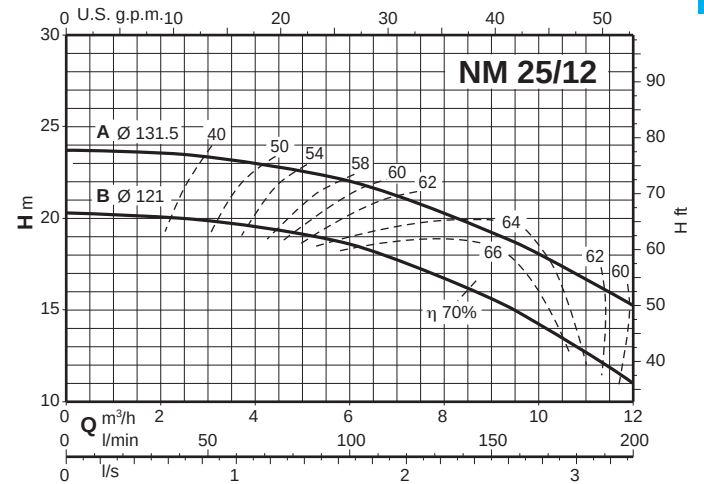
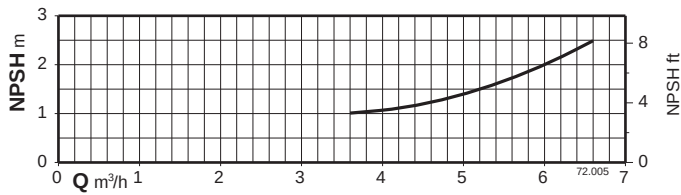
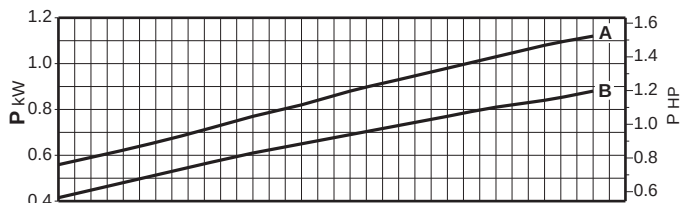
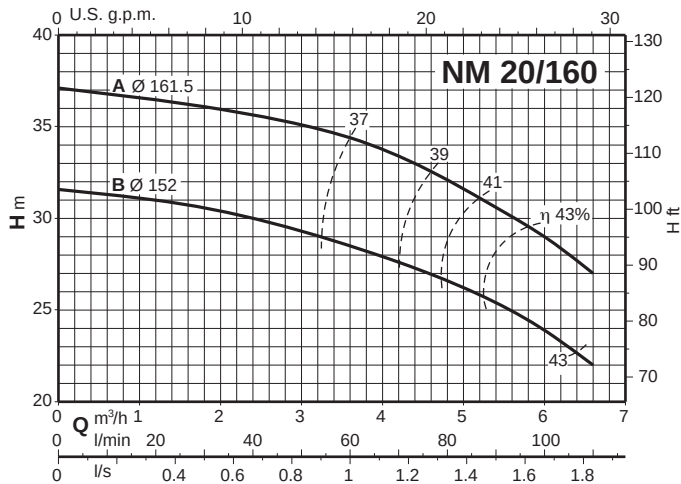


Close Coupled Centrifugal Pumps with threaded ports



Characteristic curves $n \approx 2900$ rpm

1

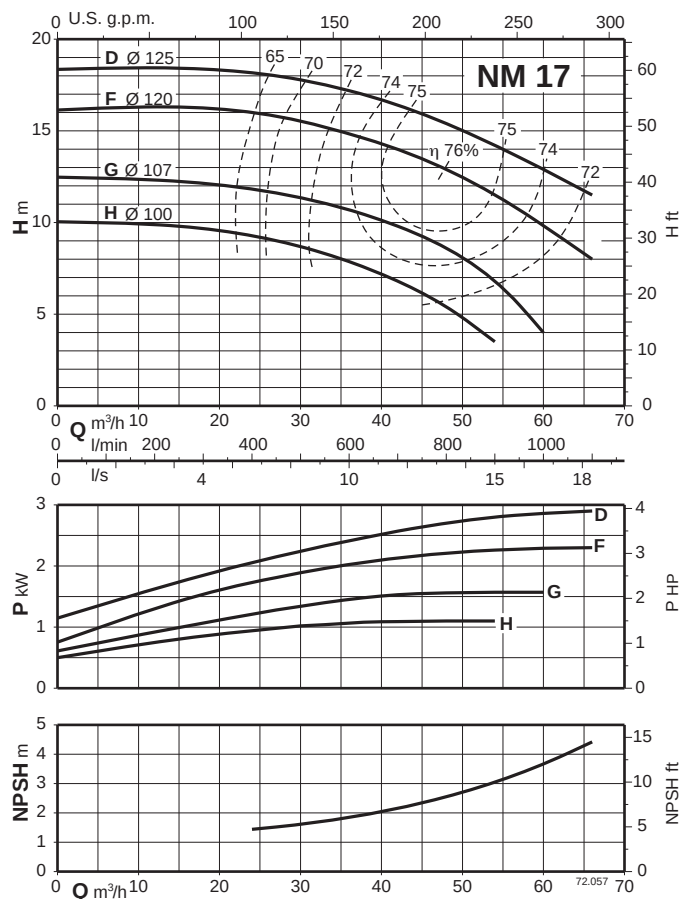
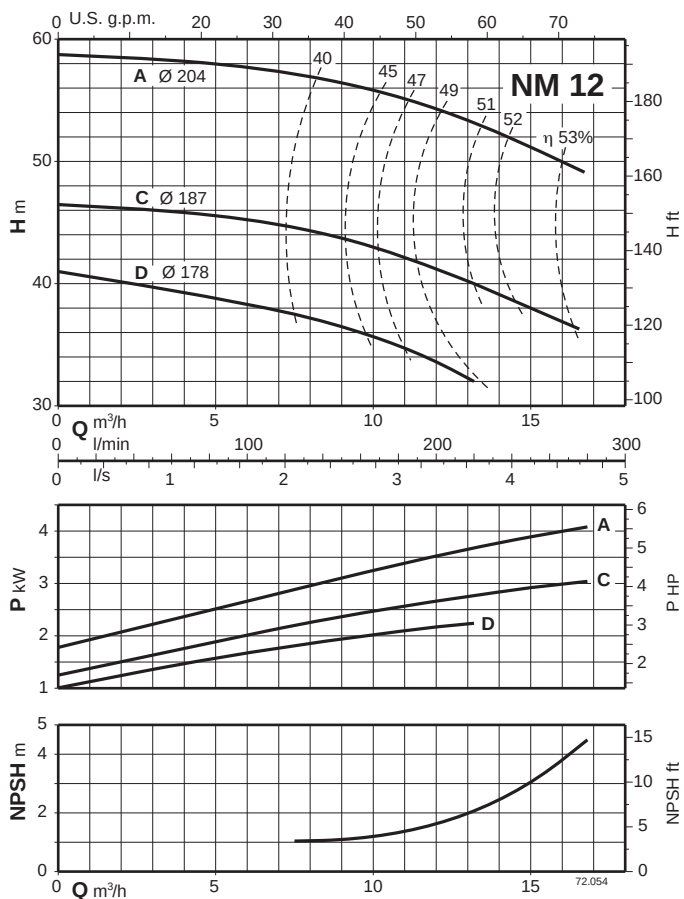
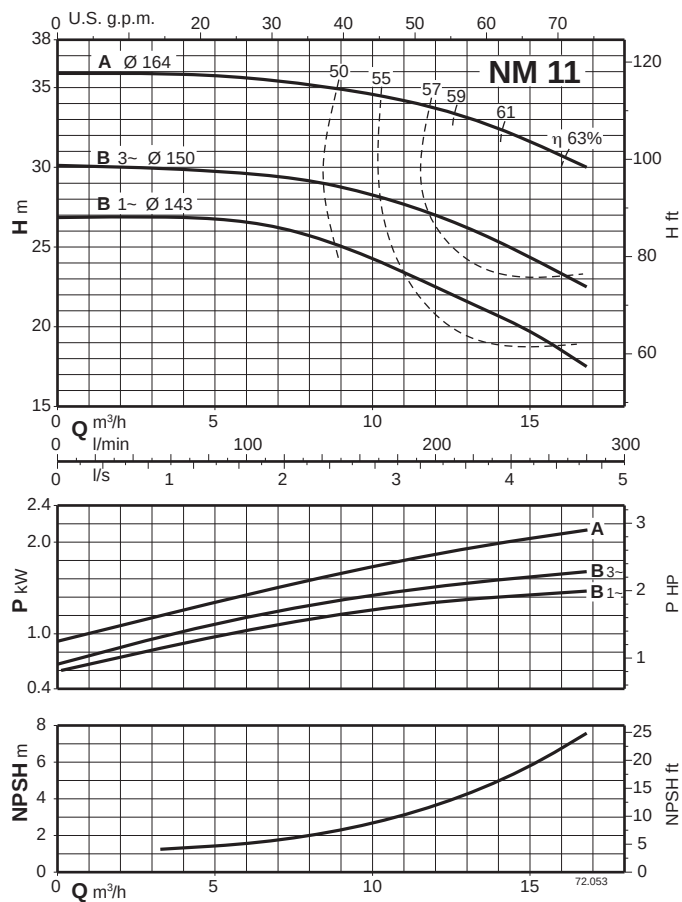
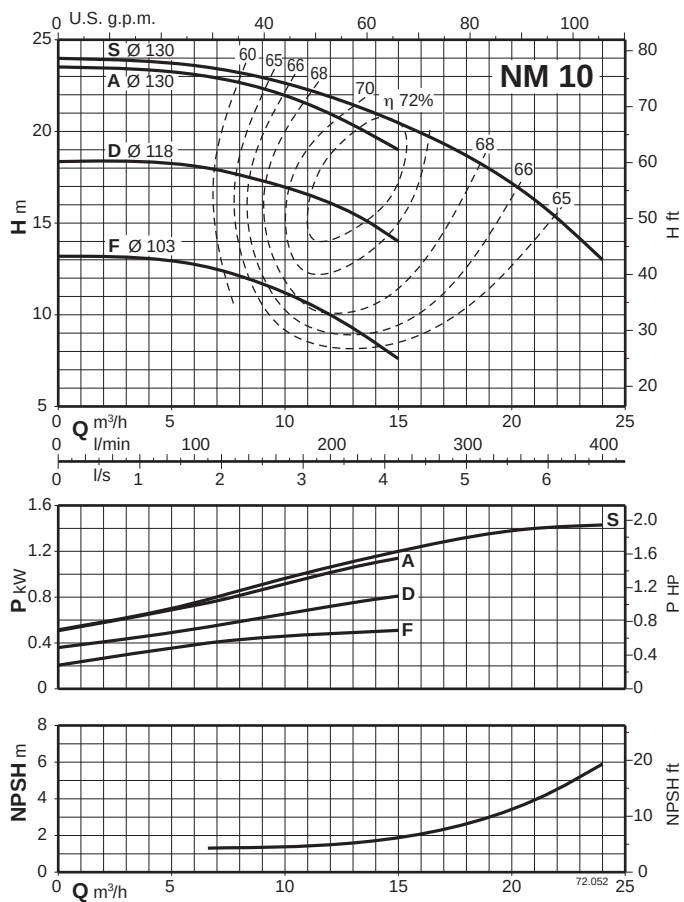




Close Coupled Centrifugal Pumps with threaded ports



Characteristic curves $n \approx 2900$ rpm



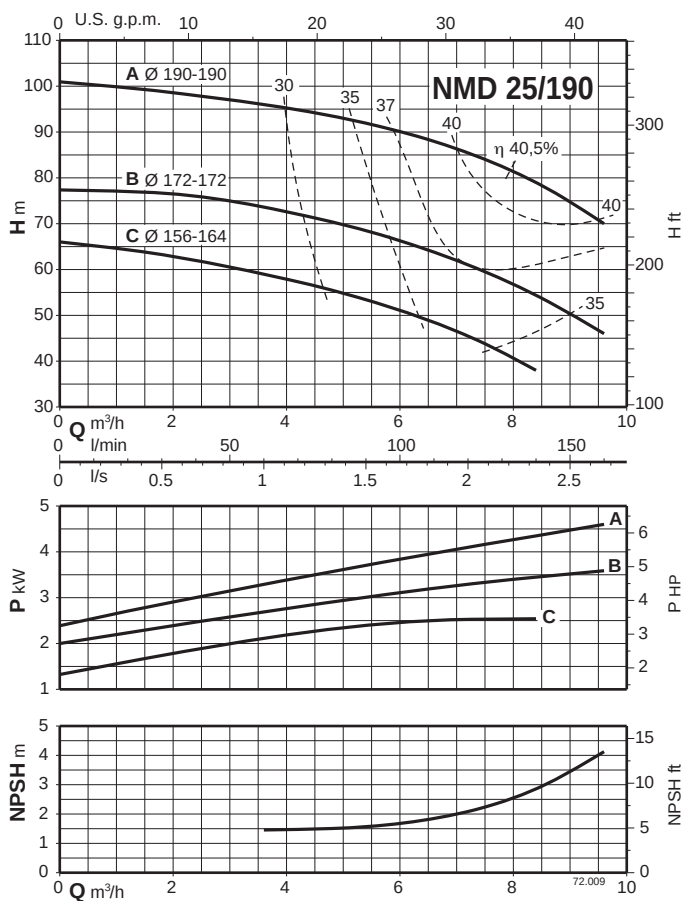
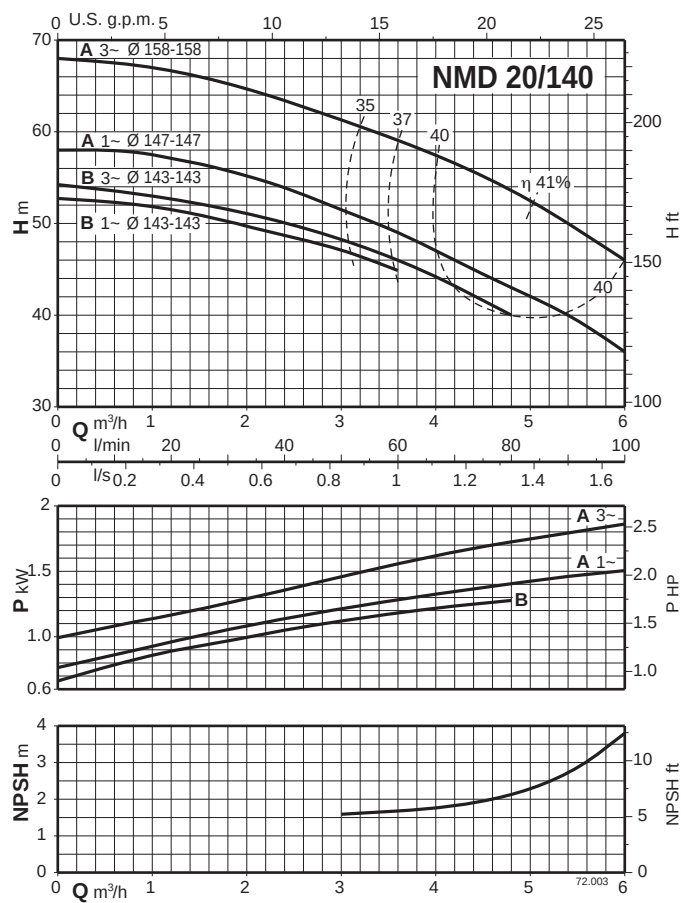
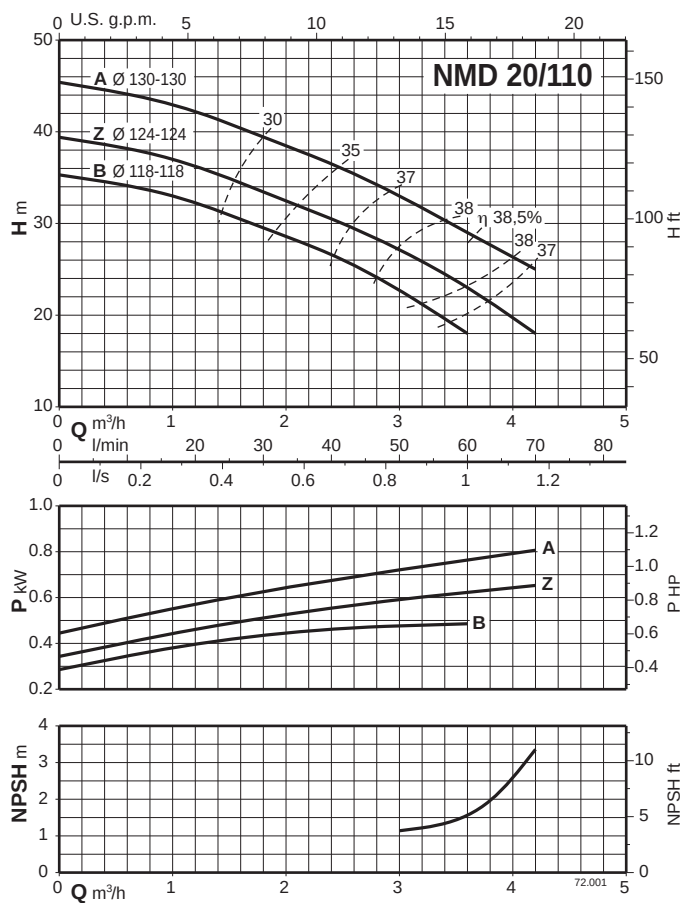


Close Coupled Centrifugal Pumps with threaded ports



Characteristic curves $n \approx 2900$ rpm

1

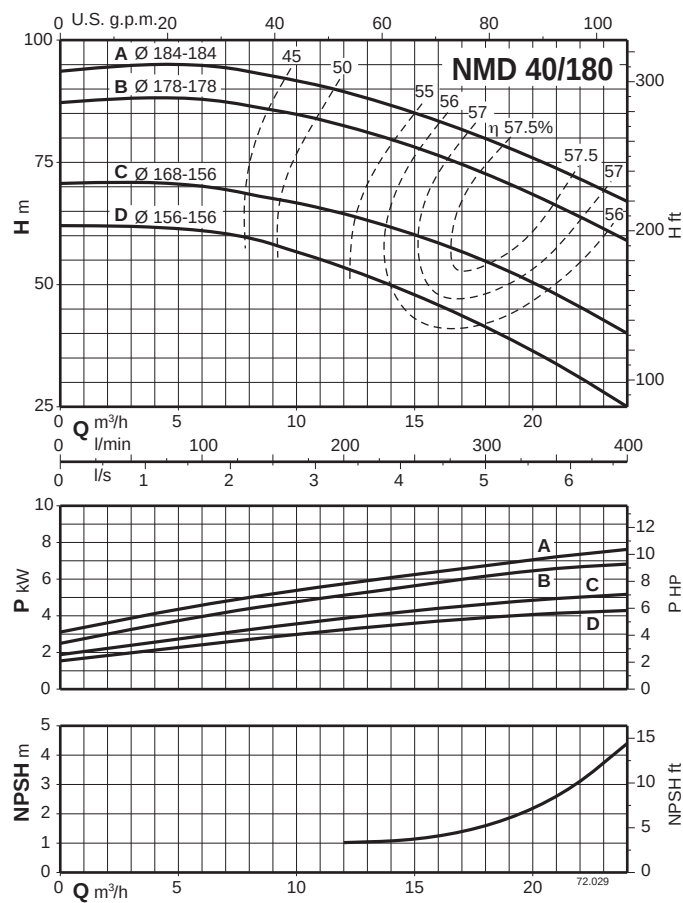
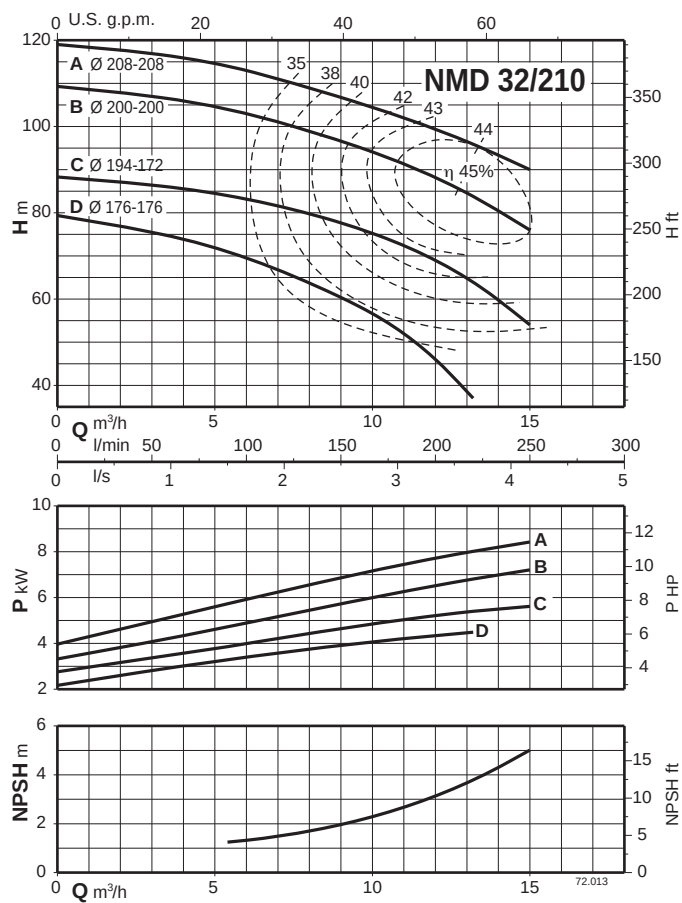




Close Coupled Centrifugal Pumps with threaded ports



Characteristic curves $n \approx 2900$ rpm



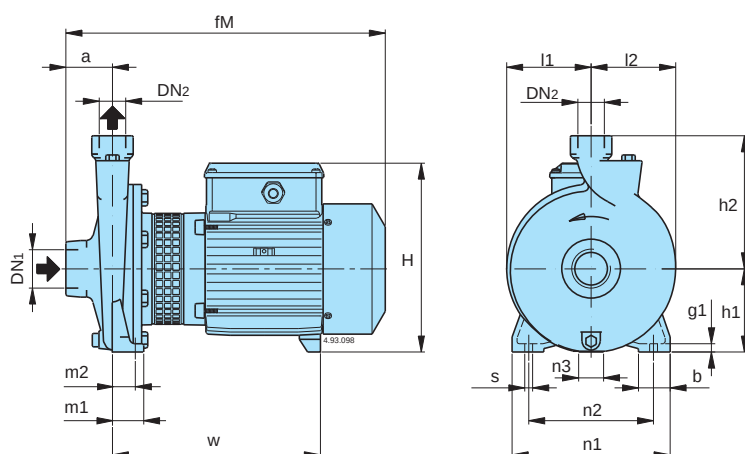


Close Coupled Centrifugal Pumps with threaded ports



Dimensions and weights

1



TYPE	NMM kg	NM kg	B-NM kg
NM 1/AE	8,7	8,6	
NM 2/B/A	14	13,1	
NM 2/S/A	14,2	13,3	
NM 2/A/A	15,1	14,2	
NM 3/CE	24	22,9	
NM 3/BE	26	25,1	
NM 3/A/A	30,4	29,1	
B- NM 20/160BE	19,9	18,4	21
B- NM 20/160AE	20,7	19,7	22,5
B- NM 25/12B/A	13,2	12,3	13,5
B- NM 25/12A/A	14,2	13,3	14,5
B- NM 25/160BE	20,4	19,7	22,8
B- NM 25/160AE	22,5	21,5	24
NM 25/20B/B		31,6	
NM 25/20A/B		40,9	
NM 25/20S/B		42,2	
B- NM 25/200B/B			35,7
B- NM 25/200A/B			43,7
B- NM 25/200S/B			45,2
NM 10/FE	19,3	18,5	
NM 10/DE	19,4	18,8	
NM 10/AE	20,2	19,3	
NM 10/SE	22,1	21,5	
NM 11/BE	24,7	24,1	
NM 11/A/A		28,1	
NM 12/D/A		33,5	
NM 12/C/A		42	
NM 12/A/A		43,5	
B- NM 17/HE	23	22,2	29,2
B- NM 17/GE	24,2	23,2	30,2
B- NM 17/F/A		28,2	35,2
B- NM 17/D/A		36,2	43,2

B-NM	NM	DN1 ISO 228	DN2 ISO 228	mm															
				a	fM	h1	h2	H	m1	m2	n1	n2	n3	b	s	l1	l2	w	g1
	NM 1/AE	G 1	G 1	40	261	80	132	176	40	32	170	140	17	35	9,5	77	81	171	10
	NM 2/A/A - S/A - B/A	G 1	G 1	45	305	95	150	207	40	32	190	160	17	35	9,5	87	90	203	10
	NM 3/BE-CE	G 1	G 1	50	375	112	180	240	55	43	245	205	37	45	11,5	110	113	244	12
	NM 3/A/A				415													284	
B- NM 20/160AE-BE	NM 20/160AE-BE	G 1 1/4	G 3/4	53	375	100	150	228	37,5	27,5	190	150	30	38	9,5	102	102	246	10
B- NM 25/12A/A - B/A	NM 25/12A/A - B/A	G 1 1/2	G 1	56	313	90	140	199	37,5	27,5	170	130	9	38	9,5	85	88	195	10
B- NM 25/160AE-BE	NM 25/160AE-BE	G 1 1/2	G 1	56	380	100	160	228	37,5	27,5	190	150	30	38	9,5	102	102	246	10
	NM 25/20B/B	G 1 1/2	G 1	63	433	125	180	253	45	32,5	245	200	49	45	11,5	125	125	291	11
	NM 25/20A/B - S/B				460			263					42					295	
B- NM 25/200B/B		G 1 1/2	G 1	63	445	125	180	253	45	32,5	245	200	49	45	11,5	125	125	303	11
B- NM 25/200A/B - S/B					460			263					42					295	
	NM 10/SE-AE-DE-FE	G 2	G 1 1/4	63	382	100	150	228	50	35	190	140	30	50	13	90	97	239	14
	NM 11/BE	G 2	G 1 1/4	70	400	112	170	240	50	35	210	160	37	50	15	103	110	247	14
	NM 11/A/A				440													287	
	NM 12/D/A	G 2	G 1 1/4	70	440	132	190	260	50	35	240	190	47	50	15	125	127	287	14
	NM 12/A/A - C/A				470			270					45					300	
B- NM 17/GE-HE	NM 17/GE-HE				417			240					37					257	
B- NM 17/F/A	NM 17/F/A	G 2 1/2	G 2 1/2	80	463	112	160	240	50	35	210	160	37	50	14	96	113	304	14
B- NM 17/D/A	NM 17/D/A				480			250					20					295	

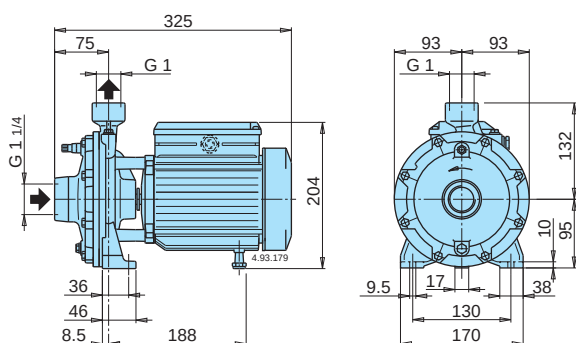


Close Coupled Centrifugal Pumps with threaded ports



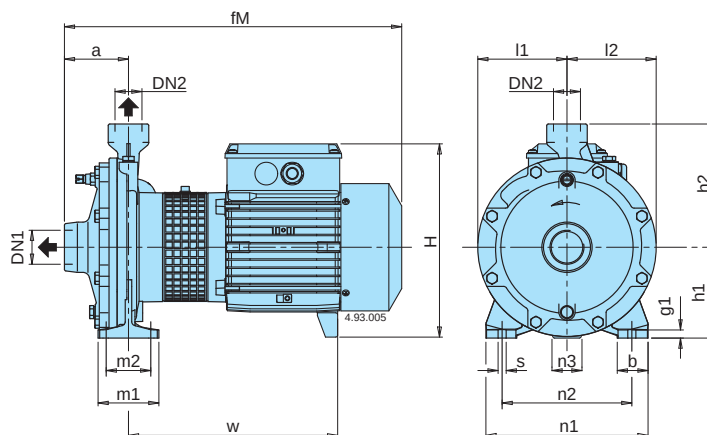
Dimensions and weights

NMD 20/110



TYPE	NMDM kg	NMD kg	B-NMD kg
B- NMD 20/110B/A	13	12,1	13,4
B- NMD 20/110Z/A	14	13	14,2
B- NMD 20/110A/A	15,1	14,2	17,4

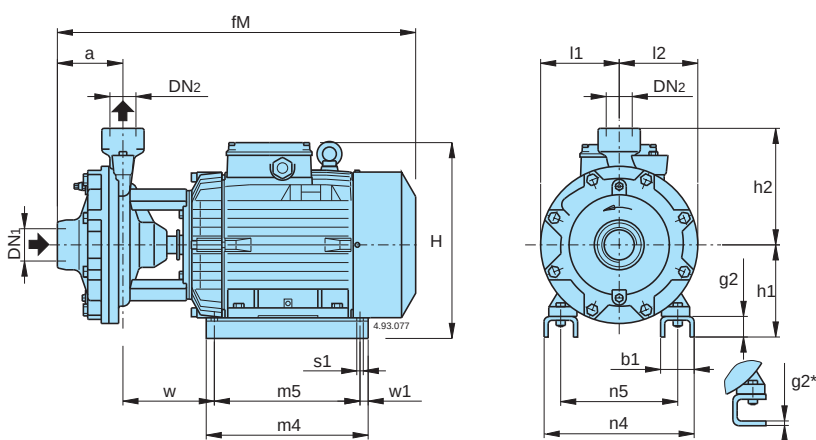
NMD 20/140 NMD 25/190



TYPE	NMDM kg	NMD kg	B-NMD kg
B- NMD 20/140BE	23,9	22,7	25,2
B- NMD 20/140AE	25,2	24,8	27,6
B- NMD 25/190C/A		42	45,7
B- NMD 25/190B/A		49,7	54
B- NMD 25/190A/A		51,5	55,5

B-NMD	NMD	DN1 ISO 228	DN2	mm															
				a	fM	h1	h2	H	m1	m2	n1	n2	n3	b	s	l1	l2	w	g1
B- NMD 20/140AE-BE	NMD 20/140AE-BE	G 1 1/4	G 1	80	417	112	152	243	75	55	200	160	37	38	9,5	110	110	256	10
B- NMD 25/190C/A	NMD 25/190C/A	G 1 1/2	G 1	97	487	140	180	268	100	70	240	190	50	50	14	133	133	314	13
B- NMD 25/190A/A-B/A	NMD 25/190A/A-B/A			500	500			278					49					306	

NMD 32/210 NMD 40/180

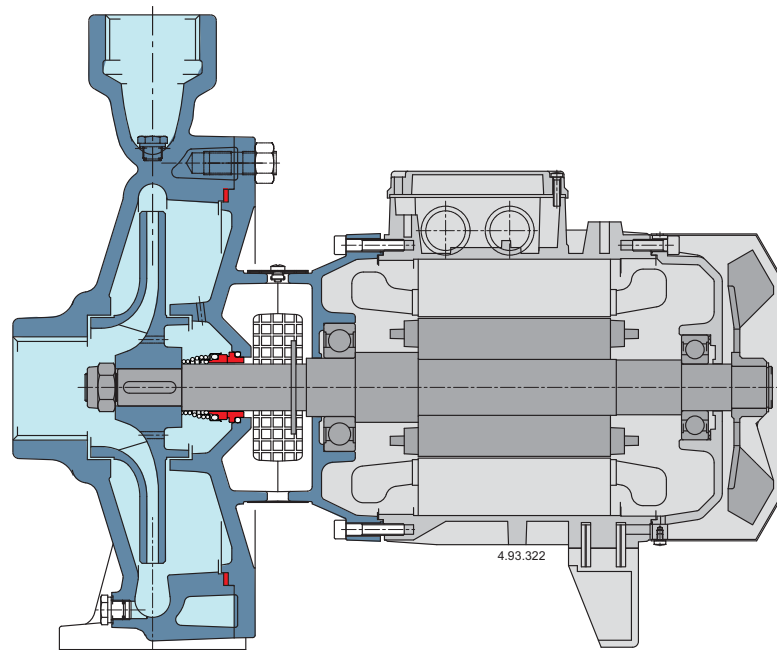


TYPE	NMD kg	B-NMD kg
B- NMD 32/210D/A	60,5	66,5
B- NMD 32/210C/A	71	77
B- NMD 32/210B/A	77	82,5
B- NMD 32/210A/A	99	105
B- NMD 40/180D/A	59,5	65,5
B- NMD 40/180C/A	70	76
B- NMD 40/180B/A	76	81,5
B- NMD 40/180A/A	97	102

B-NMD	NMD	DN1 ISO 228	DN2	mm															
				a	fM	h1	h2	H	m4	m5	n4	n5	w1	b1	s1	l1	l2	w	g2
B- NMD 32/210D/A	NMD 32/210D/A	G 2	G 1 1/4	110	530	155	215	293	205	175	194	140	15	54	10	150	150	139	6*
B- NMD 32/210B/A -C/A	NMD 32/210B/A -C/A				550	150	215	310	280	250	258	190	15	68	12	150	150	108	38
B- NMD 32/210A/B	NMD 32/210A/B				625	170		355	298	268	286	216		70	12			152	38
B- NMD 40/180D/A	NMD 40/180D/A	G 2	G 1 1/2	121	535	155	215	293	205	175	194	140	15	54	10	145	145	133	6*
B- NMD 40/180B/A -C/A	NMD 40/180B/A -C/A				555	150	215	310	280	250	258	190	15	68	12	145	145	102	38
B- NMD 40/180A/B	NMD 40/180A/B				630	170		355	298	268	286	216		70	12			145	38*

Features

1



Compact Design

The compact design allows for easy installation even in confined spaces.

Robust

The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistance to mechanical stress.

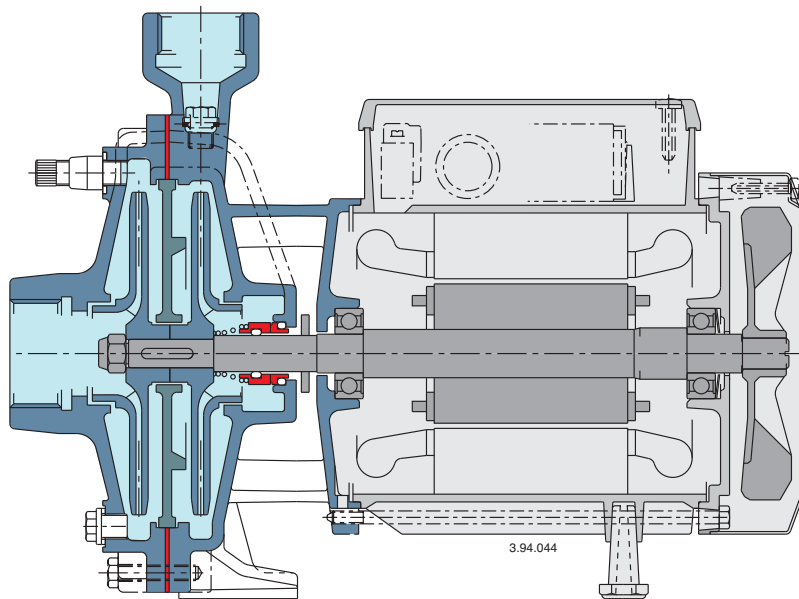
A unique design

The lantern bracket design prevents contact with the pumps rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

Features



Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows NMD series pumps to be selected for use with different types of liquids.

Robust

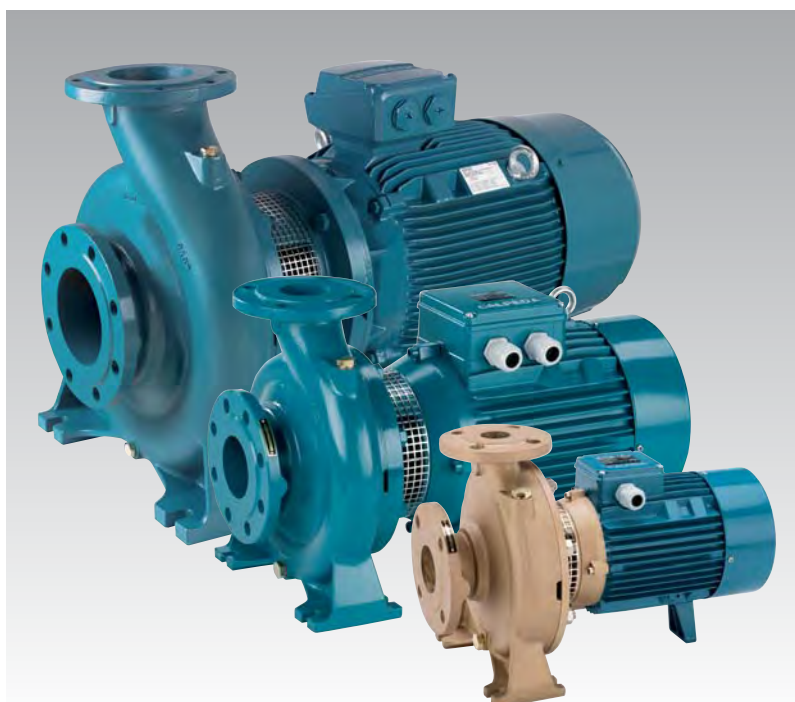
The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistance to mechanical stress.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

NM, NMS

Close Coupled Centrifugal Pumps with flanged connections



The electropumps NM, B-NM, NMS, B-NMS series comply with the European Regulation no. 547/2012.

Materials

Components	NM, NMS	B-NM, B-NMS
Pump casing	Cast iron	Bronze
Lantern bracket NM	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Casing cover for NMS		
Lantern bracket NMS	Cast iron GJL 200 EN 1561	
Impeller	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
	Brass P- Cu Zn 40 Pb 2 UNI 5705 for NM 32/12-16-20, NM 40/20, B-NM 32/125-160-200, B-NM 40/200	
Shaft	AISI 303 up to 2.2 kW AISI 430 from 3 kW to 75 kW	Cr Ni Mo steel AISI 316
Mechanical seal	Carbon - Ceramic - NBR	
Counter-flanges	Steel Fe 430B UNI 7070	

Construction

Close-coupled centrifugal pumps; electric motor with extended shaft directly connected to the pump up to 22 kW, new bracket construction for standard motors (stub-shaft construction) from 30 to 75 kW with integrated thrust bearing.

Pump casing with axial suction and radial delivery on top, main dimensions and performance according to EN 733.

NM(S): version with pump casing and lantern bracket in cast iron. B-NM(S): version with pump casing and lantern bracket/casing cover in bronze. (the pumps are supplied fully painted).

Connections: Flanges according to PN 10, EN 1092-2.

Counter-flanges (on request)

Sizes	Flanges
from NM 32/.. to NM 50/...	Screwed flanges EN 1092-1, PN 16
from NM 65/.. to NMS 100/...	Flanges for welding EN 1092-1, PN 10

Applications

For clean liquids without abrasives, which are non-aggressive for the pump materials (solids content up to 0,2%).

For water supply.

For heating, air conditioning, cooling and circulation plants.

For civil and industrial applications.

For fire fighting applications. For irrigation.

Operating conditions

Liquid temperature from -10 °C to +90 °C.

Ambient temperature up to 40° C.

Total suction lift up to 7 m.

Maximum permissible working pressure up to 10 bar (16 bar for NM 65/12, NM 65/16 and NM 80/16).

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

NM, NMS: three-phase 230/400 V $\pm 10\%$ up to 3 kW;

400/690 V $\pm 10\%$ from 4 to 75 kW.

Insulation class F. Protection IP 54 (IP 55 for NMS).

Motor suitable for operation with frequency converter from 2.2 kW.

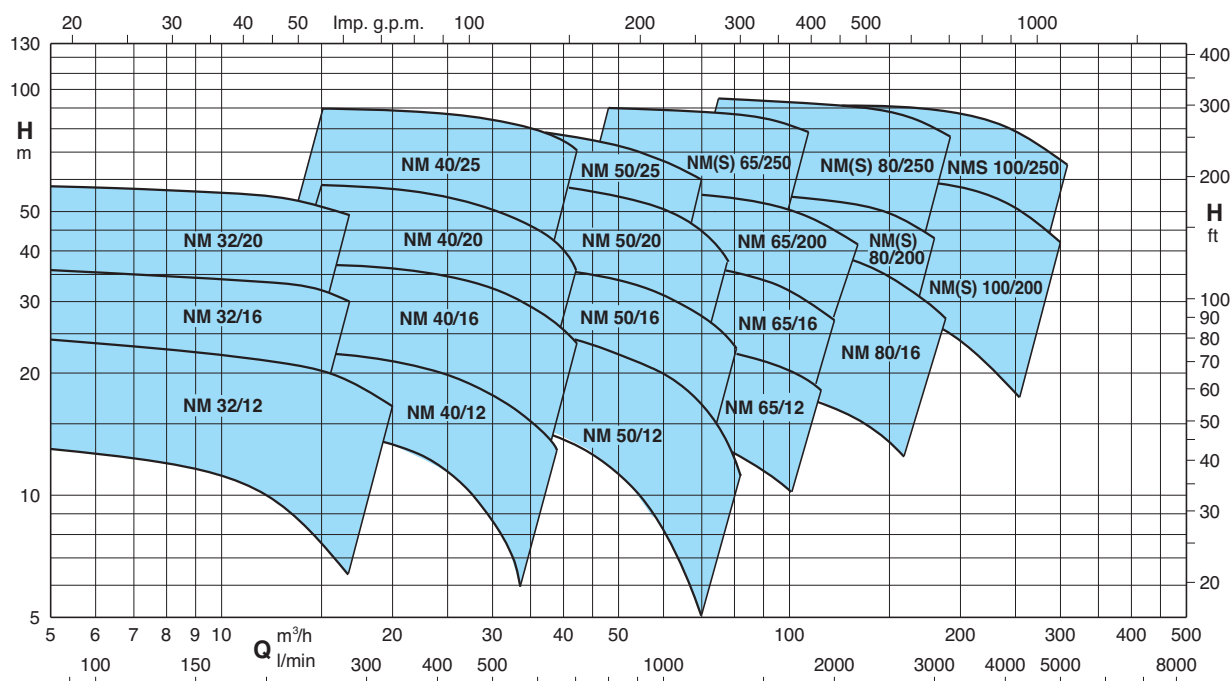
Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 from 7,5 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.

Special features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.- Special mechanical seal.
- Packed gland (only for NM standard construction).
- Single-phase motor (NMM) up to 1,5 kW.
- Explosion proof construction in accordance with Directive 94/9 EEC (ATEX).
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 1,5 kW.

Coverage chart $n \approx 2900$ rpm



NM, NMS

Close Coupled Centrifugal Pumps
with flanged connections



Performance n ≈ 2900 rpm

B-NM	NM	P ₂		Q m³/h l/min	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27	30
		kW	HP		110	125	140	160	180	200	220	250	280	315	350	400	450	500
B-NM 32/12F	NM 32/12FE	0,55	0,75	H m	12,5	12,5	12	11,5	11	10	9	7,5						
B-NM 32/12D	NM 32/12DE	0,75	1		18	18	17,5	17	16,5	16	15,5	14						
B-NM 32/12A	NM 32/12AE	1,1	1,5		23	23	22,5	22	21,5	21	20,5	19						
B-NM 32/12S	NM 32/12SE	1,5	2		23,5	23,5	23	22,5	22	21,5	21	20,5	19	18,5	16,5	13		
B-NM 32/16B	NM 32/16BE	1,5	2		29,5	29,5	29	28,5	27,5	27	26	25*	22,5*					
B-NM 32/16A/A	NM 32/16A/A	2,2	3		35,5	35,5	35	34,5	34	33,5	33	32*	30*					
B-NM 32/20D/A	NM 32/20D/A	2,2	3		38	37,5	37	36	35	33,5	32							
B-NM 32/20C/A	NM 32/20C/A	3	4		45	44,5	44	43,5	42,5	41	40	38	36					
B-NM 32/20A/A	NM 32/20A/A	4	5,5		57,5	57	56	55,5	55	54,5	53,5	51,5	49					

B-NM	NM	P ₂		Q m³/h l/min	15	16,8	18,9	21	24	27	30	33	37,8	39	42	45	48	54
		kW	HP		250	280	315	350	400	450	500	550	630	650	700	750	800	900
B-NM 40/12F	NM 40/12F/A	1,1	1,5	H m	14	13,5	13	12	11	9,5	8	6						
B-NM 40/12C	NM 40/12C/A	1,5	2		17,5	17	16,5	16	15	13,5	12	10,5	7,5	6,5				
B-NM 40/12A/A	NM 40/12A/B	2,2	3		22	22	21,5	21	20	19	18	16,5	14	13	11,5			
B-NM 40/16C/A	NM 40/16C/B	2,2	3		23	22,5	22	21,5	20	18,5	16,5	14,5	11	10				
B-NM 40/16B/A	NM 40/16B/B	3	4		29	28,8	28	27,5	26,5	25	23,5	21,5	18	17	14			
B-NM 40/16A/A	NM 40/16A/B	4	5,5		37	36,5	36,5	36	35	33,5	32	30,5	27	26	23,5	20	17	
B-NM 40/20D/A	NM 40/20D/A	4	5,5		39	38	37	35,5	33,5	30,5	27	22,5	14					
B-NM 40/20C/A	NM 40/20C/A	4	5,5		41,5	40,5	39,5	38	36	33,5								
B-NM 40/200B/A	NM 40/20B/A	5,5	7,5		50	49,5	48,5	47,5	45,5	43,5	41,5	37,5	30,5					
	NM 40/20AR/A	5,5	7,5		55	54,5	54	53	51	49								
B-NM 40/200A/A	NM 40/20A/A	7,5	10		57,5	57	56,5	55,5	54,5	52,5	50,5	48	42,5	40,5	35			
B-NM 4025/C/C	NM 40/25C/C	9,2	12,5		61	61	60,5	59,5	58,5	56,5	53,5	49,5	41,5	40	33,5			
B-NM 4025/B/C	NM 40/25B/C	11	15		69,5	69,5	69	68,5	67	65,5	63,5	60,5	53,5	51	45			
B-NM 4025/A/C	NM 40/25A/C	15	20		90	90	89,5	89	88,5	87	85	83	77,5	76	70,5			

B-NM	NM	P ₂		Q m³/h l/min	24	27	30	33	37,8	42	48	54	60	66	69	72	75	78	81	84
		kW	HP		400	450	500	550	630	700	800	900	1000	1100	1150	1200	1250	1300	1350	1400
B-NM 50/12F/A	NM 50/12F/B	2,2	3	H m			15,5	15	14	13,5	12	10	8	6						
B-NM 50/12D/A	NM 50/12D/B	3	4				20	19,5	18,5	18	16,5	14,5	13	10,5	9	8				
B-NM 50/12A/A	NM 50/12A/B	4	5,5				24	24	23	22,5	21	19,5	17,5	15	14	12,5	11,5	10		
B-NM 50/12S/A	NM 50/12S/B	4	5,5				26,5	26	25,5	24,5	23,5	22	20	18	16,5	15,5	14	13	11	
B-NM 50/160B/B	NM 50/16B/B	5,5	7,5				31	30,5	29,5	28	26	24	21,5	19	17,5	15,5	13,5	11,5	9,5	
B-NM 50/160A/B	NM 50/16A/B	7,5	10				38,5	38	37,5	36,5	34,5	32,5	30	27	25,5	24	22,5	20,5	19	
B-NM 50/200B/C	NM 50/20B/C	9,2	12,5		48	47,5	47,5	47	45,5	44,5	42,5	40	37	33	30,5	28	25,5	23		
B-NM 50/200A/C	NM 50/20A/C	11	15		55	55	54,5	54,5	53,5	52	50	48	45	41,5	39,5	37	35	32,5		
B-NM 50/200S/C	NM 50/20S/C	15	20		60	60	59,5	59,5	58,5	57,5	55,5	53,5	50,5	47	45	43	40,5	37		
B-NM 5025/C/C	NM 50/25C/C	11	15		55	54,5	54	53	51,5	49,5	46	41,5	35,5	28,5	24,5					
B-NM 5025/B/C	NM 50/25B/C	15	20		69	68,5	68	67,5	66	64	61	57	52,5	46,5	43					
B-NM 5025/A/C	NM 50/25A/C	18,5	25		80,5	80,5	80	79,5	78,5	77	74,5	71,5	67	61,5	58,5					

B-NM - B-NMS	NM - NMS	P ₂		Q m³/h l/min	37,8	42	48	54	60	66	75	84	96	108	120	132	150	168
		kW	HP		630	700	800	900	1000	1100	1250	1400	1600	1800	2000	2200	2500	2800
	NM 65/12E/B	4	5,5	H m	16,5	16,4	16,2	15,9	15,5	15,1	14,3	13,2	11,4	9,2				
B-NM 65/125C/B	NM 65/12C/B	5,5	7,5		21,1	21	20,8	20,6	20,3	19,9	19,1	18,2	16,5	14,4	11,8			
B-NM 65/125A/B	NM 65/12A/B	7,5	10		25,9	25,8	25,6	25,4	25,1	24,8	24,1	23,3	21,9	20	17,6			
B-NM 65/160D/B	NM 65/16D/B	7,5	10				24,3	24,1	23,9	23,6	23,1	22,3	20,8	18,8	16,3			
B-NM 65/160C/C	NM 65/16C/C	9,2	12,5				28,1	28,0	27,8	27,6	27,1	26,3	24,9	23,1	20,7	17,7		
B-NM 65/160B/C	NM 65/16B/C	11	15				32,6	32,5	32,3	32	31,5	30,8	29,5	27,9	25,7	23,0		
B-NM 65/160AR	NM 65/16AR	15	20				36,4	36,3	36,2	35,9	35,5	34,8	33,7	32,1	30,0	27,5		
B-NM 65/160A/C	NM 65/16A/C	15	20				40,5	40,4	40,2	40	39,5	38,8	37,6	36,1	34,2	31,7		
B-NM 65/200C/B	NM 65/20C/B	15	20				44	43,5	43	42,5	41	39,5	37,5	35	31	27*		
B-NM 65/200B/B	NM 65/20B/B	18,5	25				50	49,5	49	48,5	47,5	46,5	44,5	42	39	35*		
B-NM 65/200A/B	NM 65/20A	22	30				56,5	56	55,5	55	54,5	53,5	51	48,5	45,5	41,5*		
B-NM 65/250C/B	NM 65/25C	22	30				64	63,5	63	61,5	60	57,5	54,5*	50*				
B-NMS 65/250B	NMS 65/250B	30	40				79,5	79	78,5	78	77	75	72*	67*				
B-NMS 65/250A	NMS 65/250A	37	50				90	89,5	89	88,5	87,5	86	83,5*	78,5*				

NM, NMS

Close Coupled Centrifugal Pumps
with flanged connections



Performance n ≈ 2900 rpm

B-NM - B-NMS	NM - NMS	P ₂		Q m³/h l/min	75	84	96	108	120	132	150	168	180	192	210	240	270	300
		kW	HP		1250	1400	1600	1800	2000	2200	2500	2800	3000	3200	3500	4000	4500	5000
B-NM 80/160E/B	NM 80/16E/B	7,5	10	H m	21,5	20,9	19,9	18,7	17,4	15,9	13,4	10,6						
B-NM 80/160D/C	NM 80/16D/C	9,2	12,5		25,2	24,5	23,5	22,4	21,1	19,6	17,2	14,4						
B-NM 80/160C/C	NM 80/16C/C	11	15		28,7	28,2	27,4	26,4	25,1	23,8	21,3	18,5	16,4					
B-NM 80/160B/C	NM 80/16B/C	15	20		34,8	34,5	33,8	33	32,1	30,9	28,9	26,4	24,5	22,4				
B-NM 80/160A/C	NM 80/16A/C	18,5	25		39,9	39,6	39	38,2	37,4	36,4	34,5	32,2	30,3	28,1				
B-NMS 80/200B/A	NM 80/20B	22	30		46,5	46	45,5	44,5	43,5	42	39*	35,5*	32*					
B-NMS 80/200A/A	NMS 80/200A	30	40		56	55,5	55	54	53	52	49,5*	46*	43*					
B-NMS 80/250E/A	NM 80/25E	22	30		51	50	48,5	46,5	44,5	42	38*	33*	29*					
B-NMS 80/250D/A	NMS 80/250D	30	40		65	64	62,5	61	59	56,5	53*	49*	45,5*	41*				
B-NMS 80/250C	NMS 80/250C	37	50		73,5	73	72	70,5	69	67	63*	59*	55,5*	51,5*				
B-NMS 80/250B	NMS 80/250B	45	60		84	83,5	82,5	81,5	80	78	74,5*	70,5*	67*	63*				
B-NMS 80/250A	NMS 80/250A	55	75		95	94,5	93,5	92,5	91,5	90	87,5*	84*	80,5*	76,5*				
B-NMS 100/200E/A	NM 100/200E/B	18,5	25					30	29,5	29	28	27	26	25	23	19*		
B-NMS 100/200D/A	NM 100/20D	22	30					36	35,5	35	34	33	32	31	29	24,5*	19*	
B-NMS 100/200C/A	NMS 100/200C	30	40					45	44,5	44	43,5	42,5	41,5	40,5	39	34,5*	29*	22°
B-NMS 100/200B	NMS 100/200B	37	50					54	53,5	53	52,5	51,5	50,5	49,5	48	44*	38,5*	32°
B-NMS 100/200A	NMS 100/200A	45	60					61,5	61	60,5	60	59,5	58,5	58	56,5	53*	48*	42°
B-NMS 100/250B	NMS 100/250B	55	75					73,5	73	72,5	71,5	70	68,5	67	65	61*	55,5*	48,5°
B-NMS 100/250A	NMS 100/250A	75	100					91	90,5	90	89,5	88,5	88	87	85	81*	75*	67°

NM(S) Standard construction.

B-NM(S) Bronze construction.

P₂ Rated motor power output.

H Total head in m.

* Maximum suction lift 1-2 m.

◦ With 1 m suction head.

Tolerances according to UNI EN ISO 9906:2012

Rated currents

P ₂		230V Δ / 400V Y 400V Δ / 690V Y			I _A /I _N
kW	HP	I _N A	I _N A	I _N A	
0,55	0,75	4	2,3		4,8
0,75	1	4	2,3		4,8
1,1	1,5	4,6	2,7		5,6
1,5	2	7,5	4,3		5,5
2,2	3	9,2	5,3		7,4
3	4	11,5	6,6		8,2
4	5,5		9,6	5,5	7,6
5,5	7,5		10,9	6,3	9,1
7,5	10		14,3	8,3	9,1
9,2	12,5		18,5	10,7	8,2
11	15		21,5	12,4	8,5
15	20		27,3	15,8	9,5
18,5	25		34	19,6	9,4
22	30		41	23,7	10,7
30	40		54	31,2	8,8
37	50		64	36,9	7,2
45	60		77	44,5	7,3
55	75		93	53,7	6,8
75	100		128	73,9	7

P₂ Rated motor power output.

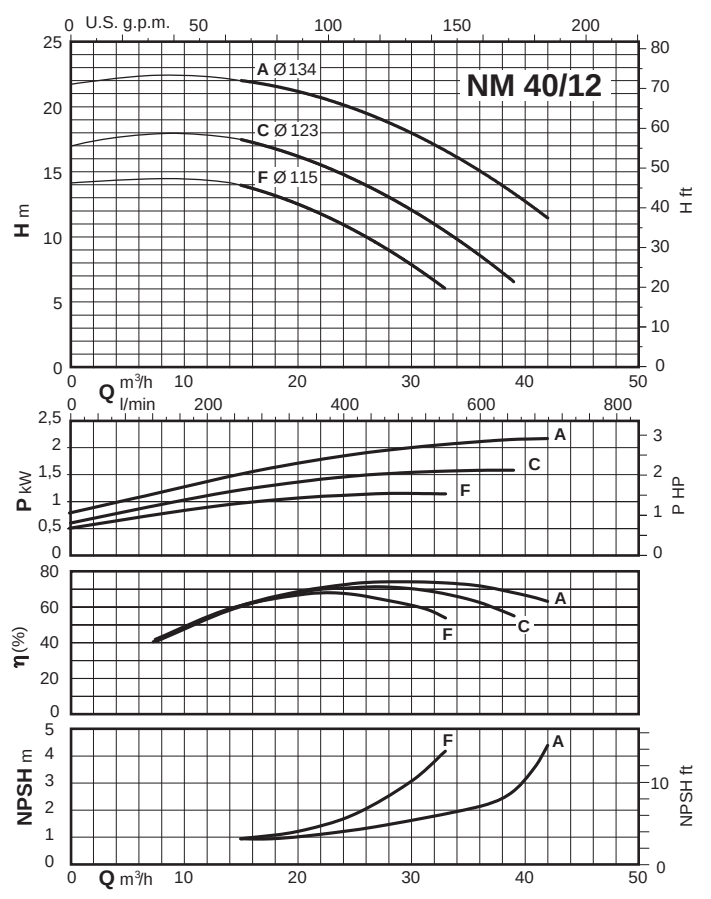
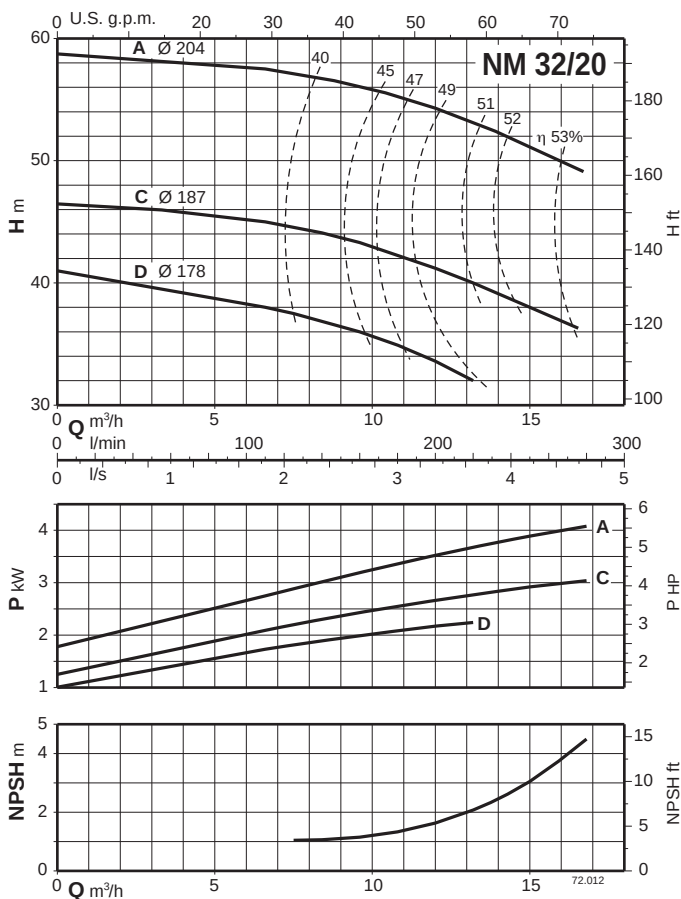
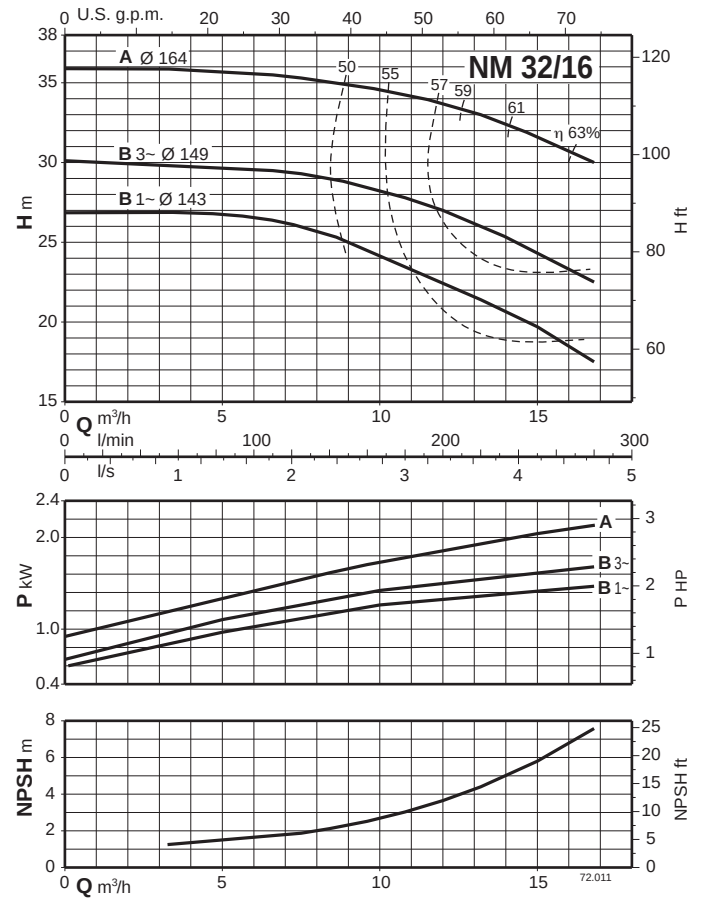
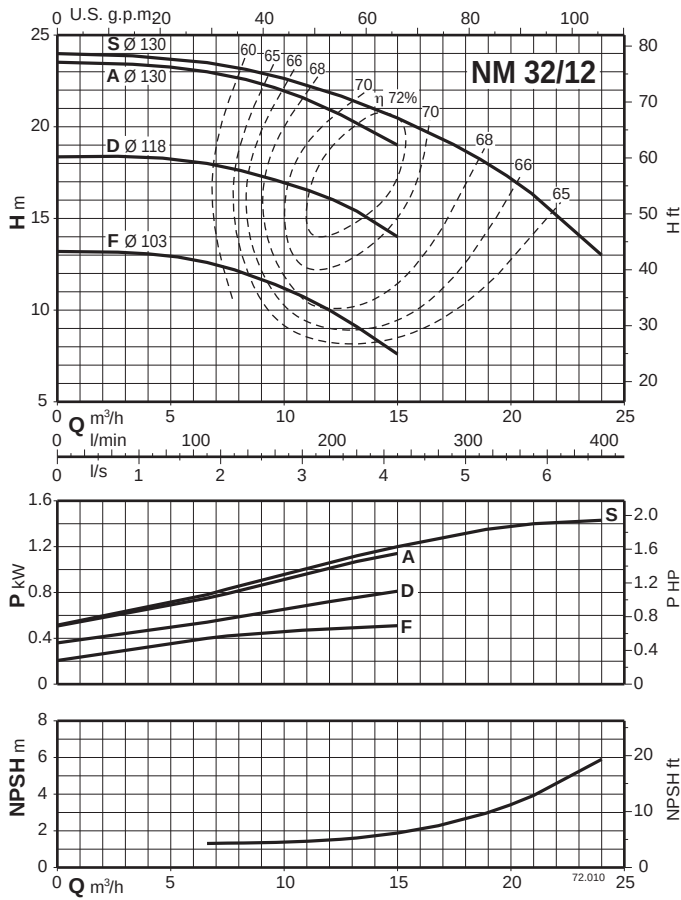
I_A/I_N D.O.L. starting current / Nominal current

NM, NMS

Close Coupled Centrifugal Pumps
with flanged connections



Characteristic curves $n \approx 2900$ rpm

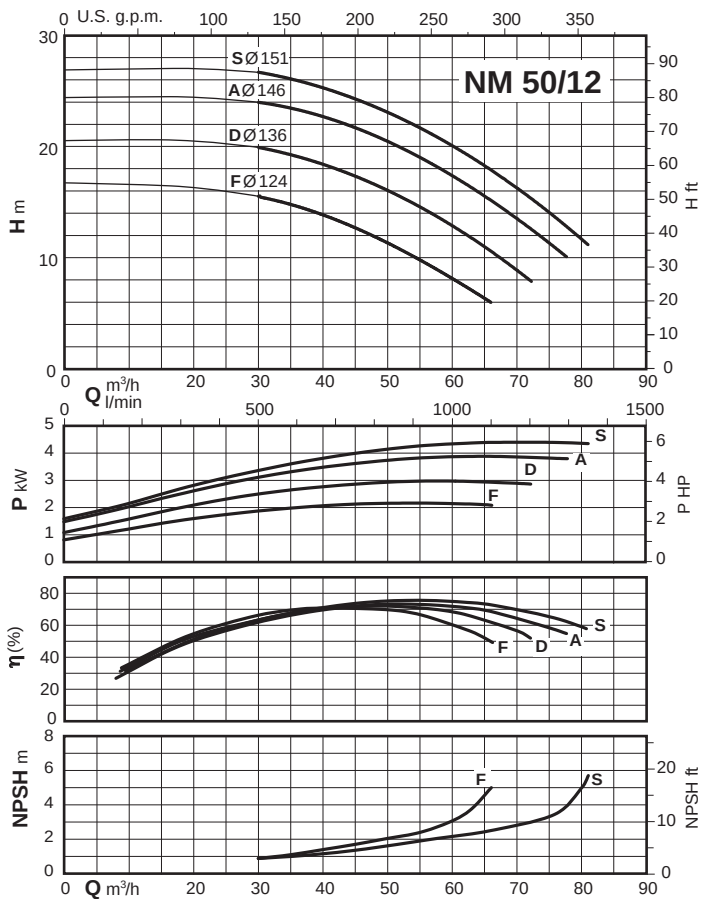
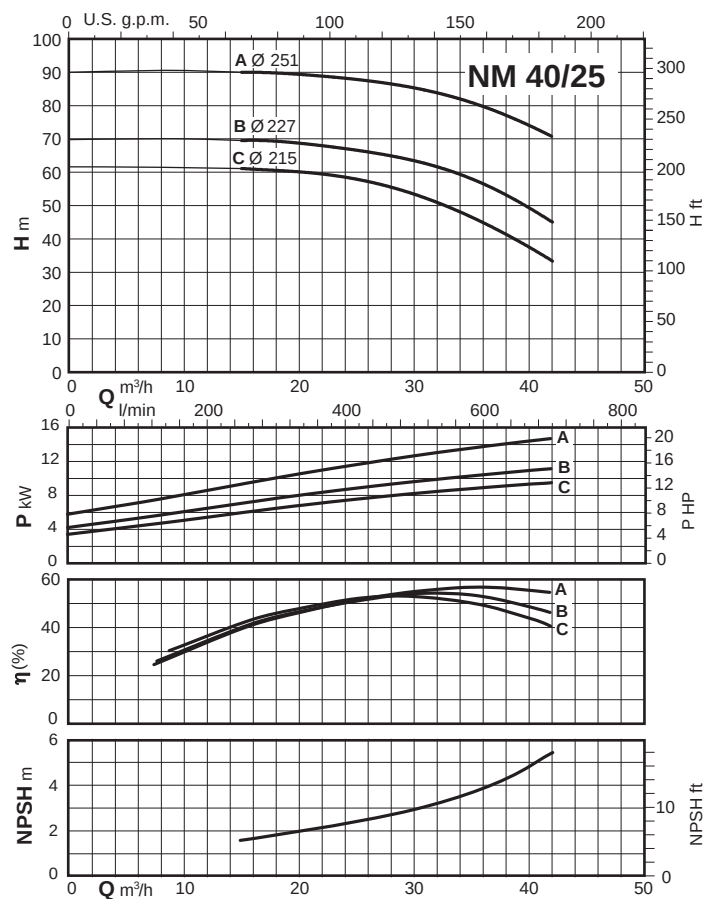
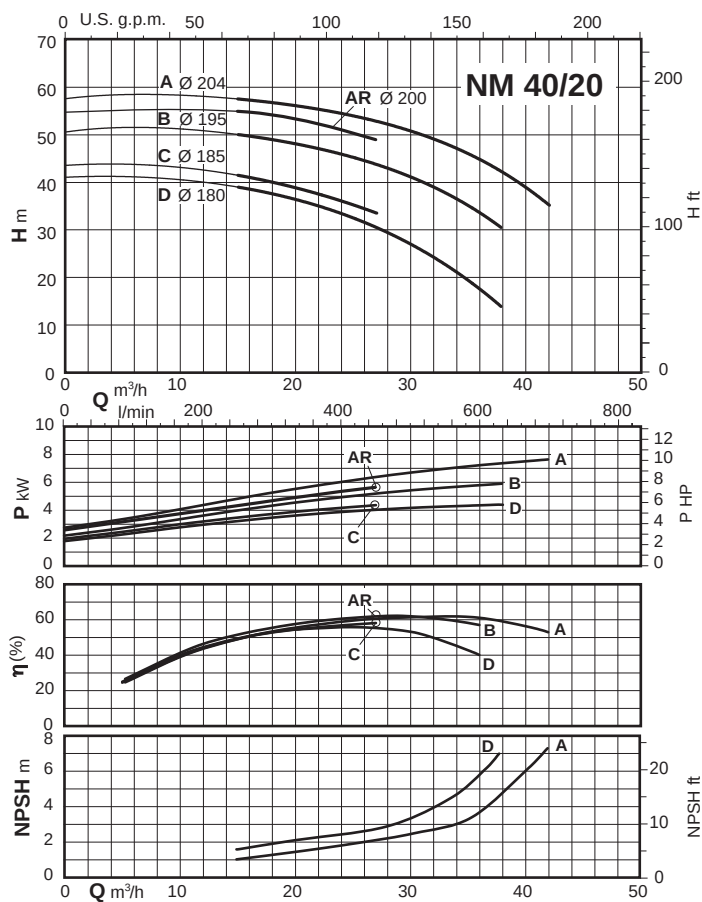
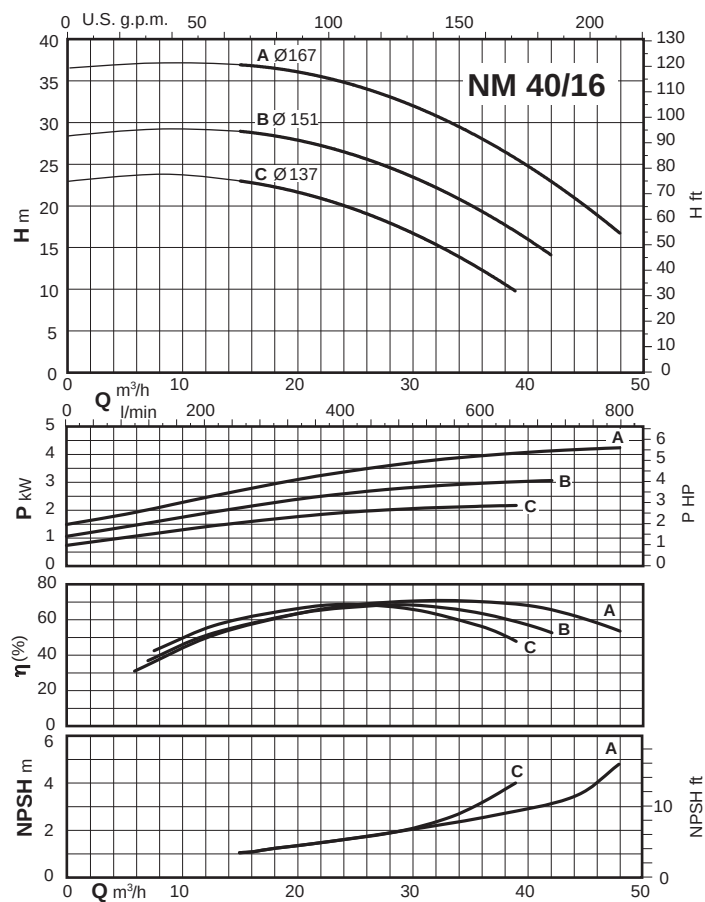


NM, NMS

Close Coupled Centrifugal Pumps
with flanged connections



Characteristic curves $n \approx 2900$ rpm

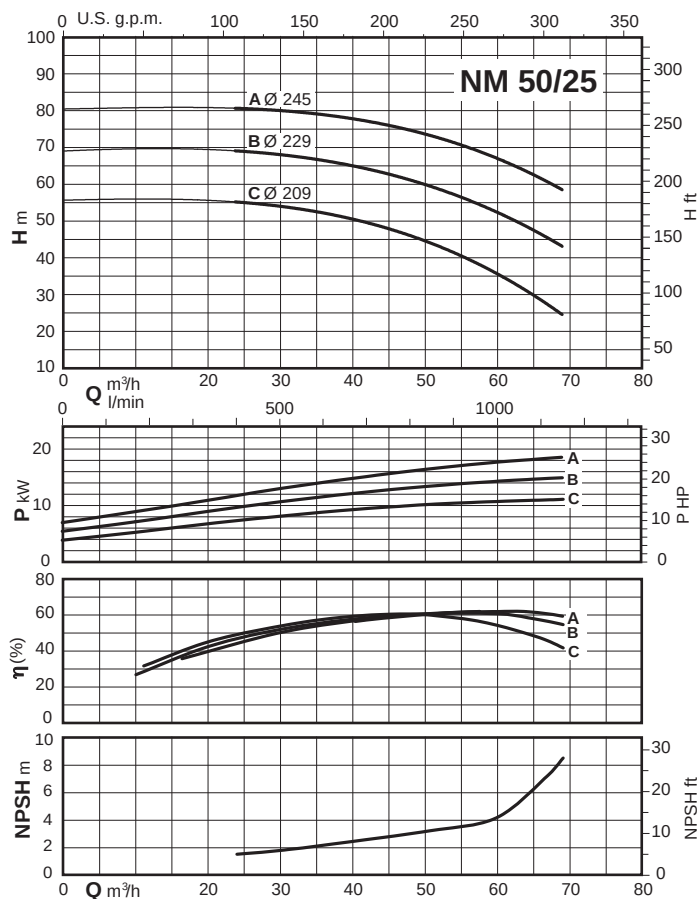
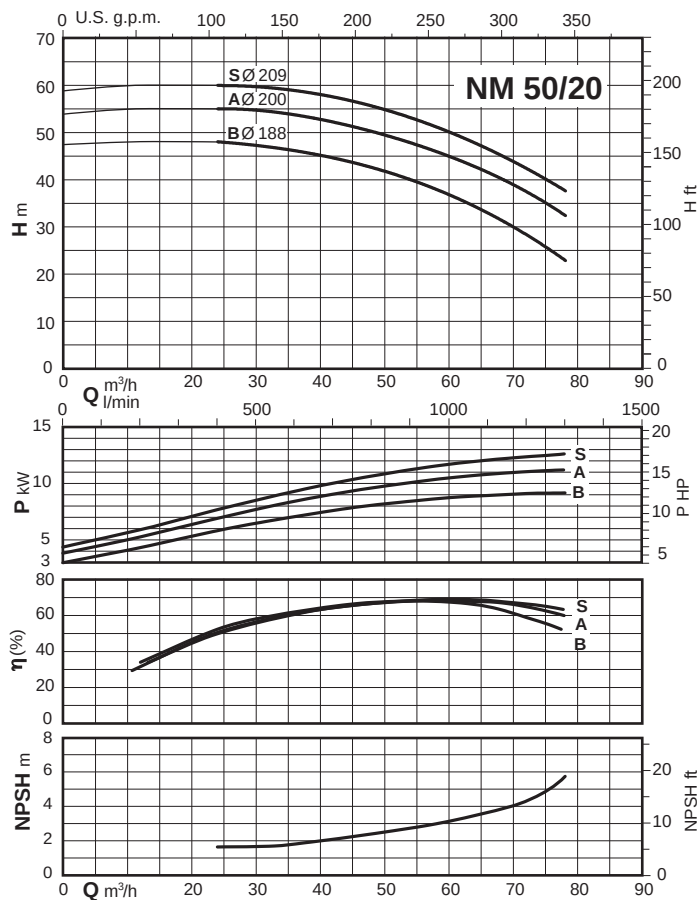
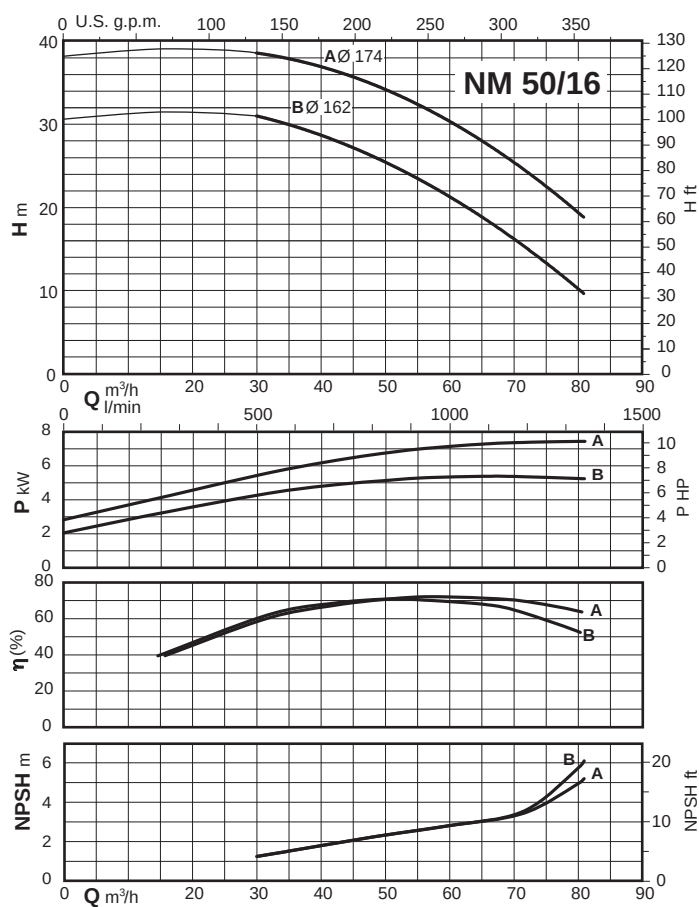


NM, NMS

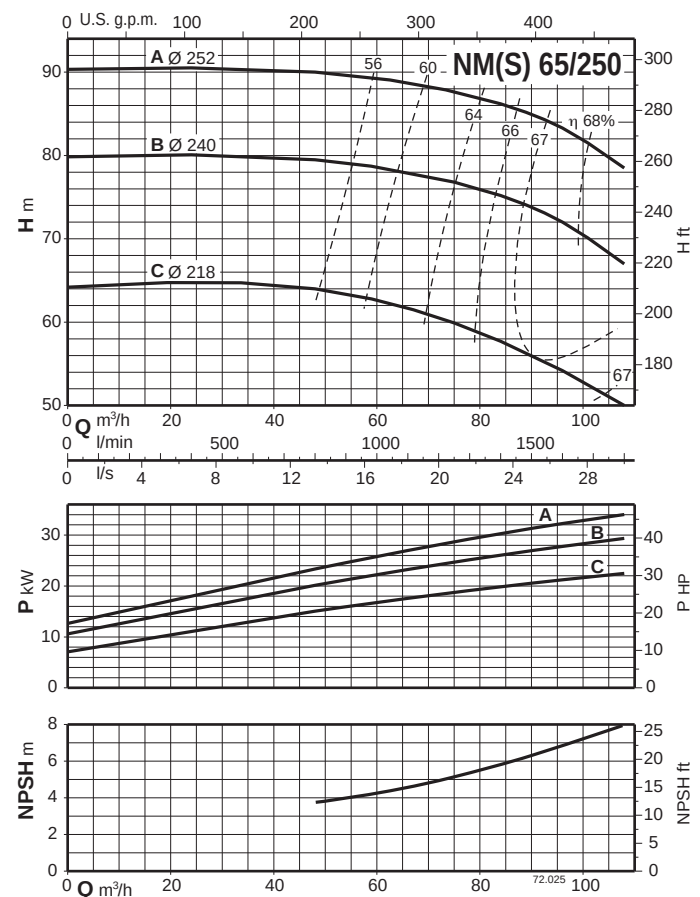
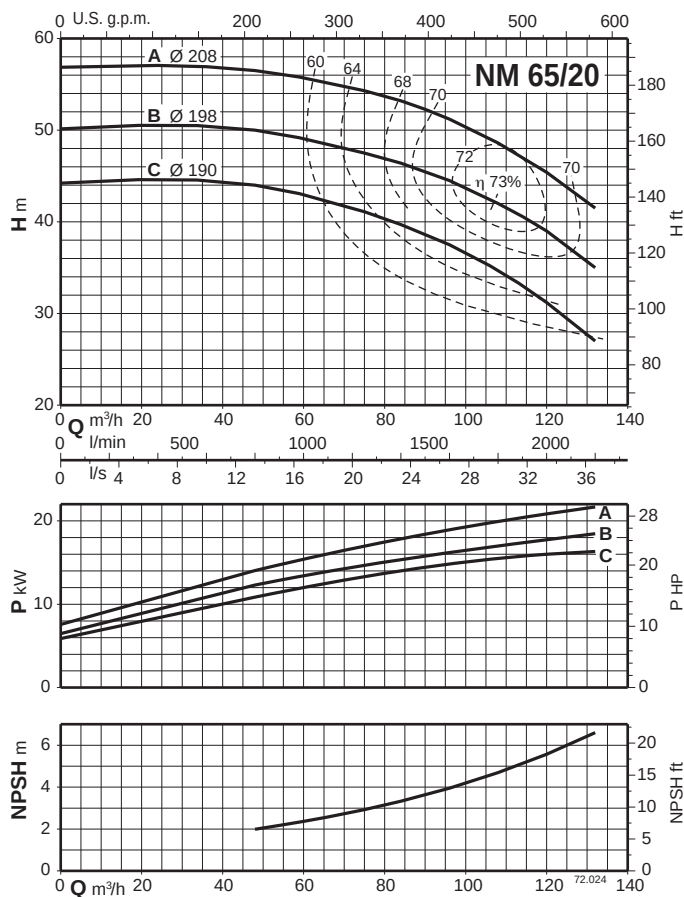
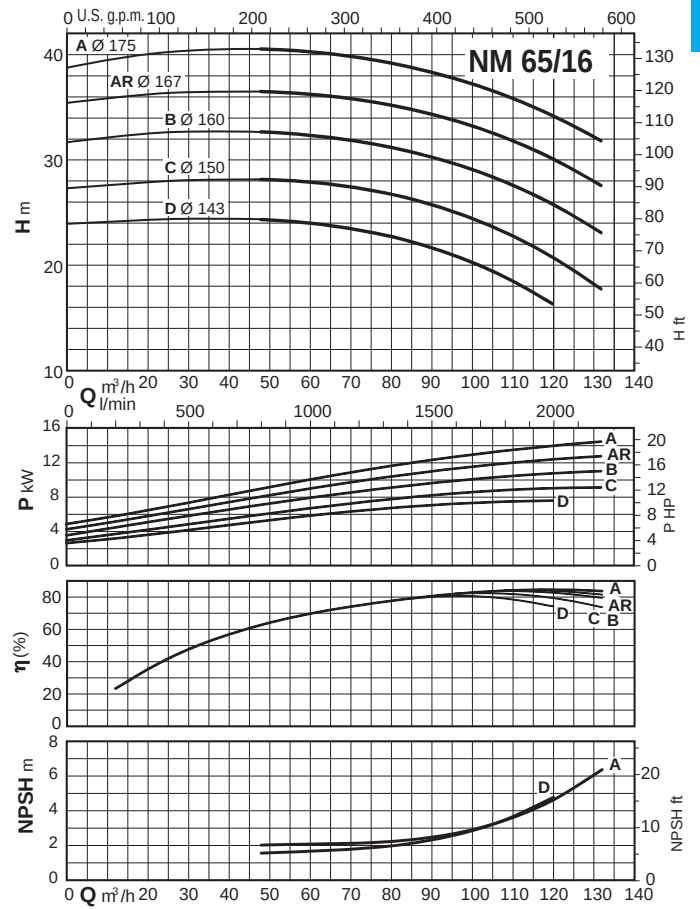
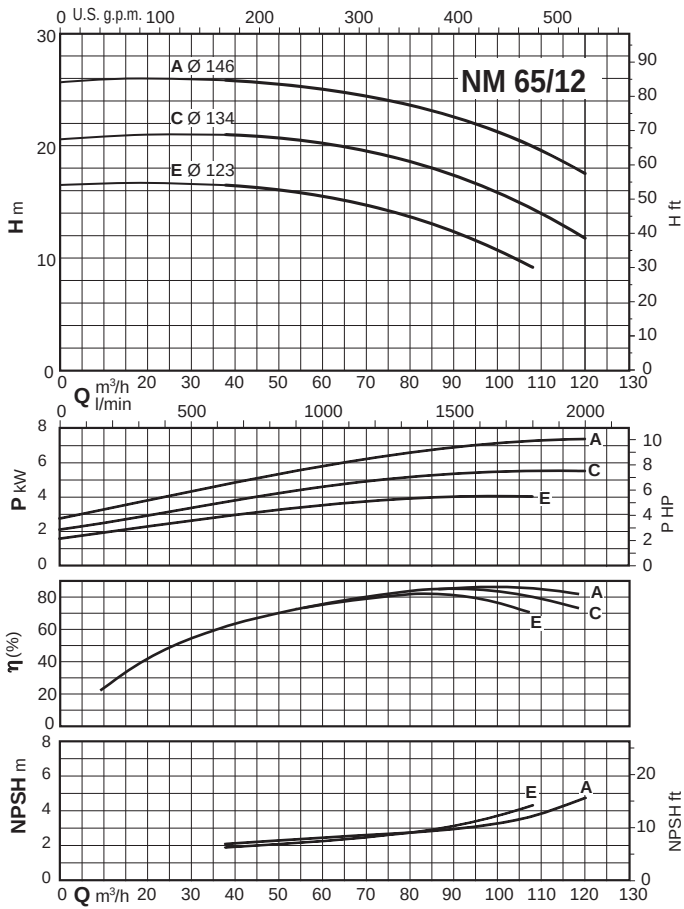
Close Coupled Centrifugal Pumps
with flanged connections



Characteristic curves $n \approx 2900$ rpm



Characteristic curves $n \approx 2900$ rpm

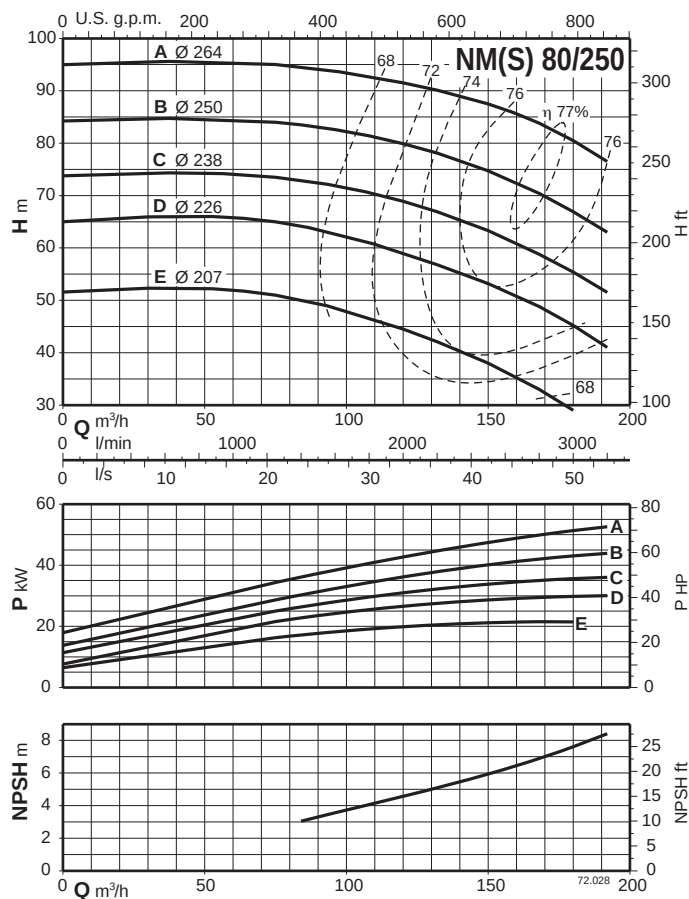
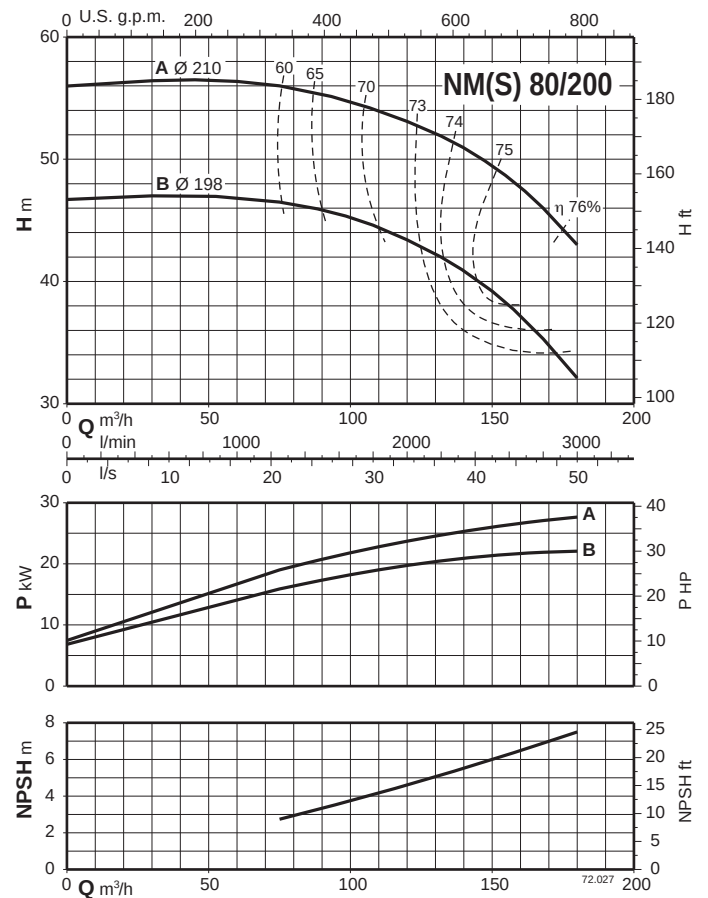
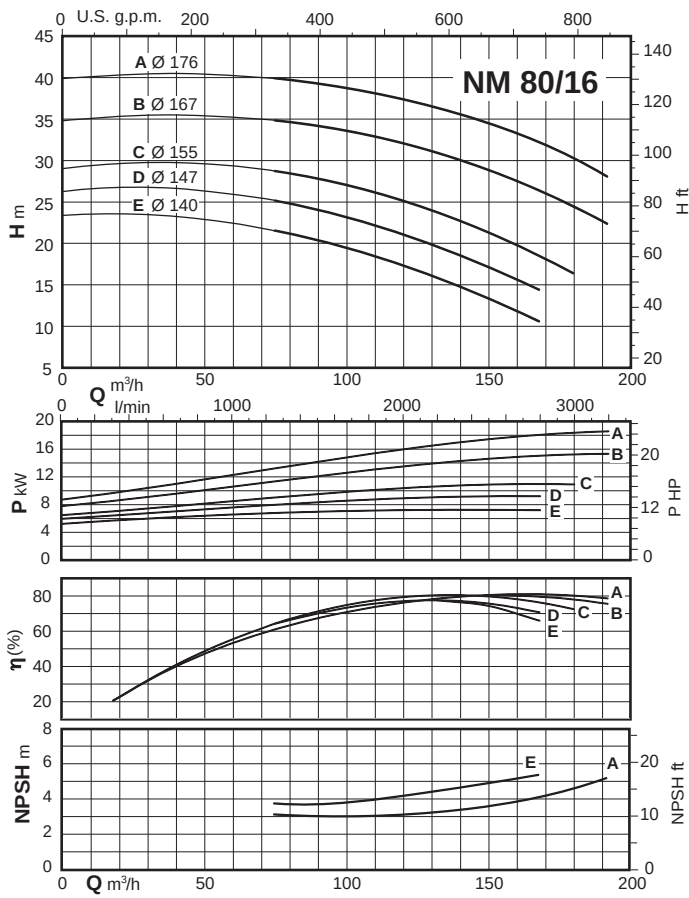


NM, NMS

Close Coupled Centrifugal Pumps
with flanged connections



Characteristic curves $n \approx 2900$ rpm

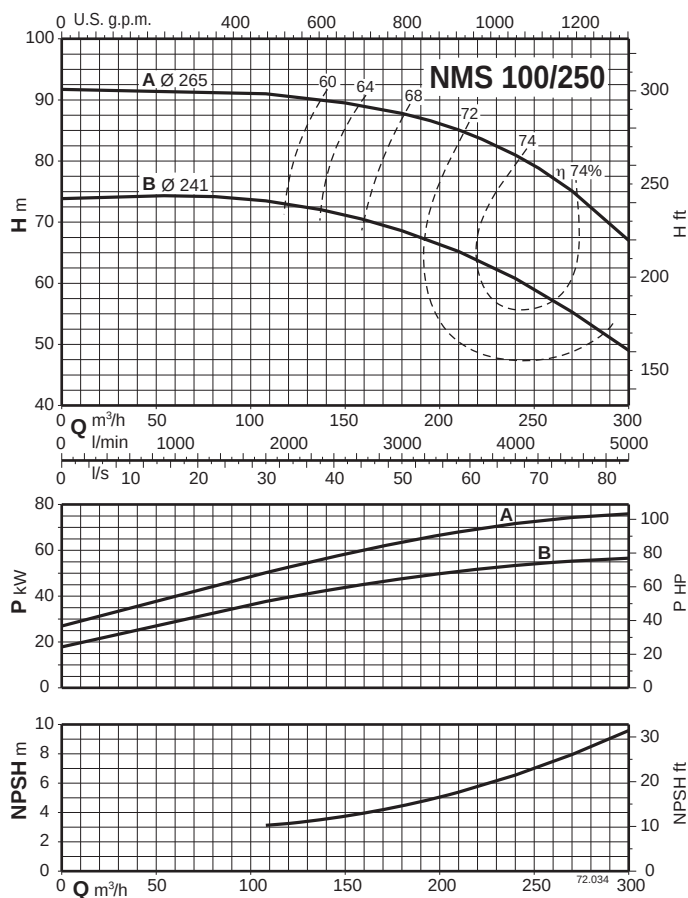
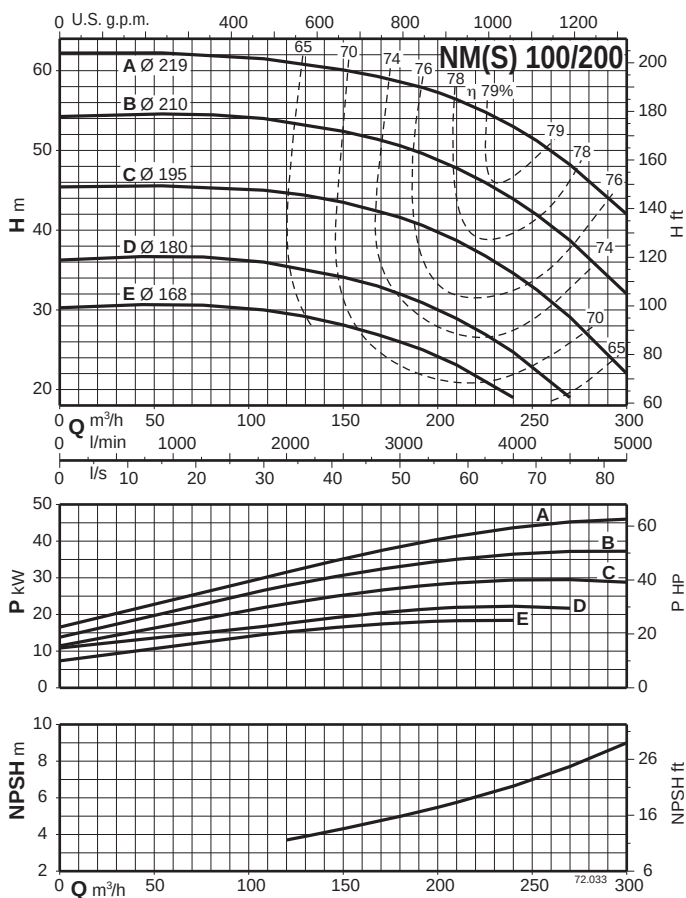


NM, NMS

Close Coupled Centrifugal Pumps
with flanged connections



Characteristic curves $n \approx 2900$ rpm



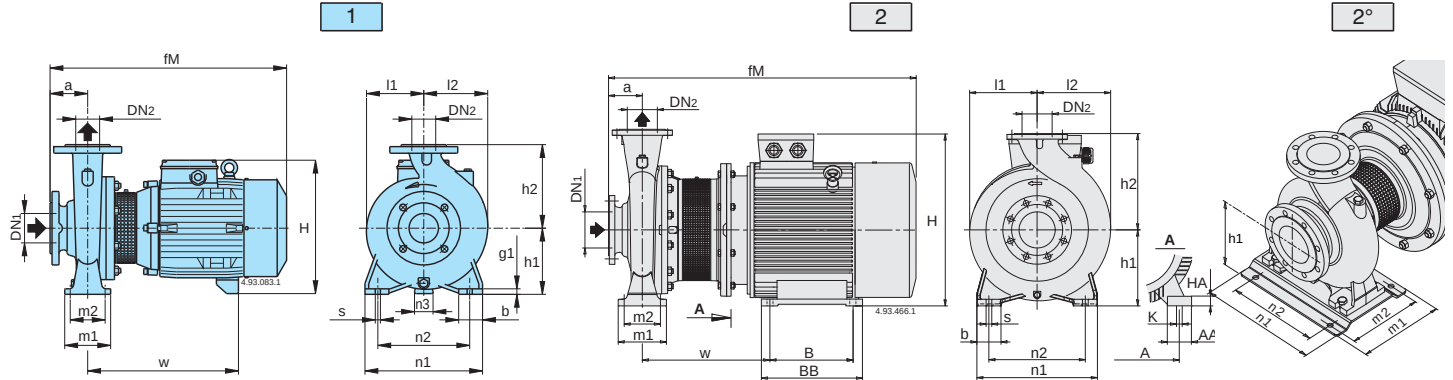
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NM, NMS

Close Coupled Centrifugal Pumps with flanged connections

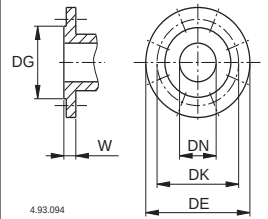


Dimensions and weights



Picture	NM	mm																								kg			
		DN1	DN2	a	fM	h1	h2	H	h4	m1	m2	n1	n2	n3	n5	w1	b	b1	s	s1	l1	l2	w	m4	m5		g1	g2	
1	NM 32/12SE-AE-DE-FE	50	32	80	405	112	140	240	-	100	70	190	140	37	-	-	50	-	14	-	93	97	245	-	-	12	-	27-26-24-24	
	NM 32/16BE NM 32/16A/A	50	32	80	410 450	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	120	120	250 290	-	-	12	-	34 39	
	NM 32/20D/A NM 32/20C/A NM 32/20A/A	50	32	80	450 475 475	160	180	288 298 298	-	100	70	240	190	62 60 60	-	-	50	-	14	-	140	140	290 295 295	-	-	12	-	42 47 51	
	NM 40/12C/A-F/A NM 40/12A/B	65	40	80	410 450	112	140	240	-	100	70	210	160	37	-	-	50	-	14	-	100	113	250 290	-	-	12	-	29-27 32	
	NM 40/16C/B NM 40/16B/B NM 40/16A/B	65	40	80	450 475 475	132	160	260 270 270	-	100	70	240	190	47 45 45	-	-	50	-	14	-	119	119	290 295 295	-	-	12	-	39 46 48	
	NM 40/20C/A-D/A NM 40/20A/A-AR/A-B/A	65	40	100	495 525	160	180	298 320	-	100	70	265	212	60 49	-	-	50	-	14	-	140	140	295 320	-	-	12	-	54-53 73-67-67	
	NM 40/25C/C NM 40/25B/C NM 40/25A/C	65	40	100	640 690 715	180	225	365	-	125	95	320	250	50	-	-	65	-	14	-	175	175	410 460 460	-	-	15	-	108 117 139	
	NM 50/12F/B NM 50/12D/B NM 50/12A/B-S/B	65	50	100	470 495 495	132	160	260 270 270	-	100	70	240	190	47 45 45	-	-	50	-	14	-	121	137	290 295 295	-	-	12	-	40 47 49-49	
	NM 50/16A/B-B/B	65	50	100	525	160	180	320	-	100	70	265	212	49	-	-	50	-	14	-	127	141	320	-	-	14	-	70,5-64	
	NM 50/20B/C NM 50/20A/C NM 50/20S/C	65	50	100	640 690 720	160	200	345	-	100	70	265	212	40	-	-	50	-	14	-	140	153	410 460 460	-	-	15	-	100 109 131	
	NM 50/25C/C NM 50/25B/C NM 50/25A/C	65	50	100	655 720 720	180	225	365	-	125	95	320	250	50	-	-	65	-	14	-	175	175	465 465 465	-	-	15	-	122 145 151	
	NM 65/12E/B NM 65/12A/B-C/B	80	65	100	500 530	160	180	298 320	-	125	95	280	212	60 49	-	-	65	-	14	-	134	156	300 325	-	-	15	-	55,5 73-67	
	NM 65/16D/B NM 65/16B/C-C/C NM 65/16A/C-AR	80	65	100	525 640 715	160	200	320 345 345	-	125	95	280	212	49 40 40	-	-	65	-	14	-	150	172	320 410 460	-	-	15	-	75 106-100 133,5-134	
	NM 65/20C/B NM 65/20B/B	80	65	100	715	180	225	365	-	125	95	320	250	50	-	-	65	-	14	-	155	175	460	-	-	15	-	136 141	
	4	NM 65/20A	80	65	100	762	202	225	408	22	125	95	320	250	-	254	20	80	90	14	14	155	175	182	400	360	-	42*	185
		NM 65/25C	80	65	100	762	202	250	408	2	160	120	360	280	-	254	20	80	90	18	14	175	190	182	400	360	-	42*	201
	1	NM 80/16E/B NM 80/16C/C-D/C NM 80/16B/C NM 80/16A/C	100	80	125	545 670 745 745	180	225	340 365 365 365	-	125	95	320	250	60 50 50 50	-	-	65	-	14	-	165	193	320 415 465 465	-	-	15	-	83,5 113-108 139 145
		NM 80/20B	100	80	125	787	202	250	408	22	160	120	345	280	-	254	20	80	90	18	14	170	194	182	400	360	-	42*	200-194
		NM 80/25E	100	80	125	787	202	280	408	2	160	120	400	315	-	254	20	80	90	18	14	191	210	182	400	360	-	42*	209-203
		NM 100/200E/B* NM 100/20D	125	100	125	800 787	200 280	280	345 408	- 2	160	120	360	280	-	216 254	20 20	80	69 90	18	12 14	180	212	239 182	298 400	258 360	- 6	42*	179 201-195

Flanges EN 1092-2



mm						
DN	DG	DK	DE	Holes		
				N°	Ø	W
32	76	100	140	4	19	18
40	84	110	150	4	19	18
50	99	125	165	4	19	20
65	118	145	185	4	19	20
80	132	160	200	8	19	22
100	156	180	220	8	19	24
125	184	210	250	8	19	24

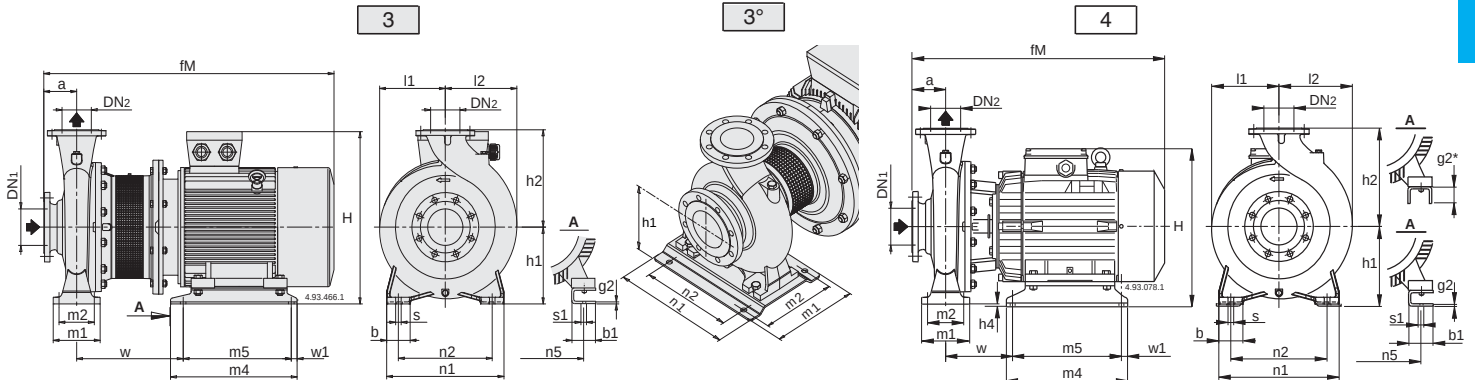
Picture	NMS	mm																										kg			
		DN1	DN2	a	fM	h1	h2	H	m1	m2	n1	n2	A	n5	w1	b	AA	b1	s	K	s1	l1	l2	w	BB	m4	B		m5	HA	g2
3	NMS 65/250B	80	65	100	961	200	250	486	160	120	360	280	-	279	20	80	-	70	18	-	15	177	189	333	-	440	-	400	-	20	-
2	NMS 65/250A	80	65	100	1074	200	250	500	160	120	360	280	318	-	-	80	70	-	18	19	-	200	200	406	355	-	305	-	25	-	321
2	NMS 80/200A	100	80	125	986	180	250	466	125	95	345	280	279	-	-	65	65	-	14	19	-	170	194	412	328	-	279	-	-	20	-
3	NMS 80/250D	100	80	125	986	200	280	486	160	120	400	315	-	279	20	80	-	70	18	-	15	191	211	333	-	440	-	400	-	20	-
2	NMS 80/250C	100	80	125	1099	200	280	500	160	120	400	315	318	-	-	80	70	-	18	19	-	200	210	406	355	-	305	-	25	-	333
2°	NMS 80/250B	100	80	125	1164	225	280	550	298	258	410	315	356	-	-	-	80	-	18	19	-	225	225	445	361	-	311	-	34	-	416
3°	NMS 80/250A	100	80	125	1235	280	280	672	260	220	410	315	-	406	25	-	-	100	18	-	24	275	275	443	-	500	-	450	-	8	-
3	NMS 100/200C	125	100	125	986	200	280	486	160	120	360	280	-	279	20	80	-	70	18	-	15	180	212	333	-	440	-	400	-	20	-
2	NMS 100/200B	125	100	125	1099	200	280	500	160	120	360	280	318	-	-	80	70	-	18	19	-	200	212	406	355	-	305	-	25	-	321
2°	NMS 100/200A	125	100	125	1164	225	280	550	298	258	410	315	356	-	-	-	80	-	18	19	-	225	225	445	361	-	311	-	34	-	409
3°	NMS 100/250B	125	100	140	1250	280	280	672	260	220	410	315	-	440	25	-	-	100	18	-	24	275	275	443	-	500	-	450	-	8	545
2°	NMS 100/250A	125	100	140	1324	280	280	712	260	220	410	315	457	-	-	-	100	-	18	24	-	275	275	516	479	-	368	-	40	-	639

B-NM, B-NMS

Close Coupled Centrifugal Pumps
with flanged connections

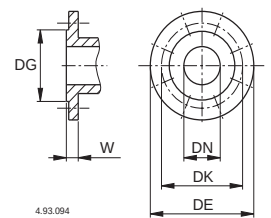


Dimensions and weights



Picture	B- NM	mm																								kg		
		DN1	DN2	a	fM	h1	h2	H	h4	m1	m2	n1	n2	n3	n5	w1	b	b1	s	s1	l1	l2	w	m4	m5	g1	g2	B-NM
1	B-NM 32/12S-A-D-F	50	32	80	405	112	140	240	-	100	70	190	140	37	-	-	50	-	14	-	93	97	245	-	-	12	-	30-28-27-2
	B-NM 32/16B	50	32	80	410	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	120	120	250	-	-	12	-	38,5
	B-NM 32/16A/A	50	32	80	450	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	120	120	290	-	-	12	-	42
	B-NM 32/20D/A	50	32	80	450	160	180	288	-	100	70	240	190	45	-	-	50	-	14	-	140	140	290	-	-	12	-	47,5
	B-NM 32/20C/A	50	32	80	475	160	180	298	-	100	70	240	190	60	-	-	50	-	14	-	140	140	295	-	-	12	-	56,5
	B-NM 32/20A/A	50	32	80	475	160	180	298	-	100	70	240	190	60	-	-	50	-	14	-	140	140	295	-	-	12	-	58
	B-NM 40/12C-F	65	40	80	410	112	140	240	-	100	70	210	160	37	-	-	50	-	14	-	100	113	250	-	-	12	-	33-31
1*	B-NM 40/12A/A	65	40	80	450	112	140	240	-	100	70	210	160	37	-	-	50	-	14	-	100	113	290	-	-	12	-	36
	B-NM 40/16C/A	65	40	80	450	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	119	119	290	-	-	12	-	43
1	B-NM 40/16B/A	65	40	80	475	132	160	270	-	100	70	240	190	45	-	-	50	-	14	-	119	119	295	-	-	12	-	50
	B-NM 40/16A/A	65	40	80	475	132	160	270	-	100	70	240	190	45	-	-	50	-	14	-	119	119	295	-	-	12	-	53
1*	B-NM 40/20C/A-D/A	65	40	100	495	160	180	298	-	100	70	265	212	60	-	-	50	-	14	-	140	140	295	-	-	12	-	59,5-59
	B-NM 40/200A/A-B/A	65	40	100	580	160	180	320	-	100	70	265	212	49	-	-	50	-	14	-	140	140	375	-	-	12	-	80,5-75
4	B-NM 4025/C/C	65	40	100	635	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	175	175	174	298	258	-	6	124
	B-NM 4025/B/C	65	40	100	685	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	175	175	174	298	258	-	6	130
1	B-NM 50/12F/A	65	50	100	470	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	121	137	290	-	-	12	-	44
	B-NM 50/12D/A	65	50	100	495	132	160	270	-	100	70	240	190	45	-	-	50	-	14	-	121	137	295	-	-	12	-	52
1*	B-NM 50/12A/A-S/A	65	50	100	495	132	160	270	-	100	70	240	190	45	-	-	50	-	14	-	121	137	295	-	-	12	-	54,5-54
	B-NM 50/160A/B-B/B	65	50	100	580	160	180	320	-	100	70	265	212	49	-	-	50	-	14	-	127	141	375	-	-	14	-	80-74,5
4	B-NM 50/200B/C	65	50	100	694	192	200	377	32	100	70	265	212	-	216	20	50	69	14	12	140	153	234	298	258	-	6	123
	B-NM 50/200A/C	65	50	100	744	192	200	377	32	100	70	265	212	-	216	20	50	69	14	12	140	153	234	298	258	-	6	132
	B-NM 50/200S/C	65	50	100	769	192	200	377	32	100	70	265	212	-	216	20	50	69	14	12	140	153	234	298	258	-	6	154
1*	B-NM 5025/C/C	65	50	100	685	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	175	175	174	298	258	-	6	135
	B-NM 5025/B/C	65	50	100	710	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	175	175	174	298	258	-	6	156
	B-NM 5025/A/C	65	50	100	710	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	175	175	174	298	258	-	6	161
4	B-NM 65/125A/B-C/B	80	65	100	585	160	180	320	-	125	95	280	212	49	-	-	65	-	14	-	134	156	380	-	-	15	-	82-76
	B-NM 65/160D/B	80	65	100	575	160	200	320	-	125	95	280	212	49	-	-	65	-	14	-	150	172	375	-	-	15	-	83,5-79
	B-NM 65/160C/C	80	65	100	660	160	200	345	-	125	95	280	212	40	-	-	65	-	14	-	150	172	430	-	-	15	-	106
4	B-NM 65/160B/C	80	65	100	744	192	200	377	32	125	95	280	212	-	216	20	65	69	14	12	150	172	234	298	258	-	6	133
	B-NM 65/160A/C-AR	80	65	100	770	192	200	377	32	125	95	280	212	-	216	20	65	69	14	12	150	172	234	298	258	-	6	156
	B-NM 65/200B/B-C/B	80	65	100	775	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	155	175	239	298	258	-	6	183-169,5
1*	B-NM 65/200A/B	80	65	100	825	202	225	408	22	125	95	320	250	-	254	20	80	90	18	14	175	190	245	400	360	-	42*	200
	B-NM 65/250B/A-C/B	80	65	100	825	202	250	408	2	160	120	360	280	-	254	20	80	90	18	14	175	190	245	400	360	-	42*	216-210
4	B-NM 80/160E/B	100	80	125	605	180	225	340	-	125	95	320	250	60	-	-	65	-	14	-	165	193	375	-	-	15	-	94
	B-NM 80/160D/C	100	80	125	685	180	225	365	-	125	95	320	250	50	-	-	65	-	14	-	165	193	430	-	-	15	-	114
4	B-NM 80/160C/C	100	80	125	775	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	165	193	239	298	258	-	6	140
	B-NM 80/160B/C	100	80	125	800	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	165	193	239	298	258	-	6	166
	B-NM 80/160A/C	100	80	125	800	192	225	377	12	125	95	320	250	-	216	20	65	69	14	12	165	193	239	298	258	-	6	172

Flanges EN 1092-2



mm						
DN	DG	DK	DE	Holes		W
				N°	Ø	
32	76	100	140	4	19	18
40	84	110	150	4	19	18
50	99	125	165	4	19	20
65	118	145	185	4	19	20
80	132	160	200	8	19	22
100	156	180	220	8	19	24
125	184	210	250	8	19	24

Picture	B-NMS	mm																												kg	
		DN1	DN2	a	fM	h1	h2	H	m1	m2	n1	n2	A	n5	w1	b	AA	b1	s	K	s1	l1	l2	w	BB	m4	B	m5	HA		g2
3	B-NMS 65/250B	80	65	100	961	200	250	486	160	120	360	280	-	279	20	80	-	70	18	-	15	177	189	333	-	440	-	400	-	20	
2	B-NMS 65/250A	80	65	100	1074	200	250	500	160	120	360	280	318	-	-	80	70	-	18	19	-	200	200	406	355	-	305	-	25	-	
3	B-NMS 80/200B/A	100	80	125	936	180	250	387	125	95	345	280	-	254	20	65	-	60	14	-	15	175	194	331	-	350	-	310	-	5	
2	B-NMS 80/200A/A	100	80	125	986	180	250	486	125	95	345	280	279	-	-	65	65	-	14	15	-	170	194	412	328	440	279	-	-	20	
3	B-NMS 80/250E/A	100	80	125	936	200	280	407	160	120	400	315	-	254	20	80	-	60	18	-	15	191	210	331	-	350	-	310	-	6	
3	B-NMS 80/250D/A	100	80	125	986	200	280	486	160	120	400	315	-	279	20	80	-	70	18	-	15	191	212	333	-	440	-	400	-	20	
2	B-NMS 80/250C	100	80	125	1099	200	280	500	160	120	400	315	318	-	-	80	70	-	18	19	-	200	210	406	355	-	305	-	25	-	
2°	B-NMS 80/250B	100	80	125	1164	225	280	550	298	258	410	315	356	-	-	-	80	-	18	19	-	225	225	445	361	-	311	-	34	-	
3°	B-NMS 80/250A	100	80	125	1235	280	280	672	260	220	410	315	-	406	25	-	-	100	18	-	24	275	275	443	-	500	-	450	-	8	
3	B-NMS 100/200E	125	100	125	882	200	280	386	160	120	360	280	-	216	20	80	-	69	18	-	12	180	212	322	-	298	-	258	-	6	418
3	B-NMS 100/200D/A	125	100	125	936	200	280	407	160	120	360	280	-	254	20	80	-	60	18	-	15	180	212	331	-	350	-	310	-	6	
3	B-NMS 100/200C/A	125	100	128	986	200	280	486	160	120	360	280	-	279	20	80	-	70	18	-	15	180	212	333	-	440	-	400	-	20	
2	B-NMS 100/200B	125	100	125	1099	200	280	500	160	120	360	280	318	-	-	80	70	-	18	19	-	200	212	406	355	-	305	-	25	-	
2°	B-NMS 100/200A	125	100	125	1164	225	280	550	298	258	410	315	356	-	-	-	80	-	18	19	-	225	225	445	361	-	311	-	34	-	
3°	B-NMS 100/250B	125	100	140	1250	280	280	672	260	220	410	315	-	440	25	-	-	100	18	-	24	275	275	443	-	500	-	450	-	8	
2°	B-NMS 100/250A	125	100	140	1324	280	280	712	260	220	410	315	457	-	-	-	100	-	18	24	-	275	275	516	479	-	368	-	40	-	

Features

Cutting edge hydraulics

The geometry of the impeller and the pump casing are optimized to achieve maximum efficiency and the best suction capability.

Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows NM and NM4 series pumps to be selected for use with different types of liquids.

Compact Design

The compact design allows for easy installation even in confined spaces.

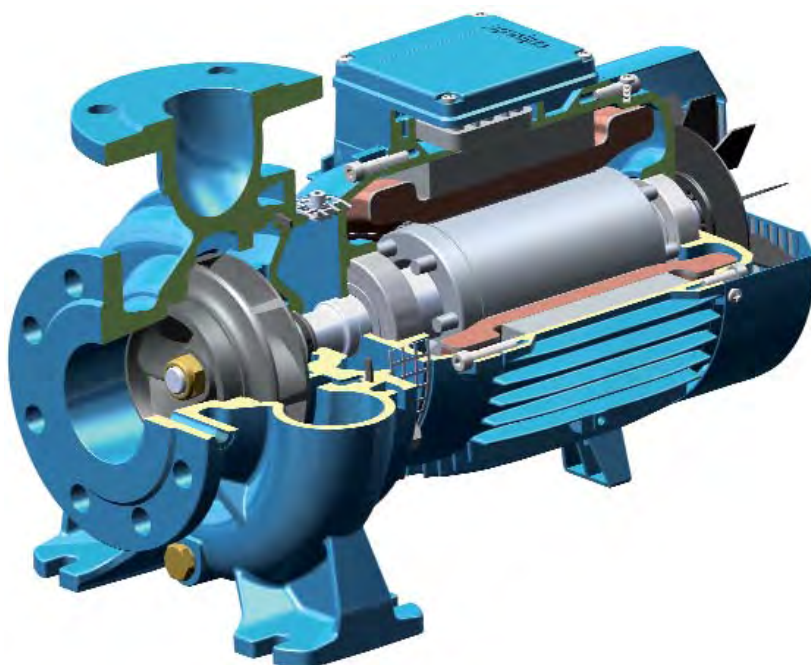
Exclusive design

An innovative, patented guard prevents contact with rotating parts, proving protection to the end user whilst allowing for inspection of the mechanical seal.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

NM



NMS

Cutting edge hydraulics

The geometry of the impeller and the pump casing are optimized to achieve maximum efficiency and the best suction capability.

Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows NMS and NMS4 series pumps to be selected for use with different types of liquids.

New lantern bracket construction

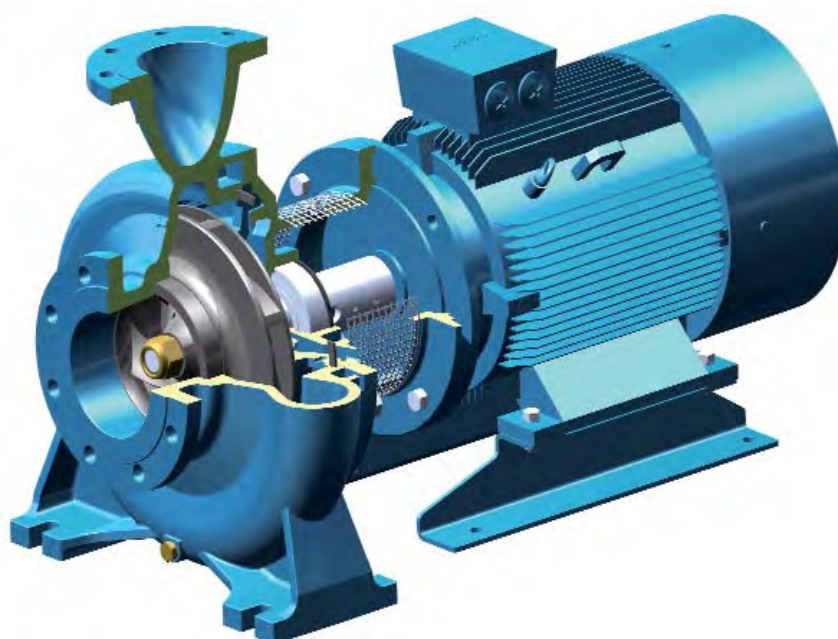
The lantern brackets incorporate a thrust bearing on the hydraulic side which guarantees the elimination of additional loads on the motor bearings. The flange is sized to be used with standard motors B35.

Exclusive design

An innovative, patented guard prevents contact with rotating parts, proving protection to the end user whilst allowing for inspection of the mechanical seal.

Simplified motor maintenance

The presence of the thrust bearing on the hydraulic side makes it easier to remove the motor, facilitating maintenance operations and eliminating the risks of damage to the hydraulic parts.



NM4, NMS4

Close Coupled Centrifugal Pumps



Performance n ≈ 1450 rpm

B - NM4	NM4	P ₂		Q m³/h	1	1,2	1,5	1,89	2,4	3	3,6	4,2	4,8	5,4	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15
		kW	HP		l/min	16	20	25	31,5	40	50	60	70	80	90	100	110	125	140	160	180	200	220
	NM4 25/12A/A	0,25	0,34	H m	6,1	6,05	6	5,9	5,8	5,5	5,2	4,8	4,4	3,9	3,3								
B- NM4 25/160BE	NM4 25/160BE	0,37	0,5		7,7	7,65	7,6	7,55	7,5	7,2	6,9	6,6	6,1	5,5	4,6	3,6							
B- NM4 25/160AE	NM4 25/160AE	0,37	0,5		9,2	9,15	9,1	9,05	9	8,7	8,5	8,2	7,8	7,2	6,5	5,6	3,7						
B- NM4 25/200C/A	NM4 25/200C/A	0,37	0,5		11,5	11,4	11,4	11,3	11,2	11,1	10,9	10,7	10,5	10,2	9,9	9,5	8,7	7,8	6,2	4,1			
B- NM4 25/200B/A	NM4 25/200B/A	0,55	0,75		13,2	13,2	13,2	13,1	13,1	13	12,9	12,7	12,5	12,3	12	11,6	11,1	10,4	9,1	7,4	4,8		
B- NM4 25/200A/B	NM4 25/200A/B	0,75	1		14,5	14,5	14,5	14,5	14,5	14,4	14,3	14,2	14	13,8	13,6	13,3	12,8	12,2	11,2	9,7	7,5	4,1	

B - NM4	NM4	P ₂		Q m³/h	2,4	3	3,6	4,8	5,4	6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27	30
		kW	HP		l/min	40	50	60	80	90	100	125	140	160	180	200	220	250	280	315	350	400	450
				H m																			
B-NM4 32/16B	NM4 32/16BE	0,37	0,5		7,6	7,5	7,4	7,2	7,1	6,9	6,3	5,9	5,2	4,2									
B-NM4 32/16A	NM4 32/16AE	0,37	0,5		9	8,95	8,9	8,7	8,6	8,5	7,9	7,5	6,8	6	5,1								
B-NM4 32/20B	NM4 32/20BE	0,55	0,75		12,5	12,4	12,3	12	11,8	11,6	10,6	10	8,9	7,6	6,2	4,7							
B-NM4 32/20A/A	NM4 32/20A/A	0,75	1		14,3	14,2	14,1	13,9	13,7	13,5	12,9	12,3	11,3	10,2	8,9	7,5							
B-NM4 40/16C	NM4 40/16C/A	0,37	0,5						6,1	6	5,9	5,8	5,6	5,4	5,2	5	4,5	3,9	3,1	2,3			
B-NM4 40/16B	NM4 40/16B/A	0,55	0,75						7,6	7,6	7,6	7,6	7,3	7,1	6,9	6,6	6,3	5,7	5	4	2,7		
B-NM4 40/16A/A	NM4 40/16A/B	0,75	1						9,6	9,6	9,6	9,4	9,3	9,1	9	8,8	8,4	7,9	7,2	6,4	5,1	3,5	
B-NM4 40/20B/A	NM4 40/20B/A	1,1	1,5						13	12,9	12,7	12,6	12,4	12,2	12	11,5	10,8	10	8,6	7			
B-NM4 40/20A/A	NM4 40/20A/A	1,1	1,5						14,8	14,7	14,5	14,4	14,2	14	13,8	13,6	13	12,2	11,3	10			
B-NM4 40/25C/B	NM4 40/25C/B	1,5	2						17,4	17,3	17,2	17	16,8	16,6	16,3	16	15,1	13,8	12,1	10,4	7,2	2,8	
B-NM4 40/25B/B	NM4 40/25B/B	2,2	3						21,4	21,5	21,3	21,2	21	20,9	20,8	20,5	20	19,5	18,3	16,4	13,3	10	5
B-NM4 40/25A/B	NM4 40/25A/B	3	4					22,9	22,8	22,9	22,8	22,5	22,5	22,2	22	21,8	21,4	20,4	18,9	16	12,6	8	

B - NM4	NM4	P ₂		Q m³/h	10,8	12	13,2	15	16,8	18,9	21	24	27	30	33	37,8	42	48	54	60	66	75	84
		kW	HP		l/min	180	200	220	250	280	315	350	400	450	500	550	630	700	800	900	1000	1100	1250
B-NM4 50/16B/A	NM4 50/16B/B	1,1	1,5	H m	8,2	8,2	8,2	8,1	8	7,8	7,6	7,2	6,7	6,2	5,5	4,4	3,3						
B-NM4 50/16A/A	NM4 50/16A/B	1,1	1,5		9,6	9,6	9,6	9,5	9,5	9,3	9,1	8,8	8,3	7,8	7,2	6,1	4,9	3,1					
	NM4 50/20C/B	1,1	1,5		11,8	11,8	11,7	11,7	11,5	11,3	10,9	10,4	9,8	9	8,1	6,3	4,7						
	NM4 50/20B/B	1,5	2		13,4	13,4	13,4	13,3	13,1	12,9	12,6	12,1	11,5	10,8	9,9	8,2	6,4	3,7					
	NM4 50/20A/B	2,2	3		14,9	14,9	14,9	14,9	14,8	14,6	14,4	14	13,4	12,8	12	10,4	8,6	6					
B-NM4 50/25D/A	NM4 50/25D/A	2,2	3		14,5	14,4	14,3	14	13,7	13,4	13	12,2	11,2	9,7	8,1	5,4	2,3						
B-NM4 50/25C/B	NM4 50/25C/B	2,2	3		17,8	17,8	17,7	17,5	17,2	16,8	16,4	15,7	14,9	13,8	12,4	9,7	6,8						
B-NM4 50/25B/B	NM4 50/25B/B	3	4		20,7	20,7	20,7	20,6	20,4	20	19,5	18,9	18,2	17,1	15,9	13,2	10,6	5,8					
B-NM4 50/25A/B	NM4 50/25A/B	4	5,5		22,7	22,7	22,6	22,5	22,4	22,1	21,6	21	20,2	19,4	18,3	16,4	13,6	9					
B-NM4 65/16C/B	NM4 65/16C/B	1,1	1,5								6	6	5,9	5,9	5,9	5,7	5,5	5,2	4,7	4			
B-NM4 65/16B/B	NM4 65/16B/B	1,1	1,5								7,2	7,1	7,1	7	7	6,8	6,6	6,3	5,8	5,2	4,5		
B-NM4 65/16A/B	NM4 65/16A/B	1,5	2								8,8	8,8	8,7	8,7	8,6	8,5	8,3	8	7,6	7,1	6,4	5,2	
B-NM4 65/16S	NM4 65/16S	2,2	3								10,2	10,2	10,1	10,1	10	9,9	9,7	9,4	9,1	8,6	8	7	5,7
	NM4 65/20B/A	2,2	3								11,9	11,8	11,7	11,6	11,4	11,1	10,8	10,2	9,5	8,7	7,8	6,2	4,3
	NM4 65/20A/A	3	4								14,1	14	13,9	13,8	13,7	13,4	13,1	12,6	11,9	11,1	10,2	8,8	7,2
	NM4 65/25B/A	4	5,5								18	17,9	17,8	17,7	17,6	17,3	16,9	16,3	15,4	14,4	13,1	10,8	8,5
	NM4 65/25A/B	5,5	7,5								21,9	21,8	21,7	21,6	21,5	21,2	20,8	20,2	19,5	18,5	17,5	15,4	12,8
	NM4 65/31C/B	5,5	7,5								25,8	25,7	25,5	25,3	25	24,4	23,8	22,8	21,5	20	18,2	15	11
	NM4 65/31B/B	7,5	10								31	31	30,9	30,8	30,6	30,2	29,7	28,8	27,8	26,5	25	22,2	18,6
	NM4 65/31A/B	9,2	12,5								35,9	35,9	35,8	35,7	35,5	35,1	34,6	33,8	32,8	31,6	30,2	27,8	25

B-NMS4	NM4 - NMS4	P ₂		Q m³/h	30	33	37,8	42	48	54	60	66	75	84	96	108	120	132	150	168	180	192	210
		kW	HP		l/min	500	550	630	700	800	900	1000	1100	1250	1400	1600	1800	2000	2200	2500	2800	3000	3200
				H m																			
	NM4 80/16C/B	1,1	1,5		6,1	6,1	5,9	5,8	5,5	5,2	4,9	4,6	4	3,3									
	NM4 80/16B/B	1,5	2		7,8	7,7	7,6	7,5	7,3	7	6,8	6,4	5,9	5,2	4,1								
	NM4 80/16A/B	2,2	3		10	10	9,9	9,8	9,7	9,5	9,3	9	8,5	8	7	5,9							
	NM4 80/20C/A	2,2	3		10,3	10,2	10,1	10	9,8	9,5	9,1	8,6	7,7	6,6	4,6								
	NM4 80/20B/A	3	4		12,1	12	11,9	11,8	11,7	11,4	11,1	10,6	9,8	9	7,5	5,7							
	NM4 80/20A/A	4	5,5		13,9	13,8	13,7	13,6	13,5	13,3	13	12,6	11,8	11	9,6	7,9	6						
	NM4 80/25C/A	4	5,5		16,9	16,8	16,7	16,6	16,3	15,9	15,4	14,8	13,9	12,7	11,1	9,3	7,2						
	NM4 80/25B/B	5,5	7,5		20,7	20,6	20,5	20,4	20,3	20	19,6	19,1	18,2	17,1	15,4	13,5	11,4	9*					
	NM4 80/25A/B	7,5	10		23,7	23,7	23,6	23,5	23,3	23	22,7	22,2	21,5	20,5	19	17,2	15,1	12,7*					
	NM4 80/31C/B	9,2	12,5		28,8	28,8	28,7	28,6	28,3	27,9	27,4	26,8	25,8	24,6	22,6	20,4	17,8	15*					
B-NMS4 80/315B	NM4 80/31B	11	15		32,3	32,3	32,2	32,1	31,9	31,6	31,2	30,7	29,8	28,8	27	25,1	22,9	20*					
B-NMS4 80/315A	NM4 80/31A	15	20	37,4	37,4	37,3	37,2	37,1	37	36,7	36,3	35,6	34,7	33,2	31,3	29	26,4*						
B-NMS4 80/400C	NMS4 80/400C	18,5	25	46,5	46,3	46,1	45,8	45,2	44,5	43,5	42,4	40	37,2	32,5	26,2	18,5							
B-NMS4 80/400B	NMS4 80/400B	22	30	54	53,8	53,6	53,3	53	52,4	51,6	50,6	48,7	46,1	42	36,5	29,5	21*						
B-NMS4 80/400A	NMS4 80/400A	30	40	61 5	61 4	61 3	61 1	60 8	60 2	59 4	58 4	56 5	54	50 5	45 5	40	32 5*						

NM4, NMS4 Close Coupled Centrifugal Pumps



Performance n ≈ 1450 rpm

B-NMS4	NM4 - NMS4	P ₂		Q m³/h l/min	48	54	60	66	75	84	96	108	120	132	150	168	180	192	210	240	270	300	330
		kW	HP																				
					800	900	1000	1100	1250	1400	1600	1800	2000	2200	2500	2800	3000	3200	3500	4000	4500	5000	5500
	NM4 100/20C/A	3	4	H m	9,4	9,3	9,2	9,1	8,9	8,5	8	7,3	6,5	5,6	4								
	NM4 100/20B/A	4	5,5		12	11,9	11,8	11,7	11,5	11,2	10,7	10	9,3	8,4	6,7	4,5							
	NM4 100/20A/B	5,5	7,5		15,2	15,2	15,1	15	14,9	14,7	14,3	13,8	13,1	12,2	10,7	9	7,5*	6*					
	NM4 100/25B/B	7,5	10		19,5	19,5	19,4	19,3	19	18,7	18,2	17,5	16,6	15,6	13,8	11,7	10	8,4	5,5				
	NM4 100/25A/B	9,2	12,5		22,3	22,3	22,2	22,1	21,9	21,7	21,2	20,5	19,8	18,8	17,1	15	13,4	11,7	8,9				
B-NMS4 100/315C	NM4 100/31C	11	15		26,9	26,9	26,8	26,6	26,2	25,7	24,9	23,8	22,7	21,3	18,9	15,9	13,7	11,3*					
B-NMS4 100/315B	NM4 100/31B	15	20		31,5	31,5	31,4	31,3	31,2	30,8	30,2	29,3	28,2	26,9	24,6	21,8	19,8	17,6*	14*				
B-NMS4 100/315A	NMS4 100/315A	18,5	25		36,9	36,9	36,8	36,7	36,6	36,4	36	35,3	34,5	33,4	31,4	29	27,2	25,3*	22,2*				
B-NMS4 100/400C	NMS4 100/400C	22	30		41,3	41,2	41,1	41	40,7	40,4	39,8	39	38	36,5	34	31	28,7	26					
B-NMS4 100/400B	NMS4 100/400B	30	40		50,2	50,1	50	49,9	49,7	49,4	48,8	48	47,1	46	44	41,3	39,5	37	33,5*				
B-NMS4 100/400A	NMS4 100/400A	37	50		58,2	58,1	58	57,9	57,8	57,6	57,2	56,3	55,7	54,5	52,7	50,5	49	47	44*				

B-NMS4	NM4 - NMS4	P ₂		Q m³/h	84	96	108	120	132	150	168	180	192	210	240	270	300	330	360	390	420	450	480	
		kW	HP		l/min	1400	1600	1800	2000	2200	2500	2800	3000	3200	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
	NM4 125/25E/B	5,5	7,5	H m	11	10,8	10,5	10,1	9,7	9,1	8,3	7,8	7,2	6,2	4,4									
	NM4 125/25D/B	7,5	10		14	13,9	13,7	13,4	13	12,4	11,6	11	10,4	9,4	7,4	5,1								
	NM4 125/25C/B	9,2	12,5		16,7	16,6	16,4	16,2	15,9	15,4	14,6	14,1	13,5	12,5	10,4	8,2	5,8							
B-NMS4 125/250B	NM4 125/25B	11	15		19,3	19,2	19,1	18,9	18,7	18,2	17,5	17	16,3	15,3	13,3	10,9	8,2							
B-NMS4 125/250A	NM4 125/25A	15	20		22,7	22,7	22,6	22,4	22,2	21,8	21,2	20,8	20,1	19,3	17,4	15	12,4	9,3						
B-NMS4 125/315C	NMS4 125/315C	18,5	25		27,9	27,8	27,7	27,6	27,2	26,5	25,6	24,9	24	22,8	20,2	17	13,5	9,5*						
B-NMS4 125/315B	NMS4 125/315B	22	30		31,8	31,7	31,6	31,5	31,1	30,6	29,7	29,1	28,5	27,3	24,9	22	18,5	14,3*						
B-NMS4 125/315A	NMS4 125/315A	30	40		36,8	36,8	36,7	36,6	36,4	35,9	35,2	34,7	34,2	33,2	31	28,4	25,3	21,6*						
B-NMS4 125/400C	NMS4 125/400C	37	50		45,4	45,3	45,2	45,1	44,9	44,4	43,7	43	42	40	37	33	28,5*	23,5*						
B-NMS4 125/400B	NMS4 125/400B	45	60		51,4	51,3	51,2	51,1	50,9	50,4	49,7	49	48,2	46,8	44	40,5	36*	31,5*						
B-NMS4 125/400A	NMS4 125/400A	55	75		59,2	59,1	59	58,9	58,7	58,2	57,7	57,2	56,7	55,7	53,5	50,5	46,5*	42,5*						
B-NMS4 150/315D	NMS4 150/315D	18,5	25	H m					22,8	22,6	22,3	22	21,7	21,1	20	18,6	17	15,1	13	10,6	8*			
B-NMS4 150/315C	NMS4 150/315C	22	30						25,6	25,4	25,1	24,9	24,7	24,2	23,3	22	20,4	18,5	16,5	14,1	11,6*	8,9*		
B-NMS4 150/315B	NMS4 150/315B	30	40						30,6	30,6	30,5	30,3	30,1	29,7	29	27,9	26,5	24,9	23	20,8	18,3*	15,4*		
B-NMS4 150/315A	NMS4 150/315A	37	50						35,6	35,6	35,5	35,4	35,3	35,2	34,6	33,7	32,5	31	29,2	27,1	24,7*	21,8*	18,5*	
B-NMS4 150/400C	NMS4 150/400C	45	60						45	44,9	44,7	44,5	44	43,5	42,5	40,5	38,5	36	33,5	30,5	27*	23,5*	19,5*	
B-NMS4 150/400B	NMS4 150/400B	55	75						50,8	50,7	50,5	50,3	50	49,5	48,5	47	45	43	40,5	38	35*	32*	28,5*	
B-NMS4 150/400A	NMS4 150/400A	75	100						58,8	58,7	58,6	58,5	58,3	57,9	57	55,5	54	52	49,5	47	44*	41*	37,5*	

NM4, NMS4 Standard construction.

B-NM4, B-NMS4 Bronze construction.

P₂ Rated motor power output.

H Total head in m.

* Maximum suction lift 1-2 m.

Tolerances according to UNI EN ISO 9906:2012

Rated currents

P ₂		230 V Δ / 400 V Y		
kW	HP	I _N A	I _N A	I _A /I _N
0,25	0,34	1,4	0,8	3,7
0,37	0,5	1,65	0,95	4,2
0,55	0,75	2,6	1,5	4,8
0,75	1	3,3	1,9	5,2
1,1	1,5	5	2,9	4,7
1,5	2	6	3,5	5
2,2	3	8,6	5	6,1
3	4	11,1	6,4	9

P ₂		400 V Δ / 690 V Y		
kW	HP	I _N A	I _N A	I _A /I _N
4	5,5	8,3	4,8	9,3
5,5	7,5	12,5	7,2	7,7
7,5	10	16	9,2	9,4
9,2	12,5	19	11	9,3
11	15	22,5	13	6,9
15	20	29	16,7	7
18,5	25	34,5	19,9	6,4
22	30	40,5	23,4	6,7
30	40	55	31,8	6,7
37	50	67	38,5	6,8
45	60	81	46,8	6,9
55	75	96	55,4	7,5
75	100	130	75	6,8

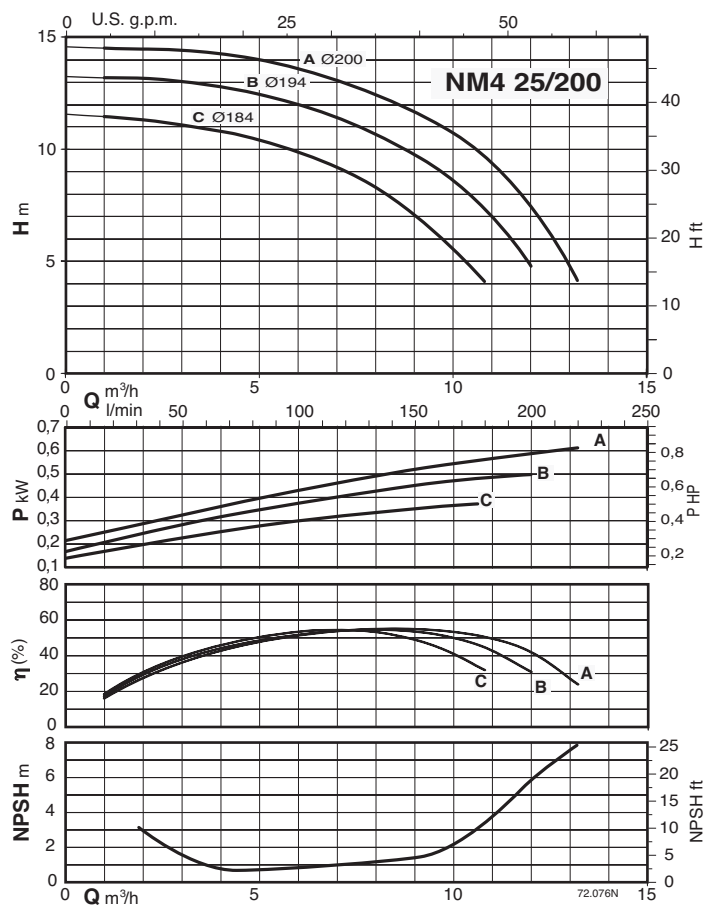
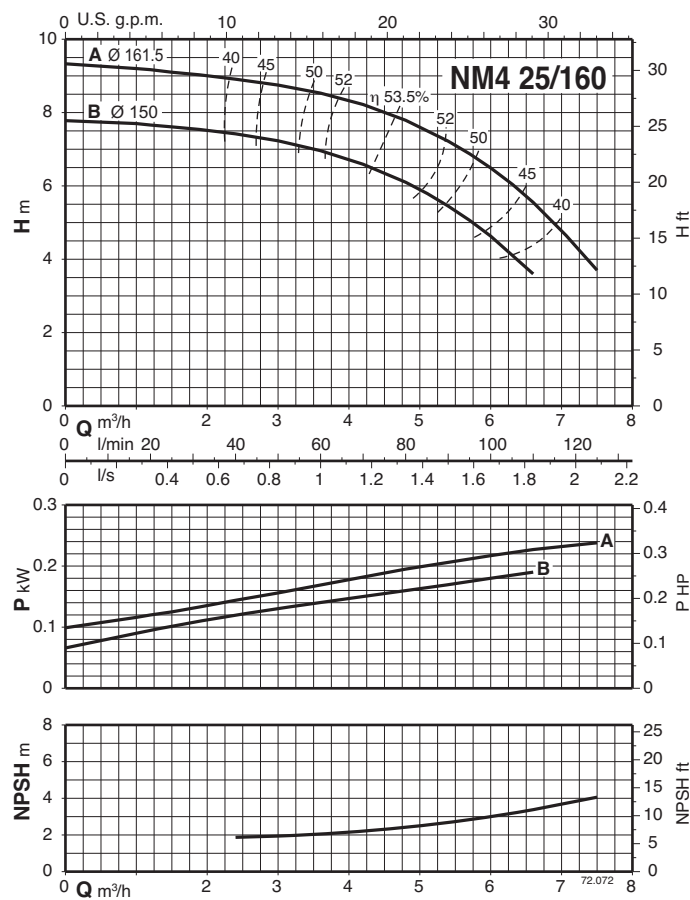
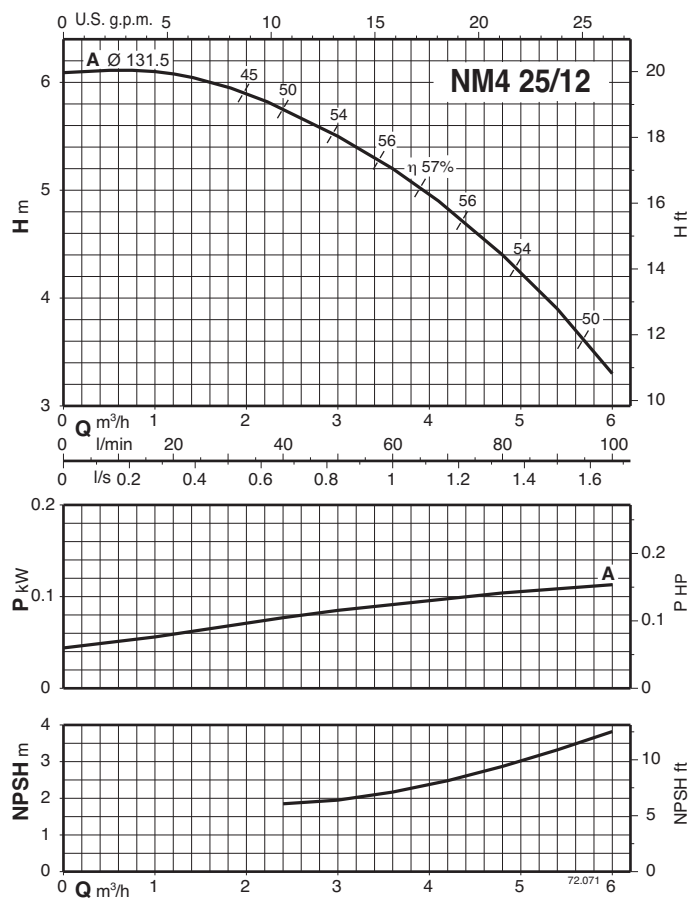
P₂ Rated motor power output.

I_A/I_N D.O.L. starting current / Nominal current

NM4, NMS4 Close Coupled Centrifugal Pumps



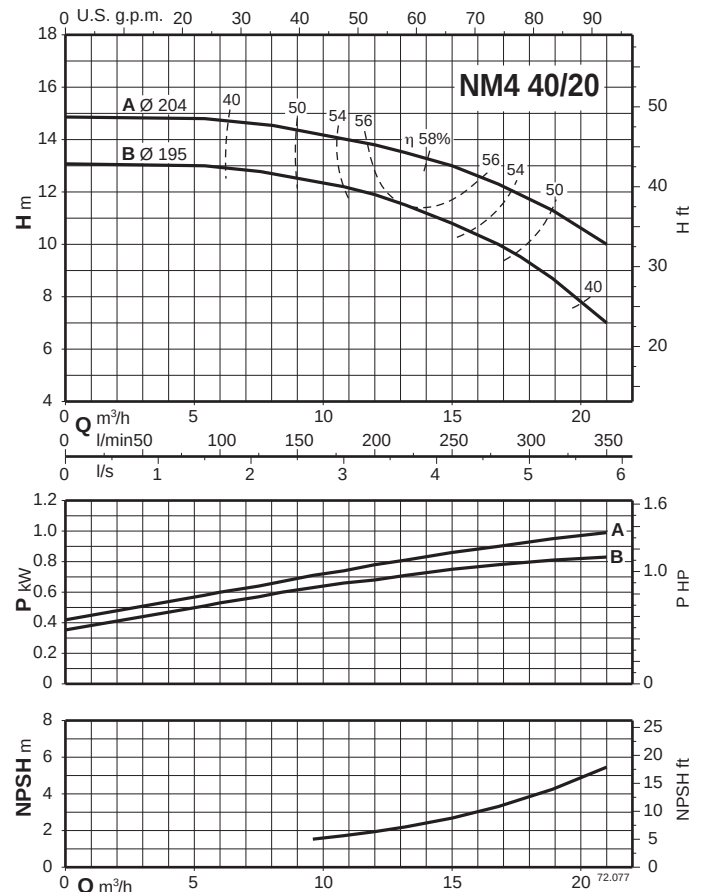
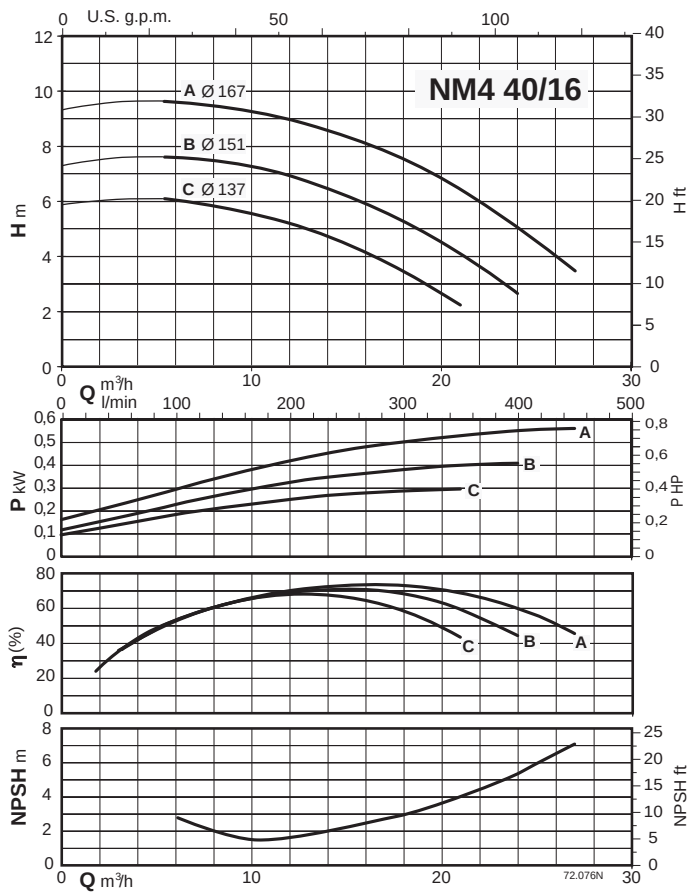
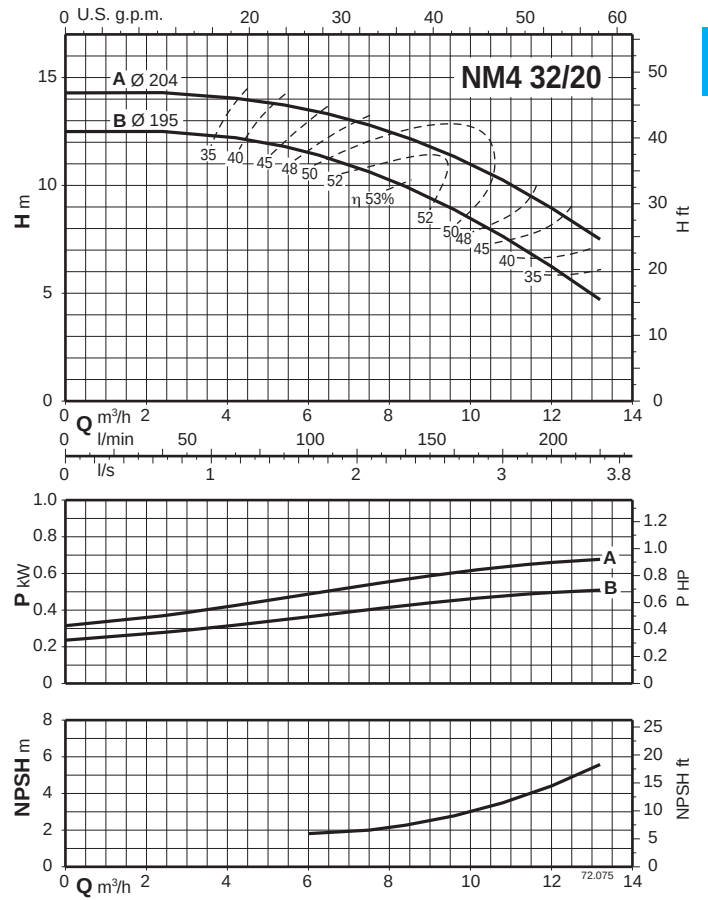
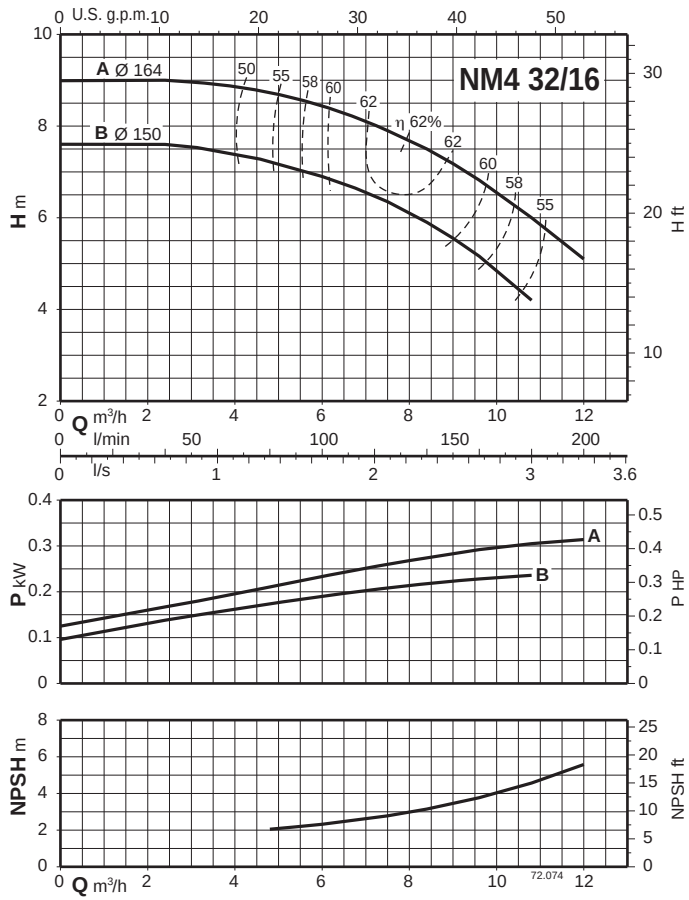
Characteristic curves $n \approx 1450$ rpm



NM4, NMS4 Close Coupled Centrifugal Pumps



Characteristic curves $n \approx 1450$ rpm



Head (H) vs. Flow Rate (Q)

Q (m³/h)	Q (US g.p.m.)	H (m) - A Ø251	H (m) - B Ø247	H (m) - C Ø227
0	0	23.5	22.5	18.5
10	22	23.0	21.5	17.5
20	44	21.5	20.0	16.0
30	66	18.5	17.0	13.0

Power (P) vs. Flow Rate (Q)

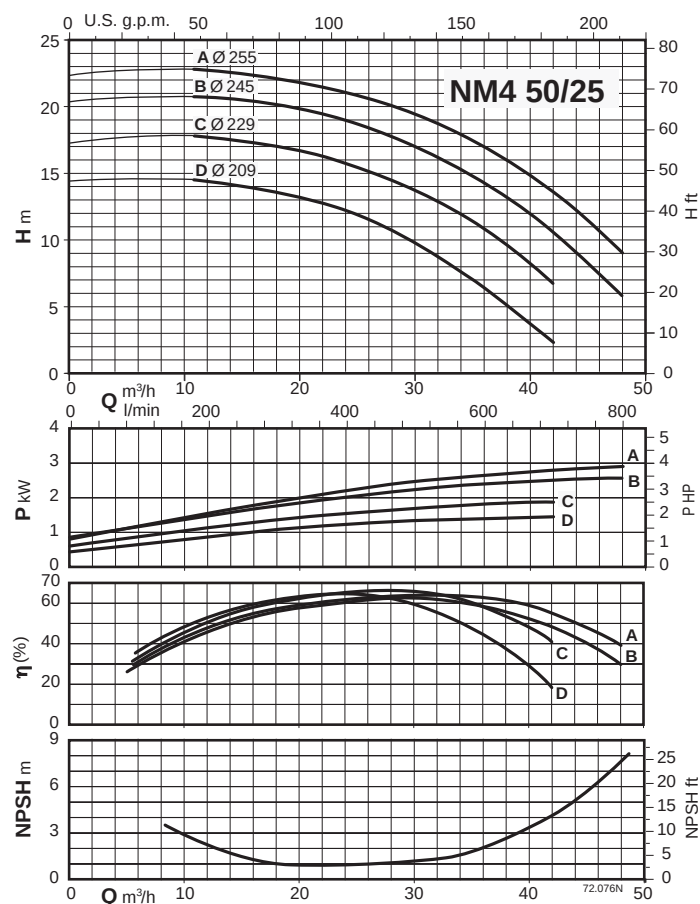
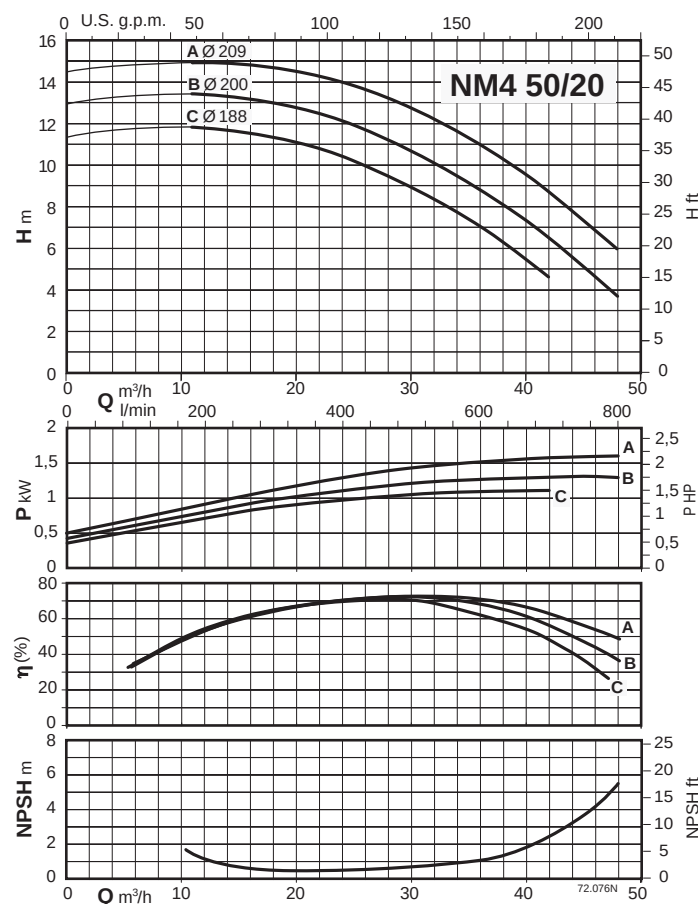
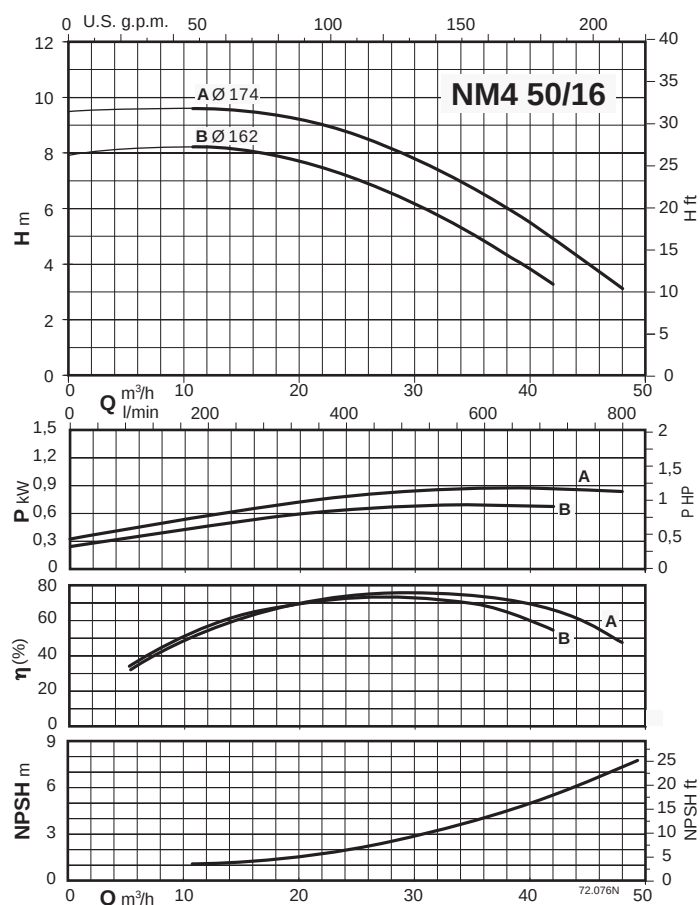
Q (m³/h)	Q (US g.p.m.)	P (kW) - A Ø251	P (kW) - B Ø247	P (kW) - C Ø227
0	0	0.6	0.5	0.4
10	22	0.8	0.7	0.6
20	44	1.1	1.0	0.8
30	66	1.4	1.3	1.1

Efficiency (η) vs. Flow Rate (Q)

Q (m³/h)	Q (US g.p.m.)	η (%) - A Ø251	η (%) - B Ø247	η (%) - C Ø227
10	22	25	22	20
20	44	55	52	48
30	66	35	32	25

NPSH vs. Flow Rate (Q)

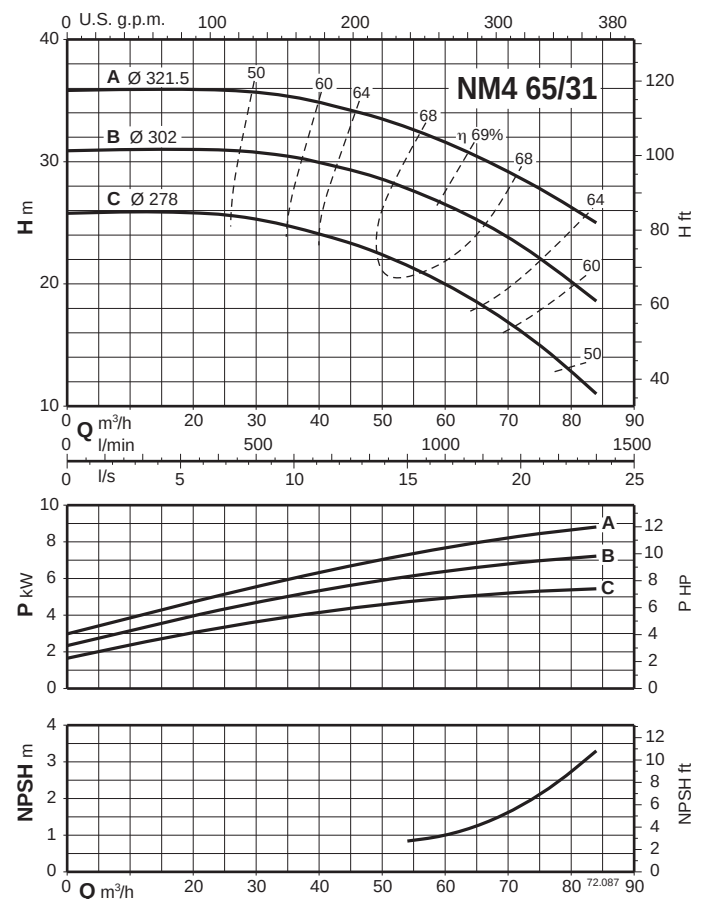
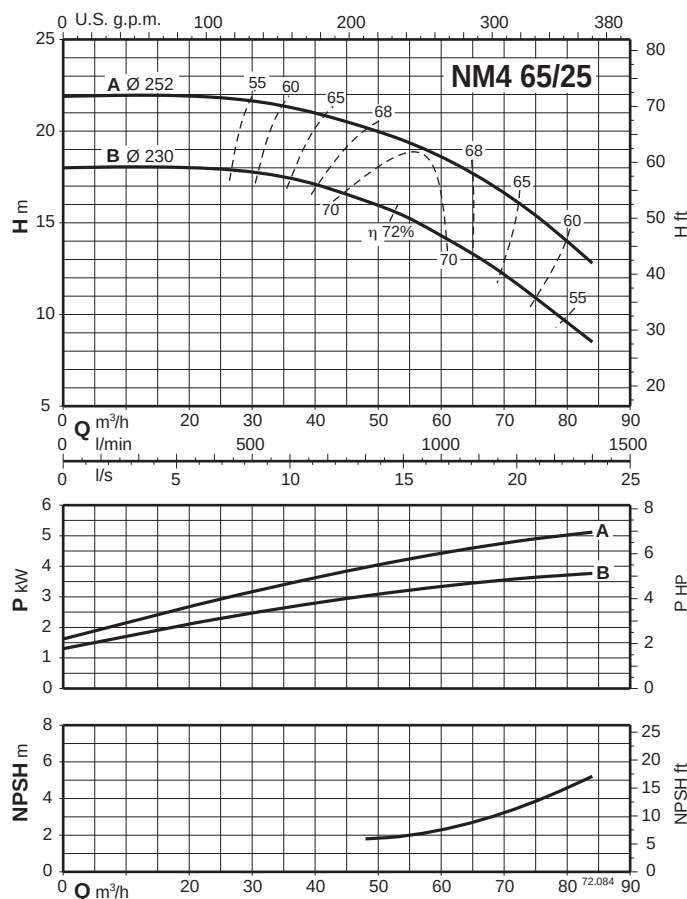
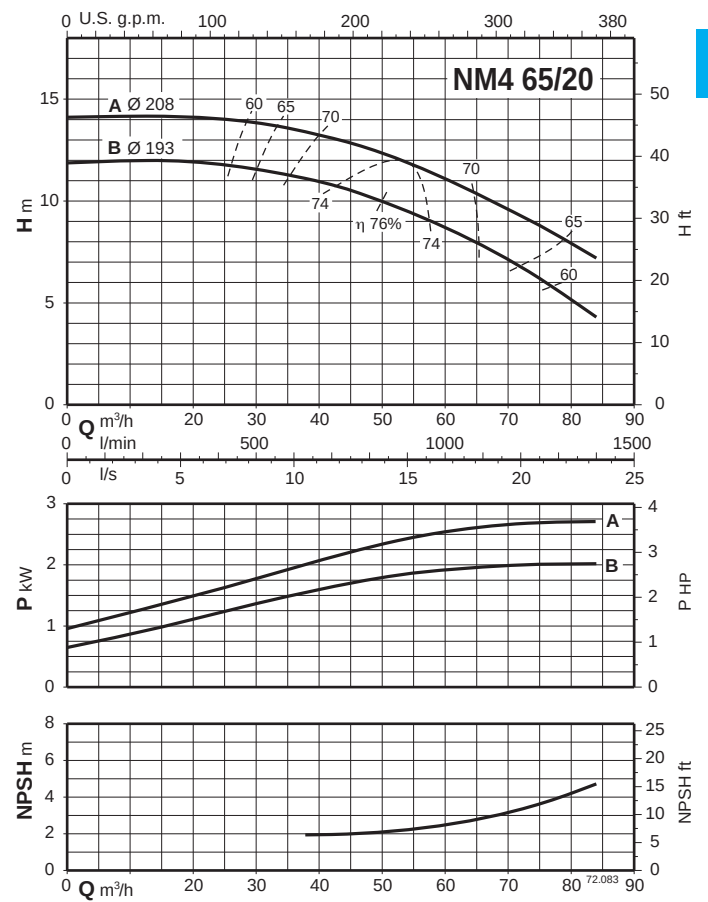
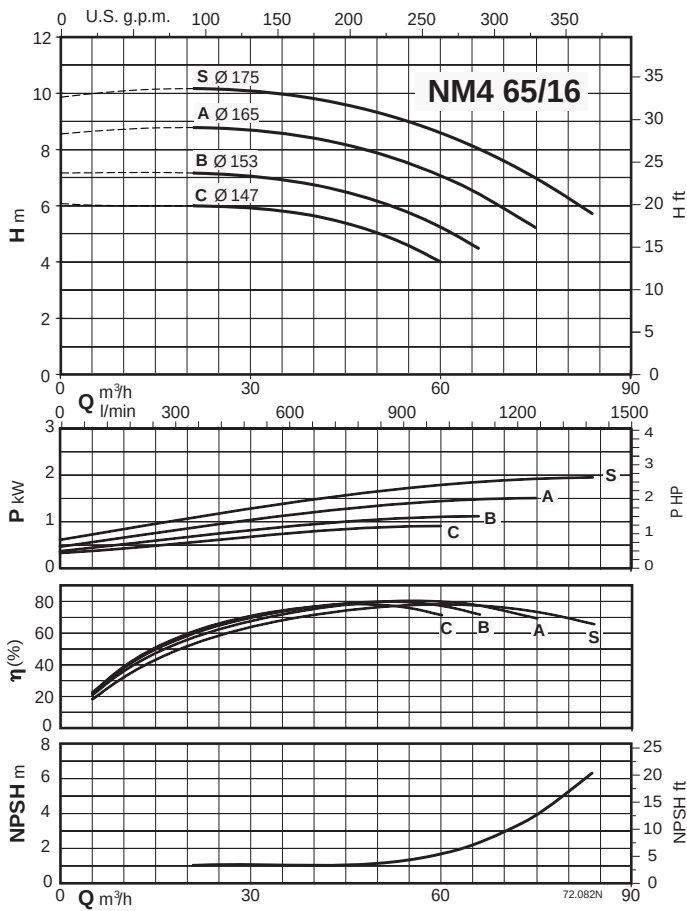
Q (m³/h)	Q (US g.p.m.)	NPSH (m)	NPSH (ft)
10	22	0.5	1.5
20	44	0.5	1.5
30	66	1.5	5.0



NM4, NMS4 Close Coupled Centrifugal Pumps



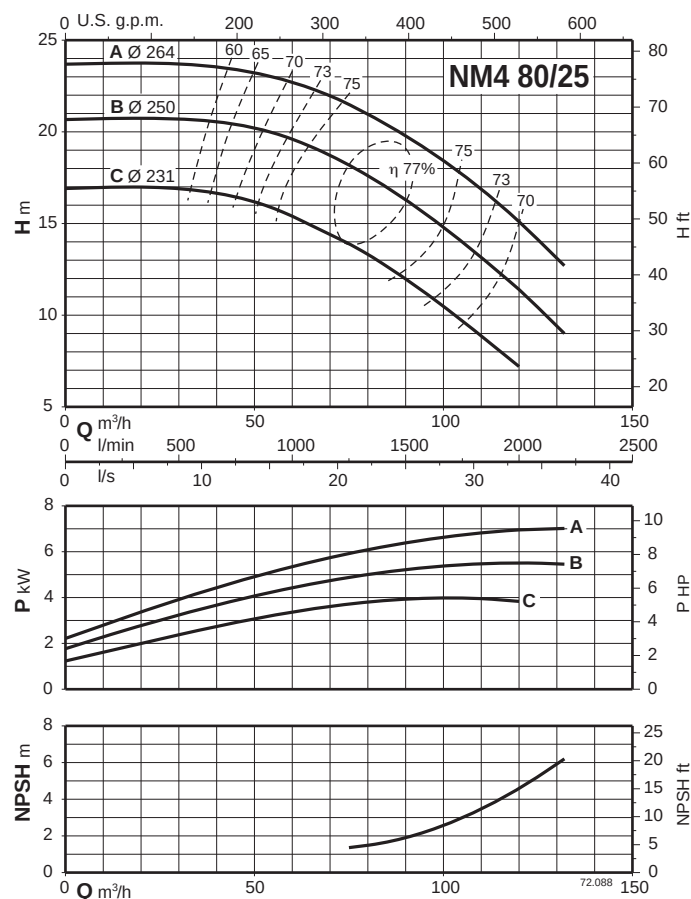
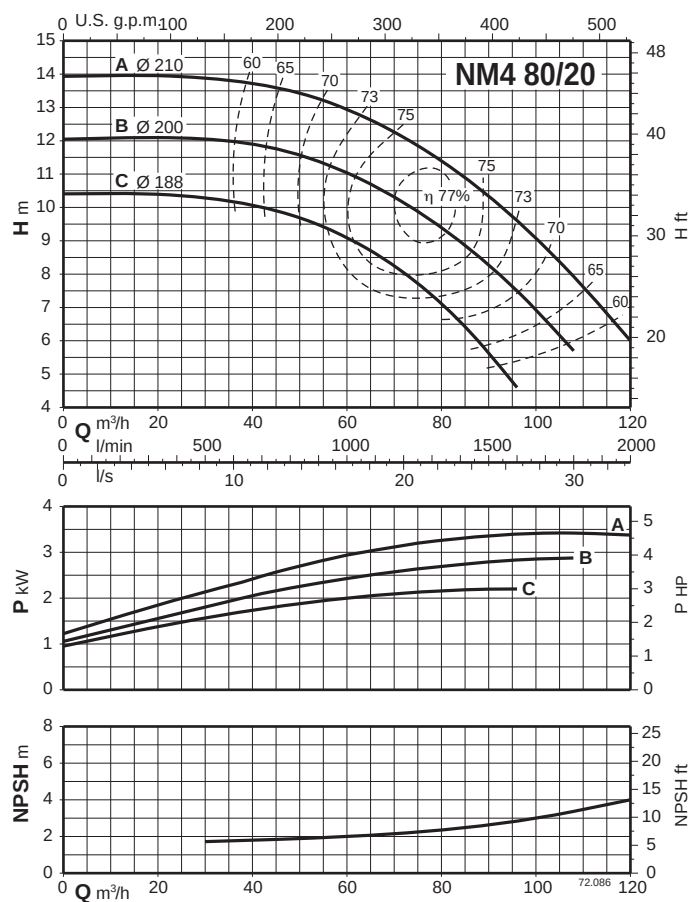
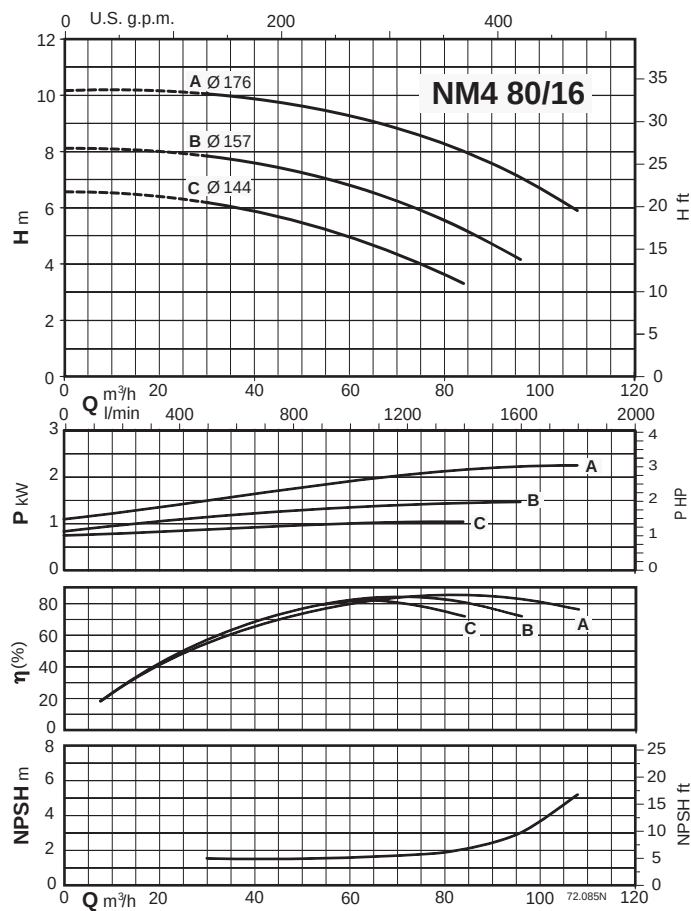
Characteristic curves $n \approx 1450$ rpm



NM4, NMS4 Close Coupled Centrifugal Pumps



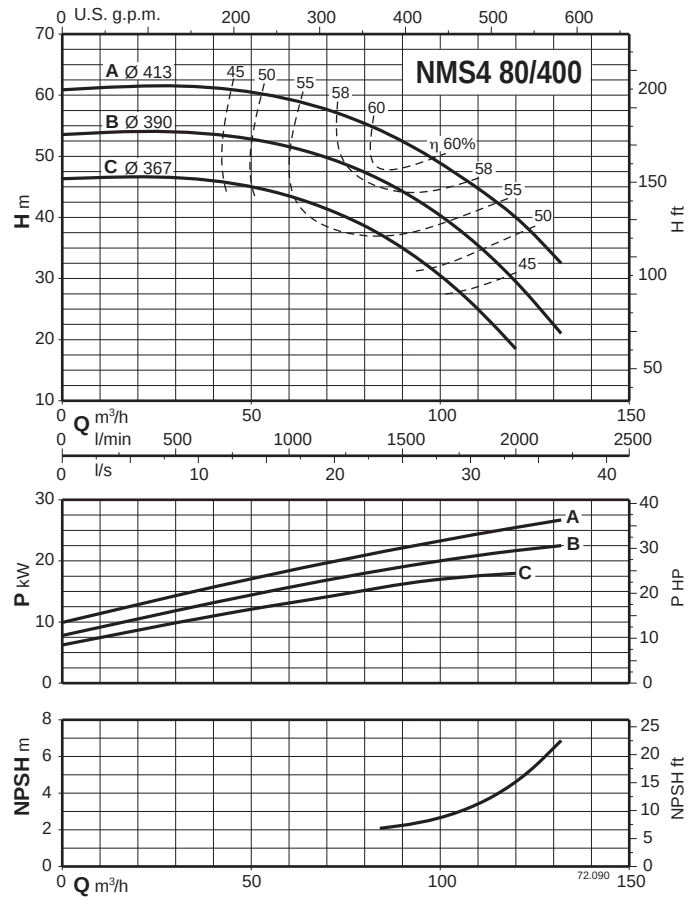
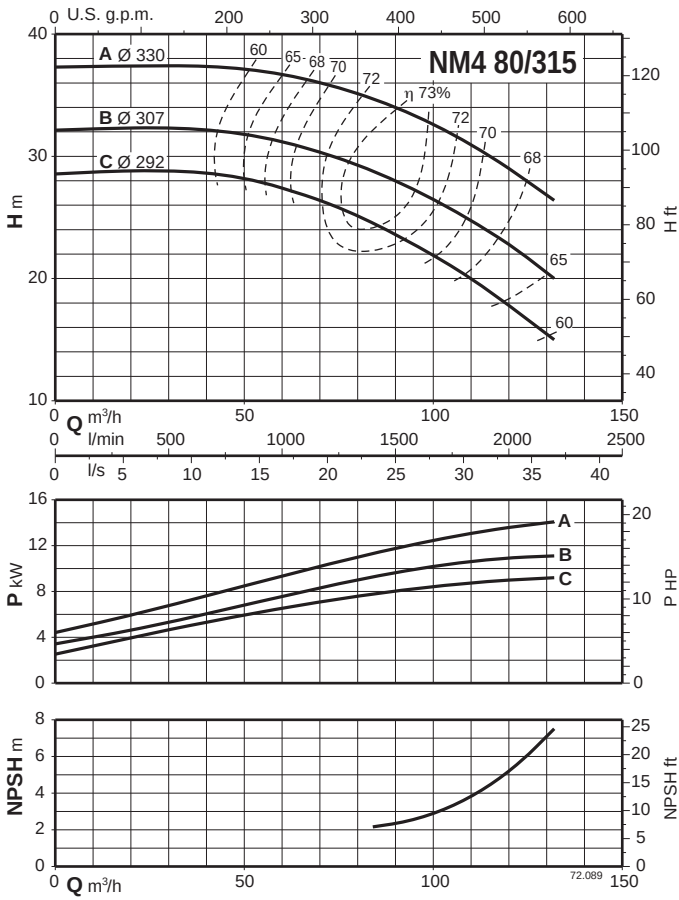
Characteristic curves $n \approx 1450$ rpm



NM4, NMS4 Close Coupled Centrifugal Pumps



Characteristic curves $n \approx 1450$ rpm

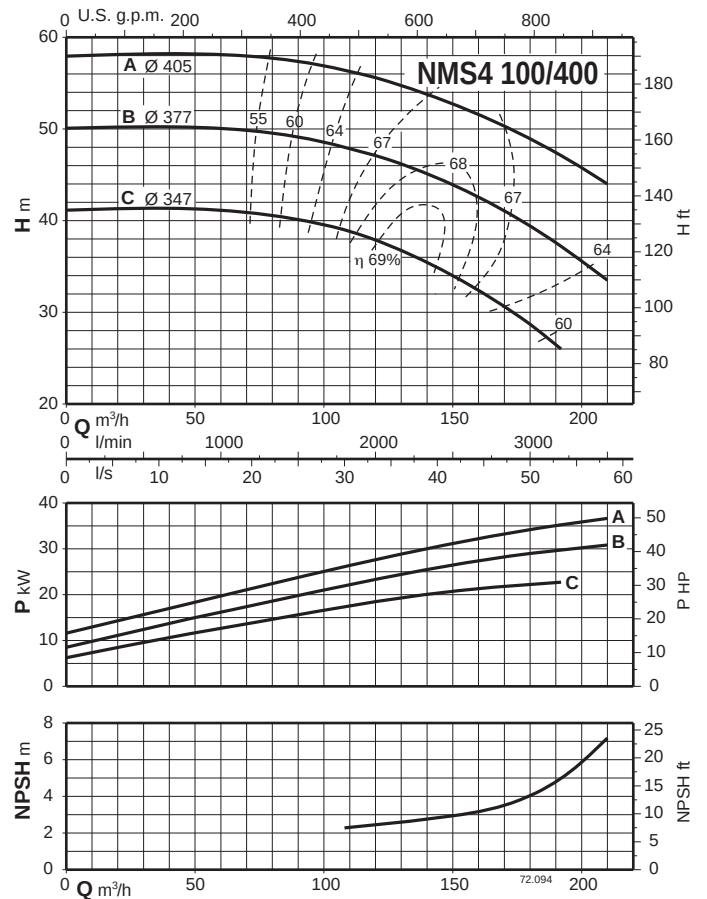
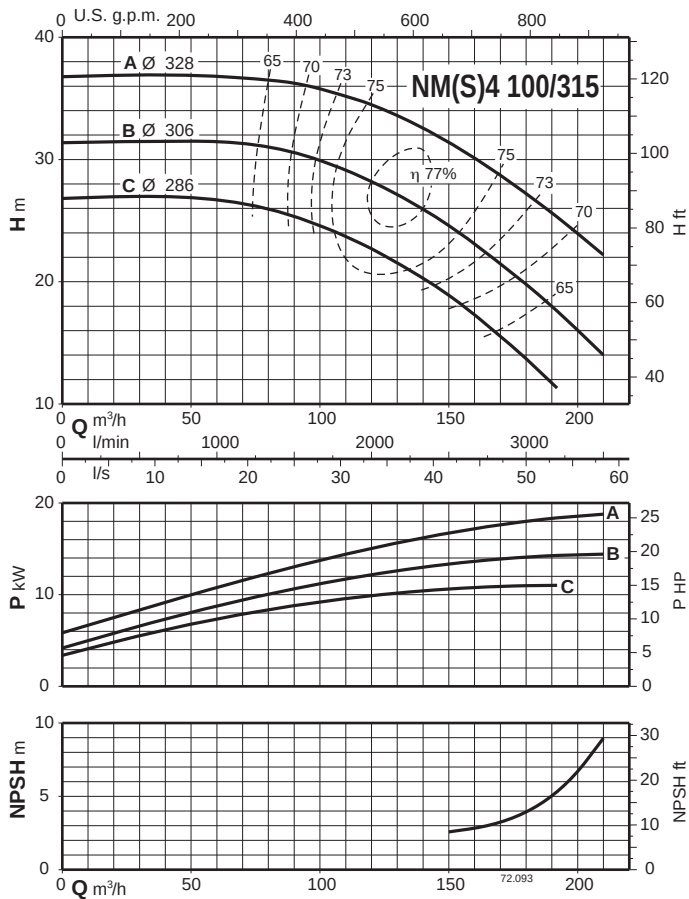
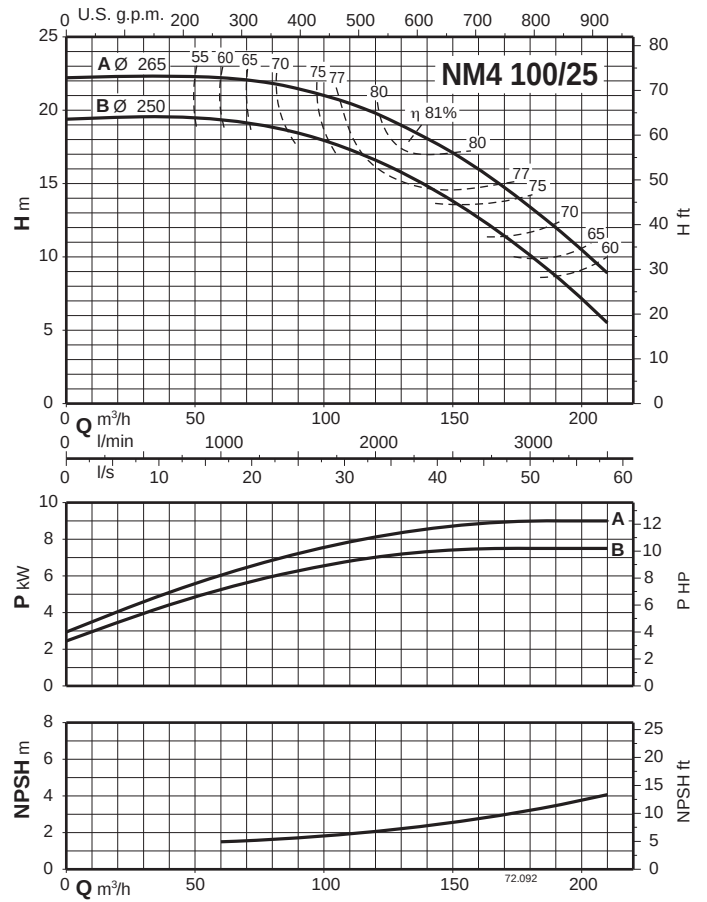
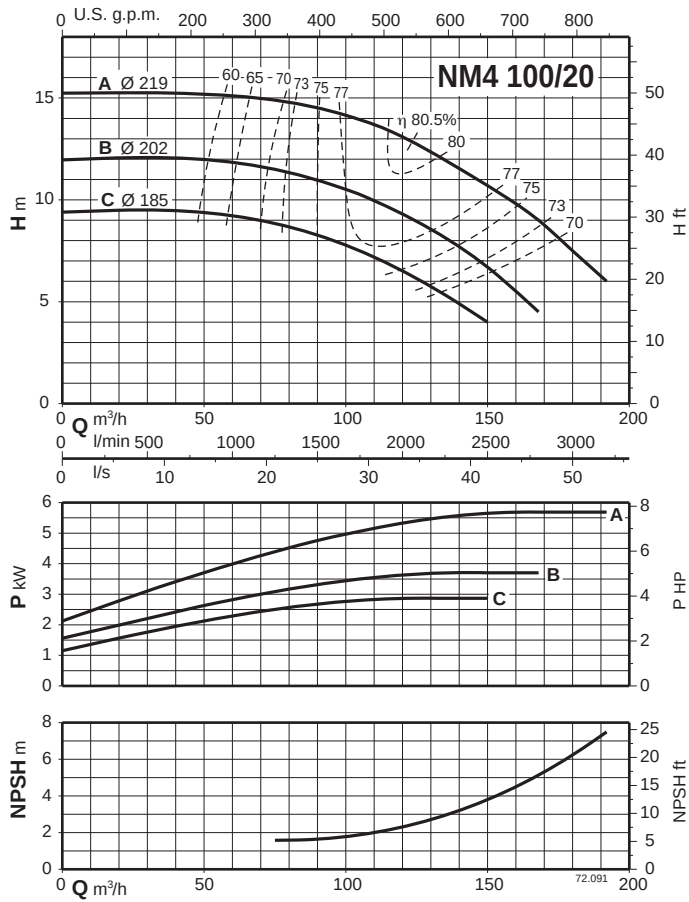


3

NM4, NMS4 Close Coupled Centrifugal Pumps



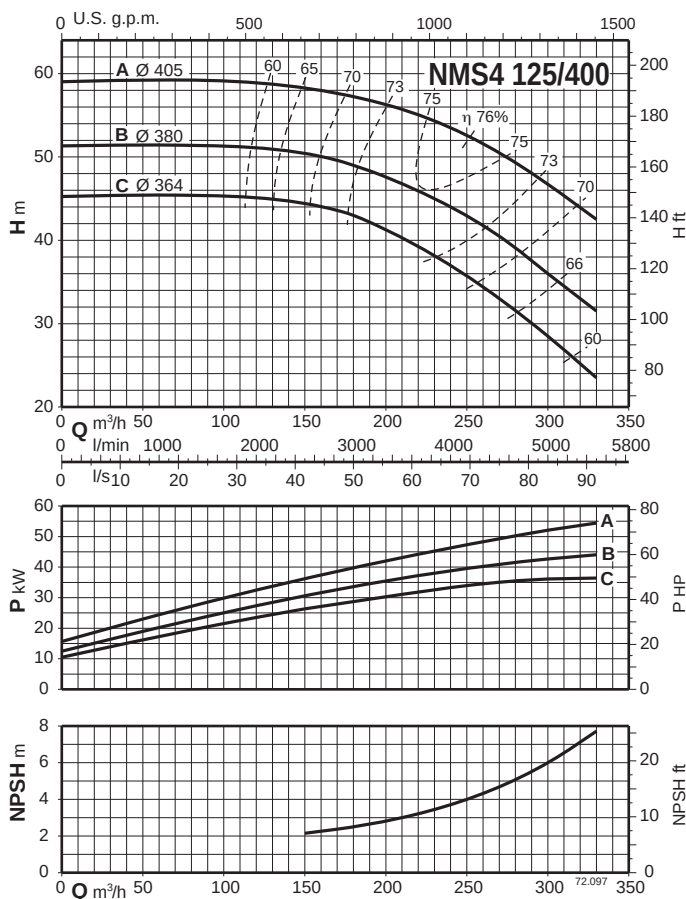
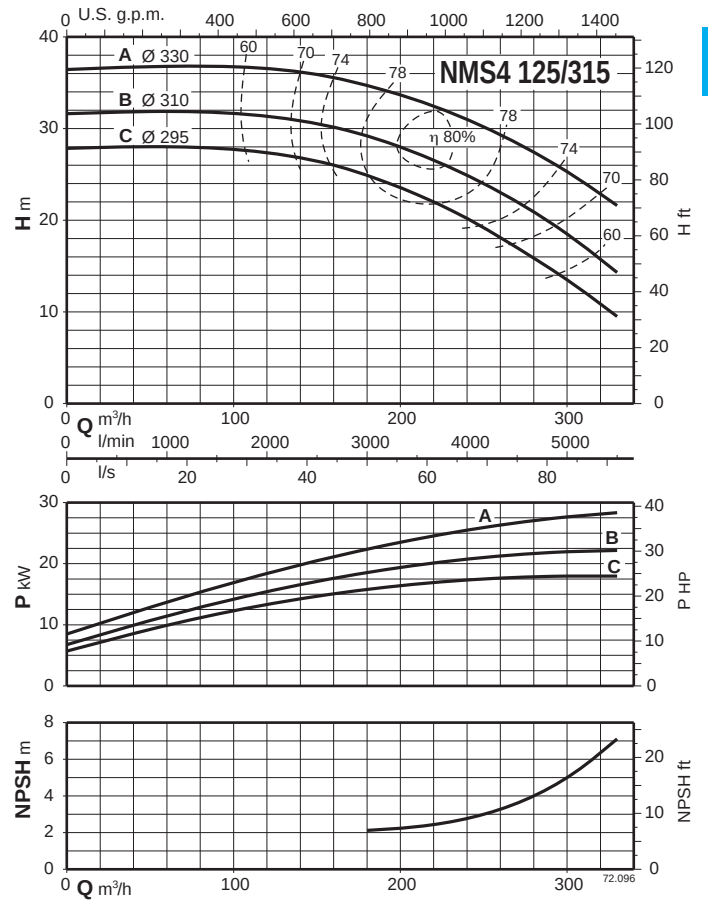
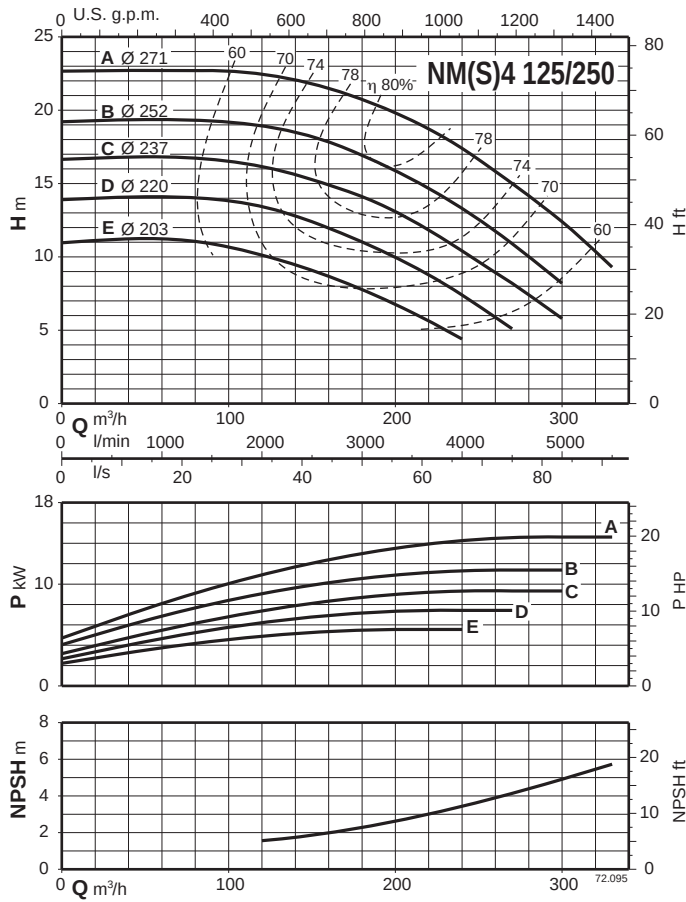
Characteristic curves $n \approx 1450$ rpm



NM4, NMS4 Close Coupled Centrifugal Pumps



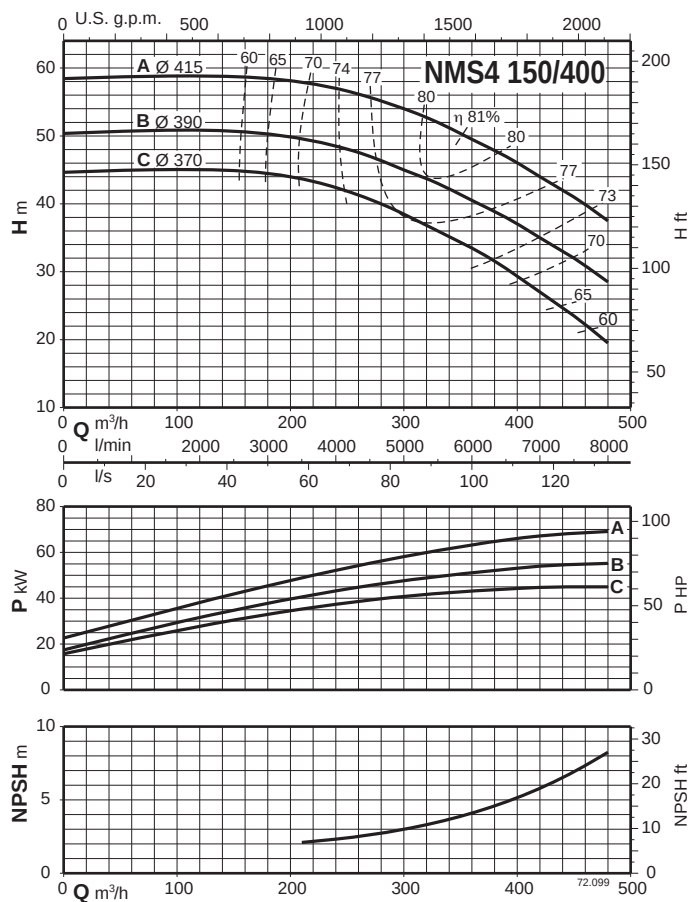
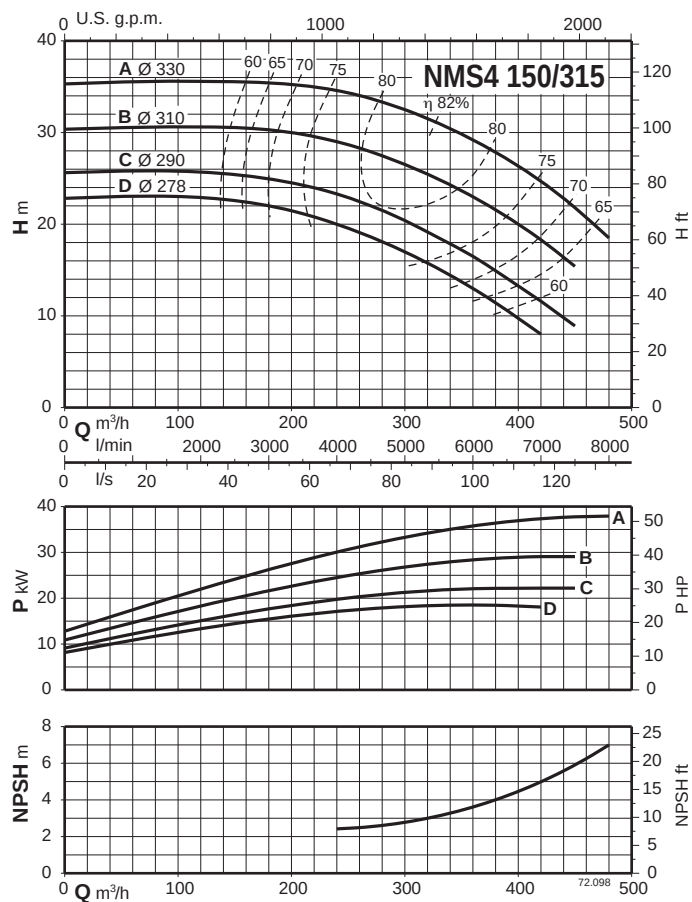
Characteristic curves $n \approx 1450$ rpm



NM4, NMS4 Close Coupled Centrifugal Pumps



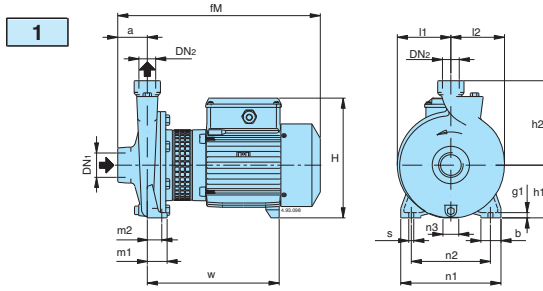
Characteristic curves $n \approx 1450$ rpm



NM4, NMS4 Close Coupled Centrifugal Pumps



Dimensions and weights

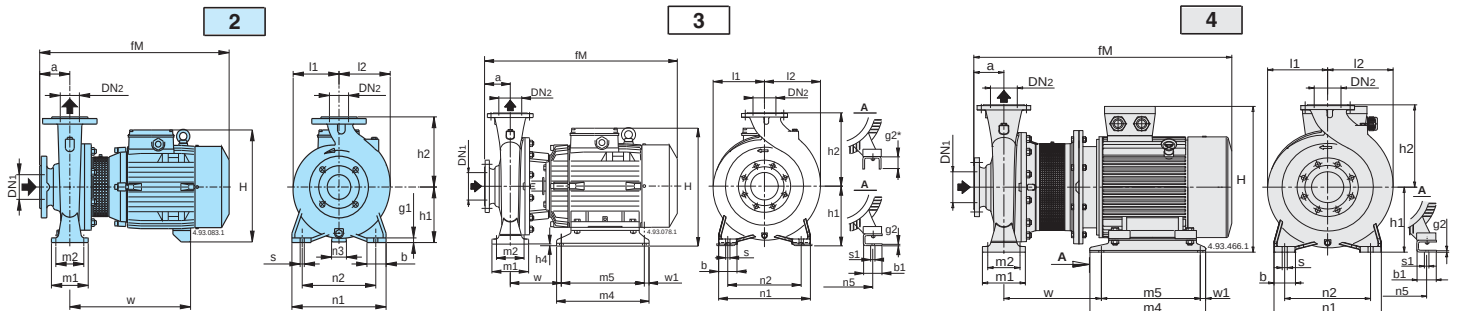


Standard construction

Picture	NM4	DN ₁	DN ₂	mm																kg
				a	fM	h1	h2	H	m1	m2	n1	n2	n3	b	s	l1	l2	w	g	
1	NM4 25/12A/A	G 1 1/2	G 1	56	313	90	140	199	37,5	27,5	170	130	9	38	9,5	85	88	250	10	13,5
	NM4 25/160AE-BE			56	380	100	160	228	37,5	27,5	190	150	30	38	9,5	102	102	250	10	17,5
	NM4 25/200A/B-B/A-C/A			63	385	125	180	253	45	32,5	245	200	49	45	11,5	125	125	250	11	27-23-21,5

Bronze construction B-NM4

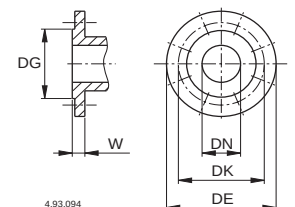
Picture	B-NM4	DN ₁	DN ₂	mm																kg
				a	fM	h1	h2	H	m1	m2	n1	n2	n3	b	s	l1	l2	w	g	
1	B-NM4 25/160AE-BE	G 1 1/2	G 1	56	380	100	160	228	37,5	27,5	190	150	30	38	9,5	102	102	250	10	19-19
	B-NM4 25/200A/B-B/A-C/A			63	400	125	180	253	45	32,5	245	200	49	45	11,5	125	125	250	11	29-25-23



Picture	B-NM4	mm																								kg		
		DN1	DN2	a	fM	h1	h2	H	h4	m1	m2	n1	n2	n3	n5	w1	b	b1	s	s1	l1	l2	w	w4	w5		g1	g2
2	B-NM4 32/16A-B	50	32	80	410	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	120	120	255	-	-	12	-	38-38
	B-NM4 32/20A/A-B	50	32	80	410	160	180	288	-	100	70	240	190	62	-	-	50	-	14	-	140	140	255	-	-	12	-	45-41
	B-NM4 40/16A/A-B-C	65	40	80	410	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	119	119	255	-	-	12	-	43-40-38
	B-NM4 40/20A/A-B/A	65	40	100	470	160	180	288	-	100	70	265	212	62	-	-	50	-	14	-	140	140	255	-	-	12	-	55-55
3	B-NM4 4025/B/B-C/B B-NM4 4025/A/B	65	40	100	535 560	190	225	318 350	10	125	95	320	250	- -	140 190	15	65	54 60	14	10 12	175	175	156 125	205 280	175 250	-	6	73-73 89
2	B-NM4 50/16A/A-B/A	65	50	100	470	160	180	288	-	100	70	265	212	62	-	-	50	-	14	-	127	141	255	-	-	12	-	55-55
3	B-NM4 5025/C/B-D/A B-NM4 5025/A/B-B/B	65	50	100	535 560	190	225	318 350	10	125	95	320	250	- -	140 190	15	65	54 60	14	10 12	175	175	156 125	205 280	175 250	-	6	79,5 105-92
2	B-NM4 65/16B/B-C/B B-NM4 65/16A/B-S	80	65	100	470 495	160	200	288 306	-	125	95	280	212	62 60	-	-	65	-	14	-	150	172	255 300	-	-	15	-	63-63 71-71

Flanges EN 1092-2

Picture	B-NMS4	mm																						kg	
		DN ₁	DN ₂	a	fM	h ₁	h ₂	H	m ₁	m ₂	n ₁	n ₂	n ₅	w ₁	b	b ₁	s	s ₁	l ₁	l ₂	w	m ₄	m ₅		g ₂
4	B-NMS4 80/315A/A-B/A	100	80	125	948	250	315	457	160	120	400	315	254	20	80	60	18	15	220	232	271	435	395	6	
	B-NMS4 80/400C	125	80	125	974	280	355	542	160	120	435	355	279	25	80	70	18	15	268	268	318	520	435	6	
	B-NMS4 80/400B	125	80	125	1025	280	355	542	160	120	435	355	279	25	80	70	18	15	268	268	318	520	435	6	
	B-NMS4 80/400A	125	80	125	1025	280	355	580	160	120	435	355	318	25	80	83	18	19	268	268	334	540	455	6	
	B-NMS4 100/315B/A-C/A	125	100	140	963	250	315	457	160	120	400	315	254	20	80	60	18	15	230	250	271	435	395	6	300-282
	B-NMS4 100/315A	125	100	140	984	250	315	512	160	120	400	315	279	25	80	70	18	15	230	250	312	432	382	6	
	B-NMS4 100/400C	125	100	140	1040	280	355	542	200	150	500	400	279	25	100	70	22	15	268	280	318	520	435	6	
	B-NMS4 100/400B	125	100	140	1040	280	355	580	200	150	500	400	318	25	100	83	22	19	268	280	334	540	455	6	
	B-NMS4 100/400A	125	100	140	1139	280	355	605	200	150	500	400	356	55	100	103	22	19	268	280	384	540	460	8	
	B-NMS4 125/250A/A-B/A	150	125	140	951	250	355	457	160	120	400	315	254	20	80	60	18	15	235	268	259	435	395	6	276-261
	B-NMS4 125/315C	150	125	140	989	280	355	542	200	150	500	400	279	25	100	70	22	15	247	278	318	520	435	6	
	B-NMS4 125/315B	150	125	140	1040	280	355	542	200	150	500	400	279	25	100	70	22	15	247	278	318	520	435	6	378
	B-NMS4 125/315A	150	125	140	1040	280	355	580	200	150	500	400	318	25	100	83	22	19	247	278	334	540	455	6	
	B-NMS4 125/400C	150	125	140	1139	315	400	640	200	150	500	400	356	25	100	103	22	19	280	305	409	540	461	8	
	B-NMS4 125/400B	150	125	140	1199	315	400	640	200	150	500	400	356	25	100	103	22	19	280	305	409	540	461	8	
	B-NMS4 125/400A	150	125	140	1307	315	400	707	200	150	500	400	406	25	100	100	22	24	280	305	454	540	461	8	
	B-NMS4 150/315D	200	150	160	1009	280	400	542	200	150	550	450	279	25	100	70	22	15	260	298	318	520	435	6	
	B-NMS4 150/315C	200	150	160	1060	280	400	542	200	150	550	450	279	25	100	70	22	15	260	298	318	520	435	6	
	B-NMS4 150/315B	200	150	160	1060	280	400	580	200	150	550	450	318	25	100	83	22	19	260	298	334	540	455	6	
	B-NMS4 150/315A	200	150	160	1159	280	400	605	200	150	550	450	356	55	100	103	22	19	260	298	384	540	460	8	
B-NMS4 150/400C	200	150	160	1219	315	450	640	200	150	550	450	356	25	100	103	22	19	295	328	409	540	461	8		
B-NMS4 150/400B	200	150	160	1277	315	450	707	200	150	550	450	406	25	100	100	22	24	295	328	404	540	461	8		
B-NMS4 150/400A	200	150	160	1280	315	450	747	200	150	550	450	457	45	100	100	22	24	295	328	432	625	535	6		



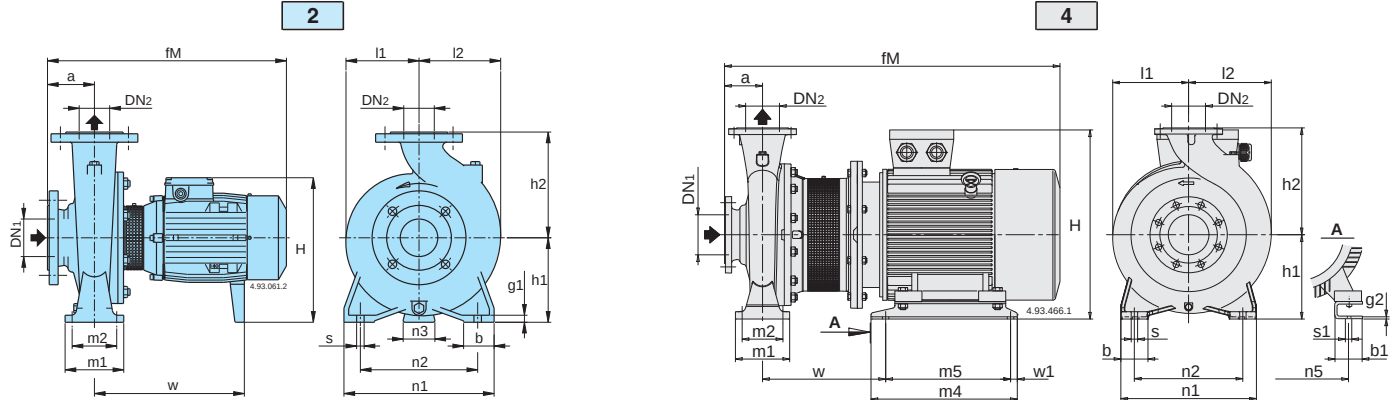
mm						
DN	DG	DK	DE	Holes N°	Ø	W
32	76	100	140	4	19	18
40	84	110	150	4	19	18
50	99	125	165	4	19	20
65	118	145	185	4	19	20
80	132	160	200	8	19	22
100	156	180	220	8	19	24
125	184	210	250	8	19	24
150	211	240	285	8	23	26
200	266	295	340	8	23	30

NM4, NMS4

Close Coupled Centrifugal Pumps



Dimensions and weights



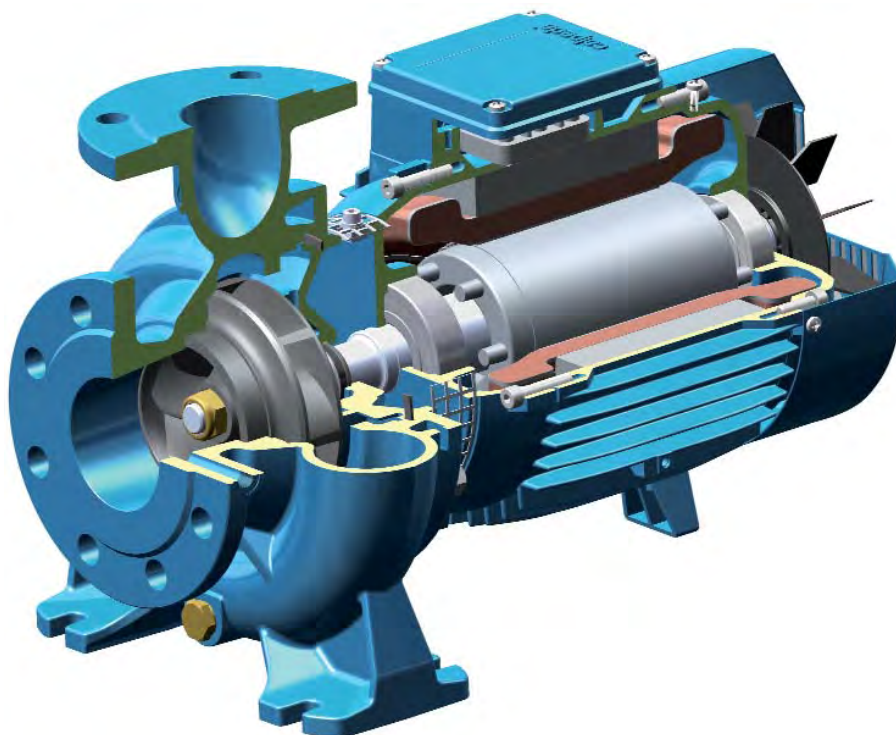
Standard construction

Flanges EN 1092-2

Picture	NM4	mm																								kg		
		DN1	DN2	a	fM	h1	h2	H	h4	m1	m2	n1	n2	n3	n5	w1	b	b1	s	s1	l1	l2	w	m4	m5		g1	g2
2	NM4 32/16AE-BE	50	32	80	410	132	160	260	-	100	70	240	190	47	-	-	50	-	14	-	120	120	255	-	-	12	-	30,5-30
	NM4 32/20A/A-BE	50	32	80	410	160	180	288	-	100	70	240	190	62	-	-	50	-	14	-	140	140	255	-	-	12	-	38-34,5
	NM4 40/16A/B-B/A-C/A	65	40	80	410	132	160	268	-	100	70	240	190	47	-	-	50	-	14	-	119	119	255	-	-	12	-	37-33-3
	NM4 40/20A/A-B/A	65	40	100	470	160	180	288	-	100	70	265	212	62	-	-	50	-	14	-	140	140	255	-	-	12	-	41-40,5
	NM4 40/25B/B-C/B	65	40	100	495	180	225	308	-	125	95	320	250	60	-	-	65	-	14	-	175	175	300	-	-	15	-	66,5-62
	NM4 40/25A/B				525			340															78					
	NM4 50/16A/B-B/B	65	50	100	470	160	180	288	-	100	70	265	212	62	-	-	50	-	14	-	127	141	255	-	-	12	-	40-39,5
	NM4 50/20C/B	65	50	100	480	160	200	288	-	100	70	265	212	62	-	-	50	-	14	-	140	153	265	-	-	14	-	44,5
	NM4 50/20A/B-B/B				505																		310					
	NM4 50/25C/B-D/A	65	50	100	490	180	225	308	-	125	95	320	250	60	-	-	65	-	14	-	175	175	300	-	-	15	-	68
	NM4 50/25A/B-B/B				530			340															85-78,5					
	NM4 65/16B/B-C/B	80	65	100	470	160	200	288	-	125	95	280	212	62	-	-	65	-	14	-	150	172	255	-	-	15	-	48-48
	NM4 65/16A/B				495																		300					
	NM4 65/20B/A	80	65	100	505	180	225	308	-	125	95	320	250	60	-	-	65	-	14	-	155	175	310	-	-	15	-	61
	NM4 65/20A/A				525			340															73,5					
	NM4 65/25B/A	80	65	100	540	200	250	360	-	160	120	360	280	60	-	-	80	-	18	-	175	190	345	-	-	18	-	97
	NM4 65/25A/B				645			385															116					
	NM4 65/31C/B	80	65	125	670	225	280	410	-	160	120	400	315	75	-	-	80	-	18	-	220	220	415	-	-	20	-	164-153
	NM4 65/31A/B-B/B				745																		465					
	NM4 80/16C/B	100	80	125	495	180	225	288	-	125	95	320	250	62	-	-	65	-	14	-	165	193	255	-	-	15	-	53
NM4 80/16A/B-B/B	520				308			65,5-61																				
NM4 80/20C/A	100	80	125	540	180	250	308	-	125	95	345	280	60	-	-	65	-	14	-	170	194	320	-	-	15	-	74,5	
NM4 80/20A/B-B/A				560			340															91-82						
NM4 80/25C/A	100	80	125	565	200	280	360	-	160	120	400	315	60	-	-	80	-	18	-	191	210	335	-	-	20	-	102	
NM4 80/25B/B				670			385															124						
NM4 80/25A/B	100	80	125	745	250	315	385	-	160	120	400	315	90	-	-	80	-	18	-	220	232	465	-	-	20	-	135	
NM4 80/31C/B				745			465															135						
NM4 80/31A-B	100	80	125	745	250	315	435	-	160	120	400	315	90	-	-	80	-	18	-	220	232	465	-	-	20	-	181	
3	NM4 80/31A-B	100	80	125	787	260	315	466	10	160	120	400	315	-	254	20	80	74	18	14	220	232	147	435	395	-	6	269-248
2	NM4 100/20B/A-C/A	125	100	125	565	200	280	360	-	160	120	360	280	60	-	-	80	-	18	-	180	212	330	-	-	20	-	99-90
	NM4 100/20A/B				665			385															109					
3	NM4 100/25A/B-B/B	125	100	140	760	225	280	410	-	160	120	400	315	75	-	-	80	-	18	-	205	233	465	-	-	20	-	152-143
3	NM4 100/31B-C	125	100	140	802	260	315	466	10	160	120	400	315	-	254	20	80	74	18	14	230	250	147	435	395	-	6	280-261
2	NM4 125/25E/B	150	125	140	685	250	355	435	-	160	120	400	315	90	-	-	80	-	18	-	235	268	415	-	-	20	-	149
	NM4 125/25C/B-D/B			735	173-161																							
3	NM4 125/25A-B	150	125	140	802	260	355	466	10	160	120	400	315	-	254	20	80	74	18	14	235	268	147	435	395	-	6	261-241

Features

3



Cutting edge hydraulics

The geometry of the impeller and the pump casing are optimized to achieve maximum efficiency and the best suction capability.

Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows NM and NM4 series pumps to be selected for use with different types of liquids.

Compact Design

The compact design allows for easy installation even in confined spaces.

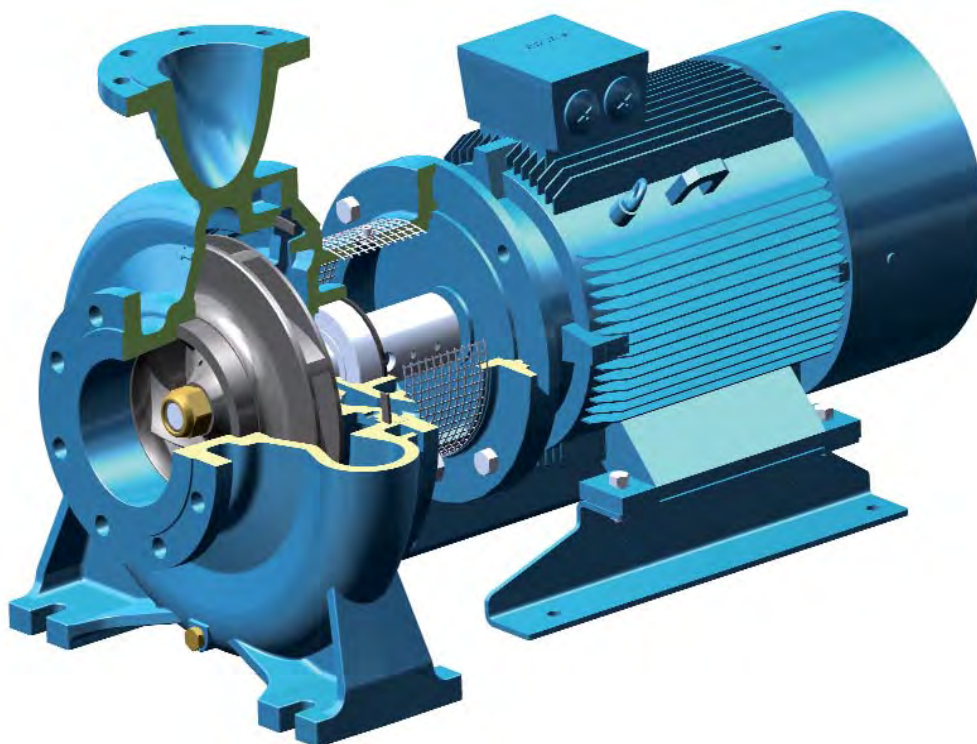
Exclusive design

An innovative, patented guard prevents contact with rotating parts, proving protection to the end user whilst allowing for inspection of the mechanical seal.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

Features



Cutting edge hydraulics

The geometry of the impeller and the pump casing are optimized to achieve maximum efficiency and the best suction capability.

Flexibility

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows NMS and NMS4 series pumps to be selected for use with different types of liquids.

New lantern bracket construction

The lantern brackets incorporate a thrust bearing on the hydraulic side which guarantees the elimination of additional loads on the motor bearings. The flange is sized to be used with standard motors B35.

Exclusive design

An innovative, patented guard prevents contact with rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

Simplified motor maintenance

The presence of the thrust bearing on the hydraulic side makes it easier to remove the motor, facilitating maintenance operations and eliminating the risks of damage to the hydraulic parts.

N, N4

End-Suction Centrifugal Pumps standardized EN 733

calpeda®



The electropumps N, B-N, N4, B-N4 series comply with the European Regulation no. 547/2012.

Materials

Components	N, N4 Mechanical seal	N, N4 Stuffing box	B-N, B-N4 Mechanical seal
Pump casing	Cast iron		Bronze
Casing cover	GJL 200 EN 1561		G-Cu Sn 10 EN 1982
Impeller	Cast iron		Bronze
	GJL 200 EN 1561		G-Cu Sn 10 EN 1982
	Brass P- Cu Zn 40 Pb 2 UNI 5705 For 32-125, 32-160, 32-200, 40-200		
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)	Carbon steel C 40 UNI 7845	Cr-Ni-Mo steel 1.4401 EN 10088 (AISI 316)
Shaft sleeve	—	Bronze G-Cu Sn5 Zn5 Pb5 EN 1982 with chromate surface	—
Mechanical seal	Carbon - Ceramic - NBR	—	Carbon - Ceramic - NBR
Counter-flanges	Steel Fe 430B UNI 7070		

Construction

Single-stage end-suction centrifugal pumps, with bearing bracket.

Nominal duty points and main dimensions in accordance with EN 733. Back Pull-Out construction, for simple and quick dismantling and reassembly.

N, N4: version with pump casing and lantern bracket in cast iron.
B-N, B-N4: version with pump casing and lantern bracket in bronze.
(the pumps are supplied fully painted).

Rated speed of rotation (50 Hz): **N** ≈ 2900 rpm.
N4 ≈ 1450 rpm.

Connections: PN 10 flanges EN 1092-2.

Counter-flanges (on request)

Sizes	Flanges
from 32-160 to 50-250	Screwed flanges PN 16 EN 1092-1
from 65-125 to 150-400	Flanges for welding PN 10 EN 1092-1

Shaft sealing

- Standardized mechanical seal in accordance with ISO 3069.
- Stuffing box seal (on request).

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).

For water supply.

For heating, air conditioning, cooling and circulation plants.

For civil and industrial applications and for agriculture.

For fire fighting applications.

For irrigation.

Operating conditions

Liquid temperature from -10 °C to +90 °C.

Ambient temperature up to 40 °C.

Total suction lift up to 7 m.

Maximum permissible working pressure up to 10 bar (16 bar for N,N4 65/125, N,N4 65/160 and N,N4 80/160).

Maximum permissible rotation speed: see table on page 70.

Pump-Motor unit

N,N4 pump connected to a standard electric motor in B3 construction form (EN 60072-1), by means of a baseplate, driven by a flexible coupling and with coupling protection.

Three-phase 400 V , 50 Hz

Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 from 7,5 kW.

IP 55 protection.

Motor suitable for operation with frequency converter.

Special features on request

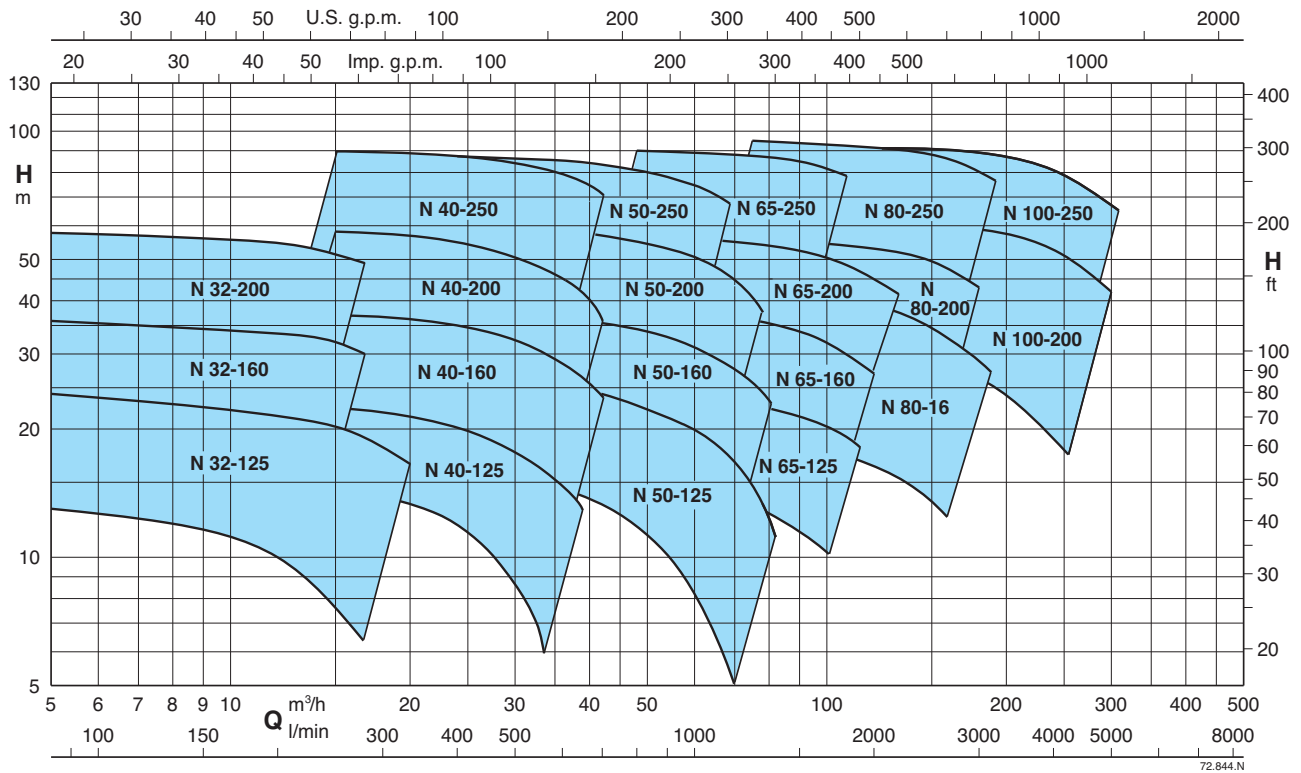
- Special mechanical seal.
- Chrome-nickel steel AISI 316 pump-shaft.
- Higher or lower liquid or ambient temperatures.
- Other motor protection.
- Explosion proof construction in accordance with Directive 94/9 EEC (ATEX).
- Motor for other voltage.
- Frequency 60 Hz (as per 60 Hz data sheet).



End-Suction Centrifugal Pumps standardized EN 733



Coverage chart $n \approx 2900$ rpm



Tolerances according to UNI EN ISO 9906:2012

Performance $n \approx 2900$ rpm

PUMP	PUMP	MOTOR	P2 kW	Q m³/h	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27	30	33	37,8	39	42	45	48	
					Q l/min	110	125	140	160	180	200	220	250	280	315	350	400	450	500	550	630	650	700	750	800
B-N 32-125F/A	N 32-125F/A	71 M2	0,55	H m P3 kW	12,5 0,4	12,5 0,43	12 0,46	11,5 0,48	11 0,5	10,5 0,52	9,5 0,54	8 0,55	6 0,56												
B-N 32-125D/A	N 32-125D/A	80 M2 80 M2	0,75 1,1		18 0,63	18 0,67	17,5 0,7	17 0,75	16,5 0,79	16 0,83	15,5 0,86	14 0,9	12,5 0,93	11 0,95	8,5 0,97										
B-N 32-125A/A	N 32-125A/A	80 M2 90 S2	1,1 1,5		23 0,83	23 0,87	22,5 0,91	22 0,96	21,5 1,01	21 1,06	20,5 1,1	19,5 1,19	18 1,26	16 1,31	14 1,35	10 1,38									
B-N 32-125S/A	N 32-125S/A	90 S2	1,5		23,5 0,86	23,5 0,9	23 0,94	22,5 1	22 1,06	21,5 1,12	21 1,17	20,5 1,25	19 1,3	18,5 1,36	16,5 1,42	13 1,49									
B-N 32-160B/A	N 32-160B/A	90 S2 90 L2	1,5 2,2		29,5 1,1	29,5 1,17	29 1,23	28,5 1,30	27,5 1,37	27 1,43	26 1,48	25* 1,55	22,5* 1,63	20* 1,7	17,5* 1,75	12,5* 1,79									
B-N 32-160A/A	N 32-160A/A	90 L2 100 L2	2,2 3		35,5 1,56	35,5 1,64	35 1,71	34,5 1,81	34 1,9	33,5 1,98	33 2,05	32* 2,16	30* 2,24	28* 2,33	25* 2,4	21* 2,47	15* 2,5								
B-N 32-200D/A	N 32-200D/A	90 L2 100 L2	2,2 3		37,5 1,92	37 2	36 2,06	35 2,17	34 2,24	33 2,3	32 2,35	30 2,4	27 2,45	22 2,5											
B-N 32-200C/A	N 32-200C/A	100 L2	3		44,5 2,17	44 2,28	43,5 2,36	43 2,5	42 2,63	41 2,74	40 2,83	38,5 2,97	36 3,1	32 3,2											
B-N 32-200A/A	N 32-200A/A	112 M2 132 S2	4 5,5		57 2,9	56,5 3,1	56 3,18	55,5 3,35	54,5 3,51	53,5 3,67	52,5 3,8	51 4	49 4,2	46 4,4											
B-N 40-125F/A	N 40-125F/A	80 M2	1,1										14 0,96	13,5 1,00	13 1,04	12 1,07	11 1,10	9,5 1,13	8 1,13	6 1,13					
B-N 40-125C/A	N 40-125C/A	90 S2	1,5										17,5 1,21	17 1,26	16,5 1,32	16 1,38	15 1,44	13,5 1,49	12 1,53	10,5 1,56	7,5 1,57	6,5 1,57			
B-N 40-125A/A	N 40-125A/A	90 L2	2,2										22 1,50	22 1,57	21,5 1,65	21 1,72	20 1,82	19 1,91	18 1,98	16,5 2,04	14 2,10	13 2,11	11,5 2,13		
B-N 40-160C/A	N 40-160C/A	90 L2	2,2										23 1,55	22,5 1,63	22 1,72	21,5 1,80	20 1,90	18,5 1,99	16,5 2,06	14,5 2,12	11 2,17	10 2,17			
B-N 40-160B/A	N 40-160B/A	100 L2	3										29 2,08	28,8 2,18	28 2,30	27,5 2,41	26,5 2,55	25 2,67	23,5 2,78	21,5 2,87	18 2,97	17 2,99	14 3,02		
B-N 40-160A/A	N 40-160A/A	112 M2 132 S2	4 5,5										37 2,70	36,5 2,84	36,5 3,01	36 3,18	35 3,35	33,5 3,53	32 3,72	30,5 3,84	27 4,01	26 4,05	23,5 4,12	20 4,20	17 4,22
B-N 40-200D/A	N 40-200D/A	112 M2 132 S2	4 5,5										39 3,20	38 3,35	37 3,51	35,5 3,66	33,5 3,86	30,5 4,03	27 4,18	24 4,30	22,5 4,43				
B-N 40-200C/A	N 40-200C/A	112 M2 132 S2	4 5,5										41,5 3,44	40,5 3,59	39,5 3,78	38 3,95	36 4,15	33,5 4,32							
B-N 40-200B/A	N 40-200B/A	132 S2	5,5										50 3,96	49,5 4,18	48,5 4,41	47,5 4,64	45,5 4,92	43,5 5,17	41,5 5,39	37,5 5,60	30,5 5,87				
B-N 40-200A/A	N 40-200A/A	132 S2 132 S2	5,5 7,5										55 4,50	54,5 4,70	54 5,07	53 5,30	51 5,65	49 5,95							
B-N 40-250C/A	N 40-250C/A	160 M2	11										57,5 4,78	57 5,04	56,5 5,34	55,5 5,63	54,5 6,03	52,5 6,40	50,5 6,70	48 7,01	42,5 7,34	40,5 7,43	35 7,62		
B-N 40-250B/A	N 40-250B/A	160 M2	11										61 5,86	61 6,16	60,5 6,49	59,5 6,82	58,5 7,28	56,5 7,72	53,5 8,07	49,5 8,48	41,5 9,02	40 9,15	33,5 9,35		
B-N 40-250A/A	N 40-250A/A	160 M2	15										69,5 6,87	69,5 7,19	69 7,56	68,5 7,91	67 8,47	65,5 8,91	63,5 9,35	60,5 9,75	53,5 10,40	51 10,54	45 10,93		
B-N 40-250A/A	N 40-250A/A	160 M2	15										90 9,31	90 9,73	89,5 10,21	89 10,68	88,5 11,34	87 11,98	85 12,60	83 13,19	77,5 14,00	76 14,21	70,5 14,65		

N Standard construction.

P₂ Rated motor power output.

P₃ Pump power input.

H Total head in m.

* Maximum suction lift 1-2 m.

N End-Suction Centrifugal Pumps standardized EN 733



Performance n ≈ 2900 rpm

PUMP B-N	PUMP N	MOTOR	P ₂ kW	Q m ³ /h Q l/min	24	27	30	33	37,8	42	48	54	60	66	69	72	75	78	81	84	96
					400	450	500	550	630	700	800	900	1000	1100	1150	1200	1250	1300	1350	1400	1600
B-N 50-125F/A	N 50-125F/A	90 L2	2,2	H m P ₃ kW			15,5 1,87	15 1,93	14 2,02	13,5 2,09	12 2,14	10 2,18	8 2,14	6 2,10							
B-N 50-125D/A	N 50-125D/A	100 L2	3				20 2,5	19,5 2,58	18,5 2,7	18 2,81	16,5 2,91	14,5 2,96	13 2,98	10,5 2,92	9 2,9	8 2,87					
B-N 50-125A/A	N 50-125A/A	112 M2	4				24 3,11	24 3,22	23 3,39	22,5 3,54	21 3,69	19,5 3,78	17,5 3,85	15 3,87	14 3,86	12,5 3,84	11,5 3,81	10 3,79			
B-N 50-125S/A	N 50-125S/A	112 M2 132 S2	4 5,5				26,5 3,38	26 3,52	25,5 3,71	24,5 3,87	23,5 4,04	22 4,18	20 4,25	18 4,29	16,5 4,29	15,5 4,28	14 4,26	13 4,24	11 4,22		
B-N 50-160B/A	N 50-160B/A	132 S2	5,5				31 4,30	30,5 4,48	29,5 4,71	28 4,90	26 5,11	24 5,28	21,5 5,35	19 5,40	17,5 5,40	15,5 5,36	13,5 5,32	11,5 5,30	9,5 5,22		
B-N 50-160A/A	N 50-160A/A	132 S2	7,5				38,5 5,44	38 5,67	37,5 6,02	36,5 6,31	34,5 6,67	32,5 6,95	30 7,18	27 7,30	25,5 7,34	24 7,38	22,5 7,41	20,5 7,42	19 7,46		
B-N 50-200B/A	N 50-200B/A	160 M2	11		48 5,81	47,5 6,13	47,5 6,44	47 6,73	45,5 7,18	44,5 7,55	42,5 8,02	40 8,43	37 8,77	33 9,01	30,5 9,08	28 9,15	25,5 9,19	23 9,23			
B-N 50-200A/A	N 50-200A/A	160 M2	11		55 6,92	55 7,29	54,5 7,65	54,5 7,99	53,5 8,56	52 8,99	50 9,57	48 10,05	45 10,45	41,5 10,75	39,5 10,89	37 10,98	35 11,11	32,5 11,15			
B-N 50-200S/A	N 50-200S/A	160 M2	15		60 7,56	60 7,98	59,5 8,39	59,5 8,79	58,5 9,38	57,5 9,82	55,5 10,48	53,5 11,05	50,5 11,54	47 11,85	45 12,02	43 12,20	40,5 12,30	37 12,40			
B-N 50-250C/A	N 50-250C/A	160 M2	11		55 7,28	54,5 7,68	54 8,06	53 8,42	51,5 8,98	49,5 9,42	46,0 9,99	41,5 10,42	35,5 10,75	28,5 10,95	24,5 11,08						
B-N 50-250B/A	N 50-250B/A	160 M2	15		69 9,62	68,5 10,08	68 10,58	67,5 11,05	66 11,68	64 12,32	61 13,05	57 13,77	52,5 14,20	46,5 14,77	43 14,98						
B-N 50-250A/A	N 50-250A/A	160 L2	18,5		80,5 11,75	80,5 12,33	80 12,92	79,5 13,56	78,5 14,47	77 15,20	74,5 16,10	71,5 16,94	67 17,65	61,5 18,25	58,5 18,55						
B-N 50-250S/A	N 50-250S/A	180 M2	22		88,5 12,76	88,5 13,46	88 14,15	87 14,85	86 15,93	84 16,84	81,5 17,92	78,5 19,02	75 19,91	71 20,62	68,5 20,96						

4

PUMP B-N	PUMP N	MOTOR	P2 kW	Q m³/h Q l/min	24	27	30	33	37,8	42	48	54	60	66	72	84	96	108	120	132	150	
					400	450	500	550	630	700	800	900	1000	1100	1200	1400	1600	1800	2000	2200	2500	
B-N 65-125E/B	N 65-125E/B	112 M2	4	H m P3 kW					16,5 2,86	16,4 2,99	16,2 3,17	15,9 3,34	15,5 3,5	15,1 3,64	14,3 3,81	13,2 3,94	11,4 4,03	9,2 4				
B-N 65-125C/B	N 65-125C/B	132 S2	5,5							21,1 3,68	21 3,86	20,8 4,11	20,6 4,35	20,3 4,57	19,9 4,77	19,1 5,02	18,2 5,25	16,5 5,41	14,4 5,5	11,8 5,49		
B-N 65-125A/B	N 65-125A/B	132 S2	7,5							25,9 4,71	25,8 4,92	25,6 5,21	25,4 5,5	25,1 5,77	24,8 6,03	24,1 6,38	23,3 6,69	21,9 7,02	20 7,25	17,6 7,36		
B-N 65-160D/B	N 65-160D/B	132 S2	7,5									24,3 5,11	24,1 5,44	23,9 5,75	23,6 6,05	23,1 6,45	22,3 6,8	20,8 7,15	18,8 7,4	16,3 7,52		
B-N 65-160C/B	N 65-160C/B	160 M2	11									28,1 5,89	28 6,26	27,8 6,61	27,6 6,96	27,1 7,44	26,3 7,87	24,9 8,37	23,1 8,74	20,7 8,98	17,7 9,06	
B-N 65-160B/B	N 65-160B/B	160 M2	11									32,6 7,04	32,5 7,44	32,3 7,84	32 8,22	31,5 8,76	30,8 9,25	29,5 9,84	27,9 10,33	25,7 10,7	23,0 10,96	
B-N 65-160AR	N 65-160AR	160 M2	15									36,4 7,98	36,3 8,45	36,2 8,91	35,9 9,36	35,5 9,99	34,8 10,57	33,7 11,19	32,1 11,85	30,0 12,33	27,5 12,71	
B-N 65-160A/B	N 65-160A/B	160 M2	15									40,5 8,91	40,4 9,44	40,2 9,96	40 10,47	39,5 11,19	38,8 11,85	37,6 12,64	36,1 13,33	34,2 13,92	31,7 14,42	
B-N 65-200C/A	N 65-200C/A	160 M2	15									44 10,4	43,5 11	43 11,6	42,5 12,1	41 12,8	39,5 13,2	37,5 13,8	35 14,6	31 15,2	27* 15,2	
B-N 65-200B/A	N 65-200B/A	160 L2	18,5									50 12,25	49,5 12,85	49 13,45	48,5 14	47,5 14,75	46,5 15,4	44,5 16,3	42 17,1	39 17,7	35* 18,4	
B-N 65-200A/A	N 65-200A/A	180 M2	22									56,5 13,6	56 14,3	55,5 15	55 15,7	54,5 16,65	53,5 17,6	51 18,6	48,5 19,5	45,5 20,4	41,5* 21	
B-N 65-250C/A	N 65-250C/A	180 M2	22									64 15,3	63,5 16,2	63 17,1	61,5 18	60 19	57,5 20	54,5* 21	50* 22			
B-N 65-250B/A	N 65-250B/A	200 L2	30									79,5 20,2	79 21,3	78,5 22,3	78 23,3	77 24,7	75 26	72* 27,7	67* 29,3			
B-N 65-250A/A	N 65-250A/A	200 L2	37									90 23,6	89,5 25	89 26,2	88,5 27,3	87,5 29	86 30,5	83,5* 32,5	78,5* 34			

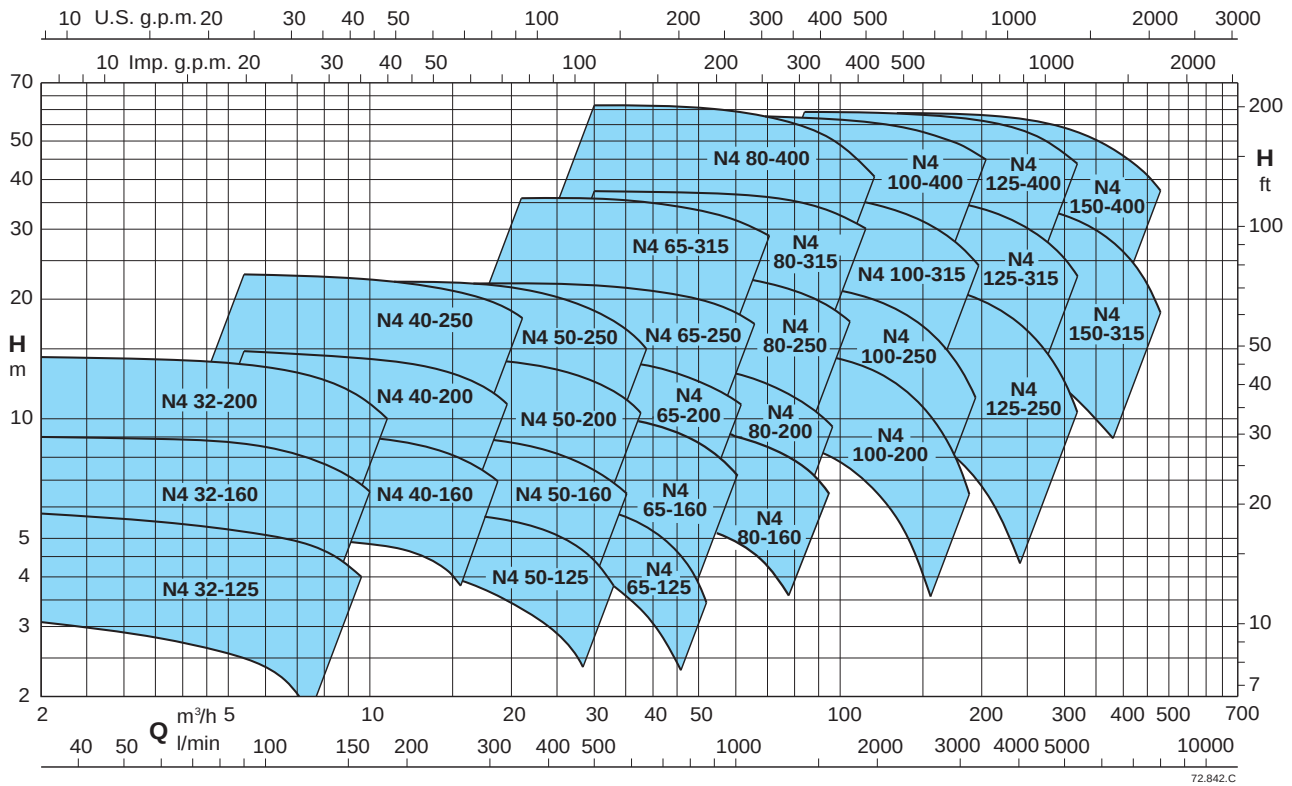
PUMP B-N	PUMP N	MOTOR	P2 kW	Q m³/h Q l/min	60	66	75	84	96	108	120	132	150	168	180	192	210	240	270	300	
					1000	1100	1250	1400	1600	1800	2000	2200	2500	2800	3000	3200	3500	4000	4500	5000	
B-N 80-160E/B	N 80-160E/B	132 S2 160 M2	7,5 11	H m P3 kW			21,5 6,81	20,9 6,92	19,9 7,05	18,7 7,15	17,4 7,22	15,9 7,26	13,4 7,27	10,6 7,21							
B-N 80-160D/B	N 80-160D/B	160 M2	11				25,2 8	24,5 8,22	23,5 8,49	22,4 8,73	21,1 8,93	19,6 9,09	17,2 9,23	14,4 9,23							
B-N 80-160C/B	N 80-160C/B	160 M2	11				28,7 9,04	28,2 9,35	27,4 9,74	26,4 10,09	25,1 10,39	23,8 10,65	21,3 10,91	18,5 10,99	16,4 10,93						
B-N 80-160B/B	N 80-160B/B	160 M2	15				34,8 11,37	34,5 11,83	33,8 12,42	33 13	32,1 13,53	30,9 14,01	28,9 14,63	26,4 15,07	24,5 15,26	22,4 15,34					
B-N 80-160A/B	N 80-160A/B	160 L2	18,5				39,9 13,25	39,6 13,82	39 14,58	38,2 15,3	37,4 15,99	36,4 16,62	34,5 17,45	32,2 18,09	30,3 18,4	28,1 18,59					
B-N 80-200B/A	N 80-200B/A	180 M2	22				46,5 15,7	46 16,6	45,5 17,7	44,5 18,6	43,5 19,4	42 20,2	39* 21,3	35,5* 21,8	32* 22						
B-N 80-200A/A	N 80-200A/A	200 L2	30				56 20	55,5 21,1	55 22,3	54 23,5	53 24,7	52 25,7	49,5* 27,2	46* 28,5	43* 29,3						
B-N 80-250E/A	N 80-250E/A	180 M2	22				51 16,2	50 17,1	48,5 18,2	46,5 19,1	44,5 20	42 20,6	38* 21,4	33* 21,9	29* 22						
B-N 80-250D/A	N 80-250D/A	200 L2	30				65 21,3	64 22,3	62,5 24	61 25,3	59 26,5	56,5 27,5	53* 28,6	49* 29,4	45,5* 29,8	41* 30					
B-N 80-250C/A	N 80-250C/A	200 L2	37				73,5 24,6	73 26	72 27,8	70,5 29,5	69 31	67 32,4	63* 33,8	59* 35,2	55,5* 35,7	51,5* 36,2					
B-N 80-250B/A	N 80-250B/A	225 M2	45				84 29	83,5 30,7	82,5 32,9	81,5 35	80 36,7	78 38,3	74,5* 40,1	70,5* 41,8	67* 43	63* 44,1					
B-N 80-250A/A	N 80-250A/A	250 M2	55				95 33,7	94,5 35,6	93,5 38,1	92,5 40,5	91,5 42,7	90 44,8	87,5* 47,4	84* 50	80,5* 51,5	76,5* 53					
B-N 100-200E/A	N 100-200E/A	160 L2	18,5							30 14,5	29,5 15,1	29 15,7	28 16,6	27 17,2	26 17,6	25 17,9	23 18,3	19* 18,4			
B-N 100-200D/A	N 100-200D/A	180 M2	22							36 17,1	35,5 17,8	35 18,5	34 19,5	33 20,2	32 20,7	31 21,1	29 21,6	24,5* 22	19* 22		
B-N 100-200C/A	N 100-200C/A	200 L2	30							45 22	44,5 22,9	44 23,8	43,5 25,1	42,5 26,2	41,5 26,9	40,5 27,5	39 28,3	34,5* 29,8	29* 29,8	22* 30	
B-N 100-200B/A	N 100-200B/A	200 L2	37							54 27,1	53,5 28,3	53 29,4	52,5 30,9	51,5 32,2	50,5 33,3	49,5 34,9	48 36,3	44* 37	38,5* 37,2	32* 32,2	
B-N 100-200A/A	N 100-200A/A	225 M2	45							61,5 31	61 32,4	60,5 33,8	60 35,8	59,5 37,7	58,5 39	58 40	56,5 41,5	53* 43,5	48* 45	42* 45,5	
B-N 100-250B/A	N 100-250B/A	250 M2	55							73,5 39	73 40,6	72,5 42,1	71,5 44,3	70 46,4	68,5 47,8	67 48,8	65 50,5	61* 52,9	55,5* 54,7	48,5* 55,8	
B-N 100-250A/A	N 100-250A/A	280 S2	75							91 50	90,5 52,5	90 55	89,5 58,5	88,5 61,5	88 63,5	87 65,5	85 68	81* 71,5	75* 74,5	67* 75	



End-Suction Centrifugal Pumps standardized EN 733



Coverage chart $n \approx 1450$ rpm



Tolerances according to UNI EN ISO 9906:2012

Performance $n \approx 1450$ rpm

PUMP	PUMP	MOTOR	P ₂ kW	Q m³/h	2,4	3	3,6	4,2	4,8	5,4	6	6,6	7,5	8,4	9,6	10,8	12	13,2		
					Q l/min	40	50	60	70	80	90	100	110	125	140	160	180	200	220	
B-N4 32-125F/A	N4 32-125F/A	71 M4	0,25	H m P ₃ kW	3 0,04	2,9 0,047	2,8 0,051	2,7 0,055	2,6 0,059	2,5 0,063	2,4 0,067	2,2 0,07	1,8 0,075	1,5 0,08						
B-N4 32-125D/A	N4 32-125D/A	71 M4	0,25		4,6 0,07	4,5 0,075	4,4 0,08	4,3 0,085	4,2 0,09	4,1 0,095	4 0,1	3,8 0,105	3,5 0,115	3,2 0,12	2,6 0,13	2 0,13				
B-N4 32-125A/A	N4 32-125A/A	71 M4	0,25		5,7 0,09	5,6 0,1	5,5 0,11	5,4 0,115	5,3 0,12	5,2 0,125	5,1 0,13	5 0,135	4,8 0,145	4,5 0,15	4 0,16	3,3 0,17				
B-N4 32-160B/A	N4 32-160B/A	71 M4	0,37		7,6 0,13	7,5 0,14	7,4 0,15	7,3 0,16	7,2 0,17	7,1 0,18	6,9 0,19	6,7 0,2	6,3 0,21	5,9 0,215	5,2 0,23	4,2 0,235				
B-N4 32-160A/A	N4 32-160A/A	71 M4	0,37		9 0,17	8,95 0,18	8,9 0,19	8,8 0,2	8,7 0,21	8,6 0,22	8,5 0,23	8,3 0,24	7,9 0,26	7,5 0,275	6,8 0,29	6 0,305	5,1 0,315			
B-N4 32-200B/A	N4 32-200B/A	80 M4	0,55		12,5 0,28	12,4 0,3	12,3 0,315	12,2 0,33	12 0,345	11,8 0,36	11,6 0,375	11,2 0,39	10,6 0,41	10 0,43	8,9 0,455	7,6 0,48	6,2 0,5	4,7 0,515		
B-N4 32-200A/A	N4 32-200A/A	80 M4	0,75		14,3 0,35	14,2 0,375	14,1 0,4	14 0,42	13,9 0,44	13,7 0,46	13,5 0,48	13,3 0,5	12,9 0,525	12,3 0,55	11,3 0,585	10,2 0,61	8,9 0,635	7,5 0,655		

PUMP	PUMP	MOTOR	P ₂ kW	Q m³/h	5,4	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27	30
					Q l/min	90	100	110	125	140	160	180	200	220	250	280	315	350	400	450
B-N4 40-160C/A	N4 40-160C/A	71 M4	0,37	H _m P ₃ kW	6,1 0,17	6 0,18	5,9 0,19	5,9 0,2	5,8 0,21	5,6 0,23	5,4 0,24	5,2 0,25	5 0,26	4,5 0,27	3,9 0,28	3,1 0,29	2,3 0,3			
B-N4 40-160B/A	N4 40-160B/A	80 M4	0,55		7,6 0,22	7,6 0,23	7,6 0,24	7,6 0,26	7,6 0,27	7,3 0,29	7,1 0,31	6,9 0,32	6,6 0,34	6,3 0,36	5,7 0,38	5 0,39	4 0,4	2,7 0,41		
B-N4 40-160A/A	N4 40-160A/A	80 M4	0,75		9,6 0,28	9,6 0,3	9,6 0,31	9,6 0,33	9,6 0,35	9,4 0,37	9,3 0,4	9 0,42	8,8 0,44	8,4 0,47	7,9 0,49	7,2 0,51	6,4 0,53	5,1 0,55	3,5 0,56	
B-N4 40-200B/A	N4 40-200B/A	90 S4	1,1		13 0,51	12,9 0,53	12,8 0,53	12,7 0,54	12,6 0,57	12,4 0,60	12,2 0,63	12 0,66	11,5 0,68	10,8 0,71	10 0,75	8,6 0,78	7 0,81	5,3 0,83		
B-N4 40-200A/A	N4 40-200A/A	90 S4	1,1		14,8 0,59	14,7 0,6	14,6 0,6	14,5 0,61	14,4 0,64	14,2 0,67	14,2 0,71	14 0,74	13,8 0,77	13,6 0,8	13 0,85	12,2 0,9	11,3 0,94	10 0,97		
B-N4 40-250C/A	N4 40-250C/A	90 L4	1,5		17,4 0,689	17,3 0,715	17,2 0,74	17,2 0,779	17 0,817	16,8 0,865	16,6 0,912	16,3 0,967	16 1,018	15,1 1,092	13,8 1,134	12,1 1,178	10,4 1,248	7,2 1,301	2,8 1,348	
B-N4 40-250B/A	N4 40-250B/A	100 LA4	2,2		21,4 0,908	21,5 0,942	21,4 0,99	21,3 1,025	21,2 1,075	21 1,140	20,9 1,203	20,8 1,266	20,5 1,327	20 1,405	19,5 1,482	18,3 1,567	16,4 1,645	13,3 1,752	10 1,815	5 1,887
B-N4 40-250A/A	N4 40-250A/A	100 LB4	3		22,9 1,068	22,8 1,104	22,9 1,15	22,9 1,193	22,8 1,246	22,5 1,316	22,5 1,385	22,2 1,454	22 1,521	21,8 1,638	21,4 1,733	20,4 1,817	18,9 1,933	16 2,068	12,6 2,168	8 2,267

N4 Standard construction.
B-N4 Bronze construction.

P₂ Rated motor power output.
P₃ Pump power input.

H Total head in m.

* Maximum suction lift 1-2 m.



End-Suction Centrifugal Pumps standardized EN 733



Performance n ≈ 1450 rpm

PUMP B-N4	PUMP N4	MOTOR	P ₂ kW	Q m³/h Q l/min	10,8	12	13,2	15	16,8	18,9	21	24	27	30	33	37,8	42	48		
					180	200	220	250	280	315	350	400	450	500	550	630	700	800		
B-N4 50-125F/A	N4 50-125F/A	71 M4	0,37	H m P ₃ kW	4,2 0,209	4,1 0,219	4,1 0,229	4,0 0,243	3,9 0,256	3,7 0,268	3,5 0,279	3,2 0,291	2,8 0,292	2,3 0,291	1,8 0,287					
B-N4 50-125D/A	N4 50-125D/A	80 M4	0,55		5,2 0,27	5,2 0,29	5,2 0,3	5,1 0,32	5,0 0,33	4,8 0,35	4,6 0,37	4,3 0,38	3,9 0,39	3,4 0,39	2,8 0,39					
B-N4 50-125A/A	N4 50-125A/A	80 M4	0,75		6,2 0,332	6,1 0,348	6,1 0,363	6,0 0,385	5,9 0,405	5,8 0,426	5,6 0,446	5,3 0,469	5,0 0,486	4,5 0,495	3,9 0,498	2,9 0,493				
B-N4 50-125S/A	N4 50-125S/A	80 M4	0,75		6,8 0,366	6,7 0,382	6,7 0,399	6,6 0,422	6,5 0,444	6,4 0,471	6,2 0,495	6,0 0,524	5,6 0,545	5,2 0,558	4,6 0,564	3,6 0,561				
B-N4 50-160B/A	N4 50-160B/A	90 S4	1,1		8,2 0,449	8,2 0,469	8,2 0,496	8,1 0,524	8 0,555	7,8 0,584	7,6 0,610	7,2 0,643	6,7 0,671	6,2 0,683	5,5 0,692	4,4 0,687	3,3 0,673			
B-N4 50-160A/A	N4 50-160A/A	90 S4	1,1		9,6 0,555	9,6 0,578	9,6 0,600	9,5 0,632	9,5 0,670	9,3 0,705	9,1 0,742	8,8 0,778	8,3 0,811	7,8 0,833	7,2 0,850	6,1 0,862	4,9 0,861	3,1 0,844		
B-N4 50-200C/A	N4 50-200C/A	90 S4	1,1		11,8 0,617	11,8 0,647	11,7 0,682	11,7 0,720	11,5 0,759	11,3 0,801	10,9 0,841	10,4 0,888	9,8 0,927	9 0,957	8,1 0,979	6,3 1,005	4,7 1,010			
B-N4 50-200B/A	N4 50-200B/A	90 L4	1,5		13,4 0,772	13,4 0,807	13,4 0,840	13,3 0,889	13,1 0,949	12,9 0,998	12,6 1,051	12,1 1,115	11,5 1,171	10,8 1,213	9,9 1,251	8,2 1,278	6,4 1,299	3,7 1,301		
B-N4 50-200A/A	N4 50-200A/A	100 L4	2,2		14,9 0,883	14,9 0,923	14,9 0,962	14,9 1,019	14,8 1,074	14,6 1,135	14,4 1,194	14 1,273	13,4 1,345	12,8 1,409	12 1,464	10,4 1,535	8,6 1,576	6 1,596		
B-N4 50-250D/A	N4 50-250D/A	100 L4	2,2		14,5 0,843	14,4 0,886	14,3 0,929	14 0,990	13,7 1,049	13,4 1,098	13 1,160	12,2 1,230	11,2 1,300	9,7 1,364	8,1 1,395	5,4 1,435	2,3 1,468			
B-N4 50-250C/A	N4 50-250C/A	100 L4	2,2		17,8 1,091	17,8 1,140	17,7 1,188	17,5 1,258	17,2 1,324	16,8 1,397	16,4 1,465	15,7 1,554	14,9 1,633	13,8 1,700	12,4 1,755	9,7 1,818	6,8 1,844			
B-N4 50-250B/A	N4 50-250B/A	100 L4	3		20,7 1,374	20,7 1,437	20,7 1,499	20,6 1,591	20,4 1,680	20 1,781	19,5 1,878	18,9 2,009	18,2 2,130	17,1 2,241	15,9 2,320	13,2 2,448	10,6 2,510	5,8 2,580		
B-N4 50-250A/A	N4 50-250A/A	112 M4	4		22,7 1,493	22,7 1,561	22,6 1,628	22,5 1,728	22,4 1,825	22,1 1,935	21,6 2,042	21 2,186	20,2 2,322	19,4 2,445	18,3 2,557	16,4 2,706	13,6 2,804	9 2,893		

4

PUMP B-N4	PUMP N4	MOTOR	P ₂ kW	Q m³/h Q l/min	21	24	27	30	33	37,8	42	48	54	60	66	75	84	96	108	120
					350	400	450	500	550	630	700	800	900	1000	1100	1250	1400	1600	1800	2000
B-N4 65-125E/B	N4 65-125E/B	80 M4	0,75	H m P ₃ kW	4,1 0,38	4,05 0,4	3,98 0,41	3,88 0,44	3,78 0,45	3,58 0,48	3,3 0,49	2,85 0,5	2,3 0,5							
B-N4 65-125C/B	N4 65-125C/B	80 M4	0,75		5,25 0,49	5,2 0,51	5,15 0,54	5,08 0,58	4,98 0,6	4,78 0,63	4,55 0,65	4,13 0,69	3,6 0,69	2,95 0,69						
B-N4 65-125A/B	N4 65-125A/B	90 S4	1,1		6,45 0,61	6,4 0,65	6,35 0,69	6,28 0,73	6,2 0,75	6,03 0,8	5,83 0,84	5,48 0,91	5 0,91	4,4 0,93						
B-N4 65-160C/B	N4 65-160C/B	90 S4	1,1		6 0,56	6 0,6	5,9 0,63	5,9 0,63	5,9 0,71	5,7 0,77	5,5 0,81	5,2 0,86	4,7 0,9	4 0,91						
B-N4 65-160B/B	N4 65-160B/B	90 S4	1,1		7,2 0,68	7,1 0,73	7,1 0,77	7 0,77	6,8 0,86	6,6 0,92	6,3 0,97	5,8 1,03	5,2 1,07	4,5 1,11	4,5 1,12					
B-N4 65-160A/B	N4 65-160A/B	90 L4	1,5		8,8 0,87	8,8 0,93	8,7 0,98	8,7 0,98	8,6 1,09	8,5 1,17	8,3 1,24	8 1,32	7,6 1,39	7,1 1,44	6,4 1,48	5,2 1,51				
B-N4 65-160S	N4 65-160S	100 L4	2,2		10,2 1,09	10,2 1,15	10,1 1,22	10,1 1,22	10 1,34	9,9 1,44	9,7 1,52	9,4 1,62	9,1 1,71	8,6 1,79	8 1,86	7 1,93	5,7 1,96			
B-N4 65-200B/A	N4 65-200B/A	100 L4	2,2		11,9 1,25	11,8 1,33	11,7 1,4	11,6 1,47	11,4 1,53	11,1 1,62	10,8 1,69	10,2 1,78	9,5 1,86	8,7 1,93	7,8 1,98	6,2 2	4,3 2			
B-N4 65-200A/A	N4 65-200A/A	100 L4	3		14,1 1,57	14 1,66	13,9 1,75	13,8 1,84	13,7 1,91	13,4 2,02	13,1 2,13	12,6 2,24	11,9 2,35	11,1 2,46	10,2 2,56	8,8 2,65	7,2 2,7			
B-N4 65-250B/A	N4 65-250B/A	112 M4	4		18 2,02	17,9 2,14	17,8 2,26	17,7 2,38	17,6 2,5	17,3 2,66	16,9 2,8	16,3 3	15,4 3,18	14,4 3,36	13,1 3,5	10,8 3,68	8,5 3,82			
B-N4 65-250A/A	N4 65-250A/A	132 S4	5,5		21,9 2,74	21,8 2,88	21,7 3,02	21,6 3,16	21,5 3,3	21,2 3,52	20,8 3,72	20,2 3,97	19,5 4,22	18,5 4,43	17,5 4,63	15,4 4,91	12,8 5,15			
B-N4 65-315C/A	N4 65-315C/A	132 S4	5,5		25,8 3,12	25,7 3,31	25,5 3,49	25,3 3,67	25 3,83	24,5 4,05	23,8 4,25	22,8 4,5	21,5 4,75	20 4,96	18,2 5,12	15 5,3	11 5,44			
B-N4 65-315B/A	N4 65-315B/A	132 M4	7,5		31 3,97	31 4,23	30,9 4,45	30,8 4,65	30,6 4,85	30,2 5,15	29,7 5,4	28,8 5,75	27,8 6,1	26,5 6,4	25 6,65	22,2 7	18,6 7,2			
B-N4 65-315A/A	N4 65-315A/A	160 M4	11		35,9 4,8	35,9 5,1	35,8 5,4	35,7 5,6	35,5 5,8	35,1 6,15	34,6 6,5	33,8 6,9	32,8 7,3	31,6 7,6	30,2 7,9	27,8 8,3	25 8,7			

PUMP B-N4	PUMP N4	MOTOR	P2 kW	Q m³/h Q l/min	30	33	37,8	42	48	54	60	66	75	84	96	108	120	132	150	168	
					500	550	630	700	800	900	1000	1100	1250	1400	1600	1800	2000	2200	2500	2800	
B-N4 80-160C/B	N4 80-160C/B	90 S4	1,1	H m P3 kW	6,1 0,87	6,1 0,88	5,9 0,9	5,8 0,92	5,5 0,95	5,2 0,98	4,9 1	4,6 1,02	4 1,03	3,3 1,04							
B-N4 80-160B/B	N4 80-160B/B	90 L4	1,5		7,8 1,14	7,7 1,16	7,6 1,2	7,5 1,23	7,3 1,27	7 1,31	6,8 1,34	6,4 1,37	5,9 1,41	5,2 1,44	4,1 1,46						
B-N4 80-160A/B	N4 80-160A/B	100 L4	2,2		10 1,49	10 1,53	9,9 1,6	9,8 1,66	9,7 1,74	9,5 1,82	9,3 1,9	9 1,97	8,5 2,07	8 2,15	7 2,22	5,9 2,24					
B-N4 80-200C/A	N4 80-200C/A	100 L4	2,2		10,3 1,56	10,2 1,62	10,1 1,7	10 1,77	9,8 1,86	9,5 1,93	9,1 2	8,6 2,06	7,7 2,13	6,6 2,18	4,6 2,2						
B-N4 80-200B/A	N4 80-200B/A	100 L4	3		12,1 1,8	12 1,88	11,9 2	11,8 2,1	11,7 2,22	11,4 2,33	11,1 2,43	10,6 2,52	9,8 2,62	9 2,68	7,5 2,72	5,7 2,72					
B-N4 80-200A/A	N4 80-200A/A	112 M4	4		13,9 2,13	13,8 2,22	13,7 2,35	13,6 2,48	13,5 2,65	13,3 2,8	13 2,94	12,6 3,05	11,8 3,2	11 3,35	9,6 3,44	7,9 3,46	6 3,44				
B-N4 80-250C/A	N4 80-250C/A	112 M4	4		16,9 2,37	16,8 2,5	16,7 2,65	16,6 2,8	16,3 3	15,9 3,2	15,4 3,35	14,8 3,49	13,9 3,68	12,7 3,83	11,1 3,97	9,3 3,98	7,2 3,88				
B-N4 80-250B/A	N4 80-250B/A	132 S4	5,5		20,7 3,25	20,6 3,38	20,5 3,58	20,4 3,75	20,3 4	20 4,23	19,6 4,42	19,1 4,6	18,2 4,87	17,1 5,13	15,4 5,35	13,5 5,49	11,4 5,55	9* 5,45			
B-N4 80-250A/A	N4 80-250A/A	132 M4	7,5		23,7 3,94	23,7 4,1	23,6 4,33	23,5 4,54	23,3 4,83	23 5,08	22,7 5,33	22,2 5,58	21,5 5,91	20,5 6,23	19 6,54	17,2 6,82	15,1 6,98	12,7* 7,05			
B-N4 80-315C/A	N4 80-315C/A	160 M4	11		28,8 4,63	28,8 4,85	28,7 5,15	28,6 5,45	28,3 5,88	27,9 6,23	27,4 6,58	26,8 6,92	25,8 7,4	24,6 7,85	22,6 8,35	20,4 8,75	17,8 9,05	15* 9,2			
B-N4 80-315B/A	N4 80-315B/A	160 M4	11		32,3 5,7	32,3 5,9	32,2 6,23	32,1 6,55	31,9 7	31,6 7,45	31,2 7,85	30,7 8,2	29,8 8,7	28,8 9,2	27 9,8	25,1 10,3	22,9 10,8	20* 11			
B-N4 80-315A/A	N4 80-315A/A	160 L4	15		37,4 6,47	37,4 6,77	37,3 7,3	37,2 7,65	37,1 8,25	37 8,85	36,7 9,35	36,3 9,8	35,6 10,55	34,7 11,25	33,2 12,1	31,3 12,8	29 13,5	26,4* 14			
B-N4 80-400C/A	N4 80-400C/A	180 M4	18,5		46,5 9,75	46,3 10,25	46,1 10,85	45,8 11,25	45,2 11,9	44,5 12,55	43,5 13,2	42,4 13,85	40 14,8	37,2 15,5	32,5 16,5	26,2 17,5	18,5 18				
B-N4 80-400B/A	N4 80-400B/A	180 L4	22		54 11,5	53,8 11,9	53,6 12,5	53,3 13,1	53 13,95	52,4 14,7	51,6 15,45	50,6 16,15	48,7 17,35	46,1 18,4	42 19,5	36,5 20,6	29,5 21,55	21* 22,3			
B-N4 80-400A/A	N4 80-400A/A	200 L4	30		61,5 12,65	61,4 13,2	61,3 14	61,1 14,7	60,8 15,6	60,2 16,5	59,4 17,4	58,4 18,25	56,5 19,4	54 20,55	50,5 22,1	45,5 23,5	40 24,9	32,5* 26			



End-Suction Centrifugal Pumps standardized EN 733



Performance $n \approx 1450$ rpm

PUMP B-N4	PUMP N4	MOTOR	P ₂ kW	Q m³/h	48	54	60	66	75	84	96	108	120	132	150	168	180	192	210	
				Q l/min	800	900	1000	1100	1250	1400	1600	1800	2000	2200	2500	2800	3000	3200	3500	
B-N4 100-200C/A	N4 100-200C/A	100 L4	3	H m P ₃ kW	9,4 2,1	9,3 2,2	9,2 2,3	9,1 2,4	8,9 2,5	8,5 2,6	8 2,7	7,3 2,8	6,5 2,85	5,6 2,9	4 2,85					
B-N4 100-200B/A	N4 100-200B/A	112 M4	4		12 2,65	11,9 2,8	11,8 2,95	11,7 3,1	11,5 3,3	11,2 3,45	10,7 3,65	10 3,85	9,3 3,95	8,4 4	6,7 3,95	4,5 3,8				
B-N4 100-200A/A	N4 100-200A/A	132 S4	5,5		15,2 3,65	15,2 3,85	15,1 4	15 4,15	14,9 4,4	14,7 4,6	14,3 4,85	13,8 5,1	13,1 5,3	12,2 5,45	10,7 5,55	9 5,65	7,5* 5,85	6* 5,55		
B-N4 100-250B/A	N4 100-250B/A	132 M4	7,5		19,5 4,8	19,5 5	19,4 5,2	19,3 5,4	19 5,75	18,7 6,05	18,2 6,4	17,5 6,7	16,6 7	15,6 7,3	13,8 7,5	11,7 7,5	10 7,45	8,4 7,35	5,5 7,15	
B-N4 100-250A/A	N4 100-250A/A	160 M4	11		22,3 5,5	22,3 5,8	22,2 6,05	22,1 6,25	21,9 6,6	21,7 6,95	21,2 7,35	20,5 7,75	19,8 8,1	18,8 8,35	17,1 8,7	15 9	13,4 9,05	11,7 9,5	8,9 8,9	
B-N4 100-315C/A	N4 100-315C/A	160 M4	11		26,9 6,6	26,9 7	26,8 7,35	26,6 7,65	26,2 8,1	25,7 8,5	24,9 9	23,8 9,5	22,7 9,85	21,3 10,2	18,9 10,7	15,9 10,9	13,7 11	11,3* 11		
B-N4 100-315B/A	N4 100-315B/A	160 L4	15		31,5 7,8	31,5 8,25	31,4 8,65	31,3 9	31,2 9,6	30,8 10,2	30,2 10,9	29,3 11,5	28,2 12,1	26,9 12,6	24,6 13,3	21,8 13,9	19,8 14,1	17,6* 14,4	14* 14,4	
B-N4 100-315A/A	N4 100-315A/A	180 M4	18,5		36,9 9,7	36,9 10,2	36,8 10,7	36,7 11,2	36,4 11,9	36,4 12,5	36 13,3	35,3 14,1	34,5 14,9	33,4 15,6	31,4 16,6	29,2 17,4	27,2 17,9	25,3* 18,3	22,2* 18,75	
B-N4 100-400C/A	N4 100-400C/A	180 L4	22		41,3 11,1	41,2 11,8	41,1 12,5	41 13,2	40,7 14	40,4 14,8	39,8 16	39 17	38 18	36,5 18,9	34 20	31 21	28,7 21,7	26 22		
B-N4 100-400B/A	N4 100-400B/A	200 L4	30		50,2 15,2	50,1 16	50 16,8	49,9 17,4	49,7 18,4	49,4 19,3	48,8 20,6	48 21,8	47,1 23	46 24,2	44 25,7	41,3 27	39,5 27,8	37 28,5	33,5* 29,4	
B-N4 100-400A/A	N4 100-400A/A	225 S4	37		58,2 17,8	58,1 18,75	58 19,7	57,9 20,5	57,8 21,7	57,6 22,9	57,2 24,4	56,3 25,9	55,7 27,4	54,5 28,8	52,7 30,9	50,5 32,7	49 33,85	47 35	44* 36,5	

PUMP B-N4	PUMP N4	MOTOR	P ₂ kW	Q m³/h	84	96	108	120	132	150	168	180	192	210	240	270	300	330		
				Q l/min	1400	1600	1800	2000	2200	2500	2800	3000	3200	3500	4000	4500	5000	5500		
B-N4 125-250E/A	N4 125-250E/A	132 S4	5,5	H m P ₃ kW	11 4,2	10,8 4,5	10,5 4,75	10,1 4,95	9,7 5,05	9,1 5,2	8,3 5,35	7,8 5,45	7,2 5,5	6,2 5,5	4,4 5,35					
B-N4 125-250D/A	N4 125-250D/A	132 M4	7,5		14 5,4	13,9 5,7	13,7 5,95	13,4 6,2	13 6,45	12,4 6,75	11,6 7	11 7,1	10,4 7,2	9,4 7,35	7,4 7,4	5,1 7,1				
B-N4 125-250C/A	N4 125-250C/A	160 M4	11		16,7 6,3	16,6 6,7	16,4 7,1	16,2 7,4	15,9 7,65	15,4 8,05	14,6 8,4	14,1 8,6	13,5 8,75	12,5 9	10,4 9,2	8,2 9,2	5,8 9,05			
B-N4 125-250B/A	N4 125-250B/A	160 M4	11		19,3 7,8	19,2 8,25	19,1 8,7	18,9 9,1	18,7 9,45	18,2 10	17,5 10,35	17 10,6	16,3 10,85	15,3 11,1	13,3 11,4	10,9 11,45	8,2 11,3			
B-N4 125-250A/A	N4 125-250A/A	160 L4	15		22,7 9,2	22,7 9,75	22,6 10,3	22,4 10,85	22,2 11,3	21,8 12	21,2 12,6	20,8 12,95	20,1 13,25	19,33 13,75	17,4 14,3	15 14,5	12,4 14,55	9,3 14,4		
B-N4 125-315C/A	N4 125-315C/A	180 M4	18,5		27,9 11,5	27,8 12,15	27,7 12,8	27,6 13,4	27,4 14	26,5 14,7	25,6 15,4	24,9 15,8	24 16,2	22,8 16,7	20,2 17,3	17 17,7	13,5 18	9,5* 18		
B-N4 125-315B/A	N4 125-315B/A	180 L4	22		31,8 12,75	31,7 13,6	31,6 14,45	31,5 15,3	31,1 15,9	30,6 16,8	29,7 17,7	29,1 18,4	28,5 19	27,3 19,7	24,9 20,6	22 21,4	18,5 22	14,3* 22,1		
B-N4 125-315A/A	N4 125-315A/A	200 L4	30		36,8 15,5	36,8 16,5	36,7 17,5	36,6 18,3	36,4 19,1	35,9 20,4	35,2 21,6	34,7 22,4	34,2 23,1	33,2 24,15	31 25,6	28,4 26,6	25,3 27,6	21,6* 28,45		
B-N4 125-400C/A	N4 125-400C/A	225 S4	37		45,4 19,4	45,3 20,7	45,2 22	45,1 23,3	44,9 24,6	44,4 26,5	43,7 28,2	43 29,3	42 30,2	40 31,4	37 33,4	33 35	28,5* 35,9	23,5* 36,75		
B-N4 125-400B/A	N4 125-400B/A	225 M4	45		51,4 22,9	51,3 24,3	51,2 25,7	51,1 27,1	50,9 28,4	50,4 30,35	49,7 32,2	49 33,3	48,2 34,4	46,8 36	44 38,5	40,5 41	36* 43	31,5* 44,5		
B-N4 125-400A/A	N4 125-400A/A	250 M4	55		59,2 27,8	59,1 29,4	59 30,9	58,9 32,4	58,7 33,9	58,2 36,2	57,2 38,4	57,2 39,8	56,7 41,2	55,7 43,2	53,5 46,2	50,5 49,2	46,5* 52,1	42,5* 54,4		

PUMP B-N4	PUMP N4	MOTOR	P ₂ kW	Q m³/h	132	150	168	180	192	210	240	270	300	330	360	390	420	450	480	
				Q l/min	2200	2500	2800	3000	3200	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	
B-N4 150-315D/A	N4 150-315D/A	180 M4	18,5	H m P ₃ kW	22,8 13,8	22,6 14,5	22,3 15	22 15,4	21,7 15,75	21,1 16,2	20 16,9	18,6 17,6	17 18	15,1 18,35	13 18,45	10,6 18,4	8* 18,15			
B-N4 150-315C/A	N4 150-315C/A	180 L4	22		25,6 15,6	25,4 16,44	25,1 17,2	24,9 17,65	24,7 18,1	24,2 18,8	23,3 19,7	22 20,6	20,4 21,3	18,5 21,75	16,5 22	14,1 22	11,6* 22	8,9* 21,65		
B-N4 150-315B/A	N4 150-315B/A	200 L4	30		30,6 19	30,6 20	30,5 21	30,3 21,6	30,1 22,15	29,7 23	29 24,35	27,9 25,7	26,5 26,6	24,9 27,5	23 28,1	20,8 28,7	18,3* 28,9	15,4* 29		
B-N4 150-315A/A	N4 150-315A/A	225 S4	37		35,6 23,1	35,6 24,4	35,5 25,7	35,4 26,5	35,3 27,2	35,2 28,3	34,6 30	33,7 31,6	32,5 33,1	31 34,3	29,2 35,4	27,1 36,3	24,7* 37	21,8* 37,5	18,5* 37,8	
B-N4 150-400C/A	N4 150-400C/A	225 M4	45		45 27,9	44,9 29,65	44,7 31,4	44,5 32,6	44 33,8	43,5 35,3	42,5 37,7	40,5 39,7	38,5 41,3	36 42,7	33,5 43,8	30,5 44,1	27* 44,1	23,5* 44	19,5* 43	
B-N4 150-400B/A	N4 150-400B/A	250 M4	55		50,8 31,4	50,7 33,6	50,5 35,8	50,3 36,9	50 38,2	49,5 40,5	48,5 42,8	47 45,5	45 47,7	43 49,8	40,5 51,5	38 53	35* 54,1	32* 54,6	28,5* 54,8	
B-N4 150-400A/A	N4 150-400A/A	280 S4	75		58,8 38,2	58,7 40,7	58,6 42,8	58,5 44,35	58,3 45,7	57,9 48	57 51,5	55,5 54,4	54 57,1	52 59,7	49,5 62	47 64,2	44* 66	41* 67,5	37,5* 68,4	

N4 Standard construction.

P₂ Rated motor power output.

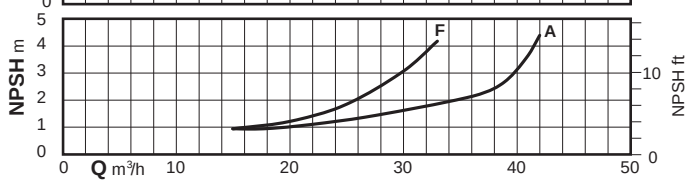
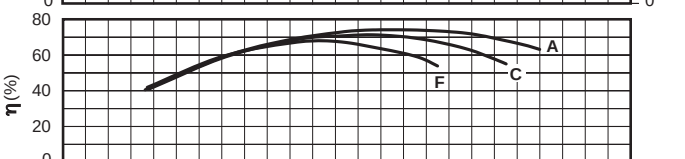
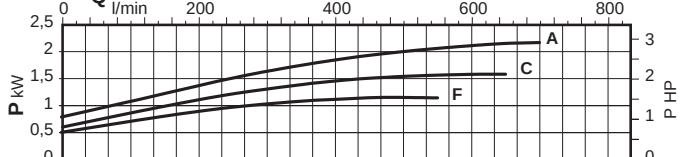
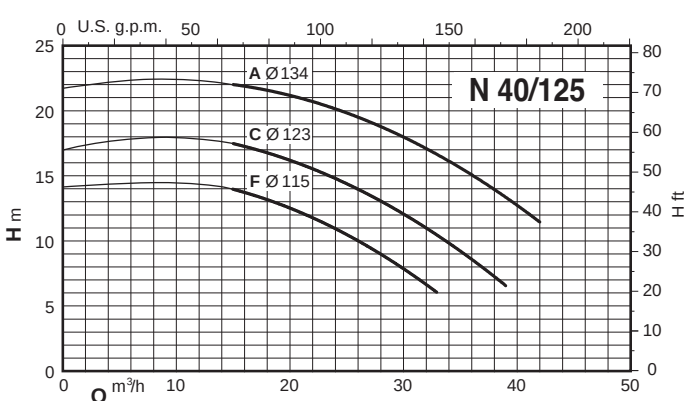
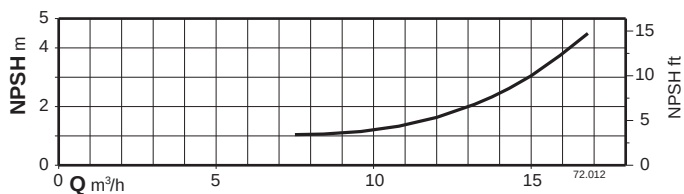
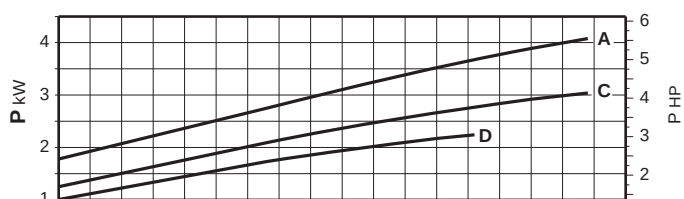
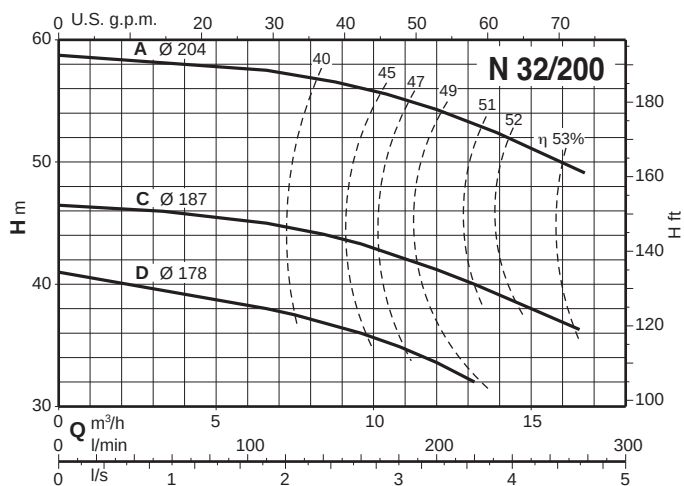
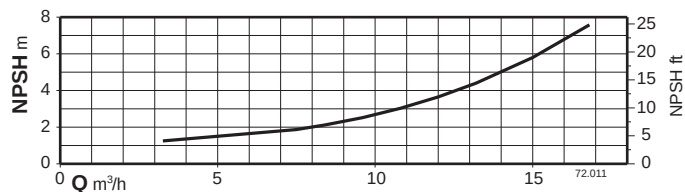
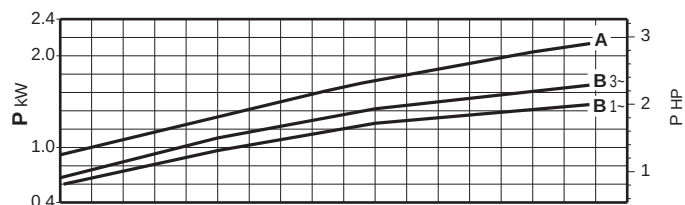
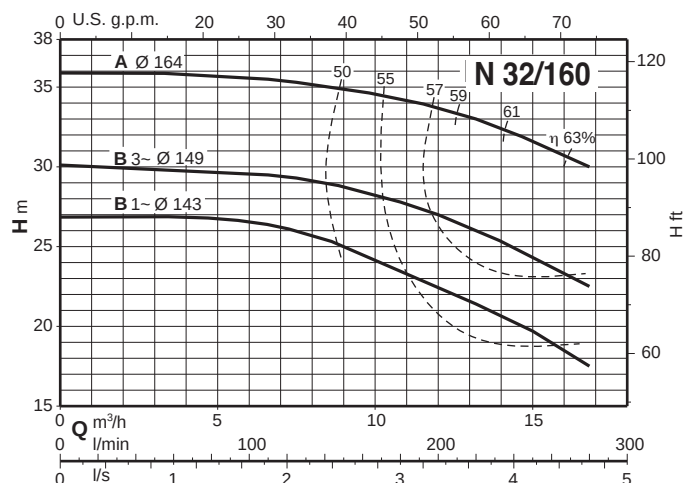
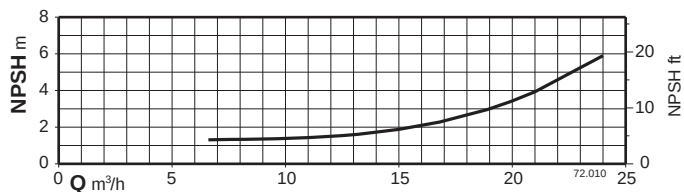
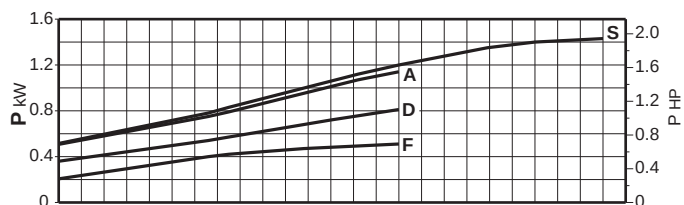
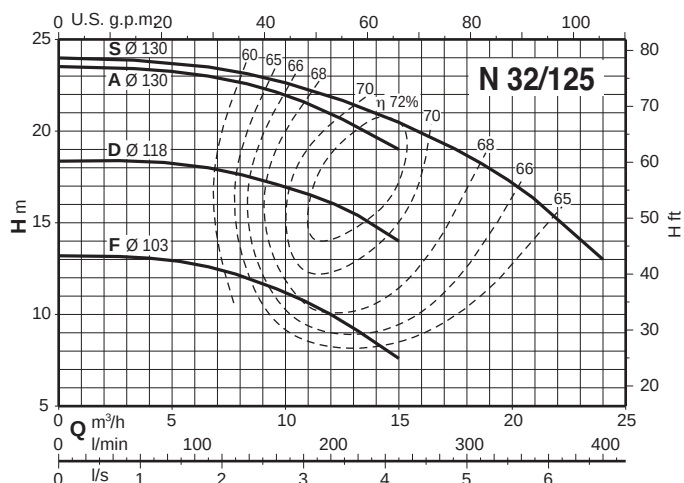
H Total head in m.

* Maximum suction lift 1-2 m.

B-N4 Bronze construction.

P₃ Pump power input.

Characteristic curves $n \approx 2900$ rpm

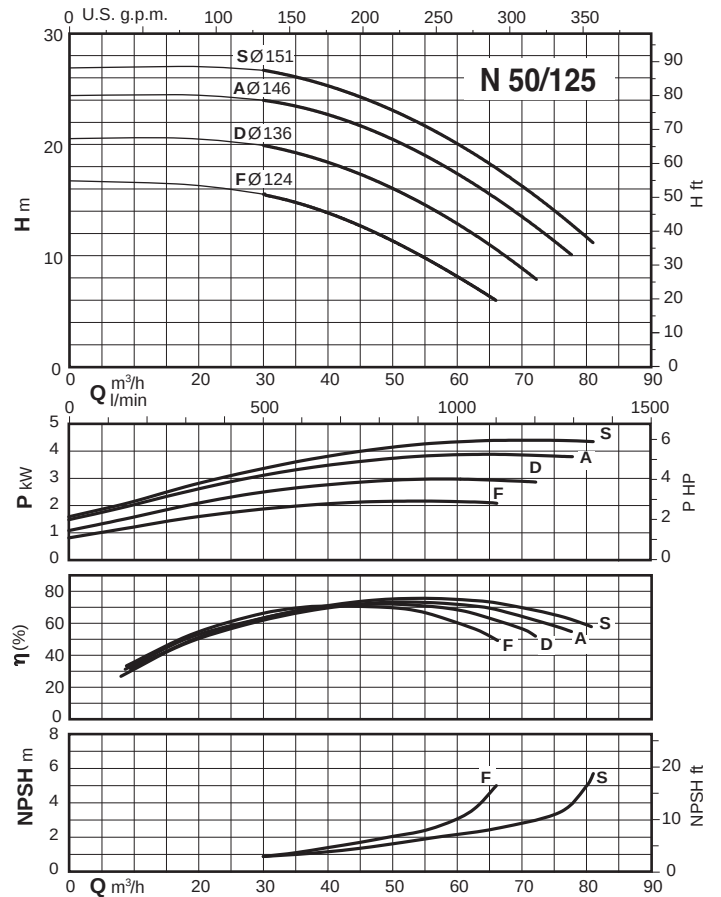
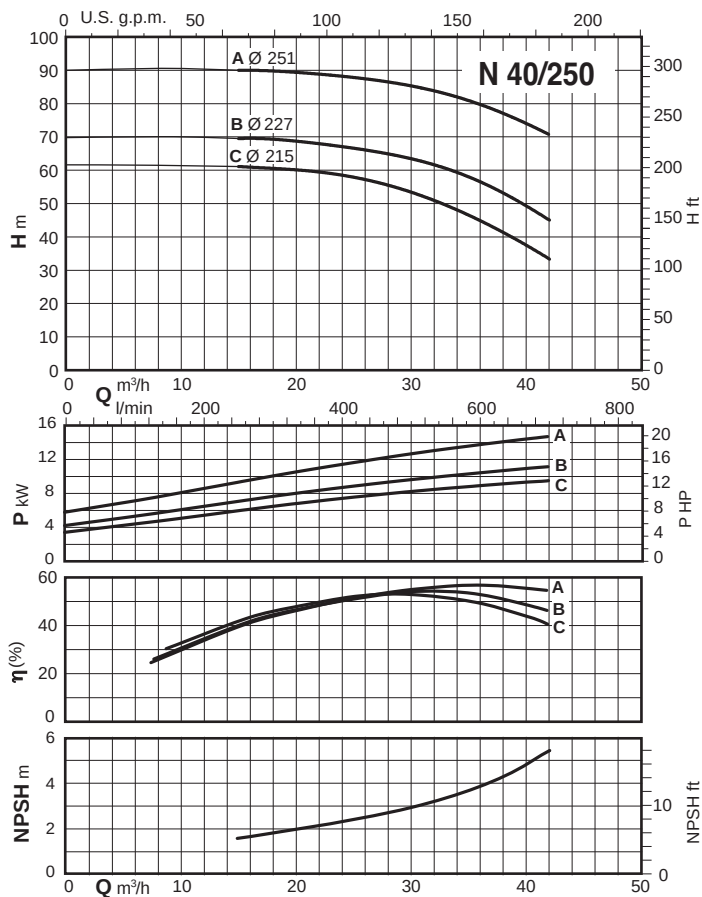
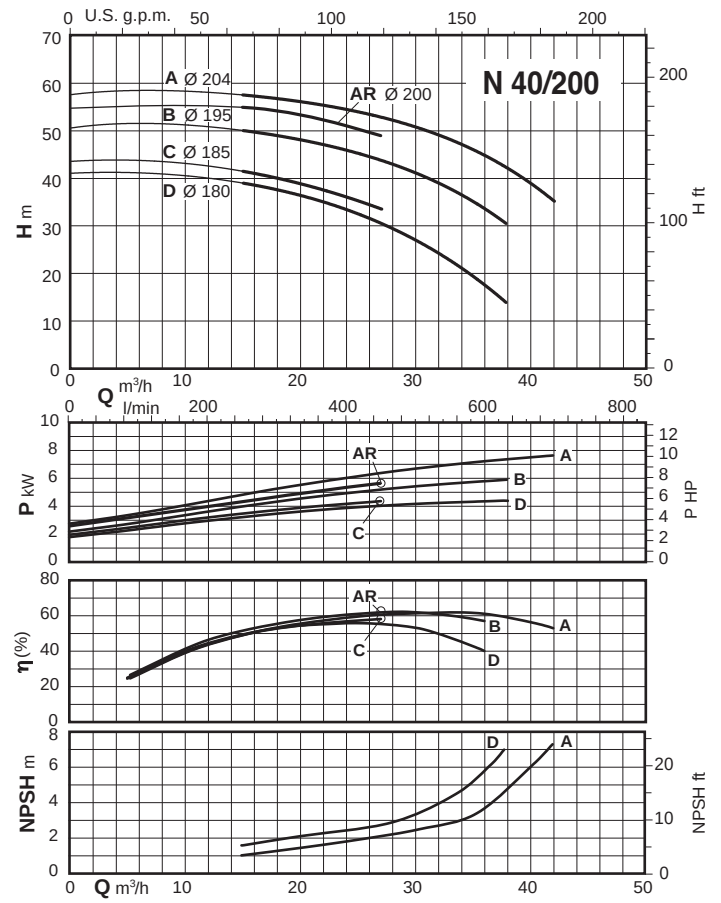
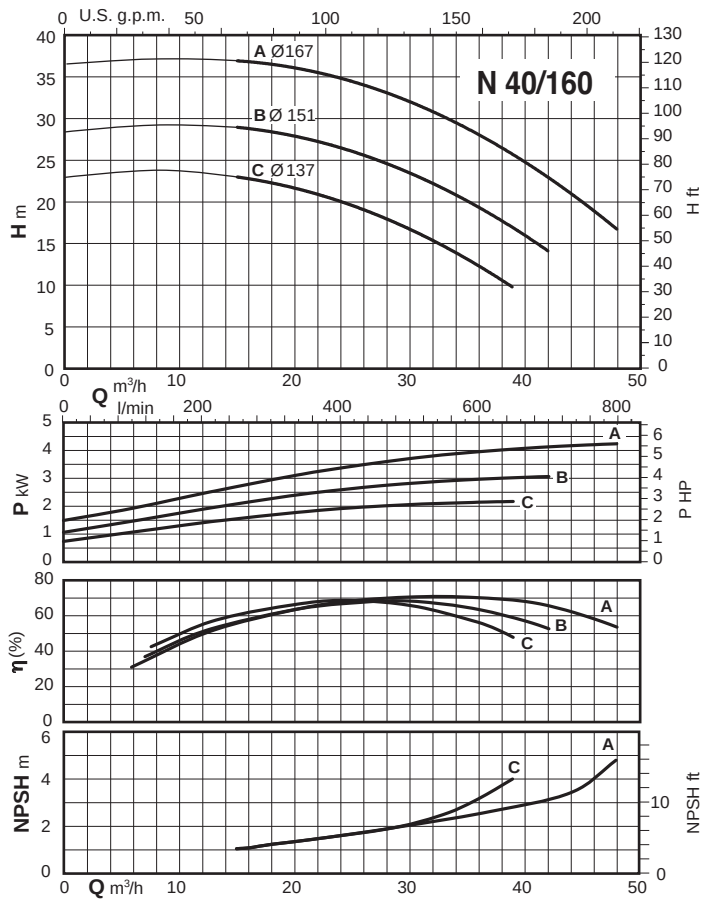




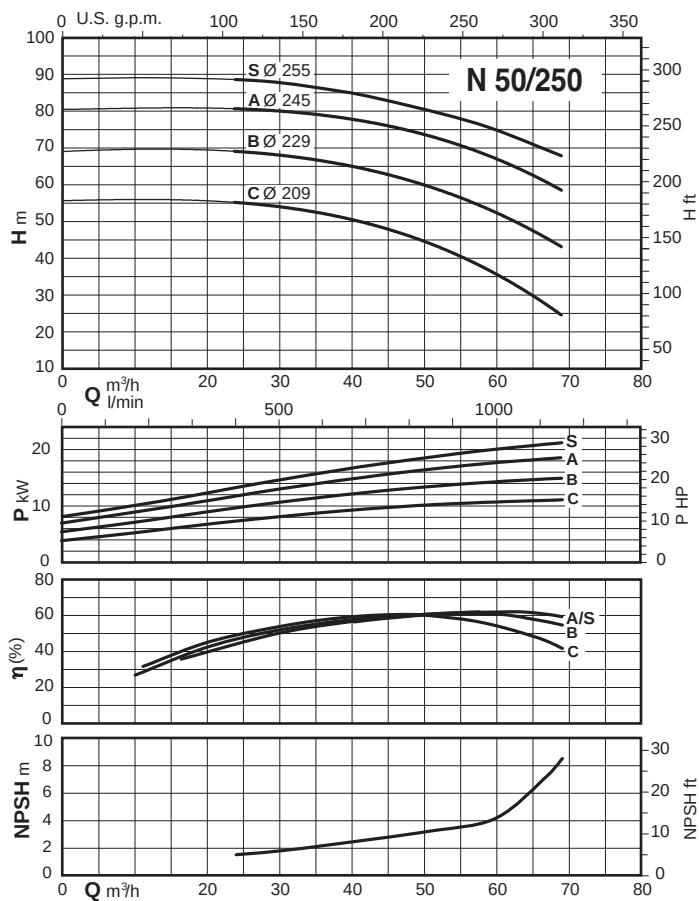
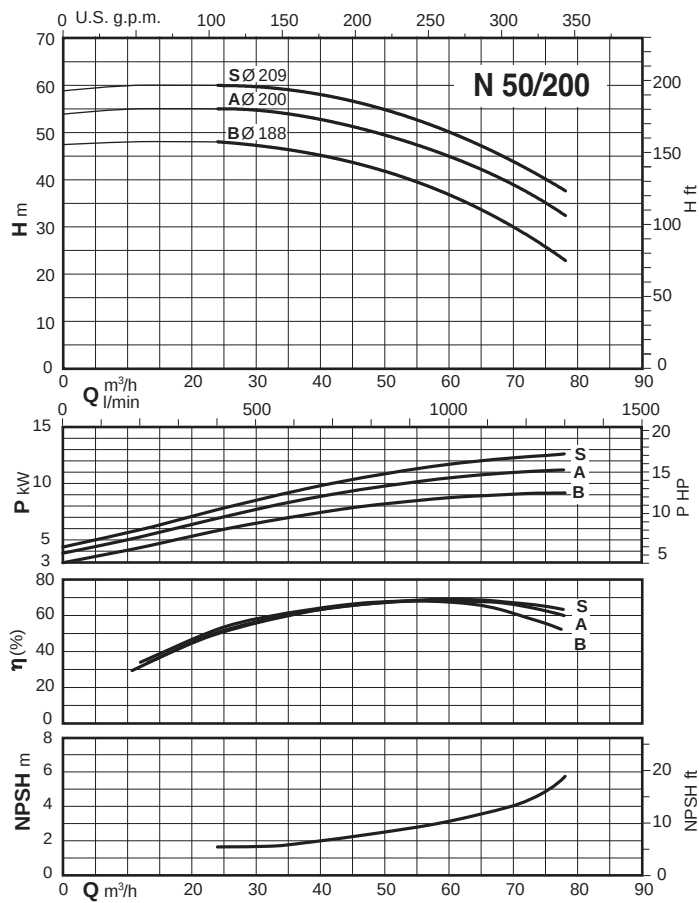
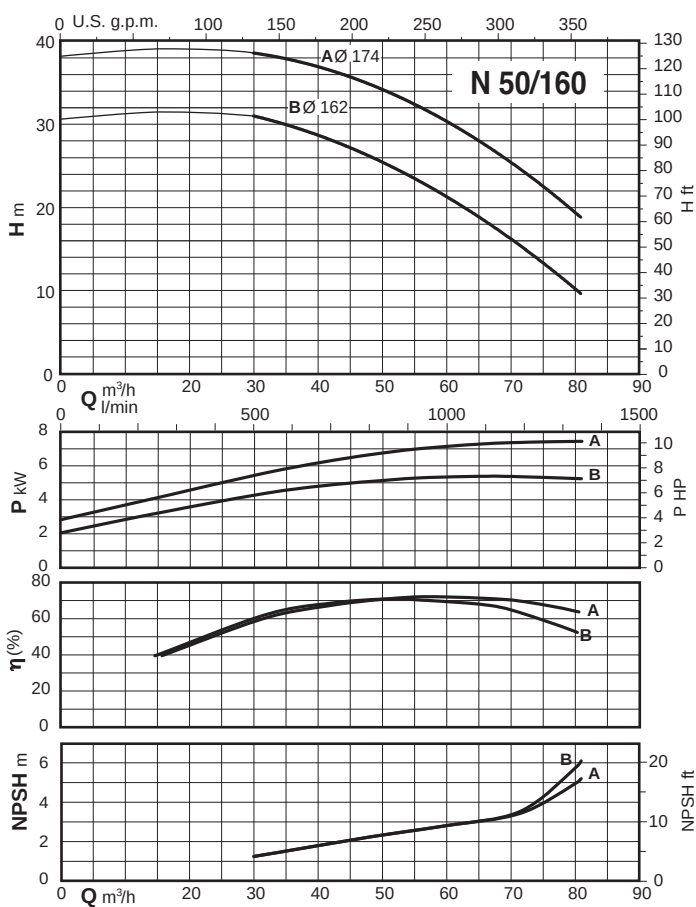
End-Suction Centrifugal Pumps standardized EN 733



Characteristic curves $n \approx 2900$ rpm



Characteristic curves $n \approx 2900$ rpm

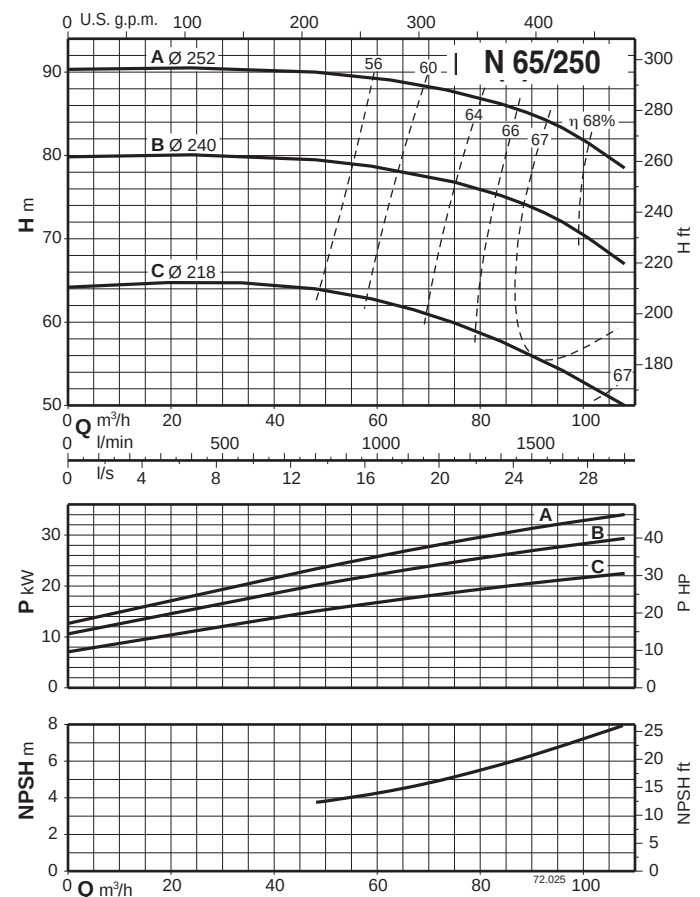
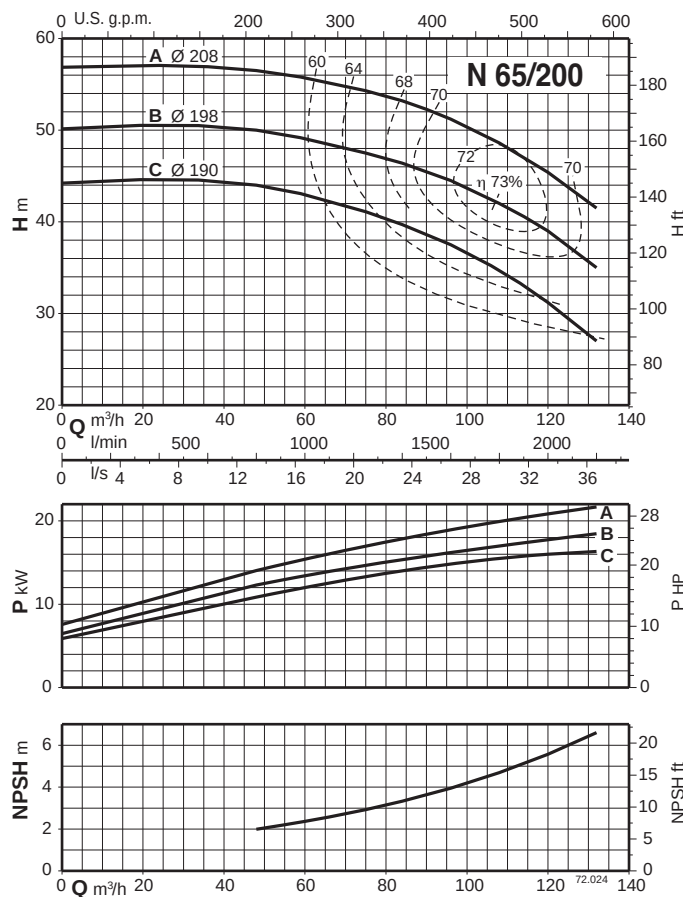
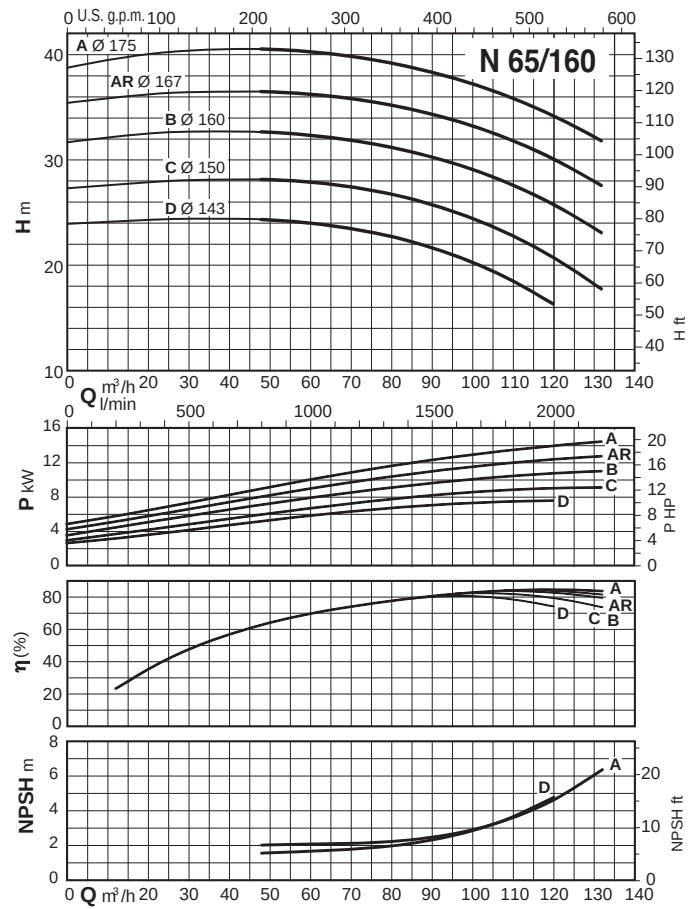
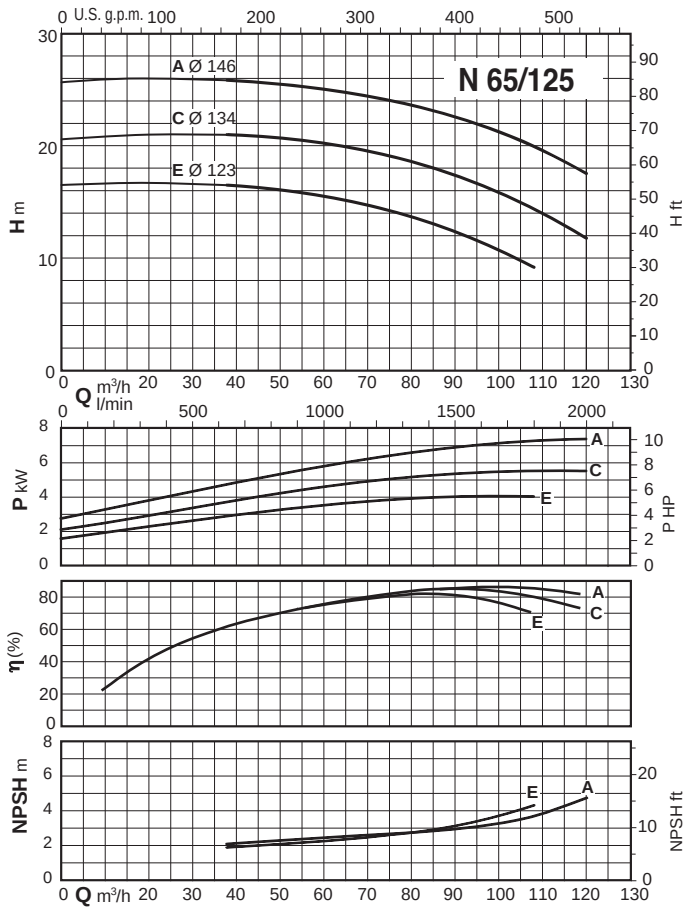




End-Suction Centrifugal Pumps standardized EN 733



Characteristic curves $n \approx 2900$ rpm

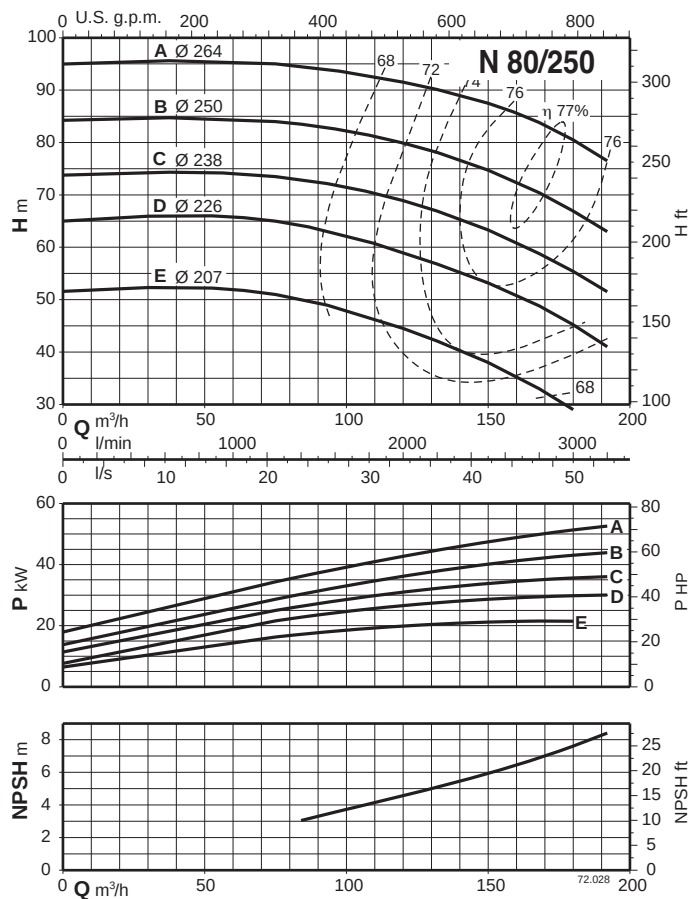
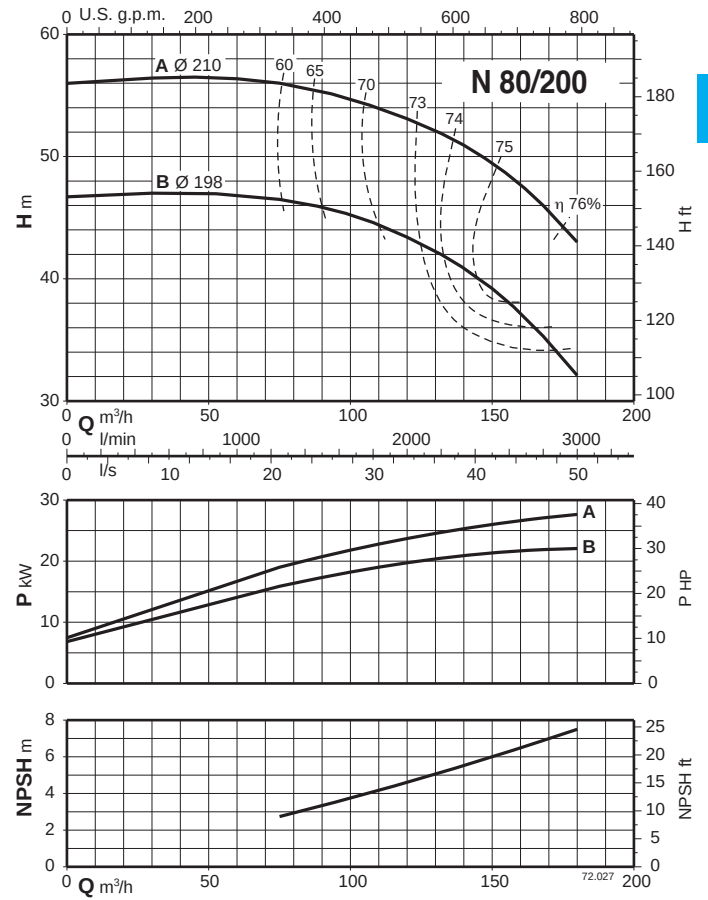
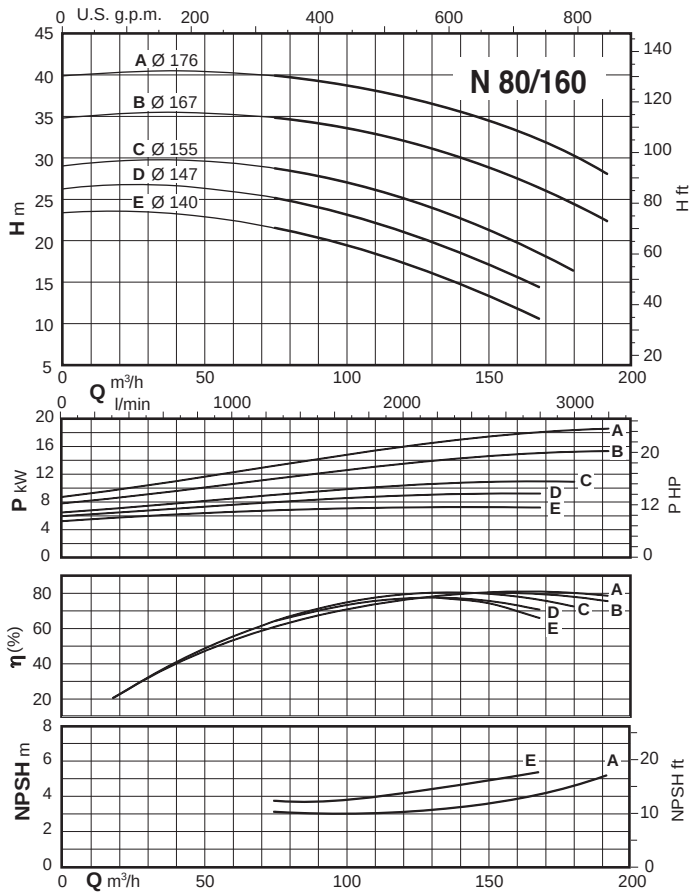




End-Suction Centrifugal Pumps standardized EN 733



Characteristic curves $n \approx 2900$ rpm

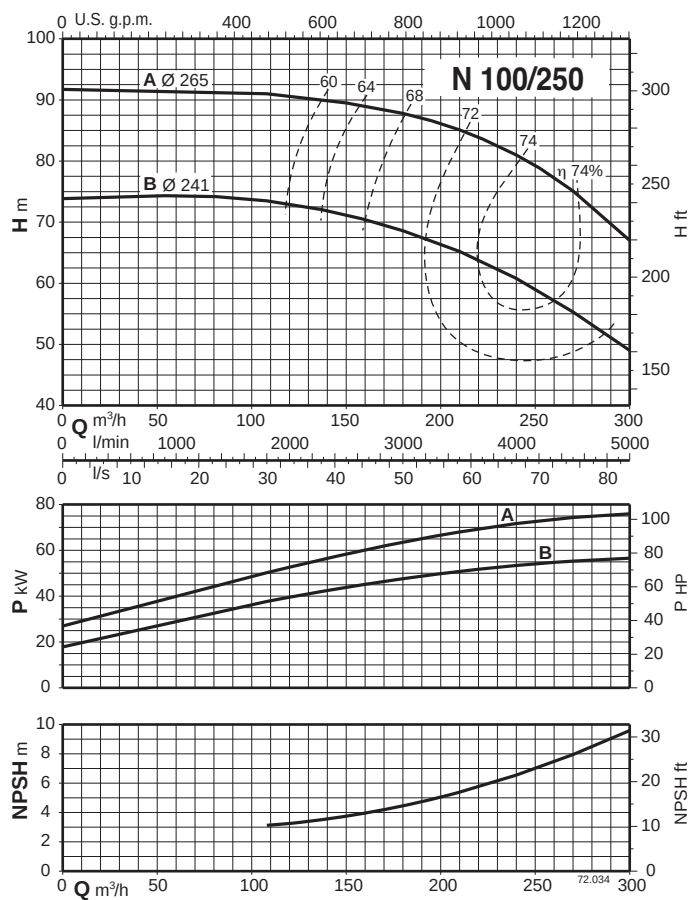
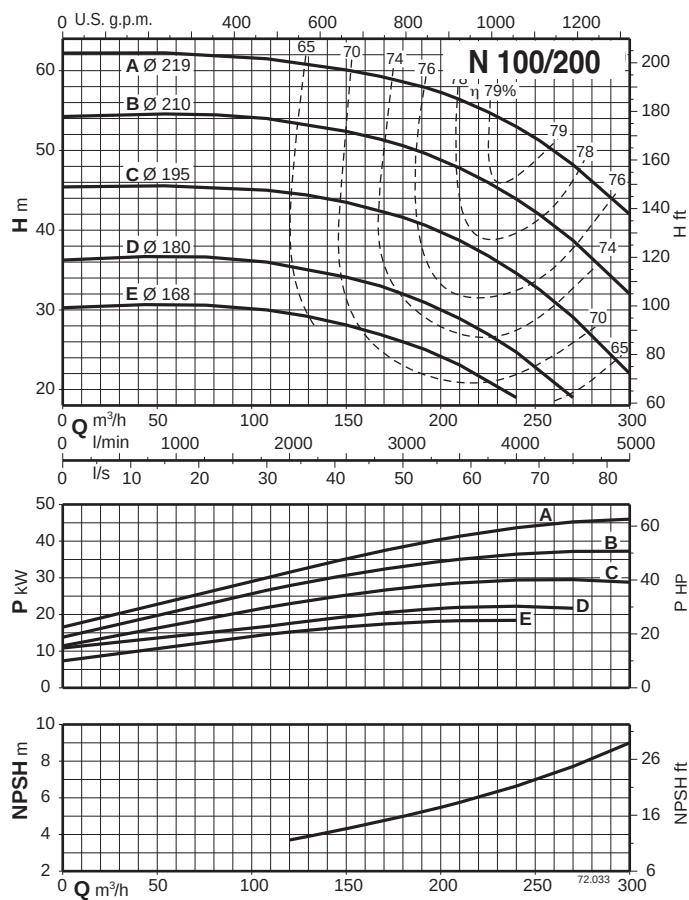




End-Suction Centrifugal Pumps standardized EN 733



Characteristic curves $n \approx 2900$ rpm

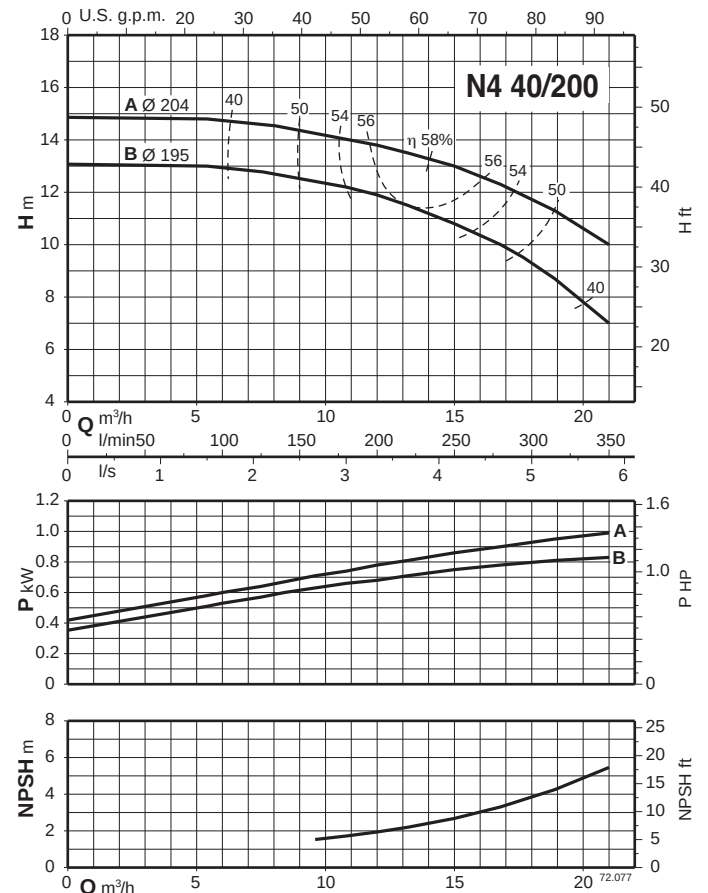
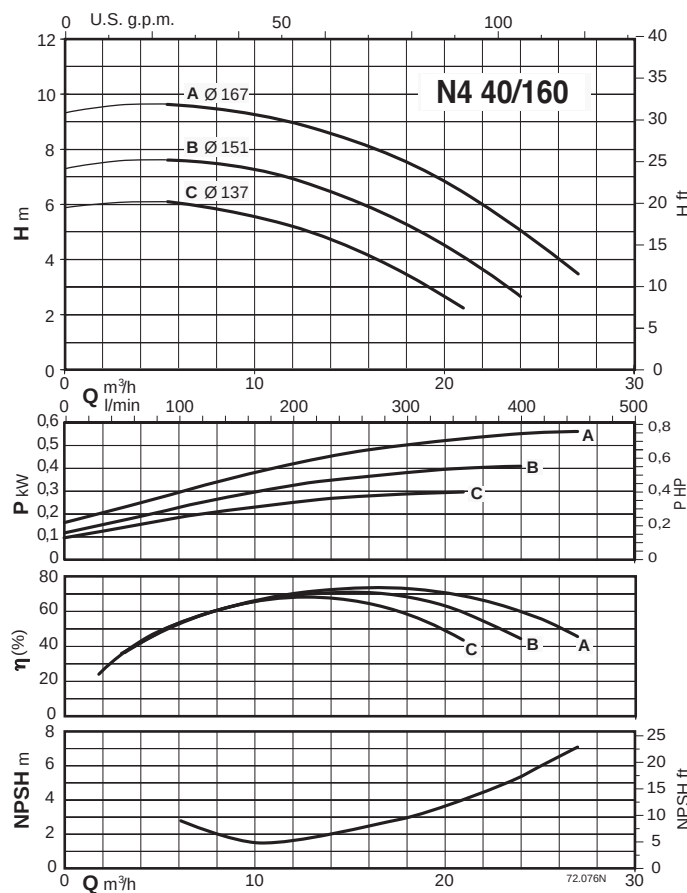
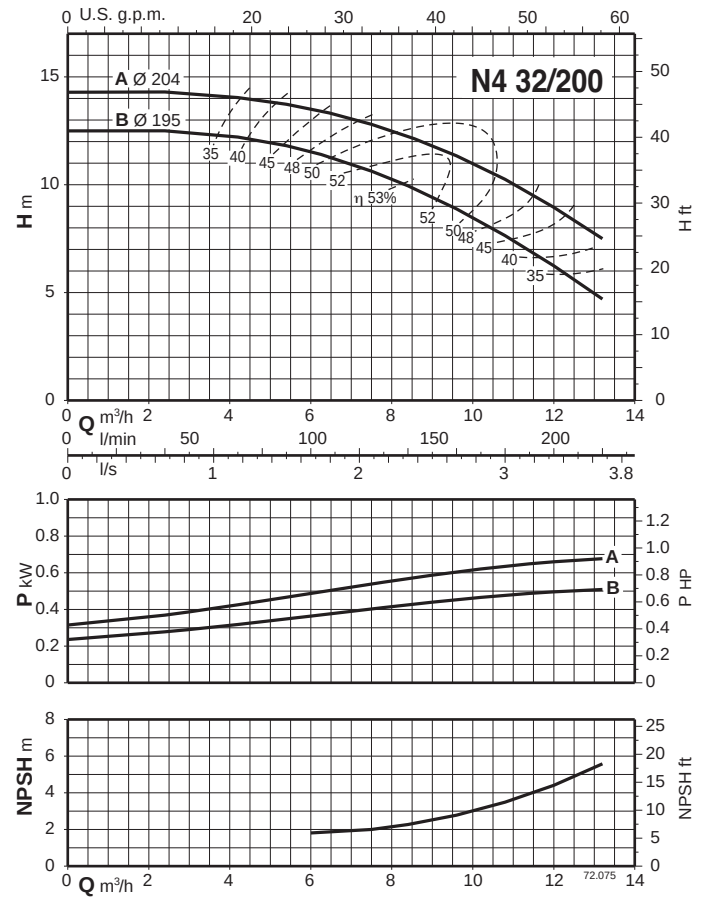
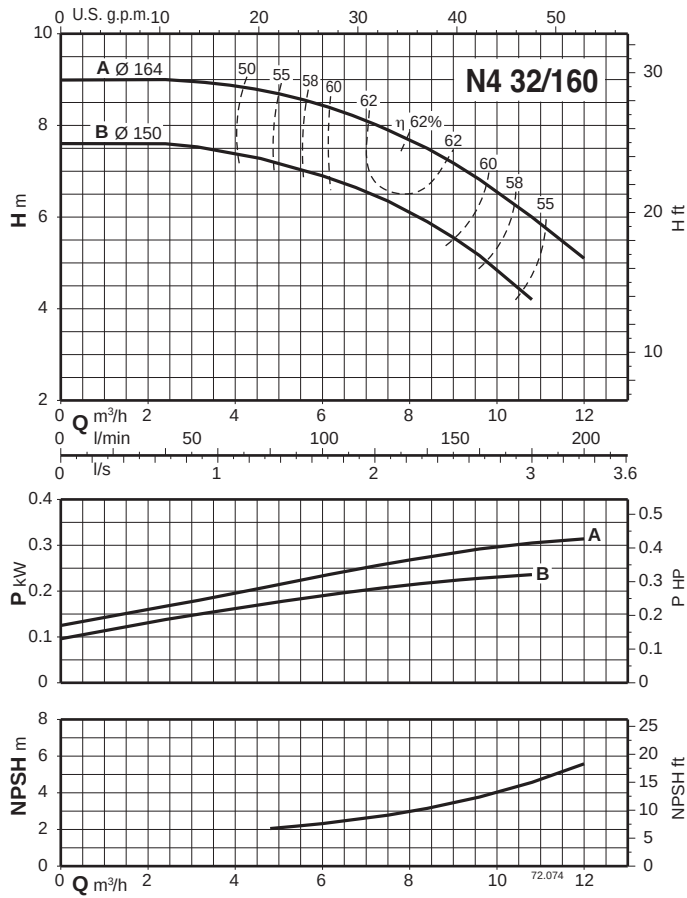


N4

End-Suction Centrifugal Pumps
standardized EN 733

calpeda®

Characteristic curves $n \approx 1450$ rpm

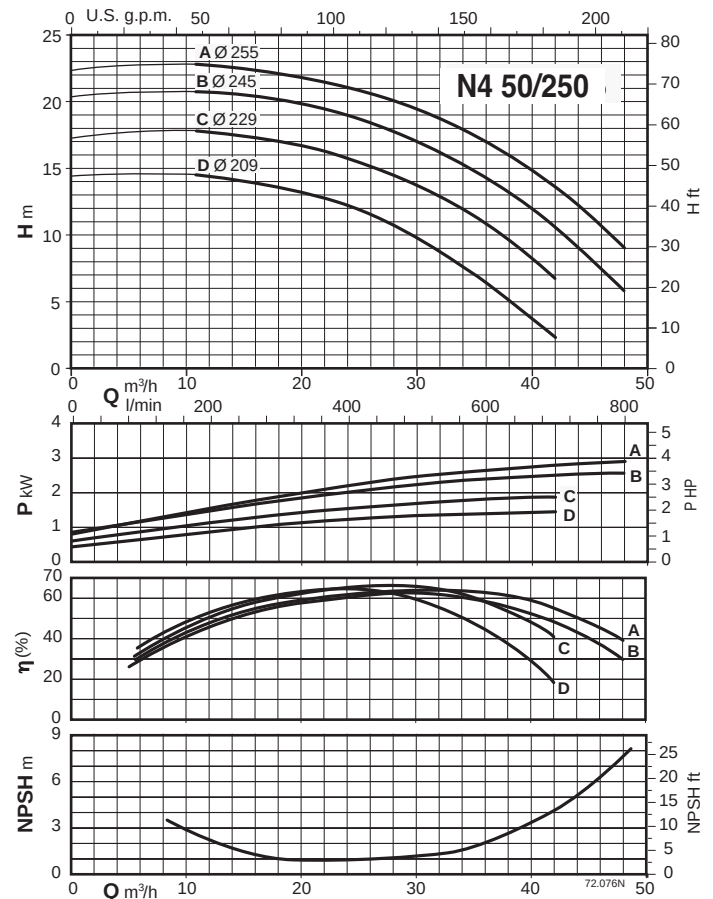
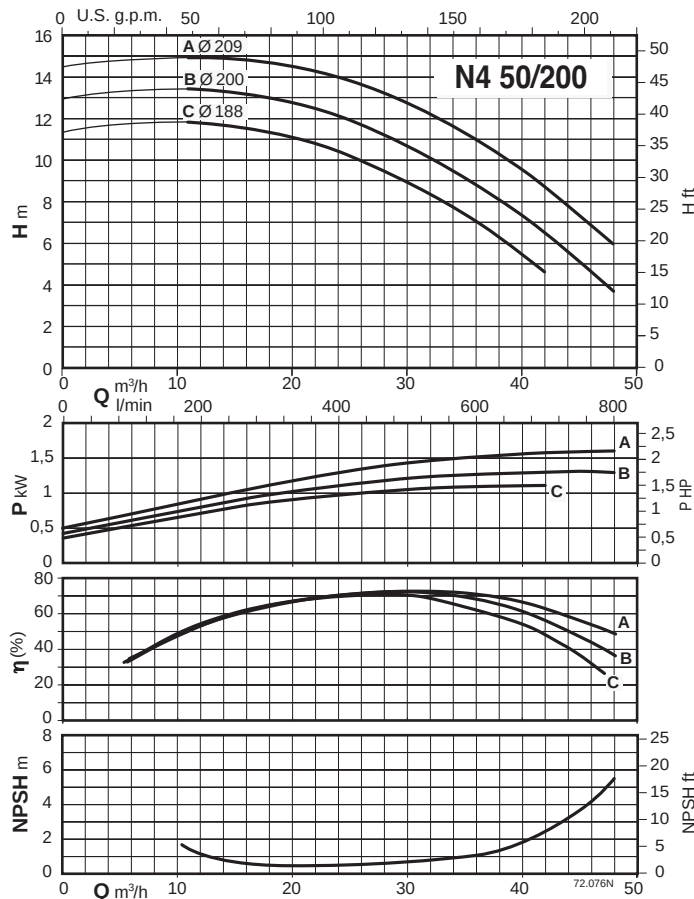
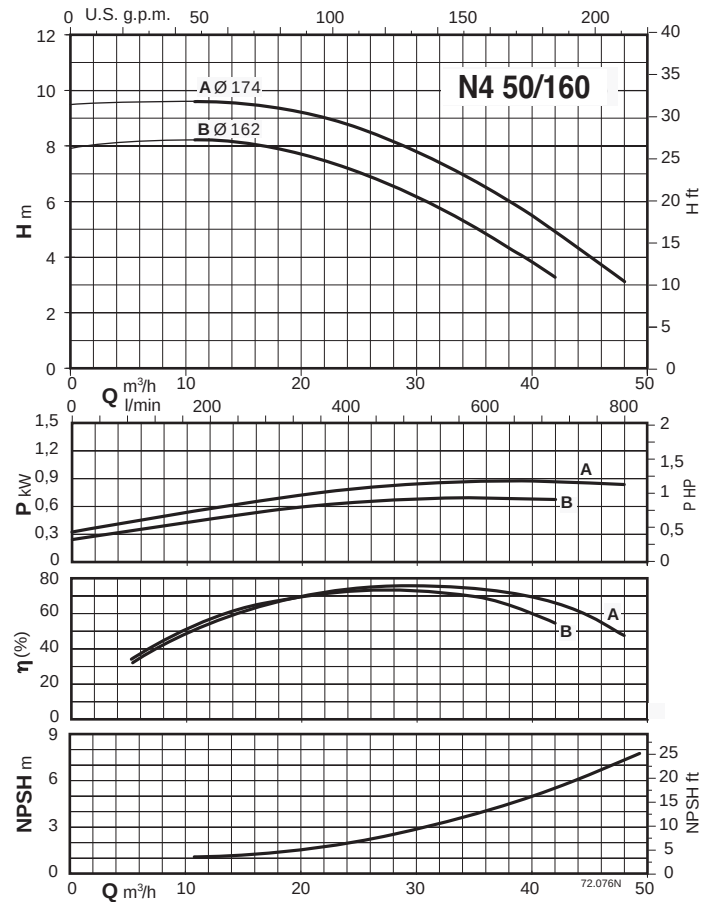
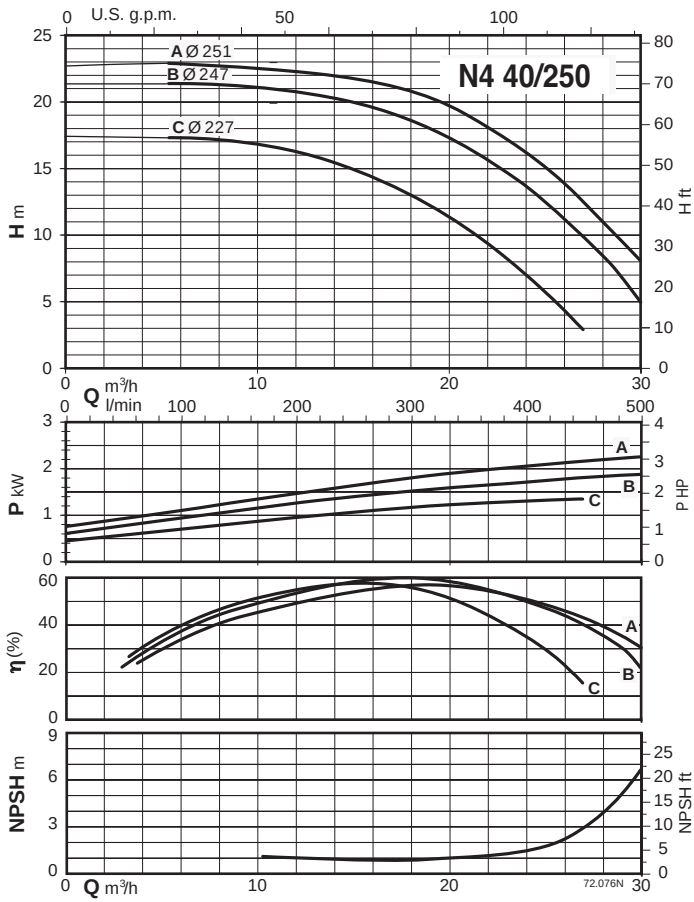


N4

End-Suction Centrifugal Pumps
standardized EN 733



Characteristic curves $n \approx 1450$ rpm

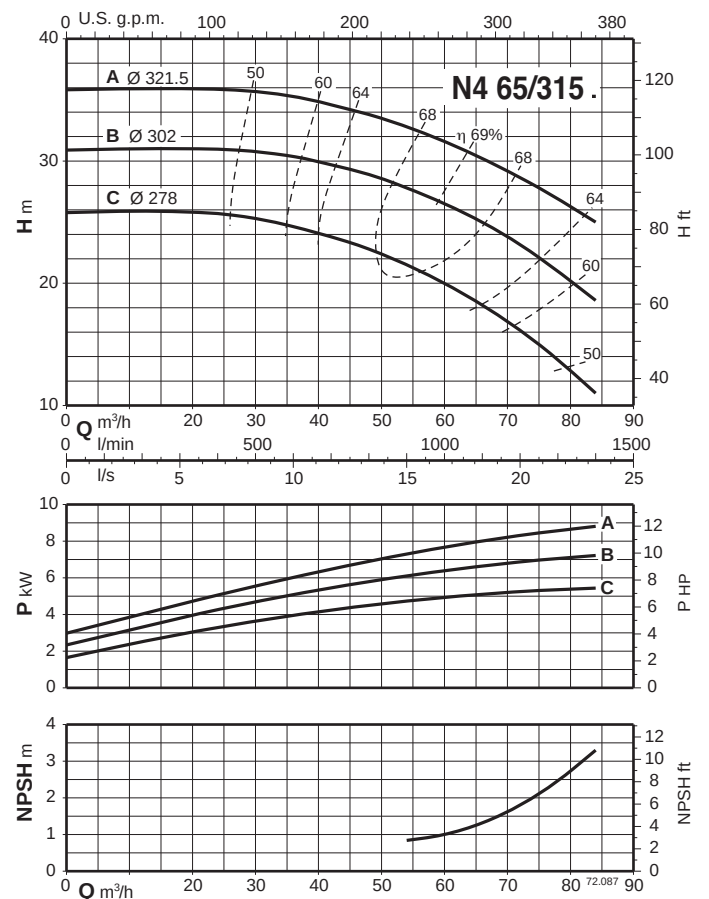
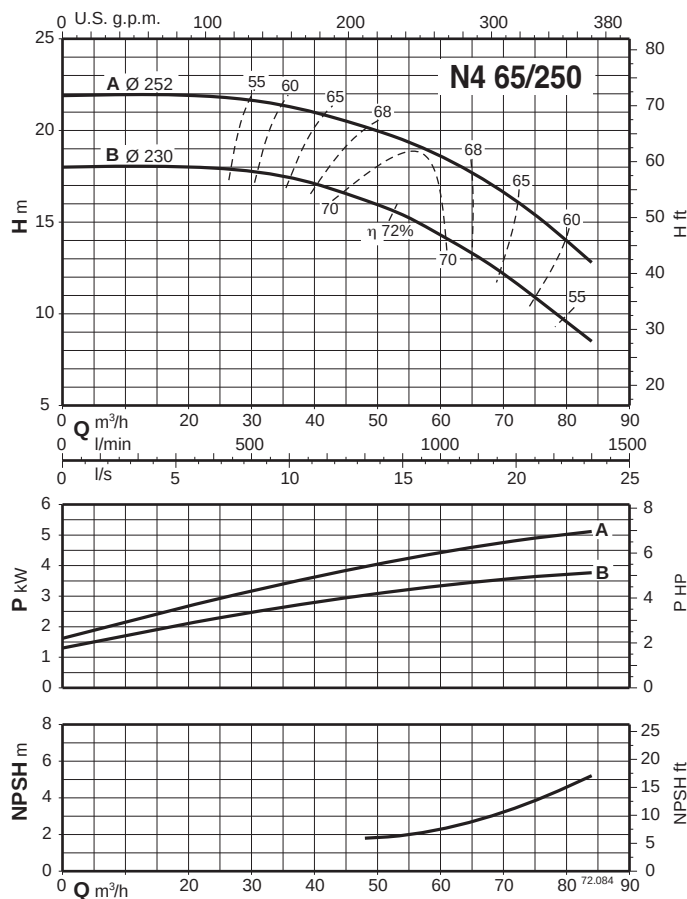
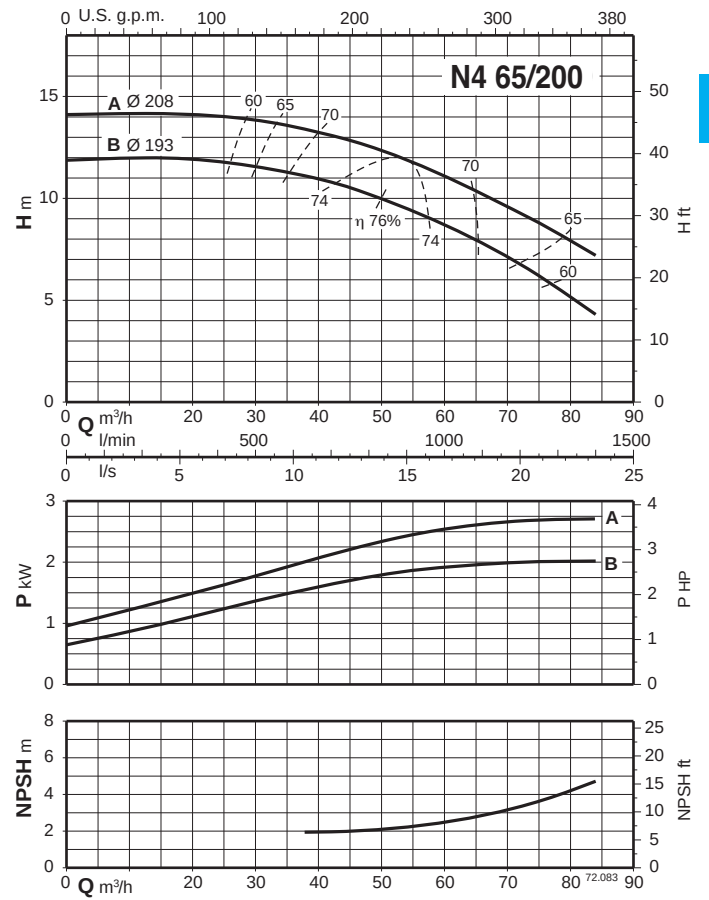
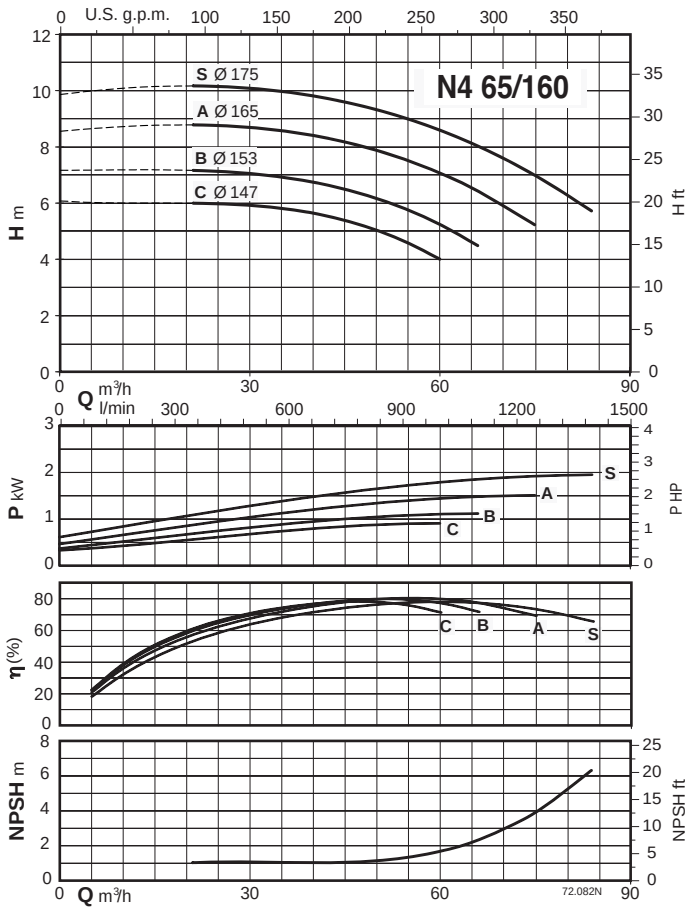


N4

End-Suction Centrifugal Pumps
standardized EN 733

calpeda[®]

Characteristic curves $n \approx 1450$ rpm

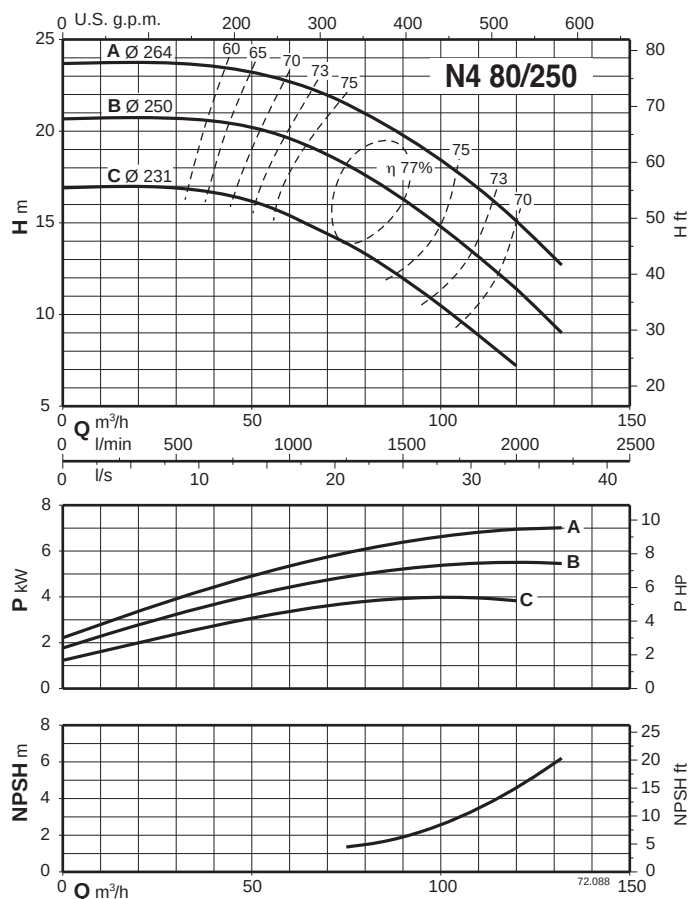
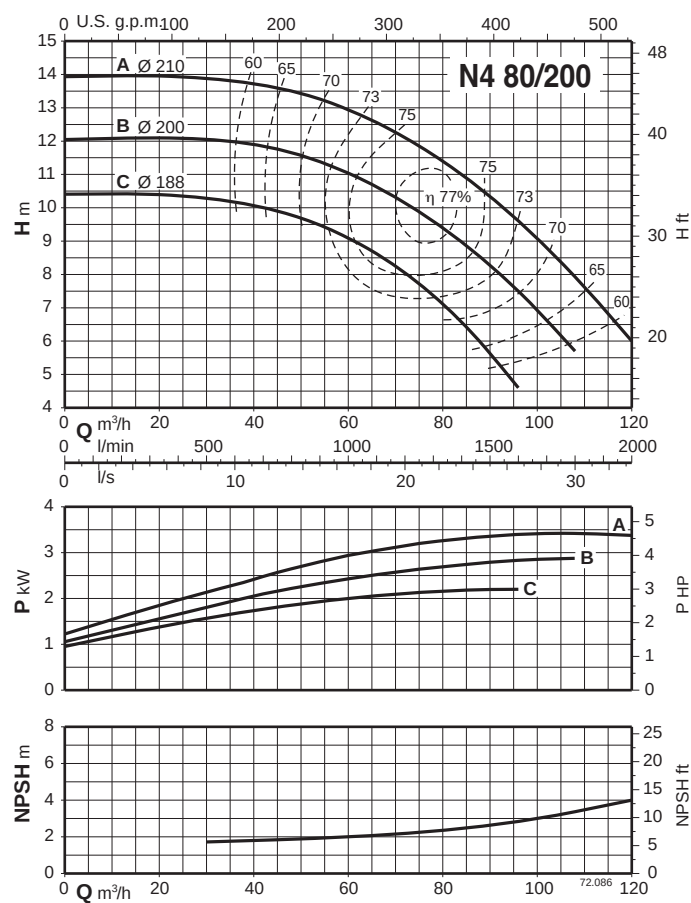
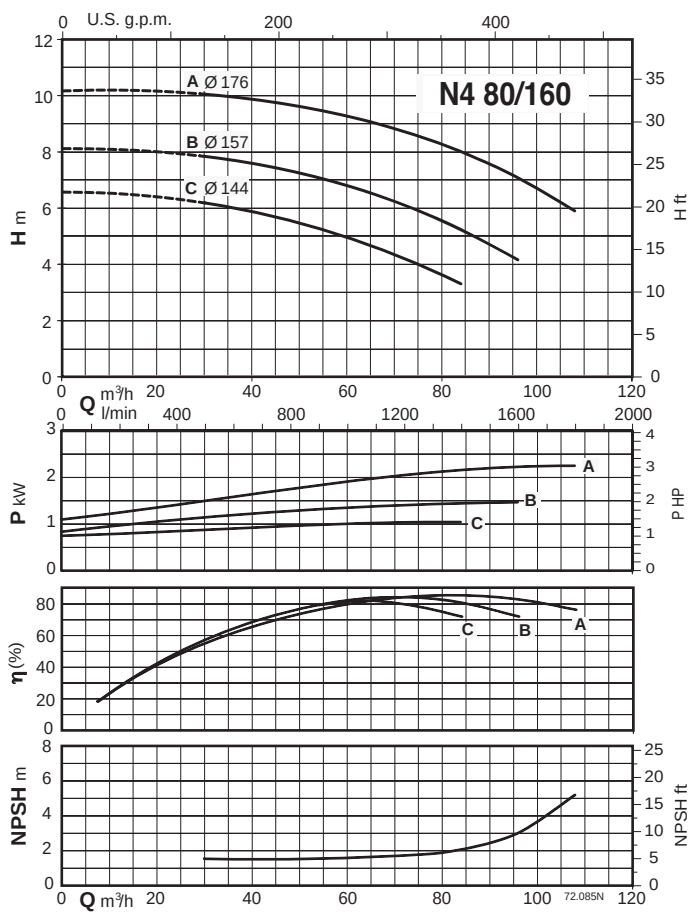


N4

End-Suction Centrifugal Pumps
standardized EN 733



Characteristic curves $n \approx 1450$ rpm

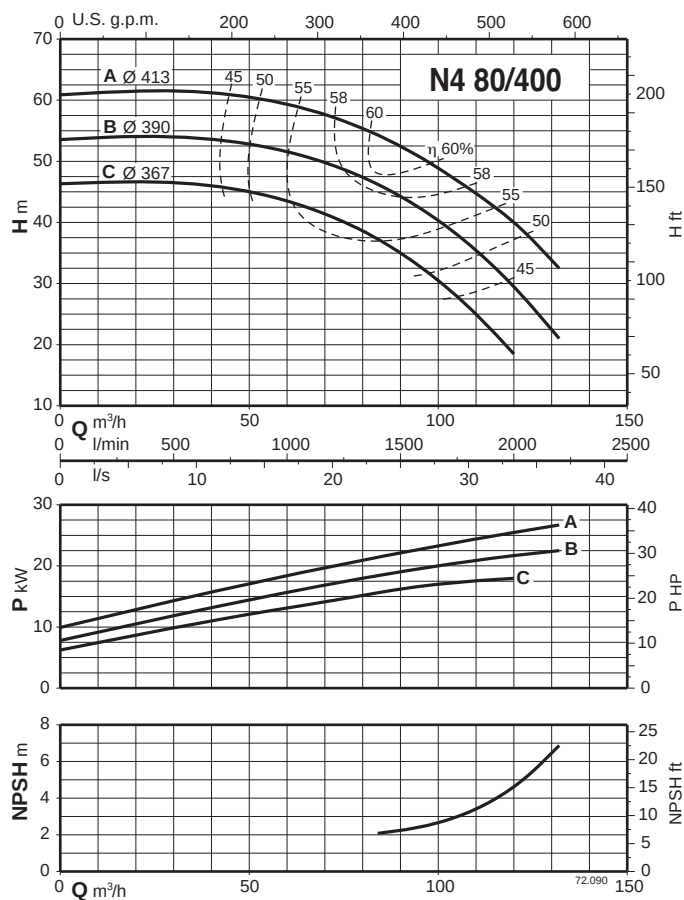
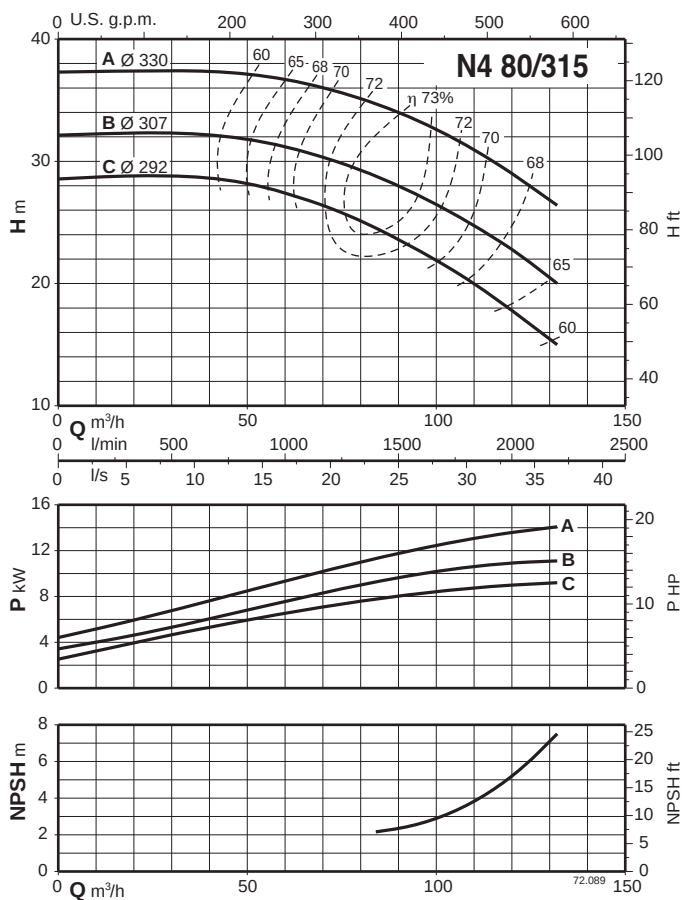


N4

End-Suction Centrifugal Pumps
standardized EN 733

calpeda[®]

Characteristic curves $n \approx 1450$ rpm



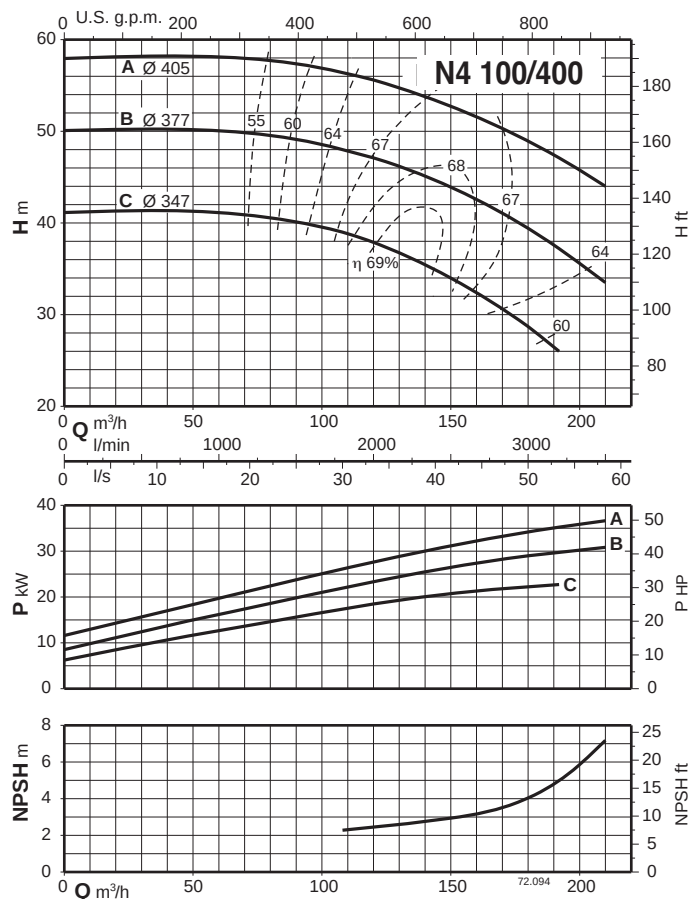
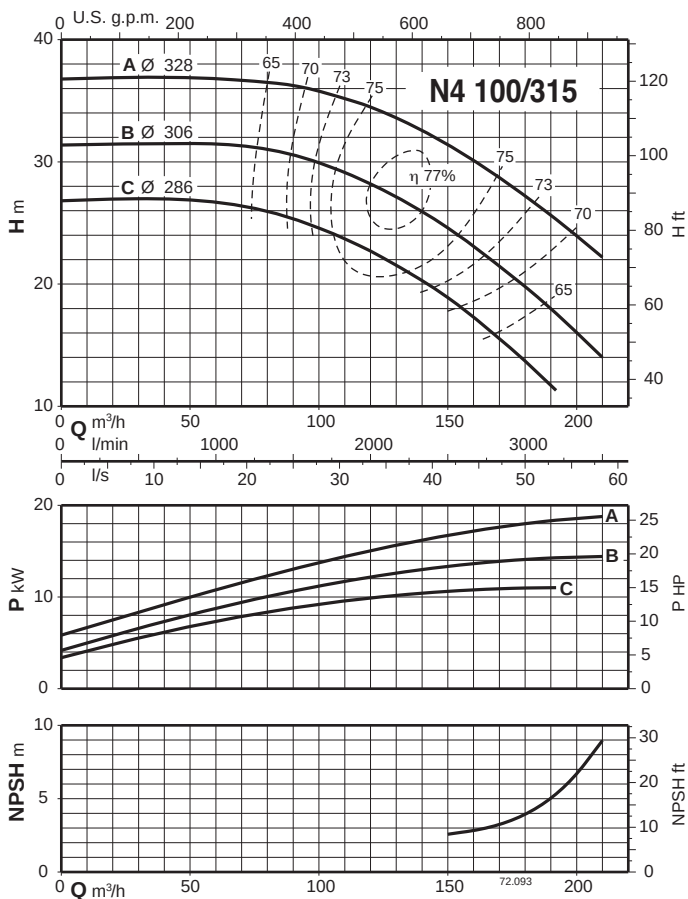
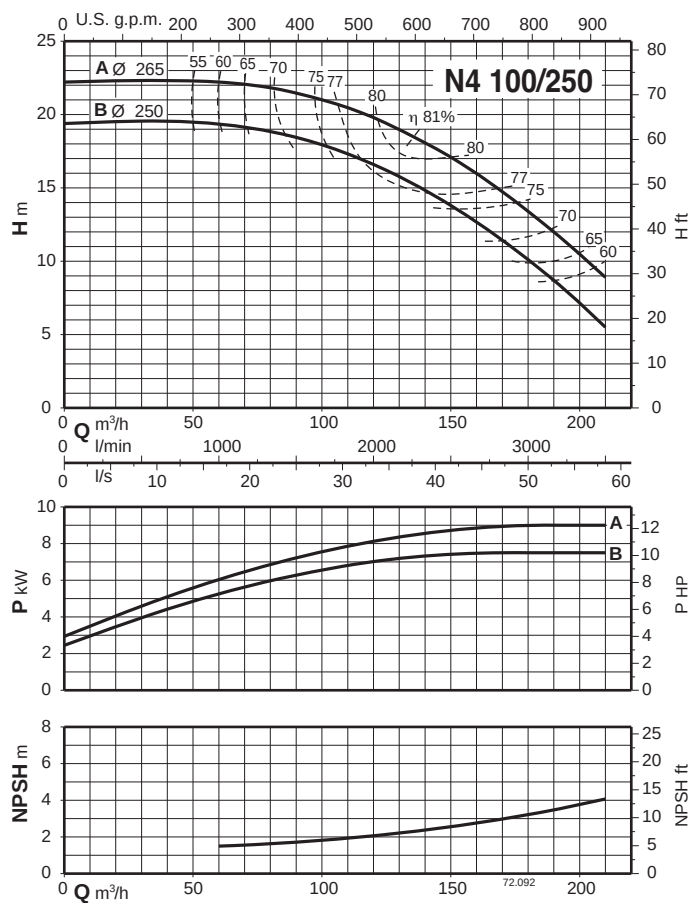
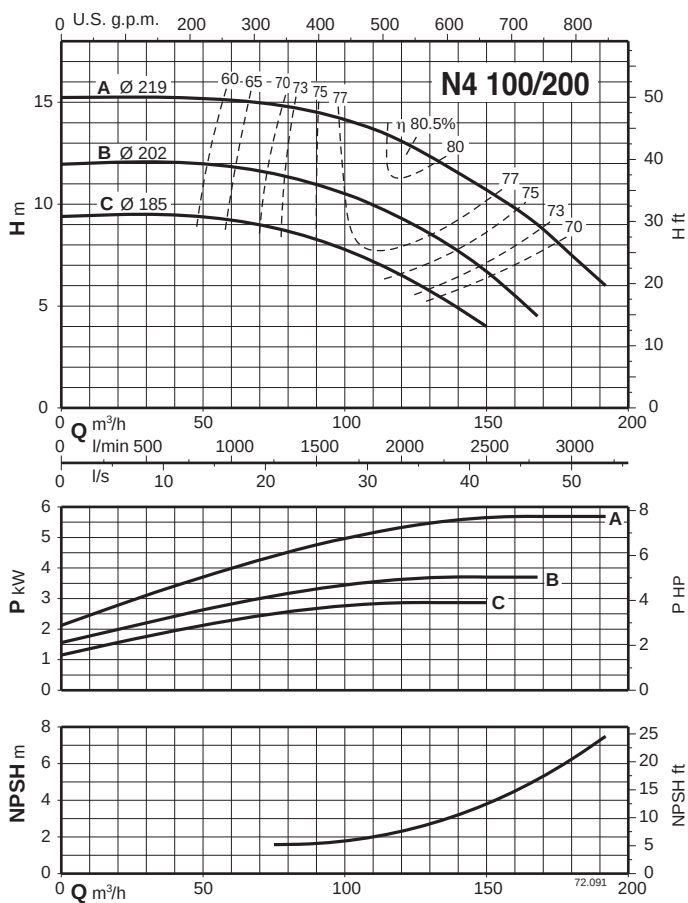
4

N4

End-Suction Centrifugal Pumps
standardized EN 733



Characteristic curves $n \approx 1450$ rpm

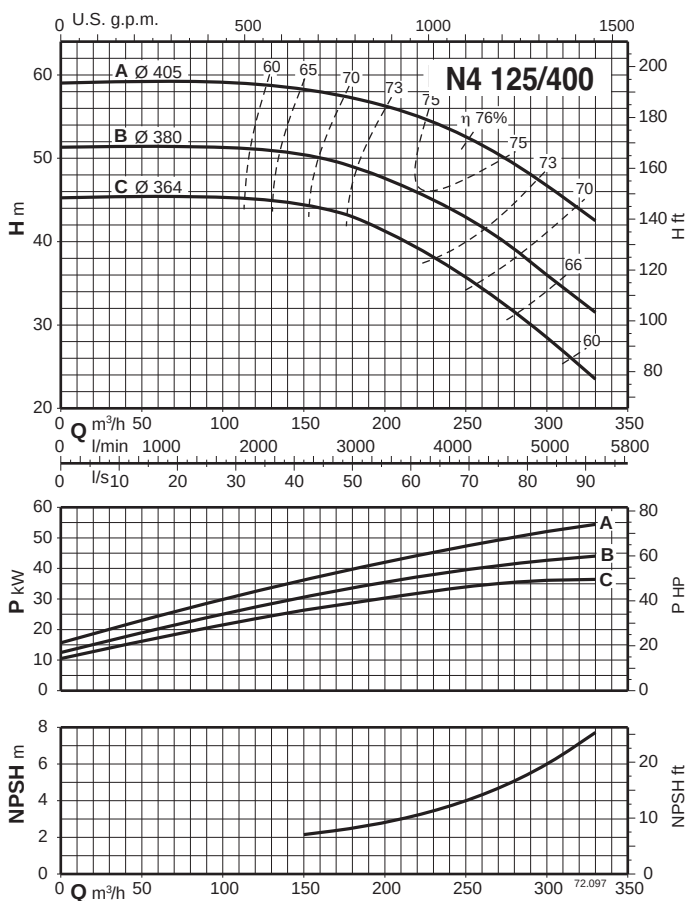
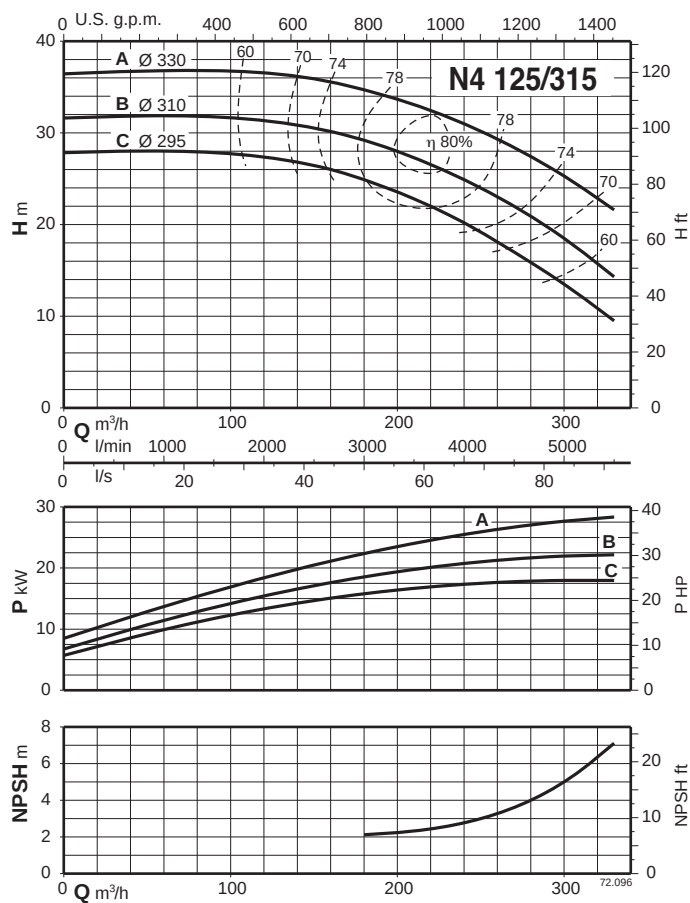
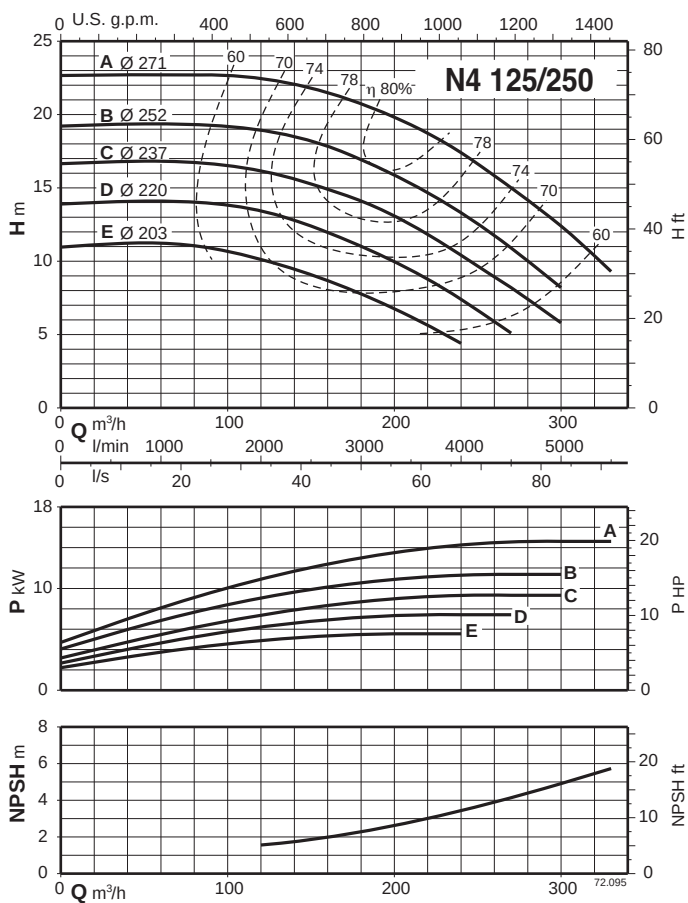


N4

End-Suction Centrifugal Pumps
standardized EN 733

calpeda®

Characteristic curves $n \approx 1450$ rpm

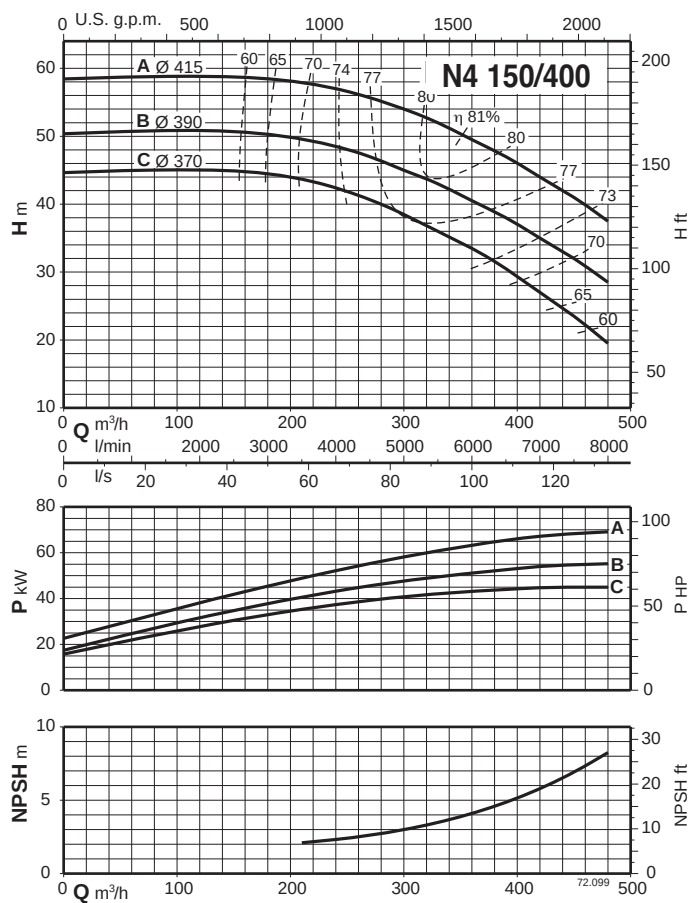
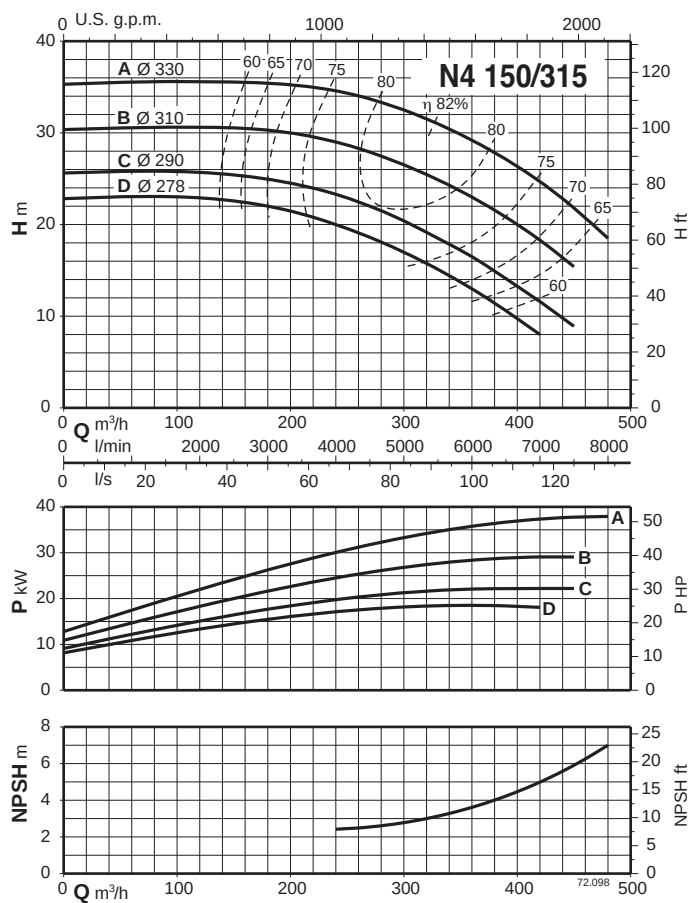


N4

End-Suction Centrifugal Pumps
standardized EN 733

calpeda®

Characteristic curves $n \approx 1450$ rpm

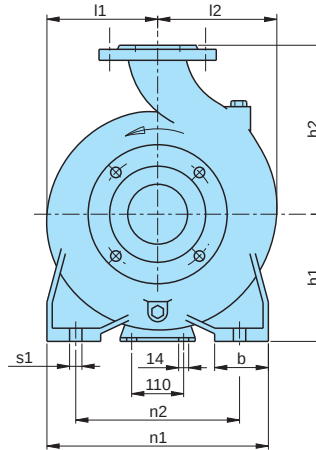
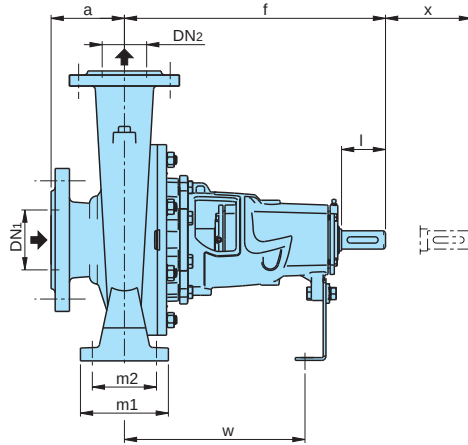


N, N4

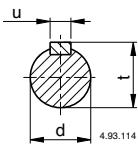
End-Suction Centrifugal Pumps
standardized EN 733

calpeda®

Dimensions and weights

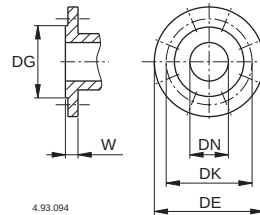


Shaft extension ISO 775 Parallel key UNI 6604



mm			
d	l	u	t
24 j6	50	8	27
32 k6	80	10	35
42 k6	110	12	45

Flanges PN 10, EN 1092-2



mm						
DN	DG	DK	DE	Holes		W
				N°	Ø	
32	76	100	140	4	19	18
40	84	110	150	4	19	18
50	99	125	165	4	19	20
65	118	145	185	4	19	20
80	132	160	200	8	19	22
100	156	180	220	8	19	24
125	184	210	250	8	19	24
150	211	240	285	8	23	26
200	266	295	340	8	23	30

N n ≈ 2900 rpm
N4 n ≈ 1450 rpm

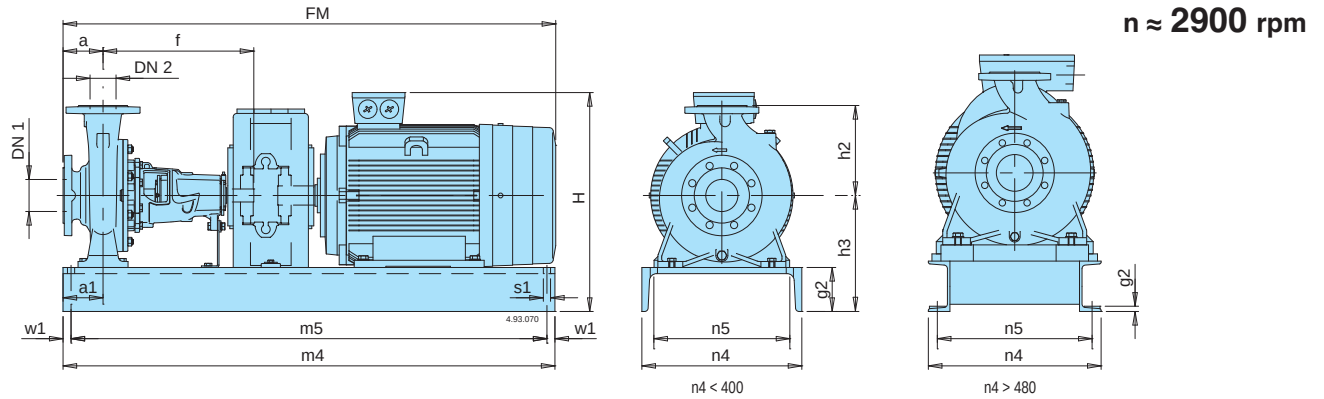
TYPE			mm																kg								
			DN1	DN2	a	f	h1	h2	l1	l2	m1	m2	n1	n2	b	s1	d	w	x	B-N B-N4	N N4						
B-N, B-N4 - B-N, B-N4 - B-N, B-N4 -	N, N4 N, N4 N, N4	32-125 32-160 32-200	50	32	80	360	112	140	93	97	100	70	190	140	50	14	24	260	100	30	26,5						
							132	160	120	120			240	190						37	33						
							160	180	140	140										44	38,4						
B-N, - B-N, B-N4 - B-N, B-N4 - B-N, B-N4 -	N, N4 N, N4 N, N4 N, N4	40-125 40-160 40-200 40-250	65	40	80	360	112	140	100	113	100	70	210	160	50	14	24	260	100	32	28,4						
					132		160	119	119	240			190	38						33,6							
					160		180	140	140	265			212	47,1						40,4							
					180		225	175	175	320			250	65						63	55						
B-N, B-N4 - B-N, B-N4 - B-N, B-N4 - B-N, B-N4 -	N, N4 N, N4 N, N4 N, N4	50-125 50-160 50-200 50-250	65	50	100	360	132	160	121	137	100	70	240	190	50	14	24	260	100	42,4	36,5						
							160	180	127	141			265	212						45	39,2						
								200	140	153										54	47						
							180	225	175	175			320	250						65	66	57,5					
B-N, B-N4 - B-N, B-N4 - B-N, B-N4 - B-N, B-N4 - B-N4 -	N, N4 N, N4 N, N4 N, N4 N4	65-125 65-160 65-200 65-250 65-315	80	65	100	360	160	180	134	155	125	95	280	212	65	14	24	260	100	48	42						
								200	150	172			320	250						50,6	44,5						
								180	225	155			175							55,5	50						
					125	470	200	250	175	190	160	120	360	280	80	18	32	340	140	103	90						
							225	280	220	220			400	315						149	130						
B-N, B-N4 - B-N, B-N4 - B-N, B-N4 - B-N4 -	N, N4 N, N4 N, N4 N4	80-160 80-200 80-250 80-315					100	80	125	360	180	225	165	193	125	95	320	250	65	14	24	260	140	61	53		
			180	250	170	194				345	280	93	80,5														
			200	280	191	210				160	120	400	315	80			18	32						340	140	110	95
			470	250	315	220						232	154													134	
B-N4 -	N4	80-400 (1)	125	80	125	530	280	355	268	268	160	120	435	355	80	18	42	370	140	220	192						
B-N, B-N4 - B-N, B-N4 - B-N4 - B-N4 -	N, N4 N, N4 N4 N4	100-200 100-250 100-315 100-400	125	100	125	470	200	280	180	212	160	120	360	280	80	18	32	340	140	103	89						
						225	280	205	233	400			315	123						104							
					140	250	315	230	250					158						138							
						530	280	355	268	280			200	150						500	400	100	22	42	370	230	200
B-N4 - B-N4 - B-N4 -	N4 N4 N4	125-250 125-315 125-400	150	125	140	470	250	355	235	268	160	120	400	315	80	18	32	340	140	150	129						
						280		247	278	200			150	500						400	100	22	42	370	140	217	189
						530	315	400	280																	305	255
B-N4 - B-N4 - B-N4 -	N4 N4 N4	150-315 150-400 150-400	200	150	160	530	280	400	260	298	200	150	550	450	100	22	42	370	140	231	201						
							315	450	295	328												284	247				

1) Additional size

N End-Suction Centrifugal Pumps standardized EN 733



Dimensions



TYPE	MOTOR	kW	mm															FM≈	H ≈
			DN1	DN2	a	f	h3	h2	m4	m5	w1	n4	n5	a1	g2	s1			
B-N, N 32-125	71 M2	0,55	50	32	80	360	197	140	780	750	15	240	180	90	85	14	718	308	
	80 M2	0,75	50	32	80	360	197	140	780	750	15	240	180	90	85	14	752	317	
	80 M2	1,1	50	32	80	360	197	140	780	750	15	240	180	90	85	14	752	317	
	90 S2	1,5	50	32	80	360	197	140	780	750	15	240	180	90	85	14	809	325	
B-N, N 32-160	90 S2	1,5	50	32	80	360	217	160	780	750	15	240	180	90	85	14	809	345	
	90 L2	2,2	50	32	80	360	217	160	780	750	15	240	180	90	85	14	809	345	
	100 L2	3	50	32	80	360	232	160	880	850	15	300	240	90	100	14	885	398	
B-N, N 32-200	90 L2	2,2	50	32	80	360	245	180	780	750	15	240	180	90	85	14	809	373	
	100 L2	3	50	32	80	360	260	180	880	850	15	300	240	90	100	14	885	426	
	112 M2	4	50	32	80	360	260	180	880	850	15	300	240	90	100	14	882	437	
	132 S2	5,5	50	32	80	360	260	180	1020	990	15	350	290	100	100	14	953	462	
B-N, N 40-125	80 M2	1,1	65	40	80	360	197	140	780	750	15	240	180	90	85	14	752	317	
	90 S2	1,5	65	40	80	360	197	140	780	750	15	240	180	90	85	14	809	325	
	90 L2	2,2	65	40	80	360	197	140	780	750	15	240	180	90	85	14	809	325	
B-N, N 40-160	90 L2	2,2	65	40	80	360	217	160	780	750	15	240	180	90	85	14	809	345	
	100 L2	3	65	40	80	360	232	160	880	850	15	300	240	90	100	14	885	398	
	112 M2	4	65	40	80	360	232	160	880	850	15	300	240	90	100	14	882	409	
	132 S2	5,5	65	40	80	360	232	160	1020	990	15	350	290	90	100	14	953	434	
B-N, N 40-200	112 M2	4	65	40	100	360	260	180	880	850	15	300	240	100	100	14	902	437	
	132 S2	5,5	65	40	100	360	260	180	1020	990	15	350	290	100	100	14	973	462	
	132 S2	7,5	65	40	100	360	260	180	1020	990	15	350	290	100	100	14	1023	462	
B-N, N 40-250	160 M2	11	65	40	100	360	280	225	1020	990	15	350	290	100	100	14	1082	517	
	160 M2	15	65	40	100	360	280	225	1020	990	15	350	290	100	100	14	1082	517	
B-N, N 50-125	90 L2	2,2	65	50	100	360	217	160	780	750	15	240	180	90	85	14	829	345	
	100 L2	3	65	50	100	360	232	160	880	850	15	300	240	90	100	14	905	398	
	112 M2	4	65	50	100	360	232	160	880	850	15	300	240	90	100	14	902	409	
	132 S2	5,5	65	50	100	360	232	160	1020	990	15	350	290	90	100	14	973	434	
B-N, N 50-160	132 S2	5,5	65	50	100	360	260	180	1020	990	15	350	290	100	100	14	973	462	
	132 S2	7,5	65	50	100	360	260	180	1020	990	15	350	290	100	100	14	1023	462	
B-N, N 50-200	160 M2	11	65	50	100	360	260	200	1020	990	15	350	290	100	100	14	1082	497	
	160 M2	15	65	50	100	360	260	200	1020	990	15	350	290	100	100	14	1082	497	
B-N, N 50-250	160 M2	11	65	50	100	360	280	225	1020	990	15	350	290	100	100	14	1082	517	
	160 M2	15	65	50	100	360	280	225	1020	990	15	350	290	100	100	14	1082	517	
	160 L2	18,5	65	50	100	360	280	225	1020	990	15	350	290	100	100	14	1142	517	
	180 M2	22	65	50	100	360	280	225	1140	1110	15	350	290	100	100	14	1189	566	
B-N, N 65-125	112 M2	4	80	65	100	360	260	180	880	850	15	300	240	100	100	14	902	437	
	132 S2	5,5	80	65	100	360	260	180	1020	990	15	350	290	100	100	14	973	462	
	132 S2	7,5	80	65	100	360	260	180	1020	990	15	350	290	100	100	14	1023	462	
B-N, N 65-160	132 S2	5,5	80	65	100	360	260	200	1020	990	15	350	290	100	100	14	973	462	
	132 S2	7,5	80	65	100	360	260	200	1020	990	15	350	290	100	100	14	1023	462	
	160 M2	11	80	65	100	360	260	200	1020	990	15	350	290	100	100	14	1082	497	
	160 M2	15	80	65	100	360	260	200	1020	990	15	350	290	100	100	14	1082	497	
B-N, N 65-200	160 M2	15	80	65	100	360	280	225	1020	990	15	350	290	100	100	14	1082	517	
	160 L2	18,5	80	65	100	360	280	225	1020	990	15	350	290	100	100	14	1142	517	
	180 M2	22	80	65	100	360	280	225	1140	1110	15	350	290	100	100	14	1189	566	
B-N, N 65-250	180 M2	22	80	65	100	470	310	250	1360	1320	20	400	340	130	110	18	1299	596	
	200 L2	30	80	65	100	470	310	250	1360	1320	20	400	340	130	110	18	1347	625	
	200 L2	37	80	65	100	470	310	250	1360	1320	20	400	340	130	110	18	1347	625	
B-N, N 80-160	132 S2	7,5	100	80	125	360	280	225	1020	990	15	350	290	100	100	14	1048	482	
	160 M2	11	100	80	125	360	280	225	1020	990	15	350	290	100	100	14	1107	517	
	160 M2	15	100	80	125	360	280	225	1020	990	15	350	290	100	100	14	1107	517	
	160 L2	18,5	100	80	125	360	280	225	1020	990	15	350	290	100	100	14	1167	517	
B-N, N 80-200	180 M2	22	100	80	125	470	290	250	1230	1190	20	400	340	100	110	18	1324	576	
	200 L2	30	100	80	125	470	310	250	1360	1320	20	400	340	130	110	18	1372	625	
B-N, N 80-250	180 M2	22	100	80	125	470	310	280	1360	1320	20	400	340	130	110	18	1324	596	
	200 L2	30	100	80	125	470	310	280	1360	1320	20	400	340	130	110	18	1372	625	
	200 L2	37	100	80	125	470	310	280	1360	1320	20	400	340	130	110	18	1372	625	
B-N, N 80-250	225 M2	45	100	80	125	470	385	280	1250	840	205	480	430	95	16	24	1411	723	
	250 M2	55	100	80	125	470	415	280	1250	840	205	480	430	95	16	24	1509	823	
B-N, N 100-200	160 L2	18,5	125	100	125	470	310	280	1230	1190	20	400	340	130	110	18	1263	547	
	180 M2	22	125	100	125	470	310	280	1360	1320	20	400	340	130	110	18	1324	596	
	200 L2	30	125	100	125	470	310	280	1360	1320	20	400	340	130	110	18	1372	625	
	200 L2	37	125	100	125	470	310	280	1360	1320	20	400	340	130	110	18	1372	625	
B-N, N 100-200	225 M2	45	125	100	125	470	385	280	1250	840	205	480	430	95	16	24	1411	723	
B-N, N 100-250	250 M2	55	125	100	140	470	415	280	1250	840	205	480	430	95	16	24	1524	825	
	280 S2	75	125	100	140	470	505	280	1400	940	230	510	450	95	17,5	24	1597	937	



End-Suction Centrifugal Pumps standardized EN 733



Dimensions

n ≈ 1450 rpm

TYPE	MOTOR	kW	mm															
			DN1	DN2	a	f	h3	h2	m4	m5	w1	n4	n5	a1	g2	s1	fM≈	H ≈
B-N4, N4 32-125	71 M4	0,25	50	32	80	360	197	140	780	750	15	240	180	90	85	14	718	308
B-N4, N4 32-160	71 M4	0,37	50	32	80	360	217	160	780	750	15	240	180	90	85	14	718	328
B-N4, N4 32-200	80 M4	0,55	50	32	80	360	245	180	780	750	15	240	180	90	85	14	752	365
	80 M4	0,75	50	32	80	360	245	180	780	750	15	240	180	90	85	14	752	365
B-N4, N4 40-125	71 M4	0,25	65	40	80	360	197	140	780	750	15	240	180	90	85	14	718	308
	71 M4	0,37	65	40	80	360	197	140	780	750	15	240	180	90	85	14	718	308
B-N4, N4 40-160	71 M4	0,37	65	40	80	360	217	160	780	750	15	240	180	90	85	14	718	328
	80 M4	0,55	65	40	80	360	217	160	780	750	15	240	180	90	85	14	752	337
	80 M4	0,75	65	40	80	360	217	160	780	750	15	240	180	90	85	14	752	337
B-N4, N4 40-200	90 S4	1,1	65	40	100	360	260	180	880	850	15	300	240	100	100	14	829	388
B-N4, N4 40-250	90 L4	1,5	65	40	100	360	280	225	880	850	15	350	290	100	100	14	829	408
	100 L4	2,2	65	40	100	360	280	225	880	850	15	350	290	100	100	14	905	446
	100 L4	3	65	40	100	360	280	225	880	850	15	350	290	100	100	14	905	446
B-N4, N4 50-125	71 M4	0,37	65	50	100	360	217	160	780	750	15	240	180	90	85	14	738	328
	80 M4	0,55	65	50	100	360	217	160	780	750	15	240	180	90	85	14	772	337
	80 M4	0,75	65	50	100	360	217	160	780	750	15	240	180	90	85	14	772	337
B-N4, N4 50-160	90 S4	1,1	65	50	100	360	260	180	880	850	15	300	240	100	100	14	829	388
B-N4, N4 50-200	90 S4	1,1	65	50	100	360	260	200	880	850	15	300	240	100	100	14	829	388
	90 L4	1,5	65	50	100	360	260	200	880	850	15	300	240	100	100	14	829	388
	100 L4	2,2	65	50	100	360	260	200	880	850	15	300	240	100	100	14	905	426
B-N4, N4 50-250	100 L4	2,2	65	50	100	360	280	225	880	850	15	350	290	100	100	14	905	446
	100 L4	3	65	50	100	360	280	225	880	850	15	350	290	100	100	14	905	446
	112 M4	4	65	50	100	360	280	225	880	850	15	350	290	100	100	14	902	457
B-N4, N4 65-125	80 M4	0,75	80	65	100	360	260	180	880	850	15	300	240	100	100	14	772	380
	90 S4	1,1	80	65	100	360	260	180	880	850	15	300	240	100	100	14	829	388
B-N4, N4 65-160	90 S4	1,1	80	65	100	360	260	200	880	850	15	300	240	100	100	14	829	388
	90 L4	1,5	80	65	100	360	260	200	880	850	15	300	240	100	100	14	829	388
B-N4, N4 65-200	100 L4	2,2	80	65	100	360	280	225	880	850	15	350	290	100	100	14	905	446
	100 L4	3	80	65	100	360	280	225	880	850	15	350	290	100	100	14	905	446
B-N4, N4 65-250	112 M4	4	80	65	100	470	310	250	1030	990	20	400	340	130	110	18	1012	487
	132 S4	5,5	80	65	100	470	310	250	1030	990	20	400	340	130	110	18	1055	512
B-N4, N4 65-315	132 S4	5,5	80	65	125	470	335	280	1030	990	20	400	340	130	110	18	1080	537
	132 M4	7,5	80	65	125	470	335	280	1030	990	20	400	340	130	110	18	1130	537
	160 M4	11	80	65	125	470	335	280	1230	1190	20	400	340	130	110	18	1203	572
B-N4, N4 80-160	90 S4	1,1	100	80	125	360	280	225	880	850	15	350	290	100	100	14	854	408
	90 L4	1,5	100	80	125	360	280	225	880	850	15	350	290	100	100	14	854	408
	100 L4	2,2	100	80	125	360	280	225	880	850	15	350	290	100	100	14	930	446
B-N4, N4 80-200	100 L4	2,2	100	80	125	470	280	250	1020	990	15	350	290	100	100	14	1040	446
	100 L4	3	100	80	125	470	280	250	1020	990	15	350	290	100	100	14	1040	446
	112 M4	4	100	80	125	470	280	250	1020	990	15	350	290	100	100	14	1037	457
B-N4, N4 80-250	112 M4	4	100	80	125	470	310	280	1030	990	20	400	340	130	110	18	1037	487
	132 S4	5,5	100	80	125	470	310	280	1030	990	20	400	340	130	110	18	1080	512
	132 M4	7,5	100	80	125	470	310	280	1030	990	20	400	340	130	110	18	1130	512
B-N4, N4 80-315	160 M4	11	100	80	125	470	360	315	1230	1190	20	400	340	130	110	18	1203	597
	160 L4	15	100	80	125	470	360	315	1230	1190	20	400	340	130	110	18	1263	597
B-N4, N4 80-400	180 M4	18,5	125	80	125	530	445	355	1250	840	205	480	430	115	16	24	1352	731
	180 L4	22	125	80	125	530	445	355	1250	840	205	480	430	115	16	24	1352	731
	200 L4	30	125	80	125	530	445	355	1250	840	205	480	430	110	16	24	1402	760
B-N4, N4 100-200	100 L4	3	125	100	125	470	310	280	1030	990	20	400	340	130	110	18	1040	476
	112 M4	4	125	100	125	470	310	280	1030	990	20	400	340	130	110	18	1037	487
	132 S4	5,5	125	100	125	470	310	280	1030	990	20	400	340	130	110	18	1080	512
B-N4, N4 100-250	132 M4	7,5	125	100	140	470	335	280	1030	990	20	400	340	130	110	18	1145	537
	160 M4	11	125	100	140	470	335	280	1230	1190	20	400	340	130	110	18	1218	572
B-N4, N4 100-315	160 M4	11	125	100	140	470	360	315	1230	1190	20	400	340	130	110	18	1218	597
	160 L4	15	125	100	140	470	360	315	1230	1190	20	400	340	130	110	18	1278	597
	180 M4	18,5	125	100	140	470	360	315	1360	1320	20	400	340	130	110	18	1339	646
B-N4, N4 100-400	180 L4	22	125	100	140	530	445	355	1250	840	205	480	430	115	16	24	1367	731
	200 L4	30	125	100	140	530	445	355	1250	840	205	480	430	115	16	24	1417	760
	225 S4	37	125	100	140	530	445	355	1250	840	205	480	430	115	16	24	1463	783
B-N4, N4 125-250	132 S4	5,5	150	125	140	470	360	355	1030	990	20	400	340	130	110	18	1095	562
	132 M4	7,5	150	125	140	470	360	355	1030	990	20	400	340	130	110	18	1145	562
	160 M4	11	150	125	140	470	360	355	1230	1190	20	400	340	130	110	18	1218	597
	160 L4	15	150	125	140	470	360	355	1230	1190	20	400	340	130	110	18	1278	597
B-N4, N4 125-315	180 M4	18,5	150	125	140	530	445	355	1250	840	205	480	430	115	16	24	1367	731
	180 L4	22	150	125	140	530	445	355	1250	840	205	480	430	115	16	24	1367	731
	200 L4	30	150	125	140	530	445	355	1250	840	205	480	430	115	16	24	1417	760
B-N4, N4 125-400	225 S4	37	150	125	140	530	480	400	1250	840	205	480	430	115	16	24	1463	818
	225 M4	45	150	125	140	530	480	400	1250	840	205	480	430	115	16	24	1463	818
	250 M4	55	150	125	140	530	540	400	1400	940	230	510	450	115	17,5	24	1561	950
B-N4, N4 150-315																		

Interchangeability of parts

TYPE	Bearing housing			Pump shaft					Ball bearings				Shaft sealing		
	1	2	3	I	II	III	IV	V	6207 Z 6306 Z	6207 Z 3306	6309 Z 3309	6311 Z 3311	Ø 32	Ø 40	Ø 50
N,N4 32-125	x			x					x				x		
N,N4 32-160	x				x				x				x		
N,N4 32-200	x				x				x				x		
N,N4 40-125	x				x				x				x		
N,N4 40-160	x				x				x				x		
N,N4 40-200C	x				x				x				x		
N,N4 40-200A-AR-B	x					x				x			x		
N,N4 40-250	x					x				x			x		
N,N4 50-125	x				x				x				x		
N,N4 50-160	x					x				x			x		
N,N4 50-200	x					x				x			x		
N,N4 50-250	x					x				x			x		
N 50 M	x					x				x			x		
N,N4 65-125E	x				x				x				x		
N,N4 65-125A-C	x					x				x			x		
N,N4 65-160	x					x				x			x		
N,N4 65-200	x					x				x			x		
N,N4 65-250		x					x				x			x	
N4 65-315		x					x				x			x	
N,N4 80-160	x					x				x			x		
N,N4 80-200		x					x				x			x	
N,N4 80-250		x					x				x			x	
N4 80-315		x					x				x			x	
N4 80-400			x					x				x			x
N,N4 100-200		x					x				x			x	
N,N4 100-250		x					x				x			x	
N4 100-315		x					x				x			x	
N4 100-400			x					x				x			x
N4 125-250		x					x				x			x	
N4 125-315			x					x				x			x
N4 125-400			x					x				x			x
N4 150-315			x					x				x			x
N4 150-400			x					x				x			x

Maximum permissible rotation speed

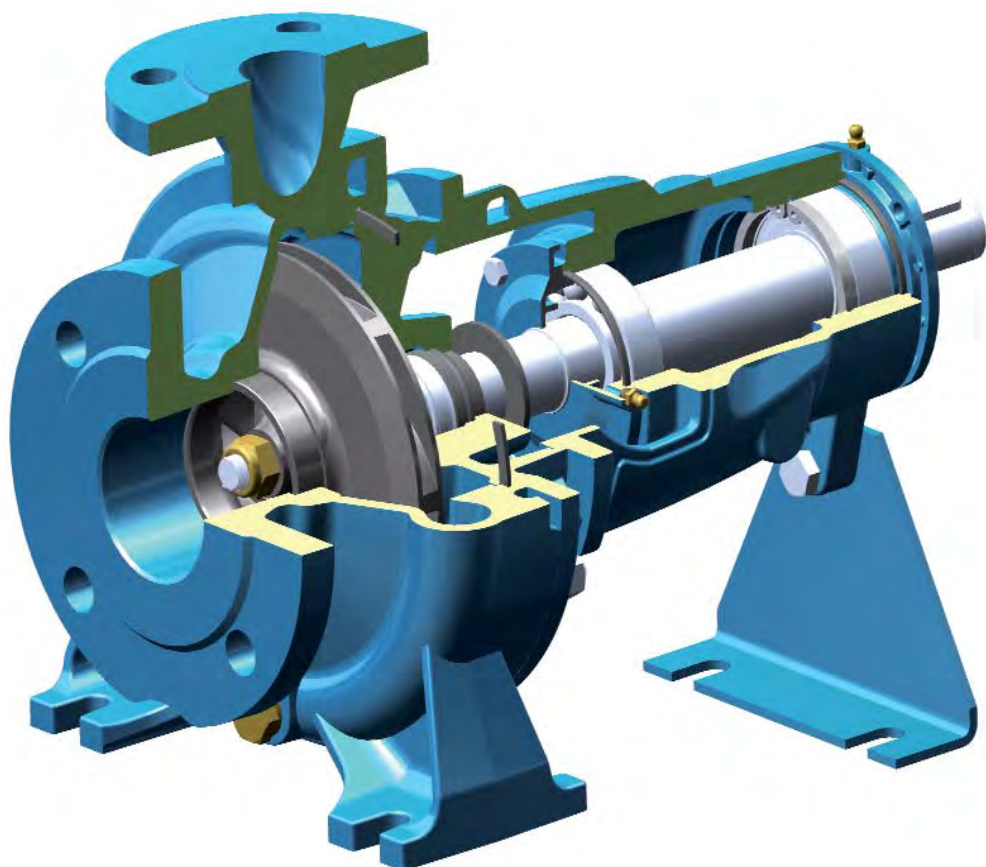
3600 rpm			3000 rpm			1800 rpm		
32-125	32-160	32-200						
40-125	40-160	40-200			40-250			
50-125	50-160	50-200			50-250			
					50 M			
65-125	65-160				65-200	65-315		
		80-200	80-160		65-250	80-315	80-400	
		100-200			80-250	100-315	100-400	
					100-250	125-250	125-315	125-400
						150-315	150-400	

Suction pipe: recommended minimum inside diameter (DN) for different capacities (Q)

Threaded pipe		G 2		G 2 1/2						
DN	mm	50	65	80	100	125	150	200	250	300
Q max	m³/h	10,5	19	28,8	45	75	108	215	350	508

Features

4



Cutting edge hydraulics

The geometry of the impeller and the pump casing are optimized to achieve maximum efficiency and the best suction capability.

Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows N-N4 series pumps to be selected for use with different types of liquids.

Robust

The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistance to mechanical stress. Also the casing cover is provided with wings that prevent turbulence in the area of the mechanical seal, increasing the reliability.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

NR, NR4

In-line Pumps

$n \approx 2900$ rpm
 $n \approx 1450$ rpm



The electropumps NR, NR4 series comply with the European Regulation no. 547/2012.

Materials

Component	Material
Pump casing Lantern bracket	Cast iron GJL 200 EN 1561
Impeller	Cast iron GJL 200 EN 1561 (Brass P-Cu Zn Pb 2 EN 1982 for NR-NR4 40, 50)
Shaft	Chrome-nickel steel AISI 303 for pumps up to 1.1 kW Chrome steel AISI 430 for pumps from 1.5 to 18,5 kW
Mechanical seal	Carbon - Ceramic - NBR
Counterflanges	Steel Fe 42 UNI 7070

Special features on request

- Other voltages. - Protection IP 55. - Frequency 60 Hz
- Special mechanical seal. - Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 0,75 kW for NR4 and up to 1,5 kW for NR.

Construction

Close-coupled, single-impeller, centrifugal pumps; electric motor with extended shaft directly connected to the pump. Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

Connections: Flanges PN 10, EN 1092-2.

Counterflanges (on request)

Sizes	Flanges
NR, NR4 40, 50, 65	Screwed flanges PN 16, EN 1092-1
NR4 100, NR4 125	Flanges for welding PN 10, EN 1092-1

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).
For heating, conditioning, cooling and circulation plants.
For civil and industrial applications.
When low noise operation is required ($n \approx 1450$ rpm).

Operating conditions

Liquid temperature from -10 °C to $+90$ °C.
Ambient temperature up to 40 °C.
Total suction lift up to 7 m.
Maximum permissible working pressure up to 10 bar.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

NR : three-phase 230/400 V $\pm 10\%$ up to 3 kW;
400/690 V $\pm 10\%$ from 4 to 18,5 kW.

NRM : single-phase 230 V $\pm 10\%$.

4-pole induction motor, 50 Hz ($n \approx 1450$ rpm).

NR4: three-phase 230/400 V $\pm 10\%$ up to 3 kW;
400/690 V $\pm 10\%$ for 4 kW.

NRM4: single-phase 230 V $\pm 10\%$.

Insulation class F.

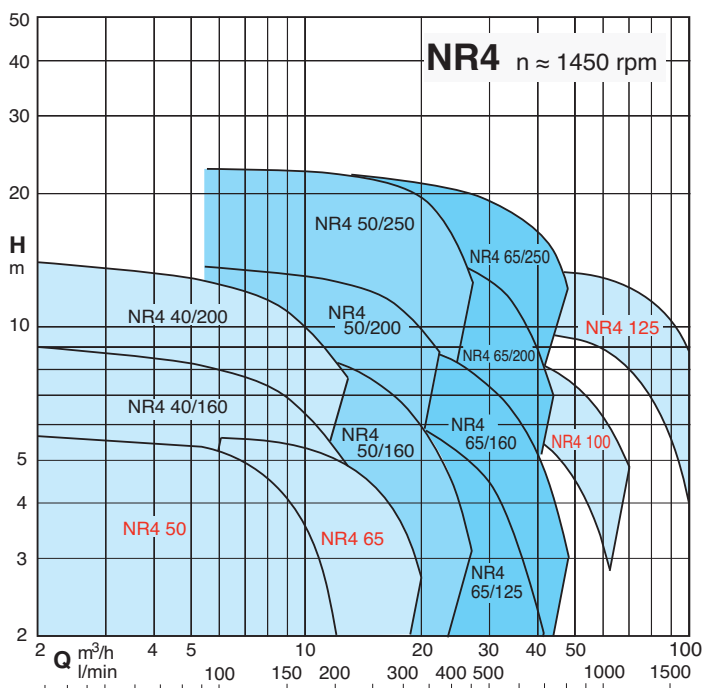
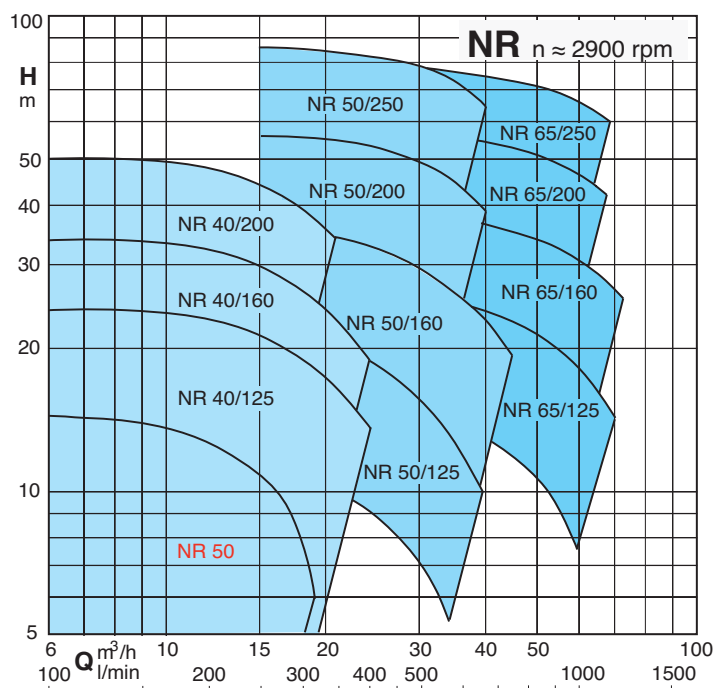
Protection IP 54.

Motor suitable for operation with frequency converter from 1,1 kW for NR4 and from 2,2 kW for NR.

Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 from 7,5 kW.

Constructed in accordance with EN 60034-1, EN 60034-30.
EN 60335-1, EN 60335-2-41.

Coverage chart





In-line Pumps



Performance $n \approx 2900$ rpm

3 ~			230V 400V			1 ~			230V P ₁			P ₂			Q																	
															m³/h	0	6	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9					
															l/min	0	100	110	125	140	160	180	200	220	250	280	315					
NR 50D/A	2,3	1,3	NRM 50D/A	3,6	0,72	0,45	0,6	H	11,6	11	10,8	10,5	10,2	9,5	8,5	7	6															
NR 50C/A	3,7	2,2	NRM 50C/A	5,7	1,13	0,75	1	m	16,2	16	15,9	15,8	15,7	15,3	14,6	14	13	11	9	5,5												

3 ~ 230V 400V			P ₂		Q m³/h	0	6,6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24				
	A	A	kW	HP	l/min	0	110	125	140	160	180	200	220	250	280	315	350	400				
NR 40/125C	4	2,3	0,75	1	H m	15,5	15,7	15,5	15,3	14,8	14,3	13,6	12,9	11,6	10,2	8,1	5,8					
NR 40/125B	4,6	2,7	1,1	1,5		19,5	19,8	19,6	19,4	19,0	18,5	18,0	17,5	16,5	15,2	13,6	11,6	8,5				
NR 40/125A	7,5	4,3	1,5	2		23,3	23,7	23,7	23,6	23,4	23,1	22,8	22,4	21,7	20,6	19,1	17,3	14,2				
NR 40/160B	7,5	4,3	1,5	2		26,1	25,7	25,4	25,1	24,6	24,0	23,3	22,6	21,4	19,7	17,3	14,4	9,9				
NR 40/160A	9,15	5,3	2,2	3		33,6	32,9	32,6	32,3	31,8	31,3	30,6	29,9	28,7	27,2	25,2	23,1	19,4				
NR 40/200B	11,5	6,6	3	4		41,9	40,2	39,7	39,2	38,5	37,6	36,7	35,7	33,8	31,0	26,9	22,0					
NR 40/200A		9,6	4	5.5		52,4	49,6	49,1	48,5	47,6	46,7	45,7	44,7	43,0	41,2	38,6	34,8					

3 ~ 230V 400V			P ₂		Q m³/h	0	15	16,8	18,9	21	24	27	30	33	37,8	39	42	45				
	A	A	kW	HP	l/min	0	250	280	315	350	400	450	500	550	630	650	700	750				
NR 50/125F	4,7	2,7	1,1	1,5	H m	14,9	13,8	13,4	12,8	12,1	11	9,9	8,4	6,9								
NR 50/125C	7,5	4,3	1,5	2		17,7	17,4	17	16,5	16	15	13,9	12,6	11,3	9	8,3						
NR 50/125A/A	9,15	5,3	2,2	3		22,2	21,7	21,4	21	20,6	19,8	18,8	17,5	16,3	14,1	13,5	12					
NR 50/160C/A	9,15	5,3	2,2	3		23,1	21,9	21,4	20,6	19,9	18,6	17,3	15,6	13,8	10,8	10						
NR 50/160B/A	11,5	6,6	3	4		28,6	27,9	27,4	26,7	26	24,6	23,1	21,3	19,7	16,6	15,7	13,6					
NR 50/160A/A		9,6	4	5,5		36,3	35,5	35,1	34,5	33,7	32,7	31,2	29,4	27,5	24,3	23,4	21,3	19,1				
NR 50/200D/A		9,6	4	5,5		41,8	37,8	36,8	35,7	34,5	32,4	30,1	27,6	24,9								
NR 50/200B/A		10,9	5,5	7,5		50,9	48,5	47,7	46,8	45,7	43,9	41,7	39,2	36,5								
NR 50/200A/A		14,3	7,5	10		56,7	54,9	54,3	53,4	52,4	50,7	48,9	46,5	44,1	39,7	38,8						
NR 50/250C/B		18,5	9,2	12,5		61,2	58,8	58	57,3	56,5	55	53,2	51,1	48,9	44,8	43,1	39,4					
NR 50/250B/B		21,5	11	15		69,4	67	66,4	65,5	64,8	63,2	61,5	59,6	57,7	53,8	52,6	50					
NR 50/250A/B		27,5	15	20		87	84,6	84,1	83,2	82,3	80,7	78,8	76,9	74,3	69,8	68,4	65,2					

3 ~ 230V 400V			P ₂		Q m³/h	0	21	24	27	30	33	37,8	42	48	54	60	66	69	72				
	A	A	kW	HP	l/min	0	350	400	450	500	550	630	700	800	900	1000	1100	1150	1200				
NR 65/125F/A	9,15	5,3	2,2	3	H m	16,5	16	15,7	15,3	14,8	14,3	13,5	12,5	11,1	9,5	7,3	5,3						
NR 65/125D/A	11,5	6,6	3	4		21,1	20,2	19,9	19,6	19,2	18,7	17,9	16,9	15,2	13,3	11,3	9,1						
NR 65/125A/A		9,6	4	5,5		25	24,4	24,1	23,8	23,4	23	22,2	21,4	19,8	18	15,9	13,7	12,4					
NR 65/125S/A		9,6	4	5,5		27,2	26,3	26	25,7	25,4	25	24,3	23,6	22,1	20,3	18,3	16,1	14,7					
NR 65/160B/A		10,9	5,5	7,5		31,9	32	31,7	31,4	30,9	30,4	29,5	28,6	26,8	24,8	22,2	19,7	18,3	16,7				
NR 65/160A/A		14,3	7,5	10		39	39,3	39	38,7	38,3	37,9	36,9	36,1	34,7	32,9	30,6	28,1	26,7	25,3				
NR 65/200B/B		18,5	9,2	12,5		47,1	46,7	45,9	45,1	44,4	43,6	42	40,5	37,9	35,3	32,4	28,3						
NR 65/200A/B		21,5	11	15		54,2	53,3	52,8	52,3	51,5	50,7	49,2	47,5	45,1	41,9	38,1	34,5						
NR 65/200S/B		27,5	15	20		60,4	60,5	60,2	59,6	59	58	56,3	54,5	52,2	49,5	46,5	42,7						
NR 65/250C/B		21,5	11	15		54,6	54,8	54,2	53,5	52,8	52	50,5	48,9	46,3	43,5	40,6	37,3						
NR 65/250B/B		27,5	15	20		67,1	67,2	66	65,1	64,3	62,8	61,3	58,6	55,8	52,9	49,7							
NR 65/250A/B		34	18,5	25		78,5	78,5	77,8	77,3	76,7	76	74,8	73,6	71,1	68,4	65,5	62,2						

P₁ Max. power input. P₂ Rated motor power output. Tolerances according to UNI EN ISO 9906:2012

NR4

In-line Pumps



Performance n ≈ 1450 rpm

3 ~	230V 400V		1 ~	230V P1		P2		Q m³/h l/min	0	2	4	6	8	10	12	14	16	18	20	25				
	A	A		A	kW	kW	HP		0	33	67	100	133	167	200	233	267	300	333	417				
NR4 50C/A	1,4	0,8	NR4M 50C/A	2,1	0,27	0,25	0,34	H m	3,9	3,9	3,8	3,3	2,5											
NR4 50B/A	1,4	0,8	NR4M 50B/A	2,1	0,29	0,25	0,34		4,7	4,7	4,6	4,3	3,5	2,3										
NR4 50A/A	1,4	0,8	NR4M 50A/A	2,1	0,33	0,25	0,34		5,6	5,6	5,5	5,2	4,5	3,5	2									
NR4 65C/A	1,4	0,8	NR4M 65C/A	2,1	0,31	0,25	0,34		3,8			3,8	3,7	3,5	3,1	2,6	1,9							
NR4 65B/A	2,1	1,2				0,37	0,5		4,7			4,7	4,6	4,5	4,2	3,8	3,2	2,5						
NR4 65A/A	2,1	1,2				0,37	0,5		5,6			5,6	5,5	5,3	5	4,6	4,1	3,5	2,7					

5

3 ~	230V 400V		P2	Q m³/h l/min	0	2,4	3	3,6	4,8	5,4	6	7,5	8,4	9,6	10,8	12	13,2	15		
	A	A			0	40	50	60	80	90	100	125	140	160	180	200	220	250		
NR4 40/160B	1,65	0,95		H m	7,3	7,3	7,2	7,1	6,9	6,8	6,6	6,1	5,8	5,2	4,4	3,5	2,5			
NR4 40/160A	1,65	0,95			9,1	9,0	9,0	9,0	8,8	8,7	8,6	8,1	7,8	7,2	6,5	5,7	4,8	3,3		
NR4 40/200B	2,6	1,5			12,9	12,5	12,4	12,2	11,9	11,7	11,4	10,7	10,2	9,1	7,7	6,2	4,4			
NR4 40/200A	3,3	1,9			14,7	14,3	14,2	14,1	13,9	13,7	13,5	12,9	12,4	11,6	10,5	9,2	7,7	4,9		

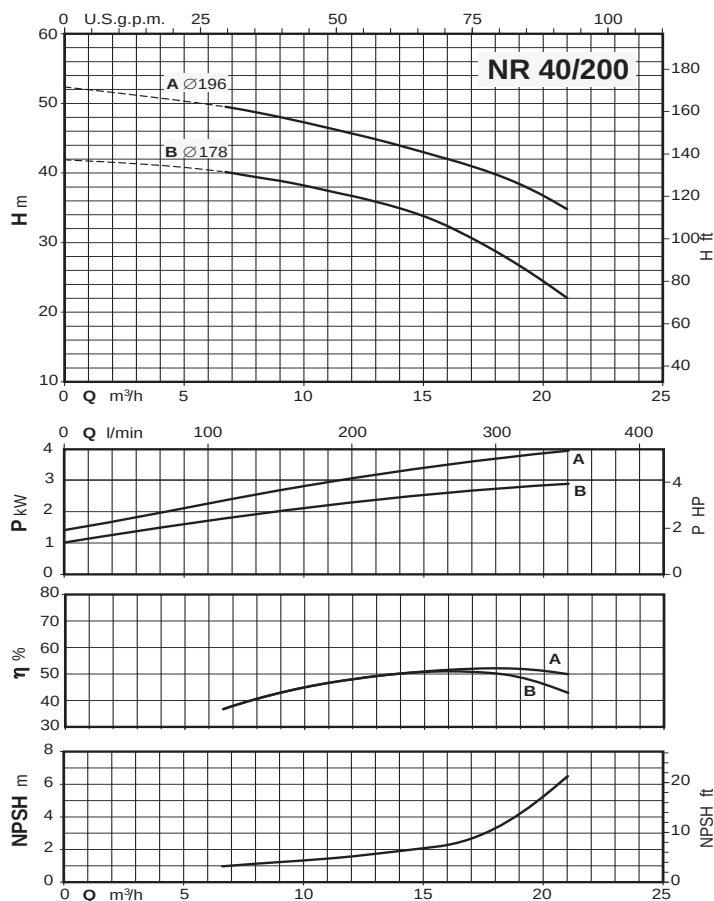
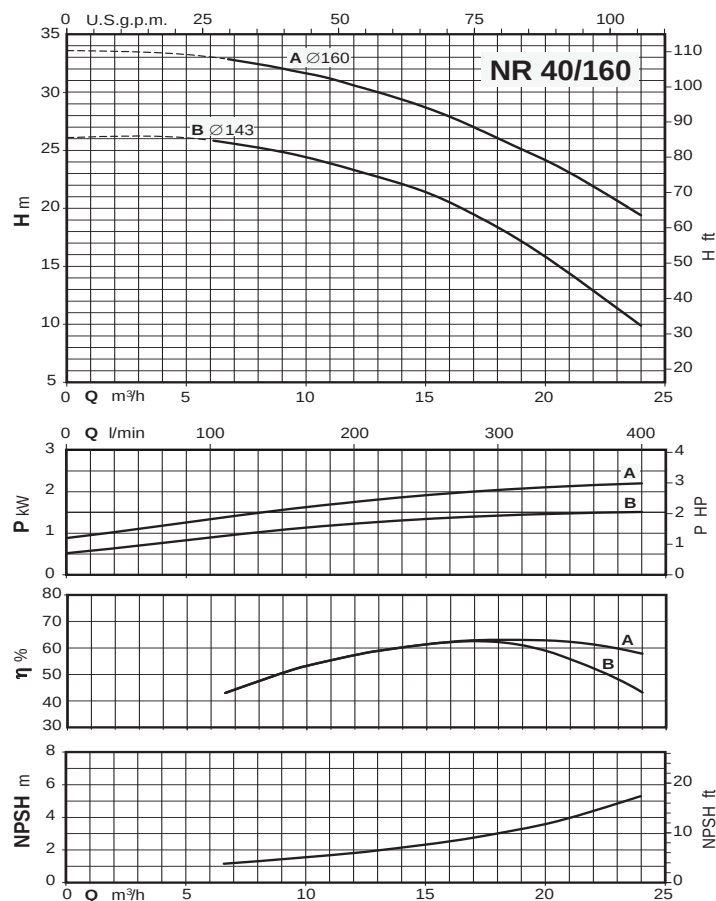
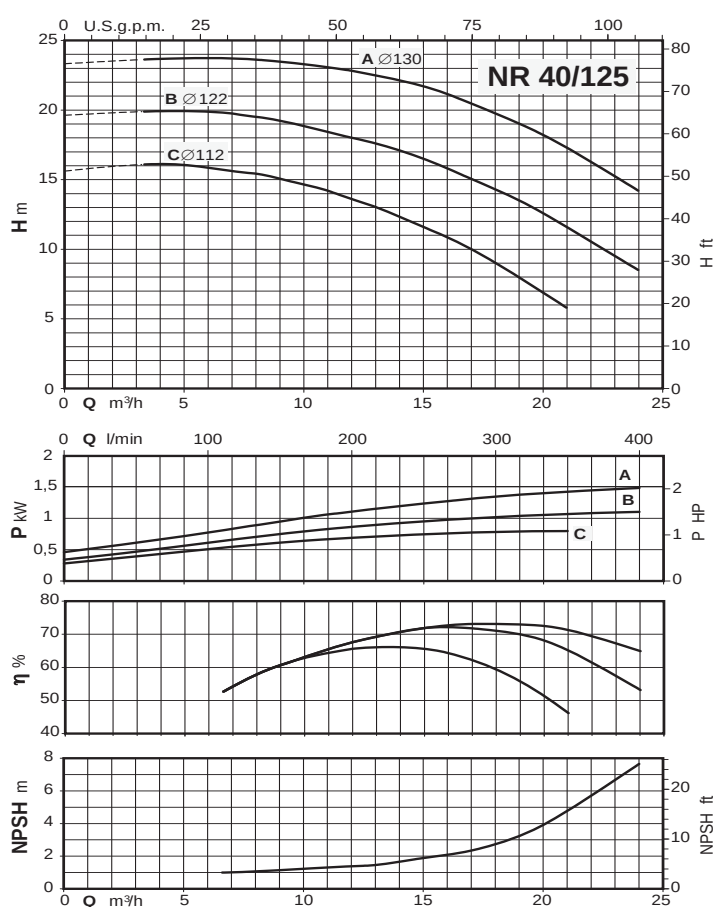
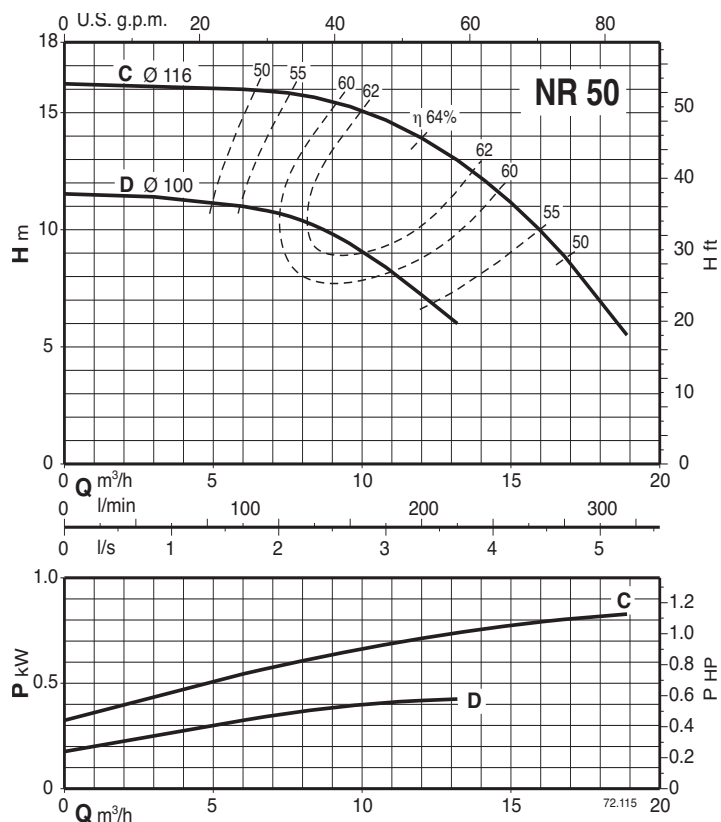
3 ~	230V 400V		P2	Q m³/h l/min	0	5,4	6	7,5	8,4	9,6	10,8	12	13,2	15	16,8	18,9	21	24	27	30
	A	A			0	90	100	125	140	160	180	200	220	250	280	315	350	400	450	500
NR4 50/160C	1,6	0,92		H m	5,9	5,9	5,8	5,7	5,6	5,4	5,2	5	4,7	4,2	3,7	3,1	2,3			
NR4 50/160B	2,6	1,5			7,3	7,4	7,2	7,1	6,9	6,7	6,4	6,2	5,7	5,2	4,5	3,8	2,5			
NR4 50/160A/A	3,3	1,9			9,2	9,2	9,2	9,1	9	8,9	8,7	8,4	8,2	7,6	7,1	6,4	5,6	4,4	3,1	
NR4 50/200B/A	5	2,9			12,8	12,6	12,5	12,3	12,1	11,9	11,5	11,2	10,7	10	9,2	8,2	7,1	5,2		
NR4 50/200A/A	5	2,9			14,3	14,1	14	13,9	13,7	13,5	13,2	12,8	12,4	11,7	11	10	8,8	7,3		
NR4 50/250C/A	6	3,5			17,1	17	16,9	16,6	16,4	16,1	15,9	15,6	15,2	14,6	13,9	12,8	11,3	8,5	5,3	
NR4 50/250B/A	8,6	5			21	20,9	20,8	20,5	20,3	20	19,7	19,4	19	18,4	17,8	16,8	15,6	13,8	11,7	8,5
NR4 50/250A/A	11,1	6,4			22	21,9	21,9	21,8	21,6	21,4	21,1	20,9	20,5	19,9	19,2	18,3	17,2	15,3	13,4	11

3 ~	230V 400V		P2	Q m³/h l/min	0	10,8	12	13,2	15	16,8	18,9	21	24	27	30	33	37,5	42	48	
	A	A			0	180	200	220	250	280	315	350	400	450	500	550	630	700	800	
NR4 65/125F	1,65	0,95		H m	4,1	3,9	3,85	3,8	3,6	3,5	3,3	3	2,6	2,1	1,6	1				
NR4 65/125D	2,6	1,5			5,3	5	5	4,9	4,8	4,7	4,5	4,3	3,9	3,4	2,9	2,4	1,5			
NR4 65/125A/A	3,3	1,9			6,3	6,2	6,1	6	5,9	5,8	5,7	5,5	5,1	4,6	4,1	3,5	2,6	1,5		
NR4 65/125S/A	3,3	1,9			6,8	6,6	6,6	6,5	6,4	6,3	6,1	5,9	5,6	5,1	4,6	4,1	3,2	2,1		
NR4 65/160B/A	5	2,9			8,2	8,2	8,2	8,1	8	7,9	7,7	7,5	7,1	6,6	6	5,4	4,3	3,2		
NR4 65/160A/A	5	2,9			9,7	9,6	9,5	9,5	9,4	9,2	9	8,8	8,5	8	7,4	6,8	5,8	4,7	3	
NR4 65/200C/A	5	2,9			11,4	11,3	11,2	11,1	10,8	10,6	10,3	9,9	9,4	8,7	7,9	7	5,3	3,4		
NR4 65/200B/A	6	3,5			13,3	13,1	13	12,9	12,7	12,4	12,1	11,8	11,2	10,5	9,7	8,9	7,2	5,4		
NR4 65/200A/A	8,6	5			14,5	14,6	14,5	14,4	14,2	13,9	13,6	13,2	12,7	12	11,3	10,5	9	7,2		
NR4 65/250D/A	8,6	5			13,7	13,9	13,8	13,8	13,6	13,4	13,1	12,8	12,3	11,6	10,9	10,1	8,6	7,2		
NR4 65/250C/A	8,6	5			17,1	17,3	17,2	17,2	16,9	16,7	16,3	16	15,4	14,7	13,9	13	11,4	10		
NR4 65/250B/A	11,1	6,4			19,9	20,1	20	20	19,8	19,6	19,3	19	18,4	17,7	16,9	16,1	14,6	13,2	10,8*	
NR4 65/250A/A	14,4	8,3			21,4	21,6	21,5	21,4	21,3	21,1	20,8	20,5	19,9	19,2	18,4	17,6	16,1	14,7	12,2*	

3 ~	230V 400V		P2	Q m³/h l/min	0	20	25	30	35	40	50	60	70	80	90	100	110			
	A	A			0	333	417	500	583	667	833	1000	1167	1333	1500	1667	1840			
NR4 100C/A	5	2,9		H m	6,6	6,6	6,4	6,3	6	5,6	4,6	3,3								
NR4 100B/A	5	2,9			7,5	7,5	7,4	7,2	7	6,6	5,6	4,4								
NR4 100A/A	6	3,5			9	9	8,9	8,8	8,6	8,3	7,4	6,2	4,8							
NR4 125C/A	8,6	5			10,2			10,2	10,1	10	9,6	9	8,2	7,1	5,7	4				
NR4 125B/A	11,1	6,4			12			12	11,9	11,8	11,6	11	10,4	9,4	8,2	6,7	5,1			
NR4 125A/A	14,4	8,3			13,6			13,6	13,5	13,4	13,2	12,9	12,3	11,4	10,3	8,8	7,2			

P1 Max. power input. P2 Rated motor power output. Tolerances according to UNI EN ISO 9906:2012

Characteristic curves $n \approx 2900$ rpm

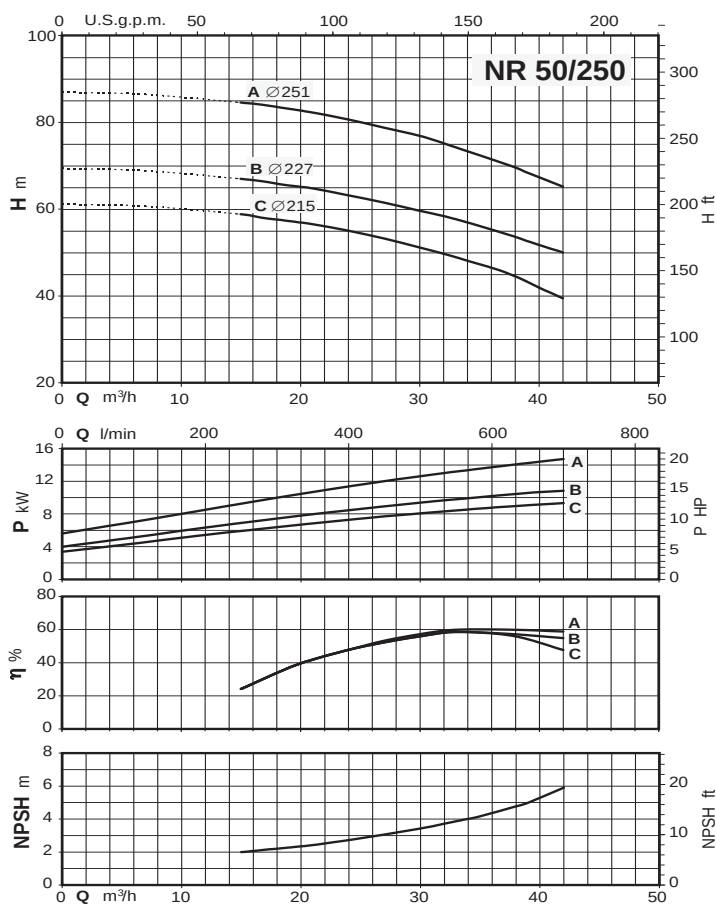
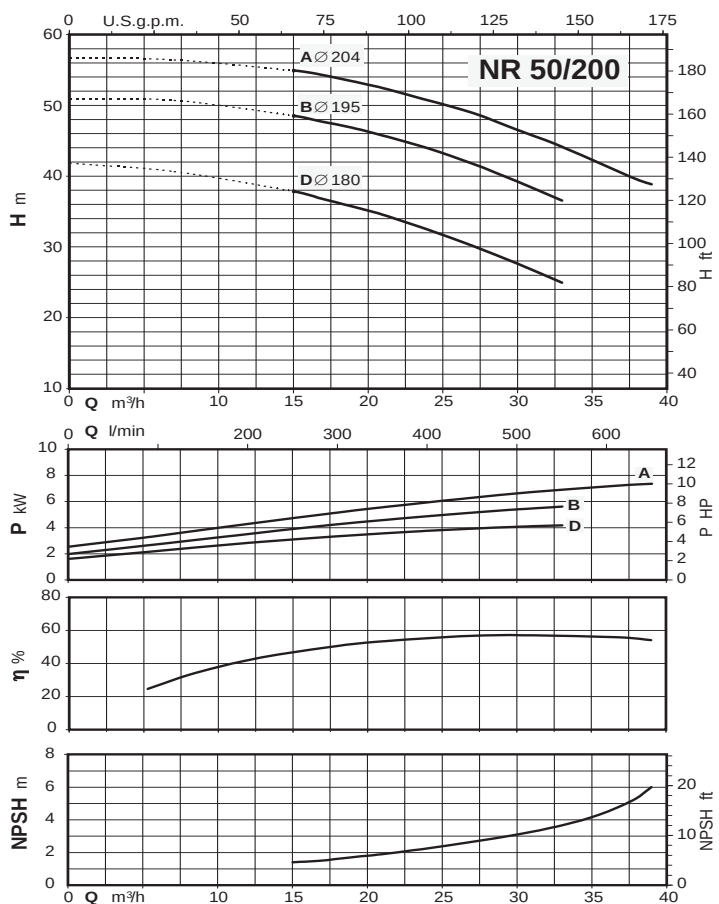
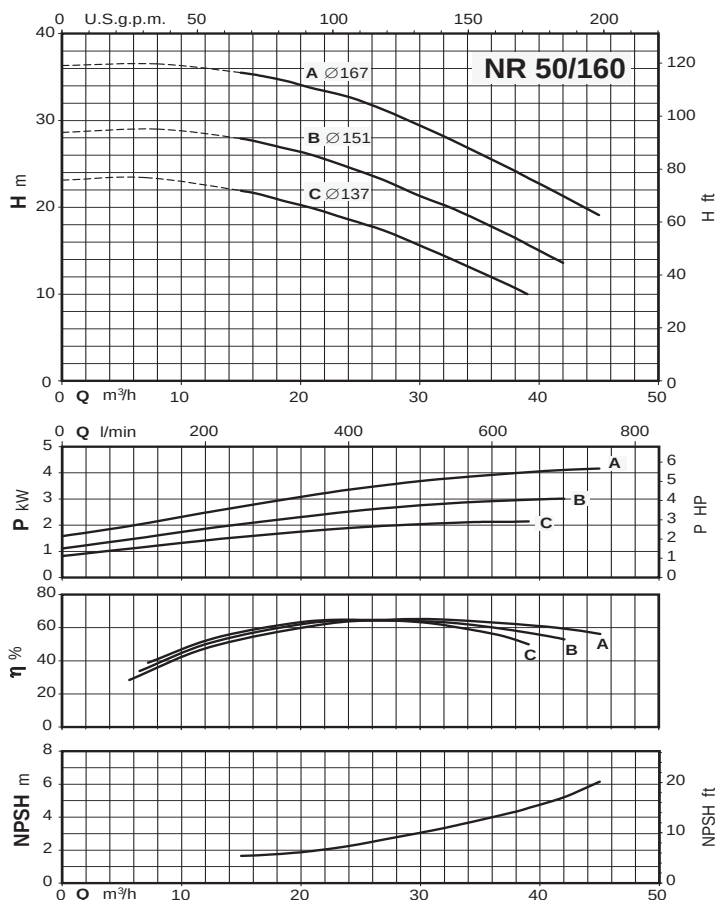
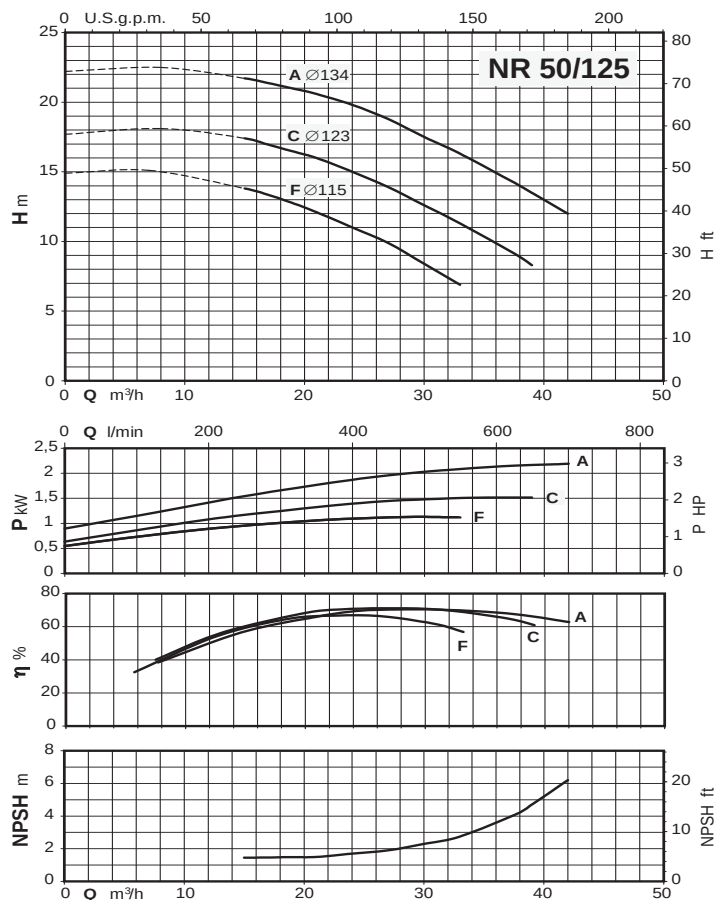


NR

In-line Pumps

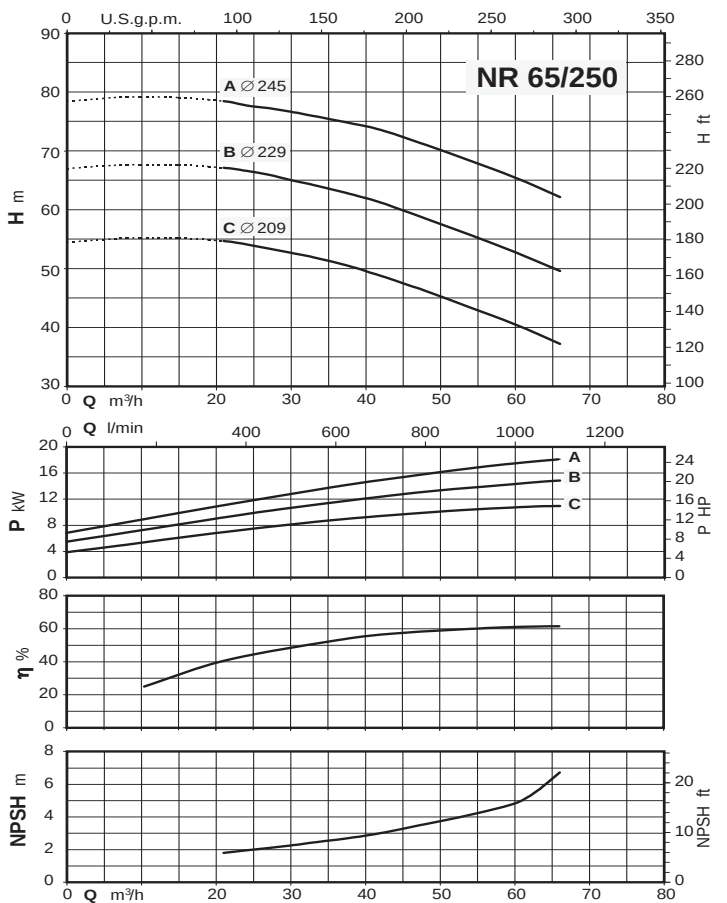
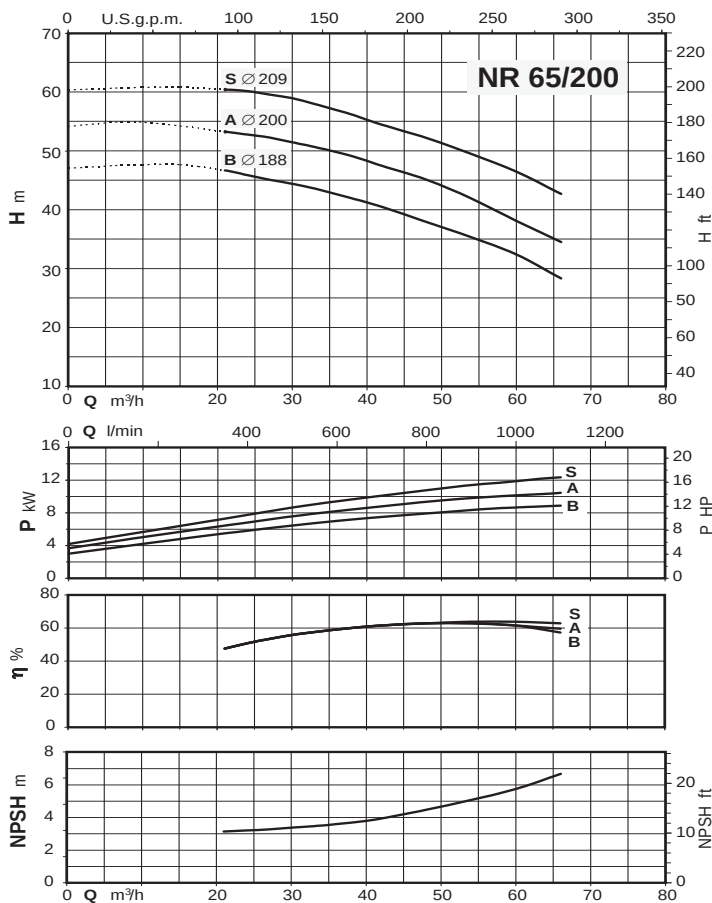
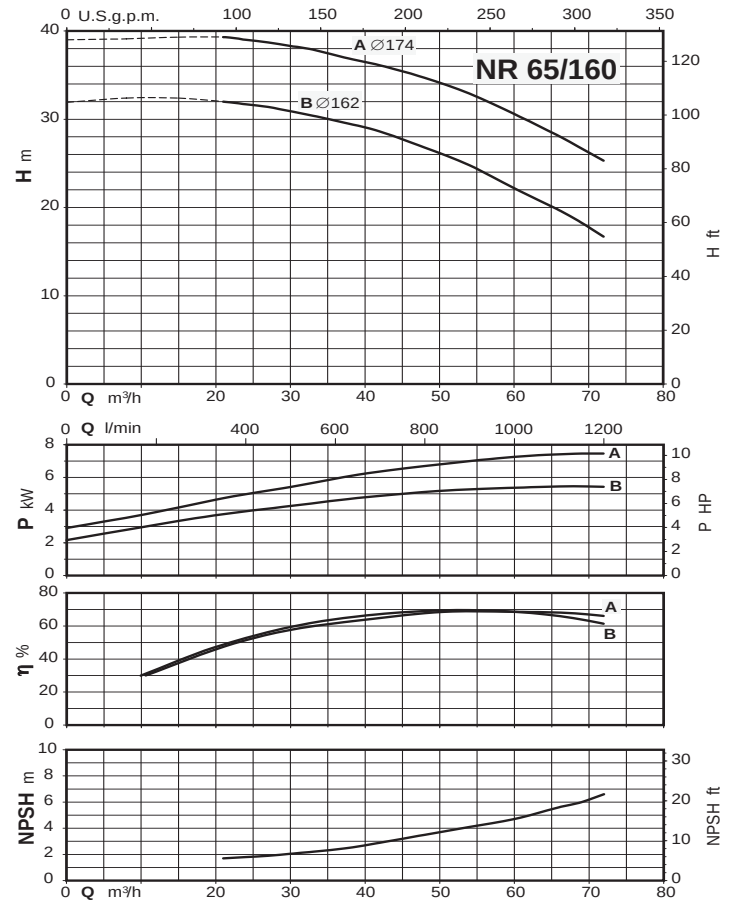
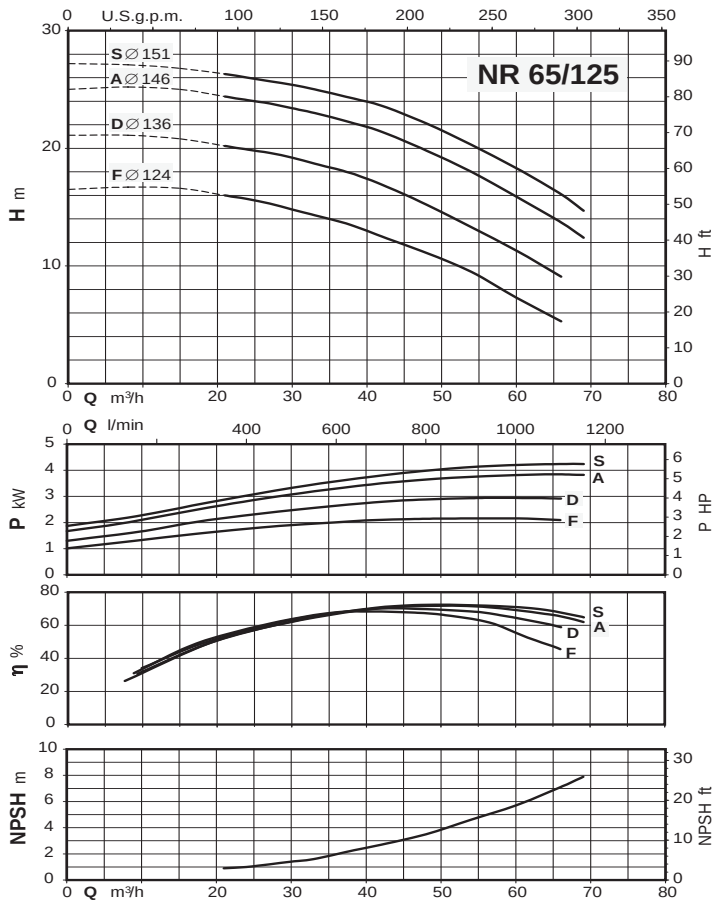
calpeda®

Characteristic curves $n \approx 2900$ rpm



5

Characteristic curves $n \approx 2900$ rpm

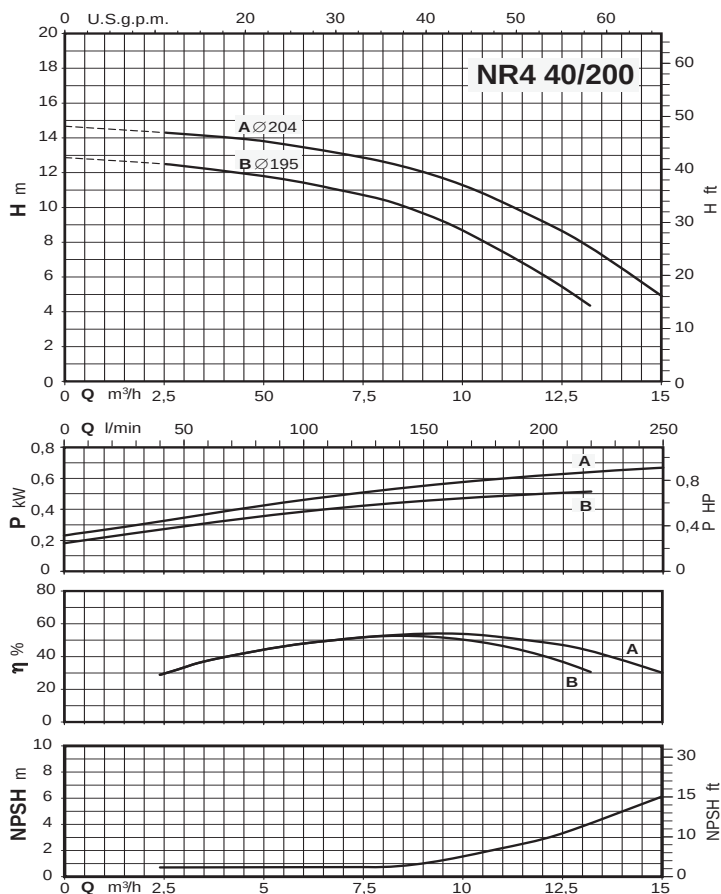
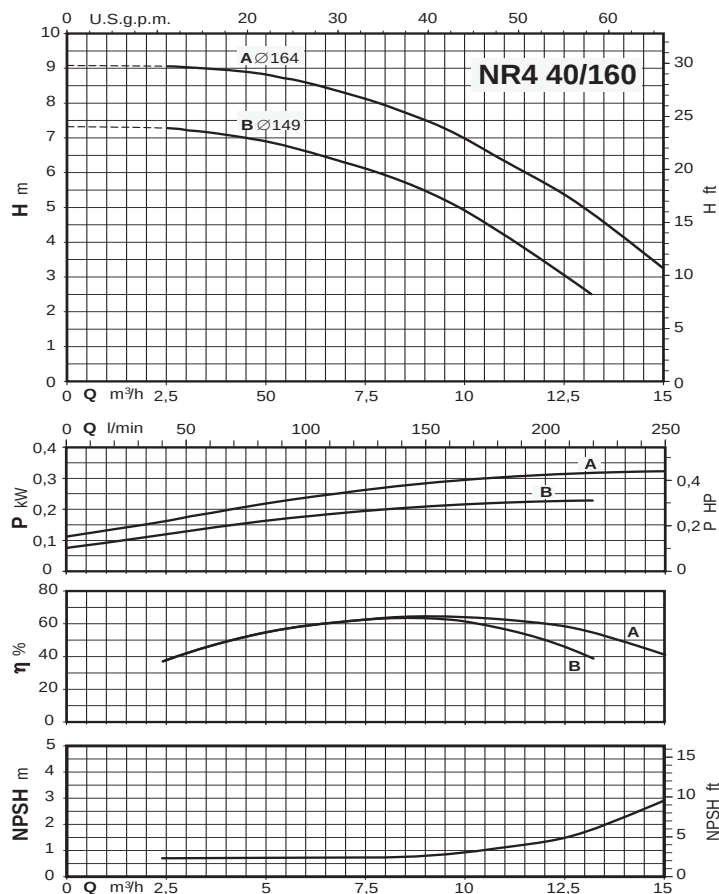
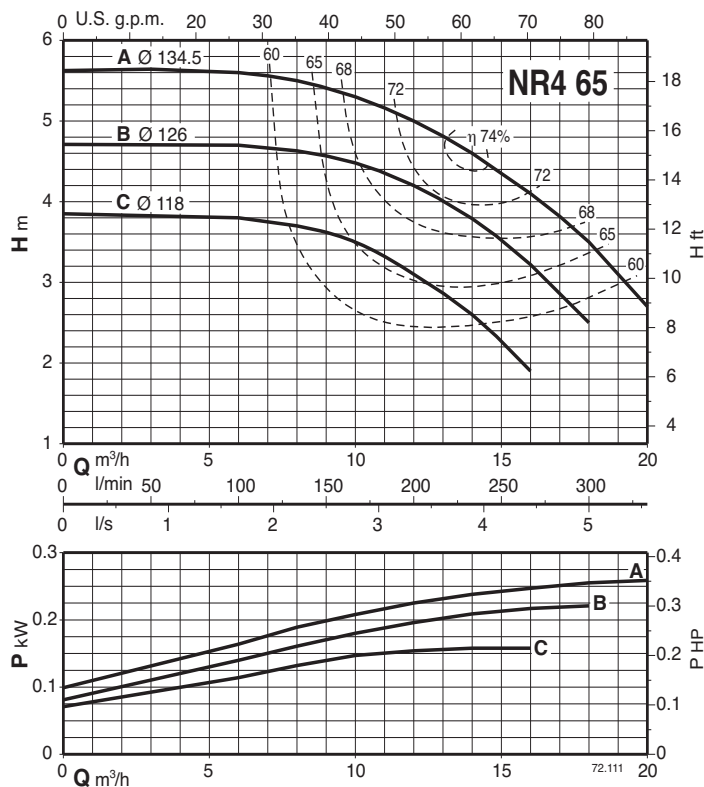
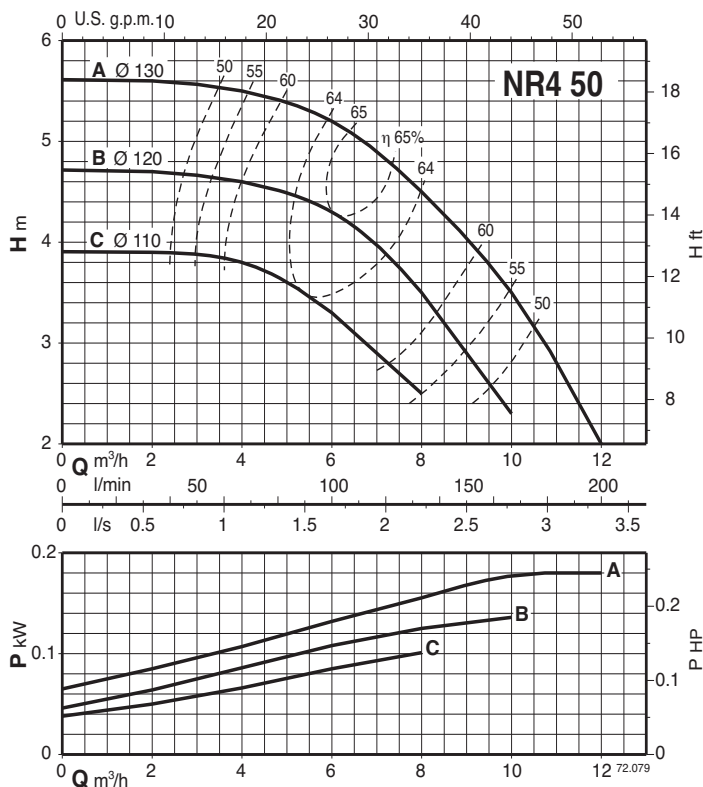


NR4

In-line Pumps



Characteristic curves $n \approx 1450$ rpm

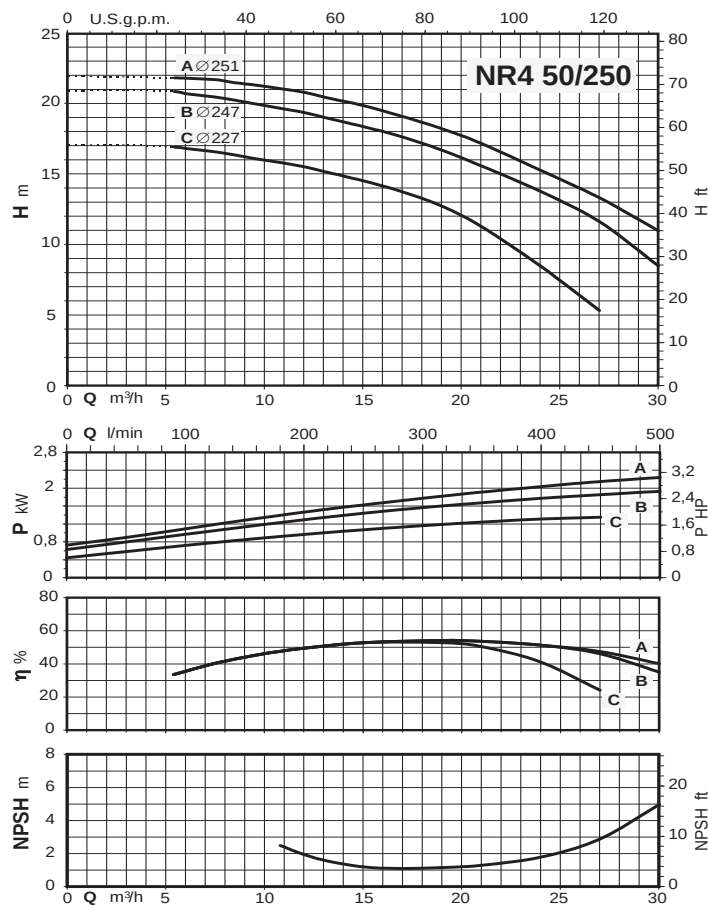
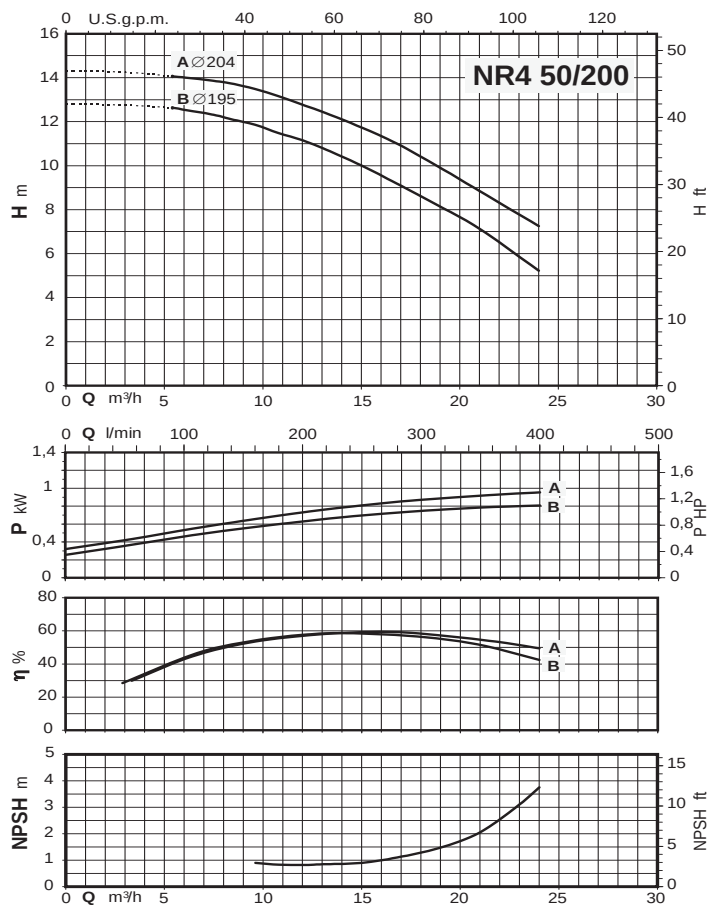
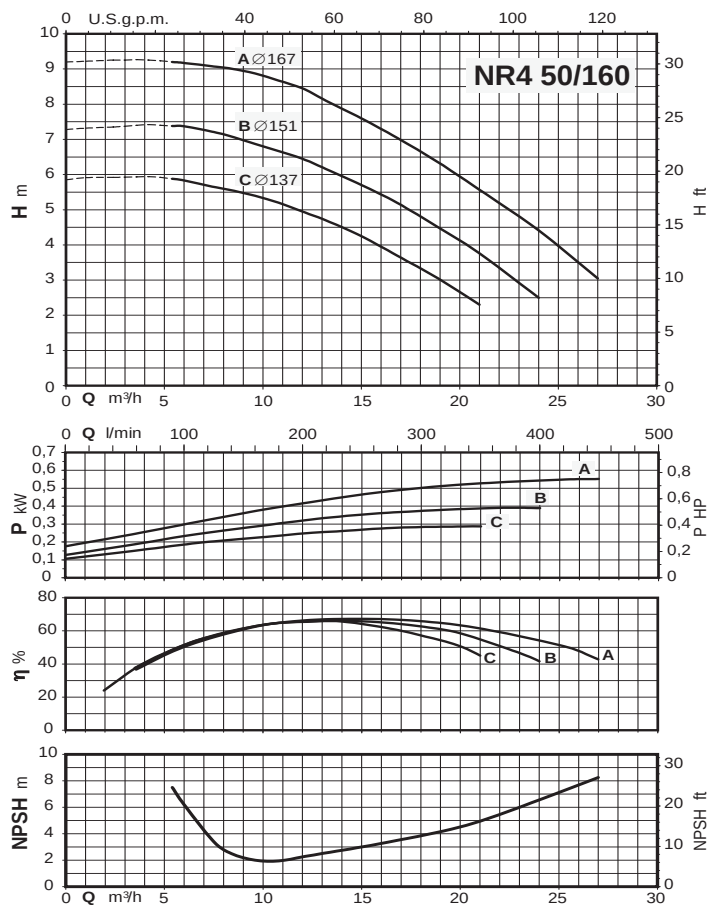


NR4

In-line Pumps



Characteristic curves $n \approx 1450$ rpm

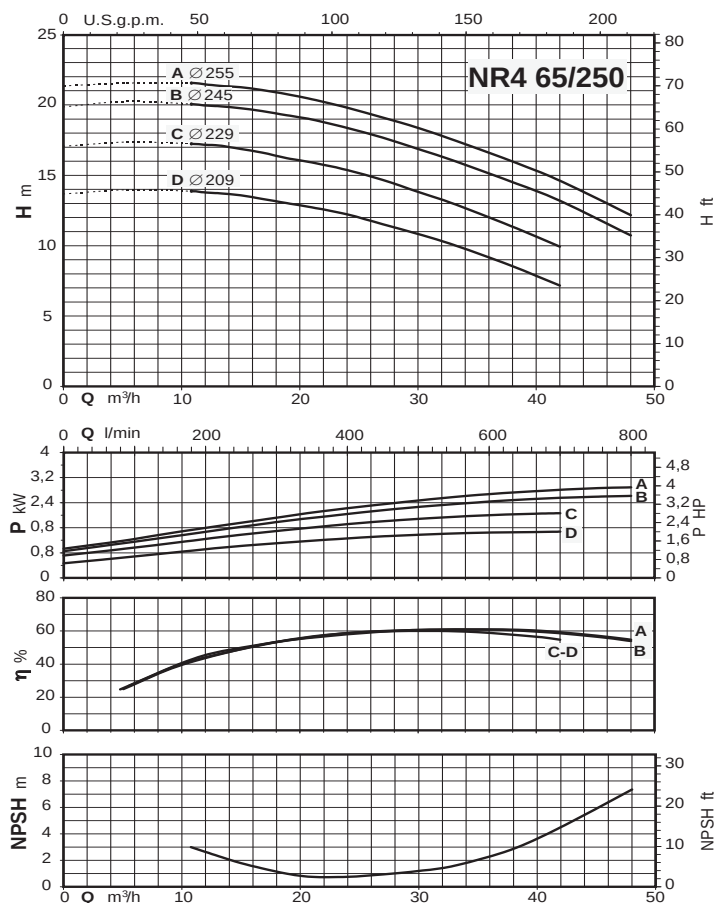
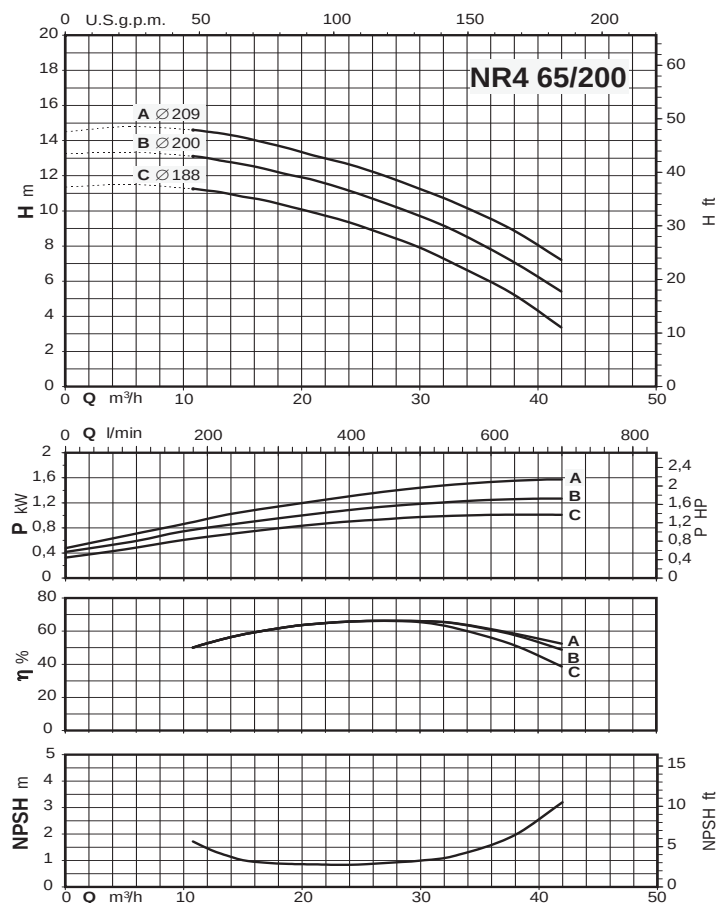
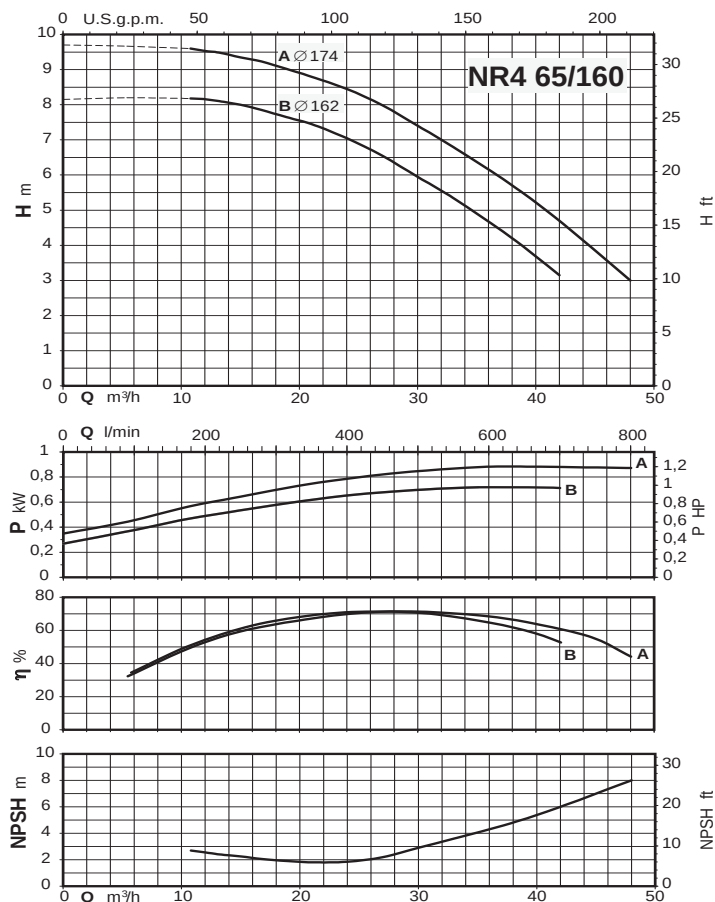
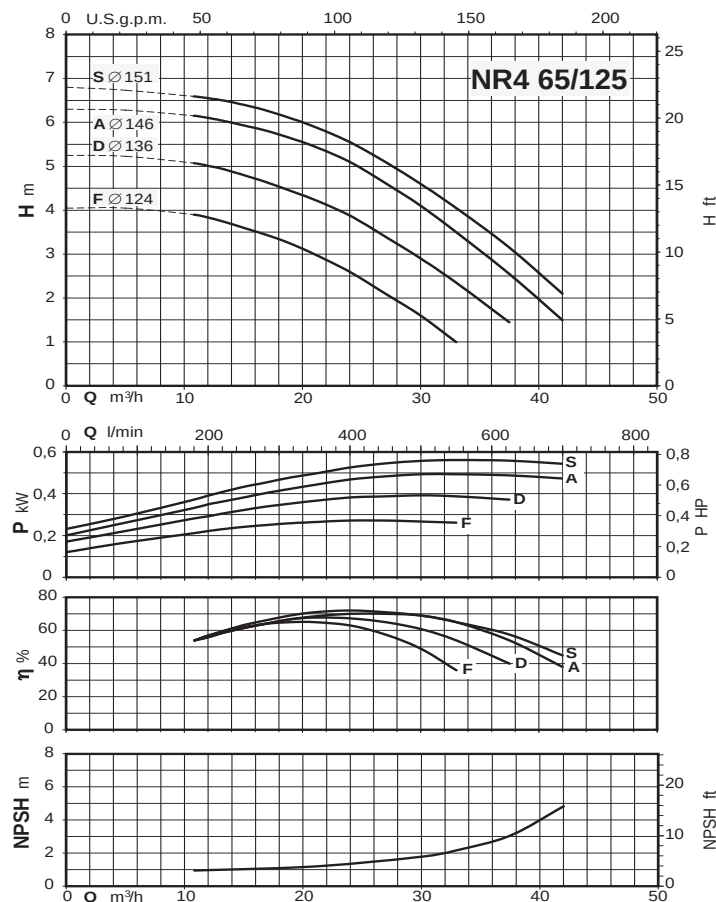


NR4

In-line Pumps



Characteristic curves $n \approx 1450$ rpm

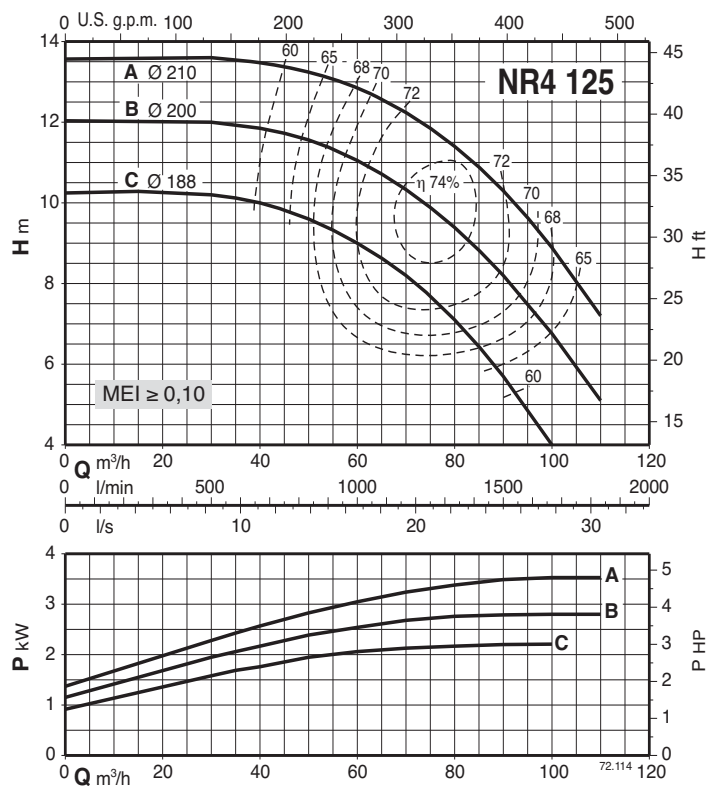
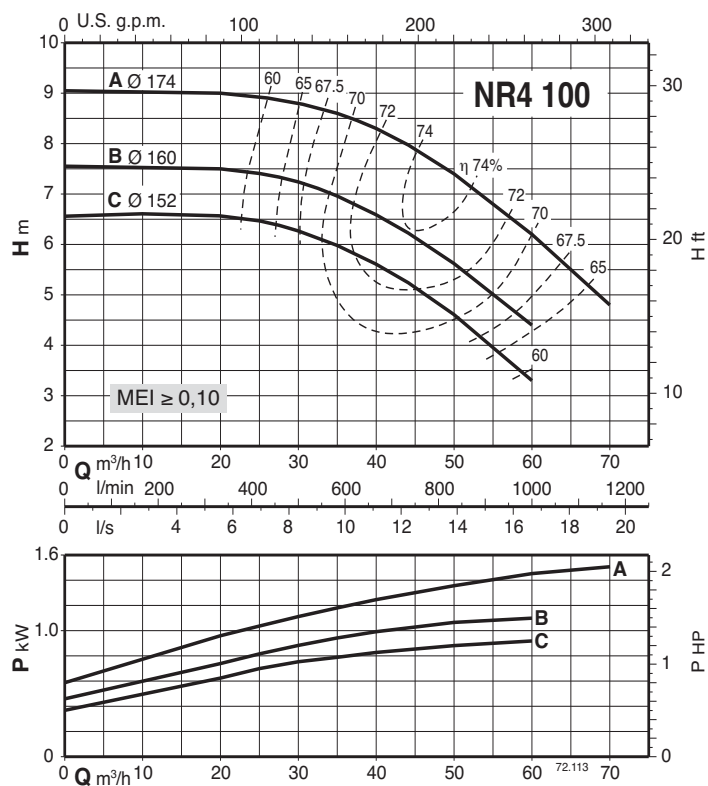


NR4

In-line Pumps



Characteristic curves $n \approx 1450$ rpm

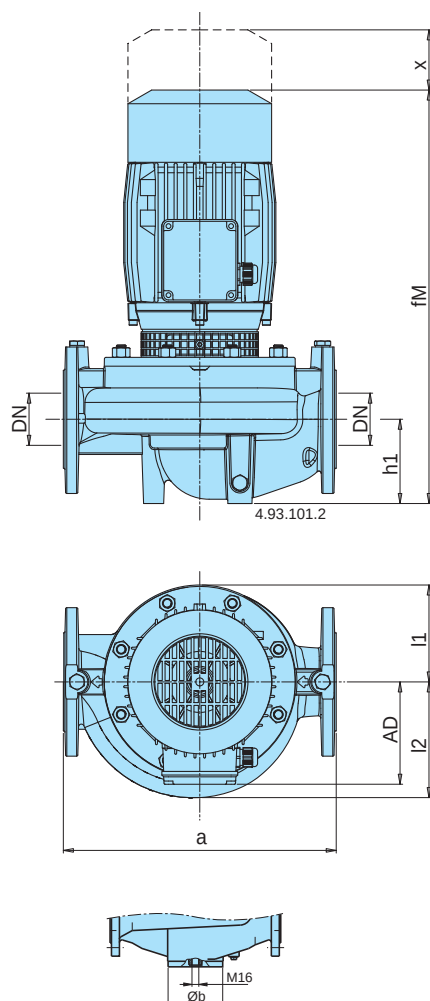


NR, NR4

In-line Pumps



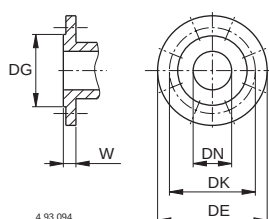
Dimensions and weights



TYPE	mm										kg
	DN	a	fM	h1	h2	Øb	AD	l1	l2	x	
NR 50D/A-C/A	50	320	360	90	270	98	111	93	100	70	29,5-30
NR 40/125A-B-C	40	320	420	81	339	-	128	93	98	100	29,5-27,5-26,5
NR 40/160B	40	320	430	81	349	-	128	119	119	75	35,0
NR 40/160A	40	320	470	81	389	-	128	119	119	75	40,0
NR 40/200A-B	40	440	496	81	430	-	138	140	140	75	57,5 - 57
NR 50/125C-F	50	340	437	90	347	-	128	96	115	75	31,5-29,5
NR 50/125A/A	50	340	477	90	387	-	128	96	115	75	36,1
NR 50/160C/A	50	340	480	90	390	-	128	120	128	75	41,6
NR 50/160A/A-B/A	50	340	506	90	416	-	138	120	128	75	51,8-50,5
NR 50/200D/A	50	440	516	100	416	-	138	140	140	80	59,7
NR 50/200A/A-B/A	50	440	544	100	444	-	160	140	140	80	77,2-69,7
NR 50/250C/B	50	440	657	100	557	-	185	175	175	85	114
NR 50/250B/B	50	440	707	100	557	-	185	175	175	85	121
NR 50/250A/B	50	440	732	100	632	-	185	175	175	85	149,5
NR 65/125F/A	65	340	494	105	389	-	128	121	145	95	46
NR 65/125S/A-A/A-D/A	65	340	520	105	415	-	138	121	145	95	56,1-56,1-54,6
NR 65/160A/A-B/A	65	340	552	105	447	-	160	121	142	95	74-67,5
NR 65/200B/B	65	475	666	105	561	-	160	140	153	90	108
NR 65/200A/B	65	475	716	105	561	-	185	140	153	90	114
NR 65/200S/B	65	475	741	105	636	-	185	140	153	90	142,5
NR 65/250C/B	65	475	722	105	567	-	185	175	175	90	134
NR 65/250A/B-B/B	65	475	747	105	642	-	185	175	175	90	161-155

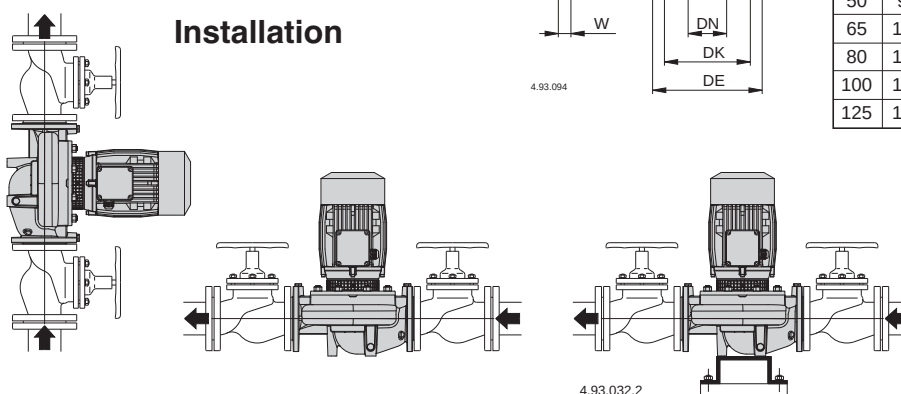
TYPE	mm										kg
	DN	a	fM	h1	h2	Øb	AD	l1	l2	x	
NR4 50A/A-B/A-C/A	50	320	360	90	270	98	111	93	100	70	24-24-24
NR4 65A/A-B/A-C/A	65	360	370	100	270	118	111	102	114	70	28-28-28
NR4 100B/A-C/A	100	500	523	150	373	162	128	153	173	105	59-59
NR4 100A/A	100	500	549	150	399	162	138	153	173	105	67
NR4 125C/A	125	600	589	170	419	194	138	172	195	120	91,5
NR4 125A/A-B/A	125	600	608	160	438	194	160	172	195	120	110-108
NR4 40/160A-B	40	320	430	81	349	-	128	119	119	75	31,5 - 31
NR4 40/200A-B	40	440	430	81	349	-	128	140	140	75	43 - 39,5
NR4 50/160A/A-B-C	50	340	440	90	350	-	128	120	128	75	37,5-35,5-33,5
NR4 50/200A/A-B/A	50	440	490	100	390	-	128	140	140	80	56
NR4 50/250B/A-C/A	50	440	516	100	416	-	138	175	175	85	80-77,5
NR4 50/250A/A	50	440	545	100	445	-	160	175	175	85	93,5
NR4 65/125S/A-A/A-D-F	65	340	454	105	349	-	128	121	145	95	
NR4 65/160A/A-B/A	65	340	497	105	392	-	128	121	142	95	42,7-42,5
NR4 65/200C/A	65	475	510	105	405	-	128	140	153	90	52
NR4 65/200A/A-B/A	65	475	536	105	431	-	138	140	153	90	64,5-60
NR4 65/250C/A-D/A	65	475	526	105	421	-	138	175	175	90	75,5-75,5
NR4 65/250A/A-B/A	65	475	555	105	450	-	160	175	175	90	98-85

Flanges PN 10, EN 1092-2



DN	mm					W
	DG	DK	DE	Holes N°	Ø	
40	84	110	150	4	19	18
50	99	125	165	4	19	20
65	118	145	185	4	19	20
80	132	160	200	8	19	22
100	156	180	220	8	19	24
125	184	210	250	8	19	24

Installation



Features

New Compact Design

A compact structure allows for simple installation even in confined spaces

A Unique Design

An innovative guard (patented) prevents contact with rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

Advanced hydraulics

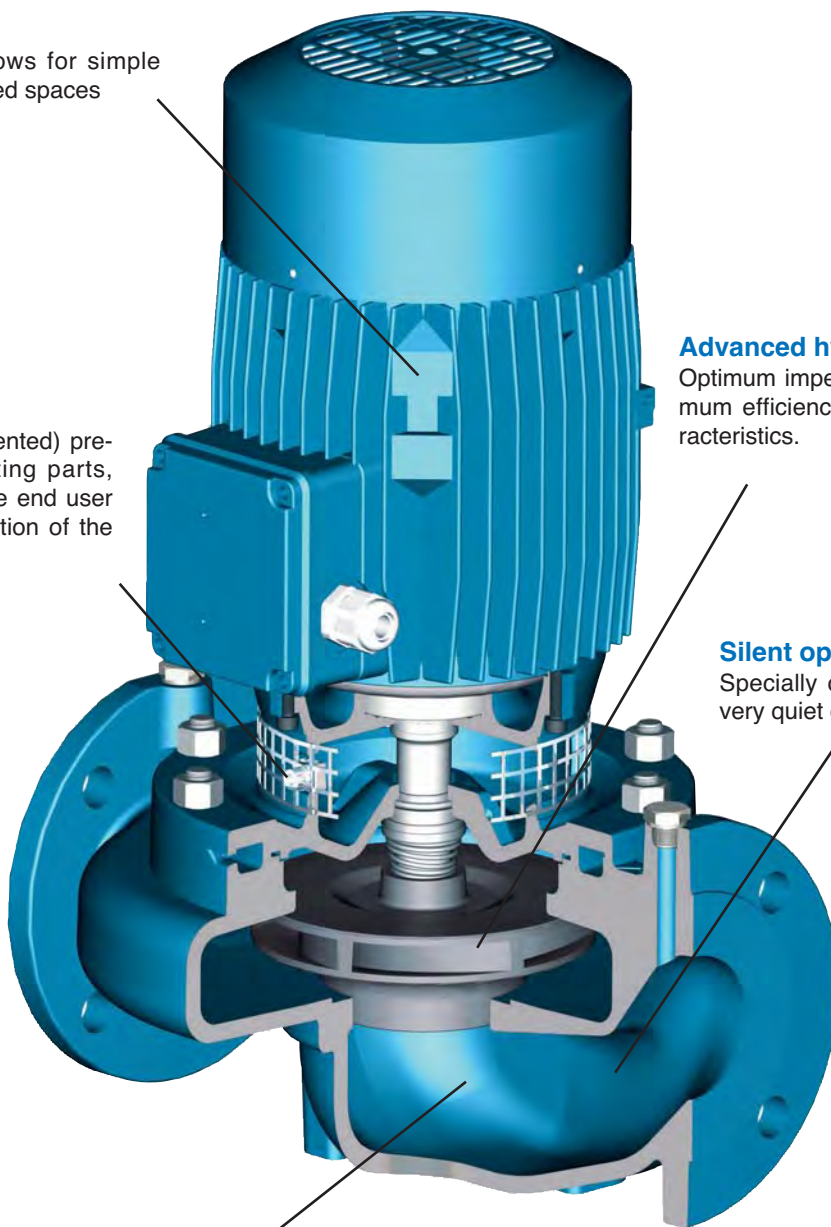
Optimum impeller geometry provides maximum efficiency and excellent suction characteristics.

Silent operation

Specially designed fluid ducts provide very quiet operation

Exceptional Fluid Dynamics

The fluid dynamics through the impeller and casing are designed to minimize losses and increase performance.



MXH 2,4,8,16

Horizontal Multi-Stage Close Coupled Pumps in stainless steel



Construction

Horizontal multi-stage close coupled pumps in **chrome-nickel stainless steel**.

Compact and robust construction, without protruding flange and with single-piece lantern bracket and base.

Single-piece barrel casing, with front suction port above pumps axis and radial delivery at top.

Filling and draining plugs on the middle of the pump, accessible from any side (like the terminal box).

Applications

For water supply.

For clean liquids, without abrasives, which are non-aggressive for stainless steel (with suitable seal materials, on request).

Universal pump, for domestic use, for civil and industrial applications, for garden use and irrigation.

Operating conditions

Liquid temperature from - 15 °C to + 110 °C.

Ambient temperature up to 40 °C.

Maximum permissible pressure in the pump casing: 8 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).

MXH: three-phase 230/400 V $\pm 10\%$ up to 3 kW;
400/690 V $\pm 10\%$ from 3,7 to 4 kW.

MXHM: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.

Insulation class F. Protection IP 54.

Motor suitable for operation with frequency converter from 1,8 kW.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.

EN 60335-1, EN 60335-2-41.

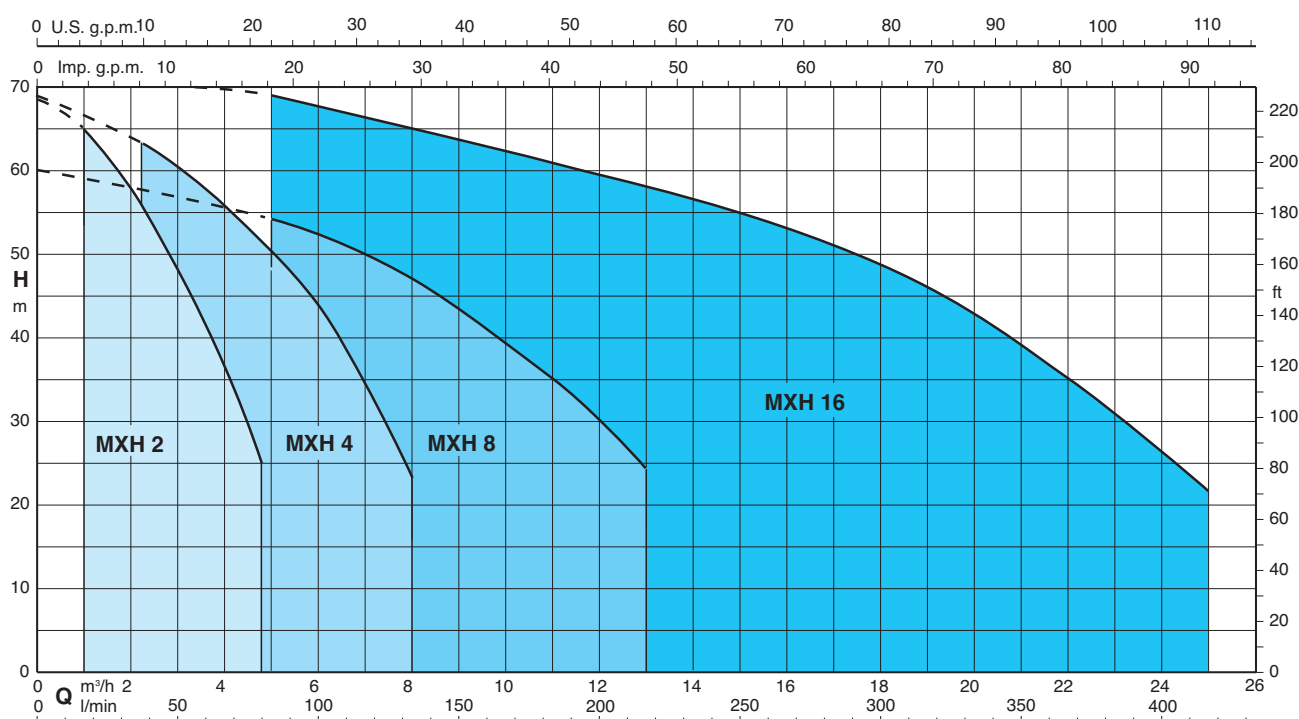
Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Pump casing seal rings in FPM.
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 1,5 kW.

Materials

Component	Material
Pump casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Stage casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Wear ring	PTFE
Impeller	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Casing cover	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Spacer sleeve	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Pump shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Plug	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal with seat according to ISO 3069	Ceramic alumina, carbon, EPDM (Other materials on request)

Coverage chart $n \approx 2800$ rpm



MXH 2,4,8,16

Horizontal Multi-Stage Close Coupled Pumps in stainless steel



Performance n ≈ 2800 rpm

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q	m³/h	0	1	1,5	2	2,5	3	3,5	4	4,25	4,8
	A	A		A	kW	kW	HP		l/min	0	16,6	25	33,3	41,6	50	58,3	66,6	70,8	80
MXH 202E	1,7	1	MXHM 202E	2,3	0,5	0,33	0,45	H m	22	20	18,5	17	15,3	13,4	11,4	9,3	8,2	5,6	
MXH 203E	2,4	1,4	MXHM 203E	3	0,65	0,45	0,6		33	31	29	27	24,5	21,7	18,6	15,5	13,8	9	
MXH 204/A	2,8	1,6	MXHM 204/A	4,2	0,9	0,55	0,75		45	42,5	40,4	37,5	34,5	30,8	26,7	22,4	20,1	14,8	
MXH 205/A	3,5	2	MXHM 205/A	5,4	1,2	0,75	1		57	53,5	50,5	47,5	43,5	39	34	28,5	25,8	19	
MXH 206/B	4,7	2,7	MXHM 206	7,4	1,5	1,1	1,5		68,5	65	61,5	58	53,5	48	43	36,5	33,5	25	

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q	m ³ /h	0	2,25	3	3,5	4	4,5	5	6	7	8
	A	A		A	kW	kW	HP		l/min	0	37,5	50	58,3	66,6	75	83,3	100	116	133
MXH 402E	2,4	1,4	MXHM 402E	3	0,65	0,45	0,6	H m	22,5	20	19	18,5	17,5	16	15	12,5	9,5	6	
MXH 403/A	2,8	1,6	MXHM 403/A	4,2	0,9	0,55	0,75		33	30	29	27,5	26	24,5	23	19,5	15	9,5	
MXH 404/A	3,5	2	MXHM 404/A	5,4	1,2	0,75	1		44,5	40,5	38	36,5	35	33	31	26	20	12,5	
MXH 405/B	4,7	2,7	MXHM 405	7,4	1,5	1,1	1,5		56,5	52	50	47,5	45,5	43	40	33,5	26	16,5	
MXH 406	6,2	3,6	MXHM 406	9,2	2	1,5	2		68,5	63	60	58	56	53,5	51	44	35	23	

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q	m³/h	0	5	6	7	8	9	10	11	12	13
	A	A		A	kW	kW	HP		l/min	0	83,3	100	116	133	150	166	183	200	216
MXH 802/A	3,5	2	MXHM 802/A	5,4	1,2	0,75	1	H m	22,5	20,5	20	19	18	16,5	15	13	11	8,5	
MXH 803	5	2,9	MXHM 803	7,4	1,5	1,1	1,5		36	32	30,5	29	27,5	25,5	23	20	17	14	
MXH 804	6,2	3,6	MXHM 804	9,2	2	1,5	2		48	42,5	41	39	37	34,5	32	28	24	19,5	
MXH 805/A	7,5	4,3	MXHM 805	11,2	2,5	1,8	2,5		60	54	52	49,5	47	43,5	39,5	35	29,5	24	

3 ~ 230 V 400 V			P ₂		Q	m³/h									
	A	A	kW	HP		l/min	0	5	8	11	14	16	18	20	22
MXH 1602	6,2	3,6	1,5	2	H m	0	83,3	133	183	233	266	300	333	366	416
MXH 1603/A	7,5	4,3	1,8	2,5		24	23	21,7	20,5	18,8	17,5	15,8	14	11,5	6,5
MXH 1604/A	11,5	6,6	3	4		36	34	31,8	29,5	26,8	24,8	22,4	19,2	15,3	8,8
MXH 1605/A		9,6	3,7	5		48	46,5	44,5	41,5	38	36	33	29	23	14
MXH 1606/A		9,6	4	5,5		60	57,5	55	51,5	48	45	42	37,5	31,5	19
						71	68	65	61	56	53	49	44	36	22

P₁ Max. power input.

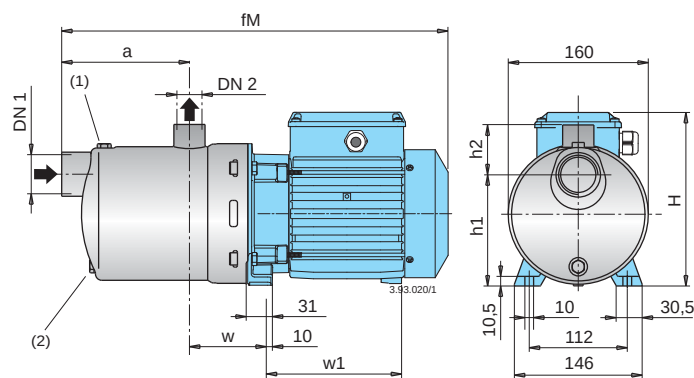
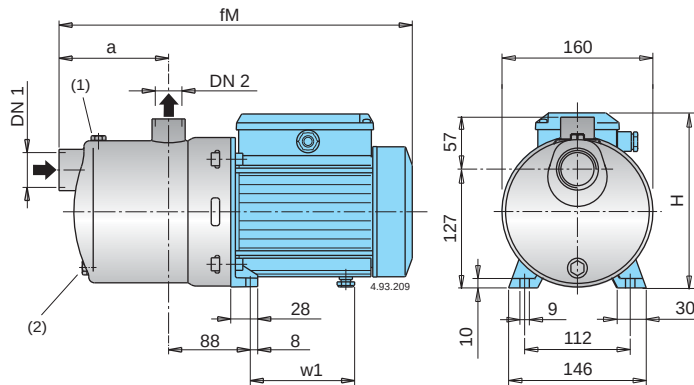
P₂ Rated motor power output.

Test results with clean cold water, without gas content.

Tolerances according to UNI EN ISO 9906:2012

+ 0,5 m security margin on NPSH-value is necessary.

Dimensions and weights



(1) Filling (2) Draining

TYPE	DN1 ISO 228	DN2 ISO 228	mm				kg	
			fM	a	H	w1	MXH	MXHM
MXH 202E - MXHM 202E	G 1 1/4	G 1	331	94	176	98,5	6,8	6,9
MXH 203E - MXHM 203E	G 1 1/4	G 1	331	94	176	98,5	7,6	7,7
MXH 204/A - MXHM 204/A	G 1 1/4	G 1	381	118	193	112	10	11
MXH 205/A - MXHM 205/A	G 1 1/4	G 1	405	142	193	112	11,5	12,5
MXH 402E - MXHM 402E	G 1 1/4	G 1	331	94	176	98,5	7,6	7,7
MXH 403/A - MXHM 403/A	G 1 1/4	G 1	357	94	193	112	9,3	10,3
MXH 404/A - MXHM 404/A	G 1 1/4	G 1	381	118	193	112	10,8	11,8
MXH 802/A - MXHM 802/A	G 1 1/2	G 1	381	118	193	112	10,6	11,6

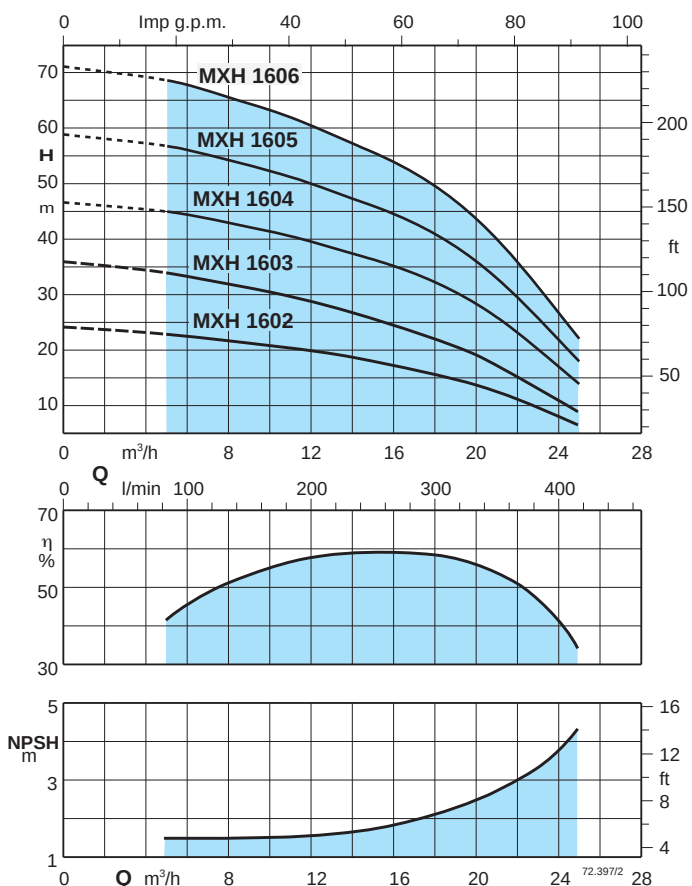
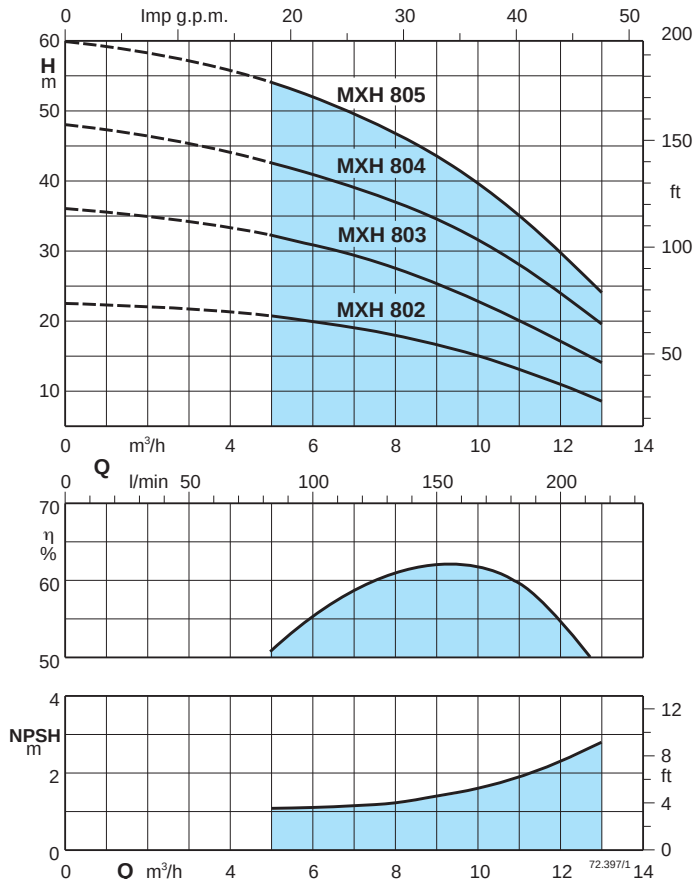
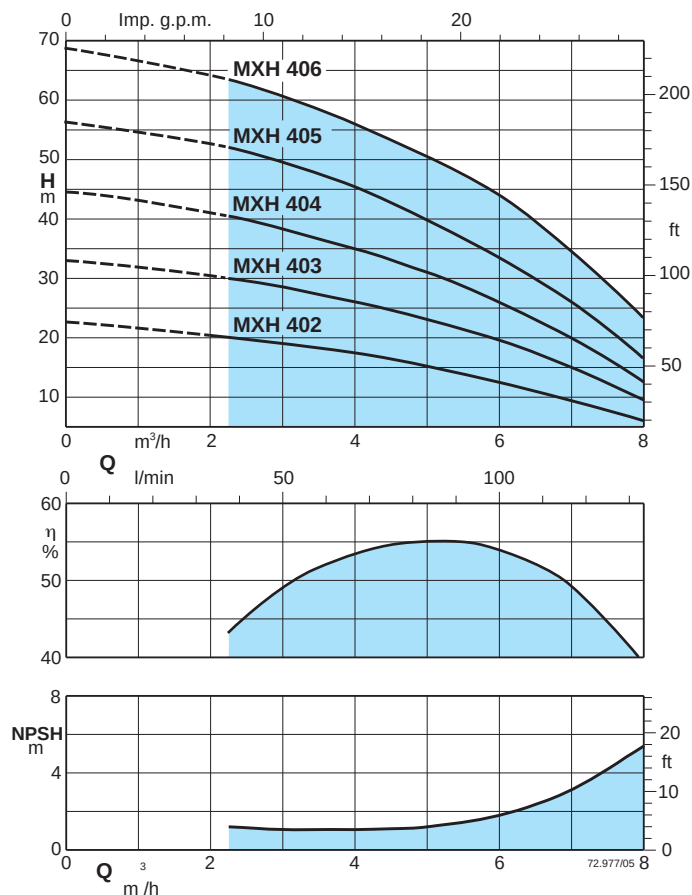
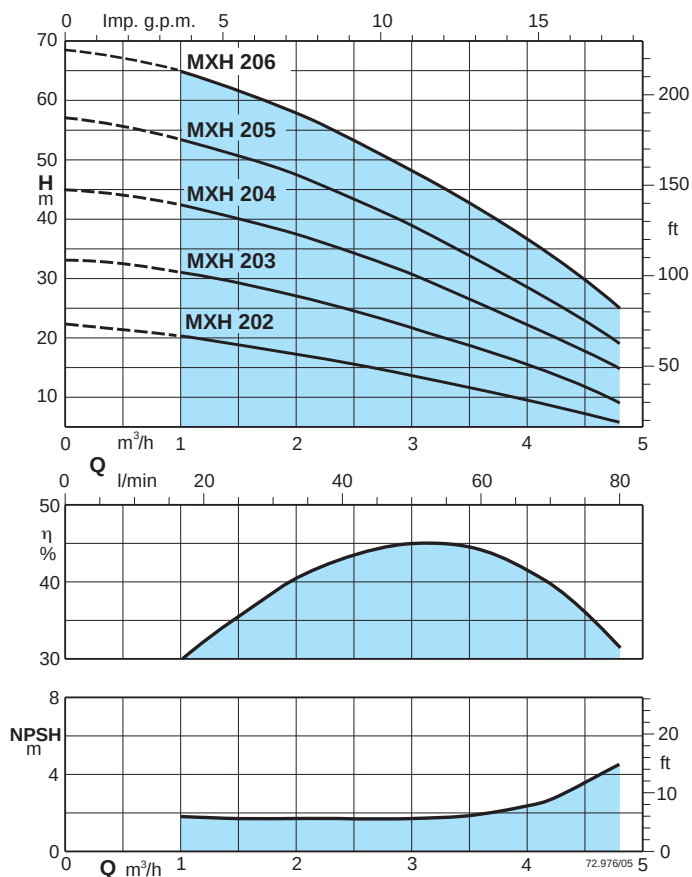
TYPE	DN1 ISO 228	DN2 ISO 228	mm							kg	
			fM	a	w	H	h1	h2	w1	MXH	MXHM
MXH 206/B - MXHM 206	G 1 1/4	G 1	500	166	88	210	127	57	167	18,5	18,6
MXH 405/B - MXHM 405	G 1 1/4	G 1	476	142	88	210	127	57	167	18	18
MXH 406 - MXHM 406	G 1 1/4	G 1	500	166	88	210	127	57	167	19,5	20,5
MXH 803 - MXHM 803	G 1 1/2	G 1	452	118	88	210	127	57	167	15,8	16,9
MXH 804 - MXHM 804	G 1 1/2	G 1	482	148	88	210	127	57	167	18,2	19,2
MXH 805/A - MXHM 805	G 1 1/2	G 1	552	178	88	210	127	57	207	21,4	22,4
MXH 1602	G 2	G 1 1/2	476	128	101	210	117	70	167	18,2	-
MXH 1603/A	G 2	G 1 1/2	516	128	101	210	117	70	207	20,8	-
MXH 1604/A	G 2	G 1 1/2	612	166	113	235	132	70	232	33,8	-
MXH 1605/A	G 2	G 1 1/2	650	203	113	235	132	70	232	35,5	-
MXH 1606/A	G 2	G 1 1/2	687	241	113	235	132	70	232	36,4	-

MXH 2,4,8,16

Horizontal Multi-Stage Close Coupled Pumps
in stainless steel



Characteristic curves $n \approx 2800$ rpm

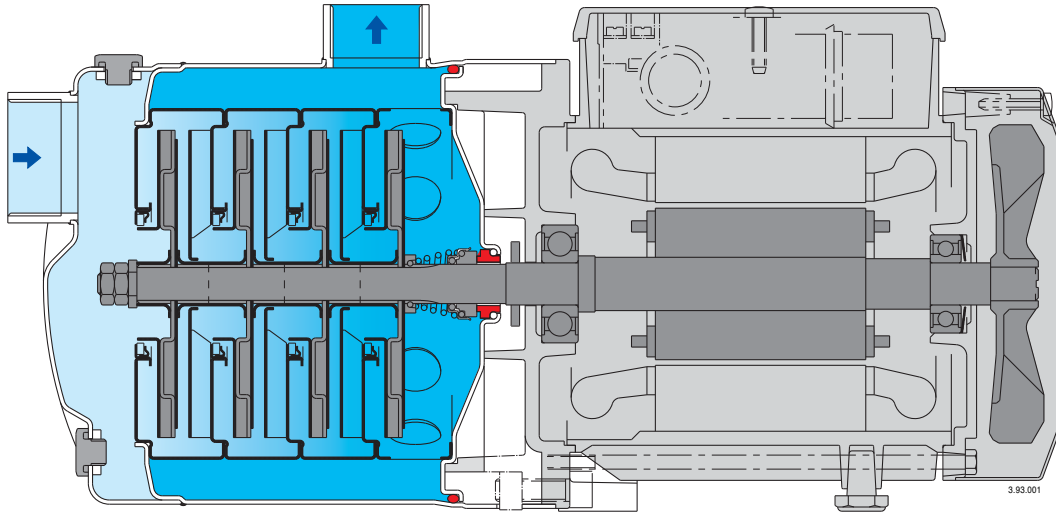


MXH 2,4,8,16

Horizontal Multi-Stage Close Coupled Pumps
in stainless steel



Features



Extra safety

against running dry, with the suction port above pump axis.

Reliable

All hydraulic parts in contact with the pumped liquid are of stainless steel.
For liquids from -15 °C to 110 °C.

Robust

Single-piece, thick barrel casing.

Compact

Single-piece lantern bracket and base.
Without protruding flange.

Greater protection

against leakage, with the pump casing cover separated from the motor shield.
Possibility of inspecting the seal through the side apertures between the two walls.
Greater protection against water entering the motor from outside provided by an extension of the pump casing around the lantern bracket.

MXHL AISI 316 Horizontal Multi-Stage Close Coupled Pumps



Materials

Component	Material
Pump casing	Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L)
Stage casing	Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L)
Wear ring	PTFE
Impeller	Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L)
Casing cover	Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L)
Spacer sleeve	Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L)
Pump shaft	Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L)
Plug	Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L)
Mechanical seal with seat according to ISO 3069	Ceramic alumina, carbon, EPDM (Other materials on request)

Construction

Horizontal multi-stage close coupled pumps in **chrome-nickel-molybdenum stainless steel AISI 316L**.

Compact and robust construction, without protruding flange and with single-piece lantern bracket and base.

Single-piece barrel casing, with front suction port above pumps axis and radial delivery at top.

Filling and draining plugs on the middle of the pump, accessible from any side (like the terminal box).

Applications

For water supply.

For clean liquids, without abrasives, which are non-aggressive for stainless steel (with suitable seal materials, on request).

Universal pump, for domestic use, for civil and industrial applications, for garden use and irrigation.

Operating conditions

Liquid temperature from - 15 °C to + 110 °C.

Ambient temperature up to 40 °C.

Maximum permissible pressure in the pump casing: 8 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).

MXHL: three-phase 230/400 V $\pm 10\%$.

MXHLM: single-phase 230 V $\pm 10\%$, with thermal protector.

Capacitor inside the terminal box.

Insulation class F. Protection IP 54.

Motor suitable for operation with frequency converter from 1,8 kW.

Classification scheme IE2 for three-phase motors from 0,75 kW.

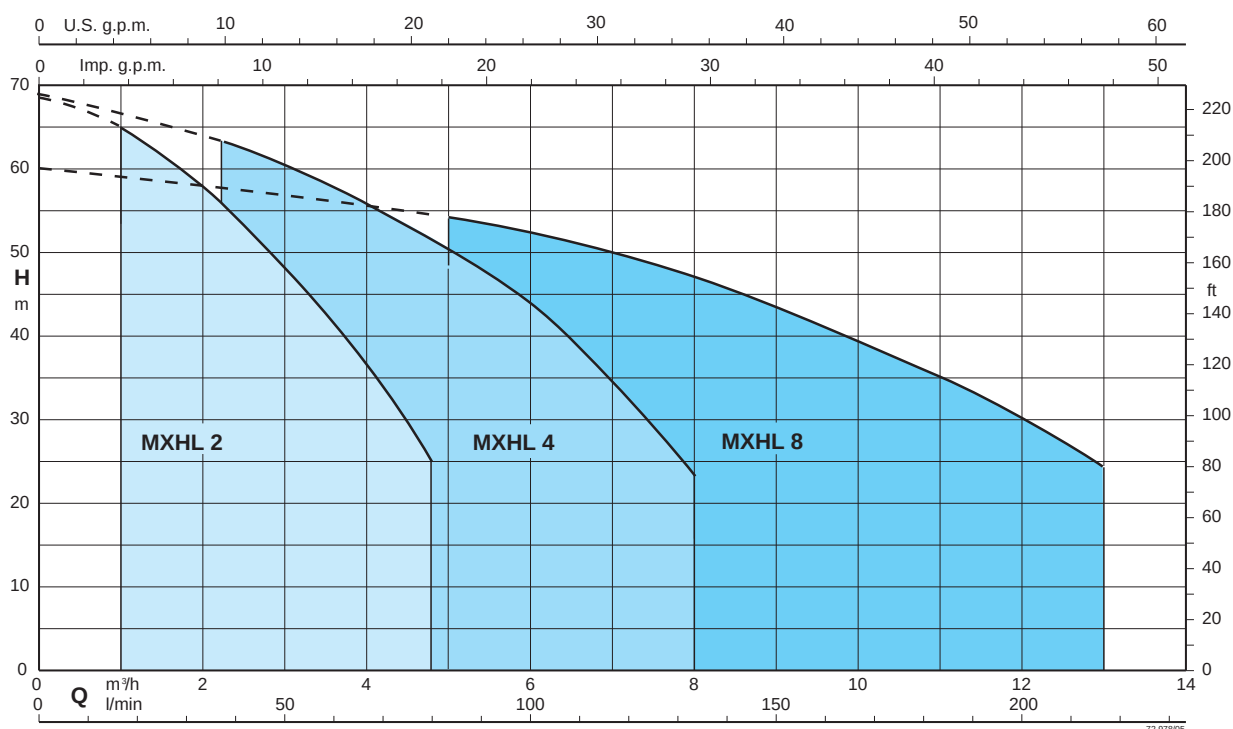
Constructed in accordance with: EN 60034-1; EN 60034-30.

EN 60335-1, EN 60335-2-41.

Special features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Pump casing seal rings in FPM.
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 1,5 kW.

Coverage chart $n \approx 2800$ rpm



MXHL AISI 316 Horizontal Multi-Stage Close Coupled Pumps



Performance n ≈ 2800 rpm

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q										
	A	A		A	kW	kW	HP		0	1	1,5	2	2,5	3	3,5	4	4,25	4,8
MXHL 202E	1,7	1	MXHLM 202E	2,3	0,5	0,33	0,45	H m	22	20	18,5	17	15,3	13,4	11,4	9,3	8,2	5,6
MXHL 203E	2,4	1,4	MXHLM 203E	3	0,65	0,45	0,6		33	31	29	27	24,5	21,7	18,6	15,5	13,8	9
MXHL 204/A	2,8	1,6	MXHLM 204/A	4,2	0,9	0,55	0,75		45	42,5	40,4	37,5	34,5	30,8	26,7	22,4	20,1	14,8
MXHL 205/A	3,5	2	MXHLM 205/A	5,4	1,2	0,75	1		57	53,5	50,5	47,5	43,5	39	34	28,5	25,8	19
MXHL 206/B	4,7	2,7	MXHLM 206	7,4	1,5	1,1	1,5		68,5	65	61,5	58	53,5	48	43	36,5	33,5	25

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q										
	A	A		A	kW	kW	HP		0	2,25	3	3,5	4	4,5	5	6	7	8
MXHL 402E	2,4	1,4	MXHLM 402E	3	0,65	0,45	0,6	H m	22,5	20	19	18,5	17,5	16	15	12,5	9,5	6
MXHL 403/A	2,8	1,6	MXHLM 403/A	4,2	0,9	0,55	0,75		33	30	29	27,5	26	24,5	23	19,5	15	9,5
MXHL 404/A	3,5	2	MXHLM 404/A	5,4	1,2	0,75	1		44,5	40,5	38	36,5	35	33	31	26	20	12,5
MXHL 405/B	4,7	2,7	MXHLM 405	7,4	1,5	1,1	1,5		56,5	52	50	47,5	45,5	43	40	33,5	26	16,5
MXHL 406	6,2	3,6	MXHLM 406	9,2	2	1,5	2		68,5	63	60	58	56	53,5	51	44	35	23

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q										
	A	A		A	kW	kW	HP		0	5	6	7	8	9	10	11	12	13
MXHL 802/A	3,5	2	MXHLM 802/A	5,4	1,2	0,75	1	H m	22,5	20,5	20	19	18	16,5	15	13	11	8,5
MXHL 803	5	2,9	MXHLM 803	7,4	1,5	1,1	1,5		36	32	30,5	29	27,5	25,5	23	20	17	14
MXHL 804	6,2	3,6	MXHLM 804	9,2	2	1,5	2		48	42,5	41	39	37	34,5	32	28	24	19,5
MXHL 805/A	7,5	4,3	MXHLM 805	11,2	2,5	1,8	2,5		60	54	52	49,5	47	43,5	39,5	35	29,5	24

P₁ Max. power input.

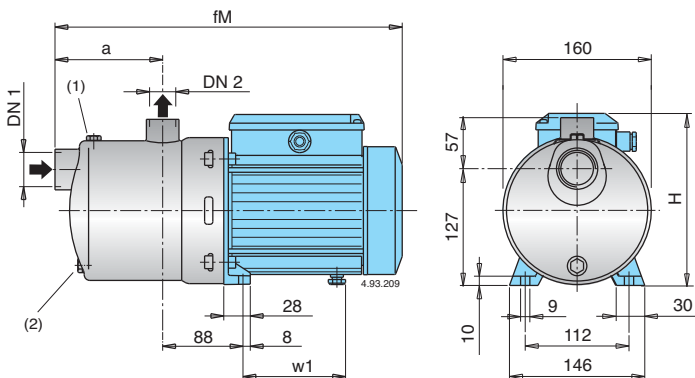
P₂ Rated motor power output.

Test results with clean cold water, without gas content.

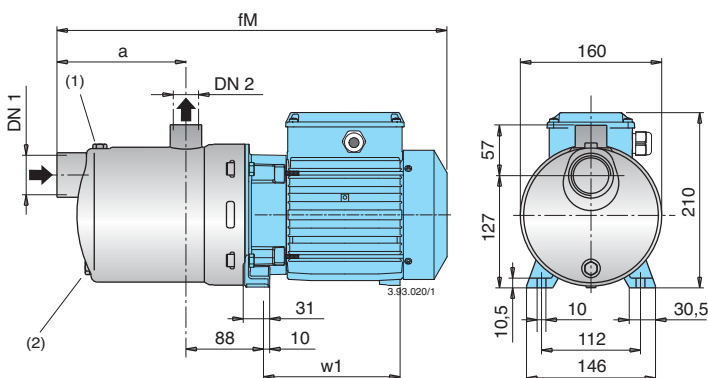
Tolerances according to UNI EN ISO 9906:2012

+ 0,5 m security margin on NPSH-value is necessary.

Dimensions and weights



TYPE	DN1	DN2	mm				kg	
			fM	a	H	w1	MXHL	MXHLM
MXHL 202E - MXHLM 202E	G 1 1/4	G 1	331	94	176	98,5	6,8	6,9
MXHL 203E - MXHLM 203E	G 1 1/4	G 1	331	94	176	98,5	7,6	7,7
MXHL 204/A - MXHLM 204/A	G 1 1/4	G 1	381	118	193	112	10	11
MXHL 205/A - MXHLM 205/A	G 1 1/4	G 1	405	142	193	112	11,5	12,5
MXHL 402E - MXHLM 402E	G 1 1/4	G 1	331	94	176	98,5	7,6	7,7
MXHL 403/A - MXHLM 403/A	G 1 1/4	G 1	357	94	193	112	9,3	10,3
MXHL 404/A - MXHLM 404/A	G 1 1/4	G 1	381	118	193	112	10,8	11,8
MXHL 802/A - MXHLM 802/A	G 1 1/2	G 1	381	118	193	112	10,6	11,6



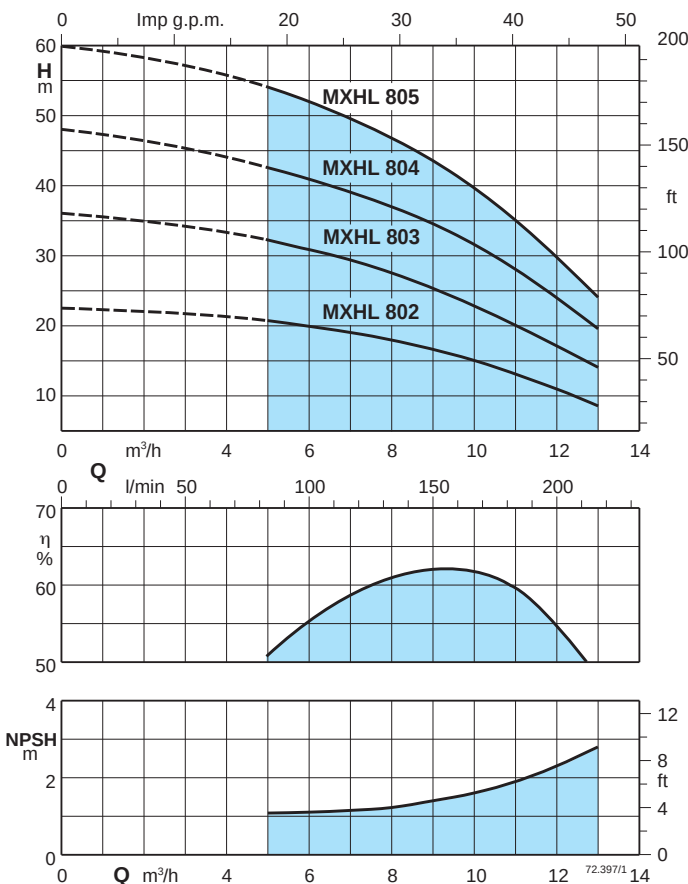
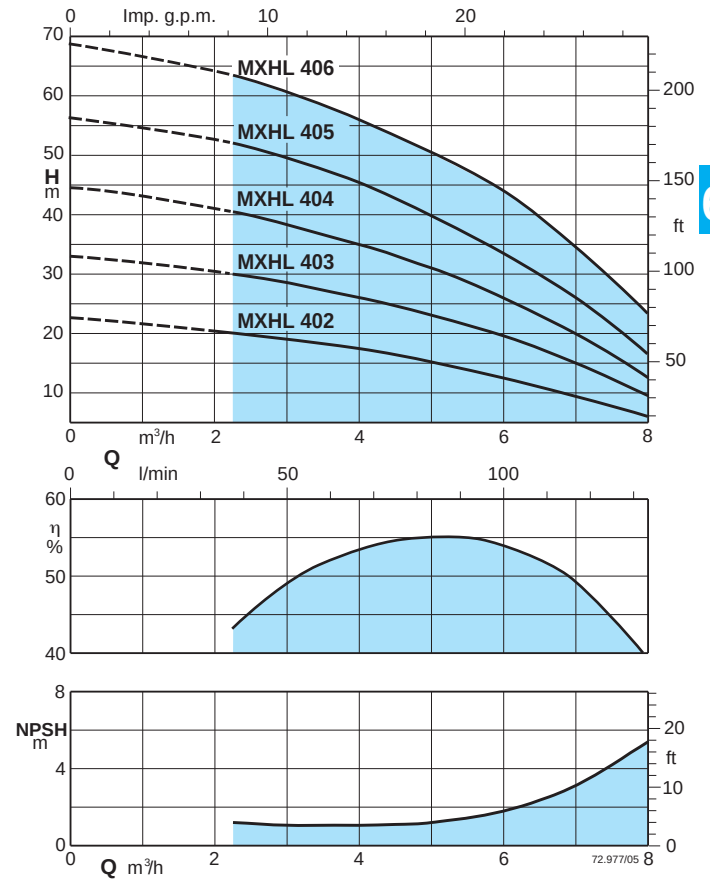
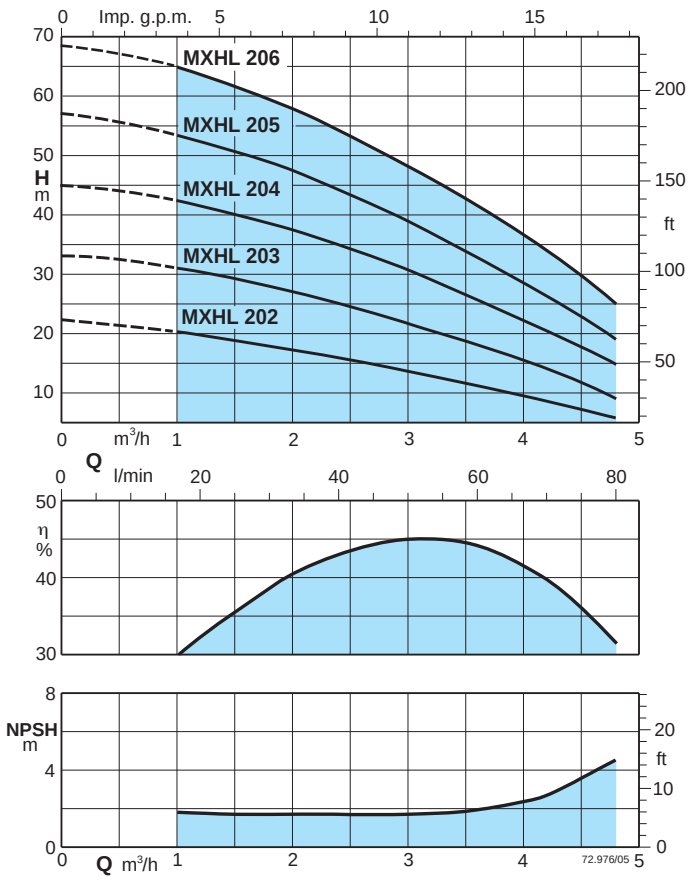
TYPE	DN1	DN2	mm			kg	
			fM	a	w1	MXHL	MXHLM
MXHL 206/B - MXHLM 206	G 1 1/4	G 1	500	166	167	18,5	18,6
MXHL 405/B - MXHLM 405	G 1 1/4	G 1	476	142	167	18	18
MXHL 406 - MXHLM 406	G 1 1/4	G 1	500	166	167	19,5	20,5
MXHL 803 - MXHLM 803	G 1 1/2	G 1	452	118	167	15,8	16,9
MXHL 804 - MXHLM 804	G 1 1/2	G 1	482	148	167	18,2	19,2
MXHL 805/A - MXHLM 805	G 1 1/2	G 1	552	178	207	21,4	22,4

(1) Filling (2) Draining

MXHL AISI 316 Horizontal Multi-Stage Close Coupled Pumps



Characteristic curves $n \approx 2800$ rpm



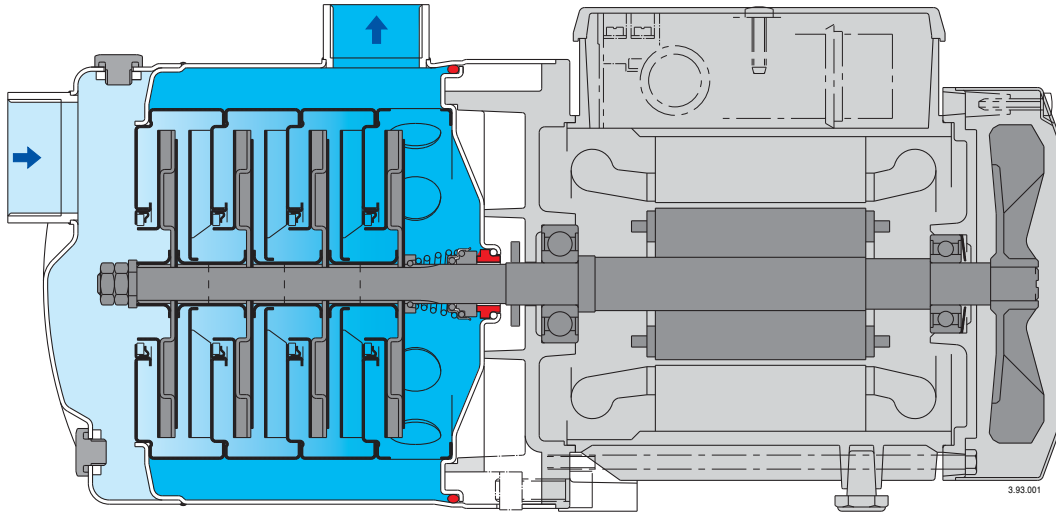
6.1

MXHL AISI 316

Horizontal Multi-Stage Close Coupled Pumps



Features



Extra safety

against running dry, with the suction port above pump axis.

Reliable

All hydraulic parts in contact with the pumped liquid are of stainless steel.
For liquids from -15 °C to 110 °C.

Robust

Single-piece, thick barrel casing.

Compact

Single-piece lantern bracket and base.
Without protruding flange.

Greater protection

against leakage, with the pump casing cover separated from the motor shield.
Possibility of inspecting the seal through the side apertures between the two walls.
Greater protection against water entering the motor from outside provided by an extension of the pump casing around the lantern bracket.

MXH 20,32,48

Horizontal Multi-Stage Close Coupled Pumps



Materials

Component	Material
Pump casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Stage casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Wear ring	PTFE
Impeller	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Casing cover	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Spacer sleeve	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Pump shaft	Chrome-nickel steel 1.4401 EN 10088 (AISI 316)
Plug	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal with seat according to ISO 3069-KU	Ceramic alumina, carbon, EPDM (Other materials on request)

Construction

Horizontal multi-stage close coupled pumps in **chrome-nickel stainless steel**.

Compact and robust construction, with compact lantern bracket and motor with feet.

Single-piece barrel casing, with front suction port above pumps axis and radial delivery at top.

Filling and draining plugs on the middle of the pump, accessible from any side (like the terminal box).

Applications

For water supply.

For clean liquids, without abrasives, which are non-aggressive for stainless steel (with suitable seal materials, on request).

Universal pump, for civil and industrial applications, for garden use and irrigation.

Operating conditions

Liquid temperature from - 15 °C to + 110 °C.

Ambient temperature up to 40 °C.

Maximum permissible pressure in the pump casing: 10 bar.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

MXH: three-phase 230/400 V $\pm 10\%$ up to 3 kW;

400/690 V $\pm 10\%$ from 4 to 7,5 kW.

Insulation class F. Protection IP 54.

Motor suitable for operation with frequency converter.

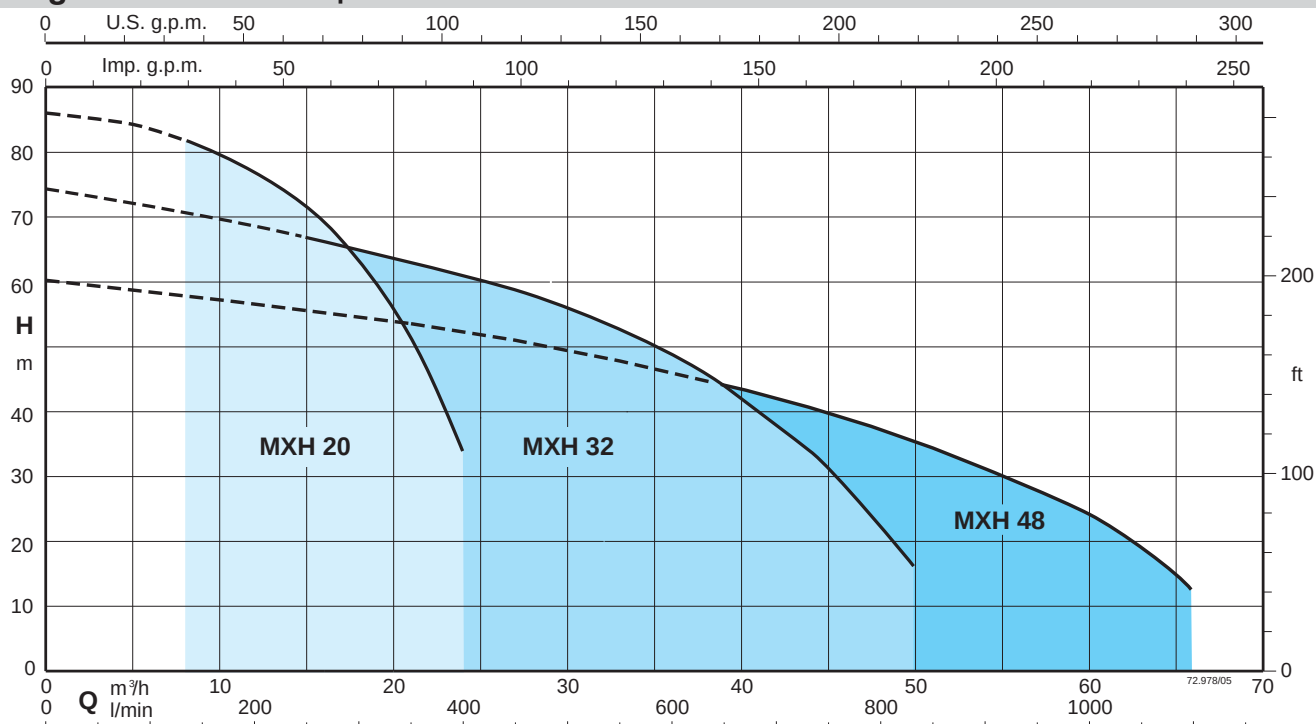
Classification scheme IE2 up to 5,5 kW, IE3 for 7,5 kW.

Constructed in accordance with: EN 60034-1;
EN 60034-30.

Special features on request

- Pump with Victaulic ports (MXH-V).
- Pump with flanged ports (MXH-F).
- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Seal rings in FPM.
- Higher or lower ambient temperatures.

Coverage chart $n \approx 2900$ rpm



MXH 20,32,48

Horizontal Multi-Stage Close Coupled Pumps



Performance n ≈ 2900 rpm

3 ~	230 V		400 V		P ₂		Q	m³/h l/min	0	8	10	12	14	16	18	20	22	24	
	A	A	kW	HP	0	133,3			166,6	200	233	266	300	333	366	400			
MXH 2001	4,6	2,7	1,1	1,5	H m	17	16	15,6	15	14,4	13,6	12,5	11	9	6,5				
MXH 2002	9,2	5,3	2,2	3		34	32	31,2	30,2	29	27,3	25	22	18	13				
MXH 2003	11,4	6,6	3	4		51	49	47,5	46	44	41,3	38	33	27	20				
MXH 2004	-	9,6	4	5,5		69	65	63	61	58,5	55	51	44,7	37	27				
MXH 2005	-	10,9	5,5	7,5		86	81	79	76	73	69	63	55	46	33				

3 ~	230 V		400 V		P ₂		Q	m³/h l/min	0	15	21	24	27	30	33	36	39	44	50
	A	A	kW	HP	0	250			350	400	450	500	550	600	650	733	833		
MXH 3201/A	9,2	5,3	2,2	3	H m	18,4	16,3	15,3	14,8	14	13	12	10,8	9,3	6	-			
MXH 3202/A	-	9,6	4	5,5		37	33	31	30	28,5	27	25	23	20,5	15	7,5			
MXH 3203/A	-	10,9	5,5	7,5		55,5	50	47	45,5	43	40,5	38	35	31	23	10			
MXH 3204/A	-	14,3	7,5	10		74,5	67	63	61	59	56	53	49	44	34	16,5			

3 ~		230 V	400 V	P ₂		Q	m³/h	0	21	27	33	39	45	48	51	54	60	66
	A	A	kW	HP	l/min		0	350	450	550	650	750	800	850	900	1000	1100	
MXH 4801/A	11,5	6,6	3	4	H m	20	18	17	16	14,5	12,5	11,5	10,5	9,5	7	-		
MXH 4802/A	-	10,9	5,5	7,5		41	35,3	33	30,5	27,5	24,5	22,5	21	19	14	7,5		
MXH 4803/A	-	14,3	7,5	10		60,5	53	50	46	42,5	38	35	32,5	29	22,5	16		

P₂ Rated motor power output.

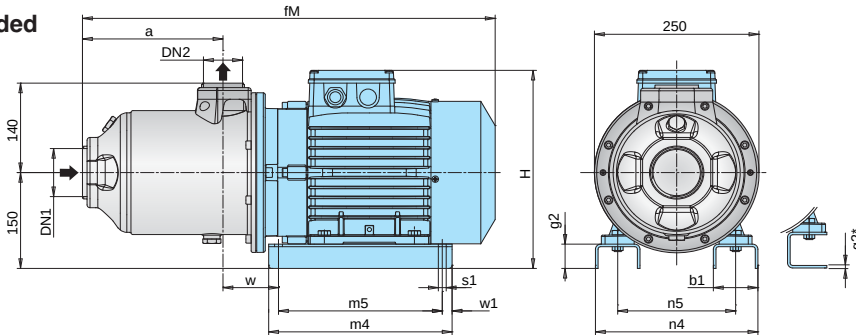
Test results with clean cold water, without gas content.

+ 0,5 m security margin on NPSH-value is necessary.

Tolerances according to UNI EN ISO 9906:2012

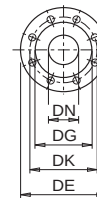
Dimensions and weights

Threaded ports MXH



TYPE	DN1 ISO 228	DN2 ISO 228	mm												kg
			fM	a	H	m4	m5	n4	n5	w1	b1	s1	w	g2	
MXH 2001	G 2	G 1 1/2	467	127	280	205	175	170	130	15	54	10	95	6*	26
MXH 2002	G 2	G 1 1/2	507	127	280	205	175	170	130	15	54	10	95	6*	30
MXH 2003	G 2	G 1 1/2	540	146	290	205	175	180	140	15	54	10	112	6*	38
MXH 2004	G 2	G 1 1/2	574	180,5	290	205	175	180	140	15	54	54	112	6*	39
MXH 2005	G 2	G 1 1/2	630,5	215	310	280	250	258	190	15	68	68	84	38	50,5
MXH 3201/A	G 2 1/2	G 2	503,5	123	280	205	175	170	130	15	54	10	95	6*	29,4
MXH 3202/A	G 2 1/2	G 2	517,5	123	290	205	175	180	140	15	54	10	112	6*	38,5
MXH 3203/A	G 2 1/2	G 2	584,5	169	310	280	250	258	190	15	68	12	84	38	50
MXH 3204/A	G 2 1/2	G 2	630,5	215	310	280	250	258	190	15	68	12	84	38	57,5
MXH 4801/A	G 3	G 2 1/2	547,5	138,5	290	205	175	180	140	15	54	10	128,5	6*	38
MXH 4802/A	G 3	G 2 1/2	568,5	138,5	310	280	250	258	190	15	68	12	100	38	49,5
MXH 4803/A	G 3	G 2 1/2	630,5	200	310	280	250	258	190	15	68	12	100	38	58

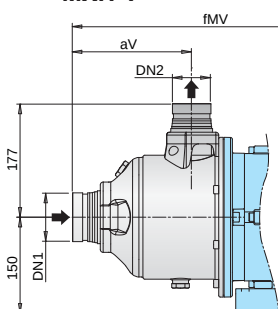
Flanges* EN 1092-2



DN	DE	DK	DG	Fori	
				N.	Ø
40	150	110	81	4	19
50	165	125	99	4	19
65	185	145	118	4	19
80	200	160	132	8	19

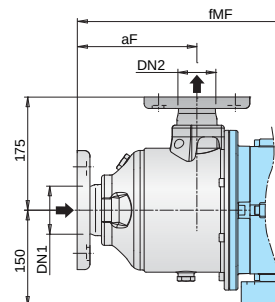
* ASME 150 lb (ex ANSI 150 lb)

Victaulic ports MXH-V



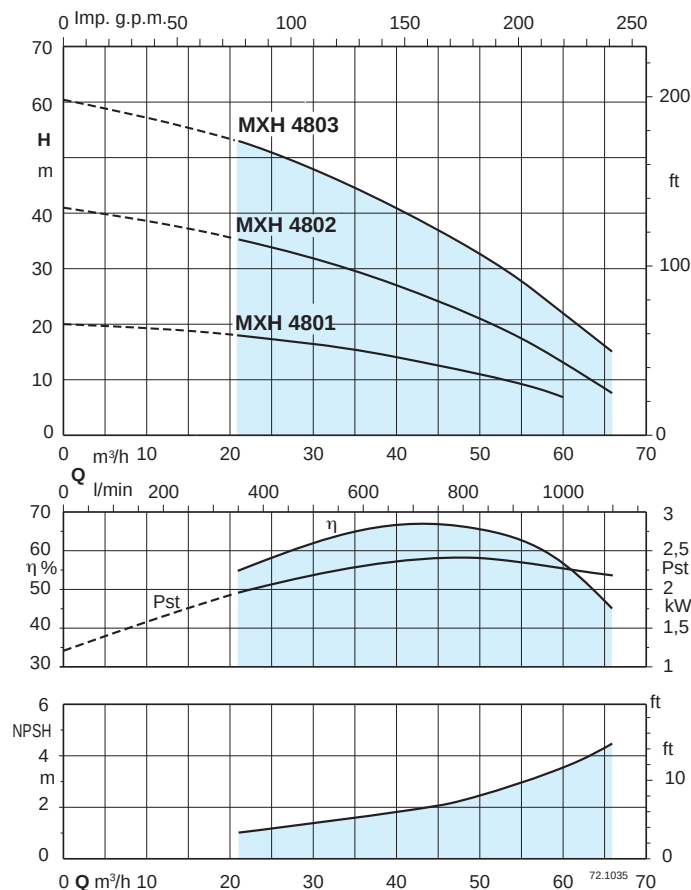
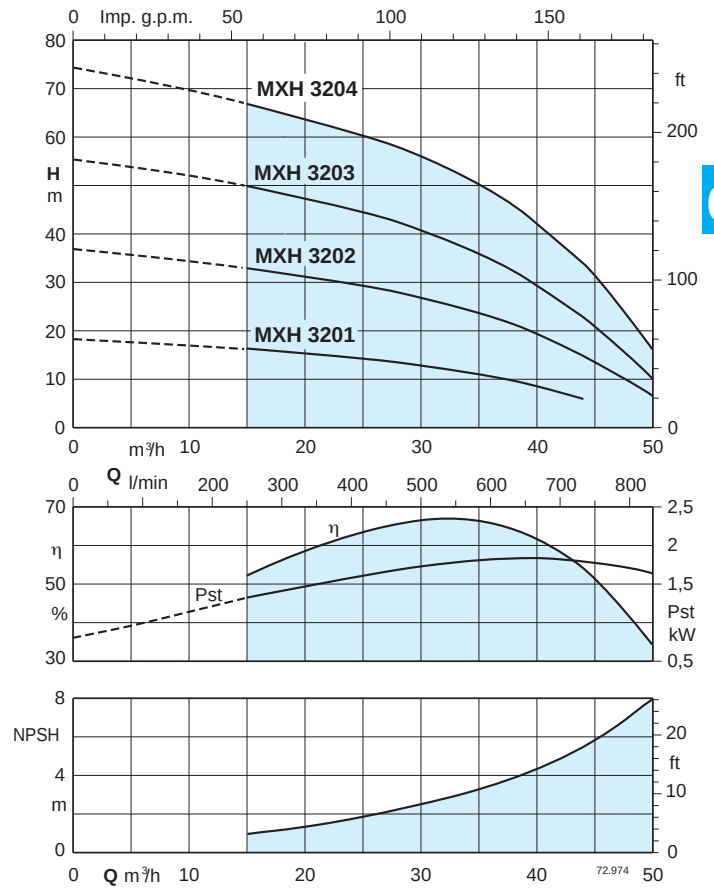
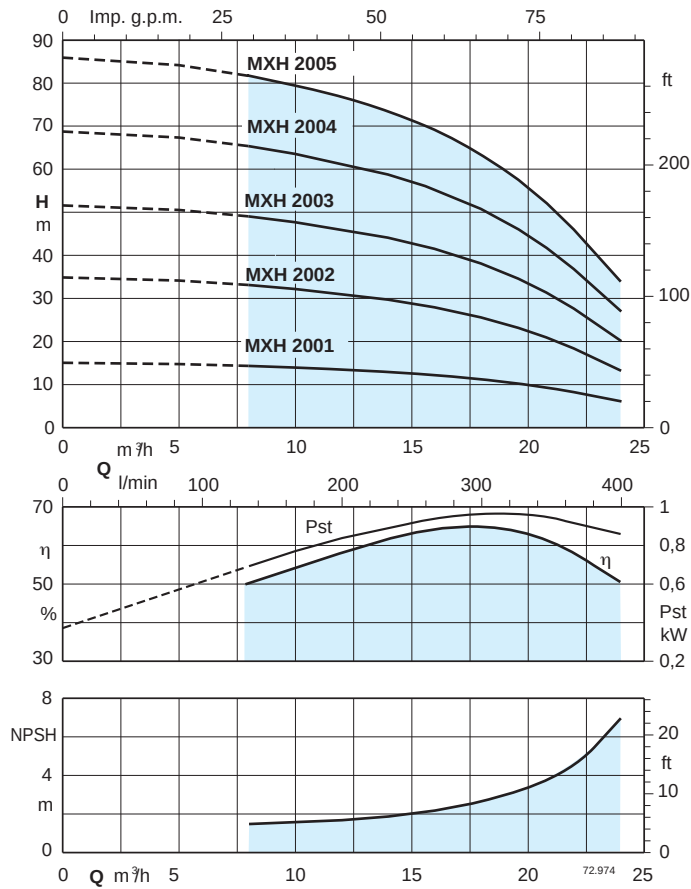
TYPE	DN1 mm	DN2 mm	mm	
			fMV	aV
MXH-V 2001	60,3 (DN50)	48,3 (DN40)	504	163,5
MXH-V 2002	60,3 (DN50)	48,3 (DN40)	544	163,5
MXH-V 2003	60,3 (DN50)	48,3 (DN40)	577	182,5
MXH-V 2004	60,3 (DN50)	48,3 (DN40)	611	217
MXH-V 2005	60,3 (DN50)	48,3 (DN40)	667	251,5
MXH-V 3201/A	76,1 (DN65)	60,3 (DN50)	541	160
MXH-V 3202/A	76,1 (DN65)	60,3 (DN50)	555	160
MXH-V 3203/A	76,1 (DN65)	60,3 (DN50)	622	206
MXH-V 3204/A	76,1 (DN65)	60,3 (DN50)	668	252
MXH-V 4801/A	88,9 (DN80)	76,1 (DN65)	585	175
MXH-V 4802/A	88,9 (DN80)	76,1 (DN65)	606	175
MXH-V 4803/A	88,9 (DN80)	76,1 (DN65)	668	237

Flanged ports MXH-F



TYPE	DN1 mm	DN2 mm	mm	
			fMF	aF
MXH-F 2001	50	40	502	161,5
MXH-F 2002	50	40	542	161,5
MXH-F 2003	50	40	575	180,5
MXH-F 2004	50	40	624	230
MXH-F 2005	50	40	665	249,5
MXH-F 3201/A	65	50	531	151
MXH-F 3202/A	65	50	545	151
MXH-F 3203/A	65	50	612	197
MXH-F 3204/A	65	50	658	243
MXH-F 4801/A	80	65	565	156
MXH-F 4802/A	80	65	586	156
MXH-F 4803/A	80	65	648	218

Characteristic curves $n \approx 2900$ rpm



Designation

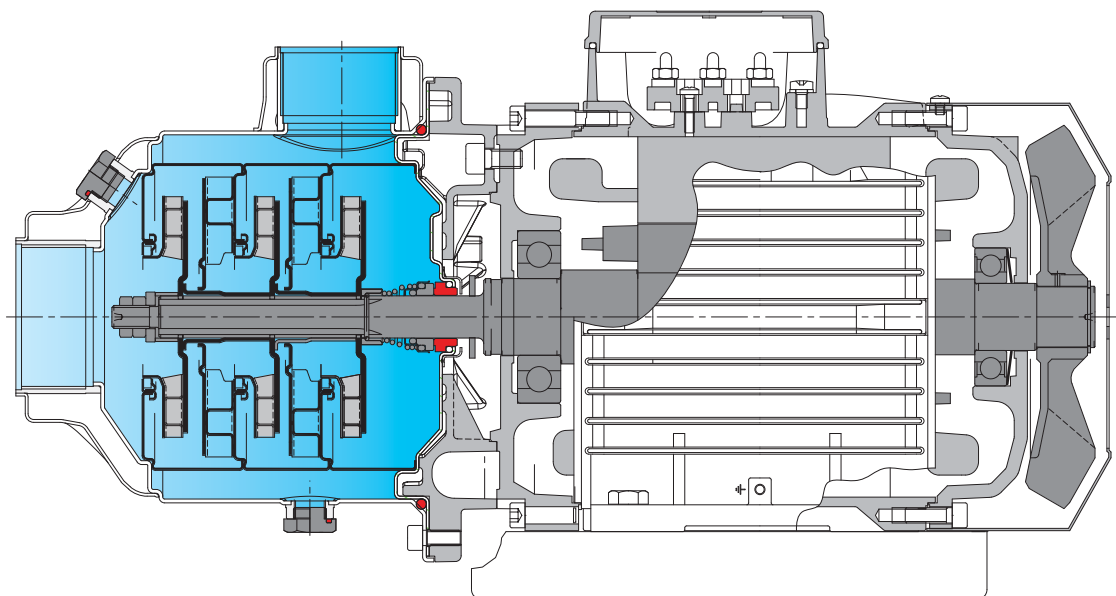
MXH-F 3204 *

Series _____
No code = threaded ports _____
Victaulic ports _____ V
Flanged ports _____ F
Rated capacity in m³/h _____
Number of stages _____

Construction variants

special seal code (no code = standard seal) _____

Features



Flexibility

Three versions of ports: threaded, flanged and Victaulic.

Extra safety

With front axis suction port for optimum suction conditions.

Reliable

All hydraulic parts in contact with the pumped liquid are made in stainless steel.
For liquids from -15 °C to 110 °C.

Robust

Single-piece, thick barrel casing, open on one side only, with reinforced threaded ports.

Compact

The bracket between pump and motor is extremely compact.

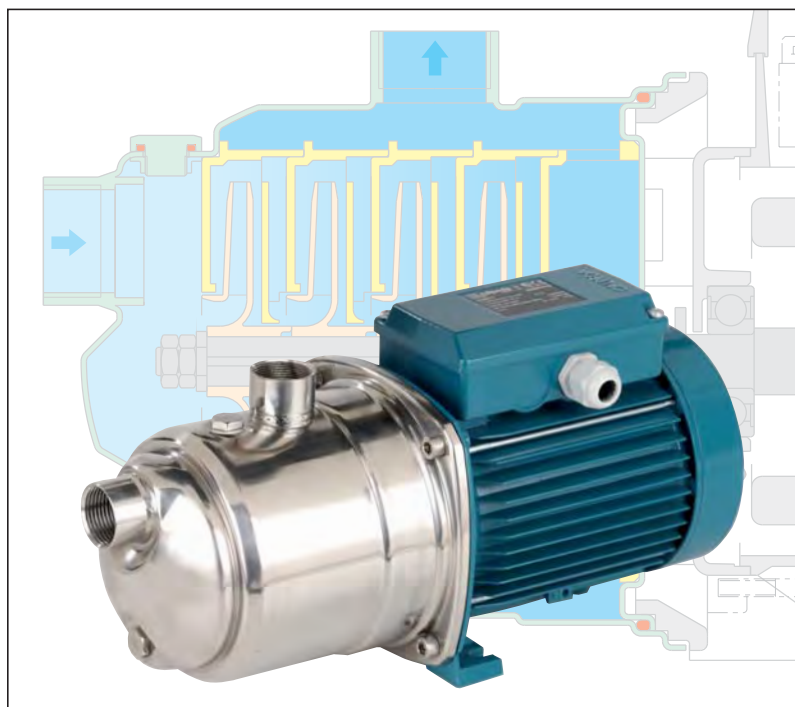
Greater protection

Against leakage, with the pump casing cover separated from the motor shield.
Possibility of inspecting the seal through the side apertures between the two walls.

MXP

Horizontal Multi-Stage Close Coupled Pumps

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Construction

Horizontal multi-stage close coupled pump.
Single-piece barrel casing in chrome-nickel stainless steel, with front suction port above pumps axis and radial delivery at top.
Stages in Noryl.

Applications

For water supply.
For domestic use, for garden use and irrigation.

Operating conditions

Liquid temperature: 0 °C to +50 °C.
Ambient temperature up to +40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).
MXP: three-phase 230/400 V $\pm 10\%$.
MXPM: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Classification scheme IE2 for three-phase motors from 0,75 kW.
Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

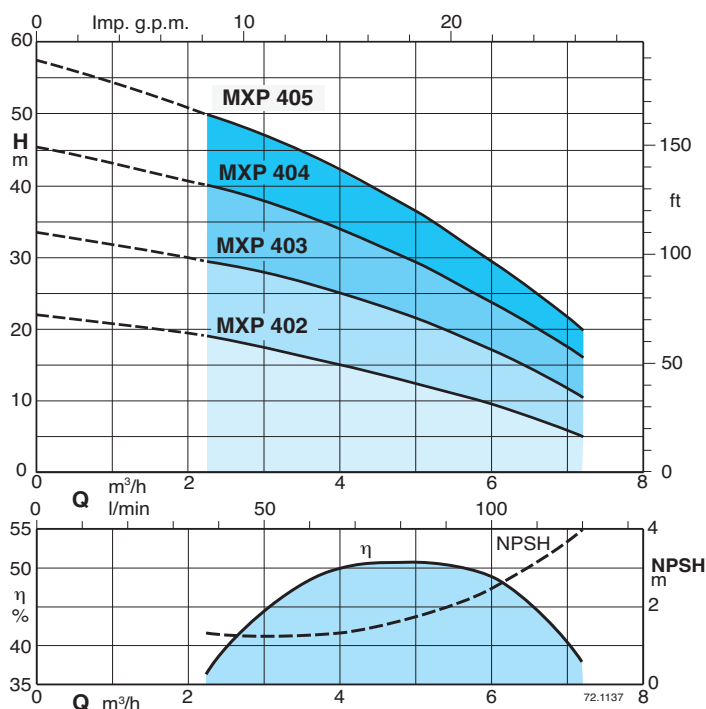
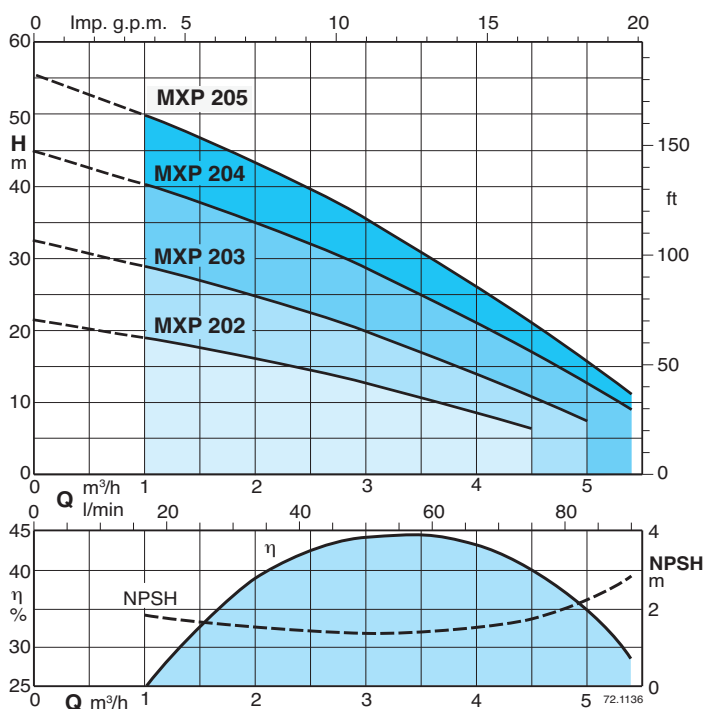
Materials

Component	Material
Pump casing	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Casing cover	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Pump Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)
Plug	Cr-Ni steel 1.4305 EN 10088 (AISI 303)
Stage casing	PPO-GF20 (Noryl)
Impeller	PPO-GF20 (Noryl)
Mechanical seal	Carbon - Ceramic - NBR

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Motor suitable for operation with frequency converter.

Characteristic curves $n \approx 2800$ rpm



Performance $n \approx 2800$ rpm

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q m³/h l/min	0	1	1,5	2	2,5	3	3,5	4	4,5	5	5,4
	A	A		A	kW	kW	HP		0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	90
MXP 202	1,7	1	MXPM 202	2,3	0,45	0,33	0,45	H m	21,5	19	17,5	16	14,5	12,5	10,5	8,5	6,5		
MXP 203	2,4	1,4	MXPM 203	3	0,63	0,45	0,6		32,5	29	27	25	22,5	20	17	14	11	7,5	
MXP 204/A	2,8	1,6	MXPM 204/A	4,2	0,8	0,55	0,75		45	40	37,5	35	32	28,5	25	21,5	17	13	9
MXP 205	3,5	2	MXPM 205	5,4	1,2	0,75	1		56	50	46,5	43,5	40	35,5	31	26,5	21	16	11

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q ^{m³/h} l/min	0	2,25	3	3,5	4	4,5	5	6	7,2
	A	A		A	kW	kW	HP		0	37,5	50	58,3	66,6	75	83,3	100	120
MXP 402	2,4	1,4	MXPM 402	3	0,61	0,45	0,6	H _m	22	19	17,5	16,5	15	14	12,5	9,5	5
MXP 403/A	2,8	1,6	MXPM 403/A	4,2	0,9	0,55	0,75		33,5	30	28	26,5	25	23	21,5	17	10
MXP 404/A	3,5	2	MXPM 404/A	5,4	1,2	0,75	1		46	40	38	36,5	34	32	29,5	24	16
MXP 405	4,5	2,6	MXPM 405	7	1,5	1,1	1,5		56	50	47	45	42	39,5	36	29,5	20

P₁ Max. power input.

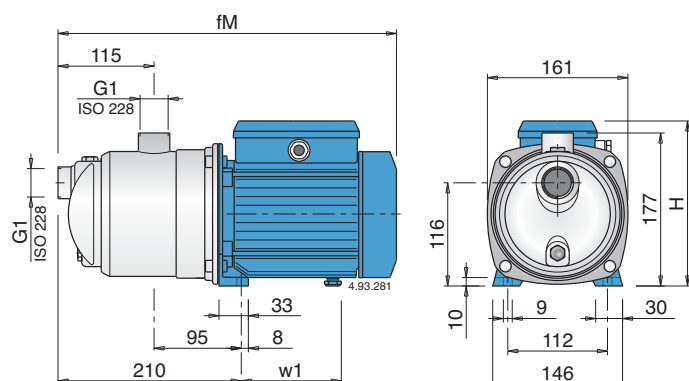
P₂ Rated motor power output.

Test results with clean cold water, without gas content.
+ 0,5 m security margin on NPSH-value is necessary.

Tolerances according to UNI EN ISO 9906:2012

For capacities over 4 m³/h use a suction pipe G 1 1/4 (DN 32).

Dimensions and weights



TYPE	mm			kg	
	fM	H	w1	MXP	MXPM
MXP 202 - MXPM 202	362	176	102	5,9	6
MXP 203 - MXPM 203	362	176	102	6,6	6,7
MXP 204/A - MXPM 204/A	391	192	112	8,7	9,6
MXP 205 - MXPM 205	391	192	112	9,5	10,5
MXP 402 - MXPM 402	362	176	102	6,5	6,6
MXP 403/A - MXPM 403/A	391	192	112	8,6	9,5
MXP 404/A - MXPM 404/A	391	192	112	9,5	10,5
MXP 405 - MXPM 405	421	192	142	13,5	13,5

Features

Extra safety

against running dry, with the suction port above pump axis.

Robust

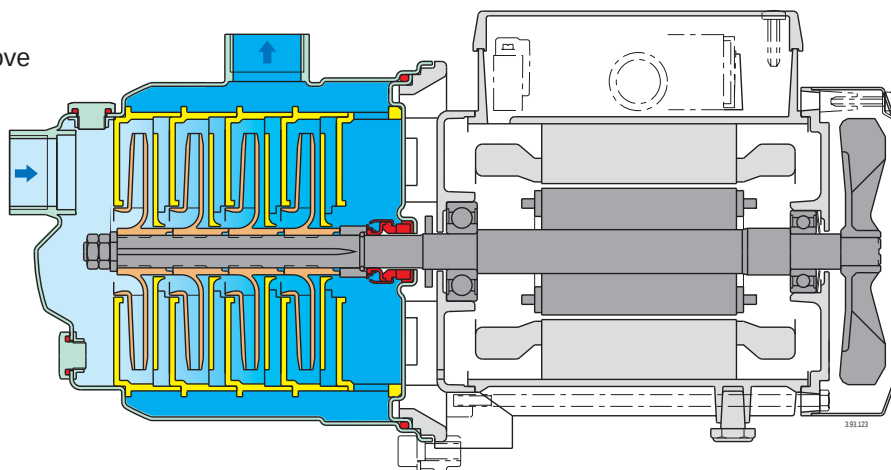
Single-piece barrel casing.

Compact

Single-piece lantern bracket and base.

Low noise

with the water-filled shroud around the stages.





Construction

Horizontal multi-stage close coupled pump.
Single-piece barrel casing in cast iron, with front suction port above pumps axis and radial delivery at top.
Stages in Noryl.

Applications

For water supply.
For domestic use, for garden use and irrigation.

Operating conditions

Liquid temperature: 0 °C to +50 °C.
Ambient temperature up to +40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).

MGP: three-phase 230/400 V $\pm 10\%$.

MGPM: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

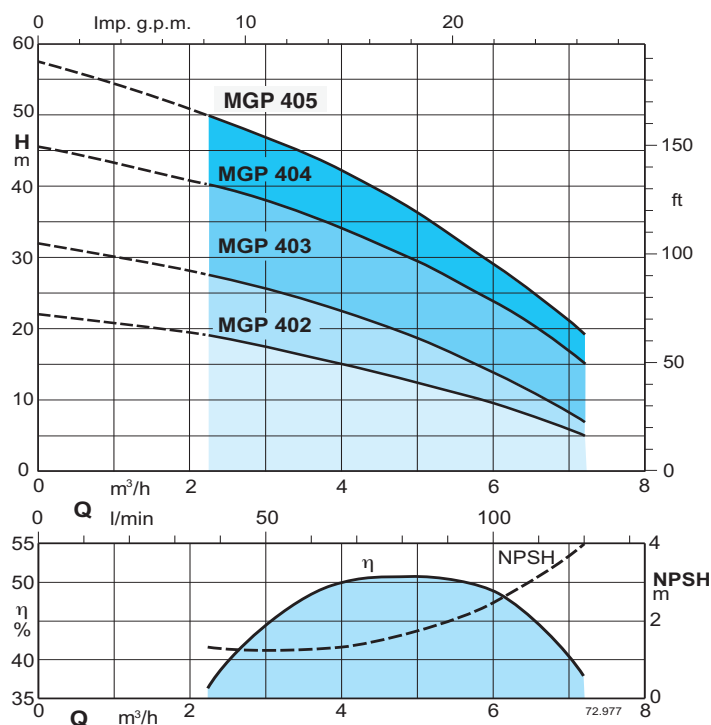
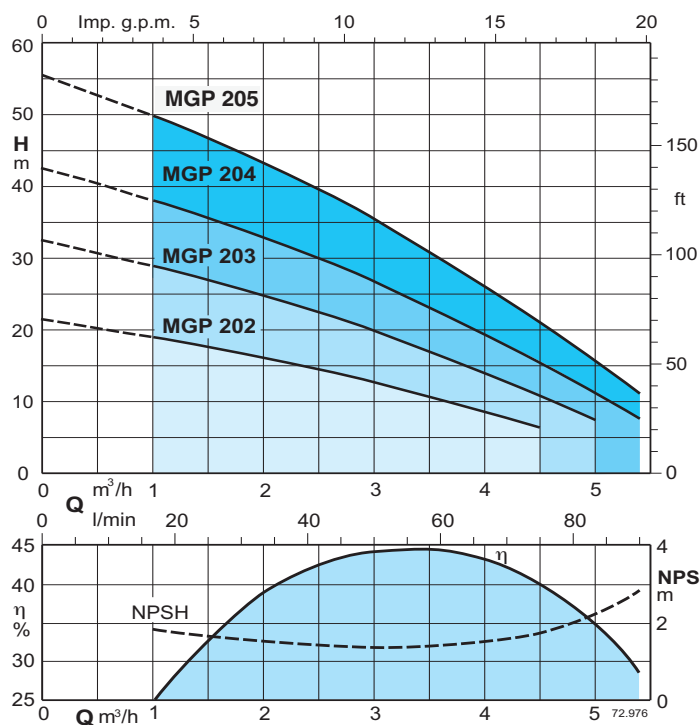
Materials

Component	Material
Pump casing	Cast iron GJL 200 EN 1561
Casing cover	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Pump Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)
Stage casing	PPO-GF20 (Noryl)
Impeller	PPO-GF20 (Noryl)
Mechanical seal	Carbon - Ceramic - NBR

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Motor suitable for operation with frequency converter.

Characteristic curves $n \approx 2800$ rpm



MGP

Horizontal Multi-Stage Close Coupled Pumps

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Performance $n \approx 2800$ rpm

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q											
	A	A		A	kW	kW	HP		0	1	1,5	2	2,5	3	3,5	4	4,5	5	5,4
MGP 202	1,7	1	MGPM 202	2,3	0,45	0,33	0,45	H m	0	16,6	25	33,3	41,6	50	58,3	66,6	75	83,3	90
MGP 203	2,4	1,4	MGPM 203	3	0,63	0,45	0,6		21,5	19	17,5	16	14,5	12,5	10,5	8,5	6,5		
MGP 204	2,8	1,6	MGPM 204	3,3	0,75	0,55	0,75		32,5	29	27	25	22,5	20	17	14	11	7,5	
MGP 205	3,5	2	MGPM 205	5,4	1	0,75	1		43	38	35,5	32,7	29,7	26,5	23	19,2	15,2	11	7,5
									56	50	46,5	43,5	40	35,5	31	26,5	21	16	11

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q									
	A	A		A	kW	kW	HP		0	2,25	3	3,5	4	4,5	5	6	7,2
MGP 402	2,4	1,4	MGPM 402	3	0,61	0,45	0,6	H m	0	37,5	50	58,3	66,6	75	83,3	100	120
MGP 403	3	1,73	MGPM 403	3,5	0,85	0,55	0,75		22	19	17,5	16,5	15	14	12,5	9,5	5
MGP 404	3,5	2	MGPM 404	5,4	1,2	0,75	1		32	27,5	25,5	23,7	22	20	18	13,3	7
MGP 405	4,5	2,6	MGPM 405	7	1,5	1,1	1,5		46	40	38	36,5	34	32	29,5	24	15
									56	50	47	45	42,5	39,5	36	29	19

P₁ Max. power input.

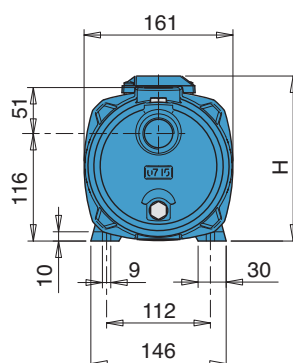
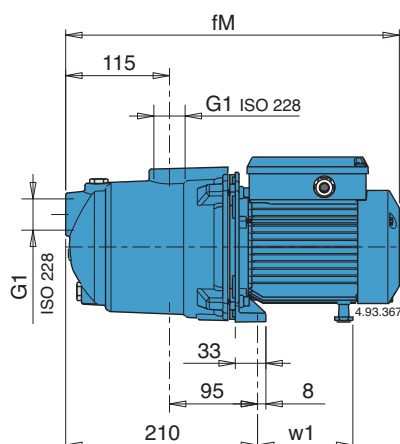
P₂ Rated motor power output.

Test results with clean cold water, without gas content.
+ 0,5 m security margin on NPSH-value is necessary.

Tolerances according to UNI EN ISO 9906:2012

For capacities over 4 m³/h use a suction pipe G 1 1/4 (DN 32).

Dimensions and weights



TYPE	mm			Net weight kg	
	fM	H	w1	MGP	MGPM
MGP 202 - MGPM 202	362	176	102	8,9	9
MGP 203 - MGPM 203	362	176	102	9,3	9,4
MGP 204 - MGPM 204	362	176	102	10,3	10,4
MGP 205 - MGPM 205	391	192	112	12,5	13,5
MGP 402 - MGPM 402	362	176	102	9,5	9,6
MGP 403 - MGPM 403	362	176	102	10,3	10,4
MGP 404 - MGPM 404	391	192	112	12,5	13,5
MGP 405 - MGPM 405	421	192	112	16,5	16,5

Features

Extra safety

against running dry, with the suction port above pump axis.

Robust

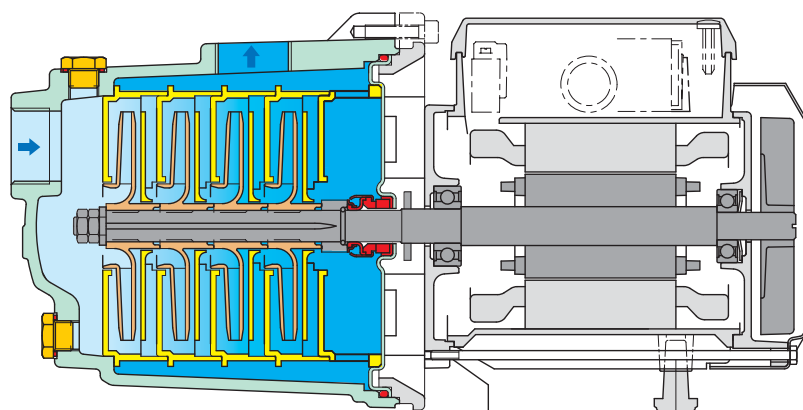
Single-piece barrel casing.

Compact

Single-piece lantern bracket and base.

Low noise

with the water-filled shroud around the stages.



MXSU

Vertical multi-stage close coupled pumps

calpeda[®]



Construction

Vertical multi-stage close coupled pumps in **chrome-nickel stainless steel, with motor shields in brass.**

Suction connection on the lower casing and delivery connection on the top casing. Motor cooled by the pumped water passing between the motor jacket and the external jacket.

Double mechanical shaft seal with interposed oil chamber.

Applications

For clean water without abrasives or additives aggressive for the materials of the pump.

For domestic, civil and industrial applications.

For installation in confined space with minimum ventilation.

For installation in locations subject to risk of temporary flooding.

For installation in areas exposed to water jetting.

When low-noise operation is required.

Operating conditions

Water temperature up to 35 °C.

Maximum permissible pressure in the pump casing: 10 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

MXSU : three-phase 230 V $\pm 10\%$;
three-phase 400 V $\pm 10\%$.

MXSUM : single-phase 230 V $\pm 10\%$, with thermal protector.

Control box with capacitor, on request.

Cable: H07RN8-F, 4 G 1 mm², length 2 m.

Insulation class F.

Protection IP 68.

Triple impregnation humidity-proof dry winding.

Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

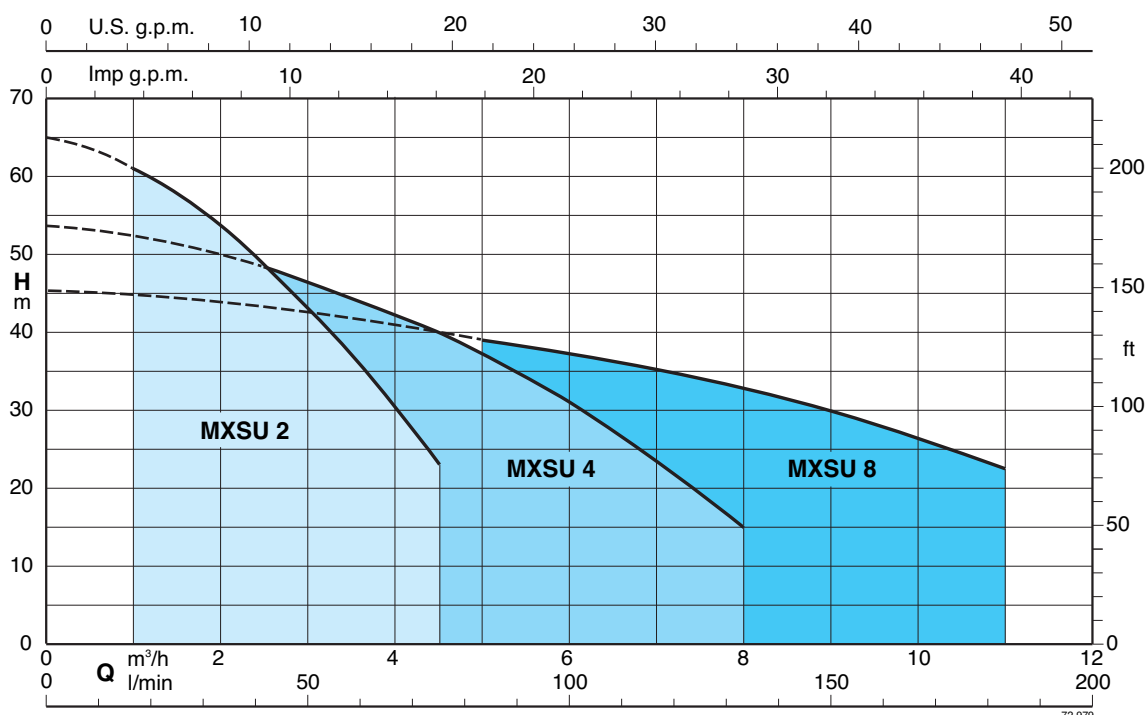
Materials

Component	Material
External jacket	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Suction casing	
Stage casing	
Impeller	
Oil chamber cover	
Spacer sleeve	
Motor jacket	
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Motor shield	Brass P- Cu Zn 40 Pb 2 UNI 5705
Elbow	
	Brass P- Cu Zn 40 Pb 2 UNI 5705 nickel-plated
Upper mechanical seal	Steatite, carbon, NBR
Lower mechanical seal	Ceramic alumina, silicon carbide, NBR
Seal lubrication oil	Oil for food machinery and pharmaceutic use

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Motor suitable for operation with frequency converter.

Coverage chart $n \approx 2900$ rpm



MXSU

Vertical multi-stage close coupled pumps

calpeda®

Performance $n \approx 2900$ rpm

3 ~ 230 V 400 V			1 ~ 230 V Capacitor P1				P2		Q	m³/h l/min	0	1	1,5	2	2,5	3	3,5	4	4,5	
	A	A		A	µF	V	kW	kW			HP	0	16,6	25	33,3	41,6	50	58,3	66,6	75
MXSU 203/A	2,4	1,4	MXSUM 203/A	3,5	20	450	0,8	0,55	0,75	H m	33	31	29,5	27,5	25	22	19	16	12	
MXSU 204/A	2,7	1,6	MXSUM 204/A	4,1	20	450	0,85	0,55	0,75		44	41,5	39,5	36,5	33,5	29,5	25,5	21	16	
MXSU 205/A	3,3	1,9	MXSUM 205/A	5	20	450	1,1	0,75	1		53	49,5	47	44	40	35	30	25	19	
MXSU 206/A	3,8	2,2	MXSUM 206/A	6	25	450	1,3	0,9	1,2		65	61	58	54	49	43	37	30,5	23	

3 ~ 230 V 400 V			1 ~ 230 V Capacitor P1				P2		Q	m³/h l/min	0	2,5	3	3,5	4	4,5	5	6	7	8
	A	A		A	µF	V	kW	kW			HP	0	41,6	50	58,3	66,6	75	83,3	100	116
MXSU 404/A	3,8	2,2	MXSUM 404/A	6	25	450	1,3	0,9	1,2	H m	43	39	38	36,5	34,5	33	30,5	25,5	19,5	13
MXSU 405/A	4.5	2.6	MXSUM 405/A	7	25	450	1.55	1.1	1.5		53	48	46.5	45	42.5	40	37.5	31	24	15

3 ~ 230 V 400 V			1 ~ 230 V Capacitor P1				P2		Q	m³/h l/min	0	5	6	7	8	9	10	11		
	A	A		A	µF	V	kW	kW			HP	0	83,3	100	116	133	150	166	183	
MXSU 803/A	4,5	2,6	MXSUM 803/A	7	25	450	1,55	1,1	1,5	H m	34,5	29,5	28	26,5	24,5	22,5	20	16,5		
MXSU 804/A	6.6	3.8						1,5	2		45,5	39	37	35	32.5	30	26,5	22,5		

P₁ Max. power input.

Test results with clean cold water, without gas content.

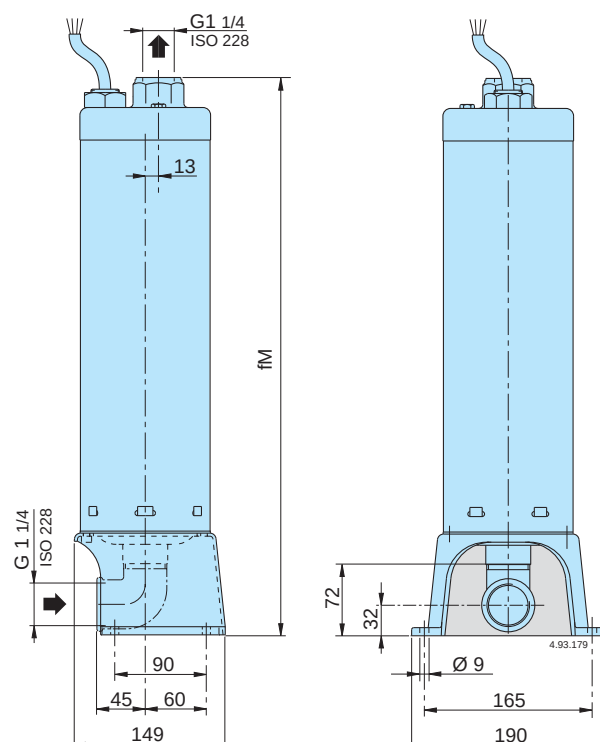
P₂ Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

Dimensions and weights

PUMP	fM	kg
mm		
MXSU 203/A	524	11,3
MXSU 204/A	524	11,5
MXSU 205/A	548	12
MXSU 206/A	572	13,3
MXSU 404/A	524	12,4
MXSU 405/A	548	12,9
MXSU 803/A	548	12,5
MXSU 804/A	548	14,7

PUMP	fM	kg
mm		
MXSUM 203/A	524	12,3
MXSUM 204/A	524	12,5
MXSUM 205/A	548	13,6
MXSUM 206/A	572	14,8
MXSUM 404/A	524	14
MXSUM 405/A	548	14,4
MXSUM 803/A	548	14,1

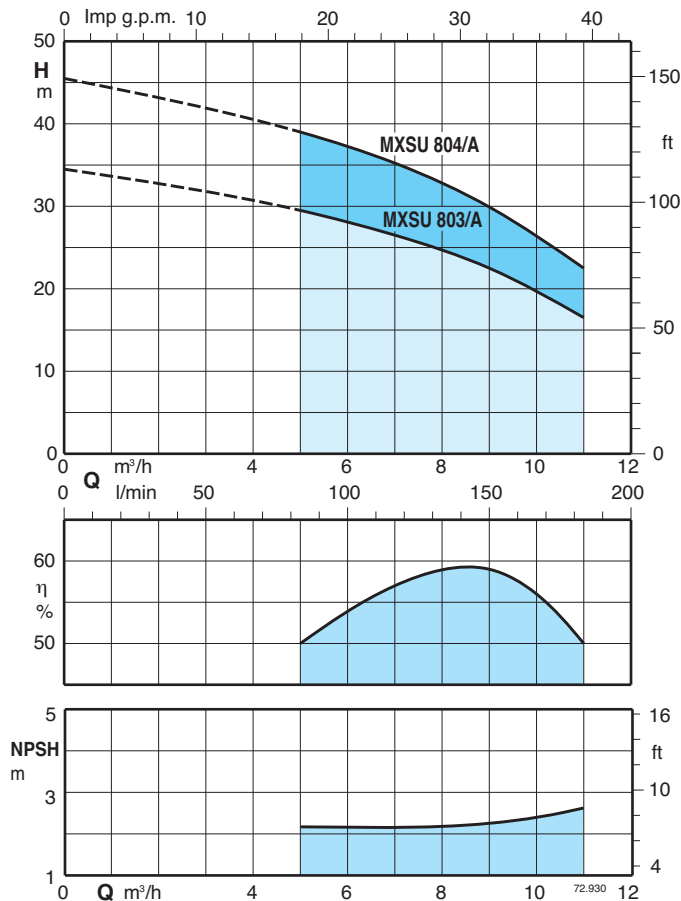
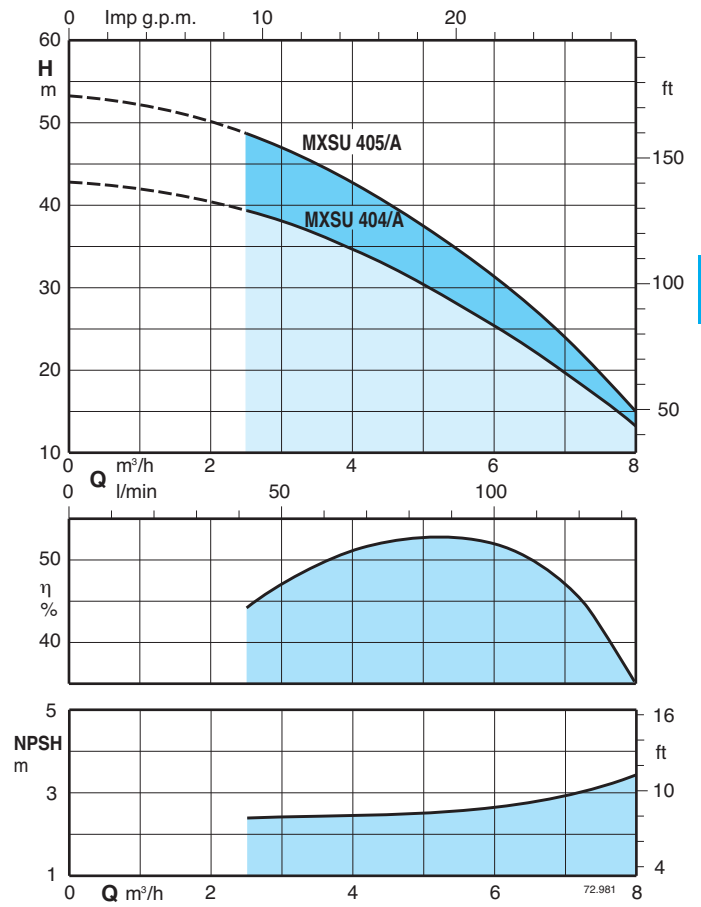
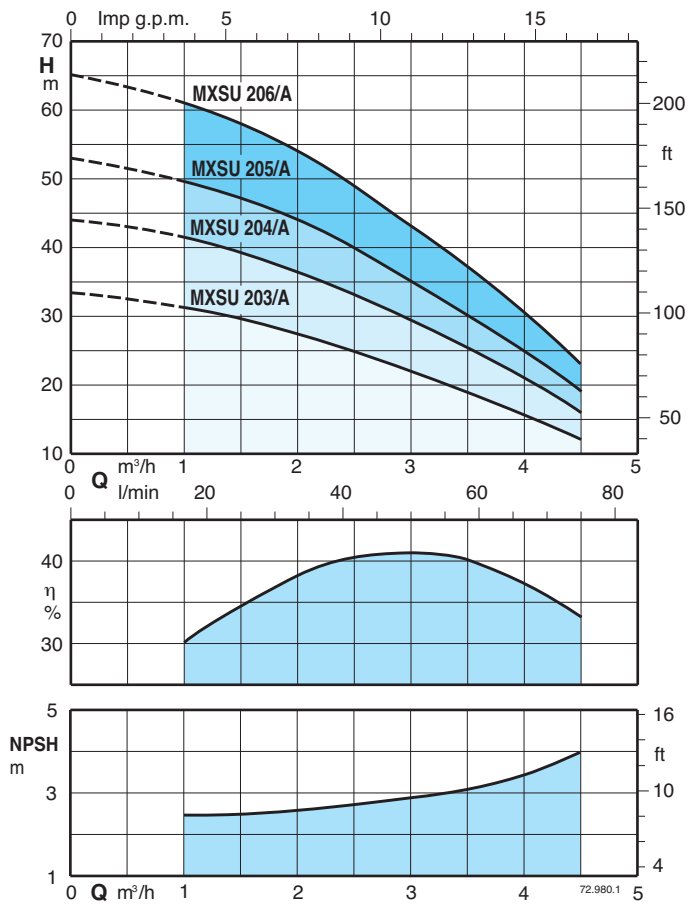


MXSU

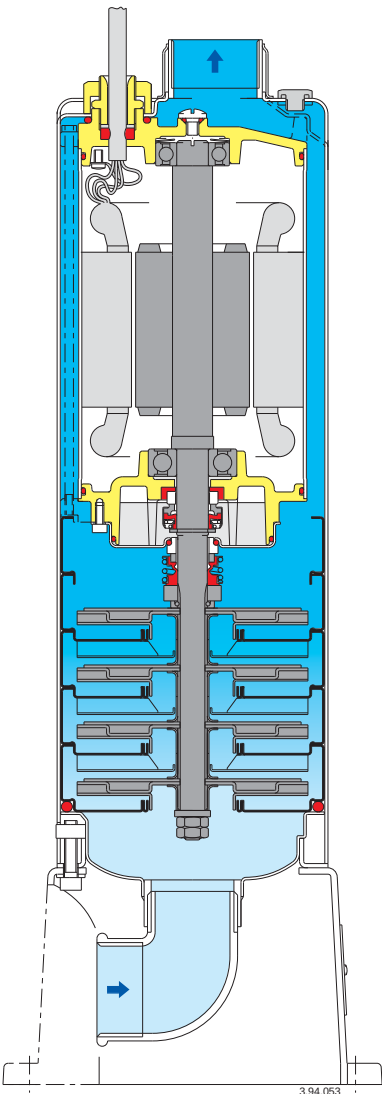
Vertical multi-stage close coupled pumps

calpeda[®]

Characteristic curves $n \approx 2900$ rpm

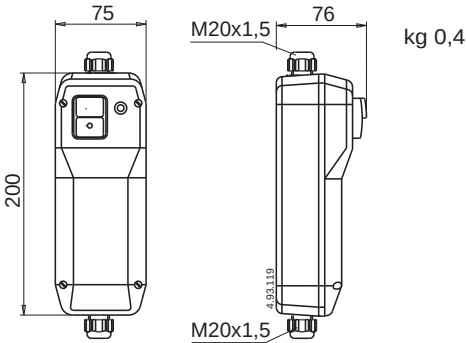


Features



Control box for single-phase pumps (on request)

Pump	Control box	Capacitor	
MXSUM 203/A	QM 11	20 µF	450 V
MXSUM 204/A			
MXSUM 205/A			
MXSUM 206/A	QM 12	25 µF	450 V
MXSUM 404/A			
MXSUM 405/A			
MXSUM 803/A			



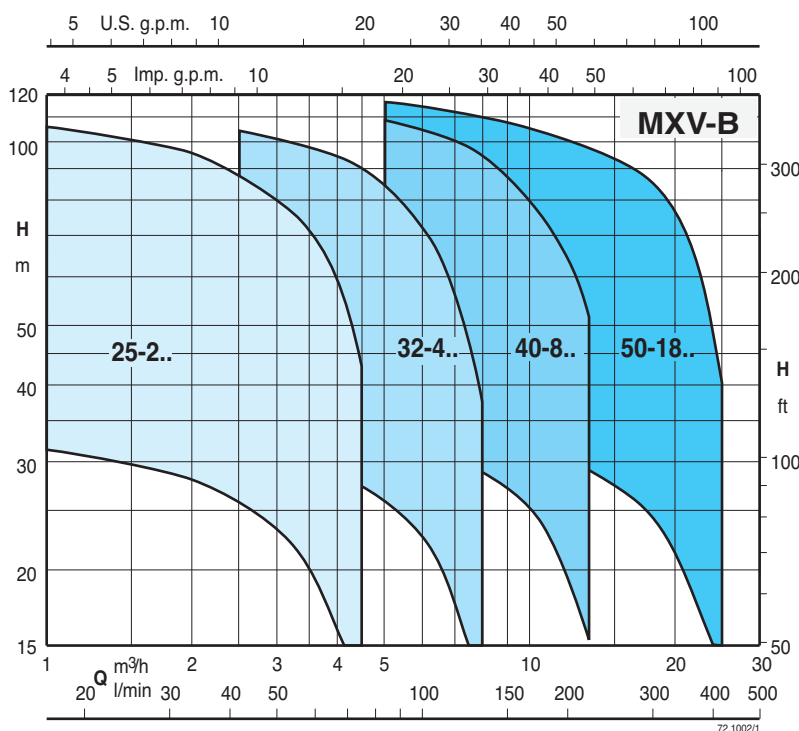
MXV-B

Vertical Multi-Stage Close Coupled Pumps



The electropumps MXV-B 25,32,40.. series comply with the European Regulation no. 547/2012 (MXV-B 50 series cannot be sold in the EU).

Coverage chart $n \approx 2900$ rpm



Construction

Vertical multi-stage close coupled pumps with suction and delivery connections of the same diameter and arranged along the same axis (in-line).

All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel stainless steel with corrosion-resistant bearing sleeves lubricated by the pumped liquid.

Applications

For water supply systems.

For clean non-explosive liquids, without solid, filamentary or abrasive matter and non-aggressive for stainless steel (with adaptation of sealing materials on request).

A universal pump for civil and industrial use, for pressure-boosting systems, fire-extinguishing systems, high-pressure washing plants, irrigation, agricultural uses and sport installations.

Operating conditions

Temperature of liquid: from -15°C to $+90^{\circ}\text{C}$.

Operating environment temperature: up to 40°C .

Maximum permissible pressure in pump casing: 16 bar.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

MXV-B: three-phase 230/400 V $\pm 10\%$ up to 3 kW;

400/690 V $\pm 10\%$ from 3,7 to 7,5 kW.

MXV-BM: single-phase 230 V $\pm 10\%$,

with thermal protector.

Capacitor inside the terminal box.

Insulation class F. Protection IP 54.

Motor suitable for operation with frequency converter from 2,2 kW.

Classification scheme IE2 for three-phase motors up to 5,5 kW, IE3 for 7,5 kW.

Constructed in accordance with: EN 60034-1, EN 60034-30.

EN 60335-1, EN 60335-2-41.

Materials (wetted parts)

Component	Material
External jacket	
Suction casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Delivery casing	
Stage casing	
Impeller	
Lower cover	
Upper cover	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Spacer sleeve	
Pump shaft	
Plug	Ceramic alumina/Carbon/EPDM
Mechanical seal	
ISO 3069 - KU	PTFE
Wear ring	
O-ring	NBR

Special features on request

- Other voltages.
- Frequency 60 Hz.
- Protection IP 55.
- Special mechanical seal
- Pump casing seal rings in FPM.
- Higher or lower liquid or ambient temperatures.
- Flanges to screw, in chrome-nickel steel.
- Motor suitable for operation with frequency converter up to 1,5 kW.

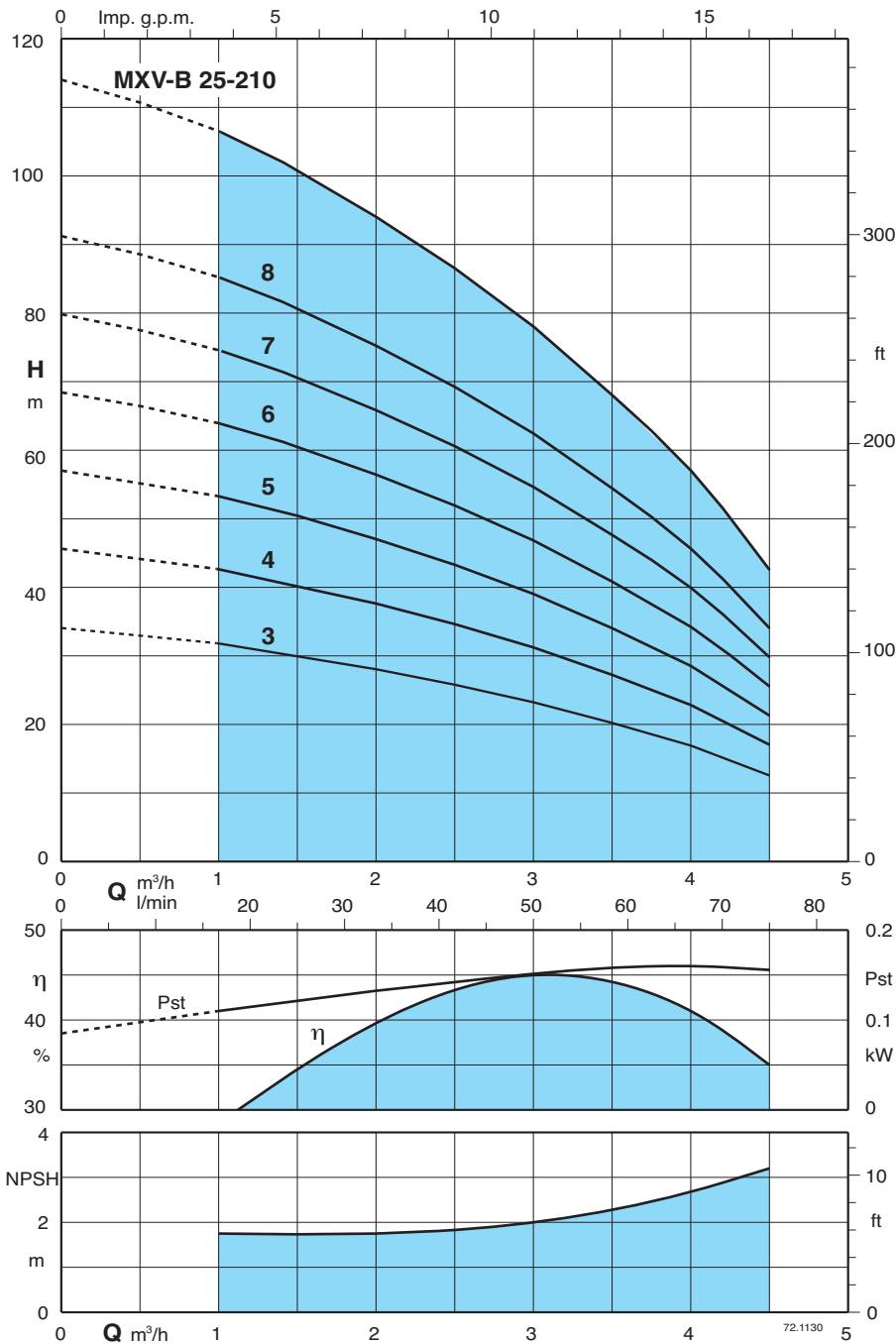
Designation

	MXV-B	M	25-205
Series			
Single-phase motor (up to 2.2 kW)			
DN ports in mm			
Rated capacity in m^3/h			
Number of stages			

MXV-B 25-2 Vertical Multi-Stage Close Coupled Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.
Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

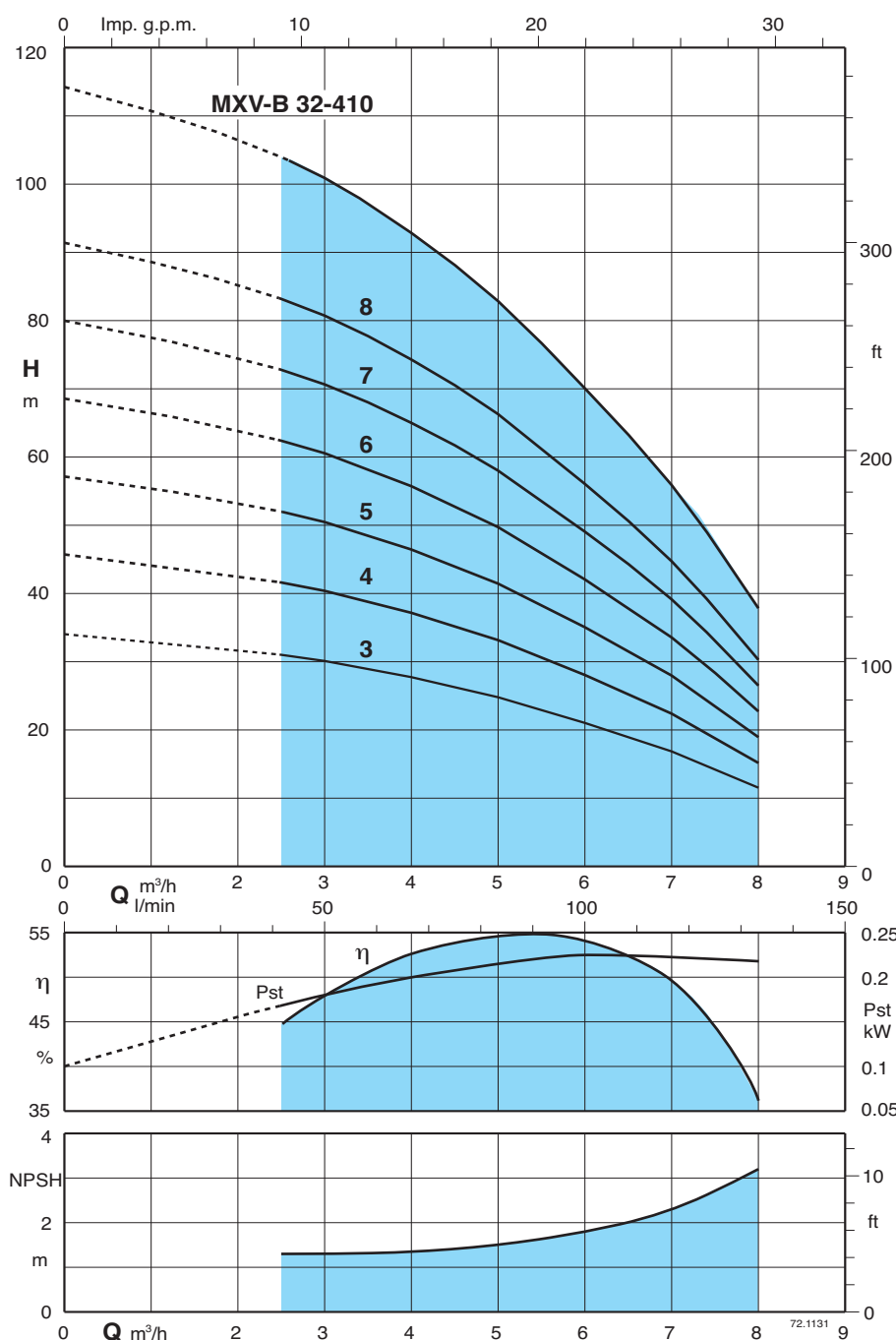
Pst = Power with reference to one stage.
P1 Max. power input.
P2 Rated motor power output.

3 ~ 230 V 400 V			1 ~ 230 V P1			P2		m³/h Q l/min	0	1	1,5	2	2,5	3	3,5	4	4,5
A	A		A	kW		kW	HP		0	16,6	25	33,3	41,6	50	58,3	66,6	75
MXV-B 25-203	3,3	1,9	MXV-BM 25-203	5,8	1,1	0,75	1	H m	34	32	30	28	26	23,5	20,5	17	12,5
MXV-B 25-204	3,3	1,9	MXV-BM 25-204	5,8	1,1	0,75	1		44	42,5	40	37,5	34,5	31	27	22,5	17
MXV-B 25-205	3,3	1,9	MXV-BM 25-205	5,8	1,1	0,75	1		56	53	50	47	43	39	34	28	21
MXV-B 25-206	4,7	2,7	MXV-BM 25-206	7,4	1,5	1,1	1,5		68	63,5	60,5	56	51,5	46,5	40,5	34	25
MXV-B 25-207	4,7	2,7	MXV-BM 25-207	7,4	1,6	1,1	1,5		79,5	74	70,5	65,5	60	54,5	47,5	39,5	30
MXV-B 25-208	7,5	4,3	MXV-BM 25-208	9,2	2	1,5	2		91	85	80,5	75	69	62	54	45,5	34
MXV-B 25-210	7,5	4,3	MXV-BM 25-210	9,2	2,3	1,5	2		114	106	101	94	86	78	68	57	42

MXV-B 32-4 Vertical Multi-Stage Close Coupled Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.
Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

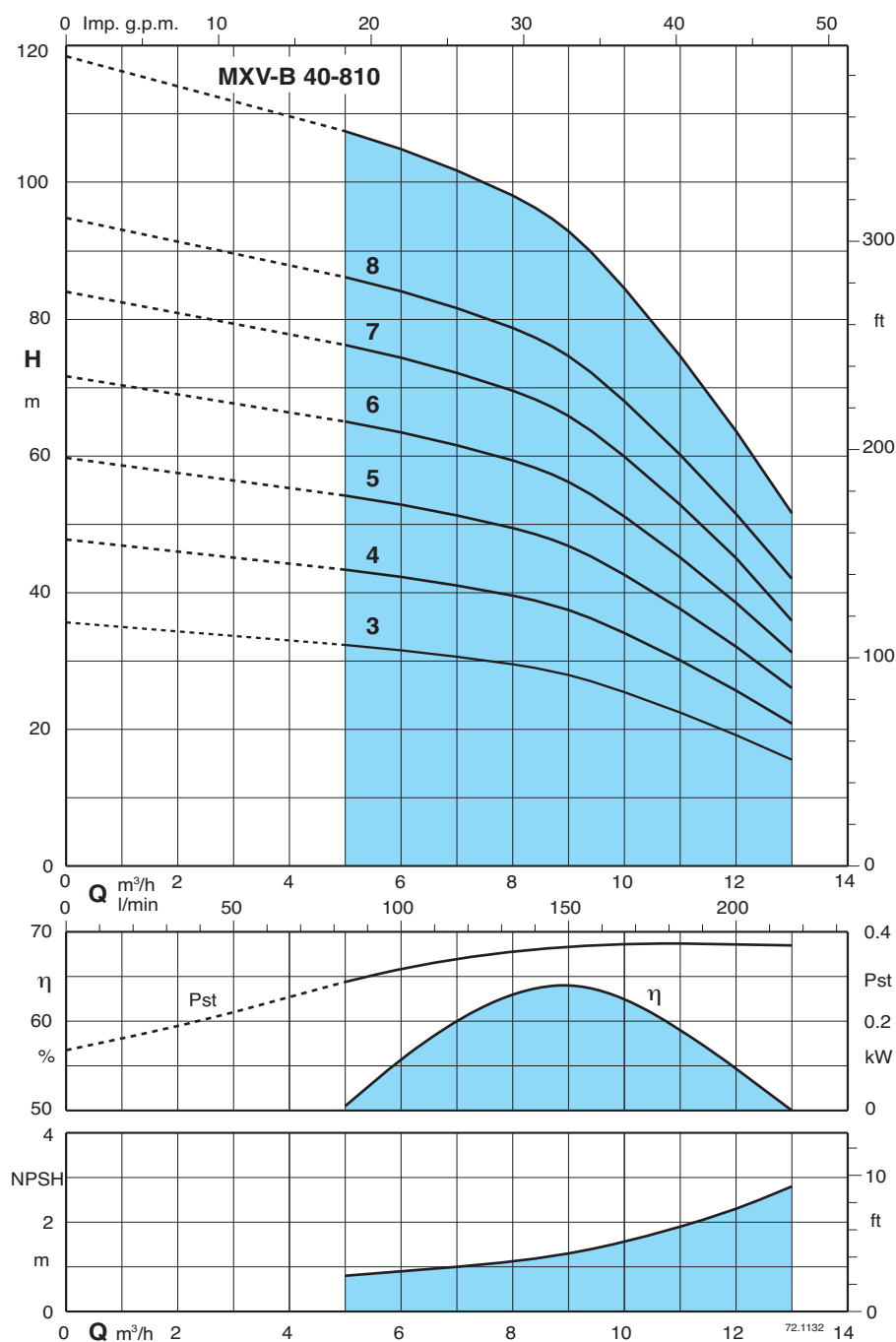
Pst = Power with reference to one stage.
P1 Max. power input.
P2 Rated motor power output.

3 ~	230 V 400 V		1 ~	230 V P1		P2		m³/h Q l/min	0	2,5	3	3,5	4	4,5	5	6	7	8
	A	A		A	kW	kW	HP		0	41,6	50	58,3	66,6	75	83,3	100	116,6	133,3
MXV-B 32-403	3,3	1,9	MXV-BM 32-403	5,8	1,1	0,75	1	H m	34	31	30,5	29	28	26,5	25	21	17	11,5
MXV-B 32-404	4,7	2,7	MXV-BM 32-404	7,4	1,5	1,1	1,5		45	41,5	40	38,5	36,5	34,5	32,5	27,5	22	14,5
MXV-B 32-405	4,7	2,7	MXV-BM 32-405	7,4	1,6	1,1	1,5		56	51,5	50	48	46	43,5	41	34,5	27,5	18,5
MXV-B 32-406	7,5	4,3	MXV-BM 32-406	9,2	2	1,5	2		68	62	60	58	55,5	52,5	49,5	42	33,5	22,5
MXV-B 32-407	7,5	4,3	MXV-BM 32-407	9,2	2,3	1,5	2		79,5	72,5	70,5	68	65	61,5	58	49	39	26,5
MXV-B 32-408/A	9,15	5,3				2,2	3		91	83	80,5	78	74	70	66	56	44,5	30
MXV-B 32-410/A	9,15	5,3				2,2	3		114	104	101	97,5	93	88	83	70	56	38

MXV-B 40-8 Vertical Multi-Stage Close Coupled Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

P1 Max. power input.

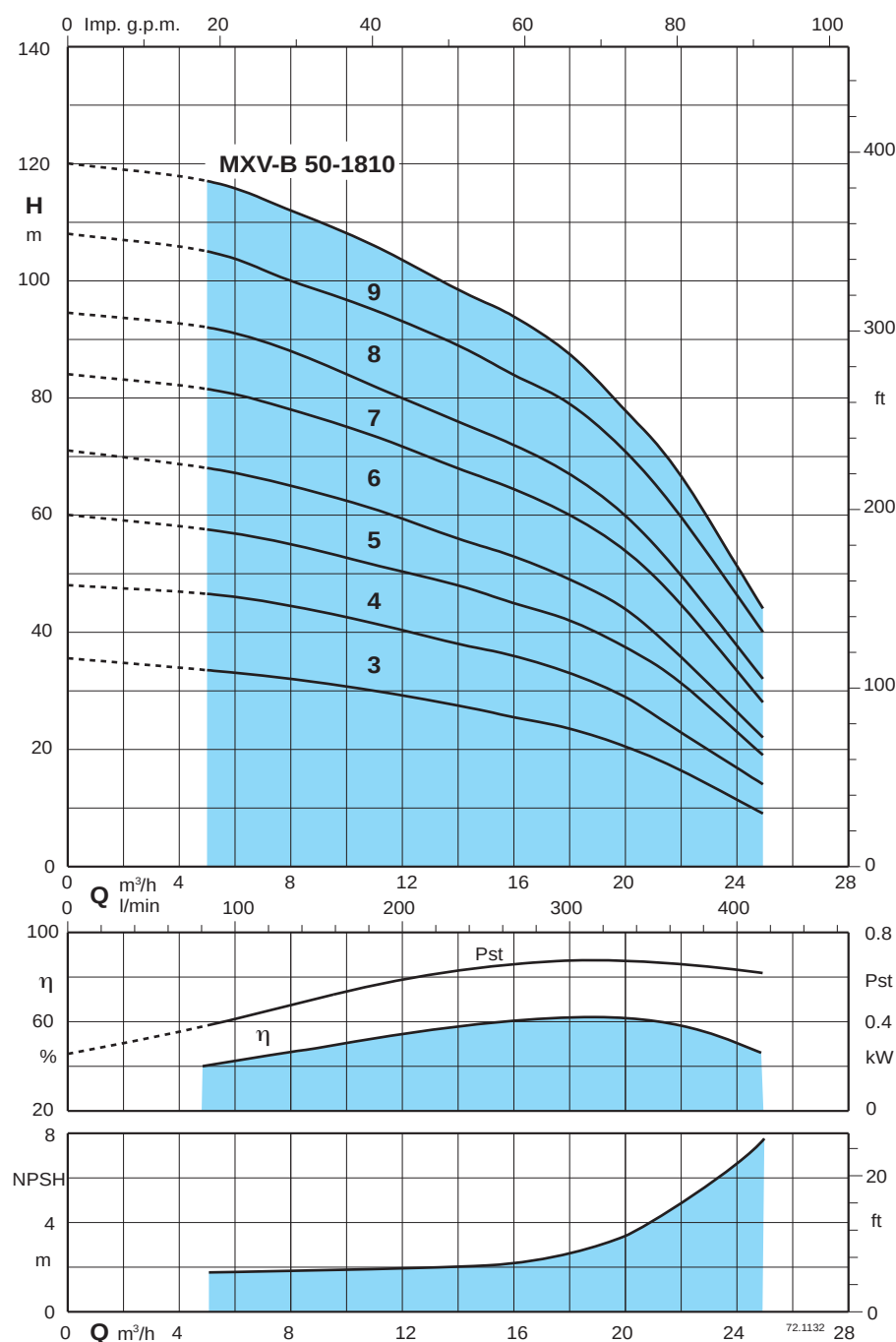
P2 Rated motor power output.

3 ~	230 V 400 V		1 ~	230 V P1		P2		m³/h Q l/min	0	5	6	7	8	9	10	11	12	13
	A	A		A	kW	kW	HP		0	83,3	100	116,6	133,3	150	166,6	183,3	200	216,6
MXV-B 40-803	4,7	2,7	MXV-BM 40-803	7,4	1,6	1,1	1,5	H m	35,5	32,5	31,5	31	29,5	28	25,5	22,5	19,5	15,5
MXV-B 40-804	7,5	4,3	MXV-BM 40-804	9,2	2,3	1,5	2		47	43	42	41	40	37	34	30	26	21
MXV-B 40-805/A	9,15	5,3				2,2	3		59	54	53	51	50	47	43	38	32	26
MXV-B 40-806/A	9,15	5,3				2,2	3		71	65	63	62	59	56	51	45	39	31
MXV-B 40-807/A	11,5	6,6				3	4		83	76	74	72	69	66	60	53	45	36
MXV-B 40-808/A	11,5	6,6				3	4		95	87	85	82	79	75	69	60	51	42
MXV-B 40-810/A		9,6				3,7	5		119	109	106	103	99	94	86	75	64	52

MXV-B 50-18 Vertical Multi-Stage Close Coupled Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

P1 Max. power input.

P2 Rated motor power output.

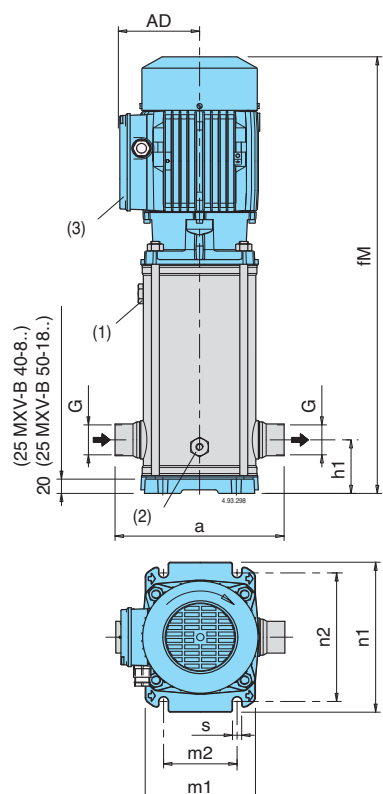
3 ~ 230 V 400 V			P ₂		m ³ /h Q l/min	0	5	8	11	14	16	18	20	22	25	
	A	A	kW	HP		0	83,3	133,3	183,3	233	266	300	333	366	416	
MXV-B 50-1803/A	9,15	5,3		2,2	3	H m	35,5	33,5	32	30	27,5	25,5	23,5	20,5	16,5	9
MXV-B 50-1804/A	11,5	6,6		3	4		48	46,5	44,5	41,5	38	36	33	29	23	14
MXV-B 50-1805/A		9,6		3,7	5		60	57,5	55	51,5	48	45	42	37,5	31,5	19
MXV-B 50-1806/A		9,6		4	5,5		71	68	65	61	56	53	49	44	36	22
MXV-B 50-1807/A		10,9		5,5	7,5		84	81,5	78	73,5	68	64,5	60	54	45	28
MXV-B 50-1808/A		10,9		5,5	7,5		94,5	92	88	82	76	72	68	60	50	32
MXV-B 50-1809/A		14,3		7,5	10		108	105	100	95	89	84	79	71	60	40
MXV-B 50-1810/A		14,3		7,5	10		120	117	112	106	98	94	88	78	67	44

MXV-B

Vertical Multi-Stage Close Coupled Pumps



Dimensions and weights



- (1) Filling
(2) Draining
(3) Standard position of terminal box
(for other positions rotate motor through 90° or 180°)

Pump	Motor P ₂		G ISO 228	a	mm								Net weight	
	kW	HP			h1	fM	AD	n1	n2	m1	m2	s	MXV-B kg	MXV-BM kg
MXV-B(M) 25-203	0,75	1	G 1	215	75	564	128	210	180	150	100	12,5	23	24
MXV-B(M) 25-204	0,75	1	G 1	215	75	565	128	210	180	150	100	12,5	23,5	24,5
MXV-B(M) 25-205	0,75	1	G 1	215	75	588	128	210	180	150	100	12,5	24,5	25,5
MXV-B(M) 25-206	1,1	1,5	G 1	215	75	612	128	210	180	150	100	12,5	26	27
MXV-B(M) 25-207	1,1	1,5	G 1	215	75	636	128	210	180	150	100	12,5	27	28
MXV-B(M) 25-208	1,5	2	G 1	215	75	660	128	210	180	150	100	12,5	30	31
MXV-B(M) 25-210	1,5	2	G 1	215	75	708	128	210	180	150	100	12,5	31	32
MXV-B(M) 32-403	0,75	1	G 1 1/4	215	75	564	128	210	180	150	100	12,5	24	25
MXV-B(M) 32-404	1,1	1,5	G 1 1/4	215	75	565	128	210	180	150	100	12,5	25	26
MXV-B(M) 32-405	1,1	1,5	G 1 1/4	215	75	588	128	210	180	150	100	12,5	26	27
MXV-B(M) 32-406	1,5	2	G 1 1/4	215	75	612	128	210	180	150	100	12,5	28	29
MXV-B(M) 32-407	1,5	2	G 1 1/4	215	75	636	128	210	180	150	100	12,5	29	30
MXV-B 32-408/A	2,2	3	G 1 1/4	215	75	700	128	210	180	150	100	12,5	34	-
MXV-B 32-410/A	2,2	3	G 1 1/4	215	75	748	128	210	180	150	100	12,5	35	-
MXV-B(M) 40-803	1,1	1,5	G 1 1/2	225	80	593	128	246	215	190	130	14	27	28
MXV-B(M) 40-804	1,5	2	G 1 1/2	225	80	593	128	246	215	190	130	14	28	29
MXV-B 40-805/A	2,2	3	G 1 1/2	225	80	663	128	246	215	190	130	14	33	-
MXV-B 40-806/A	2,2	3	G 1 1/2	225	80	693	128	246	215	190	130	14	34	-
MXV-B 40-807/A	3	4	G 1 1/2	225	80	746	138	246	215	190	130	14	45	-
MXV-B 40-808/A	3	4	G 1 1/2	225	80	776	138	246	215	190	130	14	49	-
MXV-B 40-810/A	3,7	5	G 1 1/2	225	80	953	138	246	215	190	130	14	49	-
MXV-B 50-1803/A	2,2	3	G 2	250	90	635	128	246	215	190	130	14	34	-
MXV-B 50-1804/A	3	4	G 2	250	90	701	138	246	215	190	130	14	44	-
MXV-B 50-1805/A	3,7	5	G 2	250	90	738	138	246	215	190	130	14	46,5	-
MXV-B 50-1806/A	4	5,5	G 2	250	90	776	138	246	215	190	130	14	47,5	-
MXV-B 50-1807/A	5,5	7,5	G 2	250	90	841	160	246	215	190	130	14	59	-
MXV-B 50-1808/A	5,5	7,5	G 2	250	90	878	160	246	215	190	130	14	60	-
MXV-B 50-1809/A	7,5	10	G 2	250	90	916	160	246	215	190	130	14	67	-
MXV-B 50-1810/A	7,5	10	G 2	250	90	953	160	246	215	190	130	14	68	-

Features

Wider Range of Application

All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel stainless steel.

With corrosion-resistant seal rings and guide ring.

Low Cost Installation

Vertical construction with reduced pump height for installation in small spaces.

In-line connections to simplify the piping layout with the possibility of inserting the pump in straight pipe-lines.

Disassembly, inspection or cleaning of internal parts without removal of piping.

Robust and Reliable

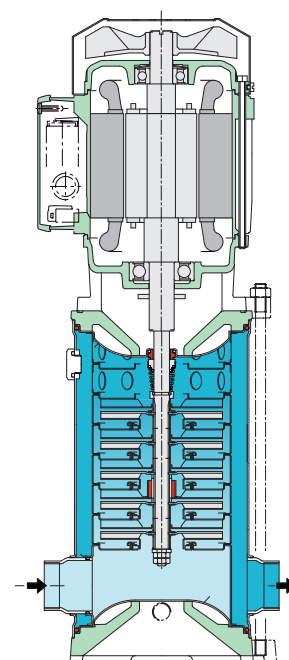
The suction and discharge nozzles arranged in-line absorb the forces of the piping on the pump without the creation of distorting loads causing local friction and early wears.

The lantern brackets compact and robust design maintains a sure alignment between rotating and fixed parts, reducing vibration.

The upper cover design prevents entrapment of air around the mechanical seal.

Low-Noise Operation

The water filled shroud around the stages and thick external walls, work together for low-noise operation.





The electropumps MXV series comply with the European Regulation no. 547/2012.

Construction

Vertical multi-stage pumps with suction and delivery connections of the same diameter and arranged along the same axis (in-line). Corrosion-resistant bearing sleeves lubricated by the pumped liquid. A pump with thrust bearing and sleeve coupling for use of any standard motor with IM V1 construction.

Applications

For water supply systems.
For clean non-explosive liquids, without solid, filamentary or abrasive matter (with adaptation of sealing materials on request). A universal pump for civil and industrial use, for pressure-boosting systems, fire-extinguishing systems, high-pressure washing plants, irrigation, agricultural uses and sport installations.

Operating conditions

Temperature of liquid: from -15 °C to +110 °C.
Operating environment temperature: up to 40 °C.
Maximum permissible pressure in pump casing: 25 bar.

Motor

Standard-type: 2-4 pole induction motor, 50 Hz.
Construction IM V1 (EN 60034-7).
Motor suitable for operation with frequency converter.
Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 from 7,5 kW.
Insulation class F.
Protection IP 55.
three-phase with rated voltage: up to 3 kW 230/400 V;
from 4 kW 400/690 V.
Rated speed of rotation (50 Hz): **MXV** ≈ 2900 rpm
MXV4 ≈ 1450 rpm.

MXV 25-2, 32-4, 40-8

All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel stainless steel AISI 304.

Materials (wetted parts)

Component	Material
Flange External jacket Suction casing Delivery casing Stage casing Impeller Lower cover Upper cover Spacer sleeve	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Pump shaft Plug	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Bearing sleeve Bearing in stage casing	Corrosion-resistant, cemented carbide Ceramic alumina
Mechanical seal ISO 3069 - KU	Hard metal/Carbon/EPDM.
Wear ring	PTFE
O-rings	NBR

Direction of rotation: clockwise as seen from the motor.

Variants (to be specified when ordering)

Pump with threaded ports (G).
Pump with flanged ports (F).
Pump without motor.
Pump with standard motor.

Other variants (on request)

With counter-flanges in chrome-nickel steel.
O-rings FPM. Other mechanical seal.
Pump with motor of Client's choice (if available).
Single-phase motor 230 V, up to 2.2 kW.
Other voltage ratings.
Frequency 60 Hz.

MXV 50-16, 65-32, 80-48

Internal parts in contact with the liquid in chrome-nickel stainless steel, AISI 304 with pump casing and upper cover in cast iron.

Materials (wetted parts)

Component	Material
Pump casing Upper cover	Cast iron GJL 250 EN 1561
External jacket Stage casing Impeller Spacer sleeve	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Pump shaft Plug	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Bearing sleeve Bearing in stage casing	Corrosion-resistant, cemented carbide Ceramic alumina
Mechanical seal ISO 3069 - KU	Hard metal/Carbon/EPDM
Wear ring	PTFE
O-rings	NBR

Direction of rotation: anticlockwise as seen from the motor.

Variants (to be specified when ordering)

Pump without motor.
Pump with standard motor.

Other variants (on request)

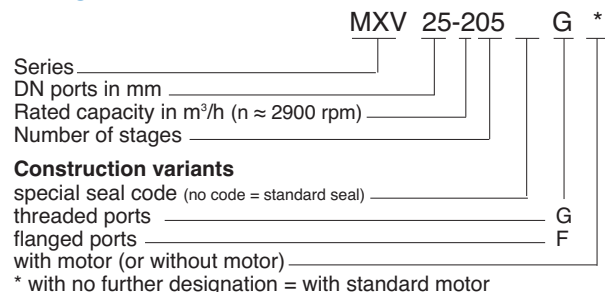
O-rings FPM. Other mechanical seal.
Pump with motor of Client's choice (if available).
Other voltage ratings.
Frequency 60 Hz.
Pump with support feet for horizontal installation (H1 or H2).
Support feet for horizontal installation, set.
Welding counter-flanges, PN 25 (steel).

MXV

Vertical Multi-Stage In-Line Pumps

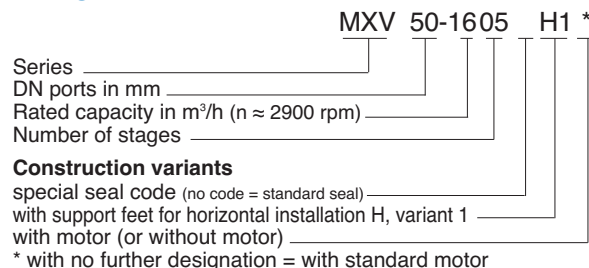
MXV 25-2, 32-4, 40-8

Designation

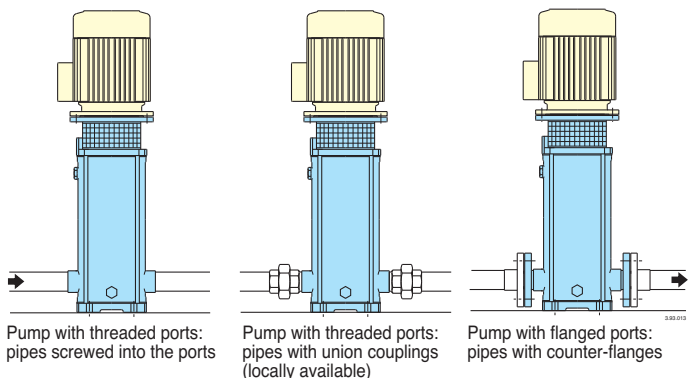


MXV 50-16, 65-32, 80-48

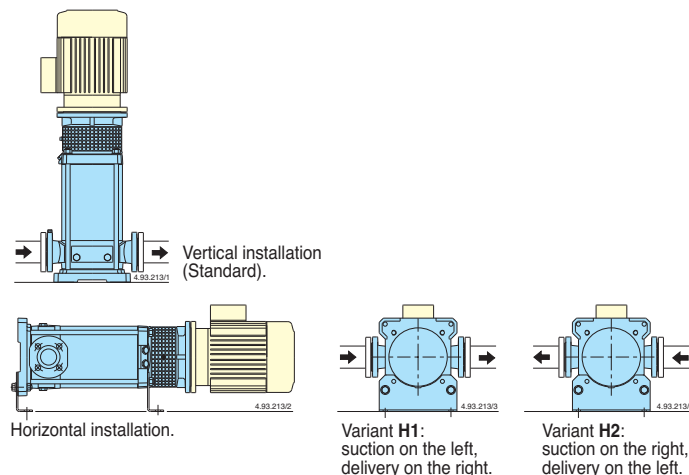
Designation



Pipe connection



Installations



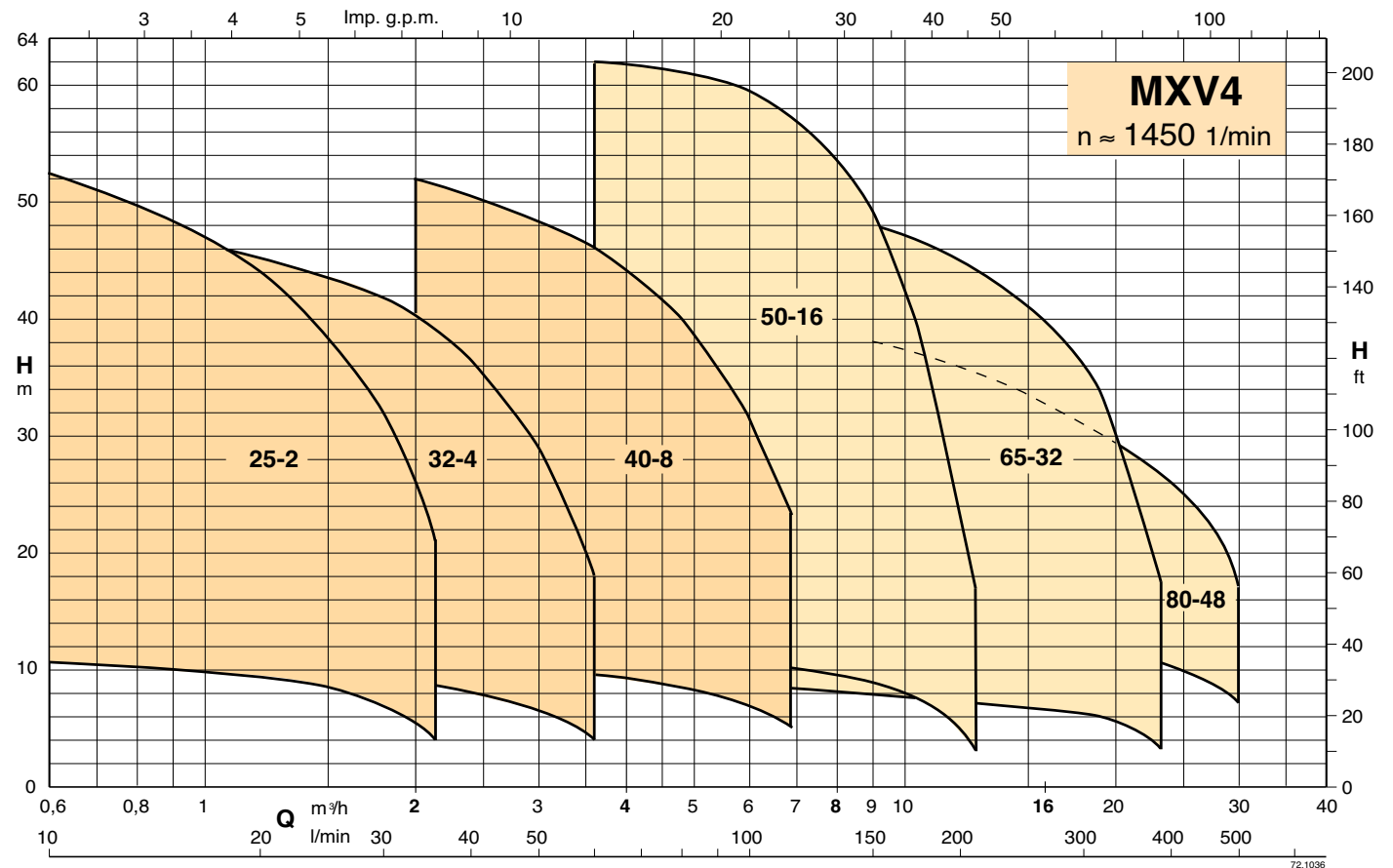
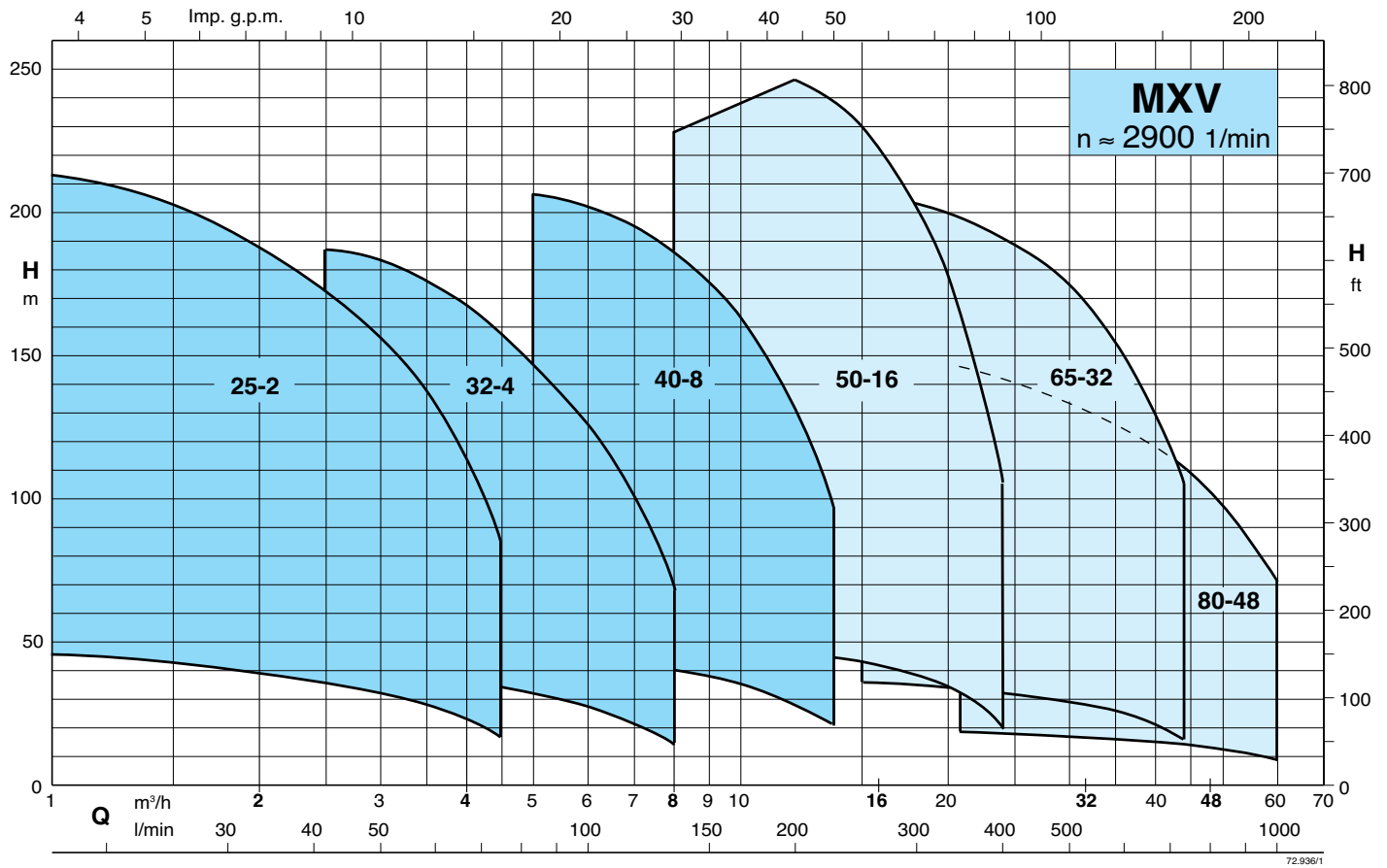
Variable parts

Pump size MXV - MXV4			Number of stages	Stage casings with bearing
25 - 204	32 - 404	40 - 804	4	1
25 - 205	32 - 405	40 - 805	5	1
25 - 206	32 - 406	40 - 806	6	1
25 - 207	32 - 407	40 - 807	7	1
25 - 208	32 - 408	40 - 808	8	1
25 - 210	32 - 410	40 - 810	10	1
25 - 212	32 - 412	40 - 811	11	2
		40 - 813	12	2
		40 - 815	13	2
		40 - 817	14	2
25 - 214	32 - 414	40 - 817	15	2
		40 - 819	16	2
		40 - 819	17	2
		40 - 819	18	2
25 - 216	32 - 416	40 - 817	17	3
		40 - 819	19	3
		40 - 819	20	3
		40 - 819	20	3

Variable parts

Pump size MXV - MXV4			Number of stages	Stage casings with bearing
50 - 1603 50 - 1604 50 - 1605 50 - 1606 50 - 1607 50 - 1608 50 - 1609 50 - 1610	65 - 3202 65 - 3203 65 - 3204 65 - 3205 65 - 3206 65 - 3207	80 - 4801	1	1
		80 - 4802	2	1
		80 - 4803	3	1
		80 - 4804	4	1
		80 - 4805	5	1
			6	1
			7	1
			8	1
			9	1
			10	1
50 - 1611 50 - 1612 50 - 1614 50 - 1616	65 - 3208 65 - 3209 65 - 3210 65 - 3212	80 - 4806	6	2
		80 - 4807	7	2
		80 - 4808	8	2
			9	2
			10	2
			11	2
			12	2
			14	2
			16	2
			16	2

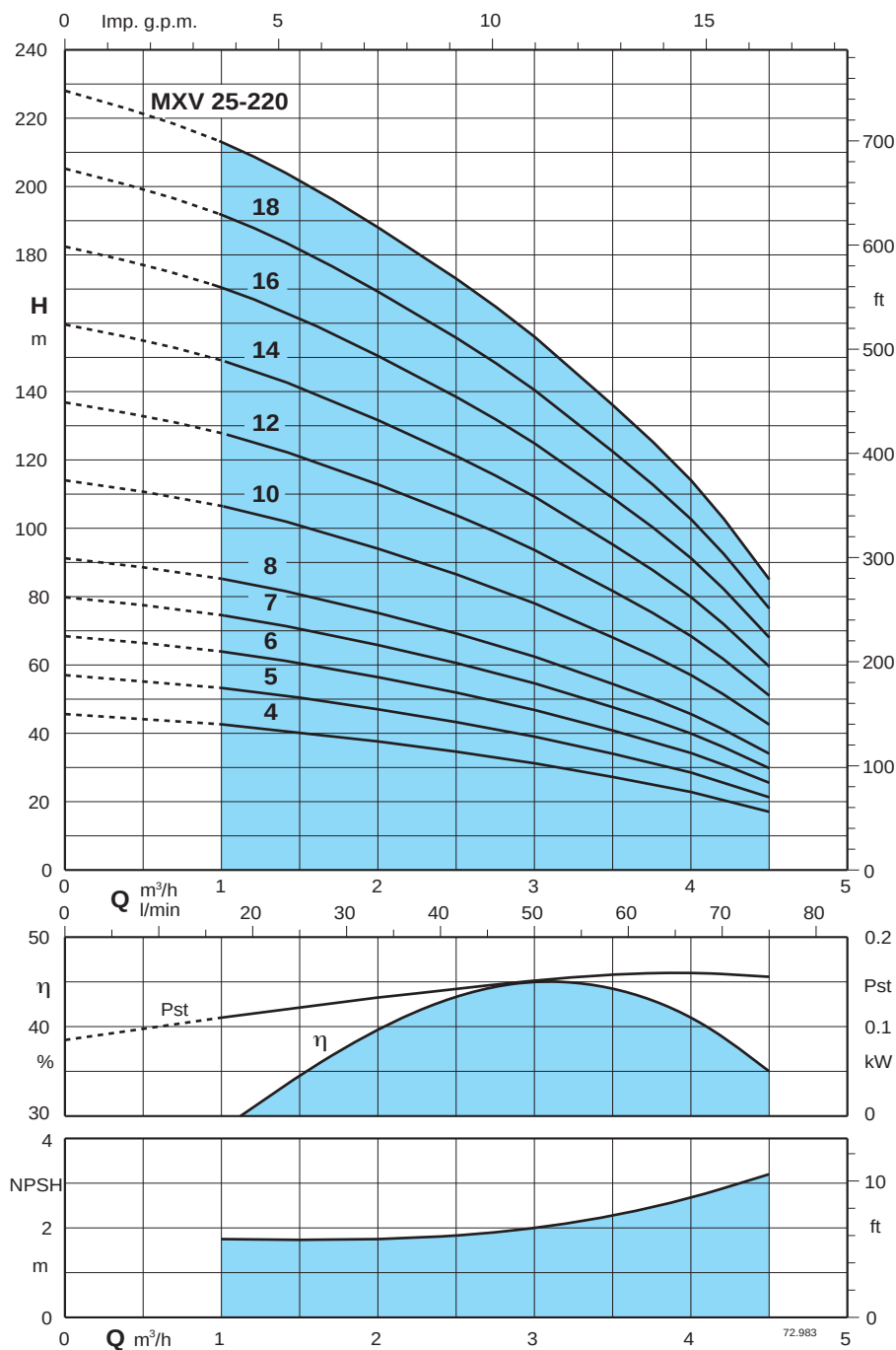
Coverage chart



MXV 25-2 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

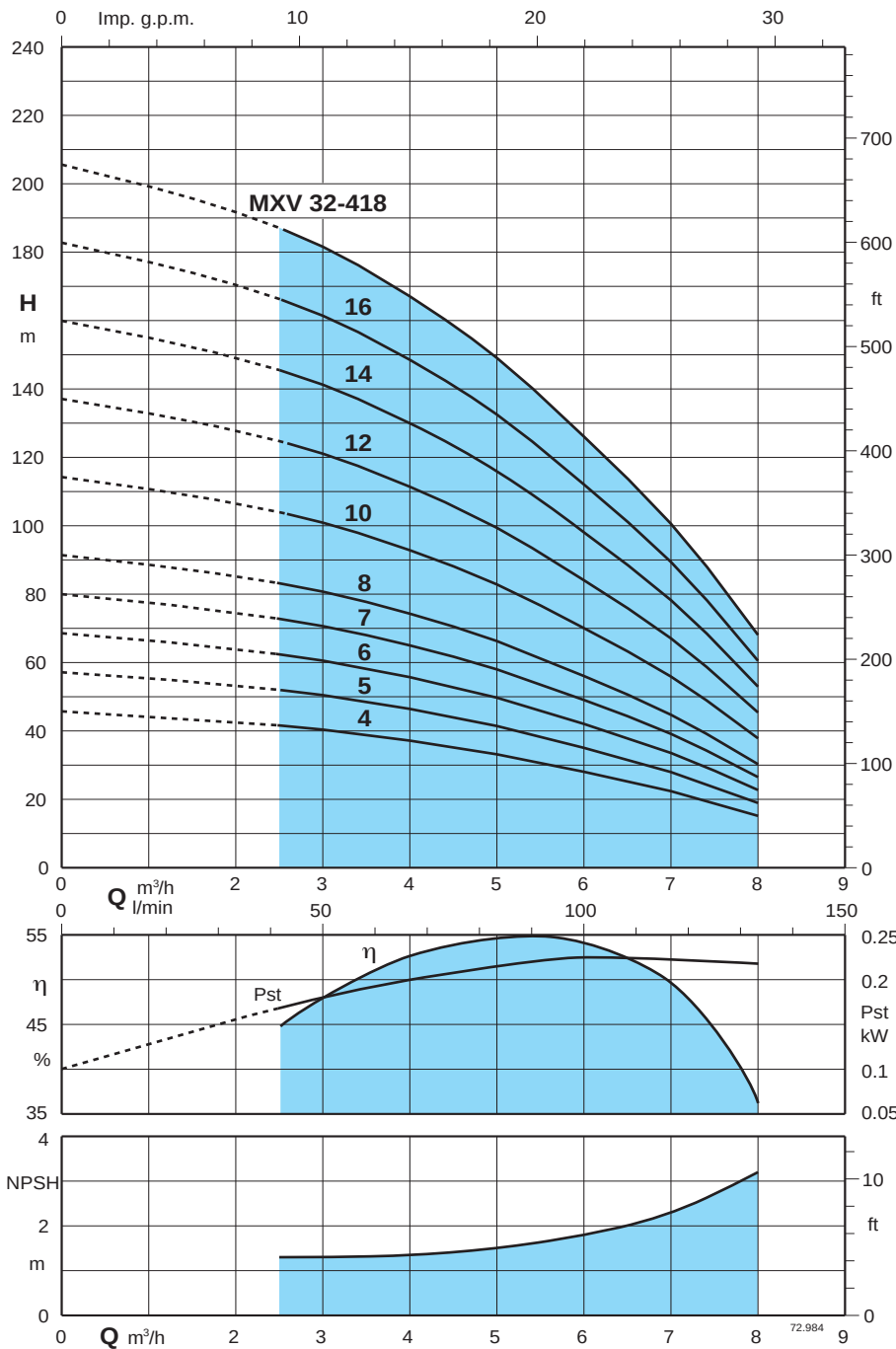
Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

A* Calpeda motor currents

Pump type	230 V		400 V		Motor power		Q m³/h l/min	0	1	1,5	2	2,5	3	3,5	4	4,5
	A*	A*	A*	A*	kW	HP		0	16,6	25	33,3	41,6	50	58,3	66,6	75
MXV 25-204/C	3,3	1,9	0,75	1	H m		44	42,5	40	37,5	34,5	31	27	22,5	17	
MXV 25-205/C	3,3	1,9	0,75	1			56	53	50	47	43	39	34	28	21	
MXV 25-206/C	4,7	2,7	1,1	1,5			68	63,5	60,5	56	51,5	46,5	40,5	34	25	
MXV 25-207/C	4,7	2,7	1,1	1,5			79,5	74	70,5	65,5	60	54,5	47,5	39,5	30	
MXV 25-208/C	7,4	4,3	1,5	2			91	85	80,5	75	69	62	54	45,5	34	
MXV 25-210/C	7,4	4,3	1,5	2			114	106	101	94	86	78	68	57	42	
MXV 25-212/C	9,2	5,3	2,2	3			136	127	121	112	103	93,5	81,5	68	51	
MXV 25-214/C	9,2	5,3	2,2	3			159	149	141	131	121	109	95	79,5	59	
MXV 25-216/C	11,4	6,6	3	4			182	170	161	150	138	124	108	91	68	
MXV 25-218/C	11,4	6,6	3	4			205	191	181	169	155	140	122	102	76	
MXV 25-220/C	11,4	6,6	3	4			228	213	202	188	173	156	136	114	85	

Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

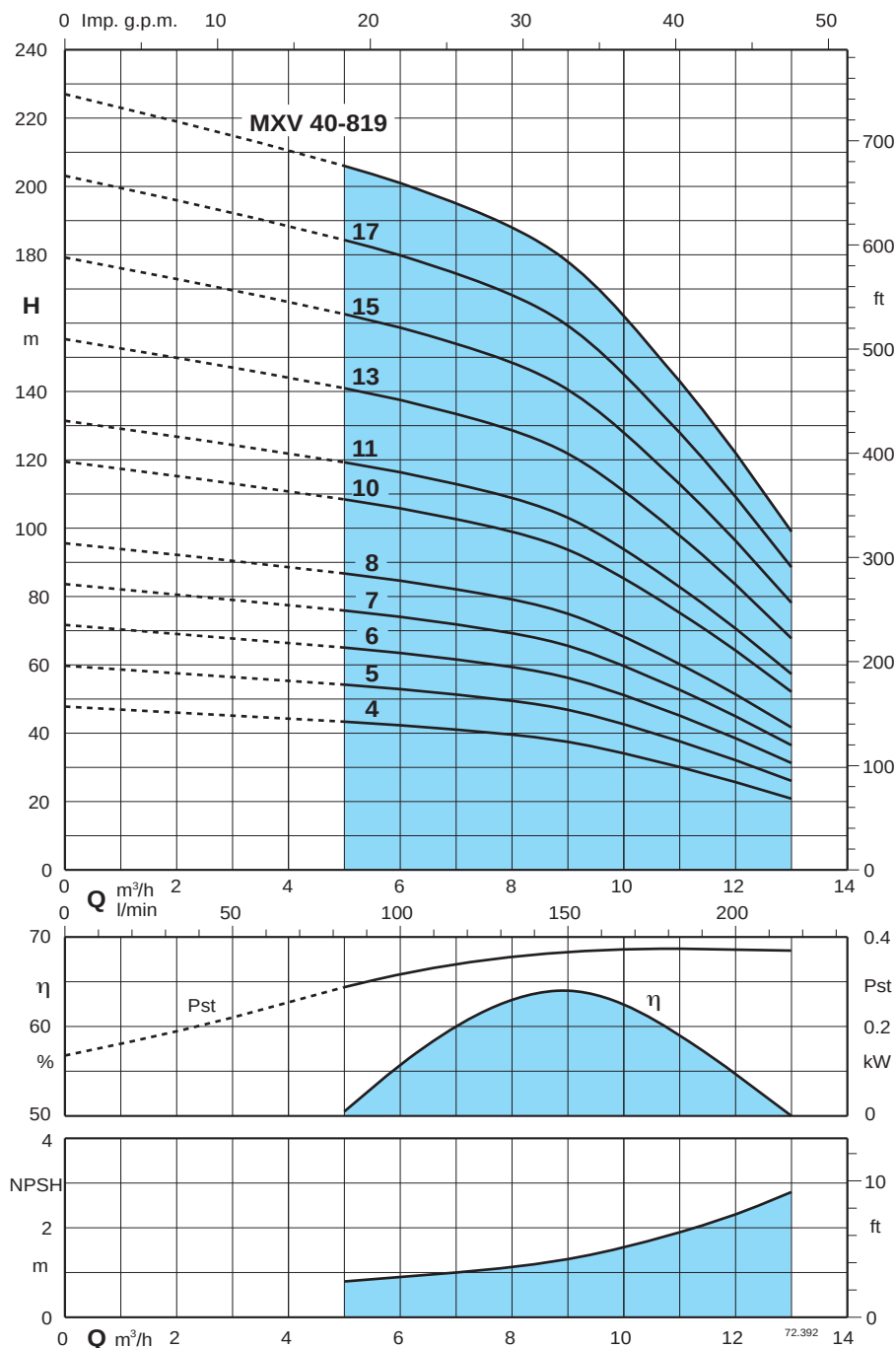
A* Calpeda motor currents

Pump type	230 V		400 V		Motor power		Q										
	A*	A*	A*	A*	kW	HP		0	2,5	3	3,5	4	4,5	5	6	7	8
MXV 32-404/C	4,7	2,7			1,1	1,5	H m	0	41,6	50	58,3	66,6	75	83,3	100	116,6	133,3
MXV 32-405/C	4,7	2,7			1,1	1,5		45	41,5	40	38,5	36,5	34,5	32,5	27,5	22	14,5
MXV 32-406/C	7,4	4,3			1,5	2		56	51,5	50	48	46	43,5	41	34,5	27,5	18,5
MXV 32-407/C	7,4	4,3			1,5	2		68	62	60	58	55,5	52,5	49,5	42	33,5	22,5
MXV 32-408/C	9,2	5,3			2,2	3		79,5	72,5	70,5	68	65	61,5	58	49	39	26,5
MXV 32-410/C	9,2	5,3			2,2	3		91	83	80,5	78	74	70	66	56	44,5	30
MXV 32-412/C	11,4	6,6			3	4		114	104	101	97,5	93	88	83	70	56	38
MXV 32-414/C	11,4	6,6			3	4		136	124	121	117	111	105	99,5	84	67	45,5
MXV 32-416/C		9,6			4	5,5		159	145	141	136	130	123	116	98	78	53
MXV 32-418/C		9,6			4	5,5		182	166	161	156	148	140	132	112	89,5	60,5
								205	187	181	175	167	158	149	126	100	68

MXV 40-8 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

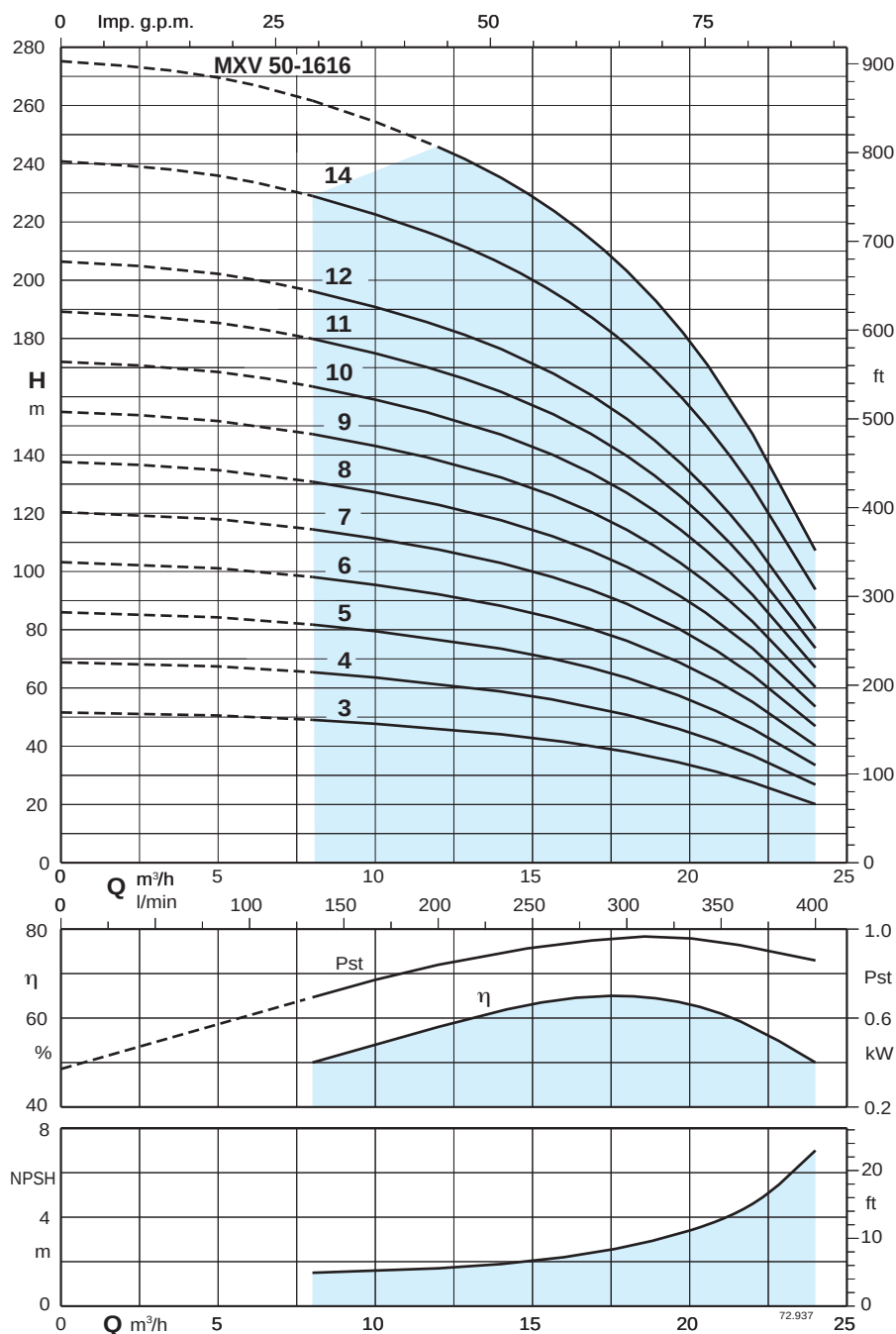
A* Calpeda motor currents

Pump type	230 V		400 V		Motor power		Q m³/h l/min	0	5	6	7	8	9	10	11	12	13
	A*	A*	kW	HP	0	83,3		100	116,6	133,3	150	166,6	183,3	200	216,6		
MXV 40-804/C	7,4	4,3	1,5	2	H m	47	43	42	41	40	37	34	30	26	21		
MXV 40-805/C	9,2	5,3	2,2	3		59	54	53	51	50	47	43	38	32	26		
MXV 40-806/C	9,2	5,3	2,2	3		71	65	63	62	59	56	51	45	39	31		
MXV 40-807/C	11,4	6,6	3	4		83	76	74	72	69	66	60	53	45	36		
MXV 40-808/C	11,4	6,6	3	4		95	87	85	82	79	75	69	60	51	42		
MXV 40-810/C		9,6	4	5,5		119	109	106	103	99	94	86	75	64	52		
MXV 40-811/C		9,6	4	5,5		131	119	116	113	109	103	94	83	71	57		
MXV 40-813/C		10,9	5,5	7,5		155	141	138	134	129	122	111	98	84	68		
MXV 40-815/C		10,9	5,5	7,5		179	163	159	154	149	141	128	113	96	78		
MXV 40-817/C		14,3	7,5	10		202	184	180	175	168	159	145	128	109	89		
MXV 40-819/C		14,3	7,5	10		226	206	201	195	188	178	162	143	122	99		

MXV 50-16 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

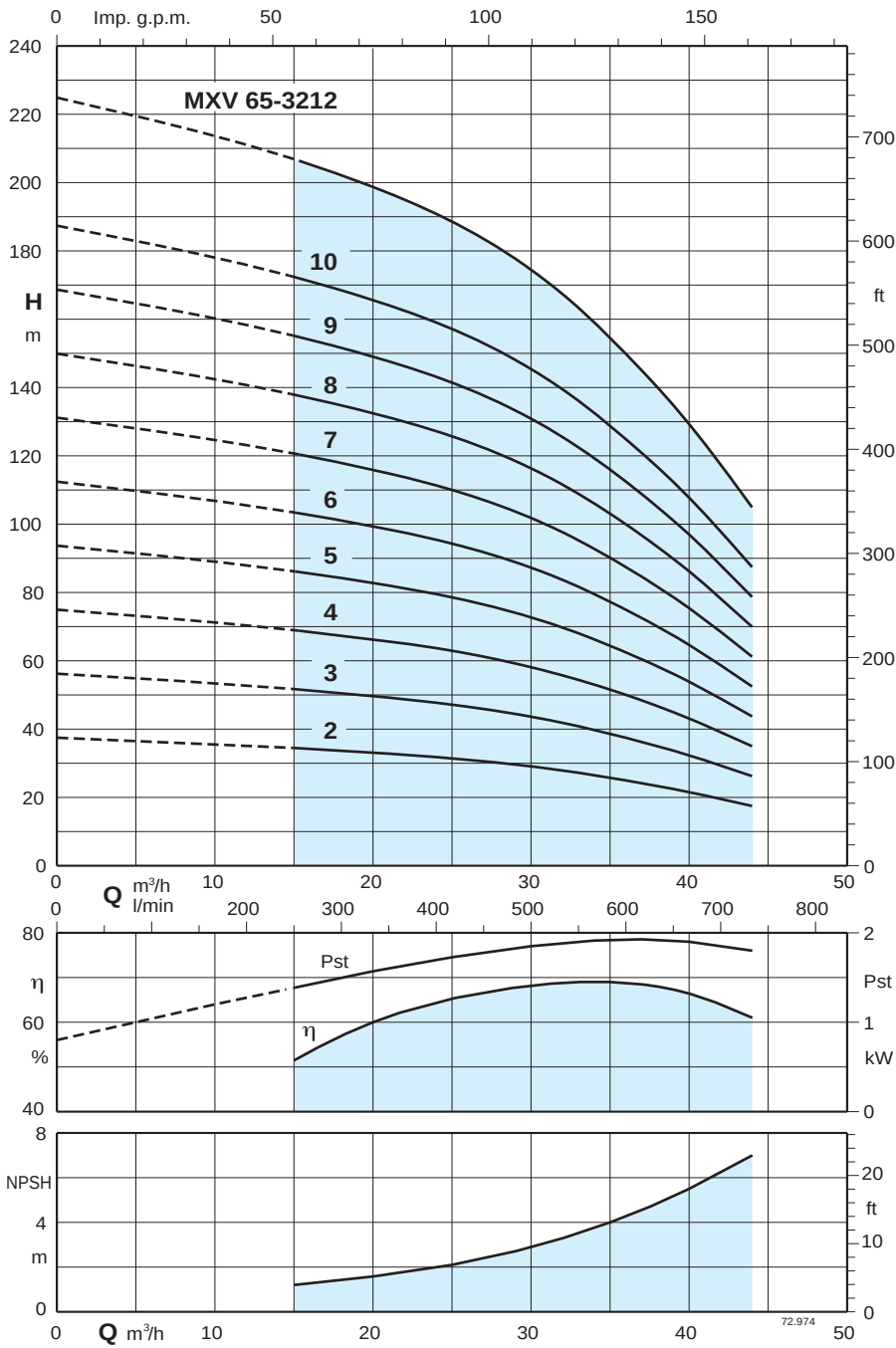
A* Calpeda motor currents

Pump type	230 V		400 V		Motor power		Q m³/h l/min	0	8	10	12	14	16	18	20	22	24
	A*	A*	kW	HP				0	133,3	166,6	200	233	266	300	333	366	400
MXV 50-1603/C	11,4	6,6	3	4	H m		51	49	48	46	44	41	38	33	27	20	
MXV 50-1604/C		9,6	4	5,5			69	65	63	61	59	55	51	44	37	27	
MXV 50-1605/C		10,9	5,5	7,5			86	81	79	76	73	69	63	55	46	33	
MXV 50-1606/C		10,9	5,5	7,5			103	98	95	92	88	83	76	67	55	40	
MXV 50-1607/C		14,3	7,5	10			120	114	111	107	103	97	89	78	64	47	
MXV 50-1608/C		14,3	7,5	10			138	130	127	122	117	110	101	89	73	53	
MXV 50-1609/D		21,5	11	15			155	147	143	138	132	124	114	100	83	60	
MXV 50-1610/D		21,5	11	15			172	163	159	153	147	138	127	111	92	67	
MXV 50-1611/D		21,5	11	15			189	179	175	168	161	152	139	122	101	73	
MXV 50-1612/D		27,3	15	20			206	196	190	184	176	166	152	133	110	80	
MXV 50-1614/D		27,3	15	20			240	228	222	214	206	193	178	156	129	94	
MXV 50-1616/D		34	18,5	25			275				245	235	221	203	178	147	107

MXV 65-32 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \max 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

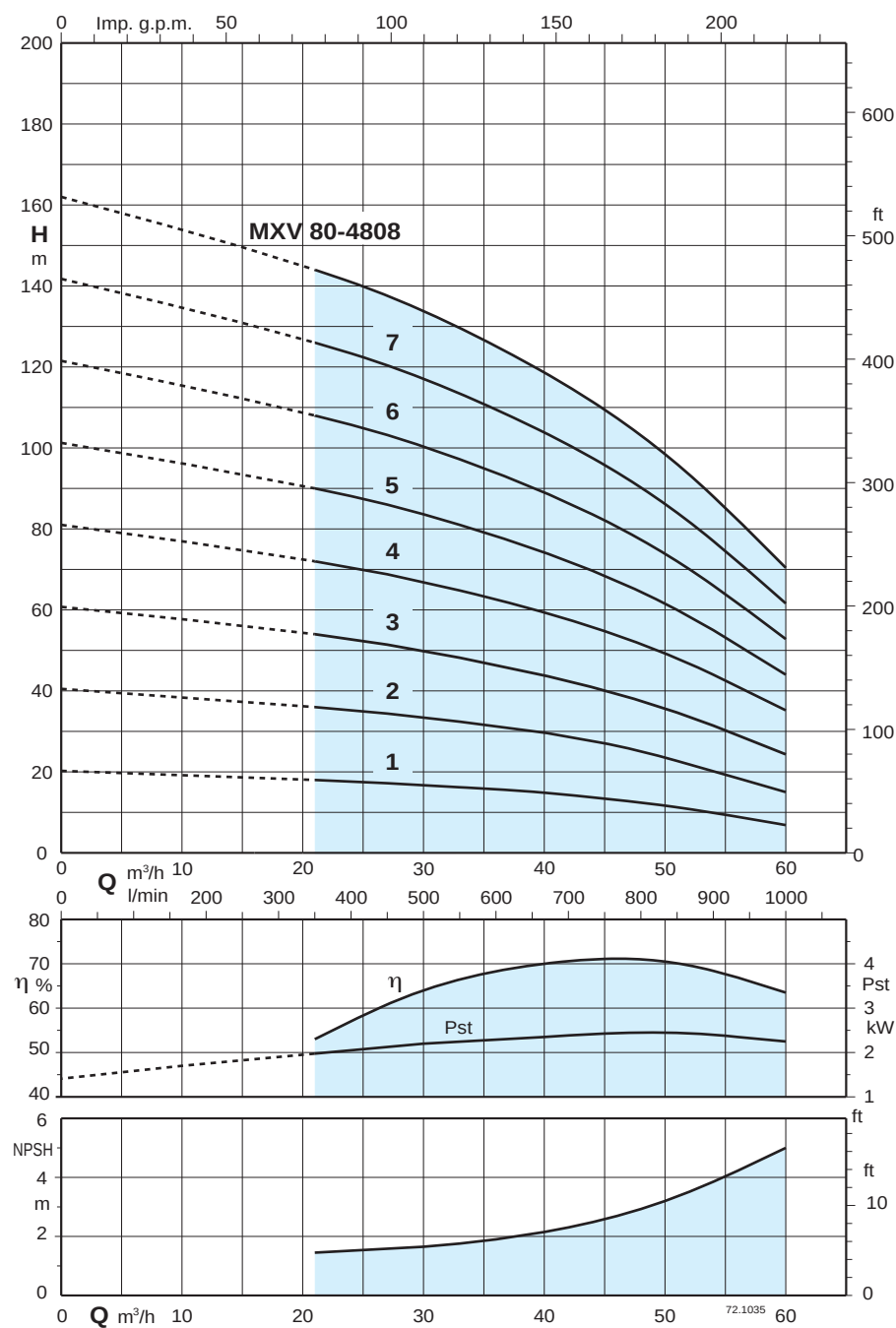
A* Calpeda motor currents

Pump type	230 V		400 V		Motor power		Q m³/h l/min	0	15	21	24	27	30	33	36	39	44
	A*	A*	A*	A*	kW	HP		0	250	350	400	450	500	550	600	650	733
MXV 65-3202/C			9,6		4	5,5	H m	37	34	32	31	30	29	27	24,5	22	17
MXV 65-3203/C			10,9		5,5	7,5		55,5	51	49	47,5	46	43,5	40,5	37	33,5	25,5
MXV 65-3204/C			14,3		7,5	10		75	69	65,5	63,5	61	58,5	54,5	50	45	35
MXV 65-3205/D			21,5		11	15		93,5	86	82	79,5	77	73	68	62,5	56,5	44
MXV 65-3206/D			21,5		11	15		112	103	98,5	95,5	92	87	82	75	67,5	52,5
MXV 65-3207/D			27,3		15	20		131	121	115	111	107	102	95,5	87,5	79	61,5
MXV 65-3208/D			27,3		15	20		150	138	131	127	123	116	109	100	90	70
MXV 65-3209/D			34		18,5	25		168	155	148	143	138	130	122	112	101	79
MXV 65-3210/D			34		18,5	25		187	172	164	159	154	145	136	125	112	87,5
MXV 65-3212/D			41		22	30		225	207	197	191	185	174	163	150	135	105

MXV 80-48 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 2900$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

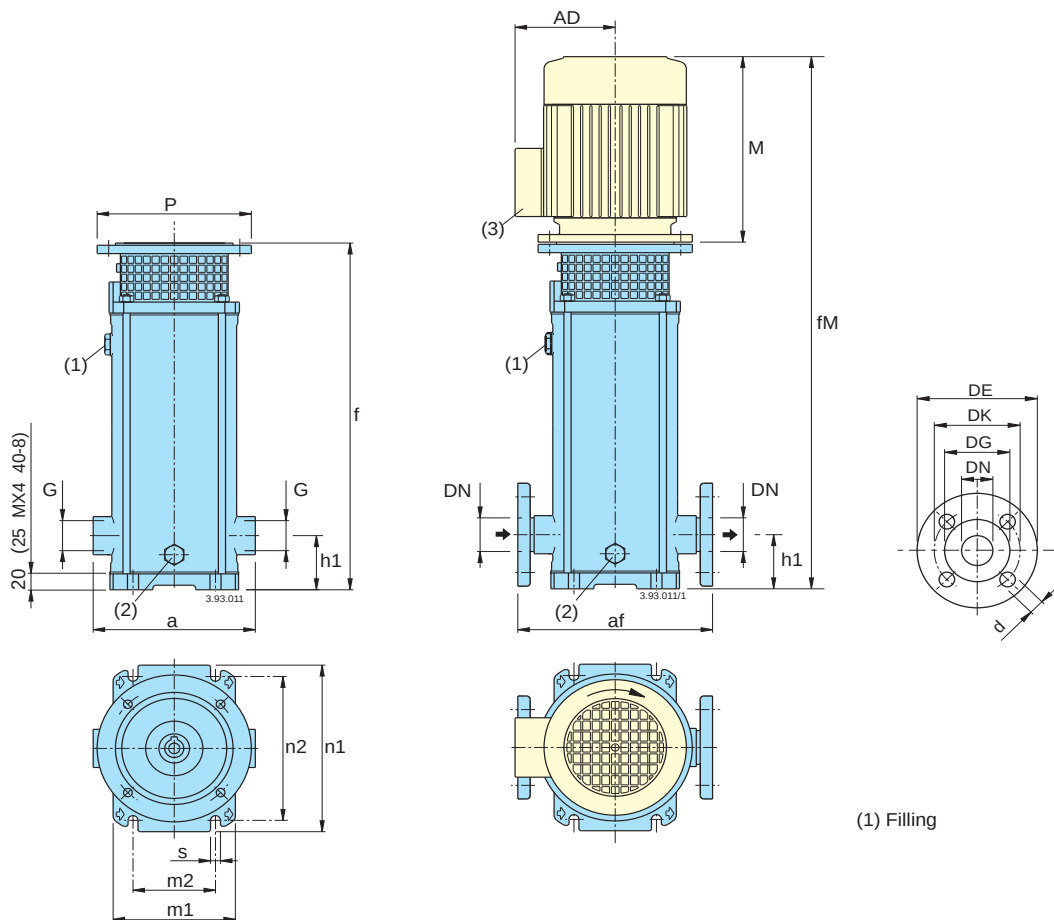
Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

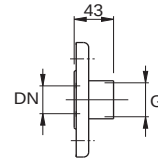
A* Calpeda motor currents

Pump type	230 V		400 V		Motor power		Q m³/h l/min	0	21	27	33	39	45	48	51	54	60
	A*	A*	kW	HP				0	350	450	550	650	750	800	850	900	1000
MXV 80-4801/C		9,6	4	5,5	H m		20	18	17	16	15	13	12	10,7	9,5	7	
MXV 80-4802/C		10,9	5,5	7,5			40,5	36	34,5	32,5	29,5	26,5	24,5	22	20	15,5	
MXV 80-4803/C		14,3	7,5	10			61	54	51	48	44	40	37	34	31	24,5	
MXV 80-4804/D		21,5	11	15			81	72	69	65	60	55	51,5	48	44	35	
MXV 80-4805/D		27,3	15	20			101	90	86	81	75	68,5	64,5	60	55	44	
MXV 80-4806/D		27,3	15	20			121	108	103	97	90	82	77,5	72	66	53	
MXV 80-4807/D		34	18,5	25			142	126	120	113	105	96	90	84	77	61,5	
MXV 80-4808/D		41	22	30			162	144	137	129	120	109	103	96	88	70,5	

Dimensions and weights



Counterflanges in stainless steel



DN	G ISO 228
25	1
32	1 1/4
40	1 1/2

Flanges EN 1092-1 PN 25 - 40

DN	DE	DK	DG	Holes	
				N.	Ø
25	115	85	65	4	14
32	140	100	76	4	19
40	150	110	84	4	19

(1) Filling

(2) Draining

Pump	Motor			MXV (G) threaded ports		MXV (F) flanged ports		mm											without motor	with motor
				G ISO 228	af	DN	L2	h1	f	(5) M	fm	P	(5) AD	n1	n2	m1	m2	s	MXV (G) (4) kg(6)	(5) kg(6)
MXV 25-204/C	0,75	1	M80 V1	G1	215	25	250	75	372	255	627	200	127,5	210	180	150	100	12,5	18	30,2
MXV 25-205/C	0,75	1	M80 V1	G1	215	25	250	75	396	255	651	200	127,5	210	180	150	100	12,5	19	31,2
MXV 25-206/C	1,1	1,5	M80 V1	G1	215	25	250	75	420	255	675	200	127,5	210	180	150	100	12,5	20	33,3
MXV 25-207/C	1,1	1,5	M80 V1	G1	215	25	250	75	444	255	699	200	127,5	210	180	150	100	12,5	21	34,3
MXV 25-208/C	1,5	2	M90 V1	G1	215	25	250	75	478	255	733	200	127,5	210	180	150	100	12,5	22	37,2
MXV 25-210/C	1,5	2	M90 V1	G1	215	25	250	75	526	255	781	200	127,5	210	180	150	100	12,5	23	38,2
MXV 25-212/C	2,2	3	M90 V1	G1	215	25	250	75	574	295	869	200	127,5	210	180	150	100	12,5	25	43,1
MXV 25-214/C	2,2	3	M90 V1	G1	215	25	250	75	622	295	917	200	127,5	210	180	150	100	12,5	26	44,1
MXV 25-216/C	3	4	M100 V1	G1	215	25	250	75	680	311	991	250	137,5	210	180	150	100	12,5	29	54,6
MXV 25-218/C	3	4	M100 V1	G1	215	25	250	75	728	311	1039	250	137,5	210	180	150	100	12,5	31	56,6
MXV 25-220/C	3	4	M100 V1	G1	215	25	250	75	776	311	1087	250	137,5	210	180	150	100	12,5	32	57,6
MXV 32-404/C	1,1	1,5	M80 V1	G1 1/4	215	32	250	75	372	255	627	200	127,5	210	180	150	100	12,5	19	31,2
MXV 32-405/C	1,1	1,5	M80 V1	G1 1/4	215	32	250	75	396	255	651	200	127,5	210	180	150	100	12,5	20	32,2
MXV 32-406/C	1,5	2	M90 V1	G1 1/4	215	32	250	75	430	255	685	200	127,5	210	180	150	100	12,5	21	36,2
MXV 32-407/C	1,5	2	M90 V1	G1 1/4	215	32	250	75	454	255	709	200	127,5	210	180	150	100	12,5	22	37,2
MXV 32-408/C	2,2	3	M90 V1	G1 1/4	215	32	250	75	478	295	773	200	127,5	210	180	150	100	12,5	23	41,1
MXV 32-410/C	2,2	3	M90 V1	G1 1/4	215	32	250	75	526	295	821	200	127,5	210	180	150	100	12,5	24	42,1
MXV 32-412/C	3	4	M100 V1	G1 1/4	215	32	250	75	584	311	895	250	137,5	210	180	150	100	12,5	27	52,6
MXV 32-414/C	3	4	M100 V1	G1 1/4	215	32	250	75	632	311	943	250	137,5	210	180	150	100	12,5	29	54,6
MXV 32-416/C	4	5,5	M112 V1	G1 1/4	215	32	250	75	680	311	991	250	137,5	210	180	150	100	12,5	30	57,8
MXV 32-418/C	4	5,5	M112 V1	G1 1/4	215	32	250	75	728	311	1039	250	137,5	210	180	150	100	12,5	31	58,8
MXV 40-804/C	1,5	2	M90 V1	G1 1/2	225	40	280	80	411	255	666	200	127,5	246	215	190	130	14	21	36,2
MXV 40-805/C	2,2	3	M90 V1	G1 1/2	225	40	280	80	441	295	736	200	127,5	246	215	190	130	14	22	40,1
MXV 40-806/C	2,2	3	M90 V1	G1 1/2	225	40	280	80	471	295	766	200	127,5	246	215	190	130	14	23	41,1
MXV 40-807/C	3	4	M100 V1	G1 1/2	225	40	280	80	511	311	822	250	137,5	246	215	190	130	14	25	50,6
MXV 40-808/C	3	4	M100 V1	G1 1/2	225	40	280	80	541	311	852	250	137,5	246	215	190	130	14	26	51,6
MXV 40-810/C	4	5,5	M112 V1	G1 1/2	225	40	280	80	601	311	912	250	137,5	246	215	190	130	14	28	55,8
MXV 40-811/C	4	5,5	M112 V1	G1 1/2	225	40	280	80	631	311	942	250	137,5	246	215	190	130	14	29	56,8
MXV 40-813/C	5,5	7,5	M132 V1	G1 1/2	225	40	280	80	711	339	1050	300	159,5	246	215	190	130	14	35	77,3
MXV 40-815/C	5,5	7,5	M132 V1	G1 1/2	225	40	280	80	771	339	1110	300	159,5	246	215	190	130	14	36	78,3
MXV 40-817/C	7,5	10	M132 V1	G1 1/2	225	40	280	80	831	339	1170	300	159,5	246	215	190	130	14	38	85,7
MXV 40-819/C	7,5	10	M132 V1	G1 1/2	225	40	280	80	891	339	1230	300	159,5	246	215	190	130	14	39	86,7

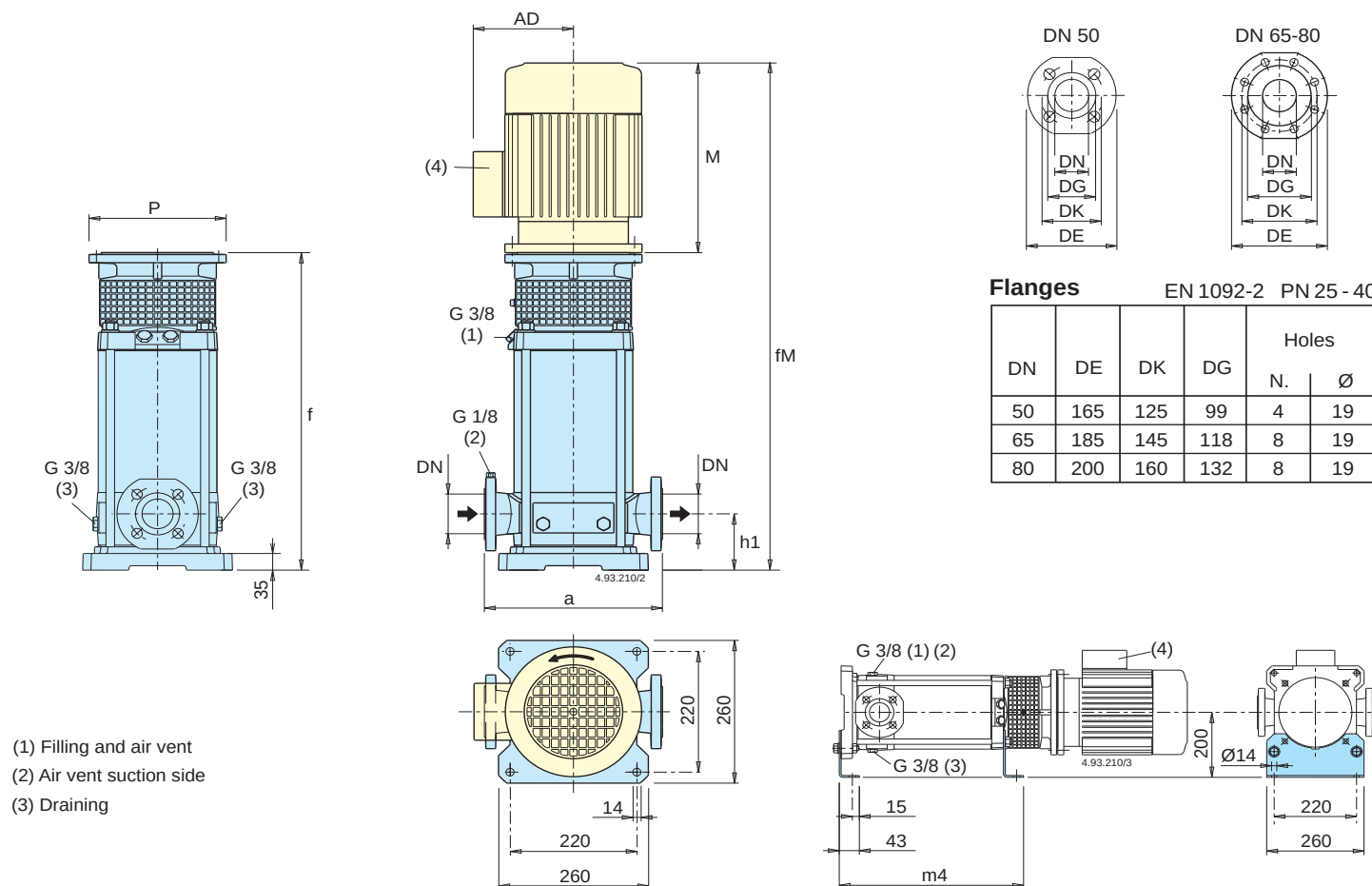
(3) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)

(4) MXV (F) = MXV (G) + 1kg

(5) With standard motor

(6) Net weight

Dimensions and weights



- (1) Filling and air vent
(2) Air vent suction side
(3) Draining

Pump	Motor			mm									without motor	with motor
				DN	a	h1	f	(6) M	fM	P	(6) AD	m4	MXV (5) kg (7)	(6) kg (7)
MXV 50-1603/C	3	4	M100 V1	50	300	90	395	311	706	250	137,5	322	42	67,6
MXV 50-1604/C	4	5,5	M112 V1	50	300	90	430	311	741	250	137,5	357	43	70,8
MXV 50-1605/C	5,5	7,5	M132 V1	50	300	90	484	339	823	300	159,5	391	49	91,3
MXV 50-1606/C	5,5	7,5	M132 V1	50	300	90	519	339	858	300	159,5	426	51	93,3
MXV 50-1607/C	7,5	10	M132 V1	50	300	90	553	339	892	300	159,5	460	52	99,7
MXV 50-1608/C	7,5	10	M132 V1	50	300	90	588	339	927	300	159,5	495	53	100,7
MXV 50-1609/D	11	15	M160 V1	50	300	90	652	459	1111	350	186	529	62	138
MXV 50-1610/D	11	15	M160 V1	50	300	90	687	459	1146	350	186	564	64	140
MXV 50-1611/D	11	15	M160 V1	50	300	90	721	459	1180	350	186	598	65	141
MXV 50-1612/D	15	20	M160 V1	50	300	90	756	484	1240	350	186	633	67	169
MXV 50-1614/D	15	20	M160 V1	50	300	90	825	484	1309	350	186	702	70	172
MXV 50-1616/D	18,5	25	M160 V1	50	300	90	894	484	1378	350	186	771	73	179,5
MXV 65-3202/C	4	5,5	M112 V1	65	320	105	407	311	718	250	137,5	334	45	72,8
MXV 65-3203/C	5,5	7,5	M132 V1	65	320	105	473	339	812	300	159,5	380	51	93,3
MXV 65-3204/C	7,5	10	M132 V1	65	320	105	519	339	858	300	159,5	426	53	100,7
MXV 65-3205/D	11	15	M160 V1	65	320	105	595	459	1054	350	186	472	62	138
MXV 65-3206/D	11	15	M160 V1	65	320	105	641	459	1100	350	186	518	64	140
MXV 65-3207/D	15	20	M160 V1	65	320	105	687	484	1171	350	186	564	66	168
MXV 65-3208/D	15	20	M160 V1	65	320	105	733	484	1217	350	186	610	68	170
MXV 65-3209/D	18,5	25	M160 V1	65	320	105	779	484	1236	350	186	656	70	176,5
MXV 65-3210/D	18,5	25	M160 V1	65	320	105	825	484	1309	350	186	702	72	188,5
MXV 65-3212/D	22	30	M180 V1	65	320	105	917	538	1455	350	206	794	75	204
MXV 80-4801/C	4	5,5	M112 V1	80	320	105	411	311	722	250	137,5	338	45	72,8
MXV 80-4802/C	5,5	7,5	M132 V1	80	320	105	466	339	805	300	159,5	373	51	93,3
MXV 80-4803/C	7,5	10	M132 V1	80	320	105	527	339	866	300	159,5	434	54	101,7
MXV 80-4804/D	11	15	M160 V1	80	320	105	618	459	1077	350	186	495	64	140
MXV 80-4805/D	15	20	M160 V1	80	320	105	680	484	1164	350	186	557	66	168
MXV 80-4806/D	15	20	M160 V1	80	320	105	741	484	1225	350	186	618	69	171
MXV 80-4807/D	18,5	25	M160 V1	80	320	105	802	484	1286	350	186	679	72	178,5
MXV 80-4808/D	22	30	M180 V1	80	320	105	864	538	1402	350	206	741	74	203

(4) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)

(5) MXV (L) : + 3 kg
MXV (H) : + 3 kg

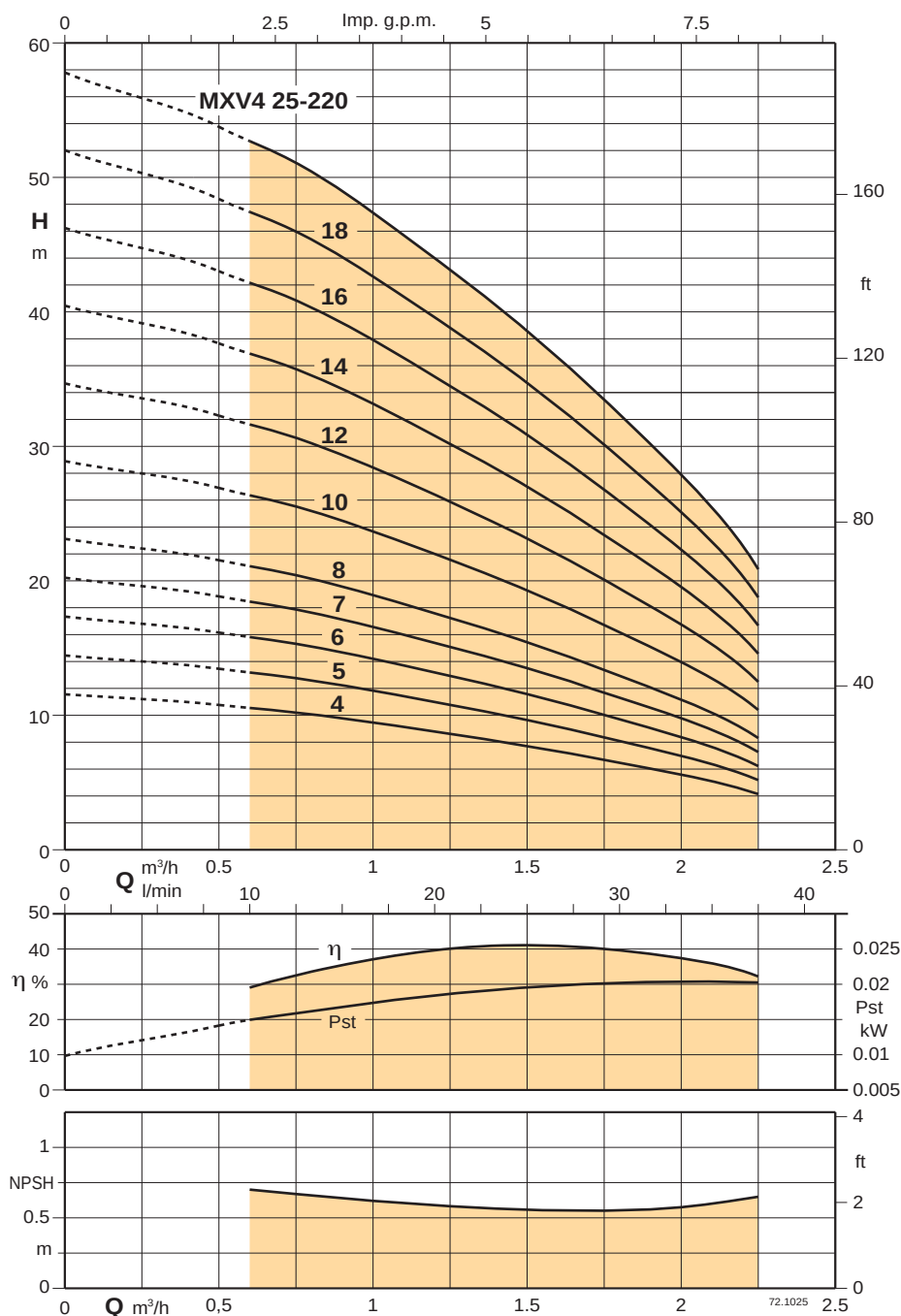
(6) With standard motor

(7) Net weight

MXV4 25-2 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 1450$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \max 20 \text{ mm}^2/\text{sec}$.

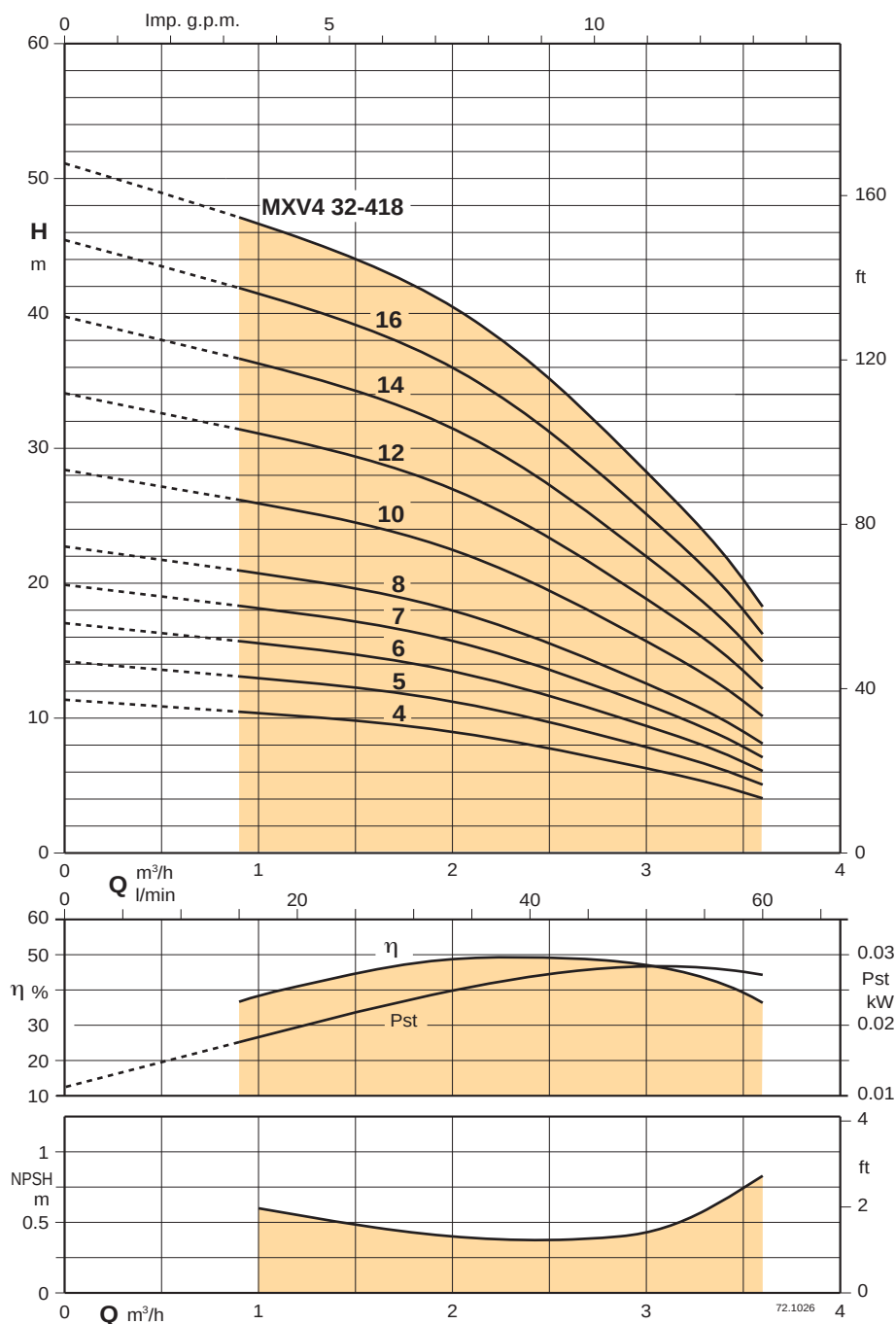
Pst = Power with reference to one stage.

Pump type	Motor power		Q m³/h l/min	0	0,6	0,9	1,2	1,5	1,8	2,2		
	kW	HP		0	10	15	20	25	30	36,6		
MXV4 25-204	0,55	0,75	H m	11,5	10,5	10	9	7,5	6,5	4		
MXV4 25-205	0,55	0,75		14,5	13	12	11	9,5	8	5		
MXV4 25-206	0,55	0,75		17,5	16	14,5	13	11,5	9,5	6		
MXV4 25-207	0,55	0,75		20,5	18,5	17	15,5	13,5	11	7		
MXV4 25-208	0,55	0,75		23	21	19,5	17,5	15	13	8		
MXV4 25-210	0,55	0,75		29	26,5	24,5	22	19	16	10		
MXV4 25-212	0,55	0,75		35	31,5	29,5	26,5	23	19	12		
MXV4 25-214	0,55	0,75		40,5	37	34,5	31	26,5	22,5	14		
MXV4 25-216	0,55	0,75		46,5	42	39	35	30,5	25,5	16,5		
MXV4 25-218	0,55	0,75		52	47,5	44	39,5	34	29	18,5		
MXV4 25-220	0,55	0,75		58	52,5	49	44	38	32	21		

MXV4 32-4 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 1450$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

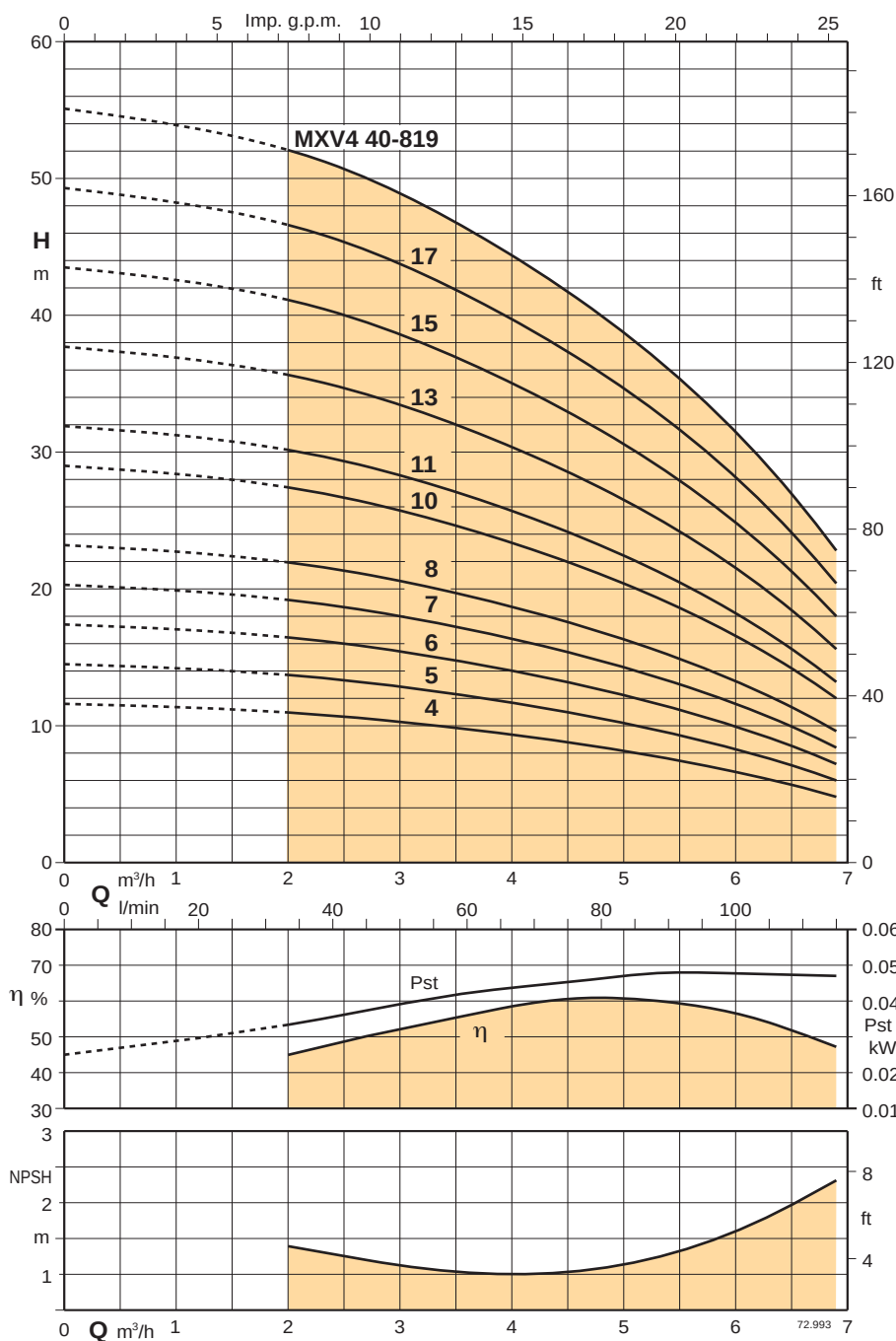
Pst = Power with reference to one stage.

Pump type	Motor power		Q m³/h l/min	0	0,9	1,2	1,8	2,4	3	3,6		
	kW	HP		0	15	20	30	40	50	60		
MXV4 32-404	0,55	0,75	H m	11	10,5	10	9,5	8	6,5	4		
MXV4 32-405	0,55	0,75		14	13	12,5	12	10	8	5		
MXV4 32-406	0,55	0,75		17	15,5	15	14	12	9,5	6		
MXV4 32-407	0,55	0,75		19,5	18	17,5	16,5	14	11	7		
MXV4 32-408	0,55	0,75		22,5	21	20	19	16	13	8		
MXV4 32-410	0,55	0,75		28	26	25	23,5	20	16	10		
MXV4 32-412	0,55	0,75		33,5	31	30	28	24	19	12		
MXV4 32-414	0,55	0,75		39	36,5	35	33	28	22,5	14		
MXV4 32-416	0,55	0,75		45	41,5	40	37,5	32	25,5	16		
MXV4 32-418	0,55	0,75		51	47	45	42	36	29	18		

MXV4 40-8 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 1450$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

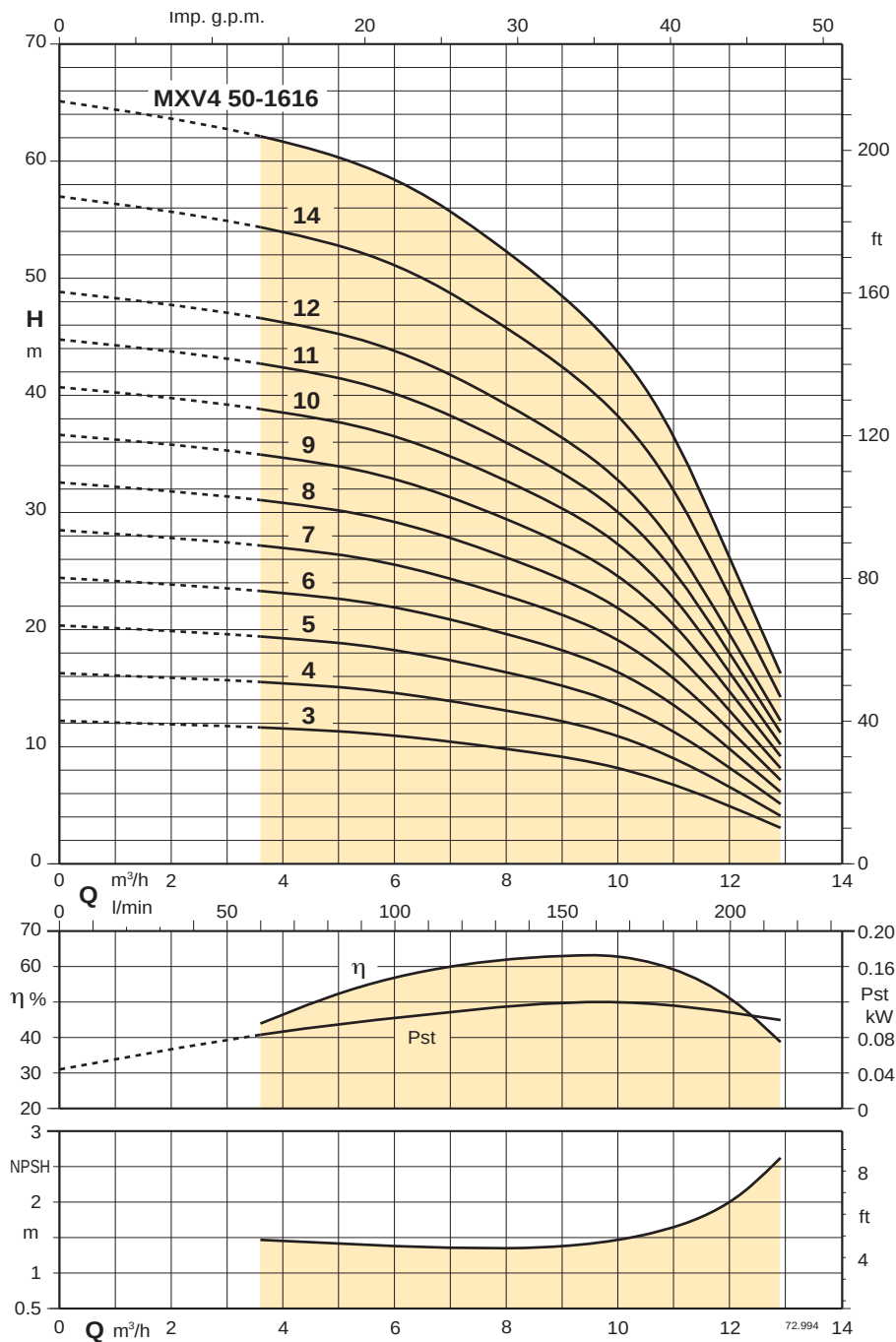
Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

Pump type	Motor power		Q m³/h l/min	0	2	2,7	3,6	4,2	4,8	5,4	6	6,9
	kW	HP		0	33,5	45	60	70	80	90	100	115
MXV4 40-804	0,55	0,75	H m	11,5	11	10,5	9,5	9	8,5	7,5	6,5	5
MXV4 40-805	0,55	0,75		14,5	14	13	12	11,5	10,5	9,5	8	6
MXV4 40-806	0,55	0,75		17,5	16,5	16	14,5	13,5	12,5	11,5	10	7
MXV4 40-807	0,55	0,75		20	19	18,5	17	16	15	13,5	11,5	8,5
MXV4 40-808	0,55	0,75		23	22	21	19,5	18	17	15	13	9,5
MXV4 40-810	0,55	0,75		29	27,5	26	24	23	21	19	16,5	12
MXV4 40-811	0,55	0,75		32	30	29	26,5	25	23	21	18	13
MXV4 40-813	0,75	1		38	36	34	31,5	29,5	27	25	21,5	15,5
MXV4 40-815	0,75	1		43,5	41	39,5	36,5	34	31,5	28,5	25	18
MXV4 40-817	1,1	1,5		49	47	44,5	41	39	36	32	28	20,5
MXV4 40-819	1,1	1,5		55	52	50	46	43	40	36	31,5	23

Characteristic curves and performance $n \approx 1450$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \max 20 \text{ mm}^2/\text{sec}$.

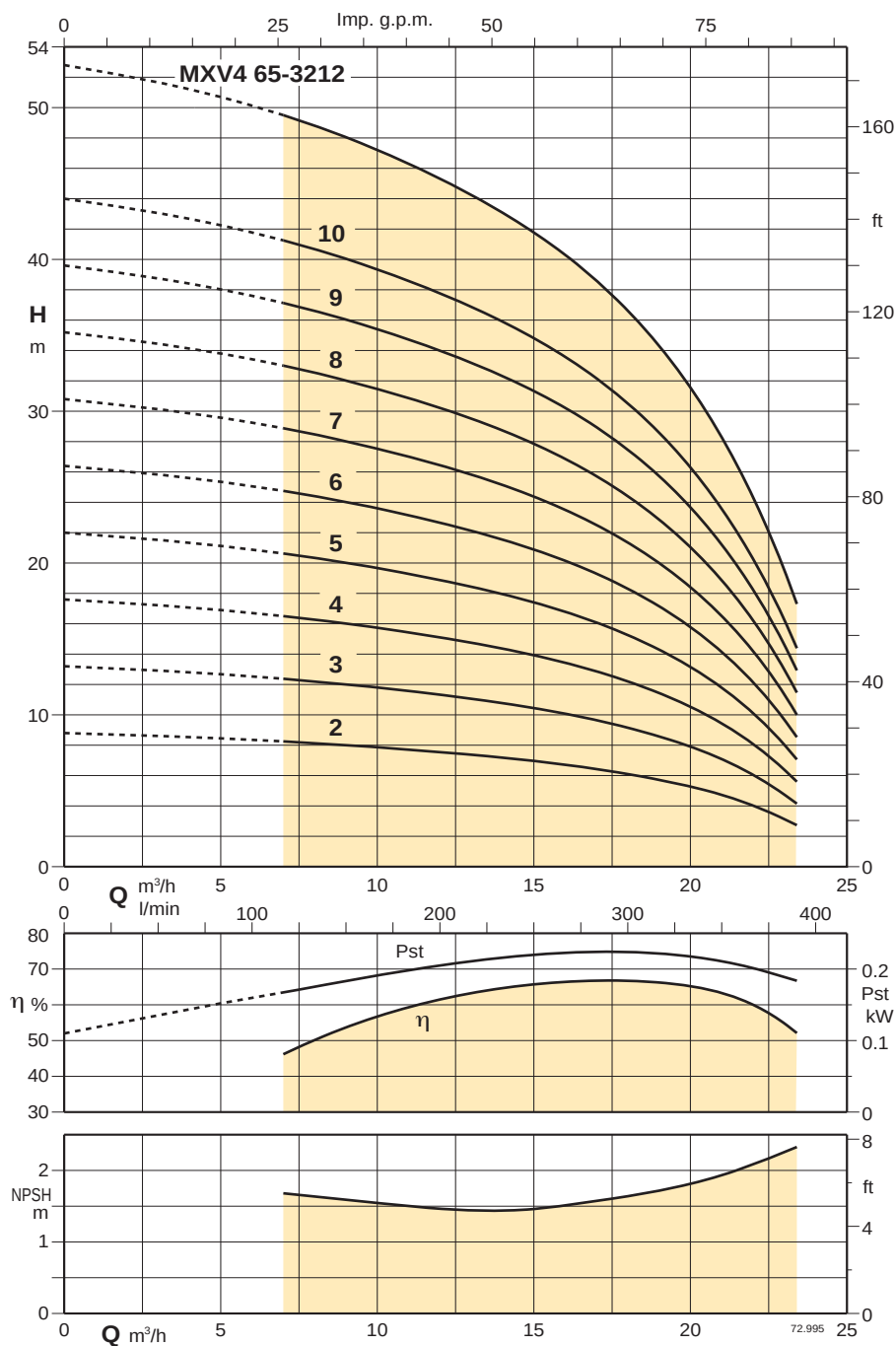
Pst = Power with reference to one stage.

Pump type	Motor power		Q m³/h l/min	0	3,6	4,5	6	7,5	9	10,5	12,9		
	kW	HP		0	60	75	100	125	150	175	215		
MXV4 50-1603	2,2	3	H m	12,3	11,5	11,5	11	10	9	7,5	3		
MXV4 50-1604	2,2	3		16,5	15,5	15,5	14,5	13,5	12	10	4		
MXV4 50-1605	2,2	3		20,5	19,5	19	18,5	17	15,5	12,5	5		
MXV4 50-1606	2,2	3		24,5	23	23	22	20,5	18,5	15	6		
MXV4 50-1607	2,2	3		29	27	27	25,5	24	21,5	17,5	7		
MXV4 50-1608	2,2	3		33	31	30,5	29,5	27	24,5	20	8		
MXV4 50-1609	2,2	3		37	35	34,5	33	30,5	27,5	22,5	9		
MXV4 50-1610	2,2	3		41	39	38,5	36,5	34	30,5	25	10		
MXV4 50-1611	2,2	3		45	42,5	42	40,5	37,5	34	27,5	11,5		
MXV4 50-1612	2,2	3		49	46,5	46	44	41	37	30	12,5		
MXV4 50-1614	2,2	3		57,5	54	53,5	51,5	47,5	43	35	14,5		
MXV4 50-1616	2,2	3		65,5	62	61,5	58,5	54,5	49	40	16,5		

MXV4 65-32 Vertical Multi-Stage In-Line Pumps



Characteristic curves and performance $n \approx 1450$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

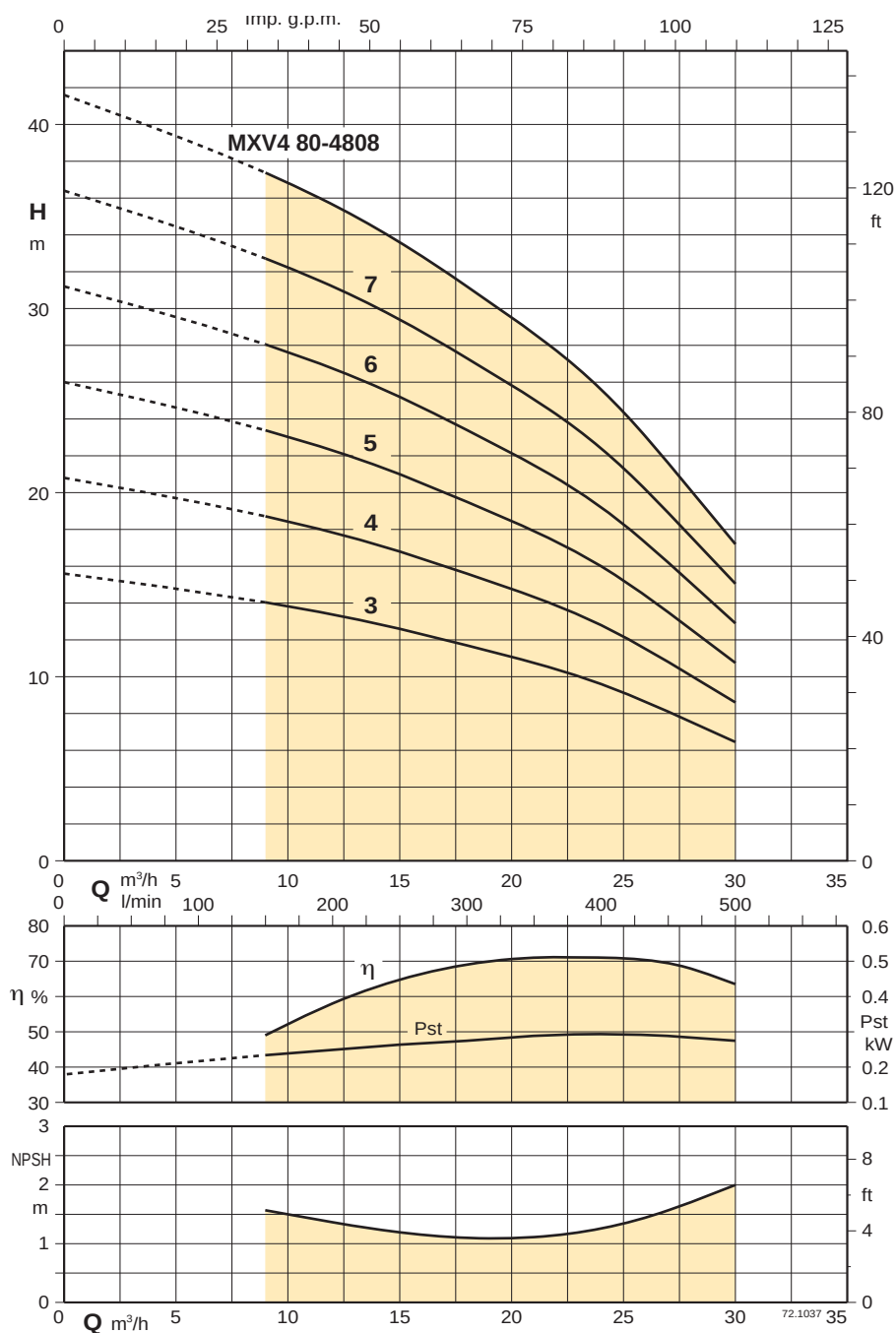
Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

Pump type	Motor power		Q m³/h l/min	0	7	9	11	13	15	17	19	23,4	
	kW	HP		0	116,6	150	183	216	250	283	316	390	
MXV4 65-3202	2,2	3	H m	9	8,2	8	7,7	7,4	7	6,5	6	3	
MXV4 65-3203	2,2	3		13	12,3	12	11,5	11	10	9,5	8,5	4	
MXV4 65-3204	2,2	3		17,5	16,5	16	15,5	15	13,5	12,5	11,5	6	
MXV4 65-3205	2,2	3		22	20,5	20	19	18	17	16	14	7	
MXV4 65-3206	2,2	3		26	25	24	23	22	20,5	19	17	8,5	
MXV4 65-3207	2,2	3		31	29	28	27	25,5	24	22	20	10	
MXV4 65-3208	2,2	3		35	33	32	30,5	29,5	27	25,5	23	11,5	
MXV4 65-3209	2,2	3		39	37	36	34,5	33	30,5	28,5	25,5	13	
MXV4 65-3210	3	4		44	41	40	38,5	36,5	34	32	28,5	14,5	
MXV4 65-3212	3	4		53	49	48	46	44	41	38	34	17,5	

Characteristic curves and performance $n \approx 1450$ rpm



Test results with clean cold water, without gas content.

A safety margin of + 0.5 m is recommended for the NPSH value.

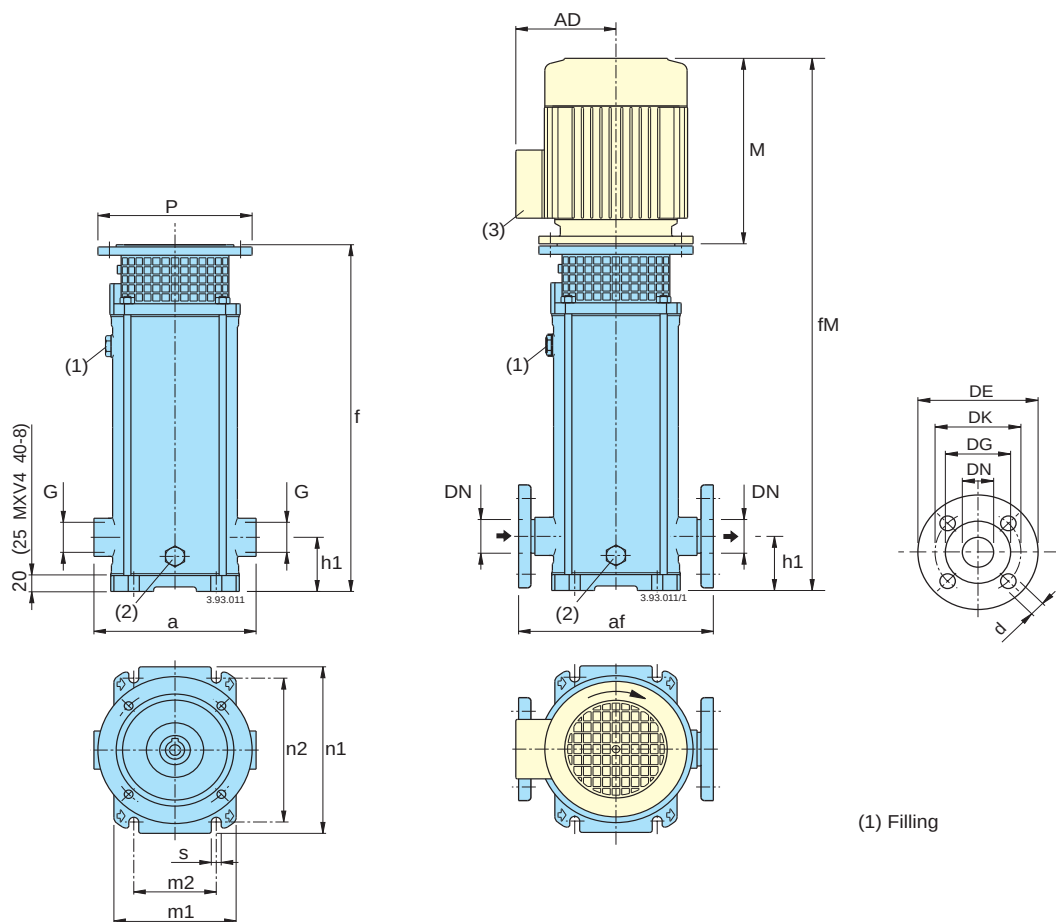
Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density $\rho = 1,0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Pst = Power with reference to one stage.

Pump type	Motor power		Q m³/h l/min	0	9	12	15	18	21	24	27	30	
	kW	HP		0	150	200	250	300	350	400	450	500	
MXV4 80-4803	2,2	3	H m	15,5	14	13	12,5	11,5	11	9,5	8	6,5	
MXV4 80-4804	2,2	3		21	19	18	17	15,5	14,5	13	11	8,5	
MXV4 80-4805	2,2	3		26	23,5	22	21	19,5	18	16	13,5	11	
MXV4 80-4806	2,2	3		31	28	26,5	25	23,5	21,5	19	16	13	
MXV4 80-4807	2,2	3		36,5	33	31	29,5	27	25	22,5	19	15	
MXV4 80-4808	3	4		41,5	37,5	35,5	33,5	31	29	25,5	21,5	17	

Dimensions and weights



Counterflanges in stainless steel

DN	G
25	1
32	1 1/4
40	1 1/2

Flanges EN 1092-1 PN 25 - 40

DN	DE	DK	DG	N.	Ø
25	115	85	65	4	14
32	140	100	76	4	19
40	150	110	84	4	19

Pump	Motor			MXV (G) threaded ports		MXV (F) flanged ports		mm											without motor	with motor
								h1	f	(5) M	fM	P	(5) AD	n1	n2	m1	m2	s	MXV (G) (4) kg (6)	(5) kg (6)
MXV4 25-204	0,55	0,75	80 A4	G1	215	25	250	75	372	234	606	200	120	210	180	150	100	12,5	18	26
MXV4 25-205	0,55	0,75	80 A4	G1	215	25	250	75	396	234	630	200	120	210	180	150	100	12,5	19	27
MXV4 25-206	0,55	0,75	80 A4	G1	215	25	250	75	420	234	654	200	120	210	180	150	100	12,5	20	28
MXV4 25-207	0,55	0,75	80 A4	G1	215	25	250	75	444	234	678	200	120	210	180	150	100	12,5	21	29
MXV4 25-208	0,55	0,75	80 A4	G1	215	25	250	75	468	234	702	200	120	210	180	150	100	12,5	22	30
MXV4 25-210	0,55	0,75	80 A4	G1	215	25	250	75	516	234	750	200	120	210	180	150	100	12,5	23	31
MXV4 25-212	0,55	0,75	80 A4	G1	215	25	250	75	564	234	798	200	120	210	180	150	100	12,5	25	33
MXV4 25-214	0,55	0,75	80 A4	G1	215	25	250	75	612	234	846	200	120	210	180	150	100	12,5	26	34
MXV4 25-216	0,55	0,75	80 A4	G1	215	25	250	75	660	234	894	200	120	210	180	150	100	12,5	28	36
MXV4 25-218	0,55	0,75	80 A4	G1	215	25	250	75	708	234	942	200	120	210	180	150	100	12,5	30	38
MXV4 25-220	0,55	0,75	80 A4	G1	215	25	250	75	756	234	990	200	120	210	180	150	100	12,5	31	39
MXV4 32-404	0,55	0,75	80 A4	G1 1/4	215	32	250	75	372	234	606	200	120	210	180	150	100	12,5	19	27
MXV4 32-405	0,55	0,75	80 A4	G1 1/4	215	32	250	75	396	234	630	200	120	210	180	150	100	12,5	20	28
MXV4 32-406	0,55	0,75	80 A4	G1 1/4	215	32	250	75	420	234	654	200	120	210	180	150	100	12,5	21	29
MXV4 32-407	0,55	0,75	80 A4	G1 1/4	215	32	250	75	444	234	678	200	120	210	180	150	100	12,5	22	30
MXV4 32-408	0,55	0,75	80 A4	G1 1/4	215	32	250	75	468	234	702	200	120	210	180	150	100	12,5	23	31
MXV4 32-410	0,55	0,75	80 A4	G1 1/4	215	32	250	75	516	234	750	200	120	210	180	150	100	12,5	25	33
MXV4 32-412	0,55	0,75	80 A4	G1 1/4	215	32	250	75	564	234	798	200	120	210	180	150	100	12,5	26	34
MXV4 32-414	0,55	0,75	80 A4	G1 1/4	215	32	250	75	612	234	846	200	120	210	180	150	100	12,5	28	36
MXV4 32-416	0,55	0,75	80 A4	G1 1/4	215	32	250	75	660	234	894	200	120	210	180	150	100	12,5	30	38
MXV4 32-418	0,55	0,75	80 A4	G1 1/4	215	32	250	75	708	234	942	200	120	210	180	150	100	12,5	32	42
MXV4 40-804	0,55	0,75	80 A4	G1 1/2	225	40	280	80	401	234	635	200	120	246	215	190	130	14	21	29
MXV4 40-805	0,55	0,75	80 A4	G1 1/2	225	40	280	80	431	234	665	200	120	246	215	190	130	14	22	30
MXV4 40-806	0,55	0,75	80 A4	G1 1/2	225	40	280	80	461	234	695	200	120	246	215	190	130	14	23	31
MXV4 40-807	0,55	0,75	80 A4	G1 1/2	225	40	280	80	491	234	725	200	120	246	215	190	130	14	25	33
MXV4 40-808	0,55	0,75	80 A4	G1 1/2	225	40	280	80	521	234	755	200	120	246	215	190	130	14	26	34
MXV4 40-810	0,55	0,75	80 A4	G1 1/2	225	40	280	80	581	234	815	200	120	246	215	190	130	14	28	38
MXV4 40-811	0,55	0,75	80 A4	G1 1/2	225	40	280	80	611	234	845	200	120	246	215	190	130	14	29	39
MXV4 40-813	0,75	1	80 B4	G1 1/2	225	40	280	80	671	234	905	200	120	246	215	190	130	14	31	41
MXV4 40-815	0,75	1	80 B4	G1 1/2	225	40	280	80	741	234	965	200	120	246	215	190	130	14	33	43
MXV4 40-817	1,1	1,5	90 S4	G1 1/2	225	40	280	80	801	282	1083	200	128	246	215	190	130	14	35	48
MXV4 40-819	1,1	1,5	90 S4	G1 1/2	225	40	280	80	861	282	1143	200	128	246	215	190	130	14	37	50

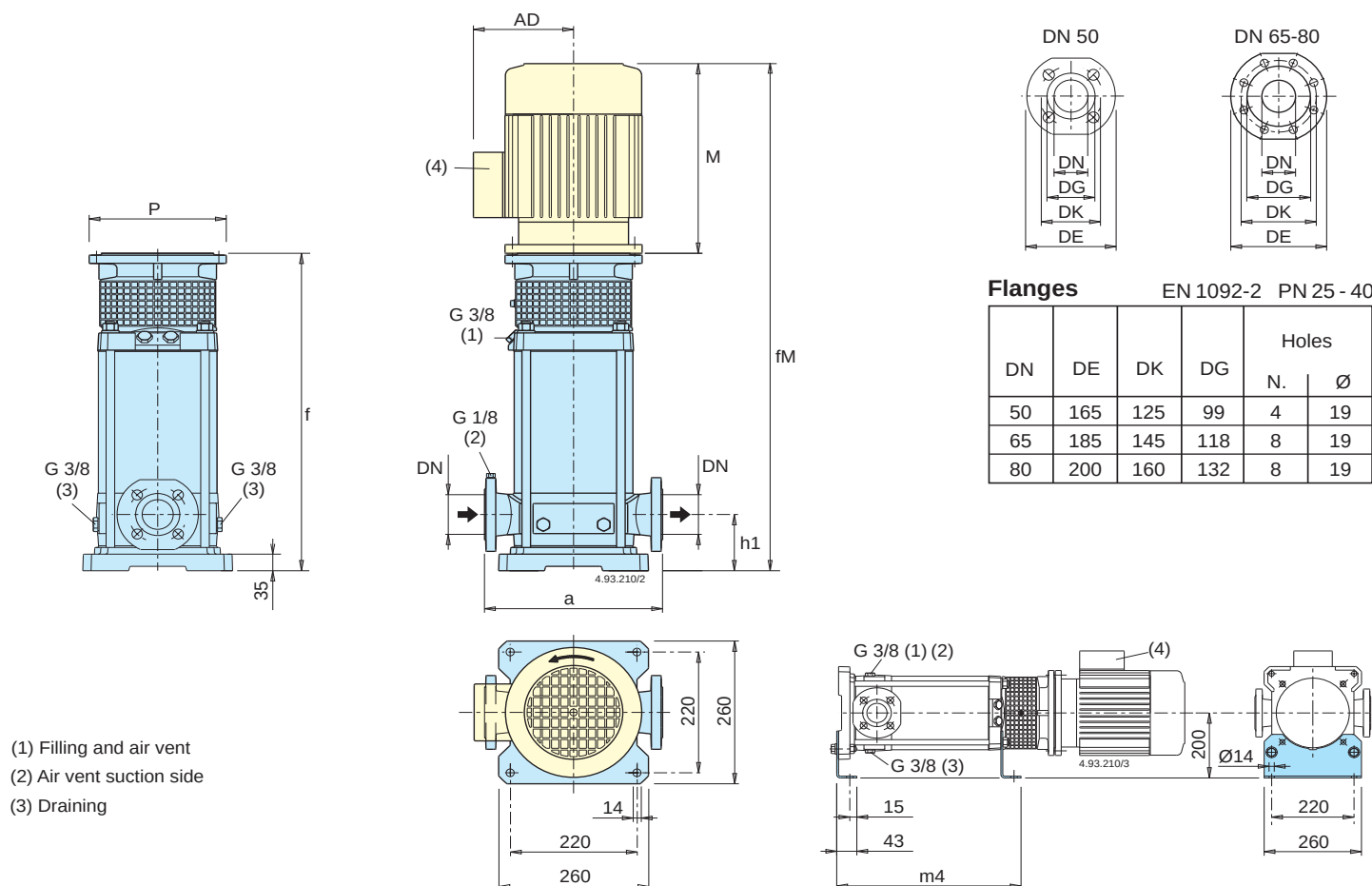
(3) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)

(4) MXV (F) = MXV (G) + 1kg

(5) With standard motor

(6) Net weight

Dimensions and weights



Pump	Motor			mm									without motor	with motor
				DN	a	h1	f	(6) M	fM	P	(6) AD	m4	MXV4 (5) kg (7)	(6) kg (7)
MXV4 50-1603	2,2	3	100 LA4	50	300	90	395	336	731	250	166	322	42	66
MXV4 50-1604	2,2	3	100 LA4	50	300	90	430	336	766	250	166	357	43	67
MXV4 50-1605	2,2	3	100 LA4	50	300	90	464	336	800	250	166	391	45	69
MXV4 50-1606	2,2	3	100 LA4	50	300	90	499	336	835	250	166	426	46	70
MXV4 50-1607	2,2	3	100 LA4	50	300	90	533	336	869	250	166	460	48	72
MXV4 50-1608	2,2	3	100 LA4	50	300	90	568	336	904	250	166	495	49	73
MXV4 50-1609	2,2	3	100 LA4	50	300	90	602	336	938	250	166	529	51	75
MXV4 50-1610	2,2	3	100 LA4	50	300	90	637	336	973	250	166	564	52	76
MXV4 50-1611	2,2	3	100 LA4	50	300	90	671	336	1007	250	166	598	54	78
MXV4 50-1612	2,2	3	100 LA4	50	300	90	706	336	1042	250	166	633	55	79
MXV4 50-1614	2,2	3	100 LA4	50	300	90	775	336	1111	250	166	702	58	82
MXV4 50-1616	2,2	3	100 LA4	50	300	90	844	336	1180	250	166	771	61	87
MXV4 65-3202	2,2	3	100 LA4	65	320	105	407	336	743	250	166	334	45	69
MXV4 65-3203	2,2	3	100 LA4	65	320	105	453	336	789	250	166	380	47	71
MXV4 65-3204	2,2	3	100 LA4	65	320	105	499	336	835	250	166	426	49	73
MXV4 65-3205	2,2	3	100 LA4	65	320	105	545	336	881	250	166	472	51	75
MXV4 65-3206	2,2	3	100 LA4	65	320	105	591	336	927	250	166	518	52	76
MXV4 65-3207	2,2	3	100 LA4	65	320	105	637	336	973	250	166	564	54	78
MXV4 65-3208	2,2	3	100 LA4	65	320	105	683	336	1019	250	166	610	56	80
MXV4 65-3209	2,2	3	100 LA4	65	320	105	729	336	1065	250	166	656	58	84
MXV4 65-3210	3	4	100 LB4	65	320	105	775	336	1111	250	166	702	60	86
MXV4 65-3212	3	4	100 LB4	65	320	105	867	336	1203	250	166	794	62	90
MXV4 80-4803	2,2	3	100 LA4	80	320	105	507	336	843	250	166	434	50	74
MXV4 80-4804	2,2	3	100 LA4	80	320	105	568	336	904	250	166	495	53	77
MXV4 80-4805	2,2	3	100 LA4	80	320	105	630	336	966	250	166	557	55	79
MXV4 80-4806	2,2	3	100 LA4	80	320	105	691	336	1027	250	166	618	58	82
MXV4 80-4807	2,2	3	100 LA4	80	320	105	752	336	1088	250	166	679	61	87
MXV4 80-4808	3	4	100 LB4	80	320	105	814	336	1150	250	166	741	63	89

(4) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)

(5) MXV4 (L) : + 3 kg
MXV4 (H) : + 3 kg

(6) With standard motor

(7) Net weight

Features

Long Service Life with Standard Motor

Pump with thrust bearing without additional axial loads on the motor bearings.

Any standard motor V1 design (suitable to be lifted in vertical position) can be used, of our choice or of Client's choice.

Easy Assembly of the Motor

With the single-piece sleeve coupling the pump unit can be supplied fully assembled also without the motor. This eliminates the risk of damage caused by shifting of the pump shaft during transportation. The motor is simply inserted in the coupling and fastened to the flange without the necessity for adapting the axial position of the pump shaft.

Extra Safety

Single-piece coupling guard to be removed only by means of a tool, positioned around the lantern bracket, thus avoiding accidental pushing and rubbing against the coupling.

Low Cost Installation

Vertical construction with reduced pump height for installation in small spaces.

In-line connections to simplify the piping layout with the possibility of inserting the pump in straight pipe-lines.

Disassembly, inspection or cleaning of internal parts without removal of piping.

Robust and Reliable

Single PN 25 construction for all pump sizes.

The suction and discharge nozzles arranged in-line absorb the forces of the piping on the pump without the creation of distorting loads causing local friction and early wears.

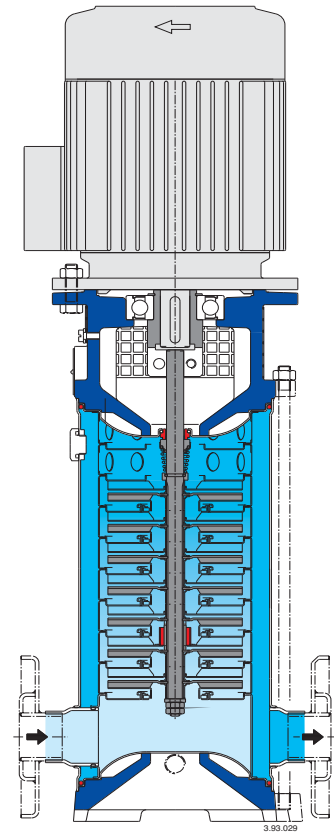
The lantern brackets compact and robust design maintains a sure alignment between rotating and fixed parts, reducing vibration.

The upper cover design prevents entrapment of air around the mechanical seal.

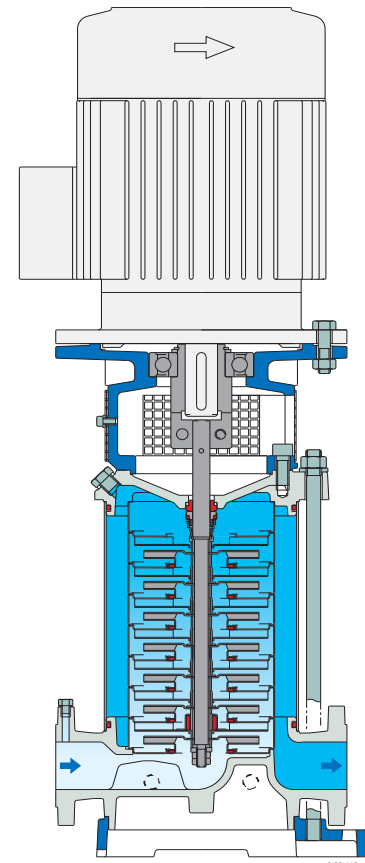
Low-Noise Operation

The water filled shroud around the stages and thick external walls, work together for low-noise operation.

Low-noise standard motor.



MXV 25-2, 32-4, 40-8



MXV 50-16, 65-32, 80-48

MXVL AISI 316L

Vertical Multi-Stage In-Line Pumps



The electropumps MXVL series comply with the European Regulation no. 547/2012.

Construction

Vertical multi-stage pumps with suction and delivery connections of the same diameter and arranged along the same axis (in-line). Corrosion-resistant bearing sleeves lubricated by the pumped liquid. A pump with thrust bearing and sleeve coupling for use of any standard motor with IM V1 construction.

Applications

For water supply systems.
For clean non-explosive liquids, without solid, filamentary or abrasive matter (with adaptation of sealing materials on request).
A universal pump for civil and industrial use, for pressure-boosting systems, fire-extinguishing systems, high-pressure washing plants, irrigation, agricultural uses and sport installations.

Operating conditions

Temperature of liquid: from -15 °C to +110 °C.
Operating environment temperature: up to 40 °C.
Maximum permissible pressure in pump casing: 25 bar.

Motor

Standard-type: 2-4 pole induction motor, 50 Hz.
Construction IM V1 (EN 60034-7).
Motor suitable for operation with frequency converter.
Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 from 7,5 kW.
Insulation class F).
Protection IP 55.
three-phase with rated voltage: up to 3 kW 230/400 V;
from 4 kW 400/690 V.
Rated speed of rotation (50 Hz): **MXVL** ≈ 2900 rpm
MXVL4 ≈ 1450 rpm.

MXVL 25-2, 32-4, 40-8

All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel-molybdenum stainless steel AISI 316L.

Materials (wetted parts)

Component	Material
Flange External jacket Suction casing Delivery casing Stage casing Impeller Lower cover Upper cover Spacer sleeve	Chrome-nickel-molybdenum steel 1.4404 EN 10088 (AISI 316L)
Pump shaft Plug	Chrome-nickel-molybdenum steel 1.4404 EN 10088 (AISI 316L)
Bearing sleeve Bearing in stage casing	Corrosion-resistant, cemented carbide Ceramic alumina
Mechanical seal ISO 3069 - KU	Hard metal/Carbon/EPDM.
Wear ring	PTFE
O-rings	NBR

Direction of rotation: clockwise as seen from the motor.

Variants (to be specified when ordering)

Pump with threaded ports (G).
Pump with flanged ports (F).
Pump without motor.
Pump with standard motor.

Other variants (on request)

With counter-flanges in chrome-nickel steel.
O-rings FPM. Other mechanical seal.
Pump with motor of Client's choice (if available).
Single-phase motor 230 V, up to 2.2 kW.
Other voltage ratings.
Frequency 60 Hz.

MXVL 50-16, 65-32, 80-48

Internal parts in contact with the liquid with pump casing and upper cover in chrome-nickel-molybdenum stainless steel AISI 316L.

Materials (wetted parts)

Component	Material
Pump casing Upper cover	Chrome-nickel-molybdenum steel 1.4404 EN 10088 (AISI 316L)
External jacket Stage casing Impeller Spacer sleeve	Chrome-nickel-molybdenum steel 1.4404 EN 10088 (AISI 316L)
Pump shaft Plug	Chrome-nickel-molybdenum steel 1.4404 EN 10088 (AISI 316L)
Bearing sleeve Bearing in stage casing	Corrosion-resistant, cemented carbide Ceramic alumina
Mechanical seal ISO 3069 - KU	Hard metal/Carbon/EPDM
Wear ring	PTFE
O-rings	NBR

Direction of rotation: anticlockwise as seen from the motor.

Variants (to be specified when ordering)

Pump without motor.
Pump with standard motor.

Other variants (on request)

O-rings FPM. Other mechanical seal.
Pump with motor of Client's choice (if available).
Other voltage ratings.
Frequency 60 Hz.
Pump with support feet for horizontal installation (H1 or H2).
Support feet for horizontal installation, set.
Welding counter-flanges, PN 25 (steel).

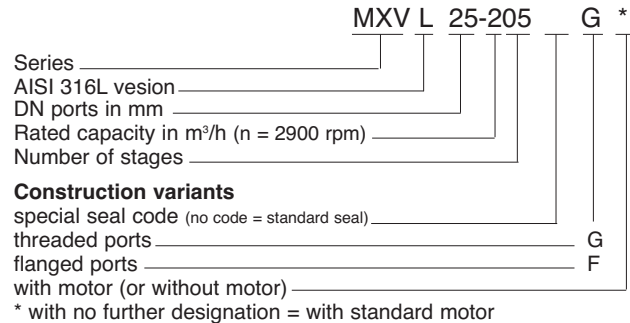
MXVL AISI 316L

Vertical Multi-Stage In-Line Pumps



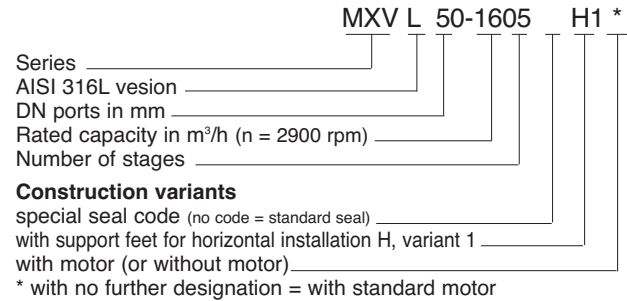
MXVL 25-2, 32-4, 40-8

Designation

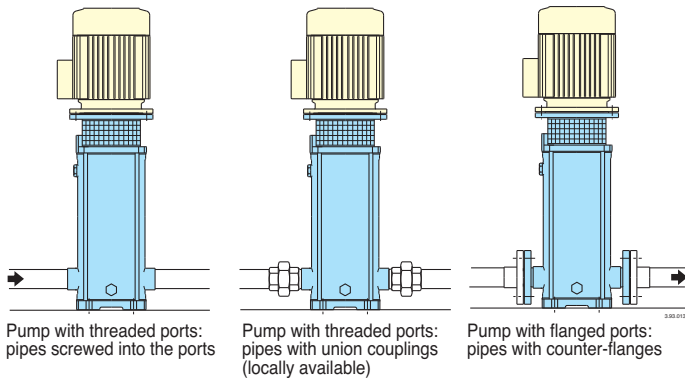


MXVL 50-16, 65-32, 80-48

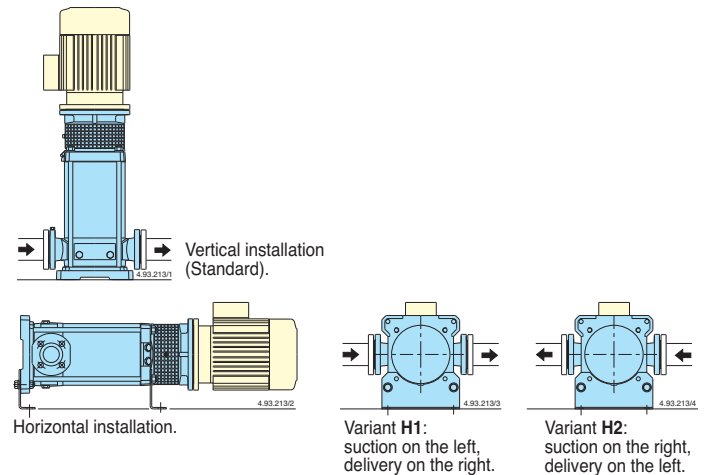
Designation



Pipe connection



Installations



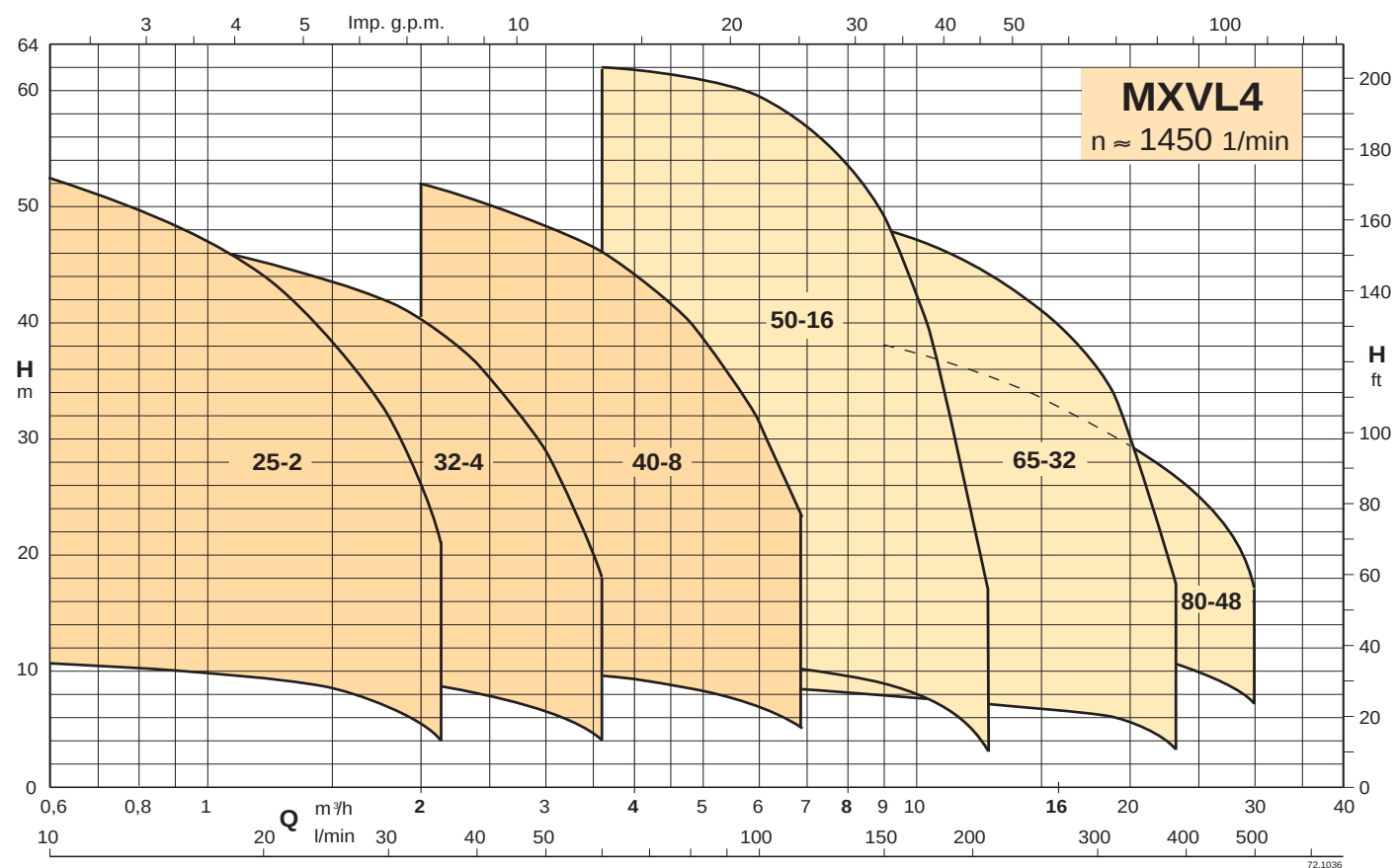
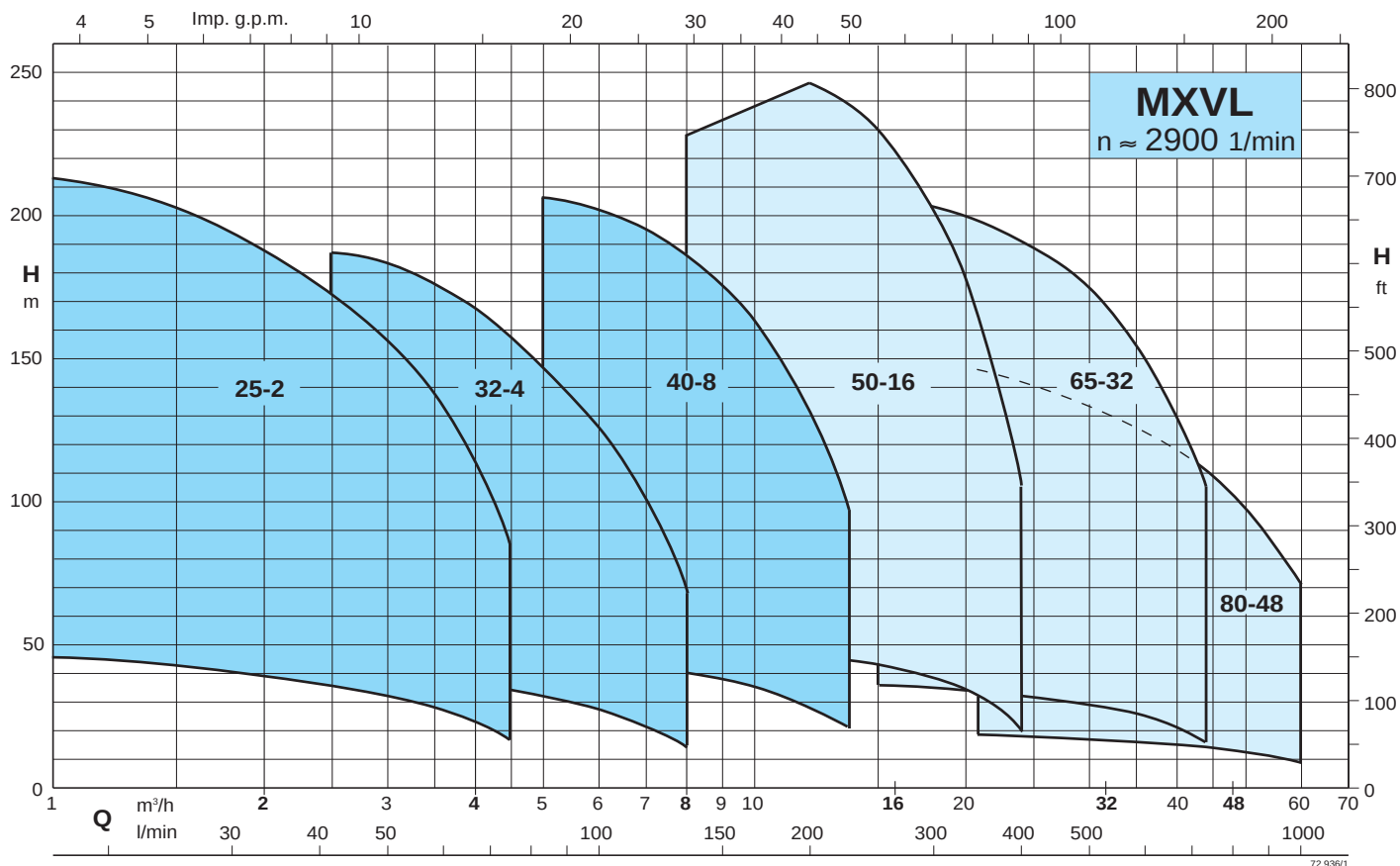
Variable parts

Pump size MXVL - MXV4L			Number of stages	Stage casings with bearing
25 - 204	32 - 404	40 - 804	4	1
25 - 205	32 - 405	40 - 805	5	1
25 - 206	32 - 406	40 - 806	6	1
25 - 207	32 - 407	40 - 807	7	1
25 - 208	32 - 408	40 - 808	8	1
25 - 210	32 - 410	40 - 810	10	1
25 - 212	32 - 412	40 - 811	11	2
		40 - 813	12	2
		40 - 815	13	2
		40 - 817	14	2
25 - 214	32 - 414	40 - 815	15	2
25 - 216	32 - 416	40 - 817	16	2
25 - 218	32 - 418	40 - 819	18	2
25 - 220		40 - 817	17	3
		40 - 819	19	3
		40 - 819	20	3

Variable parts

Pump size MXVL - MXV4L			Number of stages	Stage casings with bearing
50 - 1603 50 - 1604 50 - 1605 50 - 1606 50 - 1607 50 - 1608 50 - 1609 50 - 1610	65 - 3202 65 - 3203 65 - 3204 65 - 3205 65 - 3206 65 - 3207	80 - 4801	1	1
		80 - 4802	2	1
		80 - 4803	3	1
		80 - 4804	4	1
		80 - 4805	5	1
			6	1
			7	1
			8	1
			9	1
			10	1
50 - 1611 50 - 1612 50 - 1614 50 - 1616	65 - 3208 65 - 3209 65 - 3210 65 - 3212	80 - 4806	6	2
		80 - 4807	7	2
		80 - 4808	8	2
			9	2
			10	2
			11	2
			12	2
			14	2
			16	2

Coverage chart



For characteristic curves, dimensions and weights see cap. 11

Features

Long Service Life with Standard Motor

Pump with thrust bearing without additional axial loads on the motor bearings.

Any standard motor V1 design (suitable to be lifted in vertical position) can be used, of our choice or of Client's choice.

Easy Assembly of the Motor

With the single-piece sleeve coupling the pump unit can be supplied fully assembled also without the motor. This eliminates the risk of damage caused by shifting of the pump shaft during transportation. The motor is simply inserted in the coupling and fastened to the flange without the necessity for adapting the axial position of the pump shaft.

Extra Safety

Single-piece coupling guard to be removed only by means of a tool, positioned around the lantern bracket, thus avoiding accidental pushing and rubbing against the coupling.

Low Cost Installation

Vertical construction with reduced pump height for installation in small spaces.

In-line connections to simplify the piping layout with the possibility of inserting the pump in straight pipe-lines.

Disassembly, inspection or cleaning of internal parts without removal of piping.

Robust and Reliable

Single PN 25 construction for all pump sizes.

The suction and discharge nozzles arranged in-line absorb the forces of the piping on the pump without the creation of distorting loads causing local friction and early wears.

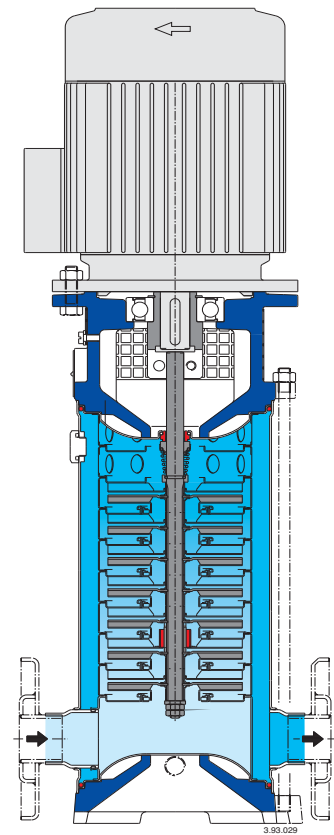
The lantern brackets compact and robust design maintains a sure alignment between rotating and fixed parts, reducing vibration.

The upper cover design prevents entrapment of air around the mechanical seal.

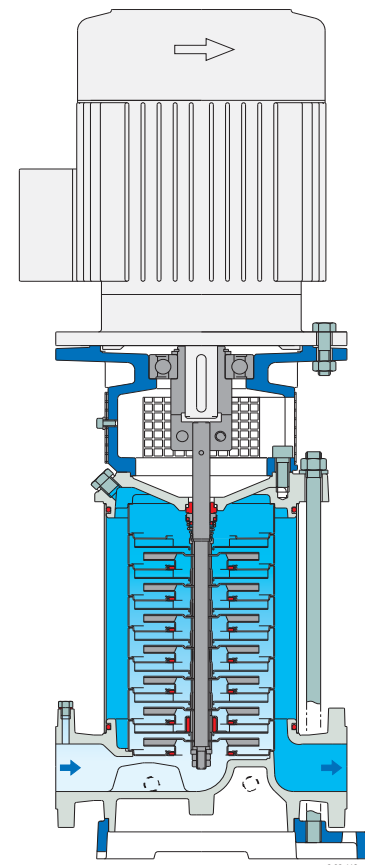
Low-Noise Operation

The water filled shroud around the stages and thick external walls, work together for low-noise operation.

Low-noise standard motor.



MXV 25-2, 32-4, 40-8



MXV 50-16, 65-32, 80-48



Construction

Self-draining, single-impeller pumps, with motor insulated from pumped water, constructed with high quality, corrosion-proof plastic materials, with stainless steel diffuser. Compact design (158 mm wide).

PVC pipe connections:

Ports for cementing joint, with external thread for union coupling.

Applications

For spas, hydromassage bathtubs and whirlpool baths.

Operating conditions

Water temperature up to 60 °C.

Room temperature up to 40 °C.

Maximum permissible pressure in the pump casing: 2,5 bar. Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).

SPA: three-phase 230/400 V $\pm 10\%$.

SPAM: single-phase 230 V $\pm 10\%$, with thermal protector. Capacitor inside the terminal box.

Insulation class F.

Protection IP X5.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30. EN 60335-1, EN 60335-2-41.

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).

Patents: EP 0 460 597
US 5 226 790

Certification marks for SPAM

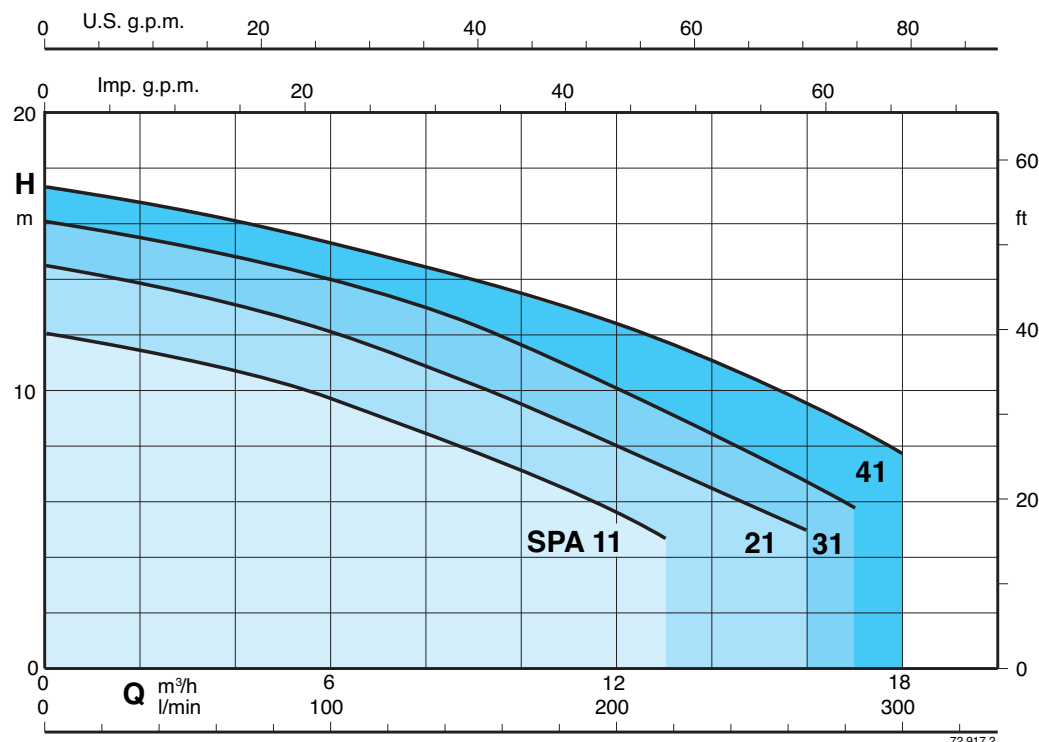


Materials

Component	Material
Pump casing Union coupling	ABS (Acrylonitrile-Butadiene-Styrene)
Diffuser cover Impeller	Glass reinforced thermoplastic: PPO-GF30, NORYL*
Diffuser-wall with wear-ring	Cr-Ni-Mo stainless steel 1.4401 EN 10088 (AISI 316)
Mechanical seal	Ceramic alumina, Carbon, FPM

* Trademark of General Electric

Coverage chart $n \approx 2800$ rpm



Performance $n \approx 2800$ rpm

3~	230 V		400 V	1~	230 V		P ₁	P ₂		Q									
	A	A			A	kW		kW	HP		m ³ /h	0	3	6	9	12	13	16	17
										l/min	0	50	100	150	200	216	266	283	300
SPA 11	2,8	1,6	SPAM 11	3,3	0,73	0,45	0,6	H	m	12	11,1	9,7	7,8	5,6	4,7				
SPA 21/A	3	1,7	SPAM 21/A	4,5	1	0,55	0,75			14,5	13,4	12,1	10,2	7,9	7,2	5			
SPA 31/A	3,7	2,2	SPAM 31/A	5,4	1,2	0,75	1			16,1	15,2	13,9	12,4	10,2	9,3	6,8	5,8		
SPA 41	4,7	2,7	SPAM 41	7	1,6	1,1	1,5			17,3	16,5	15,3	14	12,4	11,8	9,5	8,6	7,7	

P₁ Max. power input.

P₂ Rated motor power output.

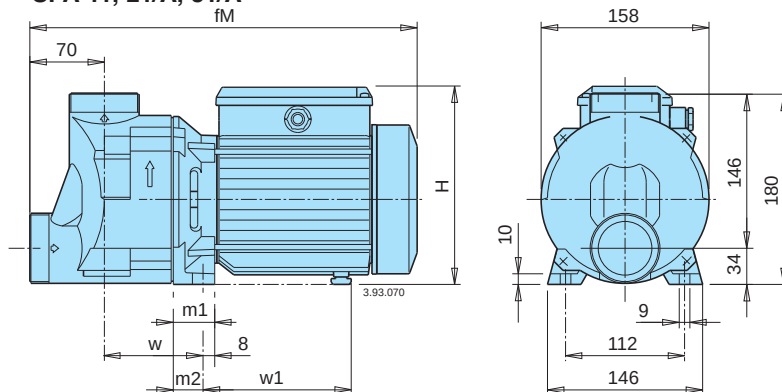
H Total head in m.

Tolerances in accordance with UNI EN ISO 9906:2012

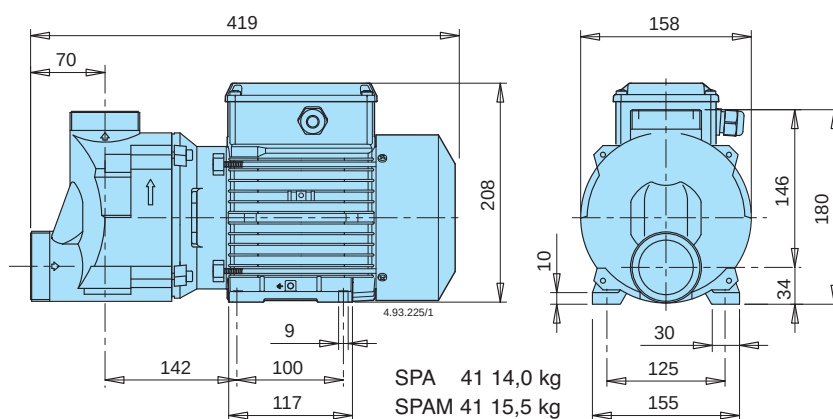
Dimensions and weights

Type	mm						kg	
	fM	H	m1	m2	w1	w	SPA	SPAM
SPA 11	339	176	34	26	122	97	6,7	6,8
SPA 21/A	371	191	39	31	136	102	8	9
SPA 31/A	371	191	39	31	136	102	9	10

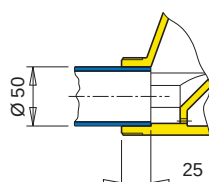
SPA 11, 21/A, 31/A



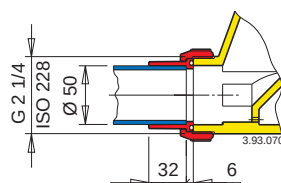
SPA 41



SPA 41 14,0 kg
SPAM 41 15,5 kg



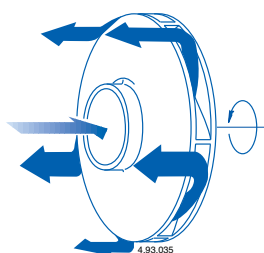
Cemented joint.



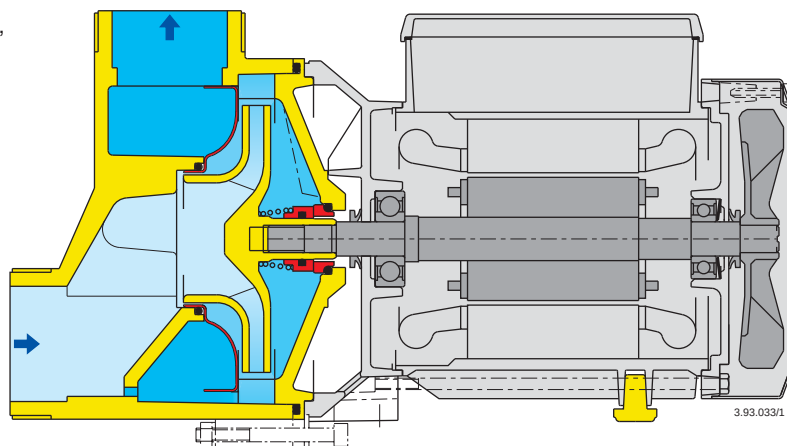
Threaded union coupling.

Features

Diffuser with peripheral-longitudinal flow, of stainless steel for **extra reliability**.



Mechanical seal without contact with the shaft, for **extra safety**.





Construction

Self-priming swimming pool pumps with built-in strainer and motor insulated from pumped water.
The pump is made with high quality plastic materials, corrosion and sand erosion resistant.
With stainless steel diffuser.
Base-plate kit.

Applications

- For water circulation in swimming pool filtration systems.
- For clean or slightly dirty water with solids in suspension.

Operating conditions

Water temperature up to 60 °C.
Ambient temperature up to 40 °C.
Maximum permissible pressure in the pump casing 2,5 bar.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).

MPC: three-phase 230/400 V $\pm 10\%$.

MPCM: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.

Insulation class F.

Protection IP X4.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).

Patents: EP 0 460 597
US 5 226 790

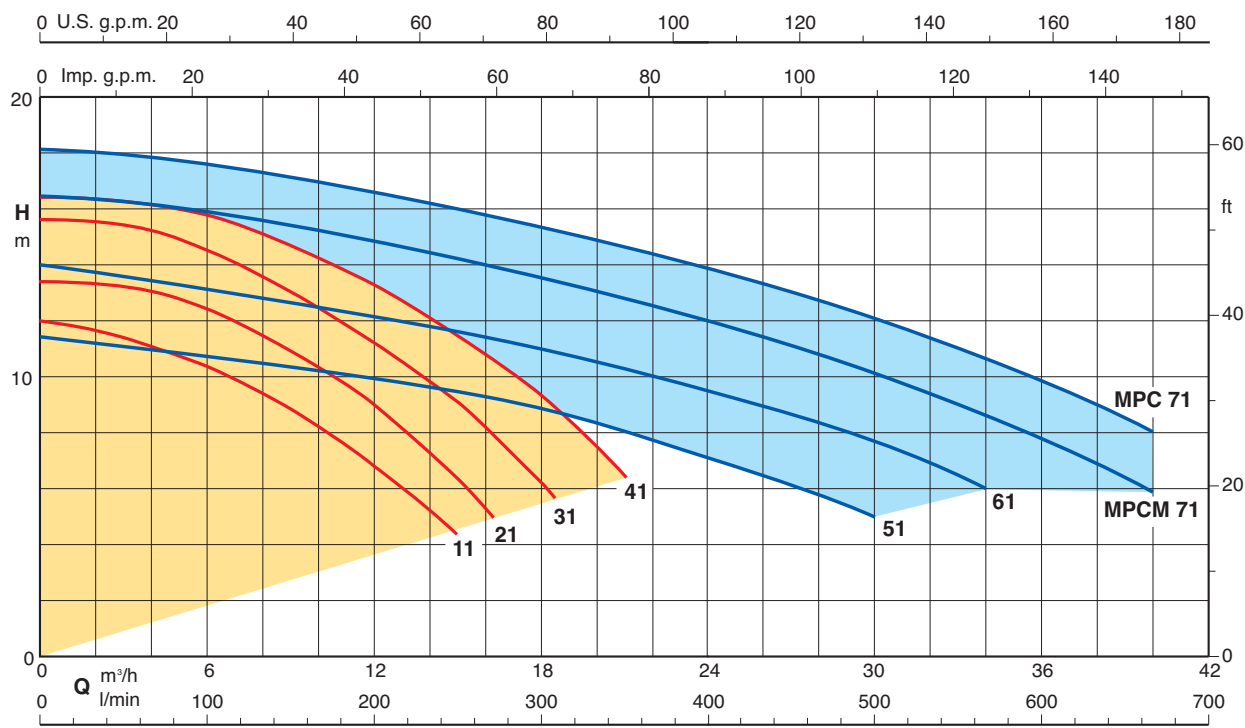
Certification marks for MPCM, up to 1,5 kW:



Materiali

Component	Material
Pump casing	Glass reinforced
Diffuser cover	thermoplastic
Impeller	PPO-GF30, NORYL
Strainer cover	Transparent polycarbonate, LEXAN
Strainer basket	Polypropylene
Diffuser funnel and wear-ring	Cr-Ni-Mo steel AISI 316
Mechanical seal	Ceramic alumina, Carbon, FPM

Coverage chart $n \approx 2800$ rpm



MPC
Compact Pool

Self-Priming Swimming Pool Pumps

calpeda[®]

Performance $n \approx 2800$ rpm

3~	230 V 400 V		1~	230 V P ₁		P ₂		Q										
	A	A		A	kW	kW	HP		m ³ /h	0	3	6	9	12	15	18	21	
									l/min	0	50	100	150	200	250	300	350	
MPC 11	2,8	1,6	MPCM 11	3,3	0,73	0,37	0,5	H	m	11,9	11,4	10,3	8,9	6,8	4,2			
MPC 21/A	3	1,7	MPCM 21/A	4,5	1	0,55	0,75			13,4	13,3	12,4	10,9	9	6,3			
MPC 31/A	3,7	2,2	MPCM 31/A	5,4	1,2	0,75	1			15,6	15,5	14,5	13	11,2	9,1	6,2		
MPC 41	4,7	2,7	MPCM 41	7	1,6	1,1	1,5			16,4	16,2	15,8	14,7	13,3	11,4	9,3	6,4	

3~	230 V 400 V		1~	230 V P ₁		P ₂		Q										
	A	A		A	kW	kW	HP		m ³ /h	0	3	9	15	18	21	24	27	30
									l/min	0	50	150	250	300	350	400	450	500
MPC 51	4,7	2,7	MPCM 51	7	1,6	1,1	1,5	H	m	11,5	11	10,5	9,5	9	8	7	6	5
MPC 61	6,2	3,6	MPCM 61	9,2	2	1,5	2			14	13,5	12,5	11,5	11	10,5	9,5	8,5	7,5
			MPCM 71/A	11,2	2,5	1,8	2,5			16,4	15,9	14,9	14	13,4	12,7	12,1	11,3	10,2
MPC 71/A	9,15	5,3				2,2	3			18,2	18	17	16	15,5	14,5	14	13	12
																		567
																		667

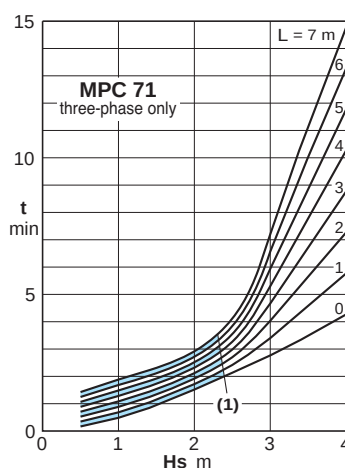
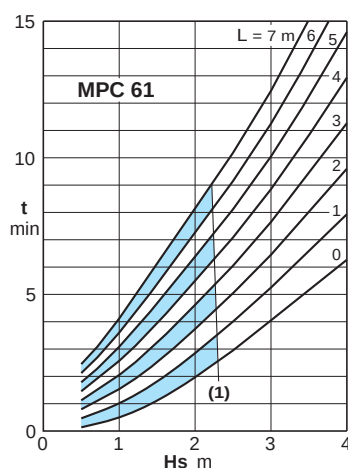
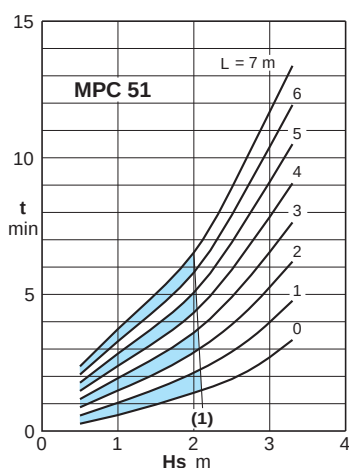
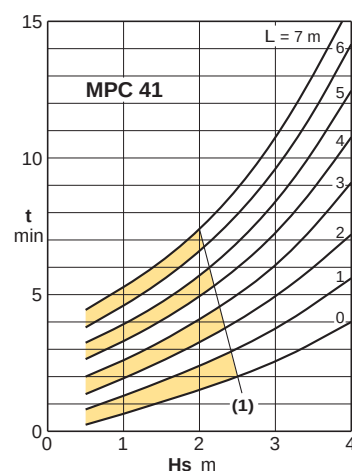
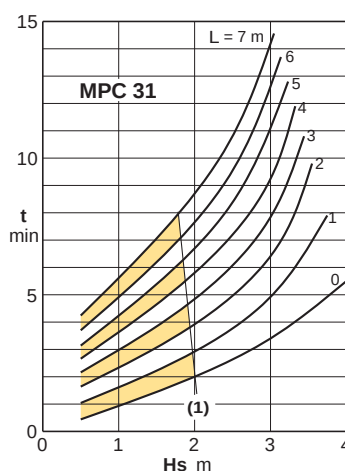
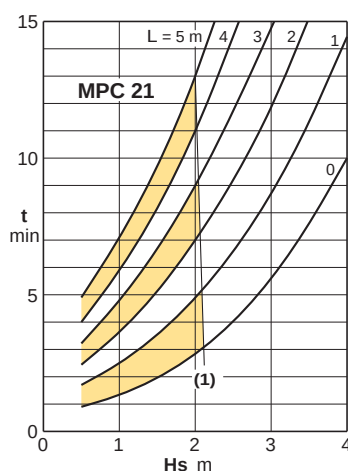
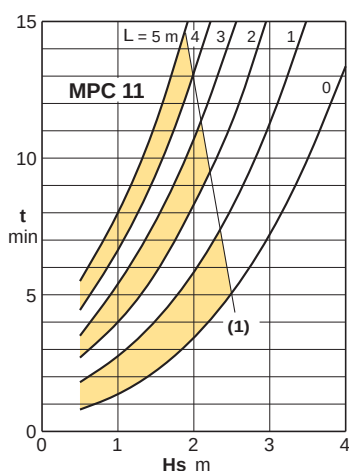
P₁ Max. power input.

P₂ Rated motor power output.

H Total head in m.

Tolerances in accordance with UNI EN ISO 9906:2012

Self-Priming Capability with the pump located above the water level

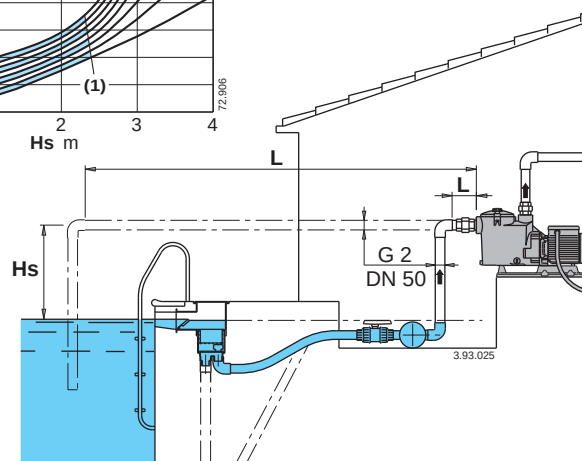


(1) Application limit for automatic self-repriming at each start-up, without check valve.

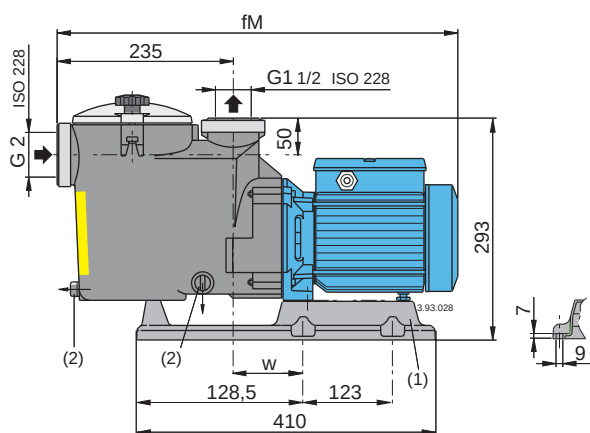
L (m) Horizontal length of suction pipe above the water level.

Hs (m) Suction lift.

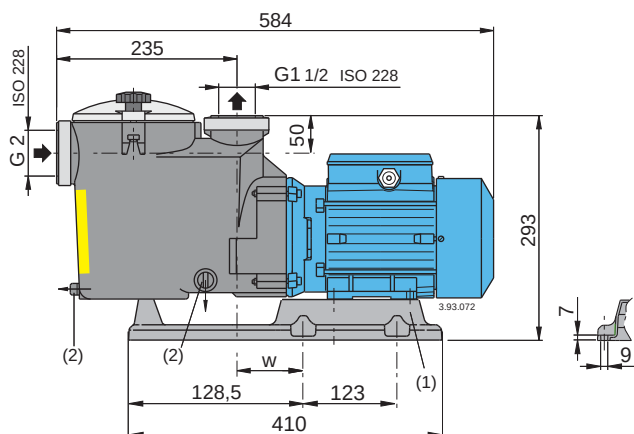
t (min) Self-priming time.



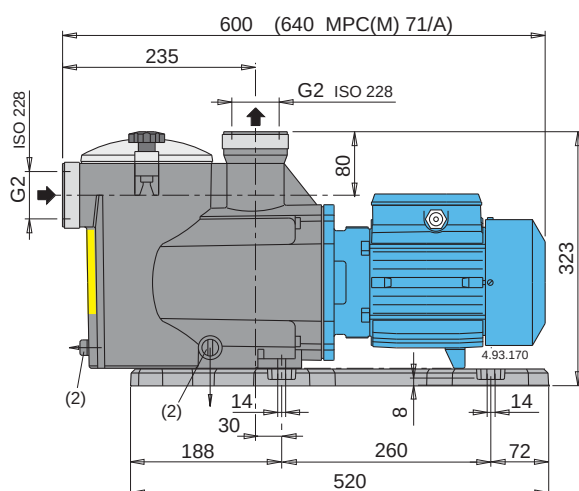
Dimensions and weights



TYPE	mm		kg	
	fM	w	MPC	MPCM
MPC 11 - MPCM 11	504	332	8,9	9
MPC 21/A - MPCM 21/A	536	337	10,2	11,3
MPC 31/A - MPCM 31/A	536	337	11,2	12,2



MPCM 41 17,5 kg
MPC 41 16,0 kg

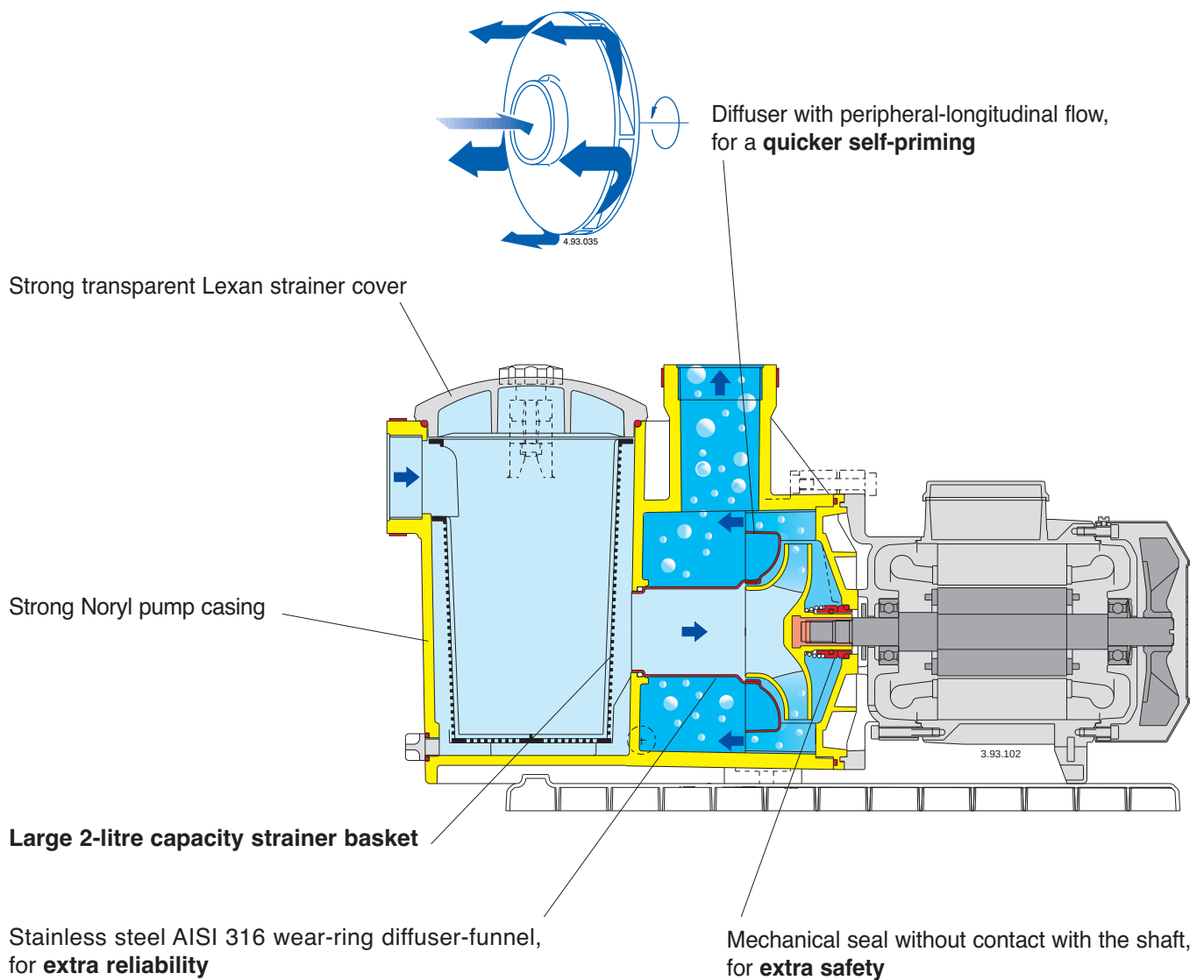


MPCM 51 18,9 kg
MPC 51 17,4 kg
MPCM 61 20,7 kg
MPC 61 19,6 kg
MPCM 71/A 23,8 kg
MPC 71/A 22,5 kg

(1) Base-plate kit

(2) Draining

Features



NMP

Self-Priming Centrifugal Pumps
with built-in strainer

calpeda®



Construction

Close-coupled self-priming centrifugal pumps with built-in strainer.

Inner basket with Ø 3 mm holes.

NMP: version with pump casing and lantern bracket in cast iron, with cataphoresis coating.

B-NMP: version with pump casing and lantern bracket in bronze (the pumps are supplied fully painted).

Applications

For water circulation in swimming pool filtration systems.

For clean or slightly dirty water with solids in suspension.

Operating conditions

Liquid temperature up to 60° C.

Ambient temperature up to 40° C.

Total suction lift up to 7 m.

Maximum permissible working pressure up to 6 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

NMP: three-phase 230/400 V $\pm 10\%$ up to 3 kW;
400/690 V $\pm 10\%$ from 4 to 11 kW;

NMPM: single-phase 230 V $\pm 10\%$, with thermal protector.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 from 7,5 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

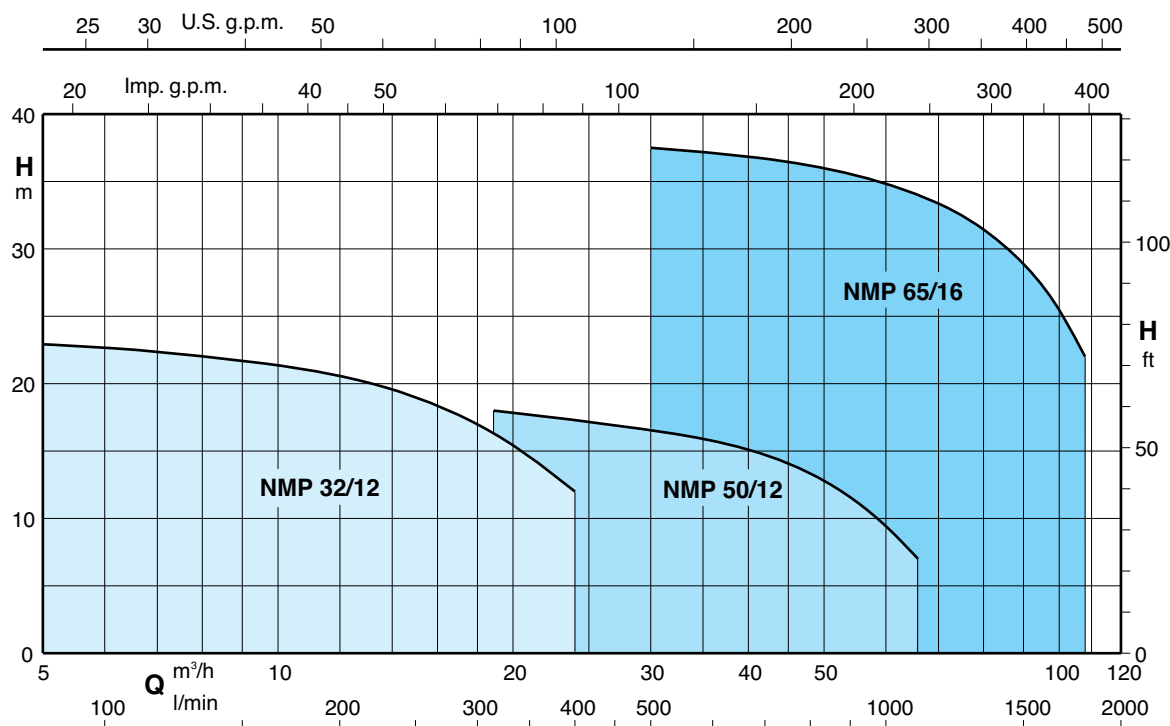
Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Higher liquid or ambient temperatures.

Materials

Components	NMP	B-NMP
Pump casing	Cast iron	Bronze
Lantern bracket	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Impeller	Cast iron	Bronze
	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
	Brass P- Cu Zn 40 Pb 2 UNI 5705 for NMP 32/12	
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)	Cr-Ni-Mo steel 1.4401 EN 10088 (AISI 316)
Strainer cover	Cast iron	Bronze
	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Strainer	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)	
Mechanical seal	Carbon - Ceramic - FPM	

Coverage chart $n \approx 2900$ rpm





Self-Priming Centrifugal Pumps with built-in strainer



Performance $n \approx 2900$ rpm

3 ~	230V 400V		1 ~	230V P ₁		P ₂		Q m³/h l/min	6,6	9,6	10,8	12	13,2	15	18,9	21	24	30	42	48	54	60	66	75	84	96	108
	A	A		A	kW	kW	HP		110	160	180	200	220	250	315	350	400	500	700	800	900	1000	1100	1250	1400	1600	1800
B-NMP 32/12FE	3,3	1,9	B-NMPM 32/12FE	4,5	0,8	0,55	0,75	H m	13	12	11	10,5	10	9													
B-NMP 32/12DE	3,3	1,9				0,75	1		12	11	10	9,5	9	8													
B-NMP 32/12AE	4,7	2,7	B-NMPM 32/12DE	5,8	1,3	0,75	1		18	17	16	15,5	15	14													
									17	16	15	14,5	14	13													
B-NMP 32/12SE	7,5	4,3	B-NMPM 32/12AE	7,4	1,85	1,1	1,5		22	21	20,5	20	19,5	18,5													
			B-NMPM 32/12SE	9,2	2	1,5	2		21,5	20,5	19,5	19	18,5	17,5													
B-NMP 50/12HE	4,7	2,7	B-NMPM 50/12HE	7,4	1,85	1,1	1,5		22,5	21,5	21	20,5	20	19	16*	15*	12*										
B-NMP 50/12GE	7,5	4,3	B-NMPM 50/12GE	9,2	2	1,5	2								9	9	8,5	7,5	5,5	4,5	3						
B-NMP 50/12F/A	9,15	5,3													12	12	11,5	10,5	8	7	5	3,5*					
B-NMP 50/12D/A	11,5	6,6													16	16	15,5	14,5	12	10,5	8,5	6,5*	5*				
B-NMP 65/16F/A		9,6													18	18	17,5	16,5	15	13	11,5	9,5*	7*				
B-NMP 65/16E/A		10,8																18	17	16,5	15,5	14,5	13,5	11,5	9,5	6,5*	
B-NMP 65/16D/A		14,3																20,5	19,5	19	18	17	16	14,5	12,5	9,5*	
B-NMP 65/16C/B		18,5																26	25	24,5	24	23	22	21	19	16*	11*
B-NMP 65/16A/B		21,5																29,5	28,5	28	27,5	27	26,5	25	23,5	20*	16*
																		37,5	36,5	36	35,5	35	34	32,5	30,5	27*	22*

P₁ Maximum power input.

B-NMP = Bronze construction.

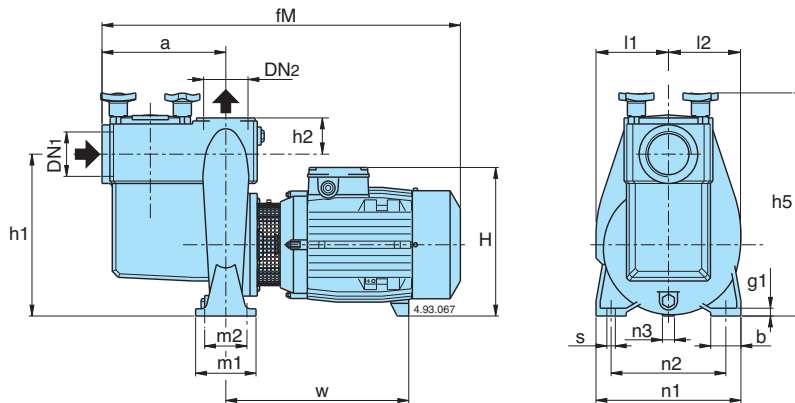
* Maximum suction lift 2-3 m.

P₂ Rated motor power output.

H Total head in m.

Tolerances according to UNI EN ISO 9906:2012

Dimensions and weights



TYPE	DN ₁	DN ₂	mm																	
	ISO 228		a	fM	h ₁	h ₂	H	h ₅	m ₁	m ₂	n ₁	n ₂	n ₃	b	s	l ₁	l ₂	w	g ₁	
B-NMP 32/12AE-DE-FE B-NMP 32/12SE	G 2	G 2	195	510	230	50	228	320	100	70	190	140	30	50	14	106	99	220	12	
B-NMP 50/12GE-HE B-NMP 50/12F/A B-NMP 50/12D/A	G 2 ^{1/2}	G 2 ^{1/2}	205	540 580 602	262	60	240 240 250	360	100	70	240	190	37 37 20	50	14	120	117	234 278 298	12	
B-NMP 65/16F/A B-NMP 65/16D/A-E/A B-NMP 65/16C/B B-NMP 65/16A/B	G 3	G 3	320	717 748 858 908	360	80	298 320 345 345	470	125	95	280	212	60 49 43 43	65	14	165	164	298 319 408 458	15	

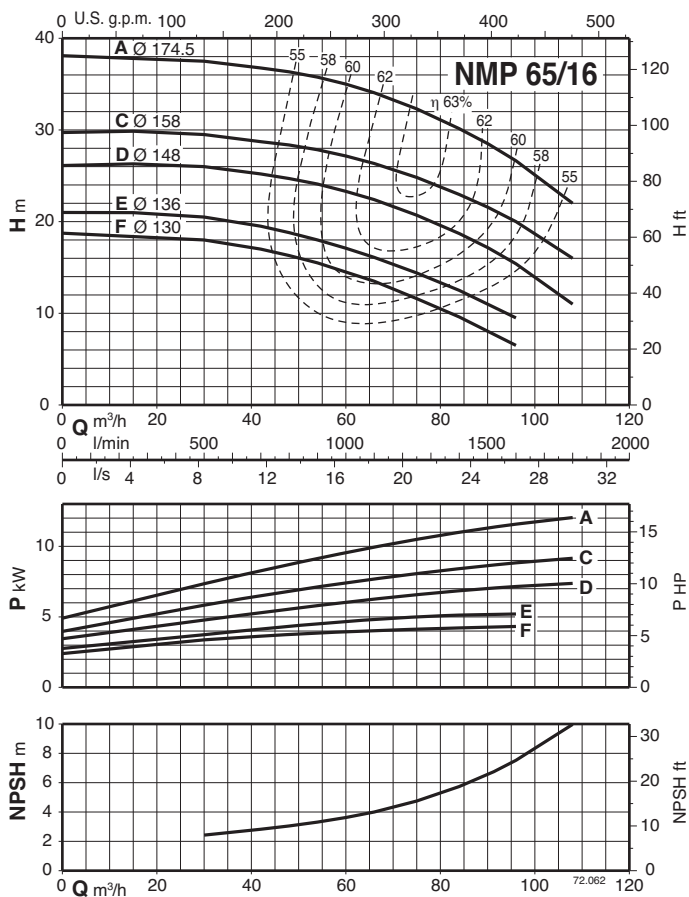
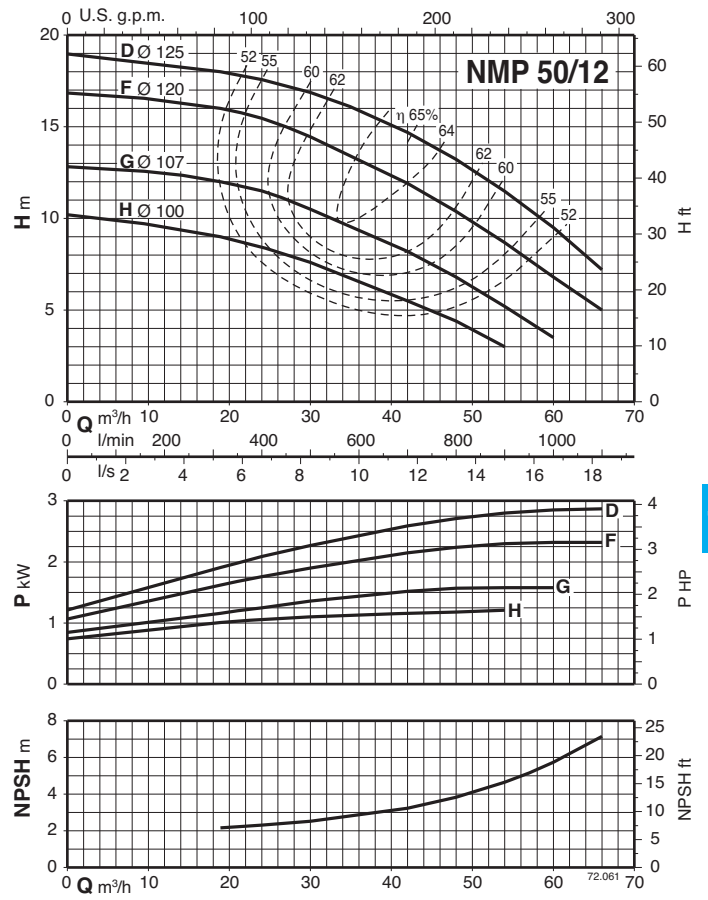
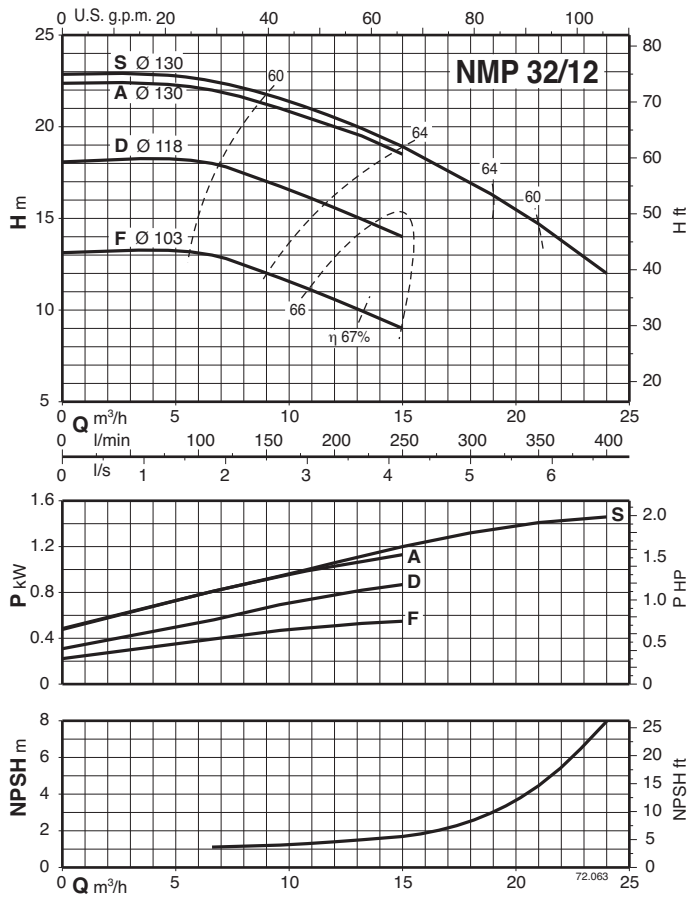
TYPE	NMP kg	B-NMP kg
B-NMP 32/12FE	30	32
B-NMP 32/12DE	30	32
B-NMP 32/12AE	31	33
B-NMP 32/12SE	33	35
B-NMP 50/12HE	37	39
B-NMP 50/12GE	38,5	40
B-NMP 50/12F/A	41,5	44,5
B-NMP 50/12D/A	50,5	54,5
B-NMP 65/16F/A	79	89,5
B-NMP 65/16E/A	92	102
B-NMP 65/16D/A	97,5	107,5
B-NMP 65/16C/B	121	130
B-NMP 65/16A/B	127	137



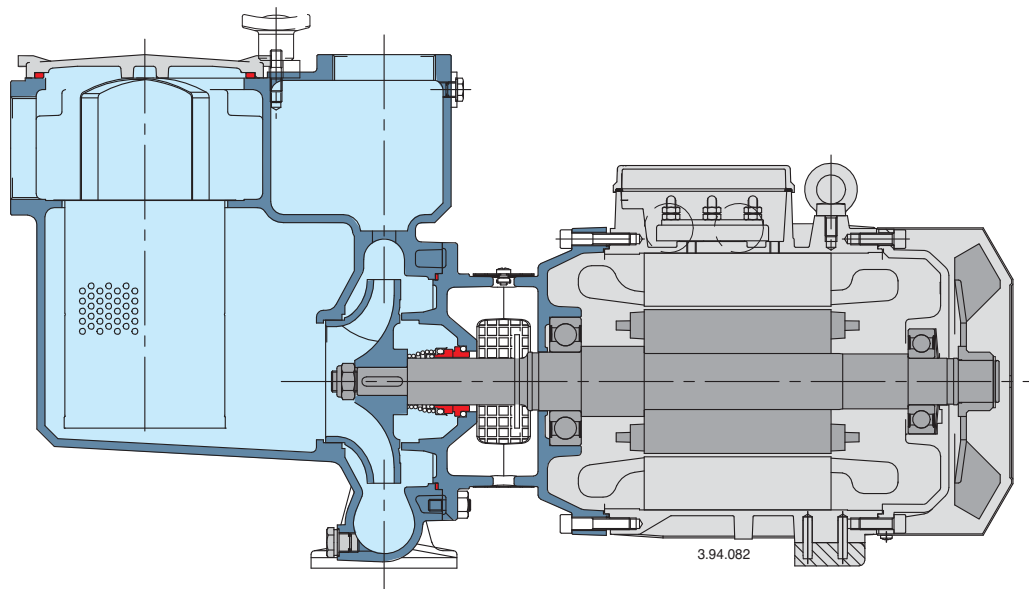
Self-Priming Centrifugal Pumps
with built-in strainer



Characteristic curves $n \approx 2900$ rpm



Features



Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows NMP series pumps to be selected for use with different types of liquids.

Stainless steel filter

A large capacity Stainless steel filter is fitted which is easy to remove for inspection and cleaning.

Exclusive design

An innovative, patented guard prevents contact with rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

PF

Pre-filters in stainless steel

calpeda[®]



Construction

Pre-filters with removable basket, constructed in stainless steel. Loose ring flange connections. Clamp type closing with lever and double adjustment clamp. Inner basket with Ø 6 mm holes.

Applications

For water circulation pump in filtration plants in swimming pools. To prevent foreign bodies from entering the pump and the plant.

Operating conditions

Max working pressure: 3 bar.

Max flow: 180 m³/h for PF 100.

240 m³/h for PF 125.

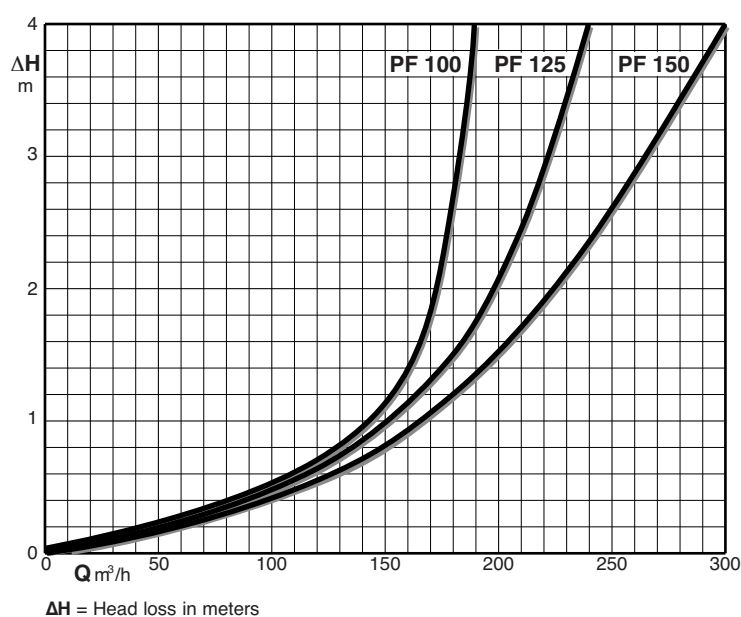
300 m³/h for PF 150.

Materials

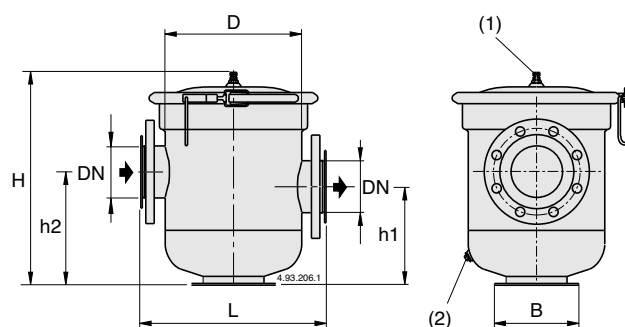
Components	Materials
Pre-filter body PF 100-304 PF 125-304 PF 150-304	Stainless steel AISI 304
Pre-filter body PF 100-316 PF 125-316 PF 150-316	Stainless steel AISI 316
Strainer basket	Stainless steel AISI 316

15

Diagram of head loss



Dimensions and weights



Flanges UNI 6089 PN 10

Type	mm							kg
	DN	H	h1	h2	L	D	B	
PF 100	100	530	247	287	440	292	185	17,5
PF 125	125				440	292	185	17,7
PF 150	150	550	260	300	500	350	210	23,3

1 Relief valve

2 Draining plug

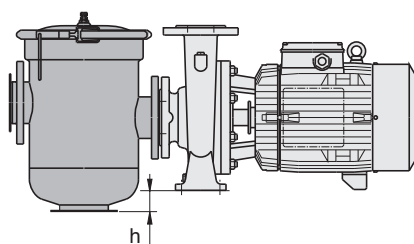


Pre-filters in stainless steel

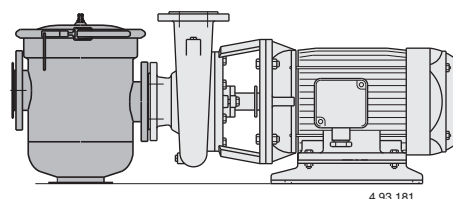


Recommended pumps and pre-filters

Pump	Pre-filter type	h mm
NM 80/16E/A NM 80/16C/A-D/A NM 80/16B/A	PF 100	67
NM4 100/20B/A-C/A NM4 100/20A/A	PF 125	47
NM4 100/25B/A NM4 100/25A/A	PF 125	22
NM4 125/25D/A-E/A NM4 125/25C/A NM4 125/250A/A-B/A	PF 150	10 10 -



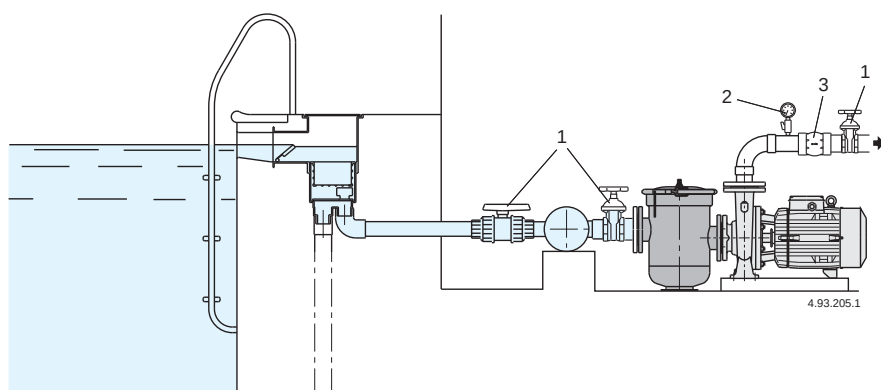
NM 80/16B/A-C/A-D/A-E/A
NM4 100/20A/A-B/A-C/A
NM4 100/25A/A-B/A
NM4 125/25C/A-D/A-E/A



NM4 125/250A/A-B/A

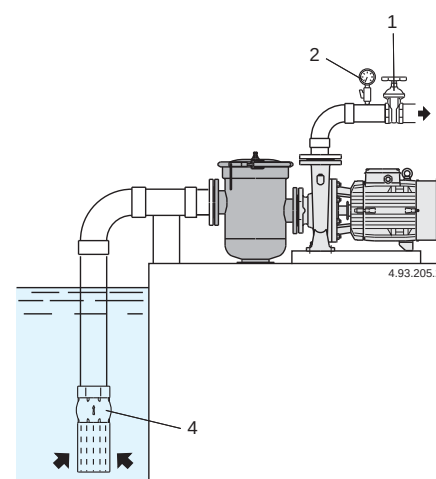
Examples of installations

Operation with positive suction head



1 Gate valve 2 Pressure gauge 3 Check valve 4 Foot valve

Operation with suction lift





Self-Priming Centrifugal Pumps with open impeller



Construction

Close-coupled centrifugal pumps with open impeller. The built-in backflow preventer avoids reverse siphoning when the pump is stopped and assures automatic re-priming at the next start. The pump re-priming itself even if partially filled with liquid and with completely empty suction pipe.

A: version with pump casing and lantern bracket in cast iron.

B-A: version with pump casing and lantern bracket in bronze (the pumps are supplied fully painted).

Applications

For clean or slightly dirty water, also with solids up to 10 mm grain size for A 40, A 50 and 15 mm for A 65, A 80.

For draining a basin or a sump.

For irrigation. For civil and industrial applications.

Operating conditions

Liquid temperature from -10 °C to +90 °C.

Room temperature up to 40 °C.

Maximum permissible working pressure up to 6 bar (10 bar for A 80-170).

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

A three-phase 230/400 V $\pm 10\%$ up to 3 kW;

400/690 V $\pm 10\%$ from 4 to 7,5 kW;

AM: single-phase 230 V $\pm 10\%$, with thermal protector.

Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 for 7,5 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.

EN 60335-1, EN 60335-2-41.

Special features on request

Other voltages. Frequency 60 Hz (as per 60 Hz data sheet).

Protection IP 55. Special mechanical seal.

Higher or lower liquid or ambient temperatures.

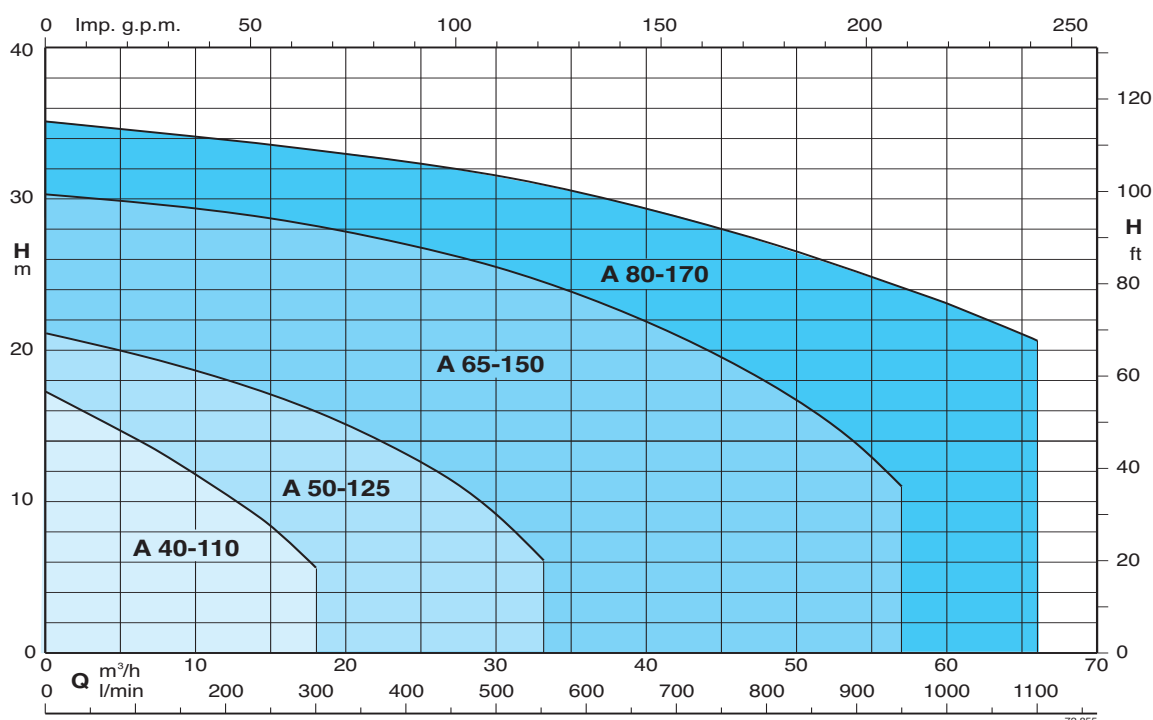
Explosion proof construction in accordance with Directive 94/9 EEC (ATEX).

Construction with bearing bracket.

Materials

Components	A	B-A
Pump casing Suction flange Inspection cover (for A 65, A 80) Lantern bracket Impeller	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303) Chrome steel 1.4104 EN 10088 (AISI 430) for A 65-150A,B	Cr-Ni-Mo steel 1.4401 EN 10088 (AISI 316)
Mechanical seal	Carbon - Ceramic - NBR	

Coverage chart $n \approx 2900$ rpm





Self-Priming Centrifugal Pumps with open impeller



Performance $n \approx 2900$ rpm

3 ~			1 ~			P ₂		Q	m³/h l/min	3,6	4,8	6	7,5	8,4	9,6	10,8	12	15	18	
230 V		400 V	230 V		P ₁	kW	HP			60	80	100	125	140	160	180	200	250	300	
A 40-110B/A B-A 40-110B/A		2,8	1,6	AM 40-110B/A B-AM 40-110B/A		4,5	0,85	0,55	0,75	H _m	12,9	12,4	11,8	11	10,4	9,8	9	8,3	6	3,4
A 40-110A/A B-A 40-110A/A		3,7	2,2	AM 40-110A/A B-AM 40-110A/A		6	1,1	0,75	1		15,4	14,9	14,2	13,3	12,9	12,1	11,3	10,5	8,4	5,6

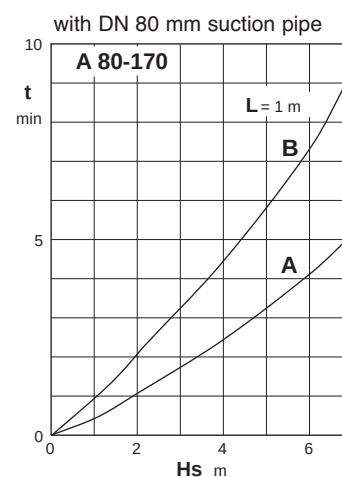
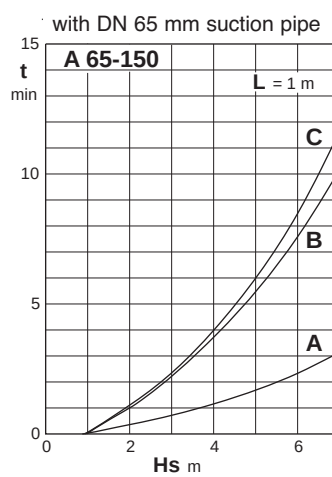
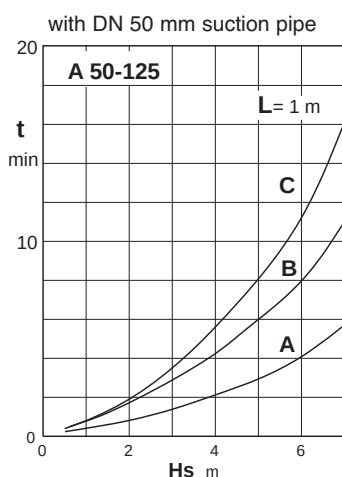
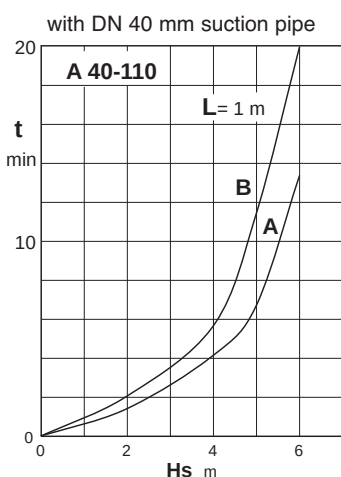
3 ~			1 ~			P ₂		Q	m³/h l/min	6	9	12	15	18	21	24	27	30	33
230 V		400 V	230 V		P ₁	kW	HP			100	150	200	250	300	350	400	450	500	550
A		A	A		A	kW	HP	H m	12,8	12,2	11,3	10	8,5	7	5,3	3,3			
A 50-125CE B-A 50-125CE		3,3 1,9	AM 50-125CE B-AM 50-125CE		5,8 1,2	0,75 1	15,5 14,9		14,2	12,9	11,6	10	8,3	6,2	4				
A 50-125BE B-A 50-125BE		4,7 2,7	AM 50-125BE B-AM 50-125BE		7,4 1,6	1,1 1,5	19,5 19		18	17	15,5	14	12,5	10,5	8	5			
A 50-125AE B-A 50-125AE		7,5 4,3	AM 50-125AE B-AM 50-125AE		9,2 2,1	1,5 2													

3 ~			230 V 400 V				P ₂		Q m³/h l/min	15	18	24	30	33	36	42	48	54	57
			A	A			kW	HP		250	300	400	500	550	600	700	800	900	950
A 65-150C/B B-A 65-150C/A			11,5 9,15	6,6 5,3			2,2	3	H m	17,5	17	16	14	13	11,5	9	6,5		
A 65-150B/B B-A 65-150B/A			11,5	6,6			3	4		21,5	21	19,5	17,5	16,5	15,5	12,5	9,5	6,5	
A 65-150A/B B-A 65-150A/A			-	9,6			4	5,5		29	28	27	25,5	24,5	23,5	21	18	14	11

3 ~		230 V 400 V				P ₂		Q m ³ /h l/min	15	18	21	24	30	36	45	54	60	66
	A	A			kW	HP	250		300	350	400	500	600	750	900	1000	1100	
A 80-170B/A B-A 80-170B/A		-	10,9		5,5	7,5	H _m	27,3	27,3	27	26,8	25,7	24,4	22,1	19	16,7	13,7	
A 80-170A/A B-A 80-170A/A		-	14,3		7,5	10		33,6	33,2	32,9	32,5	31,6	30,5	28,1	25,3	23,2	20,4	

P₁ Maximum power input. P₂ Rated motor power output. H Total head in m. B-A, B-AM = Bronze construction. Tolerances according to UNI EN ISO 9906:2012

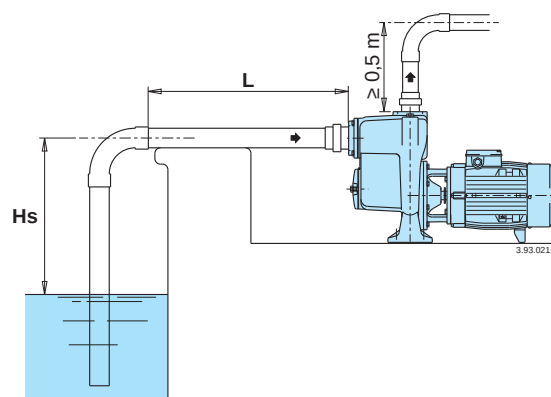
Self-priming capability



Hs (m) Suction lift.

L (m) Horizontal length of suction pipe above the water level.

t (min) Self-priming time.

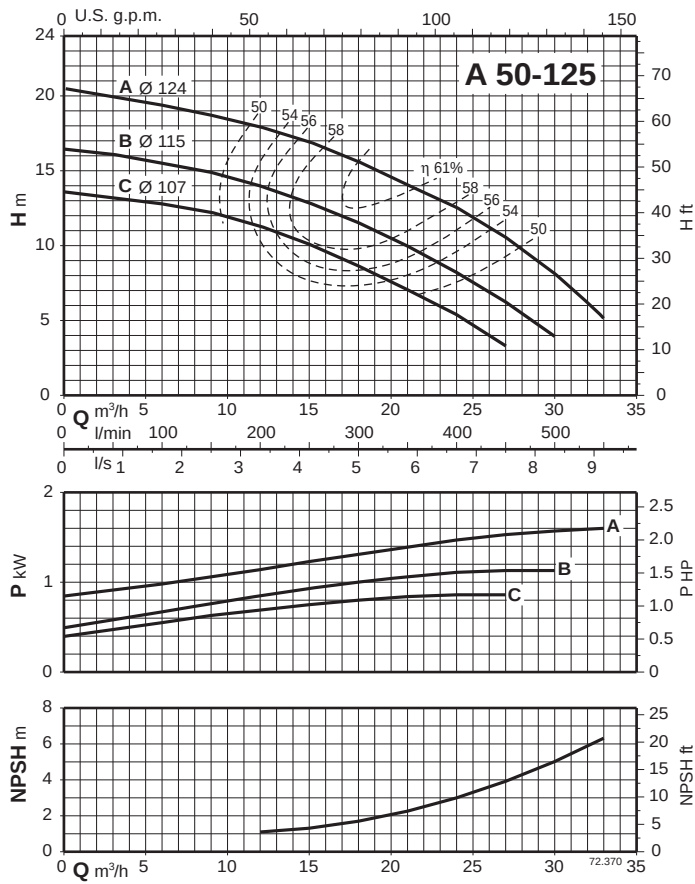
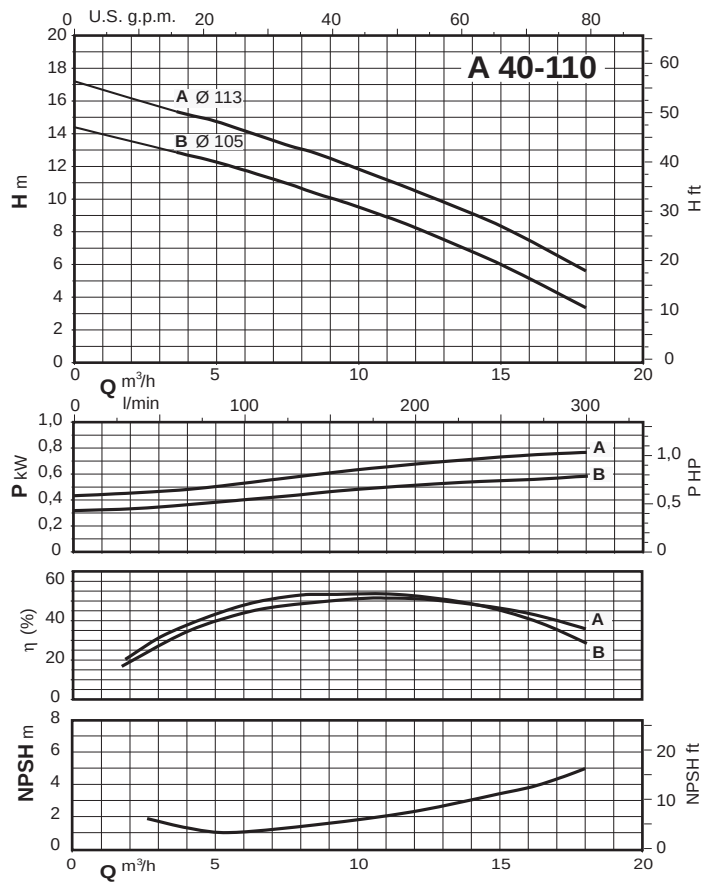




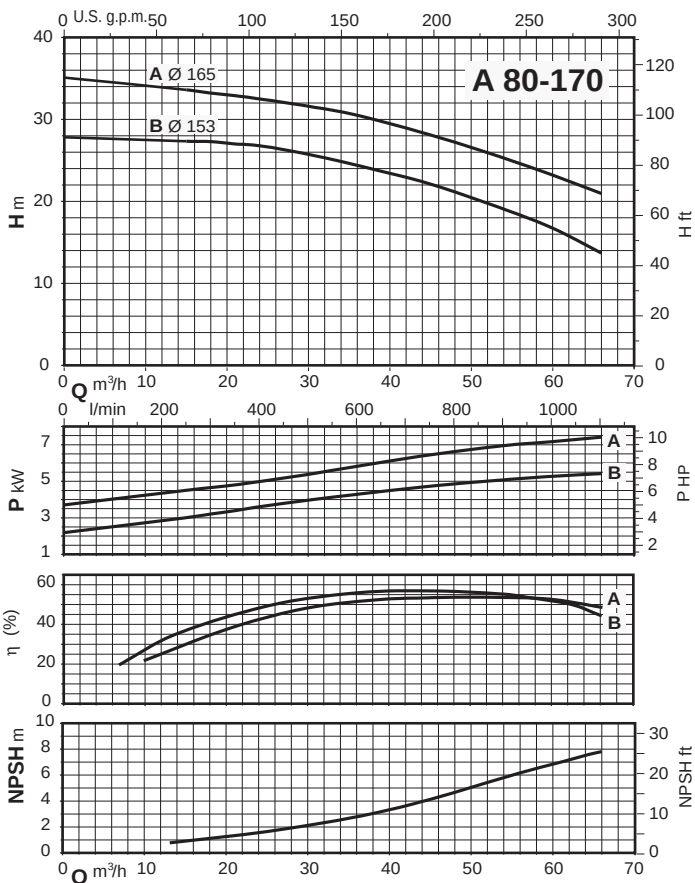
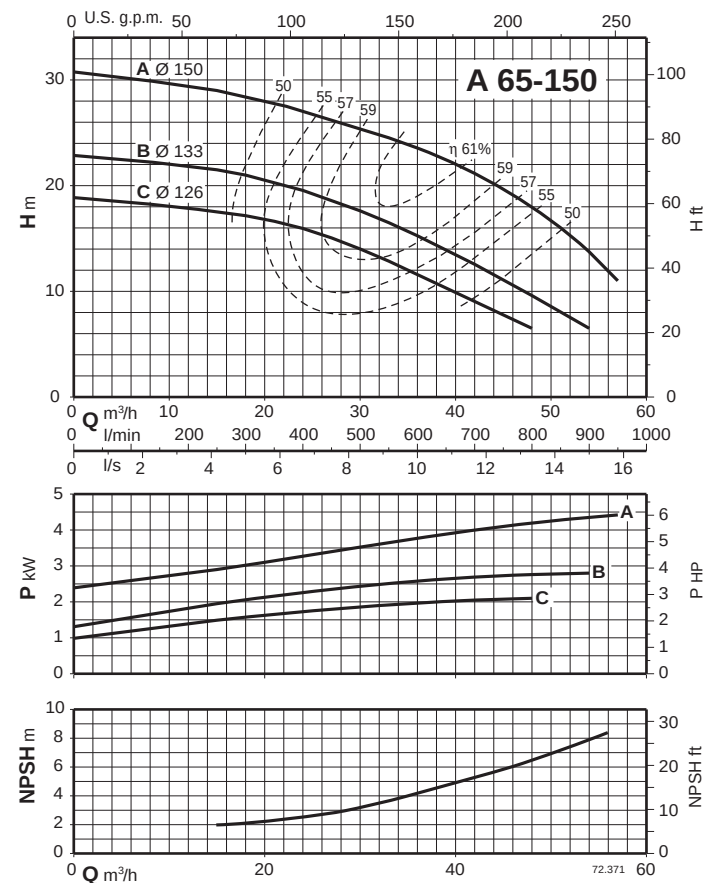
Self-Priming Centrifugal Pumps with open impeller



Characteristic curves $n \approx 2900$ rpm



16

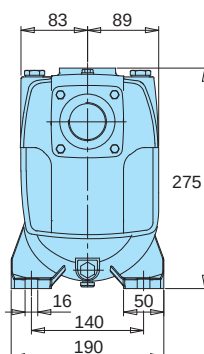
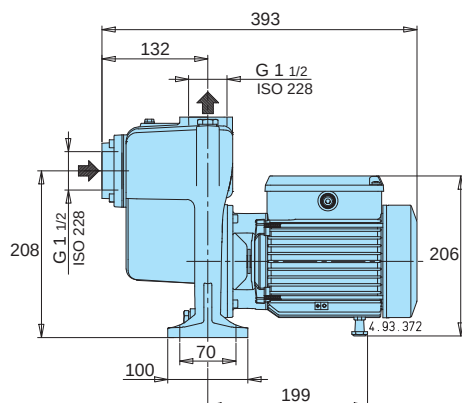




Self-Priming Centrifugal Pumps with open impeller

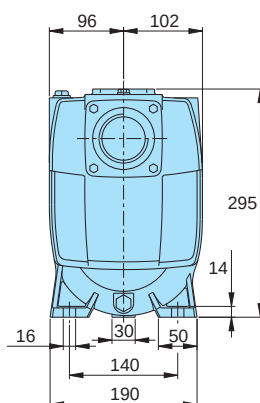
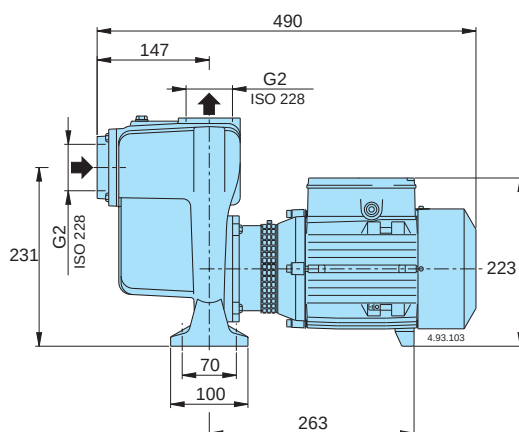


Dimensions and weights



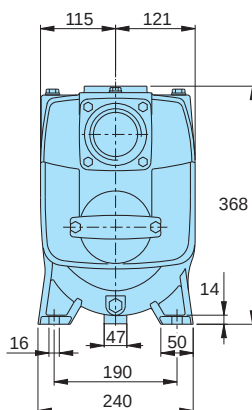
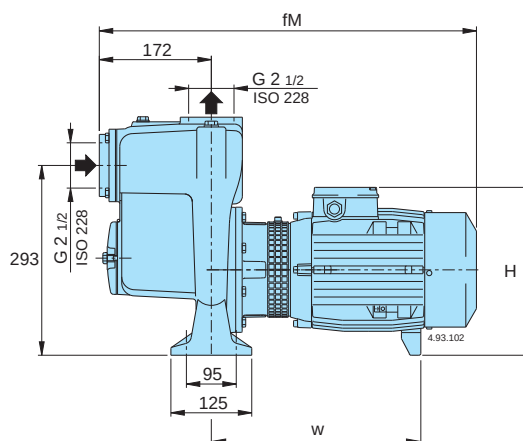
kg

A 40-110A/A	19,8
AM 40-110A/A	20,8
A 40-110B/A	18,9
AM 40-110B/A	19,8
B-A 40-110A/A	22,5
B-AM 40-110A/A	23,5
B-A 40-110B/A	21,6
B-AM 40-110B/A	22,5

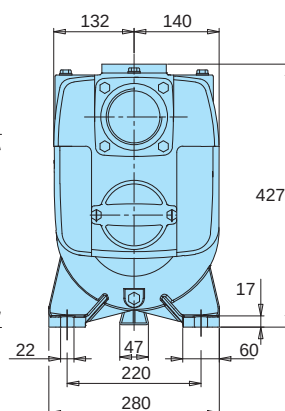
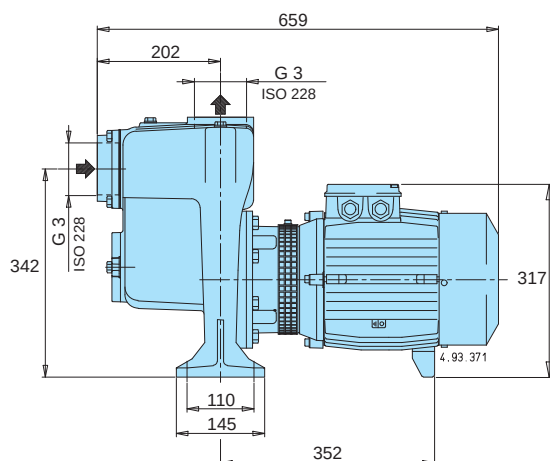


kg

A 50-125AE	29,9
AM 50-125AE	31
A 50-125BE	28
AM 50-125BE	29,1
A 50-125CE	26,9
AM 50-125CE	27,8
B-A 50-125AE	33,6
B-AM 50-125AE	33,6
B-A 50-125BE	31
B-AM 50-125BE	32,6
B-A 50-125CE	29,6
B-AM 50-125CE	30,6



TYPE	mm			kg
	fM	H	w	
A 65-150C/B	595	270	324	56,7
B-A 65-150C/A	583	260	319	50,4
A 65-150B/B	595	270	324	57
B-A 65-150B/A	595	270	324	58,5
A 65-150A/B	595	270	324	58,5
B-A 65-150A/A	595	270	324	60



kg

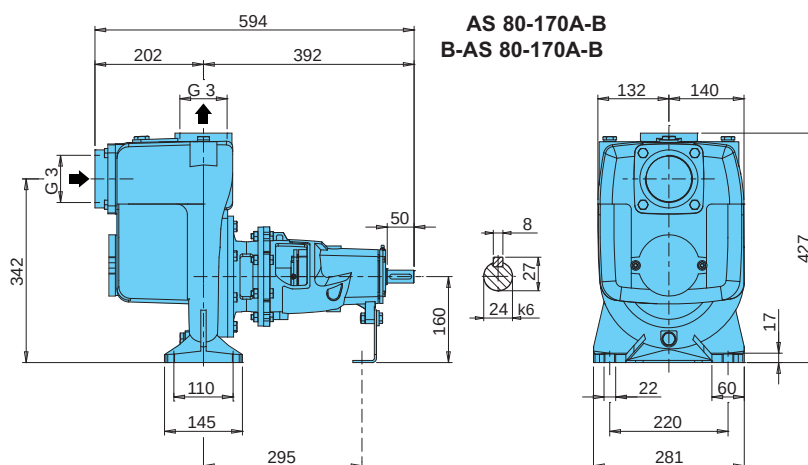
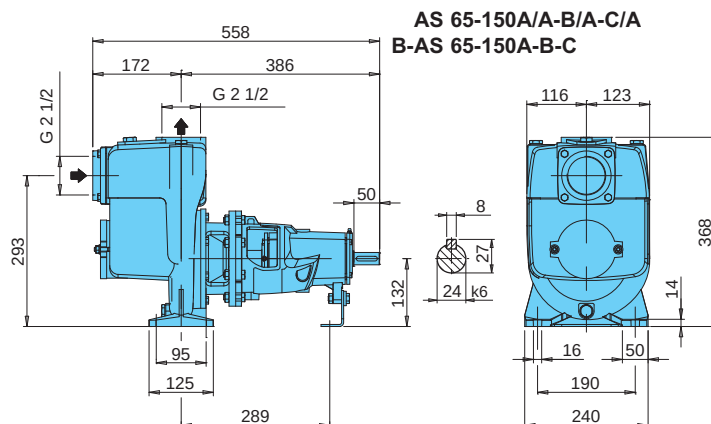
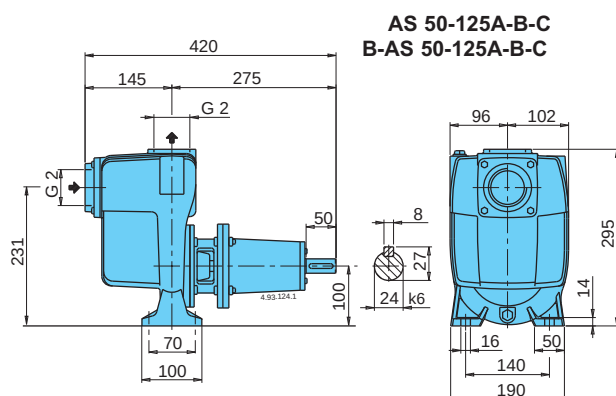
A 80-170A/A	85,8
A 80-170B/A	80,3
B-A 80-170A/A	95,6
B-A 80-170B/A	90,1



Self-Priming Centrifugal Pumps with open impeller

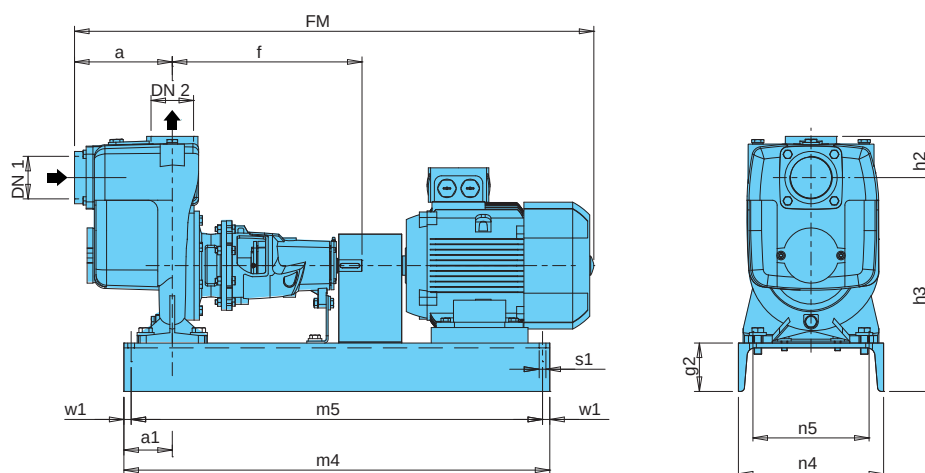


Dimensions and weights



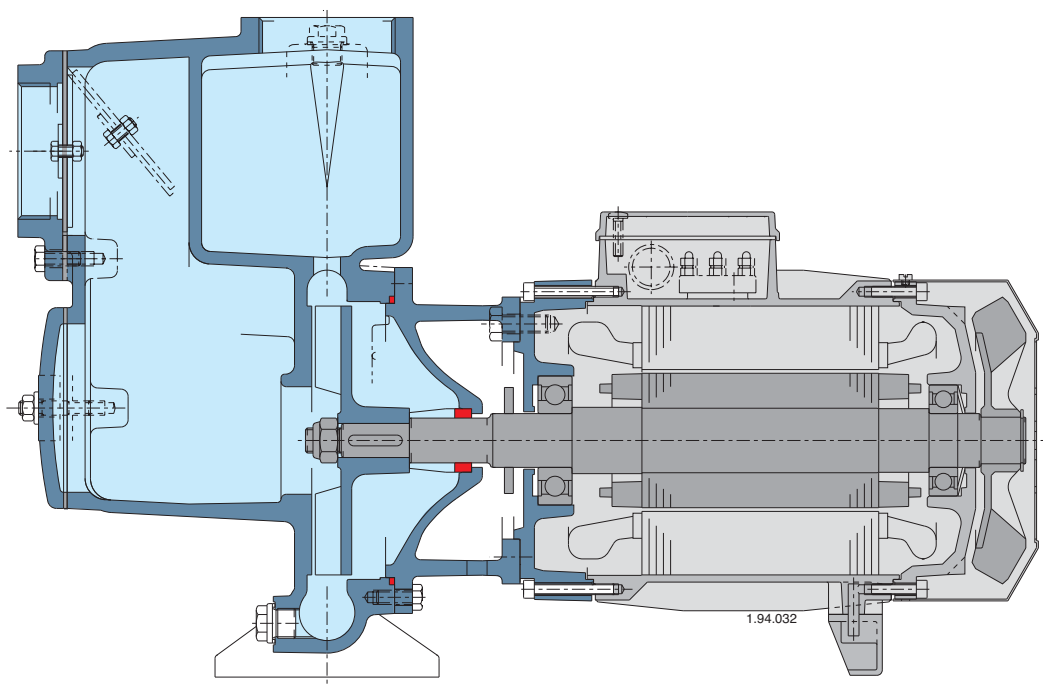
16

Pumps with motor



PUMP	MOTOR	kW	mm														
			DN1	DN2	a	f	h3	h2	m4	m5	w1	n4	n5	a1	g2	s1	FM≈
B-AS - AS 50-125C	80 M2	0,75	G 2	G 2	145	275	306	64	625	595	15	140	200	100	75	14	716
B-AS - AS 50-125B	80 M2	1,1															716
B-AS - AS 50-125A	90 S2	1,5															771
B-AS - AS 65-150C/A	90 L2	2,2	G 2 1/2	G 2 1/2	172	386	378	93	780	750	15	190	240	90	85	14	909
B-AS - AS 65-150B/A	100 L2	3															958
B-AS - AS 65-150A/A	112 M2	4															951
B-AS - AS 80-170B/A	132 S2	5,5	G3	G3	202	392	442	85	880	850	15	240	300	100	100	14	1073
B-AS - AS 80-170A/A	132 S2	7,5															1073

Features



Fast self priming

An integrated non-return valve and the design of the pump casing ensures rapid priming, once the pump body has been filled with water.

Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows A series pumps to be selected for use with different types of liquids.

Solid parts

The open impeller allows for the passage of suspended solids in pumped liquid.

Exclusive design

An innovative, patented guard prevents contact with rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.



Centrifugal Pumps with open impeller



Construction

Close-coupled centrifugal pumps with open impeller.
Free-flow impeller (vortex or recessed impeller) for type C 16/1E.

C: version with pump casing and lantern bracket in cast iron.
B-C: version with pump casing and lantern bracket in bronze
(the pumps are supplied fully painted).

Applications

For moderately dirty liquids or emulsions.
For industry and agriculture.

Operating conditions

Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40 °C.
Total suction lift up to 8 m.
Maximum permissible working pressure: 6 bar.
Maximum size of solids: 4 mm.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

C: three-phase 230/400 V $\pm 10\%$.

CM: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

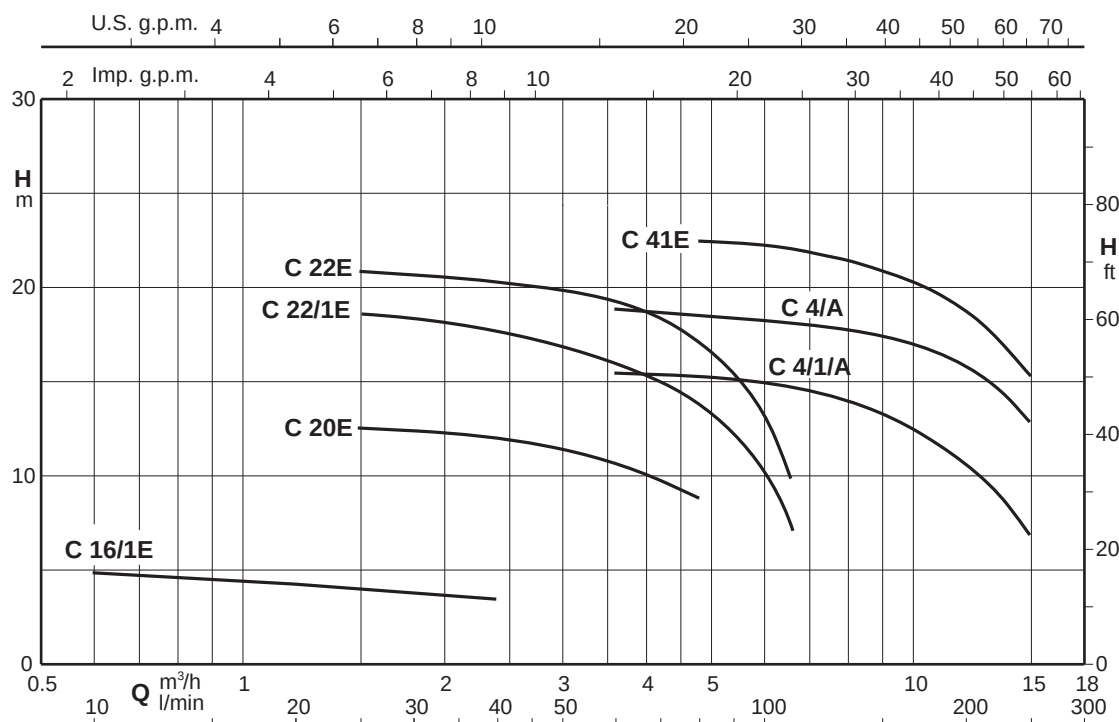
Materials

Component	C	B-C
Pump casing	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Lantern bracket	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Impeller	Brass P- Cu Zn 40 Pb 2 UNI 5705	
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)	Cr-Ni-Mo steel 1.4401 EN 10088 (AISI 316)
	Chrome-nickel steel 1.4305 EN 10088 (AISI 303) for C 41	
Mechanical seal	Carbon - Ceramic - NBR	

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.
- Motor suitable operation with frequency converter.
- Construction with bearing bracket.

Coverage chart $n \approx 2900$ rpm





Centrifugal Pumps
with open impeller



Performance $n \approx 2900$ rpm

3 ~ 230V 400V			1 ~ 230V P ₁			P ₂		Q m³/h l/min																									
	A	A		A	kW	kW	HP		0,6	0,9	1,2	1,5	1,8	2,4	3	3,6	4,8	6	6,6	8,4	9,6	10,8	12	13,2	15								
C 16/1E B- C 16/1E	1,7	1	CM 16/1E B- CM 16/1E	1,2	0,16	0,15	0,2	H m	5	4,7	4,4	4,2	4	3,6																			
C 20E B- C 20/A	1,9 2,3	1,1 1,3	CM 20E B- CM 20/A	2,5 2,8	0,4	0,37	0,5					12,3	12,2	12	11,5	10,8	9																
C 22/1E B- C 22/1/A	2,4 2,3	1,4 1,3	CM 22/1E B- CM 22/1/A	3 3,6	0,8	0,45	0,6					18	18	17,5	17	16	14	10	7,5														
C 22E B- C 22/A	3	1,7	CM 22E B- CM 22/A	3,5 4,5	0,9	0,55	0,75					20,5	20	20	19	18,5	16,5	14	12														
C 4/1/A	3	1,7	CM 4/1/A	4,5	0,91	0,55	0,75									15,6	15,4	15,2	15	14	13,1	12	10,8	9,5	7								
C 4/A B- C 41/1E	3,7 3,3	2,2 1,9	CM 4/A B- CM 41/1E	5,7 5,8	1,2	0,75	1									19	18,8	18,5	18,3	17,7	17,4	16,8	16	15	13								
C 41E B- C 41E	4,7	2,7	CM 41E B- CM 41E	7,4	1,6	1,1	1,5										22,4	22,3	22,2	21,5	21	20,5	19,5	18	15,5								

P₁ Maximum power input.

B-C, B-CM = Bronze construction.

ρ = Density 1000 kg/m³.

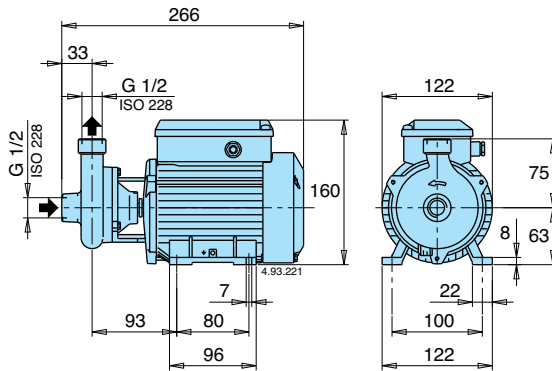
Tolerances according to UNI EN ISO 9906:2012

P₂ Rated motor power output.

H Total head in m.

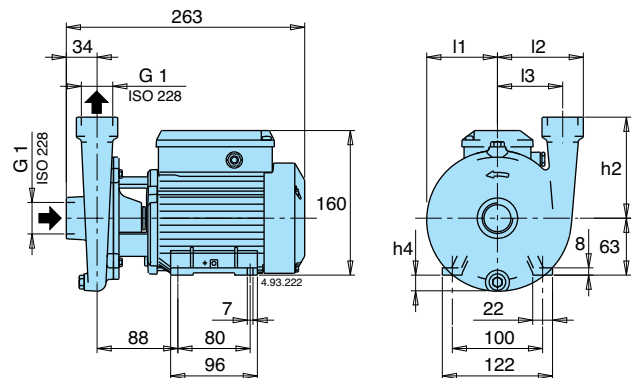
ν = Kinematic viscosity max 20 mm²/sec.

Dimensions and weights

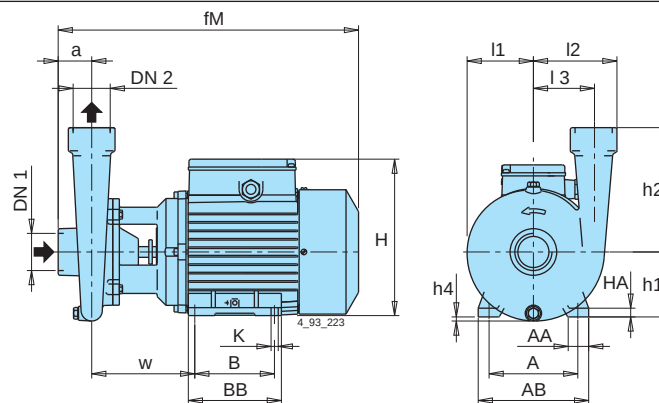


TYPE	kg
C 16/1E	5,2
CM 16/1E	5,2

TYPE	kg
B-C 16/1E	5,6
B-CM 16/1E	5,6



TYPE	mm					kg	
	h2	h4	l1	l2	l3	C	CM
C 20E	90	5	67	82	60	6,8	6,8
C 22/1E - C 22E	110	17	77	94	71	8 - 8,3	8 - 8,3



TYPE	DN1	DN2	mm																	kg			
	ISO	228	a	fM	h1	h2	H	h4	BB	B	AB	A	AA	K	l1	l2	l3	w	HA	C	CM	B-C	B-CM
– B-C 20/A	G 1	G 1	35	303	71	90	182	-	106	90	134	112	22	7	70	84	60	105	10	-	-	9,1	9,1
– B-C 22/1/A	G 1	G 1	35	303	71	110	182	9	106	90	134	112	22	7	81	93	71	106	10	-	-	9,3	10,3
– B-C 22/A																						9,6	10,6
C 4/1/A – C 4/A –	G 11/2	G 11/2	43	304	71	160	182	18	106	90	134	112	22	7	85	108	78	100	10	10,8 11,8	11,8 12,8	- -	- -
– B-C 41/1E C 41E B-C 41E	G 11/2	G 11/2	43	380	80	160	208	9	125	100	155	125	30	9,5	85	108	78	132	10	- 18.5	- 19.3	16,3 19.2	17,9 20.1

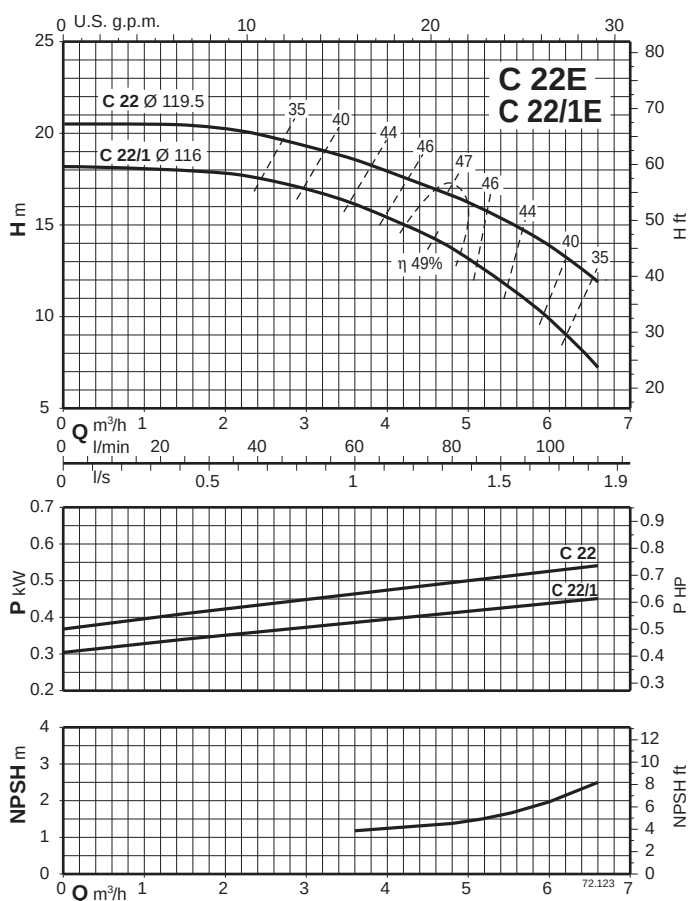
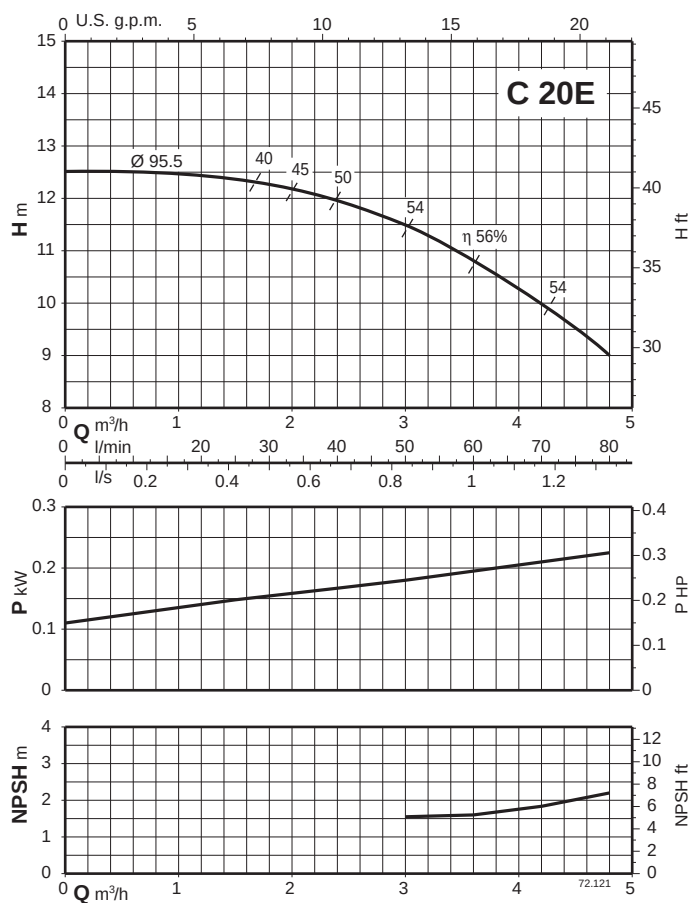
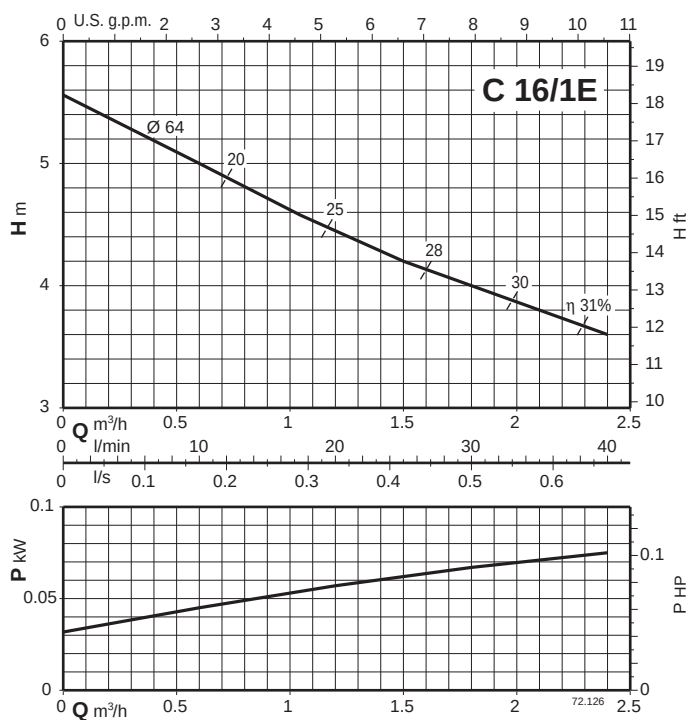


Centrifugal Pumps
with open impeller

www.calpeda-romania.ro 0722.244.944
www.infinity-pumps.ro 0734.789.888



Characteristic curves $n \approx 2900$ rpm



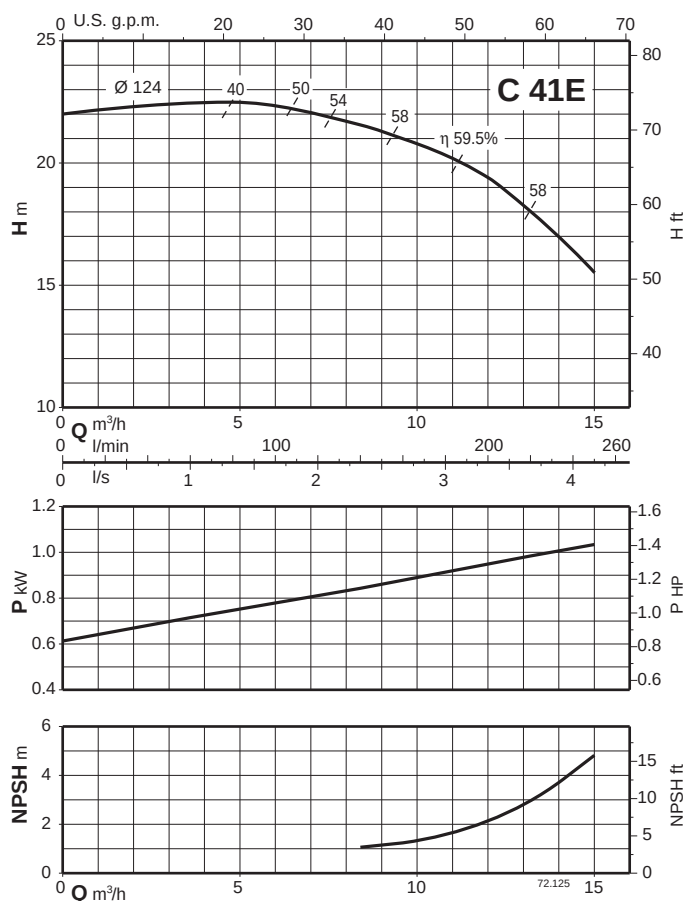
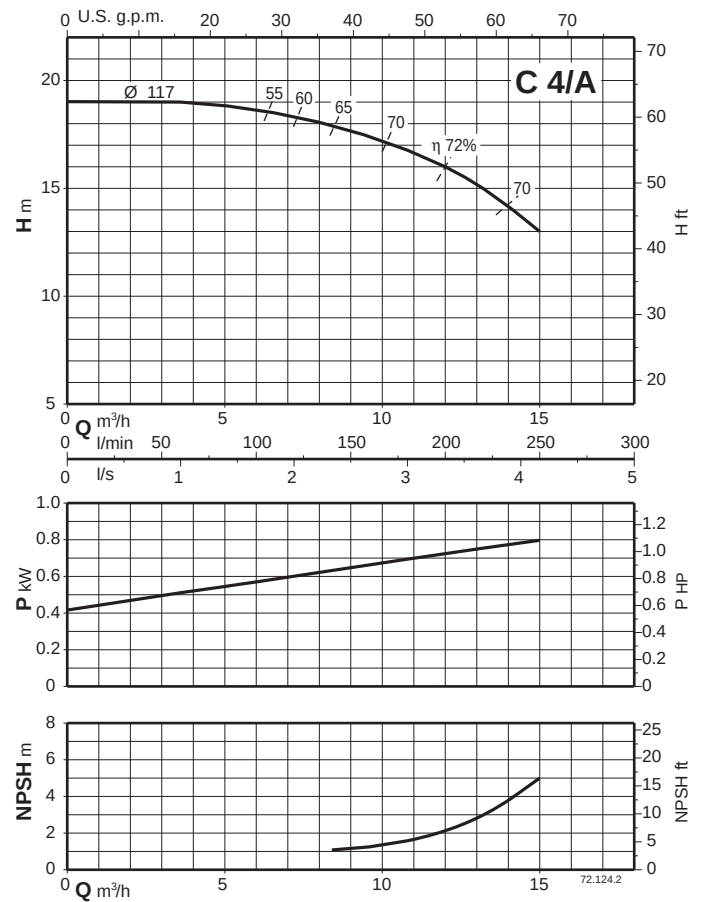
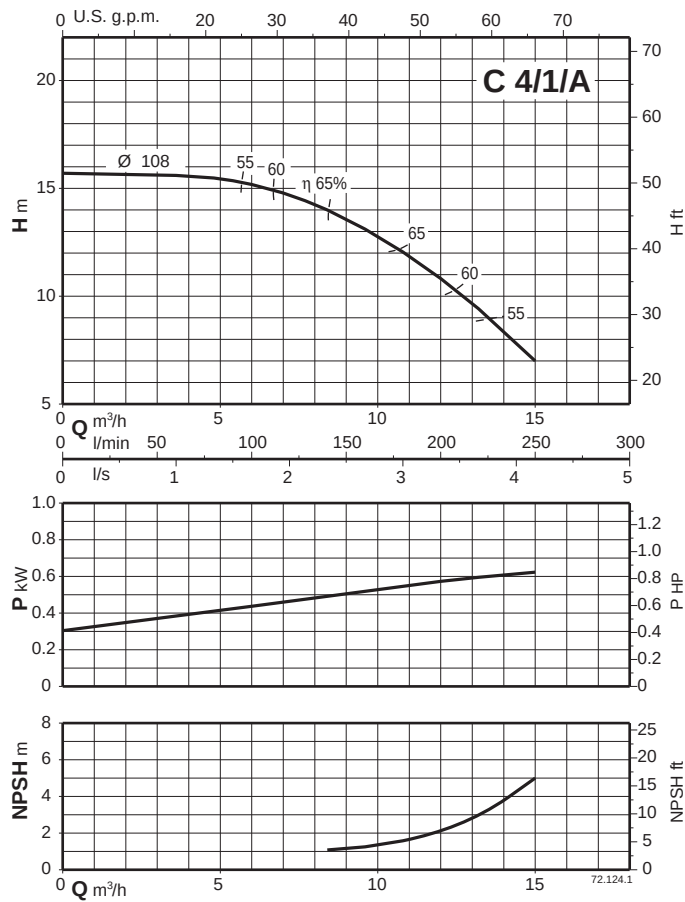


Centrifugal Pumps
with open impeller

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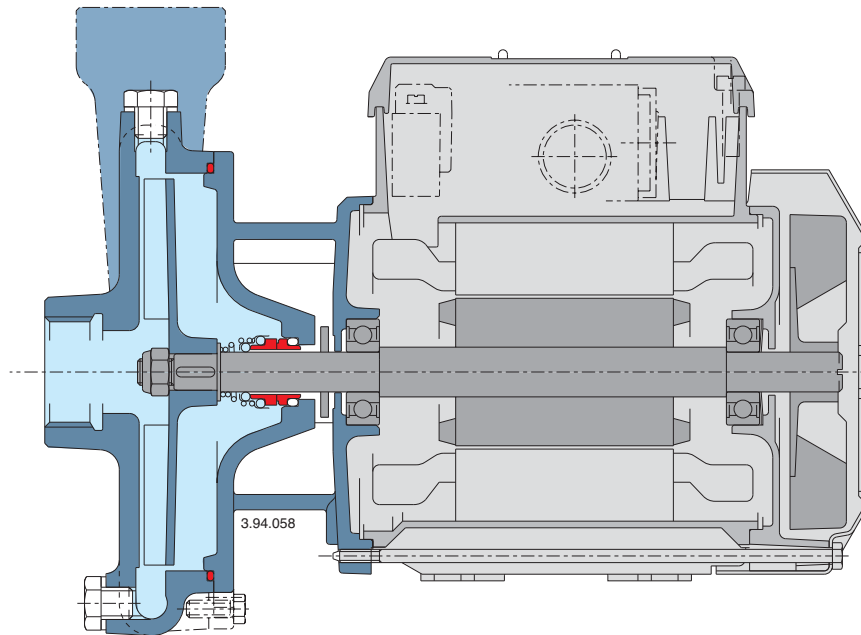


Characteristic curves $n \approx 2900$ rpm





Features



Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows C series pumps to be selected for use with different types of liquids.

Solid parts

The open impeller allows for the passage of suspended solids in pumped liquid.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

CT 61

Peripheral Pump



Construction

Close-coupled peripheral pump (regenerative pump) with turbine impeller. Compact, patented construction with single-piece motor casing and pump-side wall.

Protected against water entering the motor from outside.

CT: version with pump casing in cast iron.

B-CT: version with pump casing in bronze
(the pumps are supplied fully painted).

Applications

For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.

For increasing network pressure (follow local specifications).

For the reduced dimensions, these pumps are very well suitable to be mounted in cooling and air-conditioning machines and equipments, circulation.

Operating conditions

Liquid temperature up to 60 °C.

Ambient temperature up to 40 °C.

Total suction lift up to 7 m.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

CT 61: three-phase 230/400 V $\pm 10\%$.

CTM 61: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

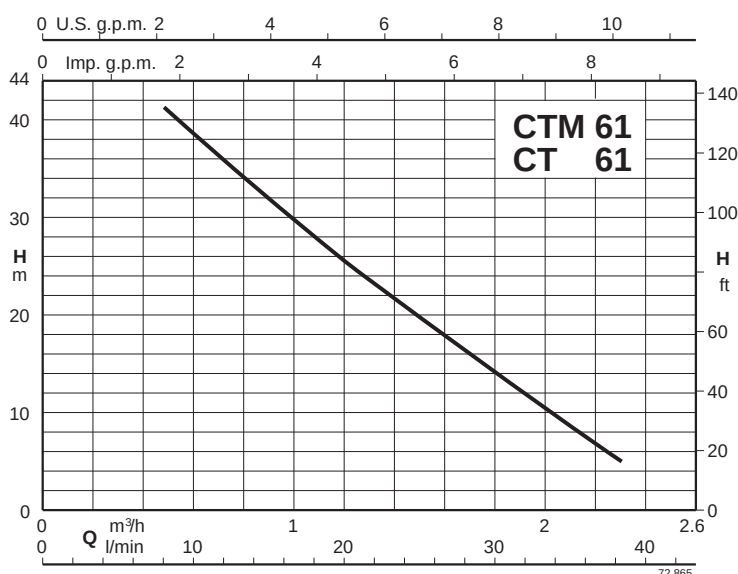
Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Special mechanical seal.

Materials

Components	CT 61	B-CT 61
Pump casing	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Casing cover motor side	Brass P- Cu Zn Pb 2 UNI 5705	
Impeller	Brass P- Cu Zn Pb 2 UNI 5705	
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)	
Mechanical seal	Carbon - Ceramic - NBR	

Coverage chart $n \approx 2900$ rpm



CT 61

Peripheral Pump



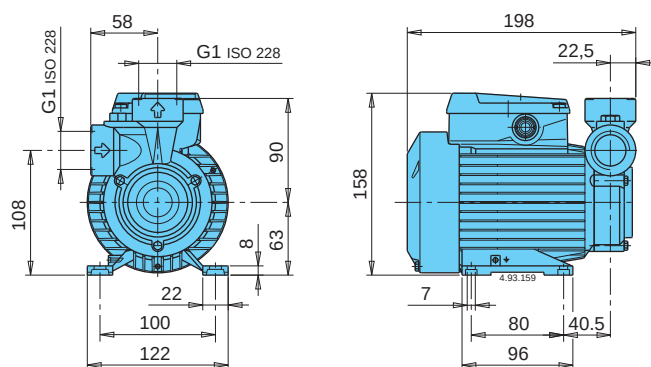
Performance $n \approx 2900$ rpm

3~	230V 400V		1~	230V	P ₂		Q	0,48	0,6	0,75	0,96	1,2	1,5	1,89	2,3
	A	A		A	kW	HP									
CT 61 B-CT 61	1,9	1,1	CTM 61 B-CTM 61	2,5	0,33	0,45	H m	41	38,5	35,5	31	25,5	19	11	3

H Total head in m.

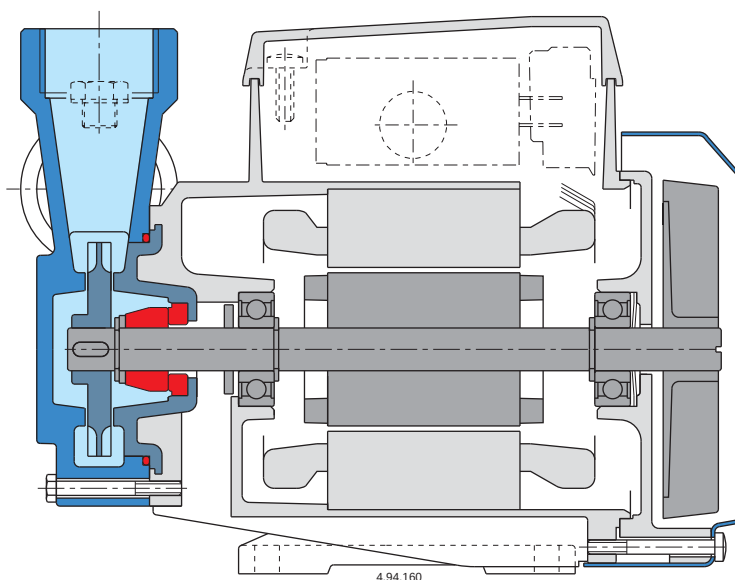
P₂ Rated motor power output.

Dimensions and weights



CT 61	4,9	kg
CTM 61	5	kg
B-CT 61	5,1	kg
B-CTM 61	5,2	kg

Features



CT 60

Peripheral Pump



Materials

Components	Materials
Pump casing	Cast iron GJL 200 EN 1561
Casing cover motor side	Brass P- Cu Zn Pb 2 UNI 5705
Impeller	Brass P- Cu Zn Pb 2 UNI 5705
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)
Mechanical seal	Carbon - Ceramic - NBR

Construction

Close-coupled peripheral pump (regenerative pump) with turbine impeller.

Compact, patented construction with single-piece motor casing and pump-side wall.

Protected against water entering the motor from outside.

Applications

For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.

For increasing network pressure (follow local specifications).

For the reduced dimensions, these pumps are very well suitable to be mounted in cooling and air-conditioning machines and equipments, circulation.

Operating conditions

Liquid temperature up to 60 °C.

Ambient temperature up to 40 °C.

Total suction lift up to 7 m.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

CT 60: three-phase 230/400 V $\pm 10\%$.

CTM 60: single-phase 230 V $\pm 10\%$, with thermal protector. Capacitor inside the terminal box.

Insulation class F.

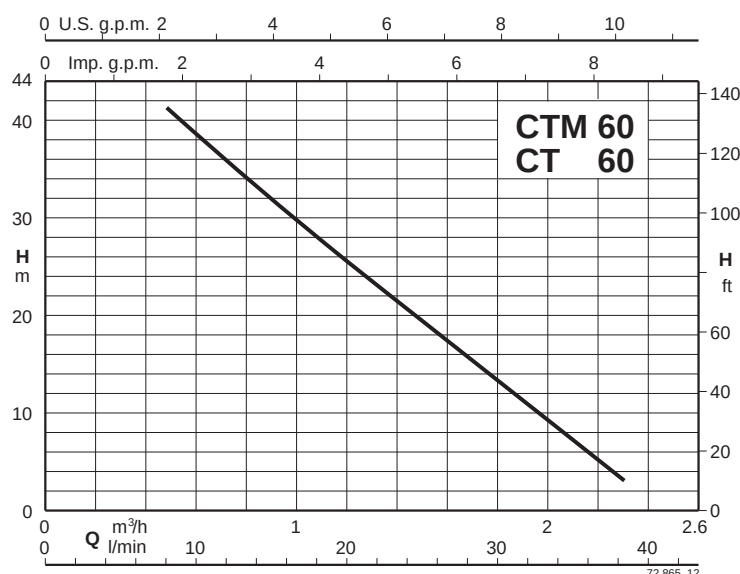
Protection IP 54.

Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Special mechanical seal.

Coverage chart $n \approx 2900$ rpm



CT 60

Peripheral Pump



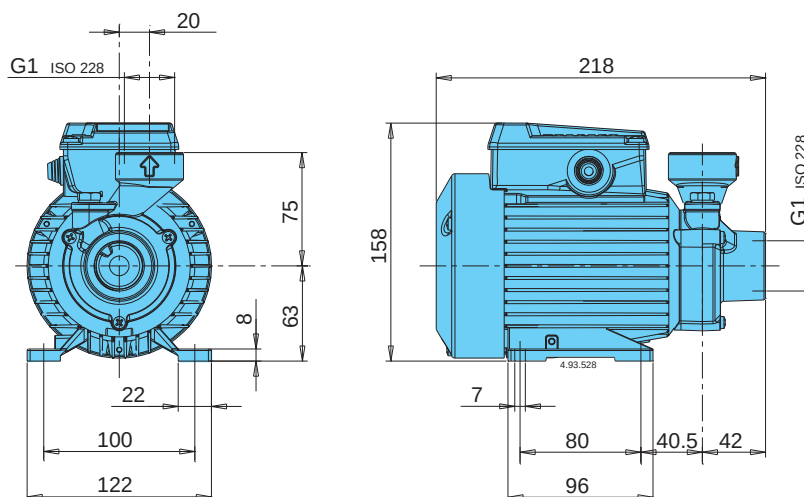
Performance $n \approx 2900$ rpm

3~	230V A	400V A	1~	230V A	P ₂ kW	HP	Q m³/h l/min	0,48	0,6	0,75	0,96	1,2	1,5	1,89	2,3
								8	10	12,5	16	20	25	31,5	38
CT 60	1,9	1,1	CTM 60	2,5	0,33	0,45	H m	41	38,5	35,5	31	25,5	19	11	3

H Total head in m.

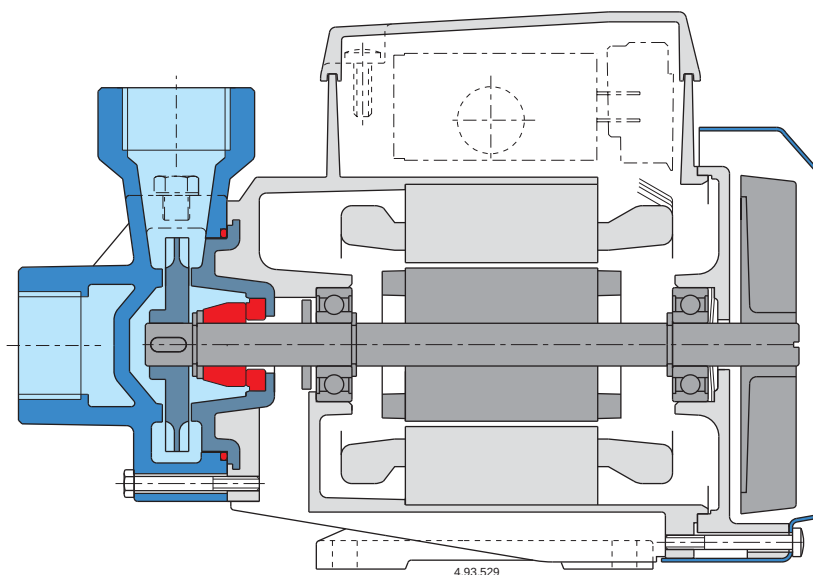
P₂ Rated motor power output.

Dimensions and weights



CT 60 4,9 kg
CTM 60 5 kg

Features



Patented

T, TP

Peripheral Pumps



Construction

Close-coupled peripheral pumps (regenerative pumps) with turbine impeller.

T, TP: version with pump casing and lantern bracket in cast iron.
B-T, B-TP: version with pump casing and lantern bracket in bronze (the pumps are supplied fully painted).

Applications

For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.
For increasing network pressure (follow local specifications).
For the reduced dimensions, these pumps are very well suitable to be mounted in cooling and air-conditioning machines and equipments, circulation, boiler feed.

Operating conditions

Liquid temperature from -10 °C to +90 °C.

Ambient temperature up to 40 °C.

Total suction lift up to 7 m.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

T, TP: three-phase 230/400 V $\pm 10\%$ up to 3 kW;
400/690 V $\pm 10\%$ from 4 to 7,5 kW;

TM, TPM: single-phase 230 V $\pm 10\%$ with thermal protector.
Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW to 5,5 kW, IE3 for 7,5 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

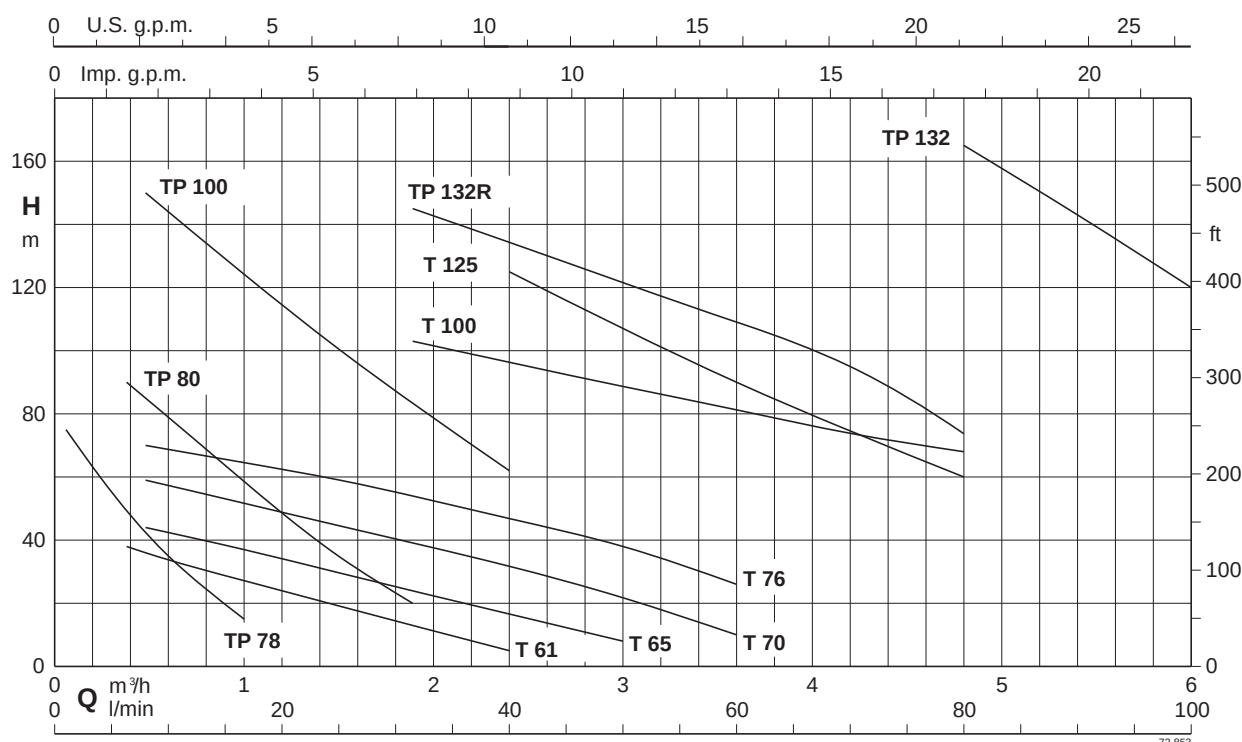
Materials

Components	T, TP	B-T, B-TP
Pump casing	Cast iron	Bronze
Lantern bracket	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Casing cover	Cast iron	Bronze
	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
	Brass P- Cu Zn Pb 40 2 UNI 5705 for T 61-65-70, B-T 61-70	
Impeller	Brass P- Cu Zn 40 Pb 2 UNI 5705	
	Bronze G-Cu Sn 10 EN 1982 for T 125, TP 132-132R	
Shaft	Cr-Ni steel AISI 303 T 76, Tp 80-100	Cr-Ni-Mo steel AISI 316
	Chrome steel AISI 430 T 61-65-70-100-125, Tp 78-132-132R	
Mechanical seal	Carbon - Ceramic - NBR	

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal.
- Higher or lower liquid or ambient temperatures.
- Construction with bearing bracket.

Coverage chart $n \approx 2900$ rpm



T, TP

Peripheral Pumps



Performance $n \approx 2900$ rpm

3 ~			230V 400V			1 ~			230V P ₁			P ₂		Q m³/h l/min	0,06	0,12	0,24	0,38	0,48	0,6	0,75	1	1,2	1,5	1,89	2,4	3	3,6	4,2	4,8	5,4	6		
	A	A		A	kW	kW	HP	1	2	4	6,3	8	10		12,5	16	20	25	31,5	40	50	60	70	80	90	100								
B- T 61E	1,9	1,1	B- TM 61E	2,5	0,55	0,33	0,45	H m				38	36	34	31,5	28	24	19	12,5	5														
B- T 65E	2,8	1,6	B- TM 65E	3,5	0,8	0,45	0,6						44	42	40	37	33	29	24	16	8													
B- T 70/A	3,7	2,2	B- TM 70/A	6	1,3	0,75	1						59	57	55	51	48	43	38	30	22	10												
T 76E	5,3	3	TM 76E	7,4	1,6	1,1	1,5						70	68	67	65	62	58	53	46	38	26												
T 100/A	11,5	6,6				3	4											103	97	89	82	75	68											
T 125/A		9,6				4	5,5													125	110	90	75*	60*										
B- TP 78/A	2,3	1,3	B- TPM 78/A	2,8	0,6	0,37	0,5		75	70	60	50	42	35	25	15																		
B- TP 80E	4	2,3	B- TPM 80E	5,8	1,2	0,75	1						90	85	79	73	61	48	34	20														
TP 100/A	9,6	5,5				2,2	3						160	157	151	140	129	115	99	82														
TP 132R/A		10,9				5,5	7,5												145	135	120	110	95	70										
TP 132/A		14,3				7,5	10																								165	143*	120*	

P₁ Maximum power input.

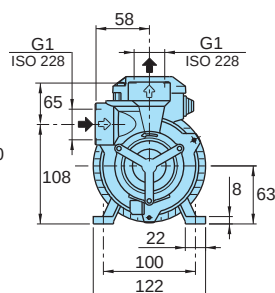
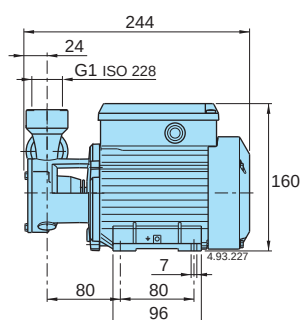
B-T, B-TM = Bronze construction.

H Total head in m.

* Maximum suction lift 2-3 m.

P₂ Rated motor power output.

Dimensions and weights

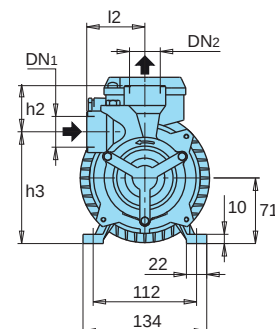
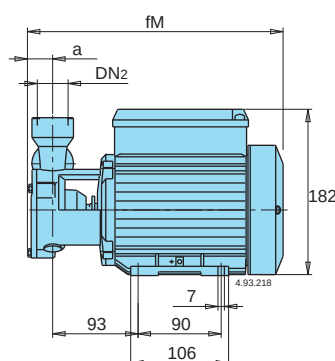


T 61E: kg 6,3

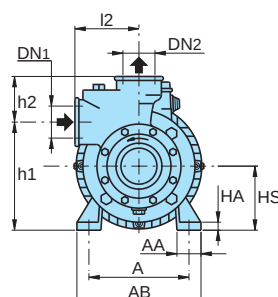
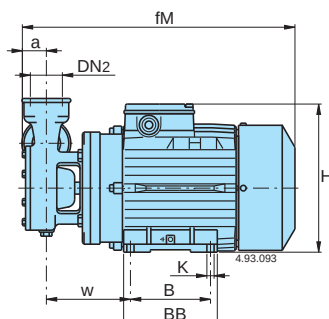
B- T 61E: kg 6,5

T 65E: kg 7,3

B- T 65E: kg 7,5

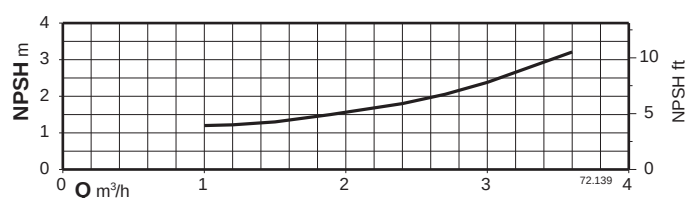
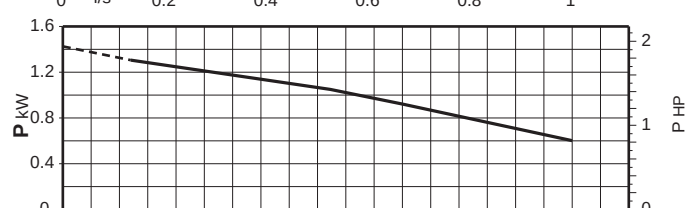
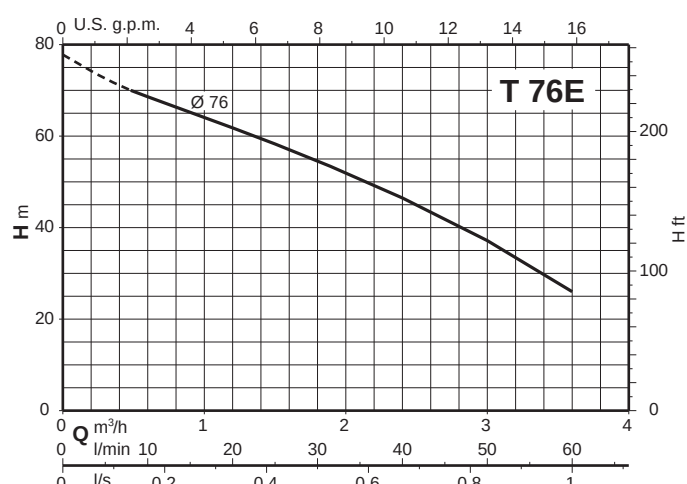
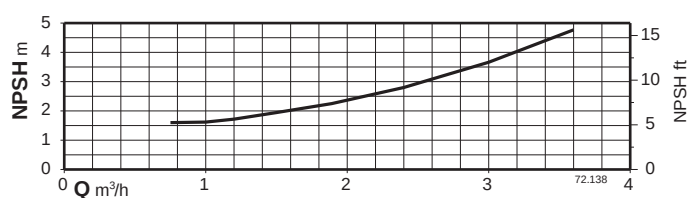
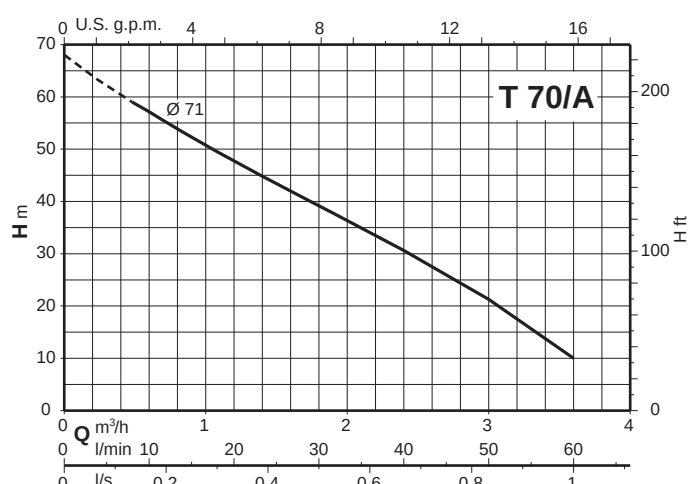
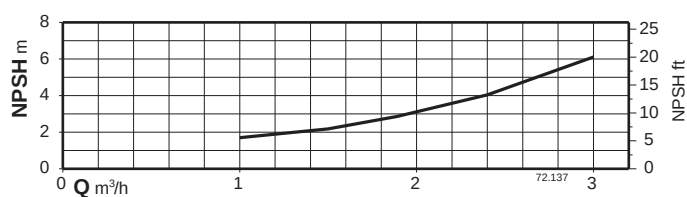
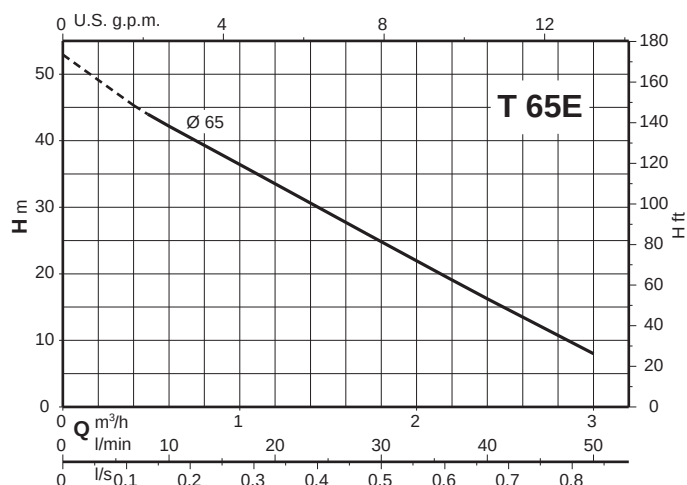
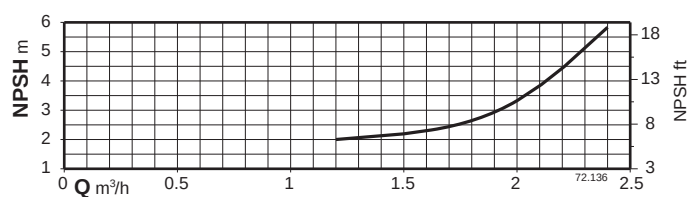
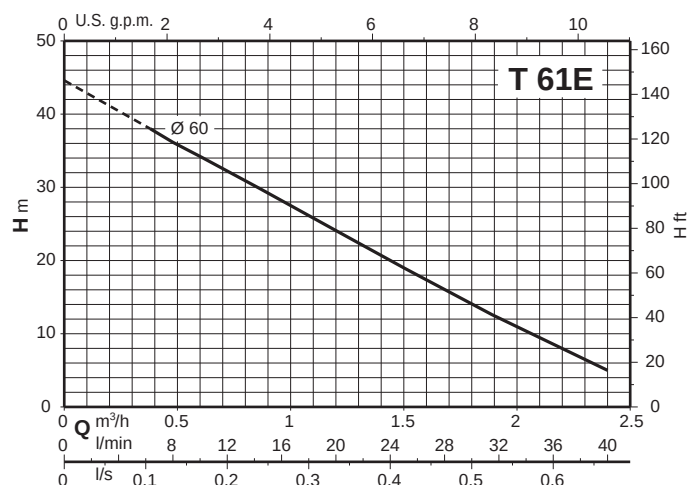


TYPE		DN1	DN2	mm					kg	
		ISO 228		a	fM	h2	h1	l2	T	B-T
T 70/A	B-T 70/A	G 1	G 1	24	278	50	121	63	11,2	11,6
TP 78/A	B-TP 78/A	G 1/2	G 1/2	22	276	24	127	56	8,2	8,8

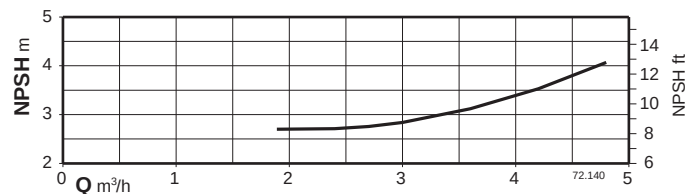
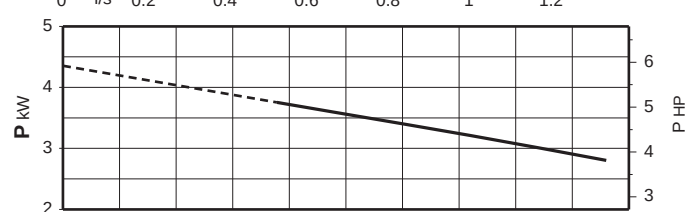
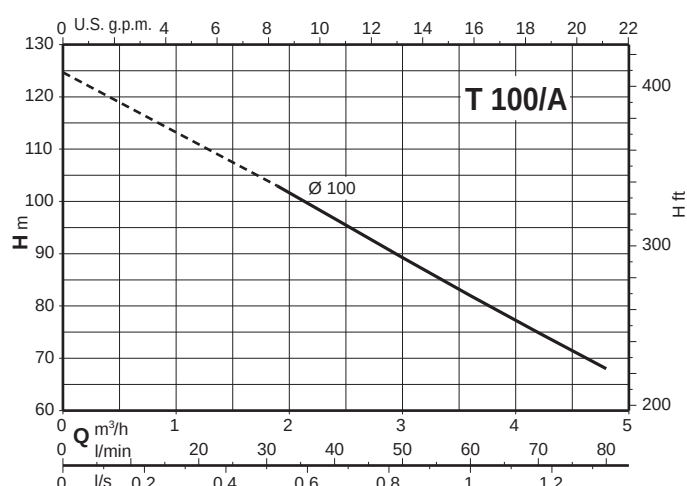
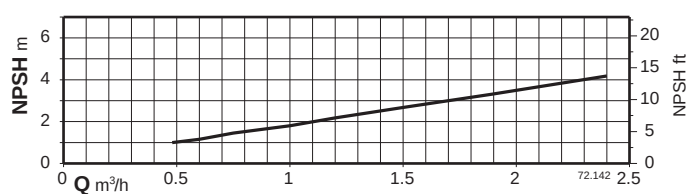
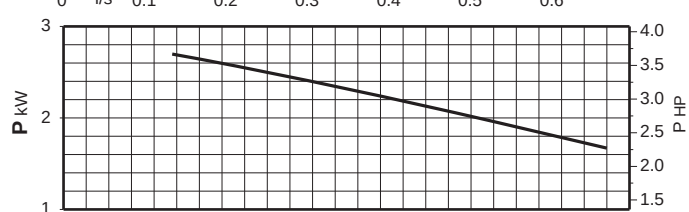
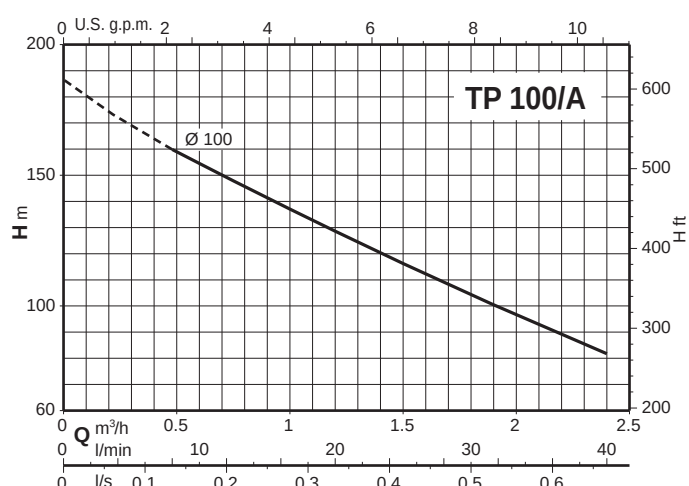
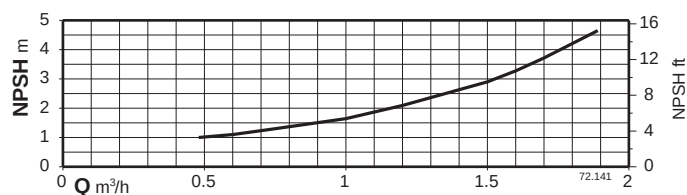
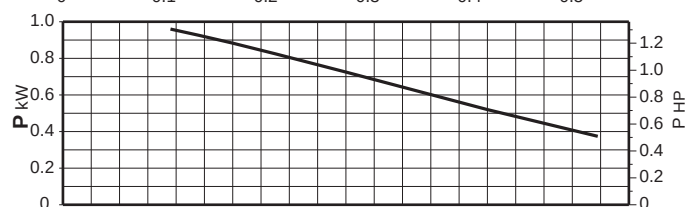
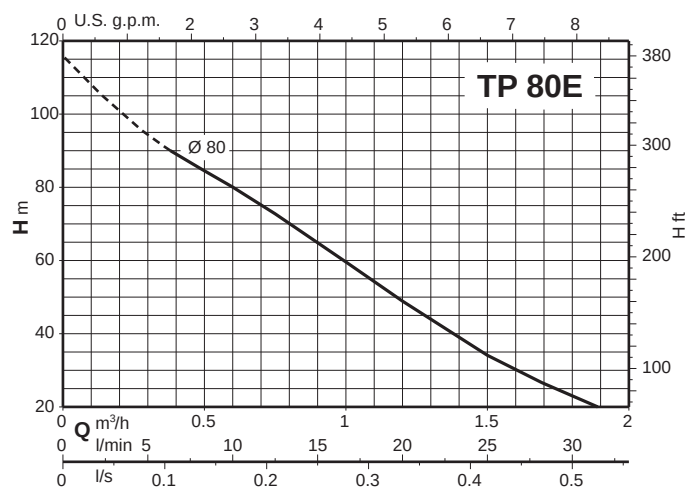
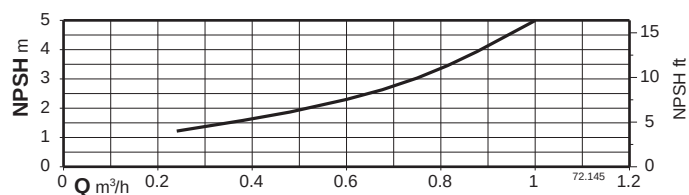
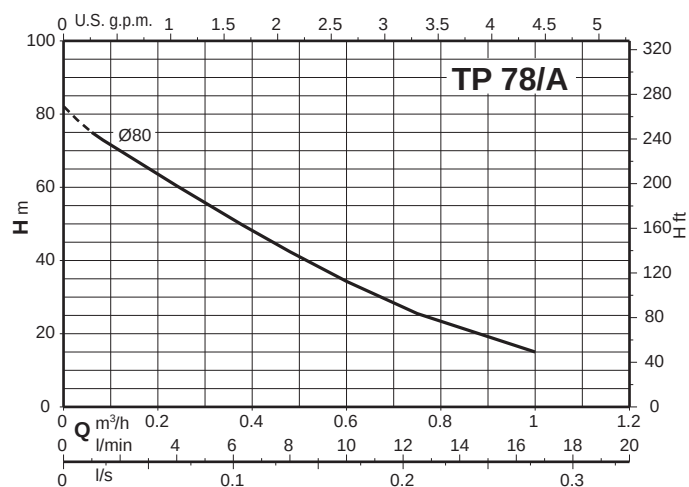


TYPE	DN1	DN2	mm															kg	
	ISO 228		a	fM	HS	h2	h1	H	BB	B	AB	A	AA	K	l2	w	HA	T, TP	B-TP
T 76E -	G 1 1/4	G 1 1/4	26	338	80	56	136	208	117	100	155	125	30	9	80	105	10	18,4	-
T 100/A -	G 1 1/4	G 1 1/4	32	410	90	59	161	226	152	125	180	140	40	9,5	95	121	12	32,5	-
T 125/A -	G 1 1/4	G 1 1/4	32	470	90	75	170	226	152	125	180	140	40	9,5	90	195	12	39,5	-
TP 80E B-TP 80E	G 3/4	G 3/4	27	332	80	35	135	208	117	100	155	125	30	9	60	104	10	16,4	16,8
TP 100/A -	G 3/4	G 3/4	27	387	80	38	142	208	117	100	155	125	30	9	65	113	10	23,2	-
TP 132R/A -	G 1 1/4	G 1 1/4	42	485	112	70	202	272	180	140	230	190	50	11,5	100	183	14	53,6	-
TP 132/A -	G 1 1/4	G 1 1/4	42	485	112	70	202	272	180	140	230	190	50	11,5	100	183	14	58,5	-

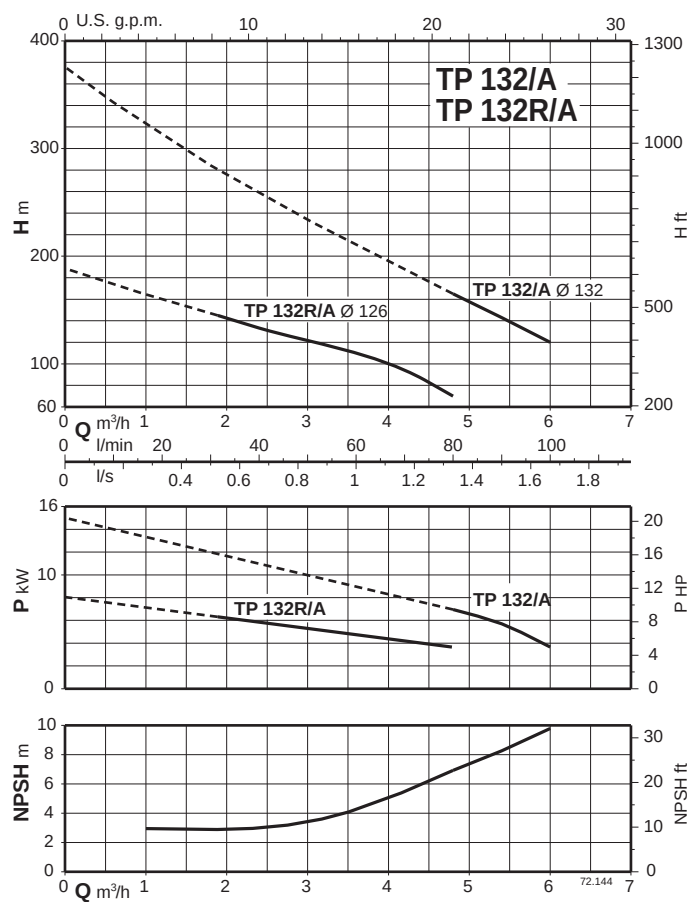
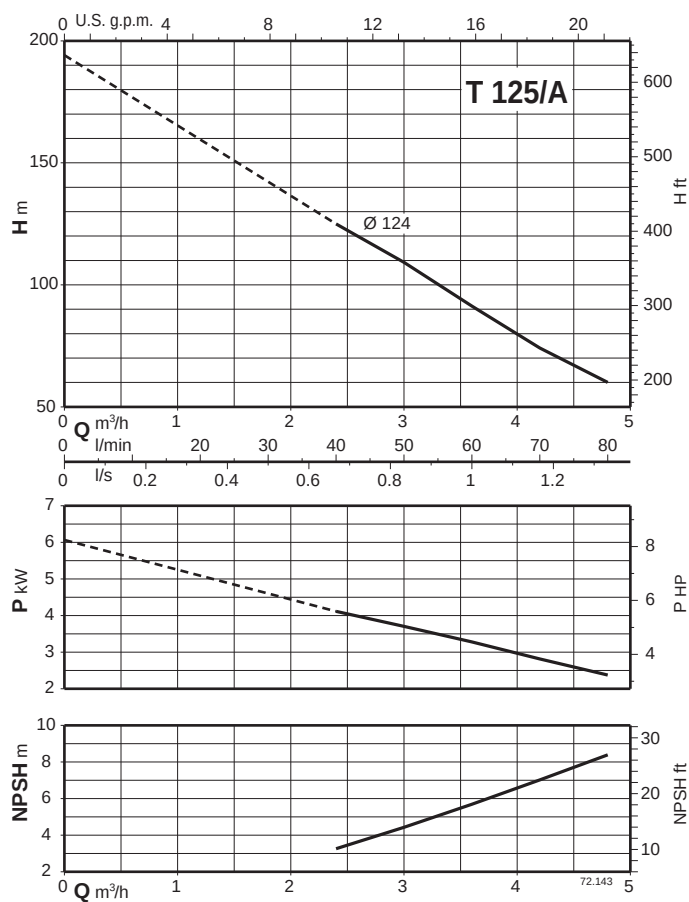
Characteristic curves $n \approx 2900$ rpm



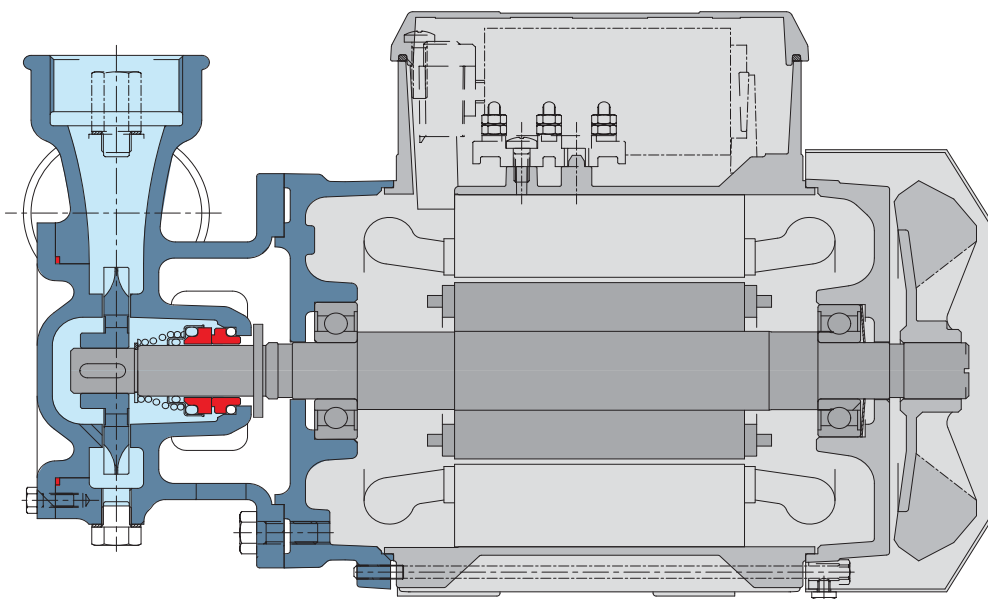
Characteristic curves $n \approx 2900$ rpm



Characteristic curves $n \approx 2900$ rpm



Features



Range

The high number of pumps in the range can meet the widest range of services required by the user.

Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows T-TP series pumps to be selected for use with different types of liquids.

Reliable

The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

Optimized hydraulics

The pump hydraulics are designed to ensure high performance and consistency of performance.



Construction

Close-coupled self-priming liquid ring pumps with star impeller.
CA: version with pump casing and lantern bracket in cast iron.
B-CA: version with pump casing and lantern bracket in bronze (the pumps are supplied fully painted).

Applications

For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.
If the liquid to be pumped has entrained air or gas or the flow in the suction pipe is not stable.
For drawing water out of a well.
For increasing network pressure (follow local specifications).

Operating conditions

Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40 °C.
Negative suction pressure up to 9 m.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

CA: three-phase 230/400 V $\pm 10\%$.

CAM: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

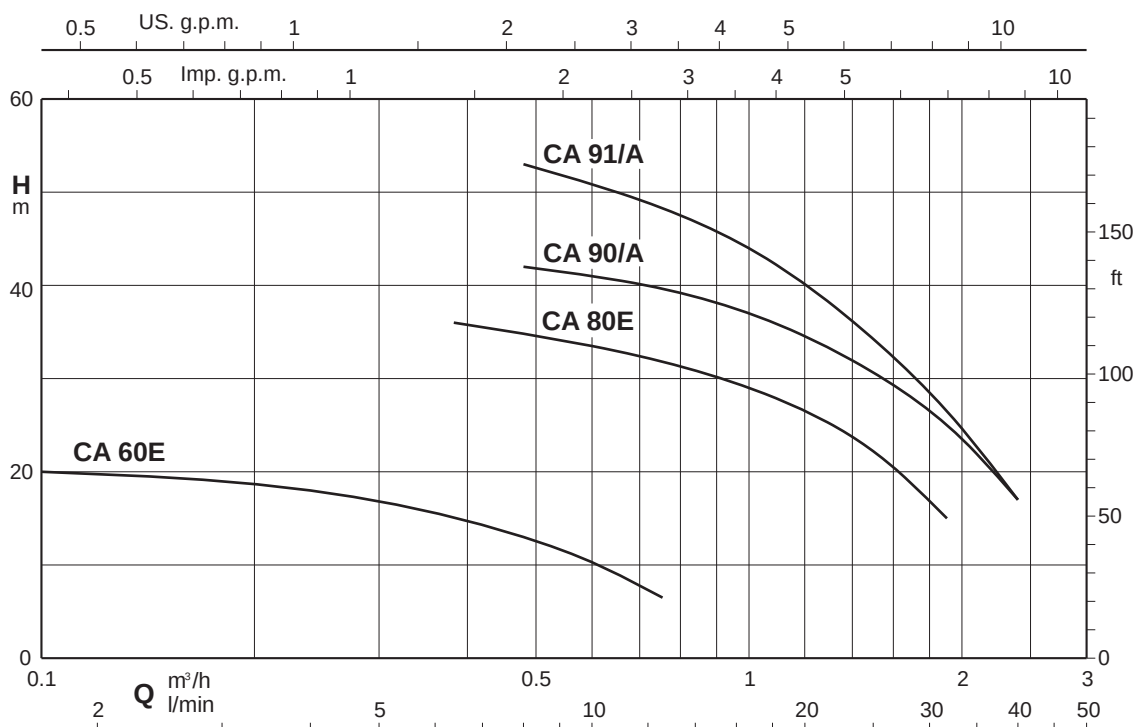
Materials

Components	CA	B-CA
Pump casing	Cast iron	Bronze
Lantern bracket	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Impeller	Brass P- Cu Zn Pb 2 UNI 5705	
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)	Cr-Ni-Mo steel 1.4401 EN 10088 (AISI 316)
Mechanical seal	Carbon - Ceramic - NBR	

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.
- Construction with bearing bracket.

Coverage chart $n \approx 2900$ rpm





Self-Priming Liquid Ring Pumps



Performance $n \approx 2900$ rpm

3 ~ 230 V 400 V			1 ~ 230 V P ₁			P ₂		Q m ³ /h l/min	0,12	0,24	0,38	0,48	0,6	0,75	1	1,2	1,5	1,89	2,4
A	A		A	kW	kW	HP			2	4	6,3	8	10	12,5	16	20	25	31,5	40
CA 60E B-CA 60E	1,7	1	CAM 60E B-CAM 60E	1,6	0,26	0,15	0,2	H m	20	18	15,5	13	10,5	6,5					
CA 80E B-CA 80/A	2,8 2,3	1,6 1,3	CAM 80E B-CAM 80/A	3,3 3,6	0,72	0,45	0,6				36	35	33,5	31,5	29	26	22	15	
CA 90/A B-CA 90/A	3	1,7	CAM 90/A B-CAM 90/A	4,5	0,9	0,55	0,75					42	41	40	37	34	30	25	17
CA 91/A B-CA 91/A	3,7	2,2	CAM 91/A B-CAM 91/A	5,7	1,2	0,75	1					53	51	48	44	39	34	26,5	17

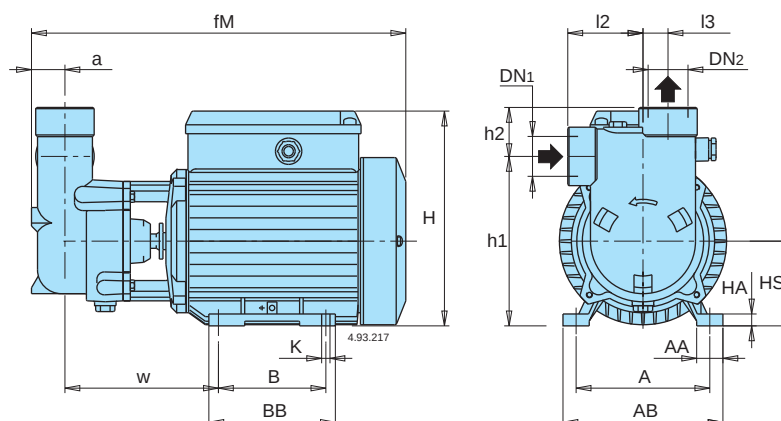
P₁ Maximum power input.

P₂ Rated motor power output.

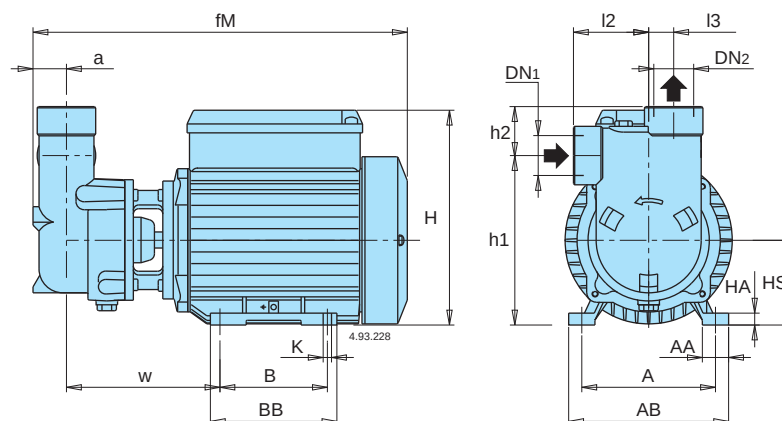
B-CA = Bronze construction.

H Total head in m.

Dimensions and weights



TYPE	DN1	DN2	mm																kg	
			a	fM	HS	h2	h1	H	BB	B	AB	A	AA	K	I2	I3	w	HA	CA	B-CA
CA 60E - B-CA 60E	G 1/2	G 1/2	18	256	63	25	103	158	96	80	122	100	22	7	45	14	103	8	6	6,8
CA 80E	G 3/4	G 3/4	23	272	63	27	126	158	96	80	122	100	22	7	55	17	109	8	7,6	-
CA 90/A	G 1	G 1	28	318	71	41	142	182	106	90	134	112	22	7	63	21	128	10	10,8	-
CA 91/A																			11,4	-



TYPE	DN1	DN2	mm																kg	
			a	fM	HS	h2	h1	H	BB	B	AB	A	AA	K	I2	I3	w	HA	B-CA	
B-CA 80/A	G 3/4	G 3/4	23	307	71	27	134	182	106	90	134	112	22	7	55	17	122	10	10	
B-CA 90/A	G 1	G 1	28	318	71	41	142	182	106	90	134	112	22	7	63	21	128	10	13,1	-
B-CA 91/A																			13,9	-

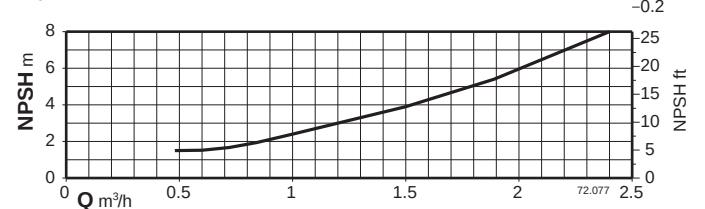
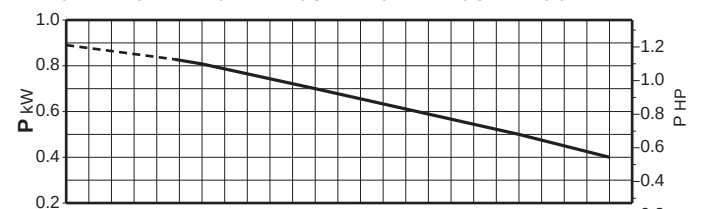
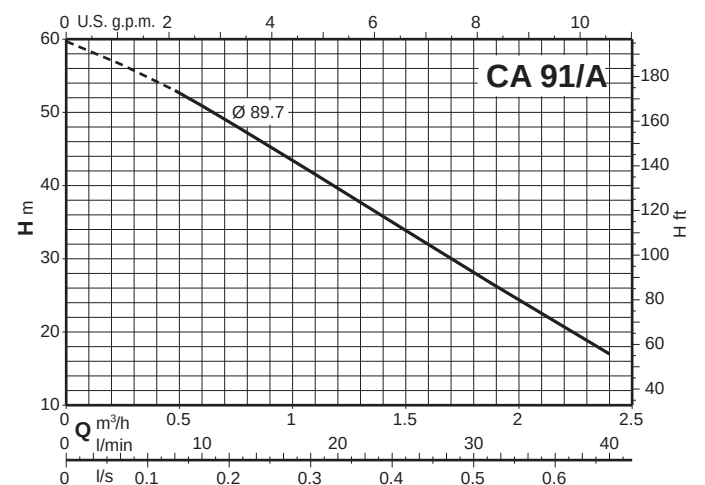
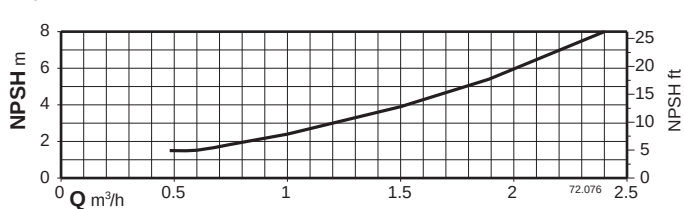
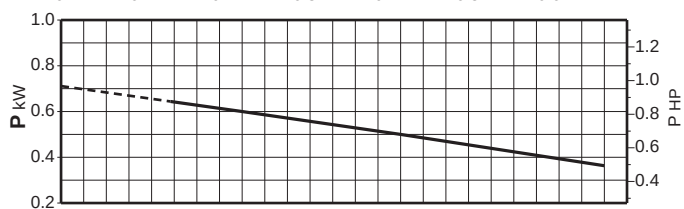
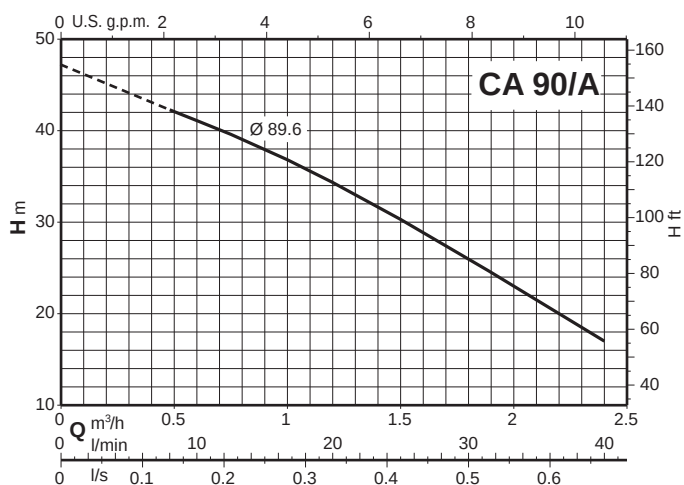
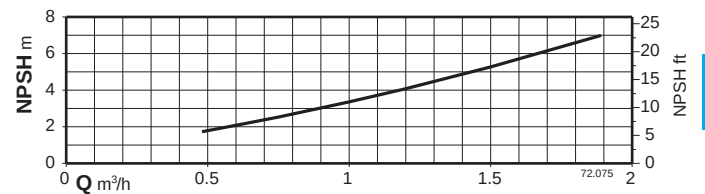
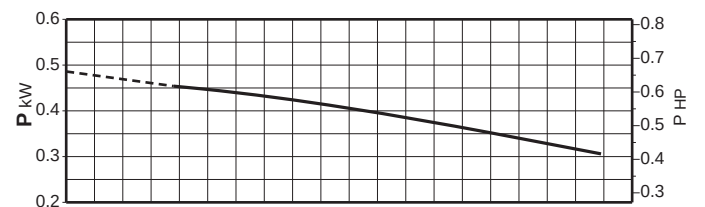
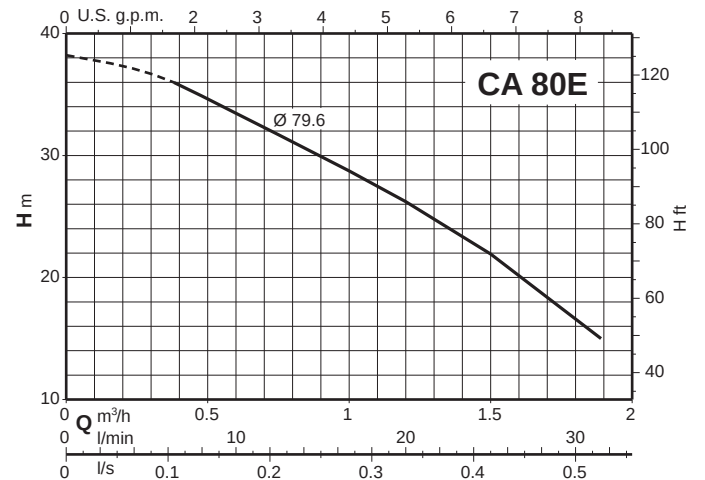
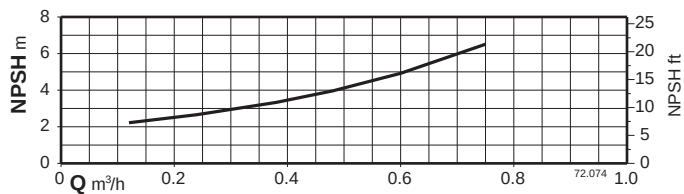
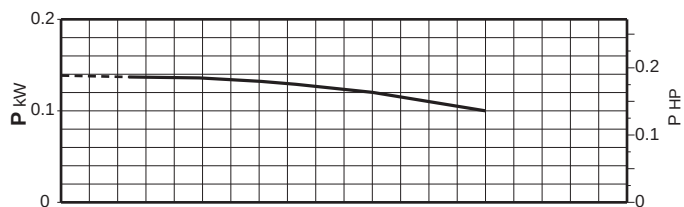
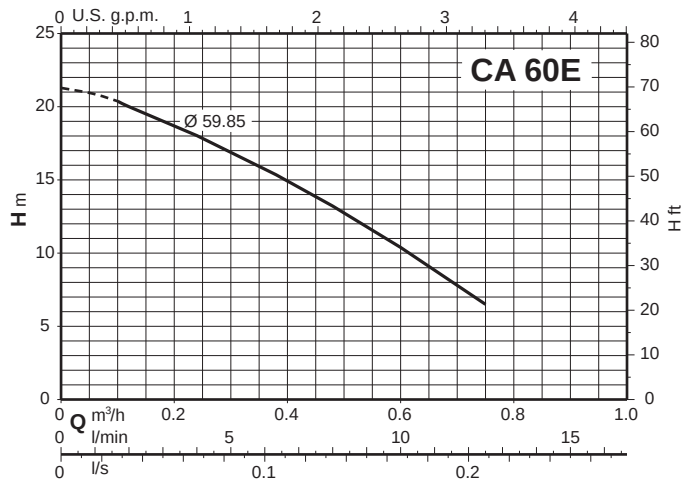


Self-Priming Liquid Ring Pumps

www.calpeda-romania.ro 0722.244.944
www.infinity-pumps.ro 0734.789.888

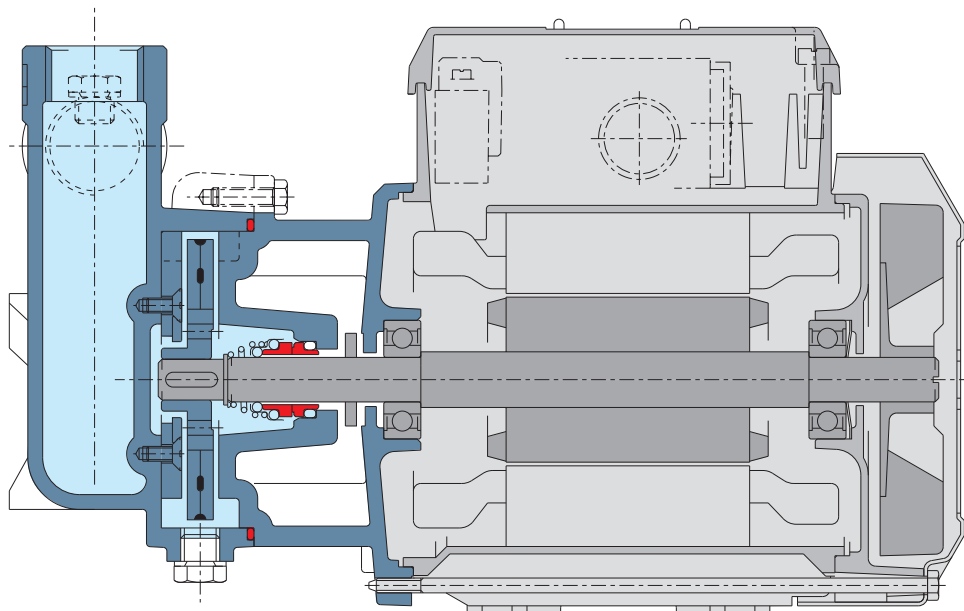


Characteristic curves $n \approx 2900$ rpm



20

Features



Fast self priming

The hydraulic design ensures fast self priming once the pump body is filled with water.

Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows CA series pumps to be selected for use with different types of liquids.

Easy maintenance

The construction features an anti-wear ring screwed to the pump body, allowing for rapid replacement in case of wear.



Construction

Close-coupled self-priming shallow-well pump with built-in ejector.

Applications

For drawing water out of a well.
For lifting water containing air or other gases.
For increasing water pressure from flooded suction applications.
As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).
For garden use.
For washing with a jet of water.

Operating conditions

Liquid temperature: 0 °C to +35 °C.
Ambient temperature up to +40 °C.
Suction lift up to 9 m.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).
NGL: three-phase 230/400 V $\pm 10\%$.
NGLM: single-phase 230 V $\pm 10\%$, with thermal protector.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Classification scheme IE2 for three-phase motors from 0,75 kW.
Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

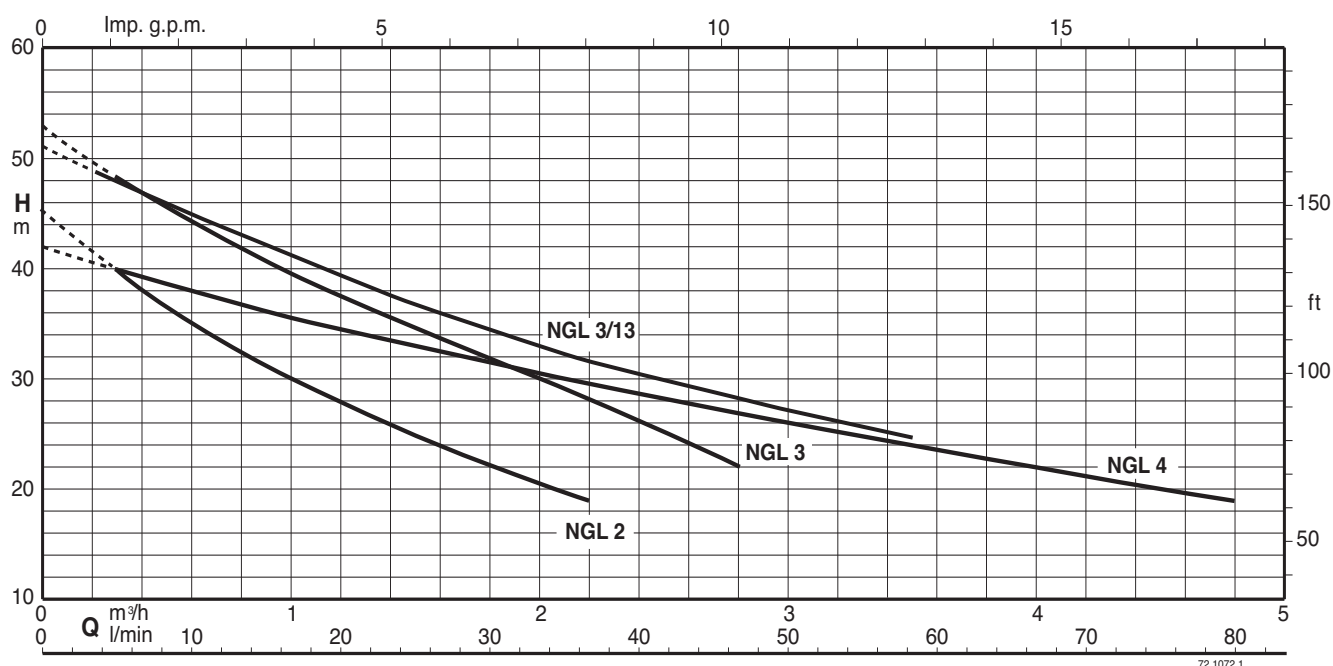
Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).

Materials

Component	Material
Pump casing	Cast iron GJL 200 EN 1561
Casing cover	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Impeller	Brass P-Cu Zn 40 Pb 2 UNI 5705
Wear ring impeller-diffuser	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Diffuser	PPO-GF20 (Noryl)
Ejector	PPO-GF20 (Noryl)
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)
Mechanical seal	Carbon - Ceramic - NBR

Characteristic curves $n \approx 2800$ rpm



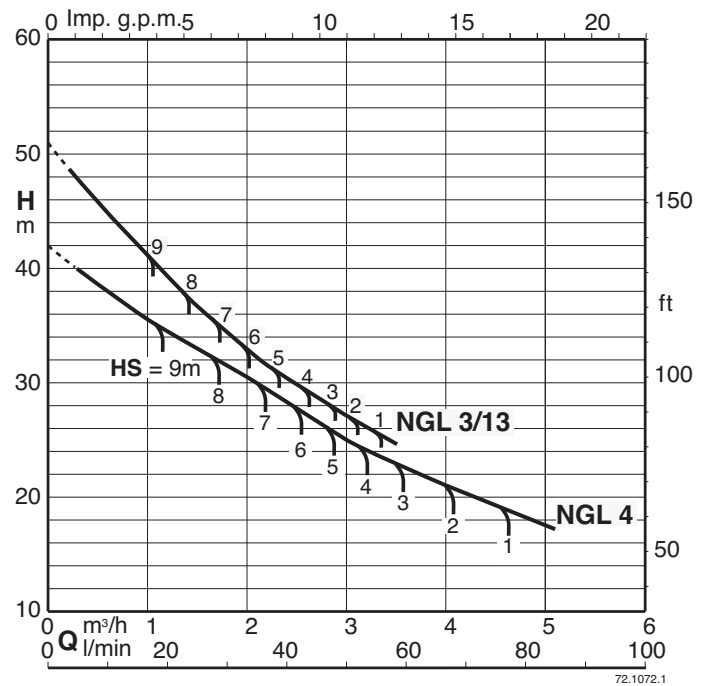
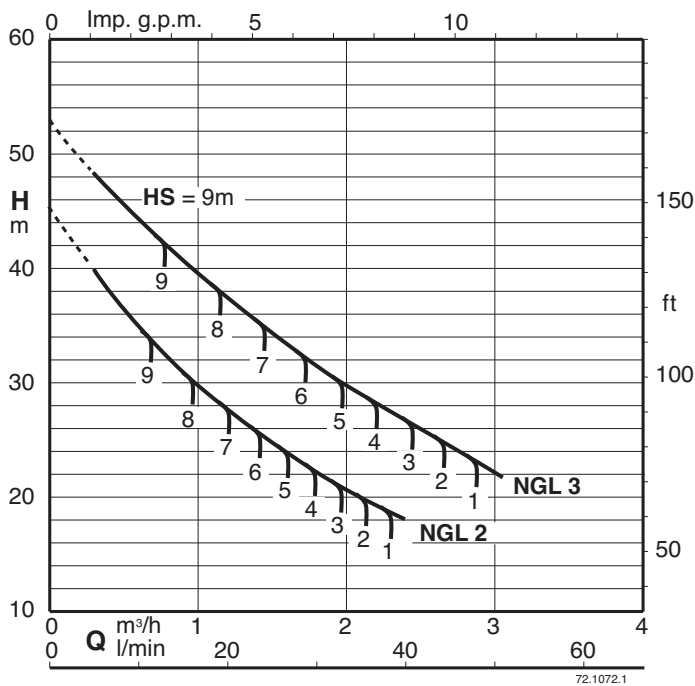
Performance $n \approx 2800$ rpm

3~230V400V			1~230VP ₁			P ₂		Q	m³/h l/min	0	0,3	1	2	2,3	2,8	3,5	4	4,5	4,8
	A	A		A	kW	kW	HP			0	5	16,6	33,3	38,3	46,6	58,3	66,6	75	80
NGL 2	2,8	1,6	NGLM 2	3,3	0,7	0,45	0,6	H m	45	40	30	20,5	19						
NGL 3/A	2,8	1,6	NGLM 3/A	4,2	0,9	0,55	0,75		53	48	39	30	28	24					
NGL 3/13	3,7	2,2	NGLM 3/13	5,4	1	0,75	1		51	48	41,5	33	30,8	28	24,5				
NGL 4/A	3,7	2,2	NGLM 4/A	5,4	1	0,75	1		42	40	36	31	29	27	22,5	22	20,5	19	

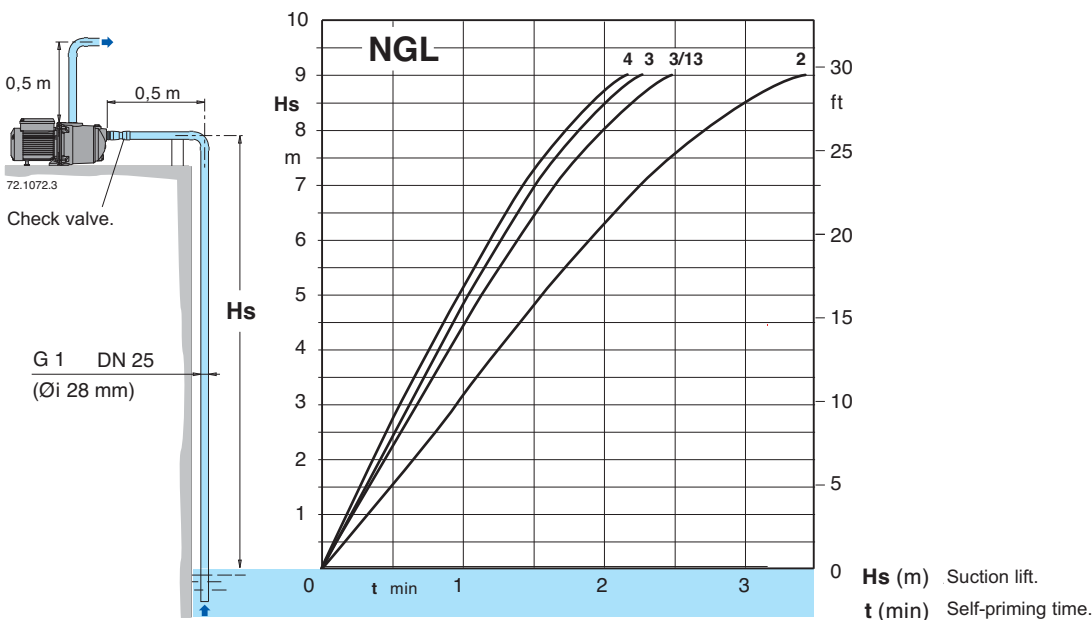
P₁ Max. power input. P₂ Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

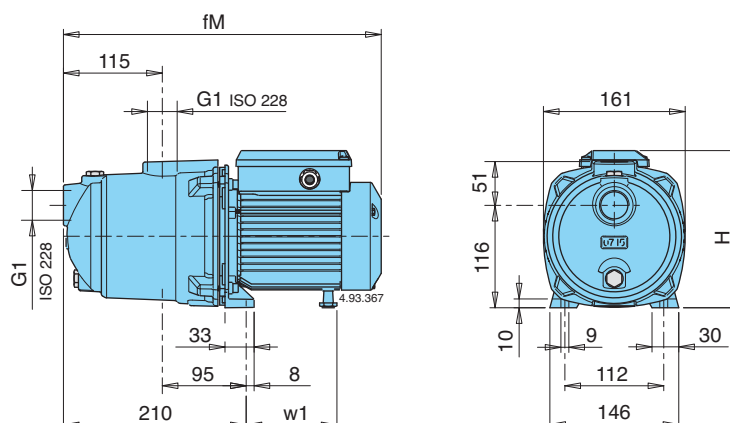
Characteristic Curves for different suction lifts H_s



Self-priming capability

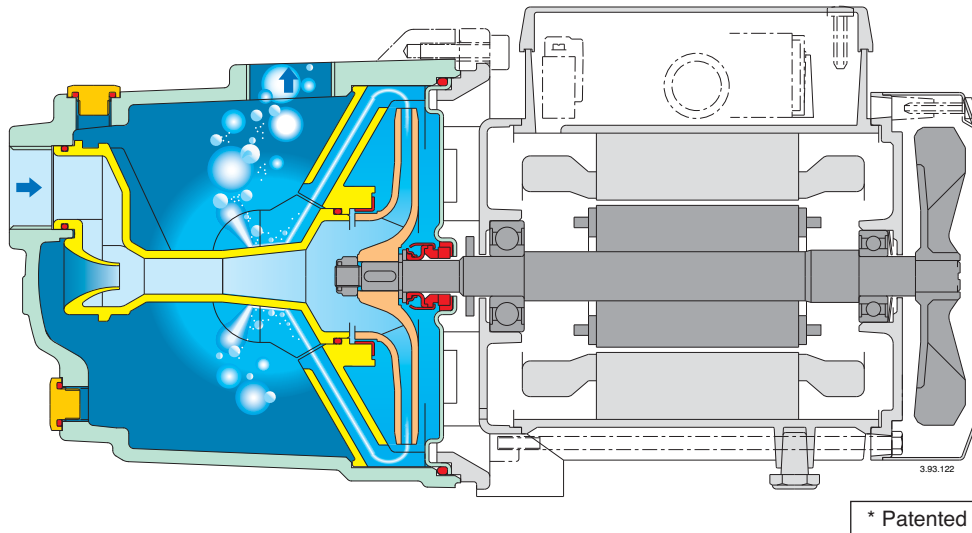


Dimensions and weights



TYPE	Dimensions mm			Net weight kg	
	fM	H	w1	NGL	NGLM
NGL 2	362	176	102	10,3	10,3
NGL 3/A	391	192	112	11,4	12,3
NGL 3/13	391	192	112	12,5	13,5
NGL 4/A	391	192	112	12,5	13,5

Features



A different pump with new features

An exclusive diffuser design with flow control device* provides for compact construction, fast self-priming capability and low noise.

Reliable

With new design features the NGL is more robust and forgiving when temporary abnormal operating conditions may exist.

Compact

The NGL is smaller than conventional pumps of a similar type, allowing for installation in restricted spaces and providing for easier retrofit applications.

Safe

Fast air evacuation reduces the risk of air-pockets developing at the mechanical seal preventing the danger of seal failure due to a lack of flushing and cooling.

Better self-priming

The NGL are capable of lifting water from depths of 9 m in less than 3 minutes, offers new possibilities on suction lift applications and provides better trouble free service on normal shallow-well suction lift duties, also with a long suction pipe above the water level.

Low noise

The new diffuser and flow control device* guide the fluid from the impeller into the central part of the pump casing, reducing turbulence and velocity, with effective use of the surrounding liquid in dampening the noise of flow.

NGX

Self-Priming Pumps

calpeda[®]



Construction

Close-coupled self-priming shallow-well pump with built-in ejector.

A high-quality pump for domestic water supply. Designed with environmental considerations, featuring a stainless steel casing, brass alloy impeller with minimal use of plastic materials.

Applications

For drawing water out of a well.

For lifting water containing air or other gases.

For increasing water pressure from flooded suction applications.

As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).

For garden use.

For washing with a jet of water.

Operating conditions

Liquid temperature: 0 °C to +35 °C.

Ambient temperature up to +40 °C.

Suction lift up to 9 m.

Maximum permissible pressure in the pump casing: 8 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).

NGX: three-phase 230/400 V $\pm 10\%$.

NGXM: single-phase 230 V $\pm 10\%$, with thermal protector.

Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.

EN 60335-1, EN 60335-2-41.

Special features on request

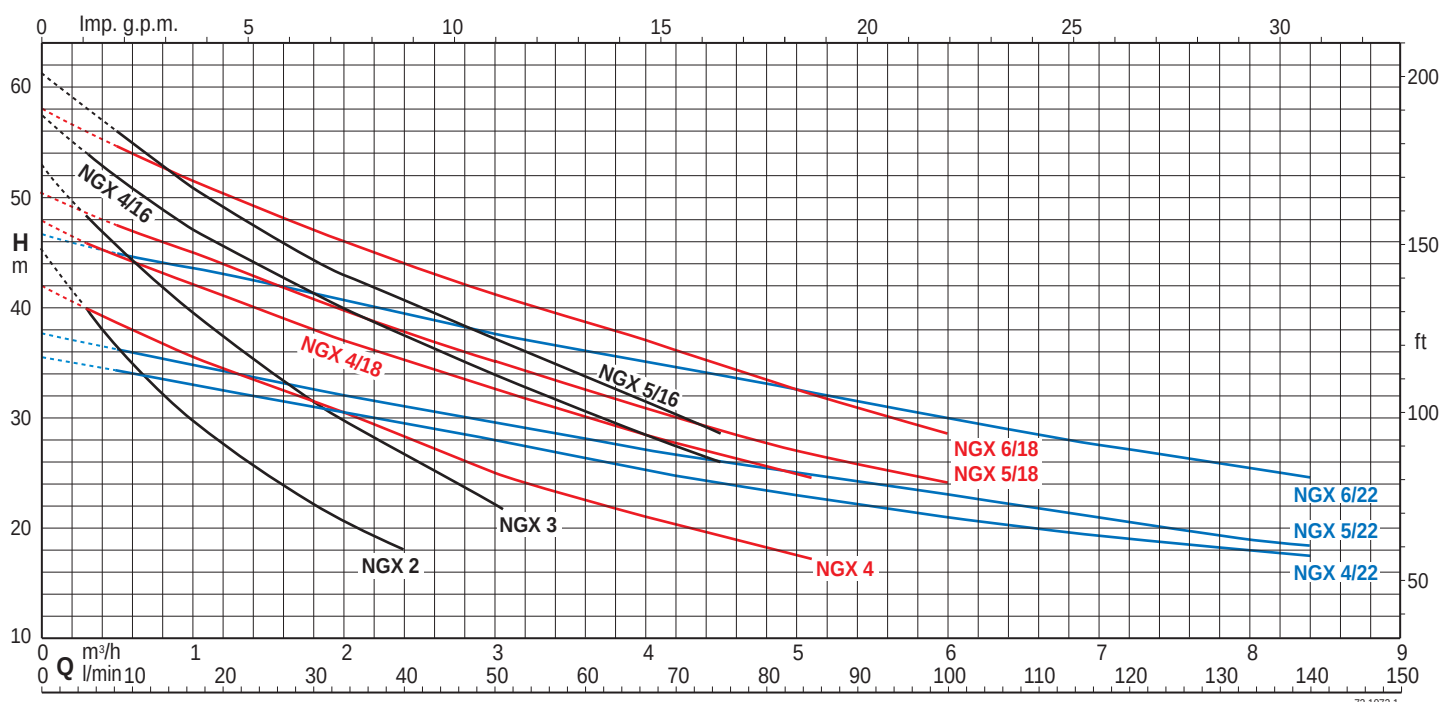
- Other voltages.

- Frequency 60 Hz (as per 60 Hz data sheet).

Materials

Component	Material
Pump casing	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Casing cover	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Impeller	Brass P-Cu Zn 40 Pb 2 UNI 5705
Wear ring impeller-diffuser	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Diffuser	PPO-GF20 (Noryl)
Ejector	PPO-GF20 (Noryl)
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430) Cr-Ni steel 1.4305 EN 10088 (AISI 303) for NGX 5,6
Mechanical seal	Carbon - Ceramic - NBR

Characteristic curves $n \approx 2800$ rpm



NGX

Self-Priming Pumps

calpeda®

Performance $n \approx 2800$ rpm

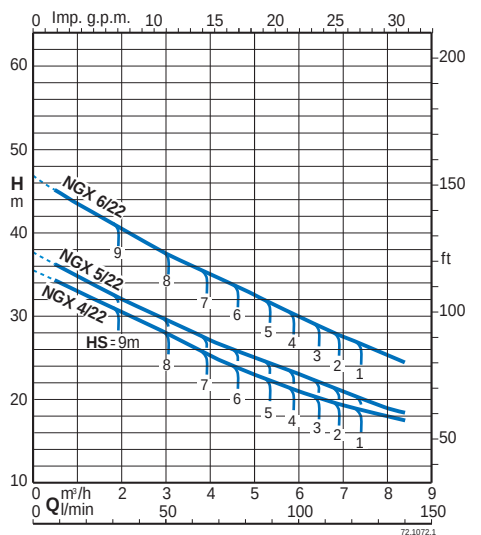
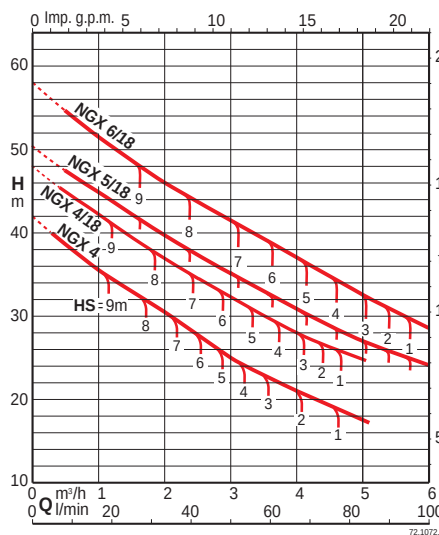
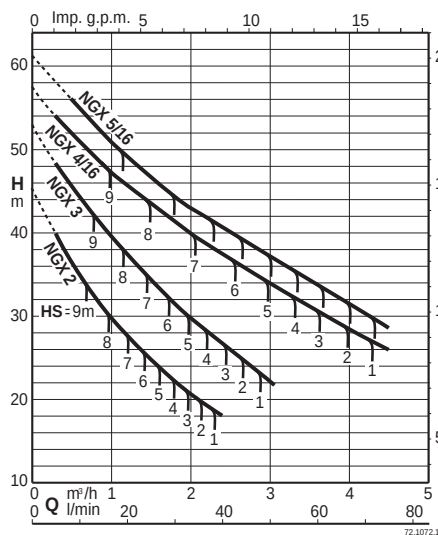
3~ 230V 400V			1~ 230V P1			P2		Q m³/h l/min	0	0,3	1	2	2,4	3	4	4,5	5	5,5	6	6,5	7	8	8,4
	A	A		A	kW	kW	HP		0	5	16,6	33,3	40	50	66,6	75	83,3	91,6	100	108	116	133	140
NGX 2	2,8	1,6	NGXM 2	3,3	0,7	0,45	0,6	H m	45	40	30	20,5	18										
NGX 3/A	2,8	1,6	NGXM 3/A	4,2	0,9	0,55	0,75		53	48	39	30	27	22									
NGX 4/A	3,7	2,2	NGXM 4/A	5,4	1	0,75	1		42	40	36	31	28	25	21	19,5	18						
NGX 4/16	4,5	2,6	NGXM 4/16	7	1,6	1,1	1,5		57,5	54	47,3	40	37,5	34	28,5	26							
NGX 4/18	4,5	2,6	NGXM 4/18	7	1,6	1,1	1,5		48	46	42,5	37	35	32,5	28,5	27	25						
NGX 4/22	4,5	2,6	NGXM 4/22	7	1,6	1,1	1,5		35,5	34,8	33	30,5	29,5	28	25,3	24	23	22	21	20,3	19,5	18	17,5

3~			230V	400V	1~			230V	P1	P2		Q m ³ /h l/min	0	0,5	1	2	2,4	3	4	4,5	5	5,5	6	6,5	7	8	8,4
	A	A		A	kW	kW	HP	0	8,3	16,6	33,3		40	50	66,6	75	83,3	91,6	100	108	116	133	140				
NGX 5/16	4,7	2,7	NGXM 5/16	7,4	1,6	1,1	1,5	H m	61	55,5	51	43	40,5	36,8	31,7	28,5											
NGX 5/18	4,7	2,7	NGXM 5/18	7,4	1,6	1,1	1,5		50,5	47,5	45	39,5	37,7	35	30,8	29	27	25,5	24								
NGX 5/22	4,7	2,7	NGXM 5/22	7,4	1,6	1,1	1,5		37,5	36	34,7	32	31	29,5	27	26	24,8	23,7	22,8	22	21	19	18,3				
NGX 6/18	7,5	4,3	NGXM 6/18	9,2	2	1,5	2		58	54,7	51,5	46	44	41,3	37	34,7	32,5	30,5	28,5								
NGX 6/22	7,5	4,3	NGXM 6/22	9,2	2	1,5	2		46,5	45	43,5	40,5	39,3	37,5	35	33,5	32,5	31,2	30	28,5	27,5	25,5	24,5				

P1 Max. power input. P2 Rated motor power output.

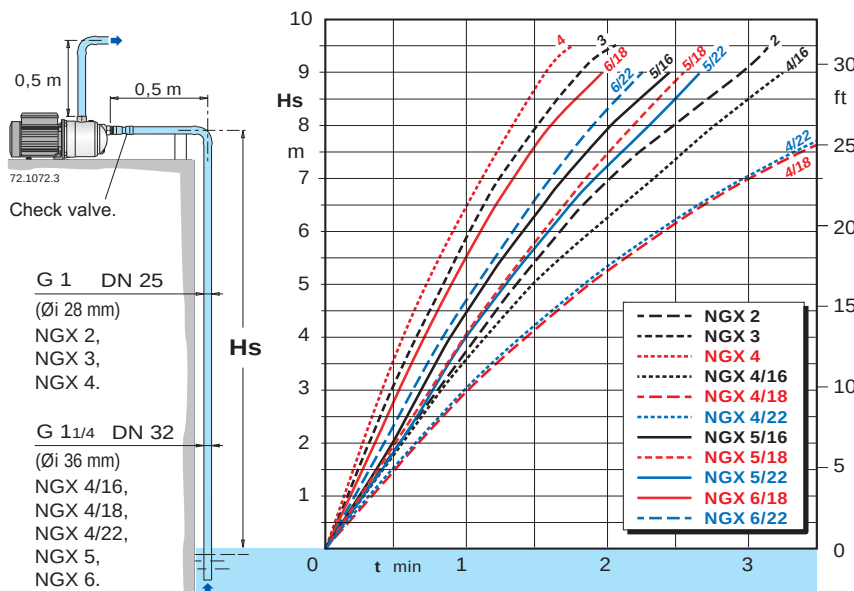
Tolerances according to UNI EN ISO 9906:2012

Characteristic curves for different suction lifts Hs



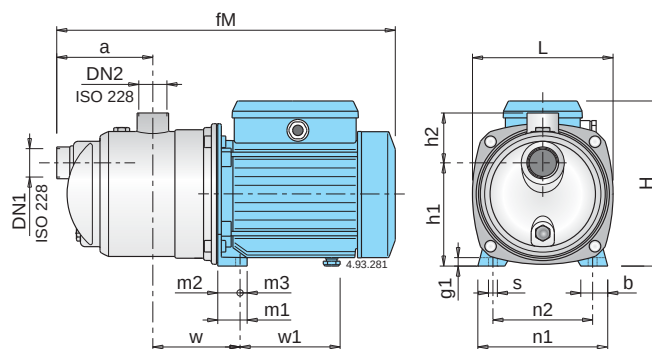
Self-priming capability

50 Hz ($n \approx 2800$ 1/min), H₂O, T = 20°C, Pa = 1000 hPa (mbar)



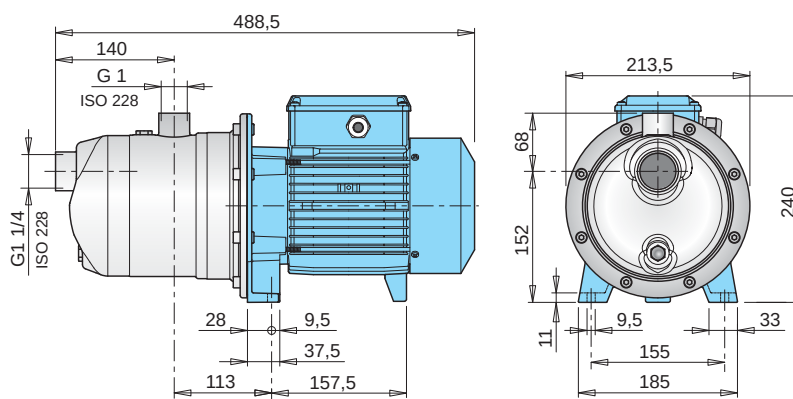
Dimensions and weights

NGX 2, 3/A, 4/A, 4/16, 4/18, 4/22



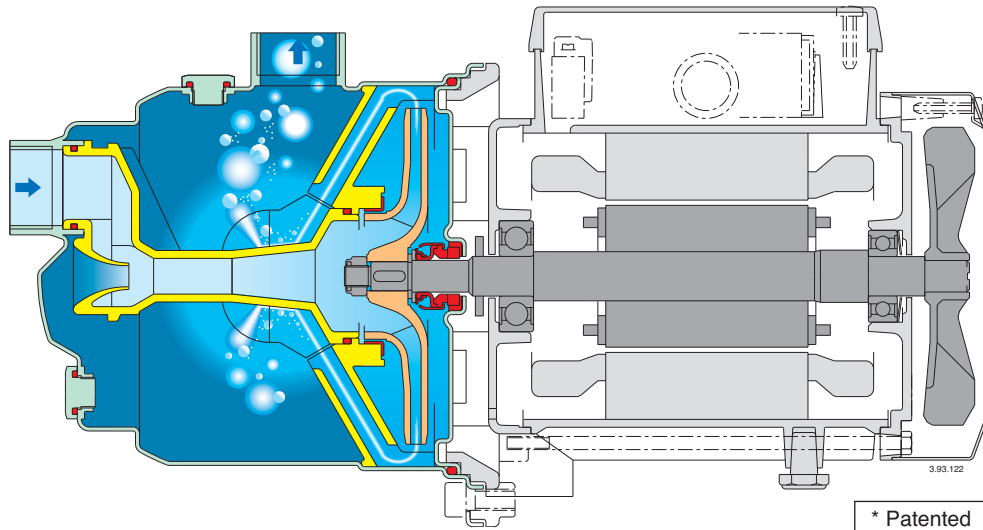
TYPE	Dimensions																	Net weight		
	DN1	DN2	mm															kg		
	ISO 228		fM	a	w	h1	h2	H	L	m1	m2	m3	n1	n2	b	s	g1	w1	NGX	NGXM
NGX 2			362					176										102	7,5	7,5
NGX 3/A	G 1	G 1	391	115	95	116	61	192	161	33	25	8	146	112	30	9	10	112	8,7	9,6
NGX 4/A			391					192										112	9,6	10,6
NGX 4/16																				
NGX 4/18	G 1 1/4	G 1	462	140	113	152	68	225	213,5	37,5	28	9,5	185	155	33	9,5	11	147	14,8	14,8
NGX 4/22																				

NGX 5, 6



TYPE	Net weight kg	
	NGX	NGXM
NGX 5	15,2	16,7
NGX 6	17,8	18,2

Features



A different pump with new features

An exclusive diffuser design with flow control device* provides for compact construction, fast self-priming capability and low noise.

Reliable

With new design features the NGX is more robust and forgiving when temporary abnormal operating conditions may exist.

Compact

The NGX is smaller than conventional pumps of a similar type, allowing for installation in restricted spaces and providing for easier retrofit applications.

Safe

Fast air evacuation reduces the risk of air-pockets developing at the mechanical seal preventing the danger of seal failure due to a lack of flushing and cooling.

Better self-priming

The NGX are capable of lifting water from depths of 9 m in less than 4 minutes, offers new possibilities on suction lift applications and provides better trouble free service on normal shallow-well suction lift duties, also with a long suction pipe above the water level.

Low noise

The new diffuser and flow control device* guide the fluid from the impeller into the central part of the pump casing, reducing turbulence and velocity, with effective use of the surrounding liquid in dampening the noise of flow.

NG

Self-Priming Pumps

calpeda[®]



Construction

Close-coupled self-priming shallow well jet pumps with built-in ejector.

NG: version with pump casing and lantern bracket in cast iron.

B-NG: version with pump casing and lantern bracket in bronze (the pumps are supplied fully painted).

Applications

For drawing water out of a well.

As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).

For clean liquids or slightly dirty surface water.

For garden use.

For washing with a jet of water.

Operating conditions

Liquid temperature up to 40 °C.

Ambient temperature up to 40 °C.

Maximum permissible working pressure up to 10 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

NG: three-phase 230/400 V $\pm 10\%$.

NGM: single-phase 230 V $\pm 10\%$, with thermal protector. Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.

EN 60335-1, EN 60335-2-41.

Special features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).

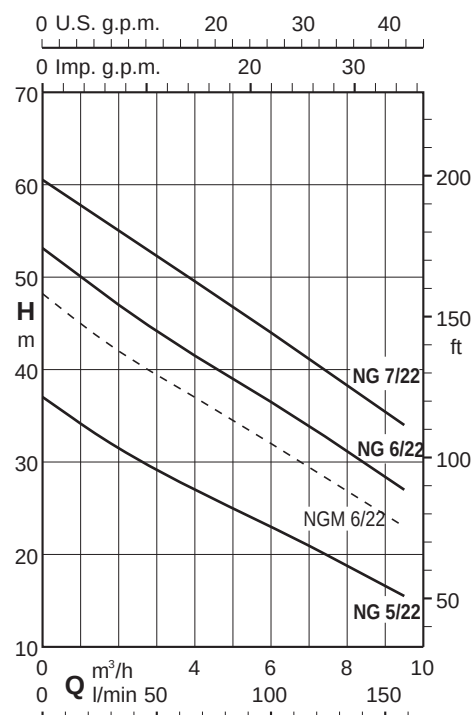
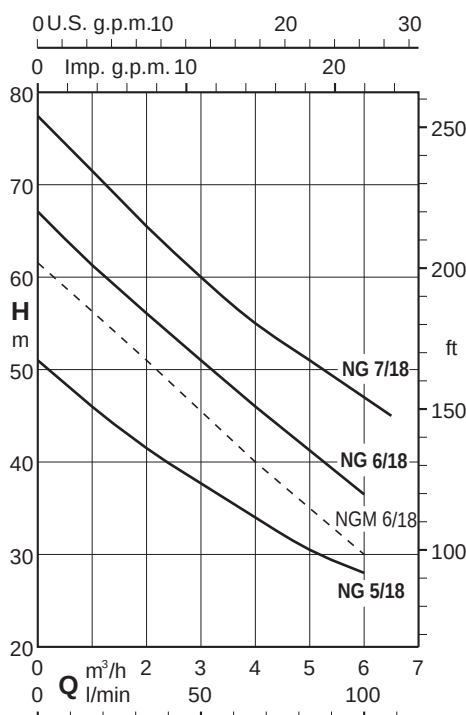
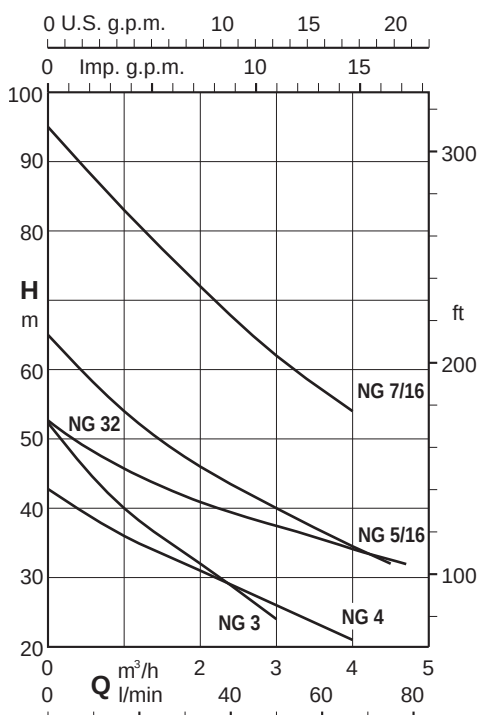
- Protection IP 55.

- Special mechanical seal

Materials

Components	NG	B-NG
Pump casing	Cast iron	Bronze
Cover with lantern bracket	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Diffuser plate		
Impeller	Brass P- Cu Zn 40 Pb 2 UNI 5705	
Shaft	Cr steel 1.4104 EN 10088 (AISI 430) for NG 3-4	Cr-Ni-Mo steel 1.4401 EN 10088
	Cr-Ni steel 1.4305 EN 10088 (AISI 303) for NG 5-6-7-32	AISI 316
Ejector casing NG 32	Cast iron GJL 200 EN 1561	-
Diffuser	PPO-GF20 (Noryl)	
Nozzle	PPO-GF20 (Noryl) (Brass P- Cu Zn 40 Pb 2 UNI 5705 for NG 32)	
Mechanical seal	Carbon - Ceramic - NBR	

Characteristic curves for suction lift $H_s = 1$ m $n \approx 2900$ rpm





Self-Priming Pumps



Performance for suction lift $H_s = 1$ m $n \approx 2900$ rpm

3 ~ 230V 400V			1 ~ 230V P ₁			P ₂		Q m ³ /h l/min	H m																	
A	A		A	kW	kW	HP			0,25	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	8	9	9,5
B- NG 3/A	3	1,7	B- NGM 3/A	4,5	0,9	0,55	0,75	H m	49	45,5	40	36	32	28	24						100					
B- NG 4/A	3,7	2,2	B- NGM 4/A	5,7	1	0,75	1		41	39	36	33	31	29	26	24	21									
NG 32E	4,7	2,7	NGM 32E	7,4	1,47	1,1	1,5			49	46	43,5	41	39	38	36	34	33	31							
B- NG 5/16E	4,7	2,7	B- NGM 5/16E	7,4	1,64	1,1	1,5			59	54	50	46	43	40	37	34,5	32								
B- NG 5/18E	4,7	2,7	B- NGM 5/18E	7,4	1,68	1,1	1,5			48,5	46	43,5	41,5	39,5	38	35,5	34	32	30,5	29	28					
B- NG 5/22E	4,7	2,7	B- NGM 5/22E	7,4	1,55	1,1	1,5			35,5	34,5	33	31,5	30,5	29,5	28	27	26	25	23,5	23	21,5	20,5	18,5	16,5	15,5
B- NG 6/18E	7,5	4,3				1,5	2			64,5	62	59	56	54	51	48,5	46	43,5	41,5	39	36,5					
			B- NGM 6/18E	9,2	2	1,5	2			59	57	54	51	48	45	43	40	37,5	35	33	30					
B- NG 6/22E	7,5	4,3				1,5	2			51,5	50	48,5	47	46	44,5	43	41,5	40	39	37,5	36,5	35	33,5	31	28,5	27
			B- NGM 6/22E	9,2	2	1,5	2			47	45	43,5	42	41	40	38	37	36	35	33	32	31	30	27	24	23
B- NG 7/16/A	9,15	5,3				2,2	3			89	83	77	72	67	62	58	54									
B- NG 7/18/A	9,15	5,3				2,2	3			74,5	71,5	68,5	65,5	63	60	57,5	55	53	51	49	47	45				
B- NG 7/22/A	9,15	5,3				2,2	3			59	57,5	56,5	55	54	52,5	51	50	48,5	47	45,5	44	42,5	41,5	38	35	34

P₁ Max. power input.

P₂ Rated motor power output.

B-NG, B-NGM = Bronze construction.

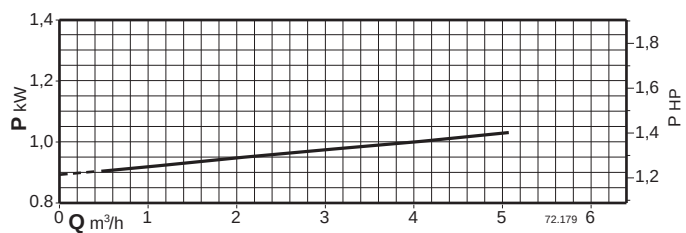
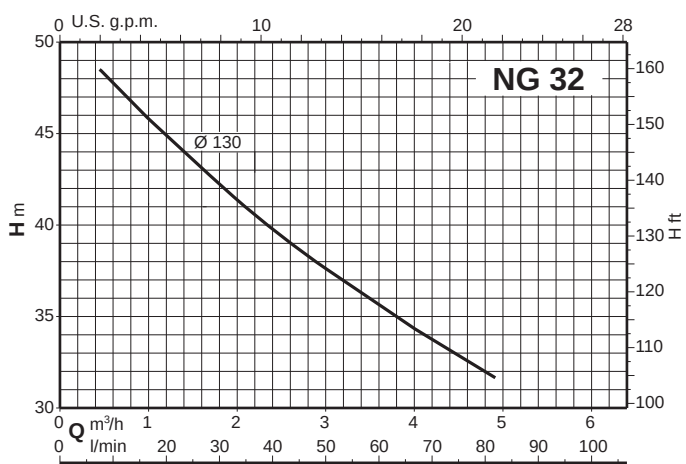
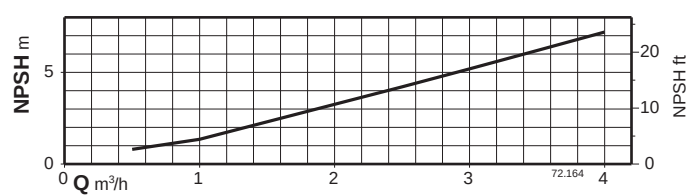
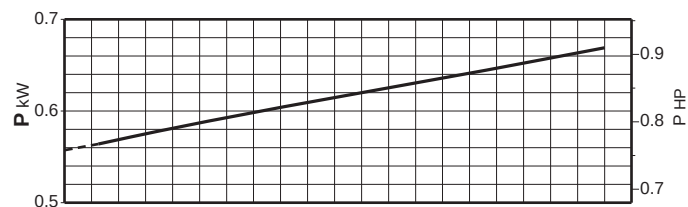
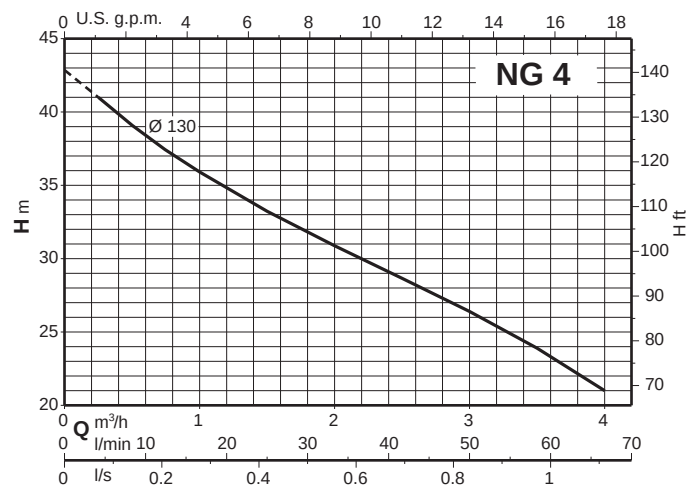
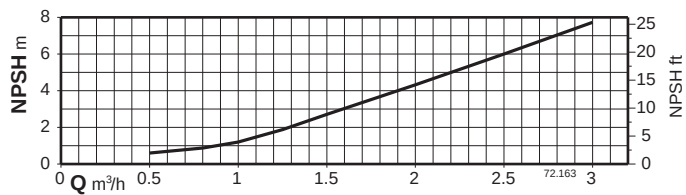
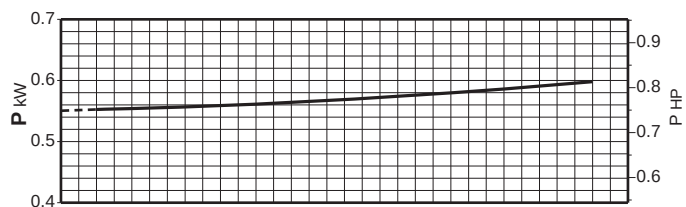
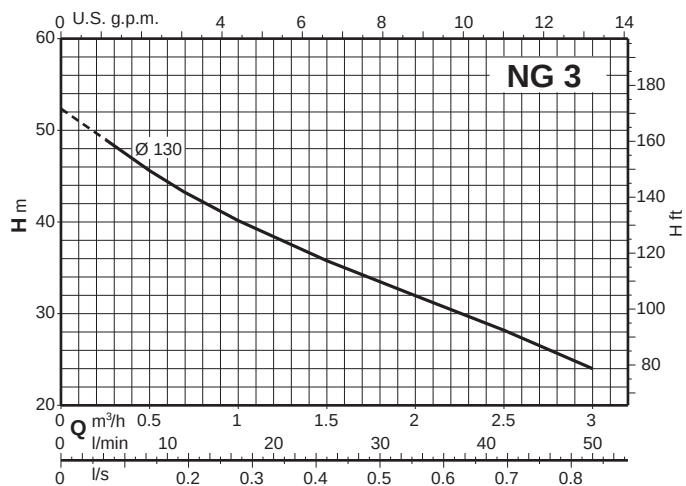
Tolerances according to UNI EN ISO 9906:2012



Self-Priming Pumps



Characteristic curves $n \approx 2900$ rpm

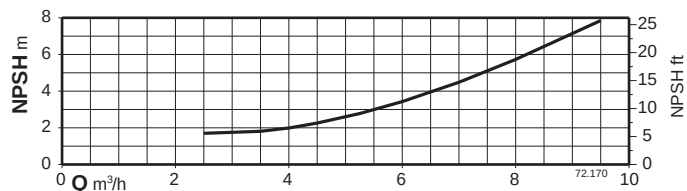
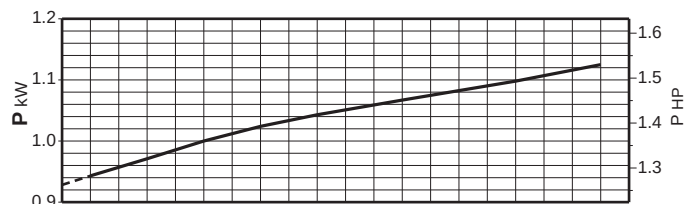
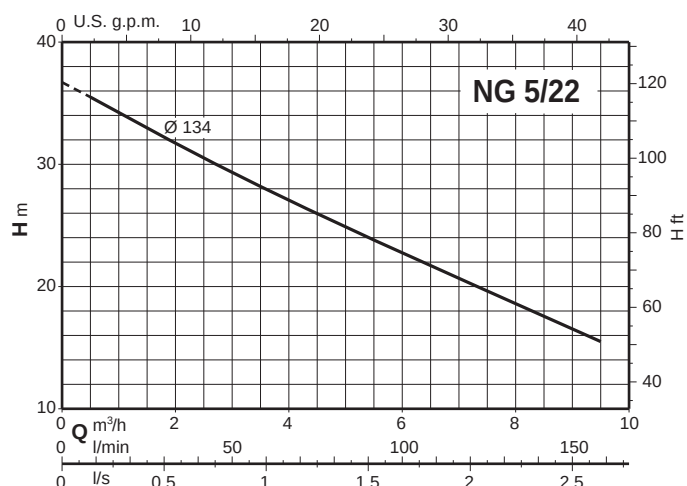
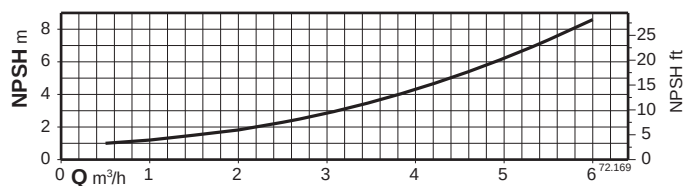
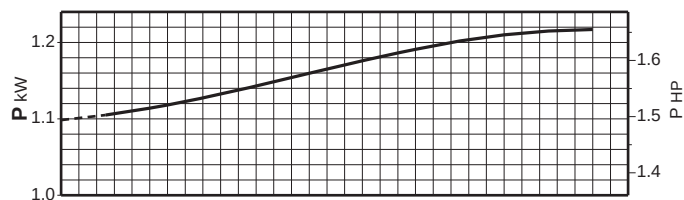
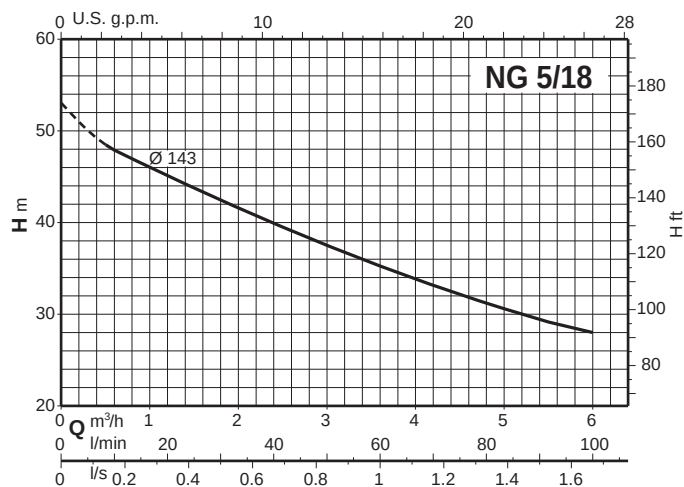
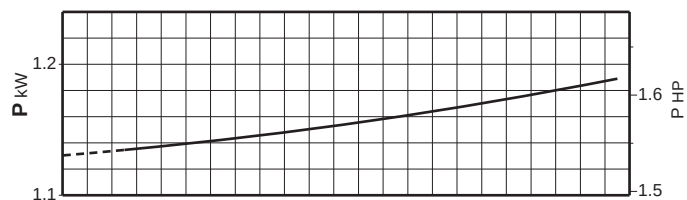
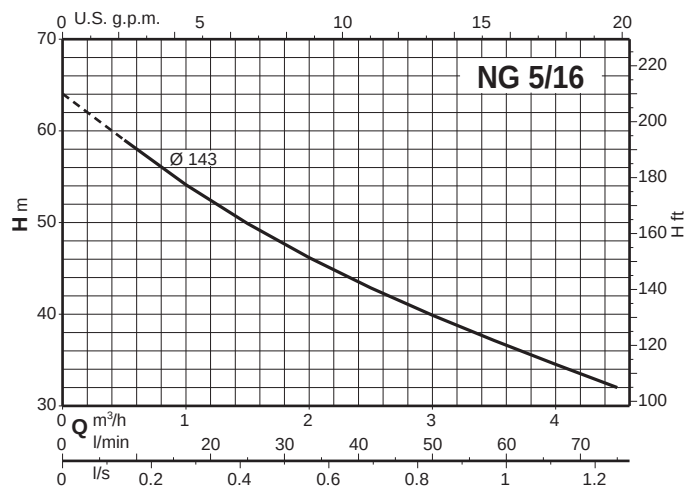




Self-Priming Pumps



Characteristic curves $n \approx 2900$ rpm

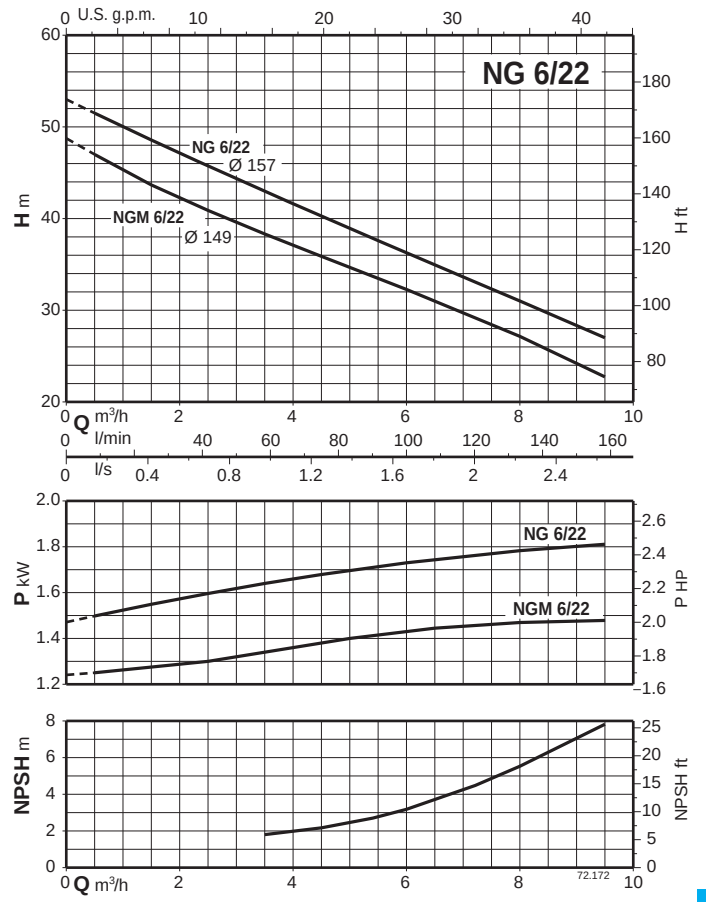
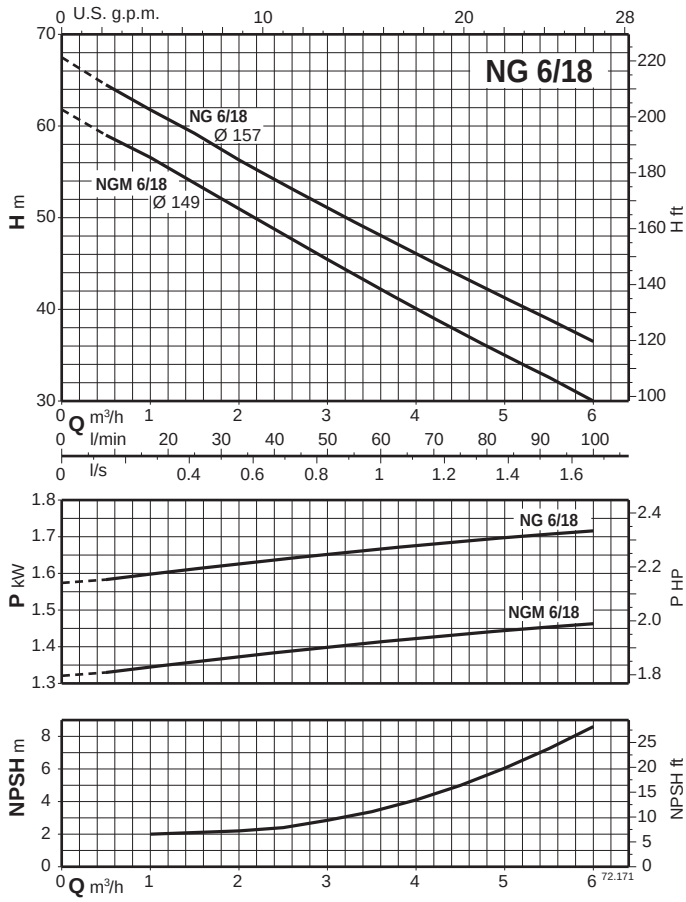




Self-Priming Pumps



Characteristic curves $n \approx 2900$ rpm

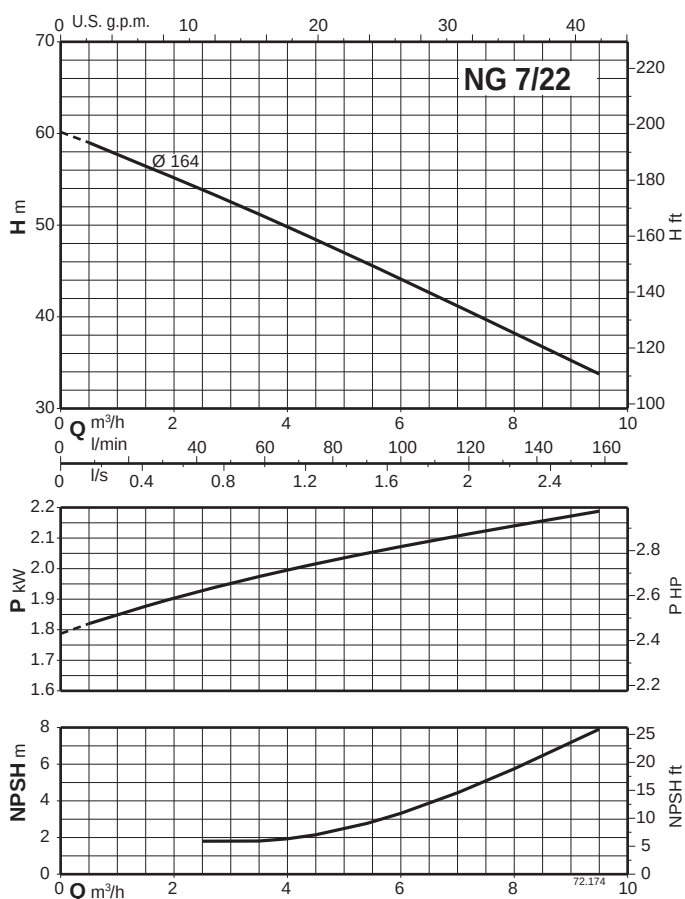
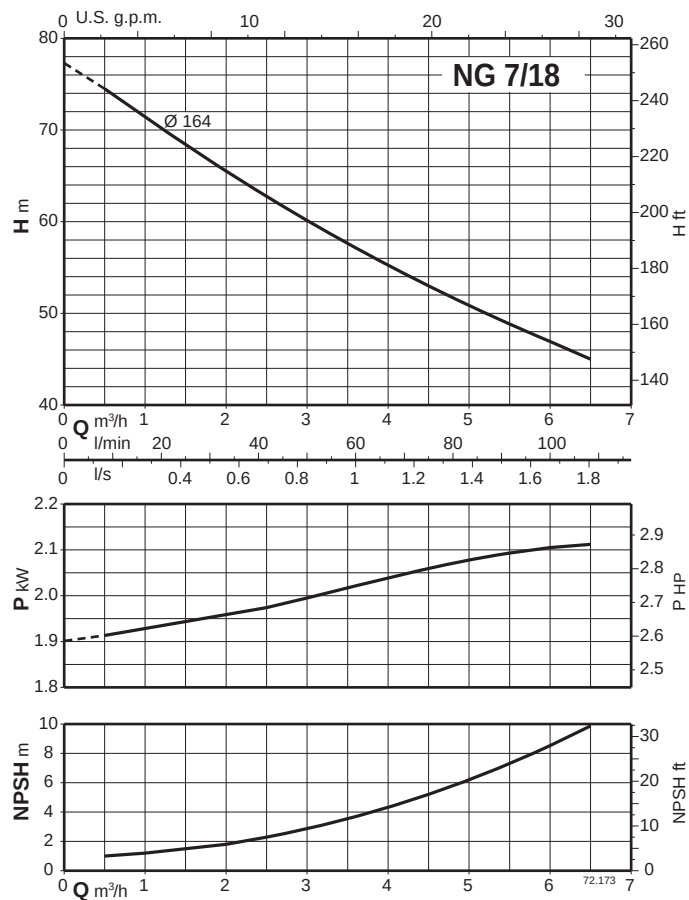
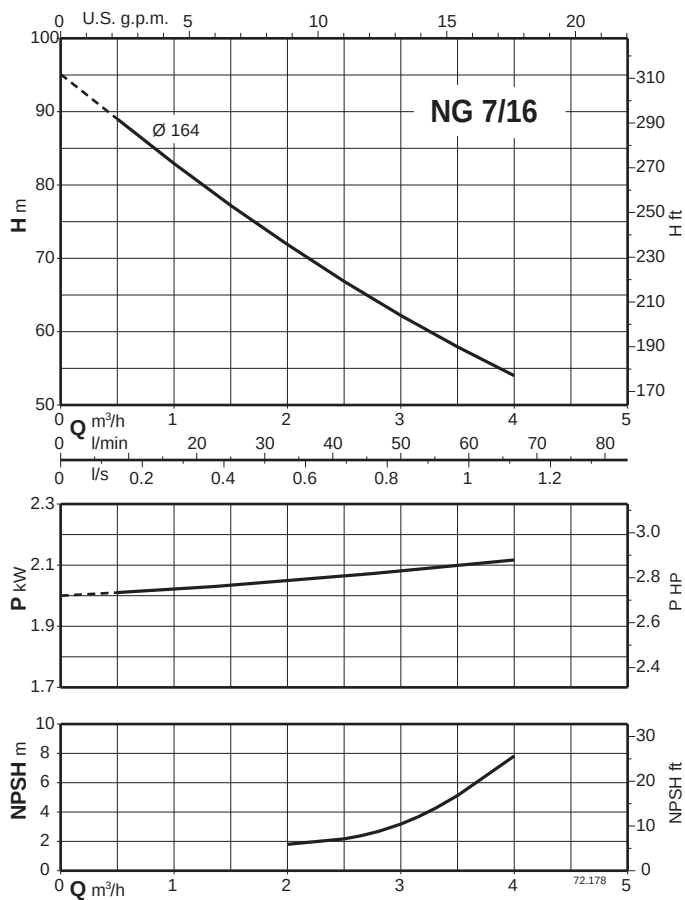




Self-Priming Pumps

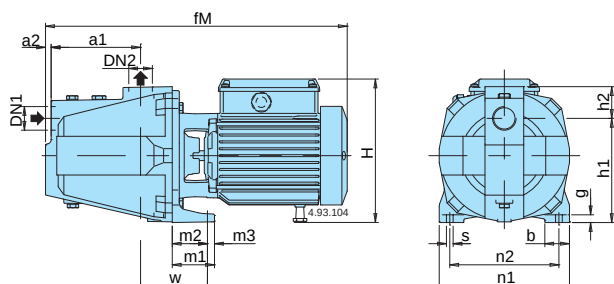


Characteristic curves $n \approx 2900$ rpm

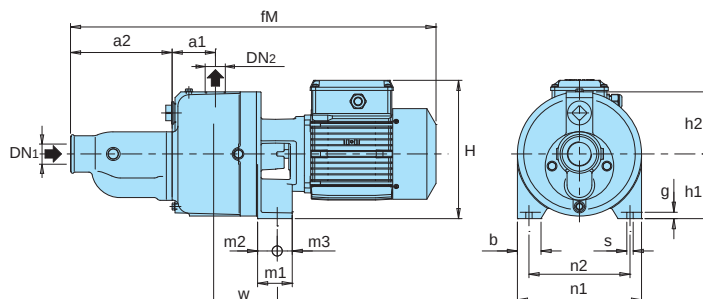


Dimensions and weights

NG 3/A,4/A,5E,6E,7/A



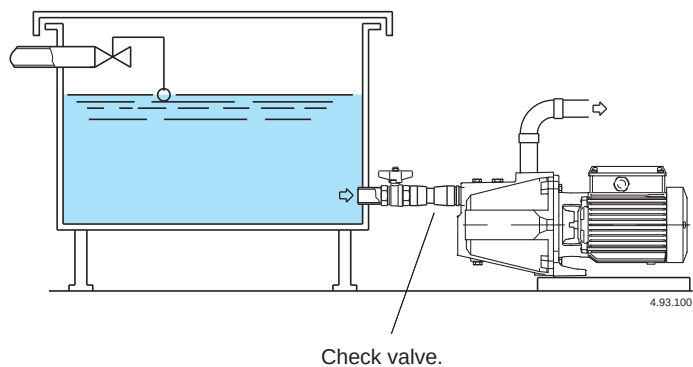
NG 32E



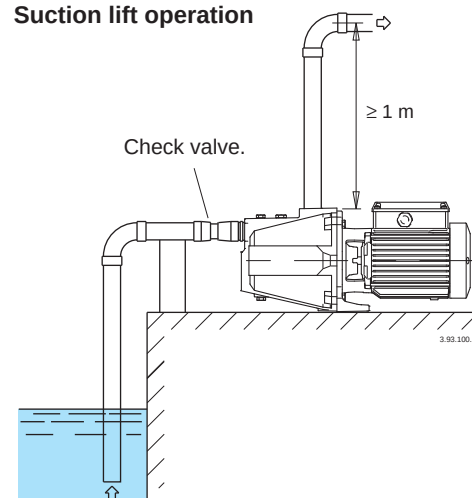
TYPE	DN ₁	DN ₂	mm																kg	
			ISO 228	a1	a2	fM	h1	h2	H	m1	m2	m3	n1	n2	b	s	w	g	NG	B-NG
NG 3/A NG 4/A	B-NG 3/A B-NG 4/A	G 1	G 1	127	8	430	150	43	207	60	52	8	185	155	35	9,5	100	11	18,4 19,2	20,8 21,5
NG 5E NG 6E NG 7/A	B-NG 5E B-NG 6E B-NG 7/A	G 1 1/2	G 1	160	10	560 560 600	165	57	240	60	50	10	215	175	40	11,5	115	11	29,2 30,8 31,3	31,6 32,9 33,4
NG 32E	-	G 1 1/2	G 1	75	175	557	112	108	222	60	34	26	215	175	40	11	106	10	38	-

Installation examples

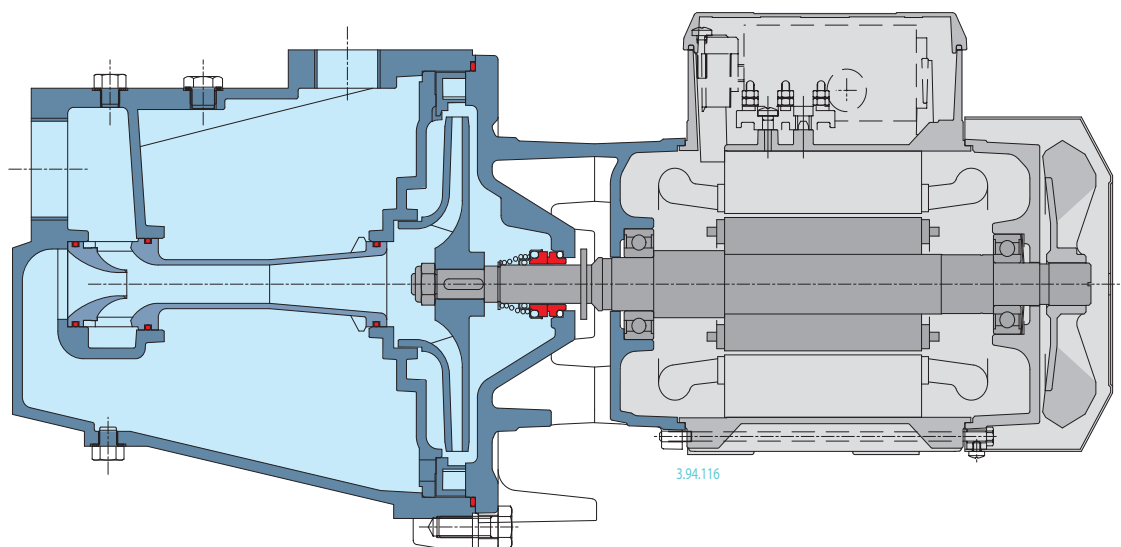
Positive suction head operation



Suction lift operation



Features



Robust

The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistance to mechanical stress.

Self priming

The hydraulic design allows the pump to self prime even with the high suction lifts or with long suction pipe runs above the water level.

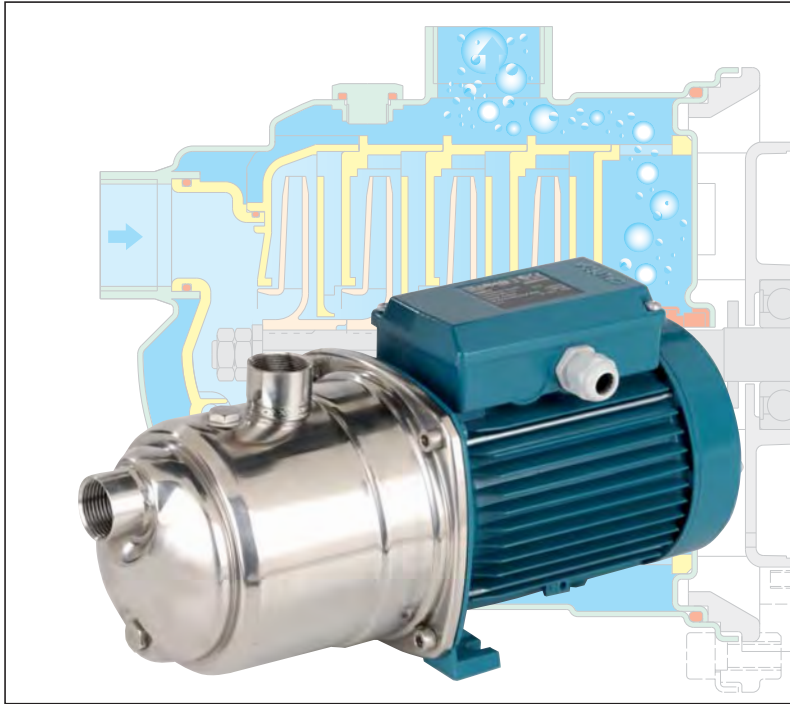
Flexible

The option to choose between cast iron and bronze materials for the hydraulic parts in contact with the pumped liquid allows NG series pumps to be selected for use with different types of liquids.

MXA

Multi-Stage Self-Priming Pumps

calpeda[®]



Construction

Horizontal multi-stage, self-priming, close coupled pump.

Single-piece barrel casing in chrome-nickel stainless steel, with front suction port above pumps axis and radial delivery at top.

Stages in Noryl.

Applications

For water supply.

For domestic use, for garden use and irrigation.

Operating conditions

Liquid temperature: 0 °C to +35 °C.

Ambient temperature up to +40 °C.

Suction lift up to 8 m.

Maximum permissible pressure in the pump casing: 8 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2800$ rpm).

MXA: three-phase 230/400 V $\pm 10\%$.

MXAM: single-phase 230 V $\pm 10\%$, with thermal protector.

Capacitor inside the terminal box.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.

EN 60335-1, EN 60335-2-41.

Special features on request

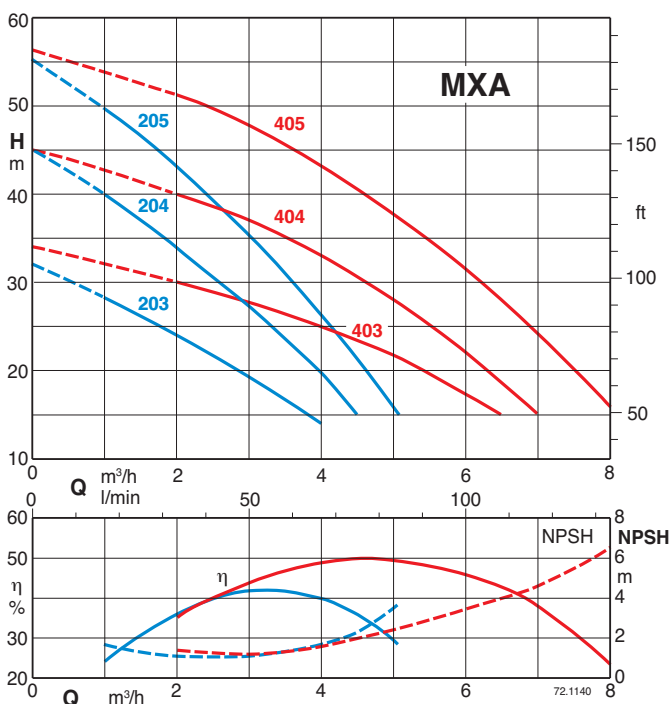
- Other voltages.

- Frequency 60 Hz (as per 60 Hz data sheet).

Materials

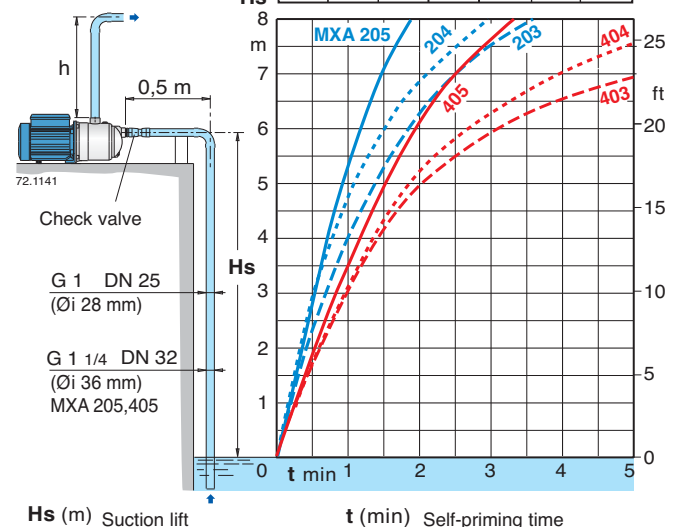
Component	Material
Pump casing	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Casing cover	Cr-Ni steel 1.4301 EN 10088 (AISI 304)
Pump Shaft	Chrome steel 1.4104 EN 10088 (AISI 430) Cr-Ni steel 1.4305 EN 10088 (AISI 303) for MXA 205,405
Plug	Cr-Ni steel 1.4305 EN 10088 (AISI 303)
Suction casing	PPO-GF20 (Noryl)
Stage casing	PPO-GF20 (Noryl)
Impeller	PPO-GF20 (Noryl)
Mechanical seal	Carbon - Ceramic - NBR

Characteristic curves $n \approx 2800$ rpm



Self-priming capability

H₂O, T = 20°C,
Pa = 1000 hPa (mbar)
50 Hz ($n \approx 2800$ 1/min)



MXA

Multi-Stage Self-Priming Pumps

calpeda[®]

Performance $n \approx 2800$ rpm

3 ~	230 V 400 V		1 ~	230 V		P ₁	P ₂	Q	m ³ /h	0	1	2	3	4	4,5	5		
	A	A		A	kW	kW	HP			l/min	0	16,6	33,3	50	66,6	75	83,3	
MXA 203	2,4	1,4	MXAM 203	3	0,63	0,45	0,6	H	m	32	28	24	19	14				
MXA 204/A	2,8	1,6	MXAM 204/A	4,2	0,8	0,55	0,75			45	40	34	27	20	15			
MXA 205/A	3,5	2	MXAM 205/A	5,4	1	0,75	1			55,5	50	43	35,5	26,5	21,5	15,5		

3 ~	230 V 400 V		1 ~	230 V		P ₁	P ₂	Q	m ³ /h	0	2	3	4	5	6	6,5	7	8
	A	A		A	kW	kW	HP			l/min	0	33,3	50	66,6	83,3	100	108,3	116,6
MXA 403/A	2,8	1,6	MXAM 403/A	4,2	0,9	0,55	0,75	H	m	34	30	28	25	22	17	15		
MXA 404/A	3,5	2	MXAM 404/A	5,4	1,2	0,75	1			45	40	37	33	28	22	19	15	
MXA 405/A	4,5	2,6	MXAM 405/A	7	1,5	1,1	1,5			56	51	47,5	43	37,5	31,5	28	24,5	15,5

P₁ Max. power input.

P₂ Rated motor power output.

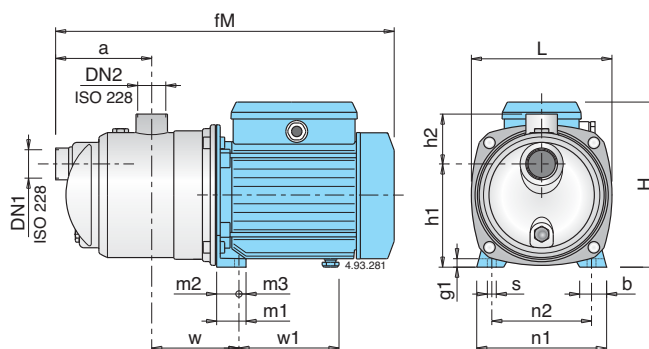
Test results with clean cold water, without gas content.

+ 0,5 m security margin on NPSH-value is necessary.

Tolerances according to UNI EN ISO 9906:2012

For capacities over 4 m³/h use a suction pipe G 1 1/4 (DN 32).

Dimensions and weights



TYPE	DN1 DN2		Dimensions																Net weight	
	ISO 228		mm																kg	
			fM	a	w	h1	h2	H	L	m1	m2	m3	n1	n2	b	s	g1	w1	MXA	MXAM
MXA 203 - MXAM 203	G 1	G 1	362	115	95	116	61	176	161	33	25	8	146	112	30	9	10	102	6,6	6,7
MXA 204/A - MXAM 204/A			391	115	95	116	61	192	161	33	25	8	146	112	30	9	10	112	8,7	9,6
MXA 205/A - MXAM 205/A			462	140	113	152	68	225	213,5	37,5	28	9,5	185	155	33	9,5	11	147	12,5	13,8
MXA 403/A - MXAM 403/A	G 1 1/4	G 1	391	115	95	116	61	192	161	33	25	8	146	112	30	9	10	112	8,6	9,5
MXA 404/A - MXAM 404/A			391	115	95	116	61	192	161	33	25	8	146	112	30	9	10	112	9,5	10,5
MXA 405/A - MXAM 405/A			462	140	113	152	68	225	213,5	37,5	28	9,5	185	155	33	9,5	11	147	14,5	14,5

Features

Extra safety

against running dry, with the suction port above pump axis and with the self-priming construction.

Robust

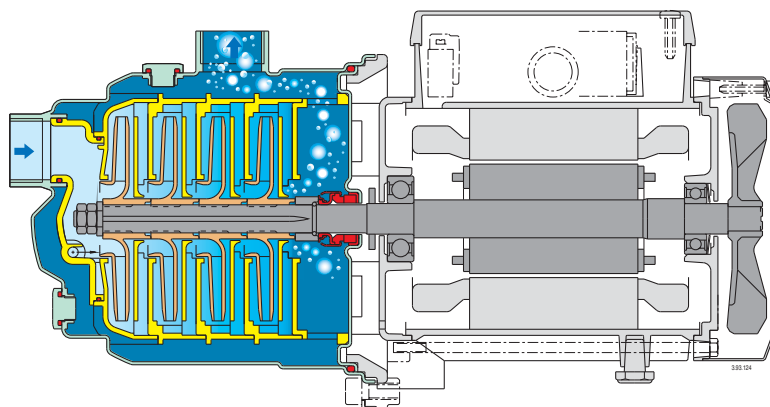
Single-piece barrel casing.

Compact

Single-piece lantern bracket and base.

Low noise

with the water-filled shroud around the stages.





Construction

Close-coupled gear pumps (rotary pumps).
Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line execution).

Applications

For fuel oil and liquids with lubricating properties.

Operating conditions

Kinematic viscosity from 30 mm²/s (4°E) to 120 mm²/s (15°E).
Liquid temperature up to 90 °C.
Ambient temperature up to 40 °C.
Total suction lift up to 4 m.
Continuous duty.

Motor

4-pole induction motor, 50 Hz (n ≈ 1450 rpm).

I, IR, IRR: three-phase 230/400 V ± 10%.

IM: single-phase 230 V ± 10%.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

Materials

Components	Materials
Pump casing	Cast iron GJL 200 EN 1561
Gears	Steel 18 Ni Cr Mo 5 UNI 8550
Shafts	Steel 18 Ni Cr Mo 5 UNI 8550
Radial shaft seal ring	FPM

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Higher ambient temperatures.

Performance n ≈ 1450 rpm

3 ~ 230 V 400 V				1 ~ 230 V P ₁			P ₂		n	Q	m ³ /h	0,6
		A	A		A	kW	kW	HP	rpm		l/min	10
I	25/4/A	1,4	0,8	IM25/4/A	2,1	0,4	0,25	0,34	1450	Δp bar		2
IR	25/4/A	2,1	1,2				0,37	0,5	1450			2,5
IRR	25/4/A	3,3	1,9				0,75	1	1450			5

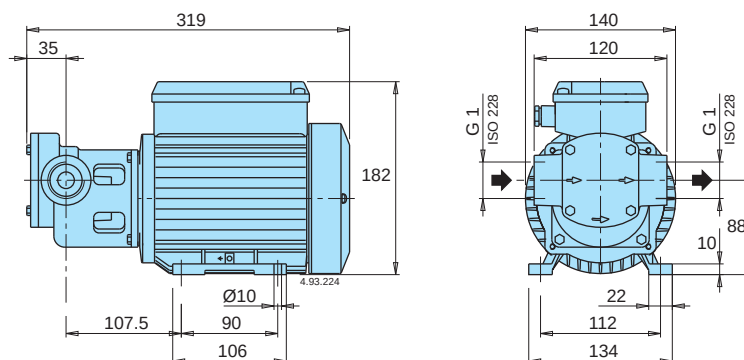
P₁ Max. power input.

P₂ Rated motor power output.

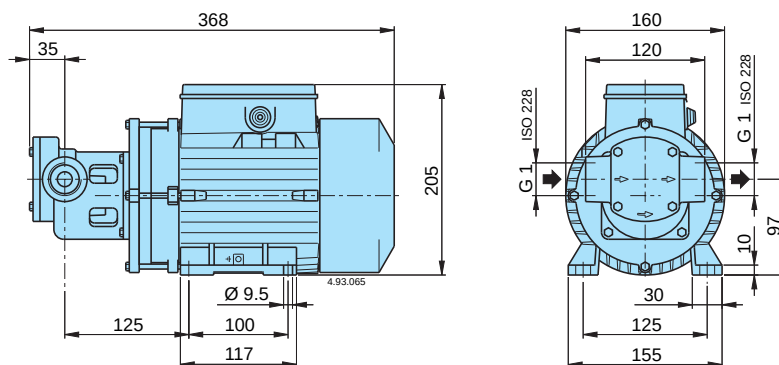
Δp Differential pressure.

Dimensions and weights

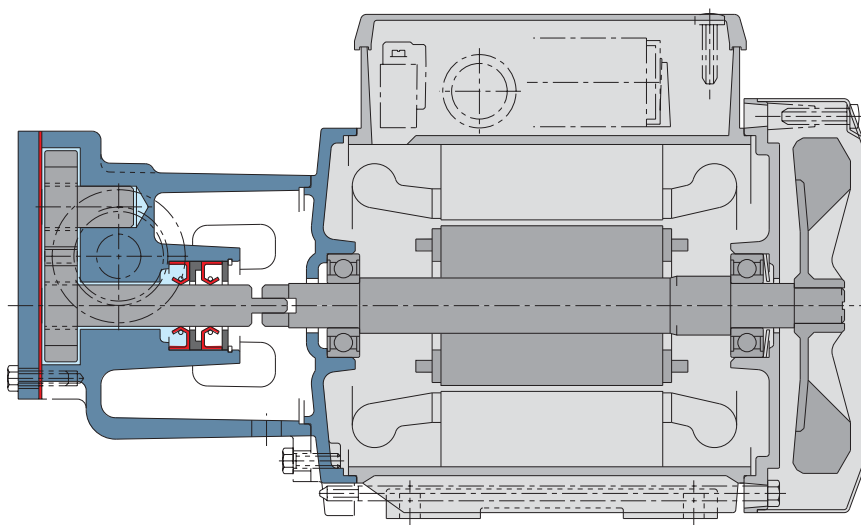
I 25/4/A: 10 kg
IM 25/4/A: 11,7 kg
IR 25/4/A: 11,6 kg



IRR 25/4/A: 17,6 kg



Features



Innovative structure

The flanged pump casing and two piece shaft allows the hydraulics to be disassembled easier, facilitating quick maintenance operations.

B-VT

Peripheral Immersion Pumps



Construction

Vertical close-coupled peripheral (regenerative) pumps with submerged turbine impeller, seal-less, reversible.
Port dimension to EN 12157.
Submerged depth 170 mm.

Applications

For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials. For the reduced dimensions, these pumps are very well suited for use with temperature, controllers chillers, and air-conditioning machines and systems.

Operating conditions

Liquid temperature: - with water up to 90 °C.
- oil up to 150 °C.

Max. kinematic viscosity: 20 mm²/s at 50 °C (2,9 °E).

Ambient temperature: up to 40 °C.

Max. depression 0,9 bar.

Continuous duty.

Motor

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

B-VT: three-phase 230/400 V ± 10% (220-240 / 380-415 V).

Insulation class F.

Protection IP 54.

Constructed in accordance with: EN 60034-1.

Materials

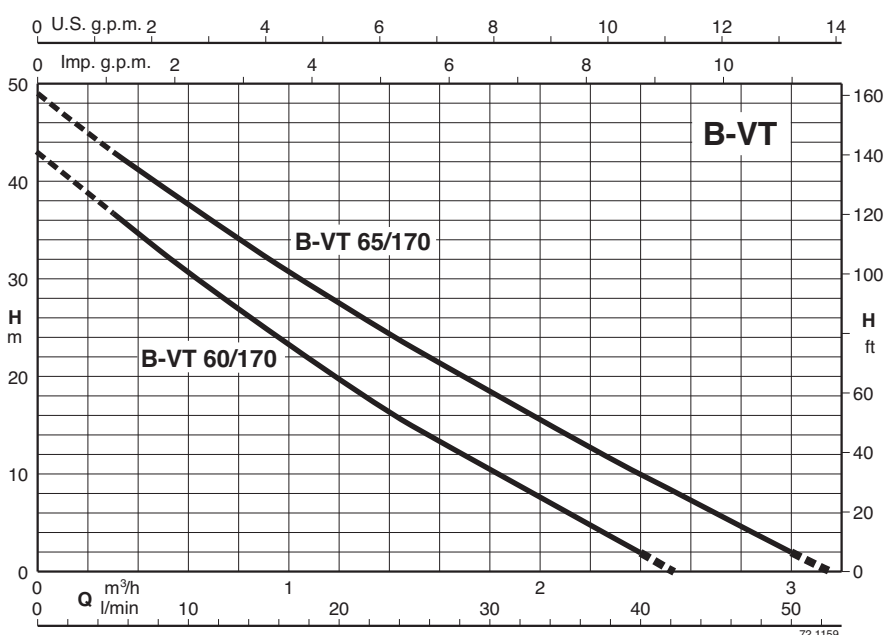
Components	Materials
Pump casing	Bronze G-Cu Sn 10 EN 1982
Casing cover	Bronze G-Cu Sn 10 EN 1982
Impeller	Brass P- Cu Zn Pb 2 UNI 5705
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)
Bearing sleeve	Corrosion-resistant Cr-Mo steel
Bearing in the casing	Polymer
Screws	Cr-Ni steel 1.4301 EN 10088 (AISI 304)

Special features on request

- Terminal box arrangement 2-3-4 in accordance with EN 12157.
- Oil temperature up to 180 °C.
- Other voltages.
- Frequency 60 Hz.
- Protection IP 55.

Characteristic curves with water at 20 °C ($\nu = 1 \text{ mm}^2/\text{s}$)

n ≈ 2900 rpm



B-VT

Peripheral Immersion Pumps



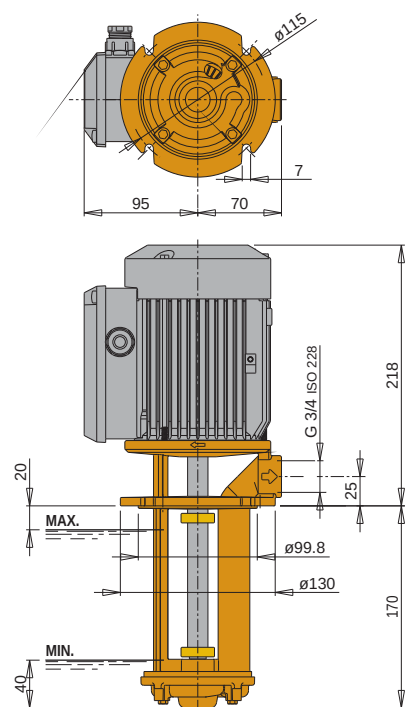
Performance $n \approx 2900$ rpm

3~	230V 400V		P ₂		Q m ³ /h l/min	0	0,3	0,48	0,6	0,75	0,96	1,2	1,5	1,89	2,4	3
	A	A	kW	HP		0	5	8	10	12,5	16	20	25	31,5	40	50
B-VT 60/170	1,9	1,1	0,33	0,45	H	43	37	33	30,5	27,5	23,5	19,5	15	8,5	2	
B-VT 65/170	2,8	1,6	0,45	0,6	m	48,5	42,5	39	37	34,5	31	27	23	17,5	10	2

P₂ Rated motor power output.

H Pump outlet head

Dimensions and weights

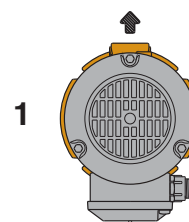


B-VT 60/170: kg 8,2
B-VT 65/170: kg 8,4

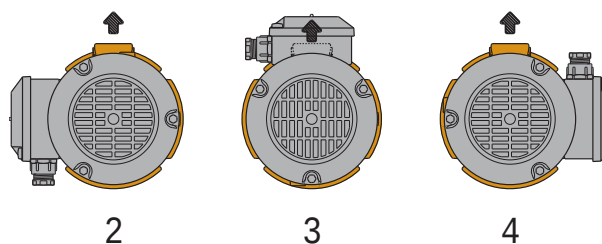
Terminal box arrangement (view from motor side)

EN 12157

1
Standard



2, 3, 4
On request



Features

Range

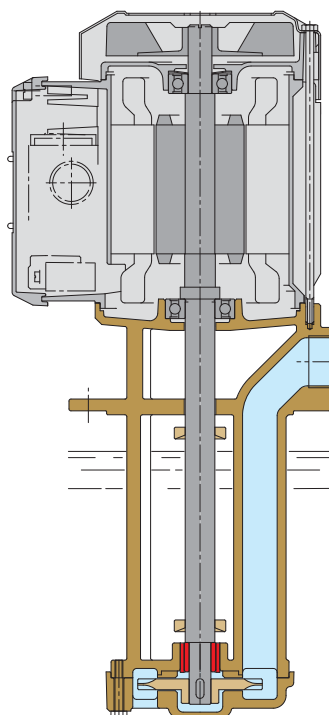
The high number of pumps in the range can meet the widest range of services required by the user.

Construction with no mechanical seal

The absence of a mechanical seal minimizes the need for maintenance of the pumps.

Float switch

The pumps can be fitted with a float switch, eliminating the need for level control systems.



VAL, SC

Vertical Submerged Pumps



Construction

Vertical column sump pumps, with motor in dry installation and with pump body submerged in the liquid handled (without suction line or foot valve).

Impeller - VAL: free-flow impeller (vortex or recessed impeller).
- SC: open impeller.

Connection - VAL 30, SC 30, SC 50: threaded port ISO 228 (BS 2779).
- VAL 65: flange with plain face oval threaded counter-flange UNI 2245, PN 2,5.

Applications

For draining a basin or a sump with domestic or industrial sewage. For slightly dirty waste water, for liquids which are non-aggressive for the pump materials.

Operating conditions

Liquid temperature up to 40 °C.

Ambient temperature up to 40 °C.

Continuous duty.

Maximum size of solids: VAL 30 = 25 mm; VAL 65 = 50 mm;
SC 30 = 3 mm; SC 50 = 6 mm.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

VAL -SC: three-phase 230/400 V $\pm 10\%$.

VALM-SCM: single-phase 230 V $\pm 10\%$, with thermal protector.

Insulation class F.

Protection IP 54.

Classification scheme IE2 for three-phase motors from 0,75 kW.

Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

Special features on request

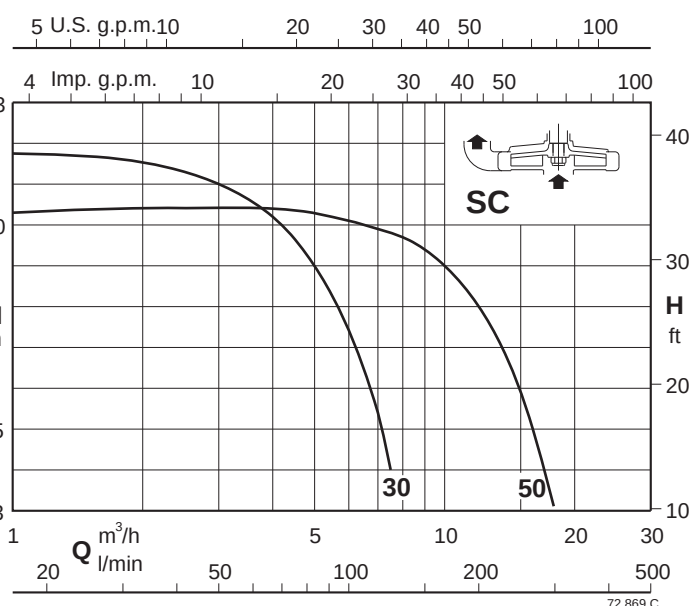
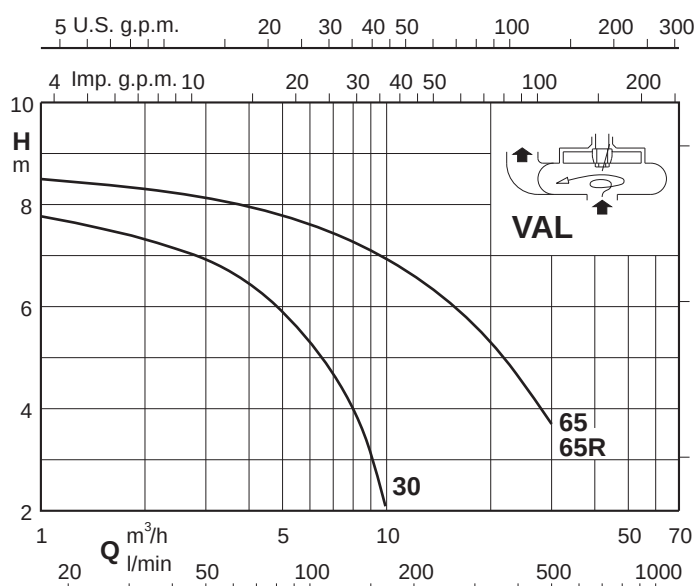
- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Bronze bearing bush (for liquid up to 100 °C).
- Higher ambient temperatures.

Materials

Components	VAL	SC
Pump casing Lower bearing housing*	Cast iron GJL 200 EN 1561	Cast iron GJL 200 EN 1561
Impeller	Brass P-Cu Zn 40 Pb 2 UNI 5705 for VAL 30	Brass P-Cu Zn 40 Pb 2 UNI 5705
	Cast iron GJL 200 EN 1561 for VAL 65	
Shaft	Steel C 40 UNI 7231	
Bearing bush	Tecnopolymer	
Shaft sleeve	Chromate bronze for VAL 65	—

* Not existing for VAL 30.

Characteristic curves $n \approx 2900$ rpm



VAL, SC

Vertical Submerged Pumps



Performance $n \approx 2900$ rpm

3 ~	230V 400V		1 ~	230V		P ₁	P ₂	Q m³/h	l/min	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	9	10	12	14	16	18	20	25	30
	A	A		A	kW	kW	HP			50	58,3	66,6	75	83,3	91,6	100	108	116	125	133	150	166	200	233	266	300	333	416	500
VAL 30/A	2,3	1,3	VALM 30/A	3,6	0,63	0,45	0,6	H m			6,7	6,5	6,2	5,9	5,6	5,3	5	4,7	4,3	4	3	2							
VAL 65E	7,5	4,3				1,5	2														7,1	6,9	6,6	6,3	6	5,6	5,3	4,5	3,7
VAL 65-R/A	9,15	5,3				2,2	3														7,1	6,9	6,6	6,3	6	5,6	5,3	4,5	3,7
SC 30/A	2,3	1,3	SCM 30/A	2,8	0,47	0,37	0,5			11	10,6	10,2	9,6	9	8,3	7,4	6,5	5,4	4										
SC 50/A	2,3	1,3	SCM 50/A	3,6	0,69	0,45	0,6							10,3	10,2	10,1	10	9,9	9,8	9,7	9,4	9	8	6,7	5	3			

P₁ Max. power input.

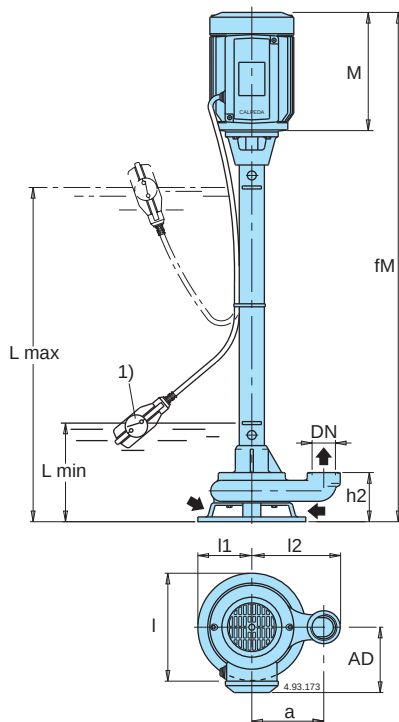
P₂ Rated motor power output.

H Total head in m.

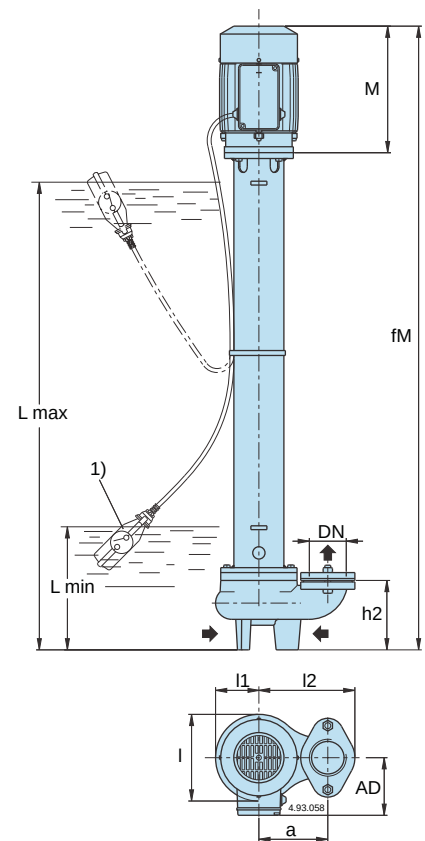
Tolerances according to UNI EN ISO 9906:2012

Dimensions and weights

VAL 30E
SC 30E
SC 50E



VAL 65E
VAL 65-R/A



1) Float switch (on demand)

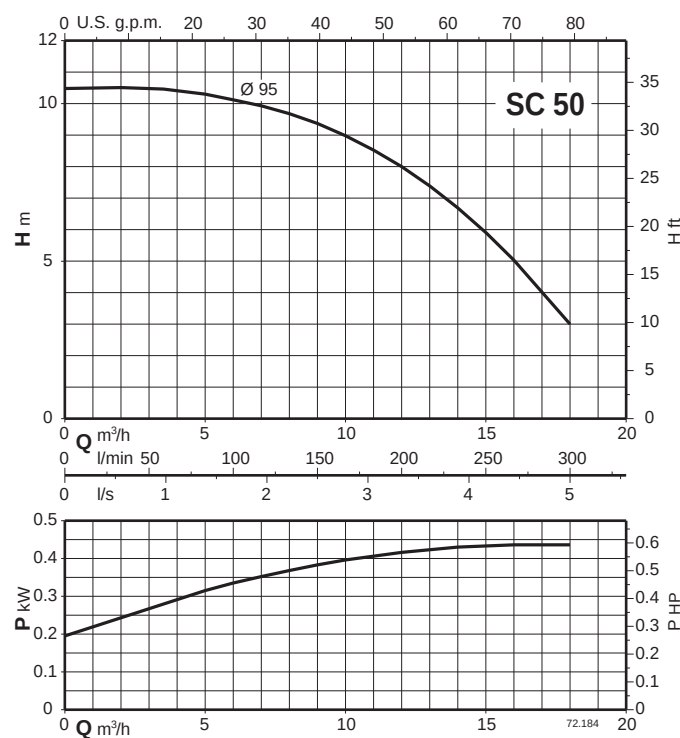
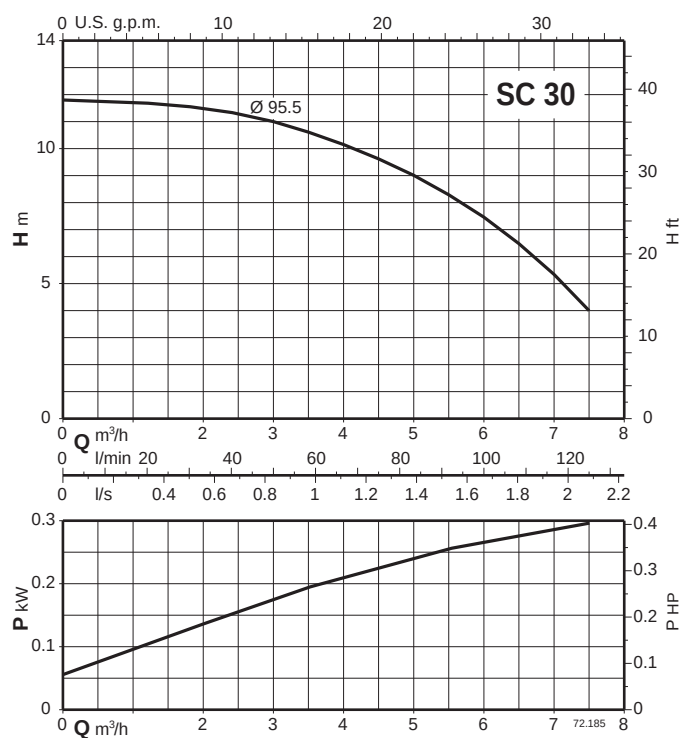
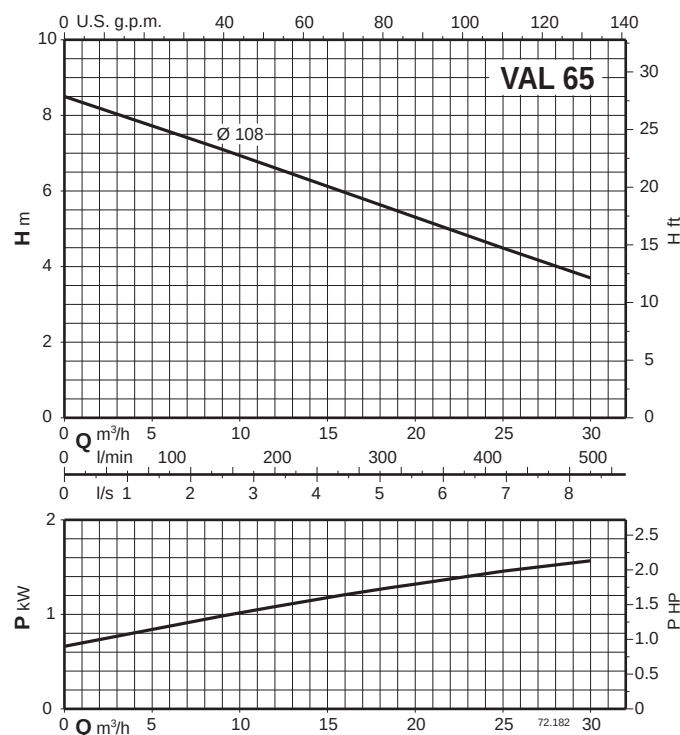
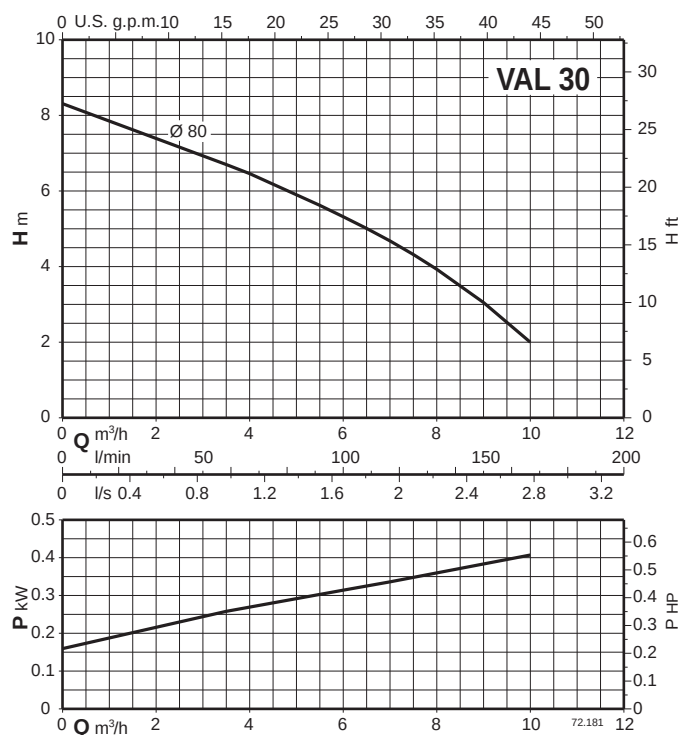
TYPE	DN ISO 228	mm										kg
		fm	M	h2	AD	a	L min	L max	I	l1	l2	
VAL 30/750/A	G 1 1/4	1025	200	82	111	120	150	750	180	90	148	17,8
VAL 30/1000/A		1275						1000				19,5
VAL 65/1000E		1245						950				40
VAL 65/1500E	G 2 1/2	1745	235	140	135	140	250	1450	175	88	195	48
VAL 65/2000E		2245						1950				56
VAL 65/2500E		2745						2450				64
VAL 65/1000-R/A	G 2 1/2	1285	275	140	135	140	250	950	175	88	195	43
VAL 65/1500-R/A		1785						1450				51
VAL 65/2000-R/A		2285						1950				59
VAL 65/2500-R/A	G 2 1/2	2785	275	140	135	140	250	2450	175	88	195	67
SC 30/500/A		765						455				17,4
SC 30/750/A		1015						705				19,6
SC 30/1000/A	G 1 1/4	1265	200	105	111	100	200	955	132	65	127	21,8
SC 30/1250/A		1515						1205				24
SC 50/500/A		780						470				18,5
SC 50/750/A	G 2	1030	200	120	111	120	215	720	173	86	157	20,7
SC 50/1000/A		1280						970				22,9
SC 50/1250/A		1530						1220				25,1

VAL, SC

Vertical Submerged Pumps

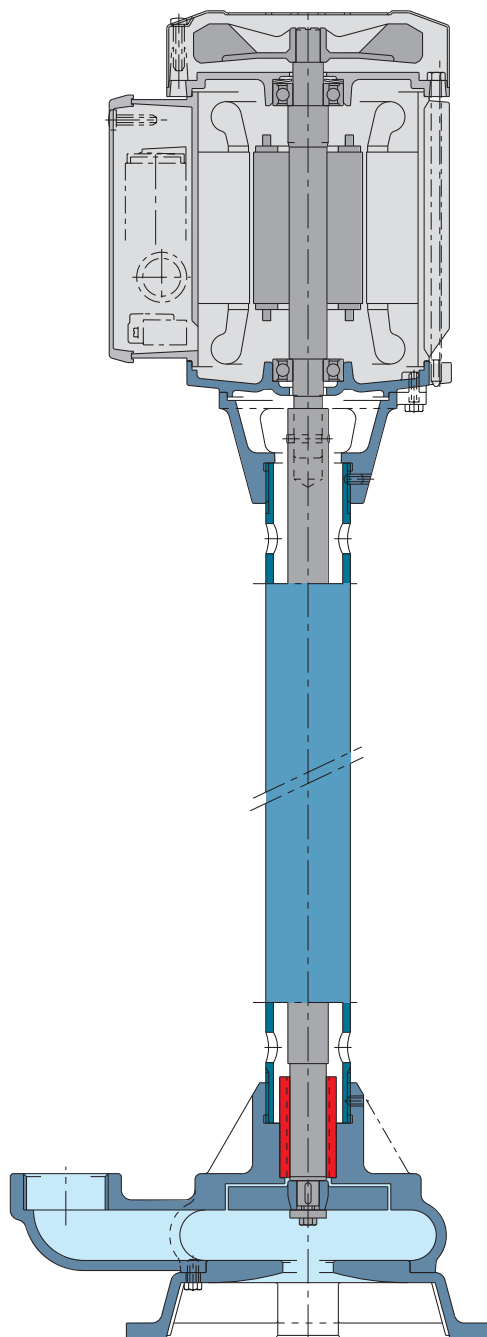


Characteristic curves $n \approx 2900$ rpm



27

Features



Range

The high number of pumps in the range can meet the widest range of services required by the user.

Construction with no mechanical seal

The absence of a mechanical seal minimizes the need for maintenance of the pumps.

Float switch

The pumps can be fitted with a float switch, eliminating the need for level control systems.

GM 10

Submersible Drainage Pump



Construction

Submersible drainage pump constructed with composite polymers developed especially for this product.

These new rustproof materials are resistant to corrosion, indeformable at maximum temperature differentials in the pump and motor and resistant to internal and external strain.

Shaft of chrome steel AISI 430. Three lip seals in NBR.

With float switch for automatic start/stop.

Applications

For clean or slightly dirty water.

For draining flooded rooms or tanks.

Extraction of water from ponds, flowing water or pits for collection of rain water. For irrigation purposes.

For use outdoor, the power supply cable shall have a length not less than 10 m.

Operating conditions

Maximum liquid temperature for prolonged use: 35 °C (with immersed motor).

Immersion depth: 5 m max (with suitable cable length).

Not suitable for continuous duty for prolonged time.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

Single-phase 230 V $\pm 10\%$, with thermal protector.

Capacitor inserted in the housing incorporated in the plug.

Cable: with plug, length 5 m, 245IEC57 4 G 0,75 mm², according to EN 60335-2-41 for pumps up to 5 kg.

Insulation class B.

Protection IP 68.

Triple impregnation humidity-proof dry winding.

Special features on request

Other voltages.

Frequency 60 Hz (as per 60 Hz data sheet).

Cable H07RN8-F, 4 G 1 mm², length 10 m, without plug.

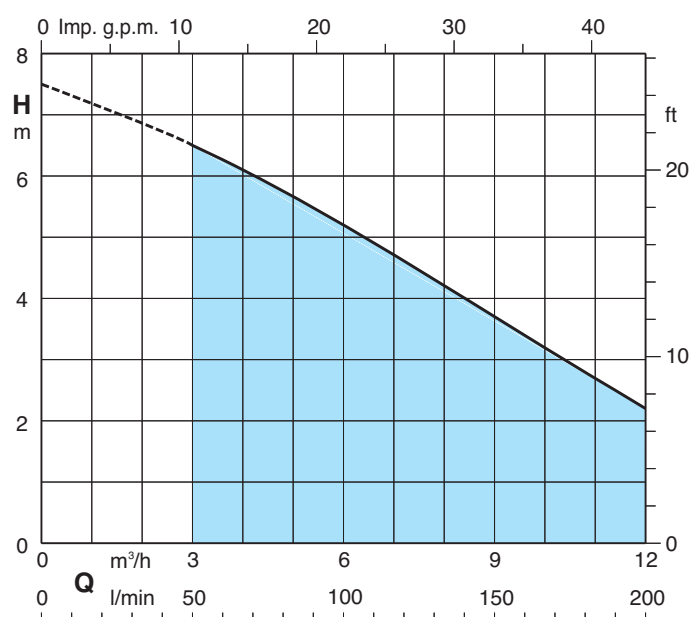
Control box with capacitor, for pumps with cable without plug.

Without float switch.

With elbow on discharge port.

Motor suitable for operation with frequency converter.

Characteristic curve and performance $n \approx 2900$ rpm



1~	230V	Capacitor		P ₁	P ₂		Q m³/h l/min	0	3	6	9	12
		A	μF	V	kW	kW		HP	0	50	100	150
GM 10	1,75	6,3	450	0,4	0,3	0,4	H m	7,5	6,5	5,2	3,7	2,2

P1 Max. power input

P2 Rated motor power output

H Total head in m

GM 10

Submersible Drainage Pump

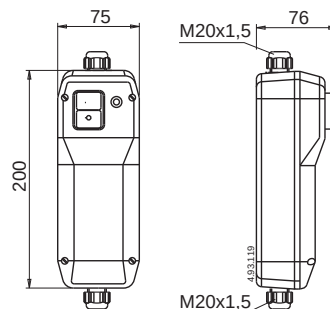
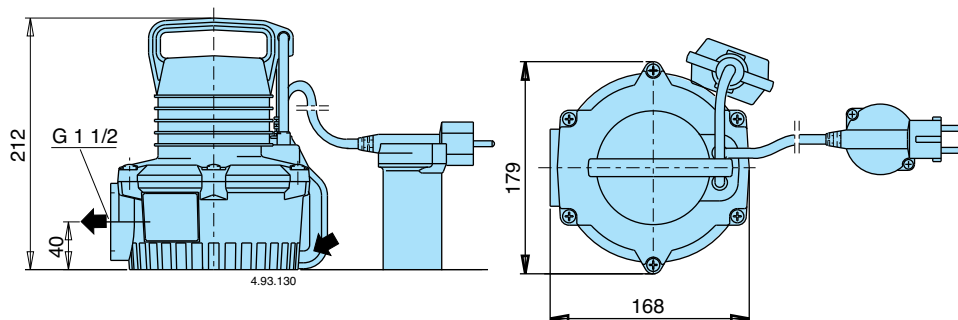


Dimensions and weights

Weight kg 5

Control box (on request)

Type	Capacitor	Weight
QM 10	6,3 μ F 450 V	0,4 kg



Installation examples

Features

Maximum reliability

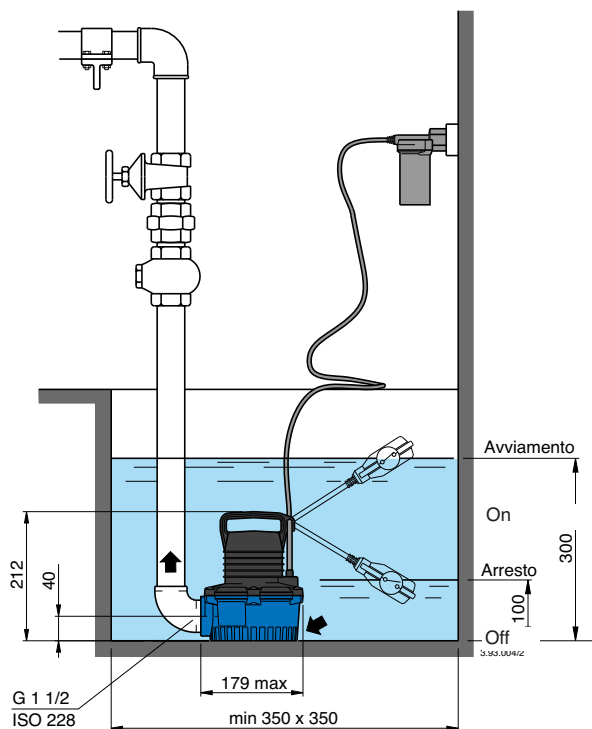
A metal support ensures correct alignment between the pump shaft and the motor also in heavy duty conditions.

A threaded metallic insert in the delivery port allows for secure connection of the delivery pipe or fitting without any risk of damaging the pump.

A suction strainer prevents solids bigger than 8 mm grain size from entering the pump.

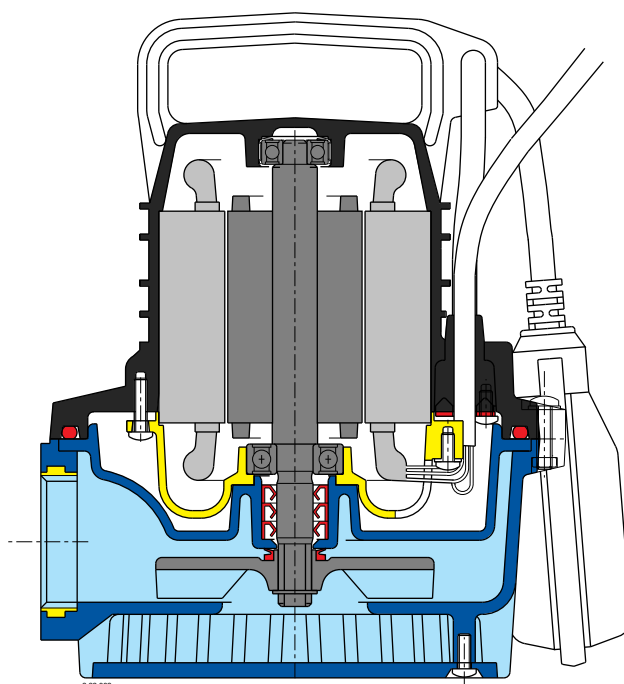
Compact

Minimum dimension and high levels of performance, for use in many different applications, for flow rates up to 200 liters/min.



Low cost installation

Immersed without suction pipe and valve. No filling operations at start-up, no suction problems and greater safety against running dry.



GXR, GXV

Submersible Pumps
in stainless steel



Materials

Component	Material
Pump casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Strainer	
Impeller	
Motor jacket	
Pump jacket	
Handle	Polypropylene
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Other features on request

- Other voltages. - Frequency 60 Hz. - Other mechanical seal. - Cable length 10 m.
- Vertical magnetic float switch. - Motor suitable for operation with frequency converter.

Construction

Single-impeller submersible pumps in chrome-nickel stainless steel, with vertical delivery port.

GXR: with open impeller.

GXV: with free-flow (vortex) impeller.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

Double shaft seal with oil chamber.

Applications

- GXR:**
- For clean water containing solids up to 10 mm grain size.
 - For draining rooms or emptying tanks.
 - Extraction of water from ponds, streams or pits and for rainwater collection.
 - For irrigation purposes.

- GXV:**
- For clean or slightly dirty water, containing solids up to 25 mm grain size.
 - Particularly suitable for liquids with a high solid content.

For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60 335-2-41.

Operating conditions

Liquid temperature up to 50° C.

Maximum immersion depth: 5 m.

Minimum water level with float: GXR = 70 mm, GXV = 130 mm.

Minimum water level manual operation: GXR = 15 mm, GXV = 30 mm.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

GXR, GXV: three-phase 230 V $\pm 10\%$;
three-phase 400 V $\pm 10\%$;

GXRM, GXVM: single-phase 230 V,
with float switch and thermal protector.
Incorporated capacitor.

Insulation class F.

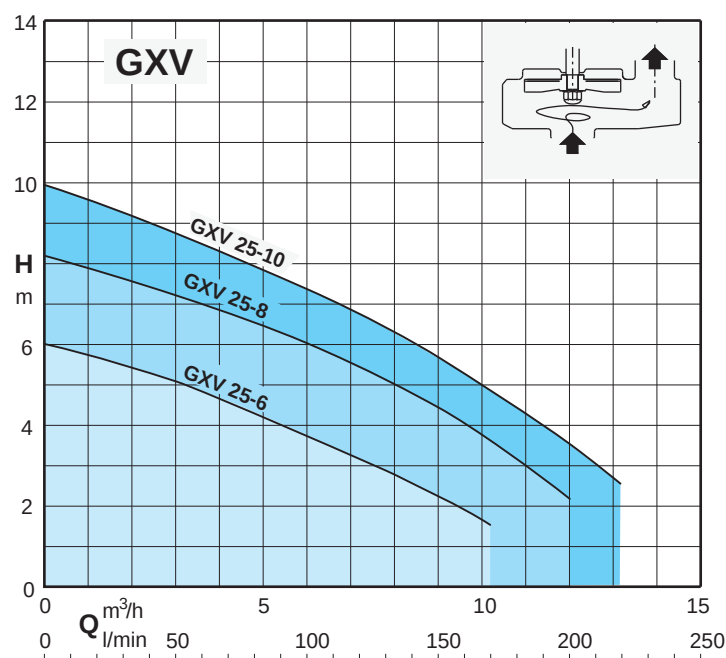
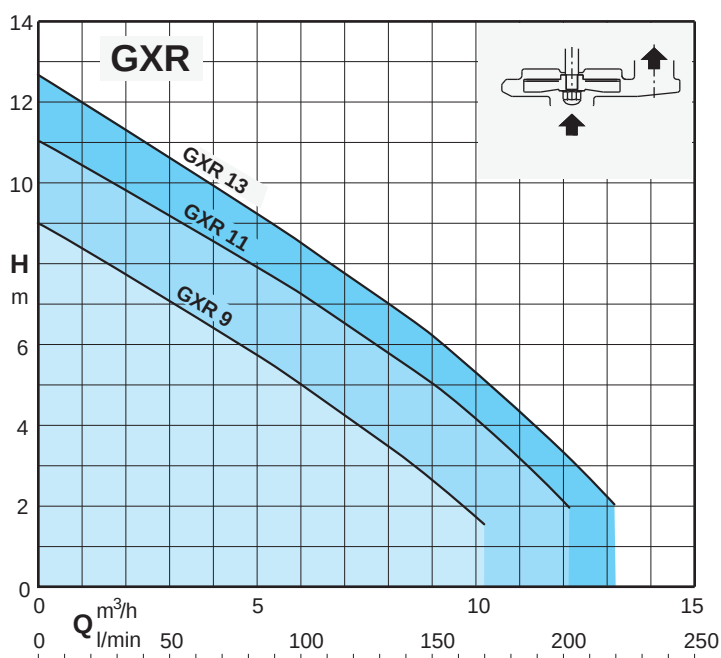
Protection IP X8 (for continuous immersion)

Double impregnation humidity-proof dry winding.

Constructed in accordance with: EN 60034-1;

EN 60335-1, EN 60335-2-41.

Characteristic curves $n \approx 2900$ rpm



GXR, GXV

Submersible Pumps in stainless steel

calpeda[®]

Performance n ≈ 2900 rpm

3~	230V 400V		1~	230V		Capacitor		P1	P2		Q m³/h l/min	0	1,2	3	4,5	6	7,5	9	10,2	12	13,2
	A	A		A	μf	Vc	kW		kW	HP		0	20	50	75	100	125	150	170	200	220
GXR 9	1,6	0,9	GXRM 9	2,5	8	450	0,5	0,25	0,33	H m	9	8,3	7	6	4,8	3,6	2,5	1,7			
GXR 11	2,3	1,3	GXRM 11	3,5	12,5	450	0,7	0,37	0,5		11	10,4	9,5	8,5	7,5	6,5	5,3	4,2	2,2		
GXR 13	2,8	1,6	GXRM 13	4,5	16	450	0,95	0,45	0,6		12,7	11,7	10,7	9,7	8,5	7,3	6,3	5,2	3,2	2	

3~ 230V 400V			1~ 230V Capacitor P1				P2		Q m³/h l/min	0	1,2	3	4,5	6	7,5	9	10,2	12	13,2	
	A	A		A	µf	Vc	kW	kW		HP	0	20	50	75	100	125	150	170	200	220
GXV 25-6	1,6	0,9	GXVM 25-6	2,5	8	450	0,5	0,25	0,33	H m	6	5,7	5,2	4,5	3,8	3	2,2	1,5		
GXV 25-8	2,3	1,3	GXVM 25-8	3,5	12,5	450	0,7	0,37	0,5		8,2	7,8	7,2	6,7	6,1	5,4	4,5	3,6	2,2	
GXV 25-10	2,8	1,6	GXVM 25-10	4,5	16	450	0,95	0,45	0,6		10	9,5	8,7	8	7,3	6,5	5,7	4,9	3,7	2,6

P1 Max. power input.

P2 Rated motor power output.

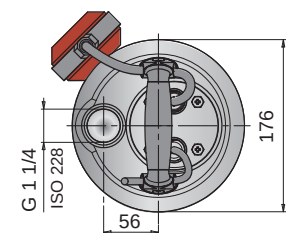
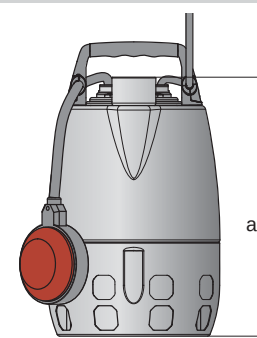
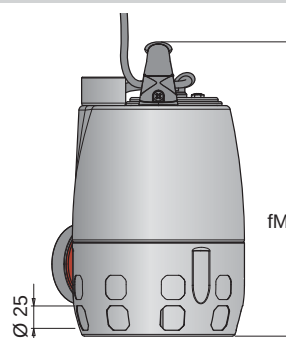
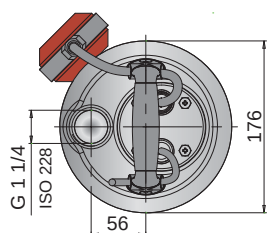
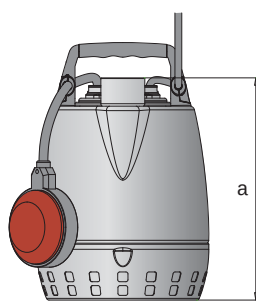
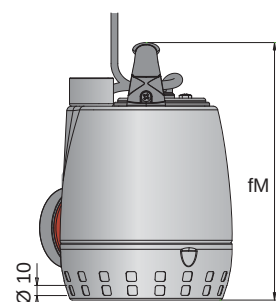
Density $\rho = 1000 \text{ kg/m}^3$.

Kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Tolerances according to UNI EN ISO 9906:2012

Pump type	Power supply cable				Float switch	
	Cable material	Section	Length	Plug CEE 7(VII)	Cable material	Section
GXRM 9 GXVM 25-6	H05RN-F	3G0,75 mm²	5 m	YES	H07RN-F	3G1 mm²
GXRM 11, 13 GXVM 25-8, 25-10	H07RN-F	3G1 mm²	5 m	YES	H07RN-F	3G1 mm²
GXR 9 GXV 25-6	H05RN-F	4G0,75 mm²	5 m	NO	NO	-
GXR 11, 13 GXV 25-8, 25-10	H07RN-F	4G1 mm²	5 m	NO	NO	-

Dimensions and weights



TYPE	Dimensions mm		(1) kg	
	fM	a	GXR	GXRM
GXR 9 - GXRM 9	265	230	5	5,2
GXR 11 - GXRM 11	300	265	6,2	6,5
GXR 13 - GXRM 13	300	265	6,7	7,2

(1) With cable length: 5 m

TYPE	Dimensions mm		(1) kg	
	fM	a	GXV	GXVM
GXV 25-6 - GXVM 25-6	302	267	5,1	5,3
GXV 25-8 - GXVM 25-8	337	302	6,3	6,6
GXV 25-10 - GXVM 25-10	337	302	6,8	7,3

(1) With cable length: 5 m

GXR, GXV

Submersible Pumps
in stainless steel



Features

PATENTED

G 1 1/4 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

Minimum dimension and high levels of performance, for use in many different applications, head up to 12,7 m and flow rates up to 220 liters/min.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Handle in polypropylene.

Easy inspection of the capacitor area.

Shaft in chrome-nickel stainless steel.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

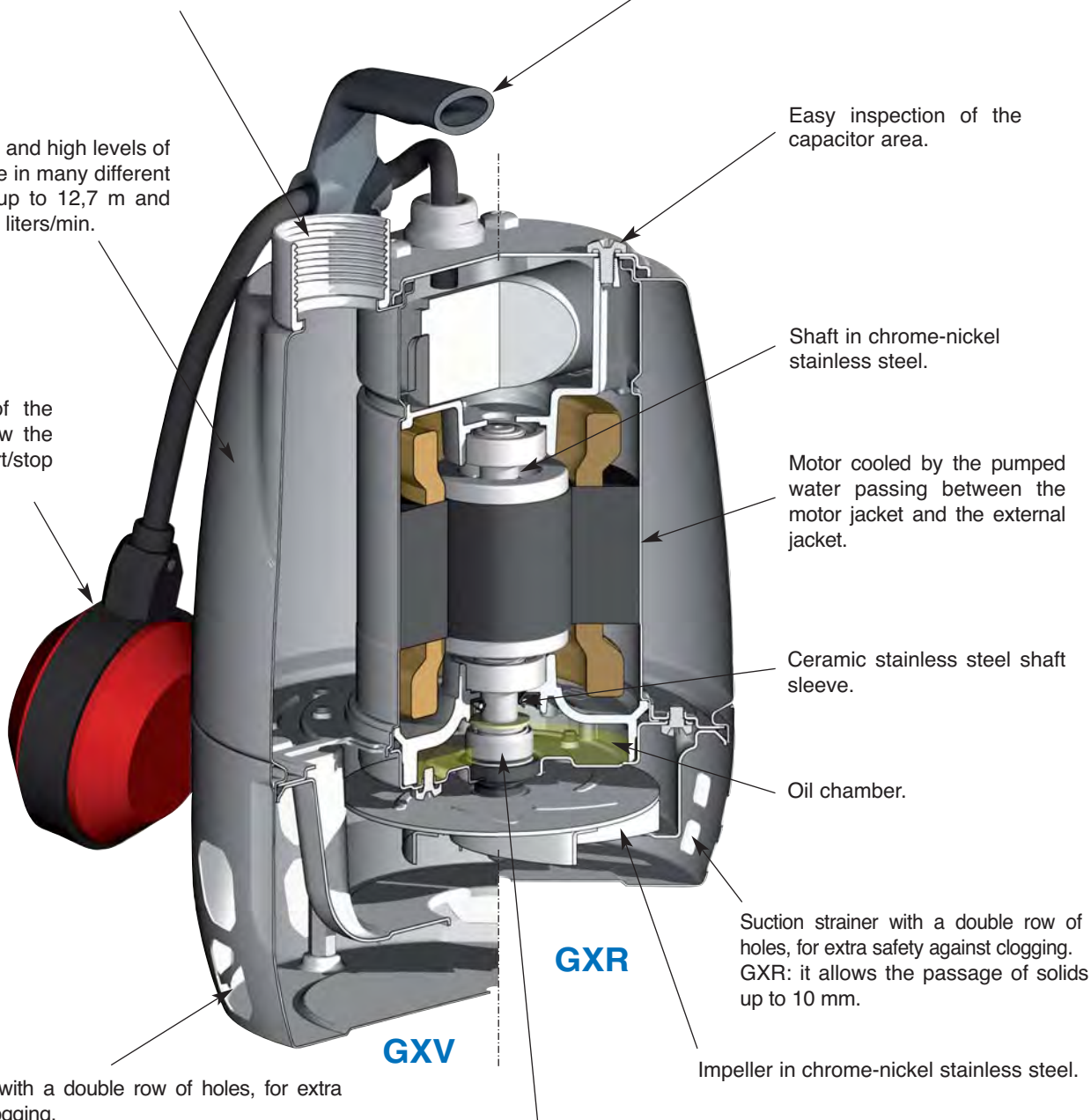
Ceramic stainless steel shaft sleeve.

Oil chamber.

Suction strainer with a double row of holes, for extra safety against clogging. GXR: it allows the passage of solids up to 10 mm.

Impeller in chrome-nickel stainless steel.

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.



Suction strainer with a double row of holes, for extra safety against clogging. GXV: it allows the passage of solids up to 25 mm.

GXR 12

Submersible Pumps in stainless steel



Materials

Component	Material
Pump casing Strainer Impeller Motor jacket Pump jacket	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Handle	Polypropylene
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Construction

Single-impeller submersible pumps in chrome-nickel stainless steel, with vertical delivery port.

GXR: with open impeller.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

Double shaft seal with oil chamber.

Applications

- For clean water containing solids up to 12 mm grain size.
- For draining rooms or emptying tanks.
- Extraction of water from ponds, streams or pits and for rainwater collection.
- For irrigation purposes.

For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60 335-2-41.

Operating conditions

Liquid temperature up to 50° C.

Maximum immersion depth: 5 m.

Minimum water level with float: 70 mm.

Minimum water level manual operation: 15 mm.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

GXR: three-phase 230 V $\pm 10\%$;

three-phase 400 V $\pm 10\%$;

Cable: H07RN-F, 4G1 mm², length 10 m, without plug.

GXRm: single-phase 230 V,

with float switch and thermal protector.

Incorporated capacitor.

Cable: H07RN-F, 3G1 mm² (3G1,5 mm² for 1,5 kW), length 10 m, with plug CEI-UNEL 47166.

Insulation class F.

Protection IP X8 (for continuous immersion)

Double impregnation humidity-proof dry winding.

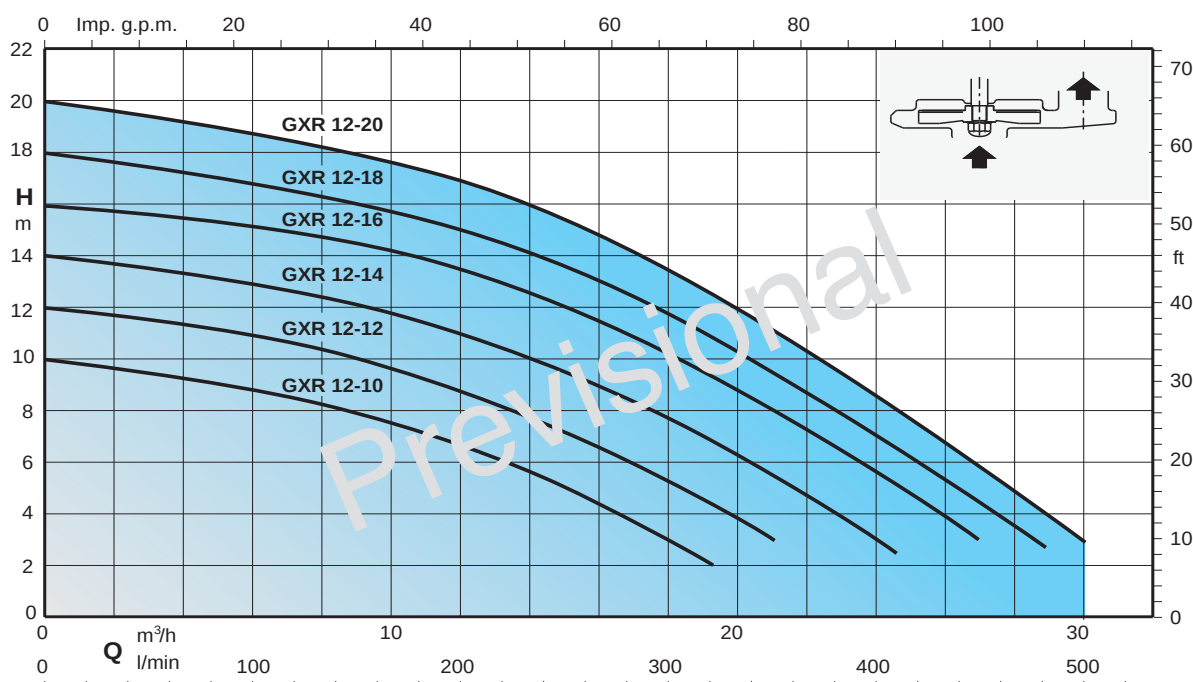
Constructed in accordance with: EN 60034-1;

EN 60335-1, EN 60335-2-41.

Other features on request

- Other voltages. - Frequency 60 Hz.
- Other mechanical seal. - Cable length 20 m.
- Vertical magnetic float switch.
- Motor suitable for operation with frequency converter.
- Three-phase pumps with incorporated float switch.

Characteristic curves $n \approx 2900$ rpm



GXR 12

Submersible Pumps in stainless steel



Performance $n \approx 2900$ rpm

3~		230V 400V		1~		230V Capacitor		P ₁	P ₂		Q	m ³ /h	0	3	6	9	12	15	18	21	24	27	30
	A	A		A	μf	Vc	kW	kW	HP	l/min		0	50	100	150	200	250	300	350	400	450	500	
GXR 12-10	2	1,2	GXRM 12-10	3,1	12,5	450	0,7	0,45	0,6	H m	10	9,5	8,8	8	6,7	5	3	-	-	-	-		
GXR 12-12	2,4	1,4	GXRM 12-12	3,6	16	450	1	0,55	0,75		12	11,6	11	10,2	9	7,5	5,5	3,2	-	-	-	-	
GXR 12-14	2,8	1,6	GXRM 12-14	4,6	16	450	1	0,75	1		14	13,5	12,8	12	10,8	9,3	7,5	5,5	3	-	-	-	
GXR 12-16	4	2,3	GXRM 12-16	6	25	450	1,3	0,9	1,2		16	15,5	15	14,2	13,2	11,8	10,2	8	5,5	2,3	-	-	
GXR 12-18	4,8	2,8	GXRM 12-18	8	30	450	1,7	1,1	1,5		18	17,5	17	16,2	15	13,7	11,8	9	7	4,3	1,5	-	
GXR 12-20	6,6	3,8	GXRM 12-20	12	35	450	2,2	1,5	2		20	19,5	18,8	18	16,8	15,2	13,2	10,8	8,4	5,7	3	-	

P₁ Max. power input.

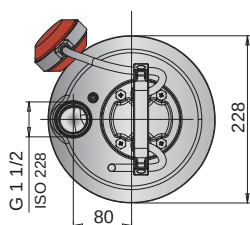
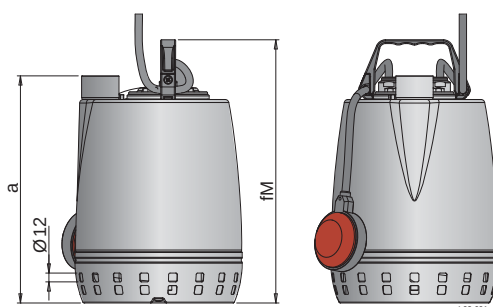
P₂ Rated motor power output.

Density $\rho = 1000$ kg/m³.

Kinematic viscosity $\nu = \max 20$ mm²/sec.

Tolerances according to UNI EN ISO 9906:2012

Dimensions and weights



TYPE	mm	
	fM	a
GXR 12-10 - GXRM 12-10	360	310
GXR 12-12 - GXRM 12-12	375	325
GXR 12-14 - GXRM 12-14	375	325
GXR 12-16 - GXRM 12-16	400	350
GXR 12-18 - GXRM 12-18	420	370
GXR 12-20 - GXRM 12-20	450	400

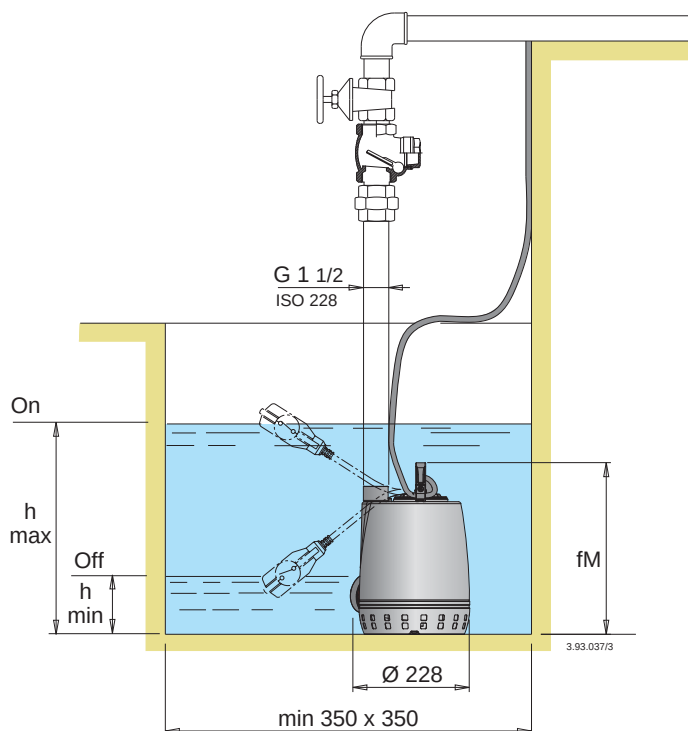
(1) With cable length: 10 m

GXR 12

Submersible Pumps in stainless steel

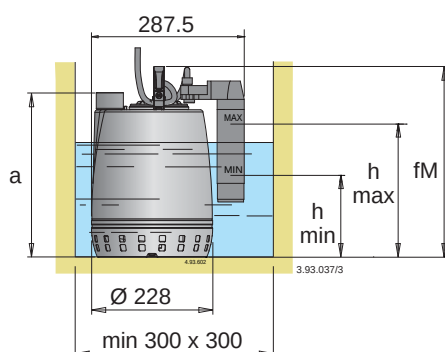


Installation examples



TYPE	mm		
	fM	h min	h max
GXR 12-10 - GXRM 12-10	360	255	380
GXR 12-12 - GXRM 12-12	375	270	395
GXR 12-14 - GXRM 12-14	375	270	395
GXR 12-16 - GXRM 12-16	400	295	420
GXR 12-18 - GXRM 12-18	420	315	440
GXR 12-20 - GXRM 12-20	450	345	470

Installation examples with vertical magnetic float switch



TYPE	mm			
	fM	a	h min	h max
GXRM 12-10 GF	360	310	180	270
GXRM 12-12 GF	375	325	195	285
GXRM 12-14 GF	375	325	195	285
GXRM 12-16 GF	400	350	220	310
GXRM 12-18 GF	420	370	240	330
GXRM 12-20 GF	450	400	270	360

GXR 12

Submersible Pumps in stainless steel



Features

PATENTED

G 1 1/2 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

Handle in polypropylene, with frame in stainless steel.

Easy inspection of the capacitor area.

Shaft in chrome-nickel stainless steel.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

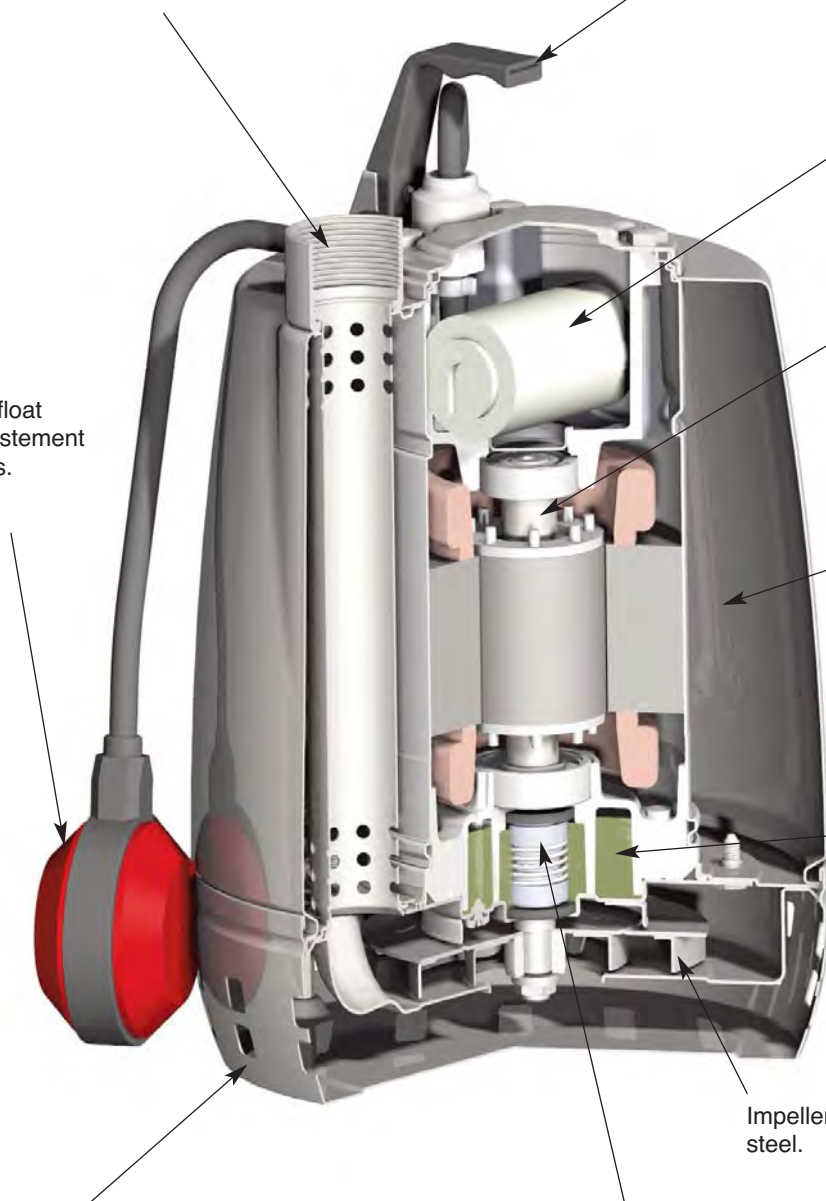
Chamber with food/pharmaceutical machinery oil

Impeller in chrome-nickel stainless steel.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Suction strainer with a double row of holes, for extra safety against clogging with the passage of solids up to 12 mm grain size.

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.



GXR-R

Submersible Pumps for rainwater applications
in stainless steel

calpeda[®]



Materials

Component	Material
Pump casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Suction casing	
Impeller	
Motor jacket	
Pump jacket	
Handle	Polypropylene
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Construction

Single-impeller submersible pumps in chrome-nickel stainless steel, with horizontal suction port and vertical delivery port for rainwater applications.

GXR-R: with open impeller.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

Double shaft seal with oil chamber.

Applications

For clean water containing solids up to 10 mm grain size.

Extraction of water from ponds, emptying tanks or pits and for rainwater applications.

For irrigation purposes.

For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60 335-2-41.

Operating conditions

Floating suction filter has to be provided, see ex. pag. 217.

Liquid temperature up to 50° C.

Maximum immersion depth: 5 m.

Minimum water level with float 70 mm.

Minimum water level manual operation 15 mm.

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

GXR-R: three-phase 230 V $\pm 10\%$;
three-phase 400 V $\pm 10\%$;

GXR-RM: single-phase 230 V,
with float switch and thermal protector.
Incorporated capacitor.

Insulation class F.

Protection IP X8 (for continuous immersion)

Double impregnation humidity-proof dry winding.

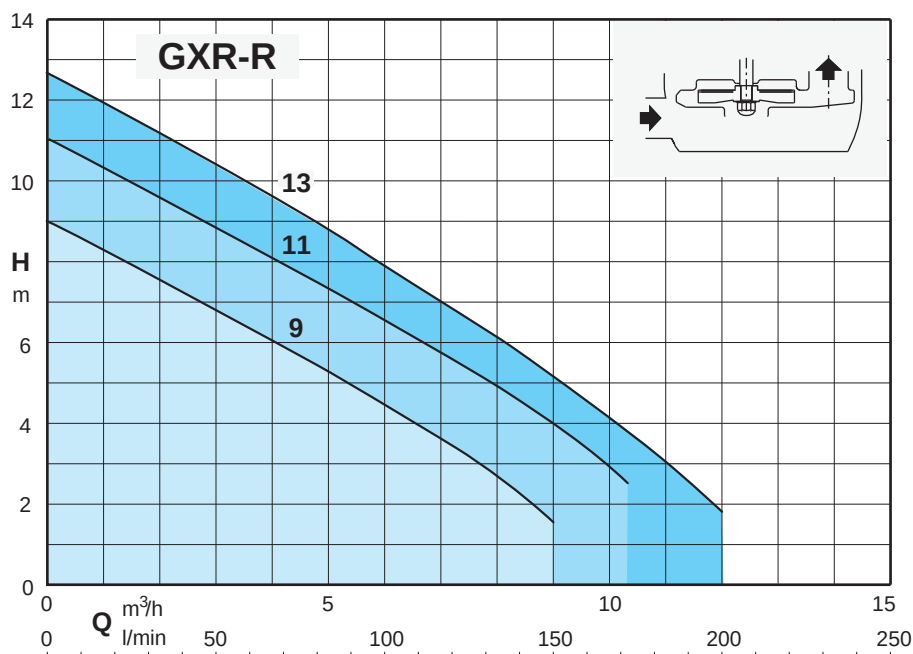
Constructed in accordance with: EN 60034-1;

EN 60335-1, EN 60335-2-41.

Other features on request

- Other voltages. - Frequency 60 Hz.
- Other mechanical seal. - Cable length 10 m.
- Vertical magnetic float switch.
- Floating suction filter with pipe.
- Motor suitable for operation with frequency converter.

Characteristic curves $n \approx 2900$ rpm



GXR-R

Submersible Pumps for rainwater applications in stainless steel

calpeda®

Performance $n \approx 2900$ rpm

3~	230V 400V		1~	230V Capacitor			P1	P2		Q m³/h l/min	0	1,2	3	4,5	6	7,5	9	10,2	12	13,2	
	A	A		A	μf	Vc	kW	kW	HP		0	20	50	75	100	125	150	170	200	220	
GXR-R 9	1,6	0,9	GXR-RM 9	2,5	8	450	0,5	0,25	0,33	H m	9	8,2	6,8	5,8	4,5	3,2	1,7				
GXR-R 11	2,3	1,3	GXR-RM 11	3,5	12,5	450	0,7	0,37	0,5		11	10,2	9	7,8	6,7	5,5	4	2,7			
GXR-R 13	2,8	1,6	GXR-RM 13	4,5	16	450	0,95	0,45	0,6		12,7	11,6	10,4	9,2	7,8	6,5	5,1	3,8	1,8		

P₁ Max. power input.

P₂ Rated motor power output.

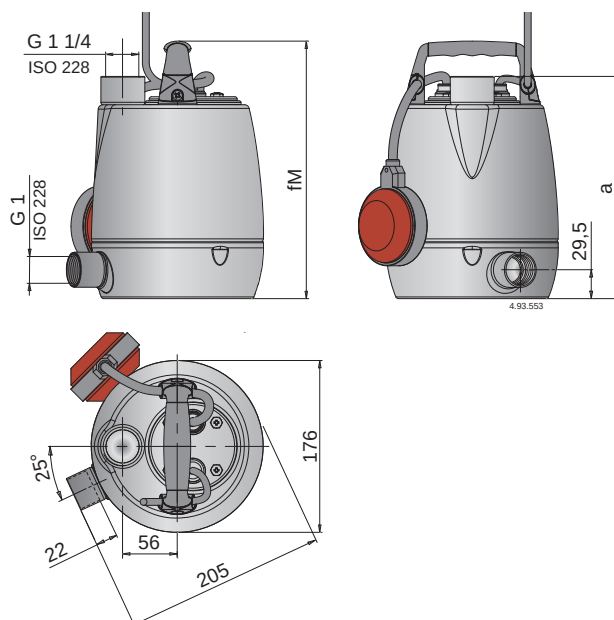
Density $\rho = 1000 \text{ kg/m}^3$.

Kinematic viscosity $\nu = \max 20 \text{ mm}^2/\text{sec}$.

Tolerances according to UNI EN ISO 9906:2012

Pump type	Power supply cable				Float switch	
	Cable material	Section	Length	Plug CEE 7(VII)	Cable material	Section
GXR-RM 9	H05RN-F	3G0,75 mm ²	5 m	YES	H07RN-F	3G1 mm ²
GXR-RM 11, 13	H07RN-F	3G1 mm ²	5 m	YES	H07RN-F	3G1 mm ²
GXR-R 9	H05RN-F	4G0,75 mm ²	5 m	NO	NO	-
GXR-R 11, 13	H07RN-F	4G1 mm ²	5 m	NO	NO	-

Dimensions and weights



TYPE	Dimensions mm		(1) kg	
	fM	a	GXR-R	GXR-RM
GXR-R 9 - GXR-RM 9	265	230	5	5,2
GXR-R 11 - GXR-RM 11	300	265	6,2	6,5
GXR-R 13 - GXR-RM 13	300	265	6,7	7,2

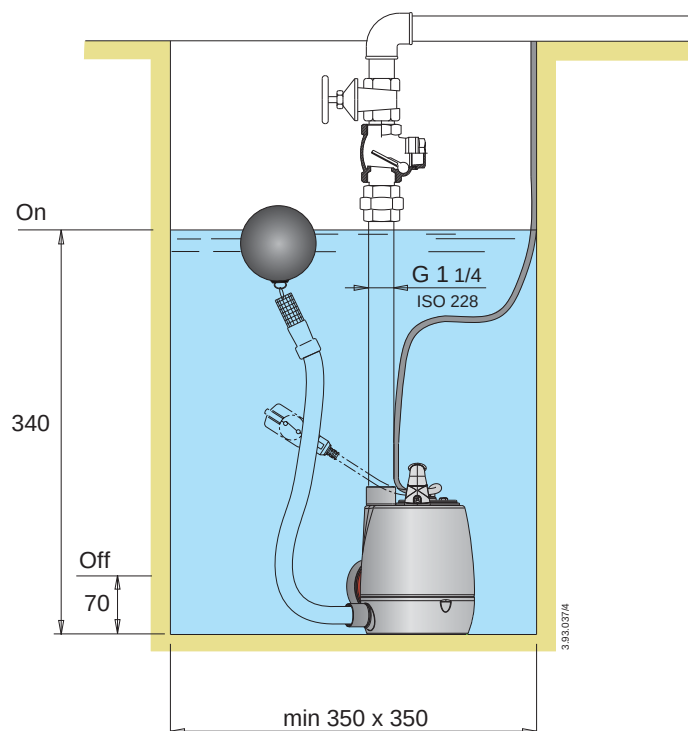
(1) With cable length: 5 m

GXR-R

Submersible Pumps for rainwater applications
in stainless steel

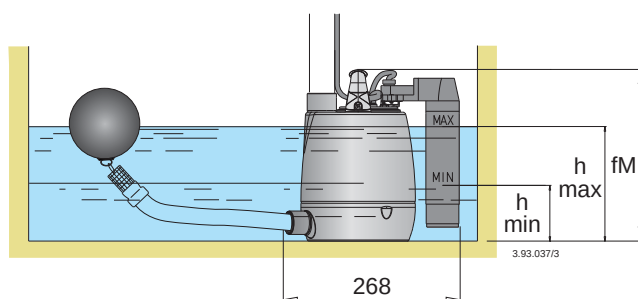
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Installation examples with floating suction filter with pipe



Installation examples with vertical magnetic float switch

29²



TYPE	mm			(1) kg
	fM	h min	h max	
GXR-RM 9 GF	265	100	190	5,2
GXR-RM 11 GF	300	135	225	6,5
GXR-RM 13 GF	300	135	225	7,2

(1) With cable length: 5 m

GXR-R

Submersible Pumps for rainwater applications
in stainless steel

 **calpeda**[®]

Features

PATENTED

G 1 1/4 vertical, upward delivery port.

Minimum dimension and high levels of performance, for use in many different applications, head up to 12,7 m and flow rates up to 200 liters/min.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels

Handle in polypropylene.

Easy inspection of the capacitor area

Shaft in chrome-nickel stainless steel.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

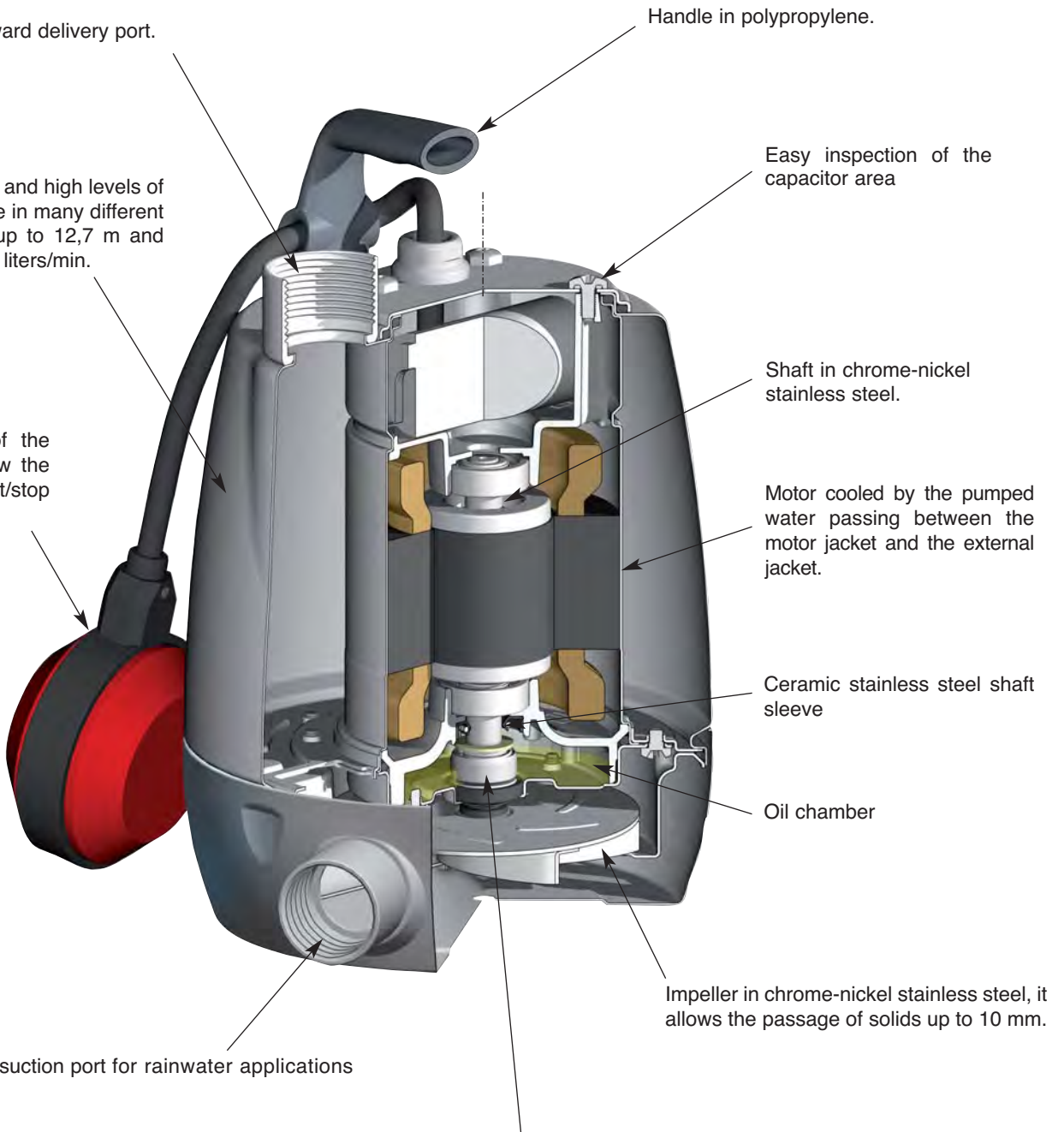
Ceramic stainless steel shaft sleeve

Oil chamber

Impeller in chrome-nickel stainless steel, it allows the passage of solids up to 10 mm.

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

G 1 horizontal suction port for rainwater applications



GQR

Submersible Drainage Pumps

calpeda[®]

PATENTED



Materials

Component	Material
Pump casing Impeller	Cast iron GJL 200 EN 1561
Strainer Motor jacket Jacket cover Casing cover	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Handle	Polypropylene (with frame in AISI 304)
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Mechanical seal: upper lower	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Construction

Single-impeller submersible drainage pump, with open impeller.
GQR: with vertical threaded delivery port (G 1 1/2).

GQV: with horizontal flanged and threaded delivery port (DN 32, PN 6 - G 1 1/2).

Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

Applications

For clean water containing solids up to 10 mm grain size.

For draining rooms or emptying tanks.

Extraction of water from ponds, streams or pits and for rainwater collection.

For irrigation purposes.

Operating conditions

Liquid temperature up to 35° C.

Maximum immersion depth: 5 m.

Minimum immersion depth: 205 mm.

Continuous duty (with submerged motor).

Motor

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

GQR: three-phase 230 V ± 10%;

three-phase 400 V ± 10%;

Cable: H07RN-F, 4G1 mm², length 10 m, without plug.

GQRM: single-phase 230 V ± 10%,
with float switch and thermal protector.
Incorporated capacitor.

Cable: H07RN-F, 3G1 mm², length 10 m, with plug
CEI-UNEL 47166.

Insulation class F.

Protection IP X8 (for continuous immersion)

Triple impregnation humidity-proof dry winding.

Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

Other features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).

- Other mechanical seal.

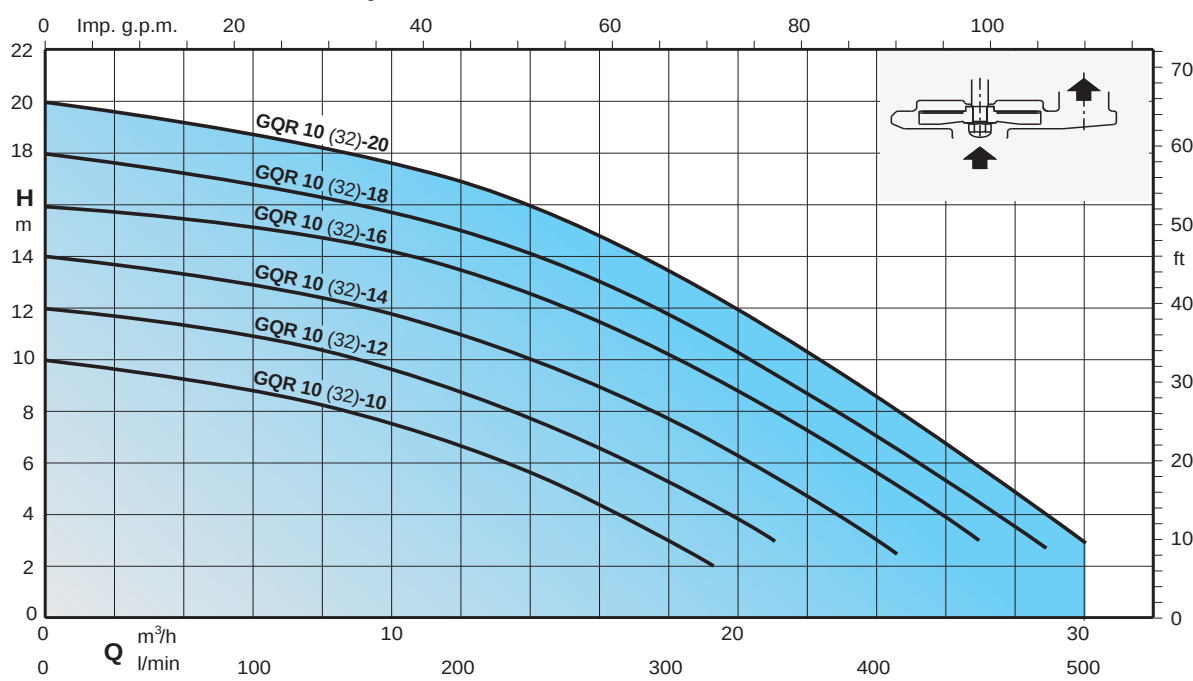
- Cable length 20 m.

- Vertical magnetic float switch.

- Motor suitable for operation with frequency converter.

- Three-phase pumps with incorporated float switch.

Characteristic curves n ≈ 2900 rpm



Performance n ≈ 2900 rpm

3~ 230V 400V			1~ 230V Capacitor P1				P2		Q	m³/h l/min	H m										
A	A		A	µf	Vc	kW	kW	HP			0	3	6	9	12	15	18	21	24	27	30
GQR 10-10 GQR 10 32-10	2	1,2	GQRM 10-10 GQRM 10 32-10	3,1	12,5	450	0,7	0,45	0,6	H m	10	9,5	8,8	8	6,7	5	3	-	-	-	
GQR 10-12 GQR 10 32-12	2,4	1,4	GQRM 10-12 GQRM 10 32-12	3,6	16	450	1	0,55	0,75		12	11,6	11	10,2	9	7,5	5,5	3,2	-	-	-
GQR 10-14 GQR 10 32-14	2,8	1,6	GQRM 10-14 GQRM 10 32-14	4,6	16	450	1	0,75	1		14	13,5	12,8	12	10,8	9,3	7,5	5,5	3	-	-
GQR 10-16 GQR 10 32-16	4	2,3	GQRM 10-16 GQRM 10 32-16	6	25	450	1,3	0,9	1,2		16	15,5	15	14,2	13,2	11,8	10,2	8	5,5	2,3	-
GQR 10-18 GQR 10 32-18	4,8	2,8	GQRM 10-18 GQRM 10 32-18	8	30	450	1,7	1,1	1,5		18	17,5	17	16,2	15	13,7	11,8	9	7	4,3	1,5
GQR 10-20 GQR 10 32-20	6,6	3,8	GQRM 10-20 GQRM 10 32-20	12	35	450	2,2	1,5	2		20	19,5	18,8	18	16,8	15,2	13,2	10,8	8,4	5,7	3

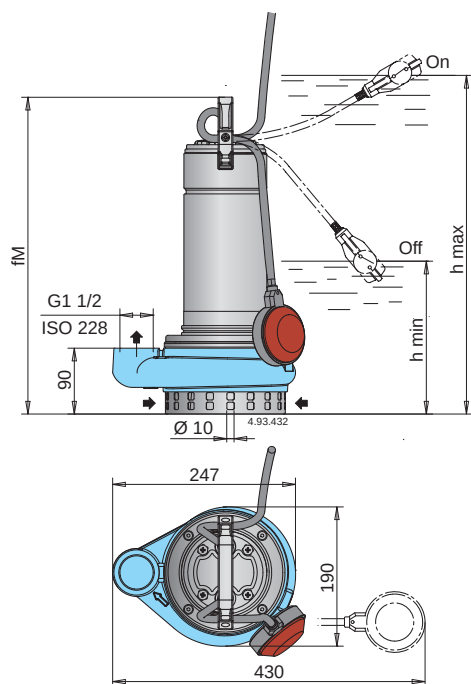
P₁ Max. power input.

P₂ Rated motor power output.

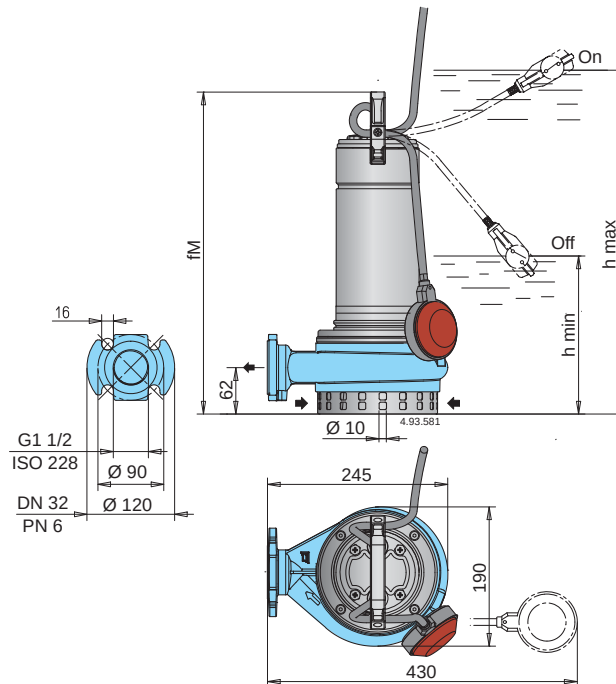
Density ρ = 1000 kg/m³.

Kinematic viscosity ν = max 20 mm²/sec.

Dimensions and weights

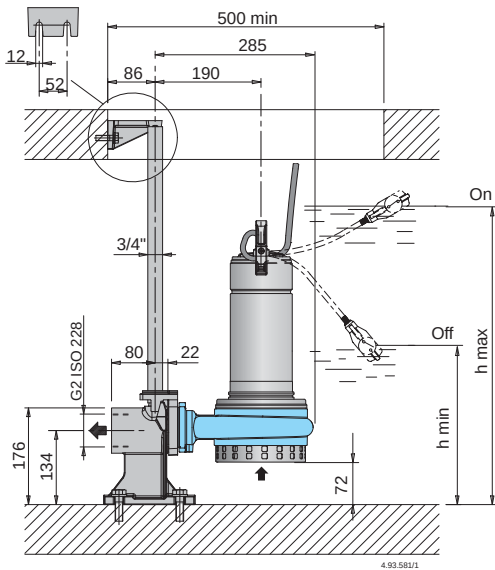


TYPE	mm			kg	
	fM	h max	h min	GQR	GQRM
GQR(M) 10-10	390	410	205	14	15
GQR(M) 10-12	405	425	220	14,5	15,5
GQR(M) 10-14	405	425	220	14,5	15,5
GQR(M) 10-16	430	450	245	16	18
GQR(M) 10-18	450	470	265	17,5	19
GQR 10-20	450	470	265	19	-
GQRM 10-20	480	500	295	-	20,5

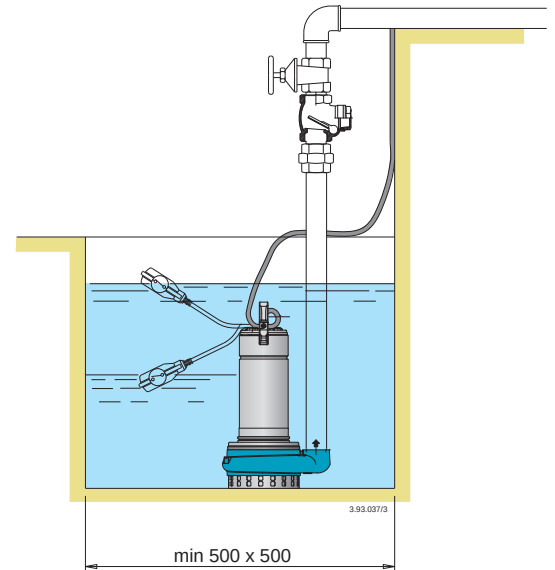


TYPE	mm			kg	
	fM	h max	h min	GQR	GQRM
GQR(M) 10 32-10	395	415	210	14,7	15,7
GQR(M) 10 32-12	410	430	225	15,2	16,2
GQR(M) 10 32-14	410	430	225	15,2	16,2
GQR(M) 10 32-16	435	455	250	16,7	18,7
GQR(M) 10 32-18	455	475	270	18,2	19,7
GQR 10 32-20	455	475	270	19,7	-
GQRM 10 32-20	485	505	300	-	21,2

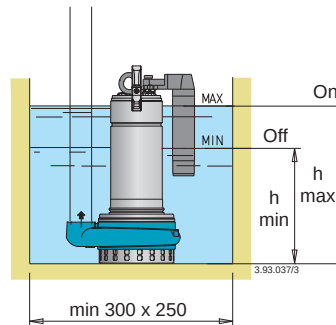
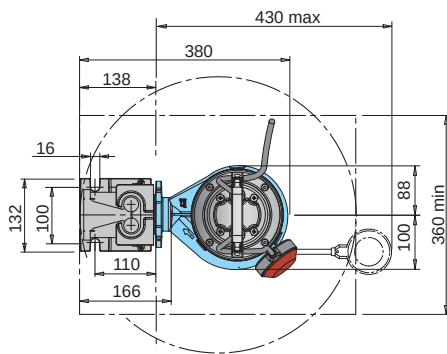
Installation examples



TYPE	mm	
	h max	h min
GQR(M) 10 32-10	487	282
GQR(M) 10 32-12	502	297
GQR(M) 10 32-14	502	297
GQR(M) 10 32-16	527	322
GQR(M) 10 32-18	547	342
GQR 10 32-20	547	342
GQRM 10 32-20	577	372

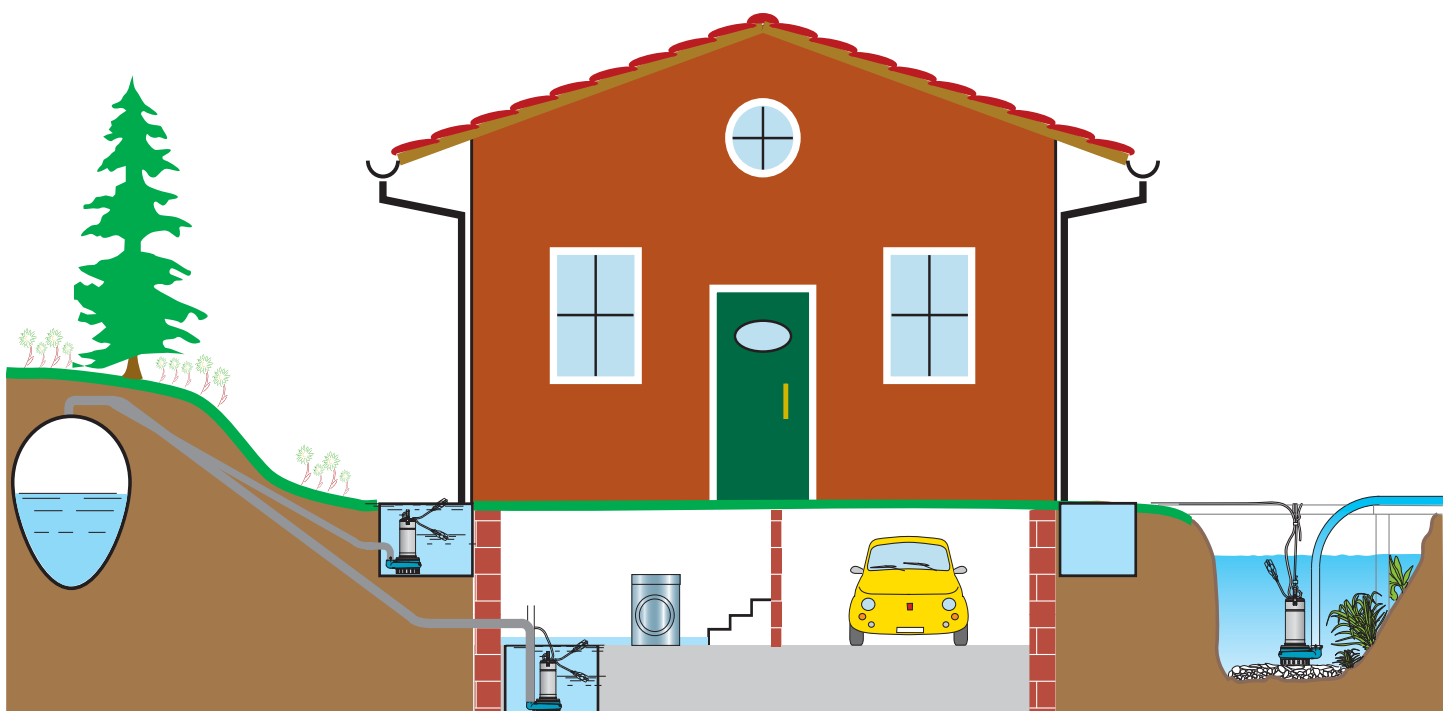


Installation examples with vertical magnetic float switch



TYPE	mm	
	h min	h max
GQRM 10-10 GF	225	315
GQRM 10-12 GF	240	330
GQRM 10-14 GF	240	330
GQRM 10-16 GF	265	355
GQRM 10-18 GF	285	375

Installation examples



Features

Cable length 10 m, pump single-phase with plug

PATENTED

Handle in polypropylene, with frame in stainless steel.

Easy inspection of the capacitor area.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Ring against accidental extraction of the cable.

Relief valve: the pump is fitted to a relief valve for air release around the impeller granting a proper pump priming also after long standstill periods.

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

G 1 1/2 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

Chamber with food/pharmaceutical machinery oil

Shaft in chrome-nickel stainless steel.

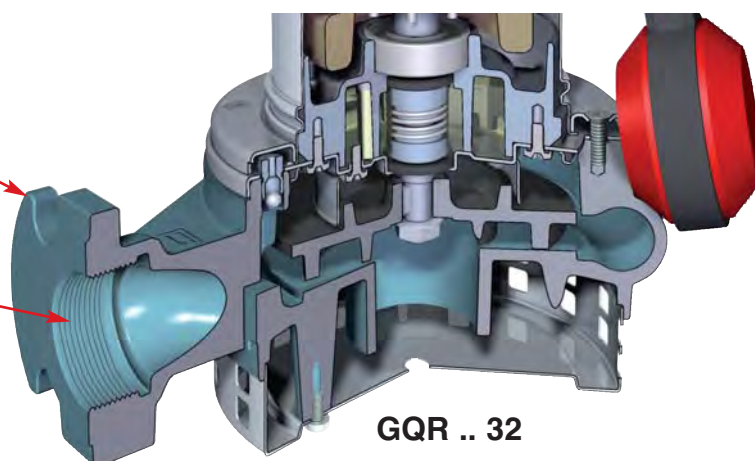
Suction strainer with a double row of holes, for extra safety against clogging: it allows the passage of solids up to 10 mm.

Pump casing with epoxy cataphoresis treatment joined to the external paint for a greater protection against the rust.

Impeller with epoxy cataphoresis treatment for a greater protection against the rust.

Maximum flexibility of connection:

- Flange DN 32 PN 6 EN 1092-2 for duck foot coupling SA-G2"
- G1 1/2 ISO 228



GQR .. 32

GXC, GXV

Submersible Sewage and Drainage Pumps

calpeda[®]

PATENTED



Materials

Component	Material
Pump casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Casing cover	
Impeller	
Motor jacket	
Jacket cover	
Handle	Polypropylene (with frame in AISI 304)
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Mechanical seal: upper lower	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Construction

Single-impeller submersible pumps in chrome-nickel stainless steel, with vertical delivery port.

GXC: with two-pass impeller.

GXV: with free-flow (vortex) impeller.

Double shaft seal with interposed oil chamber.

Applications

For clean and dirty water, also containing solids up to 35 mm grain size.

The GXV free-flow impeller construction is particularly suitable for liquids with a high solid content or with filamentous particles. This construction (with smooth surfaces in rolled-stainless steel and easy access for cleaning) is also suitable for certain uses in the food industry.

Operating conditions

Liquid temperature up to 35 °C.

Minimum immersion depth: 250 mm.

Maximum immersion depth: 5 m.

Continuous duty (with submerged motor).

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

GXC, GXV: three-phase 230 V $\pm 10\%$;

three-phase 400 V $\pm 10\%$;

Cable: H07RN-F, 4G1 mm², length 10 m, without plug.

GXCM, GXVM: single-phase 230 V $\pm 10\%$,

with float switch and thermal protector.

Incorporated capacitor.

Cable: H07RN-F, 3G1 mm², length 10 m, with

plug CEI-UNEL 47166.

Insulation class F.

Protection IP X8 (for continuous immersion)

Triple impregnation humidity-proof dry winding.

Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

Other features on request

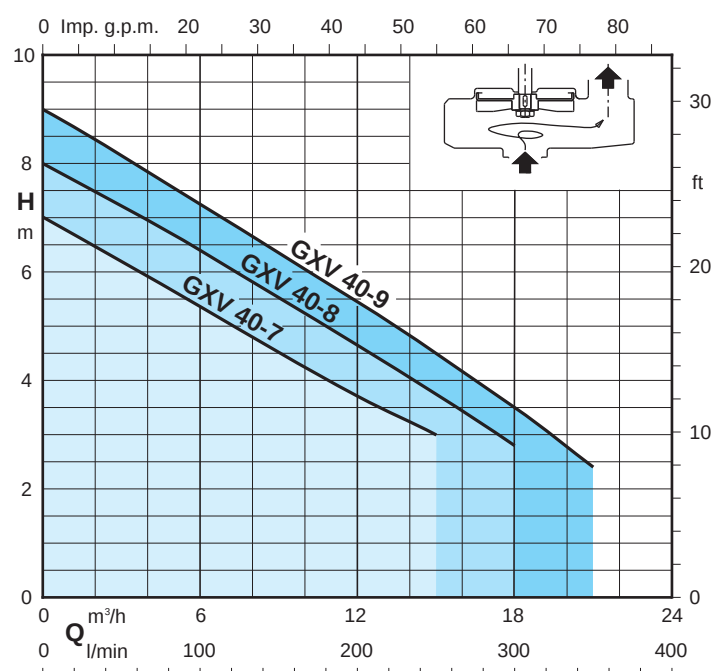
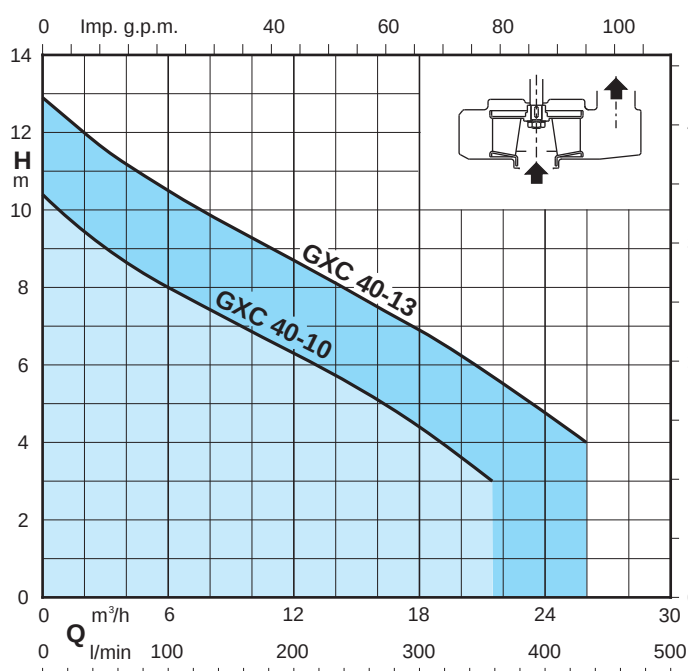
- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).

- Other mechanical seal. - Cable length 20 m.

- Motor suitable for operation with frequency converter.

- Three-phase pumps with incorporated float switch.

Characteristic curves $n \approx 2900$ rpm



31

GXC, GXV

Submersible Sewage and Drainage Pumps

calpeda®

Performance n ≈ 2900 rpm

3~	230V 400V		1~	230V		Capacitor		P ₁		P ₂		Q	m ³ /h	0	3	6	9	12	15	18	21	24	26
	A	A		A	μf	Vc	kW	kW	HP	l/min	0		50	100	150	200	250	300	350	400	433		
GXC 40-10	2,8	1,6	GXCM 40-10	4,6	16	450	1	0,55	0,75	H m		10,4	9	8	7,1	6,3	5,4	4,4	3,2	-	-		
GXC 40-13	4	2,3	GXCM 40-13	6,6	25	450	1,45	0,9	1,2			12,9	11,6	10,5	9,5	8,7	7,8	6,9	5,9	4,7	4		

3~	230V 400V		1~	230V		Capacitor		P ₁		P ₂		Q	m ³ /h	0	3	6	9	12	15	18	21	24	26
	A	A		A	μf	Vc	kW	kW	HP	l/min	0		50	100	150	200	250	300	350	400	433		
GXV 40-7	2,8	1,6	GXVM 40-7	4,6	16	450	1	0,55	0,75	H m		7	6,2	5,4	4,6	3,7	3	-	-	-	-	-	
GXV 40-8	3,8	2,2	GXVM 40-8	5,4	25	450	1,1	0,75	1		8	7,2	6,4	5,5	4,6	3,7	2,8	-	-	-			
GXV 40-9	4	2,3	GXVM 40-9	6	25	450	1,3	0,9	1,2		9	8,1	7,2	6,3	5,4	4,5	3,5	2,4	-	-			

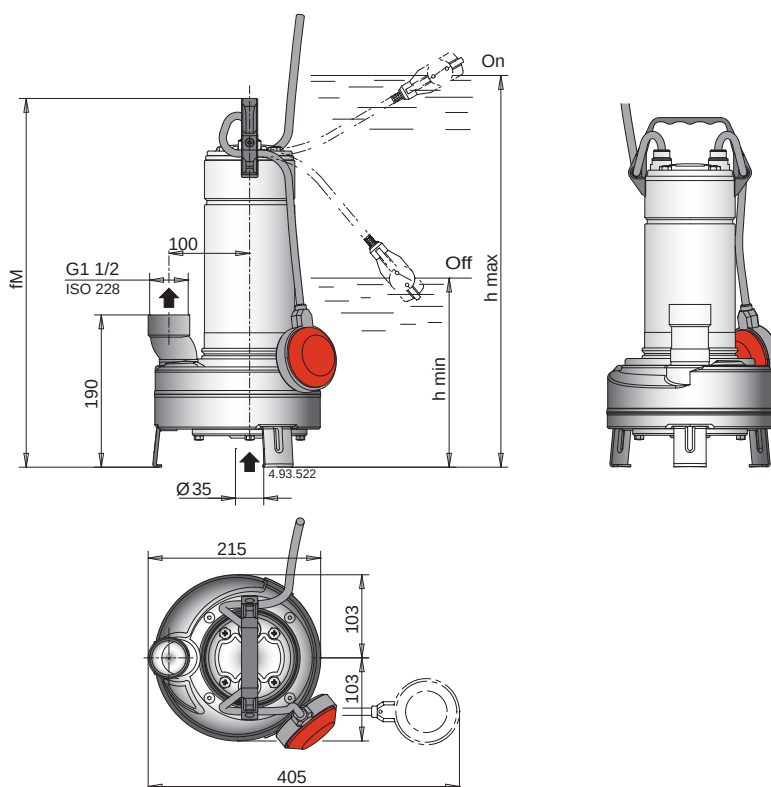
P₁ Max. power input.

P₂ Rated motor power output.

Density ρ = 1000 kg/m³.

Kinematic viscosity ν = max 20 mm²/sec.

Dimensions and weights



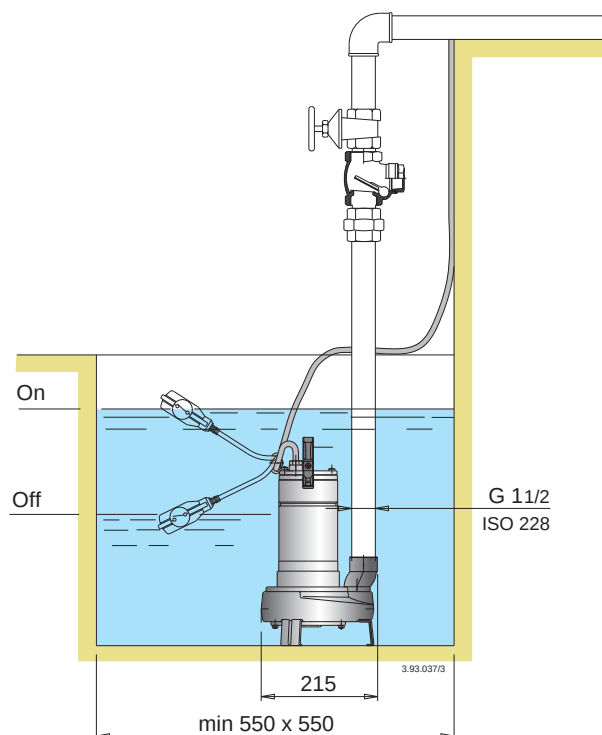
TYPE	mm			kg ⁽¹⁾	
	fM	h max	h min	GXV	GXVM
GXV(M) 40-7	433	508	248	10,1	11,7
GXV(M) 40-8	458	533	273	11,7	13,2
GXV(M) 40-9	458	533	273	11,7	13,2

1) With cable length: 10 m

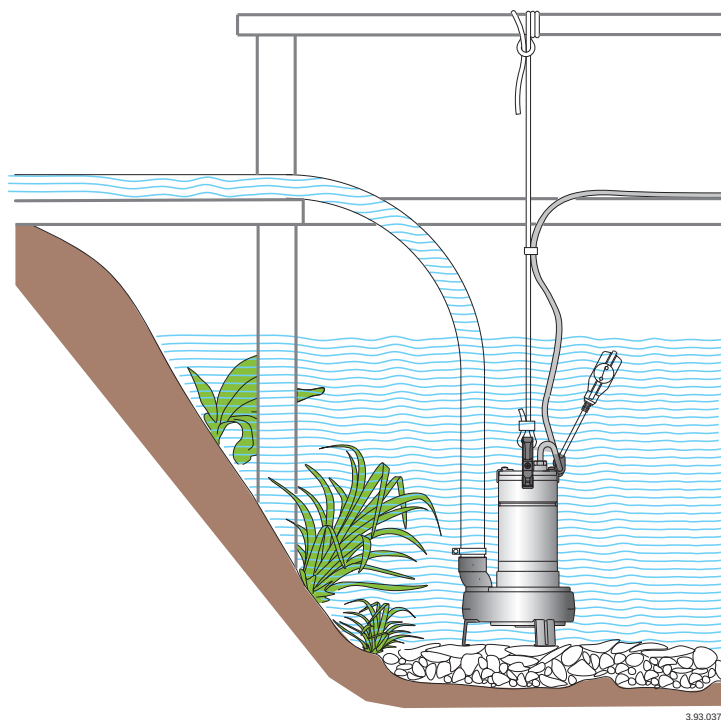
TYPE	mm			kg ⁽¹⁾	
	fM	h max	h min	GXC	GXCM
GXC(M) 40-10	433	508	248	10,1	11,7
GXC(M) 40-13	458	533	273	11,7	13,2

Installation examples

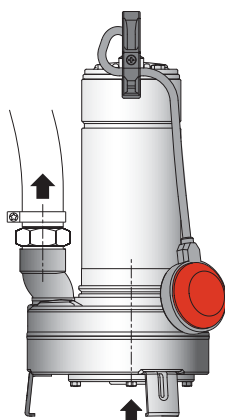
Stationary installation



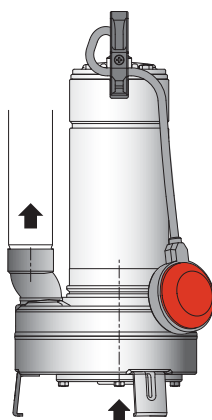
Transportable installation



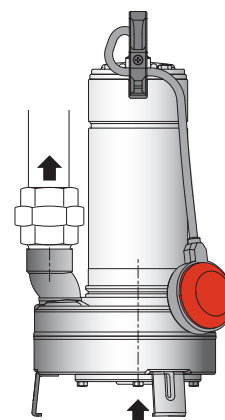
Connection examples



Pump with hosetail seat and clamp
(locally available)



Pump with pipe screwed into the delivery port



Pump with pipe and union
(locally available)

Features

PATENTED

Cable length 10 m, pump single-phase with plug

Handle in polypropylene, with frame in stainless steel.

Easy inspection of the capacitor area.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Ring against accidental extraction of the cable.

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

G 1 1/2 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

Totally in stainless steel
All parts in contact with the pumped liquid both internal and external are in stainless steel AISI 304

Chamber with food/pharmaceutical machinery oil.

GXC

GXV

GXC The two-passage impeller construction is particularly suitable for liquids containing solids up to 35 mm grain size.

Shaft in chrome-nickel stainless steel.

GXV The free-flow impeller (vortex) construction is particularly suitable for liquids with a high solid content up to 35 mm grain size or with filamentous particles.

GQS, GQV Submersible Sewage and Drainage Pumps



PATENTED



Materials

Component	Material
Pump casing Impeller	Cast iron GJL 200 EN 1561
Motor jacket Jacket cover Casing cover	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Handle	Polypropylene (with frame in AISI 304)
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Mechanical seal: upper lower	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Construction

Single-impeller submersible pumps, with free-flow (vortex) impeller.
GQS: with vertical threaded delivery port (G 2").

GQV: with horizontal flanged and threaded delivery port (DN 50 - G 2").

Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

Applications

For domestic or industrial waste water, dirty water with solids up to 50 mm grain size, for liquids which are compatible with the pump materials.

For draining rooms or emptying tanks.

Extraction of water from ponds, streams or pits and for rainwater collection.

Operating conditions

Liquid temperature up to 35° C.

pH value: 6-11.

Maximum immersion depth: 5 m.

Minimum immersion depth: 275 mm.

Continuous duty (with submerged motor).

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

GQV, GQS: three-phase 230 V $\pm 10\%$;

three-phase 400 V $\pm 10\%$;

Cable: H07RN-F, 4G1 mm², length 10 m, without plug.

GQVM, GQSM: single-phase 230 V $\pm 10\%$,

with float switch and thermal protector.

Incorporated capacitor.

Cable: H07RN-F, 3G1 mm², length 10 m, with plug CEI-UNEL 47166.

Insulation class F.

Protection IP X8 (for continuous immersion)

Triple impregnation humidity-proof dry winding.

Constructed in accordance with: EN 60034-1;

EN 60335-1, EN 60335-2-41.

Other features on request

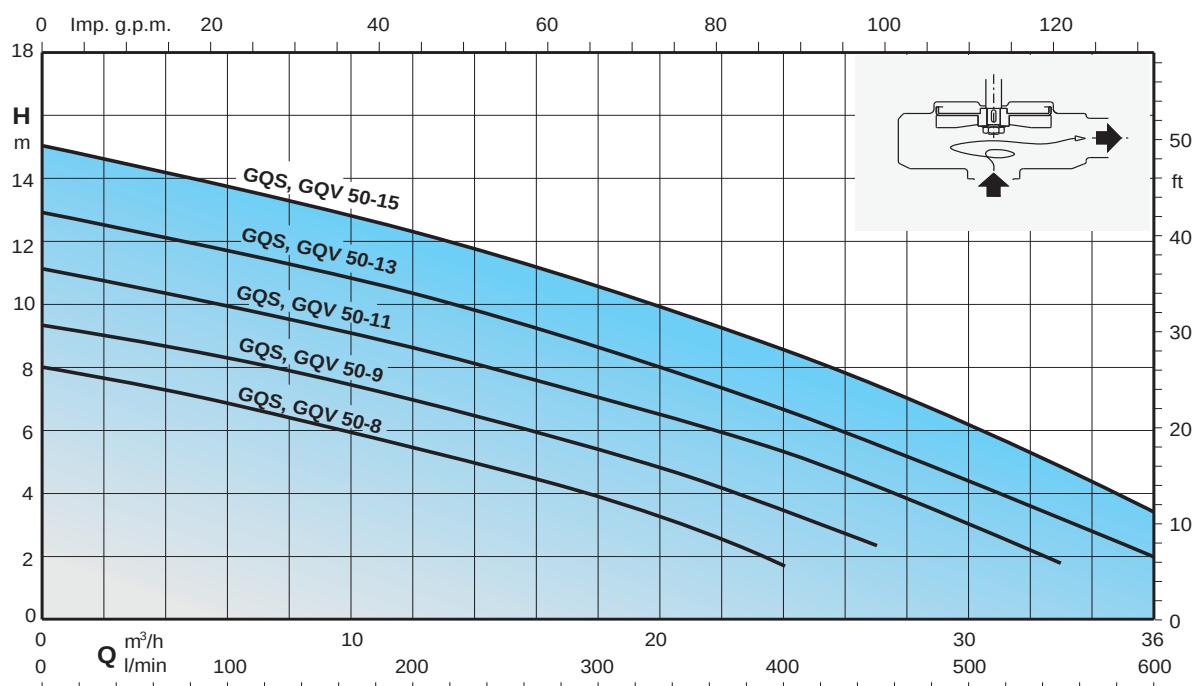
- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).

- Other mechanical seal. - Cable length 20 m.

- Motor suitable for operation with frequency converter.

- Three-phase pumps with incorporated float switch.

Characteristic curves $n \approx 2900$ rpm



GQV, GQS Submersible Sewage and Drainage Pumps



Performance n ≈ 2900 rpm

3~	230V 400V		1~	230V Capacitor			P1	P2		Q	m³/h l/min	0	3	6	9	12	15	18	21	24	27	30	33	36
	A	A		A	µf	Vc	kW	kW	HP			0	50	100	150	200	250	300	350	400	450	500	550	600
GQS 50-8 GQV 50-8	2,6	1,5	GQSM 50-8 GQVM 50-8	4,3	16	450	0,95	0,55	0,75	H m	8	7,4	6,9	6,3	5,6	4,8	4	3	1,8	-	-	-	-	
GQS 50-9 GQV 50-9	3,1	1,8	GQSM 50-9 GQVM 50-9	4,8	16	450	1,1	0,75	1		9,3	8,8	8,3	7,7	7	6,2	5,3	4,3	3,2	2,2	-	-	-	
GQS 50-11 GQV 50-11	4	2,3	GQSM 50-11 GQVM 50-11	6,6	25	450	1,45	0,9	1,2		11	10,5	10	9,3	8,6	7,8	7	6,2	5,2	4,2	3	1,8	-	
GQS 50-13 GQV 50-13	5,2	3	GQSM 50-13 GQVM 50-13	8,4	30	450	1,8	1,1	1,5		12,8	12,2	11,6	11	10,3	9,5	8,6	7,7	6,7	5,7	4,5	3,3	2	
GQS 50-15 GQV 50-15	6,9	4	GQSM 50-15 GQVM 50-15	12	35	450	2,2	1,5	2		15	14,4	13,7	13	12,2	11,3	10,4	9,5	8,5	7,4	6,2	4,8	3,5	

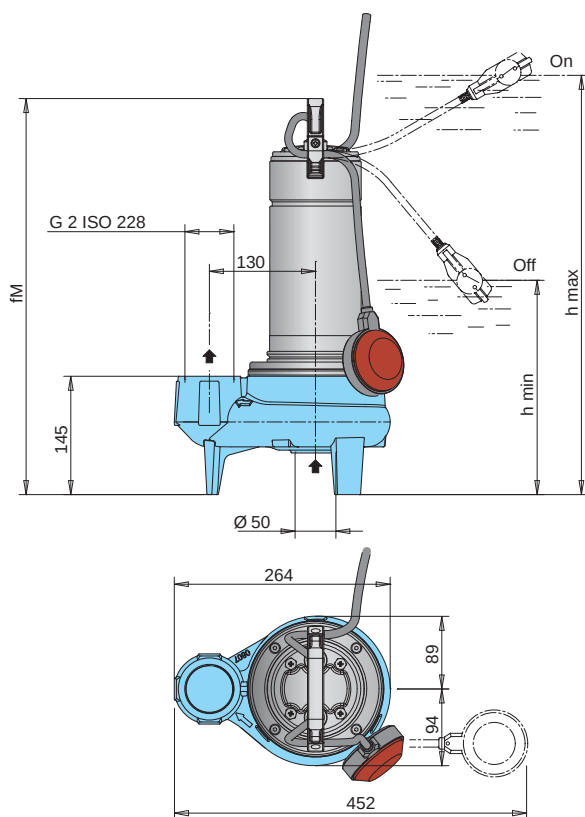
P1 Max. power input.

P2 Rated motor power output.

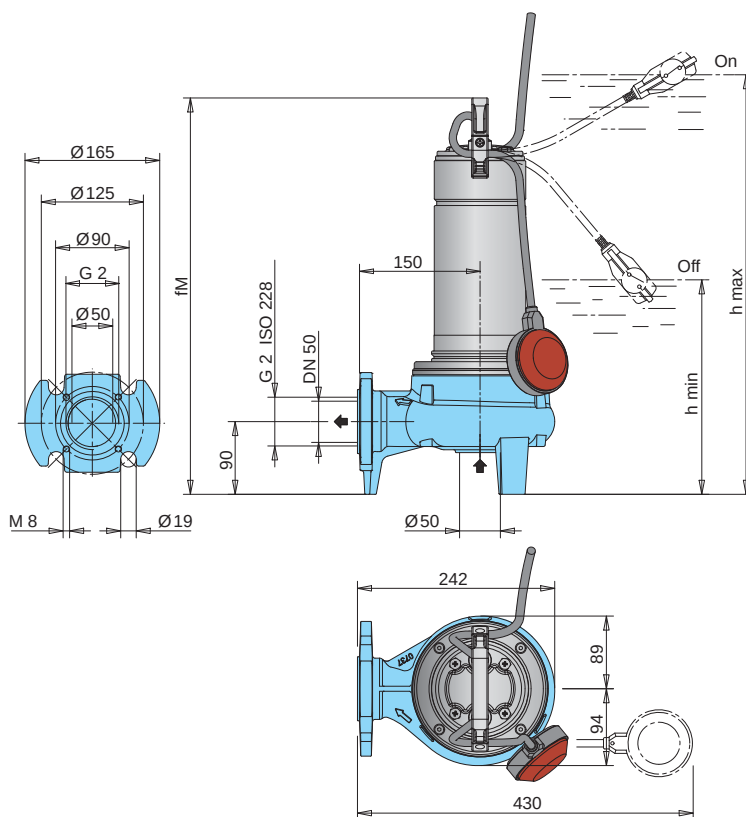
Density $\rho = 1000 \text{ kg/m}^3$.

Kinematic viscosity $\nu = \max 20 \text{ mm}^2/\text{sec}$.

Dimensions and weights



TYPE	mm			kg	
	fM	h max	h min	GQS	GQSM
GQS(M) 50-8	460	535	275	14,8	15,8
GQS(M) 50-9	460	535	275	15	16
GQS(M) 50-11	485	560	300	15,8	17,8
GQS(M) 50-13	505	580	320	18,8	20,3
GQS 50-15	505	580	320	20,3	-
GQSM 50-15	535	610	350	-	21,8

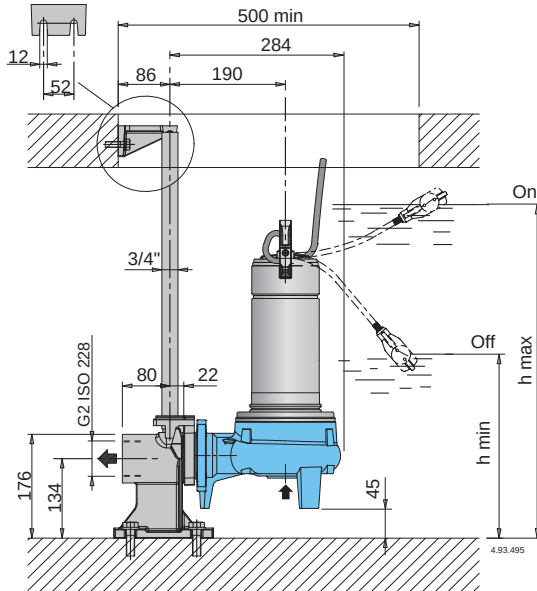


TYPE	mm			kg	
	fM	h max	h min	GQV	GQVM
GQV(M) 50-8	460	535	275	15	16
GQV(M) 50-9	460	535	275	15,2	16,2
GQV(M) 50-11	485	560	300	16	18
GQV(M) 50-13	505	580	320	19	20,5
GQV 50-15	505	580	320	20,5	-
GQVM 50-15	535	610	350	-	22

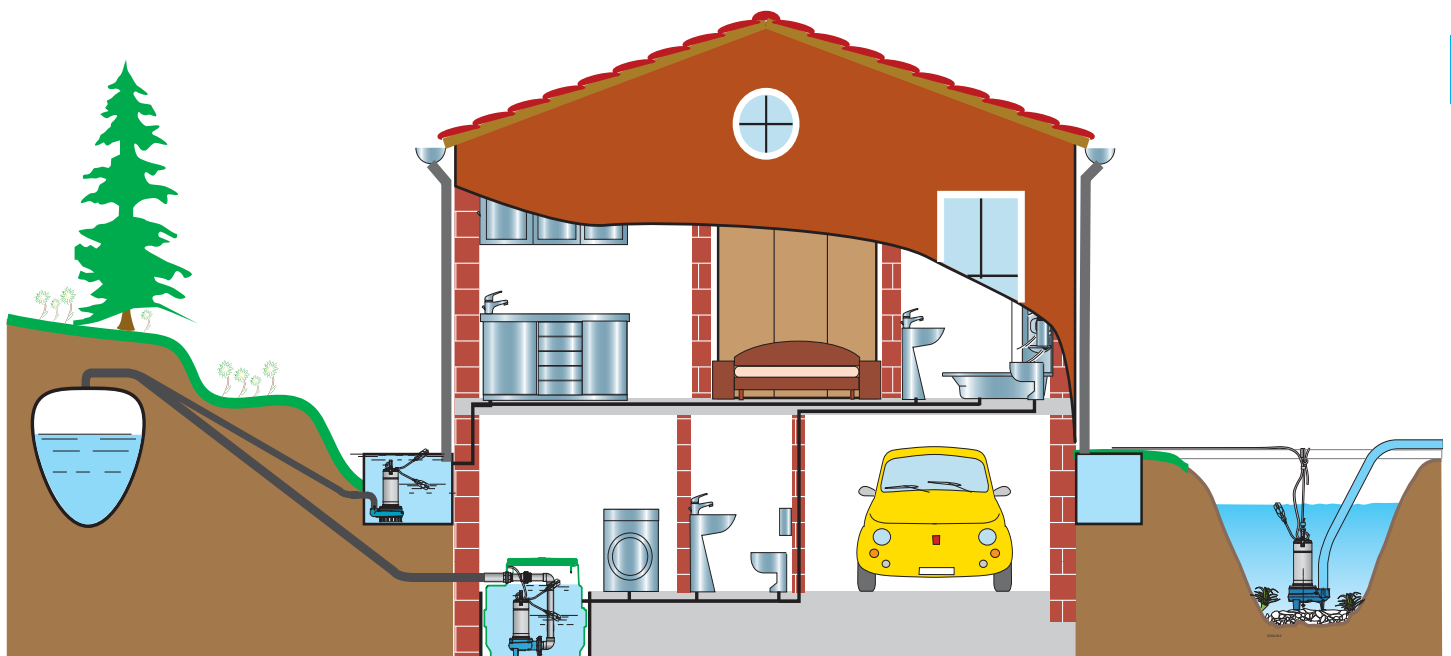
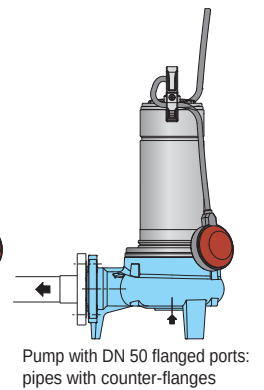
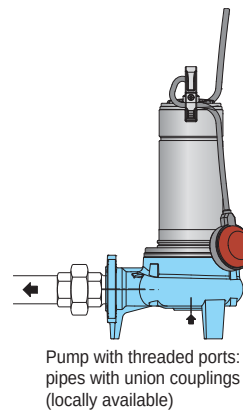
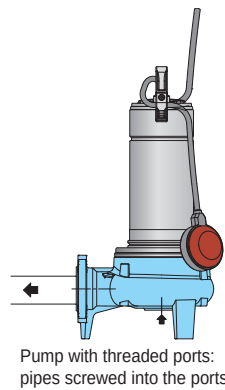
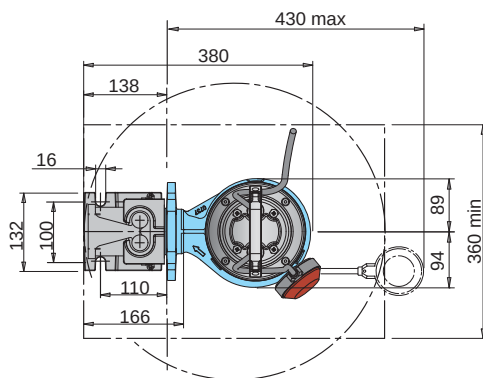
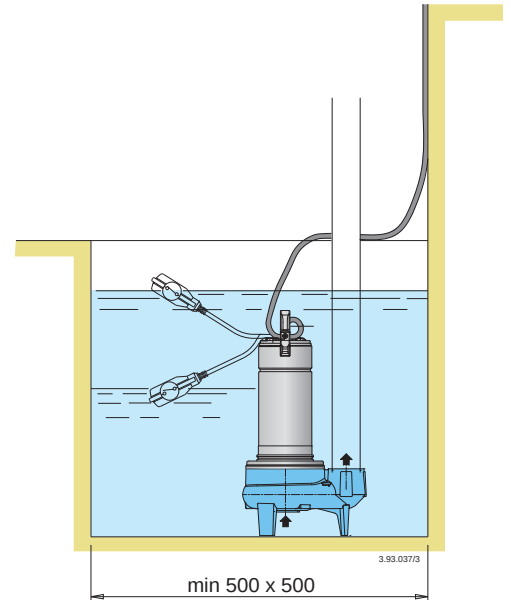
GQS, GQV Submersible Sewage and Drainage Pumps



Installation examples



TYPE	mm	
	h max	h min
GQV(M) 50-8	580	320
GQV(M) 50-9	580	320
GQV(M) 50-11	605	345
GQV(M) 50-13	625	365
GQV 50-15	625	365
GQVM 50-15	655	395



GQS, GQV

Submersible Sewage and Drainage Pumps



Features

Cable length 10 m, pump single-phase with plug

PATENTED

Handle in polypropylene, with frame in stainless steel.

Easy inspection of the capacitor area.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Ring against accidental extraction of the cable.

Relief valve: the pump is fitted to a relief valve for air release around the impeller granting a proper pump priming also after long standstill periods.

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

Maximum flexibility of connection:

- Flange DN 50 PN 10 EN 1092-2
- N. 4 M8 holes on Ø 90 for duck foot coupling SA-G2"
- G 2 ISO 228

Chamber with food/pharmaceutical machinery oil

Impeller with epoxy cataphoresis treatment for a greater protection against the rust.

Shaft in chrome-nickel stainless steel.

Pump casing with epoxy cataphoresis treatment joined to the external paint for a greater protection against the rust.

The free-flow impeller (vortex) construction is particularly suitable for liquids containing solids up to 50 mm grain size.

GQV

G 2 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

GQS

GMC, GMV

Submersible Sewage and Drainage Pumps



Construction

Close coupled electric submersible pumps.

GMC: with single-channel impeller.

GMV: with free-flow (vortex) impeller.

Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

Applications

For domestic or industrial waste water, dirty water with solids up to 45 mm grain size for GMC and 50 mm for GMV, for liquids which are compatible with the pump materials.

Operating conditions

Liquid temperature up to 35 °C.

pH value: 6-11.

Maximum immersion depth: 10 m (with suitable cable length).

Continuous duty (with submerged motor).

Motor

2-pole induction, 50 Hz ($n \approx 2900$ rpm).

GMC, GMV: three-phase 230 V $\pm 10\%$;
three-phase 400 V $\pm 10\%$;
2 built-in thermal protectors to be connected to a control box.

Cable: 4G1,5 mm² + 2x0,5 mm², length 10 m.

GMCM, GMVM: single-phase 230 V $\pm 10\%$.

With float switch, built-in thermal protector and built-in capacitor.

Cable: H07RN8-F, 3G1,5 mm², length 10 m, with plug (CEI - UNEL 47166).

Insulation class F.

Protection IP X8.

Triple impregnation, humidity-proof winding.

Constructed in accordance with: EN 60335-2-41.

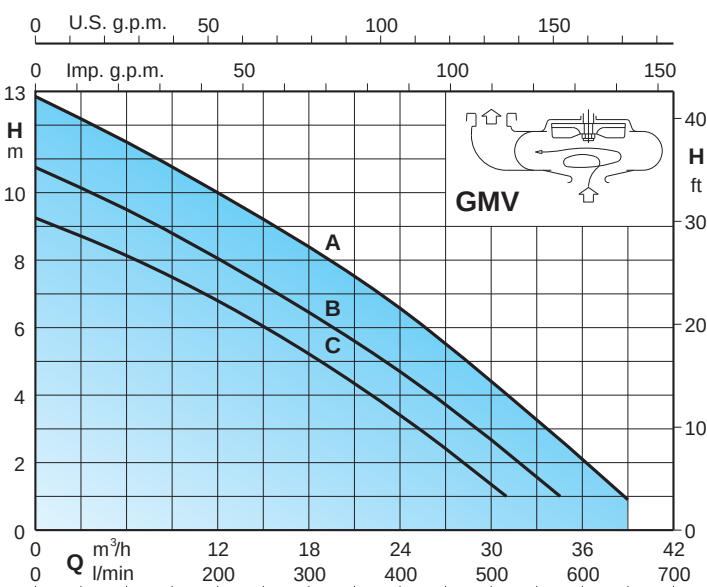
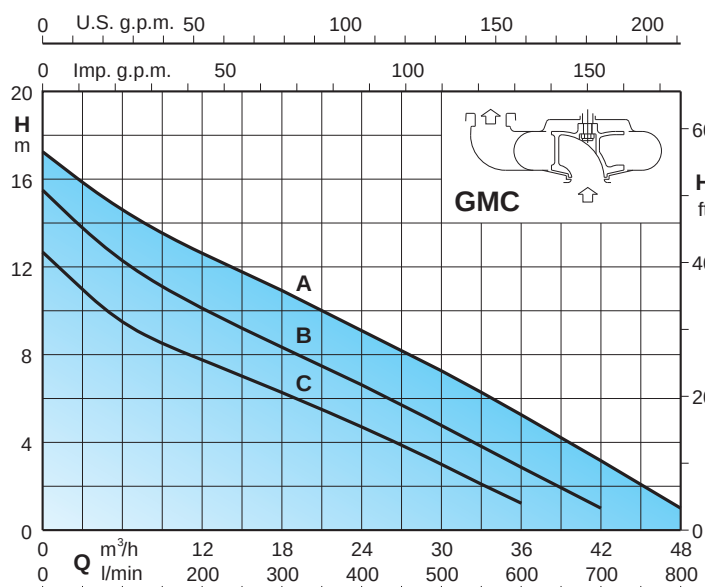
Other features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Motor suitable for operation with frequency converter.

Materials

Component	Material
Pump casing	Cast iron GJL 200 EN 1561
Casing cover	
Impeller	
Motor housing	
Motor cover	
Shaft	Chrome steel 1.4016 EN 10088 (AISI 430)
Mechanical seal: Upper	Carbon, ceramic, NBR
Lower	
Seal lubrication oil	Oil for food machinery and pharmaceutic use

Characteristic curves $n \approx 2900$ rpm



GMC, GMV

Submersible Sewage and Drainage Pumps

calpeda[®]

Performance $n \approx 2900$ rpm

3~ 230 V 400 V			1~ 230 V Capacitor				P ₁		P ₂		Q m ³ /h l/min	0	6	12	18	24	30	36	42	48
	A	A		A	μf	Vc	kW	kW	HP	0		100	200	300	400	500	600	700	800	
GMC 50CE GMC 50-65C	3,3	1,9	GMCM 50CE GMCM 50-65C	4,5	16	450	1,1	0,75	1	H m	12,8	9,5	8	6,5	5	3	1			
GMC 50BE GMC 50-65B	4,8	2,7	GMCM 50BE GMCM 50-65B	6,5	12,5x2	450	1,5	1,1	1,5		15,5	12,5	10	8,5	6,5	5	3	1		
GMC 50AE GMC 50-65A	6,6	3,8						1,5	2		17,3	14,5	12,5	11	9	7,5	5,5	3	1	

3~ 230 V 400 V			1~ 230 V Capacitor P ₁					P ₂		Q m ³ /h l/min									
	A	A		A	µf	Vc	kW	kW	HP		0	6	12	18	24	30	31	35	39
GMV 50CE GMV 50-65C	3,3	1,9	GMVM 50CE GMVM 50-65C	4,5	16	450	1,1	0,75	1	H m	9,2	8	7	5	3,5	1,5	1		
GMV 50BE GMV 50-65B	4,8	2,7	GMVM 50BE GMVM 50-65B	6,5	12,5x2	450	1,5	1,1	1,5		10,7	9,5	8	6,5	4,5	2,5	2,3	1	
GMV 50AE GMV 50-65A	6,6	3,8						1,5	2		12,9	11,5	10	8,5	6,5	4,3	4	2,5	1

P₁ Max. power input.

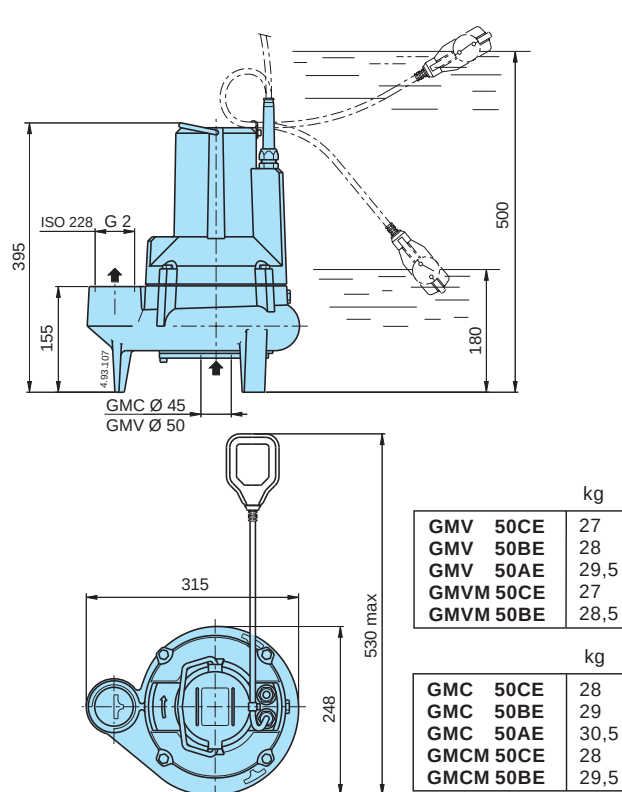
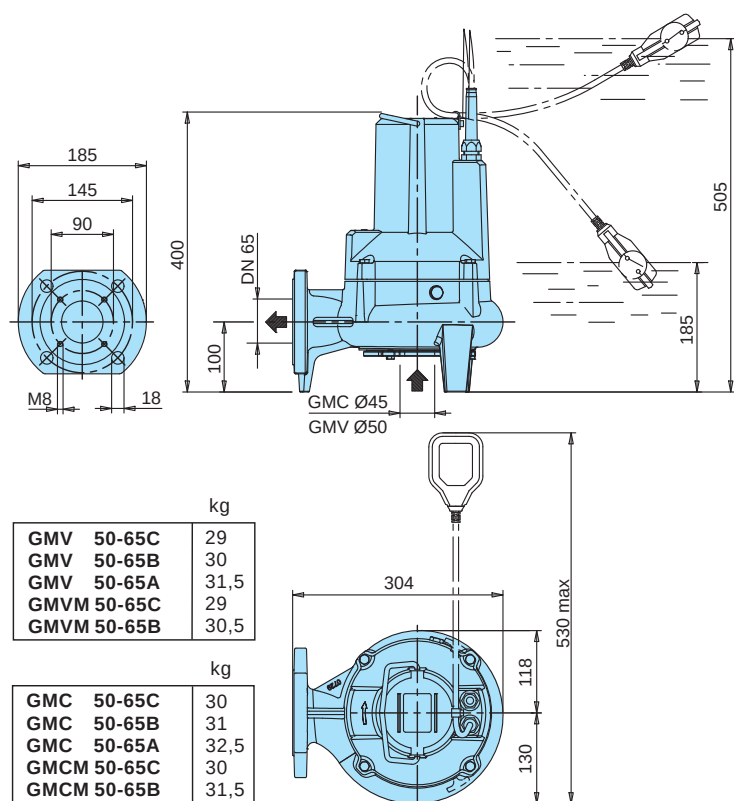
H Total head in m.

Density $\rho = 1000$ kg/m³.

Kinematic viscosity $\nu = \max 20$ mm²/sec.

P₂ Rated motor power output.

Dimensions and weights

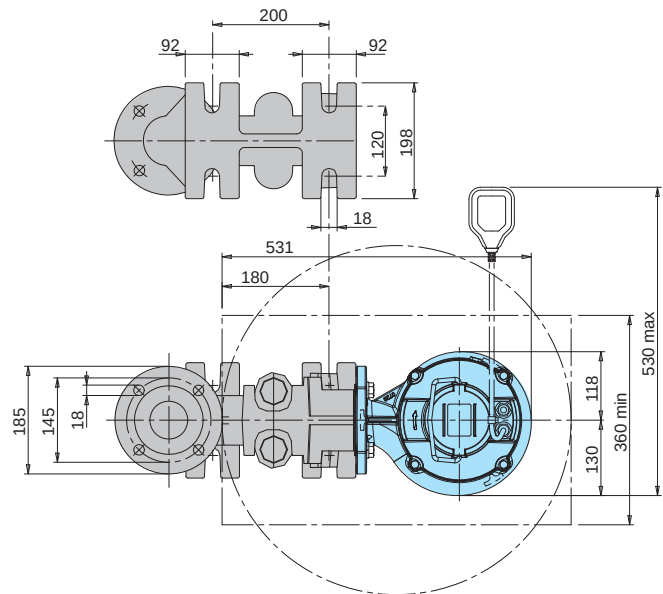
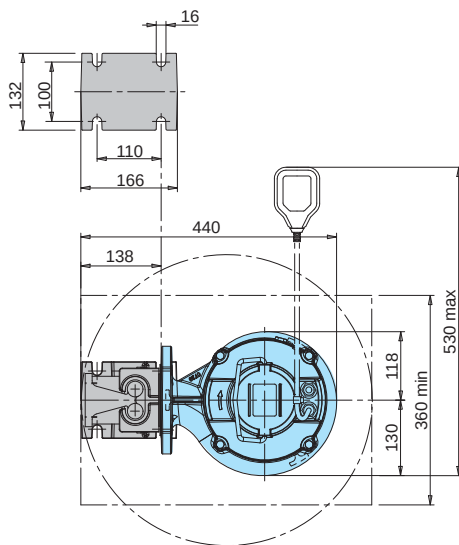
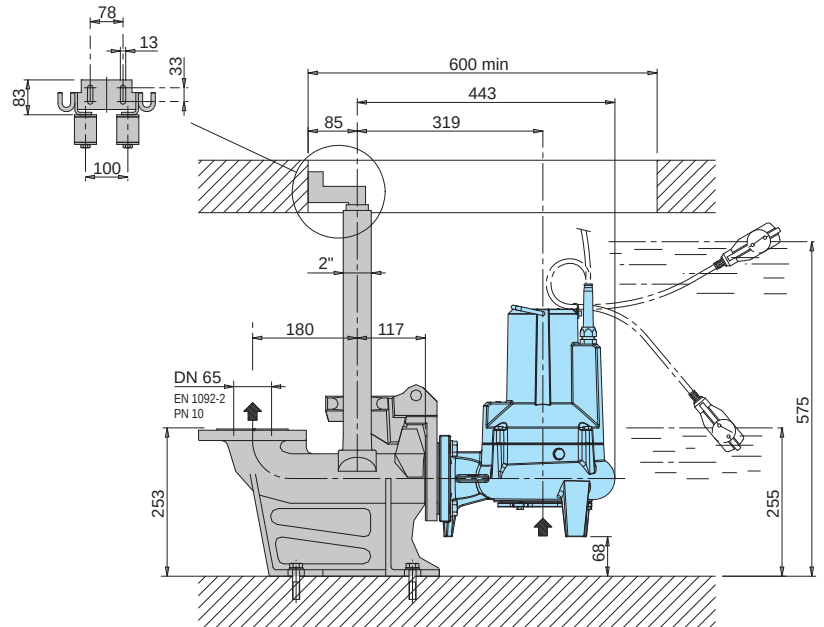
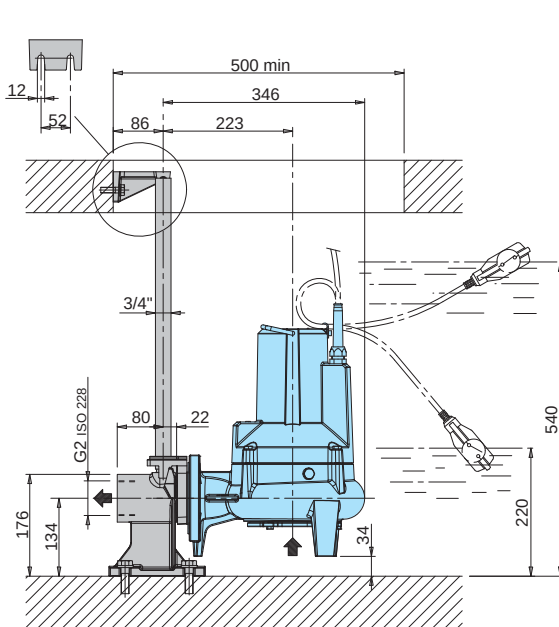


GMC, GMV

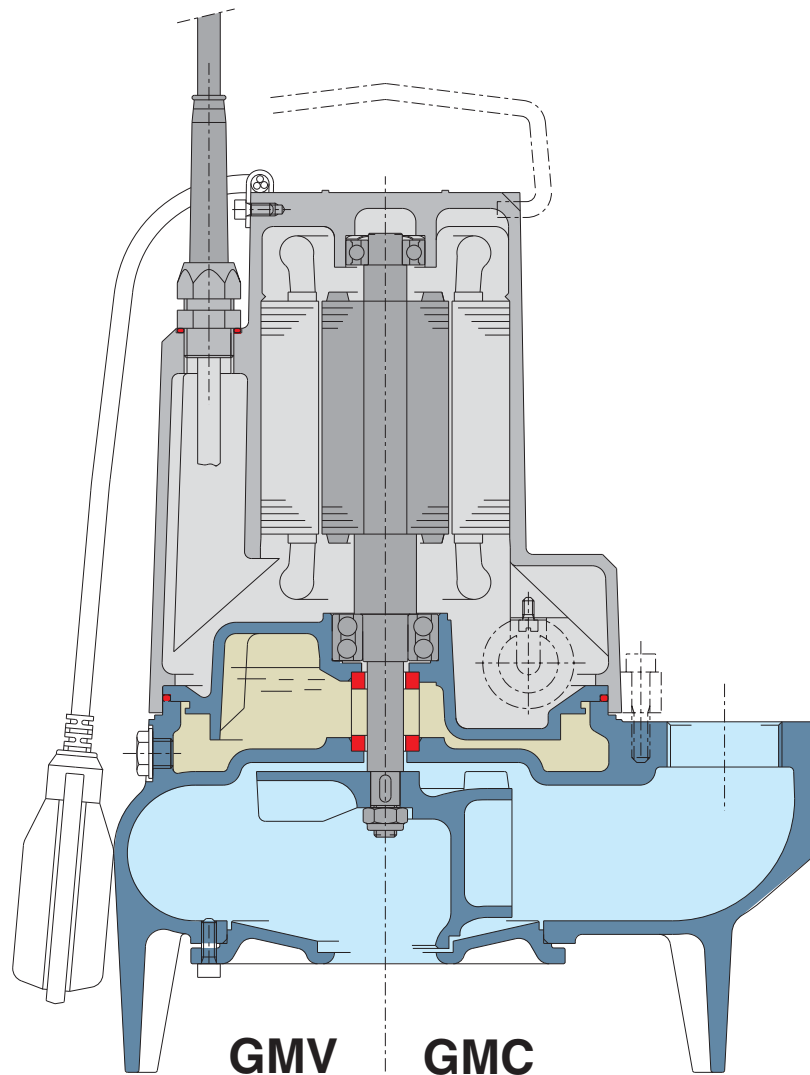
Submersible Sewage and Drainage Pumps



Dimensions with duck foot coupling



Features



Safety

The double mechanical seal with oil chamber ensures safe separation separating the motor from water and providing further protection against accidental operation when dry.

Reliable

The lower double ball bearing ensures high reliability under all operating conditions.

Protection

The three-phase motors are equipped with integrated thermistors, which provide the motor with thermal protection. The motor cable is pre-wired to enable the user to connect directly to a control panel, providing easier installation.

Flexible installation

The availability of the pump casing with horizontal or vertical flanged ports allows the installation of pumps in all pits and wells, both small and large sizes. Installation is also possible with a duck foot coupling.



PATENTED

Construction

Submersible pumps with high power grinder, with horizontal flanged and threaded delivery port (DN 32 PN 6 - G 1 1/2). Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

Applications

Suitable for pumping waste water containing long filamentous, paper and textile materials and organics. They are particularly suitable for use in domestic, residential and industrial installations. Solid passage Ø 6 mm

Limiti d'impiego

Liquid temperature up to 35° C.
Maximum immersion depth: 5 m.
Minimum immersion depth: 300 mm.
Continuous duty (with submerged motor).

Motore

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

GQG: three-phase 230 V $\pm 10\%$;
three-phase 400 V $\pm 10\%$;

GQGM: single-phase 230 V $\pm 10\%$,
with float switch and control box with thermal protection and starting capacitors.

Cable: H07RN8-F, 4G1 mm² (4G1,5 mm² for GQGM 6-25), length 10 m.

Insulation class F.

Protection IP X8 (for continuous immersion)

Triple impregnation humidity-proof dry winding.

Constructed in accordance with: EN 60 335-2-41.

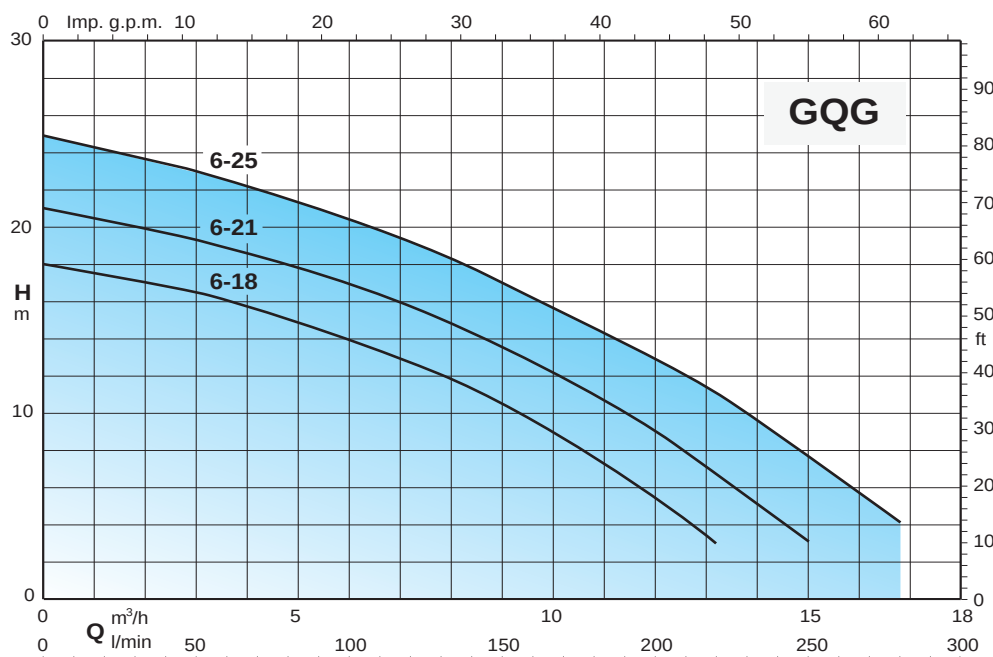
Materials

Component	Material
Pump casing Impeller Casing cover	Cast iron GJL 200 EN 1561
Coltello rotante Coltello fisso	Nickel-Molybdenum steel 1.4125 EN 10088 (AISI 440C)
Motor jacket Jacket cover	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Handle	Polypropylene (with frame in AISI 304)
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal: upper lower	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Other features on request

- Other voltages.
- Frequency 60 Hz.
- Other mechanical seal.
- Cable length 20 m.
- Vertical magnetic float switch.
- Three-phase pumps with incorporated float switch.

Characteristic curves $n \approx 2900$ rpm



Performance $n \approx 2900$ rpm

3~	230V 400V		1~	230V		Capacitor		P ₁		P ₂		Q m³/h l/min	0	3	6	9	12	13,2	15	16,8
	A	A		A	µf	Vc	kW	kW	HP	0	50		100	150	200	220	250	280		
GQG 6-18	4	2,3	GQGM 6-18	7	30+80	450	1,3	0,9	1,2	H m	18	16,5	14,5	11,2	6,5	4,5				
GQG 6-21	4,8	2,8	GQGM 6-21	7,5	30+80	450	1,5	1,1	1,5		21	19,2	17	13,5	9	7	4			
GQG 6-25	6,6	3,8	GQGM 6-25	9,5	30+80	450	2	1,5	2		25	23	20,5	17	13	11	7,8	4		

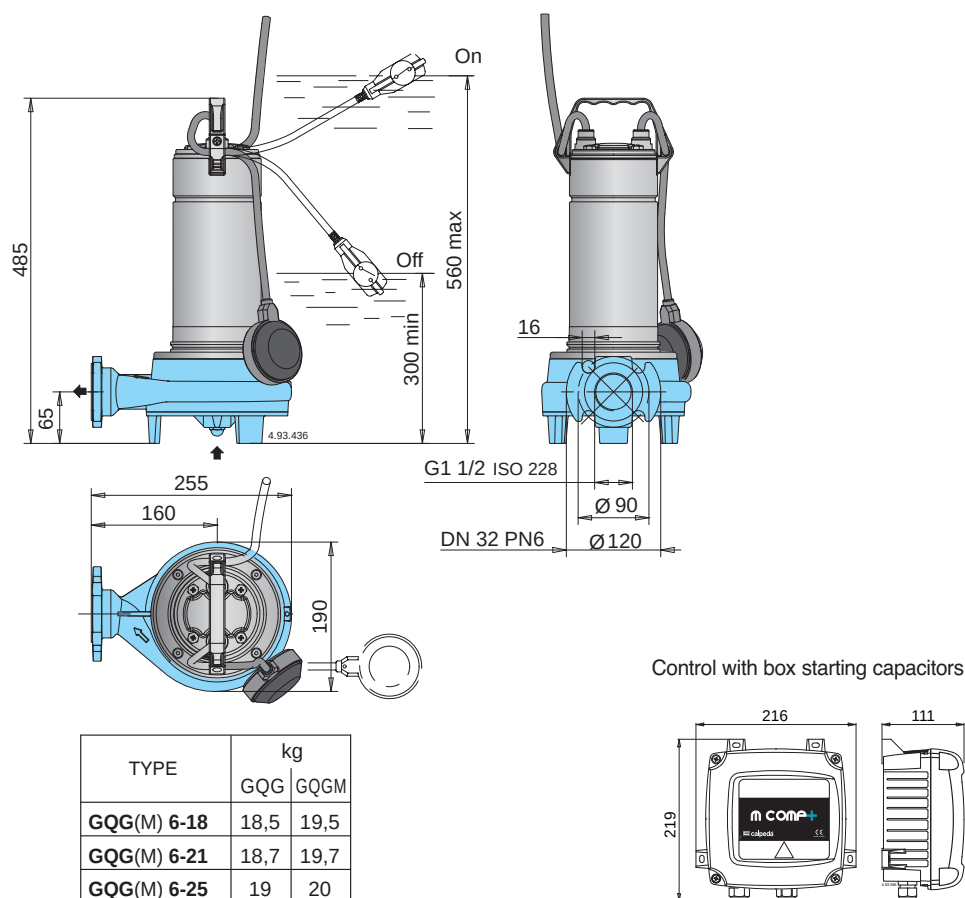
P1 Max. power input.

P2 Rated motor power output.

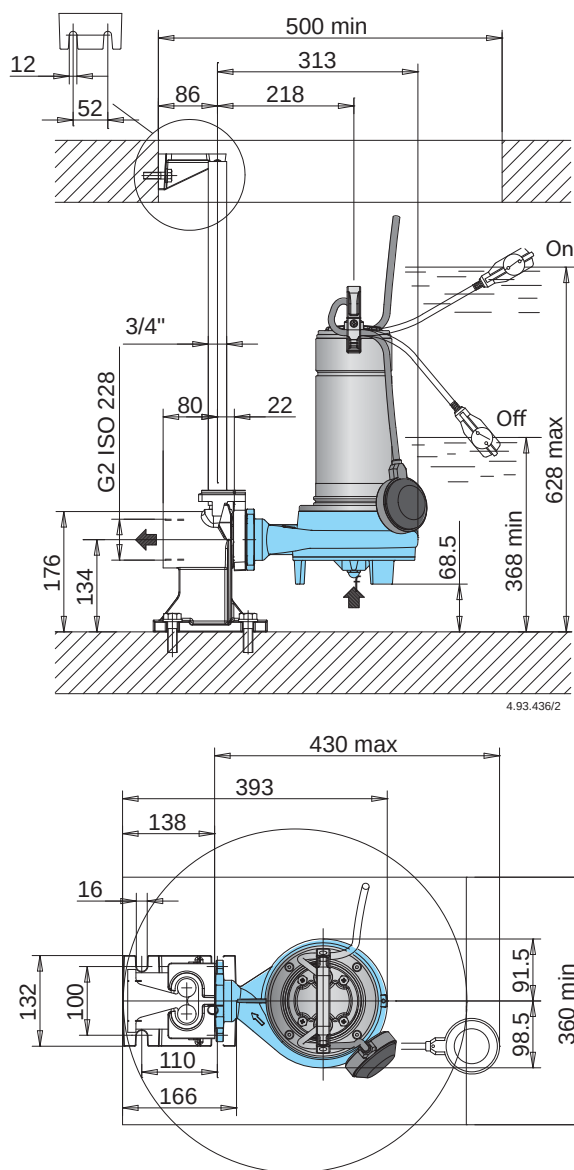
Density $\rho = 1000 \text{ kg/m}^3$.

Kinematic viscosity $\nu = \max 20 \text{ mm}^2/\text{sec}$.

Dimensions and weights

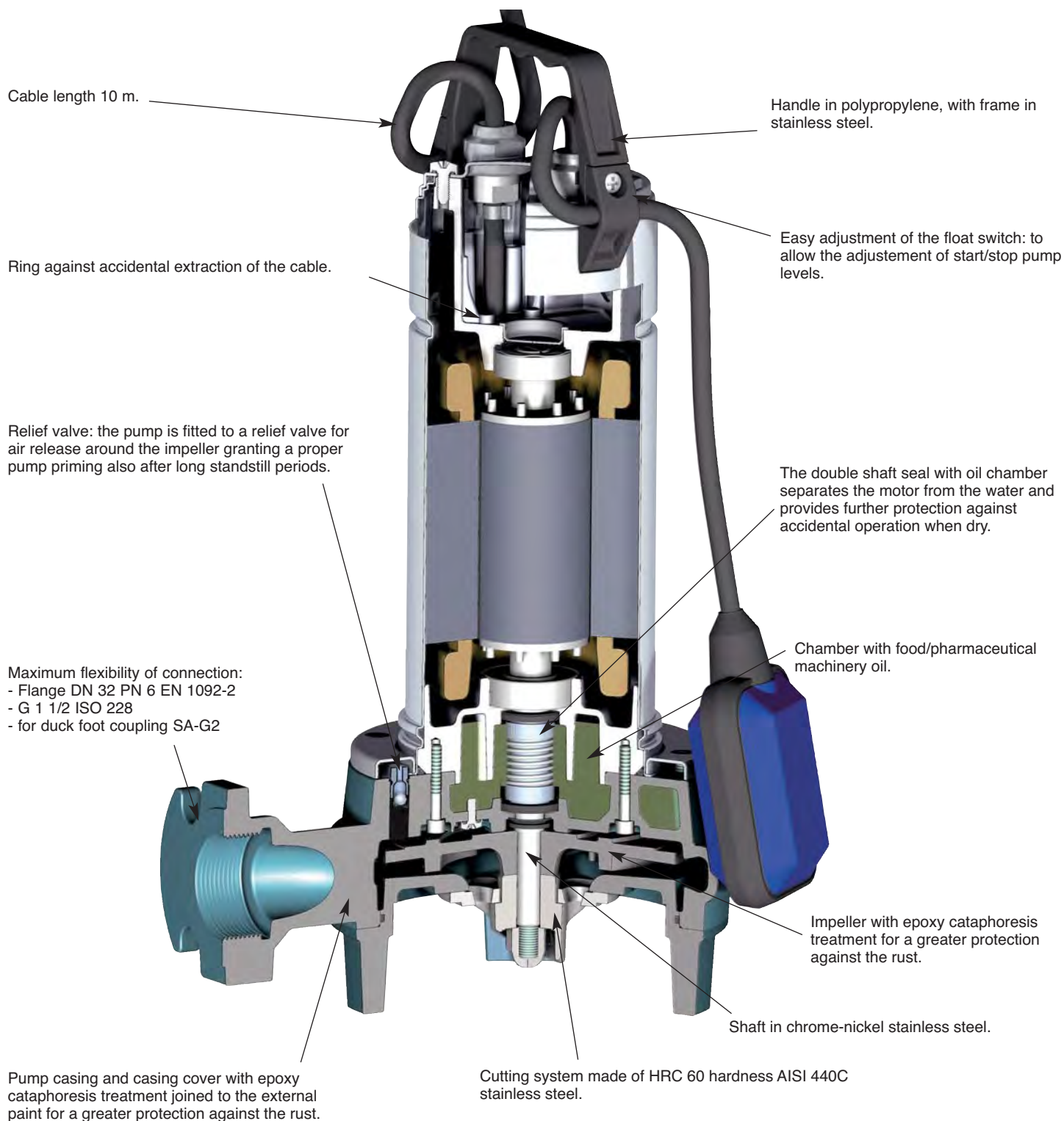


Installation example



Features

PATENTED



GM

Submersible Pumps



35

GMV



Submersible pumps with vortex impeller in cast iron EN-GJL-250

pag. 236

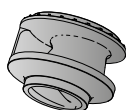
GMVS



Submersible pumps with vortex impeller in cast iron with polyurethane coating

pag. 243

GMC



Submersible pumps with single channel impeller in cast iron EN-GJL-250

pag. 245

GMN



Submersible pumps with channels impeller in cast iron EN-GJL-250

pag. 254

GMG



Submersible pumps with grinder in cast iron EN-GJL-250

pag. 268

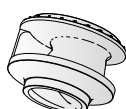
I-GMV



Submersible pumps with vortex impeller in stainless steel AISI316

pag. 272

I-GMC



Submersible pumps with single channel impeller in stainless steel AISI316

pag. 272

I-GMN



Submersible pumps with channels impeller in stainless steel AISI316

pag. 272

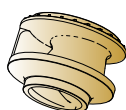
B-GMV



Submersible pumps with vortex impeller in Marine Bronze B10

pag. 283

B-GMC



Submersible pumps with single channel impeller in Marine Bronze B10

pag. 283

B-GMN



Submersible pumps with channels impeller in Marine Bronze B10

pag. 283

A new series of submersible pumps with high efficiency hydraulics designed to move slurry, sewage and industrial process fluids.

The range covers a wide field of use with head up to 75 m And flows up to 2300 m³/h, with a maximum solid passage up to 140 mm keeping the risk of blockage to a minimum.

Dimensionally designed for heavy demand, even on critical applications.

Explosion proof version on request.

Pump designation

B-GM V 4 M 50-80 A

Version B = bronze
I = stainless steel
(no indication: cast iron version)

Series

Impeller type V = Vortex
C = Singlechannel
N = Channels
G = Grinder

4-6-8 poles motor (no indication: 2 poles)

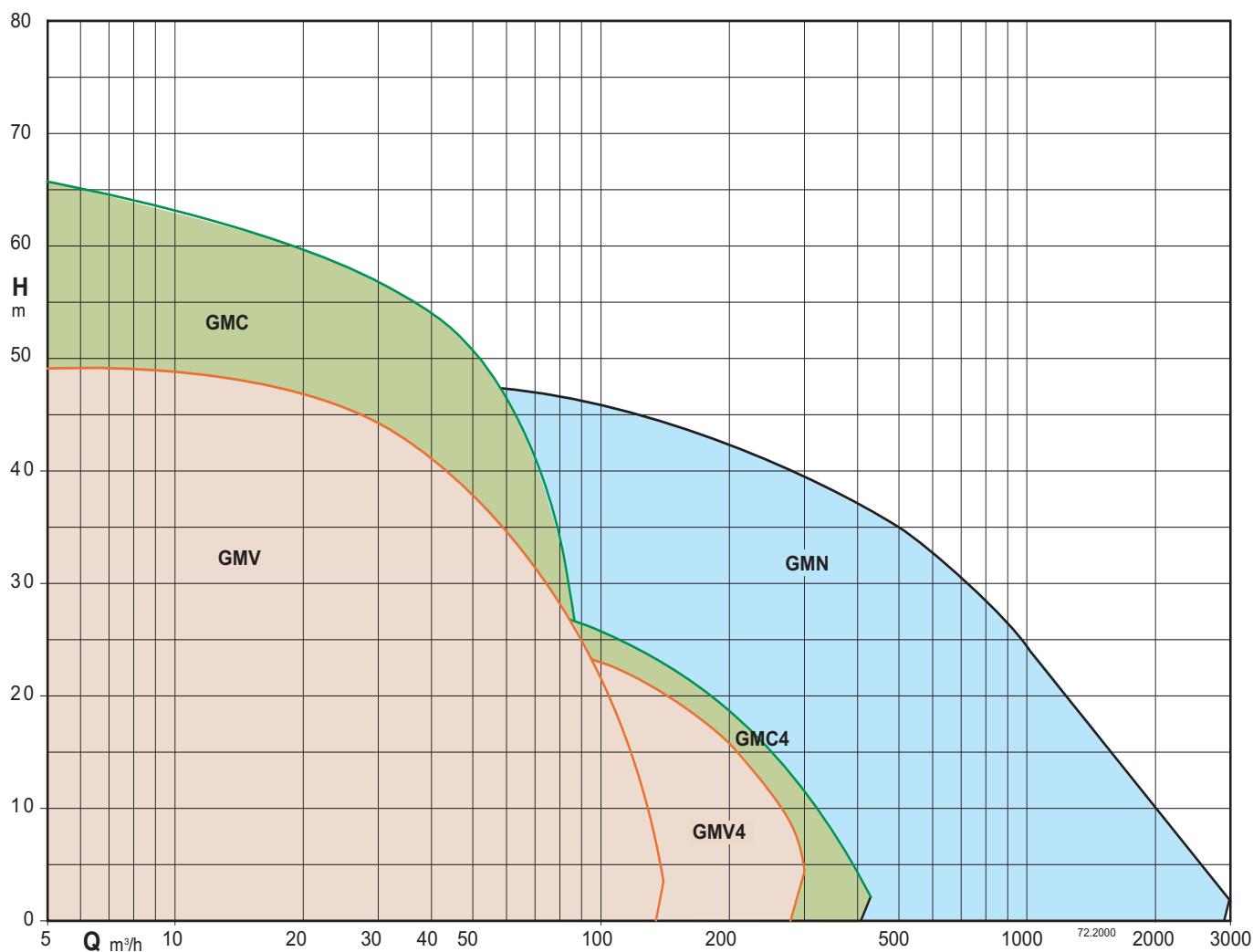
Singlephase M (no indication: threephase)

Free passage

Discharge diameter in mm

Pump size

Coverage chart



GMV

Submersible pumps with vortex impeller

calpeda®



Main materials

Pump casing: cast iron EN-GJL-250
Impeller: cast iron EN-GJL-250+Ni
Motor casing: cast iron EN-GJL-250
Motor cover: cast iron EN-GJL-250
Shaft: stainless steel AISI 420B
Mechanical seal motor side: graphite/ceramic
Mechanical seal pump side: silicon carbide/silicon carbide

Construction

Submersible pumps with vortex impeller.
Twin mechanical seal with oil chamber.
Delivery connection DN 80-100-150.

Applications

Suitable to pump slurry and sewage waters with the presence of solid and filamentous parts in suspension, they are in particular pointed out for emptying septic tanks in the domestic, residential and industrial installations.
Solid passage diameter from 50 to 100 mm.

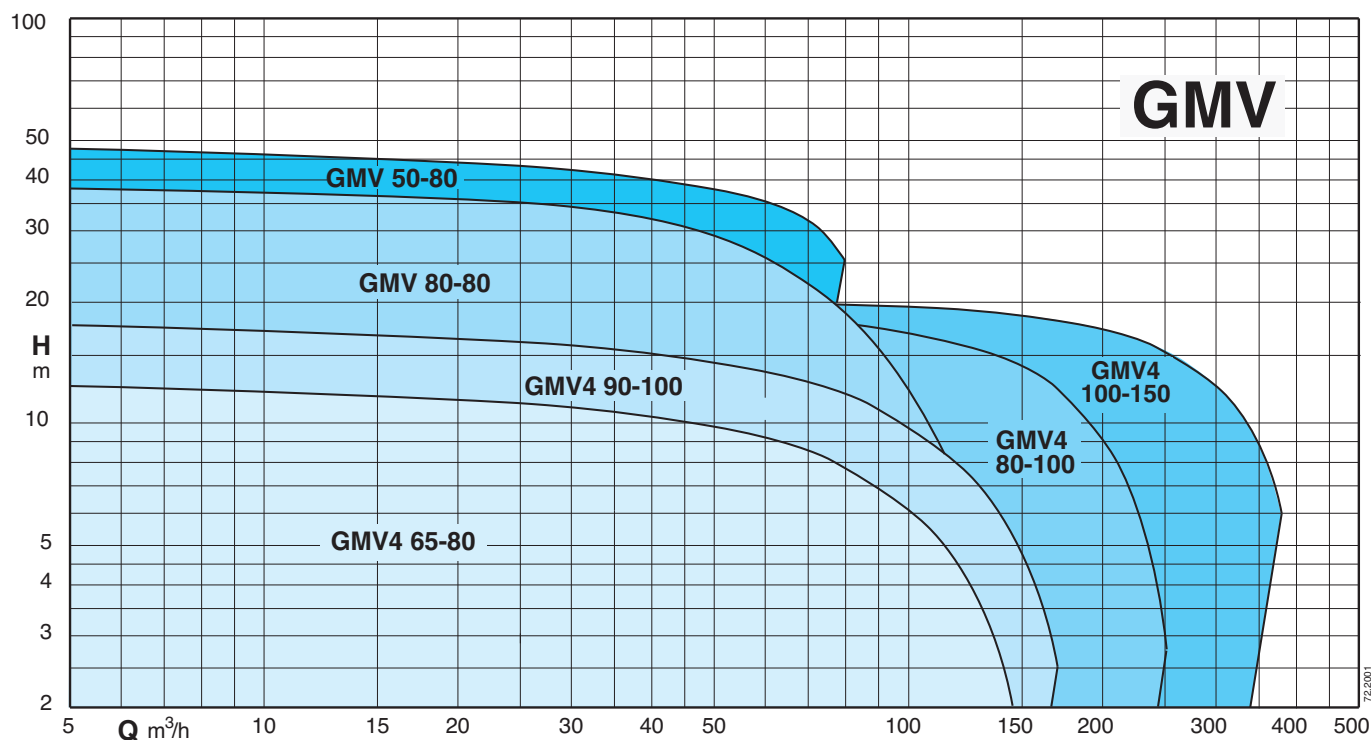
Operating conditions

Liquid temperature up to 40 °C.
Maximum immersion depth: 20 m (with suitable cable length).
Continuous duty (with pump immersed at minimum level).

Motor

2 or 4 poles induction, 50Hz
Three-phase version: 400V $\pm$ 10%, up to 3,2 kW
400/690V $\pm$ 10%, over 3,2 kW
Insulation Class: H
Protection degree: IP 68
N° of starting x hour: max 15 with regular intervals
Cable: H07RN-F, length 10 m
Other models: contact our sale office
Classification scheme IE3.

Coverage chart





Submersible pumps with vortex impeller



Technical data

TYPE	P ₂ kW	I _N A	Power Supply	r.p.m.	Starting	DN mm	Free passage Ø mm	Thermal protector	Humidity probe	 ATEX Eex
GMV 50-80F/A	3,1	5,8	3~ 400V	2850	D.O.L.	80	50	NO	NO	✓
GMV 50-80E/A	3,9	7,2	3~ 400V	2850	D.O.L.	80	50	NO	NO	✓
GMV 50-80D/A	5	9,1	3~ 400/690V	2850	Y/Δ	80	50	●	●	✓
GMV 50-80C/A	5,7	10,4	3~ 400/690V	2850	Y/Δ	80	50	●	●	✓
GMV 50-80B/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	50	●	●	✓
GMV 50-80A/A	18,2	32,6	3~ 400/690V	2850	Y/Δ	80	50	●	●	✓
GMV 70-80B/B	8,2	14,7	3~ 400/690V	2850	Y/Δ	80	70	●	●	✓
GMV 70-80A/B	9	16,2	3~ 400/690V	2850	Y/Δ	80	70	●	●	✓
GMV 80-80B/A	14,9	26,8	3~ 400/690V	2850	Y/Δ	80	80	●	●	✓
GMV 80-80A/A	18,2	32,6	3~ 400/690V	2850	Y/Δ	80	80	●	●	✓
GMV 80-80S/A	22,4	38,9	3~ 400/690V	2850	Y/Δ	80	80	●	●	✓
GMV4 65-80D/A	2,3	4,4	3~ 400V	1450	D.O.L.	80	65	NO	NO	✓
GMV4 65-80C/A	3,2	6,2	3~ 400V	1450	D.O.L.	80	65	NO	NO	✓
GMV4 65-80B/A	3,5	6,8	3~ 400/690V	1450	Y/Δ	80	65	●	●	✓
GMV4 65-80A/A	4,9	9,9	3~ 400/690V	1450	Y/Δ	80	65	●	●	✓
GMV4 90-100B/A	6	11,5	3~ 400/690V	1450	Y/Δ	100	90	●	●	✓
GMV4 90-100A/A	7,5	14,3	3~ 400/690V	1450	Y/Δ	100	90	●	●	✓
GMV4 80-100C/A	10	19	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMV4 80-100B/A	12,9	24,1	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMV4 80-100A/A	16	29,7	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMV4 80-100S/A	27	49,6	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMV4 100-150E/A	27	49,6	3~ 400/690V	1450	Y/Δ	150	100	●	●	✓

P₂ Rated power output

I_N Rated current

● Standard

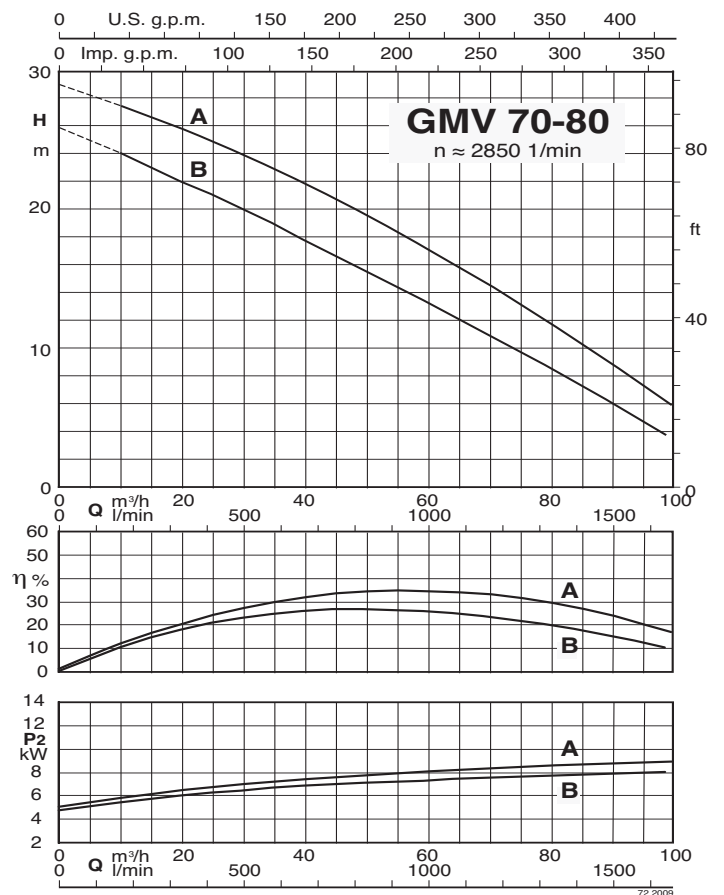
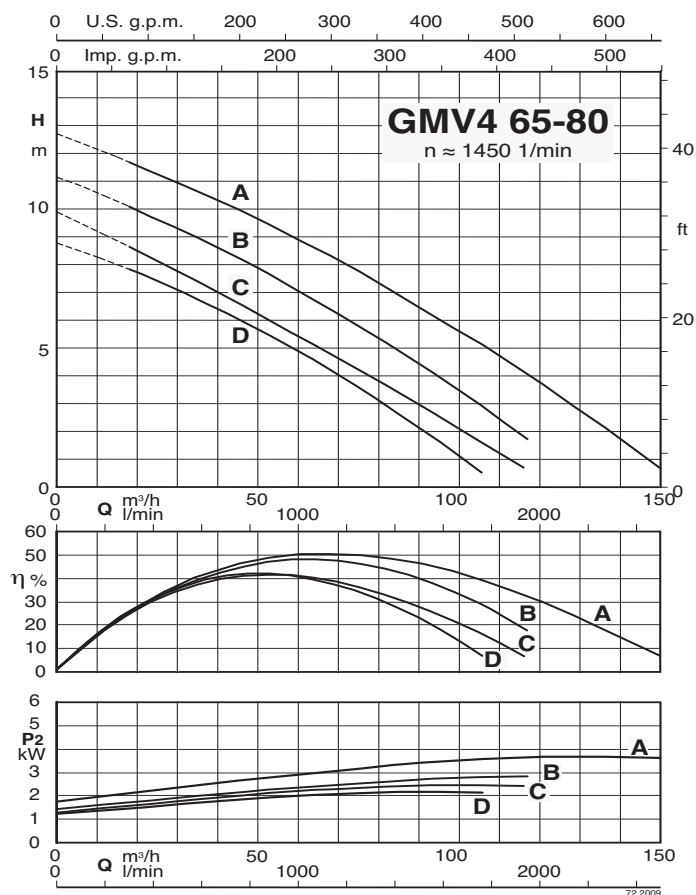
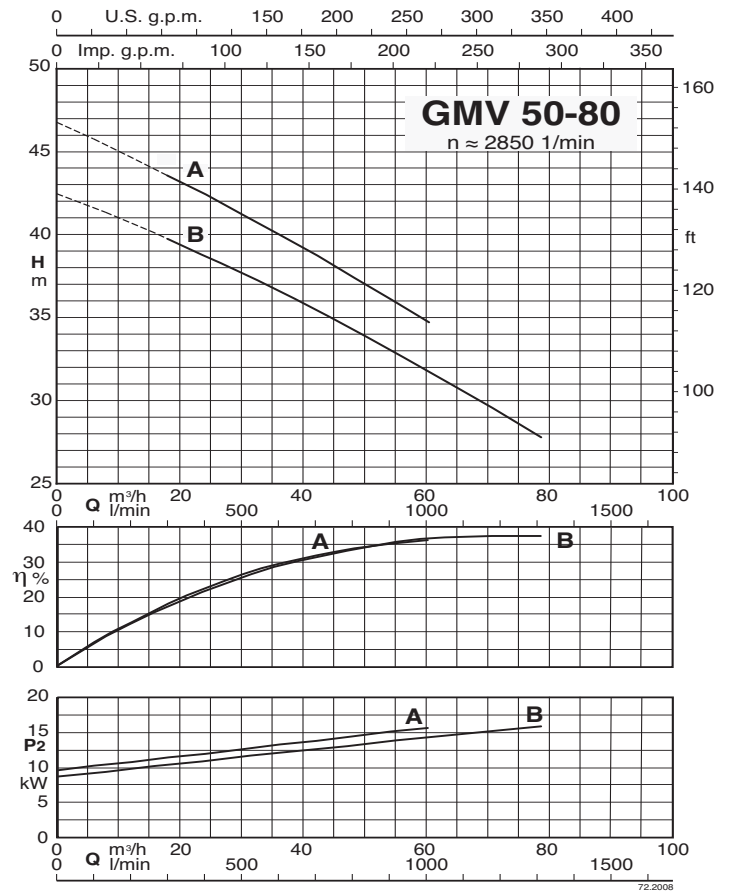
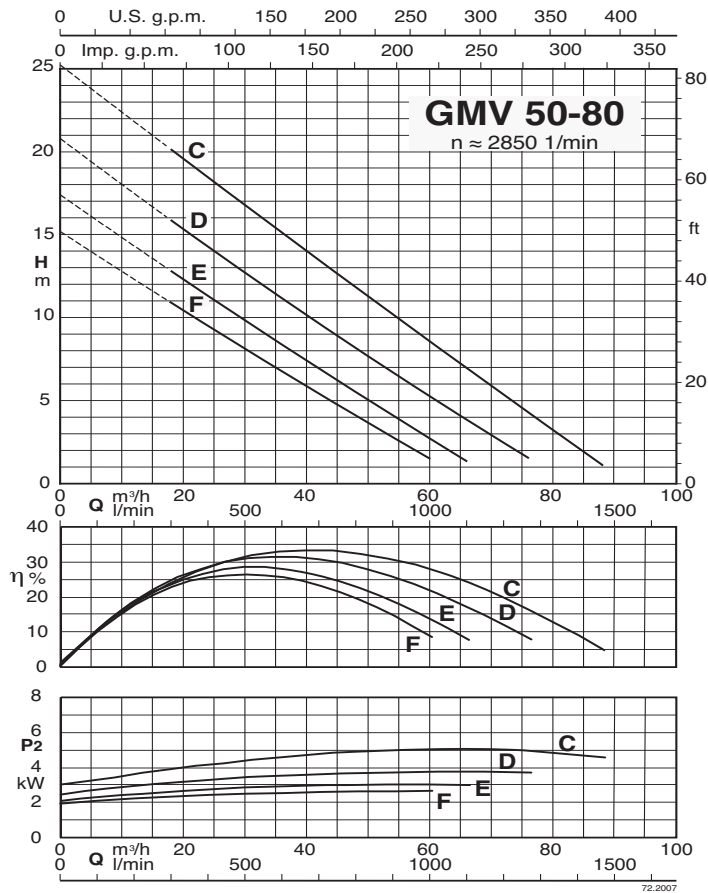
✓ ATEX Eex Version on demand



**Submersible pumps
with vortex impeller**



Characteristic curves

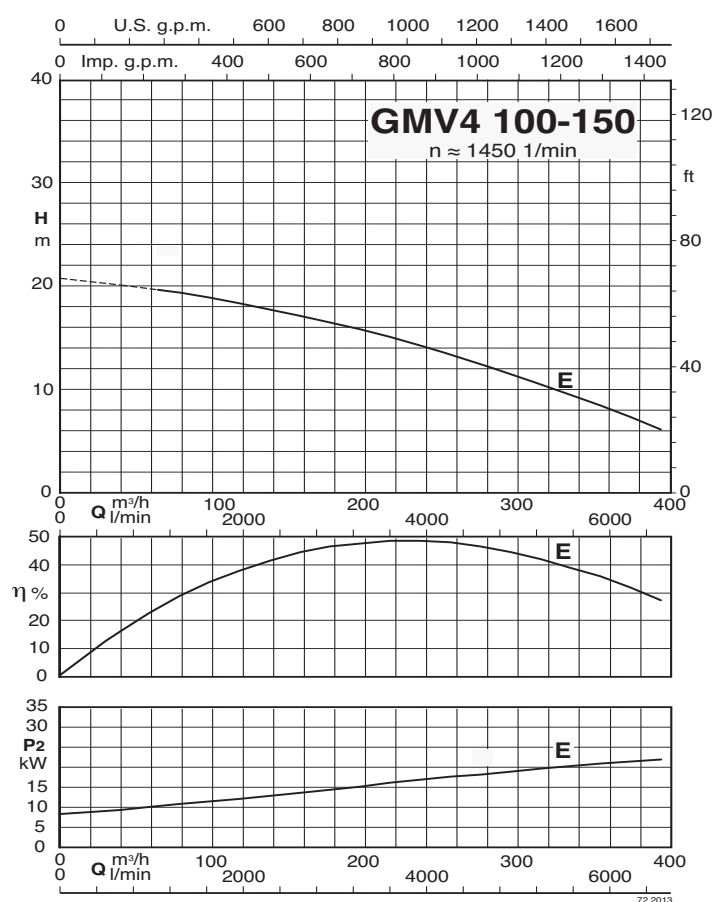
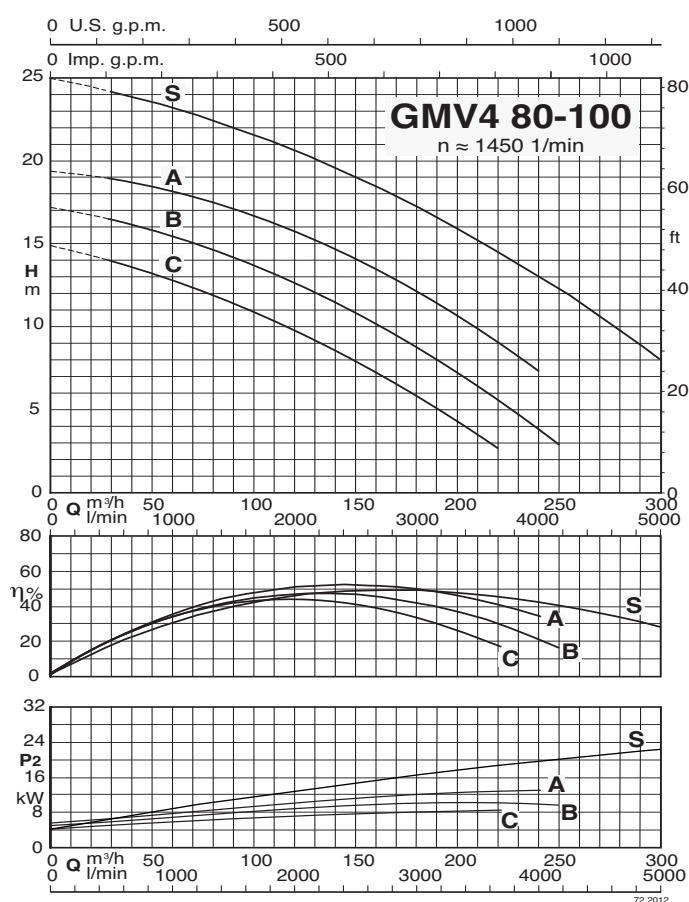
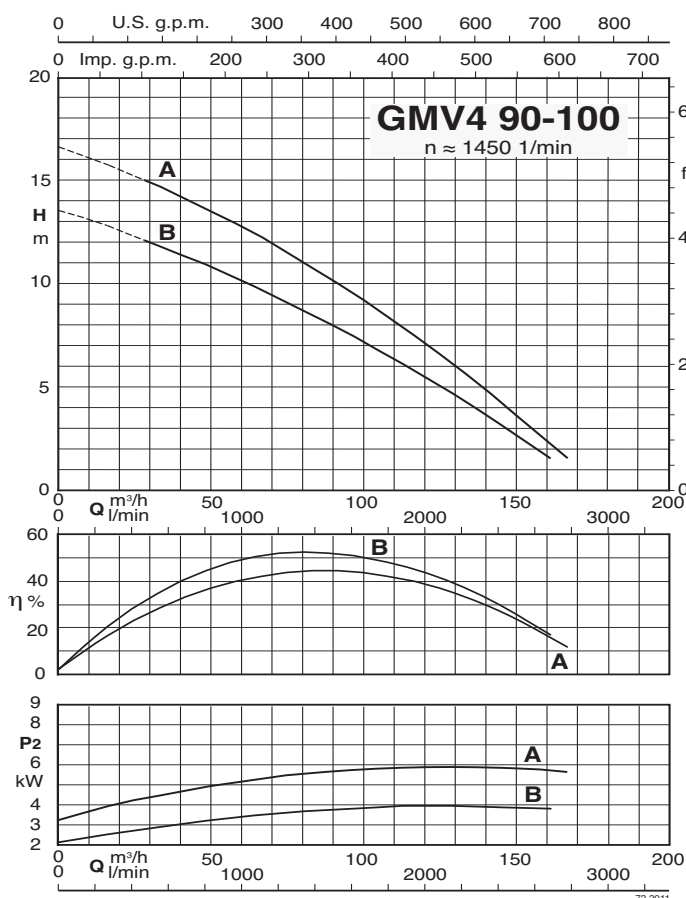
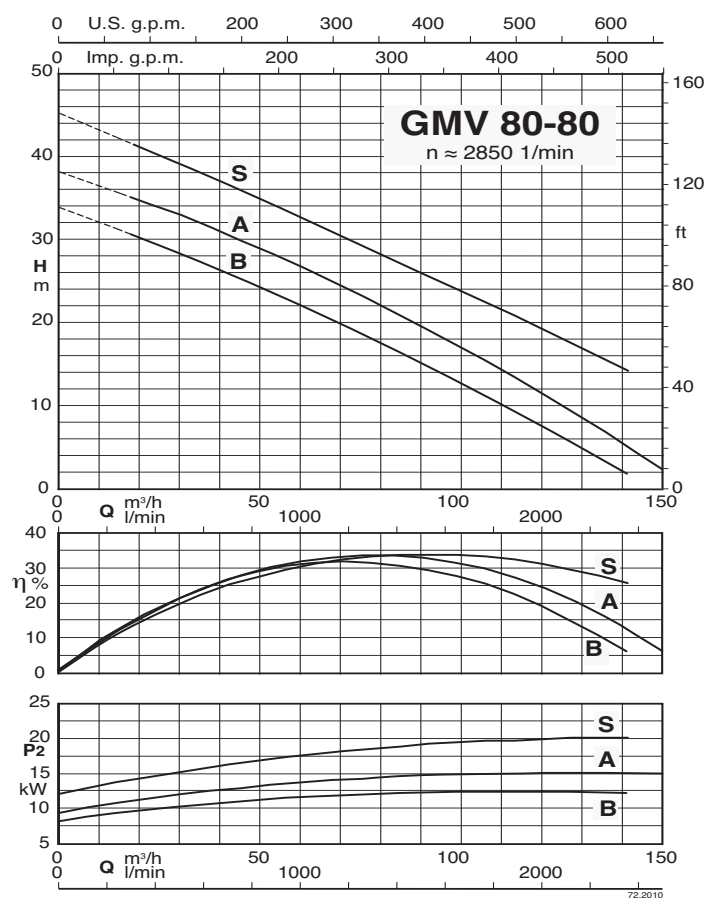




**Submersible pumps
with vortex impeller**



Characteristic curves

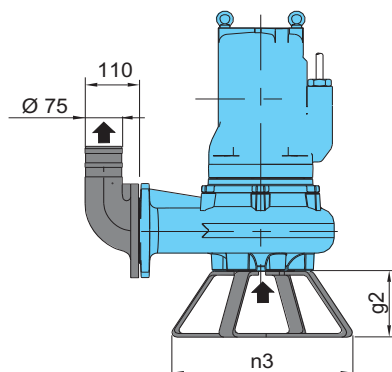
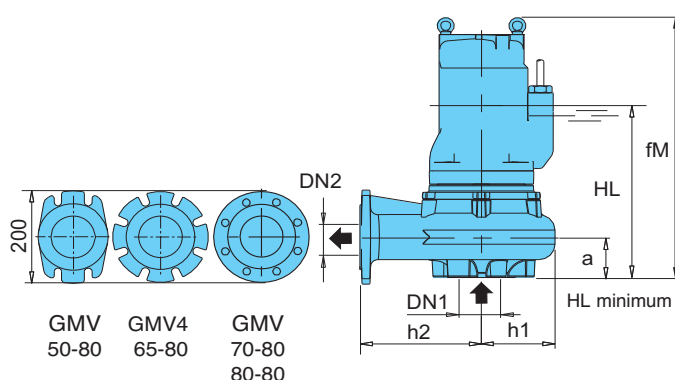


Dimensions and weights

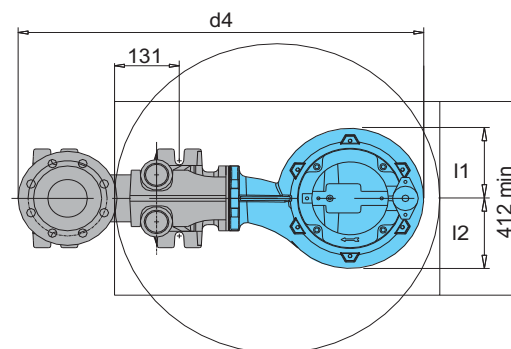
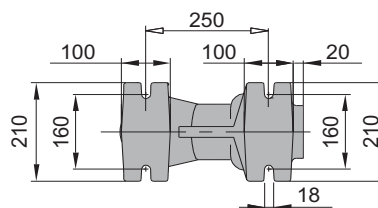
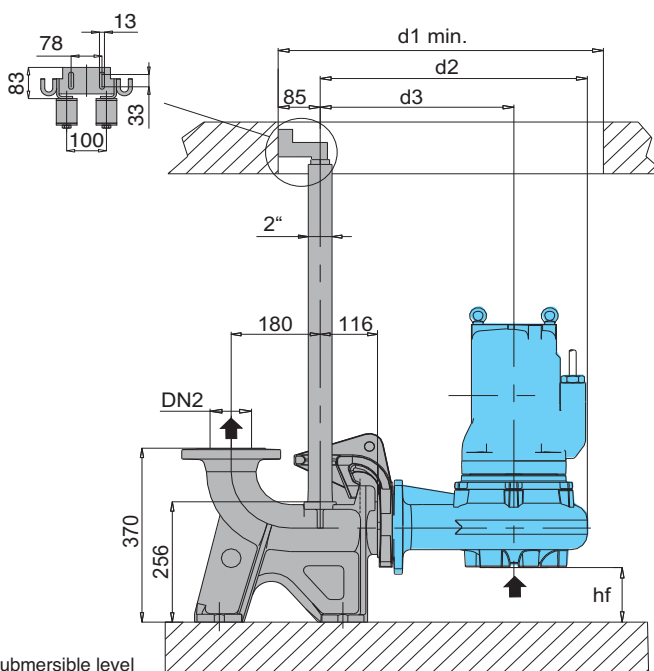
GMV 50-80

GMV 80-80

GMV4 65-80



Version with foot and 90° elbow

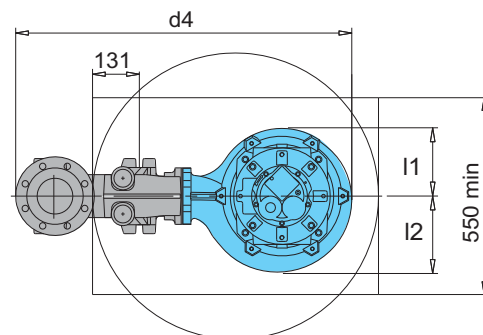
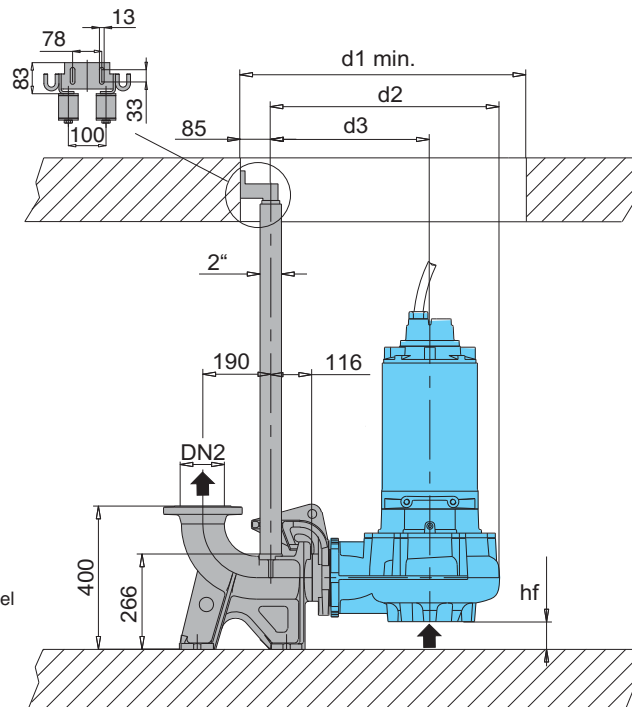
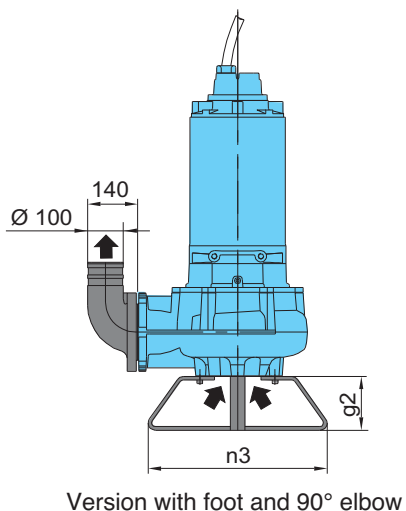
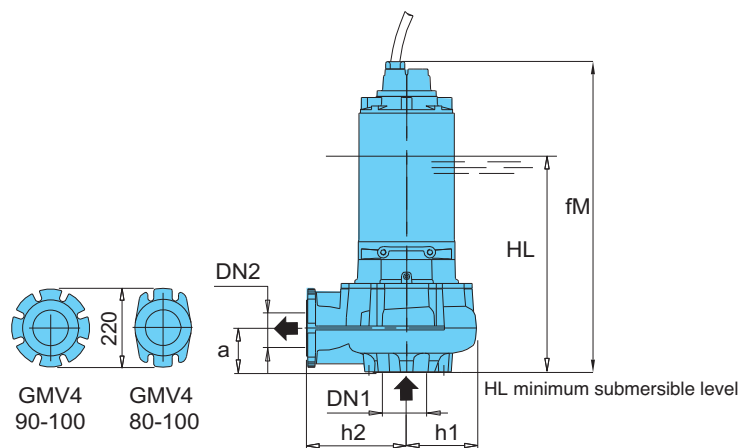


Version with duck foot coupling

TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMV 50-80F/A	80	80	487	347	116	84	149	149	660	541	392	821	149	246	364	140	60
GMV 50-80E/A																	
GMV 50-80D/A			553	375	116	84	149	149	660	541	392	821	149	246	364	140	77
GMV 50-80C/A																	
GMV 50-80B/A	80	80	867	516	122	78	164	164	800	593	428	873	185	241	500	150	190
GMV 50-80A/A																	
GMV 70-80B/B	80	80	829	500	65	135	167	167	800	633	446	913	185	280	400	576	160
GMV 70-80A/B																	
GMV 80-80B/A	100	80	900	548	60	140	169	175	900	671	481	950	190	315	400	140	190
GMV 80-80A/A																	
GMV 80-80S/A	100	80	1328	658	58	142	193	193	800	672	483	952	193	316	500	150	200
GMV4 65-80D/A	80	80	516	380	80	121	143	169	700	548	396	828	152	250	364	140	64
GMV4 65-80C/A																	
GMV4 65-80B/A	80	80	582	400	80	121	143	169	700	548	396	828	152	250	364	140	79
GMV4 65-80A/A																	

Dimensions and weights

GMV4 90-100 GMV4 80-100

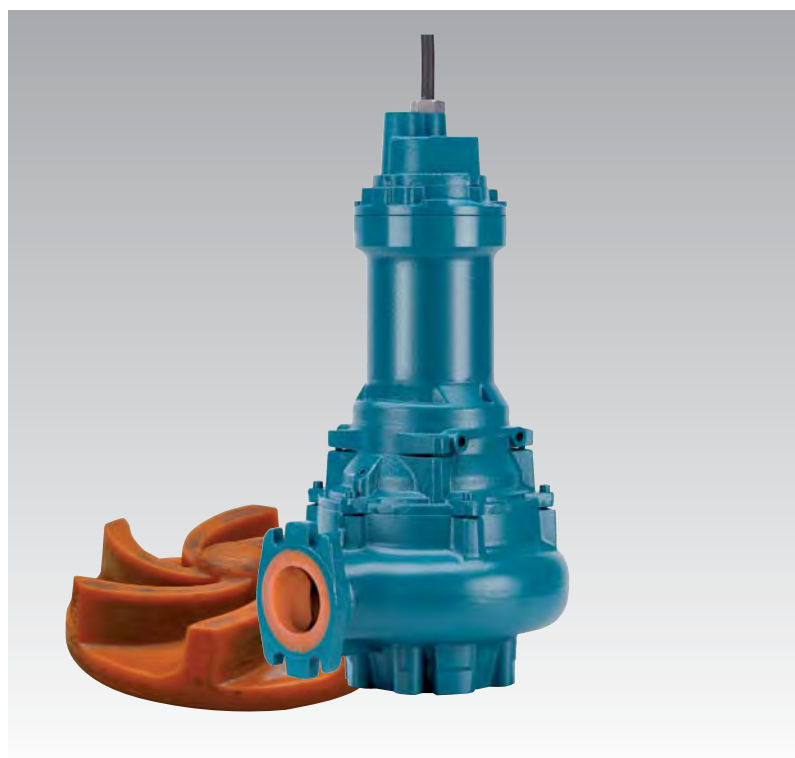


TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMV4 90-100B/A	125	100	829	490	89	111	180	180	800	633	443	933	241	277	500	150	170
GMV4 90-100A/A																	
GMV4 80-100C/A	125	100	921	570	54	147	189	212	800	640	445	940	195	279	500	150	200
GMV4 80-100B/A																	
GMV4 80-100A/A	125	100	1343	670	54	146	193	212	800	640	441	936	200	280	500	150	340
GMV4 80-100S/A																	

GMVS

Submersible pumps vortex with polyurethane coated hydraulic parts

calpeda®



Main materials

Pump casing: cast iron EN-GJL-250 with polyurethane coating
Impeller: Polyurethane with a stainless steel core
Motor casing: cast iron EN-GJL-250
Motor cover: cast iron EN-GJL-250
Shaft: stainless steel AISI 420B
Mechanical seal motor side: graphite/ceramic
Mechanical seal pump side: silicon carbide/silicon carbide

Construction

Submersible pumps with vortex impeller
Impeller in Polyurethane with a stainless steel core - Pump casing in Cast iron EN-GJL-250, with polyurethane coating for parts subject to high wear.
Twin mechanical seal with oil chamber.
Delivery connection DN 80.

Applications

The pumps are designed to suit applications in plants with an high sand presence, in marble work companies, in the ceramic industry, crystals machining or industrial processes handling abrasives liquids.
Solid passage diameter from 35 mm.

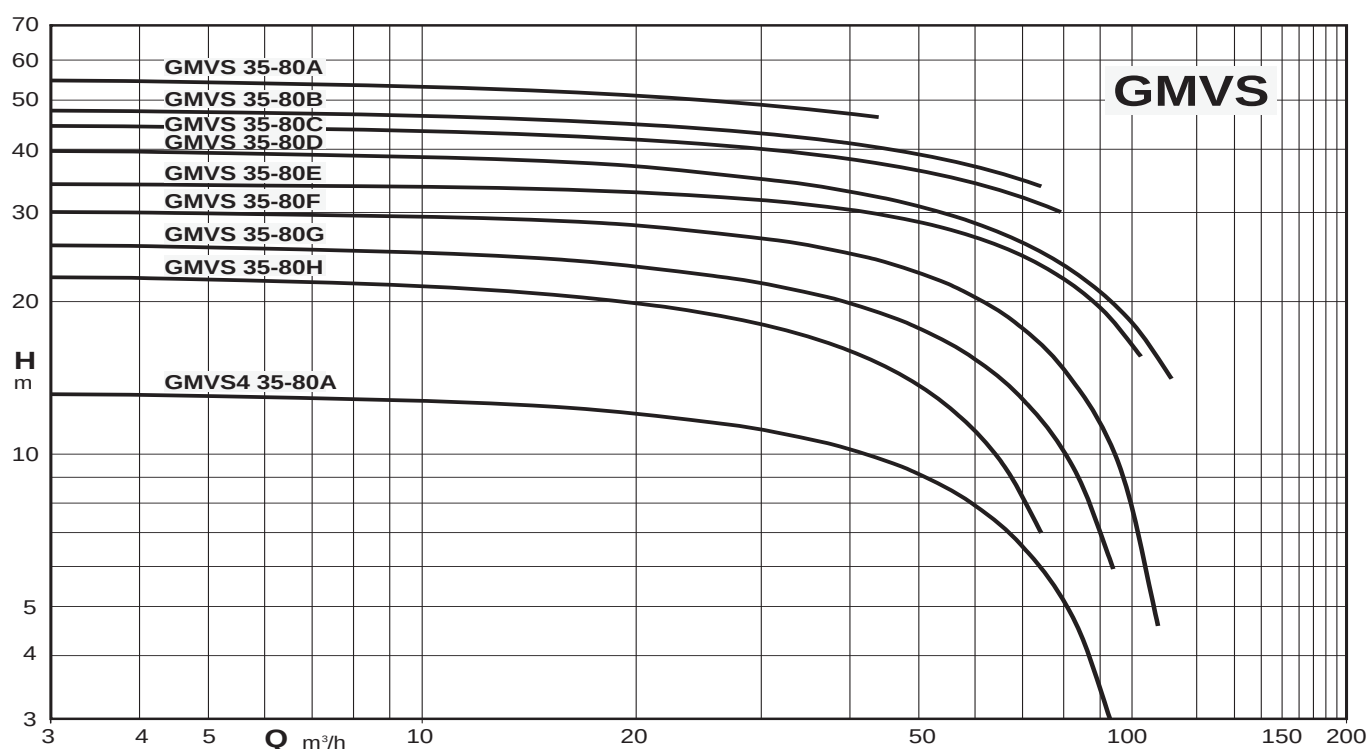
Operating conditions

Liquid temperature up to 40 °C.
Maximum immersion depth: 20 m (with suitable cable length).
Continuous duty (with pump immersed at minimum level).

Motor

2 or 4 poles induction, 50Hz
Three-phase version: 400/690V $\pm$ 10%
Insulation Class: H
Protection degree: IP 68
N° of starting x hour: max 15 with regular intervals
Cable: H07RN-F, length 10 m
Other models: contact our sale office
Classification scheme IE3.

Coverage chart



Technical data

TYPE	P ₂ kW	I _N A	Power Supply	r.p.m.	Starting	DN mm	Free passage Ø mm	Thermal protector	Humidity probe	ATEX Eex
GMVS 35-80H/A	9	16,2	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS 35-80G/A	12	24,7	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS 35-80F/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS 35-80E/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS 35-80D/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS 35-80C/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS 35-80B/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS 35-80A/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	35	●	●	
GMVS4 35-80A/A	6	11,5	3~ 400/690V	1450	Y/Δ	80	35	●	●	

P₂ Rated power output

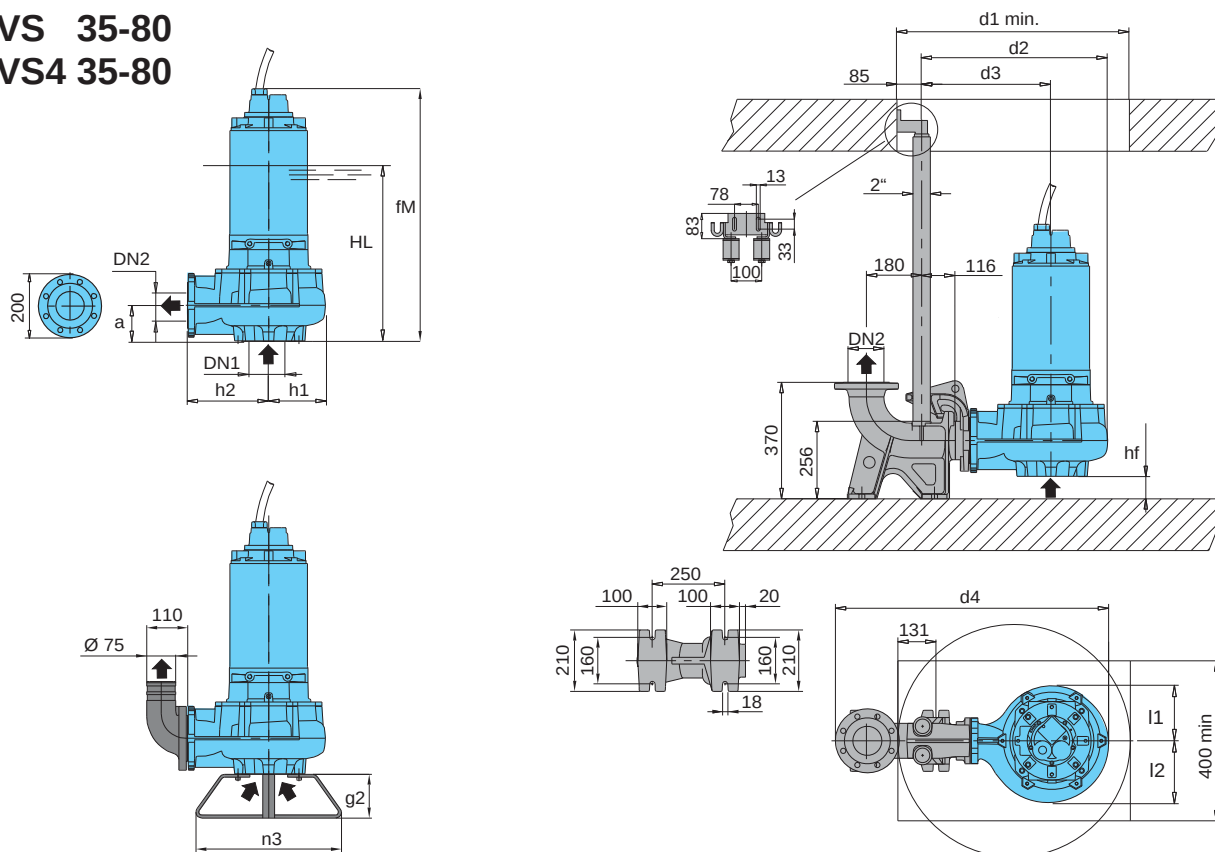
I_N Rated current

● Standard

✓ ATEX Eex Version on demand

Dimensions and weights

GMVS 35-80 GMVS4 35-80



TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMVS 35-80H/A	80	80	796	468	122	78	165	165	800	593	408	873	185	242	400	140	165
GMVS 35-80G/A	80	80	867	514	124	100	165	165	800	593	408	873	185	242	500	150	191
GMVS 35-80F/A																	
GMVS 35-80E/A																	
GMVS 35-80D/A																	
GMVS 35-80C/A																	
GMVS 35-80B/A																	
GMVS 35-80A/A																	
GMVS4 35-80A/A	80	80	796	468	122	78	165	165	800	593	408	873	185	242	400	140	160



Submersible pumps with single channel impeller



Main materials

Pump casing: cast iron EN-GJL-250 - Impeller: cast iron EN-GJL-250+Ni
Motor casing, Motor cover: cast iron EN-GJL-250
Motor shaft: stainless steel AISI 420B
Lip seal made of nitrile up to 1,4 kW
Mechanical seal motor side: graphite/ceramic over 1,4 kW
Mechanical seal pump side: silicon carbide/silicon carbide

Construction

Submersible pumps with single channel impeller.
Twin mechanical seal with oil chamber (lip-seal motor side up to 1,4 kW).
Delivery connection DN 50-65-80-100-150

Applications

Suitable to pump slurry, sewage, waste water (non-corrosive).
In industrial and residential installations and drainag applications
Solid passage from 40 to 100mm

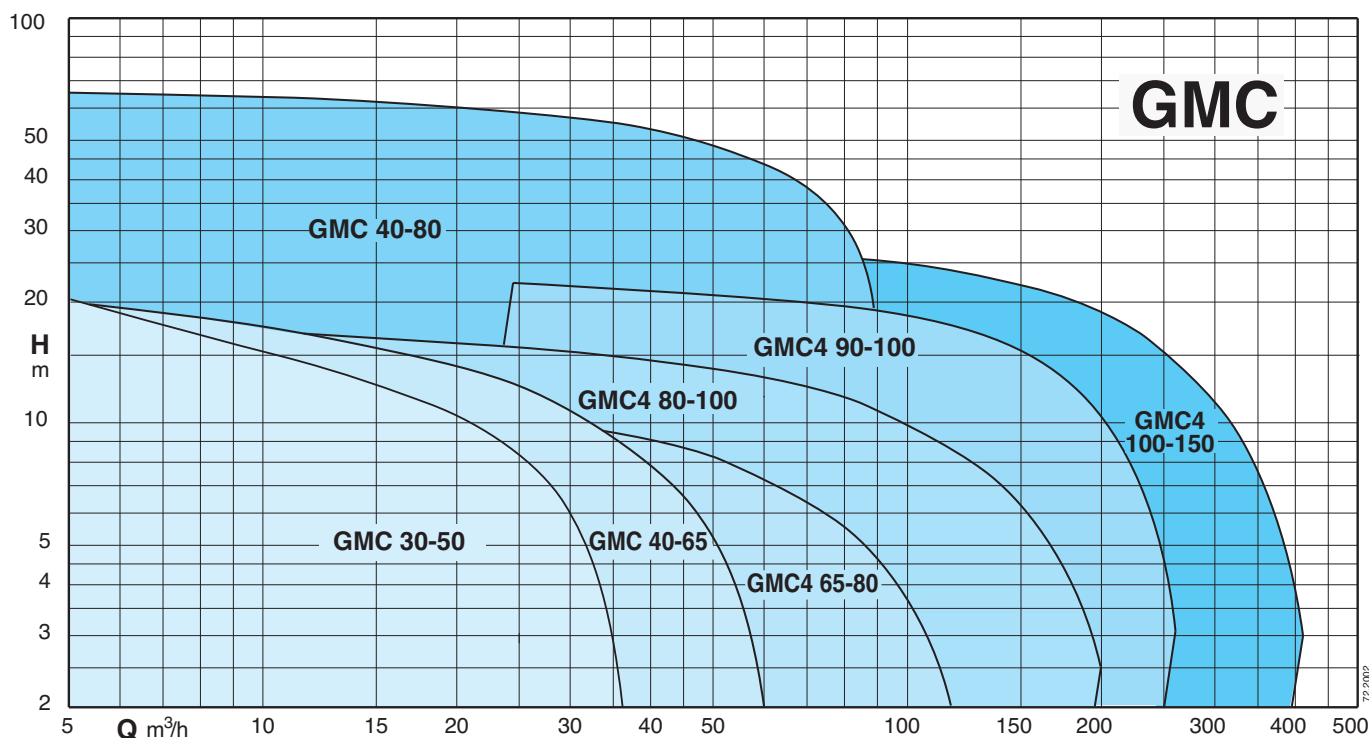
Operating conditions

Liquid temperature up to 40 °C.
Maximum immersion depth: 20 m (with suitable cable length).
Continuous duty (with pump immersed at minimum level).

Motor

2 or 4 poles induction, 50Hz
Single-phase version: 230V $\pm$ 10%, with float switch and built-in capacitor.
Three-phase version: 400V $\pm$ 10%, up to 3,2 kW
400/690V $\pm$ 10%, over 3,2 kW
Insulation class: H
Protection degree: IP 68
N° of starting x hour: max 15 with regular intervals
Cable: H07RN-F, length 10 m
Other models: contact our sale office
Classification scheme IE3.

Coverage chart





Submersible pumps with single channel impeller



Technical data

TYPE	P ₂ kW	I _N A	Power Supply	r.p.m.	Starting	DN mm	Free passage Ø mm	Thermal protector	Humidity probe	 ATEX Eex
GMC 30-50B/A	1,4	8,4	1~ 230V	2850	D.O.L.	50	30	●	NO	
GMC 30-50B/A	1,9	3,5	3~ 400V	2850	D.O.L.	50	30	NO	NO	
GMC 30-50A/A	1,9	3,5	3~ 400V	2850	D.O.L.	50	30	NO	NO	
GMC 40-65B/A	1,9	11,4	1~ 230V	2850	D.O.L.	65	40	NO	NO	✓
GMC 40-65B/A	2,4	4,5	3~ 400V	2850	D.O.L.	65	40	NO	NO	✓
GMC 40-65A/A	2,4	4,5	3~ 400V	2850	D.O.L.	65	40	NO	NO	✓
GMC 40-80D/A	13,8	24,8	3~ 400/690V	2850	Y/Δ	80	40	●	●	✓
GMC 40-80C/A	13,8	24,8	3~ 400/690V	2850	Y/Δ	80	40	●	●	✓
GMC 40-80B/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	80	40	●	●	✓
GMC 40-80A/A	18,2	32,6	3~ 400/690V	2850	Y/Δ	80	40	●	●	✓
GMC4M 65-80C/A	1,2	6,9	1~ 230V	1450	D.O.L.	80	65	●	NO	✓
GMC4 65-80C/A	1,6	3,1	3~ 400V	1450	D.O.L.	80	65	NO	NO	✓
GMC4 65-80B/A	2,3	4,4	3~ 400V	1450	D.O.L.	80	65	NO	NO	✓
GMC4 65-80A/A	2,8	5,4	3~ 400V	1450	D.O.L.	80	65	NO	NO	✓
GMC4 75-80A/A	2,8	5,4	3~ 400V	1450	D.O.L.	80	75	NO	NO	✓
GMC4 80-100C/A	3,9	7,9	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMC4 80-100B/A	3,9	7,9	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMC4 80-100A/A	7,1	13,5	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMC4 90-100B/A	10	19	3~ 400/690V	1450	Y/Δ	100	90	●	●	✓
GMC4 90-100A/A	14,4	26,7	3~ 400/690V	1450	Y/Δ	100	90	●	●	✓
GMC4 100-150C/B	12,9	24,1	3~ 400/690V	1450	Y/Δ	150	100	●	●	✓
GMC4 100-150B/B	15	27,8	3~ 400/690V	1450	Y/Δ	150	100	●	●	✓
GMC4 100-150A/B	17,8	33,3	3~ 400/690V	1450	Y/Δ	150	100	●	●	✓

P₂ Rated power output

I_N Rated current

● Standard

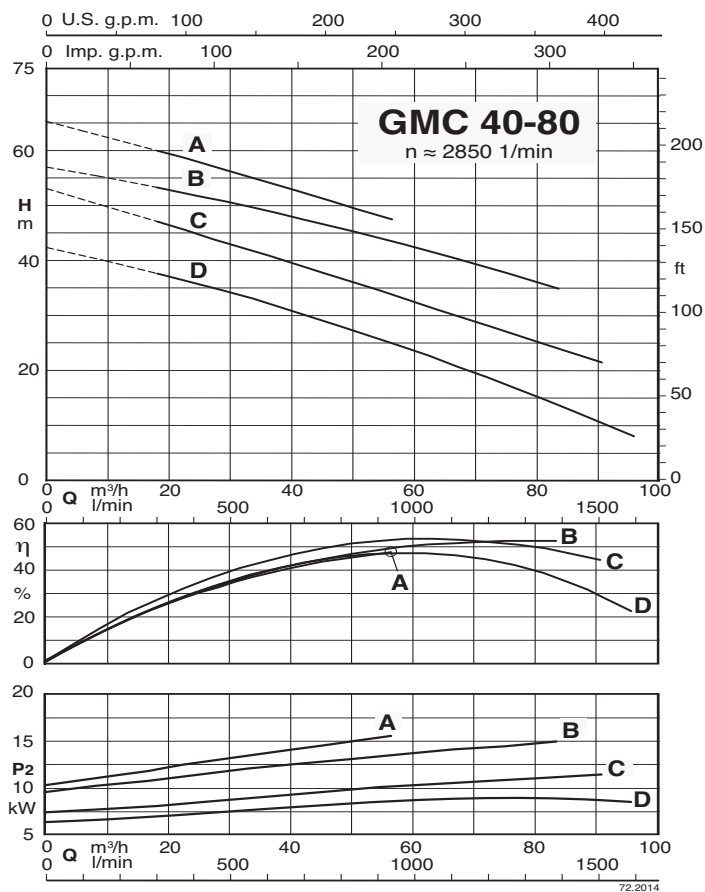
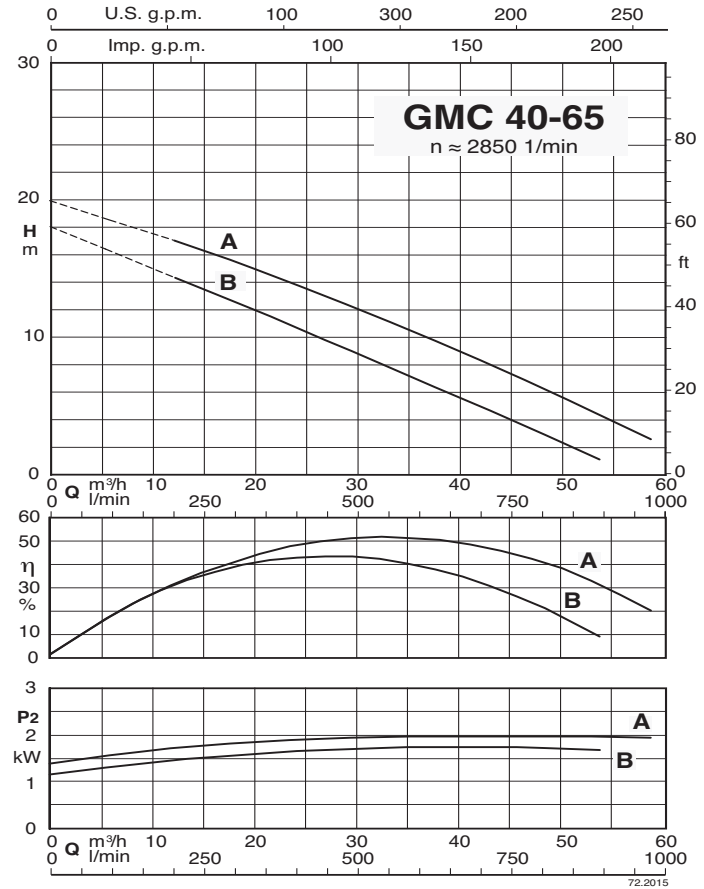
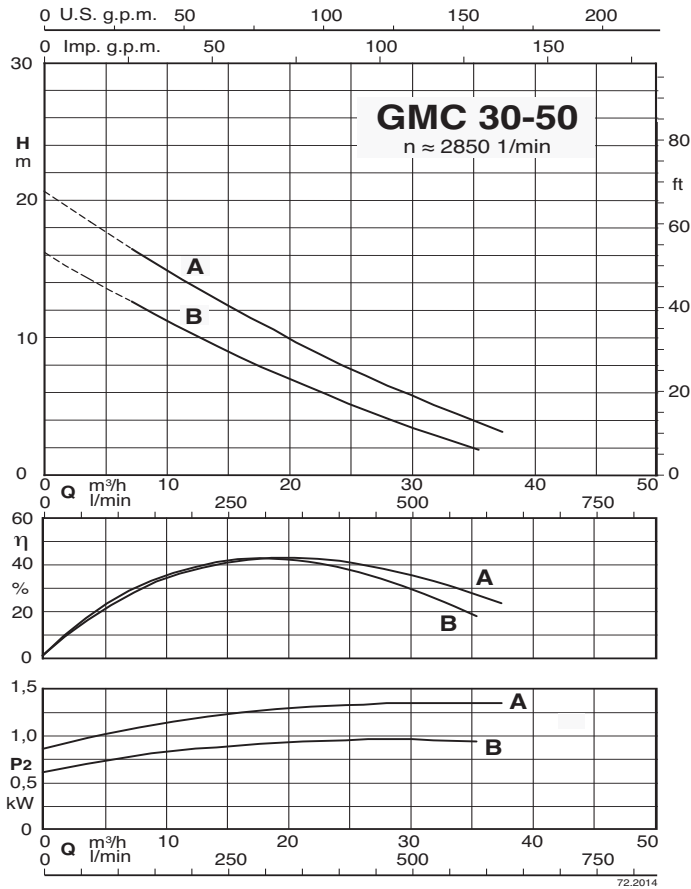
✓ ATEX Eex Version on demand



Submersible pumps
with single channel impeller



Characteristic curves

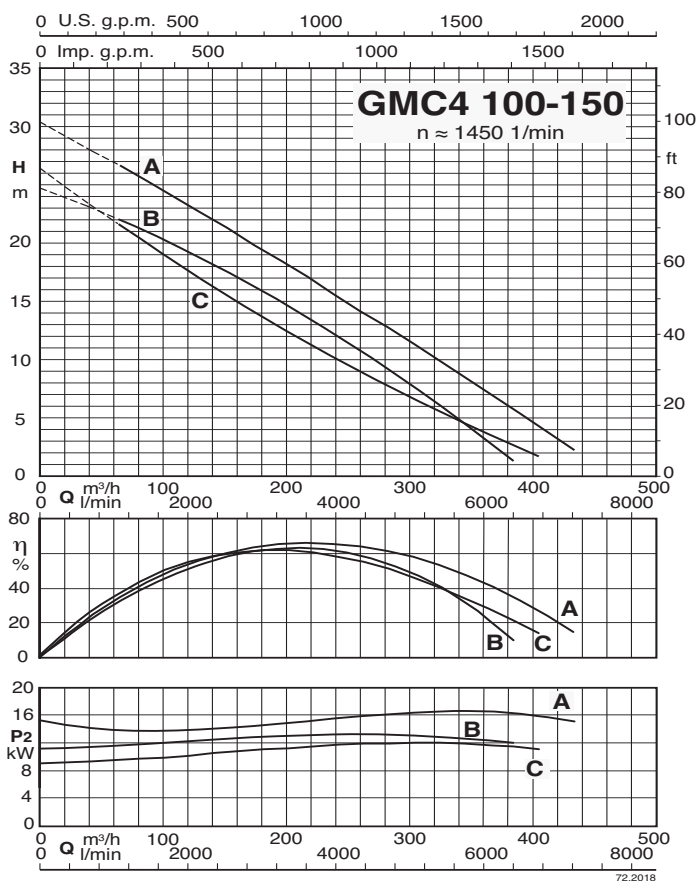
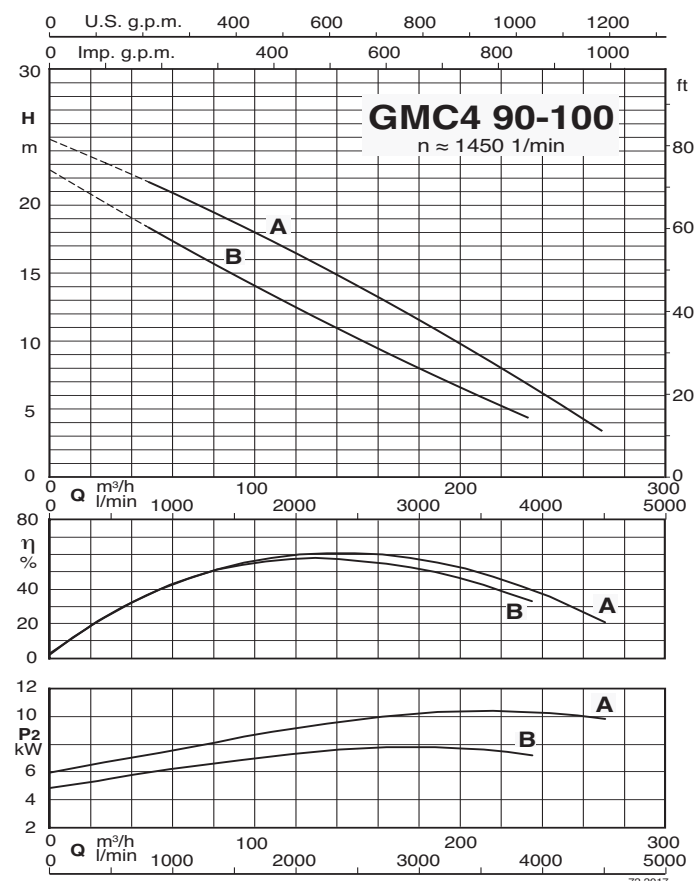
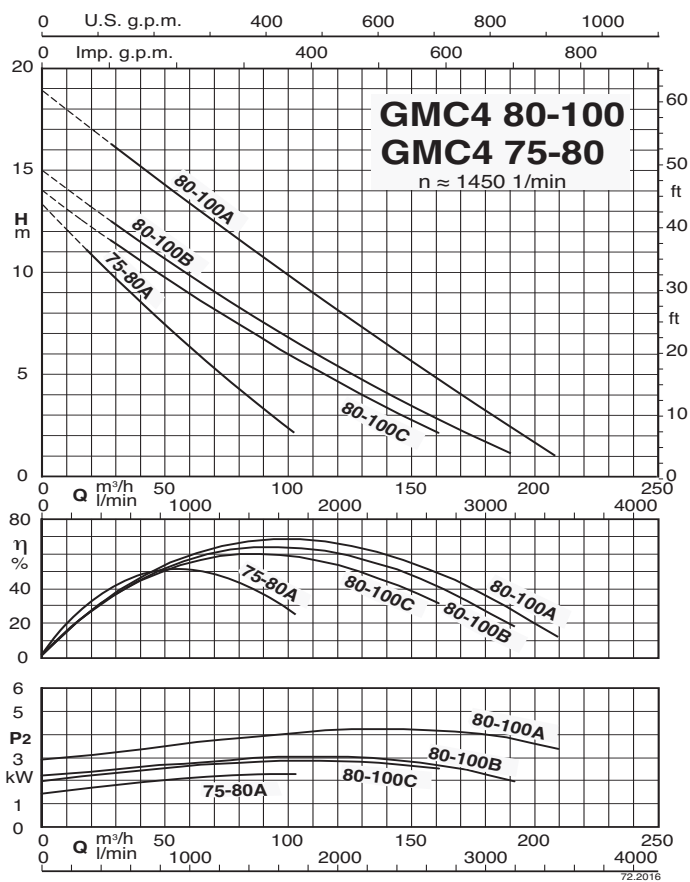
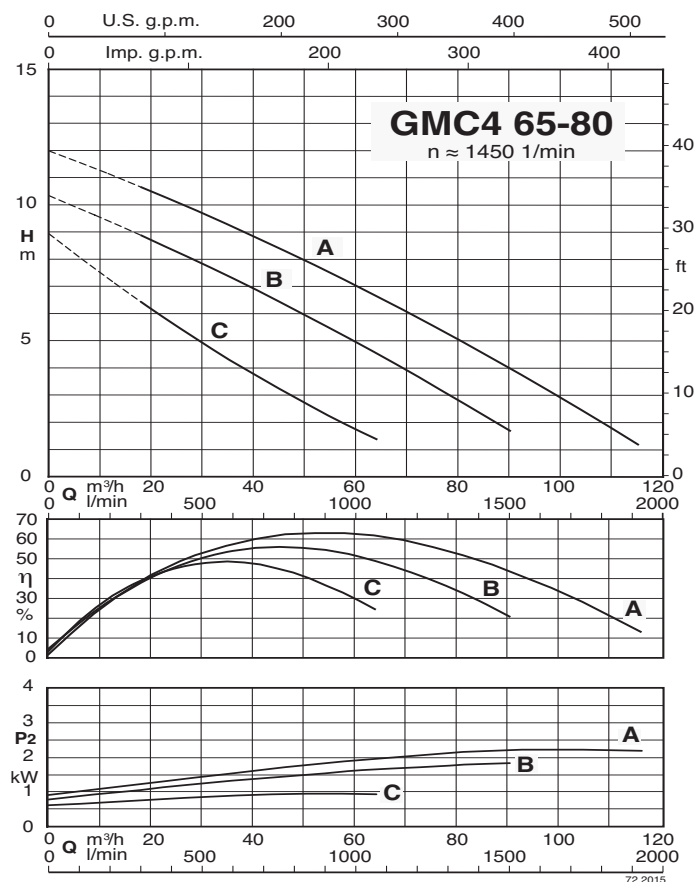




Submersible pumps
with single channel impeller

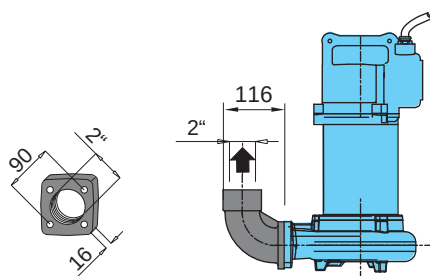
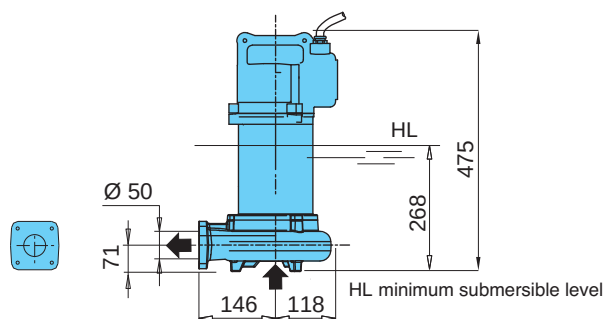


Characteristic curves

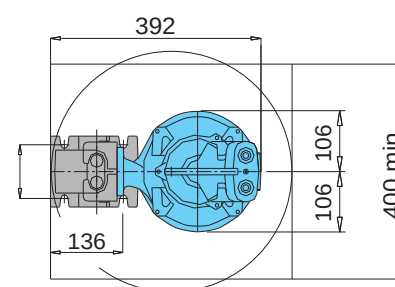
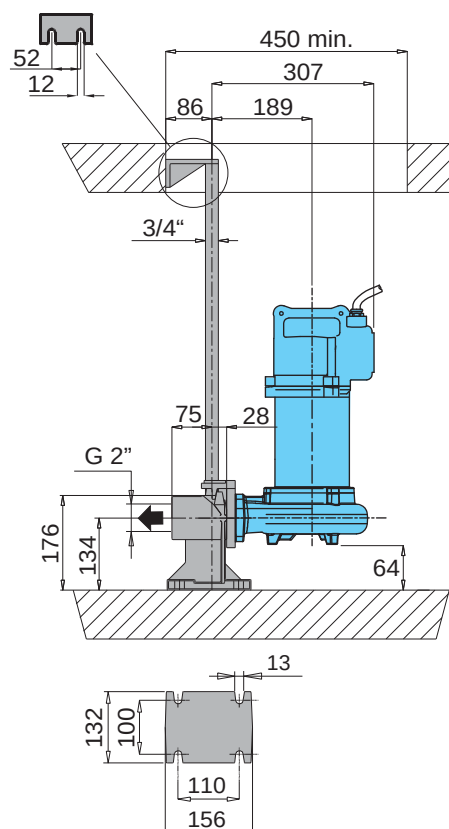


Dimensions and weights

GMC 30-50



Version with foot and 90° elbow

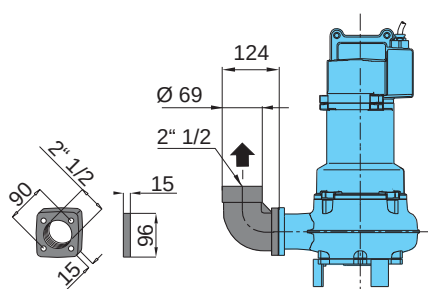
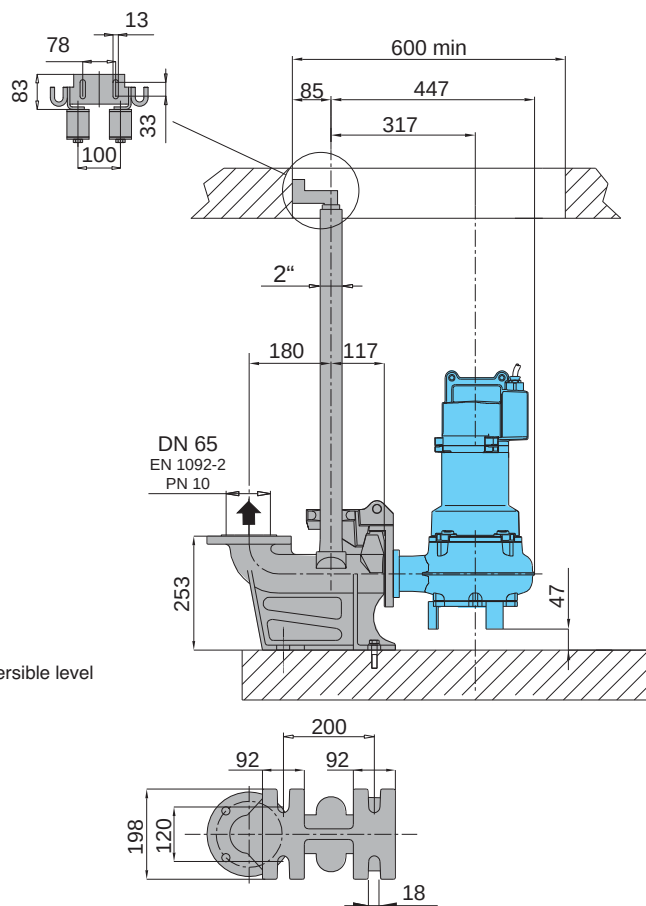
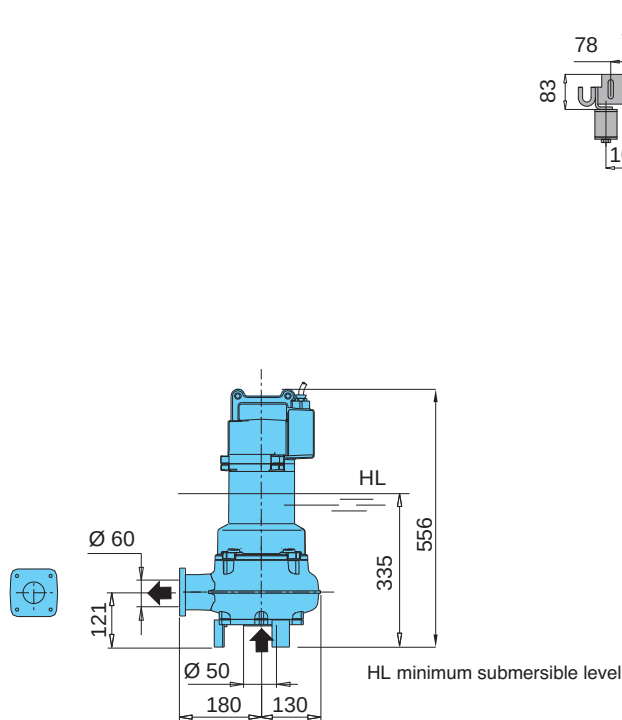


Version with duck foot coupling

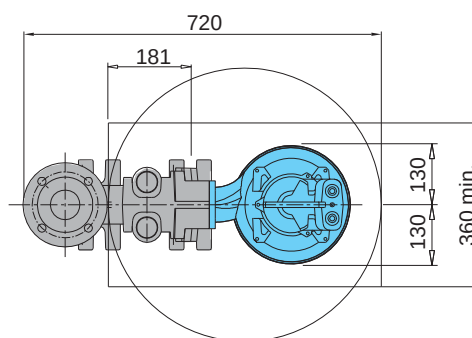
TYPE	Weight kg
GMCM 30-50B	31
GMC 30-50B	
GMC 30-50A	

Dimensions and weights

GMC 40-65



Version with foot and 90° elbow



Version with duck foot coupling

TYPE	Weight kg
GMCM 40-65B	45
GMC 40-65B	
GMC 40-65A	

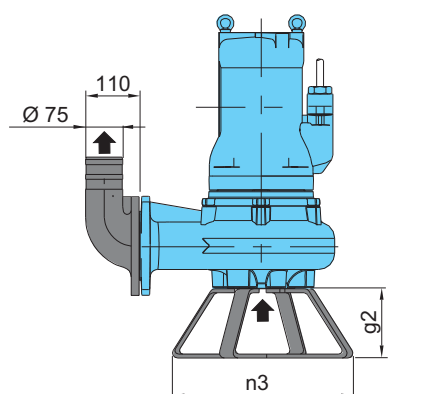
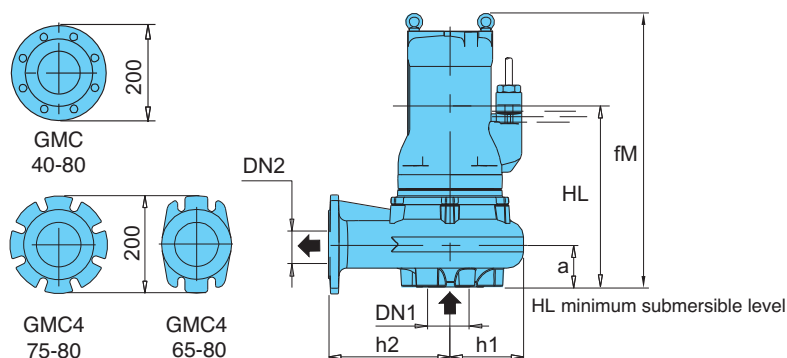
Dimensions and weights

GMC 40-80

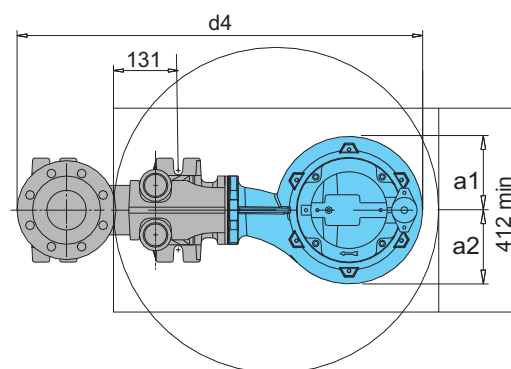
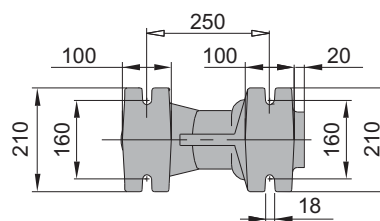
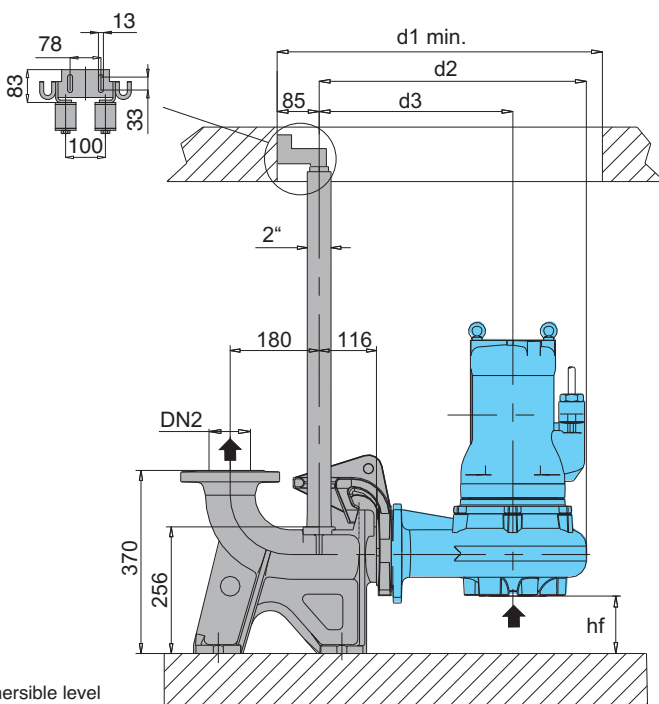
GMC4M 65-80

GMC4 65-80

GMC4 75-80



Version with foot and 90° elbow

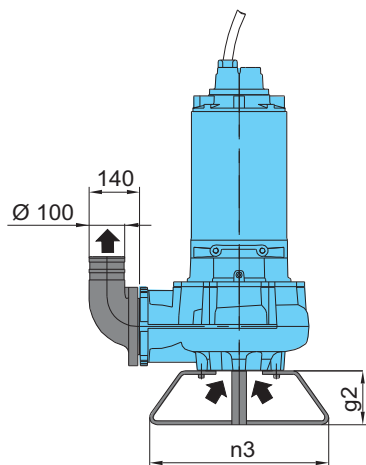
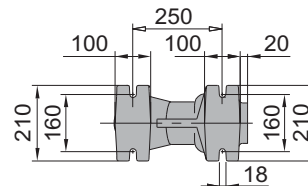
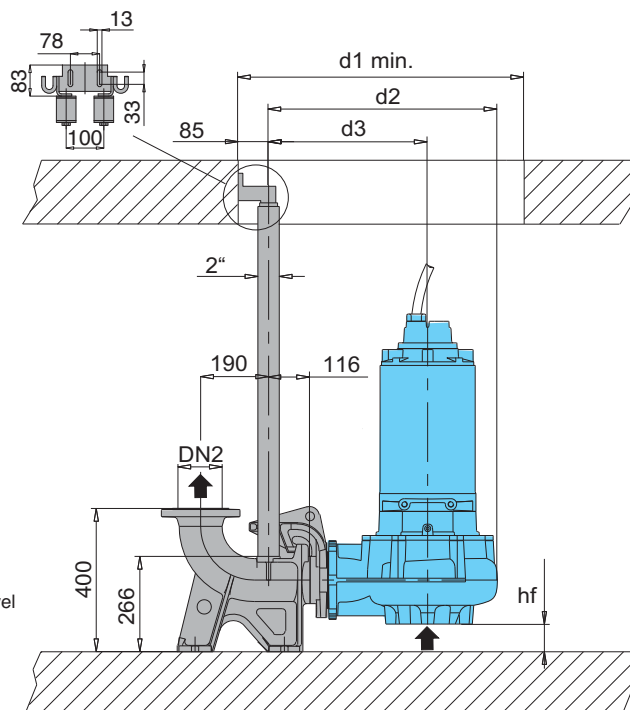
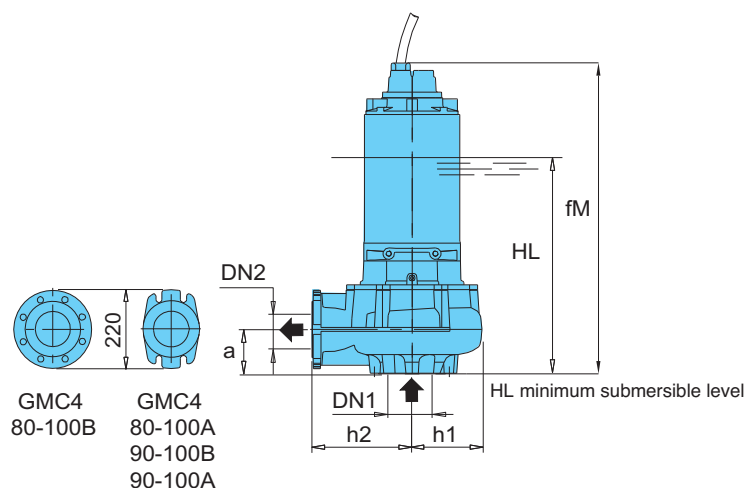


Version with duck foot coupling

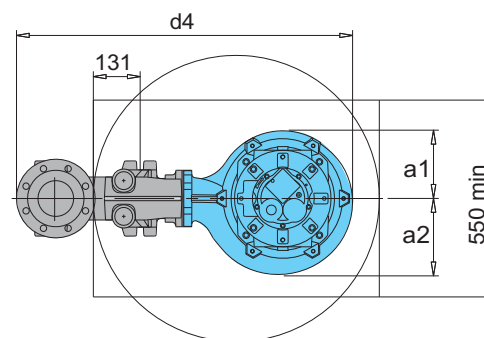
TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMC 40-80D/A	80	80	890	523	85	116	168	168	750	603	416	883	187	250	500	150	195
GMC 40-80C/A																	
GMC 40-80B/A																	
GMC 40-80A/A																	
GMC4M 65-80C/A	80	80	533	330	104	100	132	132	658	498	366	775	132	200	364	140	49
GMC4 65-80C/A																	
GMC4 65-80B/A	80	80	519	360	84	116	136	157	658	511	366	791	145	220	364	140	67
GMC4 65-80A/A																	
GMC4 75-80A/A	80	80	516	380	80	121	143	169	700	548	396	828	152	250	364	140	67

Dimensions and weights

GMC4 80-100 GMC4 90-100



Version with foot and 90° elbow

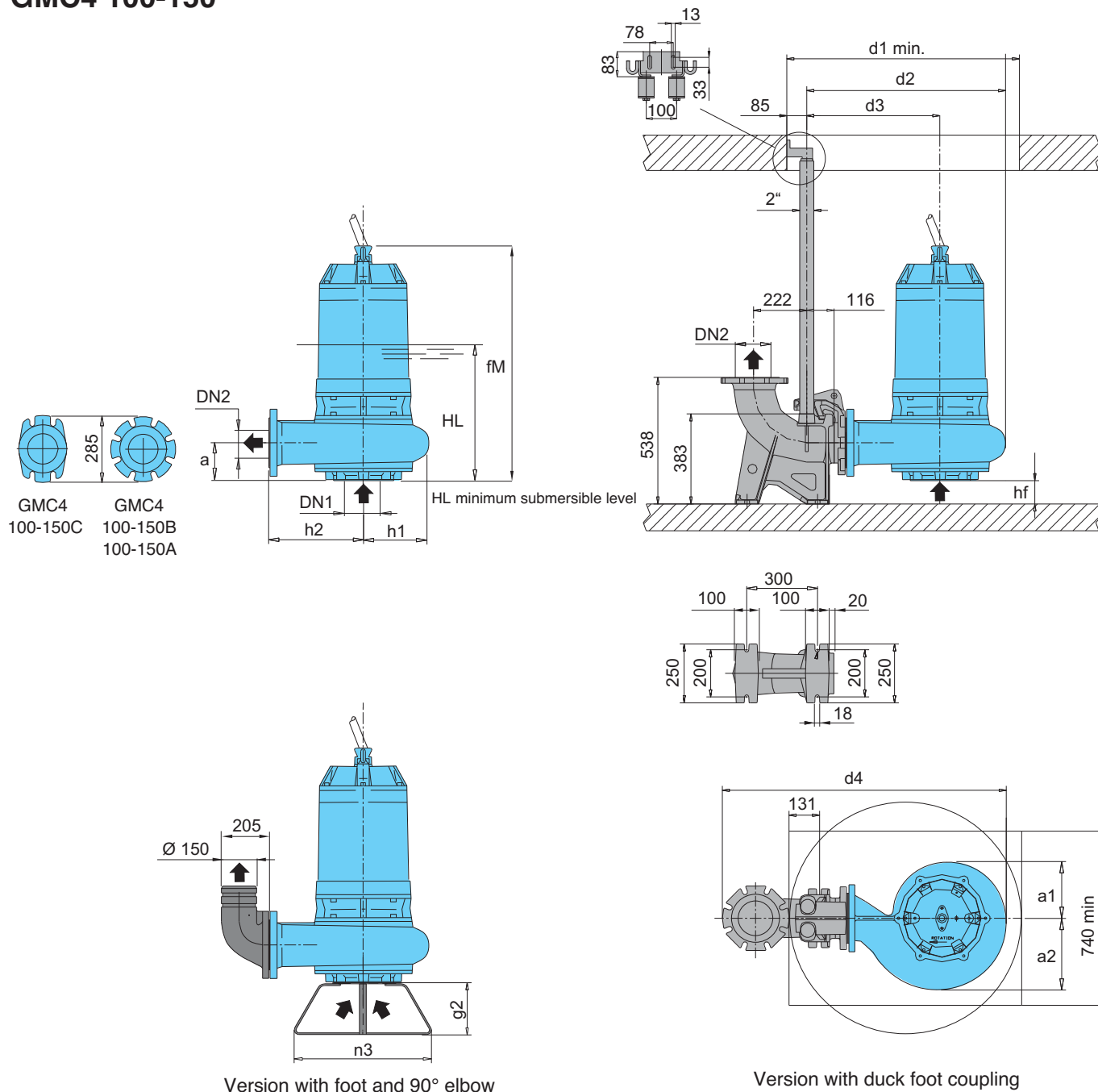


Version with duck foot coupling

TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMC4 80-100C/A GMC4 80-100B/A	125	100	597	420	62	138	180	231	850	673	466	973	207	300	500	150	117
GMC4 80-100A/A	125	100	852	520	54	147	189	212	800	640	445	940	195	279	500	150	161
GMC4 90-100B/A	125	100	920	570	54	147	189	212	800	640	445	940	195	279	500	150	204
GMC4 90-100A/A																	

Dimensions and weights

GMC4 100-150



Version with foot and 90° elbow

Version with duck foot coupling

TYPE	EN 1092-2 PN 10		Dimensions mm															Weight kg
	DN1	DN2	fM	HL	hf	h1	h2	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMC4 100-150C/B	150	150	1013	630	80	180	1155	239	304	990	840	566	1122	273	400	225	600	313
GMC4 100-150B/B	150	150	1273	660	80	180	1494	239	304	990	840	566	1208	273	400	225	500	375
GMC4 100-150A/B			1410	760			1632											450

GMN

**Submersible pumps
with channels impeller**

calpeda®



Main materials

Pump casing: cast iron EN-GJL-250
Impeller: cast iron EN-GJL-250+Ni
Motor casing: cast iron EN-GJL-250
Motor cover: cast iron EN-GJL-250
Shaft: stainless steel AISI 420B
Mechanical seal motor side: graphite/ceramic
Mechanical seal pump side: silicon carbide/silicon carbide

Construction

Submersible pumps with channels impeller.
Twin mechanical seal with oil chamber.
Delivery connection DN 65-80-100-150-200-250-300.

Applications

Suitable to pump slurry, sewage and waste water (non-corrosive) with solids in suspension.
For industrial and residential installations and general drainage applications.
They are ideal for applications with smaller solids.
Solid passage from 30 to 140 mm

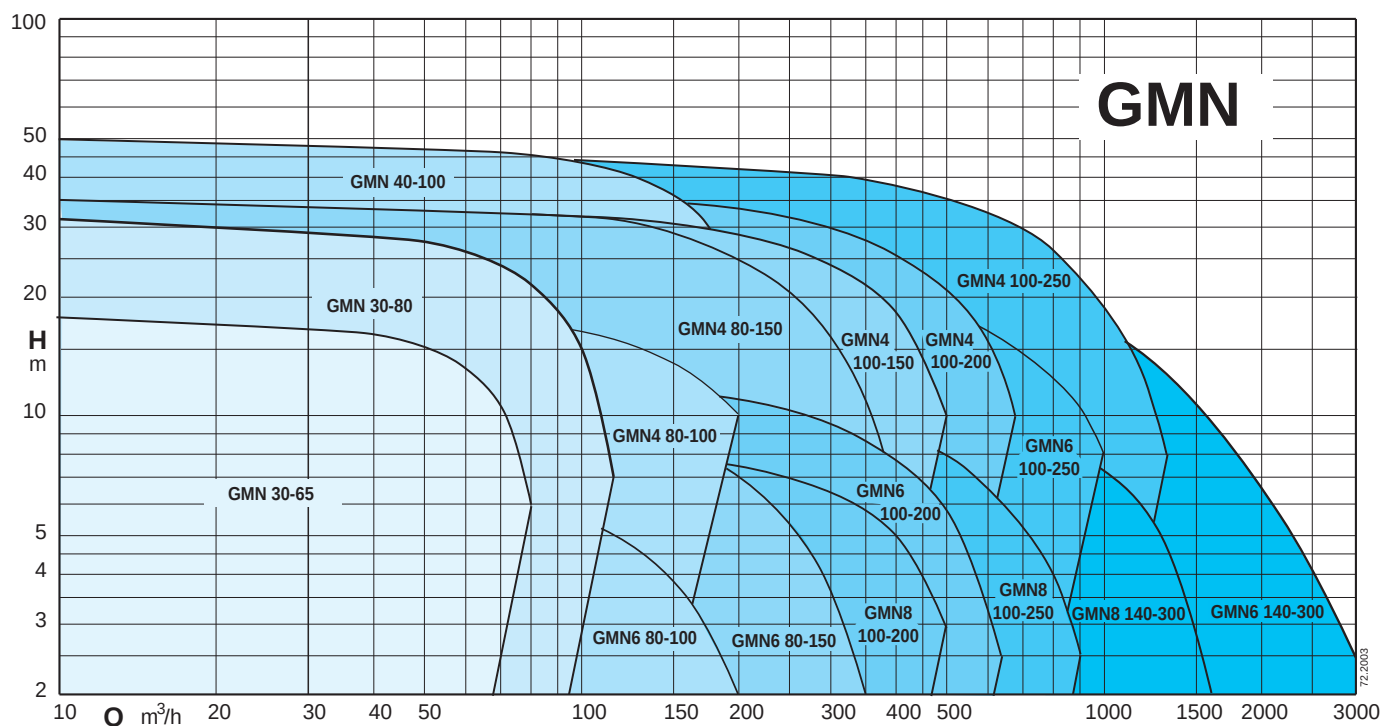
Operating conditions

Liquid temperature up to 40 °C.
Maximum immersion depth: 20 m (with suitable cable length).
Continuous duty (with pump immersed at minimum level).

Motor

2-4-6 or 8 poles induction, 50Hz
Three-phase version: 400V $\pm$ 10%, up to 3,2 kW
400/690V $\pm$ 10%, over 3,2 kW
Insulation class: H
Protection degree: IP 68
N° of starting x hour: max 15 with regular intervals
Cable: H07RN-F, length 10 m
Other models: contact our sale office
Classification scheme IE3.

Coverage chart





Submersible pumps
with channels impeller



Technical data

TYPE	P ₂ kW	I _N A	Power Supply	r.p.m.	Starting	DN mm	Free passage Ø mm	Thermal protector	Humidity probe	 ATEX Eex
GMN 30-65B/A	3,1	5,8	3~ 400V	2850	D.O.L.	65	30	NO	NO	✓
GMN 30-65A/A	3,6	6,6	3~ 400V	2850	D.O.L.	65	30	NO	NO	✓
GMN 30-80B/A	5	9,1	3~ 400/690V	2850	Y/Δ	80	30	●	●	✓
GMN 30-80A/A	6	10,9	3~ 400/690V	2850	Y/Δ	80	30	●	●	✓
GMN 30-80S/A	7,5	13,5	3~ 400/690V	2850	Y/Δ	80	30	●	●	
GMN 40-100D/A	12	21,7	3~ 400/690V	2850	Y/Δ	100	40	●	●	✓
GMN 40-100C/A	14,9	26,8	3~ 400/690V	2850	Y/Δ	100	40	●	●	✓
GMN 40-100B/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	100	40	●	●	✓
GMN 40-100S/A	20	35,8	3~ 400/690V	2850	Y/Δ	100	40	●	●	
GMN4 80-100D/A	4,6	9,3	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMN4 80-100C/A	7,5	14,3	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMN4 80-100A/A	10	19	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
GMN6 80-100B/A	2,7	5,8	3~ 400V	950	D.O.L.	100	80	NO	NO	✓
GMN6 80-100A/A	2,8	6	3~ 400V	950	D.O.L.	100	80	NO	NO	✓
GMN6 80-150B/A	6	12	3~ 400/690V	950	Y/Δ	150	80	●	●	✓
GMN6 80-150A/A	8	15,8	3~ 400/690V	950	Y/Δ	150	80	●	●	✓
GMN6 100-150B/B	14	26,2	3~ 400/690V	950	Y/Δ	150	100	●	●	
GMN6 100-150A/B	12	22,9	3~ 400/690V	950	Y/Δ	150	100	●	●	
GMN4 80-150C/B	27	49,6	3~ 400/690V	1450	Y/Δ	150	80	●	●	
GMN4 80-150B/B	30	54,3	3~ 400/690V	1450	Y/Δ	150	80	●	●	
GMN4 100-150G/A	23	42,2	3~ 400/690V	1450	Y/Δ	150	100	●	●	
GMN4 100-150F/A	27	49,6	3~ 400/690V	1450	Y/Δ	150	100	●	●	
GMN4 100-150E/B	30	54,3	3~ 400/690V	1450	Y/Δ	150	100	●	●	
GMN4 100-150D/B	30	54,3	3~ 400/690V	1450	Y/Δ	150	100	●	●	
GMN4 100-150S/B	35,7	63,6	3~ 400/690V	1450	Y/Δ	150	100	●	●	
GMN4 100-200C/A	40	71,3	3~ 400/690V	1450	Y/Δ	200	100	●	●	
GMN4 100-200B/A	48	78,1	3~ 400/690V	1450	Y/Δ	200	100	●	●	
GMN4 100-200A/A	45	85,2	3~ 400/690V	1450	Y/Δ	200	100	●	●	
GMN4 100-250D/A	65	109,7	3~ 400/690V	1450	Y/Δ	250	100	●	●	
GMN4 100-250C/A	75	126,3	3~ 400/690V	1450	Y/Δ	250	100	●	●	
GMN4 100-250B/A	75	126,3	3~ 400/690V	1450	Y/Δ	250	100	●	●	
GMN4 100-250A/A	85	143,2	3~ 400/690V	1450	Y/Δ	250	100	●	●	
GMN6 100-200E/B	14	26,2	3~ 400/690V	950	Y/Δ	200	100	●	●	
GMN6 100-200D/B	14	26,2	3~ 400/690V	950	Y/Δ	200	100	●	●	
GMN6 100-250D/A	23	40,6	3~ 400/690V	950	Y/Δ	250	100	●	●	
GMN6 100-250C/A	29	52,8	3~ 400/690V	950	Y/Δ	250	100	●	●	
GMN6 100-250B/A	39,2	71	3~ 400/690V	950	Y/Δ	250	100	●	●	
GMN6 100-250A/A	39,2	71	3~ 400/690V	950	Y/Δ	250	100	●	●	
GMN6 140-300D/A	33,4	60,8	3~ 400/690V	950	Y/Δ	300	140	●	●	
GMN6 140-300C/A	39,2	71	3~ 400/690V	950	Y/Δ	300	140	●	●	
GMN6 140-300B/A	55,8	99	3~ 400/690V	950	Y/Δ	300	140	●	●	
GMN6 140-300A/A	65	115,3	3~ 400/690V	950	Y/Δ	300	140	●	●	
GMN8 100-200B/C	9,3	19,8	3~ 400/690V	750	Y/Δ	200	100	●	●	
GMN8 100-200A/A	9,3	19,8	3~ 400/690V	750	Y/Δ	200	100	●	●	
GMN8 100-250B/B	12,4	26,5	3~ 400/690V	750	Y/Δ	250	100	●	●	
GMN8 100-250A/C	19	39	3~ 400/690V	750	Y/Δ	250	100	●	●	
GMN8 140-300A/A	26,7	53,5	3~ 400/690V	750	Y/Δ	300	140	●	●	

P₂ Rated power output

I_N Rated current

● Standard

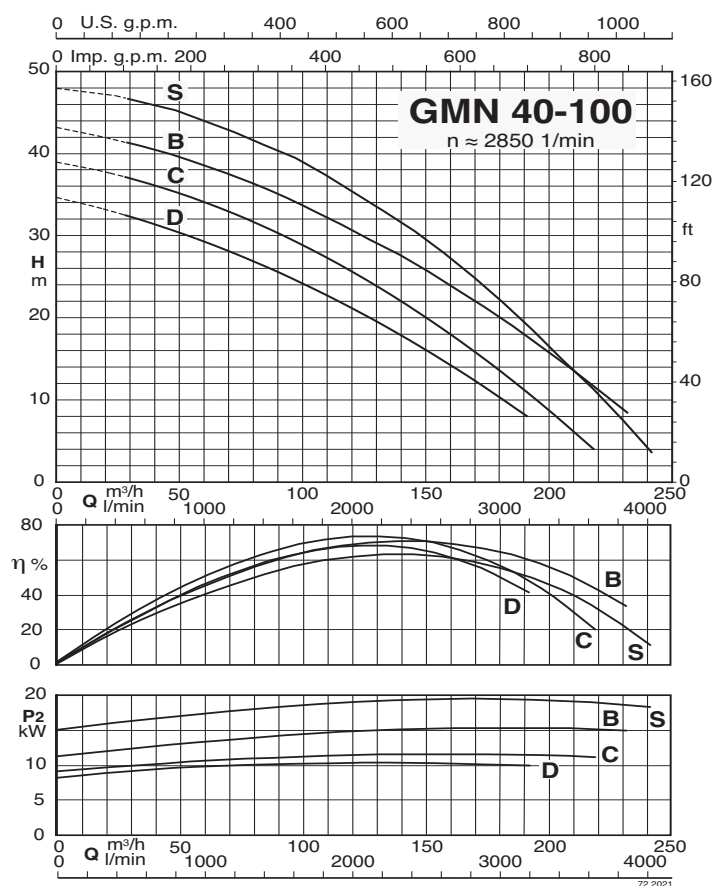
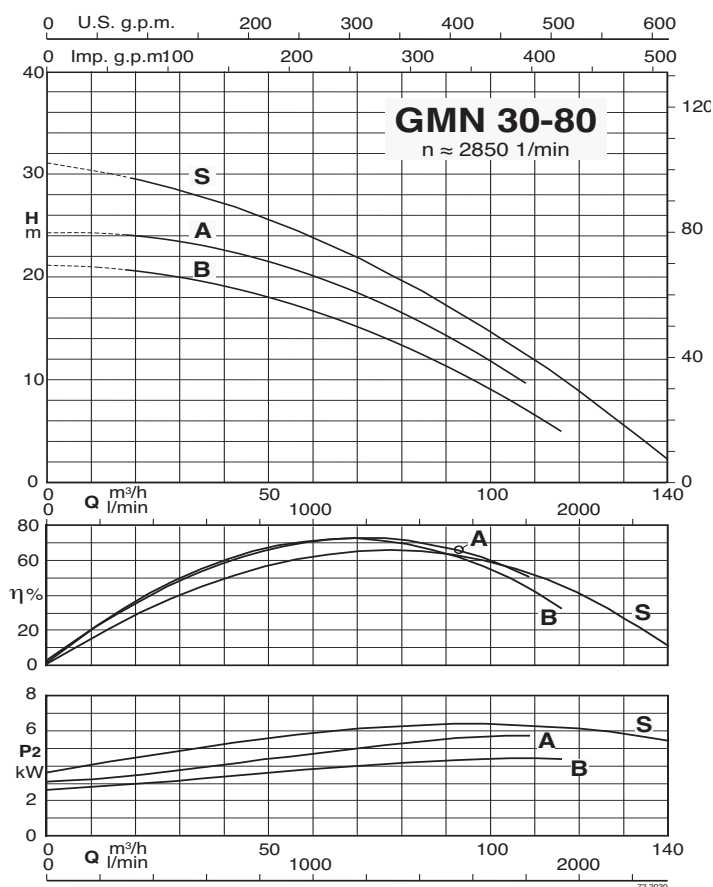
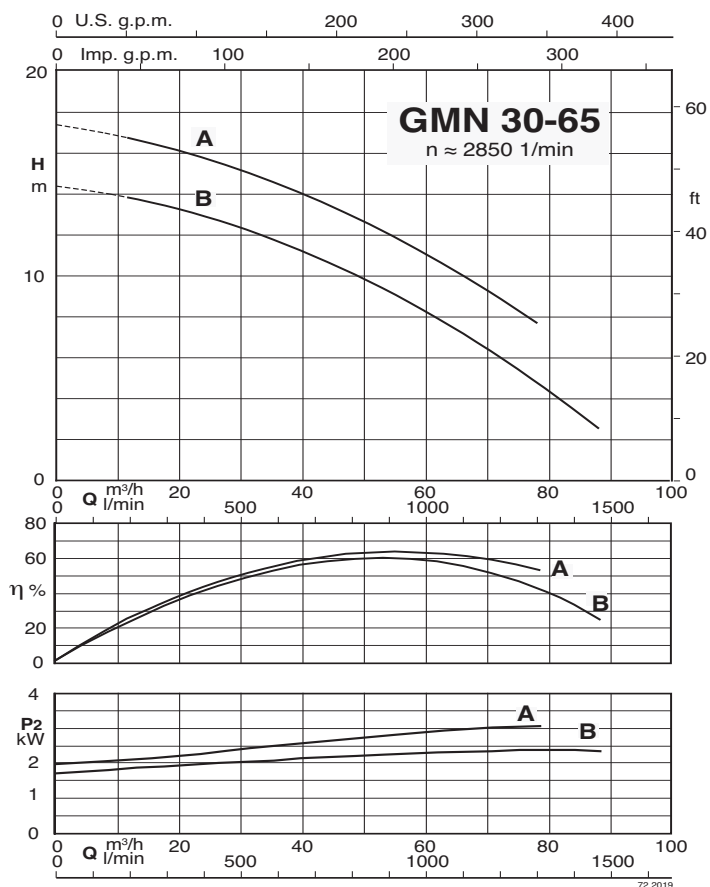
✓ ATEX Eex Version on demand



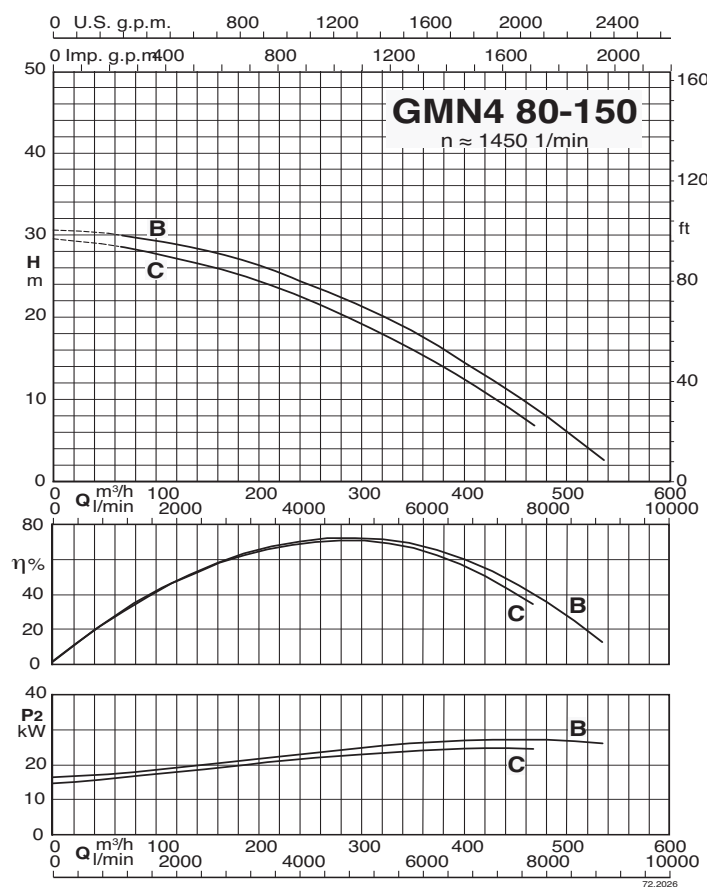
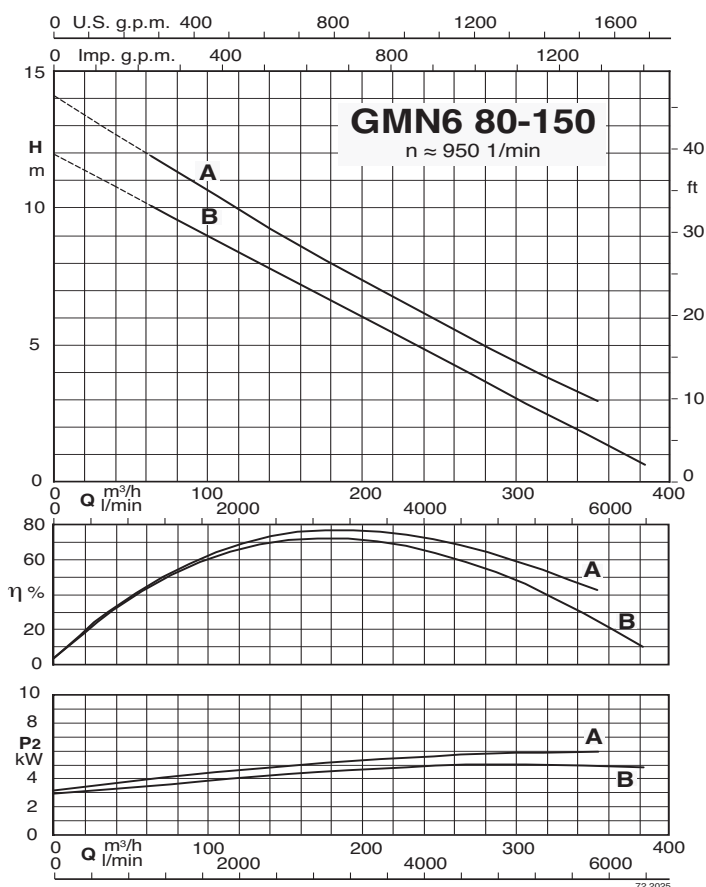
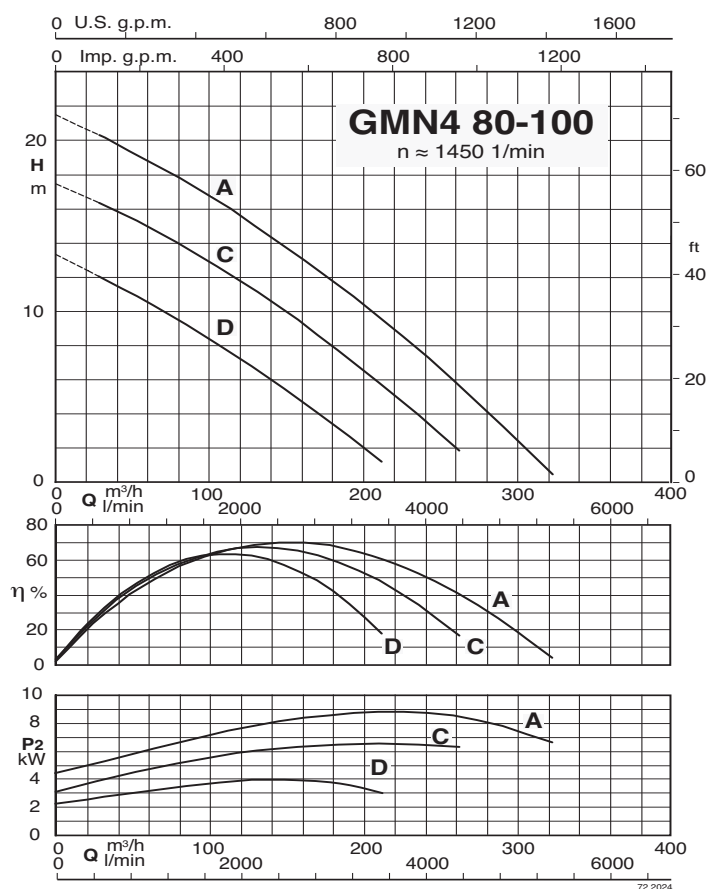
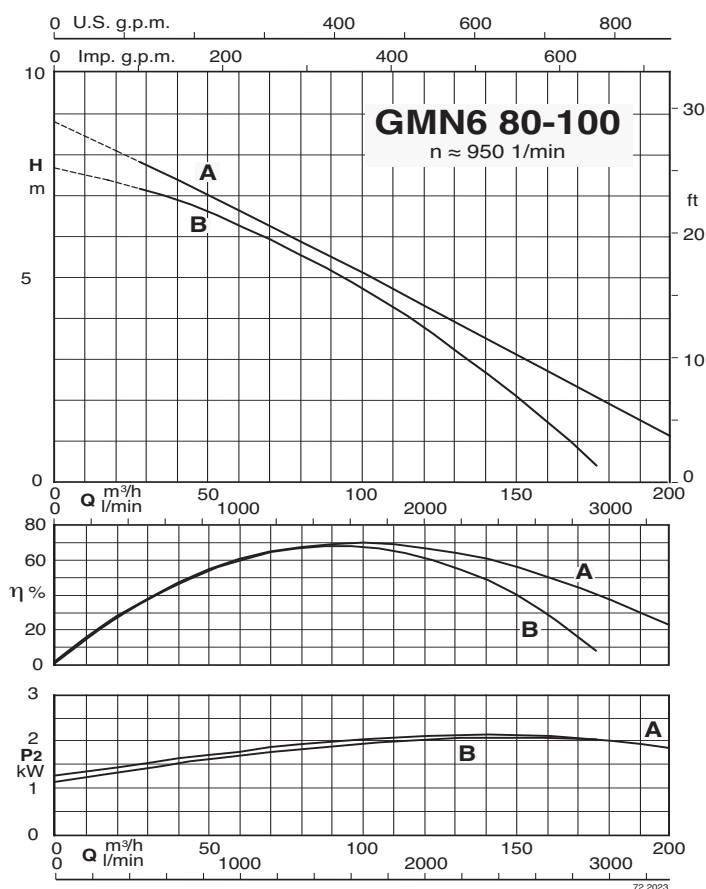
**Submersible pumps
with channels impeller**



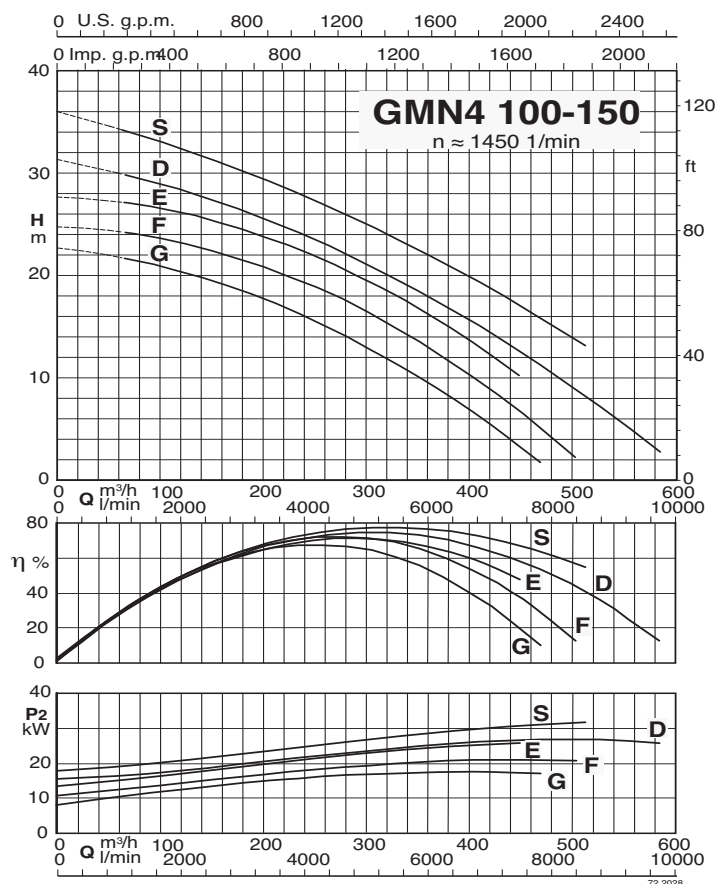
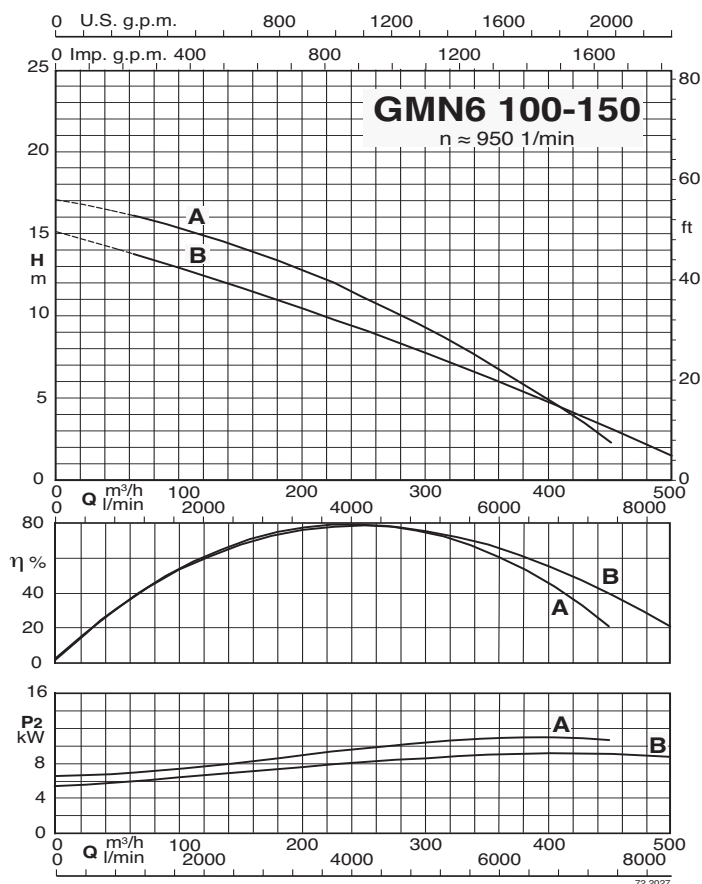
Characteristic curves



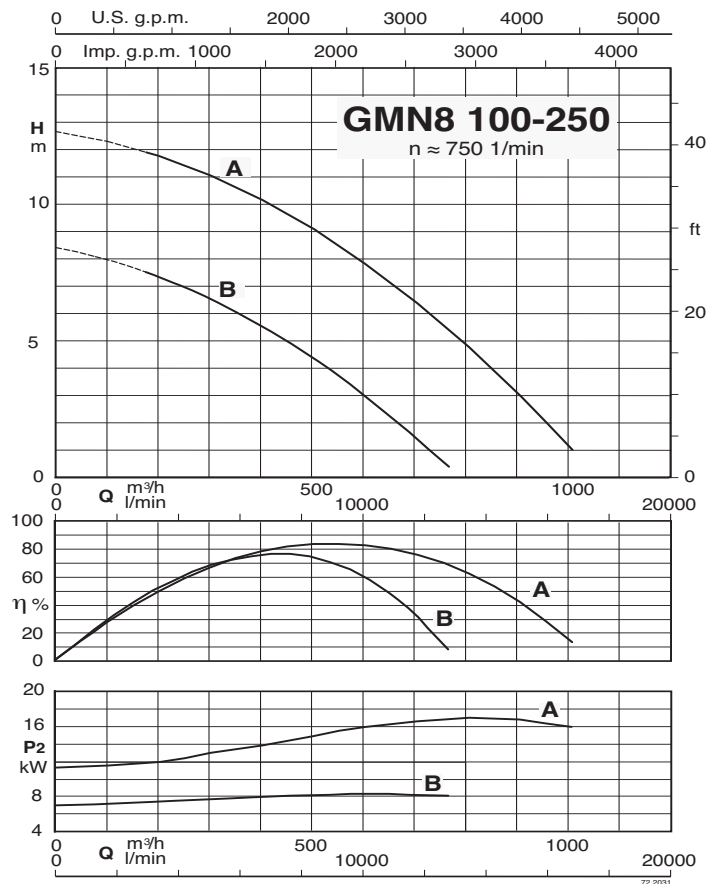
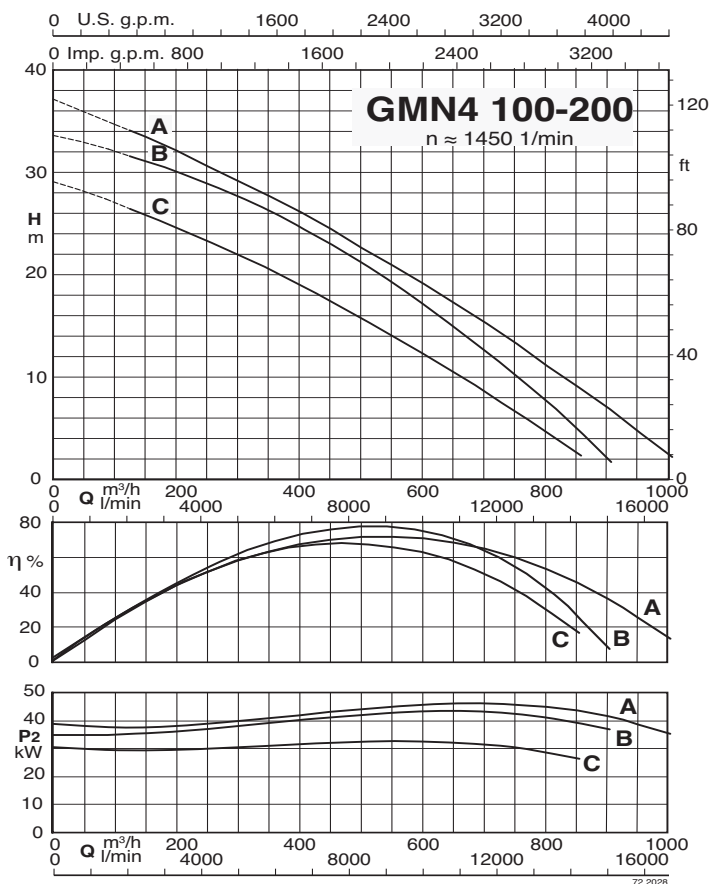
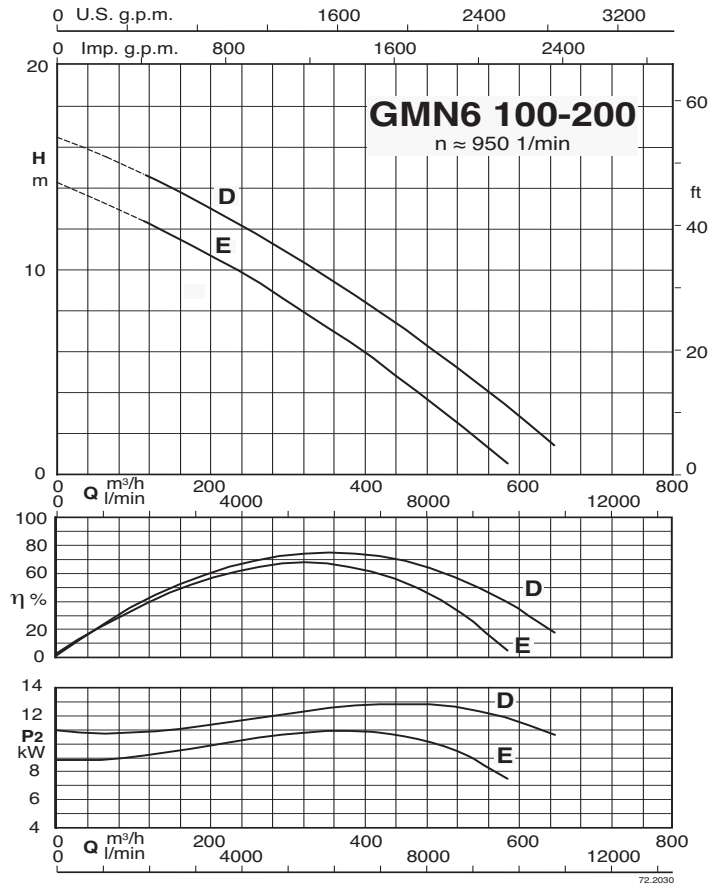
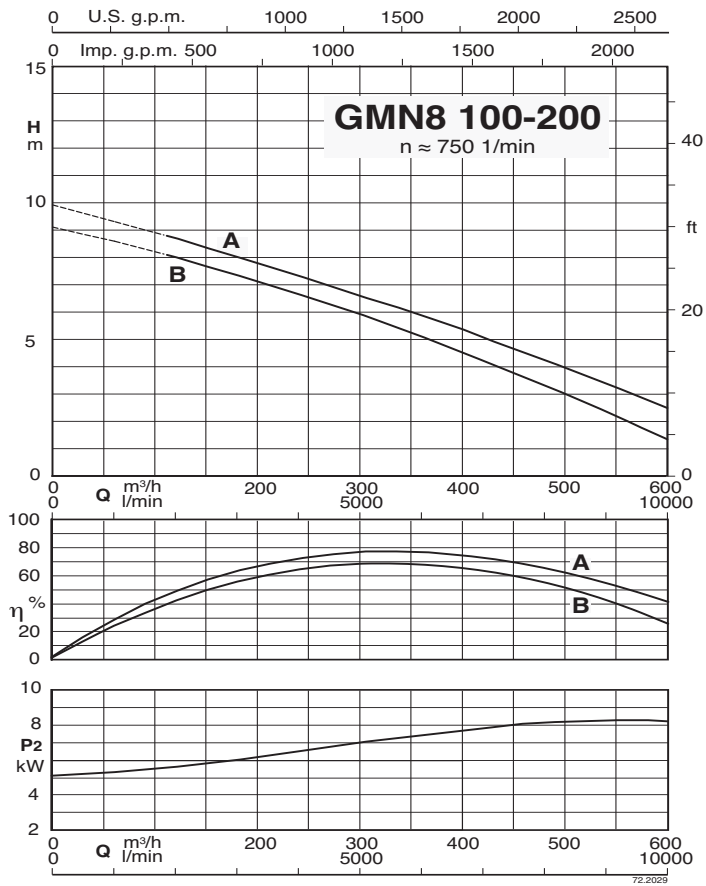
Characteristic curves



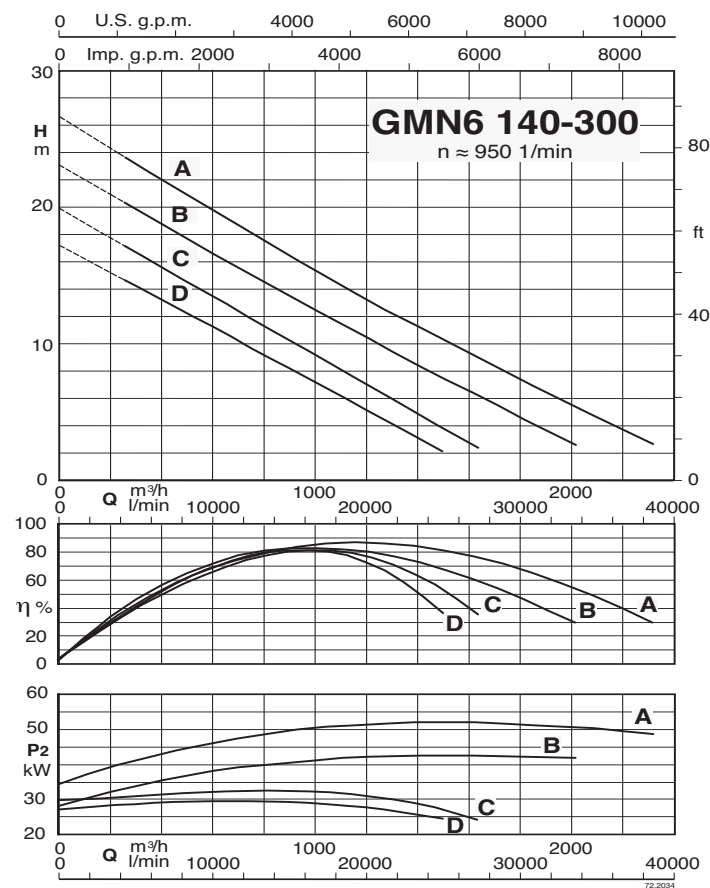
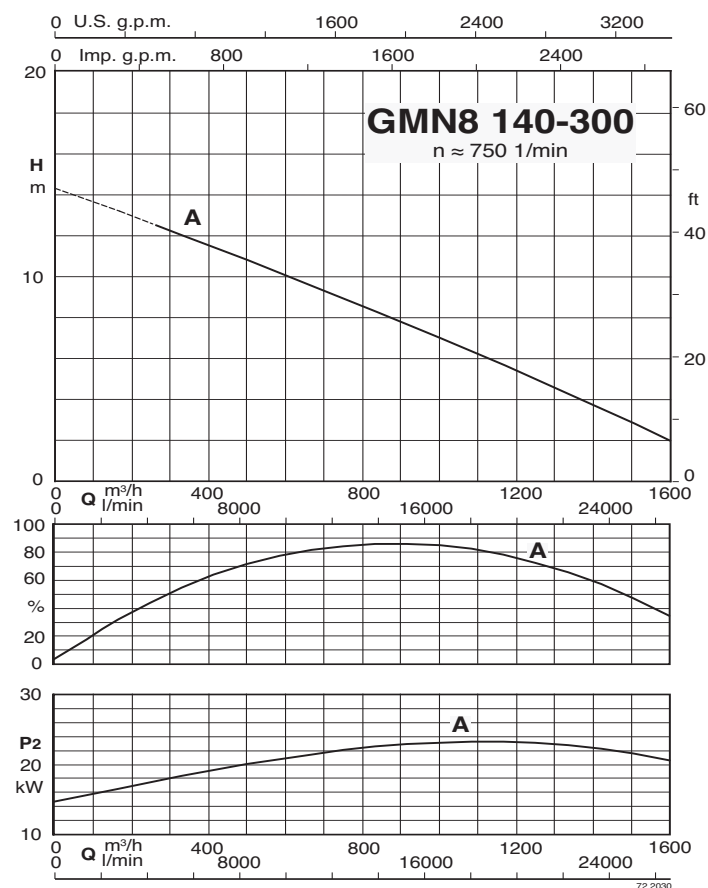
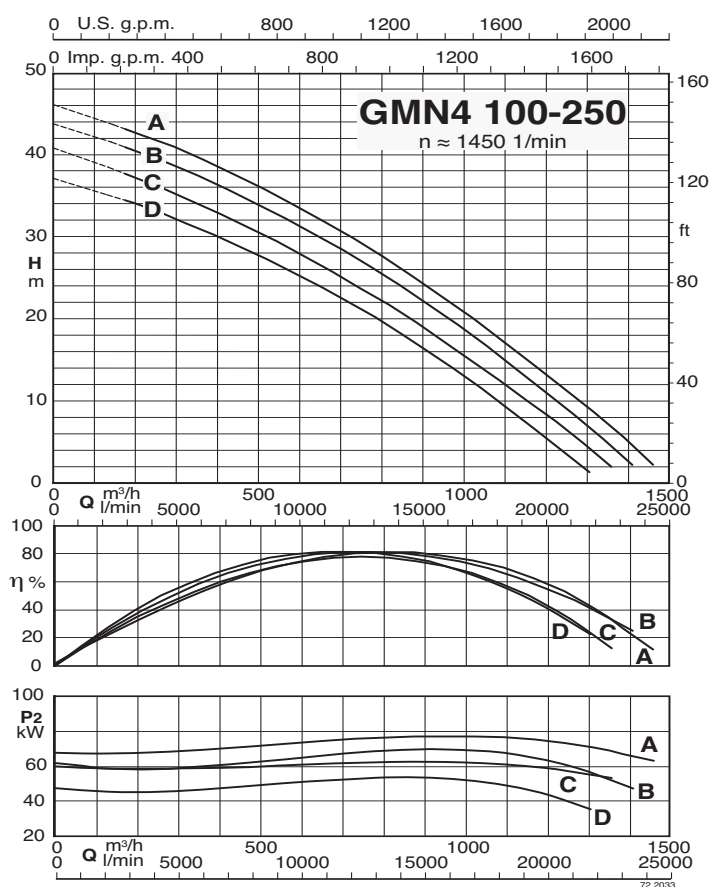
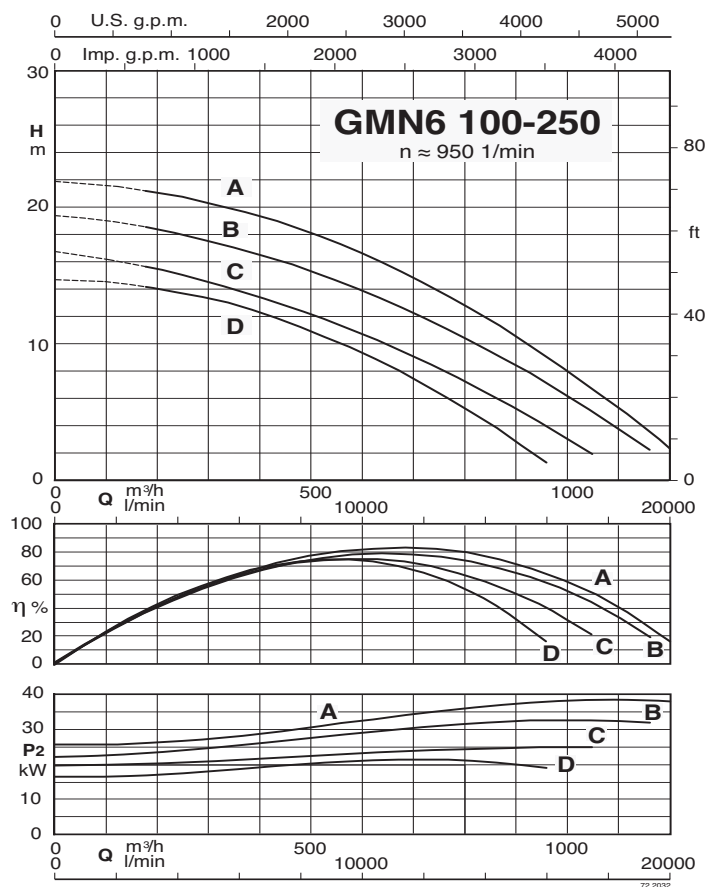
Characteristic curves



Characteristic curves

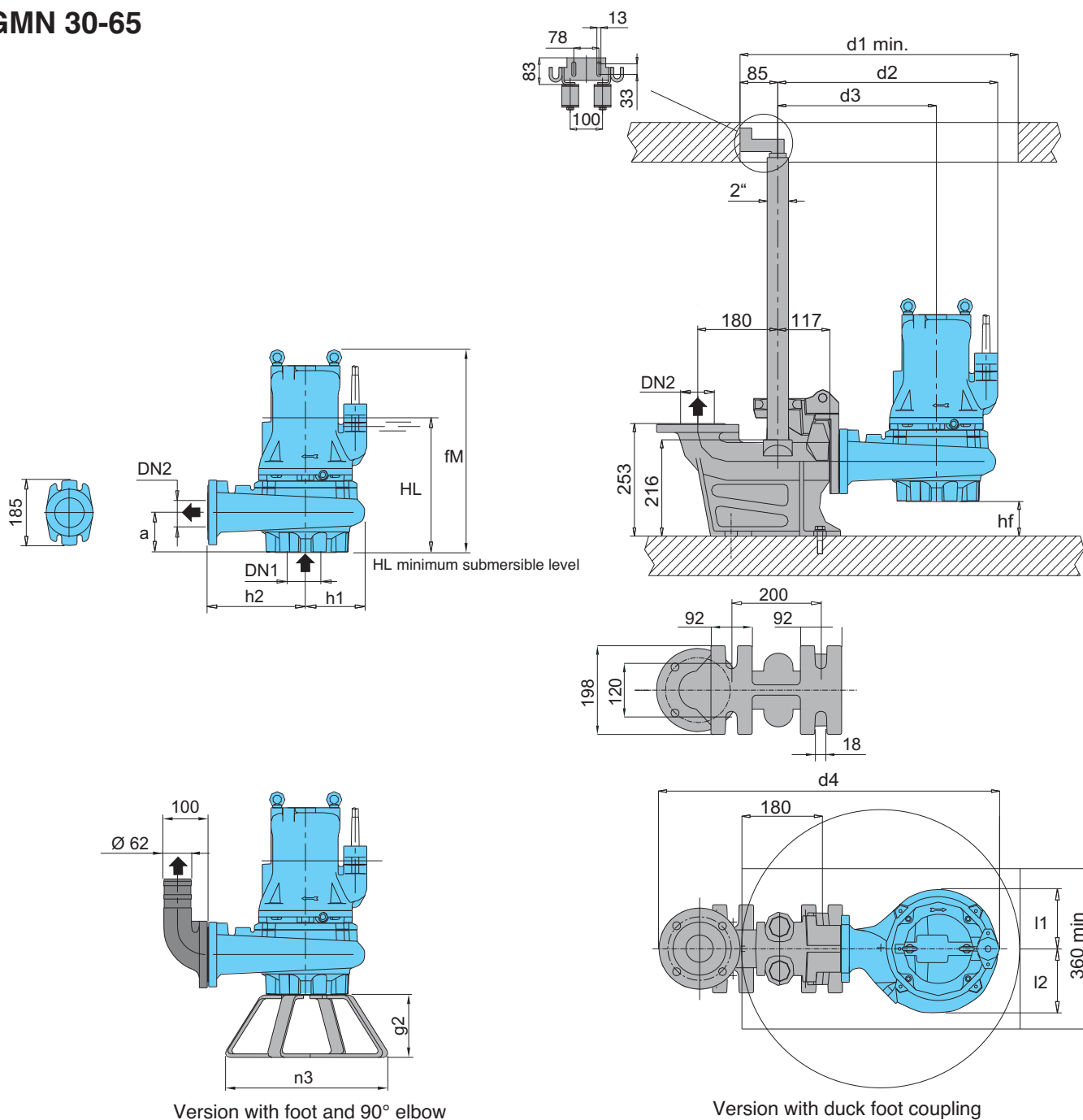


Characteristic curves



Dimensions and weights

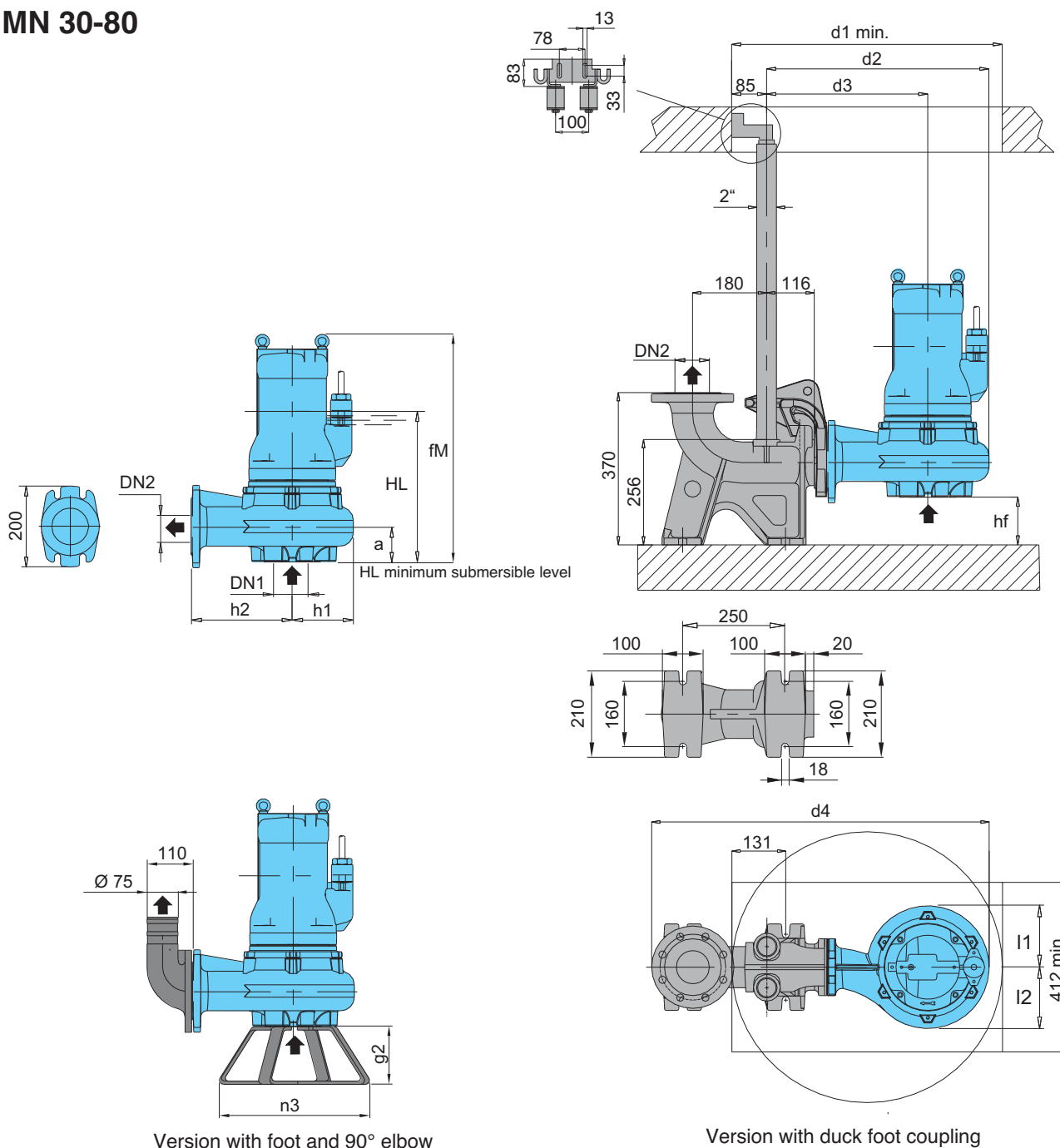
GMN 30-65



TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMN 30-65B/A	80	65	456	300	78	90	133	145	625	495	357	767	138	220	364	140	61
GMN 30-65A/A																	

Dimensions and weights

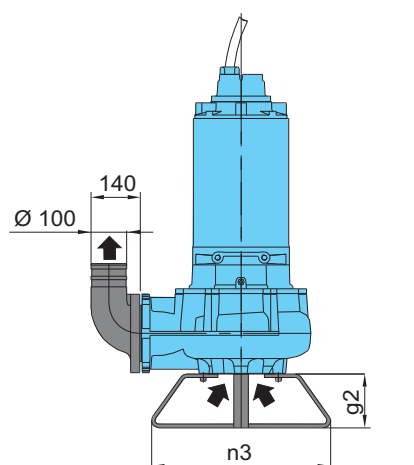
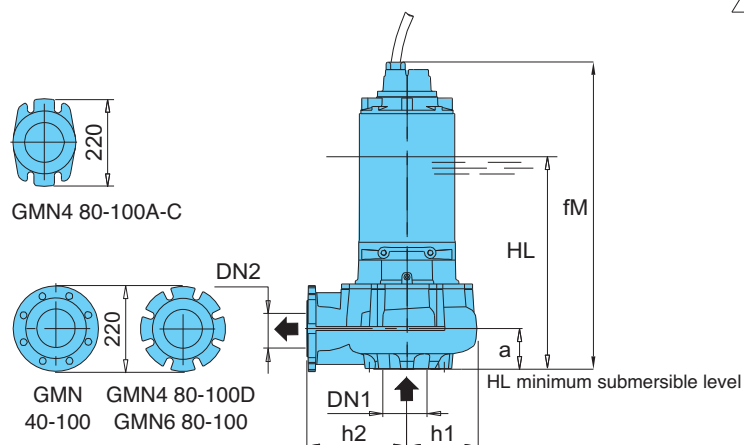
GMN 30-80



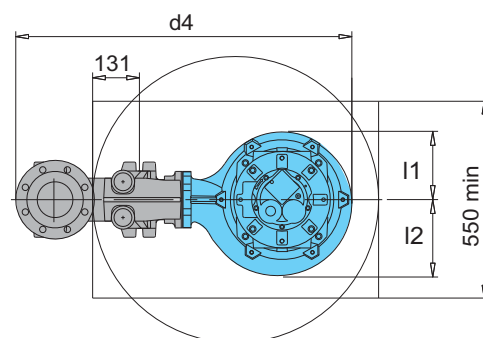
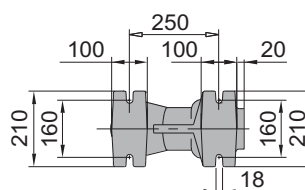
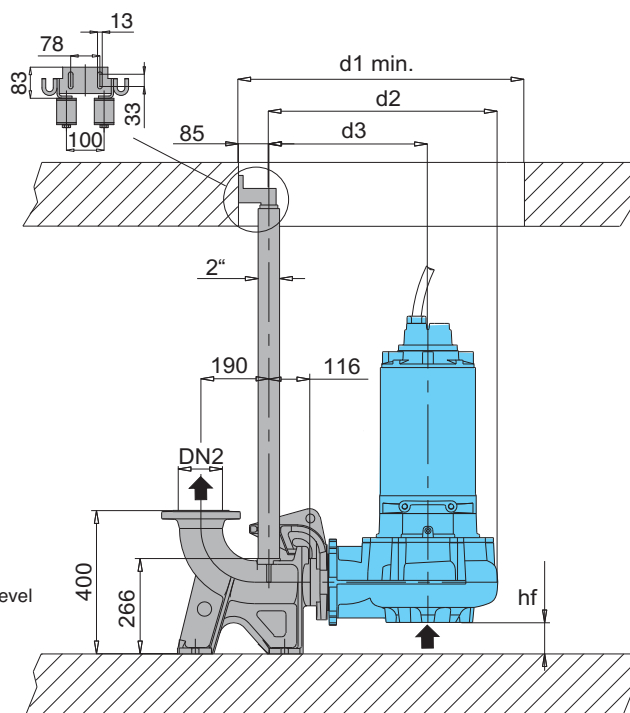
TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMN 30-80B/A	80	80	515	330	110	90	133	145	700	511	366	791	145	220	370	140	77
GMN 30-80A/A	80	80	515	330	110	90	133	145	700	511	366	791	145	220	370	140	77
GMN 30-80S/A	100	80	767	438	132	68	165	165	700	571	386	851	185	220	500	150	150

Dimensions and weights

GMN 40-100
GMN 50-100
GMN4 80-100
GMN6 80-100



Version with foot and 90° elbow

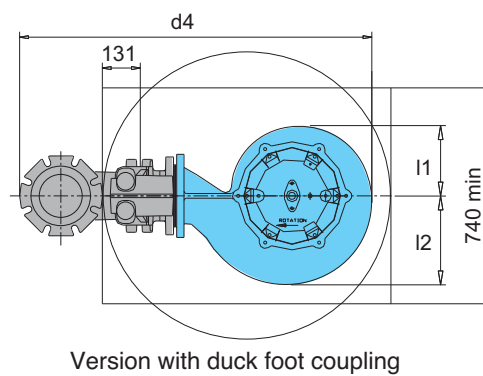
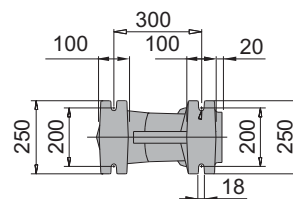
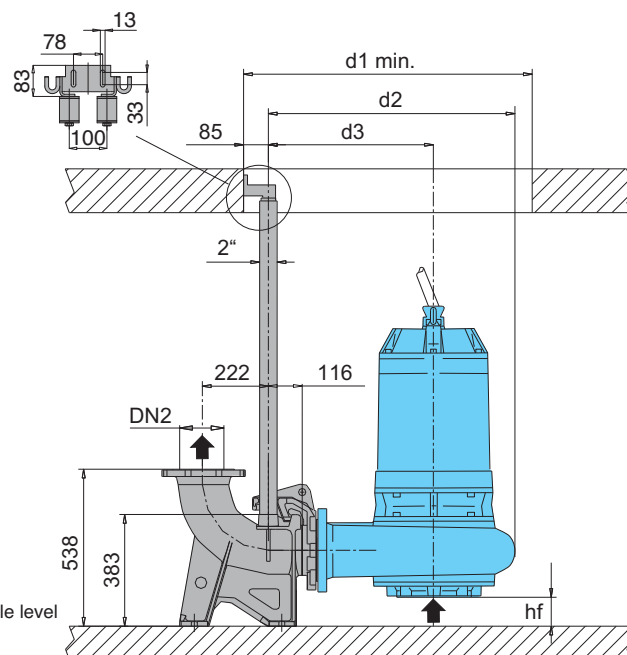
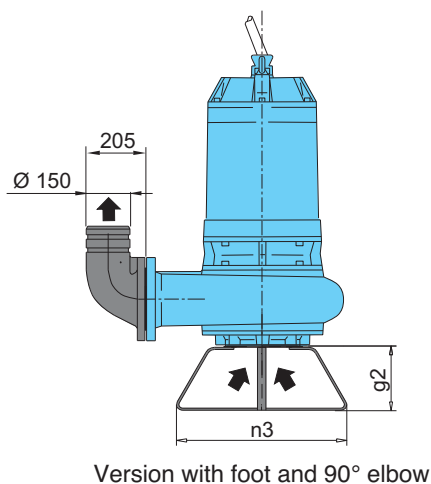
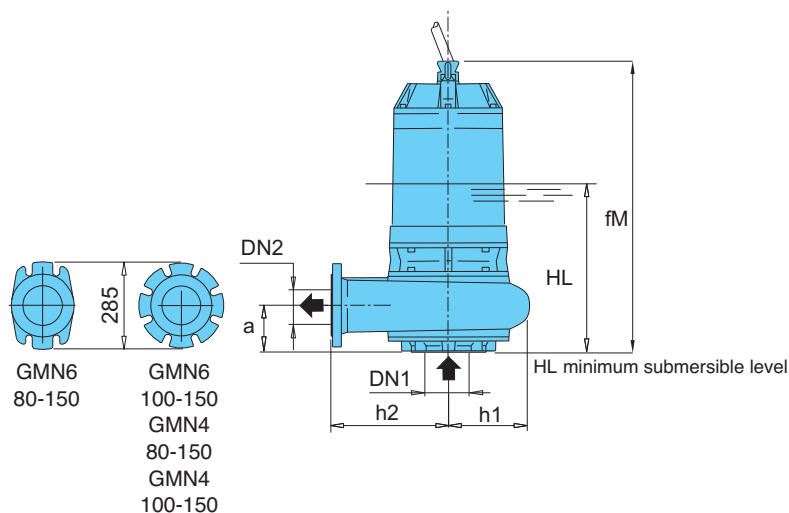


Version with duck foot coupling

TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMN 40-100D/A	125	100	794	480	127	73	168	184	750	628	441	928	187	275	500	150	200
GMN 40-100C/A																	
GMN 40-100B/A																	
GMN 40-100S/A	125	100	1269	570	127	73	193	193	800	628	441	928	187	275	500	150	340
GMN4 80-100D/A	125	100	597	424	62	138	180	231	850	673	466	973	207	300	500	150	110
GMN4 80-100C/A	125	100	852	526	54	147	189	212	800	640	445	940	195	279	500	150	160
GMN4 80-100A/A	125	100	920	570	54	147	189	212	800	640	445	940	195	279	500	150	200
GMN6 80-100B/A	125	100	531	372	62	138	180	231	850	673	466	973	207	300	500	150	96
GMN6 80-100A/A			597	424													111

Dimensions and weights

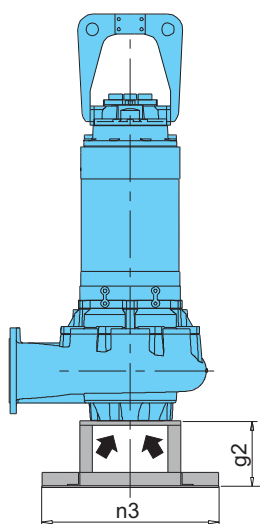
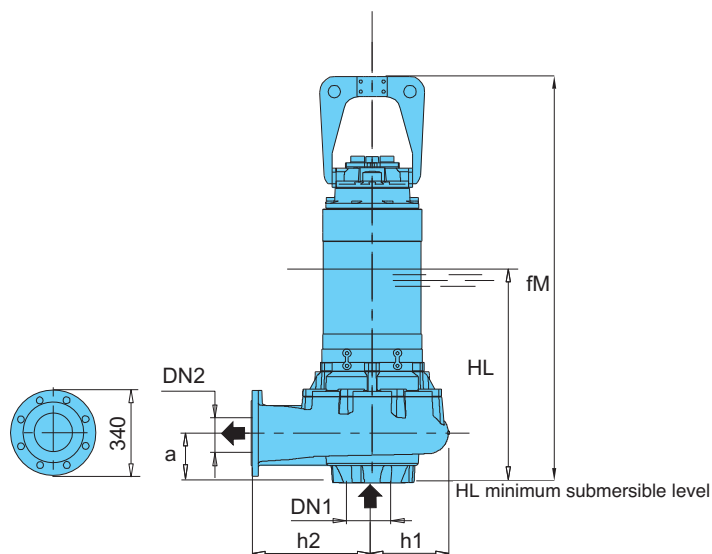
GMN6 80-150
GMN6 100-150
GMN4 80-150
GMN4 100-150



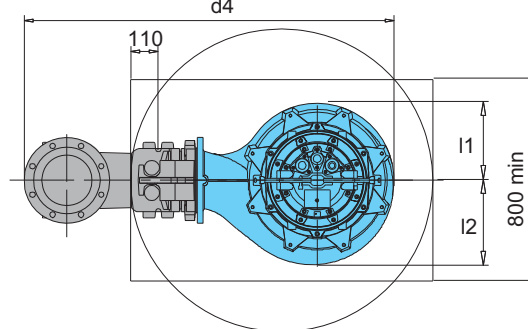
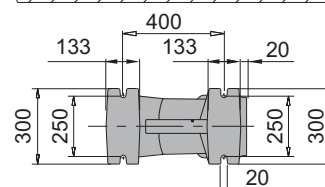
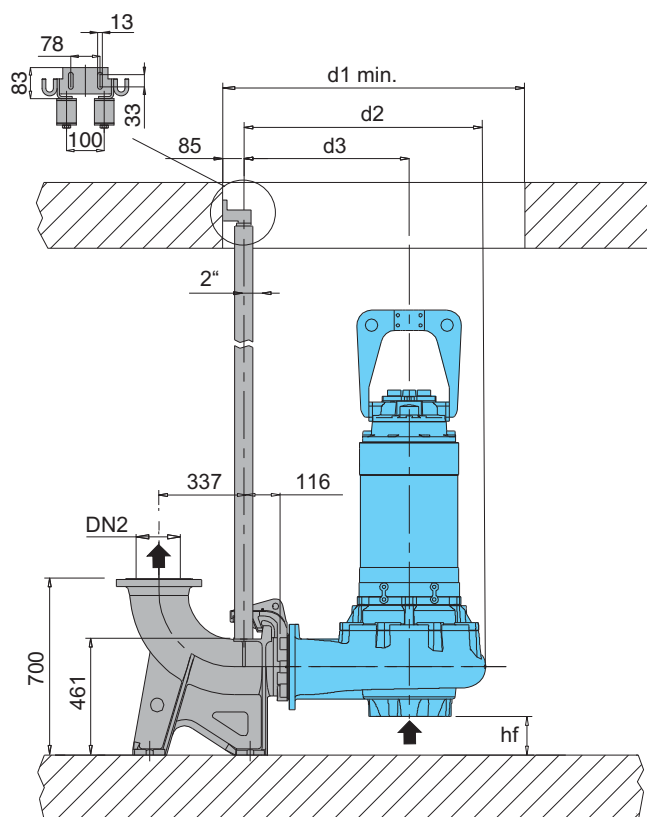
TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMN6 80-150B/A	150	150	820	540	113	147	191	223	850	673	467	1038	206	301	600	225	195
GMN6 80-150A/A			933	580													220
GMN6 100-150B/B	150	150	1274	737	80	180	239	304	990	840	566	1208	273	400	500	225	375
GMN6 100-150A/B			1409	737													450
GMN4 80-150C/B	150	150	1439	742	80	180	239	304	990	840	566	1208	273	400	500	225	515
GMN4 80-150B/B	150	150	1439	742													515
GMN4 100-150G/A	150	150	1409	737	80	180	239	304	990	840	566	1208	273	400	500	225	430
GMN4 100-150F/A																	430
GMN4 100-150E/B																	430
GMN4 100-150D/B																	430
GMN4 100-150S/B	150	150	1439	742	80	180	239	304	990	840	566	1208	273	400	500	225	518

Dimensions and weights

GMN4 100-200
GMN6 100-200
GMN8 100-200



Version with foot

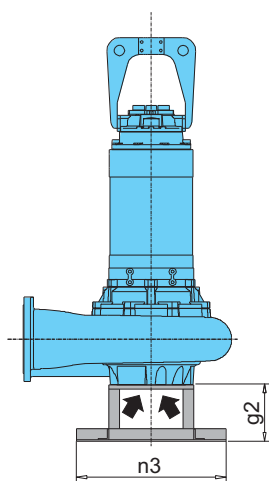
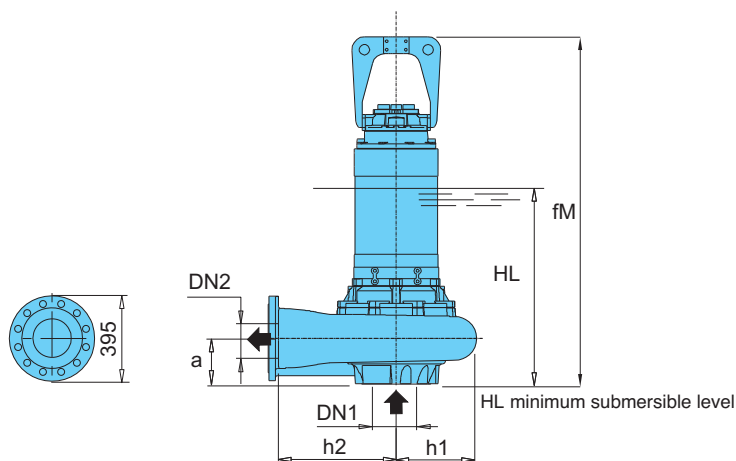


Version with duck foot coupling

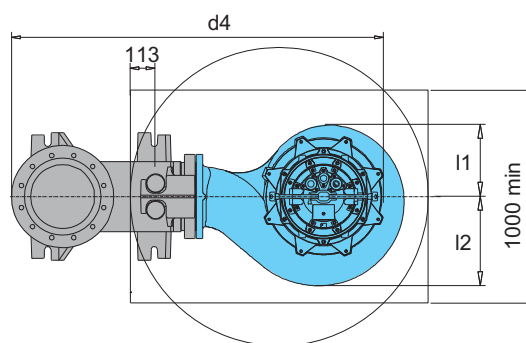
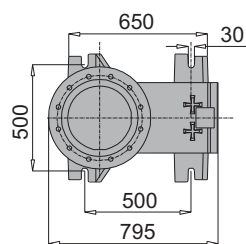
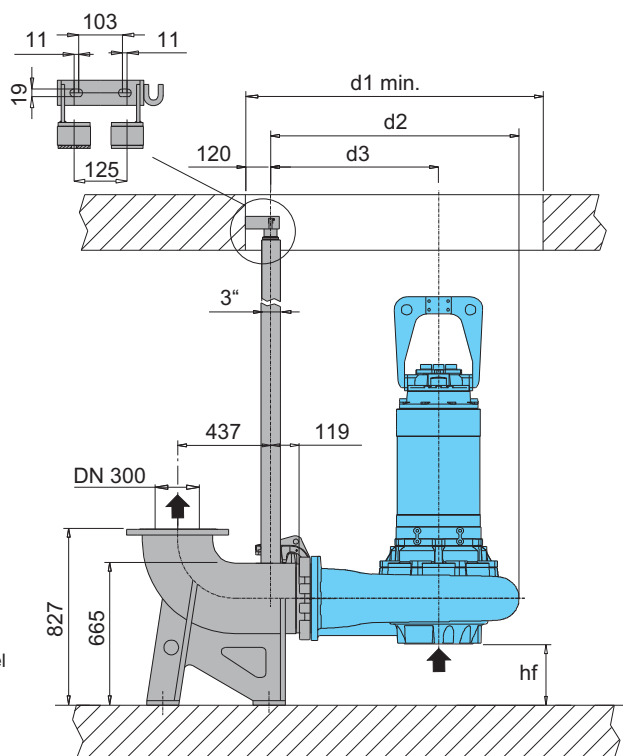
TYPE	EN 1092-2 PN 10		Dimensions mm															Weight kg	
	DN1	DN2	fM	HL	hf	h1	h2	a1	a2	d1	d2	d3	d4	h1	h2	n3	g2		
GMN4 100-200C/A	200	200	1613	780	153	198	1878	306	335	1200	962	656	1469	306	480	700	265	665	
GMN4 100-200B/A																			
GMN4 100-200A/A																			
GMN6 100-200E/B	200	200	1256	665	153	180	1655	269	336	1200	958	656	1314	303	480	700	265	460	
GMN6 100-200D/B			1392															385	
GMN8 100-200B/C																			
GMN8 100-200A/A	200	200	1392	665	153	180	1655	269	335	1200	958	656	1314	303	480	700	265	435	

Dimensions and weights

GMN4 100-250
GMN6 100-250
GMN8 100-250



Version with foot

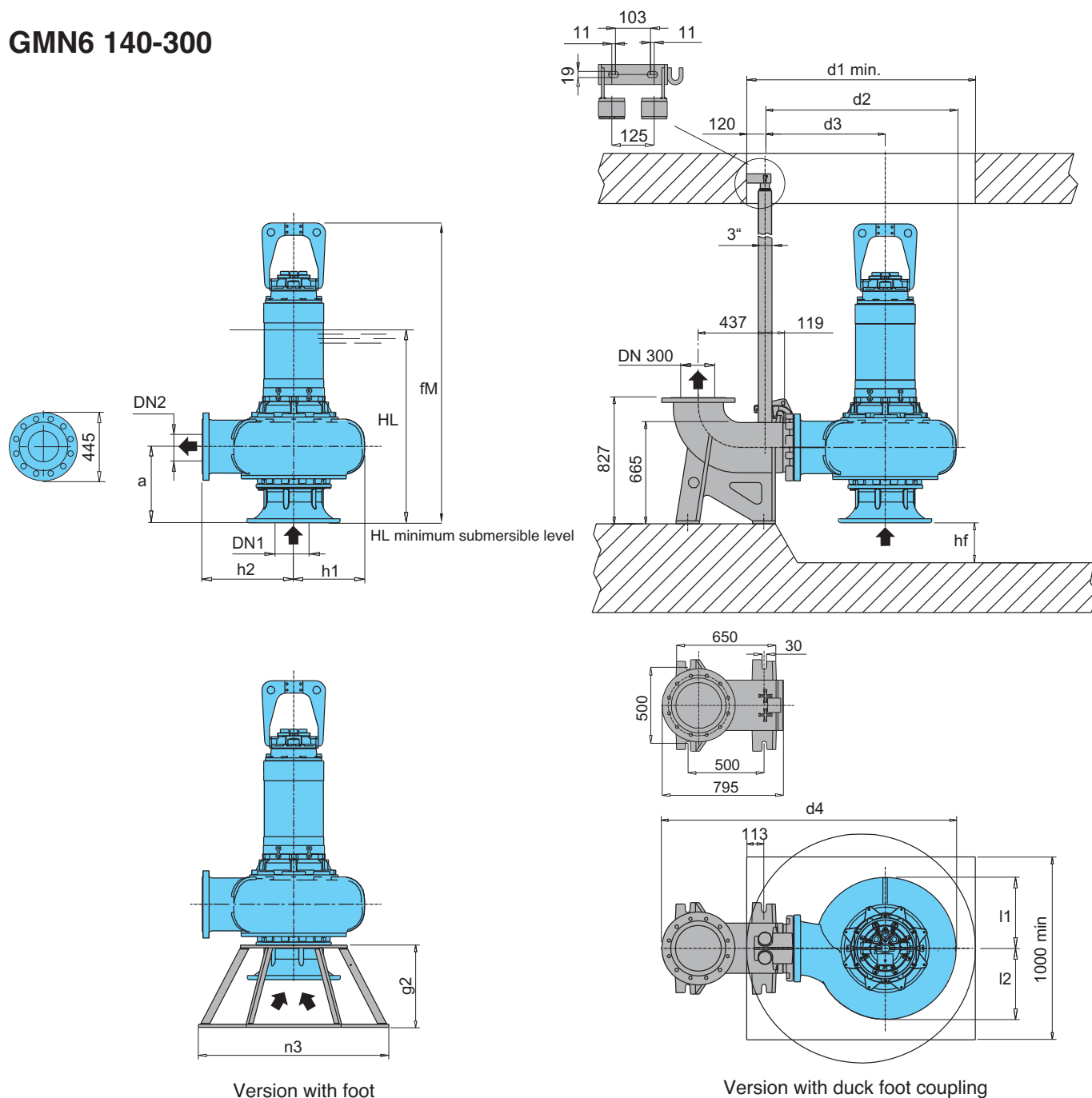


Version with duck foot coupling

TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMN4 100-250D	250	250	1710	835	286	214	336	419	1400	1167	789	1843	378	600	700	265	914
GMN4 100-250C																	
GMN4 100-250B																	
GMN4 100-250A																	
GMN6 100-250D	250	250	1408	735	250	180	336	419	1400	1203	789	1843	378	600	700	265	530
GMN6 100-250C																	
GMN6 100-250B																	
GMN6 100-250A																	
GMN8 100-250B/A	250	250	1408	735	250	180	336	419	1400	1203	789	1843	378	600	700	265	520
GMN8 100-250A/B																	

Dimensions and weights

GMN6 140-300



TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMN6 140-300D	350	300	1959	1127	260	494	465	465	1500	1254	789	1930	465	600	1248	540	1030
GMN6 140-300C																	
GMN6 140-300B																	
GMN6 140-300A	350	300	2040	1164	260	494	465	465	1500	1254	789	1930	465	600	1248	540	1210
GMN8 140-300A																	



Main materials

Pump casing: cast iron EN-GJL-250
Motor casing: cast iron EN-GJL-250
Motor cover: cast iron EN-GJL-250
Impeller: cast iron GS 400
Shaft : stainless steel AISI 420B
Lip seal made of nitrile up to 1,6 kW
Mechanical seal motor side: graphite/ceramic over 1,6 kW
Mechanical seal pump side: silicon carbide/silicon carbide

Construction

Submersible pumps with high power grinder.
Twin mechanical seal with oil chamber (lip-seal motor side up to 1,6 kW).
Delivery connection DN 40.

Applications

Suitable for pumping waste water containing long filamentous, Paper and textile materials and organics.
They are particularly suitable for use in domestic, residential and industrial installations
Solid passage from 6 and 7 mm

Operating conditions

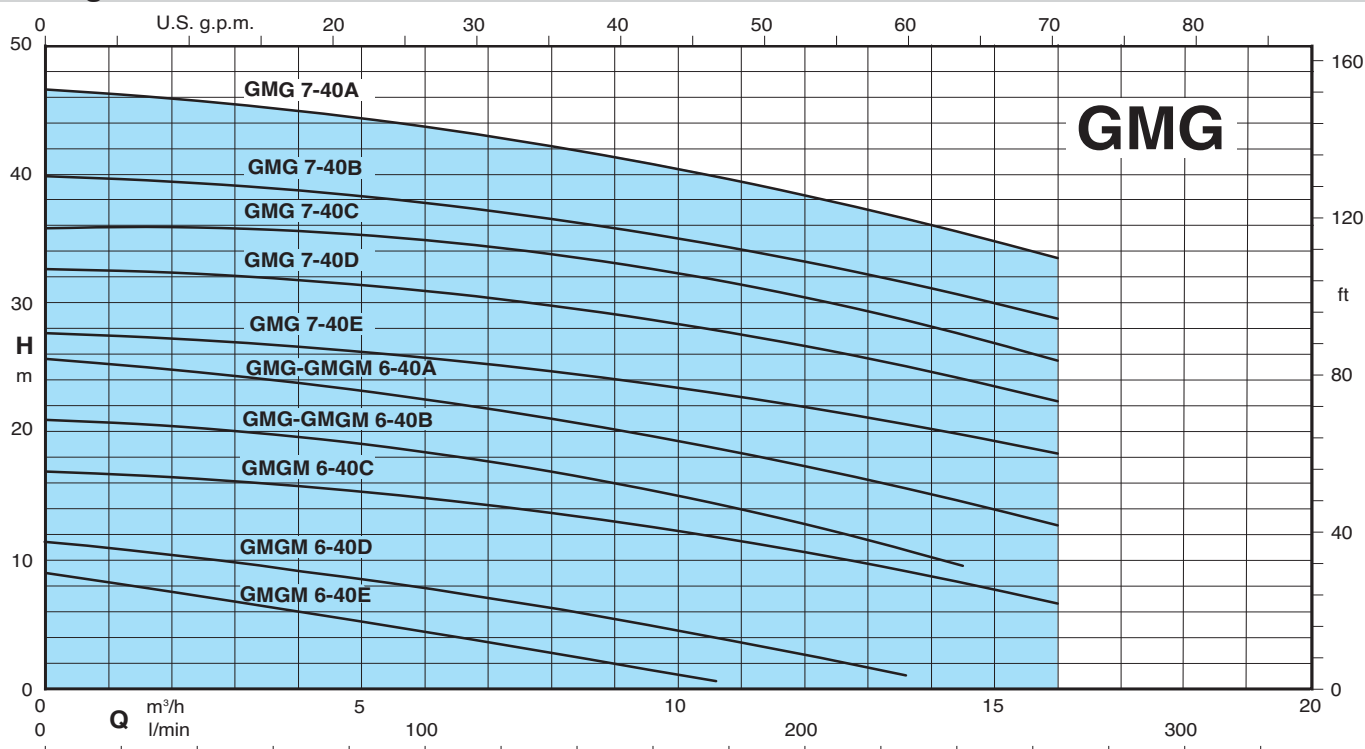
Liquid temperature up to 40 °C.
Maximum immersion depth: 20 m (with suitable cable length).
Continuous duty (with pump immersed at minimum level).

Motor

2 poles induction, 50Hz
Single-phase version: 230V $\pm$ 10%, with float switch and control box with thermal protection and starting capacitors.
Three-phase version: 400V $\pm$ 10%, up to 3,2 kW
400/690V $\pm$ 10%, over 3,2 kW

Insulation class: H
Protection degree: IP 68
N° of starting x hour: max 15 with regular intervals
Cable: H07RN-F, length 10 m
Other models: contact our sale office
Classification scheme IE3.

Coverage chart





Submersible pumps with high power grinder



Technical data

TYPE	P ₂ kW	I _N A	Power Supply	r.p.m.	Starting	DN mm	Free passage Ø mm	Thermal protector	Humidity probe	 ATEX Eex
GMGM 6-40E/B	1,1	6,6	1~ 230V	2850	D.O.L.	40	6	●	NO	
GMGM 6-40D/B	1,1	6,6	1~ 230V	2850	D.O.L.	40	6	●	NO	
GMGM 6-40C/A	1,1	6,6	1~ 230V	2850	D.O.L.	40	6	●	NO	
GMGM 6-40B/A	1,5	9	1~ 230V	2850	D.O.L.	40	6	●	NO	
GMG 6-40B/A	1,6	3,1	3~ 400V	2850	D.O.L.	40	6	NO	NO	✓
GMGM 6-40A/A	1,9	11,4	1~ 230V	2850	D.O.L.	40	6	●	NO	
GMG 6-40A/A	2,4	4,5	3~ 400V	2850	D.O.L.	40	6	NO	NO	✓
GMG 7-40E/A	3,1	5,8	3~ 400V	2850	D.O.L.	40	7	NO	NO	✓
GMG 7-40D/A	3,1	5,8	3~ 400V	2850	D.O.L.	40	7	NO	NO	✓
GMG 7-40C/A	4,2	7,7	3~ 400/690V	2850	Y/Δ	40	7	●	●	✓
GMG 7-40B/A	5	9,1	3~ 400/690V	2850	Y/Δ	40	7	●	●	✓
GMG 7-40A/A	5	9,1	3~ 400/690V	2850	Y/Δ	40	7	●	●	✓

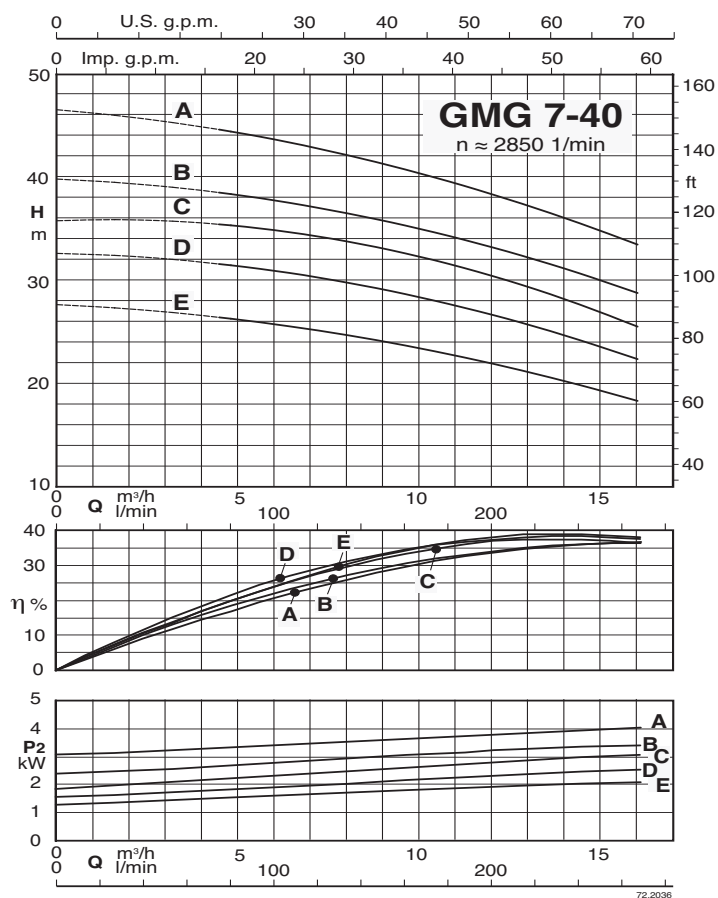
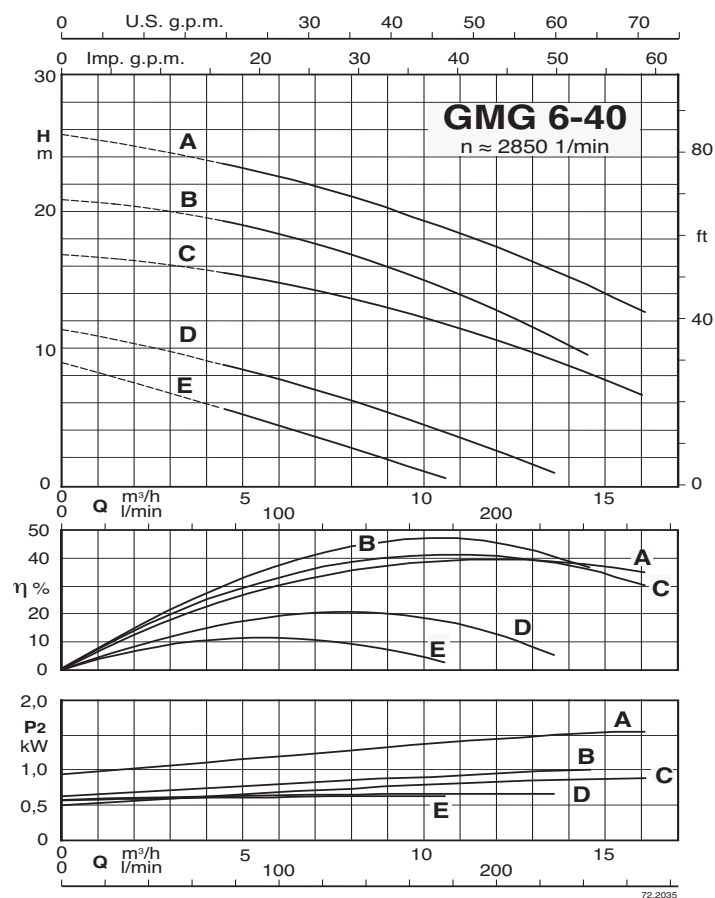
P₂ Rated power output

I_N Rated current

● Standard

✓ ATEX Eex Version on demand

Characteristic curves

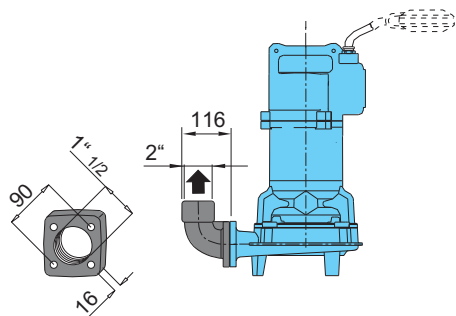
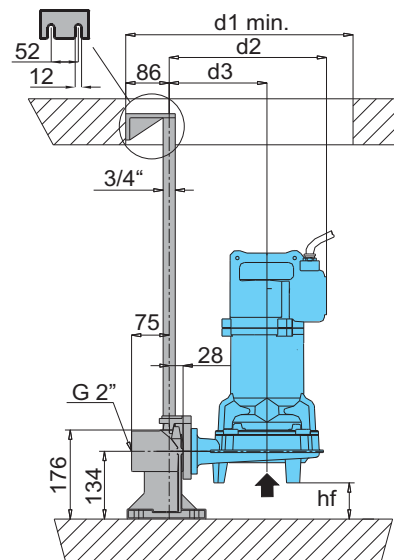
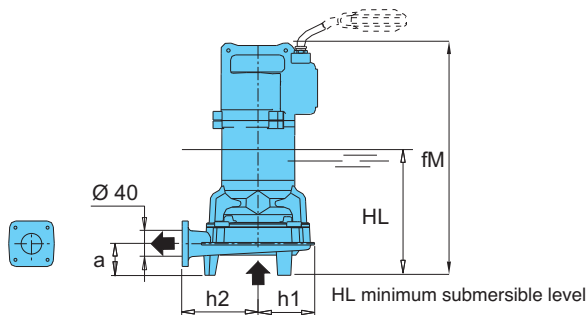


Dimensions and weights

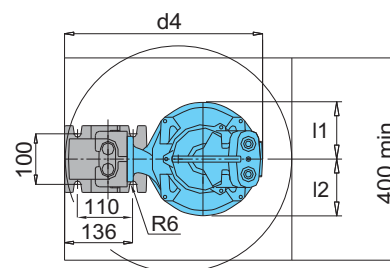
GMGM 6-40

GMG 6-40

GMG 7-40



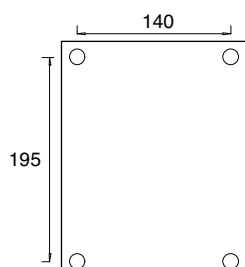
Version with threaded flange and 90° elbow



Version with duck foot coupling

TYPE	Dimensions mm													Weight kg
	Ø1	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	
GMGM 6-40E/B	40	487	246	65	103	122	122	450	297	178	392	118	135	30
GMGM 6-40D/B														
GMGM 6-40C/A														
GMGM 6-40B/A														
GMG 6-40B/A														
GMGM 6-40A/A	40	464	316	72	63	112	112	450	312	194	392	118	150	40
GMG 6-40A/A														
GMG 7-40E/A		451	325	17	117	121	121	450	327	189	413	138	150	52
GMG 7-40D/A														
GMG 7-40C/A														
GMG 7-40B/A	40	510	353	17	117	121	121	450	334	189	420	147	150	66
GMG 7-40A/A														

Control box



To fix the control panel, use the preposed holes as specify in this drawing.
In order to maintain the protection degree, suitable fixing devices must be used.



Construction

Submersible pumps in **AISI 316** stainless steel.

I-GMV with free-flow (vortex) impeller

I-GMC with single-channel impeller

I-GMN with channels impeller

Twin mechanical seal with oil chamber (lip-seal motor side up to 2,4 kW 2 poles).

Delivery connection DN 50-65-80-100-150

Applications

Suitable to pump aggressive and corrosive liquids, particularly to drain waste water in industrial and chemical process plants. Solid passage from 30 to 100 mm

Operating conditions

Liquid temperature up to 40 °C.

Maximum immersion depth: 20 m (with suitable cable length).

Continuous duty (with pump immersed at minimum level).

Main materials

Pump casing: stainless steel AISI 316

Motor casing: stainless steel AISI 316

Motor cover: stainless steel AISI 316

Impeller: stainless steel AISI 316

Shaft: stainless steel AISI 316L

Screws: stainless steel AISI 316

Mechanical seal motor side: graphite/ceramic/FPM (lip-seal made of nitrile up to 2,4 kW 2 poles).

Mechanical seal pump side: silicon carbide/silicon carbide/FPM

Motor

2 or 4 poles induction, 50Hz

Three-phase version: 400V $\pm$ 10%, up to 3,2 kW

400/690V $\pm$ 10%, over 3,2 kW

Insulation class: H

Protection degree: IP 68

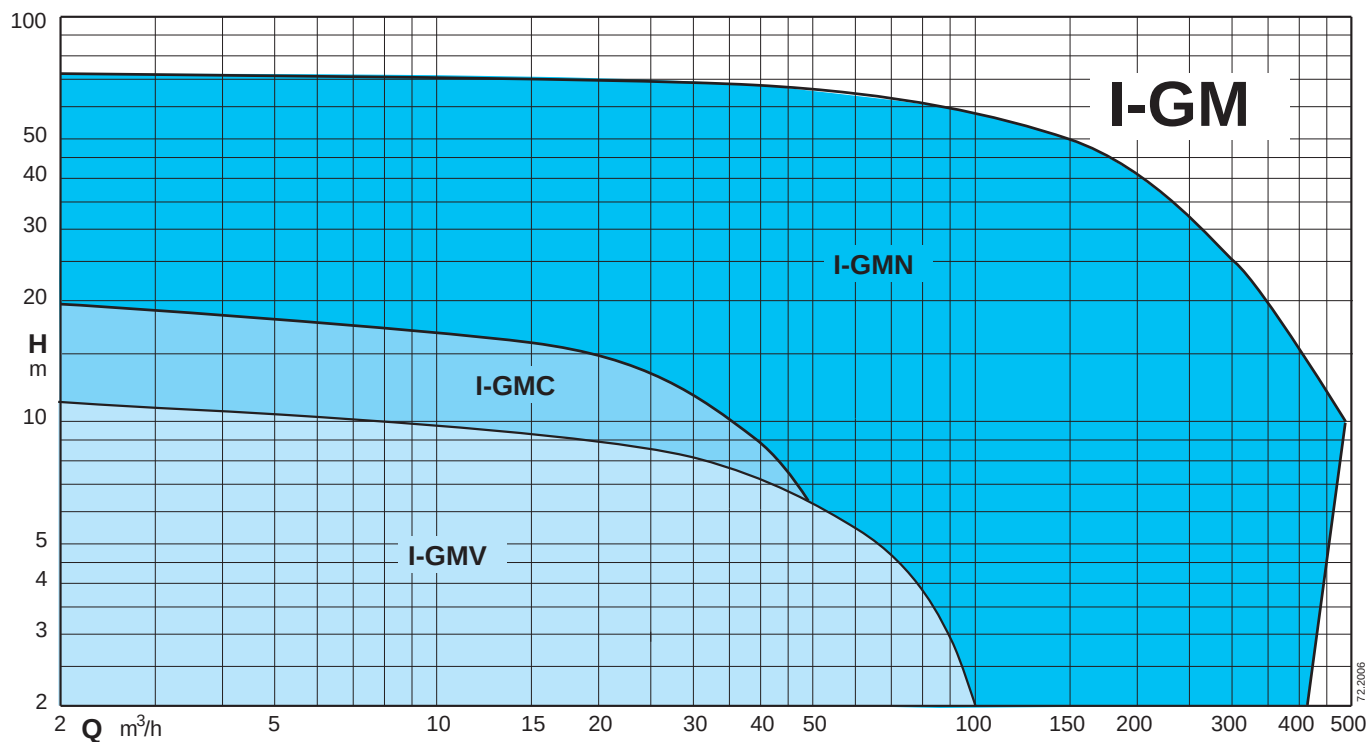
N° of starting x hour: max 15 with regular intervals

Cable: H07RN-F, length 10 m

Other models: contact our sale office

Classification scheme IE3.

Coverage chart



Technical data

TYPE	P ₂ kW	I _N A	Power Supply	r.p.m.	Starting	DN mm	Free passage Ø mm	Thermal protector	Humidity probe	 ATEX Eex
I-GMV 50-50C/A	1,8	3,5	3~ 400V	2850	D.O.L.	50	50	NO	NO	✓
I-GMV 50-50B/B	1,6	3,1	3~ 400V	2850	D.O.L.	50	50	NO	NO	✓
I-GMV 50-50A/B	2,4	4,5	3~ 400V	2850	D.O.L.	50	50	NO	NO	✓
I-GMV4 50-65C/A	1,1	2,4	3~ 400V	1450	D.O.L.	65	50	NO	NO	✓
I-GMV4 50-65B/A	1,4	2,7	3~ 400V	1450	D.O.L.	65	50	NO	NO	✓
I-GMV4 50-65A/A	1,6	3,1	3~ 400V	1450	D.O.L.	65	50	NO	NO	✓
I-GMV4 50-80B/A	2,3	4,4	3~ 400V	1450	D.O.L.	80	50	NO	NO	✓
I-GMV4 50-80A/A	2,8	5,4	3~ 400V	1450	D.O.L.	80	50	NO	NO	✓
I-GMC 40-65B/A	2,1	3,9	3~ 400V	2850	D.O.L.	65	40	NO	NO	✓
I-GMC 40-65A/A	2,8	6	3~ 400V	2850	D.O.L.	65	40	NO	NO	✓
I-GMN 30-65B/A	3,1	5,8	3~ 400V	2850	D.O.L.	65	30	NO	NO	✓
I-GMN 30-65A/A	3,6	6,6	3~ 400V	2850	D.O.L.	65	30	NO	NO	✓
I-GMN 30-80B/A	5	9,1	3~ 400/690V	2850	Y/Δ	80	30	●	●	✓
I-GMN 30-80A/A	6,5	11,8	3~ 400/690V	2850	Y/Δ	80	30	●	●	✓
I-GMN 30-80S/A	7,5	13,5	3~ 400/690V	2850	Y/Δ	80	30	●	●	
I-GMN 40-100D/A	12	21,7	3~ 400/690V	2850	Y/Δ	100	40	●	●	✓
I-GMN 40-100C/A	13,8	24,8	3~ 400/690V	2850	Y/Δ	100	40	●	●	✓
I-GMN 40-100B/A	16,6	29,8	3~ 400/690V	2850	Y/Δ	100	40	●	●	✓
I-GMN 40-100S/A	20	35,8	3~ 400/690V	2850	Y/Δ	100	40	●	●	✓
I-GMN 50-100C/A	40	7,1	3~ 400/690V	2850	Y/Δ	100	50	●	●	
I-GMN 50-100B/A	45	78,3	3~ 400/690V	2850	Y/Δ	100	50	●	●	
I-GMN 50-100A/A	52	90,1	3~ 400/690V	2850	Y/Δ	100	50	●	●	
I-GMN4 60-100B/A	6	11,5	3~ 400/690V	1450	Y/Δ	100	60	●	●	✓
I-GMN4 60-100A/A	7,1	13,5	3~ 400/690V	1450	Y/Δ	100	60	●	●	✓
I-GMN4 80-100B/A	10	19	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
I-GMN4 80-100A/A	10	19	3~ 400/690V	1450	Y/Δ	100	80	●	●	✓
I-GMN4 100-150B/A	23,6	43,3	3~ 400/690V	1450	Y/Δ	150	100	●	●	
I-GMN4 100-150A/A	30	54,3	3~ 400/690V	1450	Y/Δ	150	100	●	●	

P₂ Rated power output

I_N Rated current

● Standard

✓ ATEX Eex Version on demand

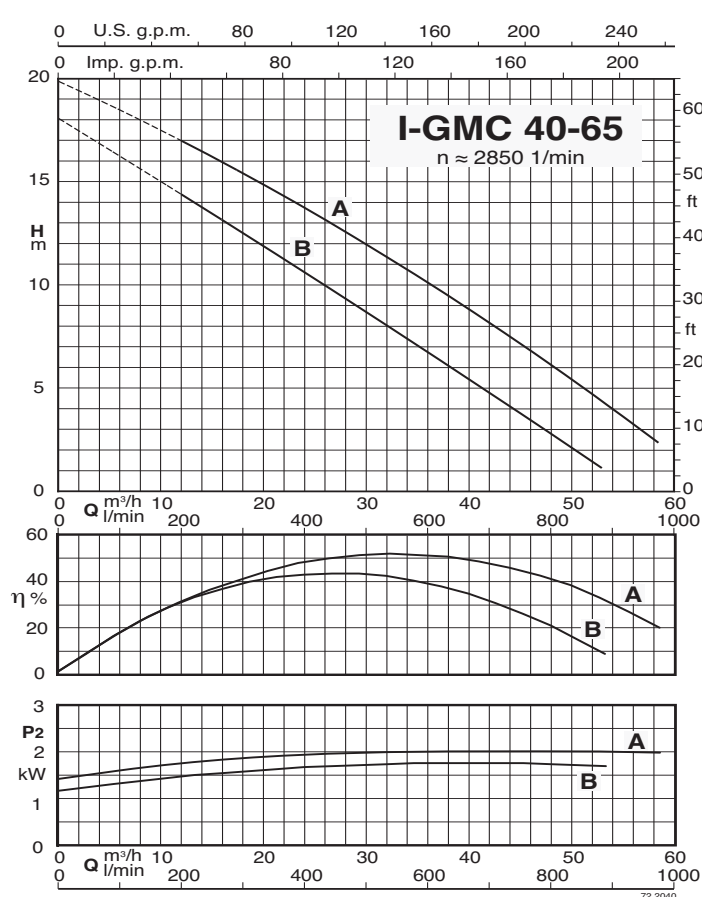
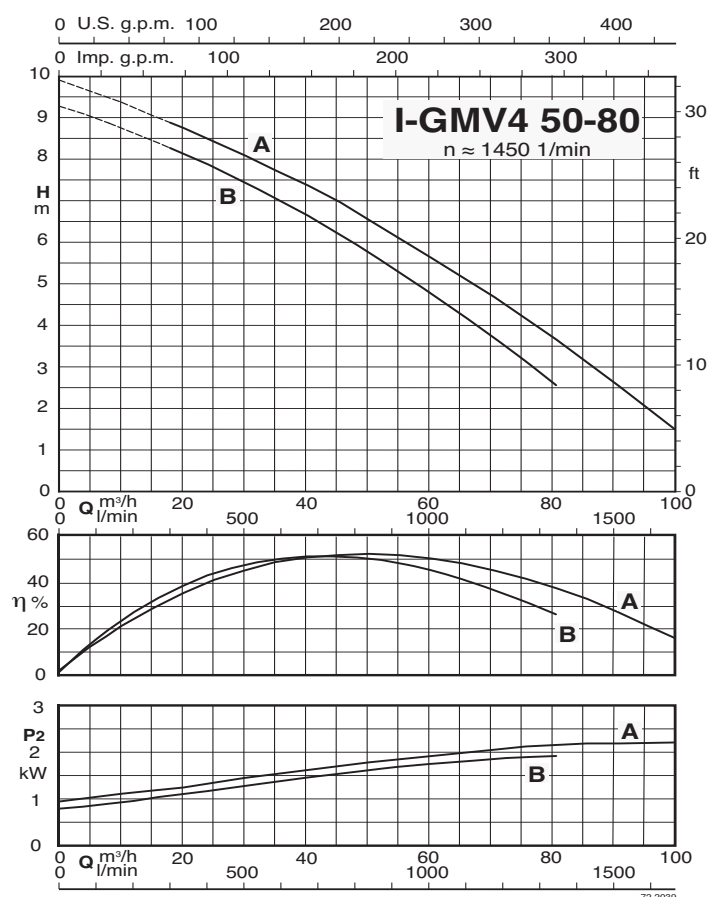
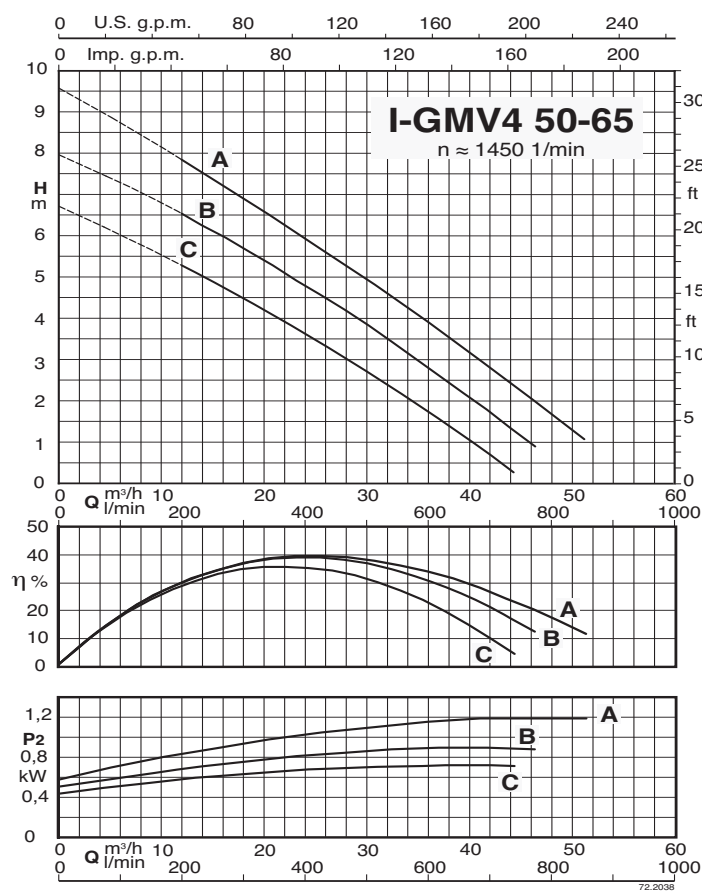
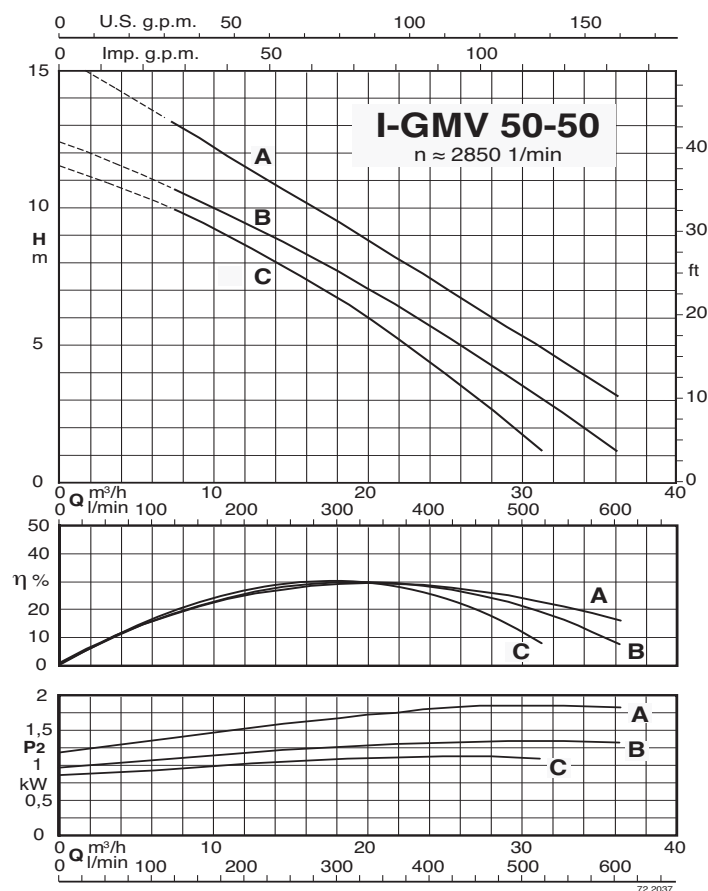
I-GM

Submersible pumps

AISI 316

calpeda®

Characteristic curves



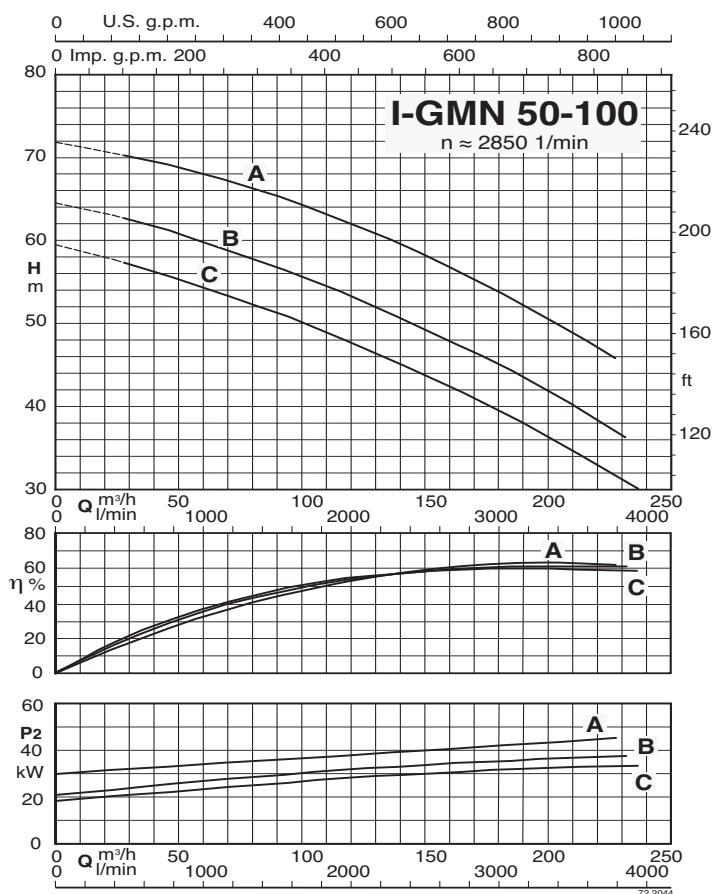
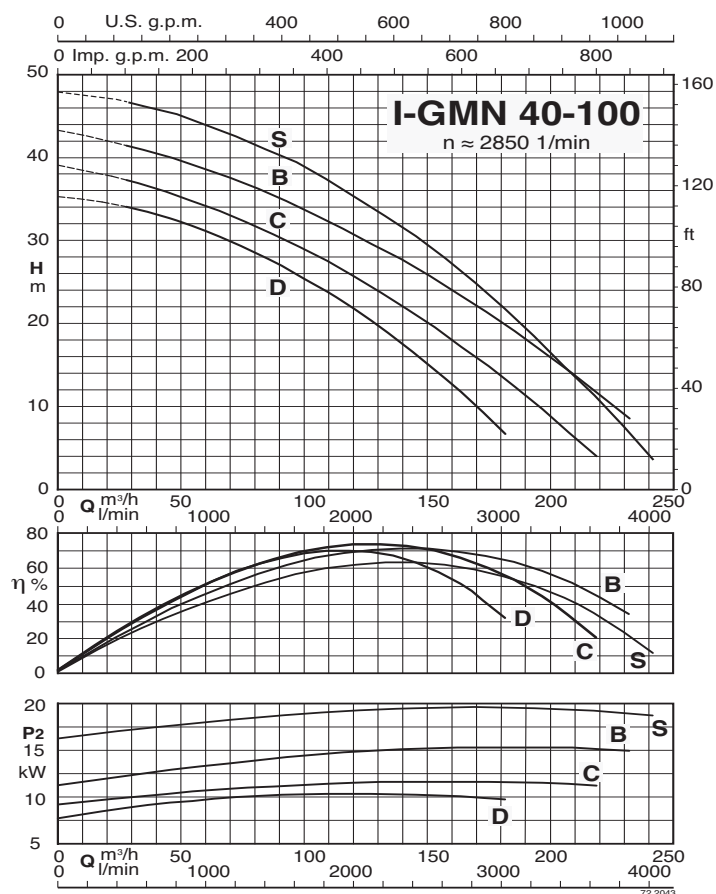
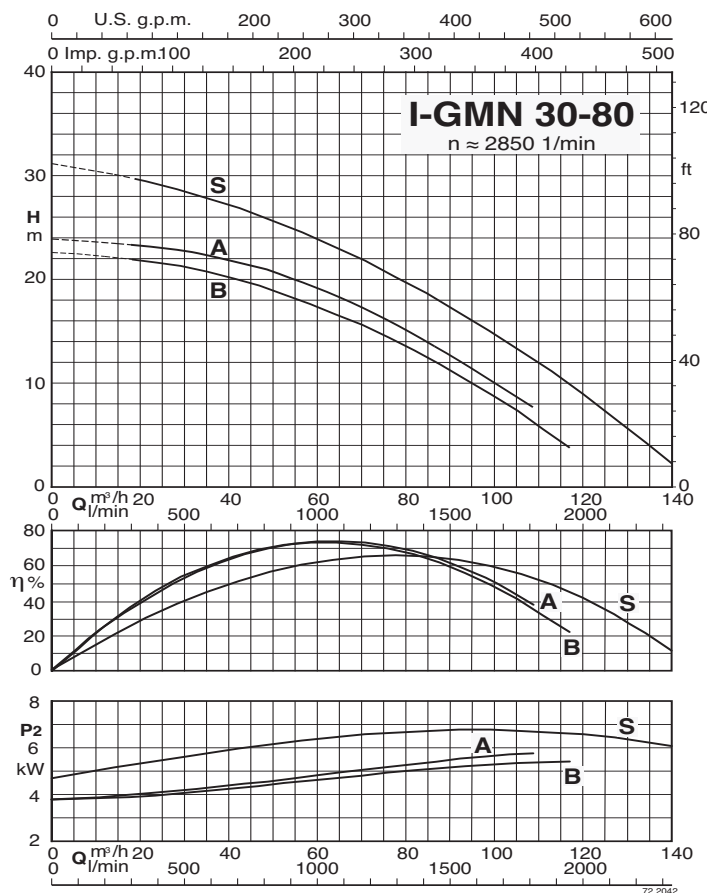
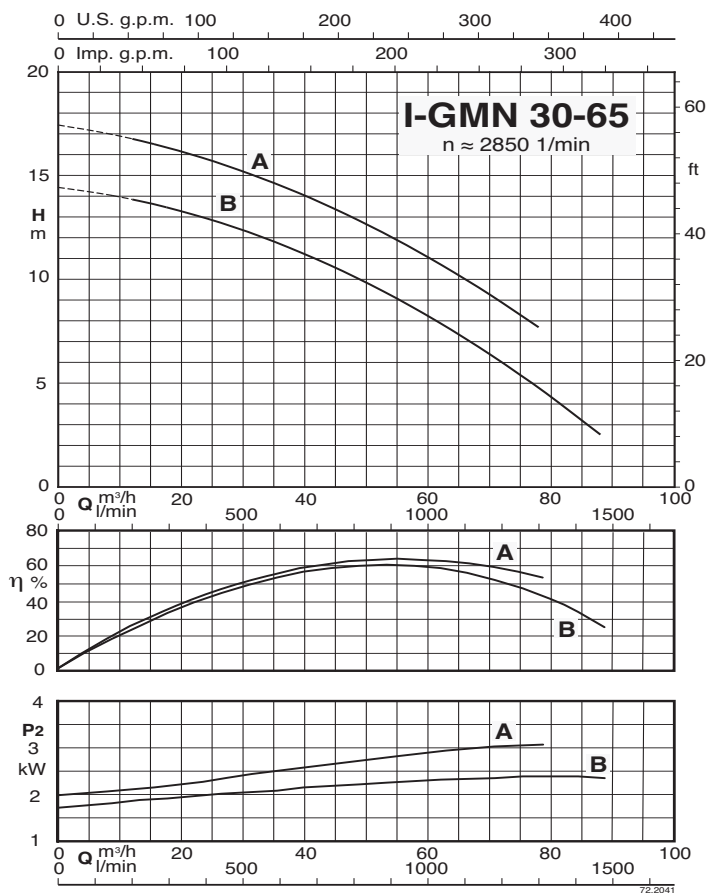
I-GM

Submersible pumps

AISI 316

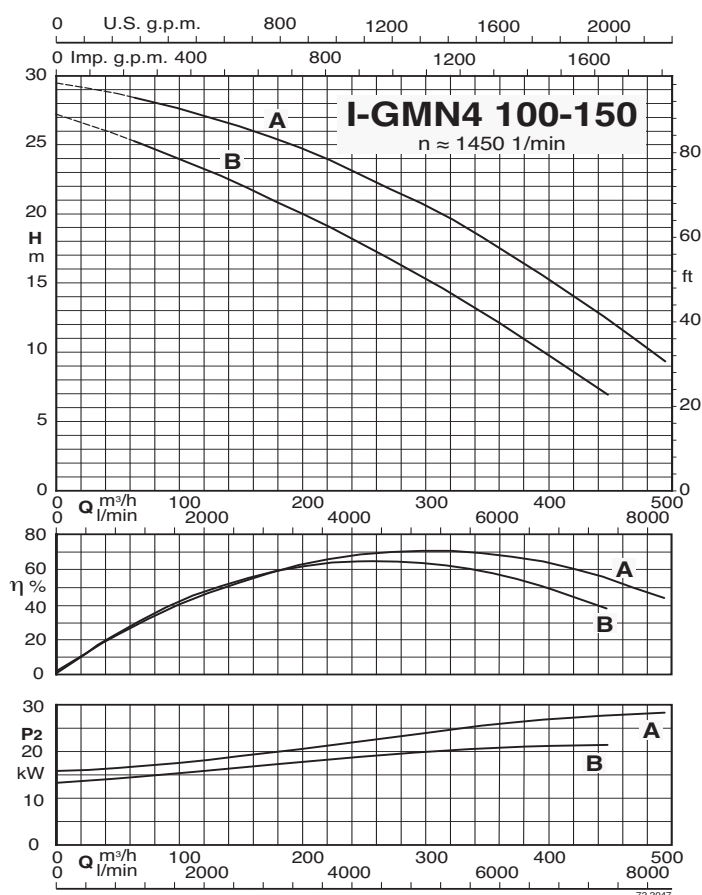
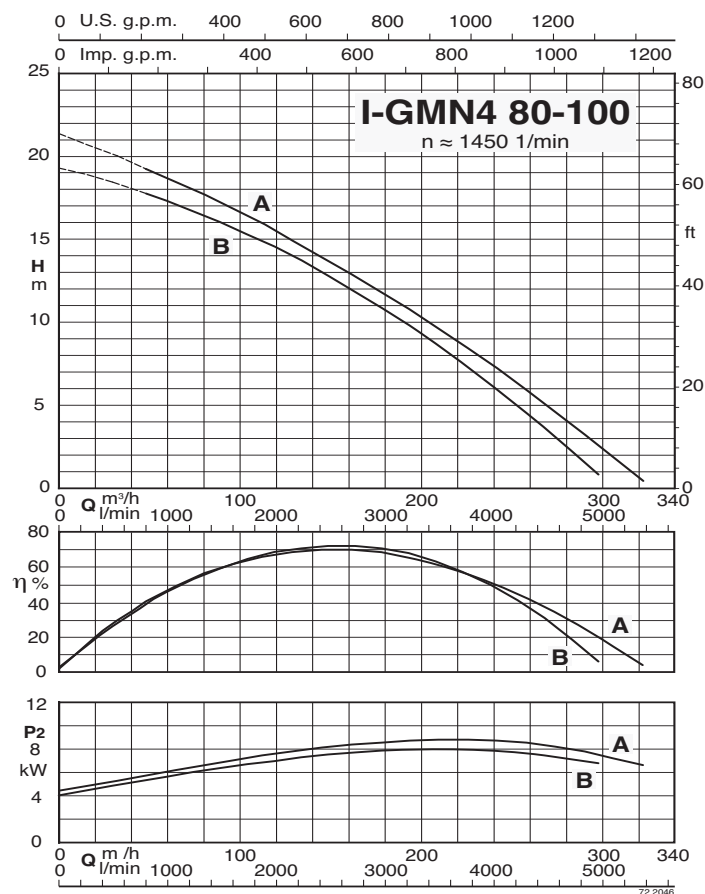
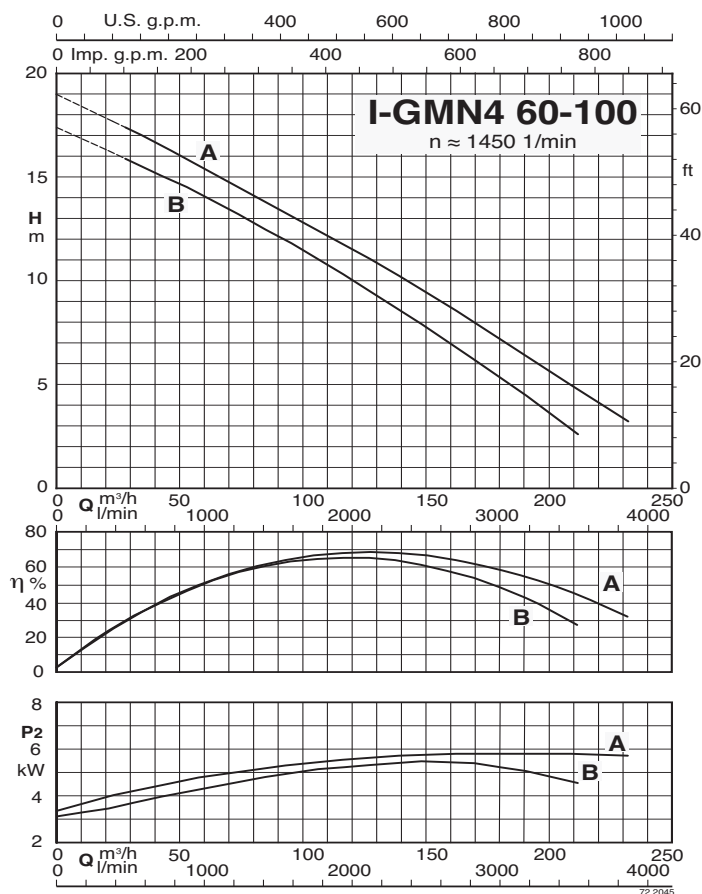
calpeda®

Characteristic curves



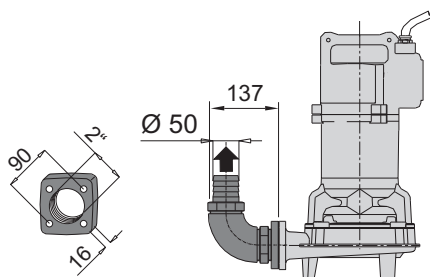
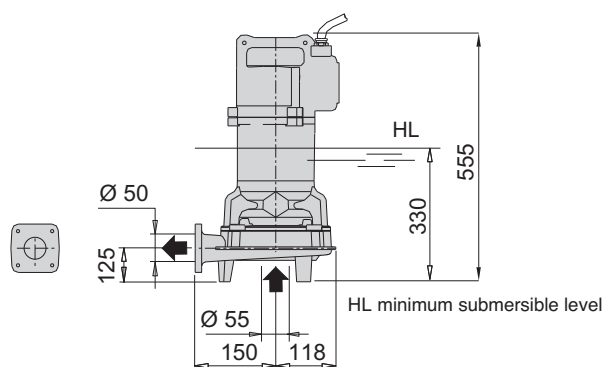
35

Characteristic curves

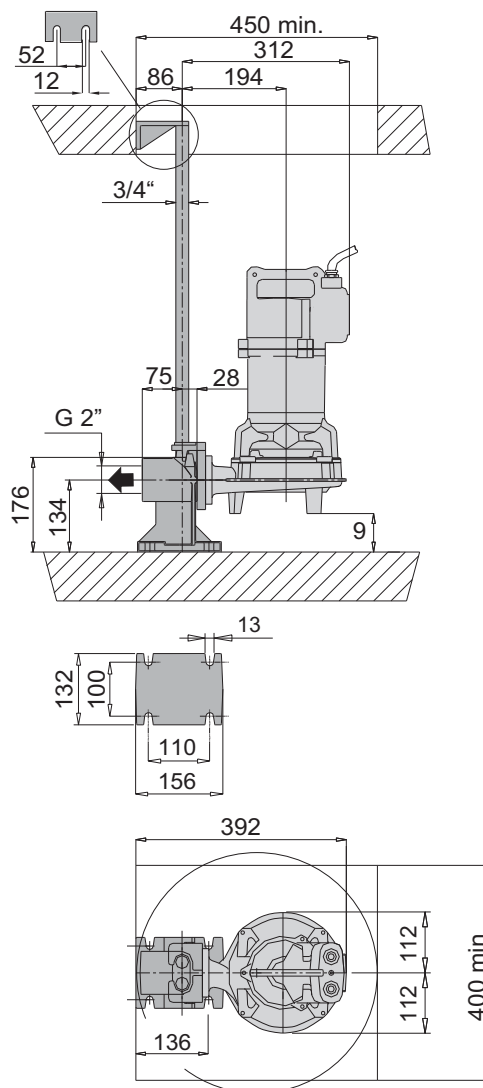


Dimensions and weights

I-GMV 50-50



Version with threaded flange and 90° elbow



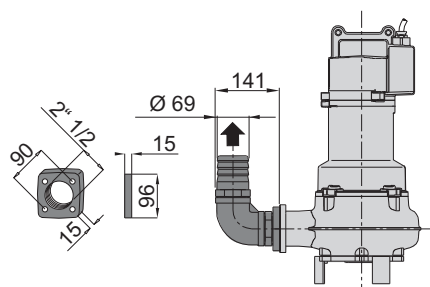
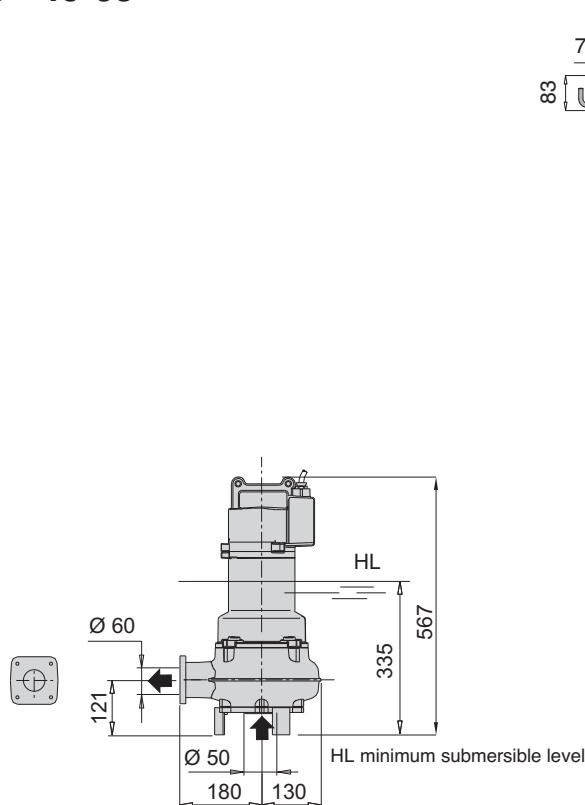
Version with duck foot coupling

TYPE	Weight kg
I-GMV 50-50C/A	46
I-GMV 50-50B/B	
I-GMV 50-50A/B	

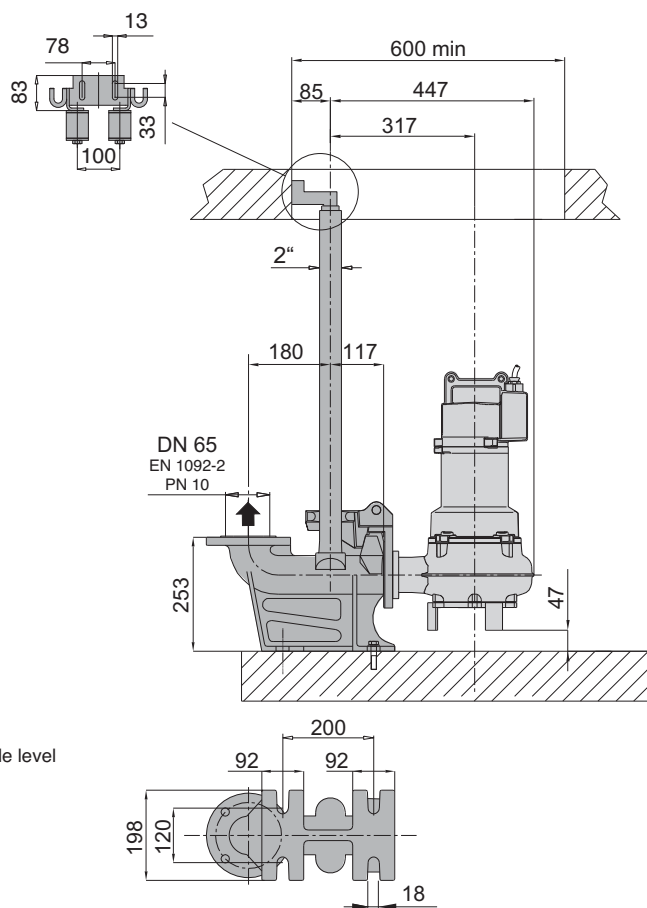
Dimensions and weights

I-GMV4 50-65

I-GMC 40-65



Version with threaded flange and 90° elbow

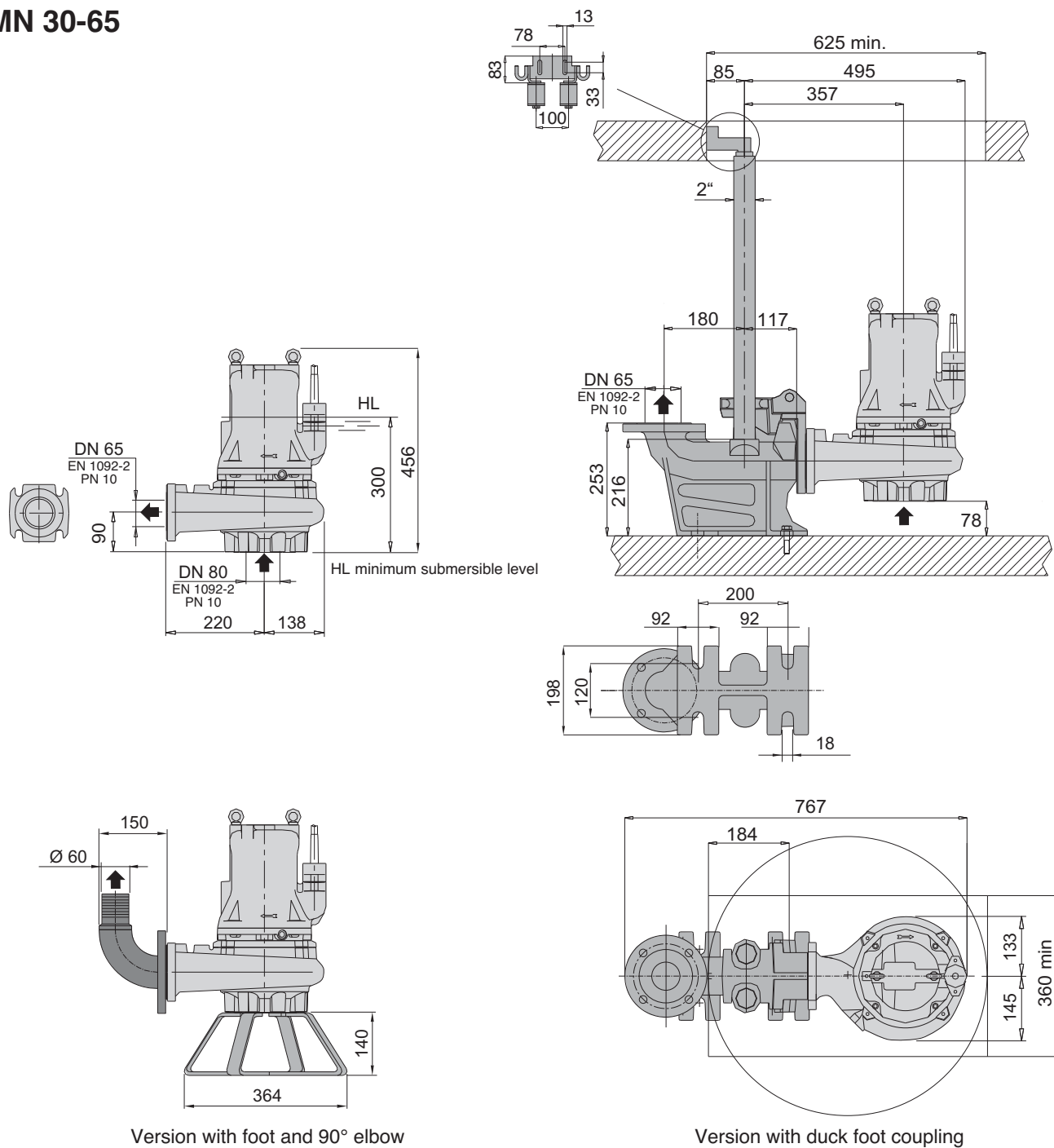


Version with duck foot coupling

TYPE	Weight kg
I-GMV4 50-65C/A	47
I-GMV4 50-65B/A	
I-GMV4 50-65A/A	
I-GMC 40-65B/A	49
I-GMC 40-65A/A	

Dimensions and weights

I-GMN 30-65



Version with foot and 90° elbow

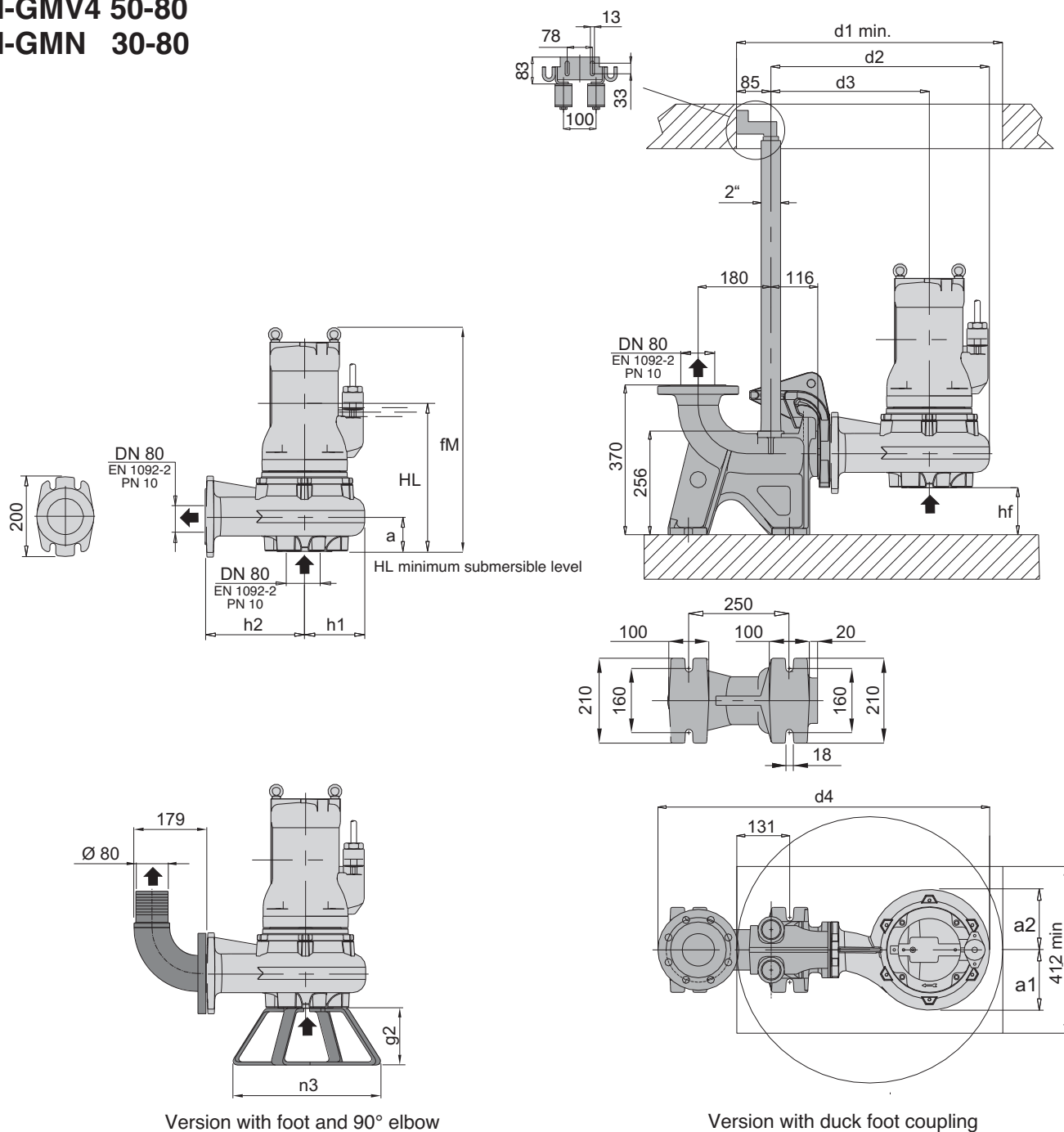
Version with duck foot coupling

TYPE	Weight kg
I-GMN 30-65B/A	60
I-GMN 30-65A/A	

Dimensions and weights

I-GMV4 50-80

I-GMN 30-80



TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
I-GMV4 50-80B/A	80	80	519	363	84	116	136	157	658	511	366	791	145	220	370	140	67
I-GMV4 50-80A/A																	
I-GMN 30-80B/A																	
I-GMN 30-80A/A	80	80	515	330	110	90	133	145	700	511	366	791	145	220	370	140	83
I-GMN 30-80S/A																	
I-GMN 30-80S/A	100	80	767	438	132	68	165	165	700	571	386	851	185	220	476	150	170

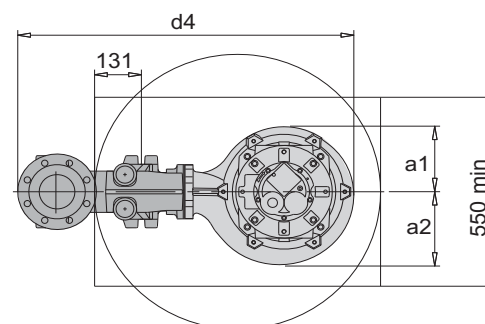
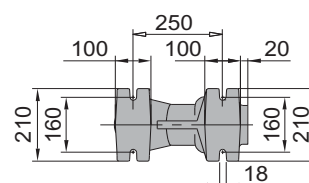
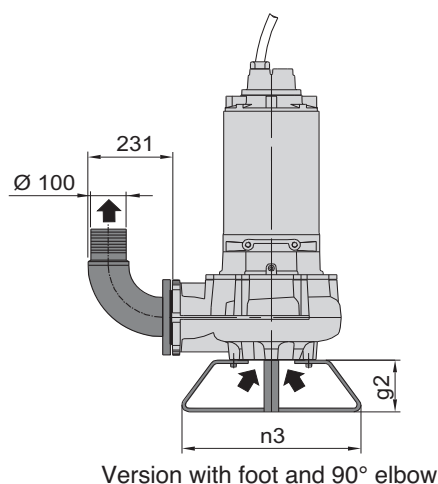
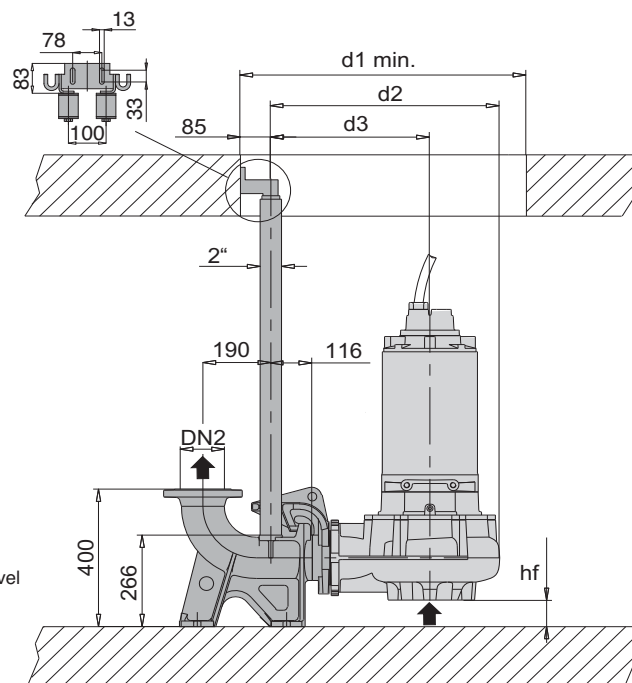
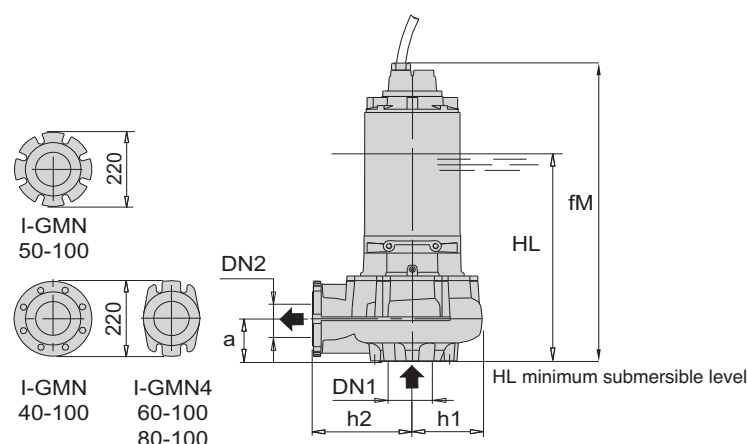
Dimensions and weights

I-GMN 40-100

I-GMN 50-100

I-GMN4 60-100

I-GMN4 80-100

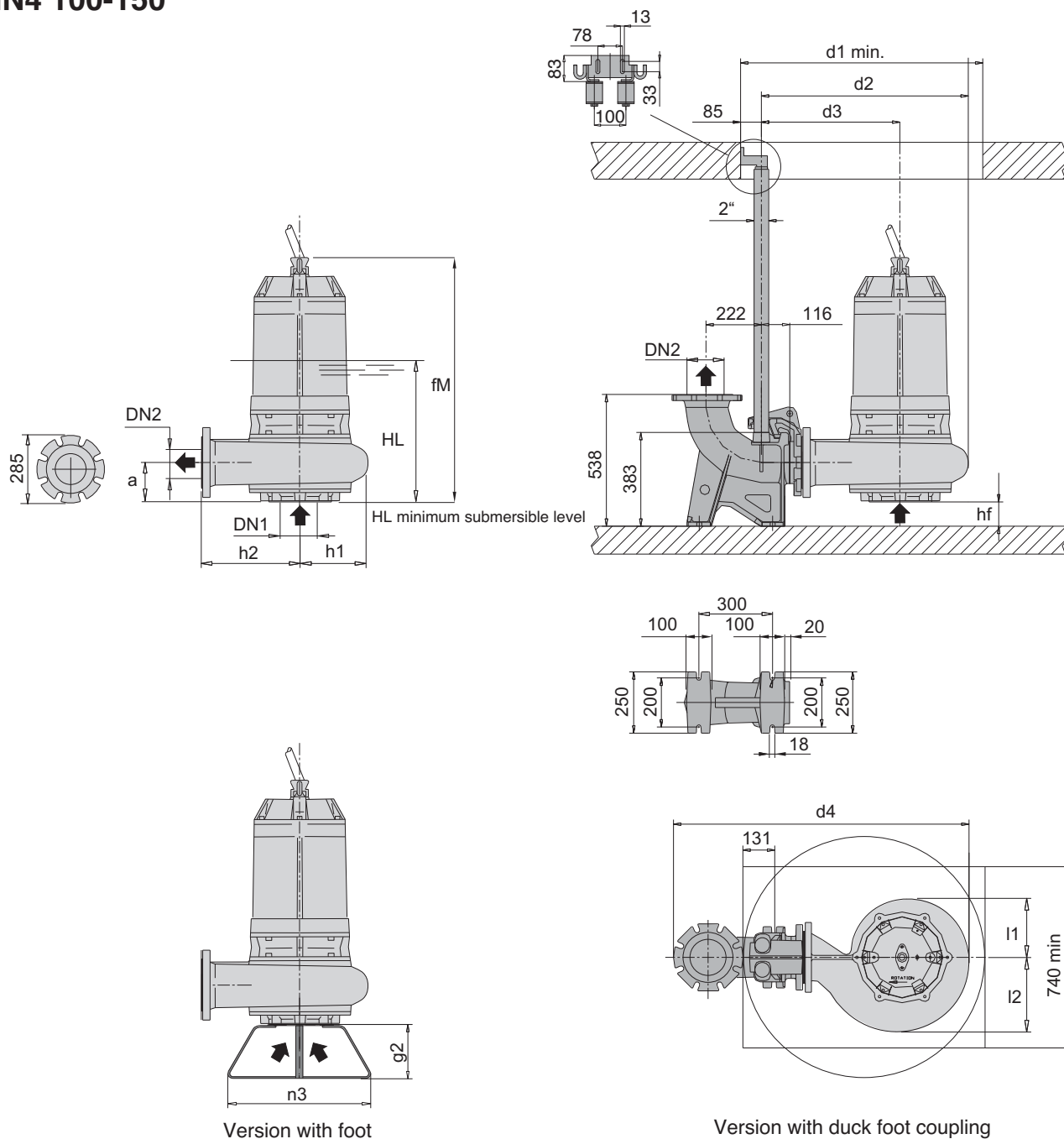


Version with duck foot coupling

TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
I-GMN 40-100D/A	125	100	845	478	127	73	168	184	750	628	441	928	187	275	500	150	210
I-GMN 40-100C/A																	
I-GMN 40-100B/A																	
I-GMN 40-100S/A	125	100	1269	570	127	73	193	193	800	628	441	928	187	275	500	150	370
I-GMN 50-100C/A																	
I-GMN 50-100B/A																	
I-GMN 50-100A/A	125	100	1033	628	62	139	180	231	850	673	466	973	207	300	500	150	390
I-GMN4 60-100B/A																	
I-GMN4 60-100A/A																	
I-GMN4 80-100B/A	125	100	852	526	54	147	189	212	800	640	445	940	195	279	500	150	167
I-GMN4 80-100A/A																	

Dimensions and weights

I-GMN4 100-150



TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
GMN4 100-150B/A	150	150	991	576	100	160	235	305	990	931	566	1208	280	400	600	225	370
GMN4 100-150A/A			1055	600													405

B-GM

Submersible pumps

B 10

calpeda[®]



Construction

Submersible pumps, **B 10 bronze marine** version.

B-GMV with free-flow (vortex) impeller

B-GMC with single-channel impeller

B-GMN with channels impeller

Twin mechanical seal with oil chamber (lip-seal motor side up to 2,4 kW 2 poles).

Delivery connection DN 50-65-80

Applications

Suitable to pump industrial waste water in chemical, and process industries, agricultural and marine areas.

Solid passage from 30 to 50 mm

Operating conditions

Liquid temperature up to 40 °C.

Maximum immersion depth: 20 m (with suitable cable length).

Continuous duty (with pump immersed at minimum level).

Main materials

Pump casing, Motor casing, Motor cover: B 10 bronze marine

Impeller: stainless steel AISI 316

Motor shaft: stainless steel AISI 316L

Screws: stainless steel AISI 316

Mechanical seal motor side: graphite/ceramic/FPM (lip-seal made of nitrile up to 2,4 kW 2 poles).

Mechanical seal pump side: silicon carbide/silicon carbide/FPM

Motor

2 or 4 poles induction, 50Hz

Three-phase version: 400V $\pm$ 10%, up to 3,2 kW

400/690V $\pm$ 10%, over 3,2 kW

Insulation class: H

Protection degree: IP 68

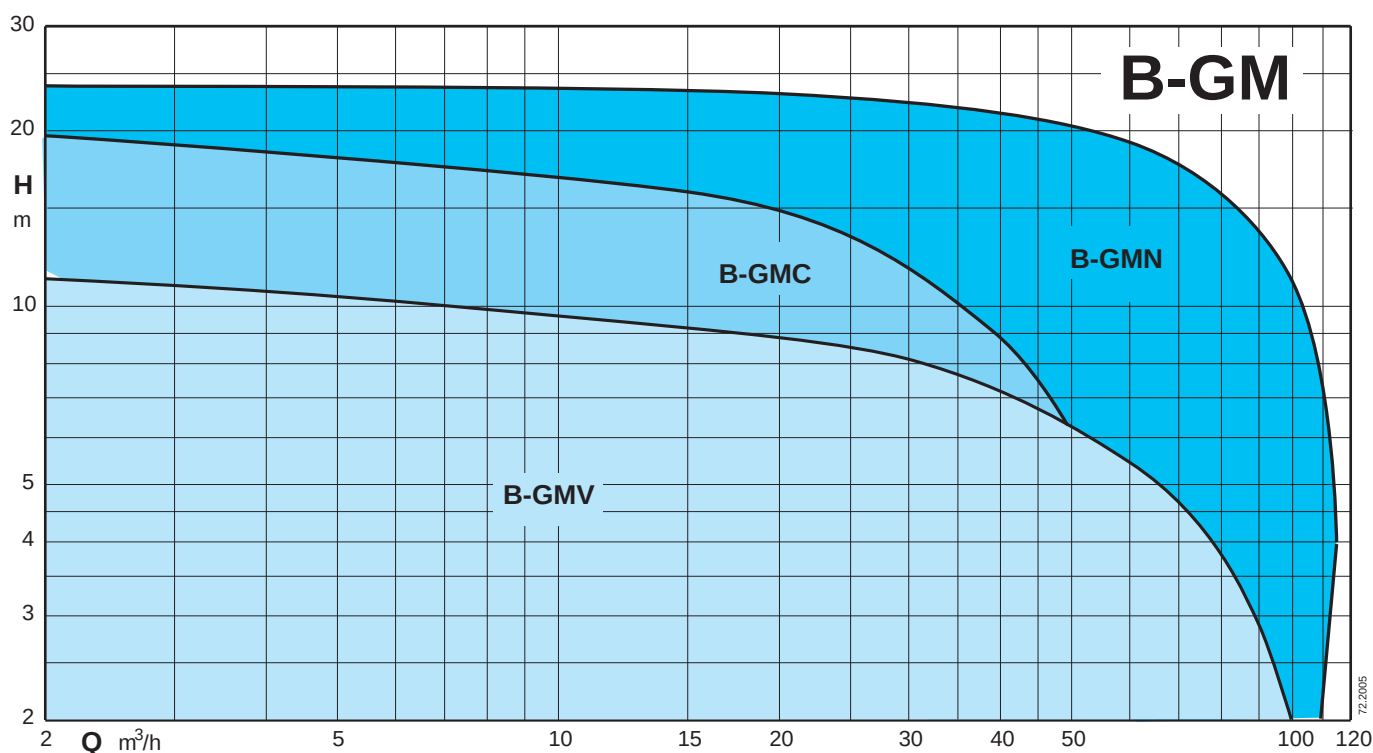
N° of starting x hour: max 15 with regular intervals

Cable: H07RN-F, length 10 m

Other models: contact our sale office

Classification scheme IE3.

Coverage chart



Technical data

TYPE	P ₂ kW	I _N A	Power Supply	r.p.m.	Starting	DN mm	Free passage Ø mm	Thermal protector	Humidity probe	 ATEX Eex
B-GMV 50-50C/A	1,8	3,5	3~ 400V	2850	D.O.L.	50	50	NO	NO	✓
B-GMV 50-50B/B	1,6	3,1	3~ 400V	2850	D.O.L.	50	50	NO	NO	✓
B-GMV 50-50A/B	2,4	4,5	3~ 400V	2850	D.O.L.	50	50	NO	NO	✓
B-GMV4 50-65C/A	1,1	2,4	3~ 400V	1450	D.O.L.	65	50	NO	NO	✓
B-GMV4 50-65B/A	1,4	2,7	3~ 400V	1450	D.O.L.	65	50	NO	NO	✓
B-GMV4 50-65A/A	1,6	3,1	3~ 400V	1450	D.O.L.	65	50	NO	NO	✓
B-GMV4 50-80B/A	2,3	4,4	3~ 400V	1450	D.O.L.	80	50	NO	NO	✓
B-GMV4 50-80A/A	2,8	3,4	3~ 400V	1450	D.O.L.	80	50	NO	NO	✓
B-GMC 40-65B/A	2,1	3,9	3~ 400V	2850	D.O.L.	65	40	NO	NO	✓
B-GMC 40-65A/A	2,8	5,2	3~ 400V	2850	D.O.L.	65	40	NO	NO	✓
B-GMN 30-65B/A	3,1	5,8	3~ 400V	2850	D.O.L.	65	30	NO	NO	✓
B-GMN 30-65A/A	3,6	6,6	3~ 400V	2850	D.O.L.	65	30	NO	NO	✓
B-GMN 30-80B/A	5	9,1	3~ 400/690V	2850	Y/Δ	80	30	●	●	✓
B-GMN 30-80A/A	6,5	11,8	3~ 400/690V	2850	Y/Δ	80	30	●	●	✓

P₂ Rated power output

I_N Rated current

● Standard

✓ ATEX Eex Version on demand

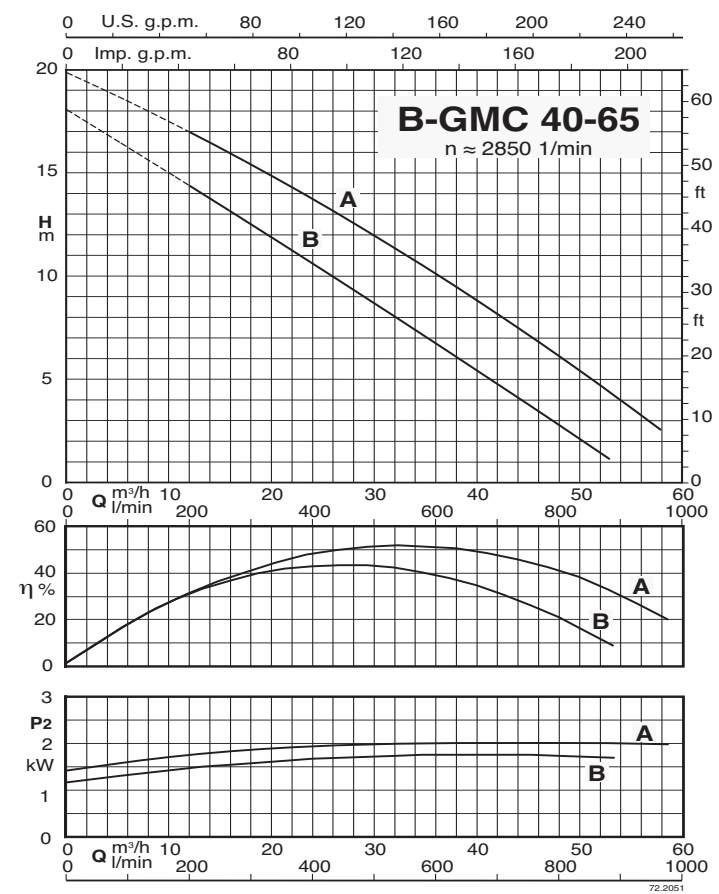
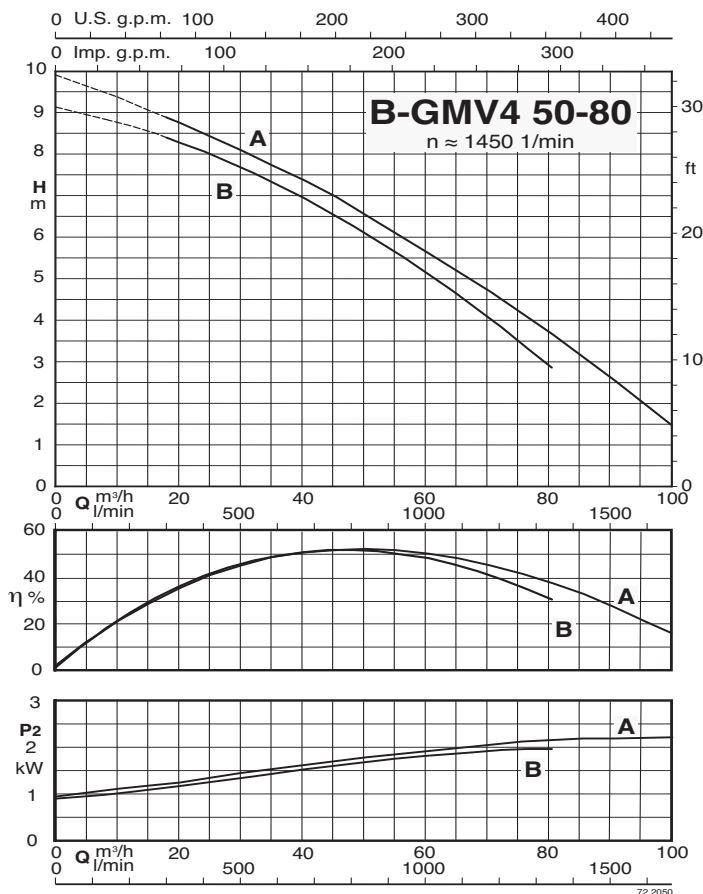
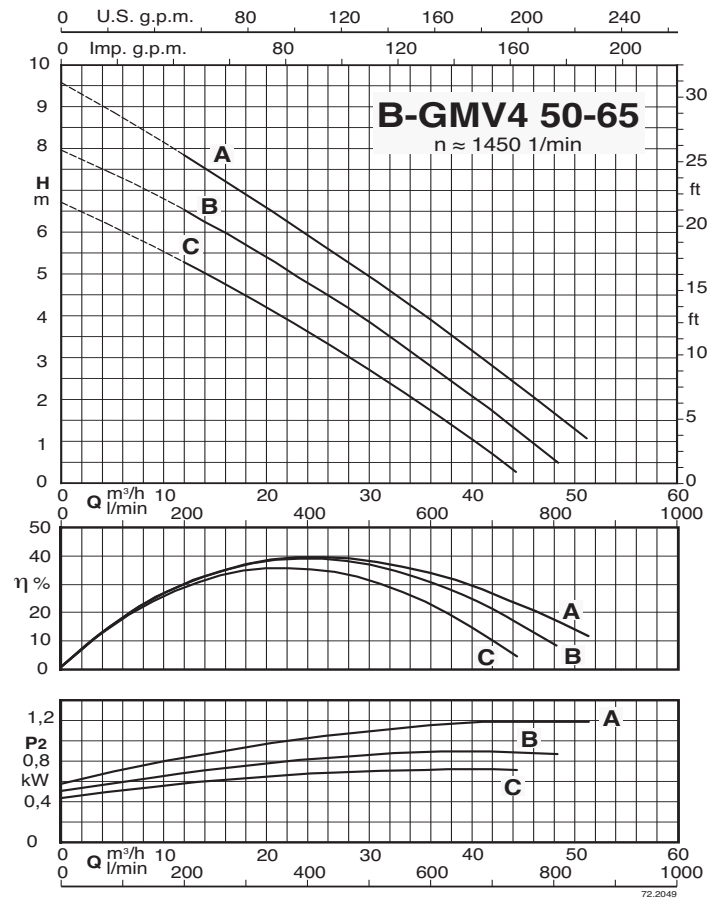
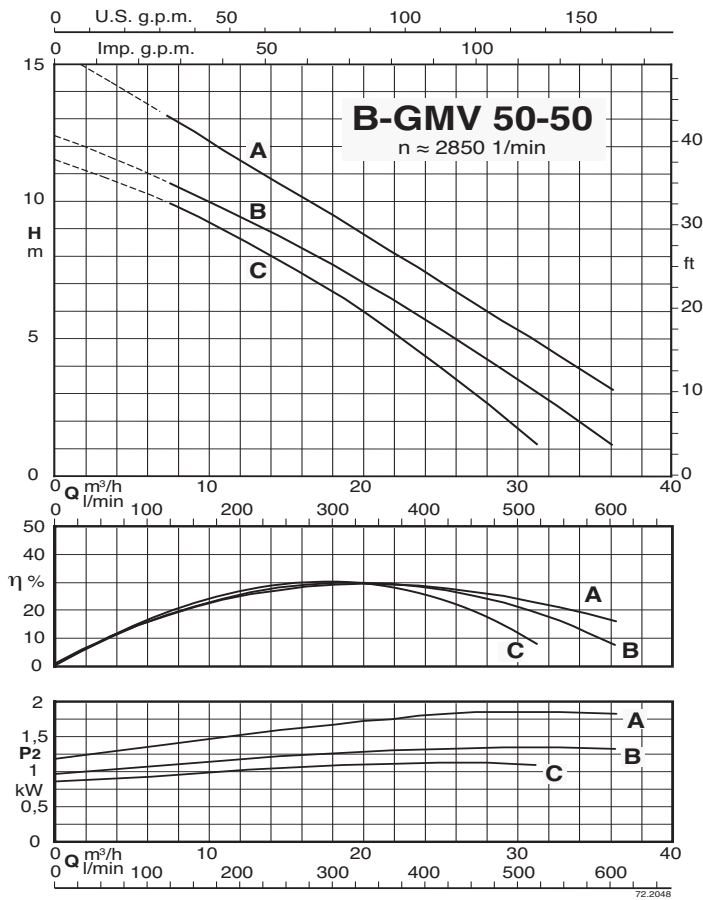
B-GM

Submersible pumps

B 10

calpeda®

Characteristic curves



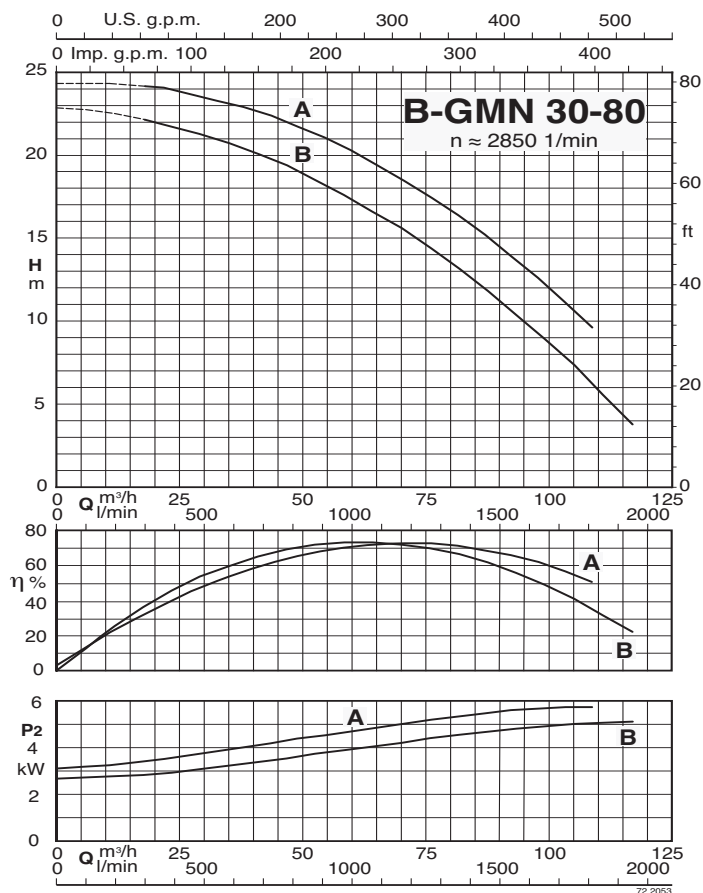
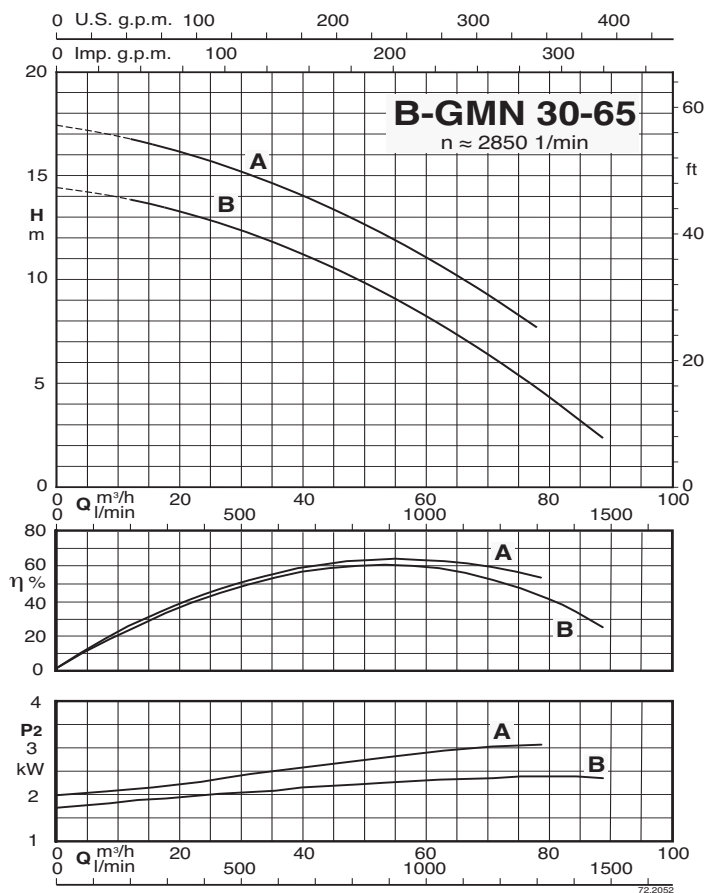
B-GM

Submersible pumps

B 10

 **calpeda**[®]

Characteristic curves



B-GM

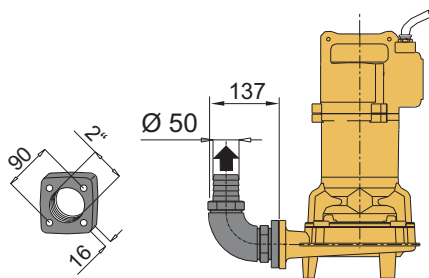
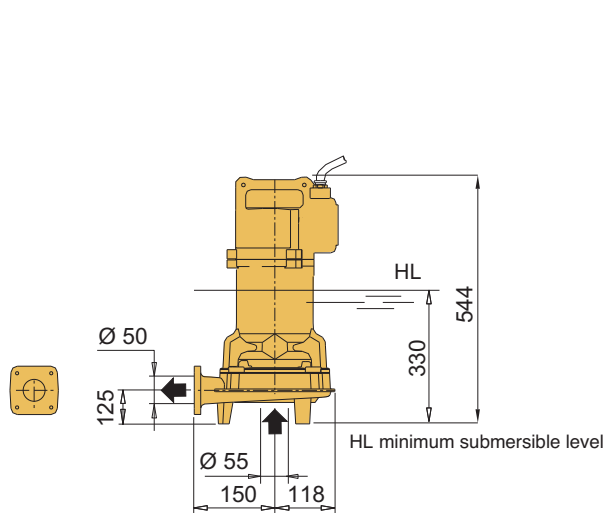
Submersible pumps

B 10

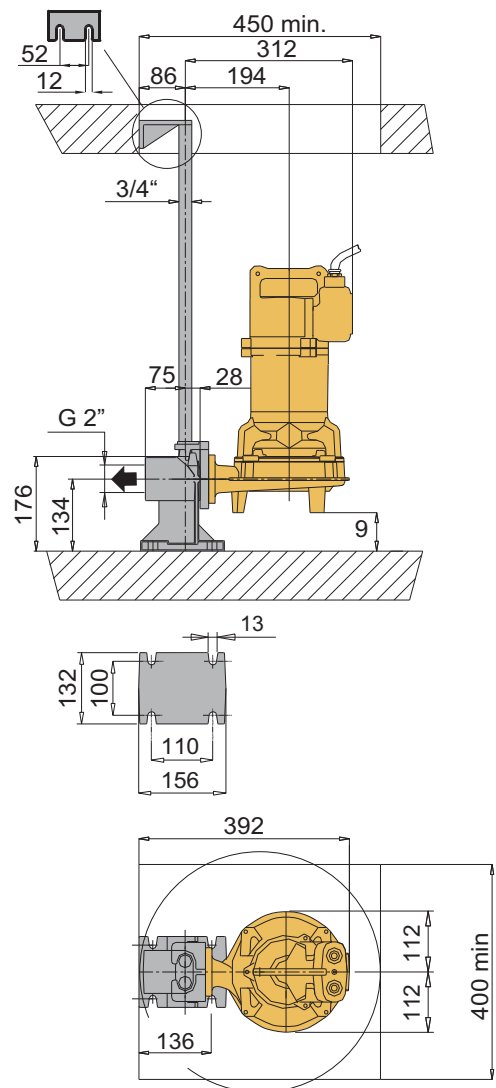
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Dimensions and weights

B-GMV 50-50



Version with threaded flange and 90° elbow



Version with duck foot coupling

TYPE	Weight kg
B-GMV 50-50C/A	48
B-GMV 50-50B/B	
B-GMV 50-50A/B	

B-GM

Submersible pumps

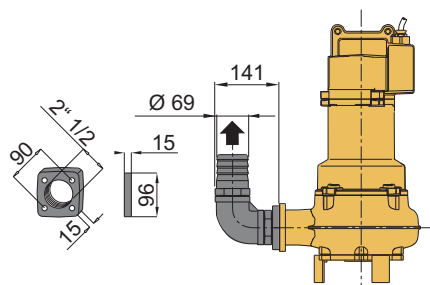
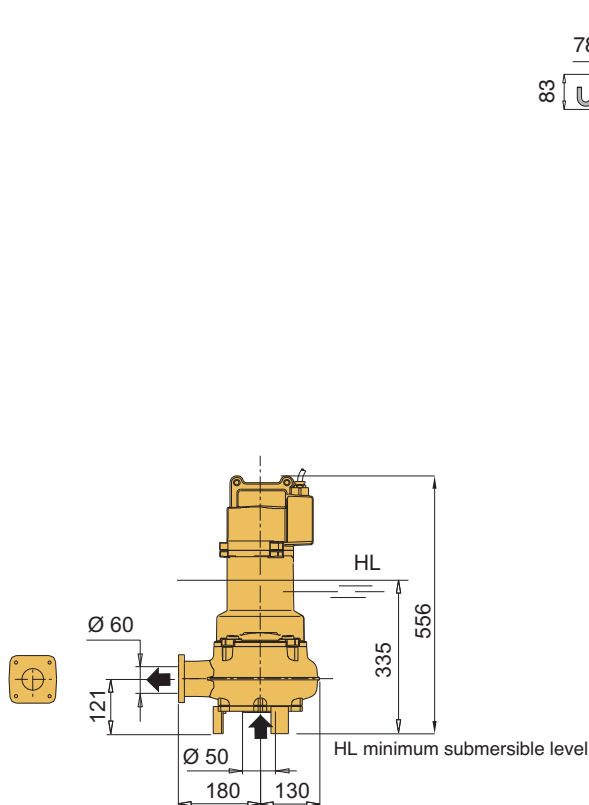
B 10

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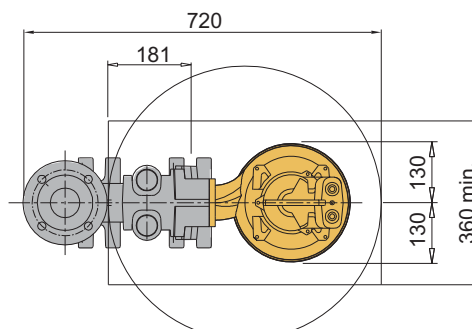
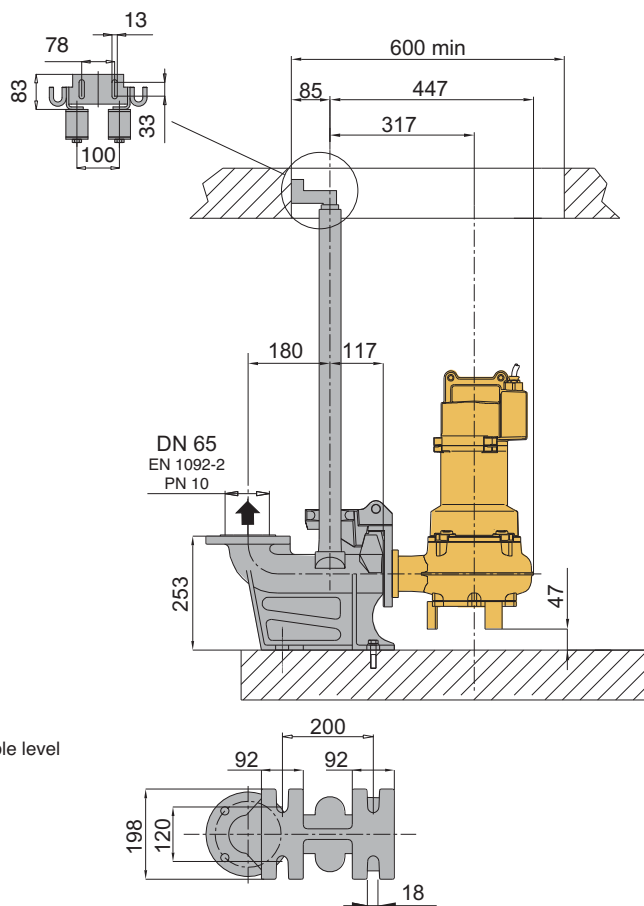
Dimensions and weights

B-GMV4 50-65

B-GMC 40-65



Version with threaded flange and 90° elbow

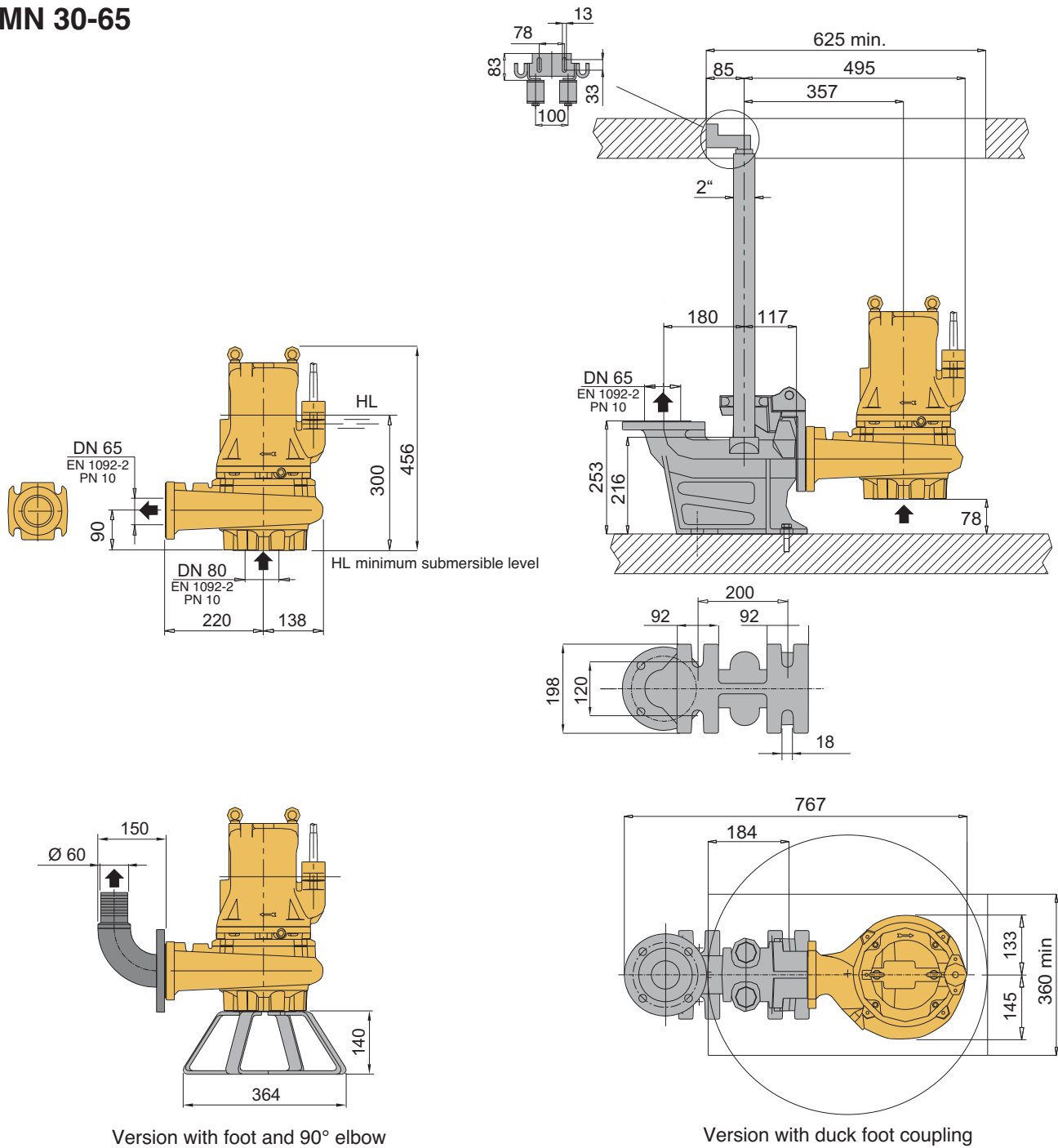


Version with duck foot coupling

TYPE	Weight kg
B-GMV4 50-65C/A	48
B-GMV4 50-65B/A	
B-GMV4 50-65A/A	
B-GMC 40-65B/A	50
B-GMC 40-65A/A	

Dimensions and weights

B-GMN 30-65



Version with foot and 90° elbow

Version with duck foot coupling

TYPE	Weight kg
B-GMN 30-65B/A	65
B-GMN 30-65A/A	

B-GM

Submersible pumps

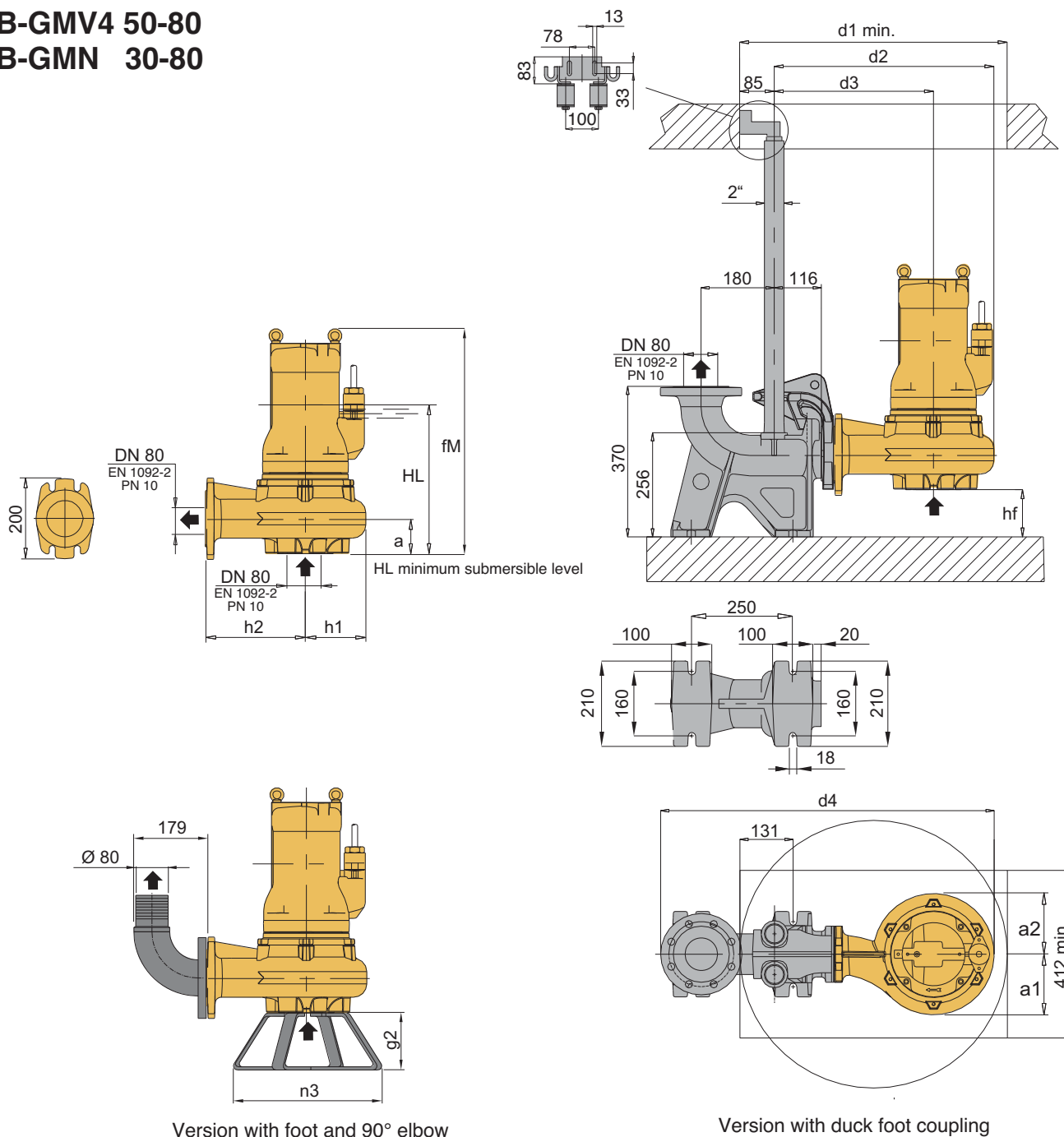
B 10

calpeda®

Dimensions and weights

B-GMV4 50-80

B-GMN 30-80

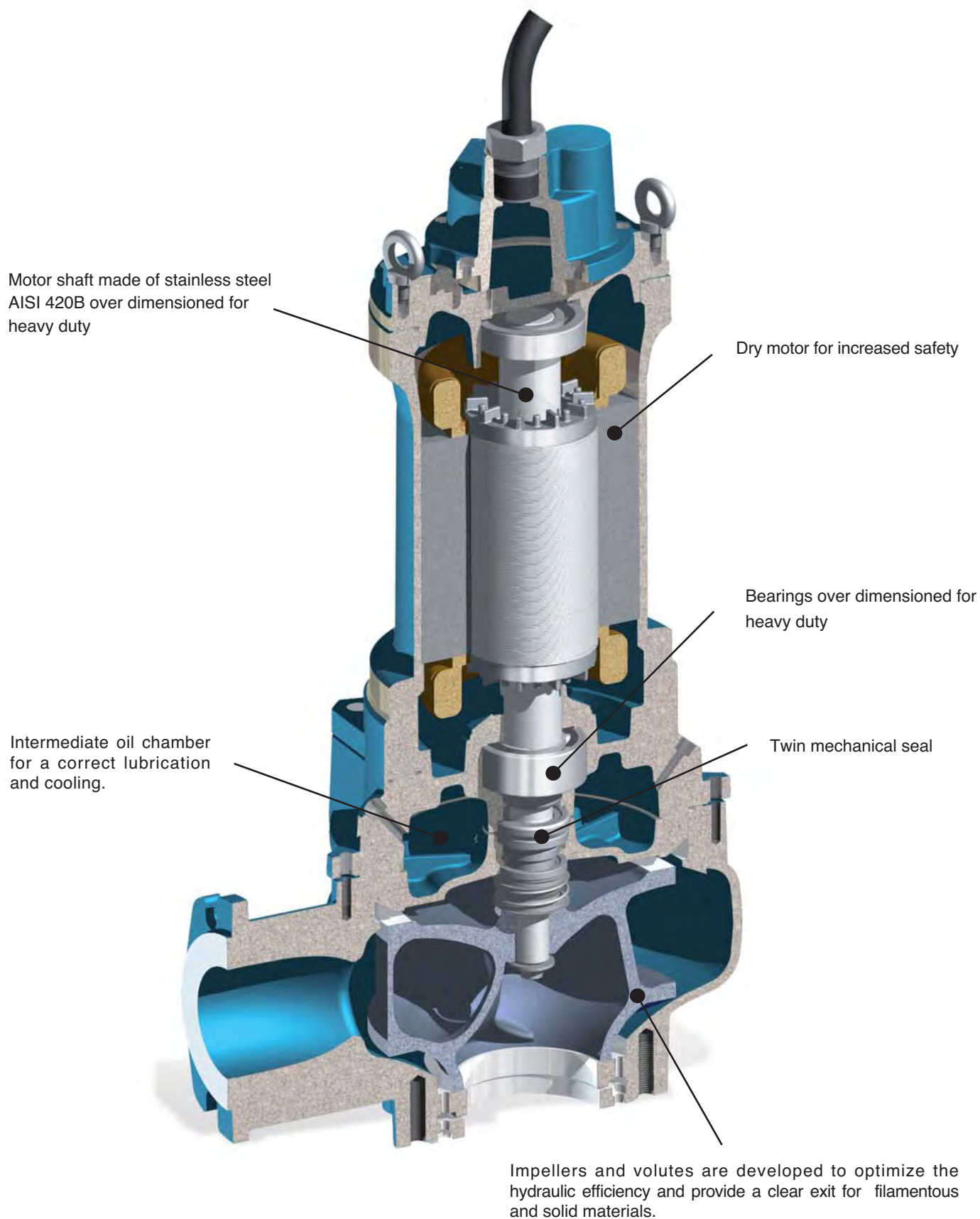


Version with foot and 90° elbow

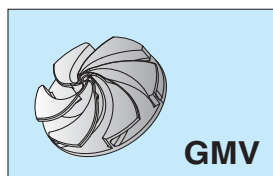
Version with duck foot coupling

TYPE	EN 1092-2 PN 10		Dimensions mm														Weight kg
	DN1	DN2	fM	HL	hf	a	l1	l2	d1	d2	d3	d4	h1	h2	n3	g2	
B-GMV4 50-80B/A	80	80	519	363	84	116	136	157	658	511	366	791	145	220	370	140	73
B-GMV4 50-80A/A																	
B-GMN 30-80B/A	80	80	515	330	110	90	133	145	700	511	366	791	145	220	370	140	90
B-GMN 30-80A/A																	

Features

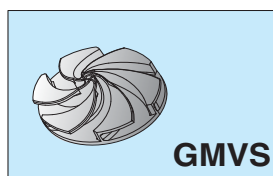


THE IMPELLERS



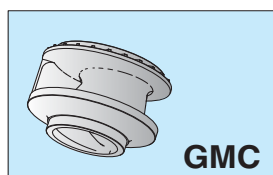
Vortex impeller suitable for pumping liquids containing large solids and/or fibrous materials.

Applications: urban sewerage systems, animal breeding plants.



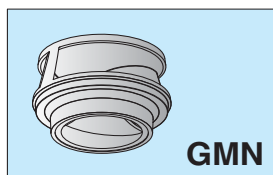
Sand Vortex Water Impeller in Polyurethane with a stainless steel core.

Applications: in plants with an high sand presence, in marble work companies, in the ceramic industry, crystals machining or industrial processes where there's presence of abrasives liquids.



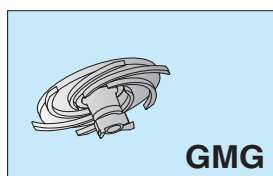
Single channel impeller, for liquids containing fibrous materials and/or suspended solids.

Applications: purification plants, tanneries, animal breeding plants.



Closed multi-channel impeller, for clean liquids or light solids without filamentous materials.

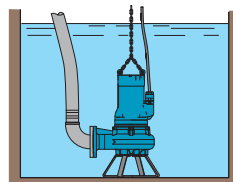
Applications: large drainage systems, purification plants.



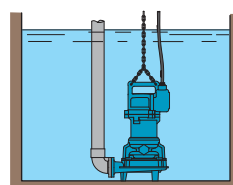
Multi-blade suction impeller with grinder constructed in stainless steel AISI 440, particularly suitable as a grinder for paper or textile materials.

Applications: clearance of waste waters originating from service stations, residential communities, camping sites, etc..

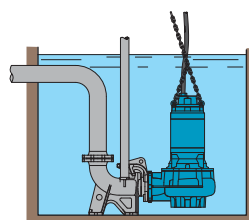
THE STANDARD INSTALLATIONS



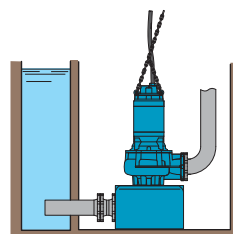
A Mobile and emergency installation with x-foot support



B Free installation and threaded elbow



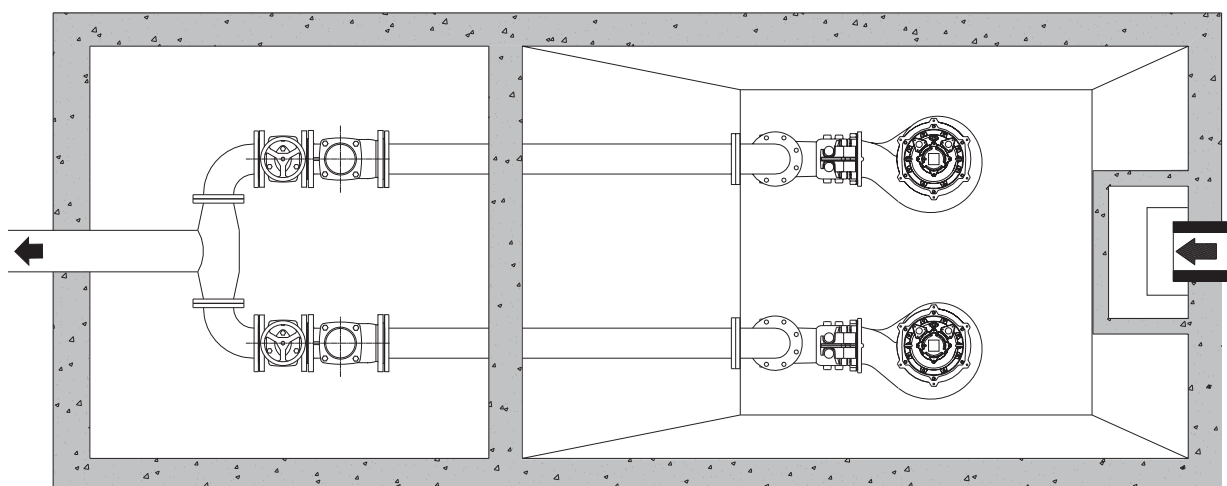
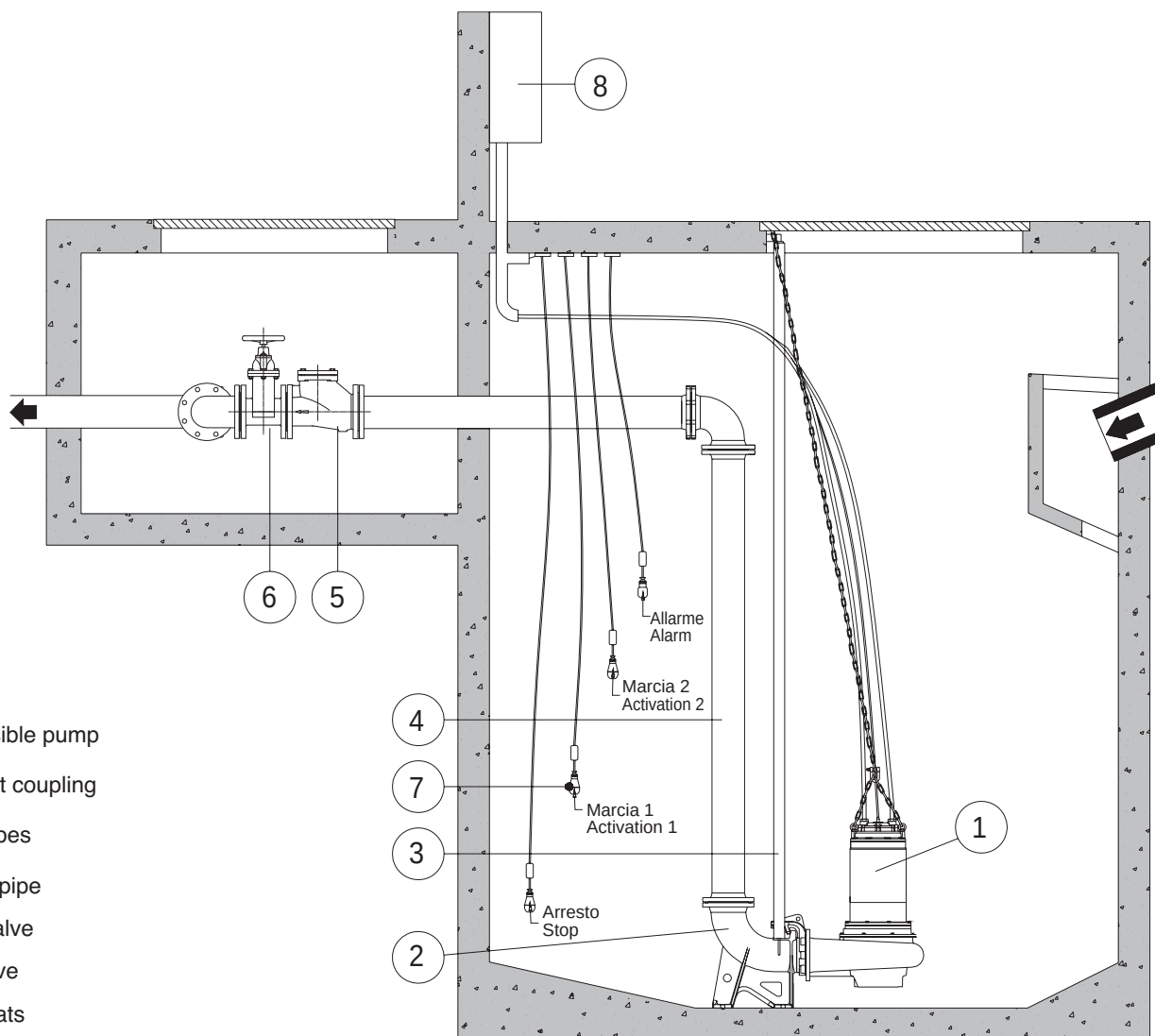
C Fixed installation with automatic coupling feet and guide rails.



D Dry pit installation, with x-foot rest and suction bend.
Pump equipped with cooling jacket.

Installation with duck foot coupling

- 1 Submersible pump
- 2 Duck foot coupling
- 3 Guide pipes
- 4 Delivery pipe
- 5 Check valve
- 6 Gate valve
- 7 Level floats
- 8 Control box



Accessories

Non-return ball valves

Construction

Non-return self-cleaning ball valves, suitable for dirty and viscous liquids, sewage water.

Operating conditions

Working temperature from -10°C up to +80°C

Rated pressure: 10 bar

Vertical or horizontal installation

Materials

Valve body: Cast iron EN-GJL-250

Cover: Cast iron EN-GJL-250

Ball: Resin for threaded VNRP

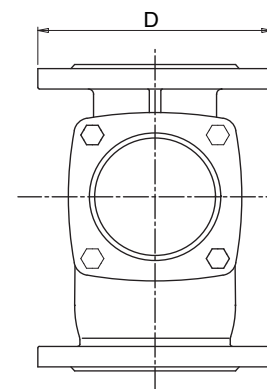
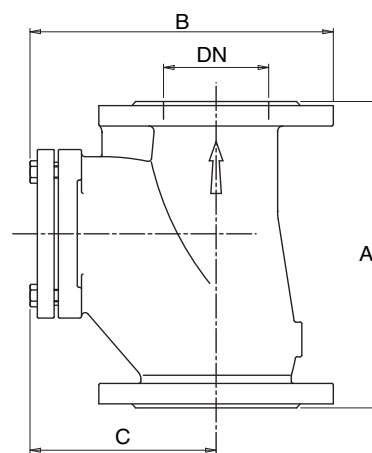
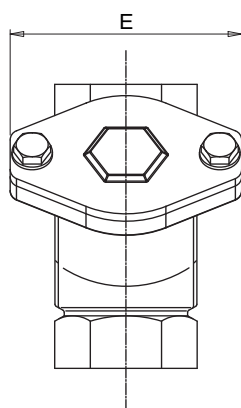
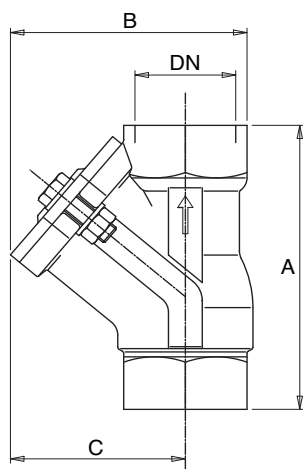
Resin + nitril for VNRP DN 50-100

Cast iron + nitril for VNRP DN 125-250

Screws: SS AISI 304

Joint: nitril

Dimensions



TYPE	DN mm	mm				Weight kg
		A	B	C	E	
VNRP 1 1/4	1" 1/4	132	111	83	108	1,9
VNRP 1 1/2	1" 1/2	145	122	90	120	2,4
VNRP 2	2"	173	145	110	135	3,6
VNRP 2 1/2	2" 1/2	200	175	130	155	6,5

TYPE	DN mm	mm				Weight kg
		A	B	C	D	
VNRP 50	50	182	192	120	165	9,5
VNRP 65	65	204	215	124	185	14
VNRP 80	80	260	250	150	200	19,5
VNRP 100	100	300	290	180	220	23,5
VNRP 125	125	350	340	215	250	36
VNRP 150	150	400	388	245	285	38,5
VNRP 200	200	500	480	310	340	69

GEOTRIT

Macerating pumping system



Construction

This macerating pumping system has been designed to pump away the waste water from a WC and a washbasin. It is possible to use it to add a new cloakroom, washroom or toilet, in a basement or loft conversion or anywhere conventional large bore pipework is impractical. The GEOTRIT macerating system is installed in a case specifically designed for horizontal outlet spigots. Installed and used correctly, this unit will give consistent and reliable service. The system has a grinder pump, clapet valve and carbon filter. GEOTRIT is provided with flexible sleeves, elbow, metal hose clips.

Operating conditions

Voltage: 220-240 V
Frequency: 50 Hz
Degree of protection: IP44
Maximum power rating: 400 W
Maximum current consumption: 1,9 A
Vertical pumping: max. 4 m
Liquid temperature up to 35 °C

Application

GEOTRIT takes waste from :

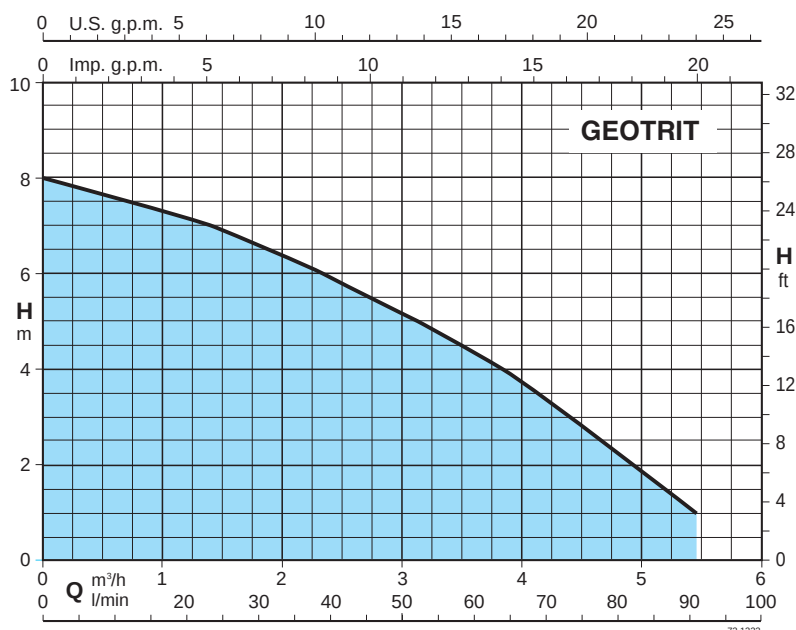


WC



Washbasin

Characteristic curve



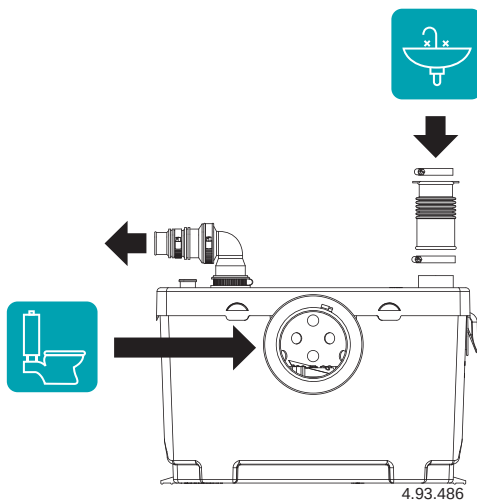
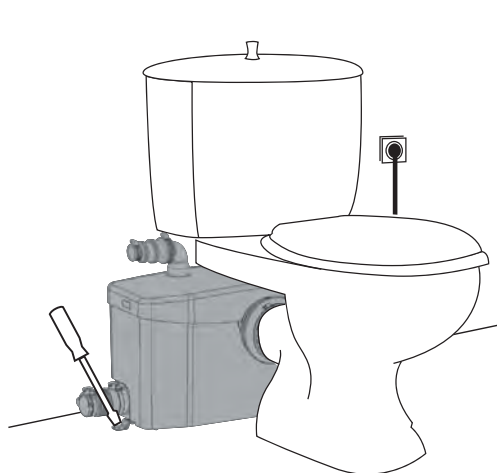
Q	m³/h	0	1,2	2,4	3,6	4,8	5,4
	l/min	0	20	40	60	80	90
H	m	8	7,1	5,9	4,3	2,2	1,1

GEOTRIT

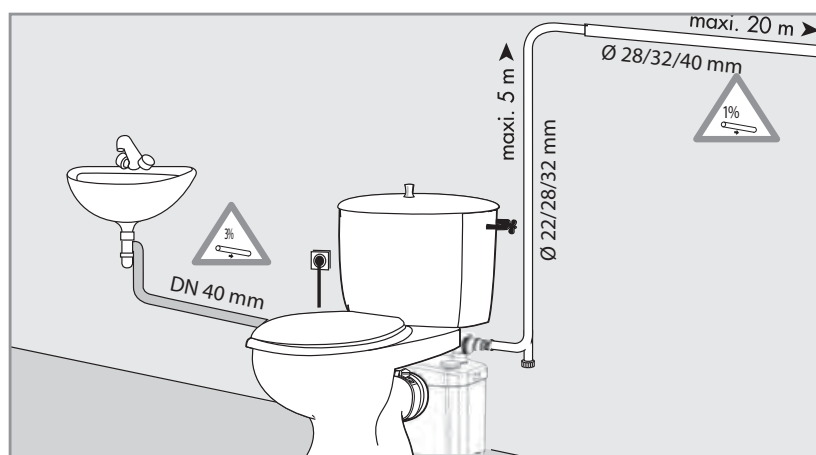
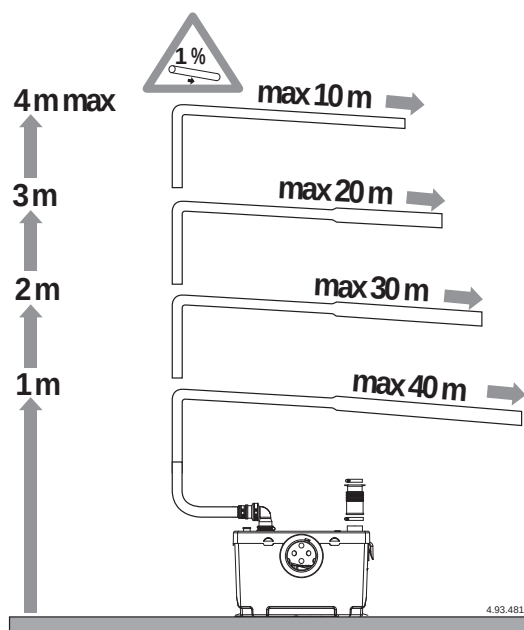
Macerating pumping system

calpeda[®]

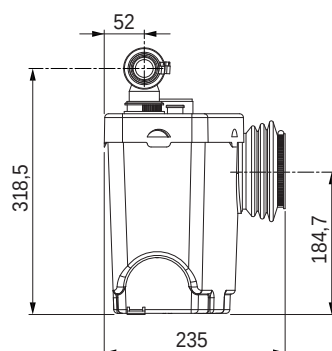
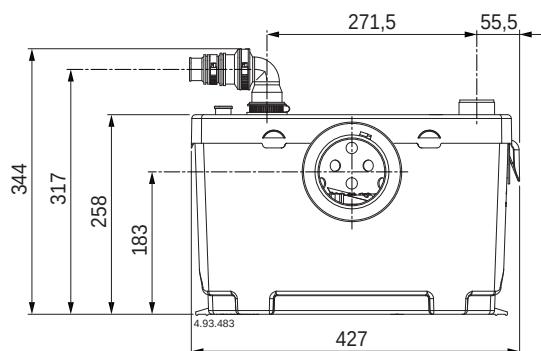
Installation



Performance



Dimensions and weights



peso: kg 6,6

GEOCOMP

Macerating pumping system



Construction

This macerating pumping system has been designed to pump away the waste water from WC, washbasin, bidet and shower. It is possible to install a complete bathroom in a basement conversion or loft extension.

The GEOCOMP macerating system is installed in a case specifically designed for horizontal outlet spigots.

Installed and used correctly, this unit will give consistent and reliable service.

The system has a grinder pump, clapet valve and carbon filter. GEOCOMP is provided with flexible sleeves, elbow, metal hose clips.

Operating conditions

Voltage: 220-240 V

Frequency: 50 Hz

Degree of protection: IP44

Maximum power rating: 400 W

Maximum current consumption: 1,9 A

Vertical pumping: max. 4 m

Liquid temperature up to 35 °C

Application

GEOCOMP takes waste from :



WC



Washbasin



Bidet

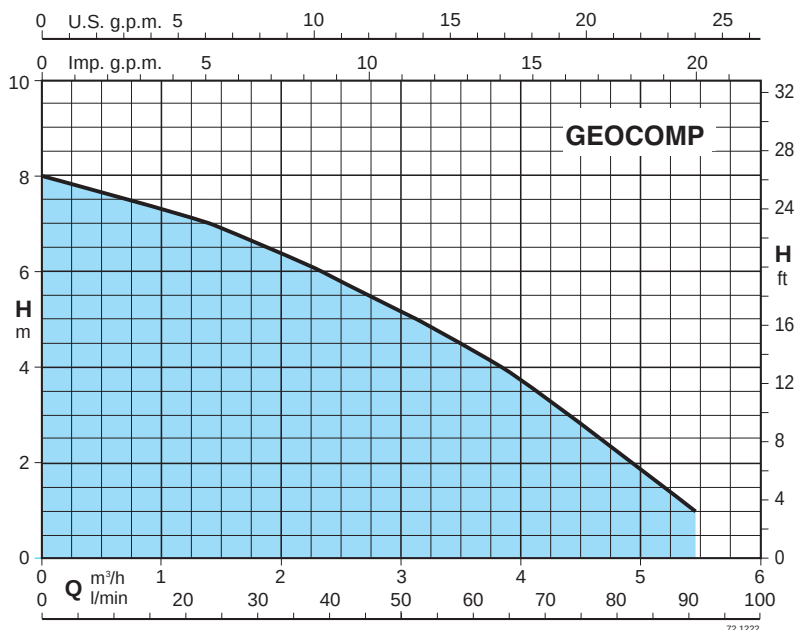


Tube



Shower

Characteristic curve



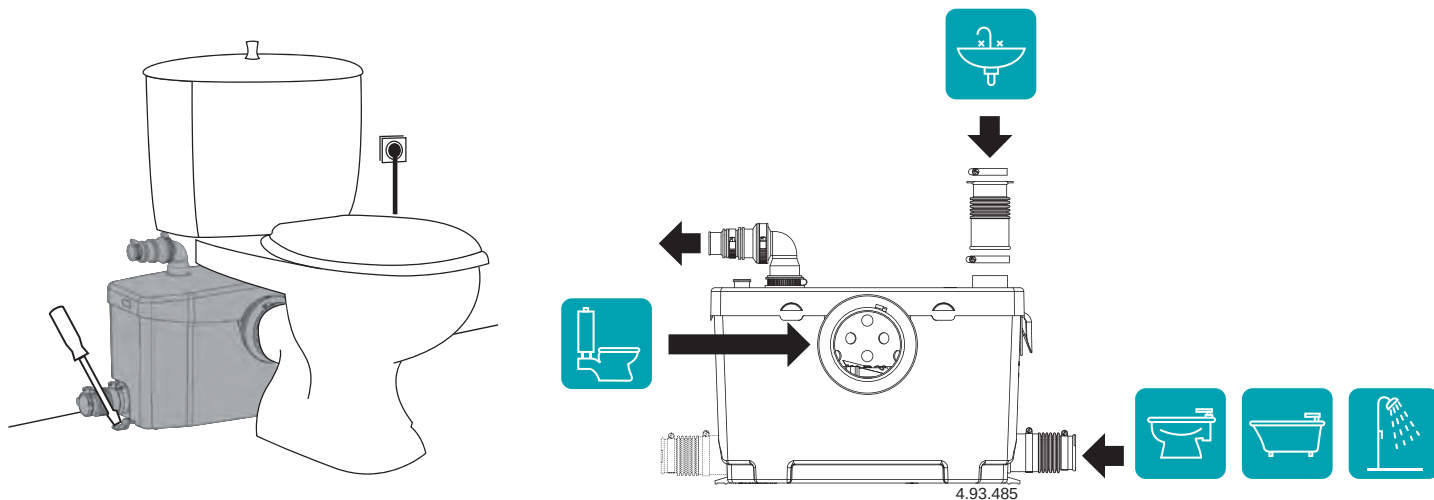
Q m ³ /h	0	1,2	2,4	3,6	4,8	5,4
l/min	0	20	40	60	80	90
H m	8	7,1	5,9	4,3	2,2	1,1

GEOCOMP

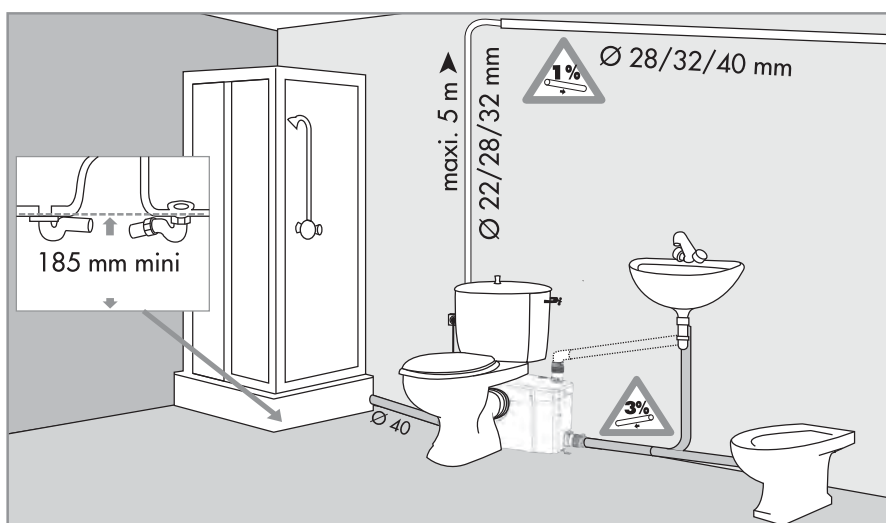
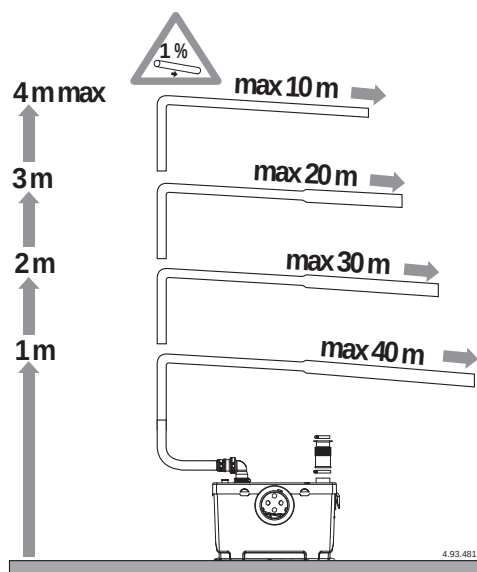
Macerating pumping system

calpeda[®]

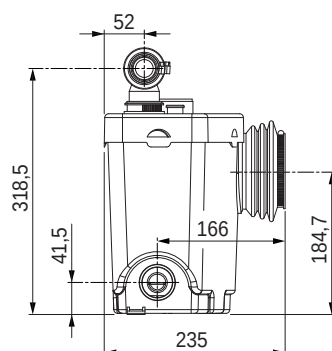
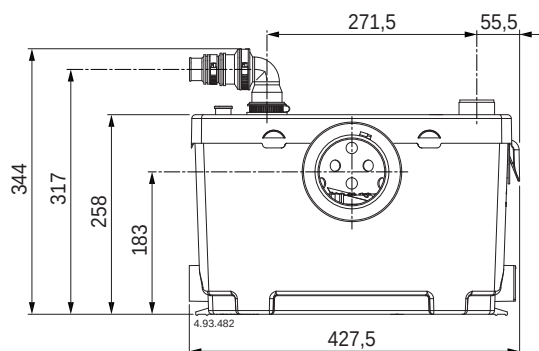
Installation



Performance



Dimensions and weight



weight: kg 6,8

GEOCLEAN

Lifting station for clear water



Construction

The system is design to handle the evacuation water from a domestic kitchen sink, dishwasher and washing machine – all working at the same time if required.

GEOCLEAN makes the addition of a domestic kitchen or utility room easy even when below or distant from a drain.

The system has a clapet valve and it cannot be used with waste waters.

GEOCLEAN is provided with flexible sleeves, elbow, metal hose clips, plugs.

Operating conditions

Voltage: 220-240 V

Frequency: 50 Hz

Degree of protection: IP44

Maximum power rating: 400 W

Maximum current consumption: 1,9 A

Vertical pumping: max. 5 m

Liquid temperature up to 60 °C

Application

GEOCLEAN takes waste from :



Washbasin



Bidet



Tube



Shower



Kitchen sink

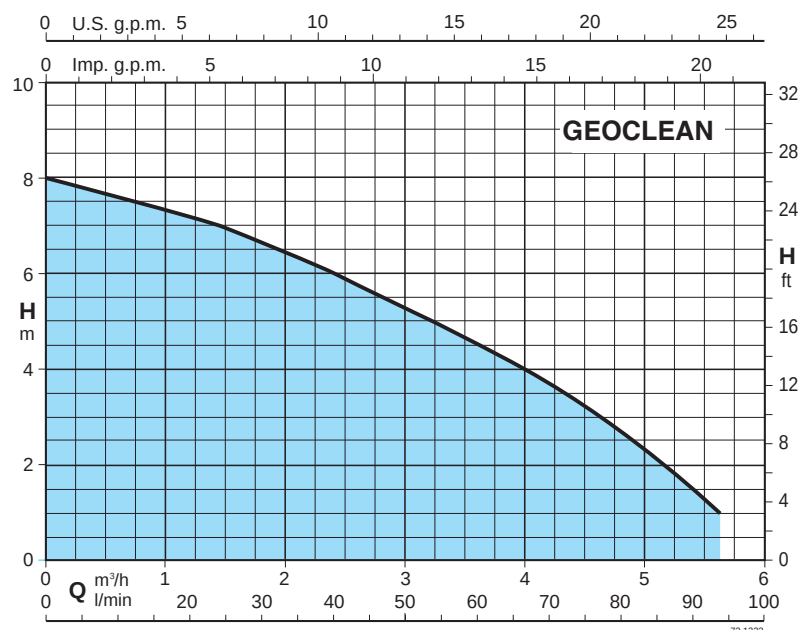


Dishwasher



Washing machine

Characteristic curve



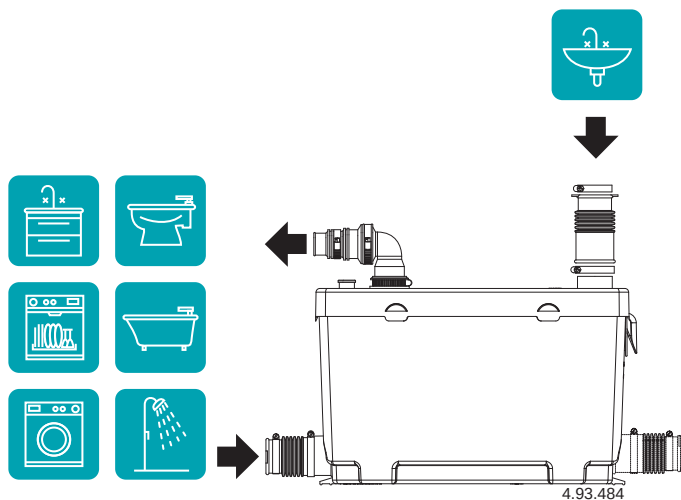
Q m ³ /h	0	1,2	2,4	3,6	4,8	5,6
l/min	0	20	40	60	80	93
H m	8	7,1	5,9	4,5	2,7	1

GEOCLEAN

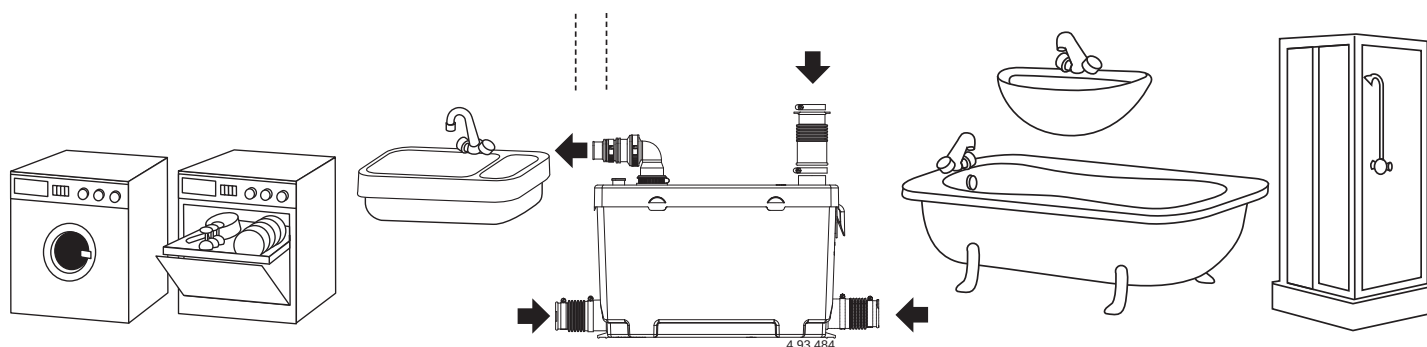
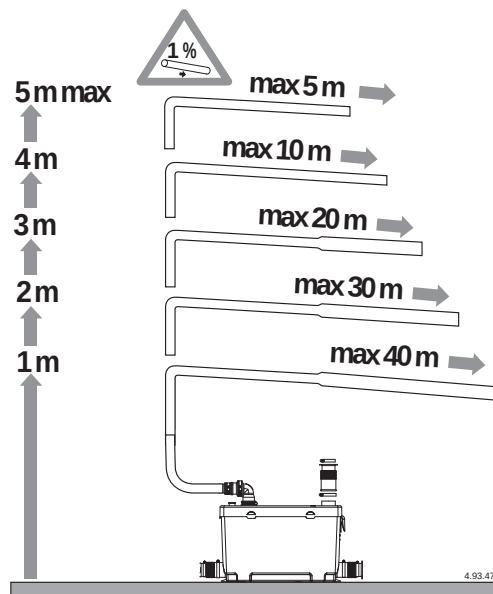
Lifting station for clear water



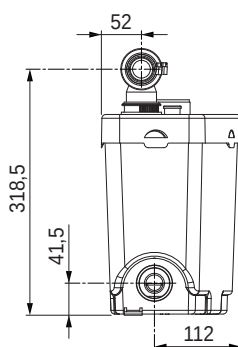
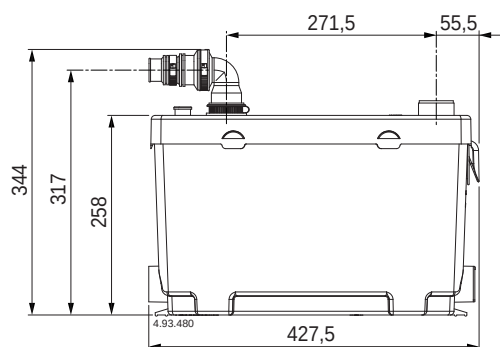
Installation



Performance



Dimensions and weight



weight: kg 6,4



Automatic waste water collecting and lifting station



Construction

Medium-density polyethylene tank, resistant to corrosion, with minimum overall dimensions.

- **GEO 40** single tank with 40 liters nominal capacity for the installation of a GXRM type.
- **GEO 230** single tank with 230 liters nominal capacity for the installation of an electropump type GM 10, GQ, GX or GM series.
- **GEO 500** double tank with 500 liters nominal capacity for the installation of two electropumps type GM 10, GQ, GX or GM series.

Pipe kit for electropump connection.

Two possible installation, at ground level or underground.

For underground installation, extensions can be used (maximum two extensions).

Easy pump access through a cover fixed with screws.

Applications

Automatic waste water collecting and lifting stations, to handle domestic, civil and industrial waste water.

For collecting and lifting clean waste water and rain water.

For flood drainage.

Designation

GEO 40-GXRM 9

Series _____
Nominal tank capacity _____
Pump type _____

GEO 230-GXVM 40-7

Series _____
Nominal tank capacity _____
Pump type _____

GEO 500-2 GXVM 40-7

Series _____
Nominal tank capacity _____
Nr of pumps _____
Pump type _____

Installation examples

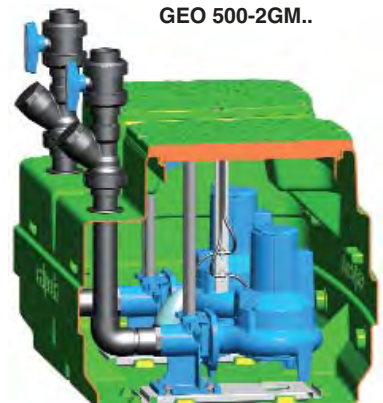
GEO 40-GXR



GEO 230-GX..



GEO 500-2GM..



GEO 40

Automatic clear water collecting and lifting station



Pumps characteristics

GEO 40-GXRM

GEO 40-GXRM GF



Features

Automatic collecting and lifting station for clean water with GXRM pump type .

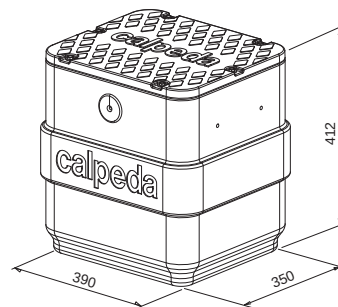
It includes:

- 1 tank capacity 40 l
- 1 single-phase pump with 5 m cable and float switch
- 1 non-return valve with clapet on the pump delivery side
- 1 discharge pipe kit arranged for the connection of a Ø 40 mm PVC pipe
- 1 PVC adapting nipple for Ø 40 mm inlet
- 1 connector for Ø 25 mm flexible pipe

On demand

- 1 pump with 10 m cable

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 40-GXRM 9	0,25	2,5	10,2	8,3
GEO 40-GXRM 9 GF	0,25	2,5	10,2	8,3
GEO 40-GXRM 11 GF	0,37	3,5	12	10,4
GEO 40-GXRM 13 GF	0,45	4,5	13,2	11,7



GXRM GF

GXRM

GXRM

Submersible drainage pump in chrome-nickel stainless steel, for clean water containing solids up to 10 mm grain size, with vertical delivery port.

Open impeller.

2-pole induction motor, 50Hz (n ≈ 2900 rpm),

Single-phase 230 V +/-10% with float switch and thermal protector.

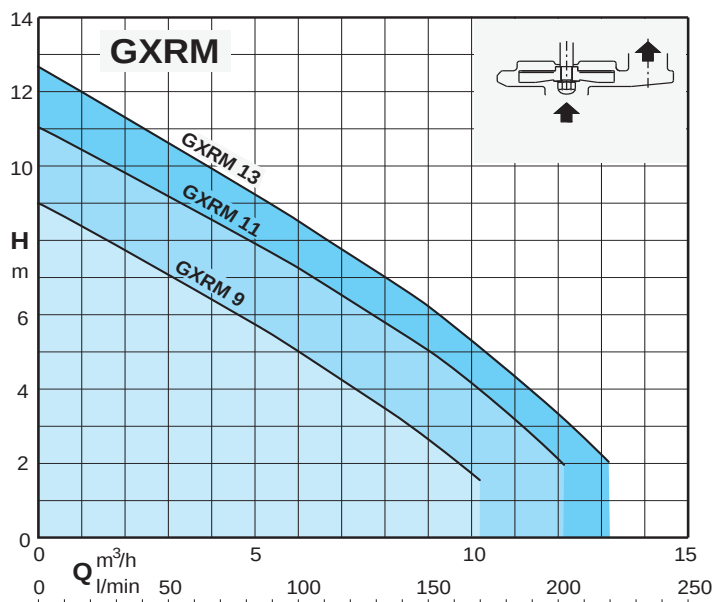
- GXRM: with standard float switch.

- GXRM .. GF: with vertical magnetic float switch.

Incorporated capacitor.

Cable length 5 m, Shuko plug.

Liquid temperature up to 50 °C



GEO 230

Automatic clear water collecting and lifting station



Pumps characteristics

GEO 230-GM 10



Features

Automatic clear water collecting and lifting station GM 10 pump series.

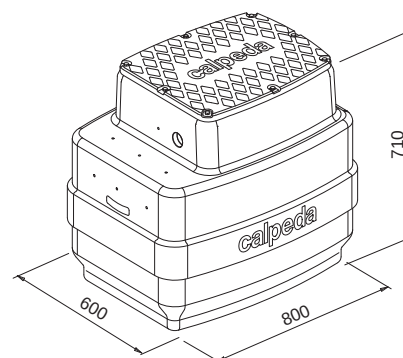
It includes:

- 1 tank capacity 230 l
- 1 single-phase pump with 5 m cable and float switch
- 1 control box QM 6,3 type with capacitor
- 1 discharge pipe kit Ø 40 mm in PVC

On demand

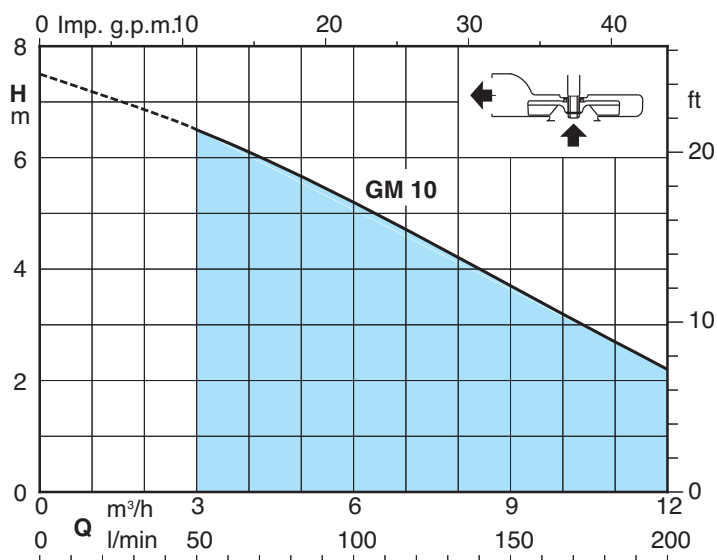
- 1 pump with 10 m cable
- 1 discharge pipe kit Ø 40 mm in PVC with a ball valve and non-return ball valve
- 1 support kit with safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GM 10	0,3	1,75	12	6,5



GM 10

Submersible drainage pump constructed from composite polymers.
Shaft of chrome steel AISI 430.
2-pole induction motor, 50Hz (n ≈ 2900 rpm).
Single-phase 230 V +/-10% with thermal protector.
Float switch for automatic operation.
5 m cable and control box QM 6,3 with capacitor.
Liquid temperature up to 35 °C



GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 230-GX..



Features

Automatic collecting and lifting station - for clean water **GXR** pump series.
- for waste water **GXM** pump series.

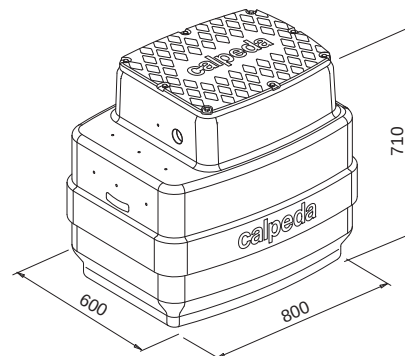
It includes:

1 tank capacity 230 l
1 single-phase pump with 5 m cable and float switch
1 discharge pipe kit Ø 40 mm in PVC

On demand

1 pump with 10 m cable
1 discharge pipe kit Ø 40 mm in PVC with a ball valve and non-return ball valve
1 support kit with safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GXVM 25-6	0,25	2,5	10,2	5,7
GEO 230-GXVM 25-8	0,37	3,5	12	7,8
GEO 230-GXVM 25-10	0,45	4,5	13,2	9,5
GEO 230-GXRM 9	0,25	2,5	10,2	8,3
GEO 230-GXRM 11	0,37	3,5	12	10,4
GEO 230-GXRM 13	0,45	4,5	13,2	11,7



GXVM

GXR

GXR, GXVM

Submersible drainage pump in chrome-nickel stainless steel, with vertical delivery port.

GXR: with open impeller.

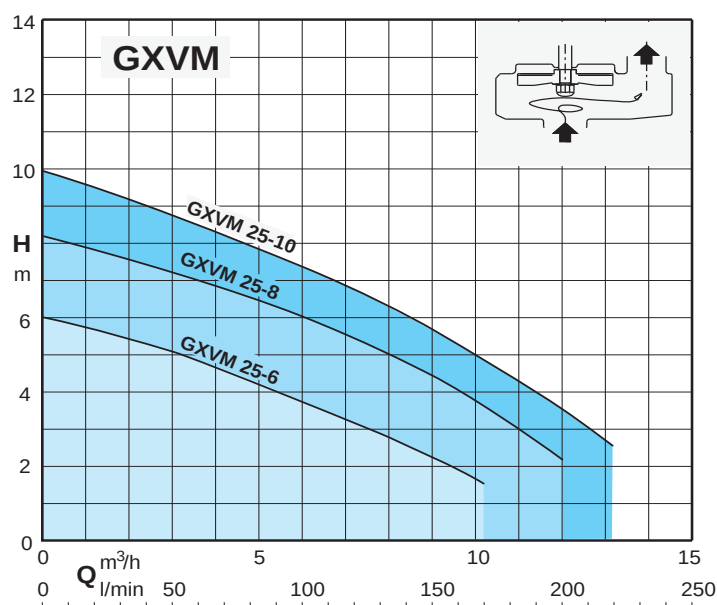
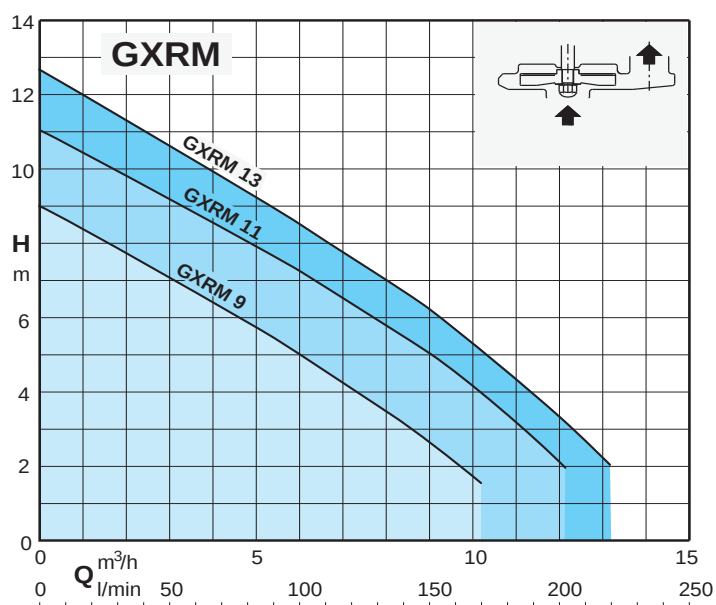
GXVM: with free-flow (vortex) impeller.

2-pole induction motor, 50Hz (n ≈ 2900 rpm),

Single-phase 230 V +/-10% with float switch and thermal protector. Incorporated capacitor.

Cable length 5 m.

Liquid temperature up to 50 °C



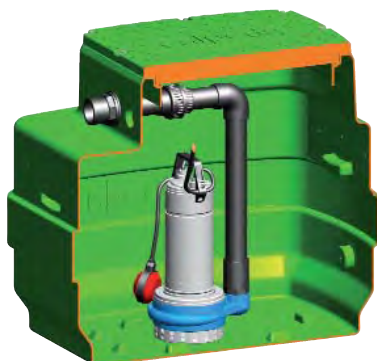
GEO 230

Automatic clear water collecting and lifting station



Pumps characteristics

GEO 230-GQR..



Features

Automatic collecting and lifting station for clean water with **GQR** pump series.

It includes:

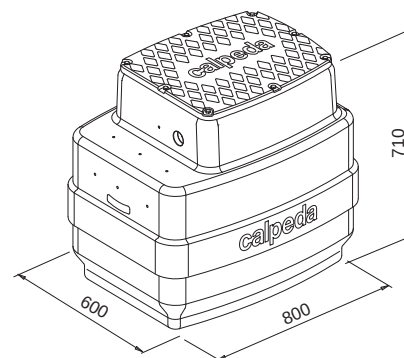
- 1 tank capacity 230 l
- 1 pump - single-phase with 10 m cable and float switch
- three-phase with 10 m cable with support and float switch kit
- 1 control box for three-phase version
- 1 discharge pipe kit Ø 50 mm in PVC

On demand

- 1 discharge pipe kit Ø 50 mm in PVC with a ball valve and non-return ball valve
- 1 support kit with safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQRM 10-10	0,45	3,1	18	9,5
GEO 230-GQRM 10-12	0,55	3,6	21	11,6
GEO 230-GQRM 10-14	0,75	4,6	24	13,5
GEO 230-GQRM 10-16	0,9	6	27	15,5
GEO 230-GQRM 10-18	1,1	8	30	17,5
GEO 230-GQRM 10-20	1,5	12	30	19,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQR 10-10	0,45	1,2	18	9,5
GEO 230-GQR 10-12	0,55	1,4	21	11,6
GEO 230-GQR 10-14	0,75	1,6	24	13,5
GEO 230-GQR 10-16	0,9	2,3	27	15,5
GEO 230-GQR 10-18	1,1	2,8	30	17,5
GEO 230-GQR 10-20	1,5	3,8	30	19,5



GQR

Single-impeller submersible drainage pump, with vertical delivery port.

GQR: with open impeller.

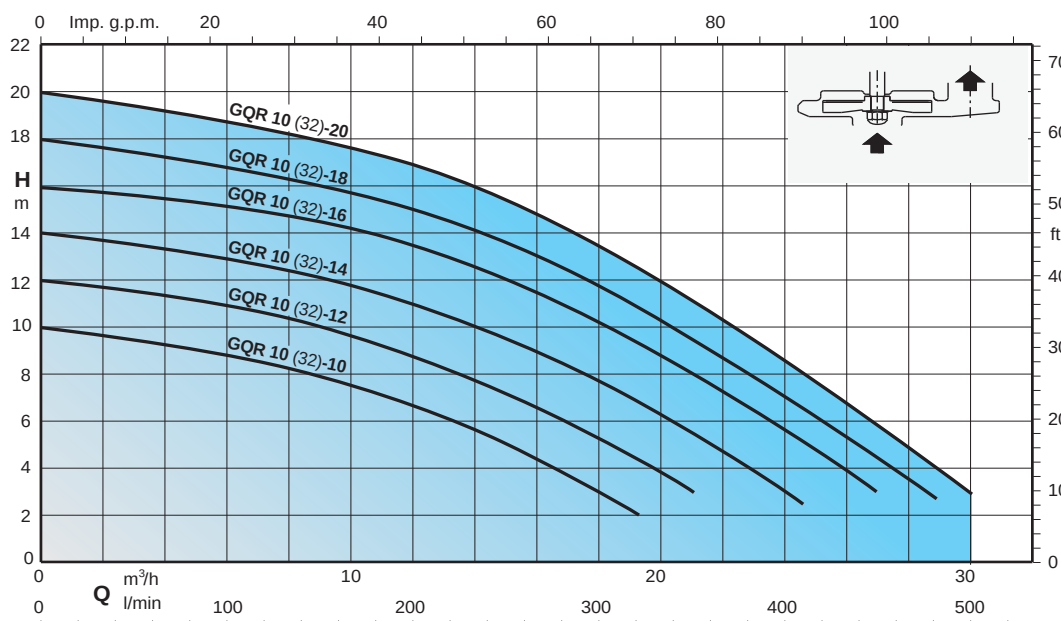
2-pole induction motor, 50Hz (n ≈ 2900 rpm),

GQR: three-phase 400 V +/-10%;

GQRM: Single-phase 230 V +/-10% with float switch and thermal protector.
Incorporated capacitor.

Cable length 10 m.

Liquid temperature up to 35 °C



GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 230-GQR..



Features

Automatic collecting and lifting station for clean water with **GQR** pump series.

It includes:

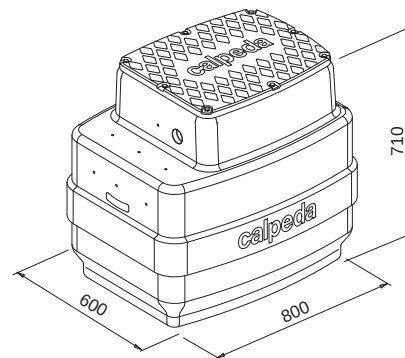
- 1 tank capacity 230 l
- 1 pump - single-phase 10 m cable and float switch
 - three-phase with 10 cable with support kit and float switch
- 1 control box for three-phase version
- 1 duck foot coupling kit
- 1 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch (with support for single-phase version) and auto-supplied control panel for remote alarm with horn and flashing light - extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQRM 10 32-10	0,45	3,1	18	9,5
GEO 230-GQRM 10 32-12	0,55	3,6	21	11,6
GEO 230-GQRM 10 32-14	0,75	4,6	24	13,5
GEO 230-GQRM 10 32-16	0,9	6	27	15,5
GEO 230-GQRM 10 32-18	1,1	8	30	17,5
GEO 230-GQRM 10 32-20	1,5	12	30	19,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQR 10 32-10	0,45	1,2	18	9,5
GEO 230-GQR 10 32-12	0,55	1,4	21	11,6
GEO 230-GQR 10 32-14	0,75	1,6	24	13,5
GEO 230-GQR 10 32-16	0,9	2,3	27	15,5
GEO 230-GQR 10 32-18	1,1	2,8	30	17,5
GEO 230-GQR 10 32-20	1,5	3,8	30	19,5



GQR

Single-impeller submersible drainage pump, with horizontal delivery port.

GQR: with open impeller.

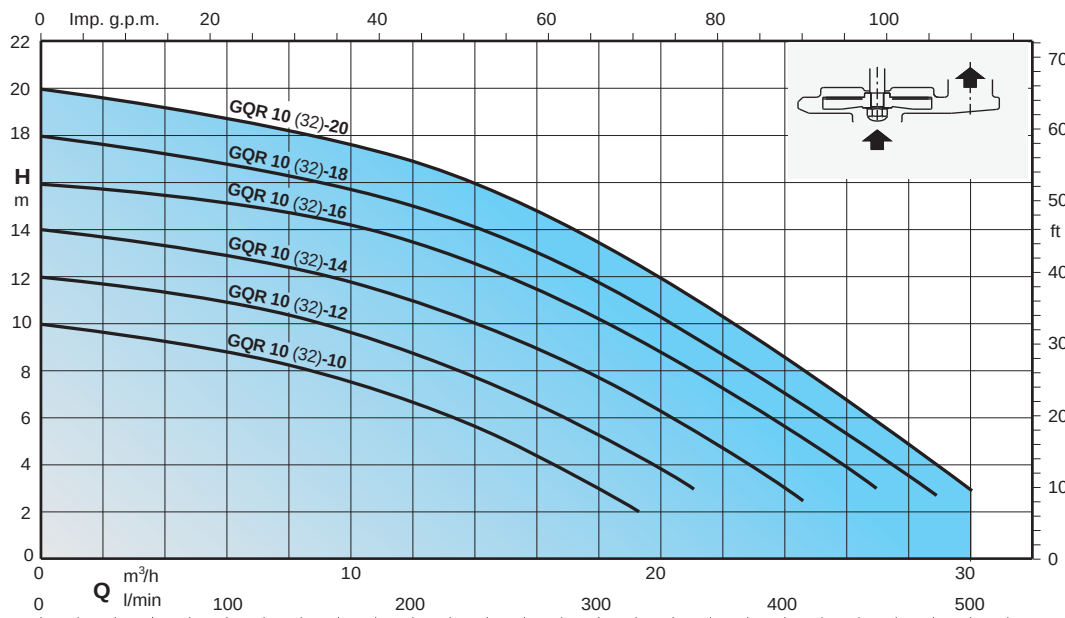
2-pole induction motor, 50Hz (n ≈ 2900 rpm),

GQR: three-phase 400 V +/-10%;

GQRM: Single-phase 230 V +/-10% with float switch and thermal protector. Incorporated capacitor.

Cable length 10 m.

Liquid temperature up to 35 °C



GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 230-GX..



Features

Automatic waste water collecting and lifting station GX 40 pump series.

It includes:

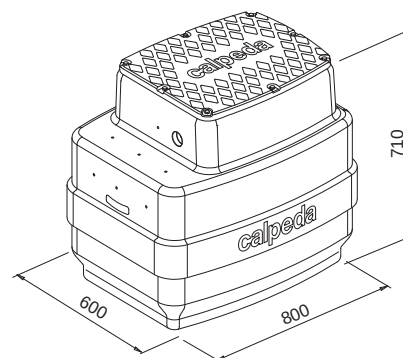
- 1 tank capacity 230 l
- 1 pump - single-phase with 10 m cable and float switch
- three-phase with 10 m cable with support and float switch kit
- 1 control box for three-phase version
- 1 discharge pipe kit Ø 50 mm in PVC

On demand

- 1 discharge pipe kit Ø 50 mm in PVC with a ball valve and non-return ball valve
- 1 safety float switch (with support for single-phase version) and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GXCM 40-10	0,55	4,6	21	9
GEO 230-GXCM 40-13	0,9	6,6	26	11,6
GEO 230-GXVM 40-7	0,55	4,6	15	6,2
GEO 230-GXVM 40-8	0,75	5,4	18	7,2
GEO 230-GXVM 40-9	0,9	6	21	8,1

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GXC 40-10	0,55	1,6	21	9
GEO 230-GXC 40-13	0,9	2,3	26	11,6
GEO 230-GXV 40-7	0,55	1,6	15	6,2
GEO 230-GXV 40-8	0,75	2,2	18	7,2
GEO 230-GXV 40-9	0,9	2,3	21	8,1



GXC, GXV

Submersible sewage and drainage pumps in chrome-nickel stainless steel, with vertical delivery port.

GXC, with two-passage impeller.

GXV: with free-flow (vortex) impeller

2-pole induction motor, 50Hz (n ≈ 2900 rpm).

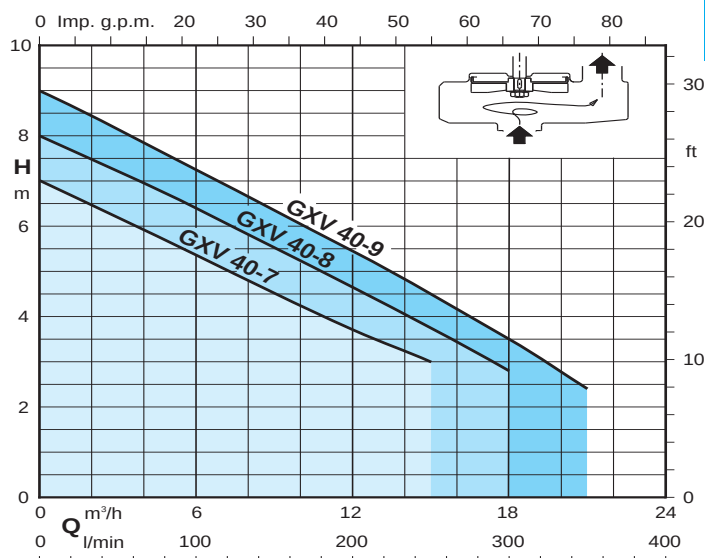
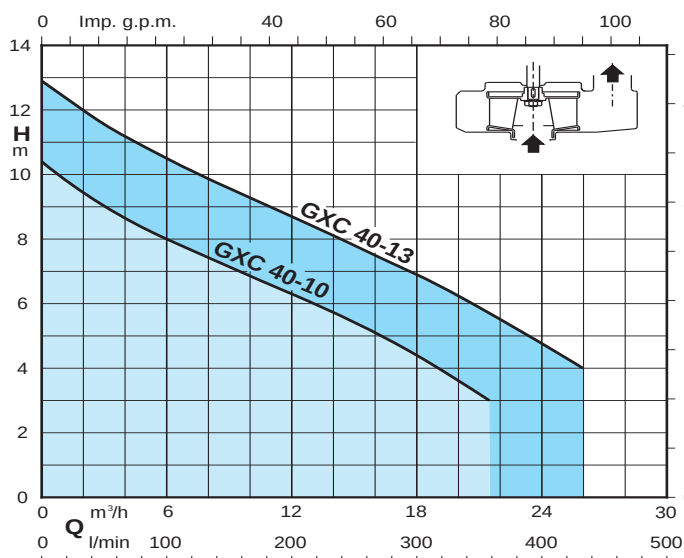
GXC, GXV: three-phase 400 V; +/-10%

GXCM, GXVM: single-phase 230 V +/-10%, with float switch and thermal protector.

Incorporated capacitor.

Cable length 10 m.

Liquid temperature up to 35 °C



GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 230-GQG



Features

Automatic sewage water collecting and lifting station with grinder pumps GQG series.

It includes:

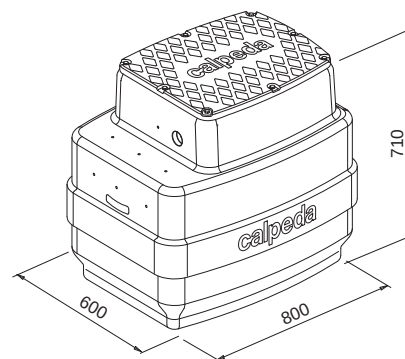
- 1 tank capacity 230 l
- 1 pump - single-phase with 10 m cable without float switch
- three-phase with 10 m cable
- 1 support kit with float switch
- 1 control box (with capacitor for single-phase motors)
- 1 duck foot coupling kit
- 1 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQGM 6-18	0,9	7	13,2	16,5
GEO 230-GQGM 6-21	1,1	7,5	15	19,2
GEO 230-GQGM 6-25	1,5	9,5	16,8	23

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQG 6-18	0,9	2,3	13,2	16,5
GEO 230-GQG 6-21	1,1	2,8	15	19,2
GEO 230-GQG 6-25	1,5	3,8	16,8	23



GQG

Submersible pumps with high power grinder, with horizontal delivery port.

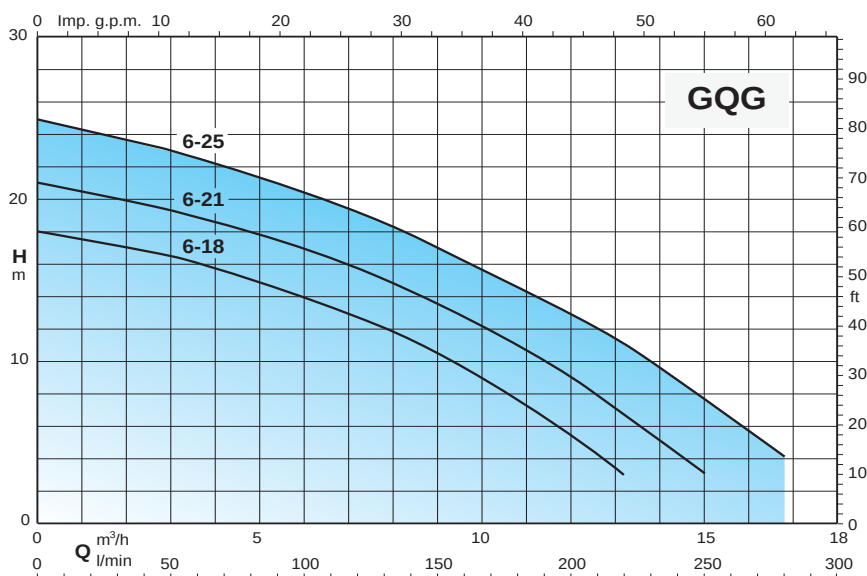
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GQG: three-phase 400 V +/-10%;

GQGM: Single-phase 230 V +/-10% complete control box with thermal protector and capacitors (without float switch).

10 m cable.

Liquid temperature up to 35 °C.



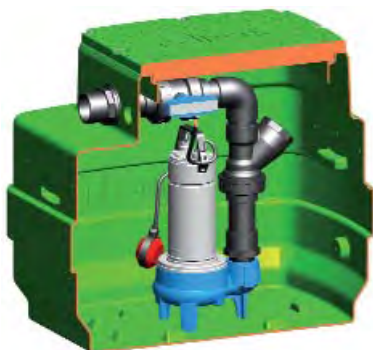
GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 230-GQS



Features

Automatic waste water collecting and lifting station GQS series.

It includes:

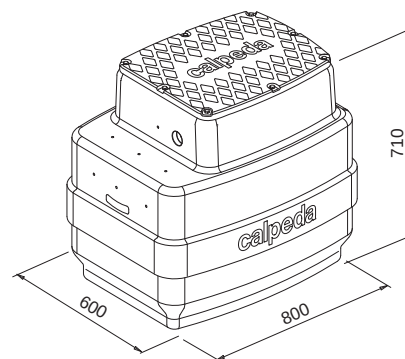
- 1 tank capacity 230 l
- 1 pump - single-phase 10 m cable and float switch
- three-phase with 10 cable with support kit and float switch
- 1 control box for three-phase version
- 1 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch (with support for single-phase version) and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQSM 50-8	0,55	4,3	24	7,4
GEO 230-GQSM 50-9	0,75	4,8	27	8,8
GEO 230-GQSM 50-11	0,9	6,6	33	10,5
GEO 230-GQSM 50-13	1,1	8,4	36	12,5
GEO 230-GQSM 50-15	1,5	12	36	14,4

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQS 50-8	0,55	1,5	24	7,4
GEO 230-GQS 50-9	0,75	1,8	27	8,8
GEO 230-GQS 50-11	0,9	2,3	33	10,5
GEO 230-GQS 50-13	1,1	3	36	12,5
GEO 230-GQS 50-15	1,5	4	36	14,4



GQS

Single-impeller submersible pumps, with vertical delivery port.

GQS: with free-flow (vortex) impeller

2-pole induction motor, 50Hz (n ≈ 2900 rpm)

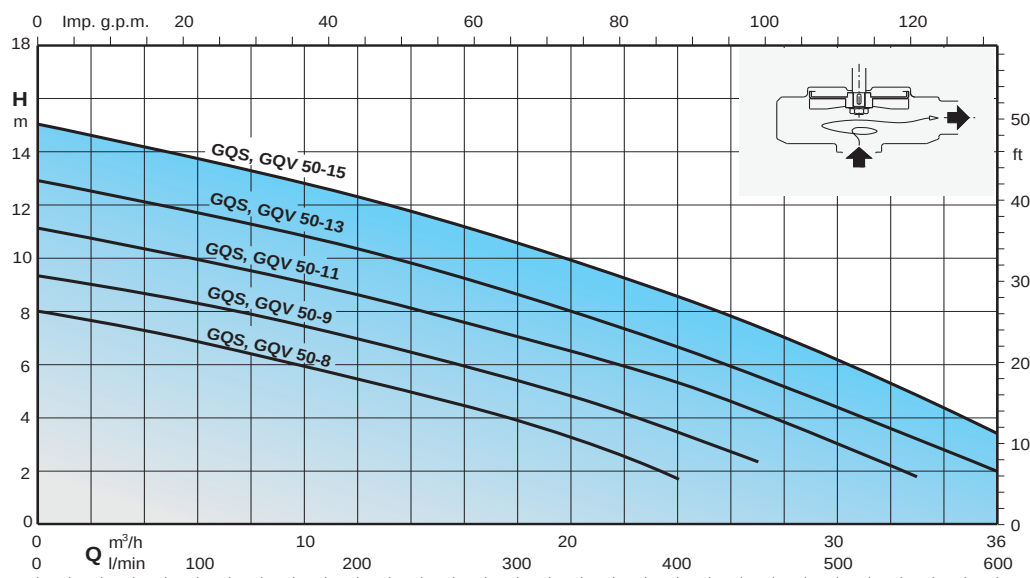
GQS: three-phase 400 V +/-10%;

GQSM: single-phase 230 V +/-10%, with float switch and thermal protector.

Incorporated capacitor.

Cable length 10 m.

Liquid temperature up to 35 °C



GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics



GEO 230-GQV

Features

Automatic waste water collecting and lifting station GQV series.

It includes:

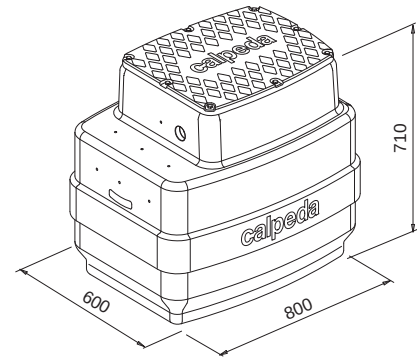
- 1 tank capacity 230 l
- 1 pump - single-phase with 10 m cable, without float switch
- three-phase with 10 cable, without float switch
- 1 support kit with float switch
- 1 control box
- 1 duck foot coupling kit
- 1 discharge pipe kit Ø 63 mm in PVC/inox with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQVM 50-8	0,55	4,3	24	7,4
GEO 230-GQVM 50-9	0,75	4,8	27	8,8
GEO 230-GQVM 50-11	0,9	6,6	33	10,5
GEO 230-GQVM 50-13	1,1	8,4	36	12,5
GEO 230-GQVM 50-15	1,5	12	36	14,4

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GQV 50-8	0,55	1,5	24	7,4
GEO 230-GQV 50-9	0,75	1,8	27	8,8
GEO 230-GQV 50-11	0,9	2,3	33	10,5
GEO 230-GQV 50-13	1,1	3	36	12,5
GEO 230-GQV 50-15	1,5	4	36	14,4



GQV

Single-impeller submersible pumps, with horizontal delivery port.

GQV: with free-flow (vortex) impeller

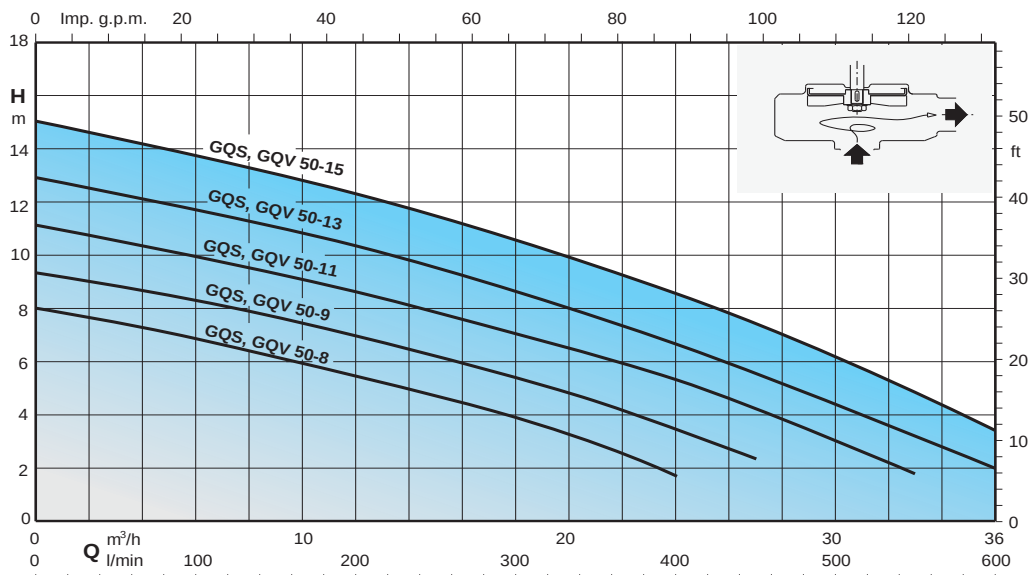
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GQV: three-phase 400 V +/-10%;

GQVM: single-phase 230 V +/-10%, with thermal protector, with built-in capacitor (without float switch).

Cable length 10 m.

Liquid temperature up to 35 °C



GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 230-GM..



Features

Automatic waste water collecting and lifting station GMV, GMC series.

It includes:

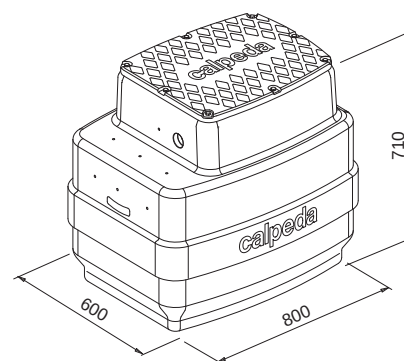
- 1 tank capacity 230 l
- 1 pump - single-phase 10 m cable and float switch
 - three-phase with 10 cable with support kit and float switch
- 1 control box for three-phase version
- 1 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch (with support for single-phase version) and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GMCM 50CE	0,75	4,5	36	9,5
GEO 230-GMCM 50BE	1,1	6,5	42	12,5
GEO 230-GMVM 50CE	0,75	4,5	31	8
GEO 230-GMVM 50BE	1,1	6,5	35	9,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GMC 50CE	0,75	1,9	36	9,5
GEO 230-GMC 50BE	1,1	2,7	42	12,5
GEO 230-GMC 50AE	1,5	3,8	48	14,5
GEO 230-GMV 50CE	0,75	1,9	31	8
GEO 230-GMV 50BE	1,1	2,7	35	9,5
GEO 230-GMV 50AE	1,5	3,8	39	11,5



GMC, GMV

Submersible sewage and drainage pumps.

GMC, with single-channel impeller.

GMV, with free-flow (vortex) impeller.

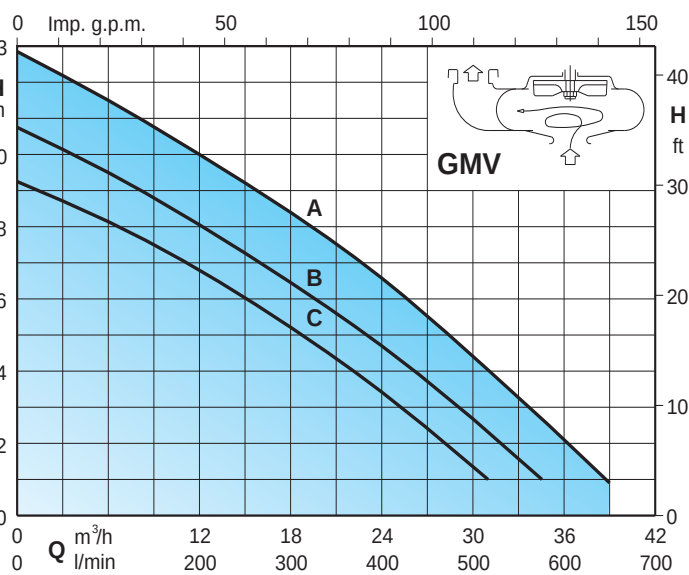
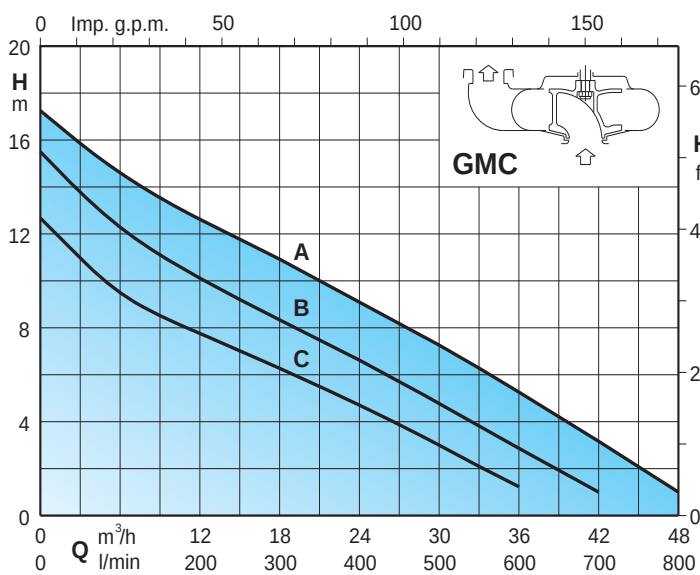
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GMV, GMC: three-phase 400 V +/-10%;
with 2 built-in thermal protectors to be connected to the control panel.

GMVM, GMVM: single-phase 230 V ± 10%, built-in thermal protector and built-in capacitor.
Float switch for automatic operation.

Cable length 10 m.

Liquid temperature up to 35 °C.



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GEO 230

Automatic waste water collecting and lifting station



Pumps characteristics



Features

Automatic waste water collecting and lifting station GMV, GMC series.

It includes:

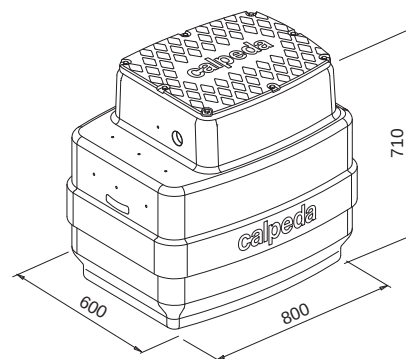
- 1 tank capacity 230 l
- 1 pump - single-phase 10 m cable and float switch
- three-phase with 10 cable with support kit and float switch
- 1 control box for three-phase version
- 1 duck foot coupling kit
- 1 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch (with support for single-phase version) and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 230-GMCM 50-65C	0,75	4,5	36	9,5
GEO 230-GMCM 50-65B	1,1	6,5	42	12,5
GEO 230-GMVM 50-65C	0,75	4,5	31	8
GEO 230-GMVM 50-65B	1,1	6,5	35	9,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 230-GMC 50-65C	0,75	1,9	36	9,5
GEO 230-GMC 50-65B	1,1	2,7	42	12,5
GEO 230-GMC 50-65A	1,5	3,8	48	14,5
GEO 230-GMV 50-65C	0,75	1,9	31	8
GEO 230-GMV 50-65B	1,1	2,7	35	9,5
GEO 230-GMV 50-65A	1,5	3,8	39	11,5



GMC, GMV

Submersible sewage and drainage pumps.

GMC, with single-channel impeller.

GMV, with free-flow (vortex) impeller.

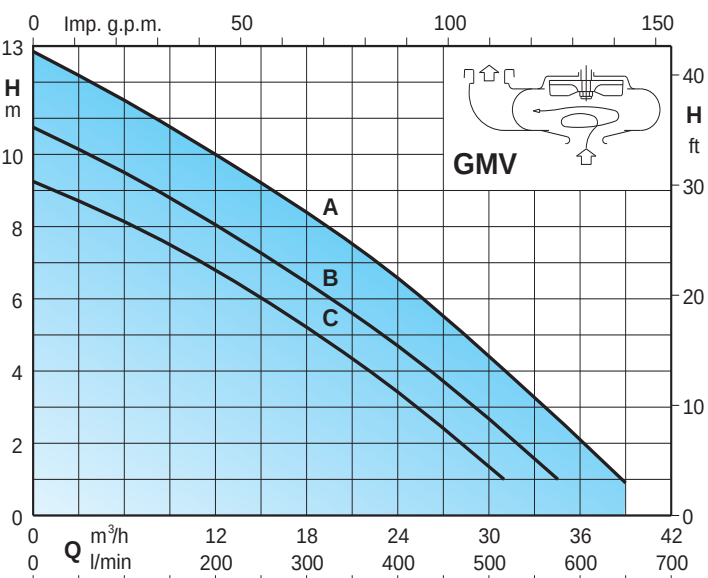
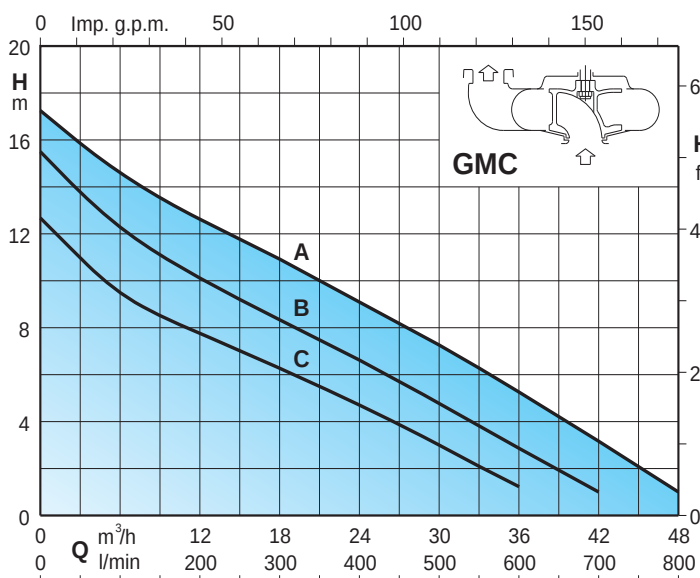
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GMV, GMC: three-phase 400 V +/-10%;
with 2 built-in thermal protectors to be connected to the control panel.

GMVM, GMVM: single-phase 230 V ± 10%, built-in thermal protector and built-in capacitor.
Float switch for automatic operation.

Cable length 10 m.

Liquid temperature up to 35 °C.



GEO 500

Automatic clear water collecting and lifting station



Pumps characteristics

GEO 500-GM 10



Features

Automatic clear water collecting and lifting station with GM 10 pump series.

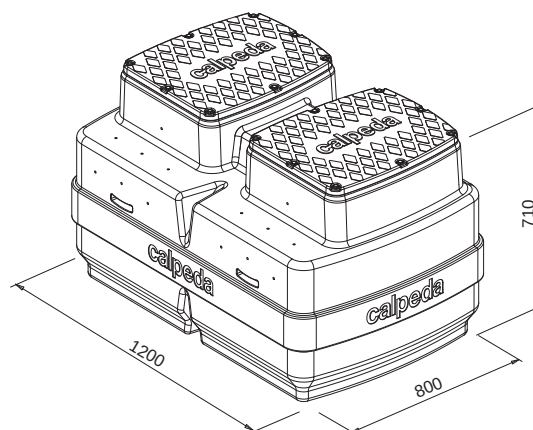
It includes:

- 1 tank capacity 500 l
- 2 single-phase pump with 5 m cable without float switch
- 1 support kit with 2 float switch
- 1 control box
- 2 discharge pipe kit Ø 40 mm in PVC

On demand

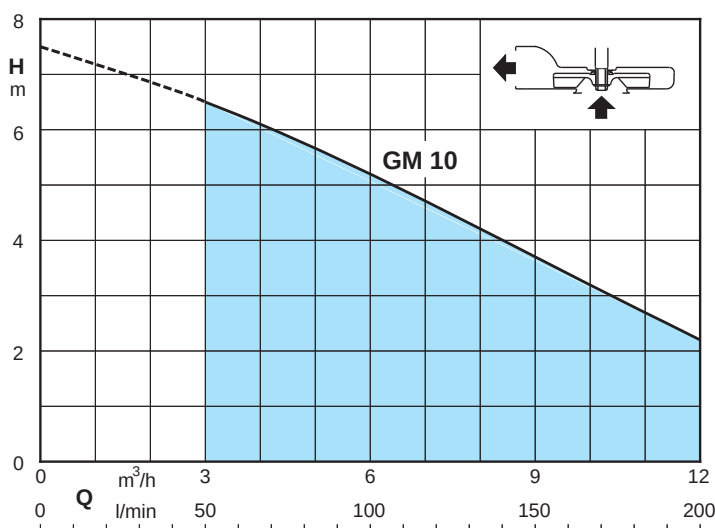
- 2 single-phase pumps with 10 m cable, without float switch
- 2 discharge pipe kit Ø 40 mm in PVC with a ball valve and non-return ball valve
- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GM 10	0,3x2	1,75x2	12x2	6,5



GM 10

Submersible drainage pump constructed from composite polymers.
Shaft of chrome steel AISI 430.
2-pole induction motor, 50Hz (n ≈ 2900 rpm).
Single-phase 230 V +/-10% with thermal protector (without float switch).
5 m cable and control box with capacitor.
Liquid temperature up to 35 °C



GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 500-2GX..



Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GXVM 25-6	0,25x2	2,5x2	10,2x2	5,7
GEO 500-2GXVM 25-8	0,37x2	3,5x2	12x2	7,8
GEO 500-2GXVM 25-10	0,45x2	4,5x2	13,2x2	9,5
GEO 500-2GXRM 9	0,25x2	2,5x2	10,2x2	8,3
GEO 500-2GXRM 11	0,37x2	3,5x2	12x2	10,4
GEO 500-2GXRM 13	0,45x2	4,5x2	13,2x2	11,7

Features

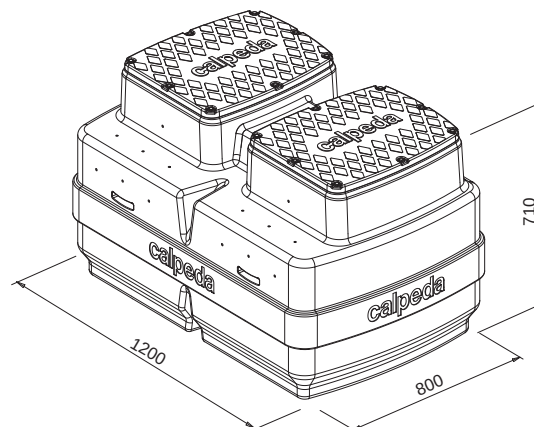
Automatic collecting and lifting station - for clean water with **GXR** pump series
- for waste water with **GXV** pump series.

It includes:

- 1 tank capacity 500 l
- 2 single-phase pump with 5 m cable without float switch
- 1 support kit with 2 float switch
- 1 control box
- 2 discharge pipe kit Ø 40 mm in PVC

On demand

- 2 single-phase pumps with 10 m cable, without float switch
- 2 discharge pipe kit Ø 40 mm in PVC with a ball valve and non-return ball valve
- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm



GXRM

GXVM

GXRM, GXVM

Submersible drainage pump in chrome-nickel stainless steel, with vertical delivery port.

GXRM: with open impeller.

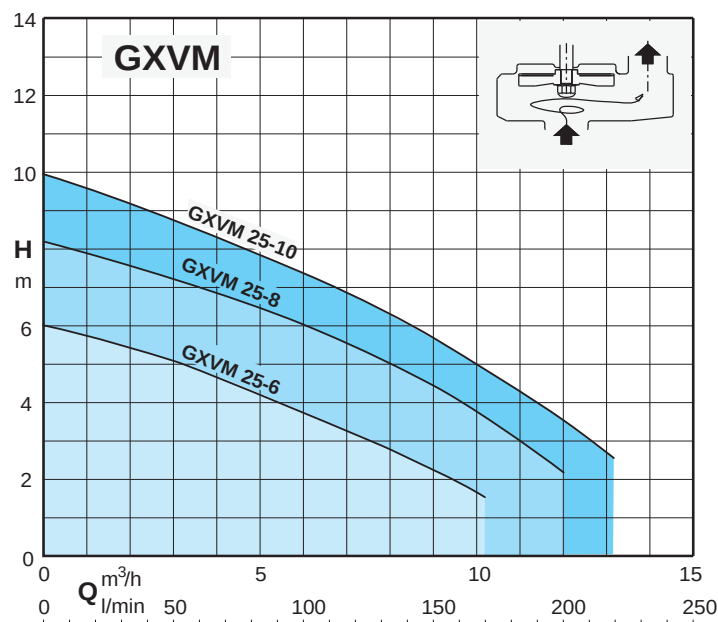
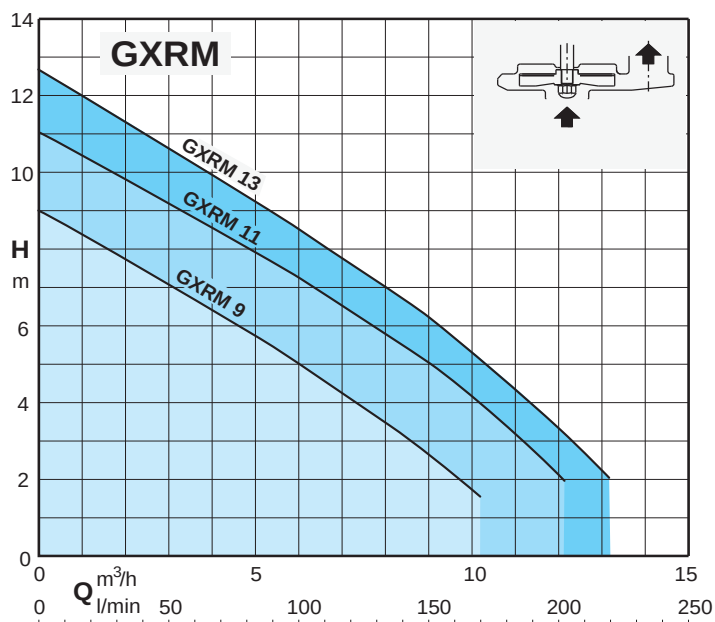
GXVM: with free-flow (vortex) impeller.

2-pole induction motor, 50Hz (n ≈ 2900 rpm),

Single-phase 230 V +/-10% with thermal protector. Incorporated capacitor.

Cable length 5 m.

Liquid temperature up to 50 °C



GEO 500

Automatic clear water collecting and lifting station



Pumps characteristics

GEO 500-2GQR



Features

Automatic collecting and lifting station for clean water with **GQR** pump series

It includes:

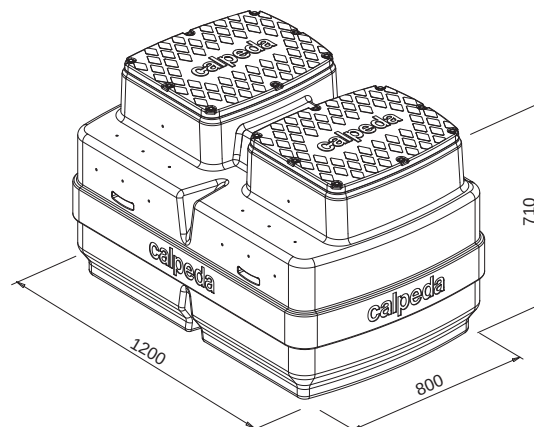
- 1 tank capacity 500 l
- 2 pumps - single-phase with 10 m cable without float switch
- three-phase with 10 m cable
- 1 support kit with 2 float switch
- 1 control box
- 2 discharge pipe kit Ø 50 mm in PVC

On demand

- 2 discharge pipe kit Ø 50 mm in PVC with a ball valve and non-return ball valve
- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQRM 10-10	0,45x2	3,1x2	18x2	9,5
GEO 500-2GQRM 10-12	0,55x2	3,6x2	21x2	11,6
GEO 500-2GQRM 10-14	0,75x2	4,6x2	24x2	13,5
GEO 500-2GQRM 10-16	0,9x2	6x2	27x2	15,5
GEO 500-2GQRM 10-18	1,1x2	8x2	30x2	17,5
GEO 500-2GQRM 10-20	1,5x2	12 x2	30x2	19,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQR 10-10	0,45x2	1,2x2	18x2	9,5
GEO 500-2GQR 10-12	0,55x2	1,4x2	21x2	11,6
GEO 500-2GQR 10-14	0,75x2	1,6x2	24x2	13,5
GEO 500-2GQR 10-16	0,9x2	2,3x2	27x2	15,5
GEO 500-2GQR 10-18	1,1x2	2,8x2	30x2	17,5
GEO 500-2GQR 10-20	1,5x2	3,8x2	30x2	19,5



GQR

Single-impeller submersible drainage pump, with vertical delivery port.

GQR: with open impeller.

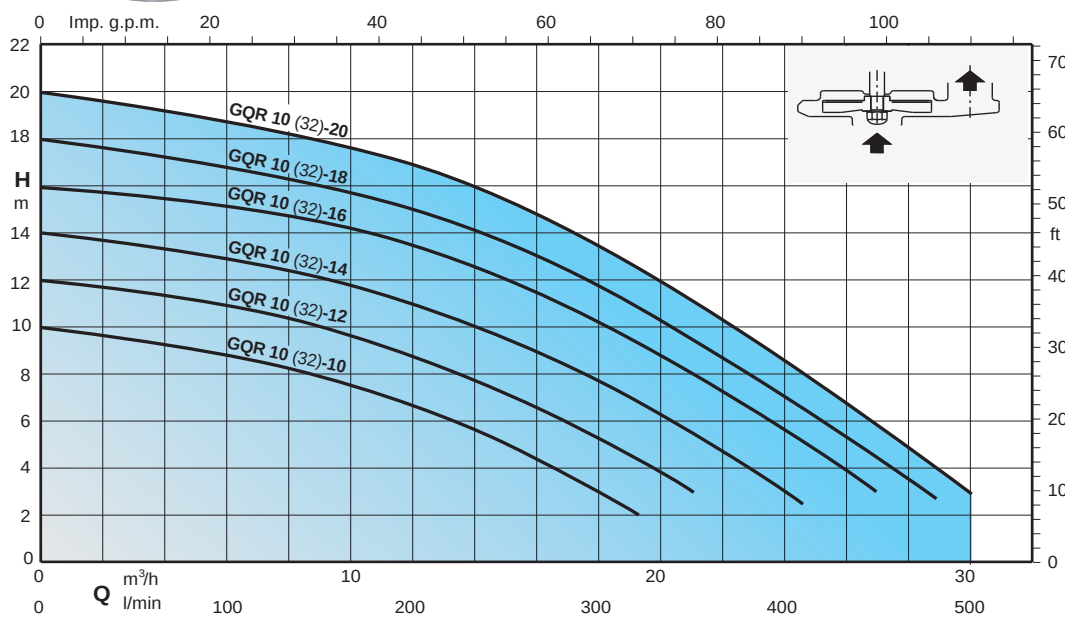
2-pole induction motor, 50Hz (n ≈ 2900 rpm),

GQR: three-phase 400 V +/-10%;

GQRM: Single-phase 230 V +/-10% with thermal protector and incorporated capacitor (without float switch).

Cable length 10 m.

Liquid temperature up to 35 °C.



GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics



GEO 500-2GQR

Features

Automatic waste water collecting and lifting station with GQR pump series.

It includes:

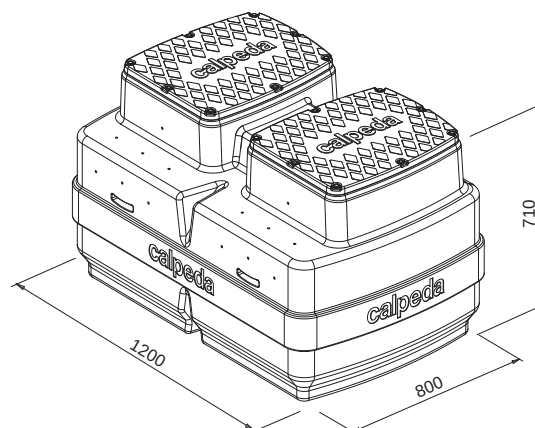
- 1 tank capacity 500 l
- 2 pumps - single-phase 10 m cable without float switch
- three-phase with 10 cable
- 1 support kit with 2 float switch
- 1 control box
- 2 duck foot coupling kit
- 2 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQRM 32 10-10	0,45x2	3,1x2	18x2	9,5
GEO 500-2GQRM 32 10-12	0,55x2	3,6x2	21x2	11,6
GEO 500-2GQRM 32 10-14	0,75x2	4,6x2	24x2	13,5
GEO 500-2GQRM 32 10-16	0,9x2	6x2	27x2	15,5
GEO 500-2GQRM 32 10-18	1,1x2	8x2	30x2	17,5
GEO 500-2GQRM 32 10-20	1,5x2	12x2	30x2	19,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQR 32 10-10	0,45x2	1,2x2	18x2	9,5
GEO 500-2GQR 32 10-12	0,55x2	1,4x2	21x2	11,6
GEO 500-2GQR 32 10-14	0,75x2	1,6x2	24x2	13,5
GEO 500-2GQR 32 10-16	0,9x2	2,3x2	27x2	15,5
GEO 500-2GQR 32 10-18	1,1x2	2,8x2	30x2	17,5
GEO 500-2GQR 32 10-20	1,5x2	3,8x2	30x2	19,5



GQR

Single-impeller submersible drainage pump, with horizontal delivery port.

GQR: with open impeller.

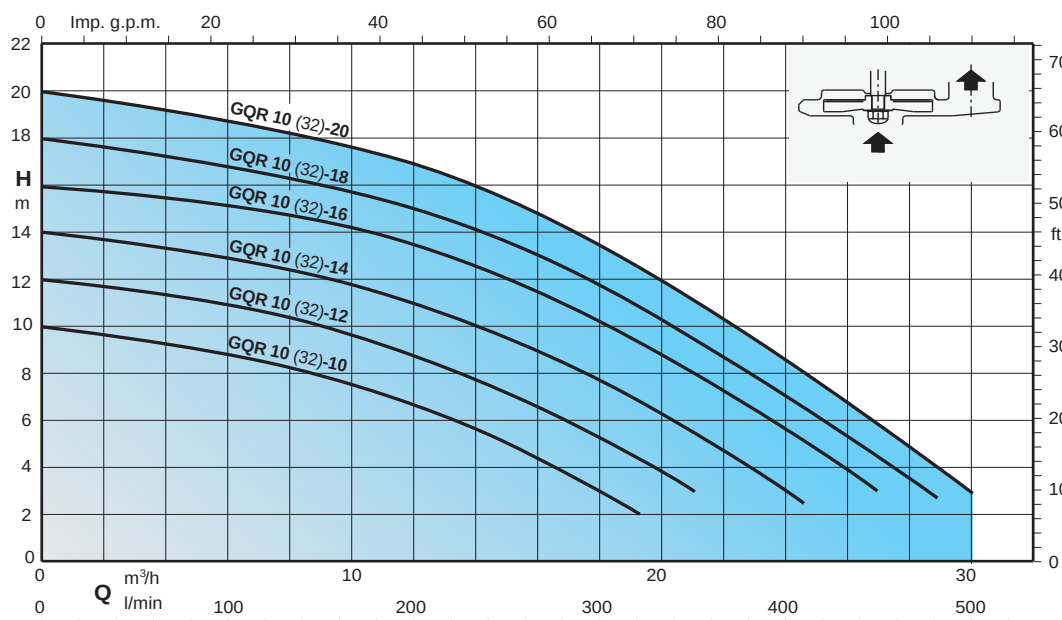
2-pole induction motor, 50Hz (n ≈ 2900 rpm),

GQR: three-phase 400 V +/-10%;

GQRM: single-phase 230 V +/-10%, with thermal protector, with built-in capacitor (without float switch).

10 m cable.

Liquid temperature up to 35 °C



GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 500-2GX..



Features

Automatic waste water collecting and lifting station with GX 40 pump series.

It includes:

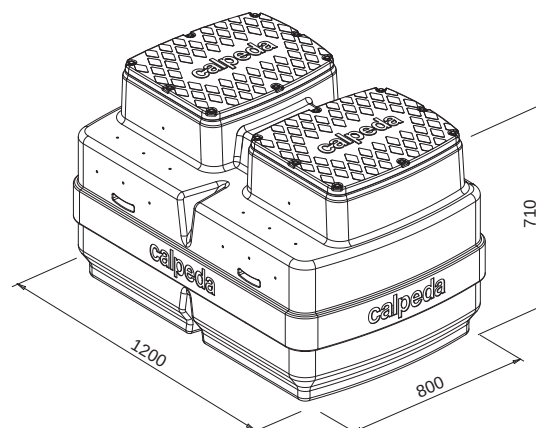
- 1 tank capacity 500 l
- 2 pumps - single-phase with 10 m cable without float switch
- three-phase with 10 m cable
- 1 support kit with 2 float switch
- 1 electric control box
- 2 discharge pipe kit Ø 50 mm in PVC

On demand

- 2 discharge pipe kit Ø 50 mm in PVC with a ball valve and non-return ball valve
- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GXCM 40-10	0,55x2	4,6x2	21x2	9
GEO 500-2GXCM 40-13	0,9x2	6,6x2	26x2	11,6
GEO 500-2GXVM 40-7	0,55x2	4,6x2	15x2	6,2
GEO 500-2GXVM 40-8	0,75x2	5,4x2	18x2	7,2
GEO 500-2GXVM 40-8	0,9x2	6x2	21x2	8,1

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GXC 40-10	0,55x2	1,6x2	21x2	9
GEO 500-2GXC 40-13	0,9x2	2,3x2	26x2	11,6
GEO 500-2GXV 40-7	0,55x2	1,6x2	15x2	6,2
GEO 500-2GXV 40-8	0,75x2	2,2x2	18x2	7,2
GEO 500-2GXV 40-9	0,9x2	2,3x2	21x2	8,1



GXC, GXV

Submersible sewage and drainage pumps in chrome-nickel stainless steel, with vertical delivery port.

GXC, with single-channel impeller.

GXV: with free-flow (vortex) impeller

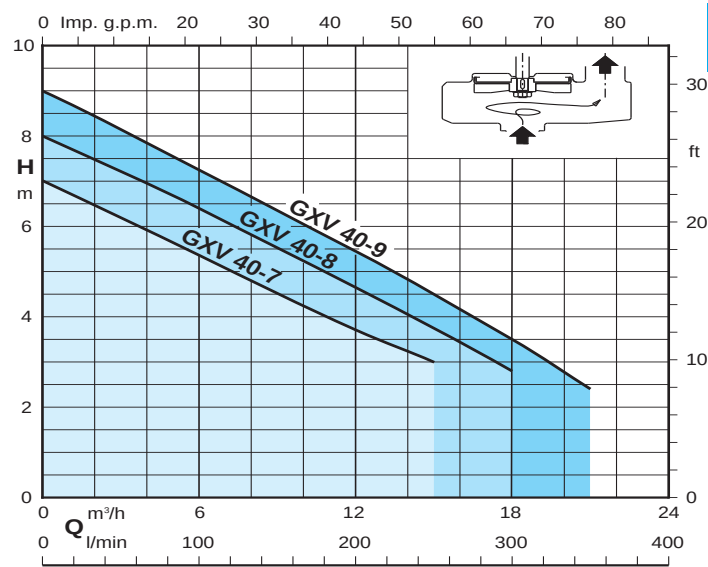
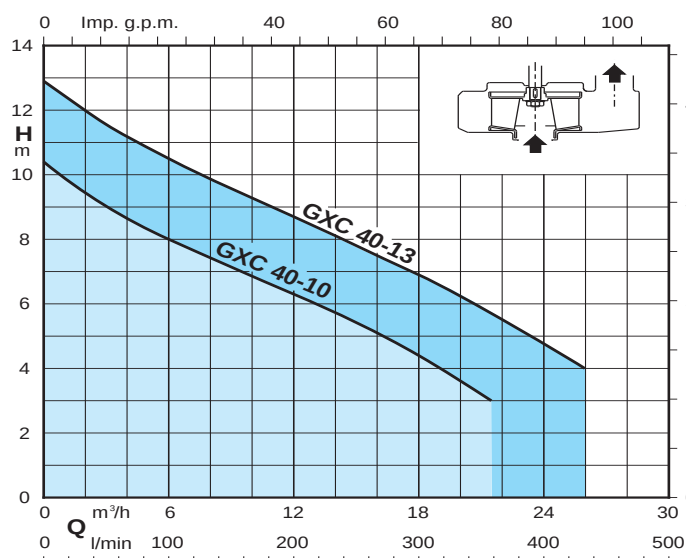
2-pole induction motor, 50Hz (n ≈ 2900 rpm).

GXC, GXV: three-phase 400 V +/-10%;

GXCM, GXVM: single-phase 230 V +/-10%, with thermal protector and incorporated capacitor (without float switch).

Cable length 10 m.

Liquid temperature up to 35 °C



GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics



GEO 500-2GQG

Features

Automatic sewage water collecting and lifting station with grinder pumps GQG series.

It includes:

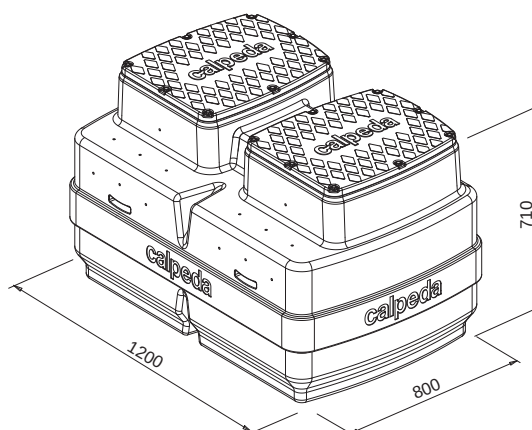
- 1 tank capacity 500 l
- 2 pumps - single-phase 10 m cable without float switch
- three-phase with 10 cable
- 1 support kit with 2 float switch
- 1 electric control box (with capacitor for single-phase motors)
- 2 duck foot coupling kit
- 2 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQGM 6-18	0,9x2	7x2	13,2x2	16,5
GEO 500-2GQGM 6-21	1,1x2	7,5x2	15x2	19,2
GEO 500-2GQGM 6-25	1,5x2	9,5x2	16,8x2	23

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQG 6-18	0,9x2	2,3x2	13,2x2	16,5
GEO 500-2GQG 6-21	1,1x2	2,8x2	15x2	19,2
GEO 500-2GQG 6-25	1,5x2	3,8x2	16,8x2	23



GQGM

Submersible pumps with high power grinder, with horizontal delivery port.

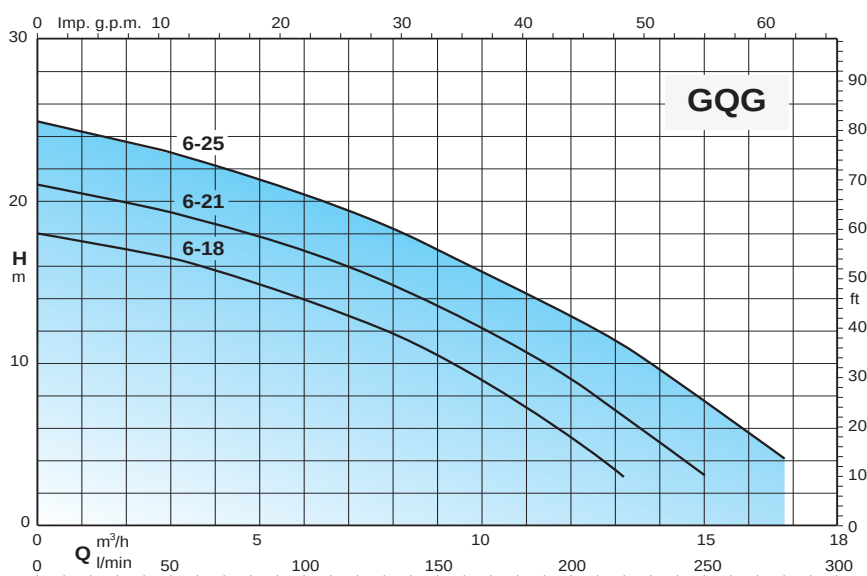
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GQG: three-phase 400 V +/-10%;

GQGM: Single-phase 230 V +/-10% complete control box with thermal protector and capacitors (without float switch).

10 m cable.

Liquid temperature up to 35 °C.



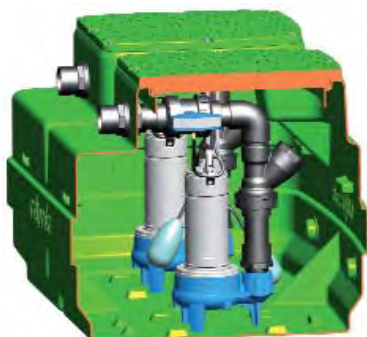
GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 500-2GQS



Features

Automatic waste water collecting and lifting station GQS series.

It includes:

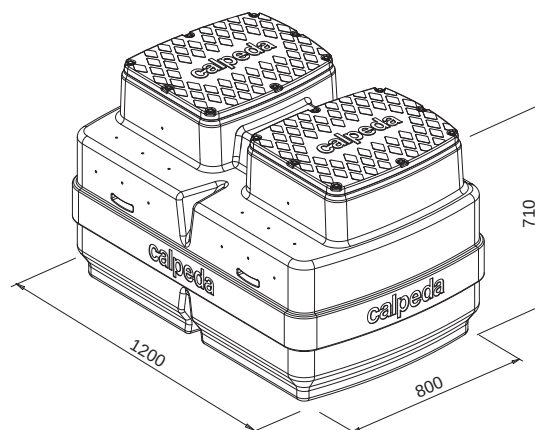
- 1 tank capacity 500 l
- 2 pumps - single-phase 10 m cable without float switch
- three-phase with 10 cable
- 1 support kit with 2 float switch
- 1 control box for three-phase version
- 2 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQSM 50-8	0,55x2	4,3x2	24x2	7,4
GEO 500-2GQSM 50-9	0,75x2	4,8x2	27x2	8,8
GEO 500-2GQSM 50-11	0,9x2	6,6x2	33x2	10,5
GEO 500-2GQSM 50-13	1,1x2	8,4x2	36x2	12,5
GEO 500-2GQSM 50-15	1,5x2	12x2	36x2	14,4

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQS 50-8	0,55x2	1,5x2	24x2	7,4
GEO 500-2GQS 50-9	0,75x2	1,8x2	27x2	8,8
GEO 500-2GQS 50-11	0,9x2	2,3x2	33x2	10,5
GEO 500-2GQS 50-13	1,1x2	3x2	36x2	12,5
GEO 500-2GQS 50-15	1,5x2	4x2	36x2	14,4



GQS

Single-impeller submersible pumps, with vertical delivery port.

GQS: with free-flow (vortex) impeller

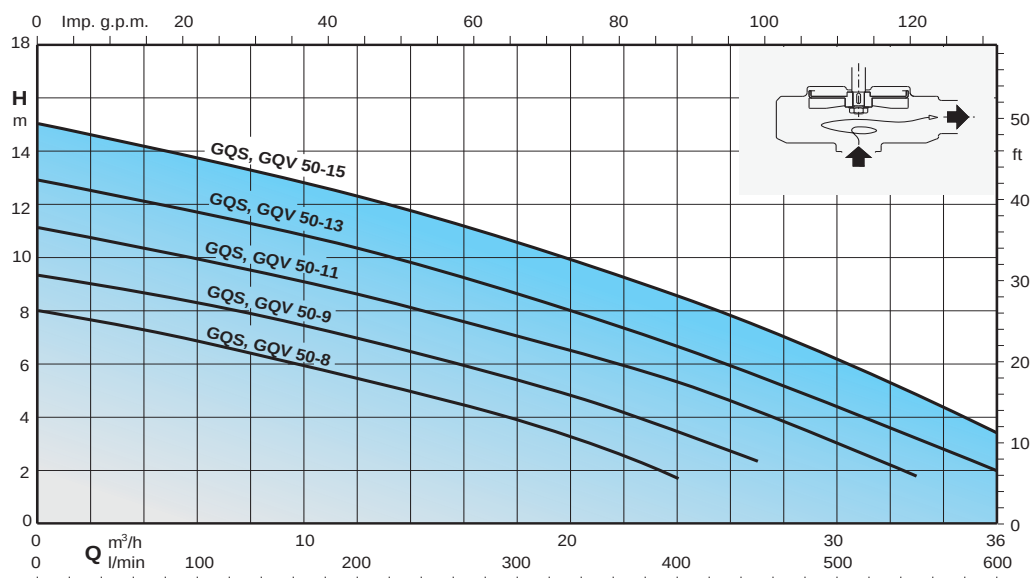
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GQS: three-phase 400 V +/-10%;

GQSM: single-phase 230 V +/-10%, with thermal protector, with built-in capacitor (without float switch).

10 m cable.

Liquid temperature up to 35 °C



GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics



GEO 500-2GQV

Features

Automatic waste water collecting and lifting station with GQV pump series.

It includes:

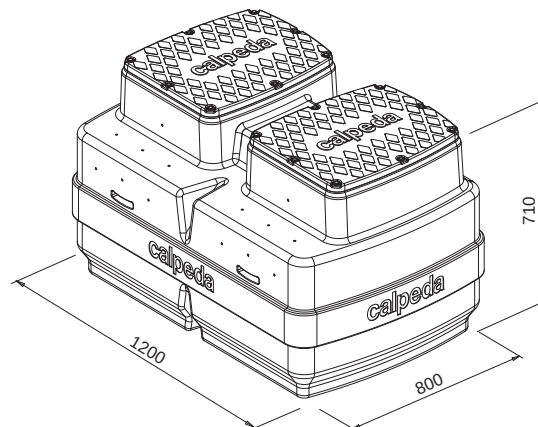
- 1 tank capacity 500 l
- 2 pumps - single-phase 10 m cable without float switch
- three-phase with 10 cable
- 1 support kit with 2 float switch
- 1 control box
- 2 duck foot coupling kit
- 2 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQVM 50-8	0,55x2	4,3x2	24x2	7,4
GEO 500-2GQVM 50-9	0,75x2	4,8x2	27x2	8,8
GEO 500-2GQVM 50-11	0,9x2	6,6x2	33x2	10,5
GEO 500-2GQVM 50-13	1,1x2	8,4x2	36x2	12,5
GEO 500-2GQVM 50-15	1,1x2	12 x2	36x2	12,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GQV 50-8	0,55x2	1,5x2	24x2	7,4
GEO 500-2GQV 50-9	0,75x2	1,8x2	27x2	8,8
GEO 500-2GQV 50-11	0,9x2	2,3x2	33x2	10,5
GEO 500-2GQV 50-13	1,1x2	3x2	36x2	12,5
GEO 500-2GQV 50-15	1,5x2	4x2	36x2	14,4



GQV

Single-impeller submersible pumps, with horizontal delivery port.

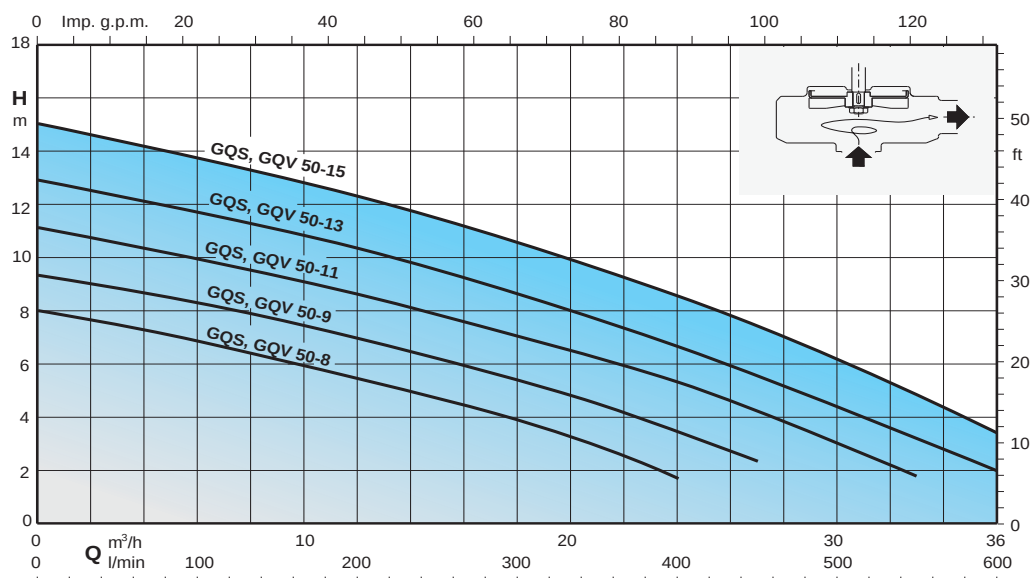
GQV: with free-flow (vortex) impeller

2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GQV: three-phase 400 V +/-10%;

GQVM: single-phase 230 V +/-10%, with thermal protector, with built-in capacitor (without float switch).
10 m cable.

Liquid temperature up to 35 °C



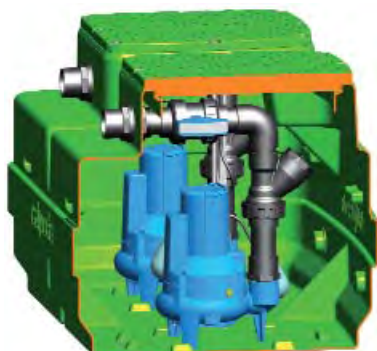
GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics

GEO 500-2GM..



Features

Automatic waste water collecting and lifting station GMV, GMC series.

It includes:

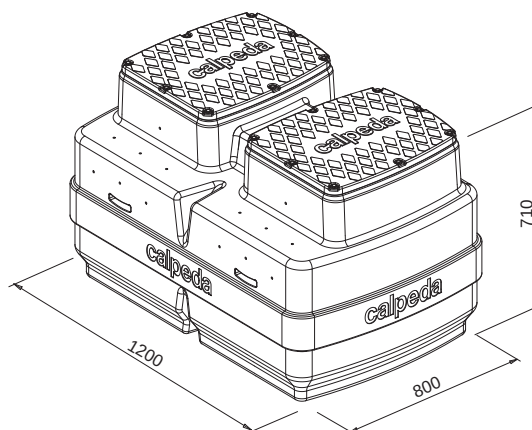
- 1 tank capacity 500 l
- 2 pumps - single-phase 10 m cable without float switch
 - three-phase with 10 cable
- 1 support kit with 2 float switch
- 1 control box for three-phase version
- 2 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm
 - with horn and flashing light
 - extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GMCM 50CE	0,75x2	4,5x2	36x2	9,5
GEO 500-2GMCM 50BE	1,1x2	6,5x2	42x2	12,5
GEO 500-2GMVM 50CE	0,75x2	4,5x2	31x2	8
GEO 500-2GMVM 50BE	1,1x2	6,5x2	35x2	9,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GMC 50CE	0,75x2	1,9x2	36x2	9,5
GEO 500-2GMC 50BE	1,1x2	2,7x2	42x2	12,5
GEO 500-2GMAE 50AE	1,5x2	3,8x2	48x2	14,5
GEO 500-2GMV 50CE	0,75x2	1,9x2	31x2	8
GEO 500-2GMV 50BE	1,1x2	2,7x2	35x2	9,5
GEO 500-2GMV 50AE	1,5x2	3,8x2	39x2	11,5



GMC, GMV

Submersible sewage and drainage pumps.

GMC, with single-channel impeller.

GMV, with free-flow (vortex) impeller.

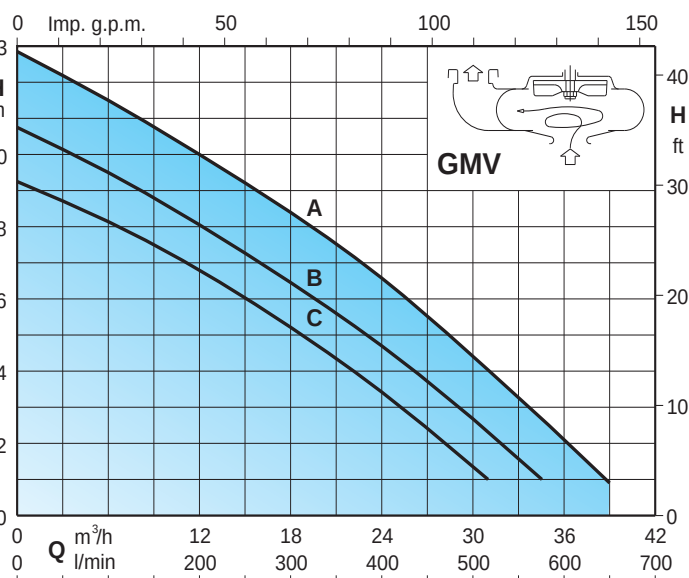
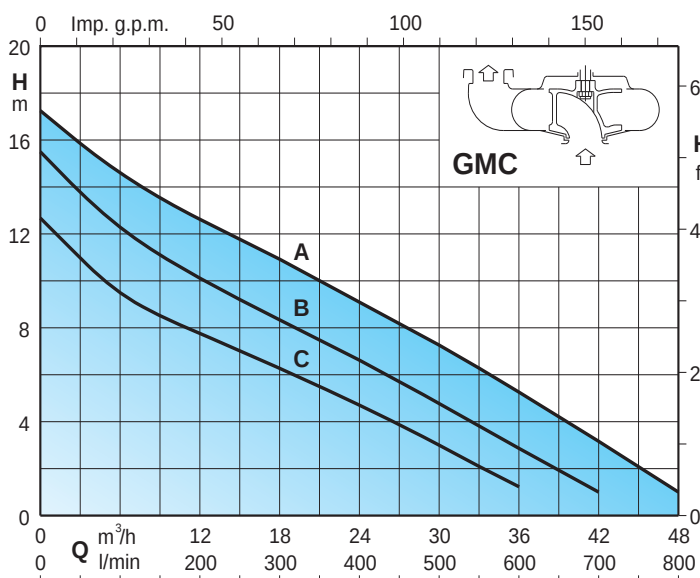
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GMV, GMC: three-phase 400 V +/-10%;
with 2 built-in thermal protectors to be connected to the control panel.

GMVM, GMVM: single-phase 230 V ± 10%, built-in thermal protector and built-in capacitor.
(without float switch)

Cable length 10 m.

Liquid temperature up to 35 °C.



GEO 500

Automatic waste water collecting and lifting station



Pumps characteristics



GEO 500-2GM..

Features

Automatic waste water collecting and lifting station GMV, GMC series.

It includes:

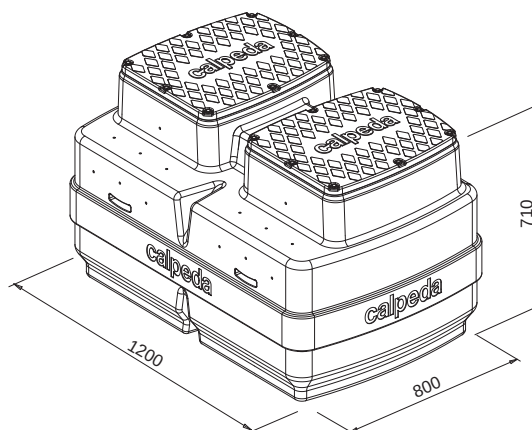
- 1 tank capacity 500 l
- 2 pumps - single-phase 10 m cable without float switch
 - three-phase with 10 cable
- 1 support kit with 2 float switch
- 1 control box for three-phase version
- 2 duck foot coupling kit
- 2 discharge pipe kit Ø 63 mm in PVC with a ball valve and non-return ball valve

On demand

- 1 safety float switch and auto-supplied control panel for remote alarm with horn and flashing light
- extension 300 mm

Single-phase type	1 ~ 230 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GMCM 50-65C	0,75x2	4,5x2	36x2	9,5
GEO 500-2GMCM 50-65B	1,1x2	6,5x2	42x2	12,5
GEO 500-2GMVM 50-65C	0,75x2	4,5x2	31x2	8
GEO 500-2GMVM 50-65B	1,1x2	6,5x2	35x2	9,5

Three-phase type	3 ~ 400 V		Q max m³/h	H max m
	kW	A		
GEO 500-2GMC 50-65C	0,75x2	1,9x2	36x2	9,5
GEO 500-2GMC 50-65B	1,1x2	2,7x2	42x2	12,5
GEO 500-2GMC 50-65A	1,5x2	3,8x2	48x2	14,5
GEO 500-2GMV 50-65C	0,75x2	1,9x2	31x2	8
GEO 500-2GMV 50-65B	1,1x2	2,7x2	35x2	9,5
GEO 500-2GMV 50-65A	1,5x2	3,8x2	39x2	11,5



GMC, GMV

Submersible sewage and drainage pumps.

GMC, with single-channel impeller.

GMV, with free-flow (vortex) impeller.

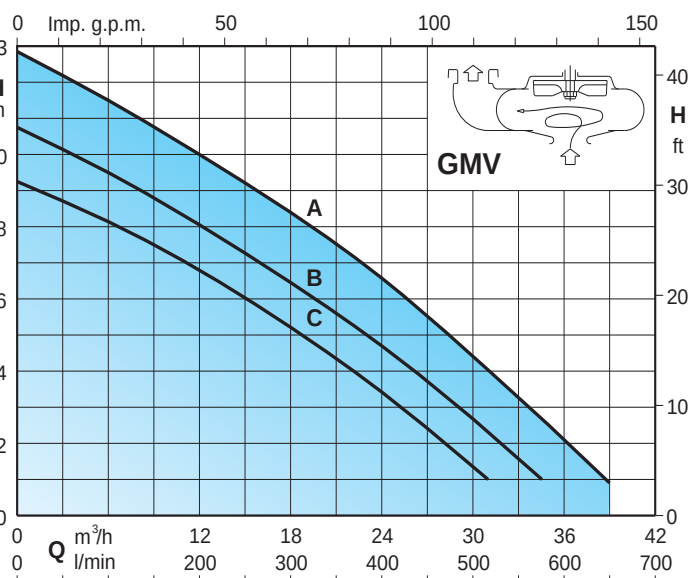
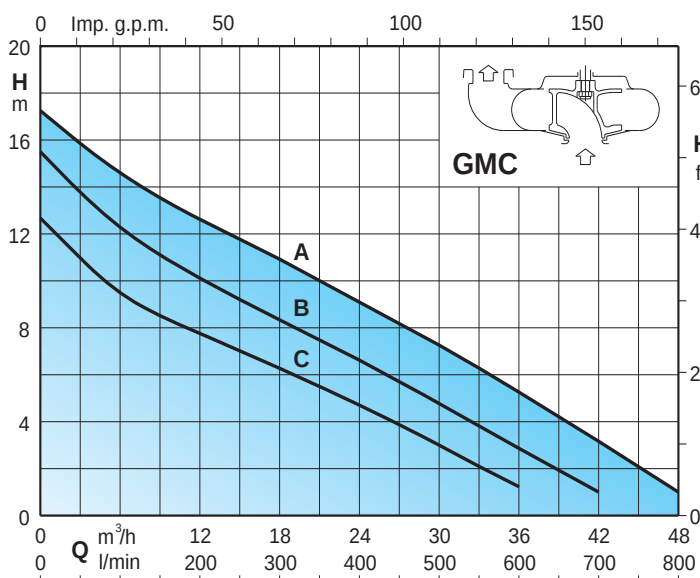
2-pole induction motor, 50Hz (n ≈ 2900 rpm)

GMV, GMC: three-phase 400 V +/-10%;
with 2 built-in thermal protectors to be connected to the control panel.

GMVM, GMVM: single-phase 230 V ± 10%, built-in thermal protector and built-in capacitor.
(without float switch)

Cable length 10 m.

Liquid temperature up to 35 °C.



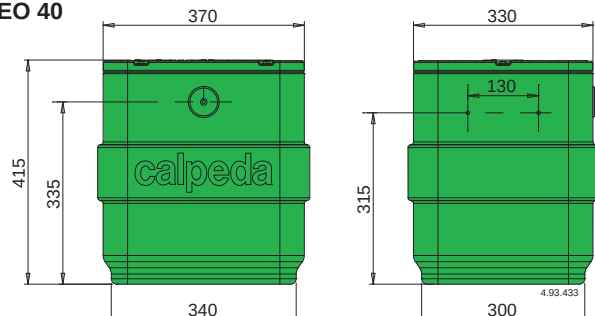


Automatic waste water collecting and lifting station

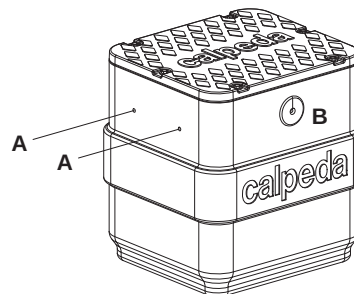
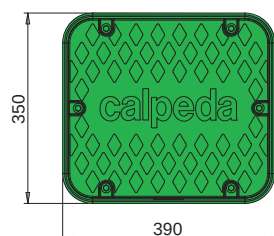


Dimensions and weights

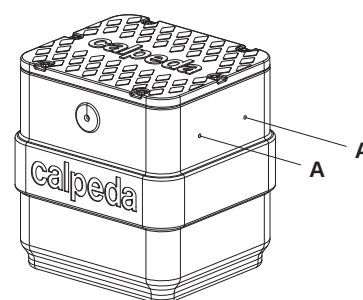
GEO 40



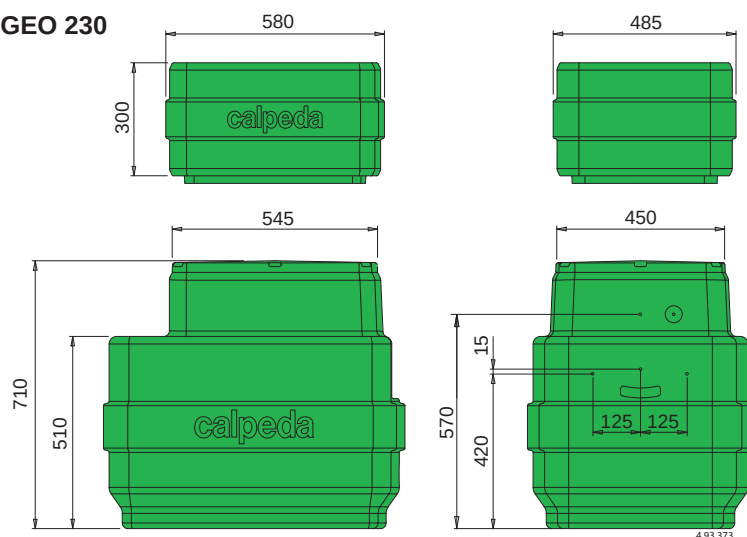
Tank
kg.6



- A) Arrangement for :
Ø 40 mm inlet
Ø 40 mm outlet
Ø 25 mm relief
B) Cable passage with Shuko plug

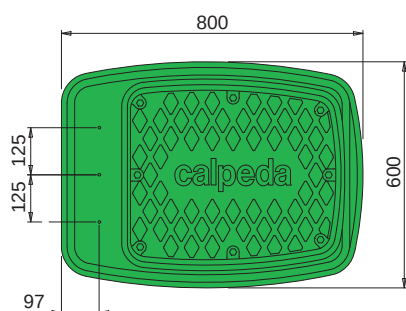
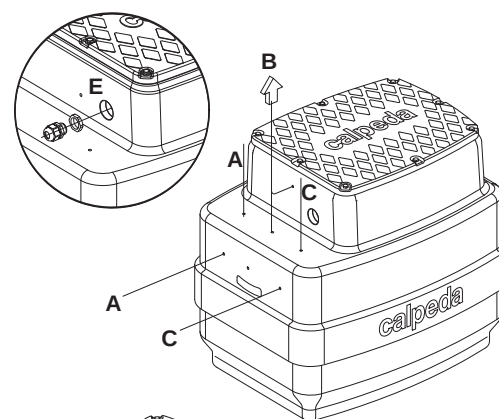


GEO 230

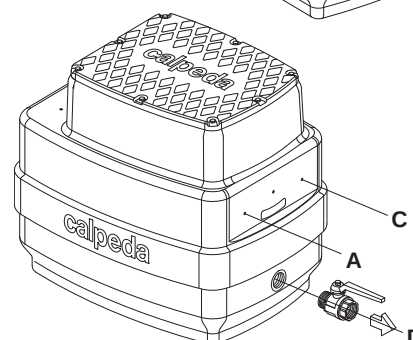


Extension
kg.4,5

Tank
kg.16



- A-C) inlet and relief
B) delivery outlet
D) G 1 1/2 draining outlet
E) Cable outlet



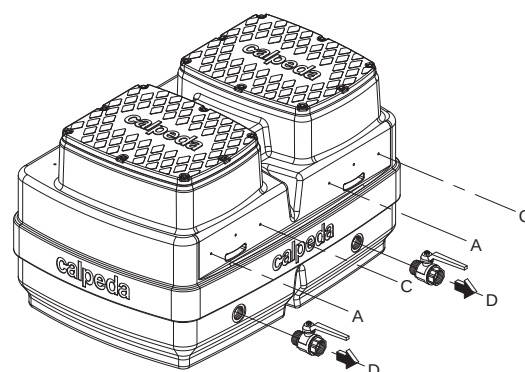
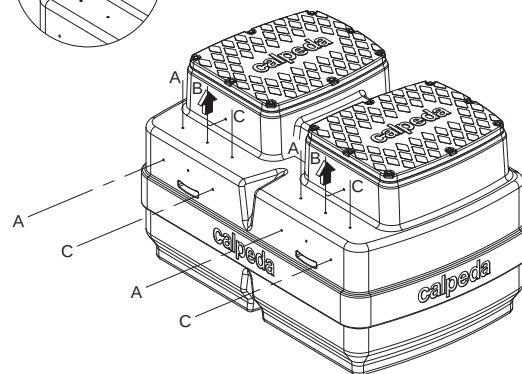
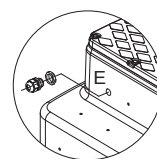
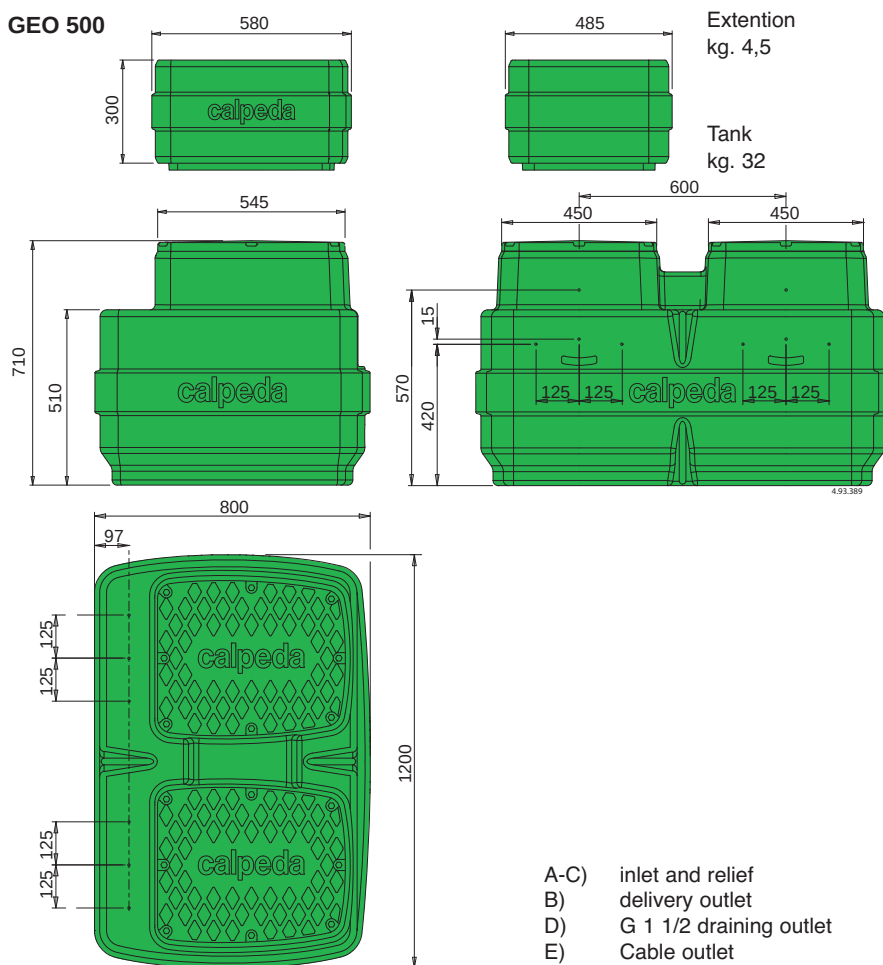


Automatic waste water collecting and lifting station

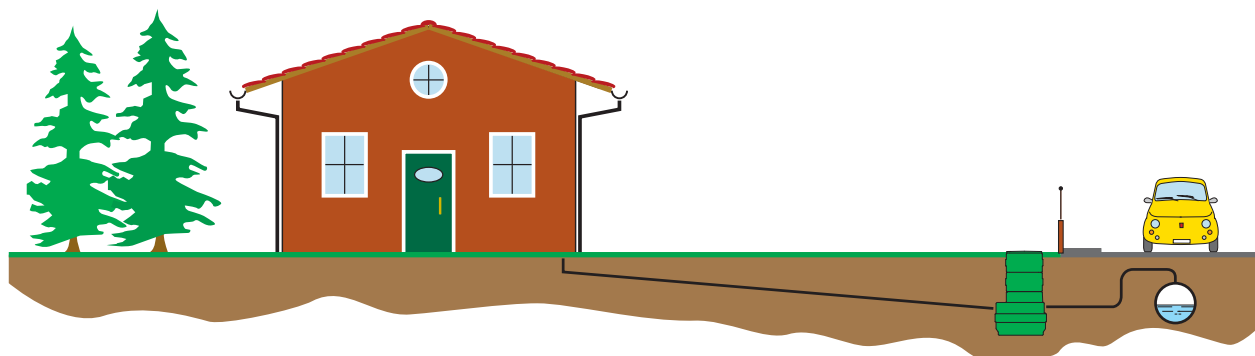
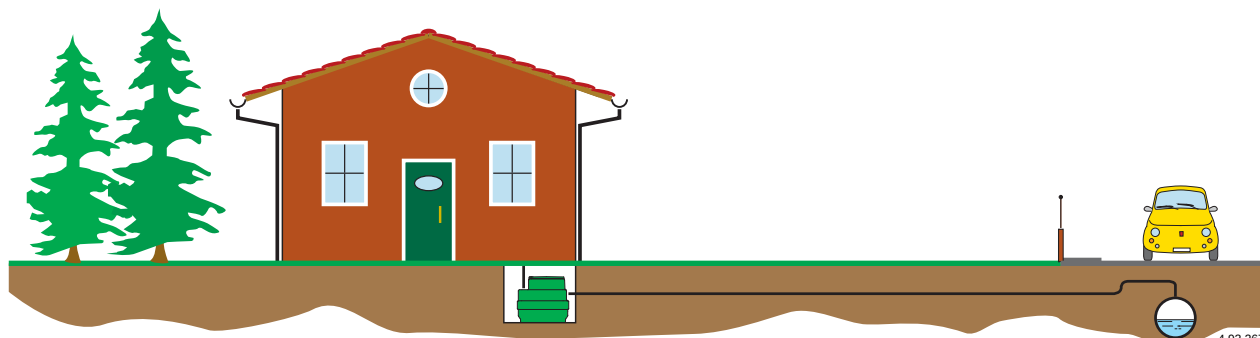


Dimensions and weights

GEO 500



Installation examples



LIFTING STATION SIZING

Normally the domestic waste water flows by gravity into the mains sewage collectors.

If there are underground rooms with discharge positions below the sewage main, a lifting station with one or more pumps may be required.

It is necessary to remember that the UNI-EN 12056-4 standard allows rainwater to be pumped to the sewage main only in exceptional cases.

To sizing a lifting station pump it is necessary to calculate the flow Q_{tot} and the Head h_{mt} necessary for the water drainage.

FLOW CALCULATION

The flow of the lifting pumps can be calculated using Table 1, according to the number of people using the building and the location of the building. It is easy to calculate the flow Q_r of the sewage water.

The Q_r value is already adjusted by a coefficient that includes the peak hours, when the water consumption is higher.

The lifting systems of waste water are usually separated from the rainwater system. In case of a mixed system is required to sum the flow Q_m of the rainwater of the Table 2 with the flow Q_r of the Table 1.

The table indicates the rainwater flow Q_m as a function of the exposed surface to rainfall, it varies according to the capacity of the surface to absorb rain water (Table 3).

The total flow of the pump or pumps is:

$$Q_{tot} = Q_r + Q_m$$

HEAD CALCULATION

To calculate the head h_{mt} it is necessary to add the geodetic head existing between the fluid levels with the head losses from internal friction created by the flow of the fluid in the hydraulic pipes and fittings (Figure 1).

After the choice of the discharge pipe diameter, such that the flow speed it is not lower than 0,7 m/s (to avoid deposits) and higher than 2,3 m/s, it is possible to determine the distributed head loss H_d and concentrated head loss H_v H_c , due to valves and curves (Table 4).

The sum of the head losses ΔP_c is:

$$\Delta P_c = H_d + \Sigma H_v + \Sigma H_c$$

The total head h_{mt} is calculated as:

$$H_{mt} = H_g + \Delta P_c$$

- 1) Water arriving from sinks discharge, toilets, showers, washing machines etc.
- 2) Excluding consumption from industrial processes.
- 3) The unit flow reference is 1,5 l/min/m²

Table 1

Maximum flow of domestic waste water at peak demand

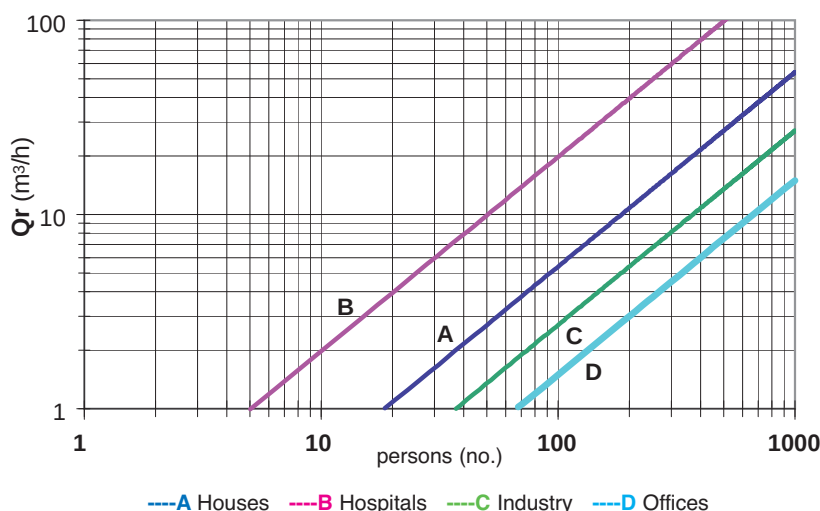


Table 2

Rainwater Flow

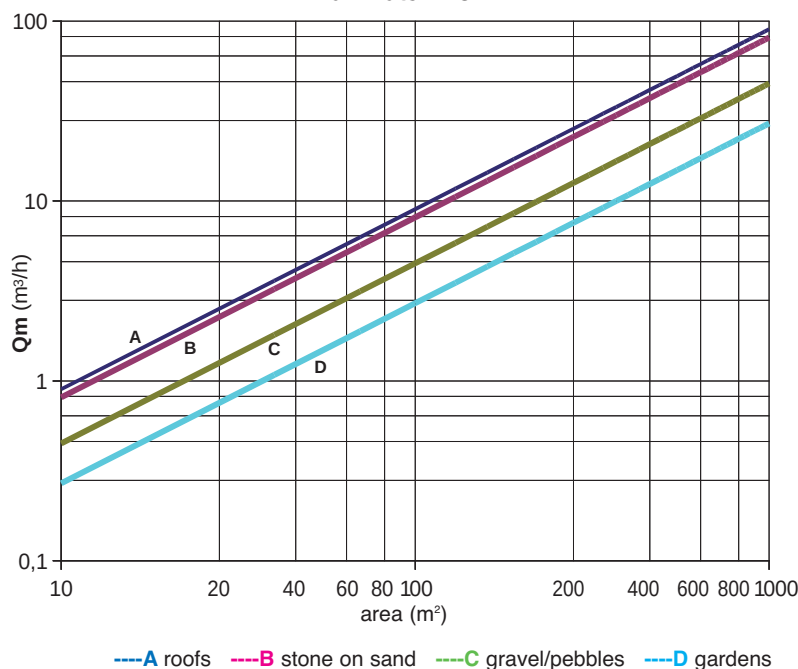


Figure 1

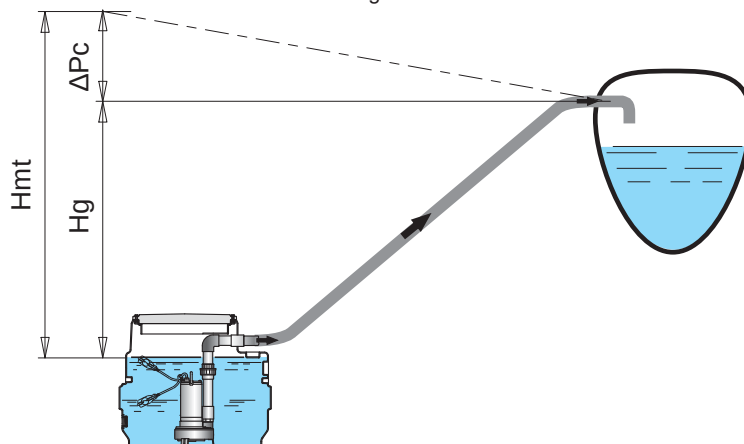


Table no. 3
Head loss in m for PVC PN6 (m) pipes

PVC pipe PN6 Øe mm	Q m³/h	1,8	3,6	5,4	7,2	9	18	27	36	50,4	64,8	90	126	162	180
	Q l/min	30	60	90	120	150	300	450	600	840	1080	1500	2100	2700	3000
50		0,24 0,30	0,85 0,59	1,8 0,89	3,1 1,18	4,6 1,48	16,7 2,96	35,3 4,44	-	-	-	-	-	-	-
63		0,08 0,18	0,26 0,37	0,56 0,55	0,95 0,73	1,11 0,92	5,2 1,83	10,9 2,75	18,6 3,66	34,8 5,13	-	-	-	-	-
75			0,11 0,26	0,24 0,39	0,4 0,51	0,61 0,64	2,2 1,29	4,6 1,93	7,9 2,57	14,7 3,6	23,4 4,63	43 6,43	-	-	-
90			0,05 0,18	0,1 0,27	0,16 0,36	0,25 0,45	0,9 0,89	1,9 1,34	3,3 1,79	6,1 2,5	9,7 3,22	17,8 4,47	33,2 6,26	-	-
110				0,04 0,17	0,06 0,2	0,09 0,29	0,3 0,58	0,67 0,87	1,15 1,16	2,15 1,63	3,4 2,10	6,25 2,91	11,7 4,08	18,5 5,24	22,5 5,82
125					0,03 0,18	0,05 0,23	0,17 0,45	0,36 0,68	0,6 0,90	1,15 1,26	1,84 1,63	3,37 2,26	6,3 3,16	10 4,06	12,2 4,52
140						0,03 0,18	0,1 0,36	0,2 0,54	0,35 0,72	0,65 1,01	1,05 1,30	1,95 1,80	3,6 2,52	5,77 3,24	7 3,60
160							0,05 0,28	0,11 0,41	0,18 0,55	0,34 0,77	0,55 0,99	1,02 1,38	1,9 2,48	3 2,76	3,66 2,76
180							0,03 0,22	0,06 0,33	0,1 0,43	0,19 0,61	0,31 0,78	0,57 1,09	1,06 1,52	1,69 1,96	2,05 2,17
200							0,02 0,18	0,04 0,26	0,06 0,35	0,12 0,49	0,18 0,63	0,34 0,88	0,64 1,23	1 1,59	1,23 1,76
225							0,02 0,21	0,04 0,28	0,07 0,39	0,1 0,55	0,19 0,70	0,36 0,97	0,57 1,25	0,7 1,39	
250							0,02 0,23	0,04 0,32	0,06 0,41	0,12 0,56	0,18 0,79	0,34 1,02	0,64 1,13	0,7 1,13	
280								0,01 0,18	0,02 0,25	0,04 0,32	0,07 0,45	0,13 0,63	0,2 0,81	0,24 0,90	

Table no. 4
Head loss in cm for bends and gate valves

Water flow velocity m/sec.	$\alpha = 90^\circ$ sweep elbow					Gate valves
	$\frac{d}{R} = 0,4$	$\frac{d}{R} = 0,6$	$\frac{d}{R} = 0,8$	$\frac{d}{R} = 1$	$\frac{d}{R} = 1,5$	
0,4	0,11	0,13	0,16	0,23	0,43	0,23
0,5	0,18	0,21	0,26	0,37	0,67	0,37
0,6	0,25	0,29	0,36	0,52	0,97	0,52
0,7	0,34	0,40	0,48	0,70	1,35	0,70
0,8	0,45	0,53	0,64	0,93	1,7	0,95
0,9	0,57	0,67	0,82	1,18	2,2	1,20
1,0	0,7	0,82	1,0	1,45	2,7	1,45
1,5	1,6	1,9	2,3	3,3	6	3,3
2,0	2,8	3,3	4,0	5,8	11	5,8
2,5	4,4	5,2	6,3	9,1	17	9,1
3,0	6,3	7,4	9	13	25	13
3,5	8,5	10	12	18	33	18
4,0	11	13	16	23	42	23
4,5	14	21	26	37	55	37
5,0	18	29	36	52	67	52

EXAMPLE OF CALCULATION

Suppose it is required to size a lifting station, for a residential building where 80 people live. The pumps will have to lift waste water up to an additional tank located 5m higher, the linear distance between the 2 tanks is 70 m. In addition the station will receive rainwater from 400 m² of tarmac, roof surfaces and 120 m² of garden.

Considering: $Q_{tot} = Q_r + Q_m$

It is possible to calculate the Q_r from the Table1 which is 4 m³/h, while Q_m is obtained from the Table 2 and is 36 m³/h (roofs and tarmac) plus 2 m³/h from gardens, with this value Q_{tot} is 42 m³/h. At this flow it will be necessary split the flow between two pumps.

We choose a delivery pipe diameter such that the flow rate with two pumps in operation does not exceed 2.3 m / sec and not be lower than 0.7 m / s with a single pump.

From (Table 3) we obtain:

42 m³/h $\Rightarrow$ 1,4 m/s $\Rightarrow$ TUBO DN 110 (with two pumps in parallel operation)

21 m³/h $\Rightarrow$ 0,7 m/s $\Rightarrow$ TUBO DN 110 (with one operating pump)

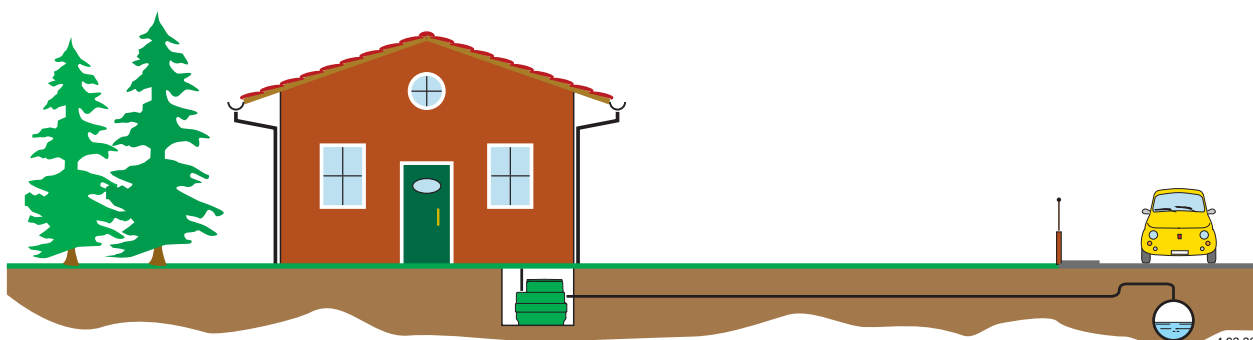
The distributed head loss in 70 m pipe with 720 l / min is 1.13 m (Table 3), then from the formula:

$$H_{mt} = H_g + \Delta p_c$$

It is obtained $H_{mt} = 6,13$ mca

he suitable pumps are no. 2 GMCM 50-65B and then it result a station type GEO 500-2GMCM 50-65B.

INSTALLATION EXAMPLE





Materials

Component	Material
Pump casing Impeller Stage casing	PPO-GF20 (Noryl)
Motor jacket Pump jacket	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Strainer Handle	Polypropylene
Shaft	Chrome-nickel steel 1.4305 EN 10088 (AISI 303)
Mechanical seal	Ceramic alumina/Carbon/NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

Construction

Multi-stage centrifugal submersible pumps in chrome-nickel stainless steel, with vertical delivery port.
Motor cooled by the pumped water passing between the motor jacket and the external jacket.
Double shaft seal with oil chamber.

Applications

- For clean water containing solids up to 2 mm grain size.
- For draining rooms or emptying tanks.
- Extraction of water from ponds, streams or pits and for rainwater collection.
- For irrigation purposes.

For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60 335-2-41.

Operating conditions

Liquid temperature up to 50° C.
Maximum immersion depth: 5 m.
Minimum water level with float 70 mm.
Minimum water level manual operation 15 mm.
Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ rpm).

MP: three-phase 230 V $\pm 10\%$;
three-phase 400 V $\pm 10\%$;

MPM: single-phase 230 V,
with float switch and thermal protector.
Incorporated capacitor.

Insulation class F.

Protection IP X8 (for continuous immersion)

Double impregnation humidity-proof dry winding.

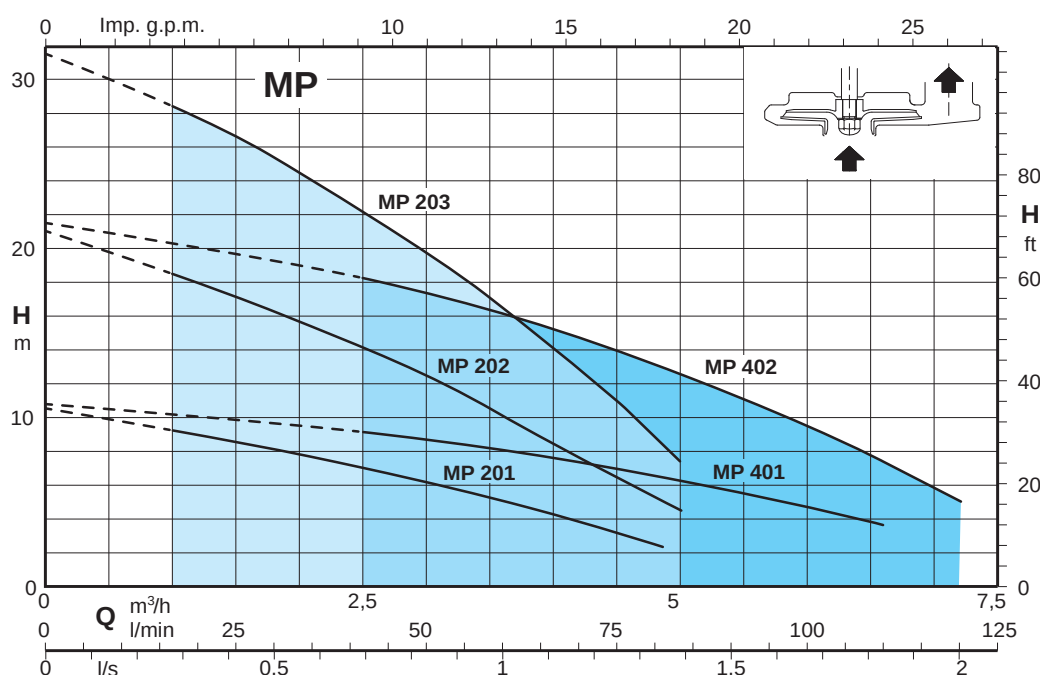
Constructed in accordance with: EN 60034-1;

EN 60335-1, EN 60335-2-41.

Other features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Other mechanical seal.
- Cable length 10 m.
- Vertical magnetic float switch.
- Motor suitable for operation with frequency converter.

Coverage chart $n \approx 2900$ rpm



Performance $n \approx 2900$ rpm

3~ 230V 400V			1~ 230V Capacitor P1					P2		Q $\frac{m^3}{h}$ $\frac{l}{min}$	0	1	1,5	2	2,5	3	3,5	4	4,5	5
A	A		A	μf	Vc	kW	kW	HP	0		16,6	25	33,3	41,6	50	58,3	66,6	7,5	83,3	
MP 201	1,6	0,9	MPM 201	1,6	8	450	0,35	0,25	0,33	H m	10,5	9,2	8,6	7,8	7,1	6,2	5,2	4,2	3,2	2
MP 202	1,7	1	MPM 202	2,3	12,5	450	0,45	0,37	0,5		21	18,5	17,2	15,7	14,2	12,5	10,5	8,5	6,5	4,5
MP 203	2,4	1,4	MPM 203	3	16	450	0,63	0,45	0,6		31,5	28,5	26,5	24,5	22,3	19,8	17	14	11	7,5

3~	230V 400V		1~	230V Capacitor			P1	P2		Q	m³/h	0	2,25	3	3,5	4	4,5	5	6	7,2	-
	A	A		A	µf	Vc		kW	kW		HP	l/min	0	37,5	50	58,3	66,6	75	83,3	100	120
MP 401	1,6	0,9	MPM 401	1,6	8	450	0,35	0,25	0,33	H	m	10,8	9,4	8,7	8,2	7,6	7	6,2	4,7	2,5	-
MP 402	2,4	1,4	MPM 402	3	16	450	0,63	0,45	0,6			21,5	18,7	17,4	16,5	15,2	14	12,5	9,5	5	

P₁ Max. power input.

P₂ Rated motor power output.

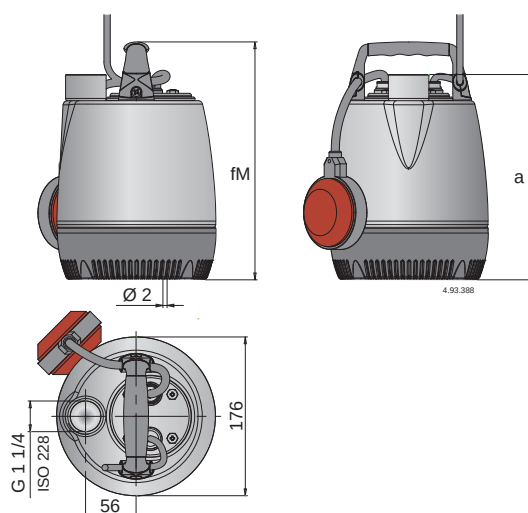
Density $\rho = 1000 \text{ kg/m}^3$.

Kinematic viscosity $\nu = \max 20 \text{ mm}^2/\text{sec}$.

Tolerances according to UNI EN ISO 9906:2012

Pump type	Power supply cable				Float switch	
	Cable material	Section	Length	Plug CEE 7(VII)	Cable material	Section
MPM 201,401	H05RN-F	3G0,75 mm ²	5 m	YES	H07RN-F	3G1 mm ²
MPM 202,203,402	H07RN-F	3G1 mm ²	5 m	YES	H07RN-F	3G1 mm ²
MP 201,401	H05RN-F	4G0,75 mm ²	5 m	NO	NO	-
MP 202,203,402	H07RN-F	4G1 mm ²	5 m	NO	NO	-

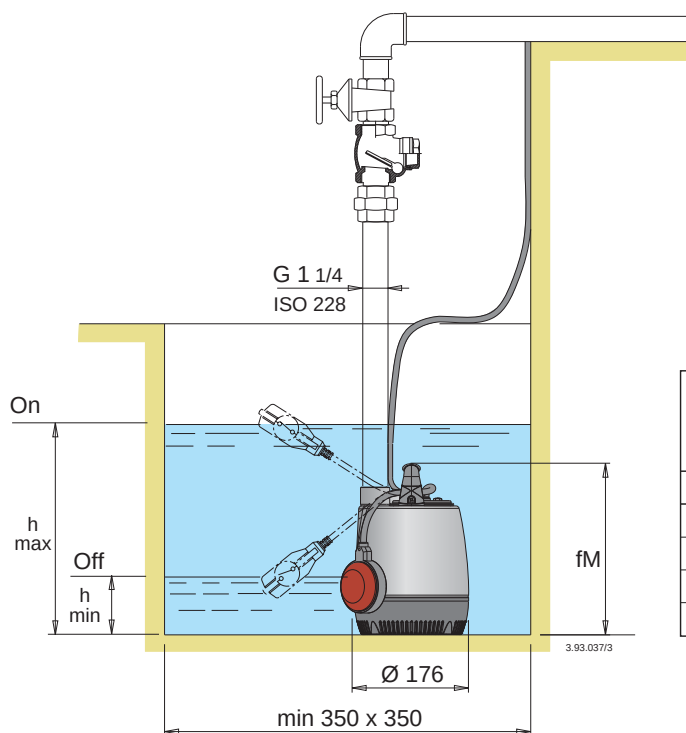
Dimensions and weights



TYPE	Dimensions mm		(1) kg	
	fM	a	MP	MPM
MP 201 - MPM 201	265	230	5	5,2
MP 202 - MPM 202	325	290	6,5	6,8
MP 203 - MPM 203	350	315	7	7,5
MP 401 - MPM 401	265	230	5	5,2
MP 402 - MPM 402	325	290	6,5	6,8

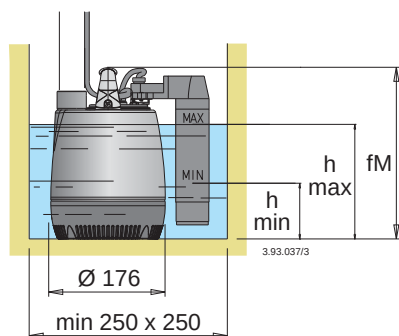
(1) With cable length: 5 m

Installation examples



TYPE	mm	
	h min	h max
MPM 201	70	340
MPM 202	130	400
MPM 203	155	425
MPM 401	70	340
MPM 402	130	400

Installation examples with vertical magnetic float switch



TYPE	mm	
	h min	h max
MPM 201 GF	100	190
MPM 202 GF	160	250
MPM 203 GF	185	275
MPM 401 GF	100	190
MPM 402 GF	160	250

Features

G 1 1/4 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

Handle in polypropylene.

Easy inspection of the capacitor area.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Shaft in chrome-nickel stainless steel.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

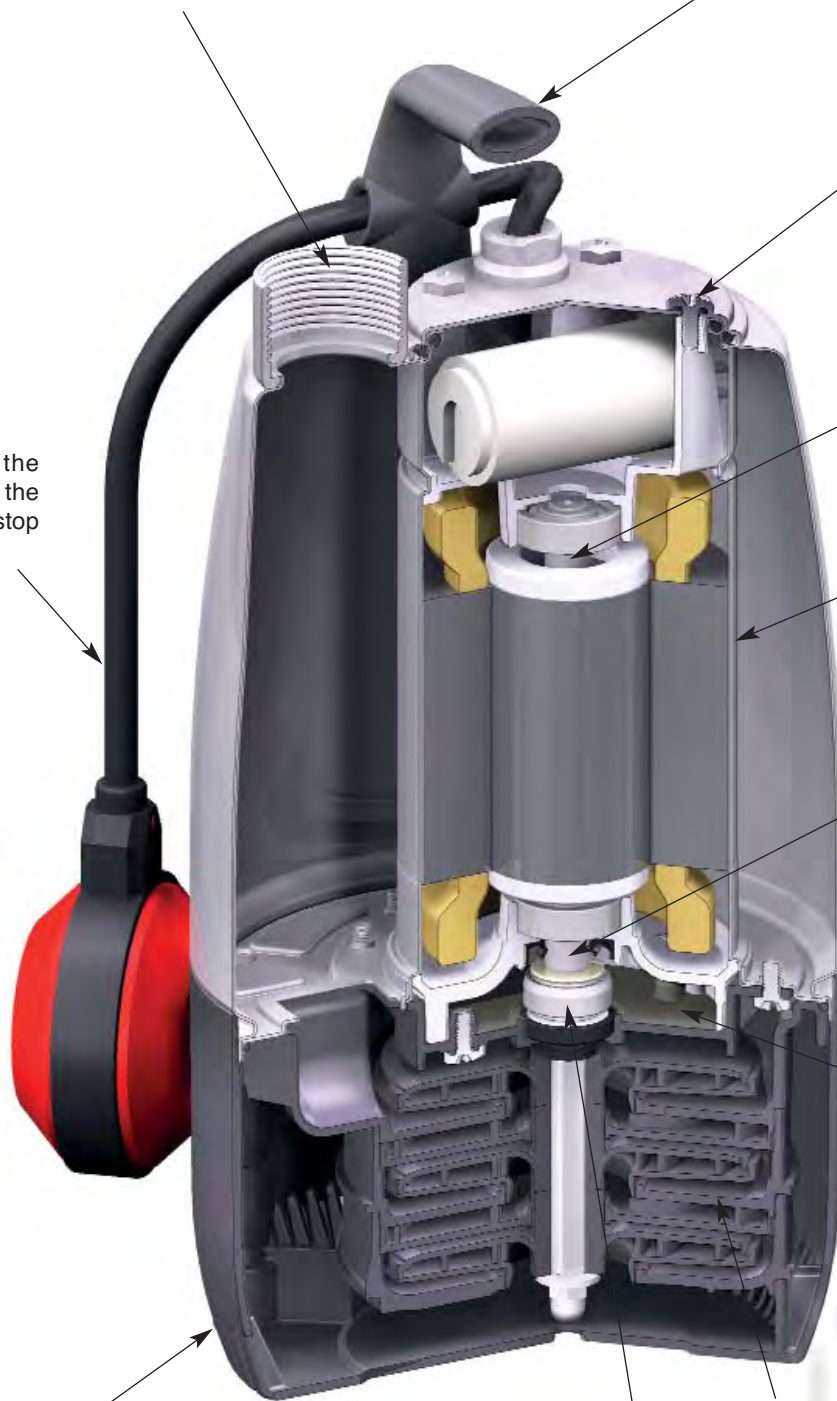
Ceramic stainless steel shaft sleeve.

Oil chamber.

Suction strainer that allows the passage of solids up to 2 mm.

Stage casing and Impeller in PPO-GF20 (Noryl)

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.



MPS

Multi-Stage Submersible Clean Water Pumps

calpeda®

PATENTED



Materials

Component	Material
Delivery casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
External jacket	
Suction strainer	
Motor jacket	
Stage casing	PPO-GF20 (Noryl)
Impeller	
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Capacitor cover	PPS Polymer (Grivory)
Oil chamber cover	
Preload ring stages	
Support ring preload	
Upper mechanical seal	Steatite, carbon, NBR
Lower mechanical seal	
Seal lubrication oil	Oil for food machinery and pharmaceutical use

Construction

Close coupled multi-stage submersible pumps.

External jacket in stainless steel AISI 304 and stages Noryl.

MPSM with built-in capacitor, accessible through the delivery casing.

Hydraulics located below the motor with the motor cooled by the pumped fluid. Safe operation is possible with the motor only partially submerged.

Double shaft seal with oil chamber.

The suction strainer prevents the entrance of solids with diameter bigger than 2 mm.

Applications

For water supply from wells, tanks or reservoirs.

For domestic, civil and industrial applications, for garden use, irrigation and rain water harvesting systems.

Operating conditions

Water temperature up to 35 °C.

Minimum internal diameter of well: 140 mm.

Minimum immersion depth: 100 mm.

Maximum immersion depth: 20 m (with suitable cable length).

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ 1/min).

MPS : three-phase 230 V $\pm 10\%$;

three-phase 400 V $\pm 10\%$.

Cable: H07RN8-F, length 15 m, without plug.

MPSM : single-phase 230 V $\pm 10\%$, with thermal protector.

Incorporated capacitor.

Float switch MPSM.. CG (on demand)

Cable: H07RN8-F, length 15 m, with plug CEI-UNEL 47166.

Insulation class F.

Protection IP 68 (for continuous immersion).

Double impregnation humidity-proof dry winding.

Constructed in accordance with EN 60335-2-41.

Special features on request

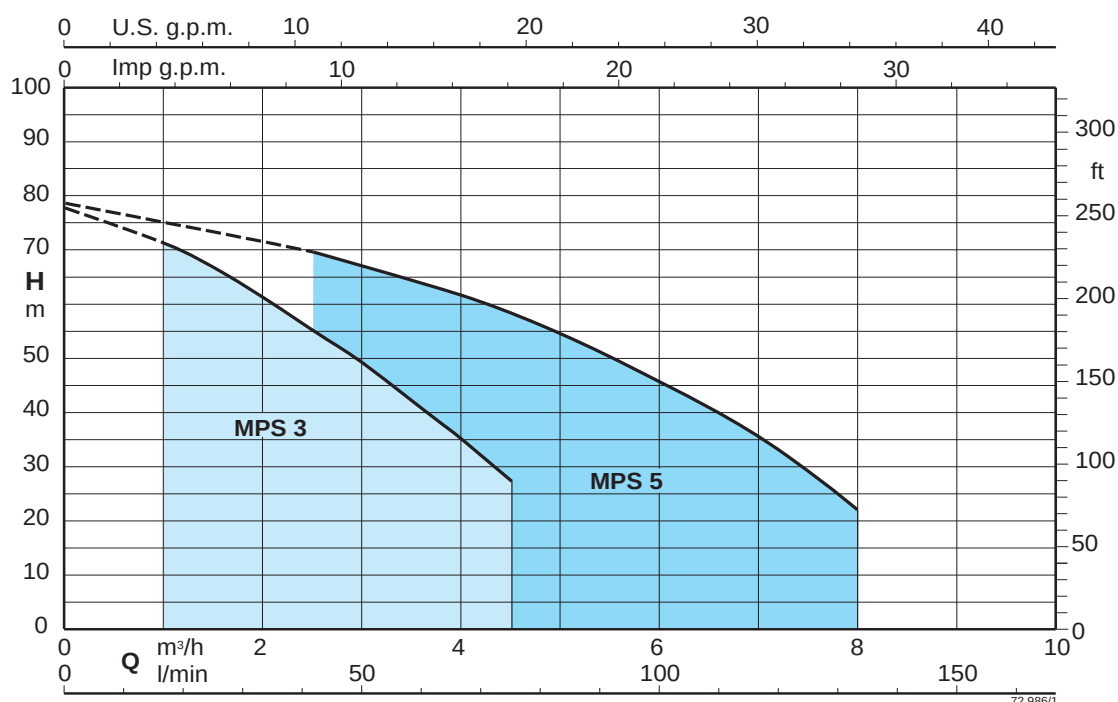
- Other voltages.

- Frequency 60 Hz (as per 60 Hz data sheet).

- Cable length 20 m.

- Motor suitable operation with frequency converter.

Coverage chart $n \approx 2900$ rpm



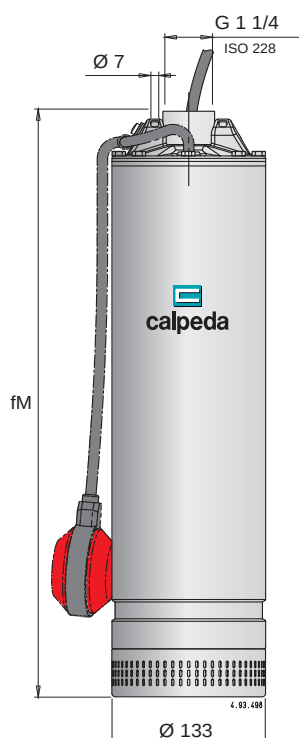
Performance $n \approx 2900$ rpm

3 ~	230 V 400 V		1 ~	230 V		Capacitor	P ₁	P ₂		Q	m ³ /h									
	A	A		A	μF	V	kW	kW	HP		0	1	1,5	2	2,5	3	3,5	4	4,5	
MPS 303	2,4	1,4	MPSM 303	3,5	14	450	0,8	0,45	0,6	H m	32,5	29,5	27,5	25,5	23	19,5	17	13	10	
MPS 304	2,8	1,6	MPSM 304	4,1	20	450	0,9	0,55	0,75		44	41,5	39,5	36,5	33,5	29,5	25,5	21	16	
MPS 305	3,3	1,9	MPSM 305	5	20	450	1,1	0,75	1		53	49,5	47	44	40	35	30	25	19	
MPS 306	3,8	2,2	MPSM 306	6	25	450	1,3	0,9	1,2		65	61	58	54	49	43	37	30,5	23	
MPS 307	4,5	2,6	MPSM 307	6,6	25	450	1,5	0,9	1,2		77,5	71	66,5	61	55	49	42	35	27	

3 ~	230 V 400 V		1 ~	230 V		Capacitor	P ₁	P ₂		Q	m ³ /h									
	A	A		A	μF	V	kW	kW	HP		0	2,5	3	3,5	4	4,5	5	6	7	8
MPS 503	2,8	1,6	MPSM 503	4,1	20	450	0,9	0,55	0,75	H m	32,2	28,5	27,5	26	24,5	22,5	21,5	18	13,5	8
MPS 504	3,8	2,2	MPSM 504	6	25	450	1,2	0,9	1,2		43	39	38	36,5	34,5	33	30,5	25,5	19,5	13
MPS 505	4,5	2,6	MPSM 505	7	25	450	1,5	1,1	1,5		53	47,5	45,5	43,5	41	38,5	35,5	29,5	22	13,5
MPS 506	4,8	2,8	MPSM 506	8,3	30	450	1,7	1,1	1,5		66,5	58	55,6	53,5	51	48	45	36,5	27,5	16
MPS 507	6,8	3,9	MPSM 507	12	35	450	2,2	1,5	2		78,5	69,5	66,5	64	61,5	58	54,5	45,5	36	22

P₁ Max. power input. P₂ Rated motor power output. Tolerances according to UNI EN ISO 9906:2012 Test results with clean cold water, without gas content.

Dimensions and weights

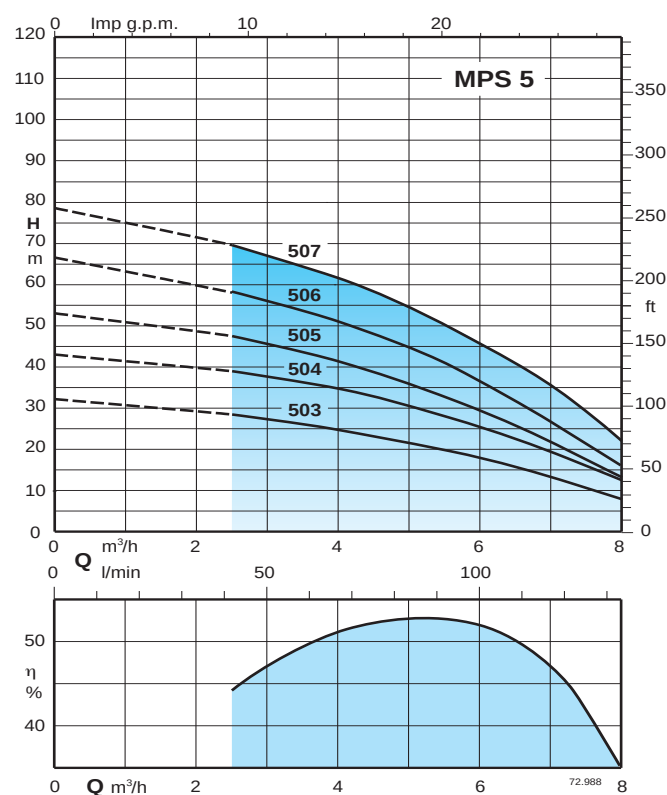
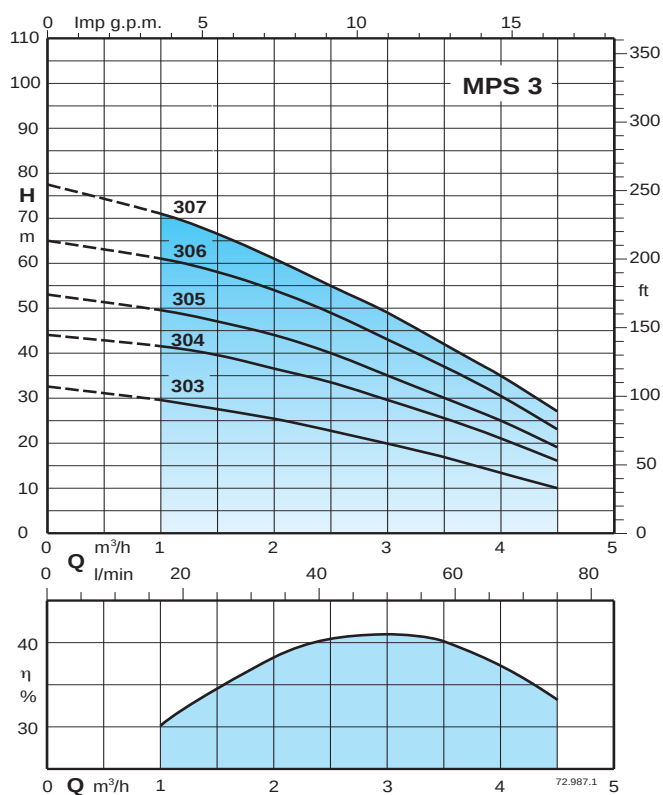


MPSM ... CG
With float switch pump
(on demand)

Weights with cable length: 15 m

Pump	fM mm	kg		Cable H07RN8-F		
		MPS	MPSM	230V 1 ~	230V 3 ~	400V 3 ~
MPS 303 - MPSM 303	465	11	12	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 304 - MPSM 304	504	11,5	12,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 305 - MPSM 305	553	12	13	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 306 - MPSM 306	577	13,5	15	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 307 - MPSM 307	601	14	15,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 503 - MPSM 503	480	11,5	12,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 504 - MPSM 504	529	13,5	14,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 505 - MPSM 505	553	14	15	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 506 - MPSM 506	622	15,5	17	3G1,5 mm ²	4G1 mm ²	4G1 mm ²
MPS 507 - MPSM 507	671	17	18,5	3G2,5 mm ²	4G1 mm ²	4G1 mm ²

Characteristic curves $n \approx 2900$ rpm



Features

Innovative

Designed to withstand water hammering and the ON-OFF operation of any valve located in the discharge line.

The impacts generated by water hammering or by the closing of the valve are fully supported by the capacitor cover, which relieves the stresses on a specific support made on the stainless steel jacket, without affecting the plastic hydraulic part.

Flexible

Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

Reliable

The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

Low cost installation

Immersed, without suction pipe and valves. The cylindrical suction strainer provides support for the pump when installed on a flat surface or tank bottom. For operation with 100 mm minimum water level.

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Robust

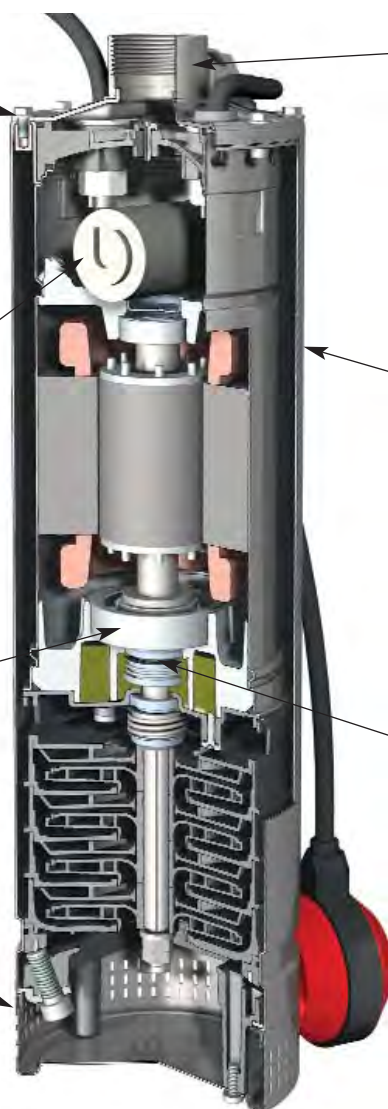
Its robust stainless steel external construction allows for the pump to be suspended from the delivery pipe.

Low-Noise operation

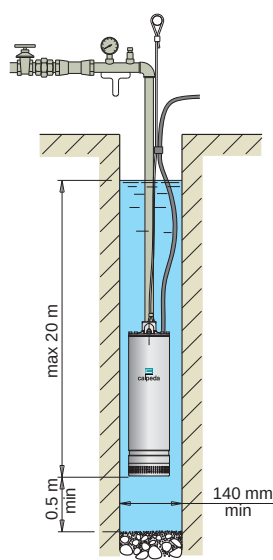
The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

Greater Safety

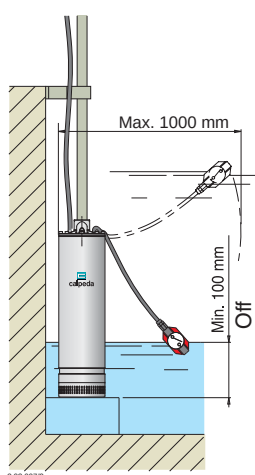
The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.



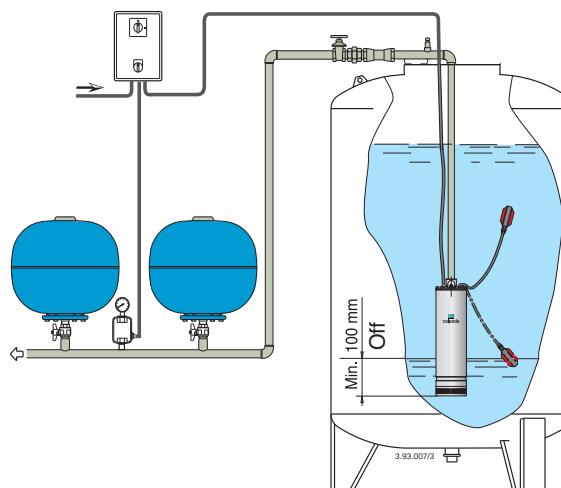
Installation



Pump in suspended position



Pump with float switch (on demand)



Installation example

MXS

Multi-Stage Submersible Clean Water Pumps in stainless steel

calpeda®

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Materials

Component	Material
Delivery casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
External jacket	
Suction strainer	
Stage casing	
Spacer sleeve	
Impeller	
Motor jacket	
Jacket cover	
Oil chamber cover	
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Upper mechanical seal	Steatite, carbon, NBR
Lower mechanical seal	Ceramic alumina, silicon carbide, NBR
Seal lubrication oil	Oil for food machinery and pharmaceutic use

Construction

Close coupled multi-stage submersible pumps.

All parts in contact with the fluid both internal and external are in chrome-nickel stainless steel.

MXSM with built-in capacitor, accessible through the delivery casing. Hydraulics located below the motor with the motor cooled by the pumped fluid. Safe operation is possible with the motor only partially submerged.

Double shaft seal with oil chamber.

The suction strainer prevents the entrance of solids with diameter bigger than 2 mm.

Applications

For water supply from wells, tanks or reservoirs.

For domestic, civil and industrial applications, for garden use, irrigation and rain water harvesting systems.

Operating conditions

Water temperature up to 35 °C.

Minimum internal diameter of well: 140 mm.

Minimum immersion depth: 100 mm.

Maximum immersion depth: 20 m (with suitable cable length).

Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ 1/min).

MXS : three-phase 230 V $\pm 10\%$;

three-phase 400 V $\pm 10\%$.

Cable: H07RN8-F, length 15 m, without plug.

MXSM: single-phase 230 V $\pm 10\%$, with thermal protector.

Incorporated capacitor.

Float switch MXSM.. CG up to 10A (on demand)

Cable: H07RN8-F, length 15 m, with plug CEI-UNEL 47166.

Insulation class F.

Protection IP 68 (for continuous immersion).

Double impregnation humidity-proof dry winding.

Constructed in accordance with EN 60335-2-41.

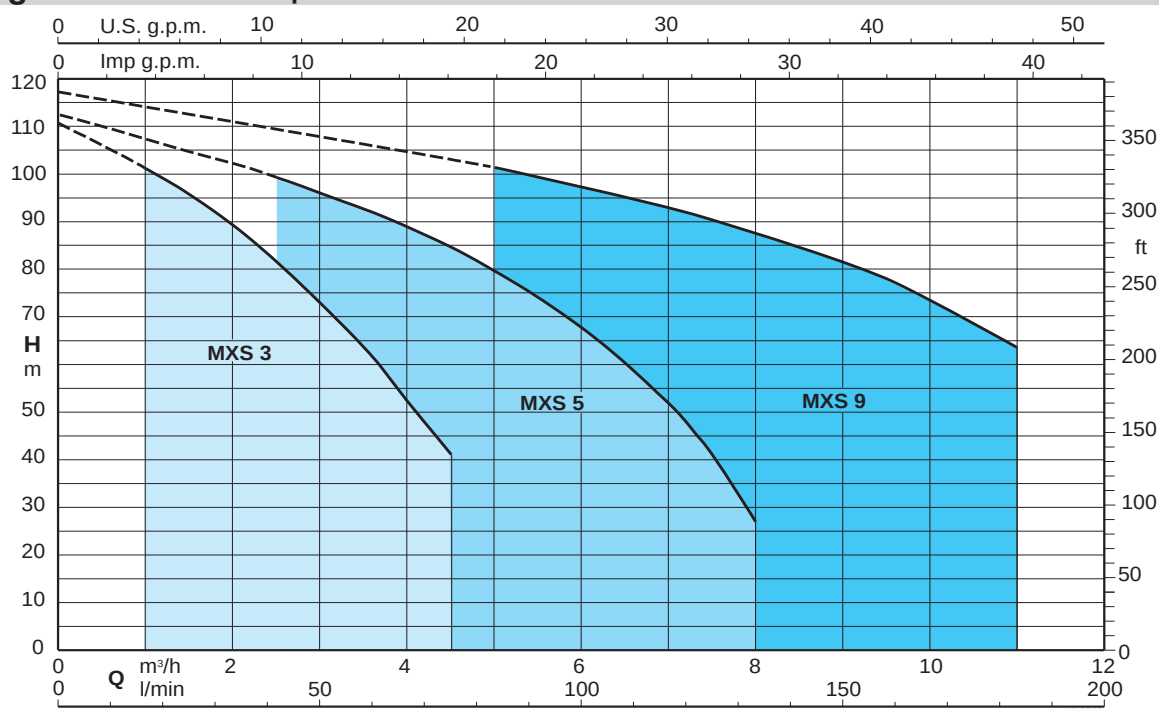
Special features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).

- Cable length 20 m.

- Motor suitable operation with frequency converter.

Coverage chart $n \approx 2900$ rpm





Multi-Stage Submersible Clean Water Pumps in stainless steel



Performance $n \approx 2900$ rpm

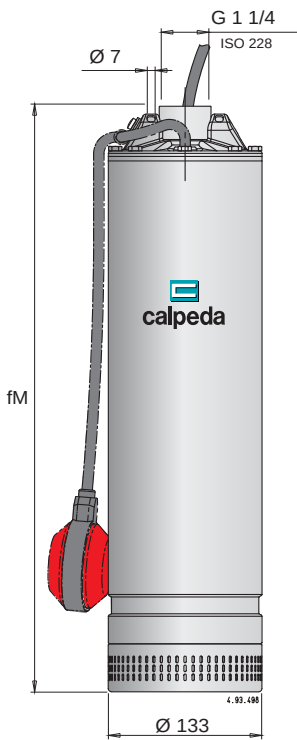
3 ~	230 V		400 V	1 ~	230 V		Capacitor		P1		P2		Q	m³/h									
	A	A			A	A	μF	V	kW	kW	HP	HP		0	1	1,5	2	2,5	3	3,5	4	4,5	
MXS 303	2,4	1,4		MXSM 303	3,5		14	450	0,8	0,45	0,6		H m	0	16,6	25	33,3	41,6	50	58,3	66,6	75	
MXS 304	2,8	1,6		MXSM 304	4,1		20	450	0,9	0,55	0,75			32,5	29,5	27,5	25,5	23	19,5	17	13	10	
MXS 305	3,3	1,9		MXSM 305	5		20	450	1,1	0,75	1			44	41,5	39,5	36,5	33,5	29,5	25,5	21	16	
MXS 306	3,8	2,2		MXSM 306	6		25	450	1,3	0,9	1,2			53	49,5	47	44	40	35	30	25	19	
MXS 307	4,5	2,6		MXSM 307	6,6		25	450	1,5	0,9	1,2			65	61	58	54	49	43	37	30,5	23	
MXS 308	4,8	2,8		MXSM 308	8,3		30	450	1,7	1,1	1,5			77,5	71	66,5	61	55	49	42	35	27	
MXS 309	6,6	3,8		MXSM 309	9		30	450	1,9	1,5	2			88,5	81,5	76	70,5	64	56,5	49,5	41	32	
MXS 310	7,5	4,3		MXSM 310	12		35	450	2,2	1,5	2			100	91	85	78,5	70,5	62,5	54,4	45	35	
														111	101,5	95	88,5	80	71	62	52,5	41,5	

3 ~	230 V		400 V	1 ~	230 V		Capacitor		P1		P2		Q	m³/h									
	A	A			A	A	μF	V	kW	kW	HP	HP		0	2,5	3	3,5	4	4,5	5	6	7	8
MXS 503	2,8	1,6		MXSM 503	4,1		20	450	0,9	0,55	0,75		H m	0	41,6	50	58,3	66,6	75	83,3	100	116	133
MXS 504	3,8	2,2		MXSM 504	6		25	450	1,2	0,9	1,2			32,2	28,5	27,5	26	24,5	22,5	21,5	18	13,5	8
MXS 505	4,5	2,6		MXSM 505	7		25	450	1,5	1,1	1,5			43	39	38	36,5	34,5	33	30,5	25,5	19,5	13
MXS 506	4,8	2,8		MXSM 506	8,3		30	450	1,7	1,1	1,5			53	47,5	45,5	43,5	41	38,5	35,5	29,5	22	13,5
MXS 507	6,8	3,9		MXSM 507	12		35	450	2,2	1,5	2			66,5	58	55,5	53,5	51	48	45	36,5	27,5	16
MXS 508	7,5	4,3		MXSM 508	13		35	450	2,4	1,5	2			78,5	69,5	66,5	64	61,5	58	54,5	45,5	36	22
MXS 509	9,7	5,6		MXSM 509	14,3		40	450	2,9	2,2	3			88,5	78	75	72	68	64	60	50	38	25
MXS 510	9,7	5,6												101	91	87,5	84	80,5	75,5	71	60	46,5	28,5
														111	100	96,5	93	89	84,5	80	66,5	52	31

3 ~	230 V		400 V	1 ~	230 V		Capacitor		P1		P2		Q	m³/h l/min	0	5	6	7	8	9	10	11	
	A	A			A	μF	V	kW	kW	HP	0	83,3			100	116	133	150	166,6	183,3			
MXS 903	4,5	2,6		MXSM 903	7	25	450	1,5	1,1	1,5	H m	34	28,2	26,8	25,2	23,3	21,2	18,5	15,5				
MXS 904	6,6	3,8		MXSM 904	9	30	450	1,9	1,5	2		45,5	39	37	35	32,5	30	26,5	22,5				
MXS 905	7,5	4,3		MXSM 905	13	35	450	2,4	2,2	3		58	49	46,5	45	42,5	38,5	34	30				
MXS 906	9,7	5,6		MXSM 906	14,3	40	450	2,9	2,2	3		70	59,5	56,5	54	50,5	46,5	42	37				
MXS 907	11,4	6,6							3	4		81	71	68,5	66	62	58	53	47				
MXS 908	14,7	8,5							3	4		93	81	78	75	71	66	60,5	53				
MXS 909	14,7	8,5							3	4		105	92	88	84	79	73,5	67,5	57,5				
MXS 910	14,7	8,5							3	4		117	101,2	96,5	93	87,5	81,5	73,5	63,5				

P1 Max. power input. P2 Rated motor power output. Tolerances according to UNI EN ISO 9906:2012 Test results with clean cold water, without gas content.

Dimensions and weights



MXSM ... CG
With float switch pump
(on demand)

Weights with cable length: 15 m

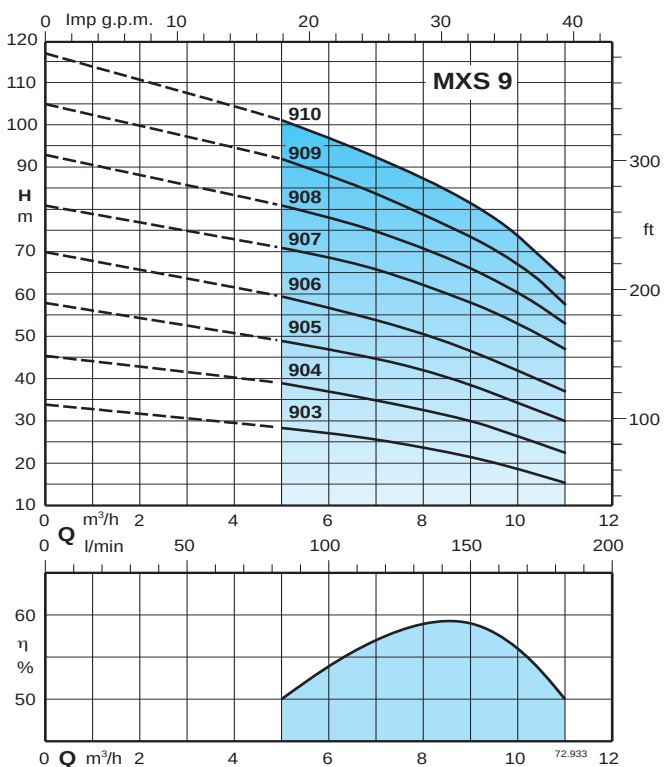
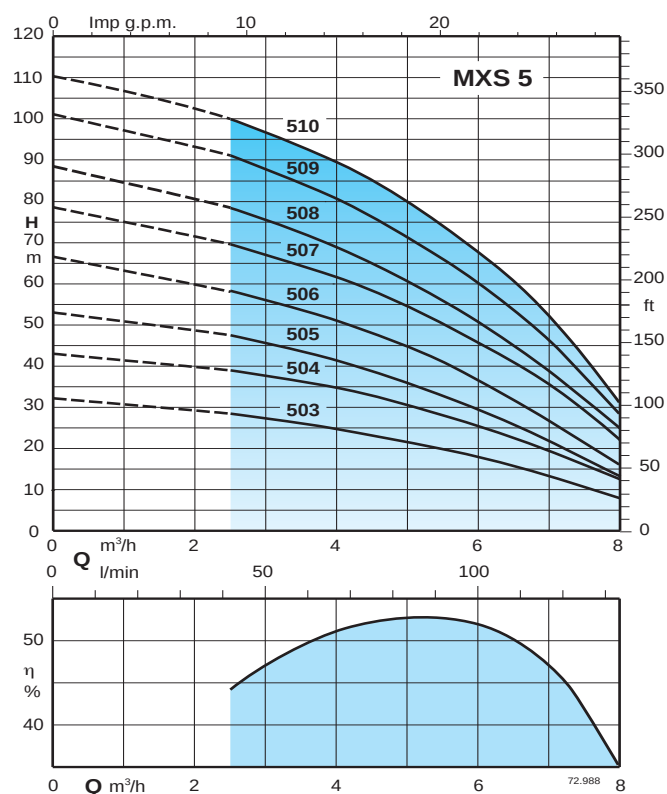
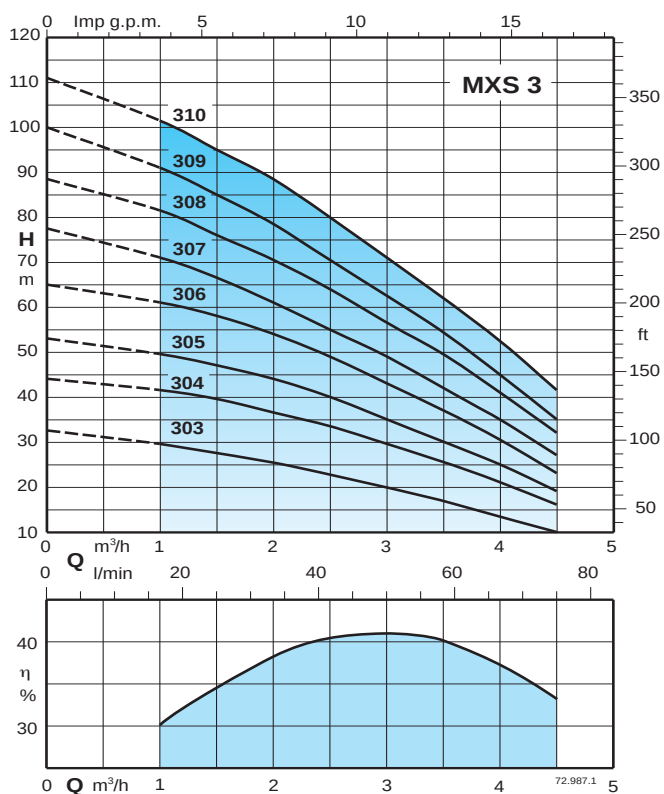
Pump	fM mm	kg		Cavo H07RN8-F		
		MXS	MXSM	230V 1 ~	230V 3 ~	400V 3 ~
MXS 303 - MXSM 303	465	12,5	13,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 304 - MXSM 304	504	14,5	15,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 305 - MXSM 305	553	15	16,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 306 - MXSM 306	577	15,5	17	3G1 mm²	4G1 mm²	4G1 mm²
MXS 307 - MXSM 307	601	16	17,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 308 - MXSM 308	671	18,5	19,5	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 309 - MXSM 309	695	20,6	21,6	3G1,5 mm²	4G1,5 mm²	4G1 mm²
MXS 310 - MXSM 310	744	23	25,1	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 503 - MXSM 503	480	14,5	15,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 504 - MXSM 504	529	15	16	3G1 mm²	4G1 mm²	4G1 mm²
MXS 505 - MXSM 505	553	16,1	17,6	3G1 mm²	4G1 mm²	4G1 mm²
MXS 506 - MXSM 506	622	17,5	19	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 507 - MXSM 507	671	20	21,5	3G2,5 mm²	4G1 mm²	4G1 mm²
MXS 508 - MXSM 508	695	20,5	22	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 509 - MXSM 509	744	23	24,5	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 510	768	27			4G1,5 mm²	4G1 mm²
MXS 903 - MXSM 903	523	16,1	17,6	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 904 - MXSM 904	573	18,2	19,7	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 905 - MXSM 905	653	19	22	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 906 - MXSM 906	708	23	26	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 907	738	26,3			4G2,5 mm²	4G1 mm²
MXS 908	793	27			4G2,5 mm²	4G1 mm²
MXS 909	823	28,1			4G2,5 mm²	4G1,5 mm²
MXS 910	853	29,5			4G2,5 mm²	4G1,5 mm²

MXS

Multi-Stage Submersible Clean Water Pumps
in stainless steel

calpeda[®]

Characteristic curves $n \approx 2900$ rpm



Features

Flexible

Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

Reliable

The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

Totally in stainless steel

All parts in contact with the pumped liquid both internal and external are in stainless steel AISI 304, without plastic materials and components.

Low cost installation

Immersed, without suction pipe and valves. The cylindrical suction strainer provides support for the pump when installed on a flat surface or tank bottom. For operation with 100 mm minimum water level.

PATENTED

Robust

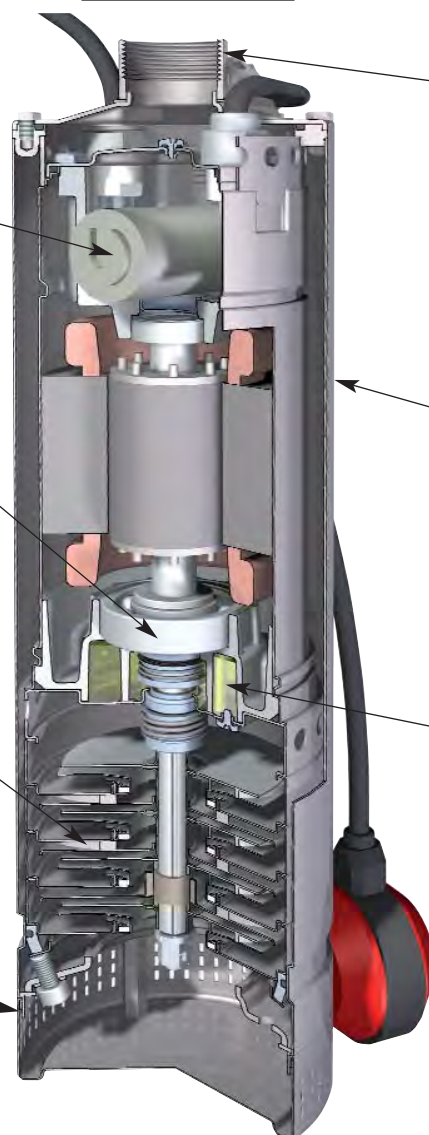
Its robust stainless steel construction allows for the pump to be suspended from the delivery pipe.

Low-Noise operation

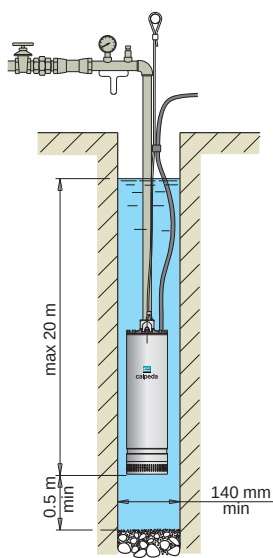
The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

Greater Safety

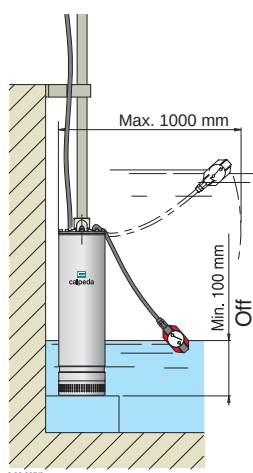
The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.



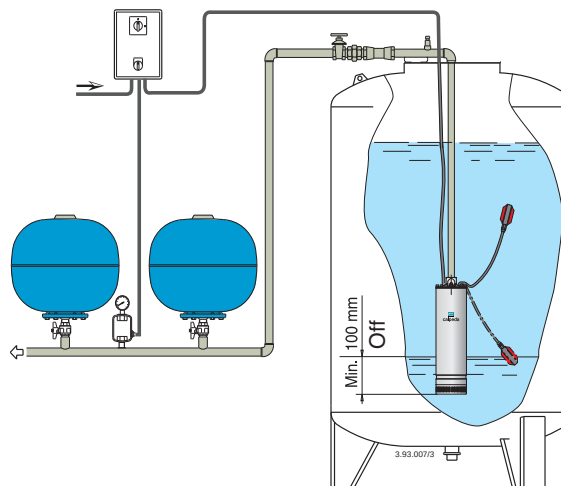
Installation



Pump in suspended position



Pump with float switch (on demand)



Installation example

SFM 70

Peripheral submersible borehole pumps for 4" wells



Construction

Submersible borehole pumps for 4" deep wells (DN 100 mm), with turbine impeller.

The special plastic and stainless steel hydraulic materials prevent the impeller from locking even after long stationary periods.

Thanks to special construction features, both installation and maintenance of SFM 70 are fast and easy.

Delivery port G 1.

Applications

For 4" wells.

Pumping clean water into: detached houses, farms and cottages.

Moving water in fountains.

Rain irrigation.

Feeding pressure systems.

Filling and emptying tanks.

Operating conditions

Water temperature up to 35 °C.

Max. sand quantity into the water: 20 g/m³.

Continuous duty.

Motor

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

SFM 70: single-phase 230 V, with thermal protector.

Incorporated capacitor.

Cable suitable for use with drinking water 3x1,5 + 1G1,5mm².

Cable length 20 m.

Insulation class F.

Protection IP X8 (for continuous immersion)

Dielectric fluid-cooled motor with compensating diaphragm.

Constructed in accordance with: EN 60335-2-41.

Materials

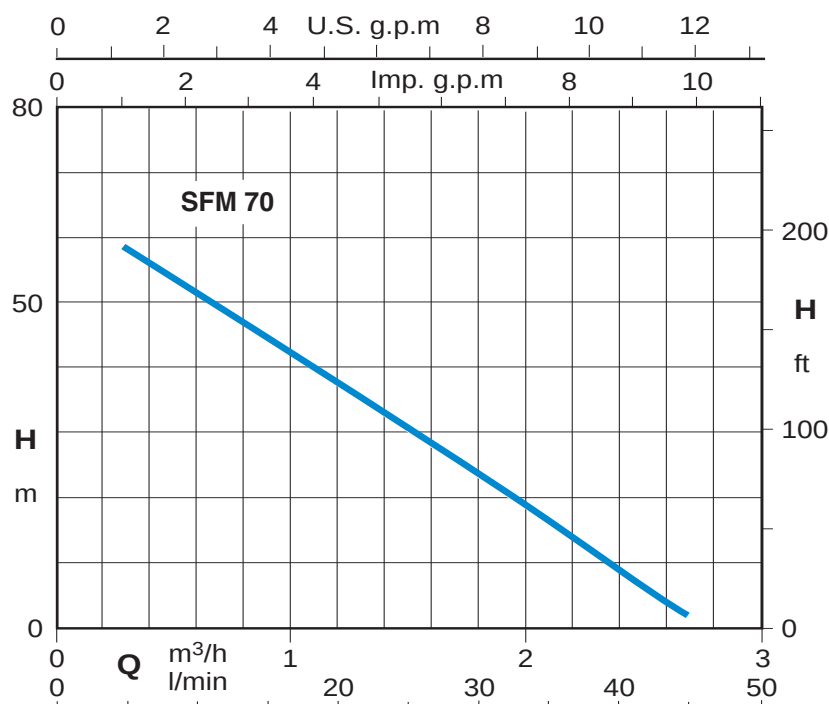
Components	Materials
Delivery casing	Nylon PA66 +30% GF (brass thread inserts)
Upper plate	Ryton R4 with a shim ring in chrome-nickel steel 1.4301
Lower plate	EN 10088 (AISI 304) integrated
Impellers	Brass P-Cu Zn 40 Pb 2 UNI 5705
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Shell, filter, locking plugs	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Screws steel	A2

Special features on request

- Other voltages.

- Frequency 60 Hz (as per 60 Hz data sheet).

Characteristic curve n ≈ 2900 rpm



SFM 70

Peripheral submersible borehole pumps for 4" wells



Coverage chart $n \approx 2900$ rpm

1~	230V	P ₁	P ₂		Q	0	0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4	2,7
	A	kW	kW	HP		l/min	0	5	10	15	20	30	35	40	45
SFM 70	5,9	1,4	0,75	1	H	65	58	52	44	37,8	30,1	22	14,7	7,6	1,2

P₁ Max. power input.

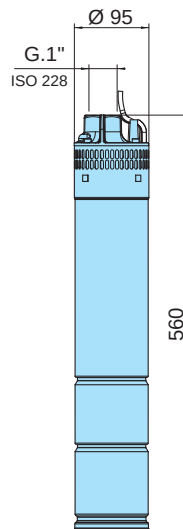
P₂ Rated motor power output

Tolerances according to UNI EN ISO 9906:2012

The performance curves are based on the kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³.

Dimensions and weights

Weight kg. 11,3



Features

Optimized hydraulics

The pump hydraulics are designed to ensure high performance and consistency of performance.

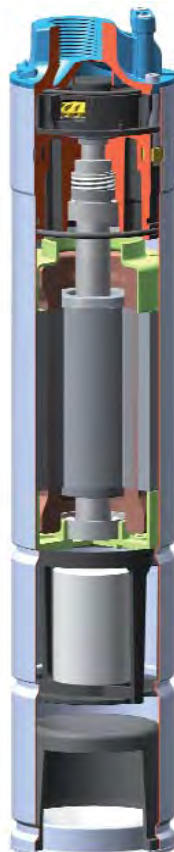
Reliability

The oil bath motor allows a better lubrication by increasing the lifetime of all the moving parts and the copper wires.

Rubustness

The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistance to mechanical stress.

Thanks to special construction features, both installation and maintenance of SFM 70 are fast and easy.





The electropumps 4SD, 4SDF, 6SDN series comply with the European Regulation no. 547/2012, (6SD 18,19,20 series cannot be sold in the EU).

Materials

Pump	Components	Part Nr.	4SD, 4SDF	6SD, 6SDN
	External jacket	14.02	Cr-Ni steel	AISI 304
	Stage casing (4SDF)	25.02	Cr-Ni steel	AISI 304
	Stage casing (4,6SD)	25.02	Polycarbonate (Lexan 141 R)	-
	Diffuser	26.00		
	Impeller	28.00	GFN2V* (NORYL®)* for 4SDF	GFN2V* (NORYL®)
	Wear ring		Cr-Ni steel	AISI 304
	Shaft	64.00	Cr steel	AISI 430 F
	Delivery casing	12.01	Cr-Ni steel	Bronze
	Suction lantern	32.02	AISI 304	G-Cu Sn 10 EN 1982
Motor	Bearing bush	12.03-12.30	Thermoplastic	Rubber
	Strainer	15.50	Cr-Ni steel	AISI 430
	Screws		Cr-Ni steel	AISI 304

* Trademark of General Electric

Motor	Components	4CS	6CS-R
	External frame	Cr-Ni steel	AISI 304
	Shaft	Cr-Ni-Mo steel AISI 316 (shaft end)	Cr steel AISI 431
	Thrust bearing	Oil wetted ball type	Oscillation pads
Motor	Bearing bush	Oil wetted ball type	Graphite

Construction

Submersible borehole pumps for 4" wells (DN 100 mm), and 6" (DN 150 mm), with external jacket in stainless steel AISI 304 and stages in polycarbonate for 4SD pumps and in noryl for 4SDF, 6SD, 6SDN pumps.

Impellers

radial floating impellers	4SDF 16, 22, 36, 46, 54
radial impellers	4SD 31, - 6SDN 12, 16, 21
mixed flow impellers	4SD 10, 15 - 6SD 18, 19, 20

Connection: screwed connection ISO 228.

Delivery casing with built-in non-return valve.

Applications

For water supply.

For civil and industrial applications.

For fire fighting applications.

For irrigation.

Operating conditions

Liquid temperature: - up to a 35 °C for 4" motors

- up to a 25 °C for 6-8-10" motors.

Max. sand quantity into the water: 150 g/m³ (300 g/m³ high percentage of solids and sand).

Continuous duty.

Rewindable motor CS series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

Sized for connection to the pumps according to NEMA Standards.

Standard voltages:

- single-phase 230 V up to 2,2 kW for 4" motors.

- three-phase 230 V; 400 V, for 4" motors.

- three-phase 400 V; 400/690 V, for 6" motors.

Voltage tolerance : +6% / -10%.

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5 kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.

Operating conditions motor

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS	35 °C	0,08 m/s	20	all types
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW

Insulation class F for 4" motors, class E for 6" motors.

Motor suitable operation with frequency converter .

Protection IP 68.

Special features on request

- Other voltages.

- 60 Hz frequency.

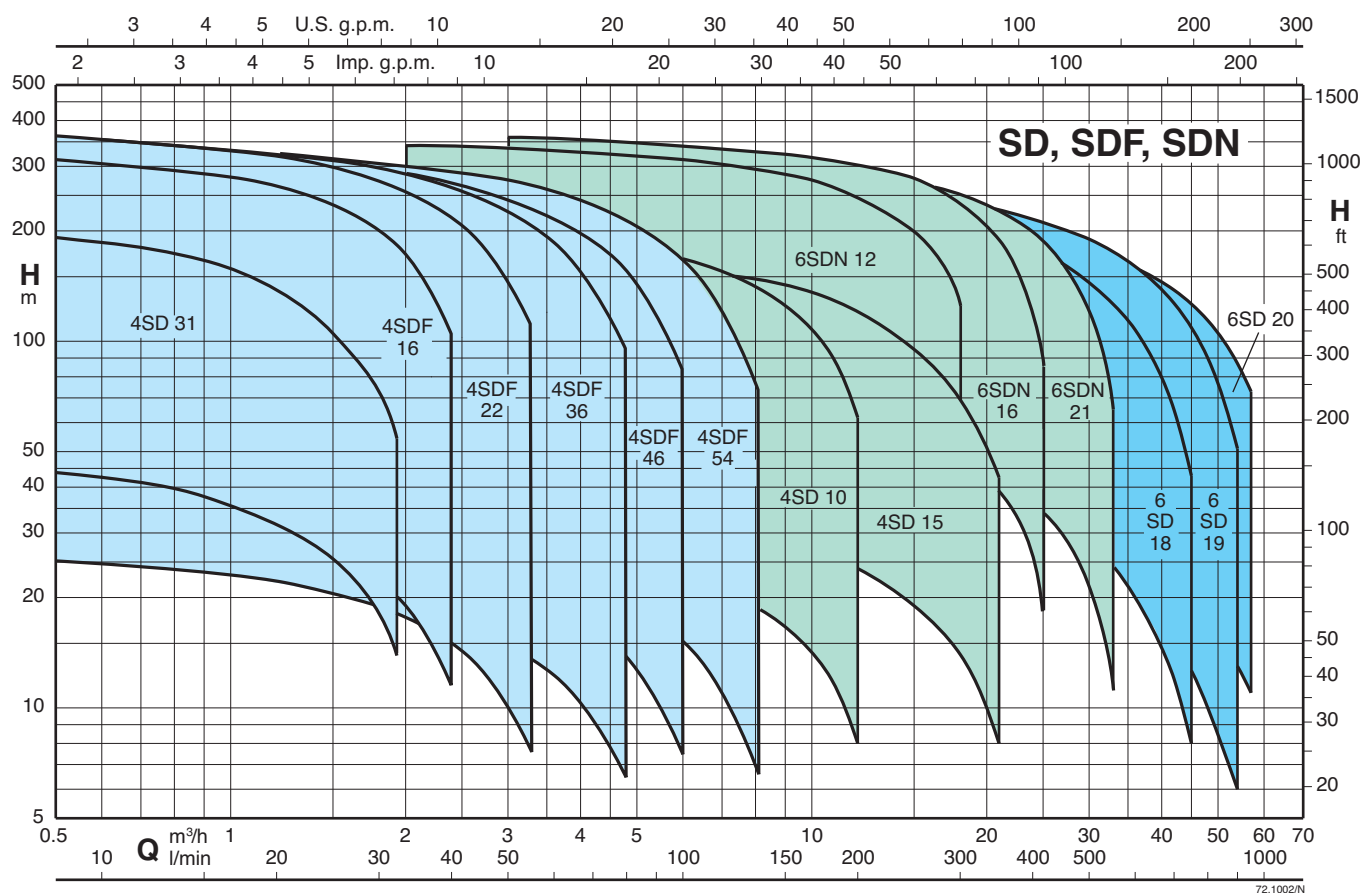
- Other temperatures.

- Encapsulated motor **FK series** (for characteristic see pag. 382).

Designation

Ø of the well in inches 4 SD M 31 / 26
 Series _____
 Single-phase motor (up to max. 2,2 kW) _____
 Stage identification _____
 Number of stages _____

Coverage chart $n \approx 2900$ rpm



4SD, 4SDF

Submersible borehole pumps for 4"



Performance n ≈ 2900 rpm

3~	400 V (380-415) 50 Hz	1~	* 230V Capacitor P1				P2		Q m³/h l/min	n ≈ 2900 1/min																
			A	450 Vc µF	kW	kW	HP	0,15		0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4	2,7	3	3,3	3,6	4,2	4,8	5,4	6	
								2,5		5	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100	
4SD 31/11EC	1,2	4SDM 31/11EC	3,2	16	0,62	0,37	0,5	H m	45,6	43,8	39,3	33,8	28	20,9	14											
4SD 31/17EC	1,2	4SDM 31/17EC	3,2	16	0,7	0,37	0,5		67,7	64,5	57,3	49,4	40,9	31	20,2											
4SD 31/26EC	1,5	4SDM 31/26EC	4	25	0,89	0,55	0,75		104	98,9	87,9	75,2	61,2	45,7	28,1											
4SD 31/35EC	2	4SDM 31/35EC	5,6	35	1,22	0,75	1		131	124	109	92,6	73,8	53,1	30,8											
4SD 31/54EC	2,9	4SDM 31/54EC	8,4	40	1,82	1,1	1,5		203	193	170	144	116	86	52,9											
4SDF 16/6EC	1,2	4SDFM 16/6EC	3,2	16	0,62	0,37	0,5			35,1	33,6	31,5	28,6	25,1	21	16,3	11,1									
4SDF 16/9EC	1,2	4SDFM 16/9EC	3,2	16	0,7	0,37	0,5			52,7	50,4	47,2	42,9	37,6	31,4	24,4	16,6									
4SDF 16/14EC	1,5	4SDFM 16/14EC	4	25	0,89	0,55	0,75			82	78,5	73,4	66,8	58,5	48,9	38	25,8									
4SDF 16/19EC	2	4SDFM 16/19EC	5,6	35	1,22	0,75	1			111	106	100	90,6	79,5	66,4	51,5	35,1									
4SDF 16/27EC	2,9	4SDFM 16/27EC	8,4	40	1,82	1,1	1,5			158	151	142	129	113	94,3	73,2	49,8									
4SDF 16/37EC	4,2	4SDFM 16/37EC	11,2	60	2,33	1,5	2			217	207	194	176	155	129	100	68,3									
4SDF 16/55EC	5,5	4SDFM 16/55EC	14,7	70	3,27	2,2	3			322	308	288	262	230	192	149	102									
4SDF 22/4EC	1,2	4SDFM 22/4EC	3,2	16	0,62	0,37	0,5			25,8	25,2	24,3	23,1	21,6	19,8	17,8	15,5	13	10,3	7,4						
4SDF 22/7EC	1,2	4SDFM 22/7EC	3,2	16	0,7	0,37	0,5			45,1	44	42,5	40,4	37,8	34,7	31,2	27,1	22,8	18	13						
4SDF 22/10EC	1,5	4SDFM 22/10EC	4	25	0,89	0,55	0,75			64,4	62,9	60,7	57,7	54	49,6	44,5	38,8	32,5	25,8	18,5						
4SDF 22/14EC	2	4SDFM 22/14EC	5,6	35	1,22	0,75	1			90,2	88,1	84,9	80,8	75,6	69,5	62,3	54,3	45,5	36,1	25,9						
4SDF 22/21EC	2,9	4SDFM 22/21EC	8,4	40	1,82	1,1	1,5			135	132	127	121	113	104	93,5	81,4	68,3	54,1	38,9						
4SDF 22/28EC	4,2	4SDFM 22/28EC	11,2	60	2,33	1,5	2			180	176	170	162	151	139	125	109	91,1	72,2	51,9						
4SDF 22/42EC	5,5	4SDFM 22/42EC	14,7	70	3,27	2,2	3			271	264	255	242	227	208	187	163	137	108	77,8						
4SDF 22/57EC	7,4					3	4			367	359	346	329	308	283	254	221	185	147	106						
4SDF 36/4EC	1,2	4SDFM 36/4EC	3,2	16	0,62	0,37	0,5					22,8	22,3	21,8	21,3	20,5	19,7	18,8	17,9	16,8	15,6	14,1	10,7	6,6		
4SDF 36/6EC	1,2	4SDFM 36/6EC	3,2	16	0,7	0,37	0,5					34,2	33,5	32,7	31,9	30,7	29,6	28,3	26,9	25,2	23,4	21,2	16	9,9		
4SDF 36/8EC	1,5	4SDFM 36/8EC	4	25	0,89	0,55	0,75					45,6	44,7	43,6	42,5	40,9	39,4	37,7	35,9	33,6	31,2	28,2	21,3	13,2		
4SDF 36/11EC	2	4SDFM 36/11EC	5,6	35	1,22	0,75	1					62,7	61,4	59,9	58,4	56,3	54,2	51,8	49,3	46,2	42,9	38,8	29,4	18,1		
4SDF 36/17EC	2,9	4SDFM 36/17EC	8,4	40	1,82	1,1	1,5					96,9	95	92,6	90,3	87	83,8	80,1	76,2	71,4	66,2	60	45,4	28		
4SDF 36/23EC	4,2	4SDFM 36/23EC	11,2	60	2,33	1,5	2					131	128	125	122	118	113	108	103	96,6	89,6	81,2	61,4	37,8		
4SDF 36/29EC	5,5	4SDFM 36/29EC	14,7	70	3,27	2,2	3					165	162	158	154	148	143	137	130	122	113	102	77,4	47,7		
4SDF 36/34EC	5,5	4SDFM 36/34EC	14,7	70	3,27	2,2	3					194	190	185	180	174	168	160	152	143	132	120	90,7	55,9		
4SDF 36/45EC	7,4					3	4					256	251	245	239	230	222	212	202	189	175	159	120	74		
4SDF 36/58EC	9,4					4	5,5					331	324	316	308	297	286	273	260	244	226	205	155	95,4		
4SDF 46/5EC	1,2	4SDFM 46/5EC	3,2	16	0,7	0,37	0,5						27,8	27,1	26,4	25,6	25	23,9	22,9	21,9	20,7	19,6	17	14,2	11,1	7,6
4SDF 46/7EC	1,5	4SDFM 46/7EC	4	25	0,89	0,55	0,75						38,9	37,9	36,9	35,9	35	33,5	32	30,6	29	27,4	23,8	19,9	15,5	10,7
4SDF 46/10EC	2	4SDFM 46/10EC	5,6	35	1,22	0,75	1						55,5	54,2	52,7	51,3	50	47,8	45,8	43,7	41,5	39,1	34	28,4	22,2	15,3
4SDF 46/15EC	2,9	4SDFM 46/15EC	8,4	40	1,82	1,1	1,5						83,3	81,3	79,1	76,9	75	71,7	68,7	65,6	62,2	58,7	51	42,6	33,3	22,9
4SDF 46/21EC	4,2	4SDFM 46/21EC	11,2	60	2,33	1,5	2						117	114	111	108	105	100	96,2	91,9	87,1	82,2	71,4	59,6	46,6	32,1
4SDF 46/31EC	5,5	4SDFM 46/31EC	14,7	70	3,27	2,2	3						172	168	163	159	155	148	142	136	129	121	105	88	68,8	47,4
4SDF 46/42EC	7,4					3	4						233	228	221	215	210	201	192	184	174	164	143	119	93,2	64,2
4SDF 46/55EC	9,4					4	5,5						305	298	290	282	275	263	252	241	228	215	187	156	122	84,1

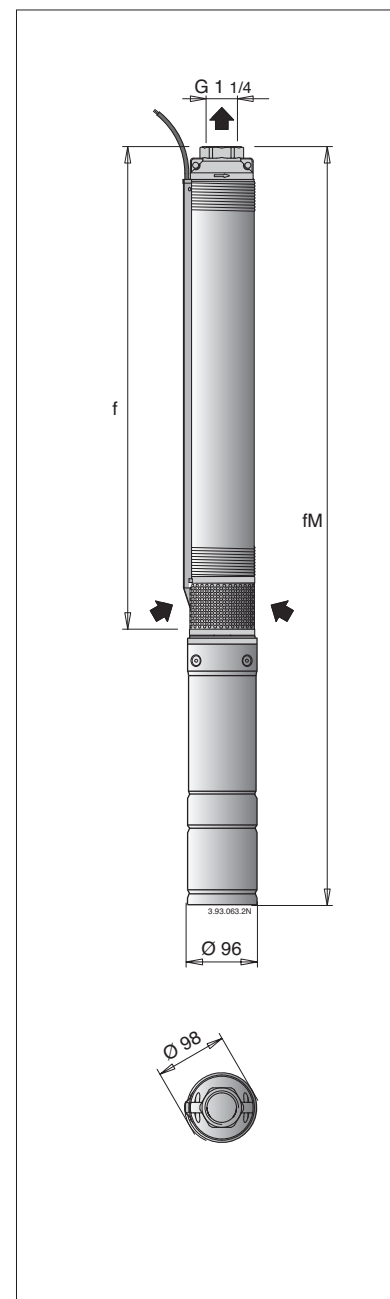
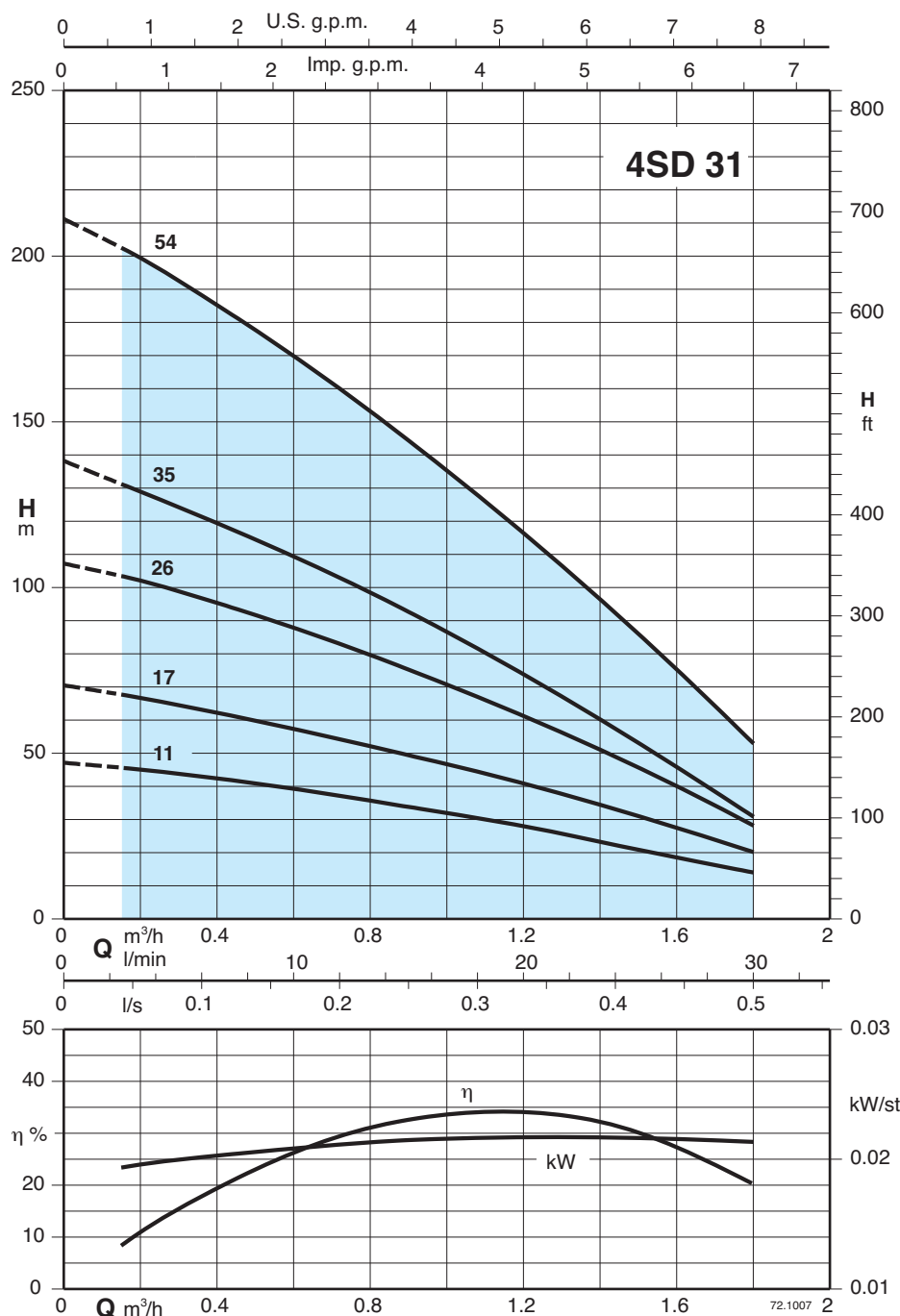
3~	400 V (380-415) 50 Hz	1~	* 230V Capacitor P1			P2		Q	n ≈ 2900 1/min																		
			A	450 Vc μF	kW	kW	HP		m³/h	1,2	1,5	1,8	2,4	3	3,6	4,8	6	7,2	8,1	8,4	9,6	10,8	12	15	18	21	
								l/min	20	25	30	40	50	60	80	100	120	135	140	160	180	200	250	300	350		
4SDF 54/5EC	1,5	4SDFM 54/5EC	4	25	0,89	0,55	0,75	H m	29,1	28,5	28	26,8	25,6	24,2	20,9	16,8	11,6	6,6									
4SDF 54/7EC	2	4SDFM 54/7EC	5,6	35	1,22	0,75	1		40,7	39,8	39,2	37,6	35,8	33,8	29,3	23,5	16,3	9,3									
4SDF 54/10EC	2,9	4SDFM 54/10EC	8,4	40	1,82	1,1	1,5		64	62,6	61,6	59,1	56,3	53,2	46	36,9	25,6	14,6									
4SDF 54/14EC	4,2	4SDFM 54/14EC	11,2	60	2,33	1,5	2		87,3	85,4	84,1	80,5	76,7	72,5	62,7	50,3	34,8	19,9									
4SDF 54/21EC	5,5	4SDFM 54/21EC	14,7	70	3,27	2,2	3		128	125	123	118	113	106	92	73,7	51,1	29,2									
4SDF 54/29EC	7,4					3	4		175	171	168	161	153	145	125	101	69,7	39,9									
4SDF 54/38EC	9,4					4	5,5		233	228	224	215	205	193	167	134	92,9	53,1									
4SDF 54/53EC	13					5,5	7,5		320	313	308	295	281	266	230	184	128	73,1									
4SD 10/4EC	2	4SDM 10/4EC	5,6	35	1,22	0,75	1			27	26,5	26	26	25	24	23	20	18,5	18	17	12	8					
4SD 10/6EC	2,9	4SDM 10/6EC	8,4	40	1,82	1,1	1,5			40	40	39	39	38	36	34	31	28	27	25	18	12					
4SD 10/8EC	4,2	4SDM 10/8EC	11,2	60	2,33	1,5	2			54	53,5	53	52	51	48	45	41	37	36	34	25	16					
4SD 10/12EC	5,5	4SDM 10/12EC	14,7	70	3,27	2,2	3			81	80	79	78	76	72	67	61	56	54	51	37	25					
4SD 10/17EC	7,4					3	4			114	113	112	111	108	102	95	87	79	76	72	52	35					
4SD 10/20EC	9,4					4	5,5			134	133	132	130	127	120	112	102	93	90	75	61	41					
4SD 10/22EC	9,4					4	5,5			148	147	145	143	139	132	123	112	102	99	94	67	45					
4SD 10/24EC	9,4					4	5,5			162	160	158	156	152	144	134	122	112	108	102	74	50					
4SD 10/27EC	13					5,5	7,5			182	180	178	176	171	162	151	138	126	122	103	83	56					
4SD 10/30EC	13					5,5	7,5			202	200	198	195	190	180	168	153	140	135	114	92	62					
4SD 15/6EC	4,2	4SDM 15/6EC	11,2	50	2,33	1,5	2						33	33	32	31	30	29	29	28	26	24	19	14	8		
4SD 15/9EC	5,5	4SDM 15/9EC	14,7	70	3,27	2,2	3						50	49	48	47	45	43	43	42	38	36	29	21	13		
4SD 15/12EC	7,4					3	4						67	66	64	62	59	57	57	56	51	48	38	28	17		
4SD 15/15EC	9,4					4	5,5						84	83	81	78	74	71	71	69	64	59	48	35	21		
4SD 15/17EC	9,4					4	5,5						95	94	92	88	84	81	81	79	72	67	54	40	24		
4SD 15/23EC	13					5,5	7,5						129	127	124	120	114	109	109	107	98	91	74	54	32		
4SD 15/30E	18,8					7,5	10 ¹⁾					168	166	162	156	149	142	142	140	128	119	97	70	42			

4SD 31

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



	3~ 400 V (380-415) 50 Hz A	1~ 230V Capacitor 450 Vc μF	P1 kW	P2 kW	HP	Q m³/h l/min	n ≈ 2900 rpm									
							0	0,15	0,3	0,6	0,9	1,2	1,5	1,8		
4SD 31/11EC	1,2	4SDM 31/11EC	3,2	16	0,62	0,37	0,5	47	45,6	43,8	39,3	33,8	28	20,9	14	
4SD 31/17EC	1,2	4SDM 31/17EC	3,2	16	0,7	0,37	0,5	70,5	67,7	64,5	57,3	49,4	40,9	31	20,2	
4SD 31/26EC	1,5	4SDM 31/26EC	4	25	0,89	0,55	0,75	107	104	98,9	87,9	75,2	61,2	45,7	28,1	
4SD 31/35EC	2	4SDM 31/35EC	5,6	35	1,22	0,75	1	138	131	124	109	92,6	73,8	53,1	30,8	
4SD 31/54EC	2,9	4SDM 31/54EC	8,4	40	1,82	1,1	1,5	211	203	193	170	144	116	86	52,9	

f mm	4SD		fM mm	4SDM	
	fM mm	kg		fM mm	kg
402	729	12	729	11,6	
520	847	13	847	12,6	
698	1045	13,5	1060	15,7	
875	1237	15,8	1277	18,3	
1295	1697	20	1742	23,3	

P1: Max. power input P2: Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request)

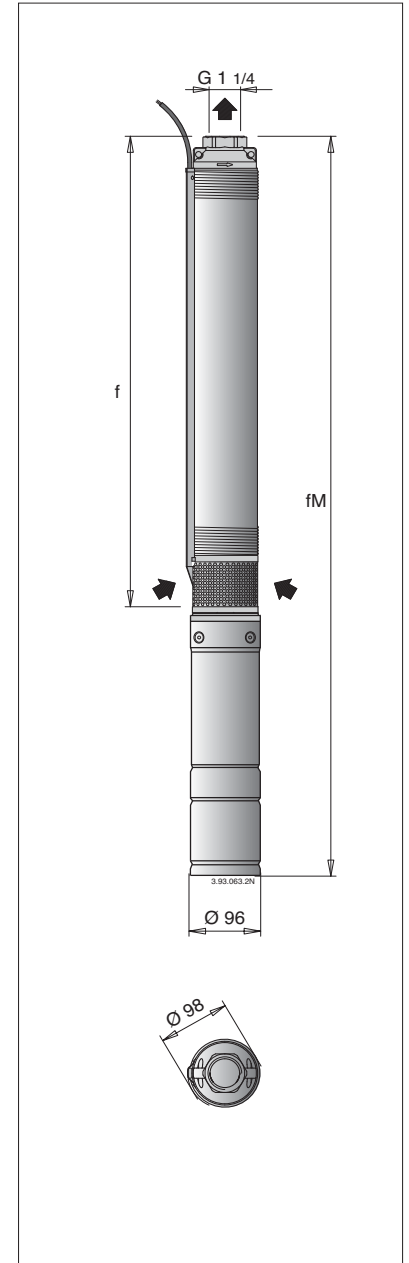
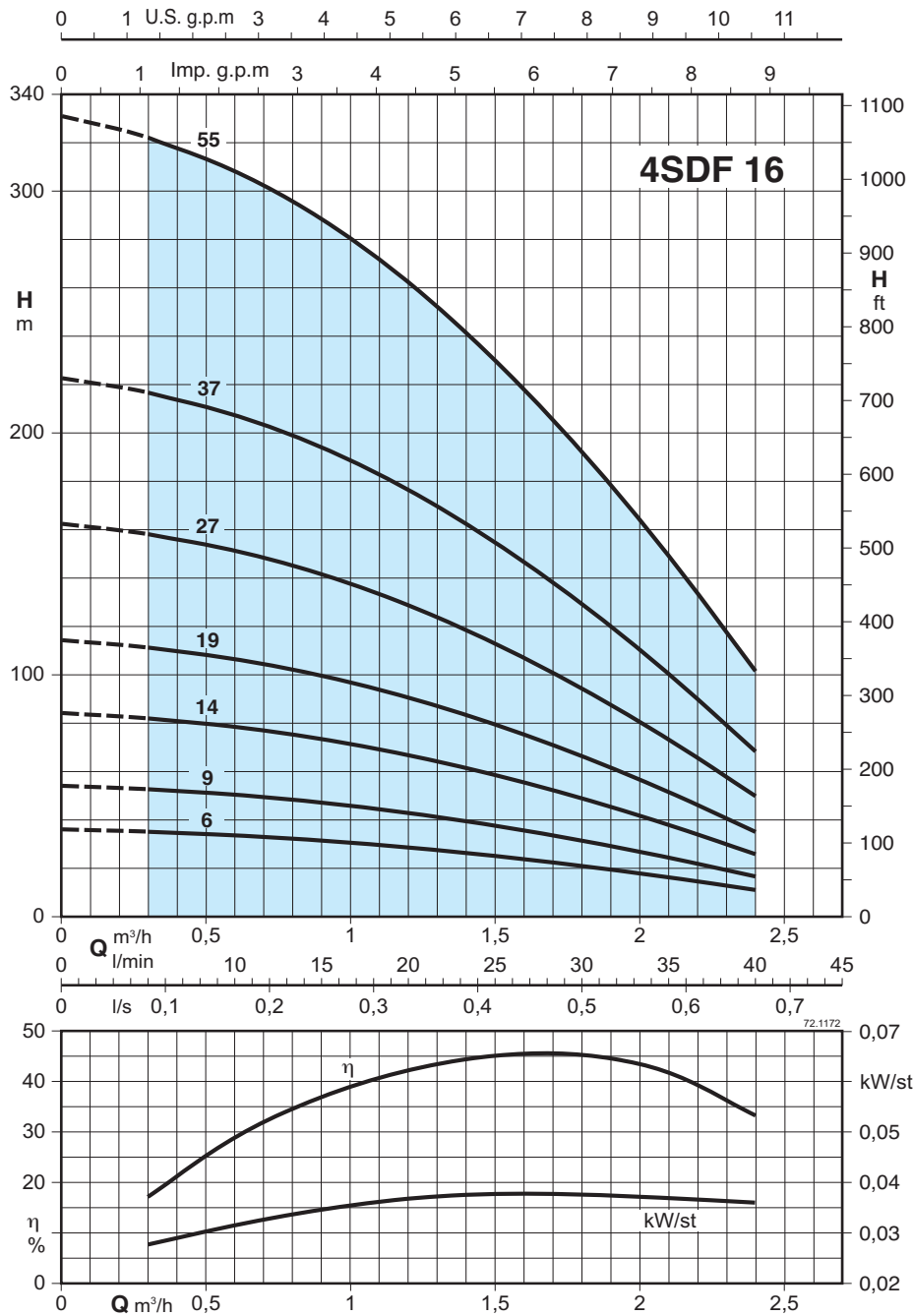
Tolerances according to UNI EN ISO 9906:2012

4SDF 16

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



42

3~	400 V (380-415) 50 Hz A	1~	230V* Capacitor 450 Vc μF	P1 kW	P2 kW	HP	Q m³/h l/min	n ≈ 2900 rpm										
								0	0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4		
								0	5	10	15	20	25	30	35	40		
4SDF 16/6EC	1,2	4SDFM 16/6EC	3,2	16	0,62	0,37	0,5	36,1	35,1	33,6	31,5	28,6	25,1	21	16,3	11,1		
4SDF 16/9EC	1,2	4SDFM 16/9EC	3,2	16	0,7	0,37	0,5	54,2	52,7	50,4	47,2	42,9	37,6	31,4	24,4	16,6		
4SDF 16/14EC	1,5	4SDFM 16/14EC	4	25	0,89	0,55	0,75	84,3	82	78,5	73,4	66,8	58,5	48,9	38	25,8		
4SDF 16/19EC	2	4SDFM 16/19EC	5,6	35	1,22	0,75	1	114	111	106	100	90,6	79,5	66,4	51,5	35,1		
4SDF 16/27EC	2,9	4SDFM 16/27EC	8,4	40	1,82	1,1	1,5	163	158	151	142	129	113	94,3	73,2	49,8		
4SDF 16/37EC	4,2	4SDFM 16/37EC	11,2	60	2,33	1,5	2	223	217	207	194	176	155	129	100	68,3		
4SDF 16/55EC	5,5	4SDFM 16/55EC	14,7	70	3,27	2,2	3	331	322	308	288	262	230	192	149	102		

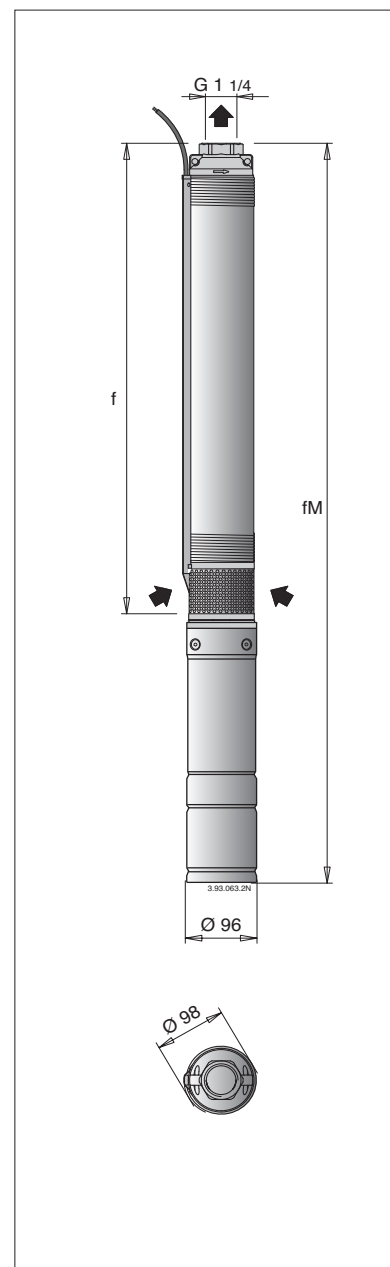
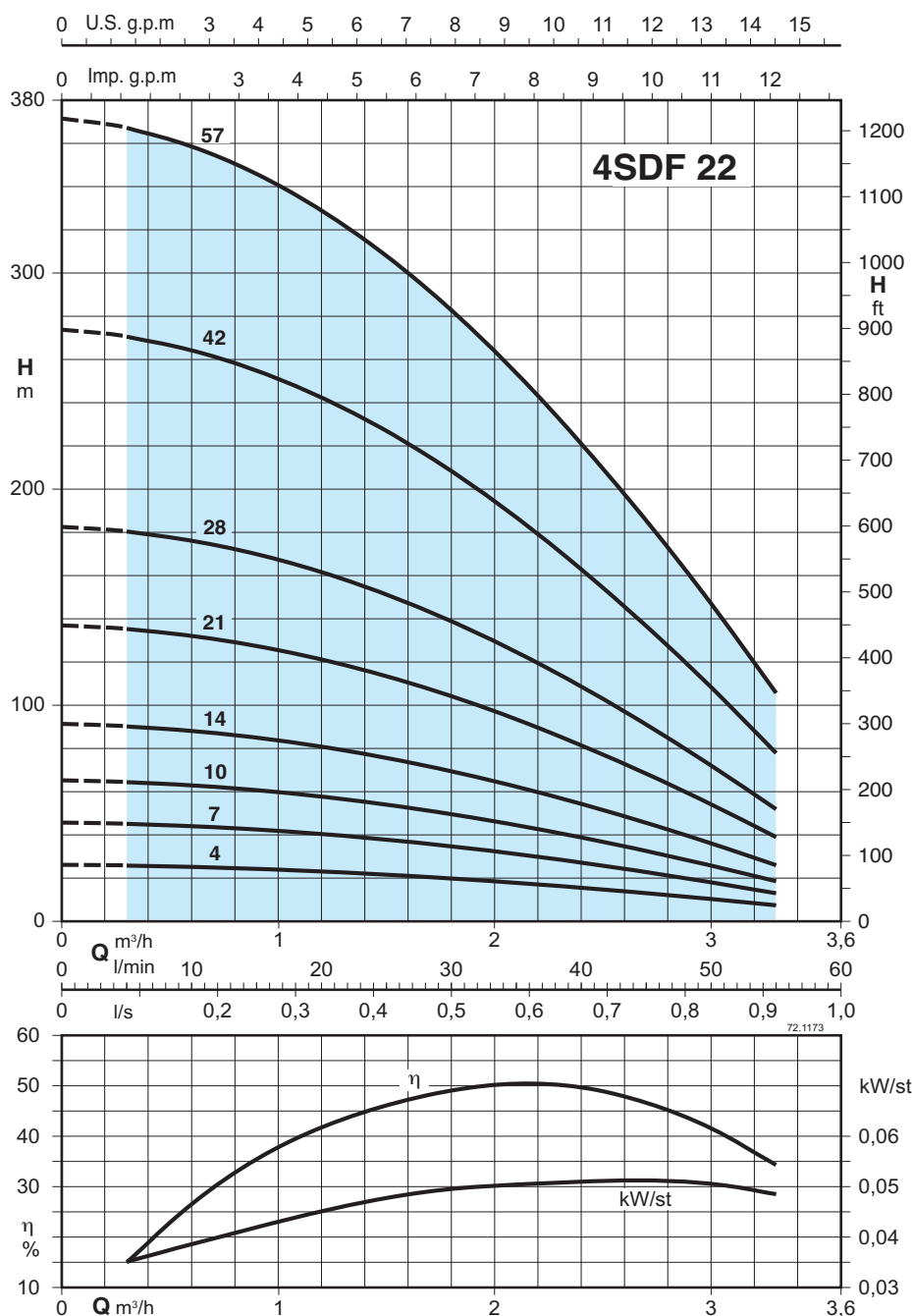
f	4SDF		4SDFM	
	f mm	fM mm	fM mm	kg
305	632	11	632	11,1
365	692	11,5	692	11,6
465	812	13,4	827	12,7
565	927	15,6	967	14,8
725	1127	18	1172	17,4
915	1362	21,7	1382	22,8
1325	1727	24,6	1842	30,6

4SDF 22

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	400 V (380-415) 50 Hz	1~	230V Capacitor 450 Vc μF	P ₁ kW	P ₂ kW	HP	Q m³/h l/min	n ≈ 2900 rpm											
								H m											
								0	0,3	0,6	0,9	1,2	1,5	1,8	2,4	3	3,3		
4SDF 22/4EC	1,2	4SDFM 22/4EC	3,2	16	0,62	0,37	0,5	26,1	25,8	25,2	24,3	23,1	21,6	19,8	15,5	10,3	7,4		
4SDF 22/7EC	1,2	4SDFM 22/7EC	3,2	16	0,7	0,37	0,5	45,6	45,1	44	42,5	40,4	37,8	34,7	27,1	18	13		
4SDF 22/10EC	1,5	4SDFM 22/10EC	4	25	0,89	0,55	0,75	65,2	64,4	62,9	60,7	57,7	54	49,6	38,8	25,8	18,5		
4SDF 22/14EC	2	4SDFM 22/14EC	5,6	35	1,22	0,75	1	91,2	90,2	88,1	84,9	80,8	75,6	69,5	54,3	36,1	25,9		
4SDF 22/21EC	2,9	4SDFM 22/21EC	8,4	40	1,82	1,1	1,5	137	135	132	127	121	113	104	81,4	54,1	38,9		
4SDF 22/28EC	4,2	4SDFM 22/28EC	11,2	60	2,33	1,5	2	182	180	176	170	162	151	139	109	72,2	51,9		
4SDF 22/42EC	5,5	4SDFM 22/42EC	14,7	70	3,27	2,2	3	274	271	264	255	242	227	208	163	108	77,8		
4SDF 22/57EC	7,4					3	4	371	367	359	346	329	308	283	221	147	106		

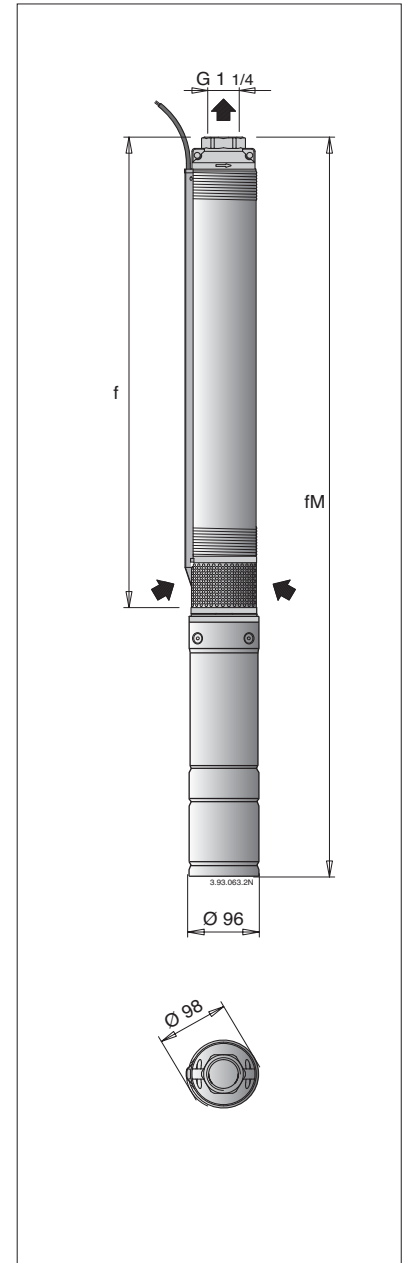
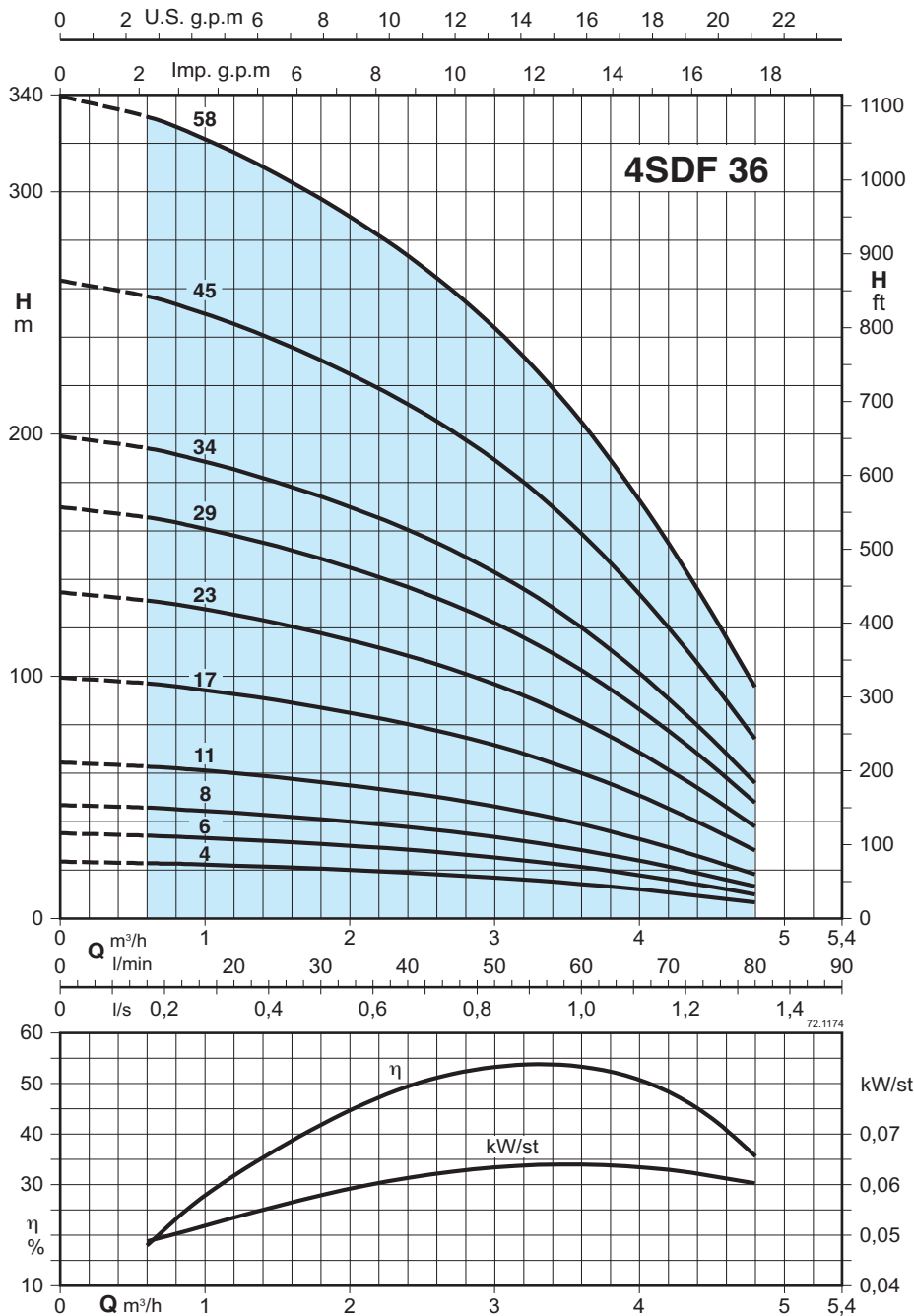
f	4SDF			4SDFM		
	mm	mm	kg	mm	mm	kg
265	592	10,6	592	10,6		
325	652	11,2	652	11,1		
385	732	10,7	747	13,4		
465	827	12,2	867	15,4		
605	1007	14,7	1052	18,5		
745	1192	17,4	1212	20,9		
1015	1417	28,4	1532	25,8		
1365	1846	33				

4SDF 36

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	400 V (380-415) 50 Hz	1~	230V Capacitor 450 Vc	P1 kW	P2 kW	HP	Q m³/h	n ≈ 2900 rpm									
								0	0,6	1,2	1,8	2,4	3	3,6	4,2	4,8	
								0	10	20	30	40	50	60	70	80	
4SDF 36/4EC	1,2	4SDFM 36/4EC	3,2	16	0,62	0,37	0,5	23,4	22,8	21,8	20,5	18,8	16,8	14,1	10,7	6,6	
4SDF 36/6EC	1,2	4SDFM 36/6EC	3,2	16	0,7	0,37	0,5	35,1	34,2	32,7	30,7	28,3	25,2	21,2	16	9,9	
4SDF 36/8EC	1,5	4SDFM 36/8EC	4	25	0,89	0,55	0,75	46,8	45,6	43,6	40,9	37,7	33,6	28,2	21,3	13,2	
4SDF 36/11EC	2	4SDFM 36/11EC	5,6	35	1,22	0,75	1	64,3	62,7	59,9	56,3	51,8	46,2	38,8	29,4	18,1	
4SDF 36/17EC	2,9	4SDFM 36/17EC	8,4	40	1,82	1,1	1,5	99,4	96,9	92,6	87	80,1	71,4	60	45,4	28	
4SDF 36/23EC	4,2	4SDFM 36/23EC	11,2	60	2,33	1,5	2	134	131	125	118	108	96,6	81,2	61,4	37,8	
4SDF 36/29EC	5,5	4SDFM 36/29EC	14,7	70	3,27	2,2	3	170	165	158	148	137	122	102	77,4	47,7	
4SDF 36/34EC	5,5	4SDFM 36/34EC	14,7	70	3,27	2,2	3	199	194	185	174	160	143	120	90,7	55,9	
4SDF 36/45EC	7,4				3	4		263	256	245	230	212	189	159	120	74	
4SDF 36/58EC	9,4				4	5,5		339	331	316	297	273	244	205	155	95,4	

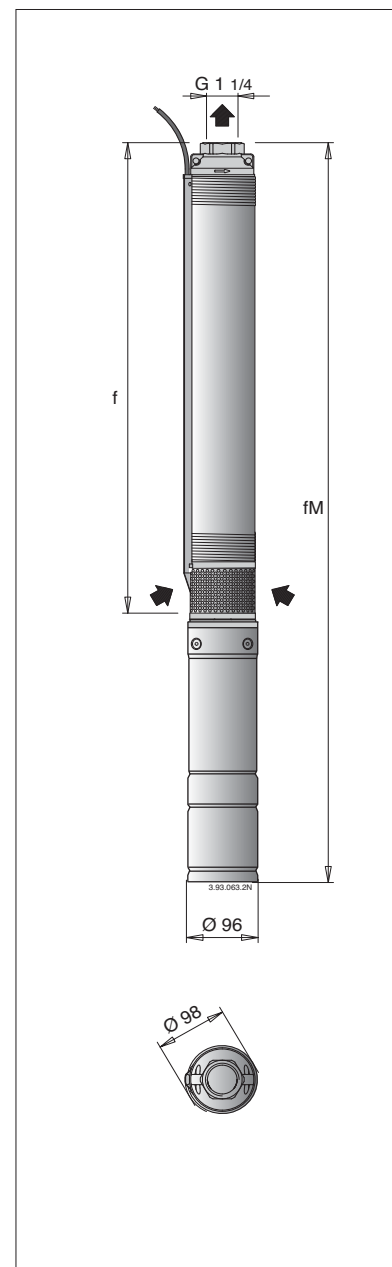
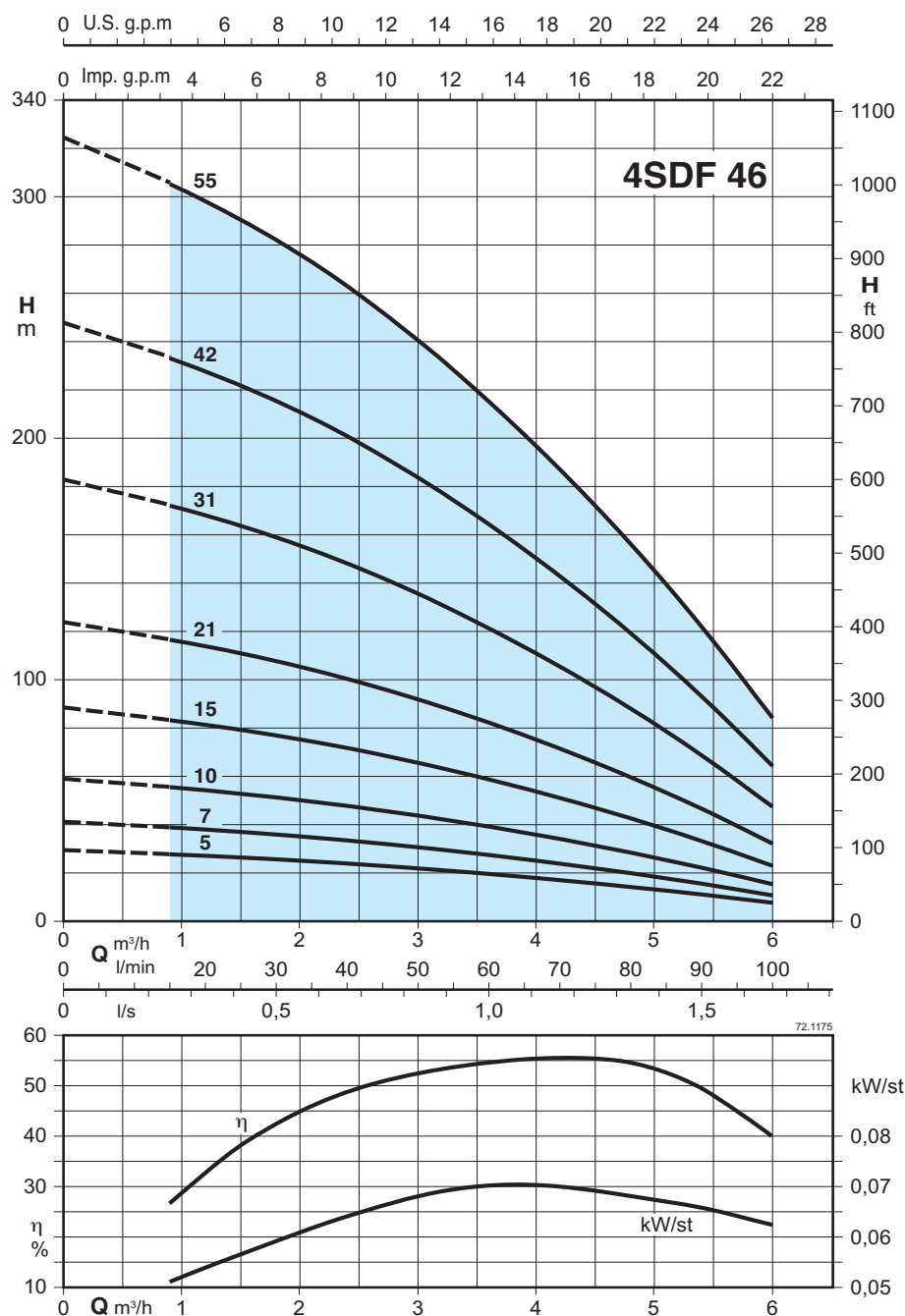
f	4SDF			4SDFM		
	mm	kg		mm	kg	
306	633	10,7		633	10,6	
366	693	11,1		693	11	
426	773	10,6		788	13,3	
517	879	12,2		919	15,4	
699	1101	14,7		1146	18,5	
880	1327	17,5		1347	21	
1063	1465	27,3		1580	24,7	
1213	1694	28,7		1730	26,1	
1590	2136	28,4				
1981	2627	34,3				

4SDF 46

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	400 V (380-415) 50 Hz	1~	230V Capacitor P1				P2		Q	n ≈ 2900 rpm									
			450 Vc				kW	HP		m³/h	0	0,9	1,2	1,8	2,4	3	3,6	4,2	4,8
				A	μF	kW			l/min	0	15	20	30	40	50	60	70	80	100
4SDF 46/5EC	1,2	4SDFM 46/5EC	3,2	16	0,7	0,37	0,5	H m	29,4	27,8	27,1	25,6	23,9	21,9	19,6	17	14,2	7,6	
4SDF 46/7EC	1,5	4SDFM 46/7EC	4	25	0,89	0,55	0,75		41,2	38,9	37,9	35,9	33,5	30,6	27,4	23,8	19,9	10,7	
4SDF 46/10EC	2	4SDFM 46/10EC	5,6	35	1,22	0,75	1		58,9	55,5	54,2	51,3	47,8	43,7	39,1	34	28,4	15,3	
4SDF 46/15EC	2,9	4SDFM 46/15EC	8,4	40	1,82	1,1	1,5		88,3	83,3	81,3	76,9	71,7	65,6	58,7	51	42,6	22,9	
4SDF 46/21EC	4,2	4SDFM 46/21EC	11,2	60	2,33	1,5	2		124	117	114	108	100	91,9	82,2	71,4	59,6	32,1	
4SDF 46/31EC	5,5	4SDFM 46/31EC	14,7	70	3,27	2,2	3		183	172	168	159	148	136	121	105	88	47,4	
4SDF 46/42EC	7,4					3	4		247	233	228	215	201	184	164	143	119	64,2	
4SDF 46/55EC	9,4					4	5,5		324	305	298	282	263	241	215	187	156	84,1	

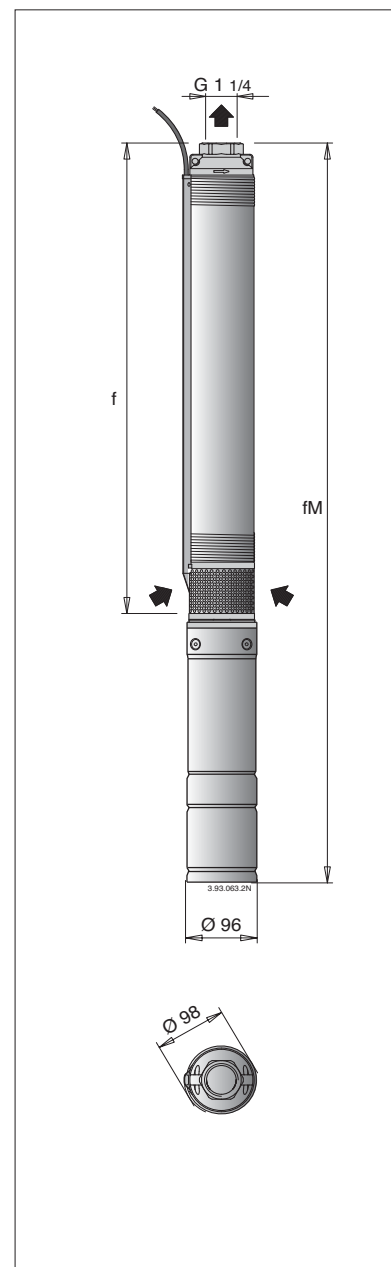
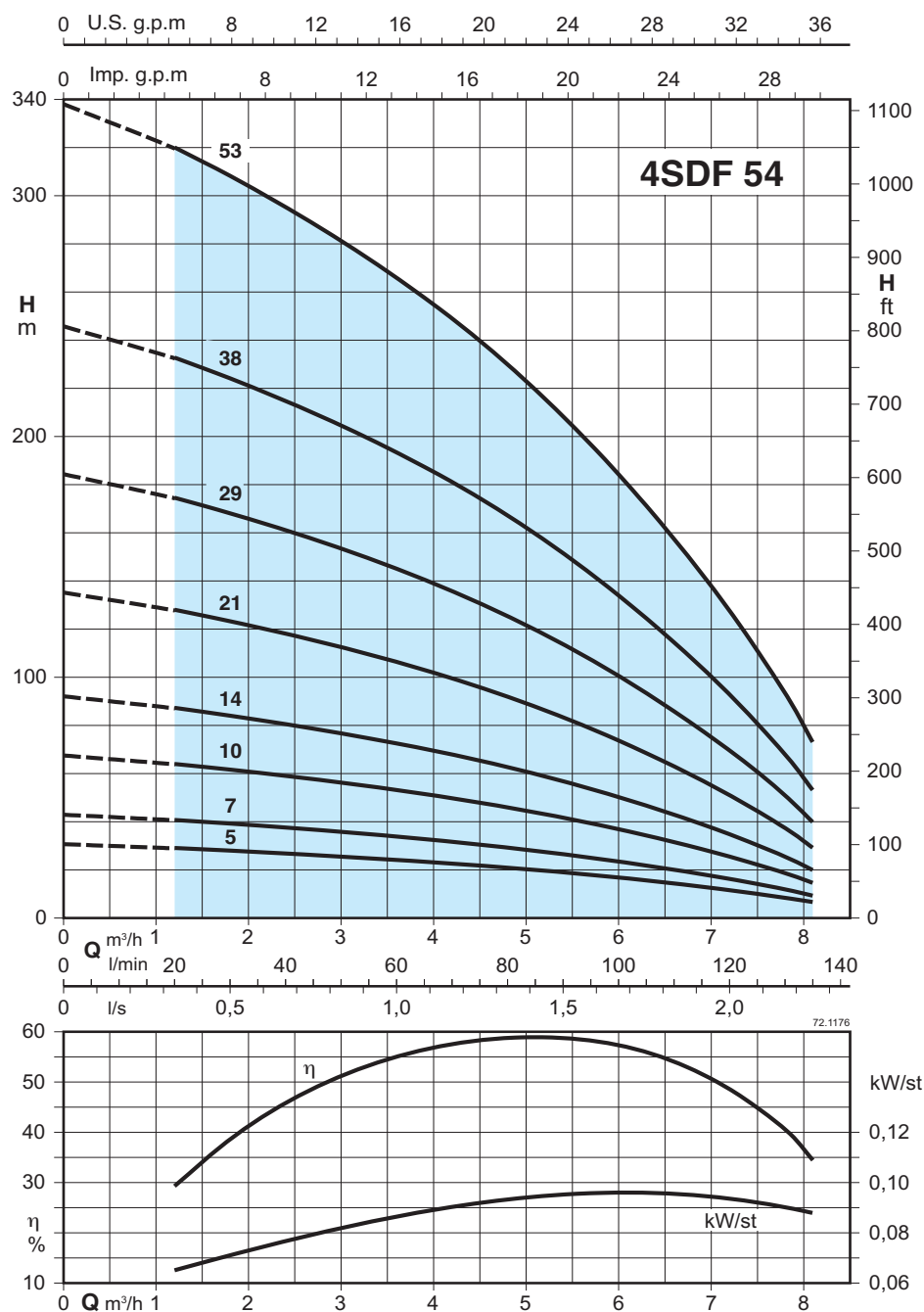
f	4SDF			4SDFM		
	mm	fM	kg	mm	fM	kg
315	642	10,9	642	10,8		
370	717	10,4	732	13,1		
450	812	11,8	852	15		
585	987	14	1032	17,8		
740	1187	16,7	1207	20,2		
1005	1407	27,2	1522	24,6		
1340	1821	31,5				
1685	2231	38,6				

4SDF 54

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	400 V (380-415) 50 Hz	1~	230V* Capacitor P1				P2		Q m³/h	n ≈ 2900 rpm									
			450 Vc			kW	HP	l/min		0	1,2	1,8	2,4	3	3,6	4,8	6	7,2	8,1
			A	μF	kW				0	20	30	40	50	60	80	100	120	135	
4SDF 54/5EC	1,5	4SDFM 54/5EC	4	25	0,89	0,55	0,75	H m	30,8	29,1	28	26,8	25,6	24,2	20,9	16,8	11,6	6,6	
4SDF 54/7EC	2	4SDFM 54/7EC	5,6	35	1,22	0,75	1		43,1	40,7	39,2	37,6	35,8	33,8	29,3	23,5	16,3	9,3	
4SDF 54/10EC	2,9	4SDFM 54/10EC	8,4	40	1,82	1,1	1,5		67,7	64	61,6	59,1	56,3	53,2	46	36,9	25,6	14,6	
4SDF 54/14EC	4,2	4SDFM 54/14EC	11,2	60	2,33	1,5	2		92,3	87,3	84,1	80,5	76,7	72,5	62,7	50,3	34,8	19,9	
4SDF 54/21EC	5,5	4SDFM 54/21EC	14,7	70	3,27	2,2	3		135	128	123	118	113	106	92	73,7	51,1	29,2	
4SDF 54/29EC	7,4					3	4		185	175	168	161	153	145	125	101	69,7	39,9	
4SDF 54/38EC	9,4					4	5,5		246	233	224	215	205	193	167	134	92,9	53,1	
4SDF 54/53EC	13					5,5	7,5		338	320	308	295	281	266	230	184	128	73,1	

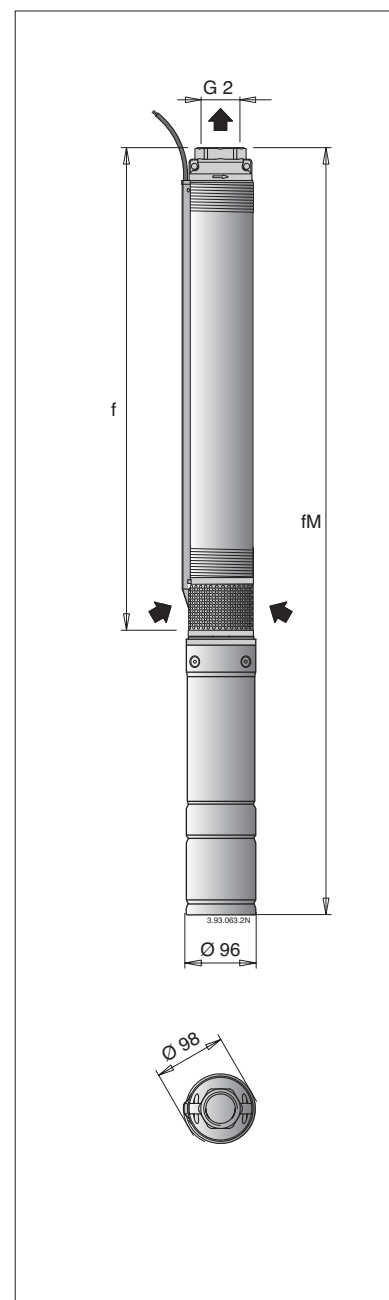
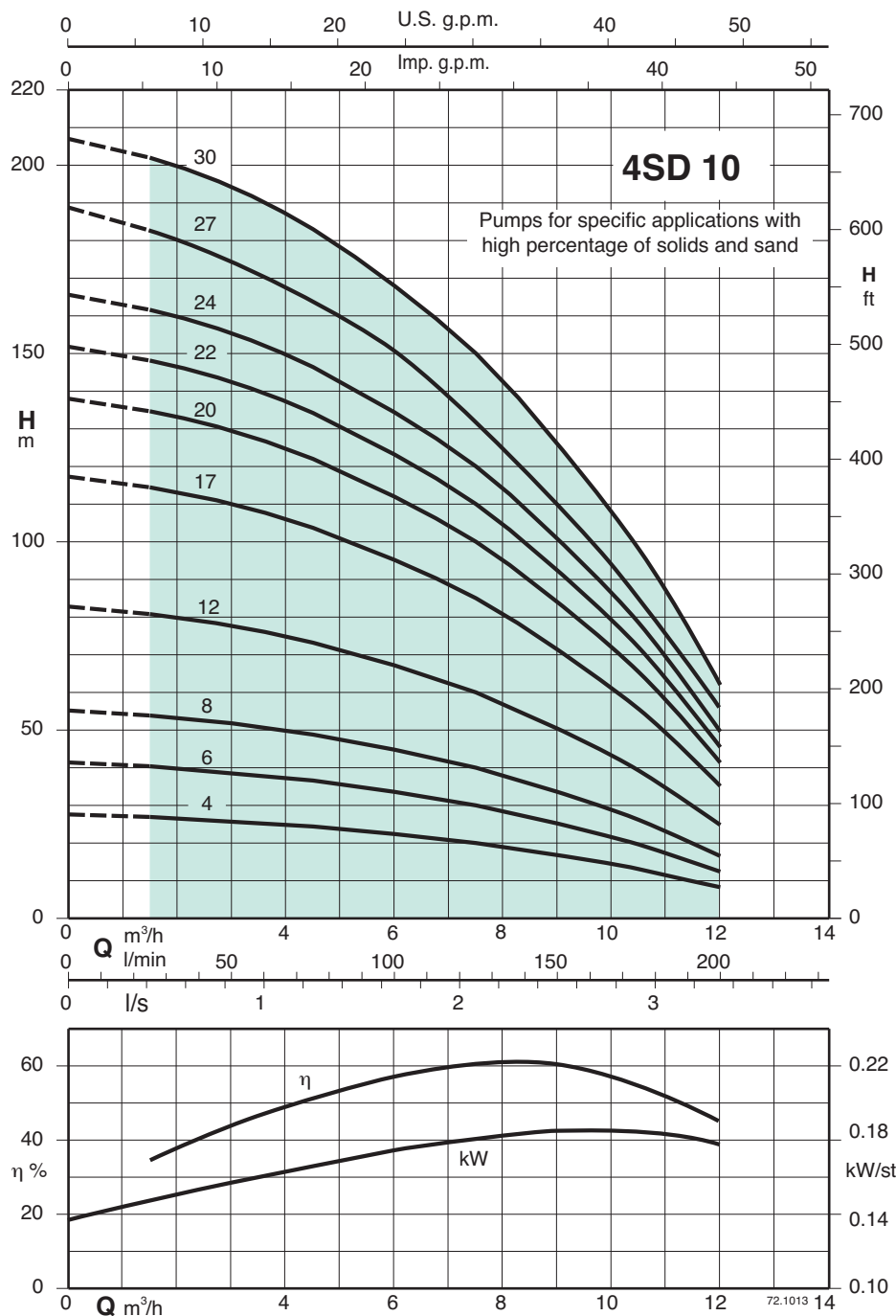
f	4SDF			4SDFM		
	mm	mm	kg	mm	mm	kg
340	687	9,9	702	12,6		
400	762	11,2	802	14,4		
490	892	13	937	16,8		
610	1057	15,4	1077	18,9		
820	1222	25,4	1337	22,8		
1060	1541	28,8				
1380	1926	35,6				
1830	2476	41,8				

4SD 10

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~ 400 V (380-415) 50 Hz A	1~ 230V Capacitor P1 450 Vc A	P2 kW	HP	Q m³/h l/min	n ≈ 2900 rpm												4SD		4SDM	
					1,5	2,4	3	3,6	4,8	6	7,2	8,4	9,6	10,8	12	f	fM	kg	fM	kg
					25	40	50	60	80	100	120	140	160	180	200	mm	mm		mm	
4SD 10/4EC	2	4SDM 10/4EC	5,6	35	1,22	0,75	1									409	771	11,6	811	14,1
4SD 10/6EC	2,9	4SDM 10/6EC	8,4	40	1,82	1,1	1,5									515	917	13,4	962	16,7
4SD 10/8EC	4,2	4SDM 10/8EC	11,2	60	2,33	1,5	2									621	1068	15,7	1088	18,6
4SD 10/12EC	5,5	4SDM 10/12EC	14,7	70	3,27	2,2	3									833	1235	25,9	1350	22,7
4SD 10/17EC	7,4					3	4									1098	1579	28		
4SD 10/20EC	9,4					4	5,5									1312	1858	36		
4SD 10/22EC	9,4					4	5,5									1418	1964	36,8		
4SD 10/24EC	9,4					4	5,5									1524	2070	37,6		
4SD 10/27EC	13					5,5	7,5									1683	2329	41,1		
4SD 10/30EC	13					5,5	7,5									1842	2488	42,1		

P1 Max. power input

P2 Rated motor power output

* Only for single-phase motor 230 V - 50 Hz (on request)

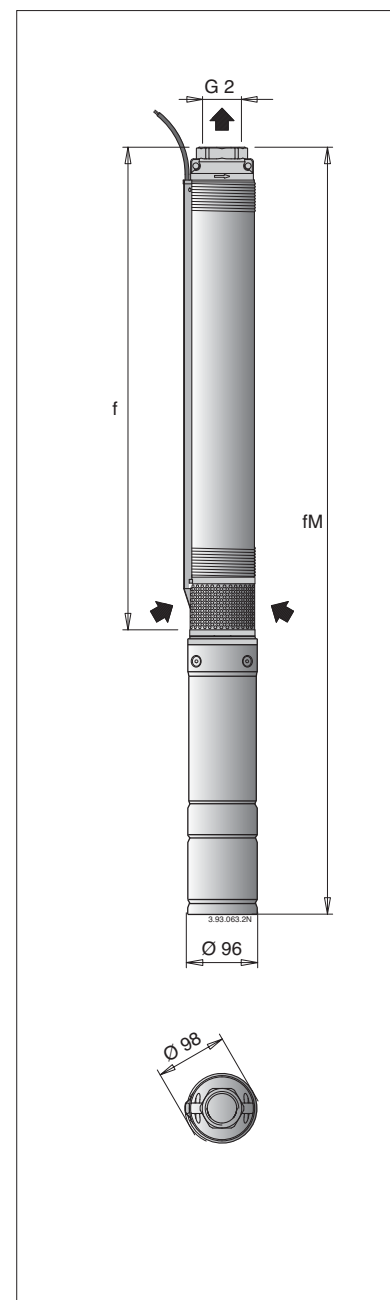
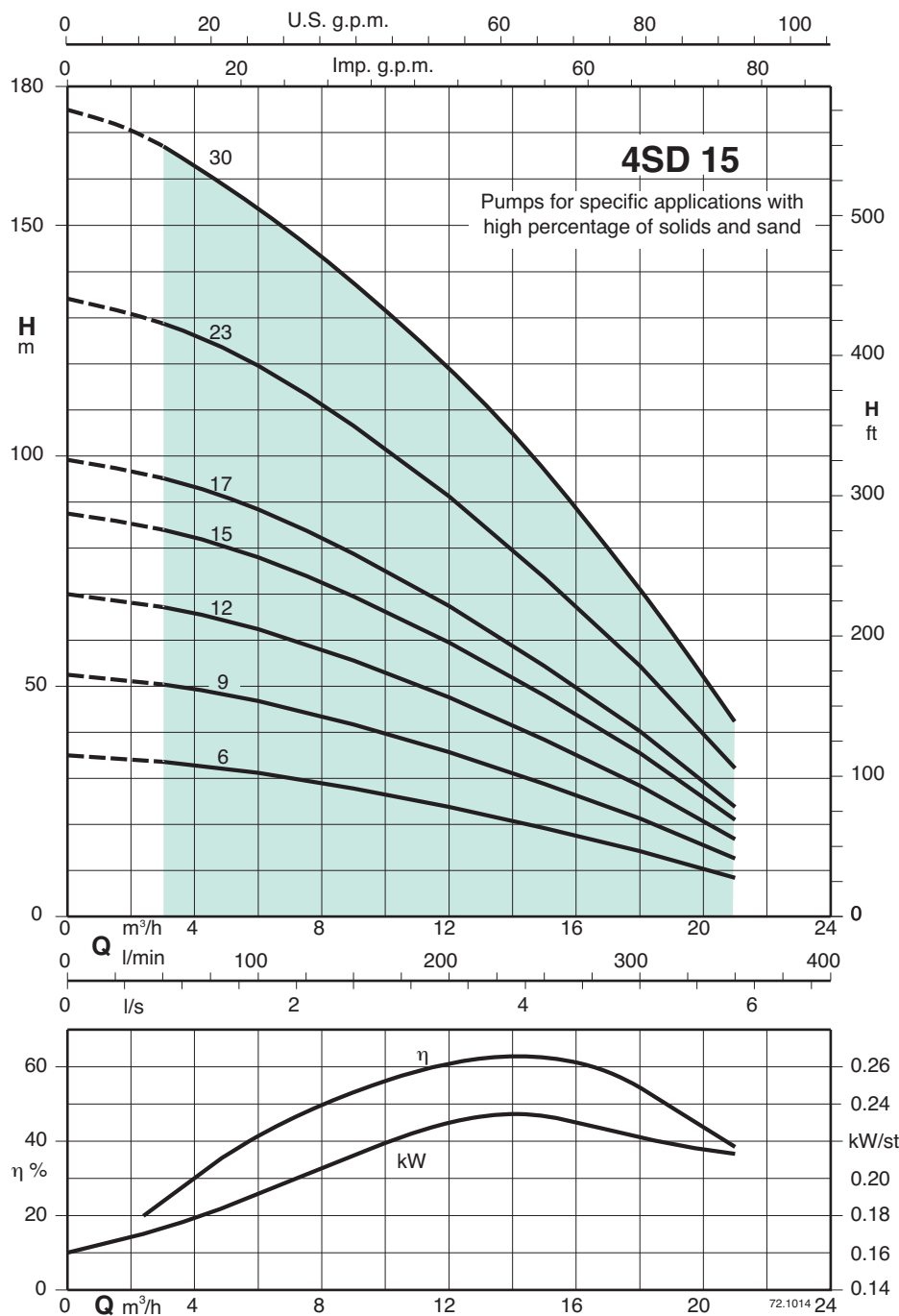
Tolerances according to UNI EN ISO 9906:2012

4SD 15

Submersible borehole pumps for 4" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	400 V (380-415) 50 Hz	1~	* 230V Capacitor P1 450 Vc			P2		Q m³/h l/min	n ≈ 2900 rpm														4SD			4SDM	
	A		A	µF	kW	kW	HP		3	3,6	4,8	6	7,2	8,4	9,6	10,8	12	15	18	21	f mm	fM mm	kg	fM mm	kg		
									50	60	80	100	120	140	160	180	200	250	300	350							
4SD 15/6EC	4,2	4SDM 15/6EC	11,2	60	2,33	1,5	2	H m	33	33	32	31	30	29	28	26	24	19	14	8	755	1202	15,6	1222	18,5		
4SD 15/9EC	5,5	4SDM 15/9EC	14,7	70	3,27	2,2	3		50	49	48	47	45	43	42	38	36	29	21	13	988	1390	33	1505	30,2		
4SD 15/12EC	7,4					3	4		67	66	64	62	59	57	56	51	48	38	28	17	1299	1780	34,3				
4SD 15/15EC	9,4					4	5,5		84	83	81	78	74	71	69	64	59	48	35	21	1601	2147	40,6				
4SD 15/17EC	9,4					4	5,5		95	94	92	88	84	81	79	72	67	54	40	24	1756	2302	41,4				
4SD 15/23EC	13					5,5	7,5		129	127	124	120	114	109	107	98	91	74	54	32	2291	2937	49,4				
4SD 15/30E	18,8					7,5 ¹⁾	10 ¹⁾		168	166	162	156	149	142	140	128	119	97	70	42	2836	3610	62				

P1: Max. power input P2: Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

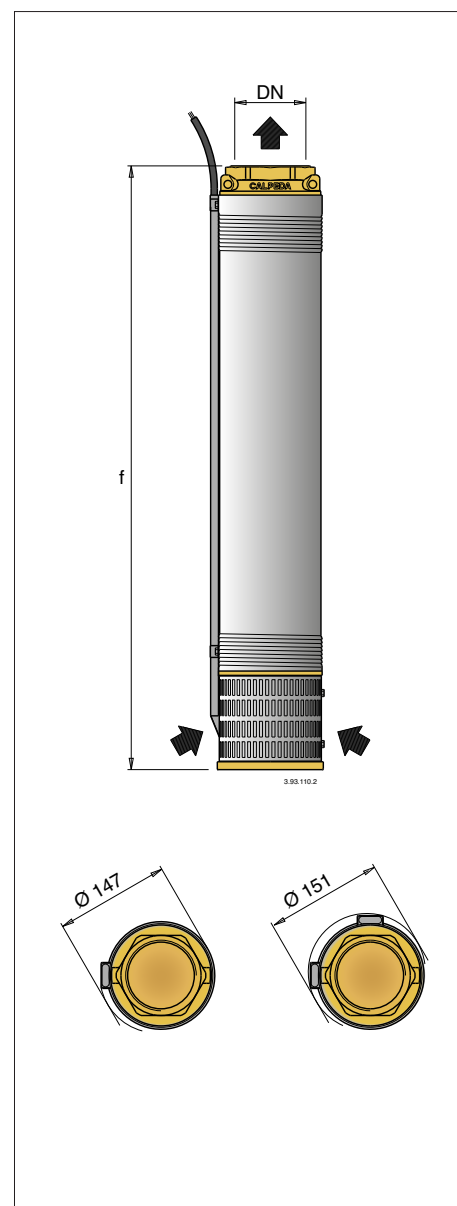
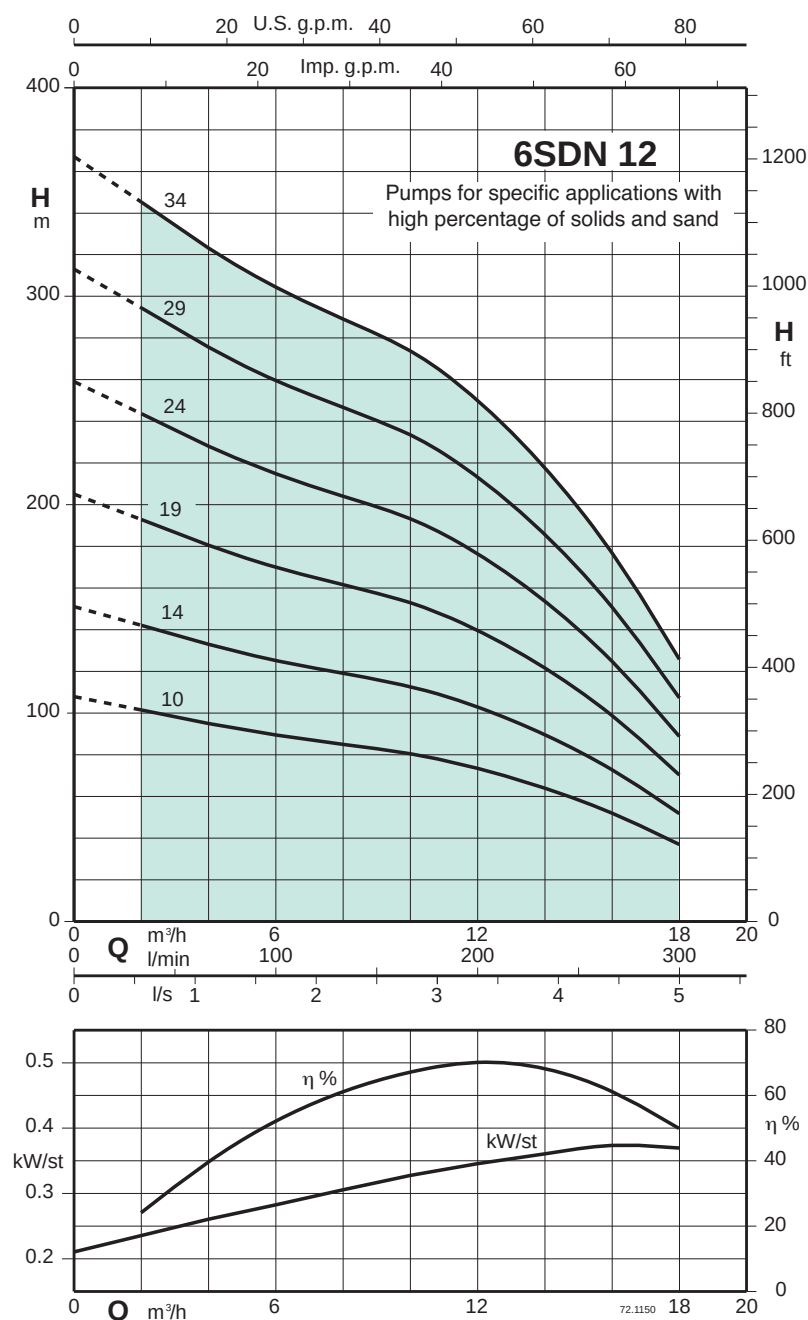
1) Franklin motor

6SDN 12

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	P ₂		Q	n ≈ 2900 rpm											
	kW	HP	m³/h	2	4	6	8	10	12	14	16	18			
			l/min	33,3	66,6	100	133,3	166,6	200	233	266	300			
6SDN 12/10	4	5,5	H m	102	95	89,5	85	80,5	73,5	64	52	37			
				142	133	125	119	113	103	89,5	73	52			
				193	181	170	162	153	140	122	99	70,5			
				244	231	215	204	193	176	154	125	89			
				294	276	260	247	233	213	186	151	107			
				345	323	304	289	274	250	218	177	126			

DN	f	
	mm	kg
G 3 ISO 228	715	15,5
	870	17,5
	1060	20
	1320	23
	1510	25,7
	1705	28,5

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

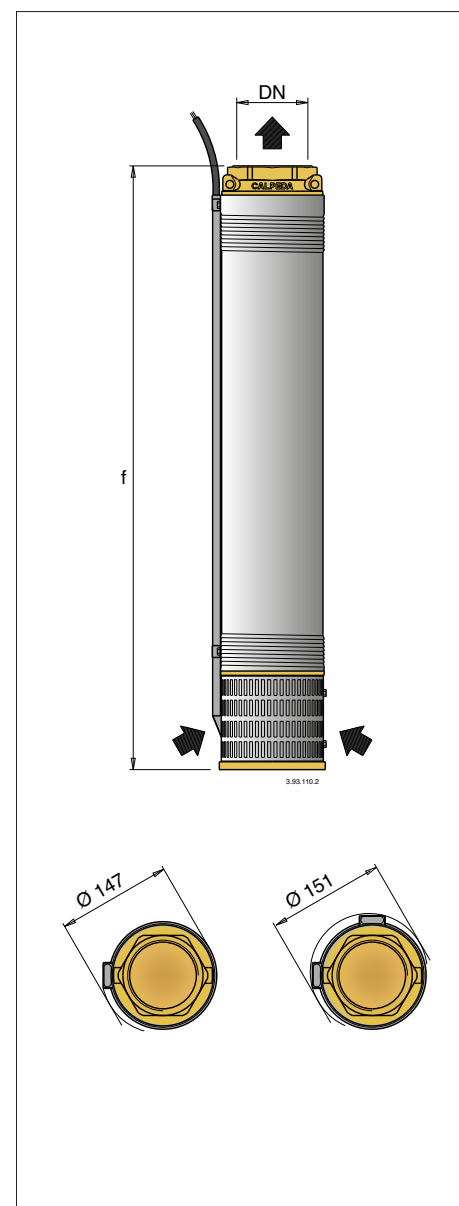
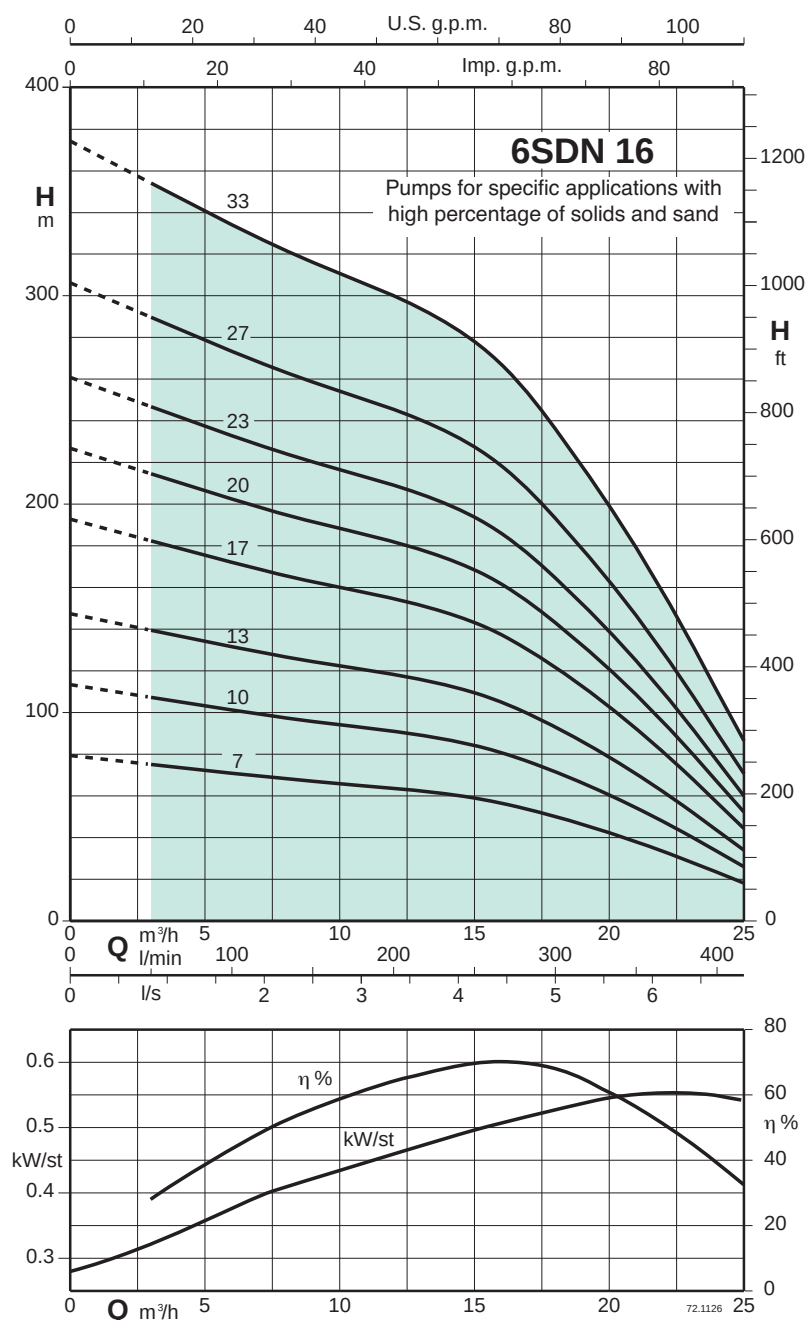
Tolerances according to UNI EN ISO 9906:2012

6SDN 16

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



42

3 ~	P ₂		Q	n ≈ 2900 rpm										
	kW	HP	m³/h l/min	3	6	9	12	15	18	21	25			
6SDN 16/7	4	5,5	H m	75	71	67	63,5	59	50	38	18,5			
6SDN 16/10	5,5	7,5		107	101	96	91	84	71,5	54,5	26			
6SDN 16/13	7,5	10		139	132	124	118	110	93	70,5	34			
6SDN 16/17	9,2	12,5		182	172	163	155	143	122	92,5	44,5			
6SDN 16/20	11	15		215	202	192	182	168	143	109	52,5			
6SDN 16/23	13 (15)	17,5 (20)		247	233	220	209	194	165	125	60			
6SDN 16/27	15	20		290	273	259	245	227	193	147	71			
6SDN 16/33	18,5	25		354	334	316	300	278	236	179	86,5			

DN	f	
	mm	kg
G 3 ISO 228	600	14
	715	15,5
	830	17
	985	19
	1100	20,5
	1285	22,5
	1435	24,6
	1665	28

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

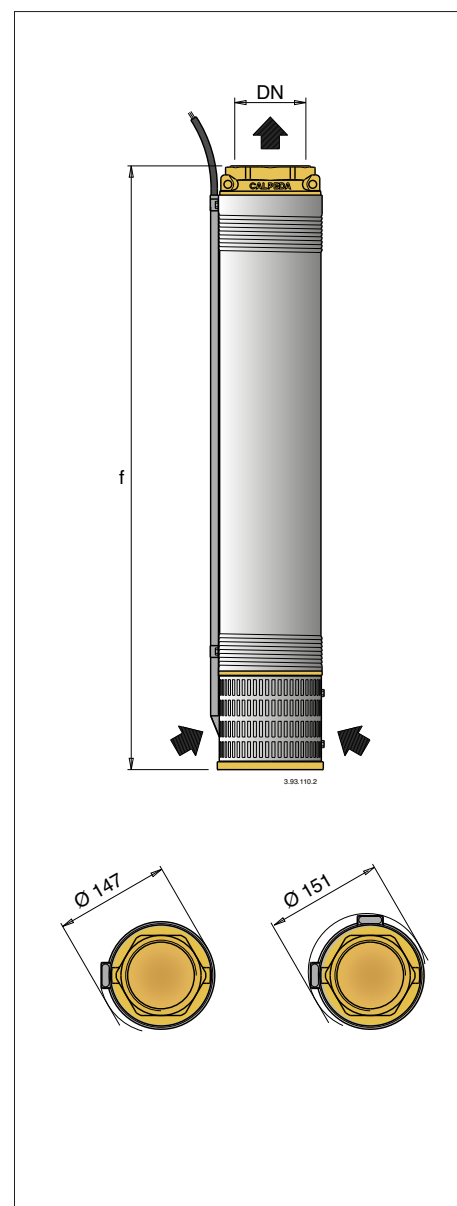
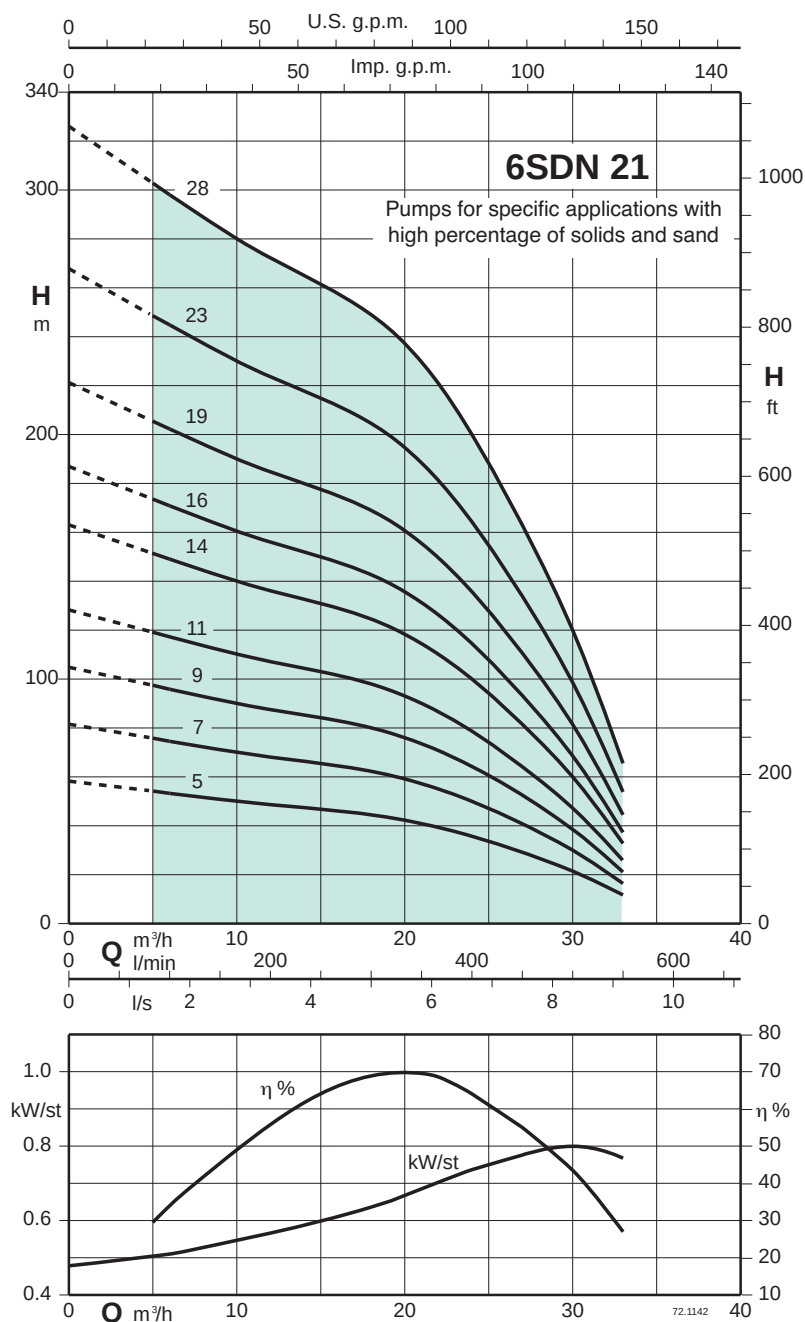
Tolerances according to UNI EN ISO 9906:2012

6SDN 21

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	P2		Q	$n \approx 2900$ rpm											
				5	9	12	15	18	21	24	27	30	33		
	kW	HP	$\frac{m^3}{h}$ $\frac{l}{min}$	83,3	150	200	250	300	350	400	450	500	550		
6SDN 21/5	4	5,5	H m	54	51	48,5	46,5	45	41,5	36	29	21,5	11,5		
6SDN 21/7	5,5	7,5		75,5	71,5	68	65	62,5	58	50	41	30	16		
6SDN 21/9	7,5	10		97	92	87,5	83,5	80,5	74,5	64,5	53	38,5	21		
6SDN 21/11	9,2	12,5		119	112	107	102	99	91	79	64	47	25,5		
6SDN 21/14	11	15		151	143	136	130	125	116	100	81,5	60	32,5		
6SDN 21/16	13 (15)	17,5 (20)		173	163	155	149	143	132	114	93	69	37		
6SDN 21/19	15	20		205	194	185	176	170	157	136	111	81,5	44		
6SDN 21/23	18,5	25		249	235	224	213	206	190	164	134	99	53		
6SDN 21/28	22	30		303	286	272	260	251	231	200	163	120	64,5		

DN	f	
	mm	kg
G 3 ISO 228	565	13,3
	660	14,5
	755	15,7
	850	16,9
	990	18,7
	1085	19,9
	1225	21,7
	1480	24,5
	1710	27,5

P2 Rated motor power output

(...) FK motor rated power output

H Total head in m

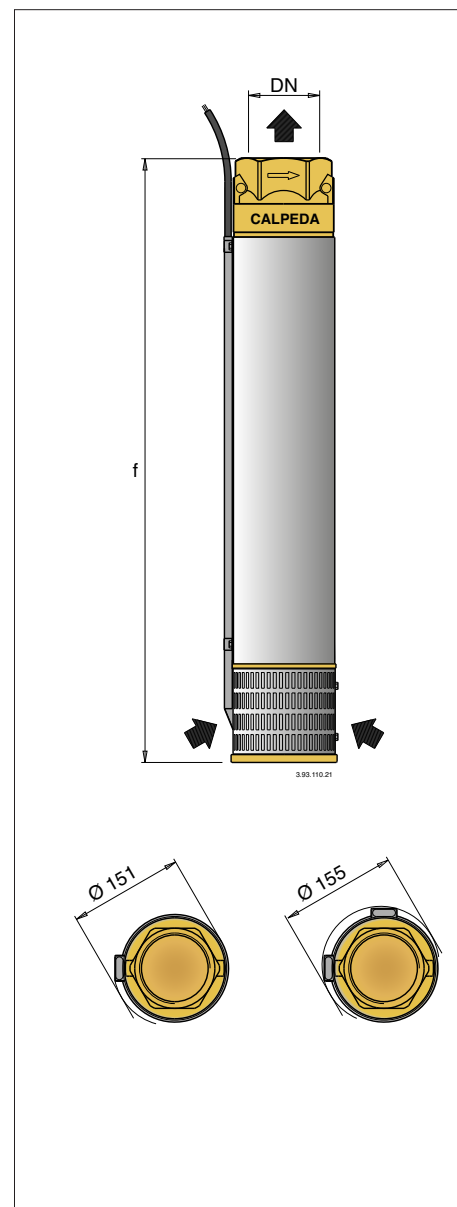
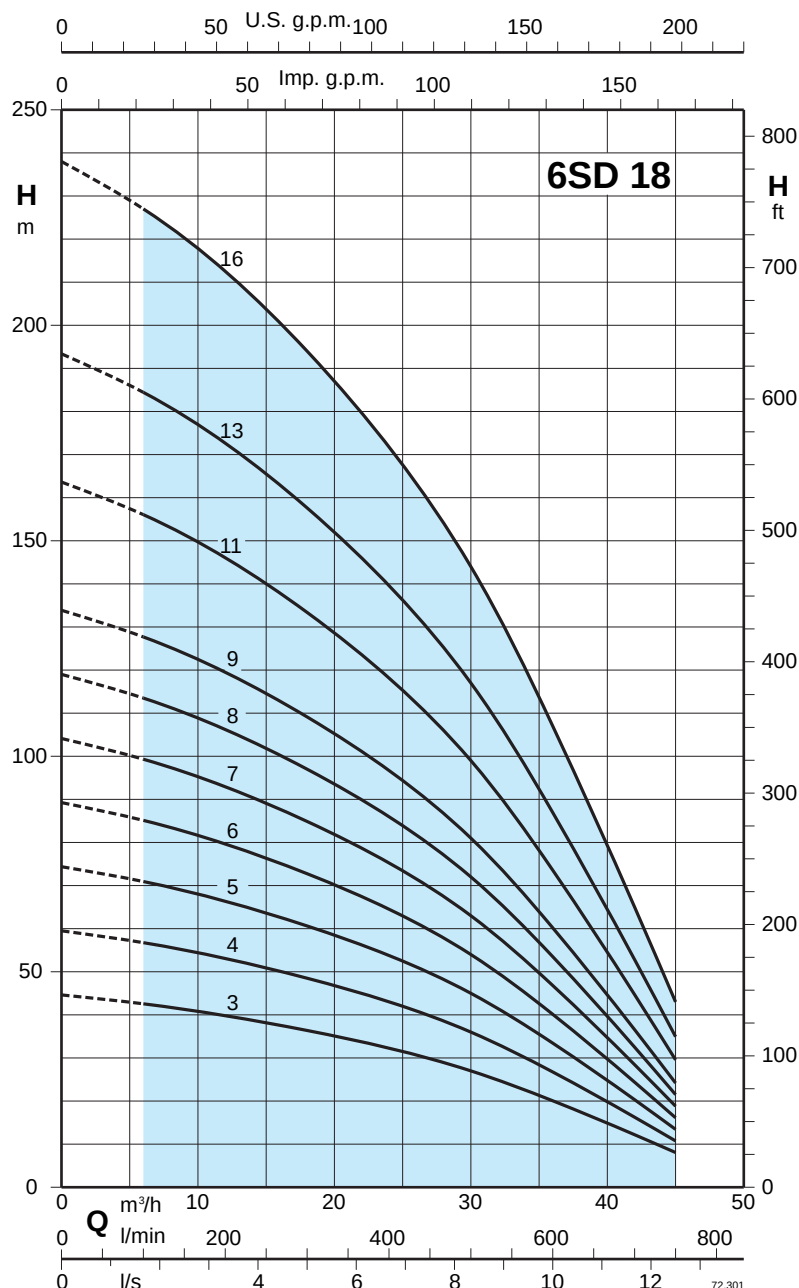
Tolerances according to UNI EN ISO 9906:2012

6SD 18

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	P ₂		Q	n ≈ 2900 rpm										
	kW	HP	m³/h l/min	6	12	18	24	30	36	42	45			
6SD 18/3	4	5,5	H m	42	39	36	32	27	20	12	8			
6SD 18/4	5,5	7,5		56	53	48	43	36	27	16	11			
6SD 18/5	7,5	10		70	66	60	53	45	34	21	13			
6SD 18/6	9,2	12,5		85	79	72	64	54	40	25	16			
6SD 18/7	9,2	12,5		100	93	84	75	63	46	28	19			
6SD 18/8	11	15		113	105	96	86	72	54	32	21			
6SD 18/9	13 (15)	17,5 (20)		127	119	108	96	81	60	37	24			
6SD 18/11	15	20		156	145	132	118	99	74	45	30			
6SD 18/13	18,5	25		184	172	157	139	117	87	52	35			
6SD 18/16	22	30		227	213	194	172	144	107	65	43			

DN	f	
	mm	kg
G 3 ISO 228	647	20,5
	756	23
	865	25
	974	27
	1083	29,5
	1192	32
	1301	34,5
	1519	39,5
	1737	43
	2064	50,2

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

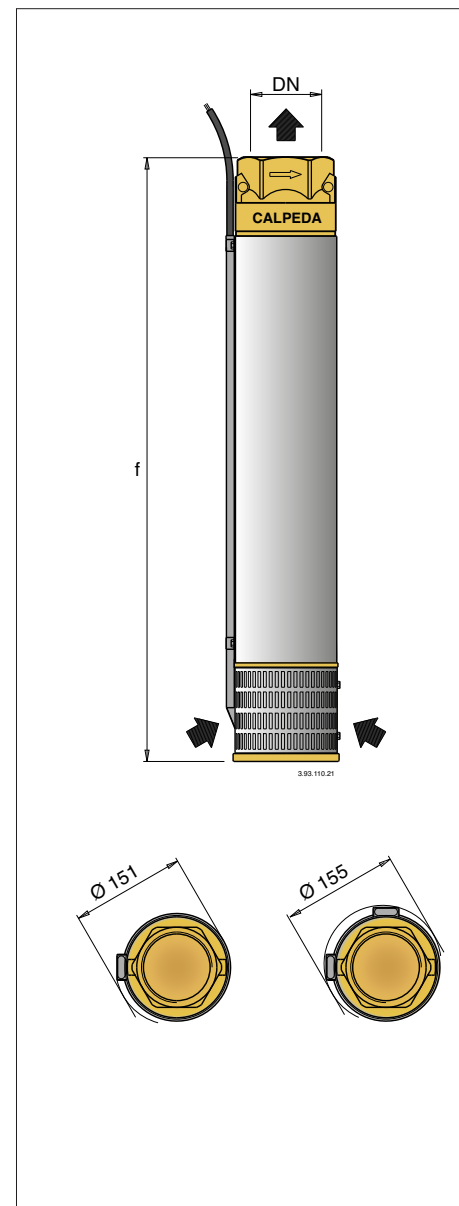
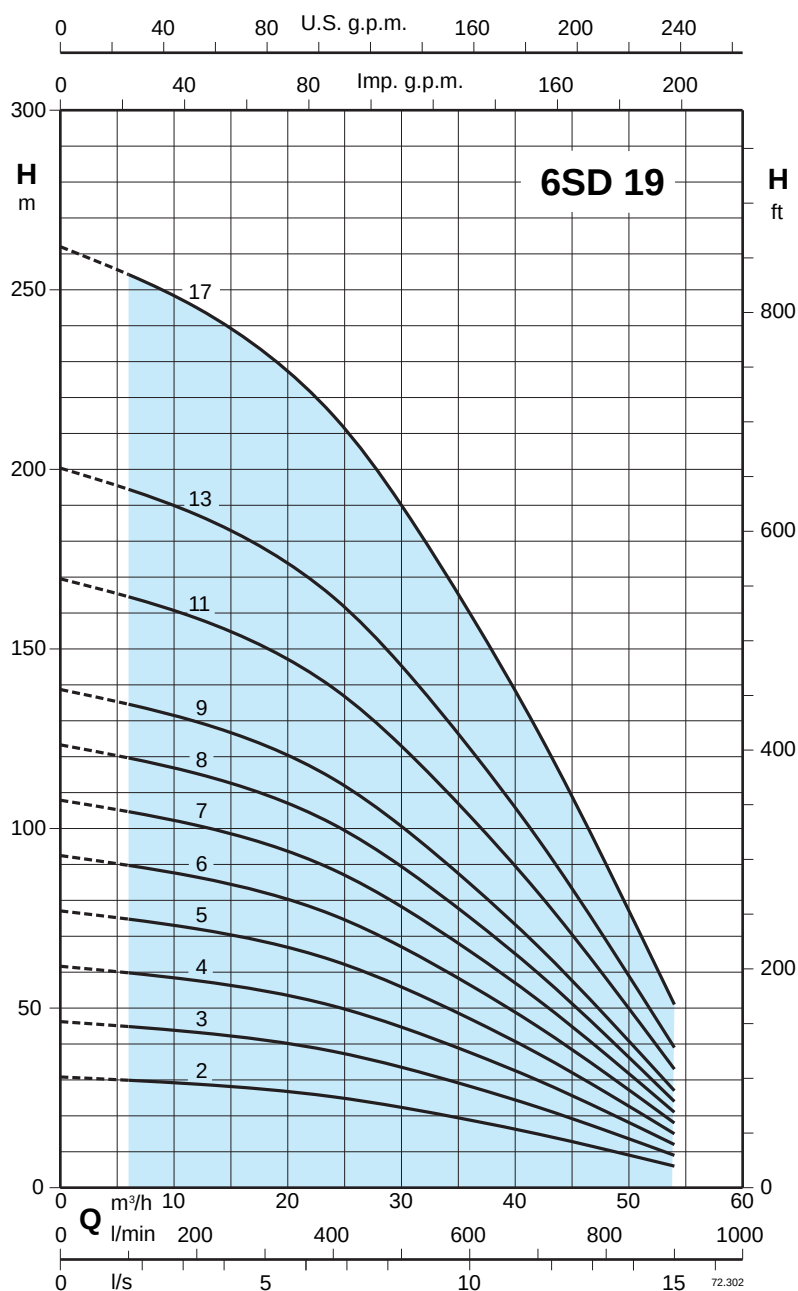
Tolerances according to UNI EN ISO 9906:2012

6SD 19

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	P2		Q	n ≈ 2900 rpm											
	kW	HP	m^3/h	6	12	18	24	30	36	42	48	54			
			l/min	100	200	300	400	500	600	700	800	900			
6SD 19/2	4	5,5	H m	30	29	27	25	22	19	15	10	6			
6SD 19/3	5,5	7,5		45	43	41	38	33	29	23	15	9			
6SD 19/4	7,5	10		60	57	55	50	45	38	30	21	12			
6SD 19/5	9,2	12,5		75	72	69	63	56	47	38	26	15			
6SD 19/6	11	15		90	86	82	75	67	56	45	31	18			
6SD 19/7	13 (15)	17,5 (20)		105	100	96	88	79	66	53	37	21			
6SD 19/8	15	20		120	115	110	101	89	75	60	42	24			
6SD 19/9	15	20		135	130	123	114	100	85	68	47	27			
6SD 19/11	18,5	25		165	158	151	139	123	104	83	58	33			
6SD 19/13	22	30		195	188	179	164	145	122	98	69	39			
6SD 19/17	30	40		255	245	234	215	190	160	127	90	51			

DN	f	
	mm	kg
G 3 ISO 228	538	18
	647	20,5
	756	23
	865	25
	974	27
	1083	29,5
	1192	32
	1301	34,5
	1519	39,5
	1737	43
	2173	53

P2 Rated motor power output

(...) FK motor rated power output

H Total head in m

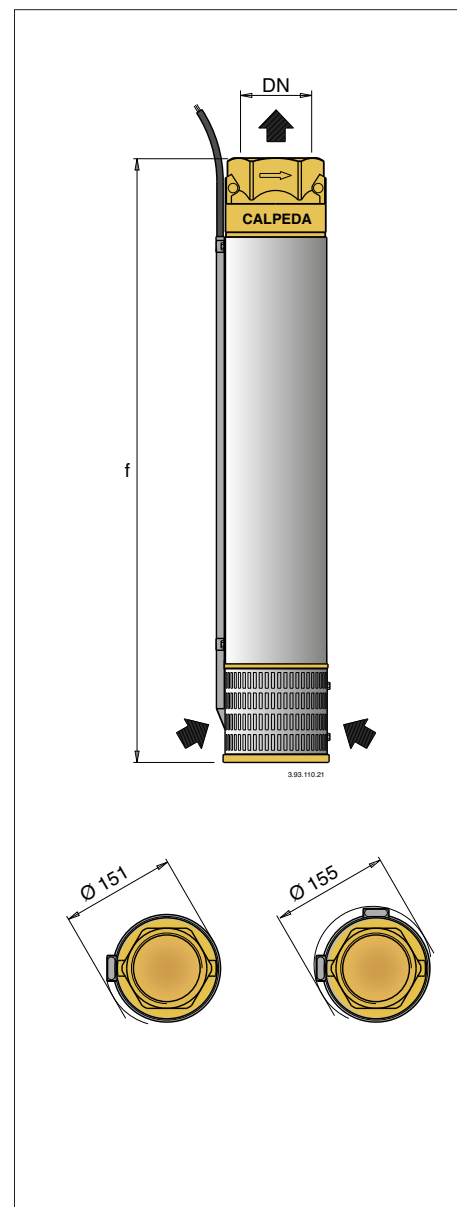
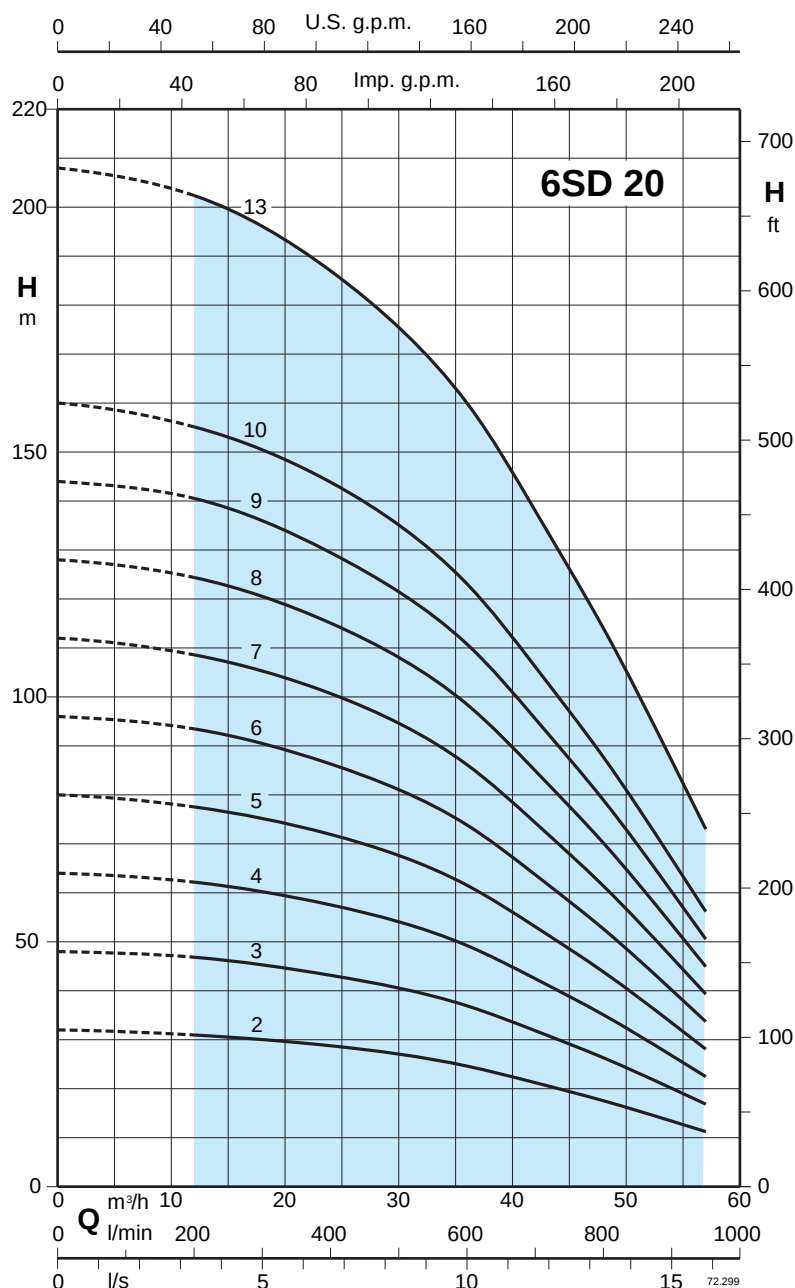
Tolerances according to UNI EN ISO 9906:2012

6SD 20

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3~	P ₂		Q	n $\approx$ 2900 rpm											
	kW	HP	l/min	12	18	24	30	36	42	48	54	57			
6SD 20/2	5,5	7,5	H m	31	30	29	28	24	21	17	13	11			
6SD 20/3	7,5	10		46	45	44	42	37	32	26	20	17			
6SD 20/4	9,2	12,5		62	60	58	55	49	42	35	26	22			
6SD 20/5	11	15		77	76	73	68	61	53	44	33	28			
6SD 20/6	13 (15)	17,5 (20)		93	91	87	83	73	63	53	40	34			
6SD 20/7	15	20		108	106	102	96	86	74	61	47	39			
6SD 20/8	18,5	25		124	120	115	110	99	85	70	53	45			
6SD 20/9	18,5	25		140	136	130	124	111	96	79	60	51			
6SD 20/10	22	30		155	151	144	138	123	106	88	67	56			
6SD 20/13	30	40		202	196	188	179	160	138	114	87	73			

DN	f	
	mm	kg
G 3 ISO 228	538	18
	647	20,5
	756	23
	865	25
	974	27
	1083	29,5
	1192	32
	1301	34,5
	1410	36,2
	1737	44,4

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

SDX

Submersible borehole pumps for 6" and 8" wells

calpeda[®]



The electropumps 6SDX, 6SDXL series comply with the European Regulation no. 547/2012.

Materials

Components	6SDX	6SDXL	8SDX	8SDXL
External jacket	Cr-Ni steel	Cr-Ni-Mo steel	Cr-Ni steel	Cr-Ni-Mo steel
Suction lantern	AISI 304	AISI 316L	AISI 304	AISI 316
Upper cover	Cr-Ni-Mo steel AISI 316		-	-
Delivery casing	Cr-Ni-Mo steel AISI 316L		Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316
Strainer	Cr-Ni-Mo steel		Cr-Ni-Mo steel	
Valve set	AISI 316		AISI 316	
O-ring valve	NBR			
Shaft	Cr-Ni-Mo steel AISI 316		Cr-Ni-Mo steel AISI 329	
Coupling set	Cr-Ni-Mo steel AISI 316/329			
Diffuser	Cr-Ni steel	Cr-Ni-Mo steel	Cr-Ni steel	Cr-Ni-Mo steel
Stage casing	AISI 304	AISI 316L	AISI 304	AISI 316
Impeller	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	Cr-Ni-Mo steel AISI 316	
Wear ring	Teflon (PTFE)			
Bearing bush	NBR			
Cable guard	Cr-Ni-Mo steel			
Screws	AISI 316			

CS, CS-R Motor

Components	CS-R 6", 8", CS 10" standard	I-CS-R 6", 8", I-CS 10" AISI 316
External frame	AISI 304 (AISI 316Ti for 10")	Cr-Ni-Mo steel AISI 316 Ti
Motor flange	Cast iron GJL 200 EN 1561	Cr-Ni-Mo steel AISI 316
Shaft end	Steel AISI 431 (AISI 329 for 10")	AISI 316 (AISI 630 from 30 to 93kW) (AISI 429 for 10")
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Graphite (Bronze for 8" motor)	Graphite (Bronze for 8" motor)

Construction

Submersible borehole pumps for 6" wells (DN 150 mm) and 8" (DN 200 mm).

6,8SDX: with external jacket and stages in stainless steel AISI 304.

6,8SDXL: with external jacket and stages in stainless steel AISI 316.

Impellers

Radial impellers	Mixed flow impellers
6SDX(L) 18	6SDX(L) 30-46-65
	8SDX(L) 78-97

Connection: Screwed connection ISO 228

Delivery casing with built-in non-return valve.

Applications

For water supply.

For civil and industrial applications.

For fire fighting applications.

For irrigation.

Operating conditions

Liquid temperature up to 25 °C.

Max. sand quantity into the water: 100 g/m³.

Continuous duty.

Rewindable motor CS series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

With water wetted winding in rewindable execution.

Sized for connection to the pumps according to NEMA Standards.

Standard voltages:

- three-phase 400 V; 400/690 V.

Voltage tolerance : +6% / -10%.

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5 kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.

Operating conditions motor

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS	35 °C	0,08 m/s	20	all types
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW
8CS-R	40 °C	0,1 m/s	13	37 kW
		0,3 m/s	6	45 kW
	25 °C	0,3 m/s	10	30÷45 kW
			8	51÷75 kW
10CS	25 °C	0,50 m/s	6	92 kW
			10	all types

Insulation class F for 4" motors, class E for 6-8" motors, PVC coated wire for 10" motors.

Motor suitable operation with frequency converter.

Protection IP 68.

Special features on request

- Other voltages.

- 60 Hz frequency.

- Other temperatures.

- Encapsulated motor **FK series** (for characteristic see pag. 382).

Designation

6 SDX L 30 / 17

Ø of the well in inches _____

Series _____

Cr-Ni-Mo steel AISI 316 construction _____

Stage identification _____

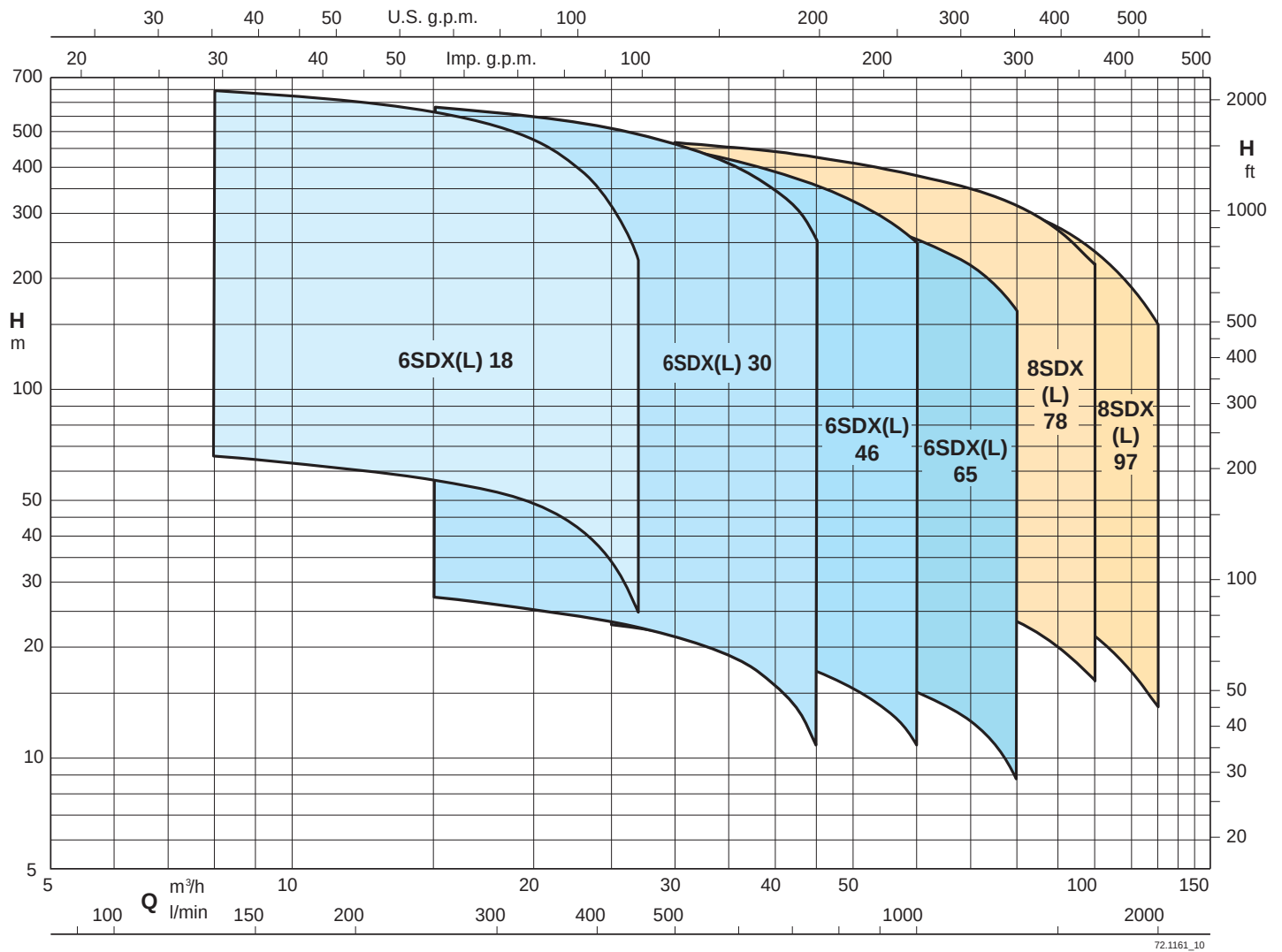
Number of stages _____

SDX

Submersible borehole pumps for 6" and 8" wells



Coverage chart $n \approx 2900$ rpm

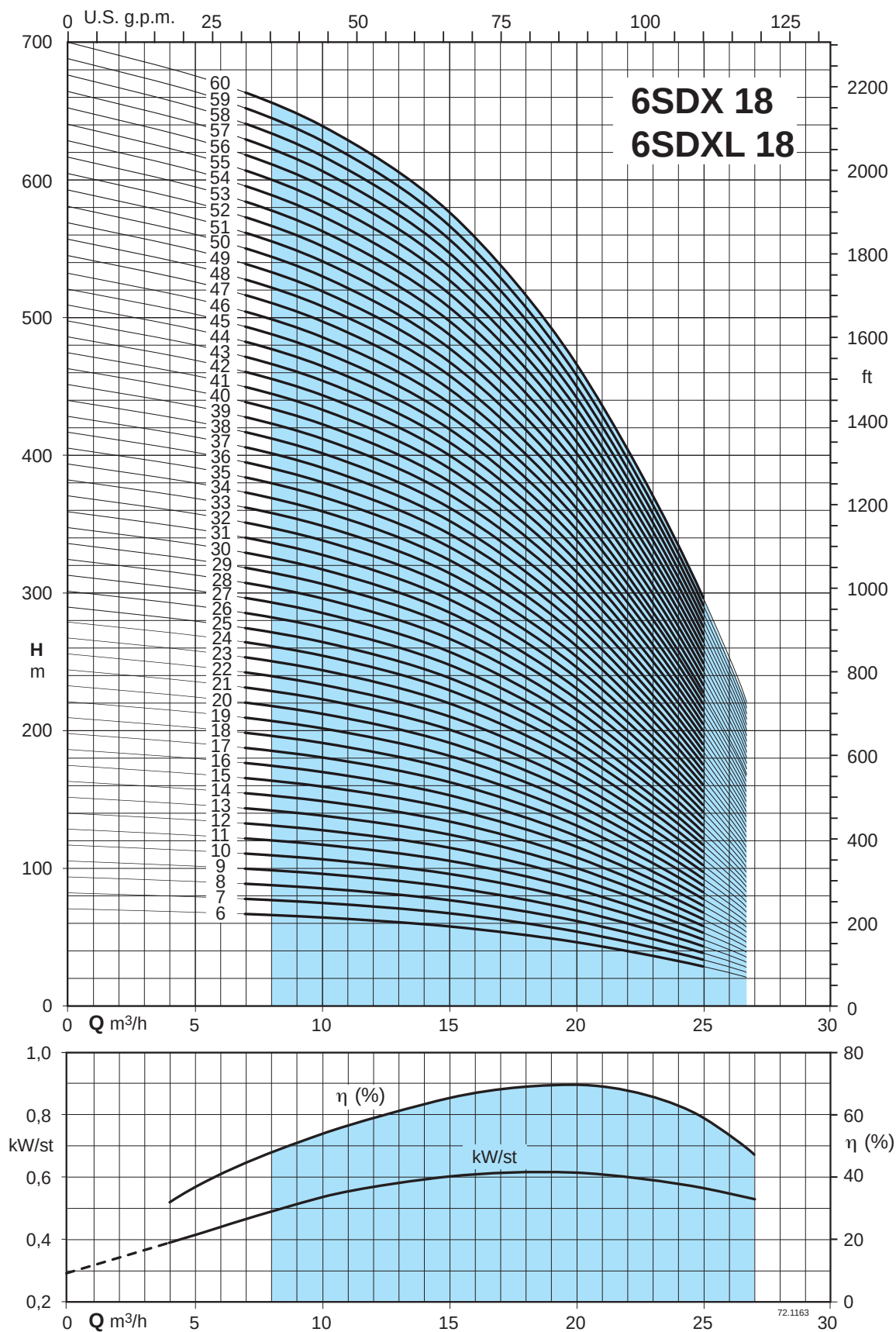


6SDX 18

Submersible borehole pumps for 6" wells



Characteristic curves



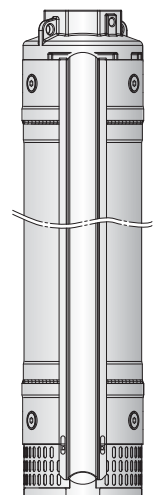
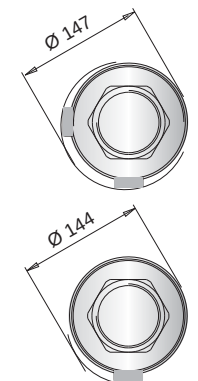
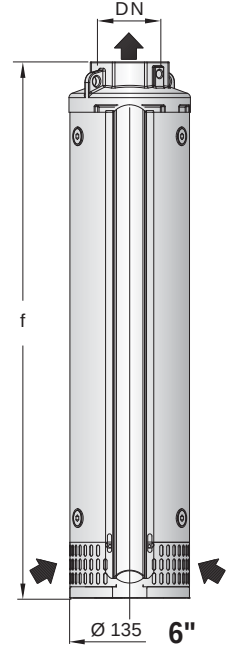
6SDX 18

Submersible borehole pumps for 6" wells



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P2		Q	n ≈ 2900 rpm									DN	Motore		f	
														CS-R	FK		
	kW	HP	m³/h	0	8	10	12	15	18	21	24	27		mm	mm		
			l/min	0	133	167	200	250	300	350	400	450					
6SDX (L) 18/6	4	5,5	H m	70	66,4	64	62	57,6	51,6	43,2	32,9	20,5	Rp 2"1/2	145 6"	137 6"	494	12,5
6SDX (L) 18/7	5,5	7,5		81,7	77,5	74,7	72,3	67,2	60,2	50,4	38,4	23,9				532	13,5
6SDX (L) 18/8	5,5	7,5		93,3	88,5	85,3	82,7	76,8	68,8	57,6	43,9	27,4				569	14,3
6SDX (L) 18/9	5,5	7,5		105	99,6	96	93	86,4	77,4	64,8	49,4	30,8				607	15
6SDX (L) 18/10	7,5	10		117	111	107	103	96	86	72,0	54,9	34,2				644	16
6SDX (L) 18/11	7,5	10		128	122	117	114	106	94,6	79,2	60,4	37,6				682	17
6SDX (L) 18/12	7,5	10		140	133	128	124	115	103	86,4	65,8	41,0				719	17,5
6SDX (L) 18/13	9,2	12,5		152	144	139	134	125	112	93,6	71,3	44,5				757	18,5
6SDX (L) 18/14	9,2	12,5		163	155	149	145	134	120	101	76,8	47,9				794	19,3
6SDX (L) 18/15	9,2	12,5		175	166	160	155	144	129	108	82,3	51,3				832	20
6SDX (L) 18/16	11	15		187	177	171	165	154	138	115	87,8	54,7				869	21
6SDX (L) 18/17	11	15		198	188	181	176	163	146	122	93,3	58,1				907	22
6SDX (L) 18/18	11	15		210	199	192	186	173	155	130	98,8	61,6				944	22,5
6SDX (L) 18/19	13 (15)	17,5 (20)		222	210	203	196	182	163	137	104	65,0				982	23,5
6SDX (L) 18/20	13 (15)	17,5 (20)		233	221	213	207	192	172	144	110	68,4				1019	24
6SDX (L) 18/21	13 (15)	17,5 (20)		245	232	224	217	202	181	151	115	71,8				1057	25
6SDX (L) 18/22	15	20		257	243	235	227	211	189	158	121	75,2				1094	26
6SDX (L) 18/23	15	20		268	254	245	238	221	198	166	126	78,7				1132	26,5
6SDX (L) 18/24	15	20		280	266	256	248	230	206	173	132	82,1				1169	27,5
6SDX (L) 18/25	18,5	25		292	277	267	258	240	215	180	137	85,5				1207	28,3
6SDX (L) 18/26	18,5	25		303	288	277	269	250	224	187	143	88,9				1244	29
6SDX (L) 18/27	18,5	25		315	299	288	279	259	232	194	148	92,3				1282	31
6SDX (L) 18/28	18,5	25		327	310	299	289	269	241	202	154	95,8				1319	31
6SDX (L) 18/29	18,5	25		338	321	309	300	278	249	209	159	99,2				1356	31,5
6SDX (L) 18/30	18,5	25		350	332	320	310	288	258	216	165	103				1394	32,5
6SDX (L) 18/31	22	30		362	343	331	320	298	267	223	170	106				1431	33,3
6SDX (L) 18/32	22	30		373	354	342	331	307	275	230	176	109				1469	34
6SDX (L) 18/33	22	30		385	365	352	341	317	284	238	181	113				1506	35
6SDX (L) 18/34	22	30		397	376	363	351	326	292	245	187	116				1544	35,7
6SDX (L) 18/35	22	30		408	387	373	362	336	301	252	192	120				1581	36,3
6SDX (L) 18/36	22	30		420	398	384	372	346	310	259	198	123				1619	37
6SDX (L) 18/37	26 (30)	35 (40)		432	409	395	382	355	318	266	203	127				1656	38,4
6SDX (L) 18/38	26 (30)	35 (40)		443	420	405	393	365	327	274	209	130				1694	39,8
6SDX (L) 18/39	26 (30)	35 (40)		455	432	416	403	374	335	281	214	133				1731	40
6SDX (L) 18/40	26 (30)	35 (40)		467	443	427	413	384	344	288	220	137				1769	40,5
6SDX (L) 18/41	26 (30)	35 (40)		478	454	437	424	394	353	295	225	140				1806	41,8
6SDX (L) 18/42	26 (30)	35 (40)		490	465	448	434	403	361	302	230	144				1844	43
6SDX (L) 18/43	30	40		502	476	459	444	413	370	310	236	147				1881	44
6SDX (L) 18/44	30	40		513	487	469	455	422	378	317	241	151				1919	45
6SDX (L) 18/45	30	40		525	498	480	465	432	387	324	247	154				1956	46
6SDX (L) 18/46	30	40		537	509	491	475	442	396	331	252	157				1993	47
6SDX (L) 18/47	30	40		548	520	501	486	451	404	338	258	161				2031	47,5
6SDX (L) 18/48	30	40		560	531	512	496	461	413	346	263	164				2068	48
6SDX (L) 18/49	30	40		572	542	523	506	470	421	353	269	168				2106	50
6SDX (L) 18/50	37	50		583	553	533	517	480	430	360	274	171				2143	51
6SDX (L) 18/51	37	50		595	564	544	527	490	439	367	280	174				2181	52
6SDX (L) 18/52	37	50		607	575	555	537	499	447	374	285	178				2218	53
6SDX (L) 18/53	37	50		618	586	565	548	509	456	382	291	181				2256	54
6SDX (L) 18/54	37	50		630	598	576	558	518	464	389	296	185				2293	55
6SDX (L) 18/55	37	50		642	609	587	568	528	473	396	302	188				2331	56
6SDX (L) 18/56	37	50		653	620	597	579	538	482	403	307	192				2368	57
6SDX (L) 18/57	37	50		665	631	608	589	547	490	410	313	195				2406	58
6SDX (L) 18/58	37	50		677	642	619	599	557	499	418	318	198				2443	59
6SDX (L) 18/59	37	50		688	653	629	610	566	507	425	324	202				2481	60
6SDX (L) 18/60	37	50		700	664	640	620	576	516	432	329	205				2518	61



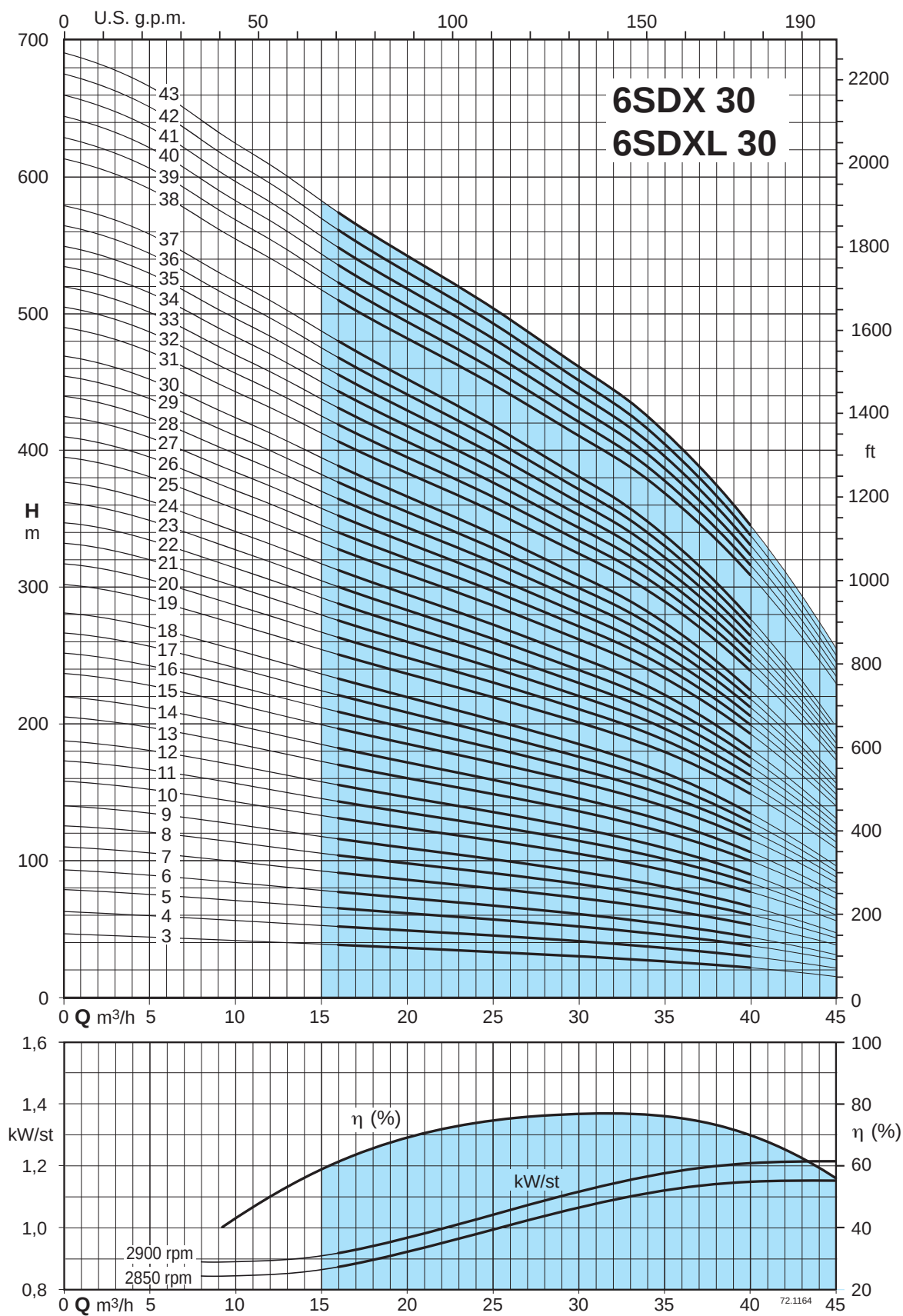
Reinforced with special collar from 6SDX(L) 18/47

6SDX 30

Submersible borehole pumps for 6" wells



Characteristic curves



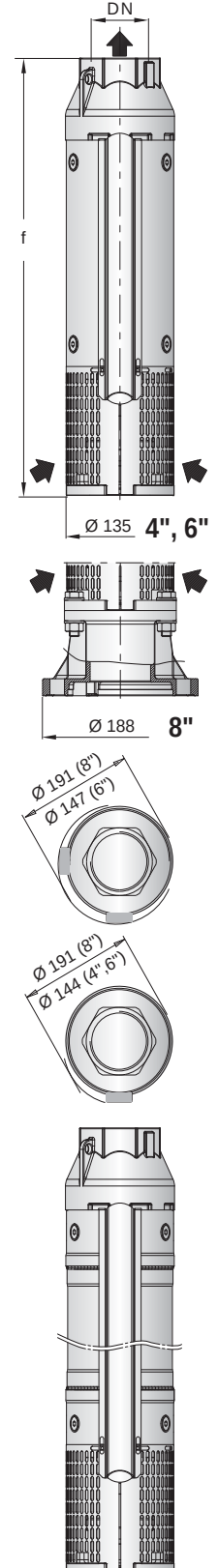
6SDX 30

Submersible borehole pumps for 6" wells



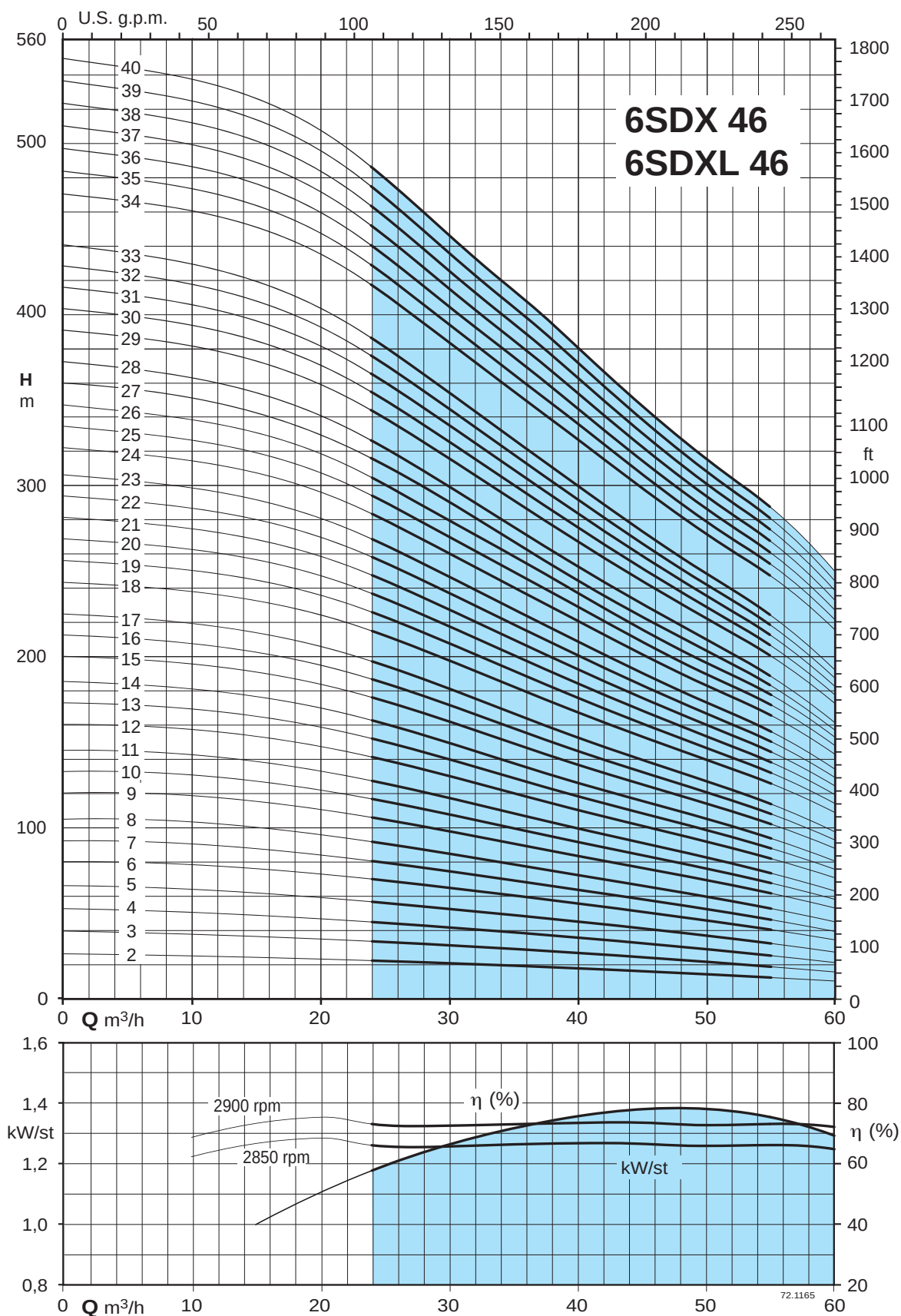
Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P2		Q m³/h	n ≈ 2900 rpm									DN	Motore		f	
				0	15	20	25	30	35	40	45	-		CS-R	FK		
	kW	HP	l/min	0	250	333	416	500	583	666	750	-		mm	mm		
6SDX (L) 30/3	4	5,5	H m	46,3	38,9	36	33,3	30,2	26,7	21,7	15,3	-	Rp 3"	145 6"	137 6"	620	14,7
6SDX (L) 30/4	5,5	7,5		62,5	52,6	48,8	45,2	41,1	36,5	30	21,4					705	16,8
6SDX (L) 30/5	7,5	10		78,6	66,2	61,5	56,9	51,8	46,1	38	27,4					790	18,9
6SDX (L) 30/6	7,5	10		93,1	78,4	72,6	67,1	61	54	44,1	31,2					876	21
6SDX (L) 30/7	9,2	12,5		110	92,6	86	79,7	72,6	64,6	53,3	38,4					961,5	23,1
6SDX (L) 30/8	11	15		125	106	98,1	90,9	82,7	73,6	60,5	43,5					1047	25,4
6SDX (L) 30/9	11	15		140	118	109	101	91,8	81,4	66,6	47,3					1132	27,3
6SDX (L) 30/10	13 (15)	17,5 (20)		158	133	124	115	105	93,5	77,3	56,1					1218	29,4
6SDX (L) 30/11	15	20		173	146	135	125	114	102	83,8	60,4					1303	31,5
6SDX (L) 30/12	15	20		188	158	147	136	123	110	90	64,4					1389	33,6
6SDX (L) 30/13	18,5	25		205	173	161	149	136	121	100	72,4					1474	35,7
6SDX (L) 30/14	18,5	25		220	185	172	159	145	129	106	76,7					1560	37,8
6SDX (L) 30/15	22	30		237	200	185	172	157	140	116	84					1645	39,9
6SDX (L) 30/16	22	30		252	212	197	183	166	148	122	88,3					1730	42
6SDX (L) 30/17	22	30		267	224	208	193	176	156	129	92,5					1816	44,1
6SDX (L) 30/18	22	30		281	237	220	203	185	164	135	96,5					1901	46,1
6SDX (L) 30/19	26 (30)	35 (40)		302	255	237	220	201	180	149	109					1987	48,2
6SDX (L) 30/20	26 (30)	35 (40)		317	267	249	231	210	188	156	114					2072	50,3
6SDX (L) 30/21	26 (30)	35 (40)		332	280	260	241	220	197	163	118					2157	52,4
6SDX (L) 30/22	30	40		347	293	272	252	230	205	169	123					2243	54,5
6SDX (L) 30/23	30	40		362	305	283	263	239	213	176	127					2328	56,6
6SDX (L) 30/24	30	40		377	317	295	273	249	221	182	131			2414	58,7		
6SDX (L) 30/25	37	50		395	333	309	287	261	233	193	140			2499	60,8		
6SDX (L) 30/26	37	50		410	345	321	297	271	242	200	144			2584	62,9		
6SDX (L) 30/27	37	50		425	358	332	308	280	250	206	149			2670	65		
6SDX (L) 30/28	37	50		440	370	344	318	290	258	212	153			2755	67,2		
6SDX (L) 30/29	37	50		454	383	355	329	299	266	219	157			2840	69,2		
6SDX (L) 30/30	37	50		469	395	366	339	308	274	225	161			2926	71,3		
6SDX (L) 30/31	45	60		490	413	384	356	324	289	239	174			3011	75,2		
6SDX (L) 30/32	45	60		505	425	395	366	334	298	246	178			3096	78,3		
6SDX (L) 30/33	45	60		520	438	407	377	343	306	252	182			3182	80,4		
6SDX (L) 30/34	45	60		535	450	418	387	353	314	259	186			3267	82,5		
6SDX (L) 30/35	45	60		549	463	429	398	362	322	265	190			3352	84,6		
6SDX (L) 30/36	45	60		564	475	441	408	371	330	271	194			3438	87,9		
6SDX (L) 30/37	45	60		579	487	452	418	380	338	277	198			3523	90		
6SDX (L) 30/38	51 (55)	70 (75)		613	517	482	448	410	369	309	229			3709	92,3		
6SDX (L) 30/39	51 (55)	70 (75)		628	530	494	459	420	378	316	234			3794	94,5		
6SDX (L) 30/40	51 (55)	70 (75)		644	543	506	471	430	387	323	240			3879	96,6		
6SDX (L) 30/41	51 (55)	70 (75)		659	557	518	482	440	396	330	245			3965	97,6		
6SDX (L) 30/42	55	75		675	569	530	493	450	404	338	250			4050	98,7		
6SDX (L) 30/43	55	75		690	582	542	504	460	413	345	255			4135	99,8		



Reinforced with special collar from 6SDX(L) 30/36

Characteristic curves



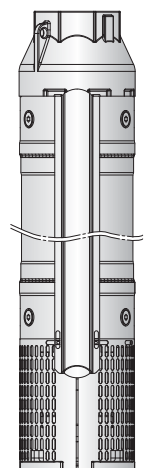
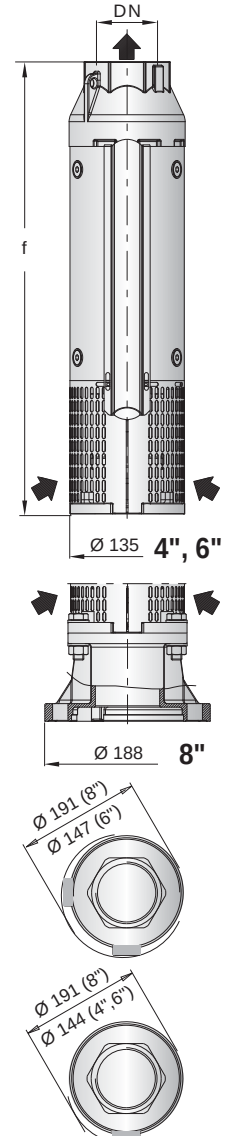
6SDX 46

Submersible borehole pumps for 6" wells



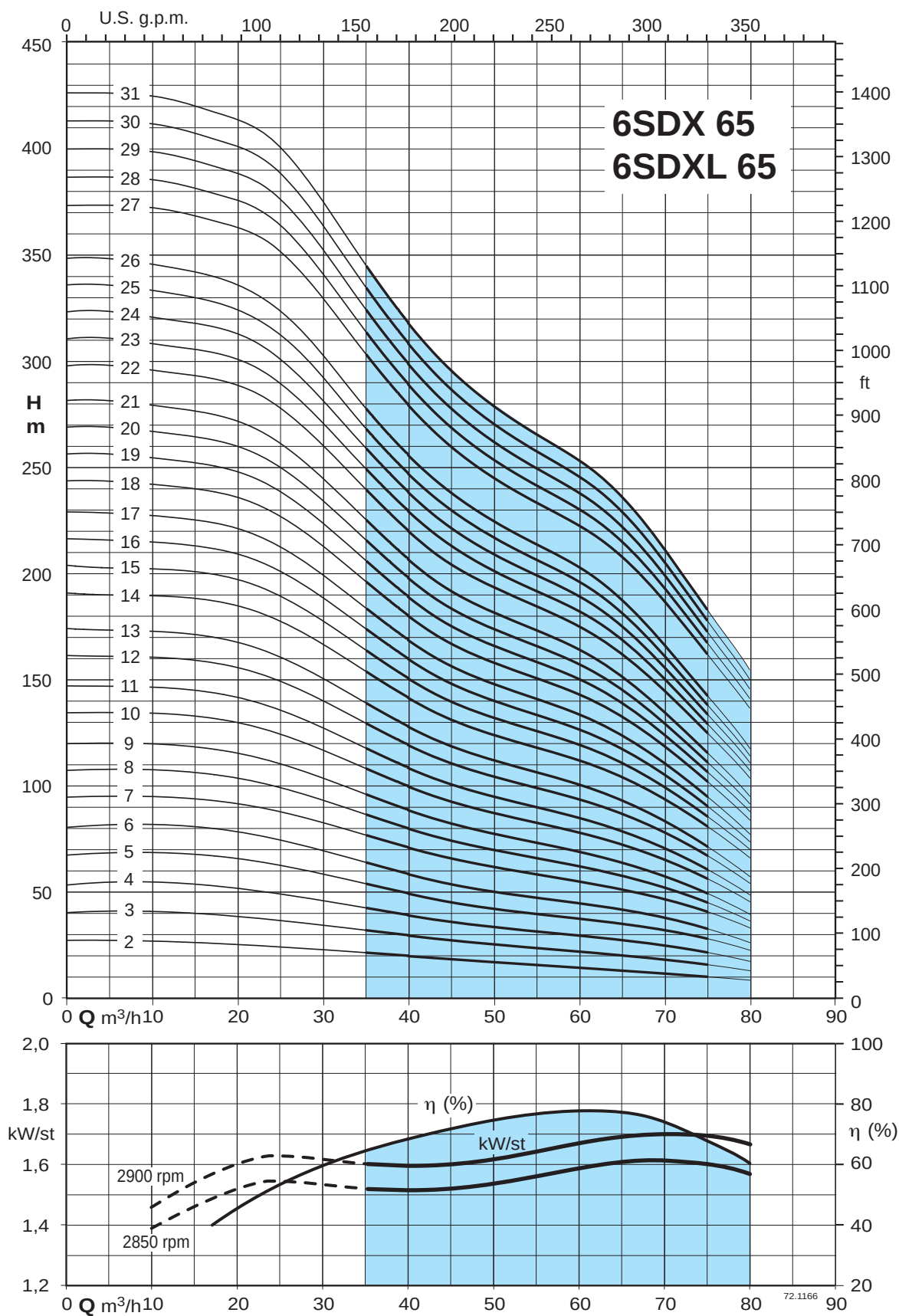
Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n ≈ 2900 rpm												DN	Motore		f	
				m³/h	0	25	30	35	40	45	50	55	60	-	-		CS-R	FK		
	kW	HP	l/min	0	416	500	583	666	750	833	916	1000	-	-	mm	mm	mm	kg		
6SDX (L) 46/2	3	4	H m	26,4	22,6	20,9	19,3	17,8	16,6	15,1	13,4	11,3	-	-	Rp 3"	145 6"	137 6"	594	13,5	
6SDX (L) 46/3	4	5,5		39,4	33,8	31,2	28,8	26,6	24,7	22,5	19,9	16,8						705	16,2	
6SDX (L) 46/4	5,5	7,5		52,5	45	41,5	38,3	35,5	32,9	29,9	26,5	22,3						819	18,8	
6SDX (L) 46/5	7,5	10		66,1	56,8	52,3	48,3	44,7	41,5	37,8	33,6	28,4						933	21,4	
6SDX (L) 46/6	9,2	12,5		80,7	70	65,2	60,4	55,5	50,3	46	41,6	35,7						1047	24,0	
6SDX (L) 46/7	9,2	12,5		93,1	80,4	74,8	69,3	63,5	57,6	52,7	47,5	40,5						1161	26,6	
6SDX (L) 46/8	11	15		106	91,6	85,1	78,9	72,2	65,5	59,9	54	46						1275	29,2	
6SDX (L) 46/9	13 (15)	17,5 (20)		121	105	98,2	91	83,7	75,9	69,5	62,9	54,1						1389	31,8	
6SDX (L) 46/10	13 (15)	17,5 (20)		134	116	108	100	91,9	83,3	76,2	68,9	59						1503	34,4	
6SDX (L) 46/11	15	20		146	126	118	109	99,9	90,5	82,8	74,7	63,7						1617	37,0	
6SDX (L) 46/12	18,5	25		161	140	130	12	111	101	92	83,3	71,4						1730	39,6	
6SDX (L) 46/13	18,5	25		174	150	140	130	119	108	98,7	89,2	76,3						1844	42,2	
6SDX (L) 46/14	18,5	25		186	161	149	139	127	115	105	95	81						1958	44,8	
6SDX (L) 46/15	22	30		201	174	162	150	138	125	114	103	88,4						2072	47,4	
6SDX (L) 46/16	22	30		213	184	171	159	146	132	121	109	93,2						2186	50,1	
6SDX (L) 46/17	22	30		225	195	181	168	154	139	127	115	97,8						2300	52,7	
6SDX (L) 46/18	26 (30)	35 (40)		244	212	198	183	169	153	140	127	109						2414	55,3	
6SDX (L) 46/19	26 (30)	35 (40)		257	223	208	192	177	160	147	133	114						2527	57,9	
6SDX (L) 46/20	30	40		269	234	218	208	185	168	154	139	119						2641	60,5	
6SDX (L) 46/21	30	40		282	244	227	211	193	175	160	145	124						2755	63,1	
6SDX (L) 46/22	30	40		294	255	237	220	202	183	167	151	129						2869	65,7	
6SDX (L) 46/23	30	40		307	265	247	229	209	190	174	157	134						2983	68,3	
6SDX (L) 46/24	37	50		322	280	260	241	222	201	184	166	143						3096	70,9	
6SDX (L) 46/25	37	50		335	290	270	250	230	208	191	172	147						3210	73,5	
6SDX (L) 46/26	37	50		347	301	280	259	238	216	197	178	152						3324	76,1	
6SDX (L) 46/27	37	50		360	311	289	268	246	223	204	184	157						3438	79,3	
6SDX (L) 46/28	37	50		372	321	299	277	254	230	210	190	162						3552	82,0	
6SDX (L) 46/29	45	60		390	339	315	292	268	243	223	201	173						3665	87,4	
6SDX (L) 46/30	45	60		403	349	325	301	276	251	229	207	178						3779	90,0	
6SDX (L) 46/31	45	60		415	360	334	310	284	258	236	213	183						3893	92,6	
6SDX (L) 46/32	45	60		427	370	344	319	292	265	243	219	187						4007	95,2	
6SDX (L) 46/33	45	60		440	380	353	328	300	272	249	225	192						4121	97,8	
6SDX (L) 46/34	51 (55)	70 (75)		469	411	383	355	328	298	272	248	216			4335	101				
6SDX (L) 46/35	51 (55)	70 (75)		482	422	394	365	337	306	279	255	221			4449	103				
6SDX (L) 46/36	51 (55)	70 (75)		496	434	404	374	346	314	287	261	227			4562	106				
6SDX (L) 46/37	51 (55)	70 (75)		509	445	415	384	355	322	294	268	233			4676	109				
6SDX (L) 46/38	55	75		522	456	425	394	364	330	302	275	238			4790	111				
6SDX (L) 46/39	55	75		535	467	436	403	372	338	309	281	244			4904	114				
6SDX (L) 46/40	55	75		548	479	446	413	381	346	316	288	249			5018	117				



Reinforced with special collar from 6SDX(L) 46/27

Characteristic curves



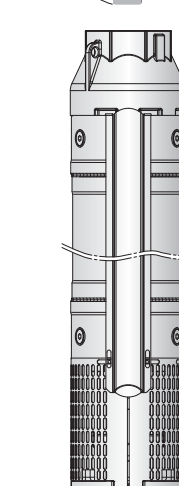
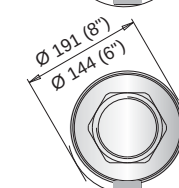
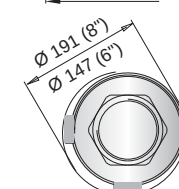
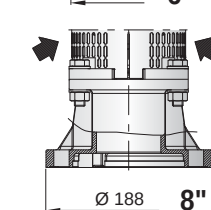
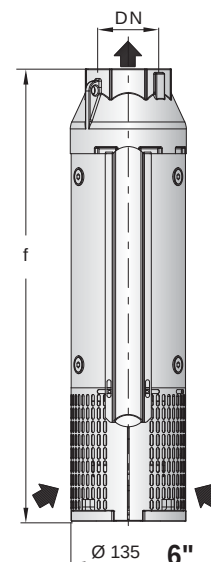
6SDX 65

Submersible borehole pumps for 6" wells



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n ≈ 2900 rpm												DN	Motore		f	
				m³/h	0	35	40	45	50	55	60	65	70	75	80		CS-R	FK		
	l/min	0	583	666	750	833	916	1000	1083	1166	1250	1333	mm	mm	mm		kg			
6SDX (L) 65/2	4	5,5	H m	26,8	21,1	19	17,3	16,5	15,7	14,9	13,9	12,4	10,5	8,2	Rp 3"	145 6"	137 6"	592	13,6	
6SDX (L) 65/3	5,5	7,5		40,4	31,8	28,8	26,2	24,9	23,7	22,5	21	18,9	16	12,6				705	16,2	
6SDX (L) 65/4	7,5	10		54	42,5	38,4	35	33,2	31,6	30,1	28	25,2	21,4	16,9				819	18,8	
6SDX (L) 65/5	9,2	12,5		68	53,8	48,7	44,3	41,9	40,1	38,2	35,6	32,2	27,5	22				933	21,4	
6SDX (L) 65/6	11	15		81,2	64	57,9	52,7	50	47,7	45,3	42,3	38,1	32,3	25,7				1047	24,0	
6SDX (L) 65/7	13 (15)	17,5 (20)		94,9	76,2	70,1	65,2	61,7	58,6	55,7	52,1	46,1	39,7	33,4				1161	26,7	
6SDX (L) 65/8	15	20		108	86	79,1	73,5	69,7	66,1	62,8	58,5	51,6	44,3	37				1275	29,3	
6SDX (L) 65/9	15	20		120	95,5	87,8	81,5	77,4	73,4	69,6	64,6	56,8	48,6	40,2				1389	31,9	
6SDX (L) 65/10	18,5	25		134	108	99	91,9	87,2	82,7	78,5	73,2	64,6	55,5	46,3				1503	34,5	
6SDX (L) 65/11	18,5	25		147	117	108	100	95	90	85,4	79,4	69,8	59,9	49,6				1617	37,1	
6SDX (L) 65/12	22	30		161	129	118	110	104	99,1	94,1	87,6	77,3	66,3	55,3				1730	39,7	
6SDX (L) 65/13	22	30		174	138	127	118	112	106	101	93,8	82,5	70,8	58,6				1844	42,4	
6SDX (L) 65/14	26 (30)	35 (40)		190	153	141	131	124	118	112	105	93	80,2	67,7				1958	44,9	
6SDX (L) 65/15	26 (30)	35 (40)		203	163	150	140	132	126	119	111	98,7	85	71,5				2072	47,5	
6SDX (L) 65/16	30	40		216	173	159	148	140	133	126	118	104	89,7	75,2				2186	50,2	
6SDX (L) 65/17	30	40		229	183	168	156	148	141	133	124	110	94,3	78,8				2300	52,8	
6SDX (L) 65/18	37	50		243	195	180	167	158	150	143	133	118	101	85,2				2414	55,4	
6SDX (L) 65/19	37	50		256	205	189	175	166	158	150	140	123	106	88,9				2527	58,0	
6SDX (L) 65/20	37	50		269	215	198	184	174	165	157	146	129	111	92,4				2641	60,7	
6SDX (L) 65/21	37	50		281	225	206	192	182	173	164	152	134	115	95,7				2755	63,3	
6SDX (L) 65/22	45	60		298	239	220	204	194	184	175	163	144	124	104				2869	68,7	
6SDX (L) 65/23	45	60		310	249	229	213	202	191	182	170	150	129	108				2983	71,3	
6SDX (L) 65/24	45	60		323	259	238	221	209	199	189	176	155	133	111				3096	73,9	
6SDX (L) 65/25	45	60		336	268	247	229	217	206	196	182	161	138	115				3210	76,5	
6SDX (L) 65/26	45	60		348	278	255	237	225	213	202	188	166	142	118				3324	79,1	
6SDX (L) 65/27	51 (55)	70 (75)		373	303	279	259	245	233	222	208	186	162	137	191 8"	196 8"	3538	82,6		
6SDX (L) 65/28	51 (55)	70 (75)		386	313	288	268	253	241	229	216	193	167	142			3652	85,3		
6SDX (L) 65/29	51 (55)	70 (75)		399	324	298	277	262	249	237	223	199	172	146			3765	87,9		
6SDX (L) 65/30	55	75		413	334	308	286	270	258	245	230	205	177	151			3879	90,5		
6SDX (L) 65/31	55	75		426	345	317	295	279	265	252	237	211	183	155			3993	93,2		



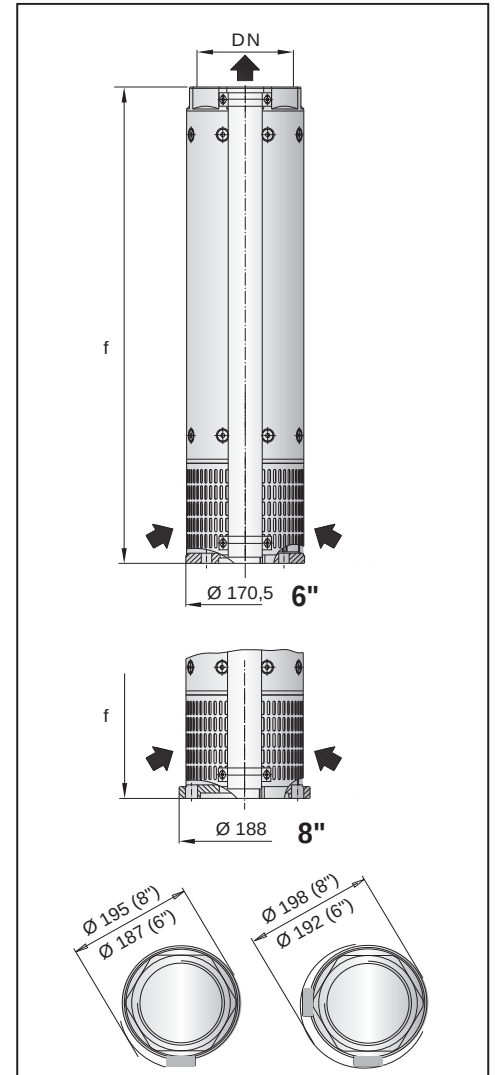
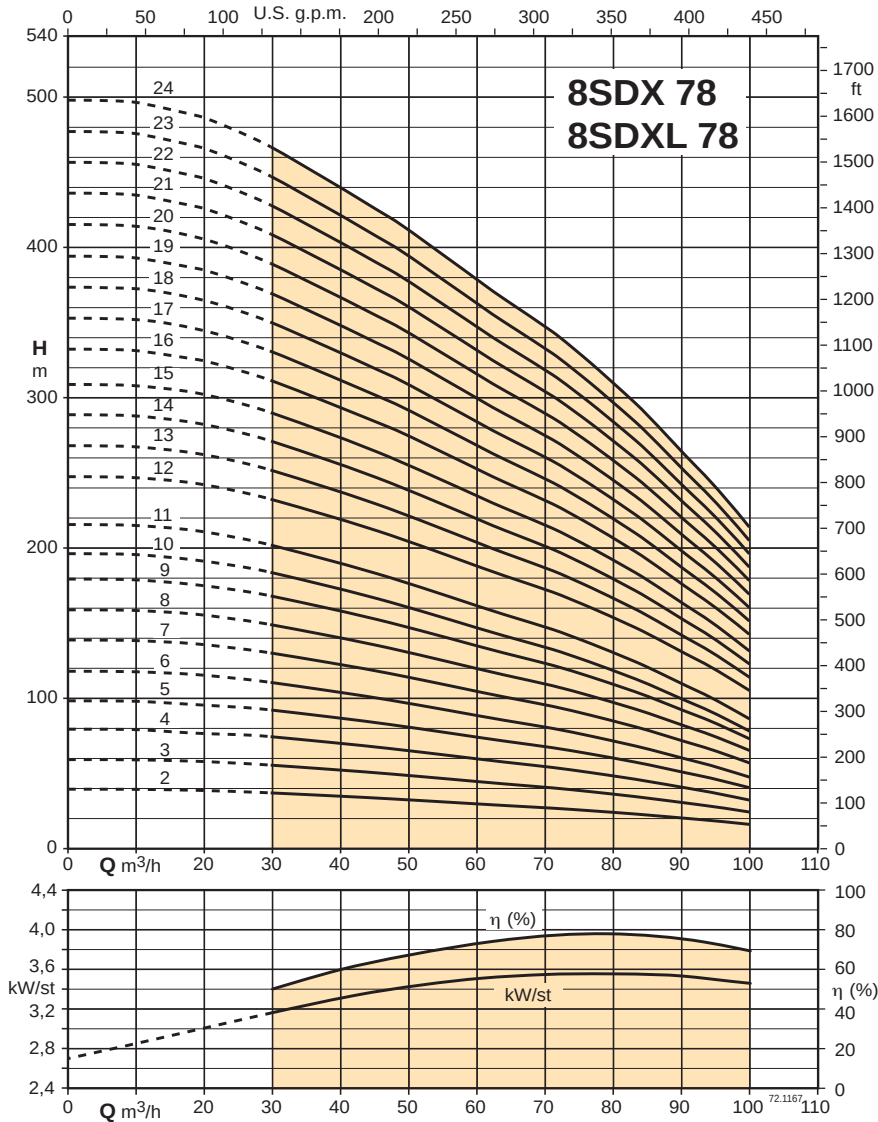
Reinforced with special collar from 6SDX(L) 65/27

8SDX 78

Submersible borehole pumps for 8" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



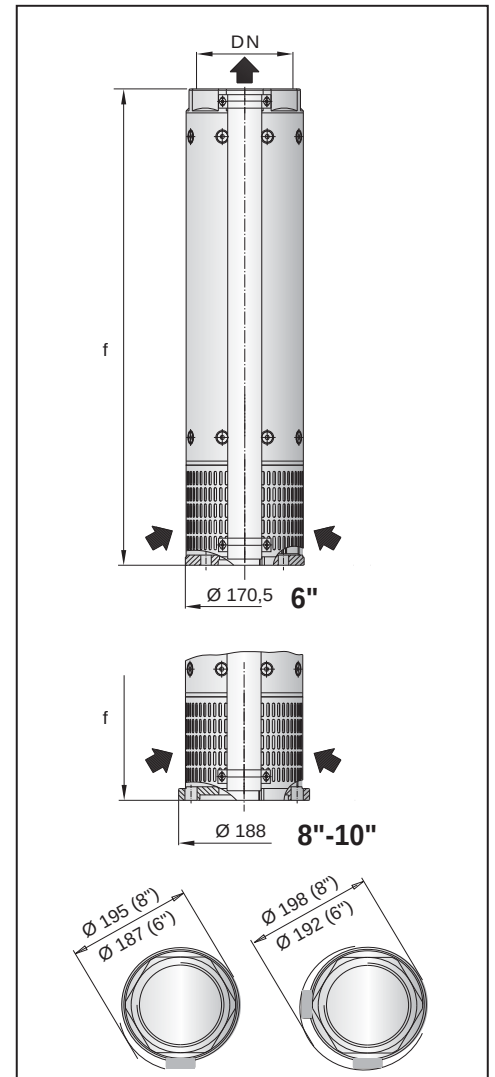
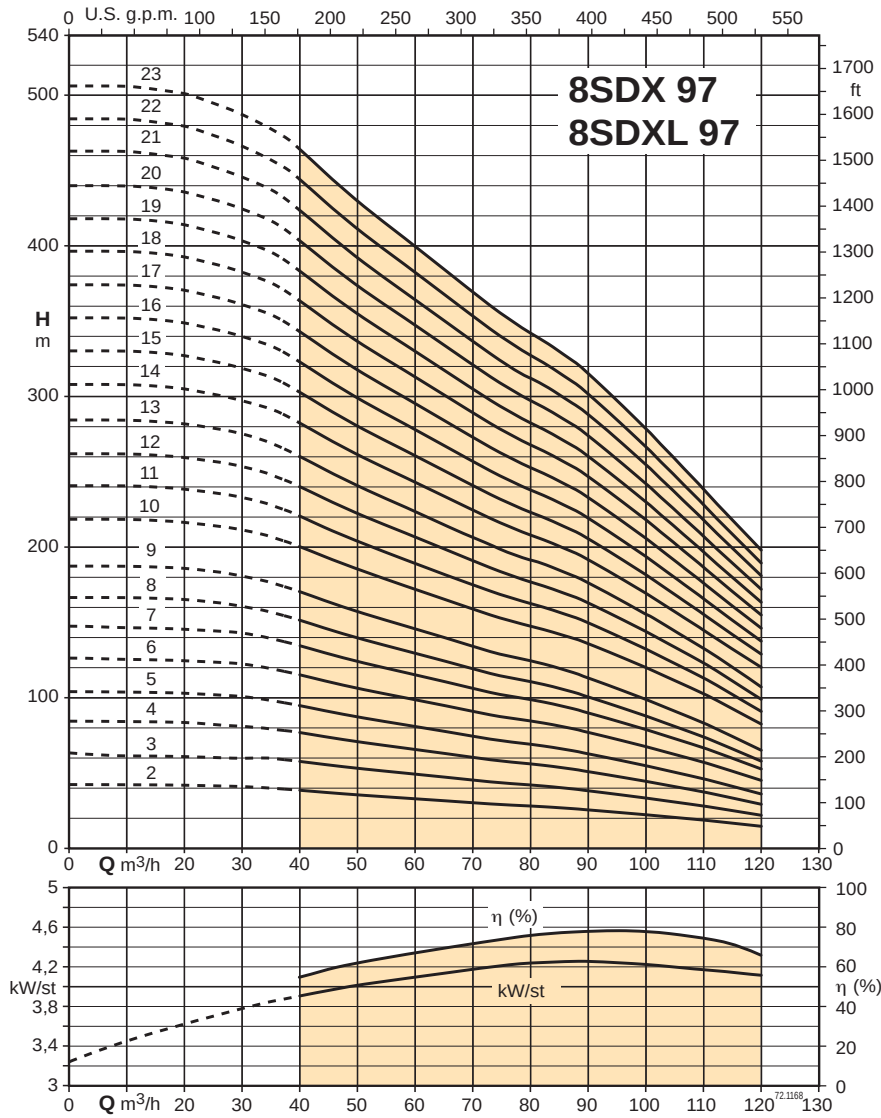
3 ~	P ₂		Q m³/h	n ≈ 2900 rpm										DN	Motor		f mm	8SDXL kg
				0	30	40	50	60	70	80	90	100						
	kW	HP	l/min	0	500	666	833	1000	1166	1333	1500	1666						
8SDX 78/2 - 8SDXL 78/2	7,5	10	H m	39,9	37,1	34,9	32,6	29,7	27,1	24,3	20,4	16,3				644	31,5	
8SDX 78/3 - 8SDXL 78/3	11	15		59,8	55,7	52,3	48,9	44,6	40,7	36,4	30,6	24,4				770	36,5	
8SDX 78/4 - 8SDXL 78/4	15	20		79,7	74,3	69,7	65,1	59,4	54,3	48,6	40,9	32,6				896	41,5	
8SDX 78/5 - 8SDXL 78/5	18,5	25		99,6	92,9	87,1	81,4	74,3	67,9	60,7	51,1	40,7				1022	46,5	
8SDX 78/6 - 8SDXL 78/6	22	30		120	111	105	97,7	89,1	81,4	72,9	61,3	48,9				1148	51	
8SDX 78/7 - 8SDXL 78/7	26 (30)	35 (40)		140	130	122	114	104	95	85	71,5	57				1274	56	
8SDX 78/8 - 8SDXL 78/8	30	40		156	146	138	128	117	107	94,5	80	63,3				1400	61	
8SDX 78/9 - 8SDXL 78/9	37	50		176	164	155	144	132	120	106	90	71,2				1526	66	
8SDX 78/10 - 8SDXL 78/10	37	50		195	183	173	160	147	134	118	100	79,1				1652	71	
8SDX 78/11 - 8SDXL 78/11	45	60		215	201	190	176	162	147	130	110	87				1778	76	
8SDX 78/12 - 8SDXL 78/12	45	60		248	232	218	203	187	171	154	130	105				1909	82	
8SDX 78/13 - 8SDXL 78/13	51 (55)	70 (75)		268	251	237	220	203	185	166	141	114				2035	87	
8SDX 78/14 - 8SDXL 78/14	51 (55)	70 (75)		289	271	255	237	218	200	179	152	122				2161	92	
8SDX 78/15 - 8SDXL 78/15	55	75		310	290	273	254	234	214	192	163	131				2287	97	
8SDX 78/16 - 8SDXL 78/16	59 (75)	80 (100)		332	312	293	274	252	232	206	176	143				2413	101,5	
8SDX 78/17 - 8SDXL 78/17	66 (75)	90 (100)		353	332	311	292	268	247	219	187	152				2539	106,5	
8SDX 78/18 - 8SDXL 78/18	66 (75)	90 (100)		374	351	329	309	284	261	232	198	161				2665	111,5	
8SDX 78/19 - 8SDXL 78/19	75	100		394	371	348	326	299	276	245	209	170				2791	116,5	
8SDX 78/20 - 8SDXL 78/20	75	100		415	390	366	343	315	290	258	220	179				2917	121	
8SDX 78/21 - 8SDXL 78/21	75	100		436	409	385	361	331	304	271	231	187				3043	126	
8SDX 78/22 - 8SDXL 78/22	92	125		457	428	403	378	347	318	284	242	196				3169	131	
8SDX 78/23 - 8SDXL 78/23	92	125		478	448	422	395	363	333	297	253	205				3295	136	
8SDX 78/24 - 8SDXL 78/24	92	125		499	467	440	412	379	347	310	264	214				3421	141	

8SDX 97

Submersible borehole pumps for 8" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm										DN	Motor		f	8SDXL
															CS-R	FK		
	kW	HP	m³/h	0	40	50	60	70	80	90	100	110	120		mm	mm		
			l/min	0	666	833	1000	1166	1333	1500	1666	1833	2000					
8SDX 97/2 - 8SDXL 97/2	9,2	12,5	H m	41,2	38,6	35,2	32,2	29,8	27,8	24,8	21,8	18,6	14,8	Rp 5"	145 6"	137 6"	644	31,5
8SDX 97/3 - 8SDXL 97/3	13 (15)	17,5 (20)		61,8	57,9	52,8	48,3	44,7	41,7	37,2	32,7	27,9	22,2				770	36,5
8SDX 97/4 - 8SDXL 97/4	18,5	25		82,4	77,2	70,4	64,4	59,6	55,6	49,6	43,6	37,2	29,6				896	41,5
8SDX 97/5 - 8SDXL 97/5	22	30		103	96,5	88	80,5	74,5	69,5	62	54,5	46,5	37				1022	46
8SDX 97/6 - 8SDXL 97/6	26 (30)	35 (40)		125	113	105	96,7	89	82,7	75	66,3	55	44				1148	51
8SDX 97/7 - 8SDXL 97/7	30	40		146	132	123	113	104	96,4	87,5	77,4	64,2	51,3				1274	56
8SDX 97/8 - 8SDXL 97/8	37	50		167	151	140	129	119	110	100	88,4	73,3	58,7				1400	61
8SDX 97/9 - 8SDXL 97/9	37	50		188	170	158	145	134	124	113	99,5	82,5	66				1526	66
8SDX 97/10 - 8SDXL 97/10	45	60		219	200	185	172	158	147	135	119	102	83,1				1657	72
8SDX 97/11 - 8SDXL 97/11	51 (55)	70 (75)		241	220	204	189	174	162	149	131	112	91,4				1783	77
8SDX 97/12 - 8SDXL 97/12	51 (55)	70 (75)		263	240	222	206	190	176	162	143	122	99,7	1909	82			
8SDX 97/13 - 8SDXL 97/13	55	75		285	260	241	223	206	191	176	155	132	108	2035	87			
8SDX 97/14 - 8SDXL 97/14	59 (75)	80 (100)		309	281	262	242	224	208	191	169	144	120	2161	92			
8SDX 97/15 - 8SDXL 97/15	66 (75)	90 (100)		331	302	279	261	240	222	205	182	156	129	2287	97			
8SDX 97/16 - 8SDXL 97/16	75	100		353	322	298	278	256	237	219	194	166	138	2413	102			
8SDX 97/17 - 8SDXL 97/17	75	100		375	342	317	295	272	251	233	206	176	147	2539	106,5			
8SDX 97/18 - 8SDXL 97/18	92	125		397	362	335	313	288	266	246	218	187	155	2665	111,5			
8SDX 97/19 - 8SDXL 97/19	92	125		419	382	354	330	304	281	260	230	197	164	2791	116,5			
8SDX 97/20 - 8SDXL 97/20	92	125		440	403	374	348	322	298	274	244	209	173	2917	121			
8SDX 97/21 - 8SDXL 97/21	92	125		462	424	393	365	338	313	288	257	219	182	3043	126			
8SDX 97/22 - 8SDXL 97/22	110	150		484	444	411	383	354	328	301	269	230	190	3169	131			
8SDX 97/23 - 8SDXL 97/23	110	150		507	464	430	400	370	343	315	281	240	199	3295	136			

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

SDS

Submersible borehole pumps for 6", 8" and 10" wells

calpeda[®]



6SDS series cannot be sold in the EU.

Materials

Components	Part Nr.	6, 8, 10SDS	B-6, B-8, B-10SDS
Stage casing	25.02	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Diffuser	26.00		
Impeller	28.00		
Wear ring		Rubber (Bronze for 10SDS 190-280)	
Shaft	64.00	6SDS e 8SDS: Steel AISI F51duplex 10SDS Cr steel AISI 420	Cr-Ni-Mo steel AISI 316
Shaft sleeve	64.08	Brass with chromate surface treatment (only for 10SDS)	
Delivery casing	12.01	Cast iron	Bronze
Suction lantern	32.02	GJL 200 EN 1561	G-Cu Sn 10 EN 1982
Bearing bush	12.03-12.30	Rubber	
Strainer	15.50	Cr-Ni steel AISI 304	
Screws		Cr-Ni steel AISI 304	

CS, CS-R Motor

Components	CS-R 6", 8", CS 10" standard	I-CS-R 6", 8", I-CS 10" AISI 316
External frame	AISI 304 (AISI 316Ti for 10")	Cr-Ni-Mo steel AISI 316 Ti
Motor flange	Cast iron GJL 200 EN 1561	Cr-Ni-Mo steel AISI 316
Shaft end	Steel AISI 431 (AISI 329 for 10")	AISI 316 (AISI 630 from 30 to 93kW) (AISI 429 for 10")
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Graphite (Bronze for 8" motor)	Graphite (Bronze for 8" motor)

Construction

Submersible borehole pumps for 6" wells (DN 150 mm), 8" (DN 200 mm) and 10" (DN 250 mm), with stages in cast iron or in bronze, on request.

Impellers: - mixed flow impellers.

Connection: - screwed connection ISO 228 for 6SDS;
- flange with counter-flange for welding for 8SDS and 10SDS

Delivery casing with built-in non-return valve.

Applications

For water supply.
For civil and industrial applications.
For fire fighting applications.
For irrigation.

Operating conditions

Liquid temperature up to a 25 °C.
Max. sand quantity into the water: 150 g/m³.
Continuous duty.

Rewindable motor CS, CS-R series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
With water wetted winding in rewindable execution.
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:
- three-phase 400 V; 400/690 V.
Voltage tolerance : +6% / -10%.

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.

Operating conditions motor

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW
	40 °C	0,1 m/s	13	37 kW
		0,3 m/s	6	45 kW
8CS-R	25 °C	0,3 m/s	10	30÷45 kW
			8	51÷75 kW
			6	92 kW
10CS	25 °C	0,50 m/s	10	all types

Insulation class E for 6-8" motors, PVC coated wire for 10" motors.

Motor suitable operation with frequency converter.
Protection IP 68.

Special features on request

- Other voltages.
- 60 Hz frequency.
- Other temperatures.
- Encapsulated motor **FK series** (for characteristic see pag. 382).

Designation

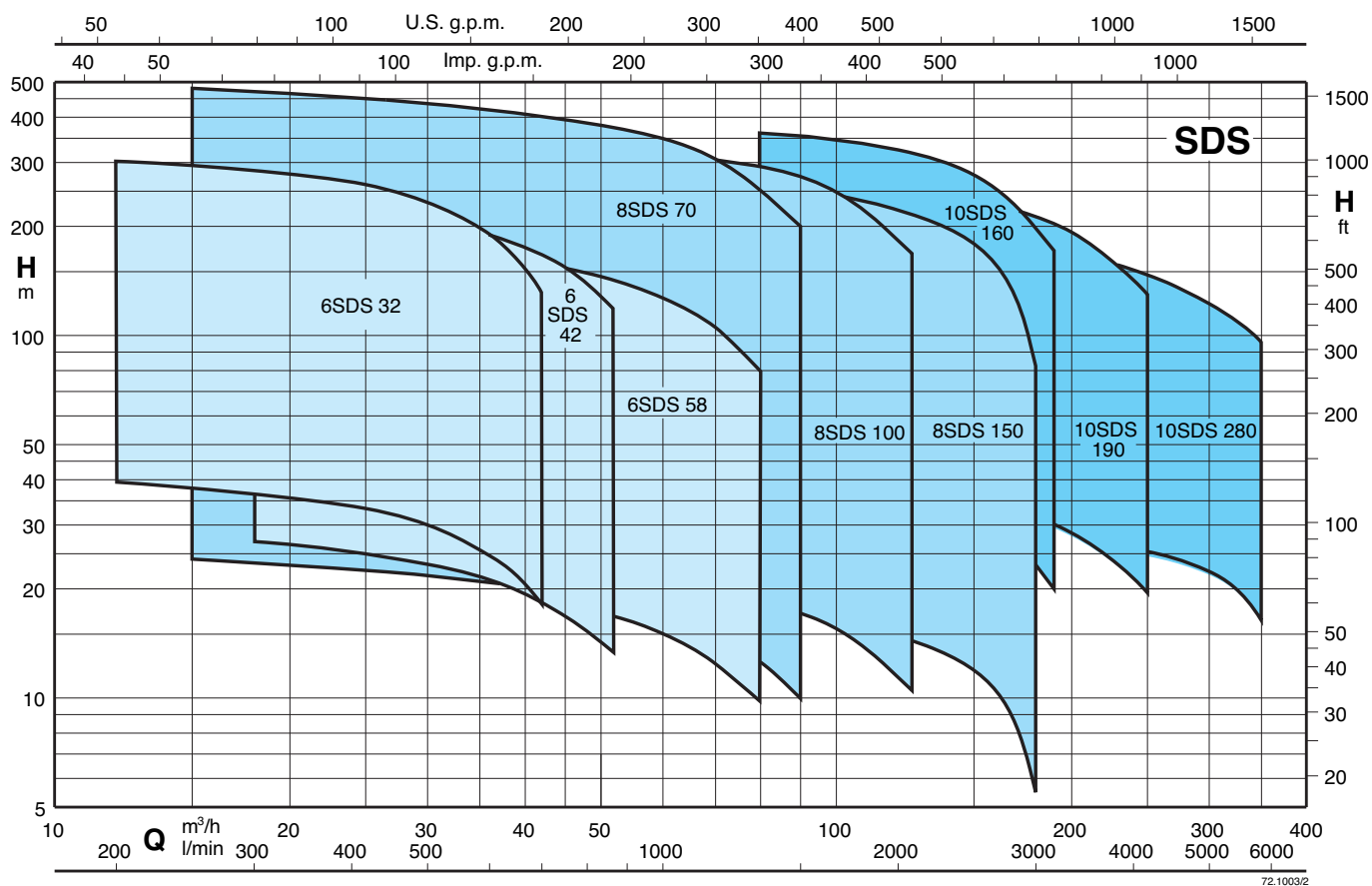
B 10 SDS 190 / 6
Bronze construction (on request) _____
Ø of the well in inches _____
Series _____
Stage identification _____
Number of stages _____

SDS

Submersible borehole pumps for 6", 8" and 10" wells



Coverage chart $n \approx 2900$ rpm

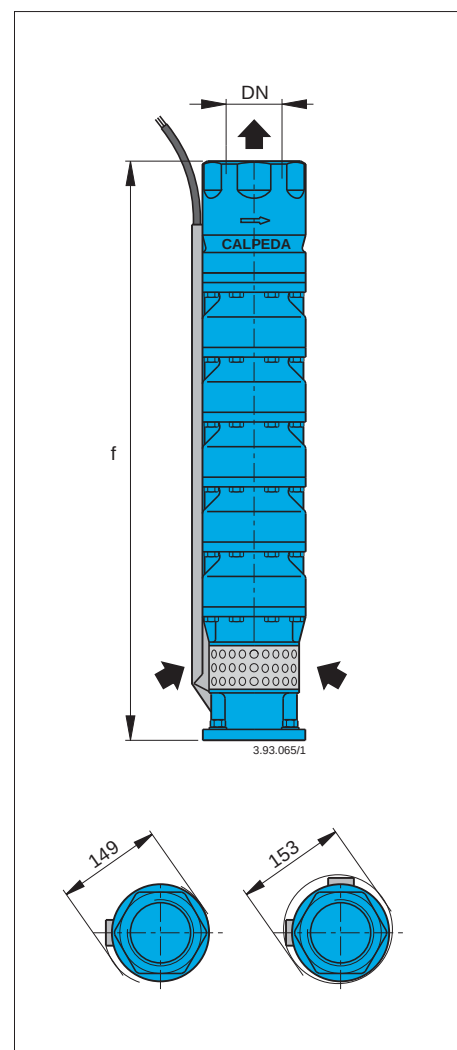
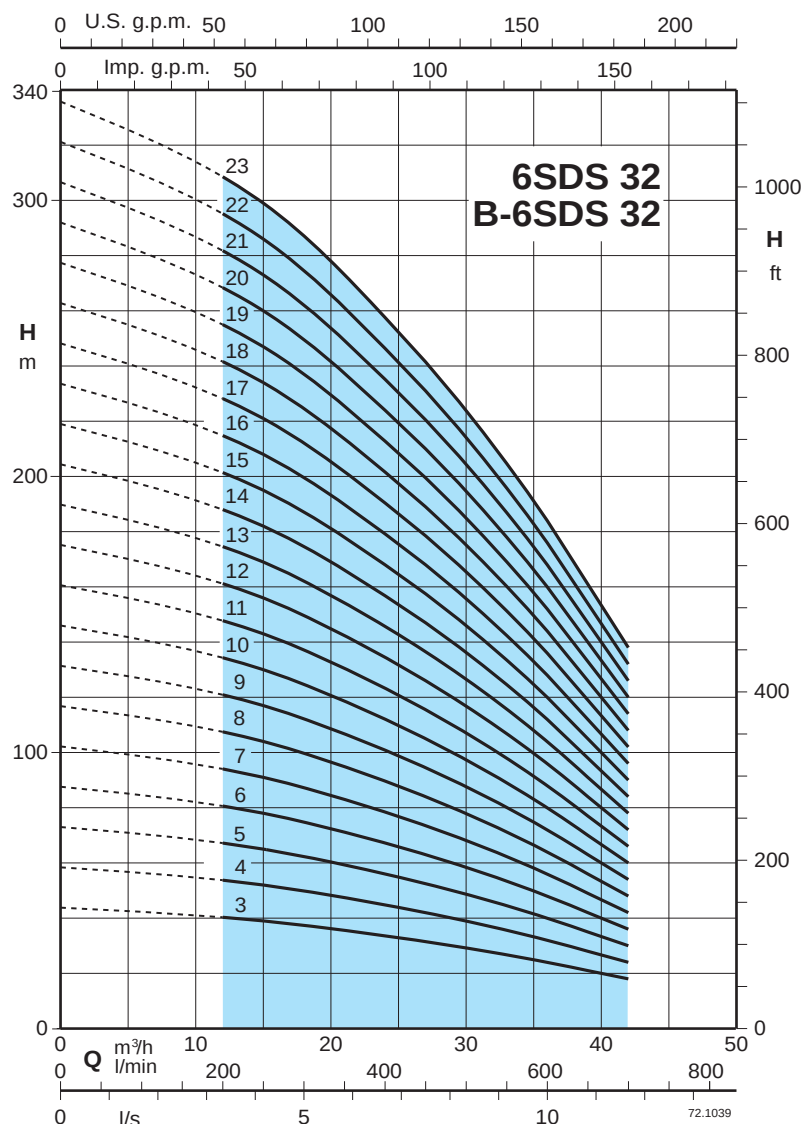


6SDS 32

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm												DN	f	6SDS	B-6SDS
	m³/h	12	18	21	24	27	30	33	36	39	42								
kW	HP	l/min	200	300	350	400	450	500	550	600	650	700		mm	kg	kg			
6SDS 32/3 - B-6SDS 32/3	4	5,5	H m	39	37	35,5	33,5	31,5	30	26,5	24	21	18	G 3 ISO 228	686	30,5	35,5		
6SDS 32/4 - B-6SDS 32/4	5,5	7,5		52	49	47	45	42	39,5	35,5	32	28	24		788	35,6	41,6		
6SDS 32/5 - B-6SDS 32/5	7,5	10		65	61,5	59	56	52,5	49,5	44,5	40	35	30		890	41	49		
6SDS 32/6 - B-6SDS 32/6	7,5	10		78	74	71	67	63	59,5	53,5	48	42	36		992	46	55		
6SDS 32/7 - B-6SDS 32/7	9,2	12,5		92	86	82,5	78,5	73,5	69	62	56	49	42		1094	52,3	62,3		
6SDS 32/8 - B-6SDS 32/8	11	15		105	98,5	94,5	89,5	84	79	71	64	56	48		1196	57	68		
6SDS 32/9 - B-6SDS 32/9	13 (15)	17,5 (20)		118	111	106	101	94,5	89	80	72	63	54		1298	62,5	74,5		
6SDS 32/10 - B-6SDS 32/10	13 (15)	17,5 (20)		131	123	118	112	105	99	89	80	70	60		1400	68,5	81,5		
6SDS 32/11 - B-6SDS 32/11	15	20		144	135	130	123	115	109	98	88	77	66		1502	72,5	86,5		
6SDS 32/12 - B-6SDS 32/12	15	20		157	147	141	134	126	119	107	96	84	72		1604	77,5	93,5		
6SDS 32/13 - B-6SDS 32/13	18,5	25		170	160	153	145	136	129	116	104	91	78		1706	84	101		
6SDS 32/14 - B-6SDS 32/14	18,5	25		183	172	165	157	147	138	124	112	98	84		1808	89	108		
6SDS 32/15 - B-6SDS 32/15	22	30		196	184	177	168	157	148	133	120	105	90		1910	94,2	112		
6SDS 32/16 - B-6SDS 32/16	22	30		209	197	189	179	168	158	142	128	112	96		2012	100	119		
6SDS 32/17 - B-6SDS 32/17	22	30		223	209	200	190	178	168	151	136	119	102		2114	105	125		
6SDS 32/18 - B-6SDS 32/18	26 (30)	35 (40)		236	221	212	201	189	178	160	144	126	108		2216	111	132		
6SDS 32/19 - B-6SDS 32/19	26 (30)	35 (40)		246	234	224	213	199	188	169	152	133	114		2318	116	139		
6SDS 32/20 - B-6SDS 32/20	26 (30)	35 (40)		262	246	236	224	210	198	178	160	140	120		2420	122	145		
6SDS 32/21 - B-6SDS 32/21	26 (30)	35 (40)		275	258	248	235	220	208	187	168	147	126		2522	127	151		
6SDS 32/22 - B-6SDS 32/22	30	40		288	270	259	246	231	218	196	176	154	132		2624	132	157		
6SDS 32/23 - B-6SDS 32/23	30	40		301	283	271	257	241	228	205	184	161	138		2726	137	164		

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

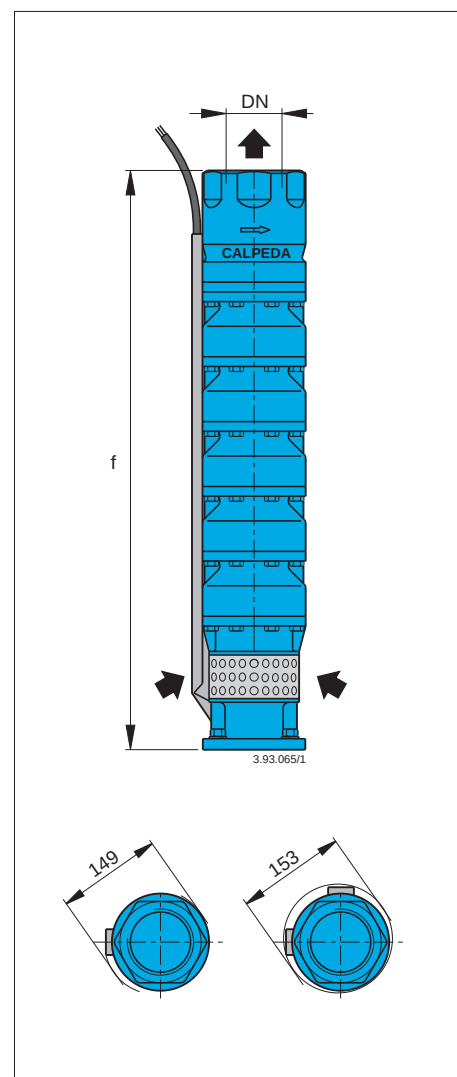
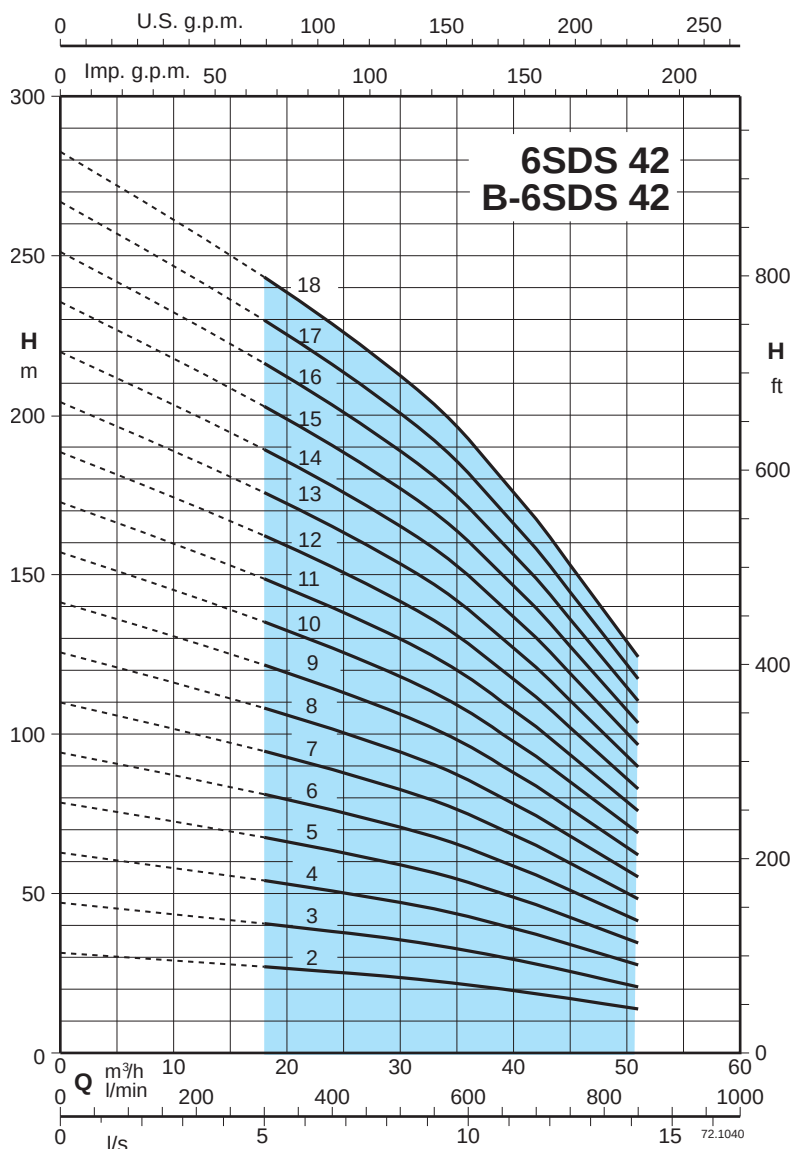
Tolerances according to UNI EN ISO 9906:2012

6SDS 42

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P2		Q	n ≈ 2900 rpm											DN	f	6SDS	B-6SDS
				m³/h	18	24	30	33	36	39	42	45	48	51				
	kW	HP	l/min	300	400	500	550	600	650	700	750	800	850					
6SDS 42/2 - B-6SDS 42/2	4	5,5	H m	27	25,5	23,5	22,5	21,5	20	18,5	17	15,5	14		G 3 ISO 228	584	25,5	29,5
6SDS 42/3 - B-6SDS 42/3	5,5	7,5		40	38	35,5	34	32	30	28	25,5	23	21			686	31,6	36,6
6SDS 42/4 - B-6SDS 42/4	7,5	10		53,5	51	47	45	43	40	37	34	31	27,5			788	36	42
6SDS 42/5 - B-6SDS 42/5	9,2	12,5		67	63,5	59	56,5	53,5	50	46,5	42,5	38,5	34,5			890	40,3	48,3
6SDS 42/6 - B-6SDS 42/6	11	15		80,5	76	71	68	64	60	56	51	46	41,5			992	47	59
6SDS 42/7 - B-6SDS 42/7	13 (15)	17,5 (20)		94	89	82,5	79	75	70	65	59,5	54	48			1094	50,5	65,5
6SDS 42/8 - B-6SDS 42/8	15	20		107	101	94,5	90,5	85,5	80	74,5	68	61,5	55			1196	55,5	66,5
6SDS 42/9 - B-6SDS 42/9	15	20		120	114	106	102	96	90	84	76,5	69	62			1298	62,5	74,5
6SDS 42/10 - B-6SDS 42/10	18,5	25		134	127	118	113	107	100	93	85	77	69			1400	69	81
6SDS 42/11 - B-6SDS 42/11	18,5	25		147	140	130	124	118	110	102	93,5	85	76			1502	74	86
6SDS 42/12 - B-6SDS 42/12	22	30		161	152	141	135	128	120	111	102	92,5	83			1604	79,2	94,2
6SDS 42/13 - B-6SDS 42/13	22	30		174	165	153	147	139	130	121	110	100	90			1706	83,2	99,2
6SDS 42/14 - B-6SDS 42/14	26 (30)	35 (40)		187	178	165	158	150	140	130	119	108	96,5			1808	91,4	106
6SDS 42/15 - B-6SDS 42/15	26 (30)	35 (40)		201	190	177	169	160	150	139	127	115	103			1910	96,4	113
6SDS 42/16 - B-6SDS 42/16	30	40		214	203	189	181	171	160	149	136	123	110			2012	101	119
6SDS 42/17 - B-6SDS 42/17	30	40		228	216	200	192	182	170	158	144	131	117			2114	106	126
6SDS 42/18 - B-6SDS 42/18	30	40		241	228	212	203	192	180	167	153	138	124			2216	111	132

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

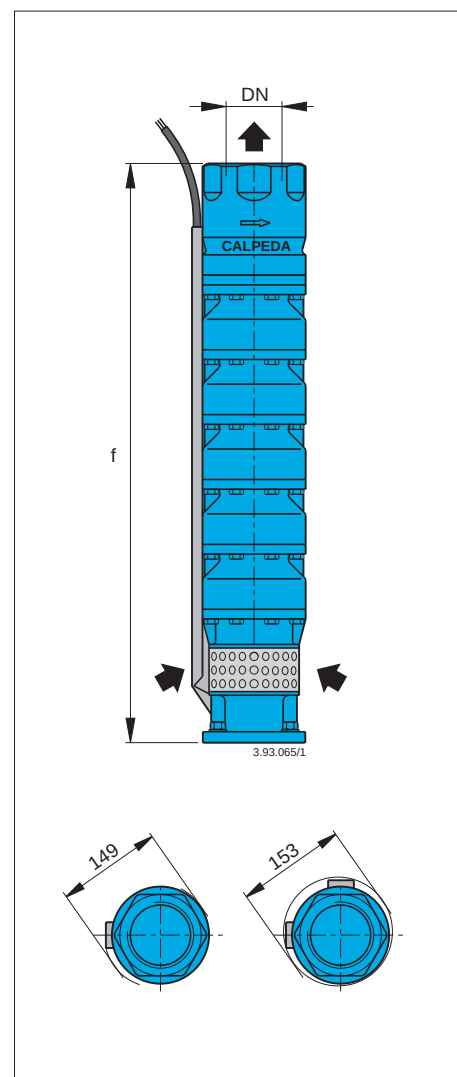
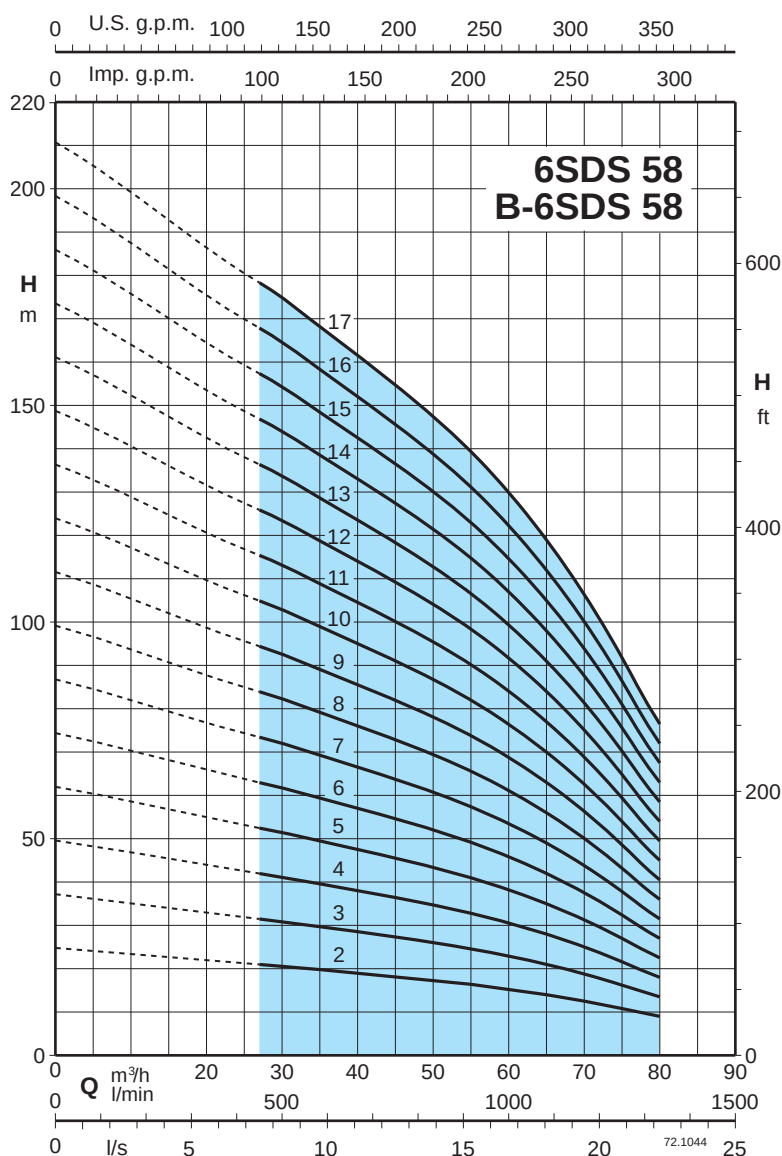
Tolerances according to UNI EN ISO 9906:2012

6SDS 58

Submersible borehole pumps for 6" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm											
	kW	HP	m³/h l/min	27	35	40	45	50	55	60	65	70	75	80	
6SDS 58/2 - B-6SDS 58/2	4	5,5	H m	21	20	19	18	17	16,5	15,5	14	12,5	11	9	
6SDS 58/3 - B-6SDS 58/3	5,5	7,5		32	30	28,5	27	26	24,5	23	21	18,5	16	13,5	
6SDS 58/4 - B-6SDS 58/4	7,5	10		42,5	39,5	38	36	34,5	33	31	28	25	21,5	18	
6SDS 58/5 - B-6SDS 58/5	9,2	12,5		53	49,5	47,5	45	43	41	38,5	35	31	27	22,5	
6SDS 58/6 - B-6SDS 58/6	11	15		63,5	59,5	57	54	51,5	49	46	42	37	32,5	27	
6SDS 58/7 - B-6SDS 58/7	13 (15)	17,5 (20)		74	59,5	66,5	63	60	57,5	54	49	43,5	38	31,5	
6SDS 58/8 - B-6SDS 58/8	15	20		85	79	76	72	69	66	62	56	49,5	43	36	
6SDS 58/9 - B-6SDS 58/9	18,5	25		95,5	89	85,5	81	77,5	74	69,5	63	56	49	40,5	
6SDS 58/10 - B-6SDS 58/10	18,5	25		106	99	95	90	86	82	77	70	62	54	45	
6SDS 58/11 - B-6SDS 58/11	22	30		117	109	104	99	94,5	90	85	77	68	59,5	49,5	
6SDS 58/12 - B-6SDS 58/12	22	30		127	119	114	108	103	100	94,5	86,5	76,5	66,5	55,5	
6SDS 58/13 - B-6SDS 58/13	26 (30)	35 (40)		138	129	123	117	112	107	100	91	80,5	70	58,5	
6SDS 58/14 - B-6SDS 58/14	26 (30)	35 (40)		148	139	133	126	120	115	108	98	87	75,5	63	
6SDS 58/15 - B-6SDS 58/15	30	40		159	148	142	135	129	123	115	105	93	81	67,5	
6SDS 58/16 - B-6SDS 58/16	30	40		170	158	152	144	138	131	123	112	99	86,5	72	
6SDS 58/17 - B-6SDS 58/17	30	40		180	168	162	153	146	139	131	119	105	92	76,5	

DN	f	6SDS	B-6SDS
	mm	kg	kg
G 4 ISO 228	584	26,5	29,5
	686	31,6	36,6
	788	37	43
	890	43,3	50,3
	992	48	57
	1094	53,5	63,5
	1196	59,5	70,5
	1298	65	77
	1400	71	84
	1502	76,2	90,2
	1604	82,2	97,2
	1706	87,4	104
	1808	93,4	111
	1910	99,4	118
	2012	104	124
	2114	110	131

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

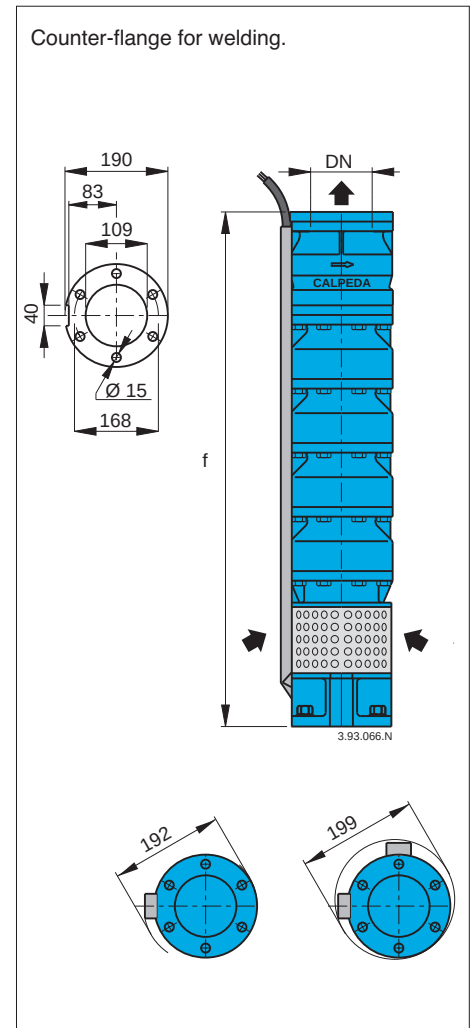
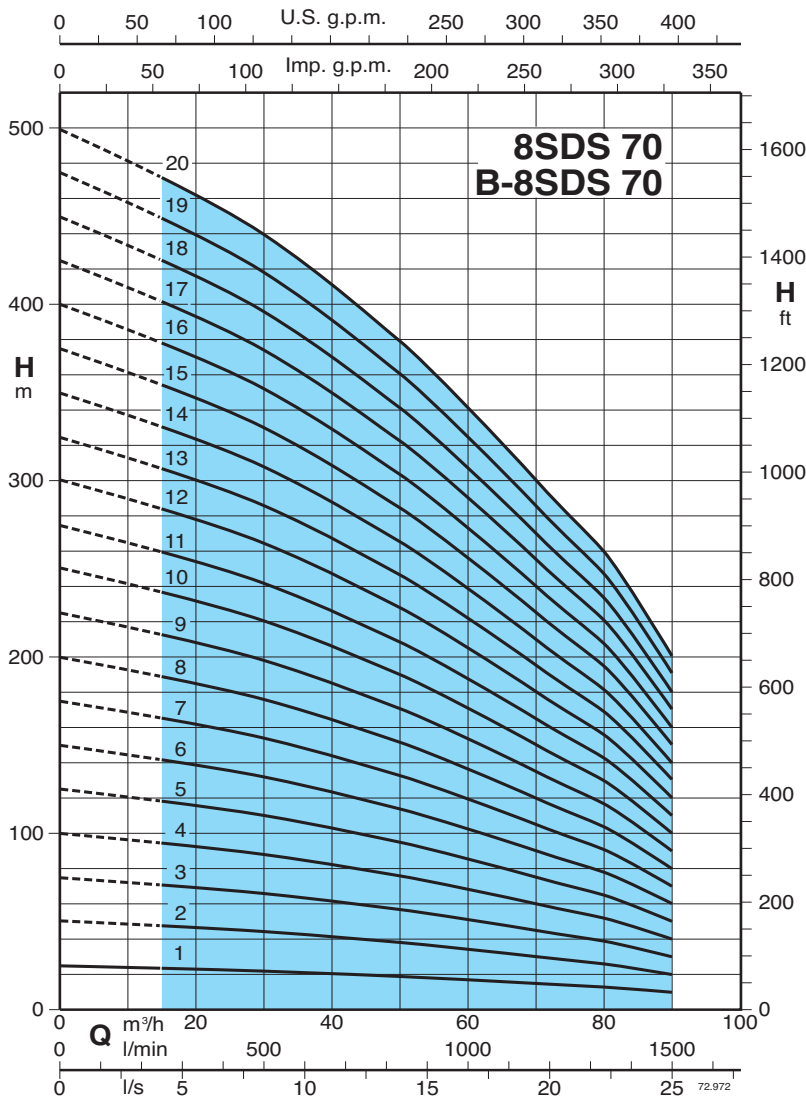
Tolerances according to UNI EN ISO 9906:2012

8SDS 70

Submersible borehole pumps for 8" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm									
	kW	HP	m³/h l/min	15	20	30	40	50	60	70	80	90	
8SDS 70/1 - B-8SDS 70/1	5,5	7,5	H m	23,5	23	22	20,5	19	17	15	13	10	
8SDS 70/2 - B-8SDS 70/2	9,2	12,5		47	46	44	41	38	34	30	26	20	
8SDS 70/3 - B-8SDS 70/3	15	20		70,5	69	66	61,5	57	51	45	39	30	
8SDS 70/4 - B-8SDS 70/4	18,5	25		94	92	88	82	76	68	60	52	40	
8SDS 70/5 - B-8SDS 70/5	22	30		118	115	110	102	95	85	75	65	50	
8SDS 70/6 - B-8SDS 70/6	26 (30)	35 (40)		141	138	132	123	114	102	90	78	60	
8SDS 70/7 - B-8SDS 70/7	30	40		165	161	154	143	133	119	105	91	70	
8SDS 70/8 - B-8SDS 70/8	37	50		188	184	176	164	152	136	120	104	80	
8SDS 70/9 - B-8SDS 70/9	45	60		212	207	198	184	171	153	135	117	90	
8SDS 70/10 - B-8SDS 70/10	45	60		235	230	220	205	190	170	150	130	100	
8SDS 70/11 - B-8SDS 70/11	51 (55)	70 (75)		259	253	242	225	209	187	165	143	110	
8SDS 70/12 - B-8SDS 70/12	55	75		282	276	264	246	228	204	180	156	120	
8SDS 70/13 - B-8SDS 70/13	59 (75)	80 (100)		306	299	286	266	247	221	195	169	130	
8SDS 70/14 - B-8SDS 70/14	59 (75)	80 (100)		329	322	308	287	266	238	210	182	140	
8SDS 70/15 - B-8SDS 70/15	66 (75)	90 (100)		353	345	330	307	285	255	225	195	150	
8SDS 70/16 - B-8SDS 70/16	75	100		376	368	352	328	304	272	240	208	160	
8SDS 70/17 - B-8SDS 70/17	75	100		400	391	374	348	323	289	255	221	170	
8SDS 70/18 - B-8SDS 70/18	92	125		423	414	396	369	342	306	270	234	180	
8SDS 70/19 - B-8SDS 70/19	92	125		447	437	418	389	361	323	285	247	190	
8SDS 70/20 - B-8SDS 70/20	92	125		470	460	440	410	380	340	300	260	200	

DN	Motor		f	8SDS	B-8SDS
	CS-R mm	FK mm			
100	145 6"	137 6"	602	38	43
			734	49	55,5
			866	60	68
			998	71,5	80,5
			1130	82,5	93
			1262	93,5	106
			1394	105	118
			1526	116	131
	191 8"	196 8"	1658	127	143
			1790	138	156
			1922	149	168
			2054	160	181
			2186	171	194
			2318	182	206
			2450	193	219
			2582	205	231
			2714	216	244
			2846	227	256
			2978	238	269
			3110	249	281

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

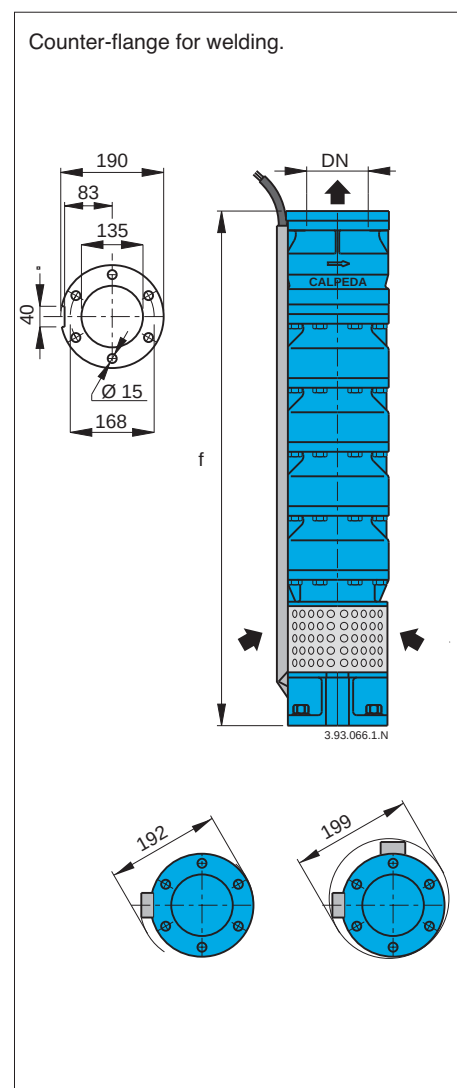
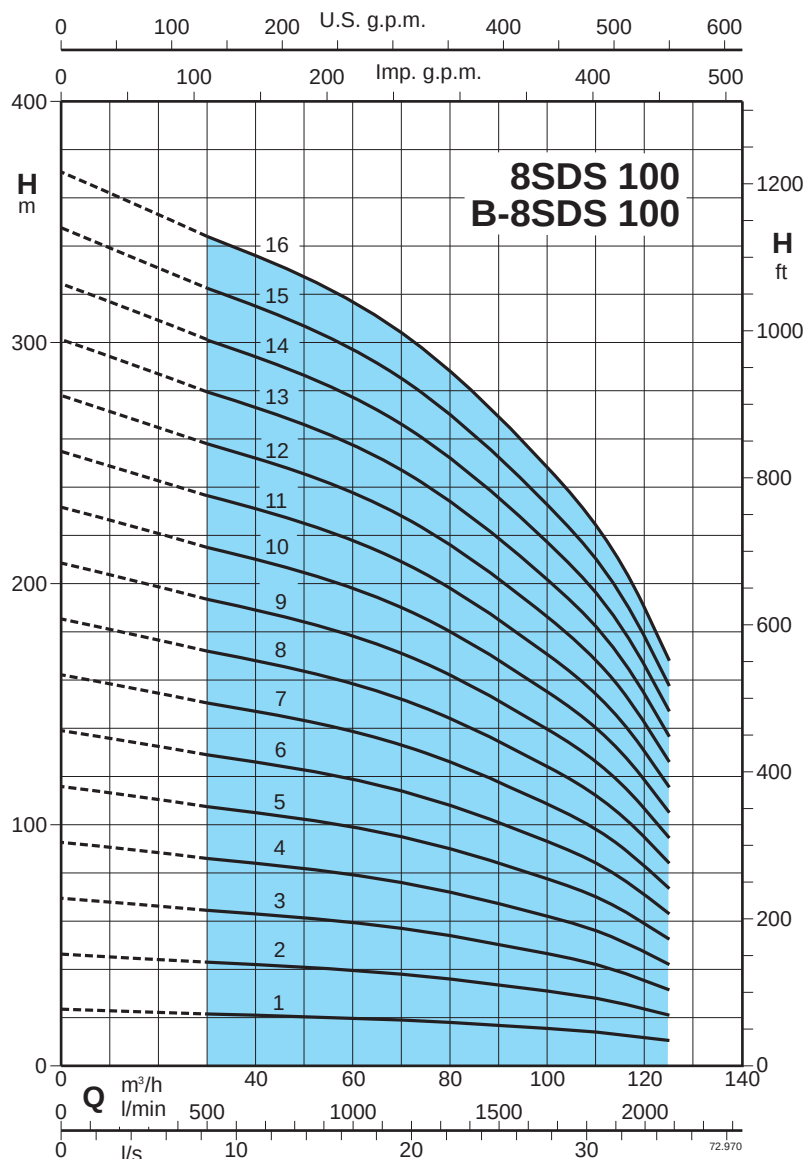
Tolerances according to UNI EN ISO 9906:2012

8SDS 100

Submersible borehole pumps for 8" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm									
				m³/h									
	kW	HP	l/min	30	40	50	60	70	80	90	100	110	125
500				666	833	1000	1166	1333	1500	1666	1833	2083	
8SDS 100/1 - B-8SDS 100/1	5,5	7,5	H m	21,5	21	20,5	20	19	18	17	15,5	14	10,5
8SDS 100/2 - B-8SDS 100/2	11	15		43	42	41	40	38	36	34	31	28	21
8SDS 100/3 - B-8SDS 100/3	18,5	25		64,5	63	61,5	60	57	54	51	46,5	42	31,5
8SDS 100/4 - B-8SDS 100/4	22	30		86	84	82	80	76	72	68	62	56	42
8SDS 100/5 - B-8SDS 100/5	30	40		107	105	102	100	95	90	85	77,5	70	52,5
8SDS 100/6 - B-8SDS 100/6	37	50		129	126	123	120	114	108	102	93	84	63
8SDS 100/7 - B-8SDS 100/7	45	60		150	147	143	140	133	126	119	108	98	73,5
8SDS 100/8 - B-8SDS 100/8	45	60		172	168	164	160	152	144	136	124	112	84
8SDS 100/9 - B-8SDS 100/9	51 (55)	70 (75)		193	189	184	180	171	162	153	139	126	94,5
8SDS 100/10 - B-8SDS 100/10	55	75		215	210	205	200	190	180	170	155	140	105
8SDS 100/11 - B-8SDS 100/11	66 (75)	90 (100)		236	231	225	220	209	198	187	170	154	115
8SDS 100/12 - B-8SDS 100/12	66 (75)	90 (100)		258	252	246	240	228	216	204	186	168	126
8SDS 100/13 - B-8SDS 100/13	75	100		279	273	266	260	247	234	221	201	182	136
8SDS 100/14 - B-8SDS 100/14	92	125		301	294	287	280	266	252	238	217	196	147
8SDS 100/15 - B-8SDS 100/15	92	125		322	315	307	300	285	270	255	232	210	157
8SDS 100/16 - B-8SDS 100/16	92	125		344	336	328	320	304	288	272	248	224	168

DN	Motor		f	8SDS	B-8SDS
	CS-R mm	FK mm			
125	145 6"	137 6"	602	38	43
			734	49	55
			866	59	67
			998	70	79
			1130	81	91
			1262	92	103
	191 8"	196 8"	1394	102	115
			1526	113	128
			1658	124	140
			1790	135	152
			1922	145	164
			2054	156	176
			2186	167	188
			2318	177	200
			2450	188	212
			2582	199	224

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

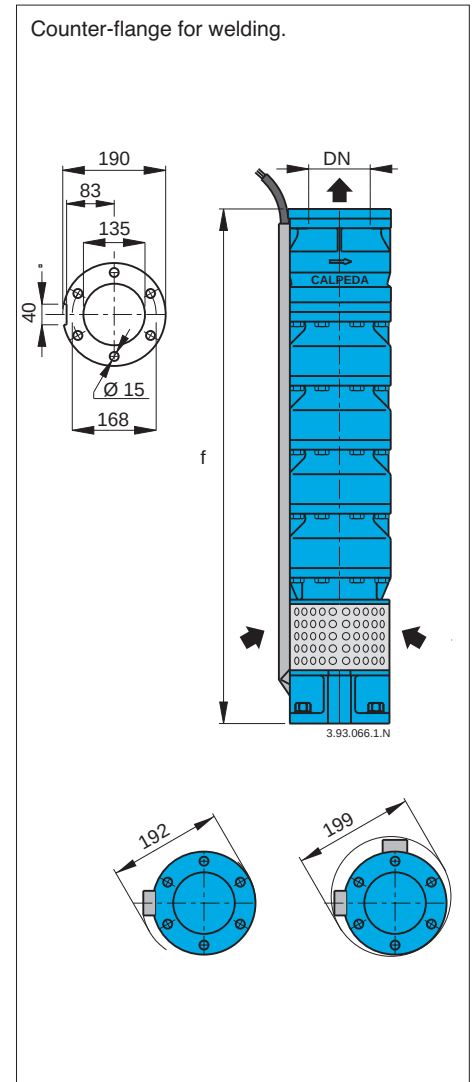
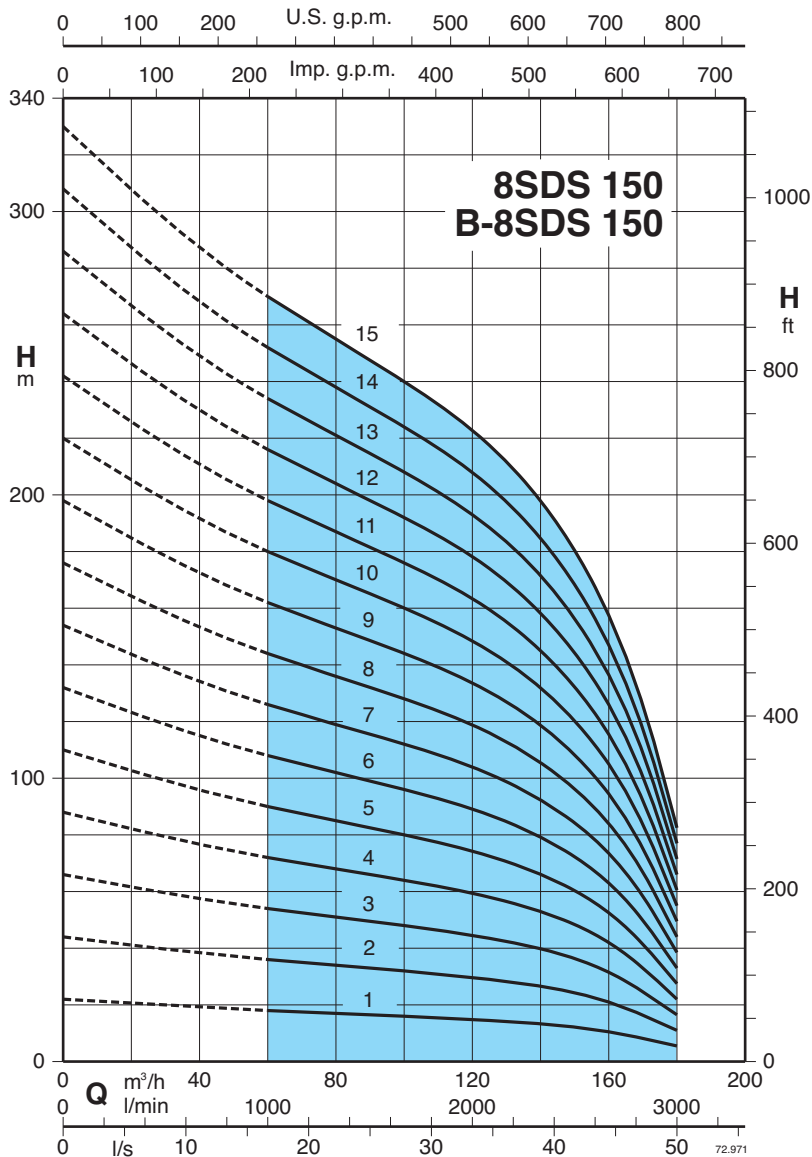
Tolerances according to UNI EN ISO 9906:2012

8SDS 150

Submersible borehole pumps for 8" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm												DN	Motor		f	8SDS	B-8SDS
				m³/h	60	70	80	90	100	110	125	140	150	160	180		CS-R	FK			
	kW	HP	l/min	1000	1166	1333	1500	1666	1833	2083	2333	2500	2666	3000	mm		mm	mm			
8SDS 150/1 - B-8SDS 150/1	7,5	10	H m	18	17,5	17	16,5	16	15,5	14,5	13	11,5	10,5	5,5	125	145 6"	137 6"	602	38	43	
8SDS 150/2 - B-8SDS 150/2	15	20		36	35	34	33	32	31	29	26	23	21	11				734	49	55,5	
8SDS 150/3 - B-8SDS 150/3	22	30		54	52,5	51	49,5	48	46,5	43,5	39	34,5	31,5	16,5				866	60	68	
8SDS 150/4 - B-8SDS 150/4	30	40		72	70	68	66	64	62	58	52	46	42	22				998	71,5	80,5	
8SDS 150/5 - B-8SDS 150/5	37	50		90	87,5	85	82,5	80	77,5	72,5	65	57,5	52,5	27,5				1130	82,5	93	
8SDS 150/6 - B-8SDS 150/6	45	60		108	105	102	99	96	93	87	78	69	63	33		1262	93,5	106			
8SDS 150/7 - B-8SDS 150/7	51 (55)	70 (75)		126	122	119	115	112	108	101	91	80,5	73,5	38,5		1394	105	118			
8SDS 150/8 - B-8SDS 150/8	59 (75)	80 (100)		144	140	136	132	128	124	116	104	92	84	44		1526	116	131			
8SDS 150/9 - B-8SDS 150/9	66 (75)	90 (100)		162	157	153	148	144	139	130	117	103	94,5	49,5		1658	127	143			
8SDS 150/10 - B-8SDS 150/10	75	100		180	175	170	165	160	155	145	130	115	105	55		1790	138	156			
8SDS 150/11 - B-8SDS 150/11	92	125		198	192	187	181	176	170	159	143	126	115	60,5		1922	149	168			
8SDS 150/12 - B-8SDS 150/12	92	125		216	210	204	198	192	186	174	156	138	126	66		2054	160	181			
8SDS 150/13 - B-8SDS 150/13	110	150		234	227	221	214	208	201	188	169	149	136	71,5		2186	171	194			
8SDS 150/14 - B-8SDS 150/14	110	150		252	245	238	231	224	217	203	182	161	147	77		240 10"	2318	182	206		
8SDS 150/15 - B-8SDS 150/15	110	150		270	262	255	247	240	232	217	195	172	157	82,5			2450	193	219		

P2 Rated motor power output

(...) FK motor rated power output

H Total head in m

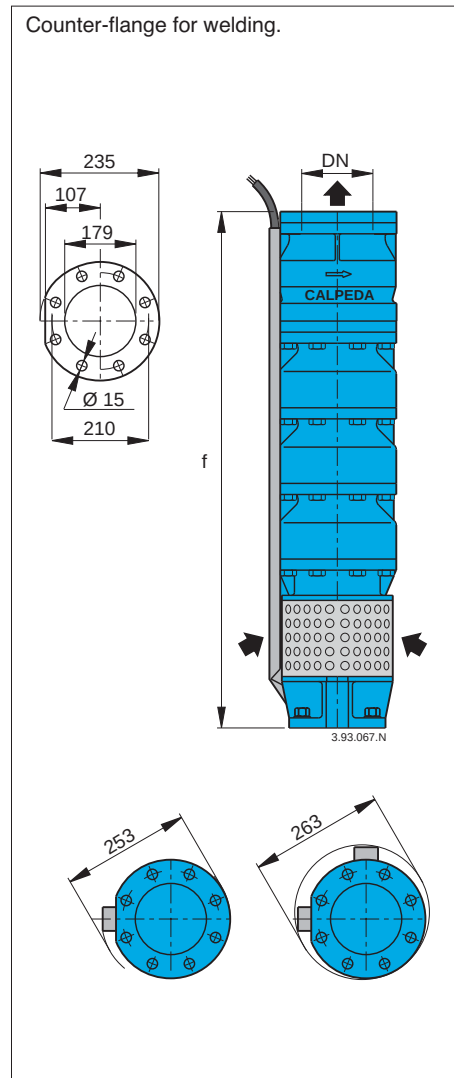
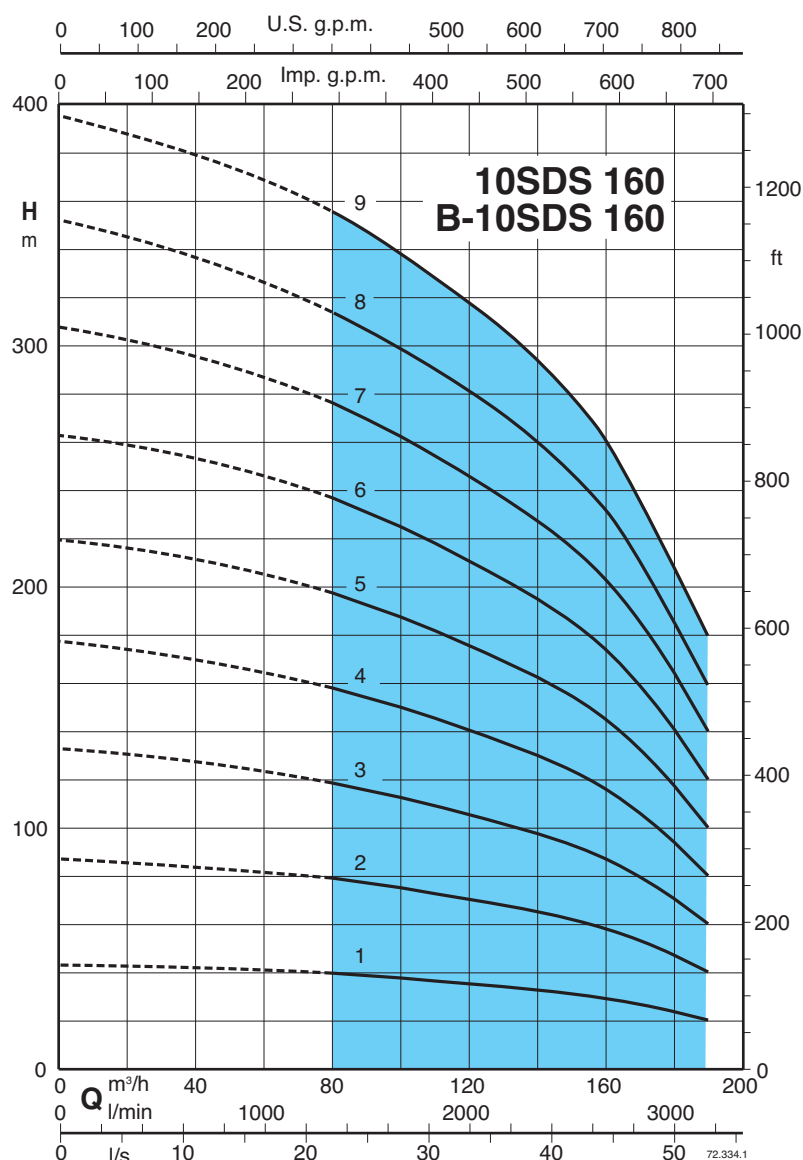
Tolerances according to UNI EN ISO 9906:2012

10SDS 160

Submersible borehole pumps for 10" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm												DN	Motor		f	10SDS	B-10SDS
				m³/h	80	90	100	110	125	140	150	160	170	180	190		CS-R mm	FK mm			
	l/min																				
		kW	HP																		
10SDS 160/1 - B-10SDS 160/1	18,5	25	H m	39,5	38	37,5	36	34,5	32,5	31	29	26,5	22	20	175	145 6"	137 6"	865	77	87	
10SDS 160/2 - B-10SDS 160/2	37	50		78,5	76,5	74,5	72,5	69	65	62	58,5	53,5	44	40				1035	103	114	
10SDS 160/3 - B-10SDS 160/3	55	75		118	114	112	108	104	98	92,5	87,5	80	66,5	60				1205	126	141	
10SDS 160/4 - B-10SDS 160/4	75	100		157	153	149	145	138	130	123	117	107	88,5	80		191 8"	196 8"	1375	150	169	
10SDS 160/5 - B-10SDS 160/5	92	125		196	191	186	181	173	163	154	146	134	111	100				1545	173	195	
10SDS 160/6 - B-10SDS 160/6	110	150		236	229	224	217	207	195	185	175	160	133	120				1715	197	222	
10SDS 160/7 - B-10SDS 160/7	130	175		275	267	261	253	242	228	216	204	187	155	140		240 10"			1885	220	249
10SDS 160/8 - B-10SDS 160/8	150	200		314	305	298	289	276	260	246	233	213	177	160					2055	244	276
10SDS 160/9 - B-10SDS 160/9	185	250		356	342	338	324	311	293	279	261	239	198	180					2225	268	303

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

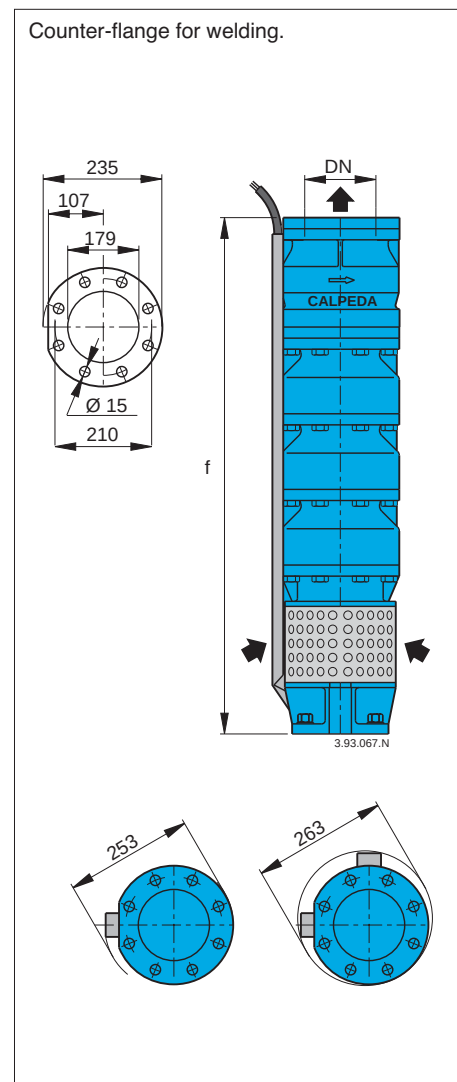
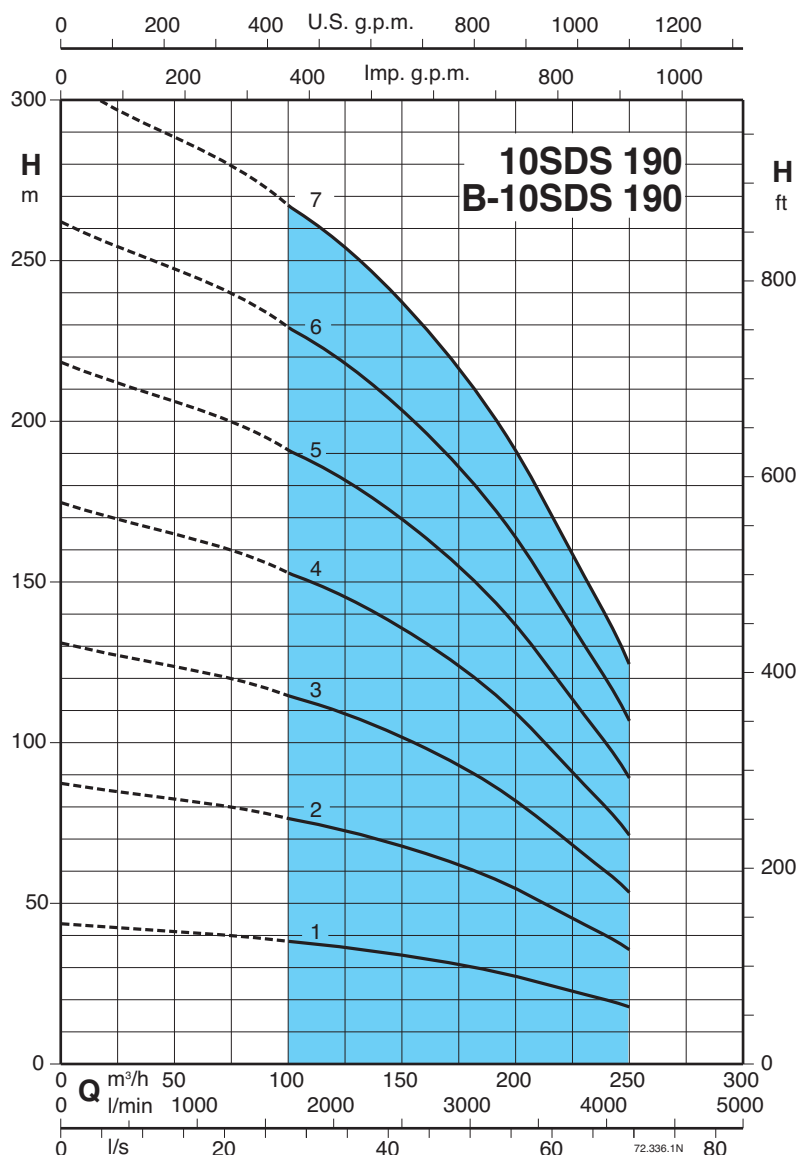
Tolerances according to UNI EN ISO 9906:2012

10SDS 190

Submersible borehole pumps for 10" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P ₂		Q	n ≈ 2900 rpm										DN	Motor		f	10SDS	B-10SDS		
				m³/h	100	120	140	160	180	200	220	230	240		250	CS-R mm				FK mm	
	l/min	1666	2000		2333	2666	3000	3333	3666	3833	4000	4166									
		kW	HP		H m	38	37	35	33	30	27	24	22		20						18
10SDS 190/1 - B-10SDS 190/1	22	30	76	73		70	66	61	55	47	44	40	36	6"	6"	1035	102	115			
10SDS 190/2 - B-10SDS 190/2	45	60	115	110		105	98	91	82	71	65	59	53	191 8"	196 8"	1205	127	143			
10SDS 190/3 - B-10SDS 190/3	66 (75)	90 (100)	153	147		140	131	121	109	95	87	79	71			1375	151	170			
10SDS 190/4 - B-10SDS 190/4	92	125	191	183		175	164	152	137	119	109	99	89			240 10"	-	1545	175	198	
10SDS 190/5 - B-10SDS 190/5	110	150	229	220		210	197	182	164	142	131	119	107					1715	199	225	
10SDS 190/6 - B-10SDS 190/6	130	175	267	257		244	230	212	191	166	152	139	125					1885	223	252	
10SDS 190/7 - B-10SDS 190/7	185	250																			

P2 Rated motor power output

(...) FK motor rated power output

H Total head in m

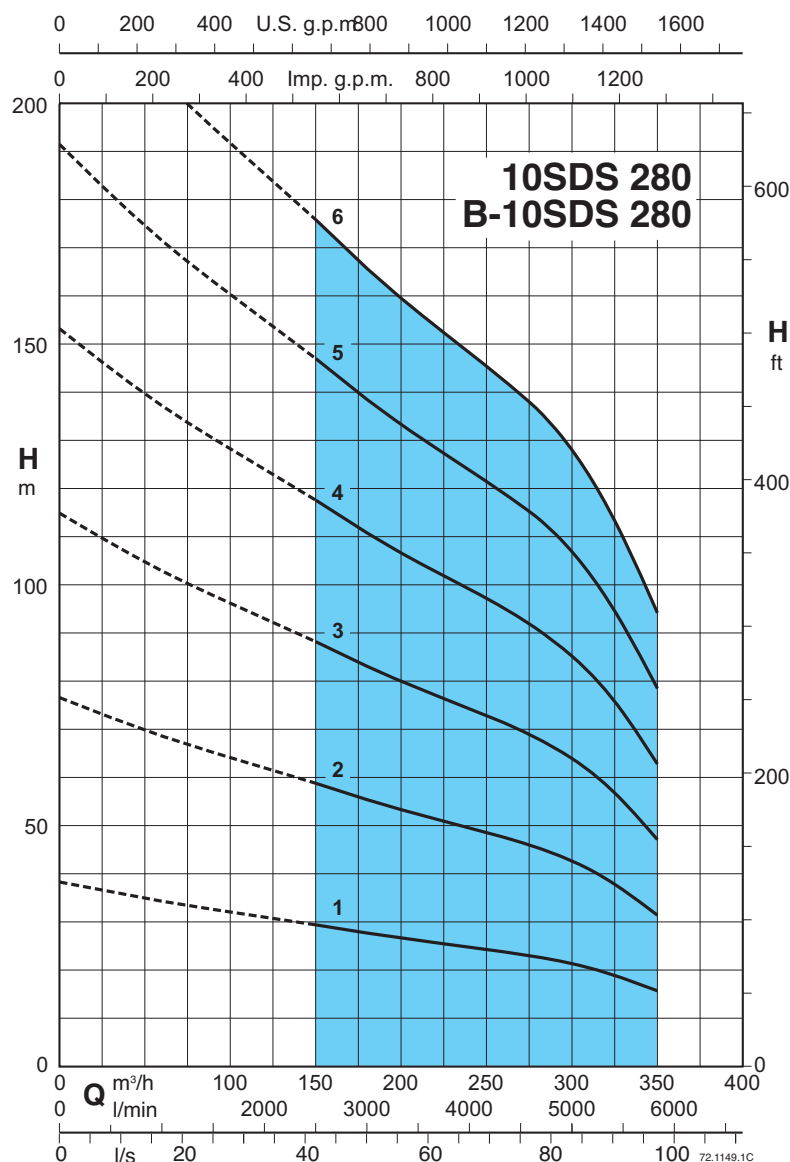
Tolerances according to UNI EN ISO 9906:2012

10SDS 280

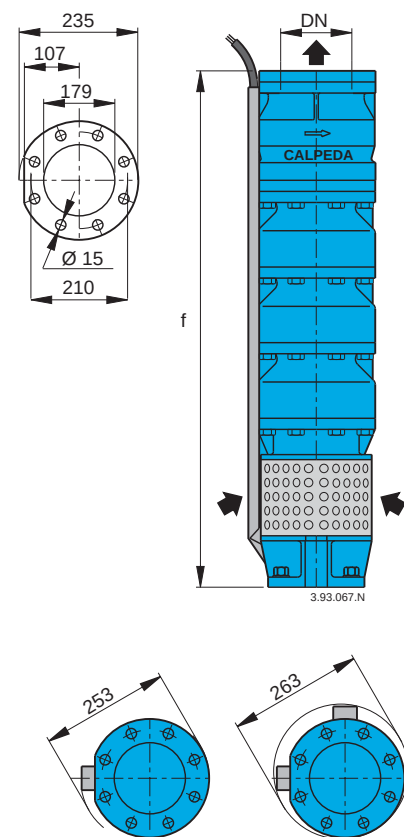
Submersible borehole pumps for 10" wells



Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



Counter-flange for welding.



3 ~	P ₂		Q	n ≈ 2900 rpm										DN	Motor		f	10SDS	B-10SDS	
				m³/h	150	180	200	220	240	260	280	300	315		350	CS-R mm				FK mm
kW	HP	l/min	2500	3000	3333	3666	4000	4333	4666	5000	5250	5833								
10SDS 280/1 - B-10SDS 280/1	26 (30)	35 (40)	H m	29	28	27	26	25	24	23	21	20	16	175	145-6"	137-6"	865	78	88	
10SDS 280/2 - B-10SDS 280/2	55	75		59	55	53	51	50	48	46	42	40	31		191	196 8"	1035	103	116	
10SDS 280/3 - B-10SDS 280/3	75	100		88	83	80	77	75	71	69	64	60	47		8"		1205	127	143	
10SDS 280/4 - B-10SDS 280/4	110	150		118	111	106	103	100	95	92	85	80	63		240		1375	151	170	
10SDS 280/5 - B-10SDS 280/5	130	175		147	139	133	129	125	119	115	106	100	79		10"		1545	175	198	
10SDS 280/6 - B-10SDS 280/6	150	200		176	167	160	155	150	143	138	127	120	95				1715	199	226	

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

Cables connection kit

It allows connection of electric cables with junction submerged in water.

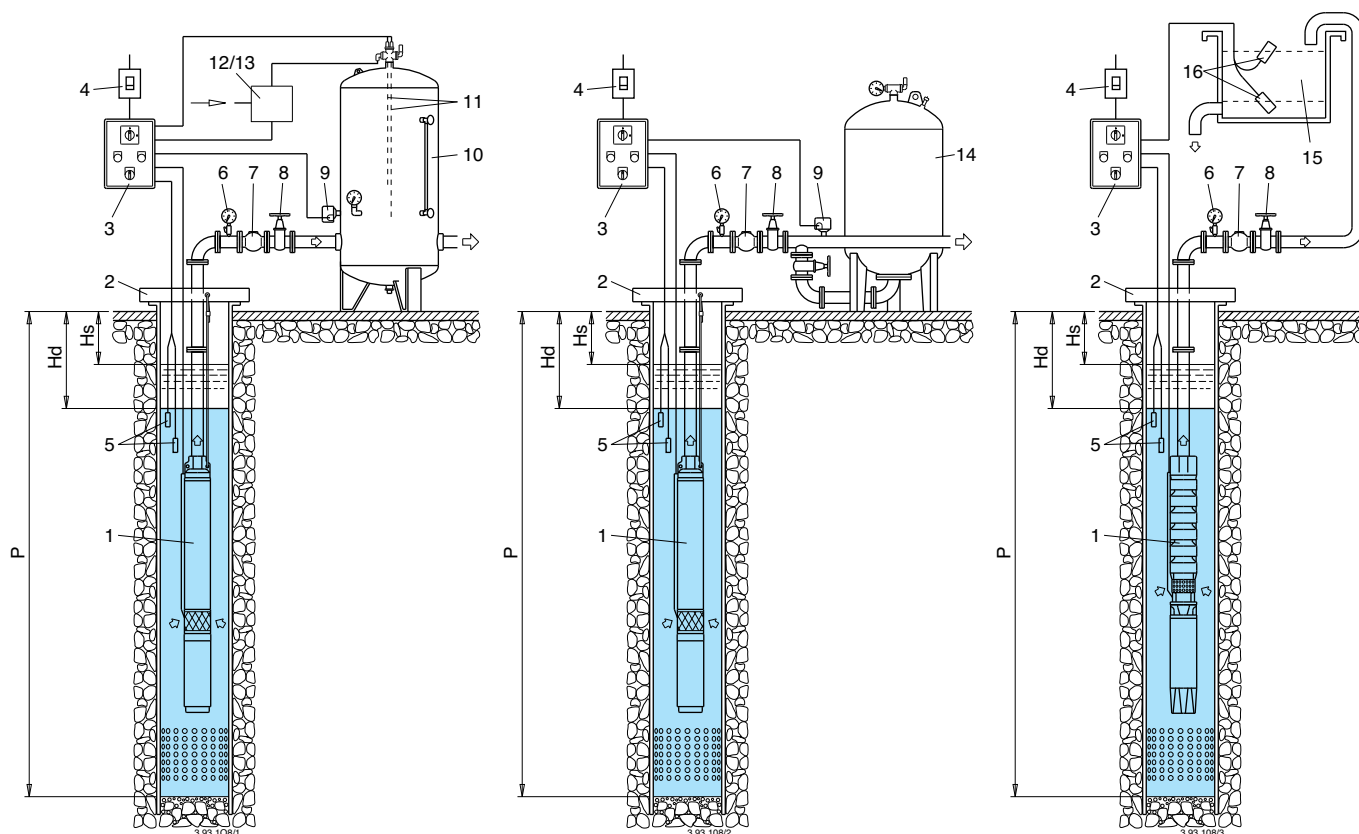
The kit includes:

- 4 connectors
- 4 shrink-sheaths for protection of individual wires
- 1 shrink-sheath for protection of the 4-pole wire.

The sheath shrinks with heating (flame or drier) which causes resin outlet granting connection waterproofing.



Installation examples



- 1 Submersible pump
- 2 Pump support system
- 3 Electric control board
- 4 Circuit breaker
- 5 Minimum level probes
- 6 Pressure gauge
- 7 Check valve
- 8 Throttle gate valve
- 9 Pressure switch
- 10 Pressure tank
- 11 Probes for air entry control
- 12 Electric valve
- 13 Compressor
- 14 Membrane tank
- 15 Storage tank
- 16 Start-stop probes

Hs Static level
Hd Dynamic level
P Tubewell depth

CS, CS-R, FK Submersible motors



The Calpeda 4", 6", 8" and 10" submersible motors are built using advanced technology and components of superior quality that they ensure good mechanical strength and excellent electrical reliability.

The good performances are guaranteed thanks to strict tests of all the different components during the various production phases.

Rewindable motor CS, CS-R series

The **CS-R** 6/8/10" motors are in a water bath with the wire being coated with polyvinyl chloride, while the **CS** 4" motors have a special food grade dielectric fluid that gives a better lubricant effect, increasing the life of all moving parts and the copper wires.

The special design of all our motors allows easy access to the various components, simplifying maintenance and repair.

All the **CS, CS-R** motors can be rewound and they are NEMA STANDARD.

CS, CS-R: Standard construction.

I-CS, I-CS-R: AISI 316 construction.

Encapsulated motor FK series

The **FK** motors, manufactured to ISO 9001 standards feature an hermetically sealed stator, where the self healing stator resin prevents motor burn out.

They are designed for high electrical efficiency, low cost, and non contaminating water-filled design.

Water lubricated thrust and radial bearings allow a maintenance free operation. A special diaphragm ensures pressure compensation inside the motor.

For facilitating the connection, removable "Water Bloc" lead connector is used and for increasing the performance in sand the FK 6/8" have a sand fighter with SiC-Mechanical Seal.

FK: Standard construction.

I-FK: AISI 316 construction.

kW	4" 1 ~		4" 3 ~			6" 3 ~				8" 3 ~				10" 3 ~		kW
	CS	FK	CS	FK	I-FK 316	CS-R	I-CS-R 316	FK	I-FK 316	CS-R	I-CS-R 316	FK	I-FK 316	CS	I-CS 316	
0,37	●	●	●	●	●											0,37
0,55	●	●	●	●	●											0,55
0,75	●	●	●	●	●											0,75
1,1	●	●	●	●	●											1,1
1,5	●	●	●	●	●											1,5
2,2	●	●	●	●	●											2,2
3			●	●	●											3
4			●	●	●	●	●	●	●							4
5,5			●	●	●	●	●	●	●							5,5
7,5				●	●	●	●	●	●							7,5
9,2						●	●	●	●							9,2
11						●	●	●	●							11
13						●	●	●	●							13
15						●	●	●	●							15
18,5						●	●	●	●							18,5
22						●	●	●	●							22
26						●	●	●	●							26
30						●	●	●	●	●	●	●	●			30
37						●	●	●	●	●	●	●	●			37
45						●	●	●	●	●	●	●	●			45
51										●	●	●	●			51
55												●	●			55
59										●	●					59
66										●	●					66
75										●	●					75
85														●	●	85
92										●	●					92
110												●	●	●	●	110
130												●	●	●	●	130
150												●	●	●	●	150
185														●	●	185

● Rewindable motor CS, CS-R series

● Encapsulated motor FK series

CS, CS-R, FK

Submersible motors



Rewindable motor CS, CS-R series

Operating conditions

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS	35 °C	0,08 m/s	20	all types
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW
8CS-R	25 °C	0,1 m/s	13	37 kW
		0,3 m/s	6	45 kW
		0,3 m/s	10	30÷45 kW
10CS	25 °C	0,50 m/s	8	51÷75 kW
			6	92 kW
			10	all types

Continuous duty.

Operation data

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

Sized for connection to the pumps according to NEMA Standards.

Standard voltages:

- single-phase 230 V - up to 2,2 kW for 4" motors.
- three-phase 230 V; 400 V for 4" motors.
- three-phase 400 V; 400/690 V for 6-8-10" motors.

Voltage tolerance : +6% / -10%.

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer. Insulation class F for 4" motors, class E for 6-8" motors, PVC coated wire for 10" motors.

Motor suitable operation with frequency converter .

Protection IP 68.

Cable

Motor 230V - 50Hz - 1~	Section	Length
4CS 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm ²	2 m
4CS 2,2 kW	3x2 + 1G2 mm ²	2 m
Motor 400V - 50Hz - 3 ~	Section	Length
4CS 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm ²	2 m
4CS 2,2 ÷ 5,5 kW	3x1,5 + 1G1,5 mm ²	3 m
6CS-R 4 ÷ 11 kW	3 x (1x2,5) mm ²	3,5 m
6CS-R 13 ÷ 22 kW	3 x (1x4) mm ²	3,5 m
6CS-R 26 - 30 kW	3 x (1x6) mm ²	3,5 m
6CS-R 37 - 45 kW	3 x (1x10) mm ²	3,5 m
8CS-R 30 ÷ 45 kW	3 x (1x16) mm ²	4 m
8CS-R 51 - 92 kW	3 x (1x25) mm ²	4 m
10CS 85 kW	4G25 mm ²	6 m
10CS 110-130 kW	4G35 mm ²	6 m

Motor 400/690V - 50Hz - 3 ~ Y/Δ	Section	Length
10CS 150 kW	3x25 + 4G25 mm ²	6 m
10CS 185 kW	3x35 + 4G35 mm ²	6 m

Materiales

Components	4"	
External frame	Cr-Ni steel AISI 304	
Motor flange	Cr-Ni-Mo steel AISI 316L	
Shaft end	Cr-Ni-Mo steel AISI 316	
Thrust bearing	Oil wetted	
Components	6", 8", 10" standard	6", 8", 10" AISI 316
External frame	AISI 304 (AISI 316Ti for 10")	Cr-Ni-Mo steel AISI 316
Motor flange	Cast iron GJL 200 EN 1561	Cr-Ni-Mo steel AISI 316
Shaft end	Cr-Ni steel AISI 431 (AISI 329 for 10")	AISI 316 (AISI 630 from 30 to 93kW) (AISI 429 for 10")
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Graphite (Bronze for 8")	Graphite (Bronze for 8")

Special features on request

- Other voltage.
- Frequency 60 Hz.
- Higher liquid temperature.

Encapsulated motor FK series

Operating conditions

Motor	Max. Liquid temperature	Cooling minimum flow velocity	Max. starts per hour
4"	30 °C	0,08 m/s	20
6"	30 °C for 4 ÷ 30 kW 50 °C for 37 ÷ 45 kW	0,16 m/s	20
8"	30 °C	0,16 m/s	20

Continuous duty.

Operation data

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

Sized for connection to the pumps according to NEMA Standards.

Standard voltages:

- single-phase 230 V - up to 2,2 kW for 4" motors.
- three-phase 230 V; 400 V for 4" motors.
- three-phase 400 V; 400/690 V for 6-8" motors.

Voltage tolerance : +6% / -10%.

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.

Insulation class B for 4" motors, class F for 6"-8" motors.

Protection IP 68.

Motor suitable operation with frequency converter.

Cable

Motor 230V - 50Hz - 1~	Section	Length
4FK 0,37 ÷ 2,2 kW	3x1,5 + 1G1,5 mm ²	1,5 m
Motor 400V - 50Hz - 3 ~	Section	Length
4FK 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm ²	1,5 m
4FK 2,2 ÷ 5,5 kW	3x1,5 + 1G1,5 mm ²	2,5 m
6FK 4 ÷ 22 kW	4 G 4 mm ²	4 m
6FK 30 - 45 kW	3x8,4 + 1G8,4 mm ²	4 m
8FK 30 ÷ 45 kW	3 x (1x8,4) mm ²	8 m
8FK 55 ÷ 93 kW	3 x (1x16) mm ²	8 m
8FK 110 ÷ 150 kW	3 x (1x35) mm ²	8 m

Materiales

Components	4" standard	4" AISI 316
External frame	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316Ti
Motor flange	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L
Shaft end	Cr-Ni steel AISI 303	Cr-Ni-Mo steel AISI 329
Thrust bearing	Oscillating pads	Oscillating pads
Components	6", 8" standard	6", 8" AISI 316
External frame	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316 Ti
Supports	Cast iron GJL 200 EN 1561	Cr-Ni-Mo steel AISI 316
Shaft end	Cr-Ni steel AISI 304 (AISI 303 for 8")	Cr-Ni-Mo steel AISI 316 (AISI 630 for 8")
Thrust bearing	Oscillating pads	Oscillating pads

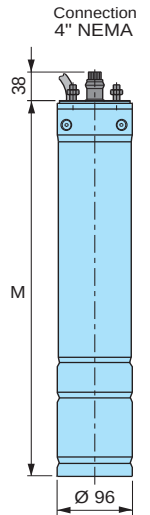
Special features on request

- Other voltage.
- Frequency 60 Hz.
- Higher liquid temperature.

Performance, dimensions and weights

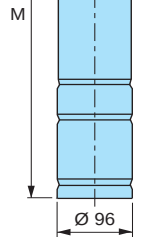
4"CS - 1 ~

Type	PN		IN 230 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Capacitor 450 Vc μF	Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN				
4CS 0,37M	0,37	0,5	3.2	0.96	0.93	0.85	53	46	29	≈ 2850	3.8	0.78	16	1500	327	7,6
4CS 0,55M	0,55	0,75	4.0	0.99	0.97	0.89	62	54	35		4.6	0.80	25		362	9,4
4CS 0,75M	0,75	1	5.6	0.98	0.99	0.99	62	55	36		4.2	0.81	35		402	10,7
4CS 1,1M	1,1	1,5	8.4	0.97	0.93	0.83	61	55	36		4.2	0.81	40		447	12,4
4CS 1,5M	1,5	2	11.2	0.99	0.97	0.89	64	59	39		3.9	0.75	60		467	13,5
4CS 2,2M	2,2	3	14.7	0.96	0.93	0.80	67	64	44		4.2	0.51	70		517	15,7



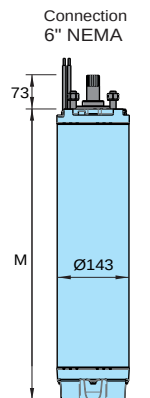
4"CS - 3 ~

Type	PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN			
4CS 0,37T	0,37	0,5	1.2	0.72	0.64	0.47	63	58	44	≈ 2850	5.6	4.2	1500	327	7,7
4CS 0,55T	0,55	0,75	1.5	0.79	0.71	0.53	68	66	52		6.1	4.10		347	8,7
4CS 0,75T	0,75	1	2.0	0.77	0.69	0.48	74	71	58		5.7	4.02		362	9,9
4CS 1,1T	1,1	1,5	2.9	0.78	0.69	0.48	75	73	60		5.7	3.95		402	10,8
4CS 1,5T	1,5	2	4.2	0.73	0.64	0.44	72	70	55		5.9	4.58		447	12,6
4CS 2,2T	2,2	3	5.5	0.81	0.71	0.47	72	73	62		4.9	2.2		402	11,7
4CS 3T	3	4	7.4	0.81	0.72	0.56	73,5	73,5	69		5,7	2,16	4500	481	14,9
4CS 4T	4	5,5	9,4	0,82	0,74	0,60	74,5	75	71		6,3	2,19		546	18,2
4CS 5,5T	5,5	7,5	13	0,81	0,72	0,57	76	76	71		7,8	3,44		646	23



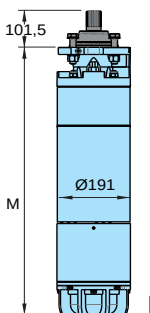
6"CS-R, I-6"CS-R

Type		PN		IN 400 V	Power factor cos φ		Efficiency η %			Direct start		Axial thrust	M	Weight
Standard	AISI 316	kW	HP	A	4/4	3/4	4/4	3/4	R.P.M.	I A	C CN	N	mm	kg
6CS-R 4	I-6CS-R 4	4	5,5	11	0,80	0,70	70	68	2825	3	1,5	30000	530	30,5
6CS-R 5,5	I-6CS-R 5,5	5,5	7,5	14,5	0,81	0,72	72	72	2815	3,2	1,5	30000	550	33
6CS-R 7,5	I-6CS-R 7,5	7,5	10	18,5	0,80	0,72	76	76	2830	4,1	2	30000	595	38
6CS-R 9,2	I-6CS-R 9,2	9,2	12,5	22	0,80	0,71	78	78	2840	4	1,7	30000	640	41,7
6CS-R 11	I-6CS-R 11	11	15	26	0,83	0,76	78	79	2835	5,2	2,5	30000	670	44,4
6CS-R 13	I-6CS-R 13	13	17,5	31	0,80	0,69	79	78	2840	5	2,6	30000	700	47,7
6CS-R 15	I-6CS-R 15	15	20	35	0,80	0,72	81	81	2855	5	1,95	30000	715	52
6CS-R 18,5	I-6CS-R 18,5	18,5	25	42	0,82	0,74	81	82	2840	5,4	2,5	30000	750	56
6CS-R 22	I-6CS-R 22	22	30	49,5	0,83	0,76	81	83	2820	4,5	1,7	30000	790	59,8
6CS-R 26	I-6CS-R 26	26	35	57,5	0,82	0,74	83	84	2850	5,3	2	30000	875	70
6CS-R 30	I-6CS-R 30	30	40	64,6	0,80	0,74	85	87	2845	5,3	2	30000	1025	85,7
6CS-R 37	I-6CS-R 37	37	50	82,5	0,80	0,72	86	87	2870	6	2,4	30000	1227	111
6CS-R 45	I-6CS-R 45	45	60	98,9	0,80	0,73	85	85	2860	5,1	2	30000	1287	119



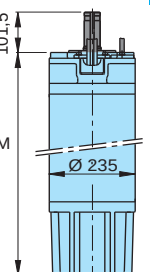
8"CS-R, I-8"CS-R

Type		PN		IN 400 V A	Power factor cos φ		Efficiency η %		R.P.M.	Direct start		Axial thrust N	M mm	Weigh kg
Standard	AISI 316	kW	HP		4/4	3/4	4/4	3/4		I _A IN	C _A CN			
8CS-R 30	I-8CS-R 30	30	40	63	0,85	0,82	83	84	2900	5,5	1,8	60000	1039	143
8CS-R 37	I-8CS-R 37	37	50	81,5	0,82	0,77	85	86	2905	5,9	1,8	60000	1094	155
8CS-R 45	I-8CS-R 45	45	60	91	0,84	0,79	86	86	2905	5,85	1,9	60000	1174	171,5
8CS-R 51	I-8CS-R 51	51	70	104	0,84	0,81	86	87	2905	6	1,9	60000	1269	192
8CS-R 59	I-8CS-R 59	59	80	119	0,84	0,81	87	87	2910	6,2	2	60000	1374	210
8CS-R 66	I-8CS-R 66	66	90	133	0,83	0,81	88	88	2905	6,1	2	60000	1409	219
8CS-R 75	I-8CS-R 75	75	100	147	0,85	0,83	88	88	2895	5,9	2	60000	1479	234,5
8CS-R 92	I-8CS-R 92	92	125	181	0,84	0,81	88	88	2905	6,3	2,1	60000	1664	264,5



10"CS, I-10"CS

Type		PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
Standard	AISI 316	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN			
10CS 85	I-10CS 85	85	115	174	0,85	0,81	0,72	85	85	83	≈ 2900	4,7	1,1	60000	1419	280
10CS 110	I-10CS 110	110	150	232	0,82	0,76	0,65	86	86	84		5	1,3		1529	315
10CS 130	I-10CS 130	130	175	256	0,86	0,82	0,74	88	88	87		5,3	1,3		1656	362
10CS 150	I-10CS 150	150	200	298	0,85	0,81	0,73	87	88	86		5,3	1,3		1769	413
10CS 185	I-10CS 185	185	250	384	0,81	0,75	0,64	88	88	86		5,6	1,7		1919	449



PN Rated power output IN Rated current I_A/IN Starting current / Nominal current C_A/CN Starting torque/Nominal torque

FK, I-FK

Submersible motors

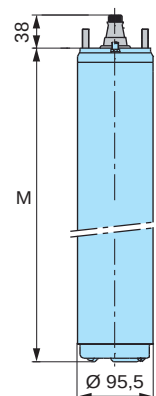
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Performance, dimensions and weights

4FK - 1 ~

Type	PN		IN 230 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Capac. 450 Vc μF	Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN				
4FK 0,37M	0,37	0,5	3,3	0,91	0,85	0,78	54	46	35	2860	3,8	0,94	16	3000	228	8
4FK 0,55M	0,55	0,75	4,3	0,94	0,91	0,86	63	57	45	2850	4,1	0,86	20		253	9,2
4FK 0,75M	0,75	1	5,7	0,98	0,96	0,92	59	52	41	2845	4	1	35		282	10,4
4FK 1,1M	1,1	1,5	8,4	0,92	0,86	0,77	63	56	43	2845	4	0,84	40		307	11,8
4FK 1,5M	1,5	2	10,7	0,95	0,90	0,82	66	59	48	2830	3,9	0,76	50	4000	339	12,9
4FK 2,2M	2,2	3	14,7	0,97	0,93	0,86	68	62	51	2840	4,2	0,74	70		437	17,3

Connection
4" NEMA



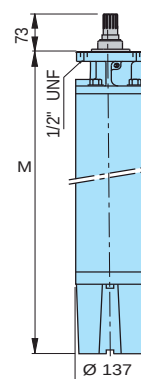
I-4FK, 4FK - 3 ~

Type	PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN			
I-4FK, 4FK 0,37T	0,37	0,5	1,1	0,74	0,66	0,55	66	63	54	2855	4,92	2,5	3000	214	7,2
I-4FK, 4FK 0,55T	0,55	0,75	1,6	0,74	0,65	0,53	68	63	55	2845	4,63	2,31		228	7,7
I-4FK, 4FK 0,75T	0,75	1	2	0,77	0,68	0,55	70	68	61	2865	3,5	2,69		248	8,7
I-4FK, 4FK 1,1T	1,1	1,5	2,8	0,78	0,69	0,57	74	72	66	2850	5,71	3,09		283	10,2
I-4FK, 4FK 1,5T	1,5	2	3,9	0,78	0,68	0,55	73	71	65	2855	5,31	2,82		307	11,2
I-4FK, 4FK 2,2T	2,2	3	5,5	0,77	0,66	0,52	75	74	69	2845	5,42	2,99		339	12,6
I-4FK, 4FK 3T	3	4	7,5	0,77	0,67	0,53	76	76	70	2845	5,6	3,17	6500	394	15
I-4FK, 4FK 3,7T	3,7	5	9	0,78	0,69	0,54	78	77	73	2840	5,81	3,32		520	19,1
I-4FK, 4FK 4T	4	5,5	9,9	0,77	0,67	0,52	78	77	72	2840	5,76	3,28		543	20
I-4FK, 4FK 5,5T	5,5	7,5	12,6	0,81	0,73	0,59	79	79	75	2865	6,13	3,09		653	26,6
I-4FK, 4FK 7,5T	7,5	10	17,1	0,81	0,72	0,58	79	79	75	2855	5,81	2,91		731	30,6

I-6FK, 6FK - 3 ~

Type	PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN			
I-6FK, 6FK 4	4	5,5	9,3	0,82	0,74	0,62	78	77	74	2860	4,6	1,5	15500	581	37,5
I-6FK, 6FK 5,5	5,5	7,5	12,5	0,82	0,75	0,63	79	78	74	2870	5,1	1,9		615	41,1
I-6FK, 6FK 7,5	7,5	10	16	0,86	0,81	0,70	79	78	75	2860	5,2	1,9		646	45,2
I-6FK, 6FK 9,2	9,2	12,5	20,7	0,80	0,72	0,58	81	81	78	2870	5,4	2,2		679	47,5
I-6FK, 6FK 11	11	15	23,3	0,85	0,79	0,68	81	81	78	2860	5,5	2,1		711	50,9
I-6FK, 6FK 15	15	20	31,3	0,85	0,80	0,70	81	81	79	2860	5,4	2,1		776	56,7
I-6FK, 6FK 18,5	18,5	25	38,5	0,85	0,79	0,68	82	82	80	2850	6	2,5		842	63,3
I-6FK, 6FK 22	22	30	45,3	0,86	0,81	0,71	83	83	81	2860	5,9	2,4		907	69,3
I-6FK, 6FK 30	30	40	63,5	0,84	0,79	0,67	83	83	80	2860	6,2	2,6	27500	1037	83,9
I-6FK, 6FK 37	37	50	79	0,85	0,80	0,70	81	81	78	2875	5,2	2,3		1421	138
I-6FK, 6FK 45	45	60	95,2	0,84	0,80	0,70	82	82	80	2875	5,3	2,2		1574	152

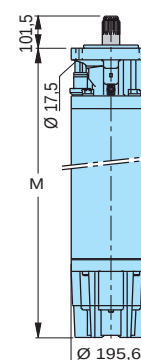
Connection
6" NEMA



I-8FK, 8FK - 3 ~

Type	PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN			
I-8FK, 8FK 30	30	40	61	0,84	0,78	0,68	86	86	83	2900	6,85	2,6	45000	909	116
I-8FK, 8FK 37	37	50	74	0,86	0,81	0,71	87	87	84	2920	7,2	2,4		986	131
I-8FK, 8FK 45	45	60	89	0,85	0,81	0,71	87	87	85	2920	7,25	2,7		1062	145
I-8FK, 8FK 55	55	75	108	0,87	0,82	0,72	88	87	85	2920	8	3,1		1204	175
I-8FK, 8FK 75	75	100	145	0,87	0,82	0,72	87	87	85	2925	8	2,3		1395	213
I-8FK, 8FK 92	92	125	190	0,83	0,78	0,68	87	86	84	2930	7	1,9		1747	291
I-8FK, 8FK 110	110	150	222	0,84	0,80	0,70	88	87	85	2930	7,2	2,1		1976	334
I-8FK, 8FK 130	130	175	252	0,87	0,84	0,79	88	87	86	2920	6,9	2,2		2179	380
I-8FK, 8FK 150	150	200	284	0,88	0,86	0,79	88	88	86	2920	6,54	2,1		2408	429

Connection
8" NEMA



PN Rated power output

IN Rated current

I_A Starting current / Nominal current

C_A Starting torque/Nominal torque

CS, CS-R, FK Submersible motors



Maximum length of electric cables

IN A	230 Volt - 50 Hz - 1 ~				
	1 four-wires cable 4 xmm ²				
	1,5	2,5	4	6	10
	cables max m				
2	142	235			
4	71	118	189		
6	47	78	126	189	
8	35	59	94	142	231
10	28	47	76	113	185
12	24	39	63	95	154
14	20	34	54	81	132
16	18	29	47	71	115
18		26	42	63	103
20		24	38	57	92
25			30	45	74
30			25	38	62

Voltage drop 3%.
Maximum ambient temperature + 30 °C.

Direct-starting

IN A	230 Volt - 50 Hz - 3 ~														
	1 four-wires cable 4 xmm ²								4 cables 1 xmm ²						
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150		
	cables max m														
2	164	272													
4	82	136	218												
6	55	91	145	218											
8	41	68	109	164	267										
10	33	54	87	131	213										
12	27	45	73	109	178										
14	23	39	62	94	152	239									
16	20	34	55	82	133	209									
18		30	48	73	118	186									
20		27	44	65	107	167	257								
25			35	52	85	134	206								
30			29	44	71	111	171	233							
35				37	61	95	147	200							
40				33	53	83	129	175	227						
45					47	74	114	155	202						
50					43	67	103	140	181	249					
60						56	86	116	151	207					
70						48	73	100	130	178	230				
80							64	87	113	155	201	241			
90							57	78	101	138	179	214			
100							51	70	91	124	161	193	224		
110								64	82	113	146	175	203		
120								58	76	104	134	161	186		
130									70	96	124	148	172		
140										65	89	115	138	160	
150										60	83	107	128	149	
160										57	78	101	120	140	
170										53	73	95	113	132	
180										50	69	89	107	124	
190										48	65	85	101	118	
200										45	62	81	96	112	
220											57	73	88	102	
240											52	67	80	93	
260												62	74	86	
280													58	69	80
300													54	64	75

IN A	400 Volt - 50 Hz - 3 ~																	
	1 four-wires cable 4 xmm ²								4 cables 1 xmm ²									
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240			
	cables max m																	
2	285	473																
4	143	236	379															
6	95	158	253															
8	71	118	190	285														
10	57	95	152	228														
12	48	79	126	190	309													
14	41	68	108	163	265													
16	36	59	95	142	232													
18		53	84	127	206	323												
20		47	76	114	185	290												
25			61	91	148	232	358											
30			51	76	124	194	298											
35				65	106	166	256	347										
40				57	93	145	224	304										
45					82	129	199	270										
50					74	116	179	243	316									
60						97	149	203	263									
70							83	128	174	225	309							
80								112	152	197	270							
90								99	135	175	240	311						
100								89	122	158	216	280						
110									110	143	197	255	305					
120									101	132	180	233	279					
130										121	166	216	258	299				
140											113	155	200	239	278			
150											105	144	187	223	259	302		
160											99	135	175	209	243	283		
170											93	127	165	197	229	267		
180											88	120	156	186	216	252	297	
190											83	114	147	176	205	239	281	
200											79	108	140	168	195	227	267	
220												98	127	152	177	206	243	
240												90	117	140	162	189	223	
260													108	129	150	174	206	
280														100	120	139	162	191
300														93	112	130	151	178

Maximum length of electric cables

Star-delta starting

IN A	230 Volt - 50 Hz - 3 ~ Y/Δ													
	2 four-wires cables 4 xmm²								7 cables 1 xmm²					
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	
	cables max m													
30	19	31	50	76	123	193								
35		27	43	65	105	165								
40		24	38	57	92	144								
45		21	34	50	82	128	198							
50			30	45	74	116	178							
60				38	62	96	148	201						
70				32	53	83	127	173	224					
80					46	72	111	151	196					
90					41	64	99	134	174					
100						58	89	121	157	215				
110						53	81	110	143	196				
120						48	74	101	131	179				
130						44	68	93	121	166	214			
140							64	86	112	154	199			
150							59	81	105	143	186			
160							56	76	98	134	174	208		
170							52	71	92	127	164	196		
180								67	87	120	155	185		
190								64	83	113	147	175	204	
200									78	108	139	167	194	
220										98	127	152	176	
240										90	116	139	161	
260										83	107	128	149	
280										77	100	119	138	
300										72	93	111	129	

IN A	400 Volt - 50 Hz - 3 ~ Y/Δ													
	2 four-wires cables 4 xmm²								7 cables 1 xmm²					
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	
	cables max m													
30	33	55	88	131	214	335								
35		47	75	113	183	287								
40		41	66	99	160	251								
45			58	88	143	223	344							
50			53	79	128	201	310							
60				66	107	167	258	350						
70				56	92	144	221	300						
80					80	126	193	263	341					
90					71	112	172	234	303					
100					64	100	155	210	273	374				
110					58	91	141	191	248	340				
120						84	129	175	228	312				
130						77	119	162	210	288	373			
140							111	150	195	267	346			
150							103	140	182	249	323			
160							97	131	171	234	303	362		
170								124	161	220	285	341		
180								117	152	208	269	322		
190								111	144	197	255	305	354	
200									137	187	242	290	337	
220										170	220	264	306	
240										156	202	242	280	
260											186	223	259	
280											173	207	240	
300											162	193	224	

- Against short-circuits and overloads to the electric pumps system we advise to follow the usually applied normative.
- To avoid a possible dry working of the electric pump in is better to install a level control.
- In order to avoid overheatings, tension grops above 3%, we advise to use suitable starting motors systems.
- All the cable wave to respect the usually applied normative and to present excellent insulation characteristics.

The tables show the maximum length of the cable depending on the current absorbed by the motor and the cross section area of the cable, at different voltages. The maximum voltage drop equal to 3%, cable temperature of 80°C, water installation similar to air installation at a temperature of 30°C.

Choice of electric cable by calculation

For dimensioning the phase cross section area for the submersible motor need the following information:

- V: Rated voltage (V)
- I: Motor current (A)
- L: Length of cable (km)
- $\cos \varphi$: power factor
- Ambient temperature (°C)

The choice of the minimum cross section area of the phase conductor is determined by the rated motor current and the values reported in Table 1.

Table 1

Type of cable*	Cable cross section mm ²	Maximum cable current		Resistance	Reactance
		1 line A	2 lines A	R at 80°C ohm/km	X at 60Hz ohm/km
four-wires cable	1.5	18	15	15.1	0,142
four-wires cable	2.5	24	20	9.08	0,131
four-wires cable	4	32	27	5.63	0,121
four-wires cable	6	41	35	3.73	0,115
four-wires cable	10	57	48	2.27	0,103
four-wires cable	16	76	65	1.43	0,098
four-wires cable	25	96	82	0.91	0,097
four-wires cable	35	119	101	0.65	0,094
single-wire cable	50	167	142	0.473	0,121
single-wire cable	70	216	184	0.328	0,116
single-wire cable	95	264	224	0.236	0,118
single-wire cable	120	308	262	0.188	0,113
single-wire cable	150	356	303	0.153	0,112
single-wire cable	185	409	348	0.123	0,109
single-wire cable	240	485	412	0.094	0,110

* Up to 35 mm² sections four-wire cable are used, from 50 mm² single core cables are recommended as well. Tab.1

The maximum current of the cables listed in Table 1 are for ambient temperature of 30 ° C.

When the temperature is different, the maximum current of the cables should be corrected by a factor given in Table 2.

Table 2

Ambient Temperature °C	10	15	20	25	30	35	40	45	50	55	60
Correction factor	1,22	1,17	1,12	1,06	1	0,94	0,87	0,79	0,71	0,61	0,5

The cross section area of the phase conductor is chosen by checking the voltage drop along the line , through the following equation:

$$DU\% = 1,73 \cdot I \cdot L \cdot (R \cdot \cos \varphi + X \cdot \sin \varphi) / (V \cdot 1000)$$

DU% the voltage drop should not be greater than 3%

R, X = cable resistance and reactance in ohms/km (indicated in Table 1)

$$\sin \varphi = \sqrt{1 - \cos^2 \varphi}$$

In case of star / delta starting the rated current of the motor should be divided by 1.73.

Determination of minimal sections of the protective conductor PE.

Table 3

Phase cross section area S mm ²	PE cross section area S _{PE} mm ²
S ≤ 16	S
16 < S ≤ 25	16
S > 25	S/2

CS, CS-R, FK Submersible motors



Electric control panels

M COMP Control panel for 1 single-phase submersible pump







 LVBT

Type	Protector max A	Capacitor 450Vc	Motor 230V - 1~ kW	Dimensions HxBxP mm
M COMP 4-16	4,5	16 μF	0,37	220x210x110
M COMP 4-20	4,5	20 μF	0,55	220x210x110
M COMP 5-20	5	20 μF	0,55	220x210x110
M COMP 5-25	5	25 μF	0,55	220x210x110
M COMP 6-20	6	20 μF	0,75	220x210x110
M COMP 6-35	6	35 μF	0,9	220x210x110
M COMP 7-25	7	25 μF	0,9	220x210x110
M COMP 7-30	7	30 μF	0,9	220x210x110
M COMP 8-25	8	25 μF	1,1	220x210x110
M COMP 8-30	8	30 μF	1,1	220x210x110
M COMP 10-35	10	35 μF	1,1	220x210x110
M COMP 10-40	10	40 μF	1,1	220x210x110
M COMP 12-35	12	35 μF	1,5	220x210x110
M COMP 12-50	12	50 μF	1,5	220x210x110
M COMP 12-60	12	60 μF	1,5	220x210x110
M COMP 16-70	16	70 μF	2,2	220x210x110

Construction

Control panel with ON-OFF switch and capacitor for 1 submersible pump with single-phase motor. Suitable for use with LVBT board for level control.

Protection is provided by means of a main bipolar switch with a phase protected against overload by means of a thermal element.

PFC-M Control panel for 1 submersible pump with single-phase motor, PF control

	Type	Setting	Capacitor	Motor 50/60Hz 220V-240V - 1~	Dimensions HxBxP mm
	A	450Vc	kW		
	PFC-M 18-16	1 - 18	16 µF	0,37	220x210x110
	PFC-M 18-20	1 - 18	20 µF	0,55	220x210x110
	PFC-M 18-25	1 - 18	25 µF	0,55	220x210x110
	PFC-M 18-30	1 - 18	30 µF	0,75	220x210x110
	PFC-M 18-35	1 - 18	35 µF	0,75	220x210x110
	PFC-M 18-40	1 - 18	40 µF	1,1	220x210x110
	PFC-M 18-50	1 - 18	50 µF	1,5	220x210x110
	PFC-M 18-60	1 - 18	60 µF	1,5	220x210x110
PFC-M 18-70	1 - 18	70 µF	2,2	220x210x110	

Construction

Control panel for controlling one submersible pump with single-phase motor. Electronic control of the operation and dry-running protection through the power factor (PF) control.

The installation of level probes into the well is not required.

It stops the pump in case of lack of air cushion in the pressure vessel (patented system).

Displayed operating data and alarms available in four languages.

QML 1 FT Control panel for 1 pump with single-phase motor, direct starting

	Type	Motor 230V - 1~ kW	Setting A	Dimensions HxBxP mm
	QML 1 FT 0,37	0,37	1,6 - 2,5	200x255x170
	QML 1 FT 0,55	0,45 - 0,55	2,5 - 4	200x255x170
	QML 1 FT 0,75	0,75	4 - 6,5	200x255x170
	QML 1 FT 1,1	1,1	6,3 - 10	200x255x170
	QML 1 FT 1.5	1,5	9 - 12	200x255x170

Construction

Control panel for 1 pump with single-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel.

Arranged for the capacitor internal connection (for pumps without built-in capacitor) and for the SRL 3 level control card application against dry running.

Pump operation controlled by an electronic board type MP 1000 with microprocessor which allows three different modes of operation of the pump: standard, emergency and timed.

T COMP Control panel for 1 submersible pump with three-phase motor

	Type	Protector A	Motor 230V - 3~ kW	Motor 400V - 3~ kW	Dimensions HxBxP mm
	T COMP 8	1 ÷ 8	0,37 ÷ 1,5	0,5 ÷ 2,2	170x145x85
	T COMP 10	7 ÷ 10	---	3 ÷ 3,7	230x180x155
	T COMP 12	9 ÷ 12	2,2	4	230x180x155
	T COMP 16	11 ÷ 16	3	5,5	230x180x155
	T COMP 20	14 ÷ 20	3,7 - 4	7,5	230x180x155

Construction

Control panel and protection for 1 submersible pump with three-phase motor.

Arranged for the LVBT level control internal connection against dry running (T COMP8 model has the level control as a standard).

Control pumps with pressure switch and float-type switch.

CS, CS-R, FK Submersible motors



Electric control panels

PFC-T Control panel for 1 submersible pump with three-phase motor, PF control

	Type	Setting A	Motor 400V 50Hz - 3~ 380V 60Hz - 3~ kW		Dimensions HxBxP mm	kg
	PFC-T 11	1 - 11	0,37 - 4	0,37 - 4	255x200x135	1,7
	PFC-T 16	1 - 16	5,5	5,5	255x200x135	1,7

Construction

Control panel for controlling 1 submersible pump with three-phase motor. Electronic control of the operation and dry-running protection through the power factor (PF) control.

The installation of level probes into the well is not required.

It stops the pump in case of lack of air cushion in the pressure vessel (patented system) Displayed operating data and alarms, available in four languages.

QTL 1 FT Control panel for 1 pump with three-phase motor, direct starting

	Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
	QTL 1 FT 0,55	0,37 - 0,45 - 0,55	1 - 1,6	200x255x170
	QTL 1 FT 1,1	0,75 - 1,1	1,6 - 2,5	200x255x170
	QTL 1 FT 1,5	1,5	2,5 - 4	200x255x170
	QTL 1 FT 3	2,2 - 3	4 - 6,5	200x255x170
	QTL 1 FT 4	4	6,3 - 10	200x255x170
	QTL 1 FT 5,5	5,5	9 - 12	200x255x170
	QTL 1 D 7,5 FT	7,5	13 - 18	400x300x160
	QTL 1 D 9,2 FT	9,2	17 - 23	400x300x160
	QTL 1 D 11 FT	11	20 - 25	400x300x160

Construction

Control panel for 1 pump with three-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel.

Pump operation controlled by an electronic card type MP 1000 with microprocessor which allows three different modes of operation of the pump: standard, emergency and timed.

Dry-running protection with float switch.

Arranged for SRL 3 level control application for probes connection against dry-running.

QTL 1 D FTE Control panel for 1 pump with three-phase motor, direct starting

	Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
	QTL 1 D 4 FTE	4	6,3 - 10	400x300x160
	QTL 1 D 5,5 FTE	5,5	9 - 12	400x300x160
	QTL 1 D 7,5 FTE	7,5	13 - 18	400x300x160
	QTL 1 D 9,2 FTE	9,2	17 - 23	400x300x160
	QTL 1 D 11 FTE	11	20 - 25	400x300x160
	QTL 1 D 15 FTE	15	24 - 32	500x350x200
	QTL 1 D 18,5 FTE	18,5	32 - 38	500x350x200
	QTL 1 D 22 FTE	22	35 - 50	500x350x200
	QTL 1 D 30 FTE	30	46 - 65	500x350x200

Construction

Electromechanical control panel for 1 pump with three-phase motor, direct starting.

Operating signals by E 1000 led card.

Dry-running protection with float switch.

Construction with SRLE level control for probes connection against dry-running on request .

QTL 1 ST FT Control panel for 1 pump with three-phase motor, Y/Δ starting

	Type	Motor 400V - 3~ Power kW Current A		Dimensions HxBxP mm
	QTL 1 ST 5,5 FT	5,5	11 - 15	600x400x200
	QTL 1 ST 7,5 FT	7,5	12 - 17	600x400x200
	QTL 1 ST 11 FT	9,2 - 11	16 - 24	600x400x200
	QTL 1 ST 15 FT	15	23 - 31	600x400x200
	QTL 1 ST 18,5 FT	18,5	30 - 39	600x400x200
	QTL 1 ST 22 FT	22	35 - 43	700x500x200
	QTL 1 ST 30B FT	30	42 - 55	700x500x200
	QTL 1 ST 30A FT	30	55 - 65	700x500x200
	QTL 1 ST 37 FT	37	61 - 84	800x600x250
	QTL 1 ST 45 FT	45	80 - 105	800x600x250

Construction

Control panel for 1 pump with three-phase motor, Y/Δ starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel.

Pump operation controlled by an electronic card type MP 1000 with microprocessor with 3 different pump operating modes: standard, emergency and timed.

Dry-running protection with float switch.

Arranged for SRL 3 level control application for probes connection against dry-running on request.

CS, CS-R, FK Submersible motors



Electric control panels

QTL 1 ST FTE Control panel for 1 pump with three-phase motor, Y/Δ starting

Type	Motor 400V - 3~		Dimensions HxBxP mm
	Power kW	Current A	
QTL 1 ST 5,5 FTE	5,5	11 - 15	500x350x200
QTL 1 ST 7,5 FTE	7,5	12 - 17	500x350x200
QTL 1 ST 11 FTE	9,2 - 11	16 - 24	500x350x200
QTL 1 ST 15 FTE	15	23 - 31	500x350x200
QTL 1 ST 18,5 FTE	18,5	30 - 39	500x350x200
QTL 1 ST 22 FTE	22	35 - 43	600x400x200
QTL 1 ST 30B FTE	30	42 - 55	600x400x200
QTL 1 ST 30A FTE	30	55 - 65	600x400x200
QTL 1 ST 37 FTE	37	61 - 84	700x500x200
QTL 1 ST 45 FTE	45	80 - 105	700x500x200
QTL 1 ST 55 FTE	55	100 - 125	700x500x200
QTL 1 ST 75 FTE	75	120 - 160	800x600x250
QTL 1 ST 92 FTE	92	140 - 198	800x600x250
QTL 1 ST 110 FTE	110	180 - 250	800x600x250

Construction

Electromechanical control panel for 1 pump with three-phase motor, Y/Δ starting.
Operating signals by E 1000 led board.
Dry-running protection with float switch.
Construction with SRLE level control for probes connection against dry-running on request .

QTL 1 SS E Control panel for 1 pump with three-phase motor, start/stop with soft starter

Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
QTL 1 SS 7,5 E	7,5	17	700x500x250
QTL 1 SS 9,2 E	9,2	22	700x500x250
QTL 1 SS 15 E	11 - 15	34	700x500x250
QTL 1 SS 22 E	18,5 - 22	48	700x500x250
QTL 1 SS 26 E	26	58	900x600x300
QTL 1 SS 30 E	30	68	900x600x300
QTL 1 SS 37 E	37	82	900x600x300
QTL 1 SS 45 E	45	92	900x600x300
QTL 1 SS 55 E	55	114	900x600x300
QTL 1 SS 63 E	63	126	1100x700x300
QTL 1 SS 75 E	75	150	1100x700x300
QTL 1 SS 92 E	92	196	1200x800x400
QTL 1 SS 110 E	110	231	1200x800x400
QTL 1 SS 132 E	132	245	1200x800x400

Construction

Control panel for 1 pump with three-phase motor, start/stop with soft starter.
Operating signals on E 1000 led board.
Application: control of submersible motor with great cable length and surface motors.
Dry-running protection with float switch.
Construction with SRLE level control for probes connection against dry-running on request .

QTL 1 IS FTE Control panel for 1 pump with three-phase motor, with Stator Impedance starter

Type	Motor 400V - 3~		Dimensions HxBxP mm
	Power kW	Current A	
QTL 1 IS 5,5 FTE-2RL	5,5	11 - 15	
QTL 1 IS 7,5 FTE-2RL	7,5	12 - 17	
QTL 1 IS 11 FTE-2RL	9,2 - 11	16 - 24	
QTL 1 IS 15 FTE-2RL	15	23 - 31	
QTL 1 IS 18,5 FTE-2RL	18,5	30 - 39	
QTL 1 IS 22 FTE-2RL	22	35 - 43	
QTL 1 IS 30 FTE-2RL	30	42 - 65	
QTL 1 IS 37 FTE-2RL	37	61 - 84	
QTL 1 IS 45 FTE-2RL	45	80 - 105	
QTL 1 IS 55 FTE-2RL	55	100 - 125	
QTL 1 IS 75 FTE-2RL	75	120 - 160	
QTL 1 IS 92 FTE-2RL	92	140 - 198	
QTL 1 IS 110 FTE-2RL	110	180 - 250	

Construction

Electromechanical control panel for 1 submersible pump with three-phase motor, with Stator Impedance starter.
Operating signals on led board type E 1000.
Application : submersible motors control with great cable length.
Construction with SRLE level control for probes connection against dry-running .

Electric control panels

QML 1 VFT Control panel for 1 pump with variable speed three-phase motor

	Type	Motor 230V - 3~ kW	Max current output max A	Dimensions HxBxP mm
	QML 1 VFT 0,4	0,37 - 0,45	2,6	500x350x200
	QML 1 VFT 0,75	0,55 - 0,75	4	500x350x200
	QML 1 VFT 1,5	1,1 - 1,5	7,1	500x350x200
	QML 1 VFT 2,2	2,2	10	500x350x200

Construction

Single-phase mains supply control panel with frequency converter for 1 pump with three-phase variable speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor.

QTL 1 VFT Control panel for 1 pump with variable speed three-phase motor

	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
	QTL 1 VFT 0,4	0,4	1,5	500x350x200
	QTL 1 VFT 0,75	0,55 - 0,75	2,3	500x350x200
	QTL 1 VFT 1,5	1,1 - 1,5	4,1	500x350x200
	QTL 1 VFT 2,2	2,2	5,5	500x350x200
	QTL 1 VFT 4	3 - 4	9,5	500x350x200
	QTL 1 VFT 5,5	5,5	14,3	600x400x200
	QTL 1 VFT 7,5	7,5	17	600x400x200
	QTL 1 VFT 11	9,2 - 11	27,7	700x500x200
	QTL 1 VFT 15	15	33	700x500x200
	QTL 1 VFT 18,5	18,5	41	800x600x250
	QTL 1 VFT 22	22	48	800x600x250
	QTL 1 VFT 30	30	66	800x600x250
	QTL 1 VFT 37	37	79	1100x700x300
	QTL 1 VFT 45	45	94	1200x800x300
	QTL 1 VFT 55	55	116	1200x800x300
	QTL 1 VFT 75	75	160	1200x800x300

Construction

Control panel with frequency converter for 1 pump with three-phase variable speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor.

CS, CS-R, FK Submersible motors



Motor Cooling

To ensure a suitable cooling, water must be in touch with the motor casing with a minimum velocity according to the following table

Rewindable motor CS, CS-R series

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS	35 °C	0,08 m/s	20	all types
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
		0,2 m/s	15	18,5 kW
	25 °C	0,2 m/s	13	22÷30 kW
		0,1 m/s	13	37 kW
8CS-R	25 °C	0,3 m/s	6	45 kW
			10	30÷45 kW
			8	51÷75 kW
10CS	25 °C	0,50 m/s	6	92 kW
			10	all types

Encapsulated motor FK series

Motor	Max. Liquid temperature	Cooling minimum flow velocity	Max. starts per hour
4"	30 °C	0,08 m/s	20
6"	30 °C for 4 ÷ 30 kW 50 °C for 37 ÷ 45 kW	0,16 m/s	20
8"	30 °C	0,16 m/s	20

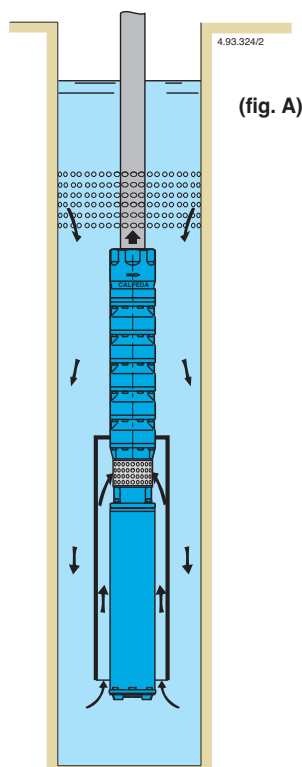
For operation with higher temperatures, contact our Technical Sales Department

Cooling jacket

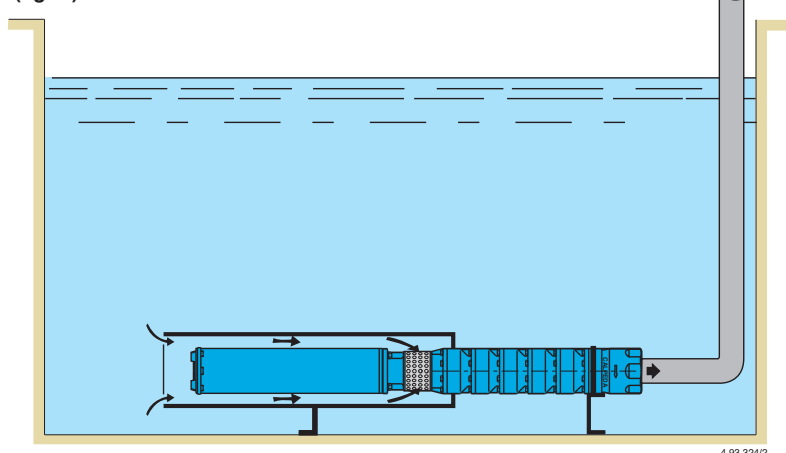
When the submersible motor is installed :

- below the well inlet points (**picture A**);
- in tanks, lakes, basins, etc... (**pictures B and C**)

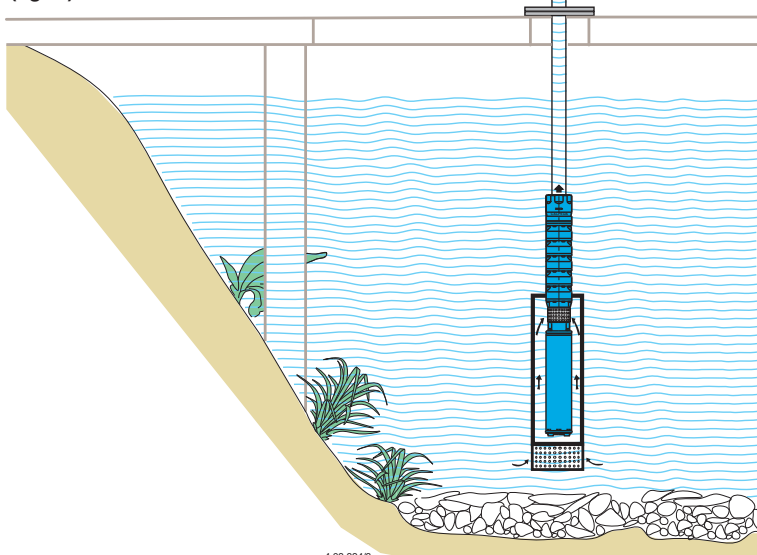
an external jacket must be installed to create a cooling flow around the motor. Only in this way a safe operation can be assured avoiding any overheating which can damage the motor.



(fig. B)



(fig. C)



NCE

Heating and conditioning





NCE EI



pag. 398
Energy saving circulating
pumps



NCE PS

pag. 430
Energy saving circulating
pumps for sanitary hot water



NCE EA



pag. 402
Self-adapt energy saving
circulating pumps



NCE GS F

pag. 434
Energy saving circulating
pumps with flanges
for sanitary hot water



NCE H



pag. 406
Energy saving circulating
pumps



NCS3

pag. 438
Circulating pumps
for sanitary hot water



NCE H F



pag. 410
Energy saving circulating
pumps with flanges



NC3

pag. 441
Three speeds circulating
pumps with threaded ports



NCE G F

pag. 414
Energy saving circulating
pumps with flanges



NCD3

pag. 445
Three speeds circulating
pumps with threaded ports



NCED G F

pag. 418
Energy saving circulating
twin pumps with flanges



NC

pag. 448
Three speeds circulating
pumps with flanges



NCE EL



pag. 422
Energy saving circulating
pumps for solar systems



NCD

pag. 457
Three speeds circulating
twin pumps with flanges



NCE ES



pag. 426
Energy saving circulating
pumps for sanitary hot water

ENERGY EFFICIENCY OF CIRCULATING PUMPS

Directive of the European Parliament COMMISSION REGULATION (EC) No 641/2009 and 622/2012

Eco-design Directive of Energy Using Products (**ErP Directive - Energy-related Products**). The European Union wants to improve the design of equipment that "consume" significant energy e.g. (televisions, refrigerators, washing machines, boilers, pumps, and motors etc.) To improve eco-design providing environmental sustainability, reducing negative environmental impact as the consequence of production, use and disposal of products.



The objective of the Directive is to force manufacturers and importers to produce and distribute products with high energy efficiency, and carbon output.

The criteria for eco-design will be an integral part of the declaration of conformity (**CE**), which is a necessary requirement/mark for products being sold in the EU.

This Regulation shall apply to:

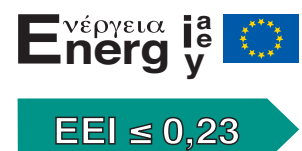
Stand-alone* or integrated** circulators with the motor immersed in the pumped medium, with hydraulic power from 1 up to 2500 W, designed for use in heating systems or in secondary circuits of cooling distribution systems.

* Stand alone circulators are commonly available on the market.

** circulators integrated in products are component of a device, such as boilers, heat pumps, etc..

This Regulation shall not apply to:

- drinking water circulators
- circulators integrated in products and placed on the market not later than 1 January 2020 as replacement for identical circulators integrated in products and placed on the market no later than 1 August 2015. The replacement product or its packaging must clearly indicate the product(s) for which it is intended.



This Regulation shall apply in accordance with the following timetable:

- from **1 January 2013**, glandless standalone circulators shall meet the efficiency level (EEI) less than 0.27, with the exception of those specifically designed for primary circuits of thermal solar systems and of heat pumps;
- from **1 August 2015**, glandless standalone circulators and glandless circulators integrated in products shall meet the efficiency level (EEI) less than 0.23.

STANDARD OPERATING MODE IN CIRCULATING PUMPS

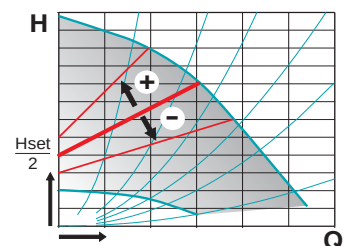


Proportional pressure curve

In the proportional pressure operating mode the pump changes the working pressure in-line with the flow demand of the system.

This operating mode is mainly used in:

- two pipe heating systems with thermostatic valves,
- systems with long pipelines;
- systems with high head losses.

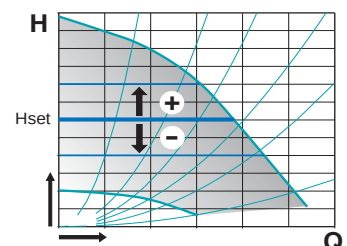


Constant pressure curve

In the constant pressure operating mode, the pump, keeps the pressure constant when the demand for water changes.

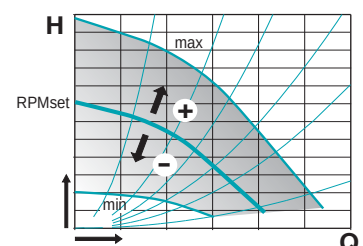
This operating mode is mainly used in:

- two pipe heating systems with thermostatic valves and low head losses
- underfloor heating systems with thermostatic valves;
- one pipe heating systems with thermostatic valves.



Constant speed curve

In this operating mode the pump works as a traditional pump with a constant curve, the operating curve can be chosen by the user within a range of curves.



NCE EI

Energy saving circulating pumps




Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

Applications

Small domestic heating systems.
Floor heating systems.

Operating conditions

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,3 bar at 50 °C
1,0 bar at 95 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2, G 2
- The benchmark for most efficient circulators is $EEL \leq 0,20$.
- Minimum power: 3 W.

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
1) automatic protection with electronic rotor release
2) Overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Designation

NCE EI 32 - 60 / 180

Series _____

Version _____

DN ports in mm _____

Max. head in dm _____

connection size mm _____

Special features on request

Brass or cast iron unions.

Features

Compact design

The space saving **NCE EI** is a very compact circulating pump, allows inr easy installation in small domestic heating systems.

Easy to install and to adjust

Installing the **NCE EI** is considerably simplified by the quick setting and power installation plug.

Reliable

Like all our electronic circulating pumps, the **NCE EI** features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.

Ceramic shaft

Hydraulics components are completely painted with cataphoresis.

Program for automatic routine vent and release.

Easy use

Operating range with fixed curves from 0,5 m to 7 m; possibility to choose 2 (1-2) proportional pressure curves and 2 (I-II) constant pressure curves.

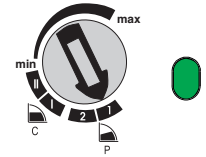
Operating modes



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

(GREEN LED)

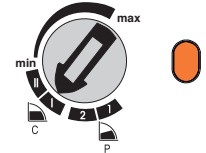
Moving the switch to 1 or 2 setting, the pump operates with the proportional curve. This mode ensures maximum energy efficiency.



CONSTANT CURVE PROGRAMMING $\Delta p-c$

(ORANGE LED)

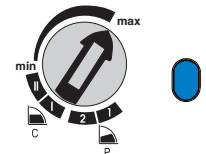
Moving the switch to I or II setting, the pump operates with a constant curve according to the selected flow rates.



MANUAL PROGRAMMING

(BLUE LED)

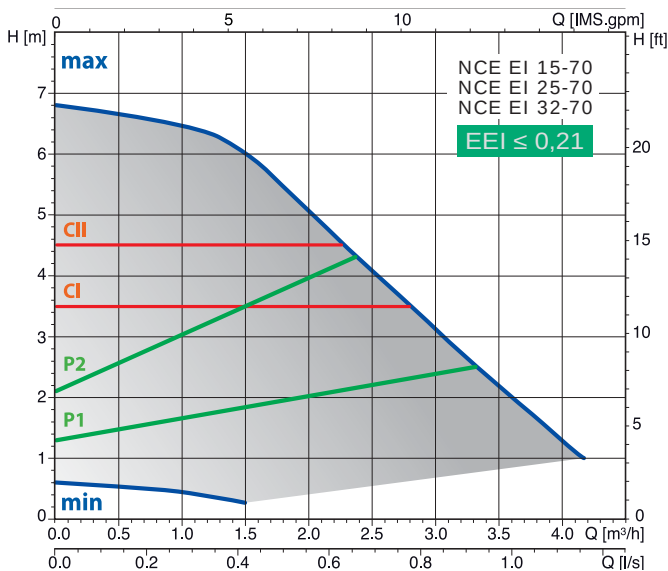
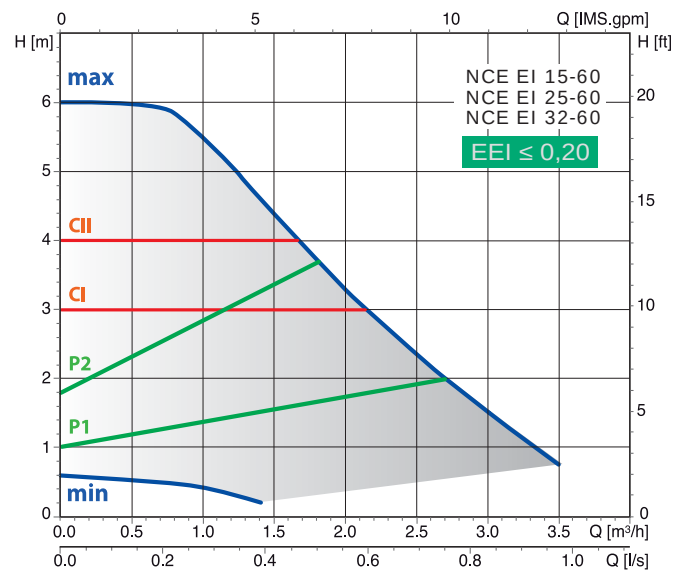
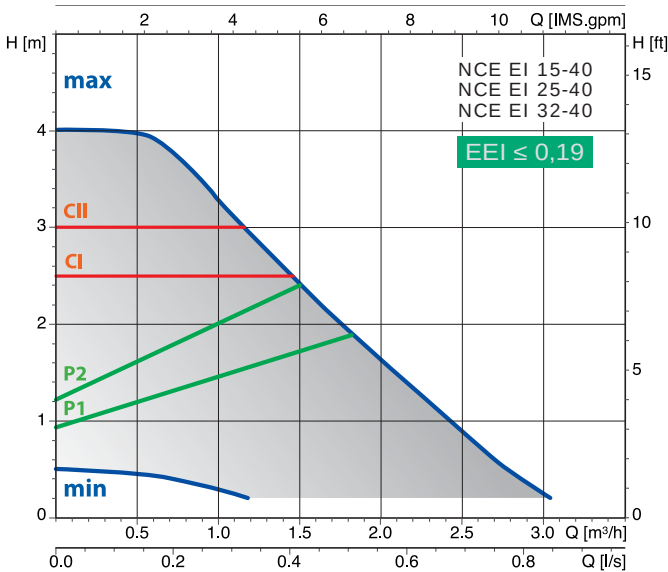
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



WARNING!

- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.

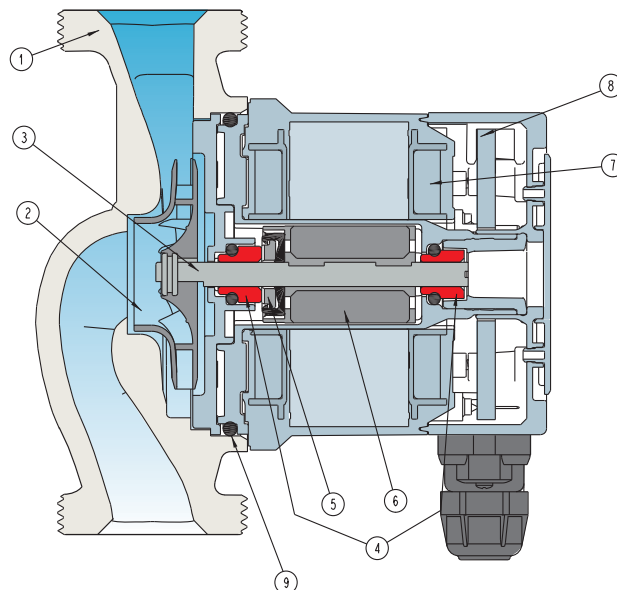
Characteristic curves



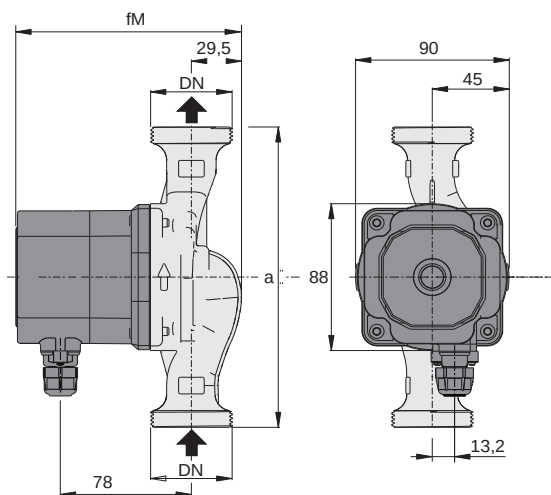
CI-CII constant curve
P1-P2 proportional curve
min-max n fixed curves

Materials

Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM

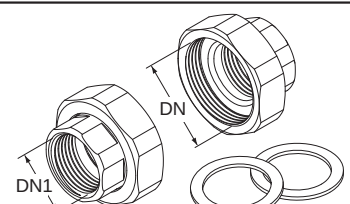


Dimensions and weights



TYPE	DN	230V		P1		mm		kg
		A max	A min	W max	W min	fm	a	
NCE EI 15-40/130	G 1	0,17	0,03	22	3	134	130	1,67
NCE EI 25-40/130	G 1 1/2							1,81
NCE EI 25-40/180	G 1 1/2							1,96
NCE EI 32-40/180	G 2	0,17	0,03	22	3	134	180	2,10
NCE EI 15-60/130/A	G 1							1,67
NCE EI 25-60/130/A	G 1 1/2							1,81
NCE EI 25-60/180/A	G 1 1/2	0,33	0,03	42	3	134	130	1,96
NCE EI 32-60/180/A	G 2							2,10
NCE EI 15-70/130	G 1							1,91
NCE EI 25-70/130	G 1 1/2	0,44	0,03	56	3	144	130	2,05
NCE EI 25-70/180	G 1 1/2							2,20
NCE EI 32-70/180	G 2							2,34

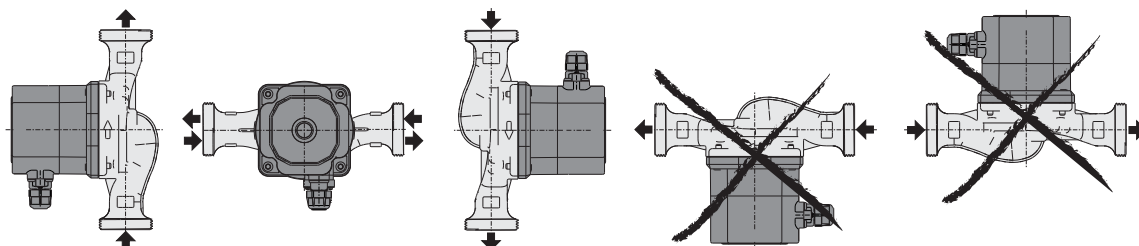
Unions (on request)



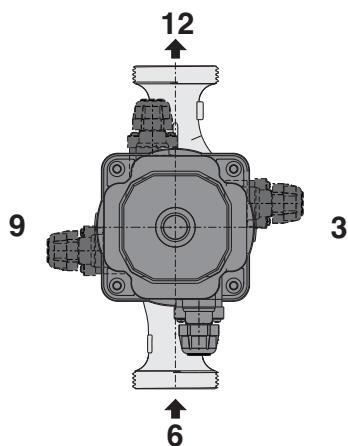
	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

Examples of installations

Installation



Terminal box arrangement (on request)



NCE EA

Self-adapt energy saving circulating pumps




Construction

Energy saving variable speed circulating pump self-adapt driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

EPP thermal insulation shell included.

Applications

Small domestic heating systems.

Floor heating systems.

Operating conditions

- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure:
 - 0,3 bar at 50 °C
 - 1,0 bar at 95 °C
 - 1,5 bar at 110 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2, G 2
- The benchmark for most efficient circulators is $EEL \leq 0,20$.
- Minimum power: 3 W.

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
 - 1) automatic protection with electronic rotor release
 - 2) Overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Designation

NCE EA 32 - 60 / 180

Series _____
Version _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

Special features on request

Brass or cast iron unions.

Features

Compact design

The space saving **NCE EA** is a very compact circulating pump, allows inr easy installation in small domestic heating systems.

Easy to install and to adjust

Installing the **NCE EA** is considerably simplified by the quick setting and power installation plug.

Reliable

Like all our electronic circulating pumps, the **NCE EA** features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.

Ceramic shaft

Hydraulics components are completely painted with cataphoresis.

Program for automatic routine vent and release.

Easy use

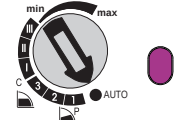
Operating range with fixed curves from 0,5 m to 7 m; possibility to choose 3 (1-2-3) proportional pressure curves and 3 (I-II-III) constant pressure curves.

Operating modes



AUTO CURVE PROGRAMMING Automatic mode (VIOLET LED)

Moving the switch to the AUTO setting, the pump finds the best working point and it controls it at any time.



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$ (GREEN LED)

Moving the switch to the 1,2 or 3 setting, the pump operates with the proportional curve. This mode ensures maximum energy efficiency.



CONSTANT CURVE PROGRAMMING $\Delta p-c$ (ORANGE LED)

Moving the switch to the I, II or III setting, the pump operates with a constant curve according to the selected flow rates.



MANUAL PROGRAMMING (BLUE LED)

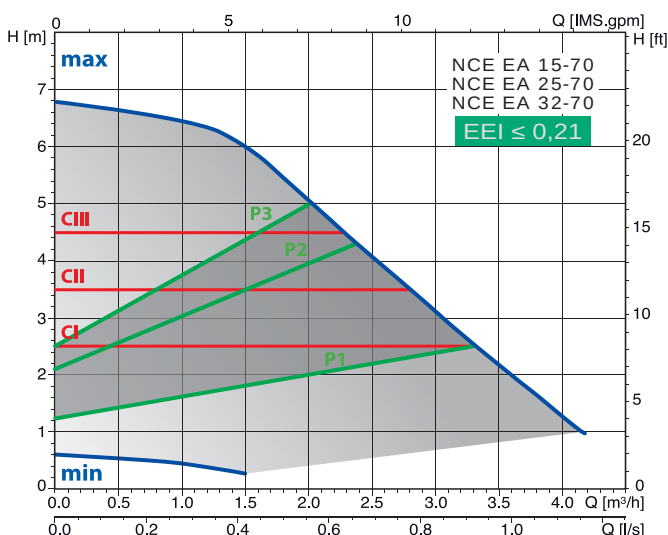
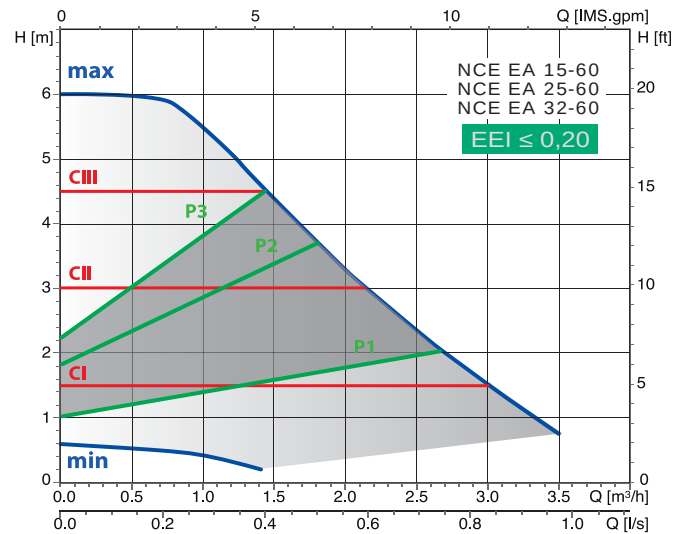
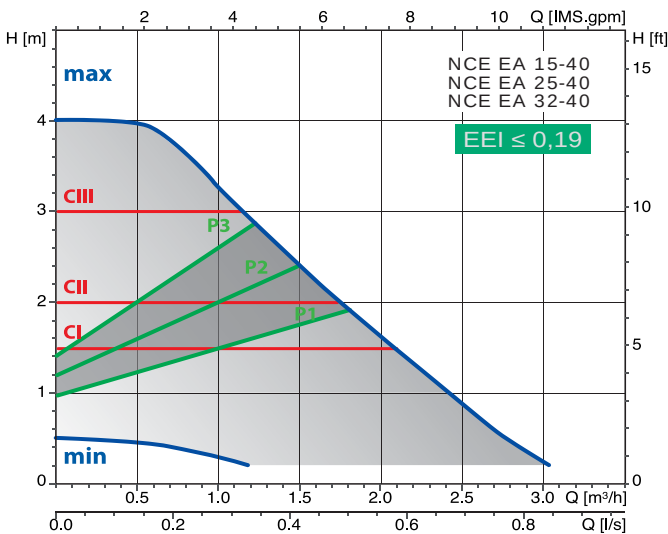
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



WARNING!

- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.

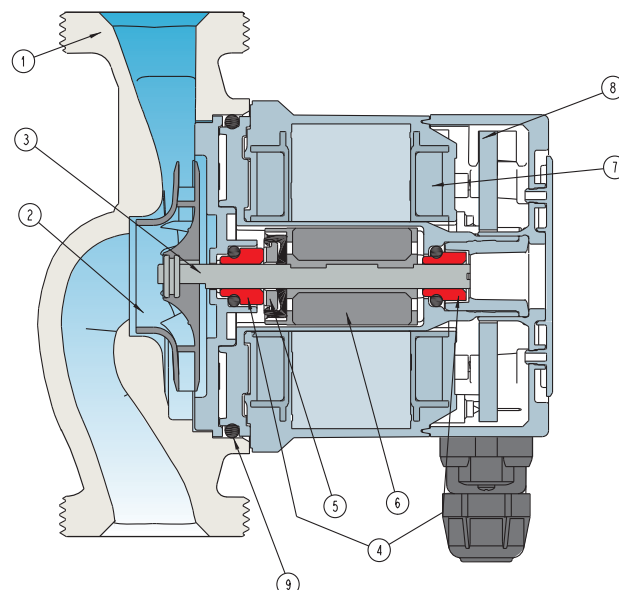
Characteristic curves



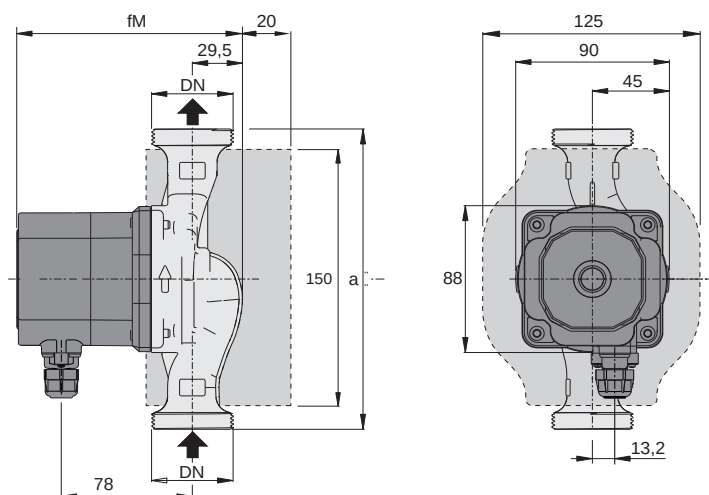
CII-CIII constant curve
P1-P2-P3 proportional curve
min-max n fixed curves

Materials

Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM

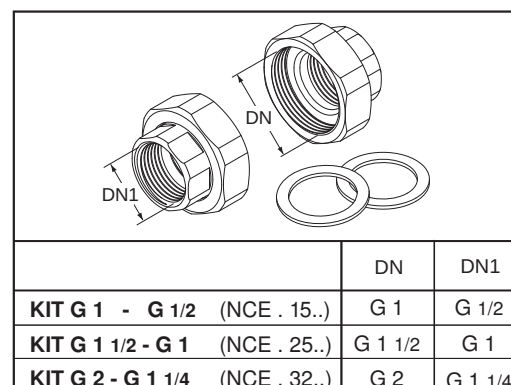


Dimensions and weights



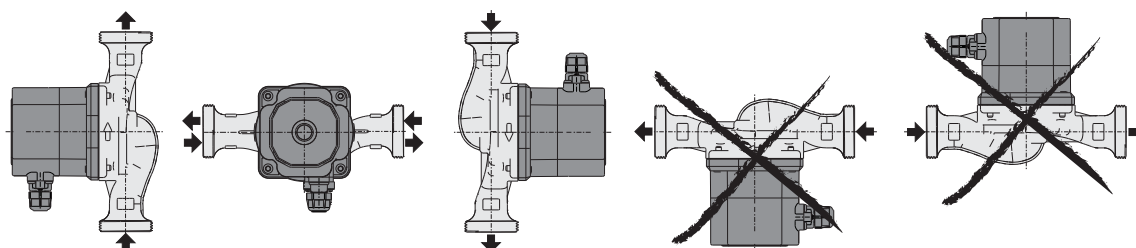
TYPE	DN	230V		P1		mm		kg
		A max	A min	W max	W min	fm	a	
NCE EA 15-40/130	G 1	0,17	0,03	22	3	134	130	1,67
NCE EA 25-40/130	G 1 1/2							1,81
NCE EA 25-40/180	G 1 1/2							1,96
NCE EA 32-40/180	G 2	0,17	0,03	22	3	134	180	2,10
NCE EA 15-60/130	G 1							1,67
NCE EA 25-60/130	G 1 1/2							1,81
NCE EA 25-60/180	G 1 1/2	0,33	0,03	42	3	134	130	1,96
NCE EA 32-60/180	G 2							2,10
NCE EA 15-70/130	G 1							1,91
NCE EA 25-70/130	G 1 1/2	0,44	0,03	56	3	144	130	2,05
NCE EA 25-70/180	G 1 1/2							2,20
NCE EA 32-70/180	G 2							2,34

Unions (on request)

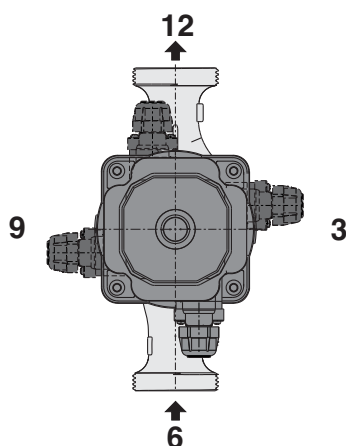


Examples of installations

Installation



Terminal box arrangement (on request)



NCE H

Energy saving circulating pumps



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

Applications

Heating and conditioning systems.

Operating conditions

- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: threaded ports ISO 228: G 1 1/2, G 2.
- The benchmark for most efficient circulators is $EEL \leq 0,20$.

Designation

NCE H 25 - 100 / 180

Series _____

Version _____

DN ports in mm _____

Max. head in dm _____

connection size mm _____

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Special features on request

- Additional module:
- analog input 0-10V
 - remote on/off input
 - output relay

Brass or cast iron unions.

Features

Smart pump

NCE H adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

There are different operating modes selectable from the control panel.

Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow. The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains the pressure constant when the reference flow changes. The pressure value can be adjusted with the + and - buttons.



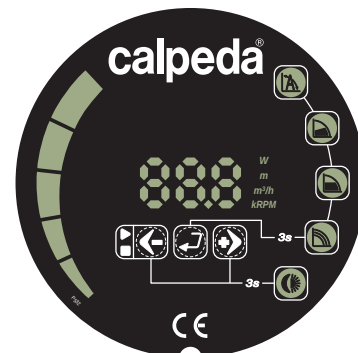
Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



Night mode:

When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve. When the temperature rises again the pump comes back to the selected mode. The night mode could be selected with any operating mode.



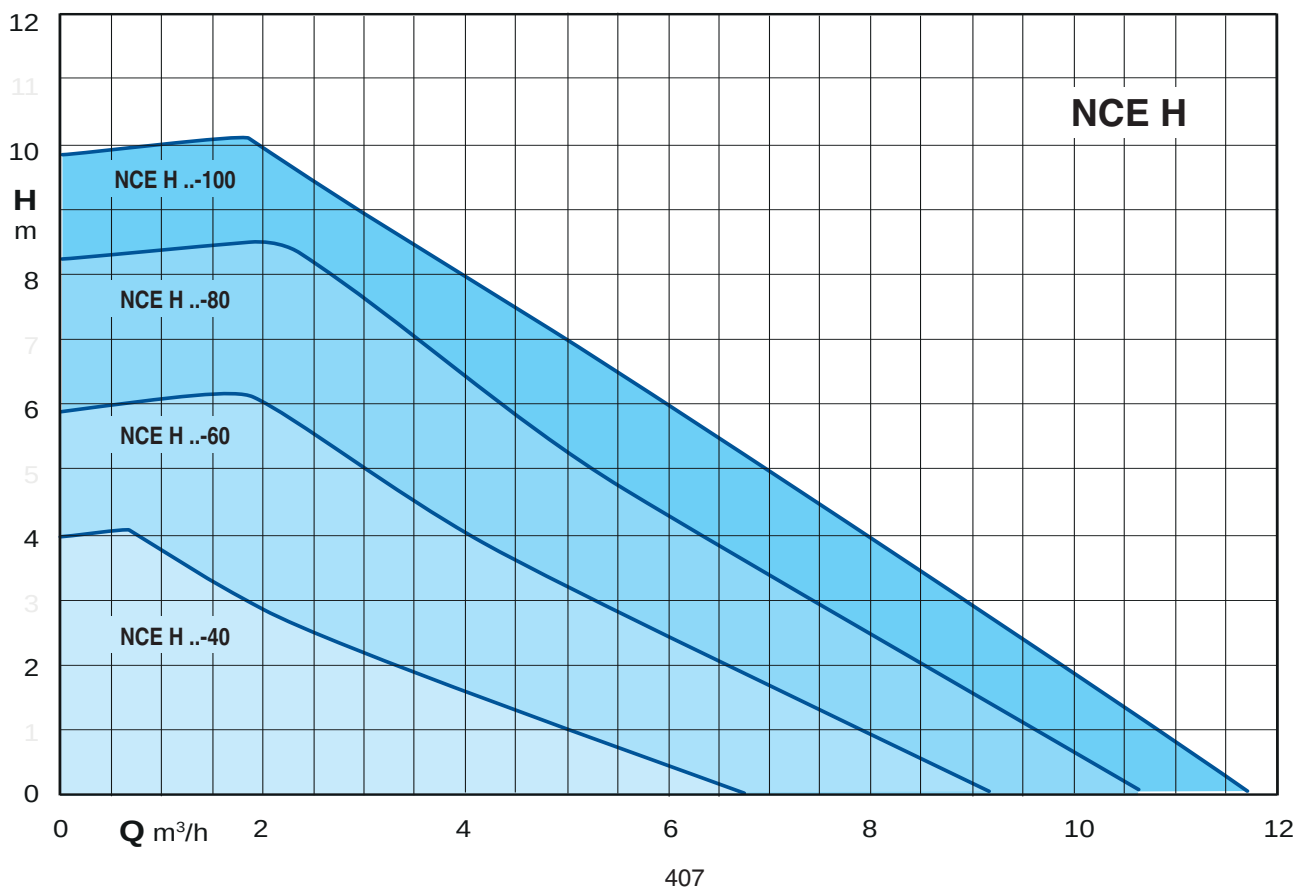
Operating mode-control panel

NCE H could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

Coverage chart

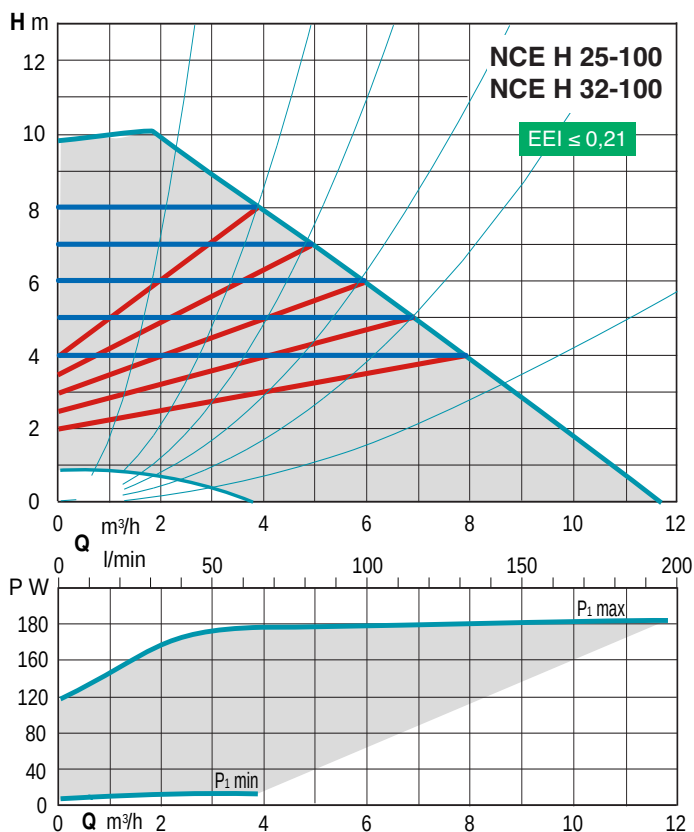
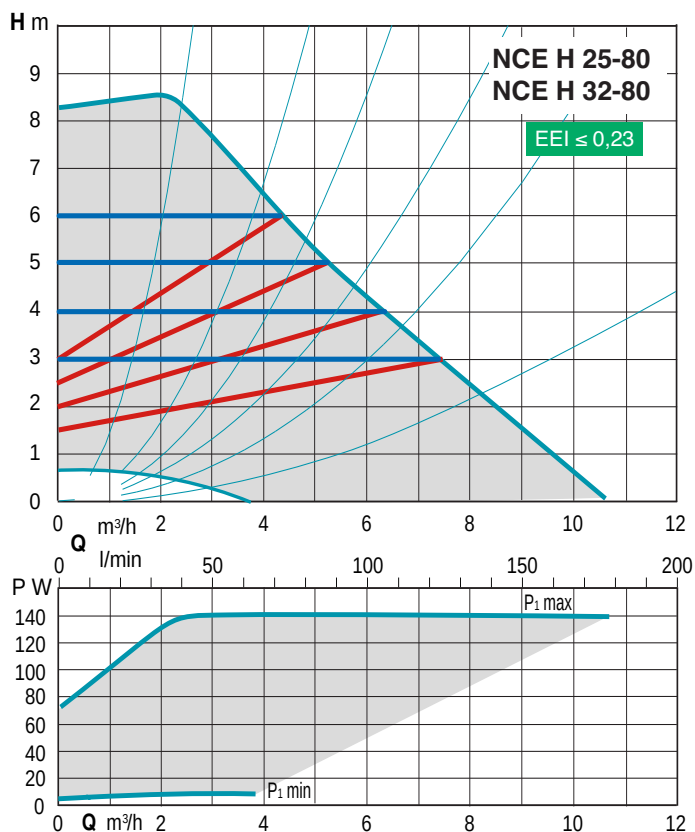
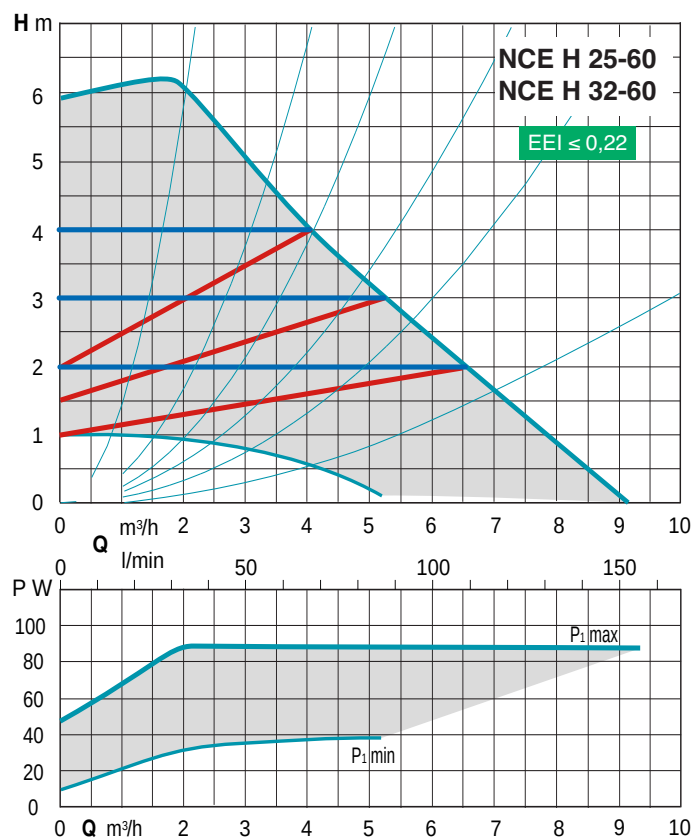
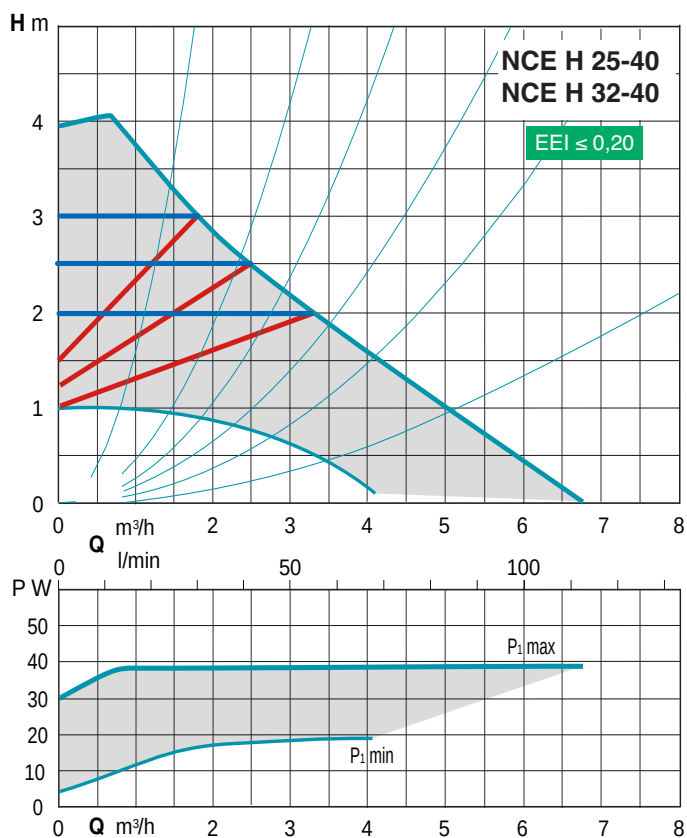


NCE H

Energy saving circulating pumps

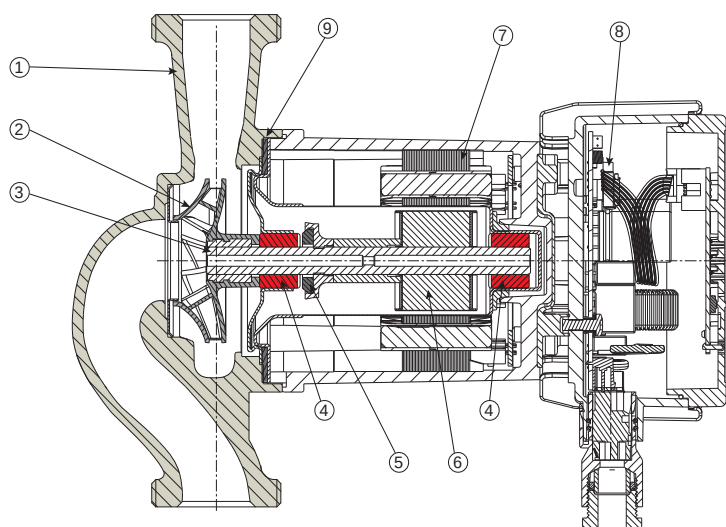


Characteristic curves

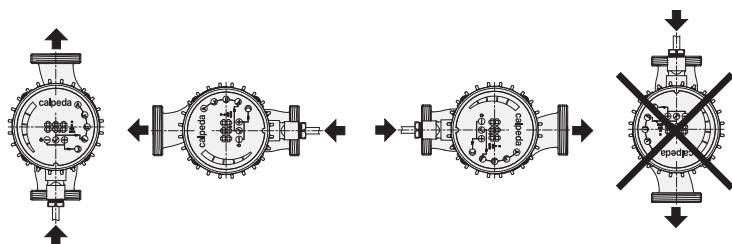


Materials

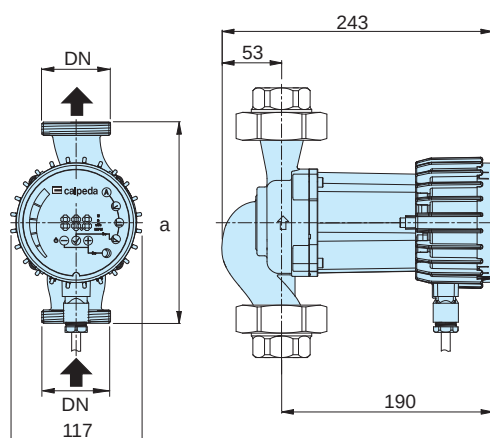
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations

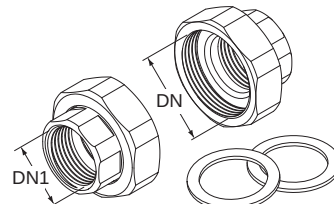


Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCE H 25-40/180 NCE H 32-40/180	G 1 1/2 G 2	4	5	0,05	0,2	5	25	180	4 4,1
NCE H 25-60/180 NCE H 32-60/180	G 1 1/2 G 2	6	7,5	0,05	0,4	7	50	180	4 4,1
NCE H 25-80/180 NCE H 32-80/180	G 1 1/2 G 2	8	9	0,05	0,6	7	75	180	4 4,1
NCE H 25-100/180 NCE H 32-100/180	G 1 1/2 G 2	10	11	0,1	1,3	10	180	180	4 4,1
NCE H 25-120/180 NCE H 32-120/180	G 1 1/2 G 2	12	15	-	-	-	-	180	-

Unions (on request)



TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

NCE H.F Energy saving circulating pumps with flanges



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

Applications

Heating and conditioning systems.

Operating conditions

- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar at 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 32, 40, 50.
- The benchmark for most efficient circulators is $EEI \leq 0,20$.

Designation

NCE H 32 F - 60 / 220

Series _____
Version _____
DN ports in mm _____
With flanges _____
Max. head in dm _____
connection size mm _____

Motor

- Synchronous motor with permanent magnet.
- Motor: variable speed
 - Standard voltage: single-phase 230 V (-10%;+6%)
 - Frequency: 50 Hz
 - Protection: IP 44
 - Insulation class: F
 - Overload protection (integrated).
 - Cable: phases and neutral.
 - Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Special features on request

- Additional module:
- analog input 0-10V
 - remote on/off input
 - output relay

Features

Smart pump

NCE H.F adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

There are different operating modes selectable from the control panel.

NCE H.F Energy saving circulating pumps with flanges



Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow. The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains the pressure constant when the reference flow changes. The pressure value can be adjusted with the + and - buttons.



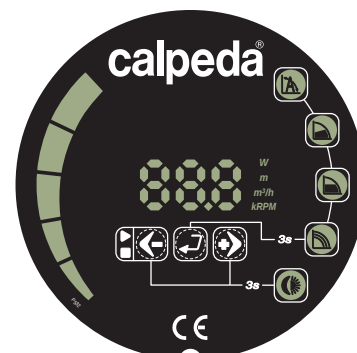
Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



Night mode:

When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve. When the temperature rises again the pump comes back to the selected mode. The night mode could be selected with any operating mode.



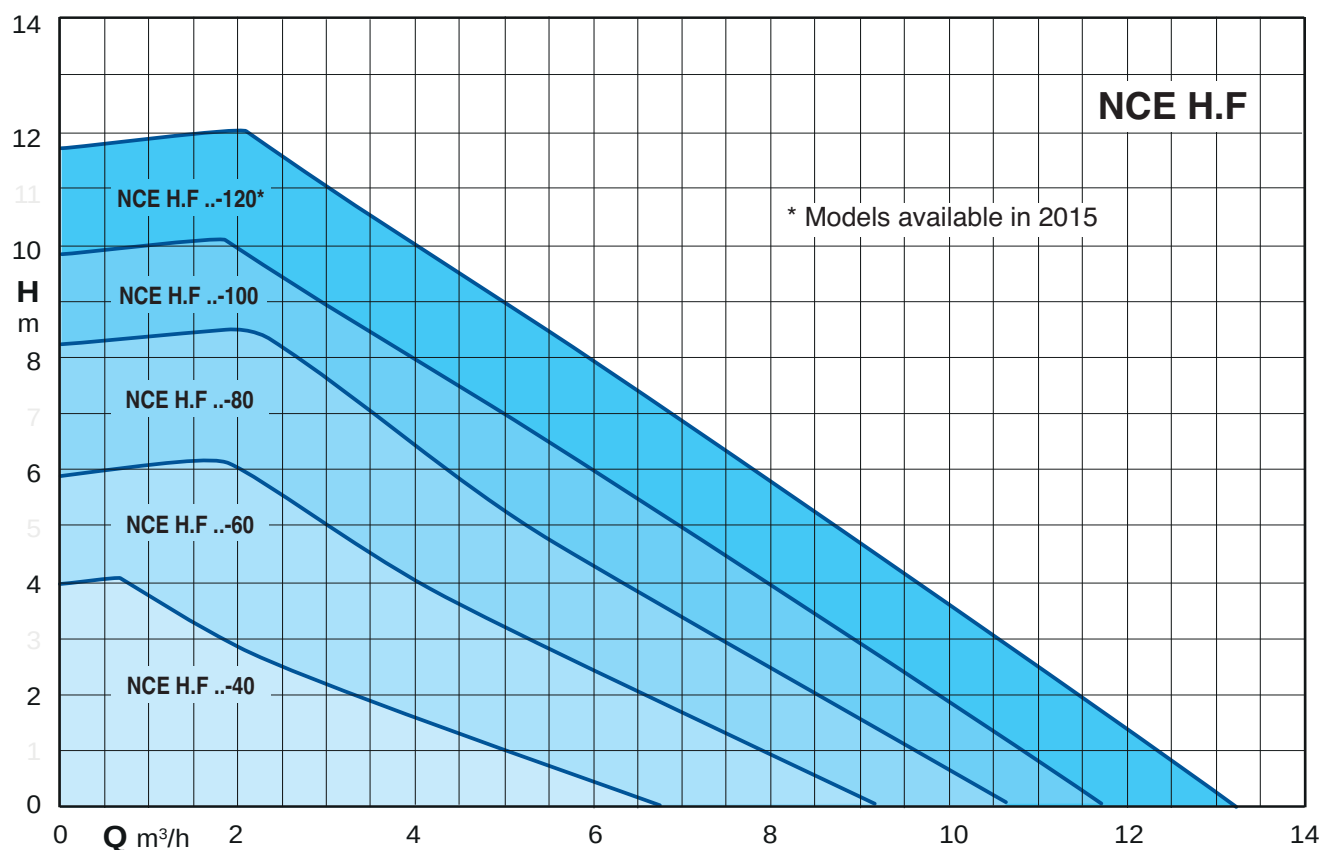
Operating mode-control panel

NCE H.F could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

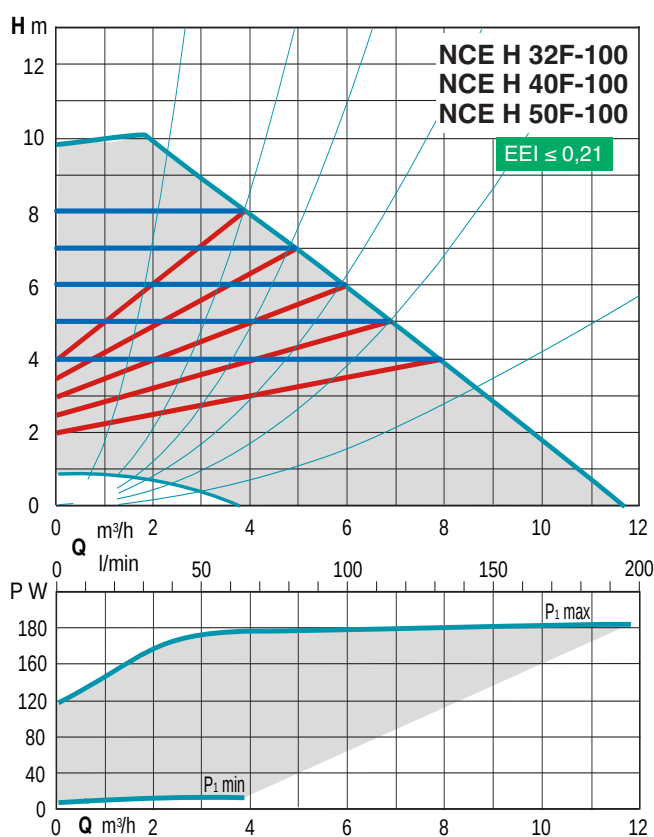
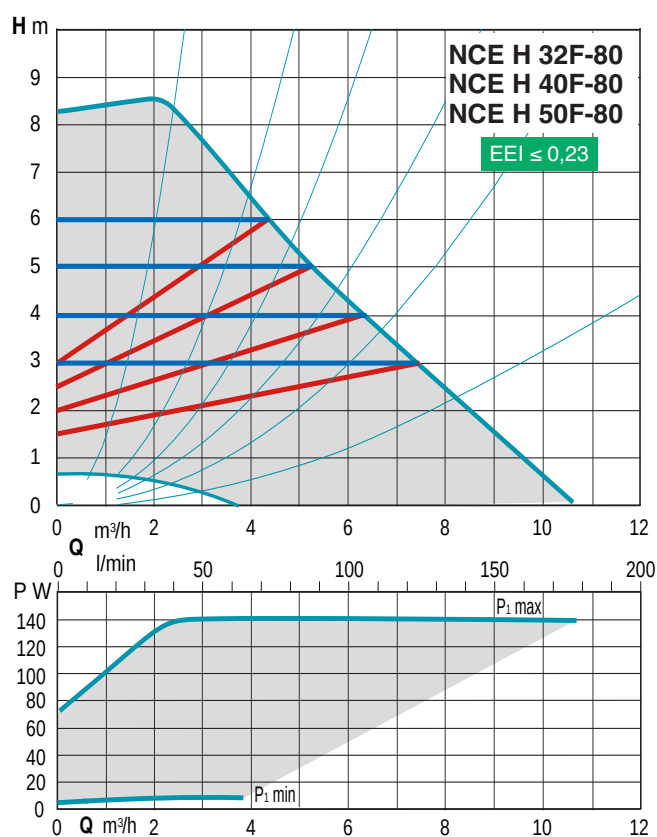
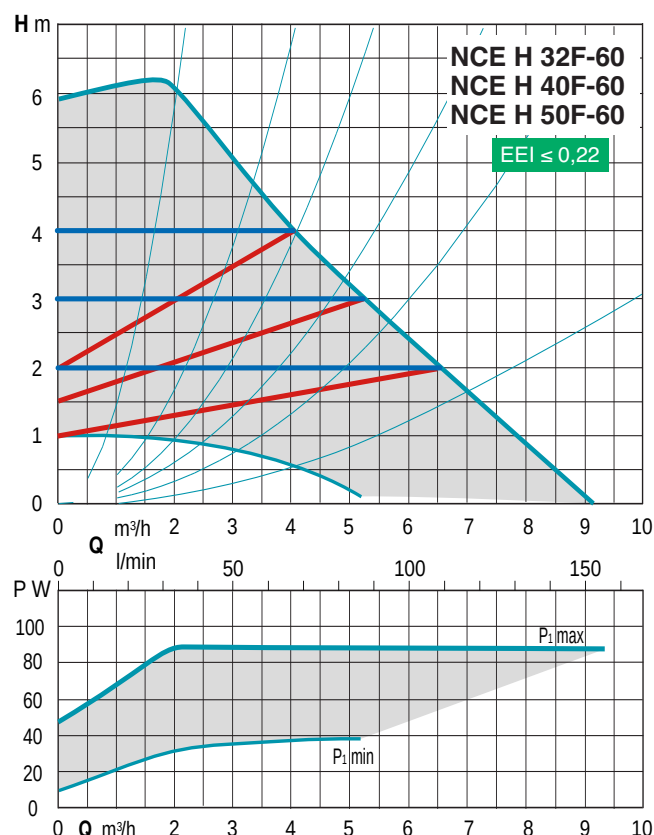
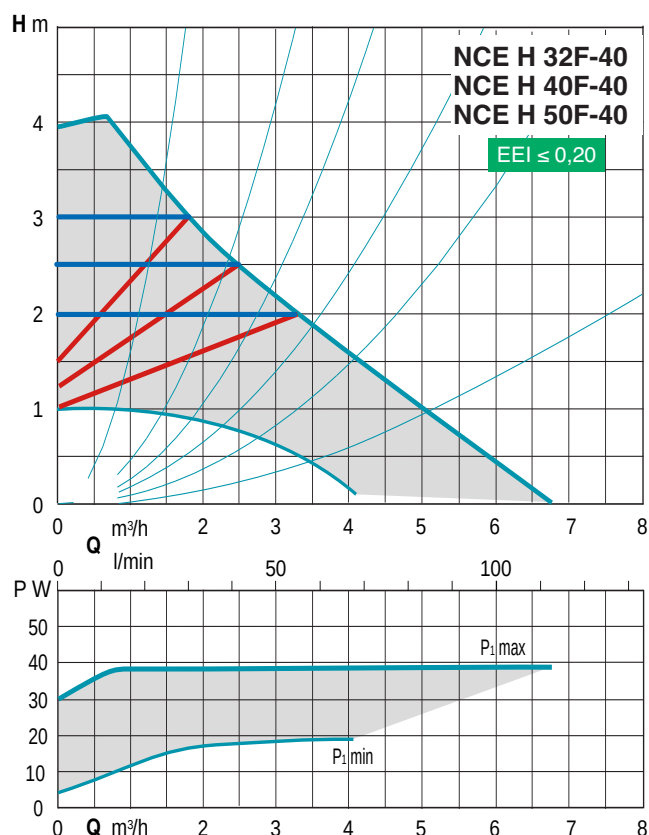
Coverage chart



NCE H.F Energy saving circulating pumps with flanges



Characteristic curves

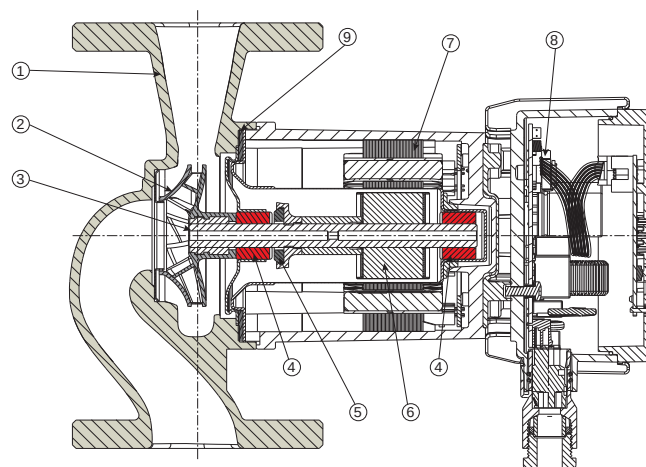


NCE H.F Energy saving circulating pumps with flanges

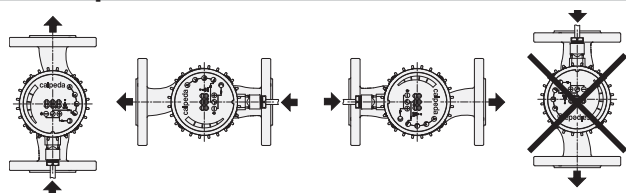


Materials

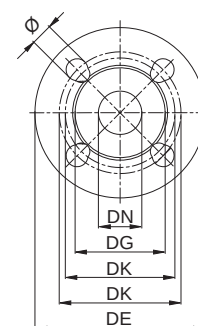
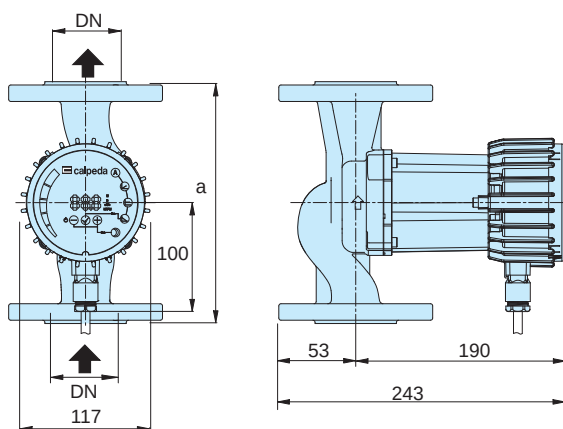
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCE H 32F-40/220	32	4	5	0,1	0,5	10	60	220	7,4
NCE H 40F-40/220	40							220	8,5
NCE H 50F-40/240	50							240	9,8
NCE H 32F-60/220	32	5	7,5	0,1	0,75	10	90	220	7,4
NCE H 40F-60/220	40							220	8,5
NCE H 50F-60/240	50							240	9,8
NCE H 32F-80/220	32	8	9	0,1	1,15	10	140	220	7,4
NCE H 40F-80/220	40							220	8,5
NCE H 50F-80/240	50							240	9,8
NCE H 32F-100/220	32	10	11	0,1	1,3	10	180	220	7,4
NCE H 40F-100/220	40							220	8,5
NCE H 50F-100/240	50							240	9,8
NCE H 32F-120/220	32	12	15	-	-	-	-	220	-
NCE H 40F-120/220	40							220	-
NCE H 50F-120/240	50							240	-

DN	DE	DK	DG	holes	
				N.	Ø
32	140	90/100	74	4	14/19
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19

NCE G.F Energy saving circulating pumps with flanges



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

Applications

Heating, conditioning, circulating systems.
For civil and industrial applications.

Operating conditions

- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6/10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 54 dB (A).
- Minimum suction pressure:
 - 0,5 bar at 50 °C.
 - 0,8 bar at 80 °C.
 - 1,4 bar at 110 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 40, 50, 65, 80, 100.
- The benchmark for most efficient circulators is $EEL \leq 0,20$.

Designation

NCE G 40 F - 120 / 250

Series _____
Version _____
DN ports in mm _____
With flanges _____
Max. head in dm _____
connection size mm _____

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Features

Smart pump

NCE G.F adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

There are different operating modes selectable from the control panel.

NCE G.F Energy saving circulating pumps with flanges



Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow.

The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

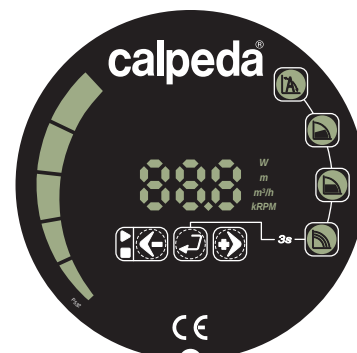
The circulator maintains the pressure constant when the reference flow changes.

The pressure value can be adjusted with the + and - buttons.



Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



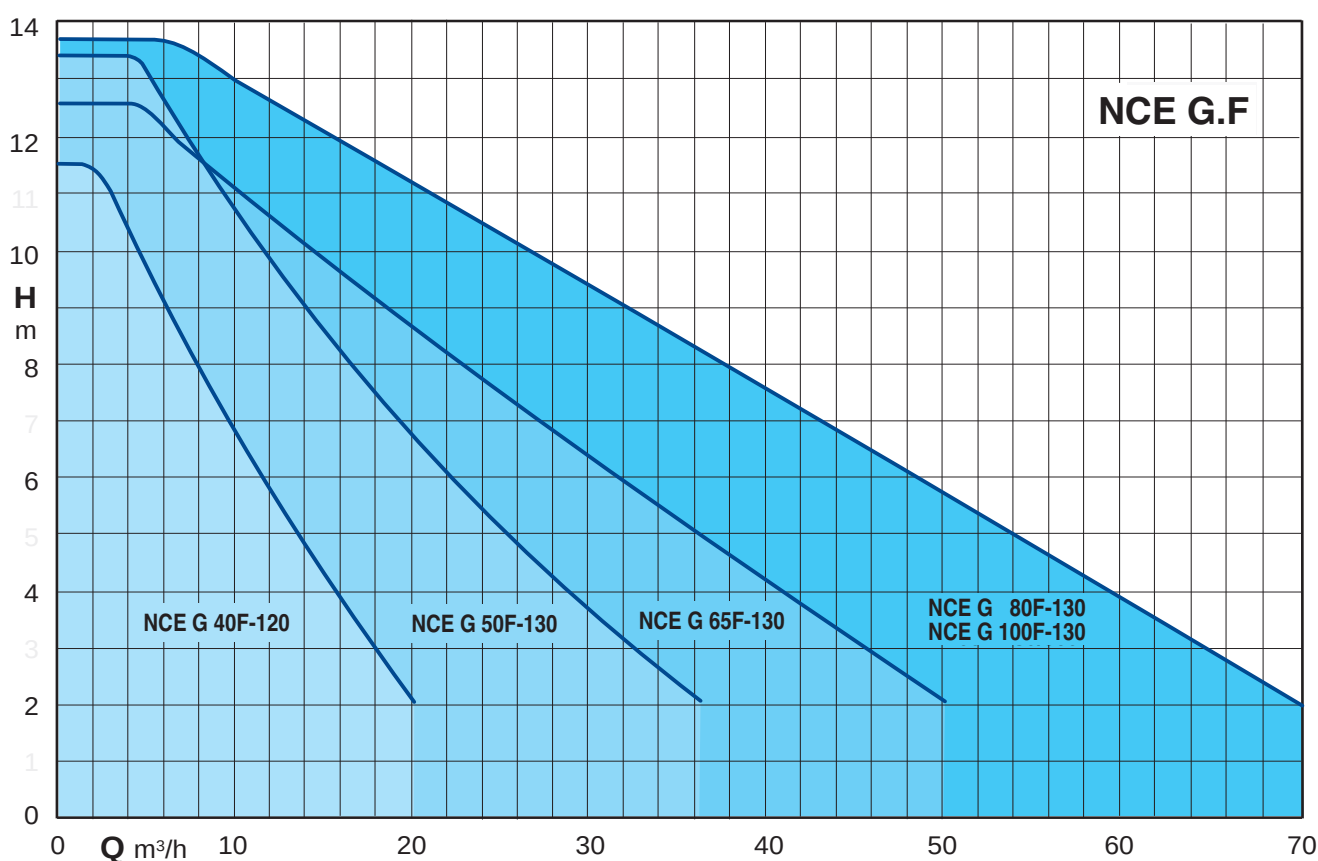
Operating mode-control panel

NCE G.F could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode

The night mode could be selected with any operating mode.

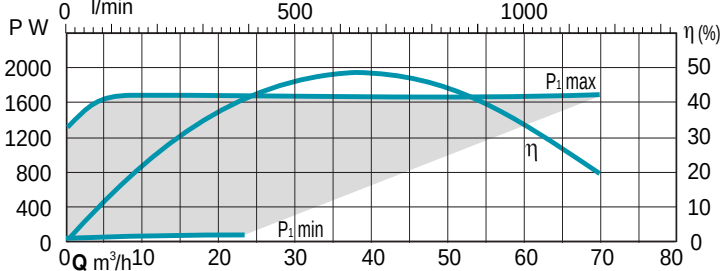
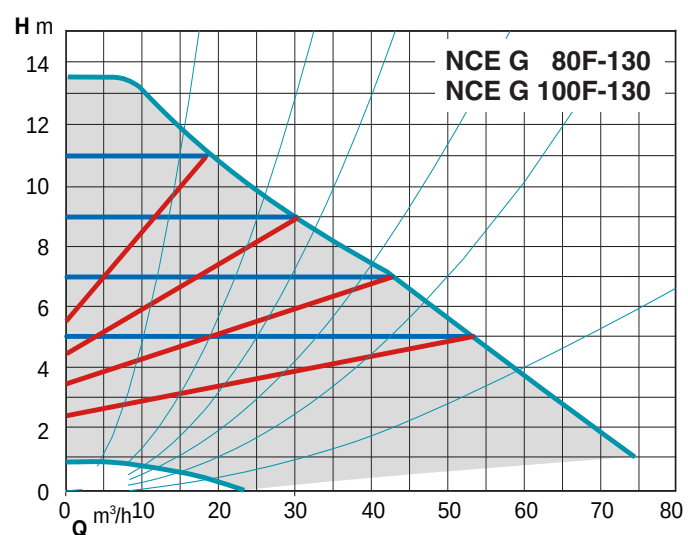
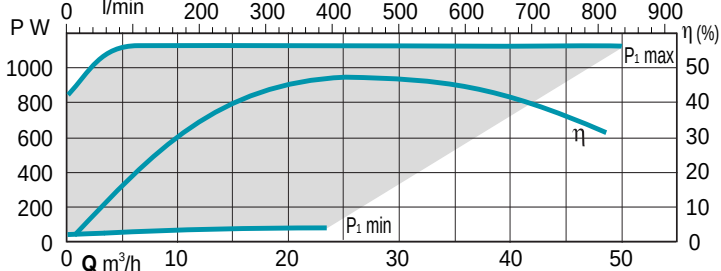
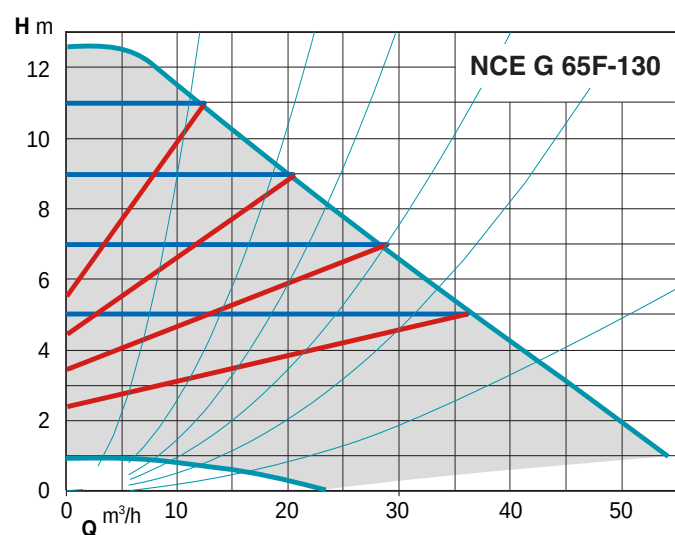
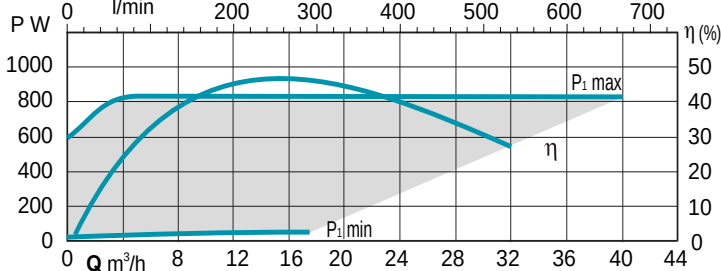
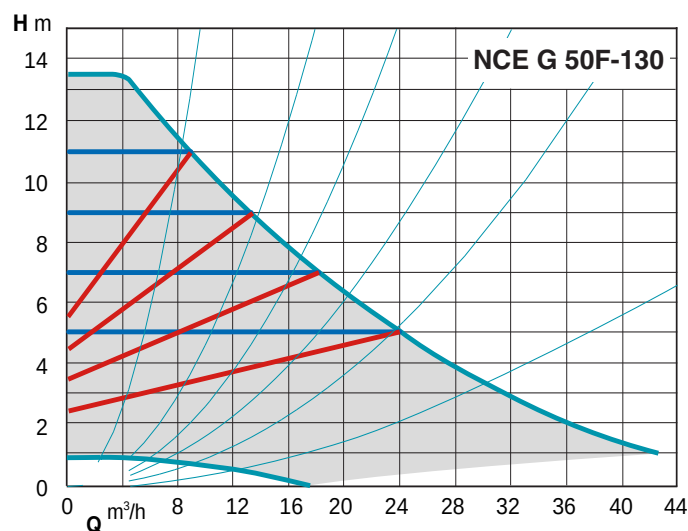
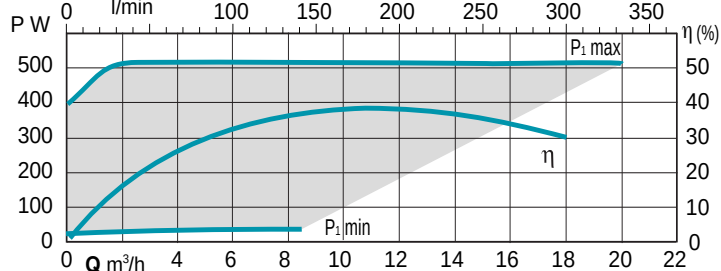
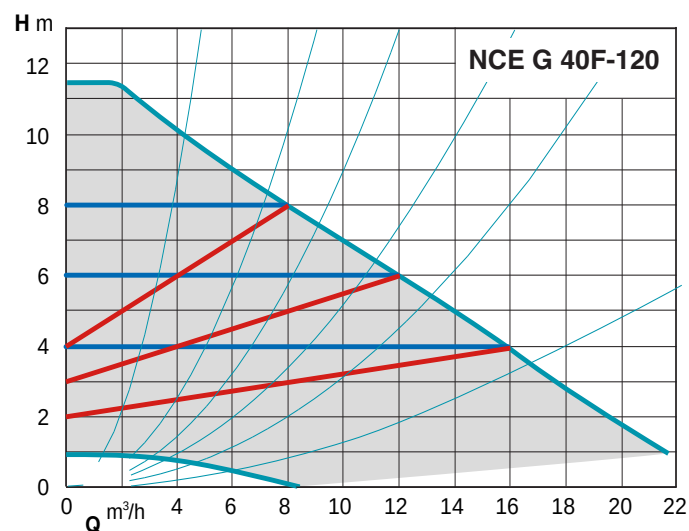
Coverage chart



NCE G.F Energy saving circulating pumps with flanges



Characteristic curves

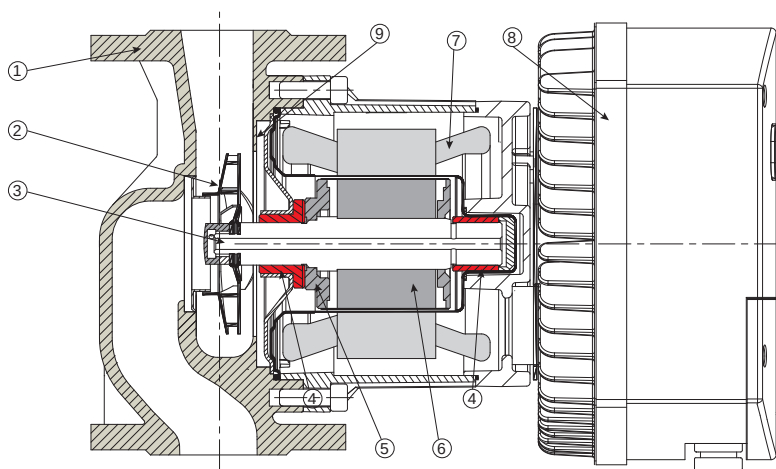


NCE G.F Energy saving circulating pumps with flanges

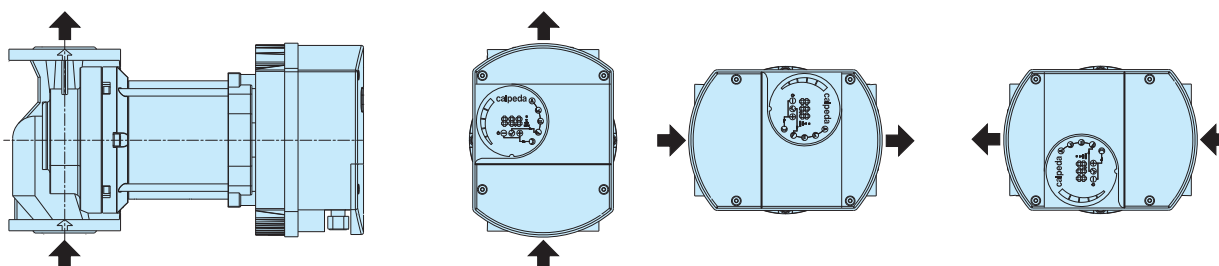


Materials

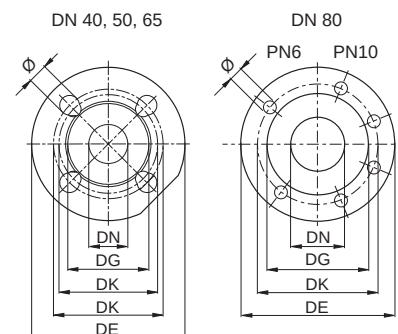
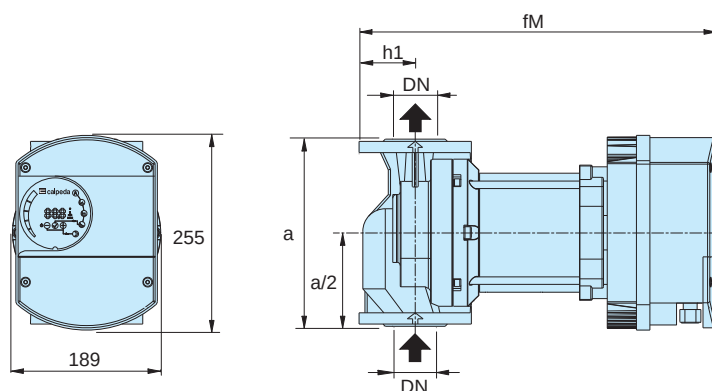
Component	Pos.	Material
Pump casing	1	Cast iron
Impeller	2	Stainless steel
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Steel
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V		P ₁		mm			kg
				A min	A max	W min	W max	a	fM	h1	
NCE G 40F-120/250	40	12	25	0,18	2,2	20	500	250	386	65	24
NCE G 50F-130/280	50	13	39	0,23	3,5	26	800	280	425	70	31
NCE G 65F-130/340	65	13	65	0,33	4,8	38	1100	340	449	80	36
NCE G 80F-130/360	80	13	78	0,39	6,9	45	1600	360	503	100	44
NCE G 100F-130/360	100	13	78	0,39	6,9	45	1600	360	513	110	47

DN	DE	DK	DG	holes	
				N.	Ø
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19
65	185	130/145	110	4	14/19
80 - PN6	200	150	128	4	19
80 - PN10	200	160	128	8	19
100 - PN6	220	170	-	4	19
100 - PN10	220	180	-	8	19

NCED G.F Energy saving twin circulating pumps with flanges



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

Applications

Heating, conditioning, circulating systems.
For civil and industrial applications.

Operating conditions

- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6/10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 54 dB (A).
- Minimum suction pressure:
 - 0,5 bar at 50 °C.
 - 0,8 bar at 80 °C.
 - 1,4 bar at 110 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 40, 50, 65, 80, 100.
- The benchmark for most efficient circulators is $EEL \leq 0,20$.

Designation

NCED G 40 F - 120 / 250

Series _____
Twin pumps version _____
Version _____
DN ports in mm _____
With flanges _____
Max. head in dm _____
connection size mm _____

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Features

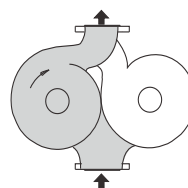
Smart pump

NCED G.F adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

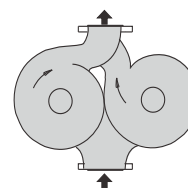
There are different operating modes selectable from the control panel.

Operation



Single operation

Operation of a single pump chosen by the customer, with the second pump on stand-by



Double operation

Operation in parallel of the two pumps

NCED G.F Energy saving twin circulating pumps with flanges



Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow.

The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

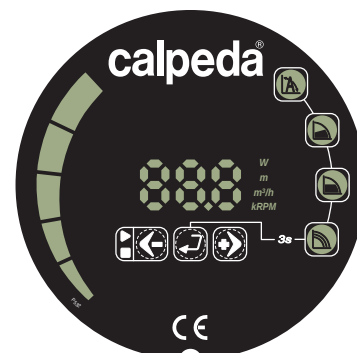
The circulator maintains the pressure constant when the reference flow changes.

The pressure value can be adjusted with the + and - buttons.



Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



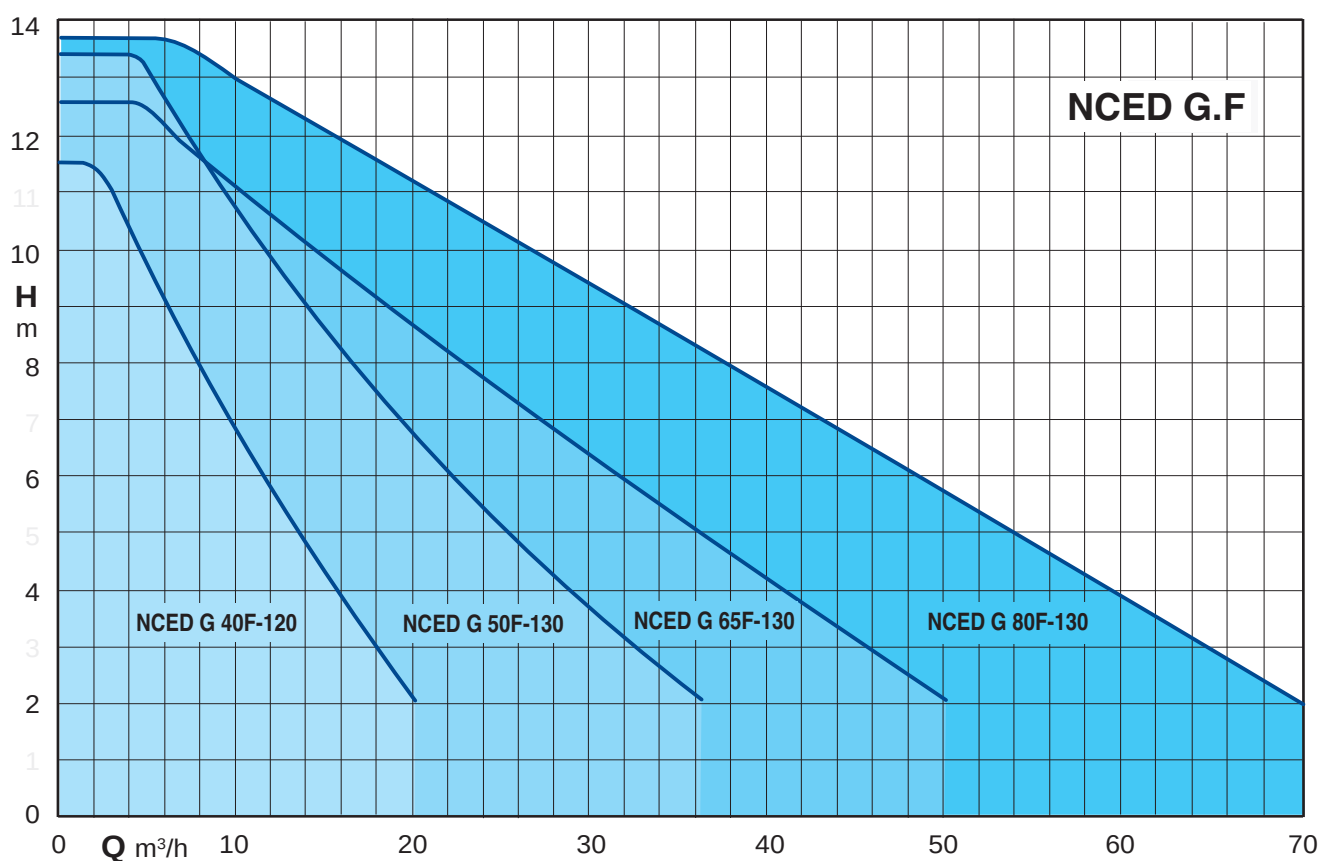
Operating mode-control panel

NCED G.F could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode

The night mode could be selected with any operating mode.

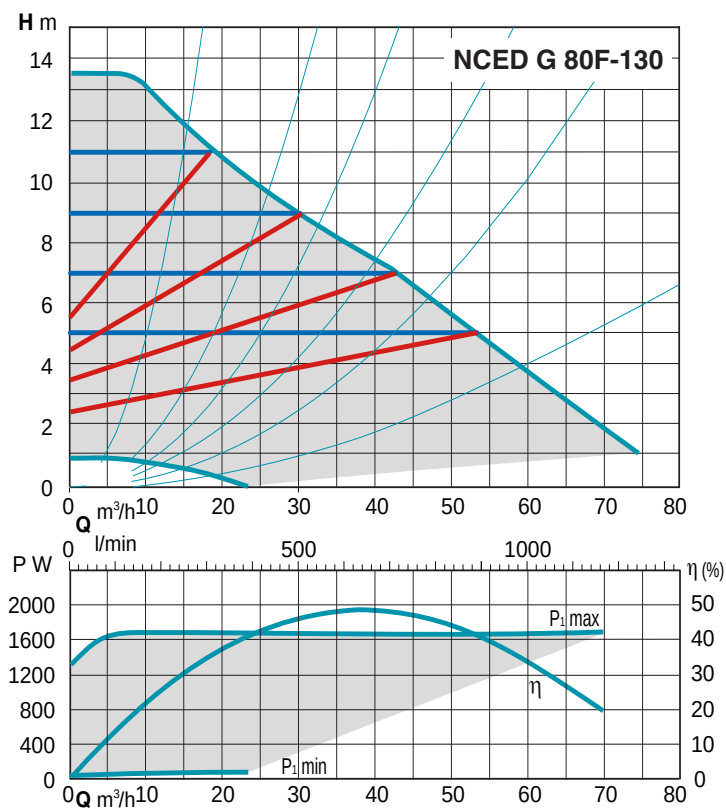
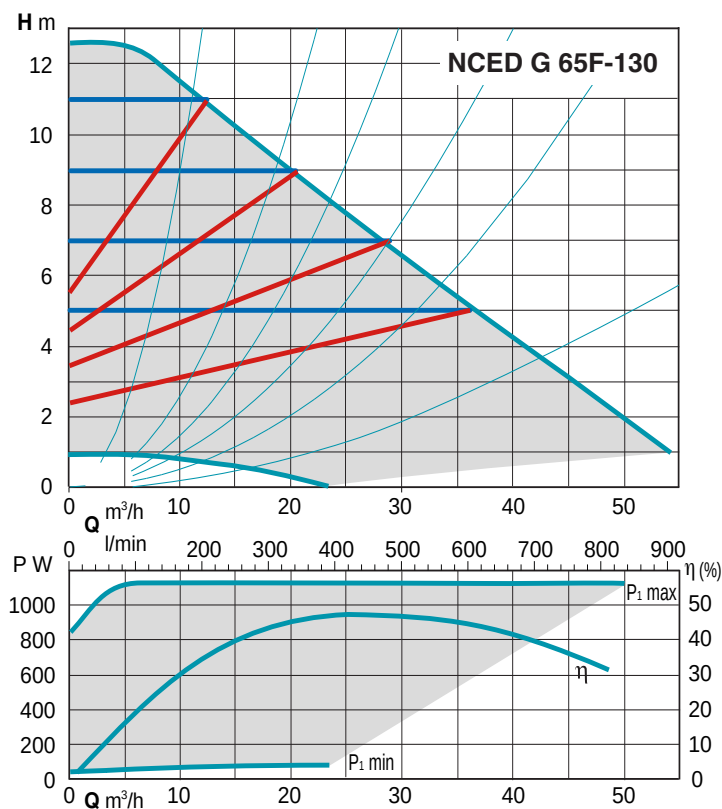
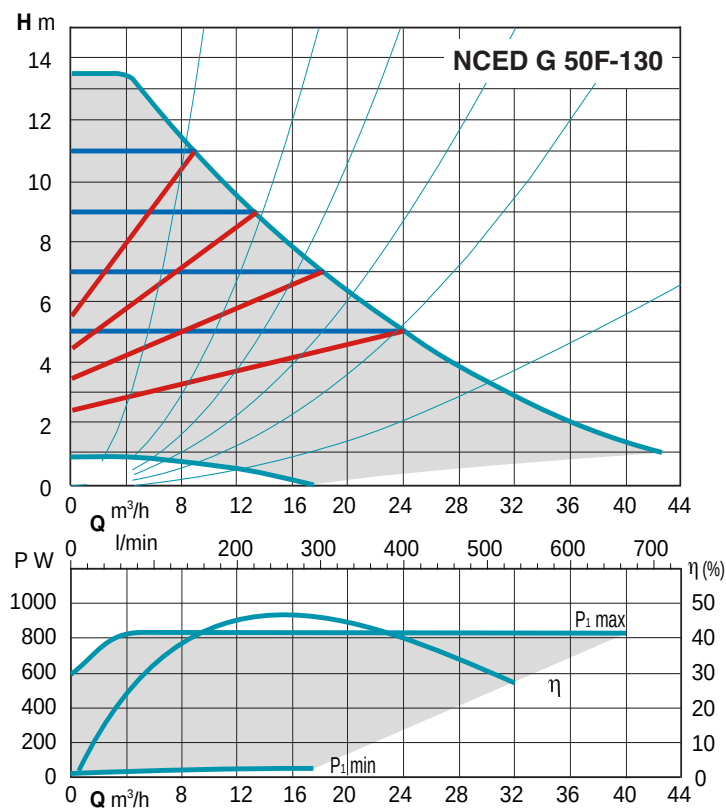
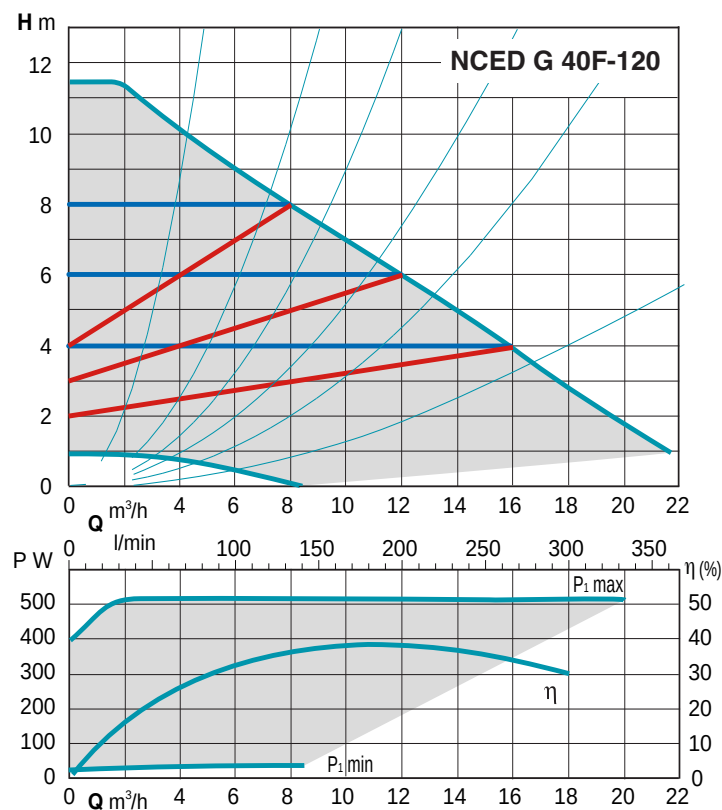
Coverage chart



NCED G.F Energy saving twin circulating pumps with flanges



Characteristic curves

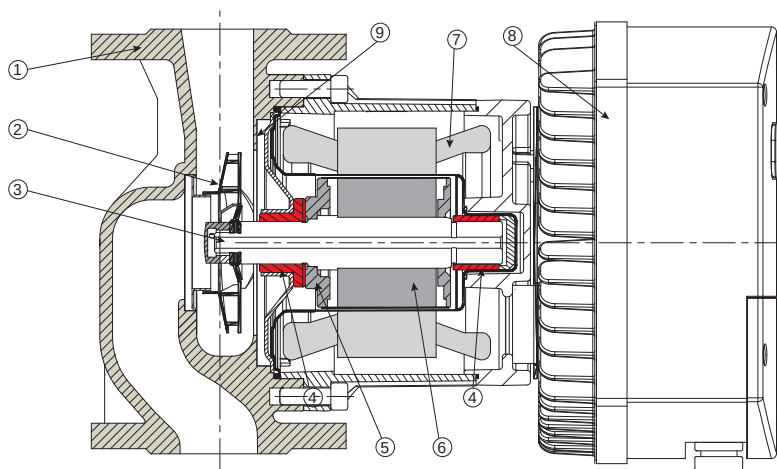


NCED G.F Energy saving twin circulating pumps with flanges

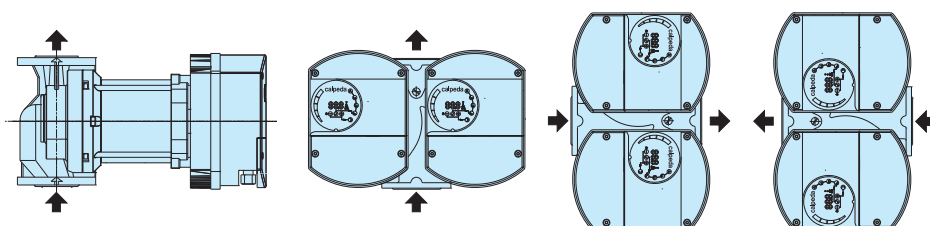


Materials

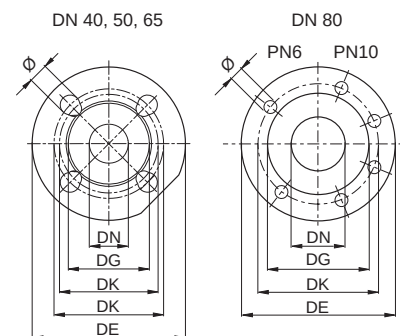
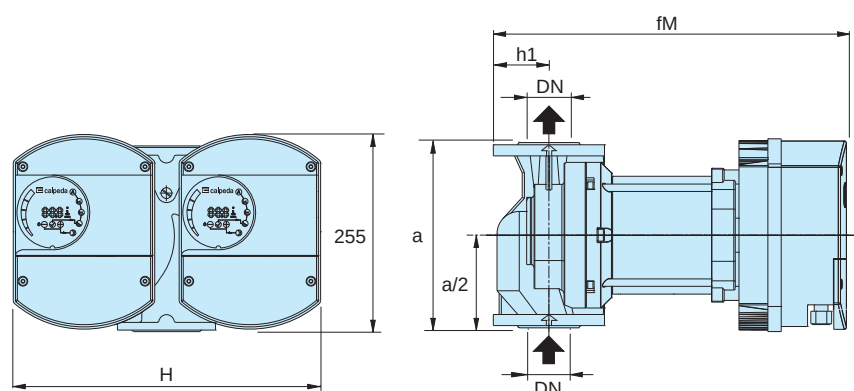
Component	Pos.	Material
Pump casing	1	Cast iron
Impeller	2	Stainless steel
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Steel
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H	Q	1~ 230 V		P ₁		mm				kg
		m	m³/h	A min	A max	W min	W max	a	fM	h1	H	
NCED G 40F-120/250	40	12	25	0,18	2,2	20	500	250	386	65	403	47
NCED G 50F-130/280	50	13	39	0,23	3,5	26	800	280	425	70	403	60
NCED G 65F-130/340	65	13	65	0,33	4,8	38	1100	340	449	80	452	63
NCED G 80F-130/360	80	13	78	0,39	6,9	45	1600	360	503	100	462	81

DN	DE	DK	DG	holes	
				N.	Ø
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19
65	185	130/145	110	4	14/19
80 - PN6	200	150	128	4	19
80 - PN10	200	160	128	8	19
100 - PN6	220	170	-	4	19
100 - PN10	220	180	-	8	19

NCE EL

Energy saving circulating pumps for solar systems



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

Applications

Solar thermal systems.

Operating conditions

- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure:
 - 0,3 bar at 50 °C
 - 1,0 bar at 95 °C
 - 1,5 bar at 110 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2.
- The benchmark for most efficient circulators is $EEL \leq 0,20$.
- Minimum power: 3 W.

Designation

NCE EL 25 - 60 / 180

Series _____
Version _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
 - 1) automatic protection with electronic rotor release
 - 2) Overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Special features on request

Brass or cast iron unions.

Features

Compact design

The space saving **NCE EL** is a very compact circulating pump, allows inr easy installation in small domestic heating systems.

Easy to install and to adjust

Installing the **NCE EL** is considerably simplified by the quick setting and power installation plug.

Reliable

Like all our electronic circulating pumps, the **NCE EL** features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.

Ceramic shaft.

Hydraulics components are completely painted with cataphoresis.

Program for automatic routine vent and release.

Easy use

Operating range with fixed curves from 0,6 m to 7 m; possibility to choose proportional pressure curve or selection of the optimum working point.

NCE EL Energy saving circulating pumps for solar systems



Operating modes



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

(GREEN LED)

Moving the switch to the 'P' setting will allow the pump to operate against a proportional performance curve. This feature ensures maximum energy efficiency.



MANUAL PROGRAMMING

(BLUE LED)

Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



WARNING!

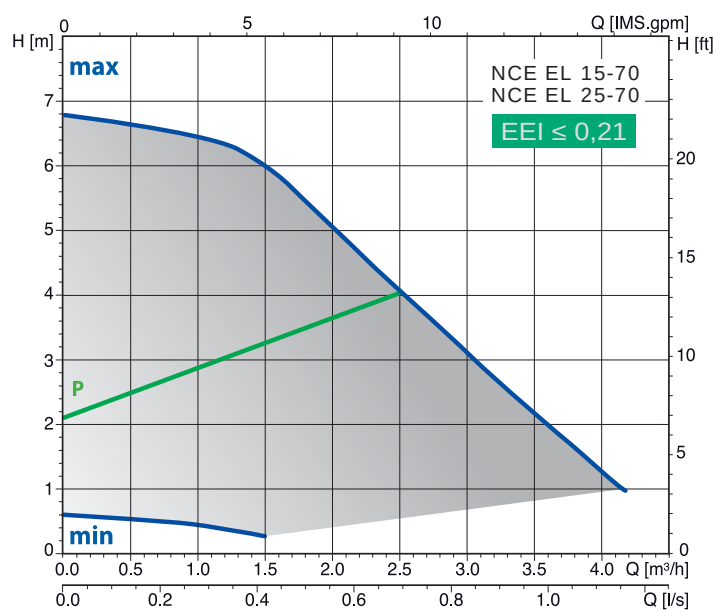
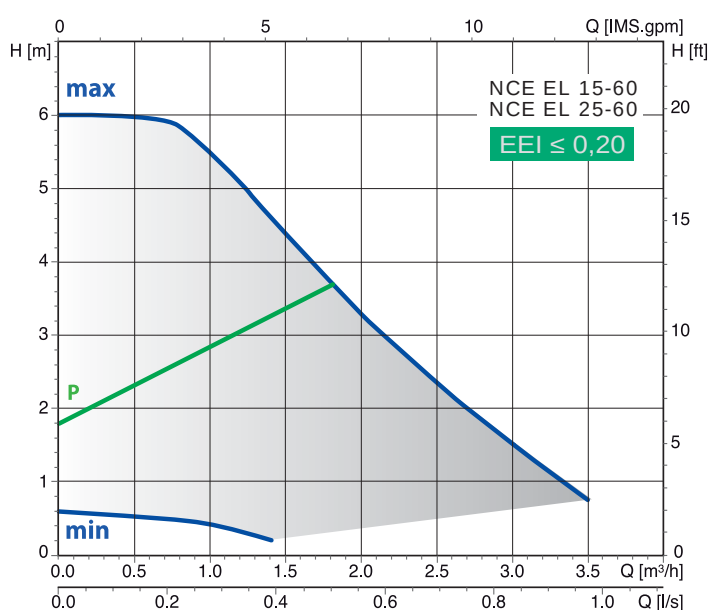


- The red LED indicates that the pump is not rotating but is still under tension.



- White flashing LED : plant degassing requirement, air in the system.

Characteristic curves



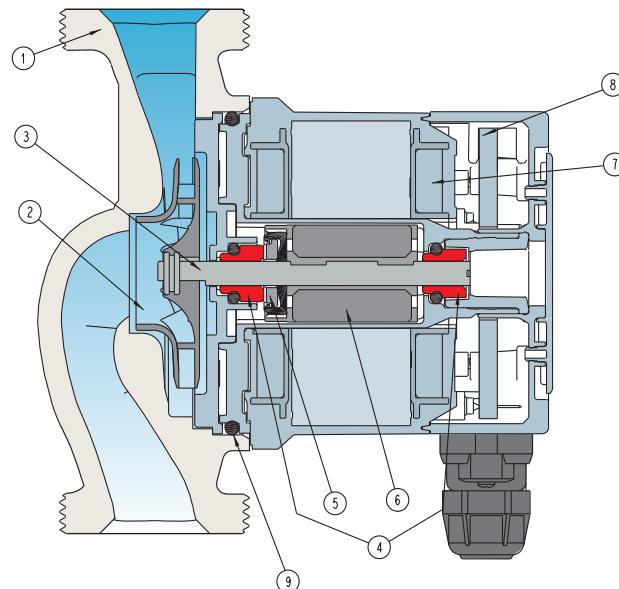
P proportional curve
min-max n fixed curves

NCE EL Energy saving circulating pumps for solar systems

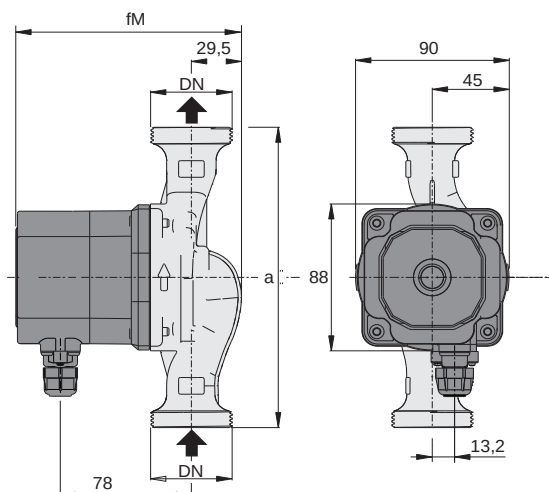


Materials

Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM

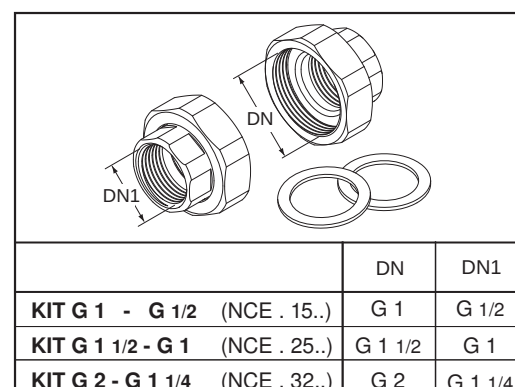


Dimensions and weights



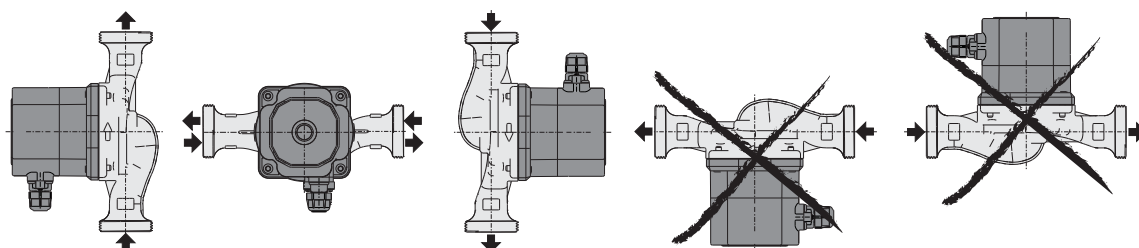
TYPE	DN	230V		P1		mm		kg
		A max	A min	W max	W min	fm	a	
NCE EL 15-60/130/A	G 1	0,33	0,03	42	3	134	130	1,67
NCE EL 25-60/130/A	G 1 1/2	0,33	0,03	42	3	134	180	1,81
NCE EL 25-60/180/A	G 1 1/2	0,33	0,03	42	3	134	180	1,96
NCE EL 15-70/130	G 1	0,44	0,03	56	3	144	130	1,91
NCE EL 25-70/130	G 1 1/2	0,44	0,03	56	3	144	180	2,05
NCE EL 25-70/180	G 1 1/2	0,44	0,03	56	3	144	180	2,20

Unions (on request)

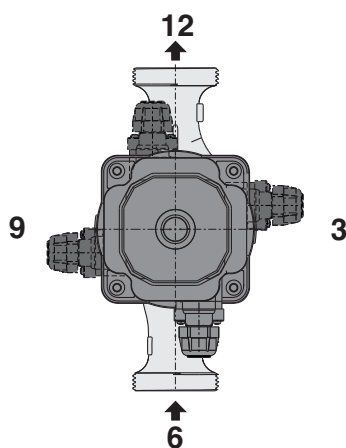


Examples of installations

Installation



Terminal box arrangement (on request)



NCE ES

Energy saving circulating pumps for sanitary hot water



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter. Bronze pump casing.

Applications

Hot sanitary water systems.

Operating conditions

- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from +2 °C to +40 °C
- Maximum working pressure: 10 bar
- Storage: -20°C/+70°C UR 95% a 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,3 bar at 50 °C
1,0 bar at 95 °C
- EMC according to: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Threated ports ISO 228: G 1, G 1 1/4, G 1 1/2.

Motor

Synchronous motor with permanent magnets.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
 - 1) automatic protection with electronic rotor release
 - 2) overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Designation

NCE ES 25 - 40 / 130

Series _____
Version _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

Special features on request

Brass unions.

Features

Energy saving

NCE ES is an high energy efficiency product.

Compact design

The space saving NCE ES facilitate the installation in the smaller systems.

Easy to install and to adjust

Installing the NCE ES is considerably simplified by the quick setting and power installation plug. The adjustment is simple and intuitive thanks to the ability to be able to select the optimum working point or mode via a simple LED indicator and switch.

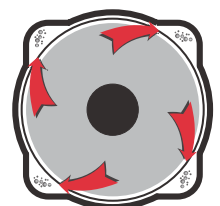
Reliability

NCE ES features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.

Easy use

Operating range with fixed curves from 0,6 m to 4 m with selection of the optimum working point.

Patented



Escape routes for impurities inside the rotor chamber

NCE ES Energy saving circulating pumps for sanitary hot water



Operating modes



MANUAL PROGRAMMING

(BLUE LED)

Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.

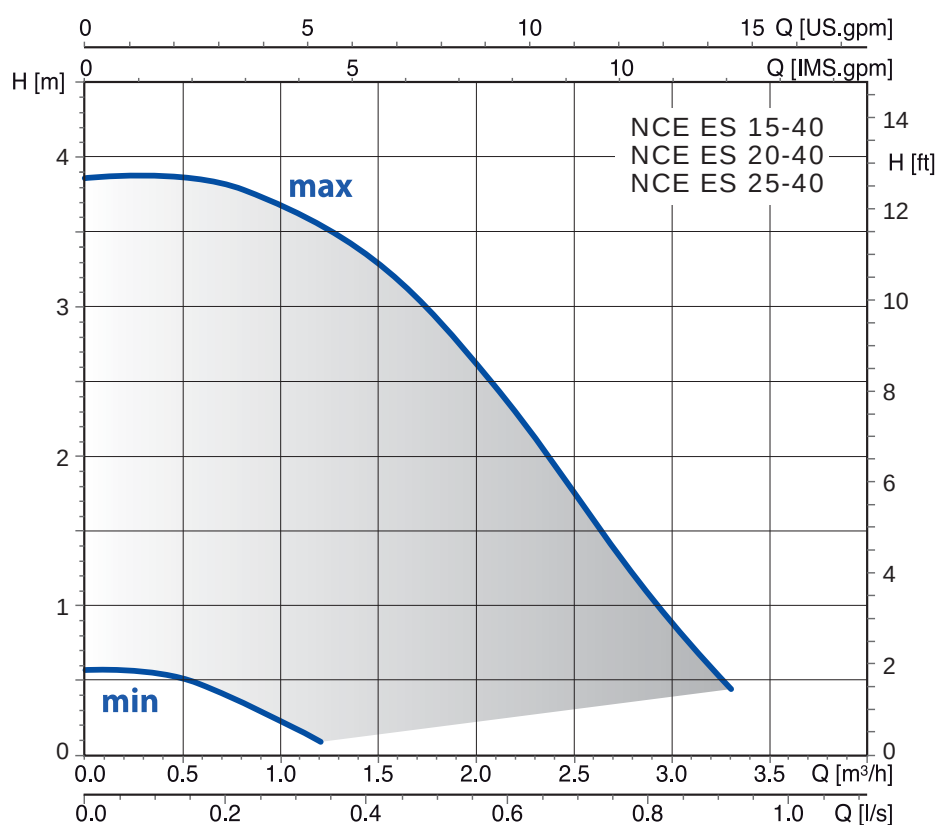


WARNING!



- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.

Characteristic curves



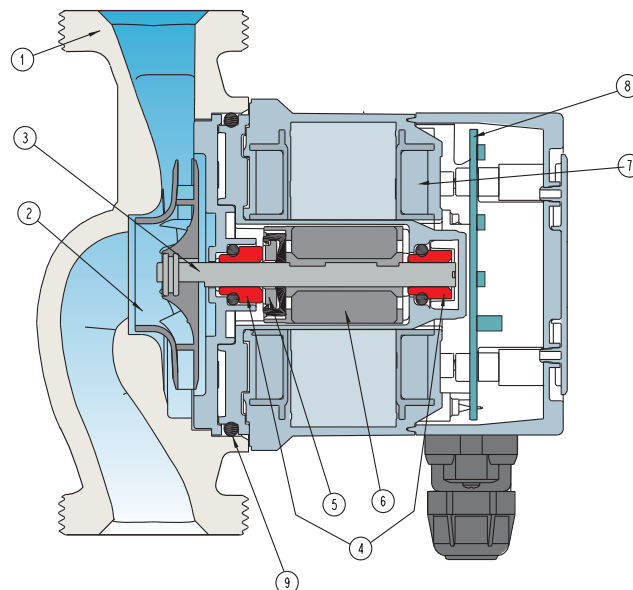
NCE ES

Energy saving circulating pumps for sanitary hot water

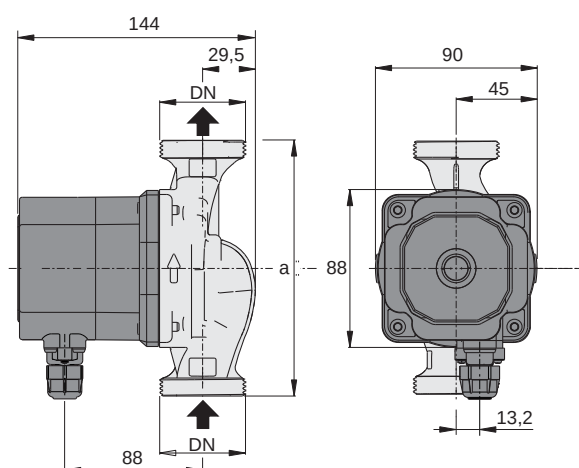


Materials

Component	Pos.	Material
Pump casing	1	Bronze
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Composite / Ferrite
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Dimensions and weights



Unions (on request)

TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE ES 15..)	G 1	G 1/2
KIT G 1 1/4 - G 3/4 (NCE ES 20..)	G 1 1/4	G 3/4
KIT G 1 1/2 - G 1 (NCE ES 25..)	G 1 1/2	G 1

TYPE	DN	230V		P1		mm a	Net weight kg
		A max	A min	W max	W min		
NCE ES 15-40/130	G 1	0,35	0,03	44	4,5	130	2,15
NCE ES 20-40/130	G 1 1/4	0,35	0,03	44	4,5	130	2,25
NCE ES 25-40/130	G 1 1/2	0,35	0,03	44	4,5	130	2,35

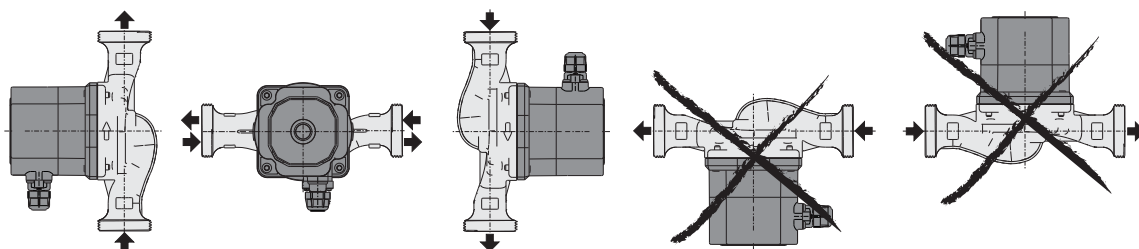
NCE ES

Energy saving circulating pumps
for sanitary hot water

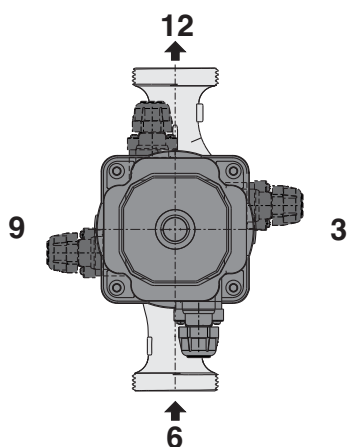


Examples of installations

Installation



Terminal box arrangement (on request)



NCE PS

Energy saving circulating pumps for sanitary hot water



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter. Bronze pump casing.

Applications

Sanitary hot water systems.

Operating conditions

- Liquid temperature from +5 °C to +65 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 38 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
- 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: threaded ports ISO 228: G 1 1/4, G 1 1/2.

Designation

NCE PS 25 - 60 / 180

Series _____

Version for sanitary hot water _____

DN ports in mm _____

Max. head in dm _____

connection size mm _____

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Special features on request

The NCE PR version is equipped with an additional module that allows to control the pump with an analog signal 0-10V. Brass unions.

Features

Easy adjustment

The adjustment is simple and intuitive thanks to the LED indicator.

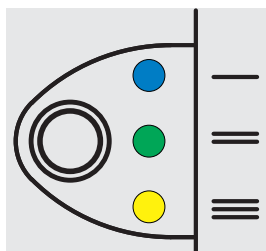
Easy use

3 proportional curves and 3 fixed speed curves are available and selectable by the button.

NCE PS Energy saving circulating pumps for sanitary hot water



Operating modes



Operating functions - control buttons.

NCE PS circulator could work:

- with proportional pressure curves
- with fixed speed curves



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

- (P1 BLUE LED blinking light)
- (P2 GREEN LED blinking light)
- (P3 YELLOW LED blinking light)

Push repeatedly the button to select the proportional curve.

The color changes depending on the selected curve.

This operating mode guarantees the maximum energy efficiency.

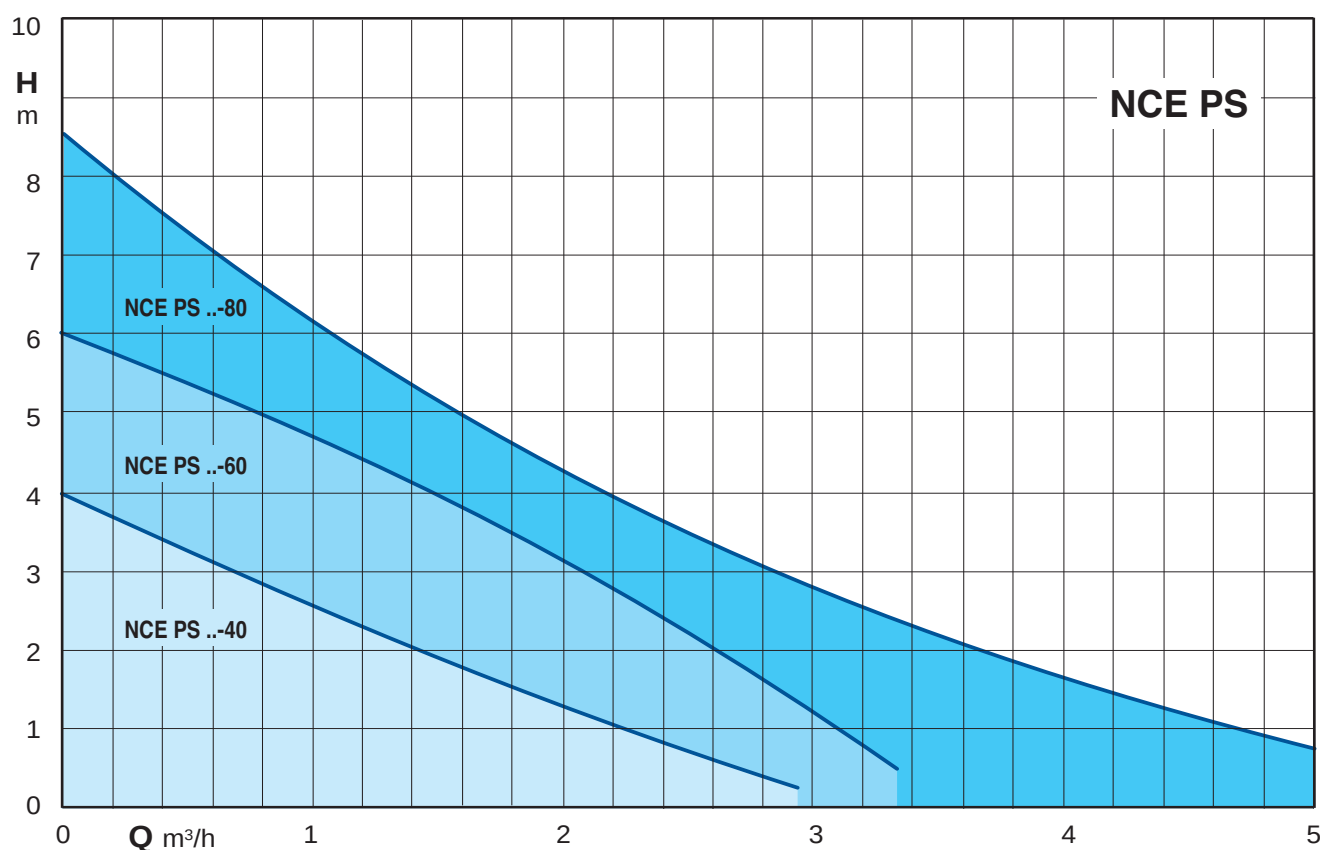


FIXED SPEED CURVE PROGRAMMING

- (I BLUE LED light)
- (II GREEN LED light)
- (III YELLOW LED light)

If you push the button for 5 seconds the pump adopt the fixed speed curve. The color changes depending on the selected curve. (to replace standard 3-speed circulators).

Coverage chart

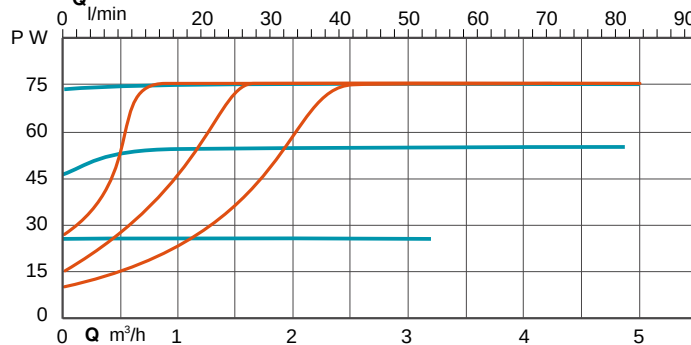
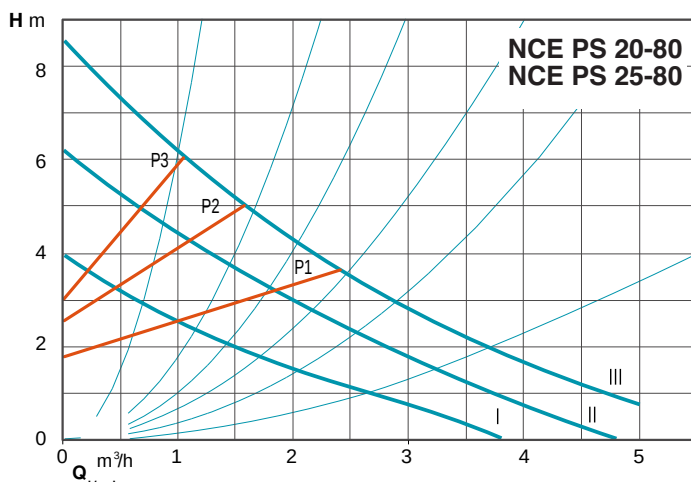
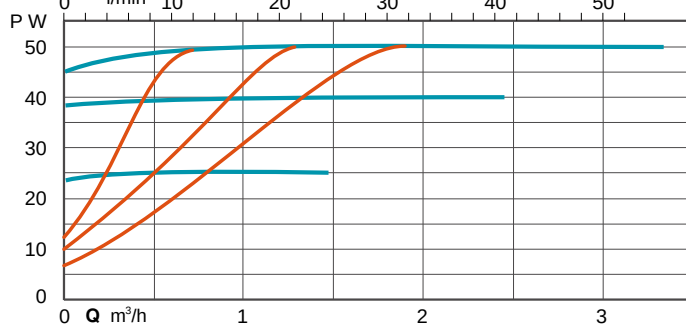
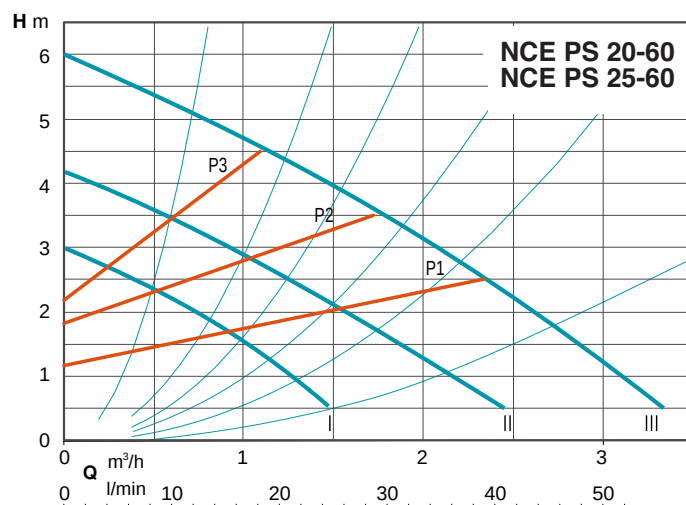
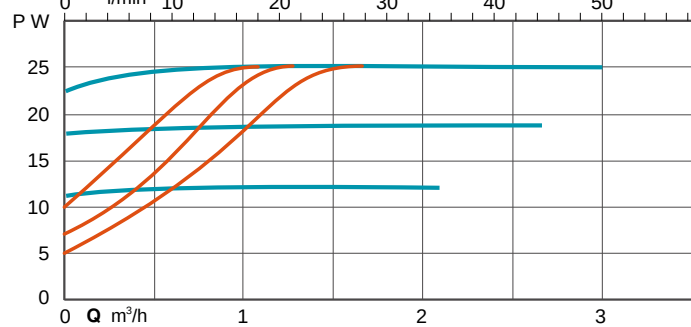
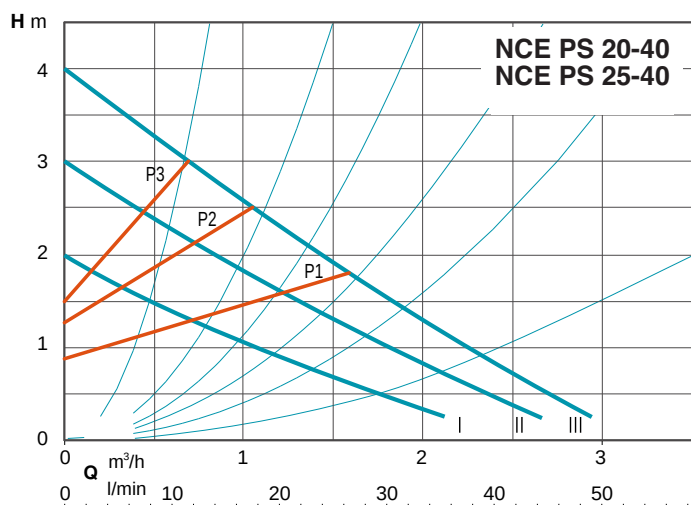


NCE PS

Energy saving circulating pumps
for sanitary hot water



Characteristic curves

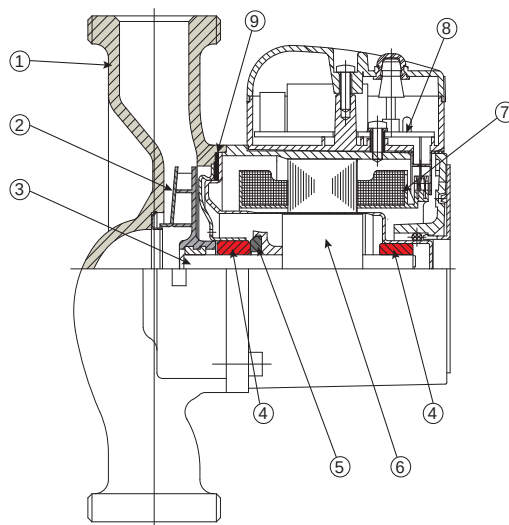


NCE PS Energy saving circulating pumps for sanitary hot water

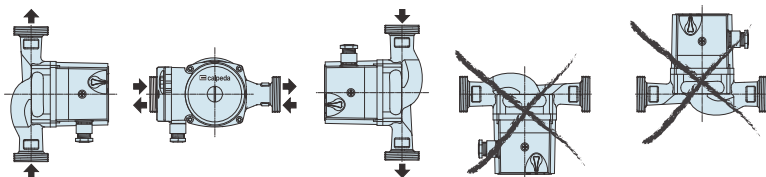


Materials

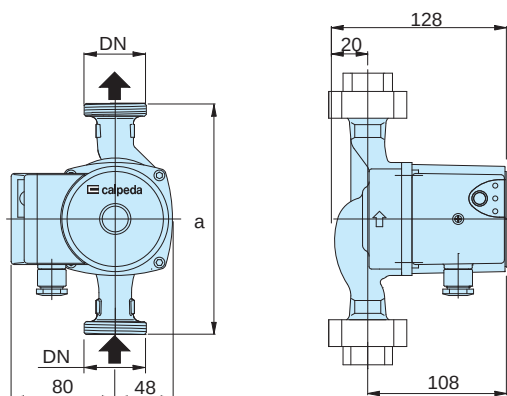
Component	Pos.	Material
Pump casing	1	Bronze
Impeller	2	Composite
Shaft	3	Ceramic
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations

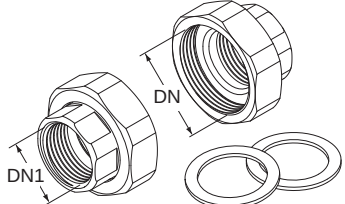


Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V		P1 W max	a mm	kg
				A min	A max			
NCE PS 20-40/130 NCE PS 25-40/130	G 1 1/4 G 1 1/2	4	2,6	0,05	0,2	25	130	2,1 2,2
NCE PS 20-60/130 NCE PS 25-60/130	G 1 1/4 G 1 1/2	6	3,7	0,05	0,4	50	130	2,1 2,2
NCE PS 20-80/130 NCE PS 25-80/130	G 1 1/4 G 1 1/2	8	4,5	0,05	0,6	75	130	2,1 2,2

Unions (on request)



TYPE	DN	DN1
KIT G 1 - G 1/2 (NCE . 15..)	G 1	G 1/2
KIT G 1 1/4 - G 3/4 (NCE . 20..)	G 1 1/4	G 3/4
KIT G 1 1/2 - G 1 (NCE . 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NCE . 32..)	G 2	G 1 1/4

NCE GS.F

Energy saving circulating pumps with flanges for sanitary hot water



Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter. Bronze pump casing.

Applications

Sanitary hot water systems.

Operating conditions

- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6/10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 54 dB (A).
- Minimum suction pressure:
 - 0,5 bar at 50 °C.
 - 0,8 bar at 80 °C.
 - 1,4 bar at 110 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
EN 61000-3-2, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 40, 50, 65, 80, 100.
- The benchmark for most efficient circulators is $EEI \leq 0,20$.

Designation

NCE GS 40 F - 120 / 250

Series _____
Version for sanitary hot water _____
DN ports in mm _____
With flanges _____
Max. head in dm _____
connection size mm _____

Motor

Synchronous motor with permanent magnet.

- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50 Hz
- Protection: IP 44
- Insulation class: H.
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

Features

Smart pump

NCE GS.F adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

Easy use

There are different operating modes selectable from the control panel.

NCE GS.F

Energy saving circulating pumps with flanges for sanitary hot water



Operating modes



Automatic mode

(factory setting):

In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.



Proportional pressure mode:

The circulator changes the pressure proportionally to the current flow.

The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

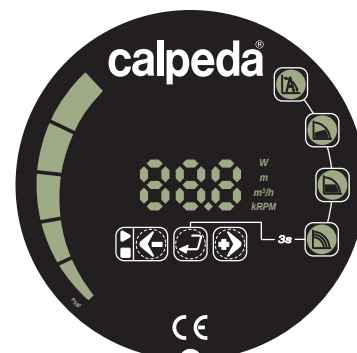
The circulator maintains the pressure constant when the reference flow changes.

The pressure value can be adjusted with the + and - buttons.



Fixed speed mode:

The circulator works with constant curve and the curve could be changed using + e - buttons.



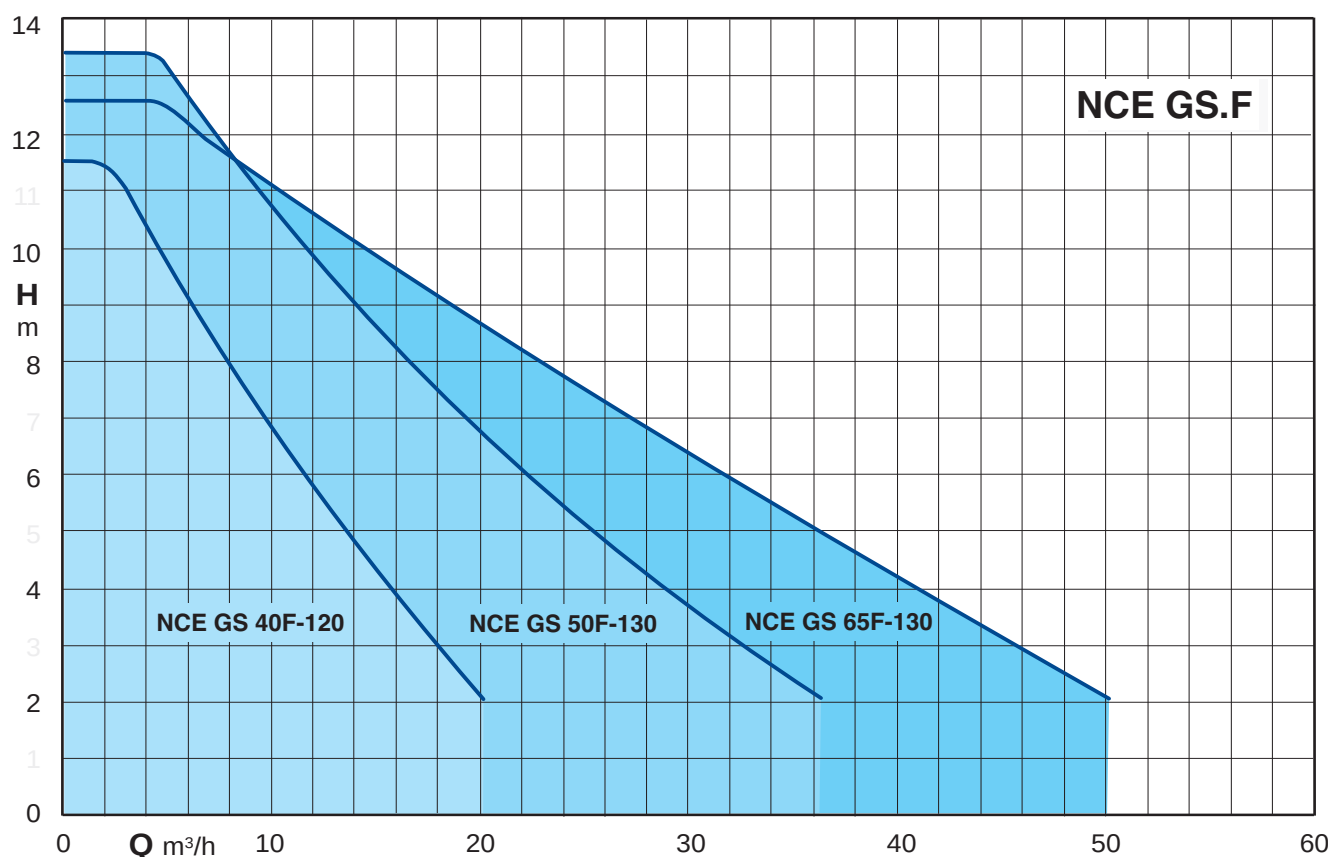
Operating mode-control panel

NCE GS.F could works in:

- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode

The night mode could be selected with any operating mode.

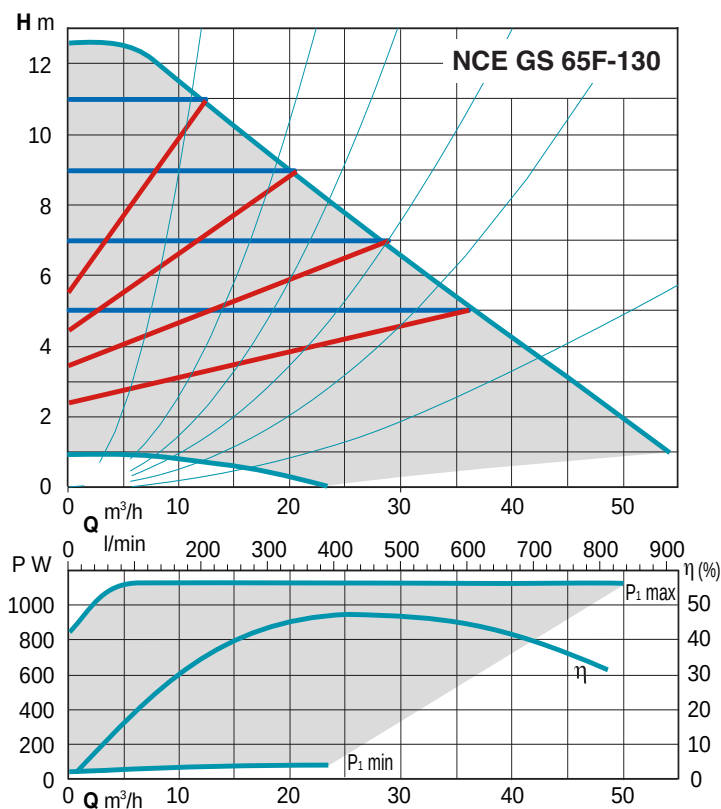
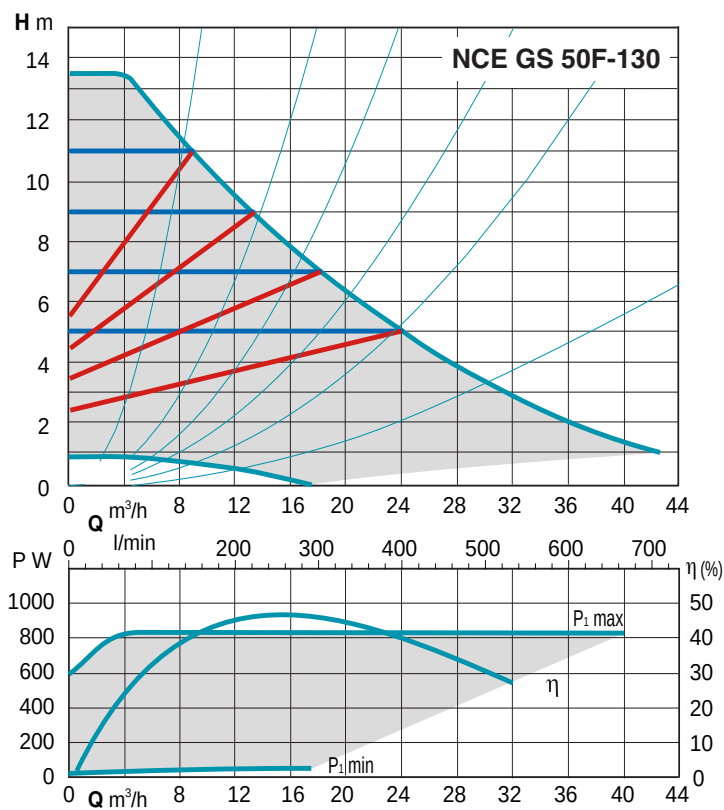
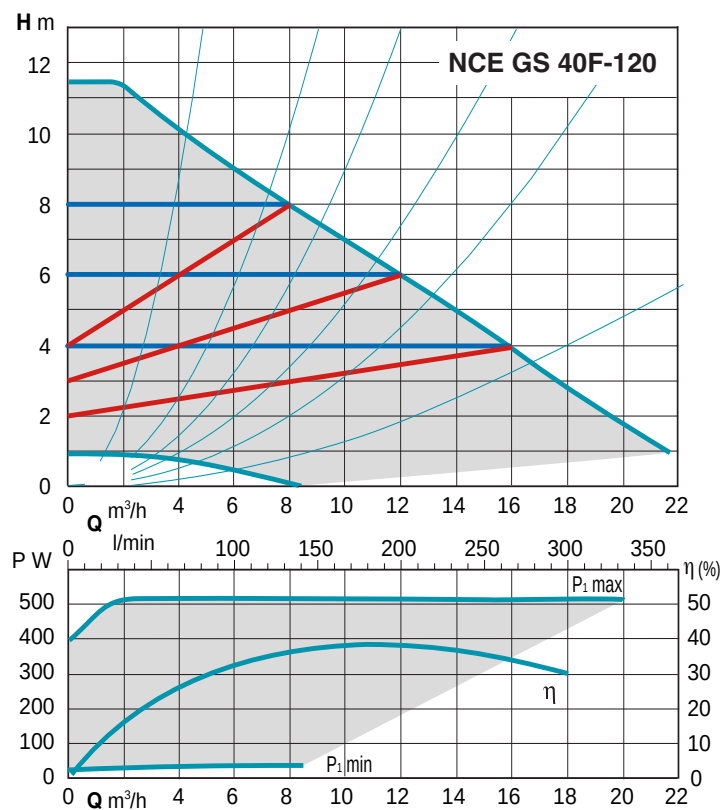
Coverage chart



NCE GS.F Energy saving circulating pumps with flanges for sanitary hot water



Characteristic curves



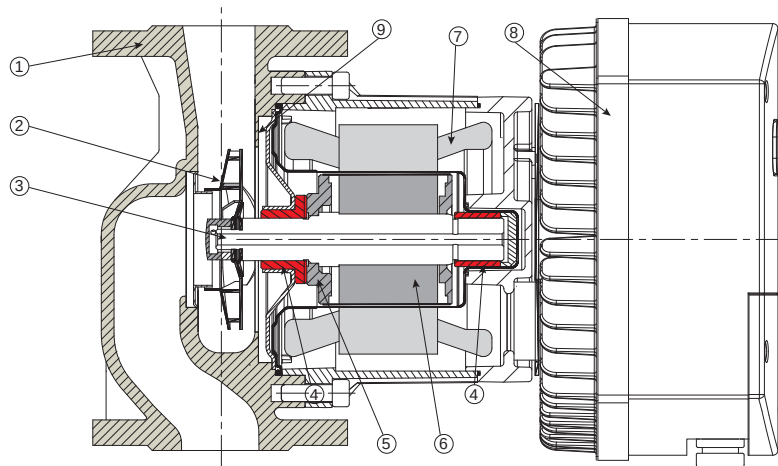
NCE GS.F

Energy saving circulating pumps with flanges for sanitary hot water

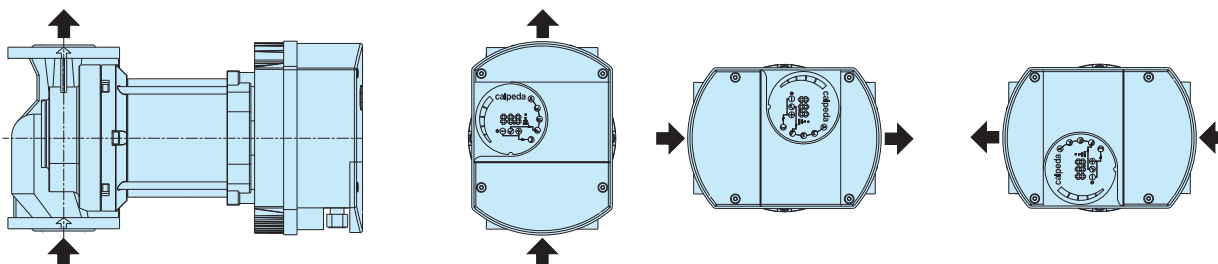


Materials

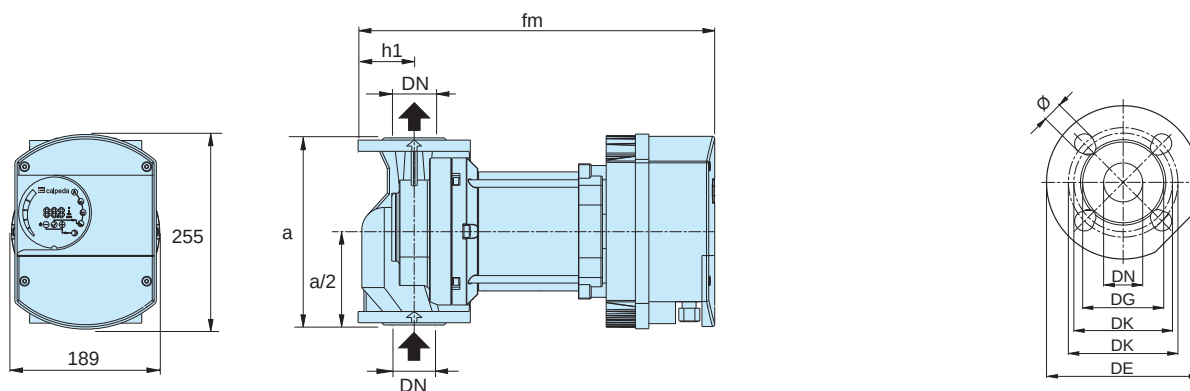
Component	Pos.	Material
Pump casing	1	Bronze
Impeller	2	Stainless steel
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Steel
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V		P ₁		mm			kg
				A min	A max	W min	W max	a	fm	h1	
NCE GS 40F-120/250	40	12	25	0,18	2,2	20	500	250	386	65	26
NCE GS 50F-130/280	50	13	39	0,23	3,5	26	800	280	425	70	33
NCE GS 65F-130/340	65	13	65	0,33	4,8	38	1100	340	449	80	38,5

DN	DE	DK	DG	holes	
				N.	Ø
40	150	100/110	80	4	14/19
50	165	110/125	90	4	14/19
65	185	130/145	110	4	14/19

NCS3

Circulating pumps for sanitary hot water



Construction

Bronze pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Stainless steel AISI 316 can.

Materials	NCS3 ..-40, -50	NCS3 ...-70
Pump casing	Bronze	Bronze
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic
Bearings	Graphite	Ceramic

Applications

Circulation of sanitary hot water.

Operating conditions

Liquid temperature from +5 °C to +65 °C.
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Minimum suction pressure: 0,05 bar at 50 °C
Maximum permissible working pressure 10 bar.

Designation

NCS3 20 - 40 / 130

Series _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

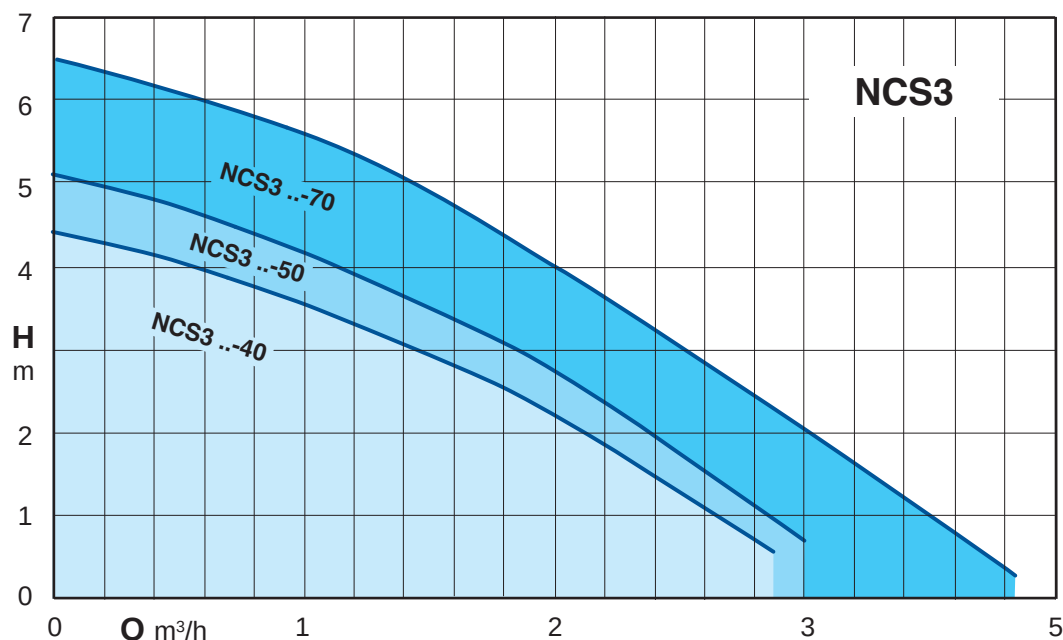
Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NCS3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Special features on request

Brass unions.

Coverage chart

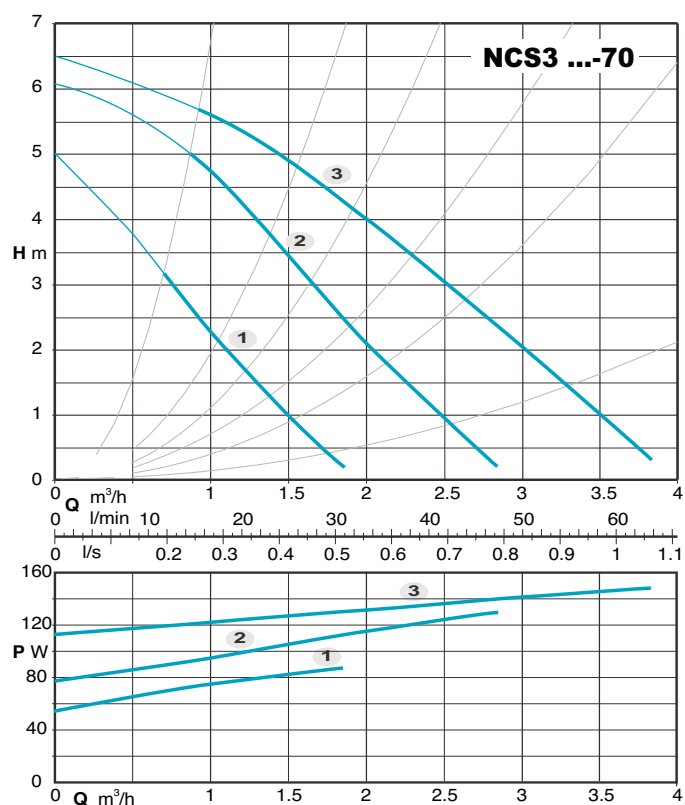
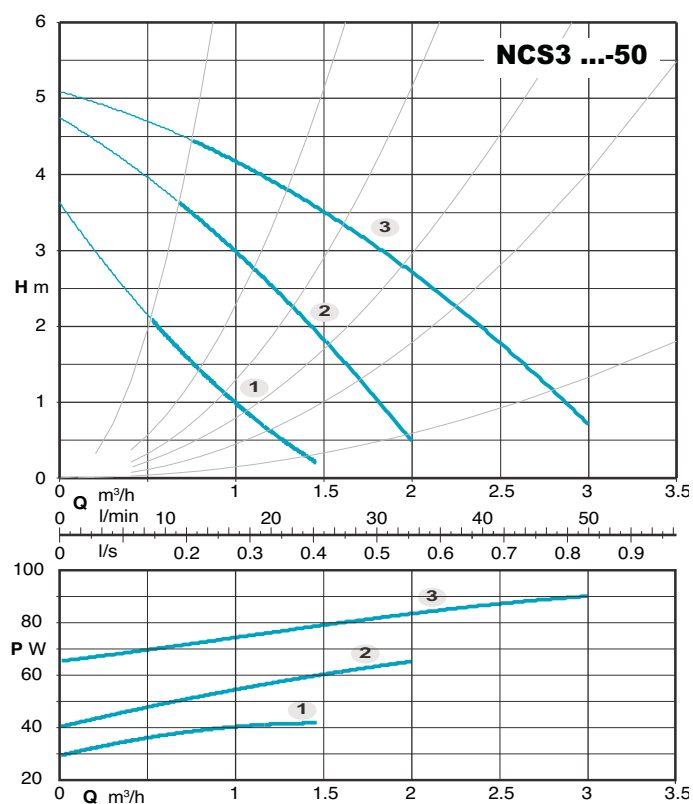
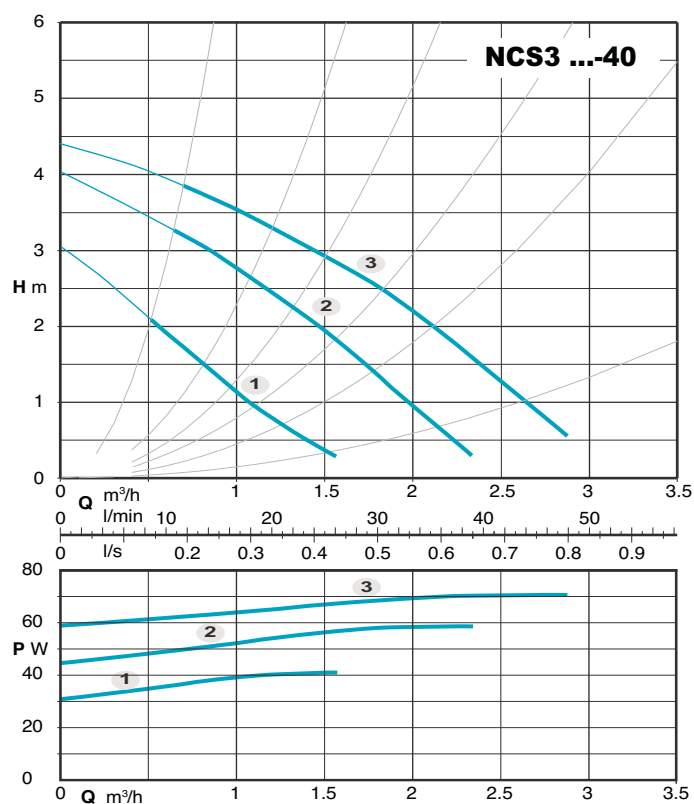


NCS3

Circulating pumps for sanitary hot water



Characteristic curves

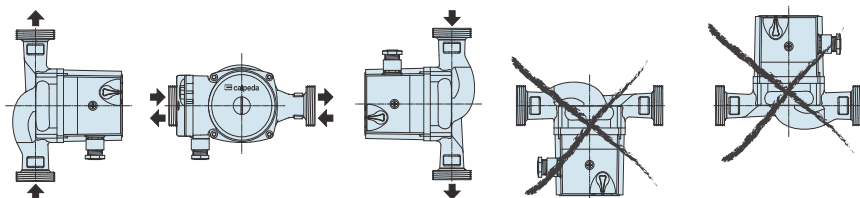


NCS3

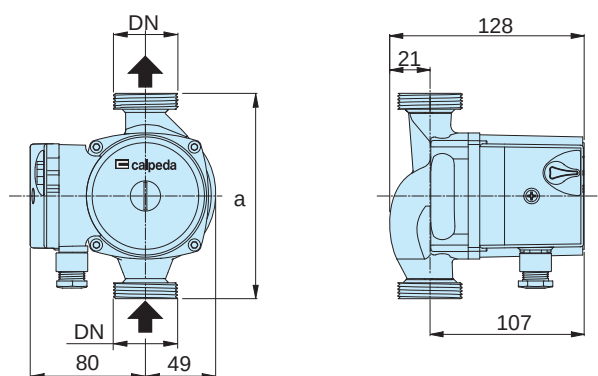
Circulating pumps for sanitary hot water



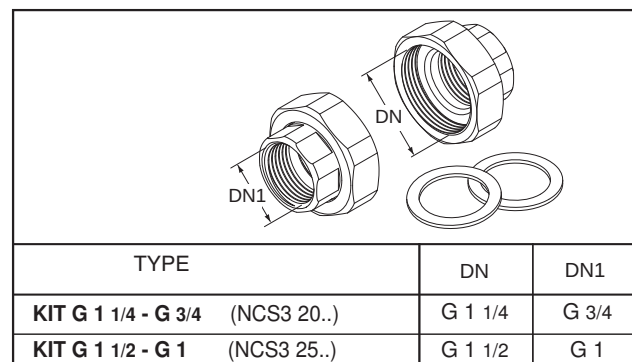
Examples of installations



Dimensions and weights

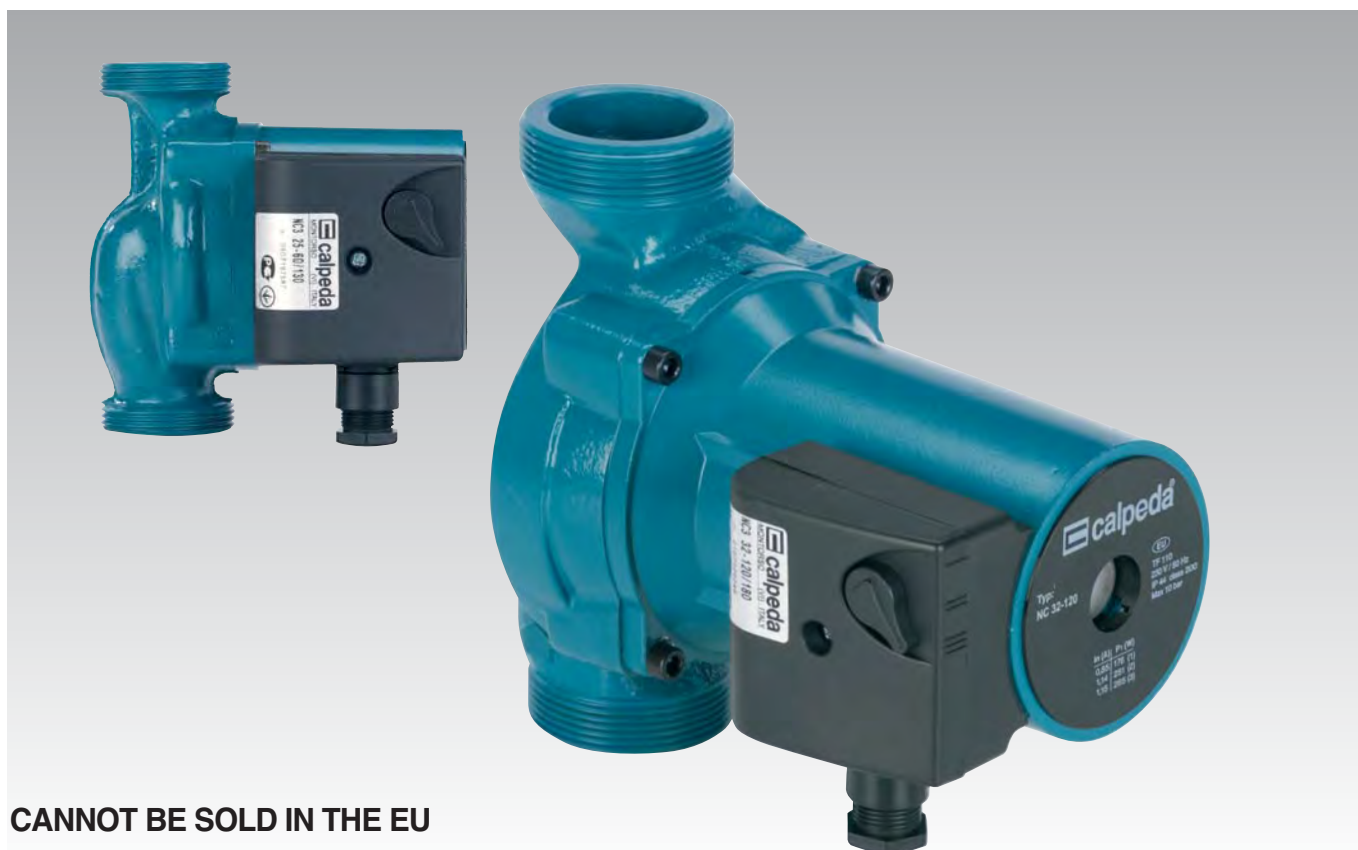


Unions (on request)



NC3

Three speeds circulating pumps
with threaded ports



CANNOT BE SOLD IN THE EU

Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Brass or cast iron unions on request.

Materials	NC3 ..40-50-60	NC3 ...70-80-85-120
Pump casing	Cast iron	Cast iron
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials.
Civil and industrial heat systems.

Operating conditions

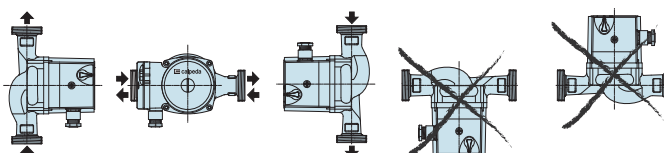
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for NC3 ...-70 and NC3 ...-80-85-120).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).
Maximum permissible working pressure 10 bar.

TYPE	Minimum suction pressure: bar		
	50 °C	80 °C	110 °C
NC3 ..-40,50,60	0,05	0,4	1,1
NC3 ..-70	0,05	0,4	1,1
NC3 ..-80,85,120	0,05	0,4	1,2

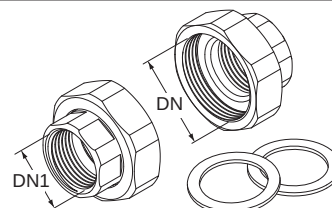
Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NC3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Installation



Unions



TYPE	DN	DN1
KIT G 1 - G 1/2 (NC3 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NC3 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NC3 32..)	G 2	G 1 1/4

Designation

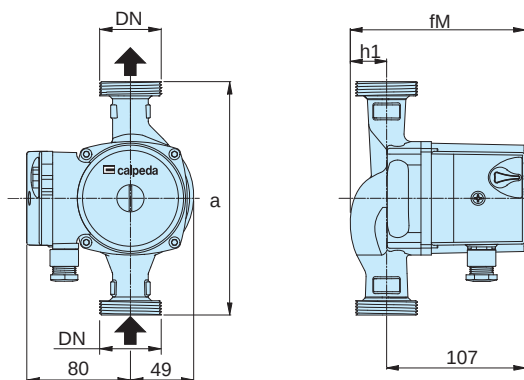
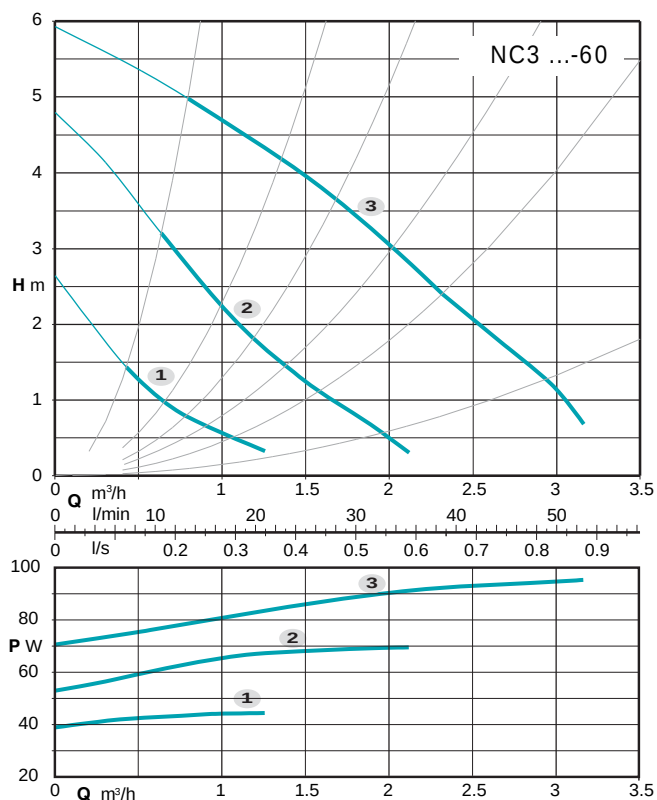
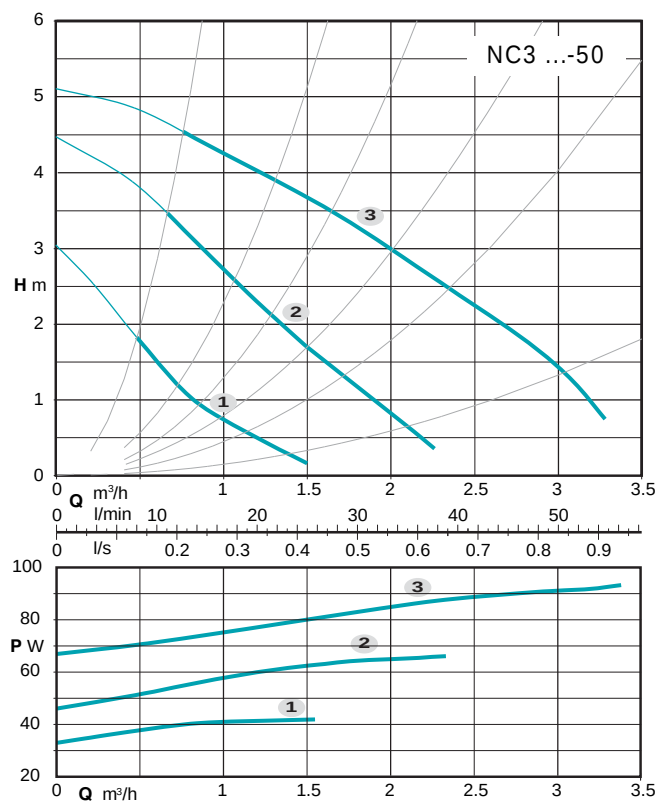
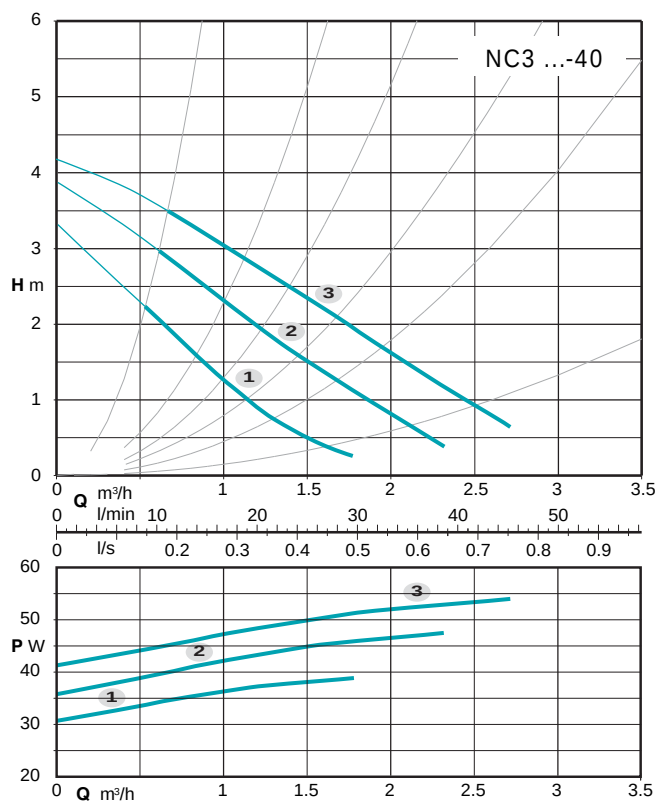
Series NC3 32 - 70 / 180
DN ports in mm _____
Max. head in dm _____
connection size mm _____

NC3

Three speeds circulating pumps
with threaded ports



Characteristic curves, dimensions and weights



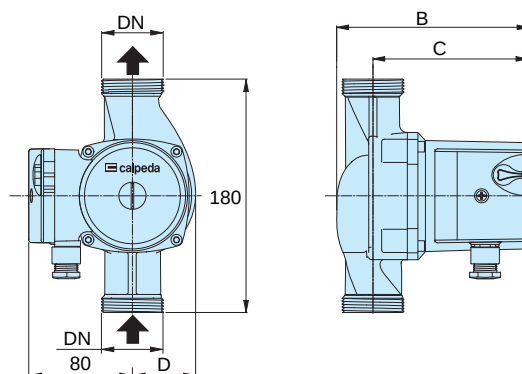
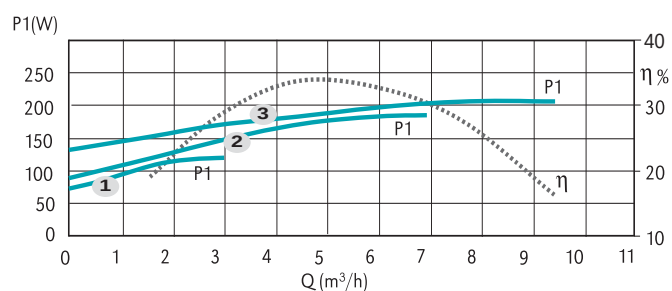
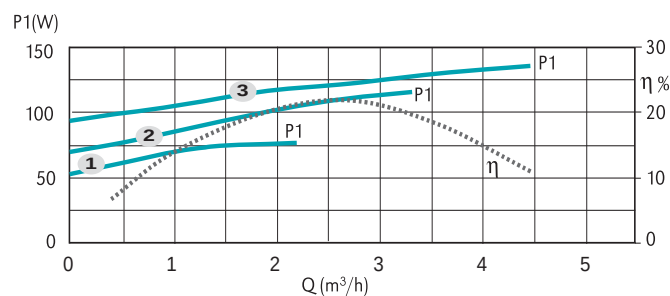
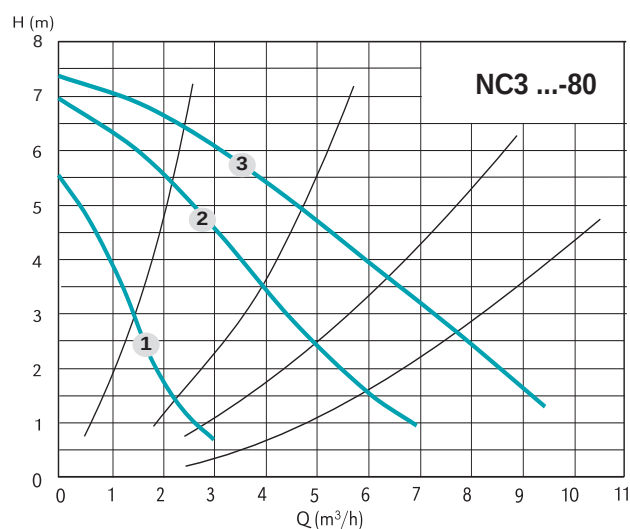
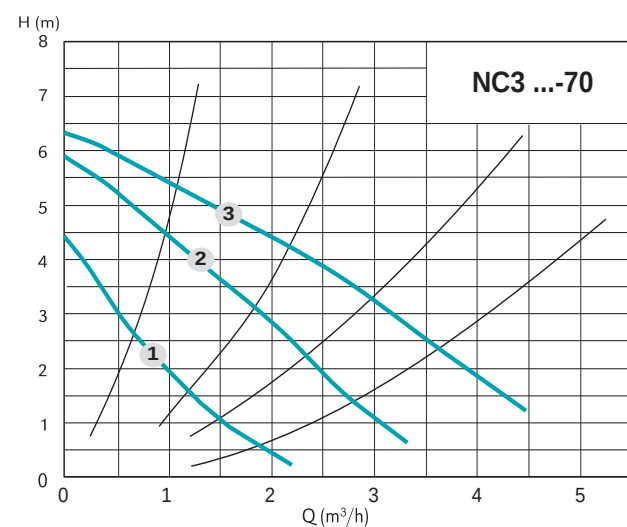
TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	mm			
					a	fM	h1	[kg]
NC3 15-40/130	G 1	3	53	0,23	130	128	21	2,2
NC3 25-40/130	G 1 1/2	2	47	0,21	130	135	28	2,4
NC3 25-40/180	G 1 1/2	1	38	0,17	180	135	28	2,6
NC3 15-50/130	G 1	3	91	0,38	130	128	21	2,2
NC3 25-50/130	G 1 1/2	2	65	0,28	130	135	28	2,4
NC3 25-50/180	G 1 1/2	1	42	0,18	180	135	28	2,6
NC3 32-50/180	G 2	1			180	138	31	3
NC3 15-60/130	G 1	3	95	0,41	130	128	21	2,2
NC3 25-60/130	G 1 1/2	2	70	0,30	130	135	28	2,4
NC3 25-60/180	G 1 1/2	1			180	135	28	2,6
NC3 32-60/180	G 2	1	44	0,20	180	138	31	3

NC3

Three speeds circulating pumps with threaded ports



Characteristic curves, dimensions and weights



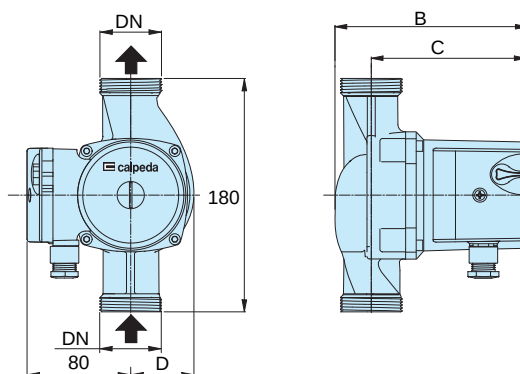
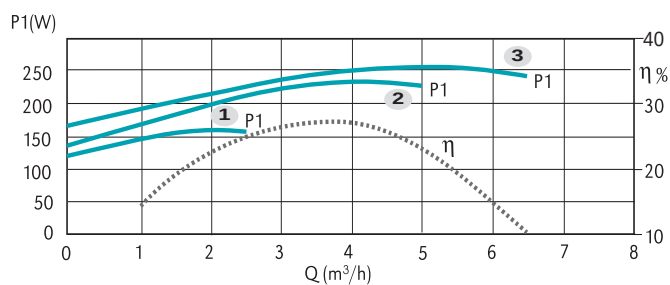
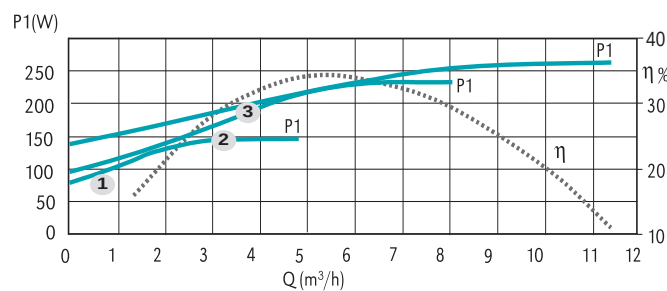
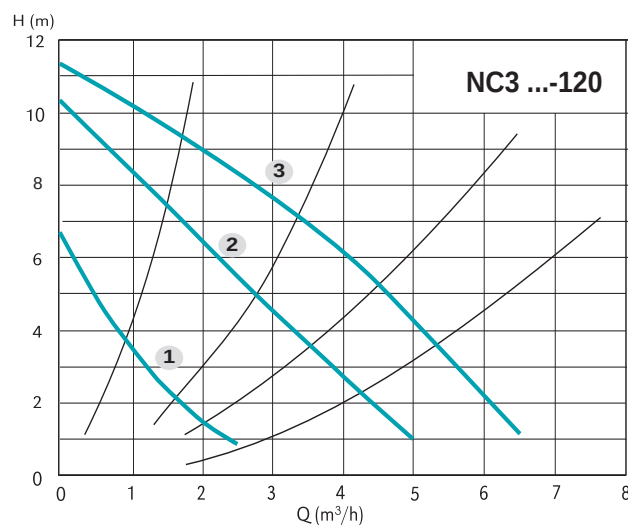
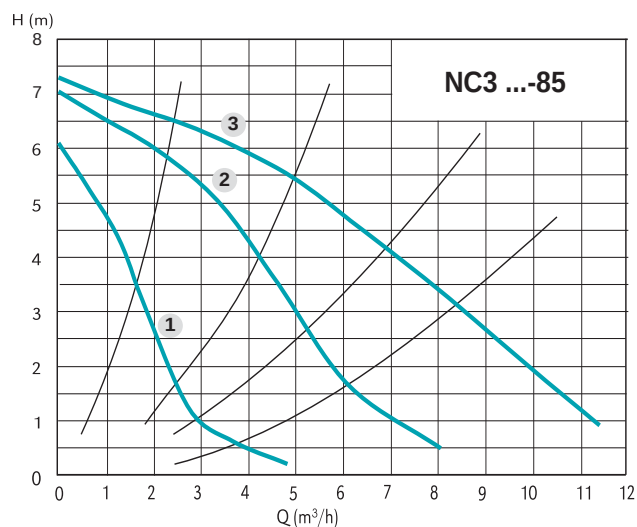
TYPE	DN	Pos.	P ₁ (W)	1x 230 V [A]	[mm]			
					B	C	D	[kg]
NC3 25-70/180	G 1 1/2	3	136	0,61	135	107	49	2,9
		2	116	0,54				
		1	77	0,37				
NC3 32-70/180	G 2	3	136	0,61	138	107	49	3,1
		2	116	0,54				
		1	77	0,37				
NC3 32-80/180	G 2	3	206	0,91	185	143	58	4,7
		2	185	0,88				
		1	120	0,60				

NC3

Three speeds circulating pumps
with threaded ports

calpeda[®]

Characteristic curves, dimensions and weights



TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[mm]			
					B	C	D	[kg]
NC3 32-85/180	G 2	3	277	1,2	185	143	58	4,9
		2	250	1,16				
		1	172	0,85				
NC3 32-120/180	G 2	3	265	1,15	208	174	68	5,2
		2	251	1,14				
		1	176	0,85				

NCD3 Three speeds circulating twin pumps with threaded ports



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Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Brass or cast iron unions on request.

Materials	NCD3 ..40	NCD3 ...70-80-120
Pump casing	Cast iron	Cast iron
Impeller	Composite	Composite
Shaft	Stainless steel	Ceramic

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials.
Civil and industrial heaty systems.

Operating conditions

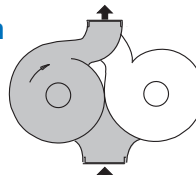
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for NCD3 ..-70 and NCD3 ..-80-120).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require recheking of the pumping data).
Maximum permissible working pressure 10 bar.

type	Minimum suction pressure: bar		
	50 °C	80 °C	110 °C
NCD3 ..-40	0,05	0,4	1,1
NCD3 ..-70	0,05	0,4	1,1
NCD3 ..-80,120	0,05	0,4	1,2

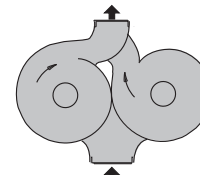
Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NCD3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Operation

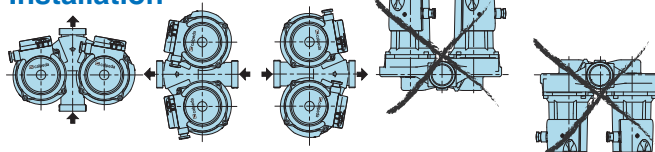


Single operation
Operation of a single pump choosed by the customer, with the second pump on stand-by

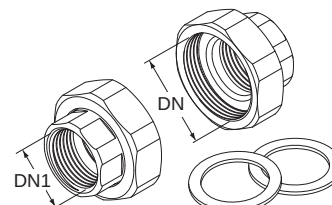


Double operation
Operation in parallel of the two pumps

Installation



Unions



TYPE	DN	DN1
KIT G 2 - G 1 1/4 (NCD3 32..)	G 2	G 1 1/4

Designation

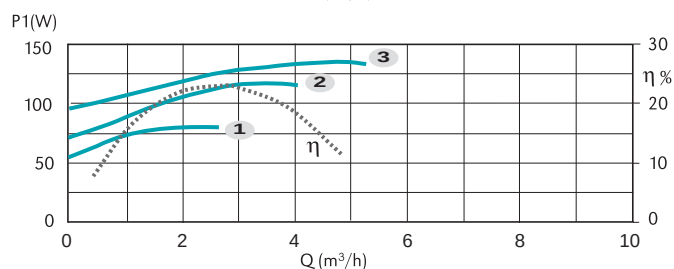
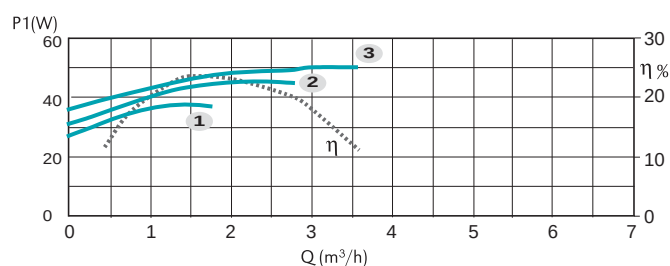
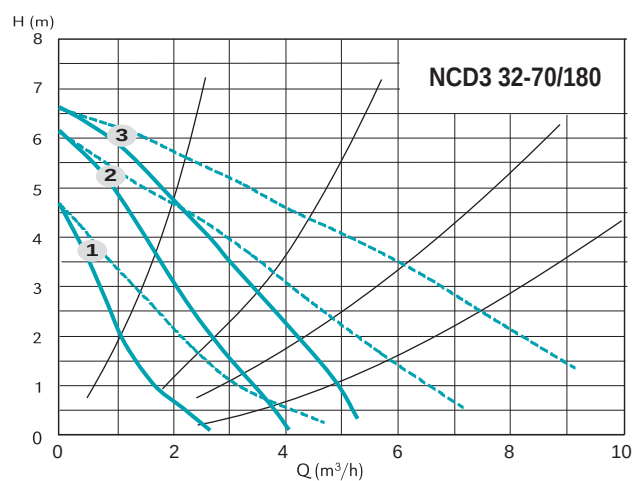
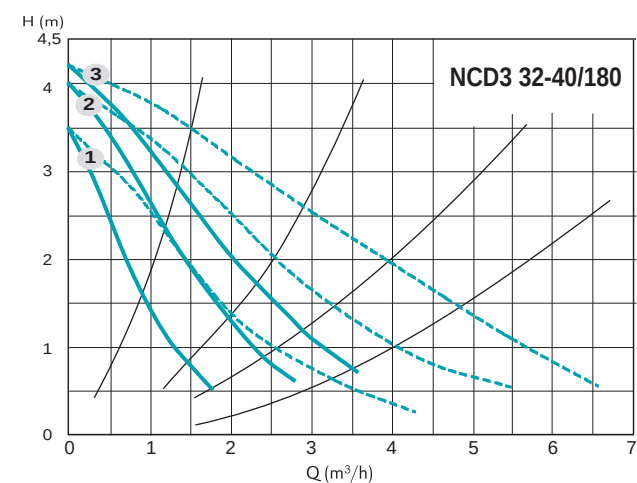
NCD3 32 - 70 / 180

Series _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

NCD3 Three speeds circulating twin pumps with threaded ports

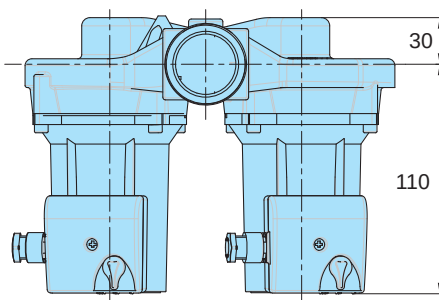
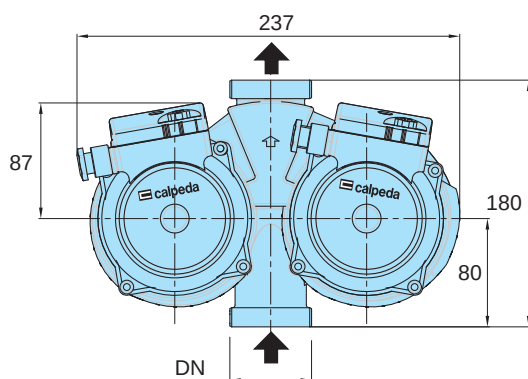


Characteristic curves, dimensions and weights



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel

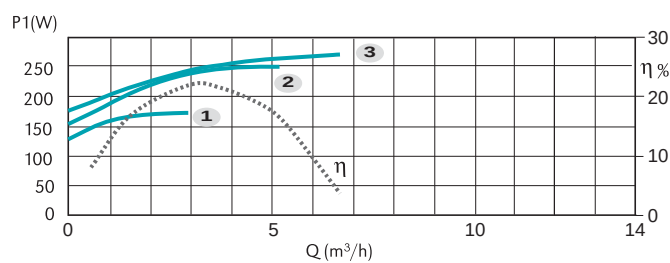
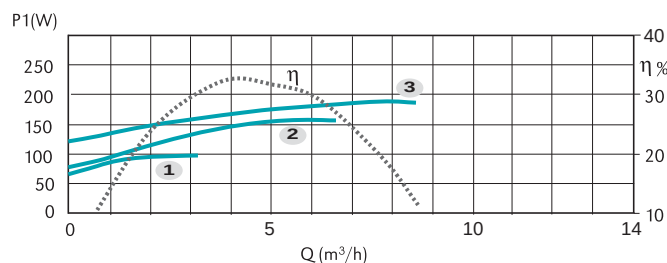
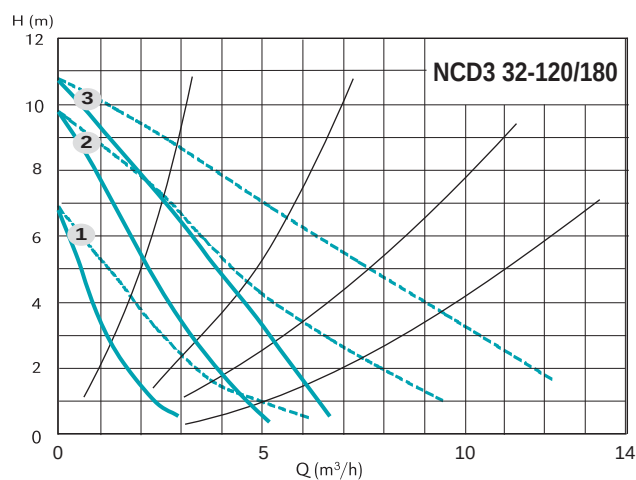
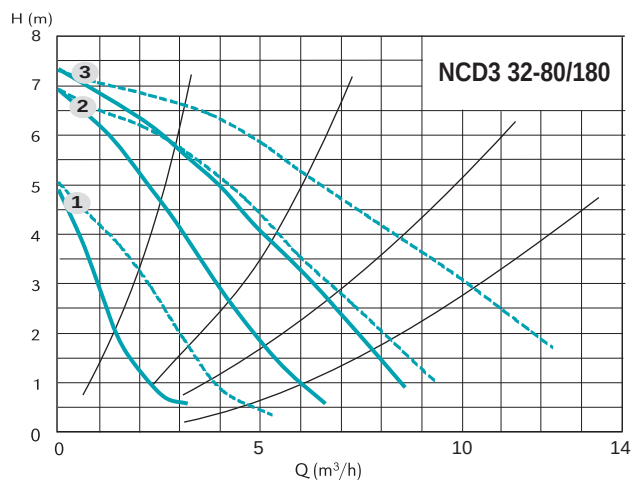


TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[kg]
NCD3 32-40/180	G 2	3	53	0,23	5,6
		2	47	0,21	
		1	38	0,17	
NCD3 32-70/180	G 2	3	136	0,61	6
		2	116	0,54	
		1	77	0,37	

NCD3 Three speeds circulating twin pumps with threaded ports

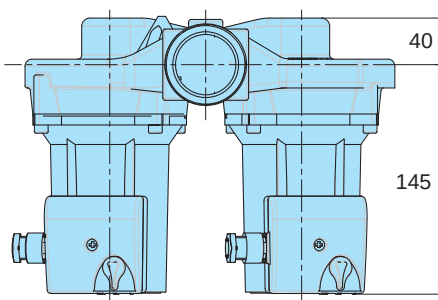
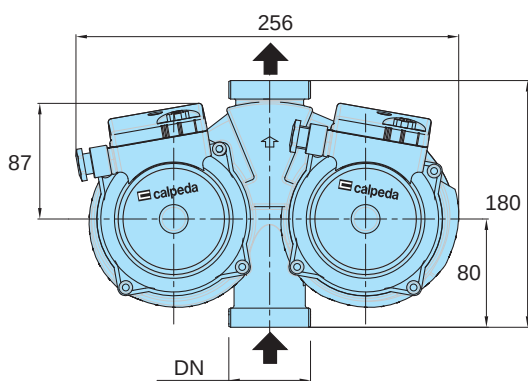


Characteristic curves, dimensions and weights



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[kg]
NCD3 32-80/180	G 2	3	206	0,91	9,6
		2	185	0,88	
		1	120	0,6	
NCD3 32-120/180	G 2	3	265	1,15	10,3
		2	251	1,14	
		1	176	0,85	



Three speeds circulating pumps with flanges



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Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

Materials:

Pump casing	Cast iron
Impeller	Stainless steel
Shaft	Stainless steel

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).

For heating, conditioning, cooling and circulation plants.

For civil and industrial applications.

When low noise operation is required.

Operating conditions

Liquid temperature from -10 °C to +120 °C (in short-time duty up to +140 °C).

Ambient temperature up to 40 °C.

Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).

Maximum permissible working pressure 6/10 bar.

TYPE	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
NC 40	0,05	0,8	1,4
NC 50	0,3	1	1,6
NC 65	0,3	1	1,6
NC 80	0,3	1	1,6

Motor

2-4-pole induction motor, 50 Hz.

Three adjustable speeds.

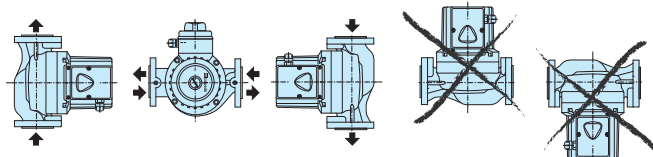
NC: three-phase 230V or 400 V.

NCM: single-phase 230 V.

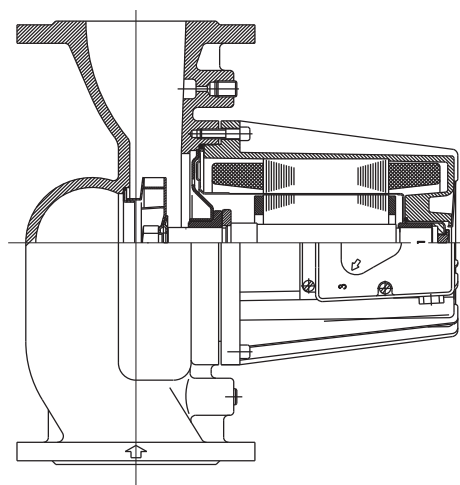
Insulation class H.

Protection IP 43.

Installation



Cross section drawings



Designation

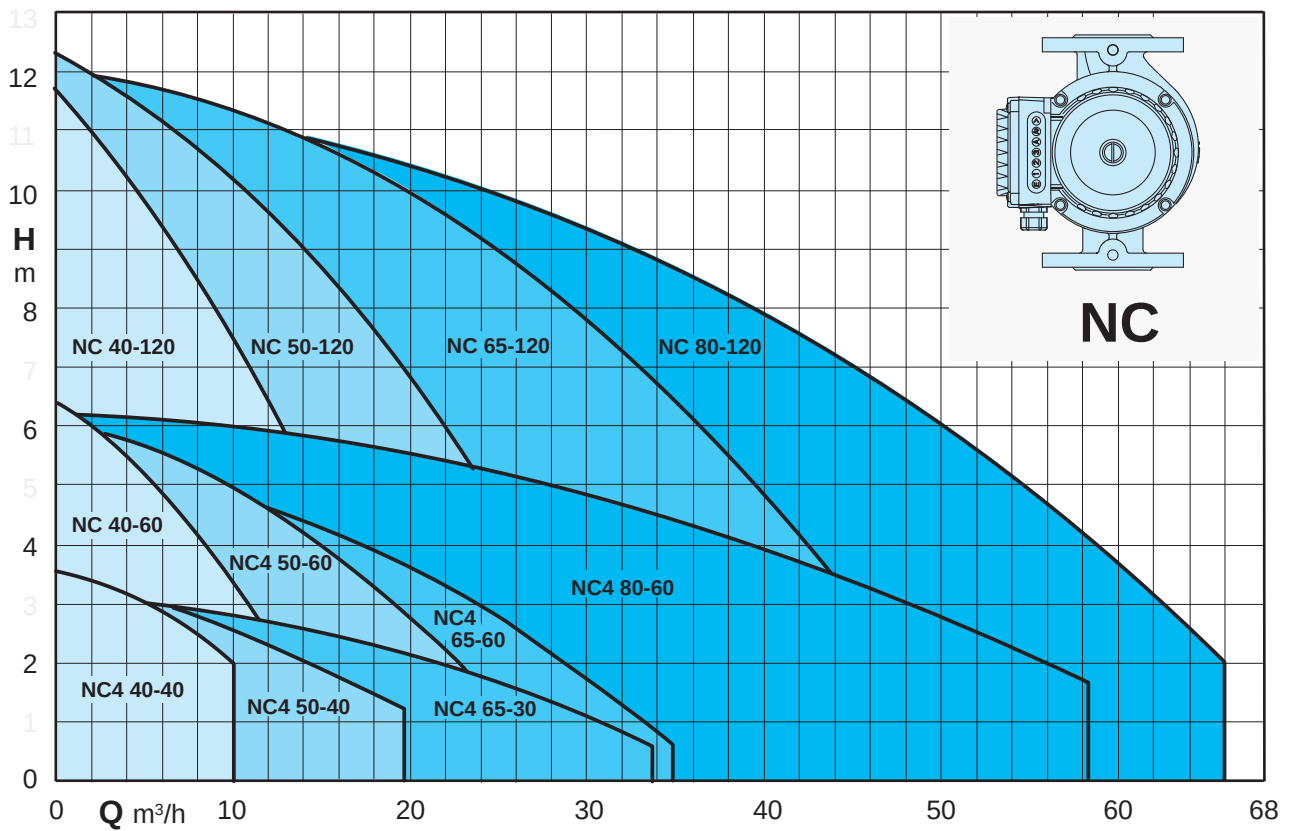
Series	NC (M)	4	40 - 60	/ 250
Single-phase motor				
4-pole motor				
DN ports in mm				
Max. head in dm				
connection size mm				



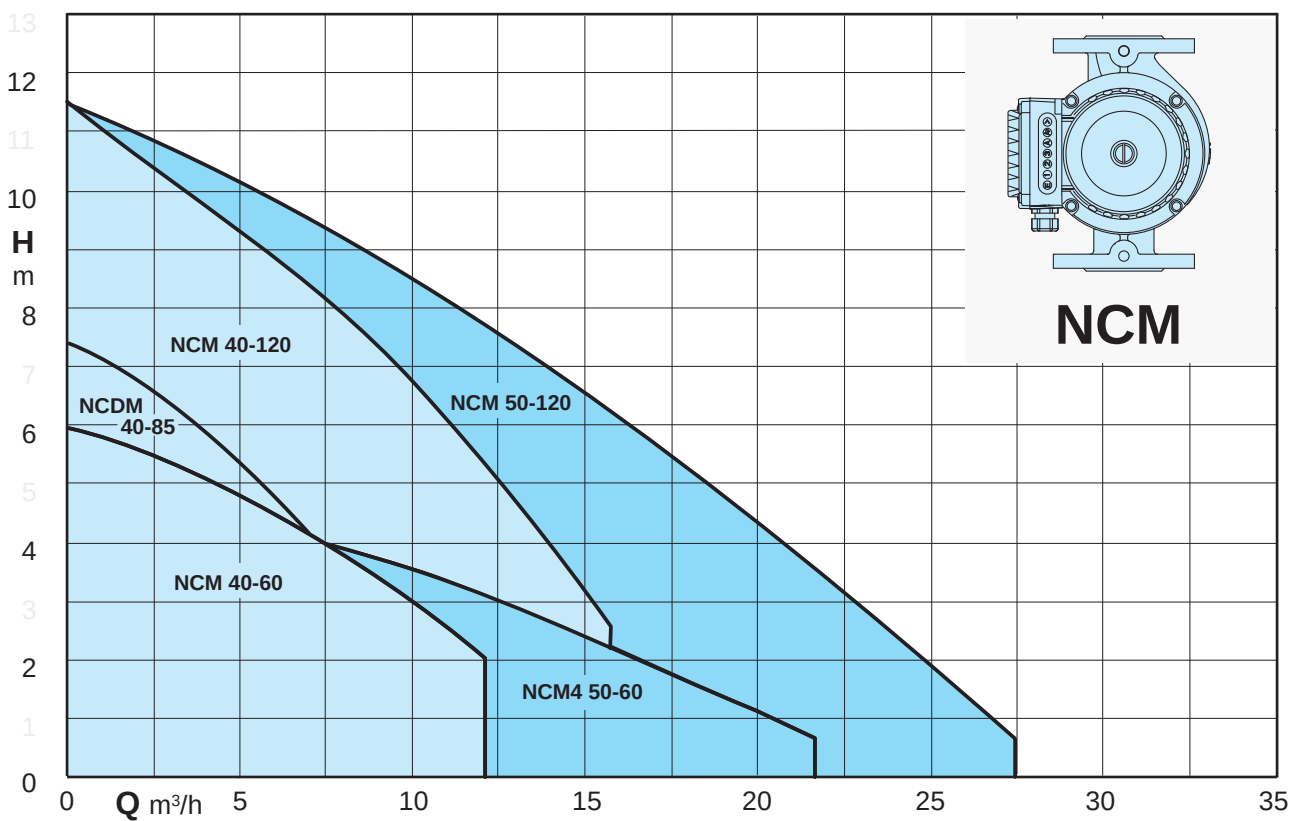
Three speeds circulating pumps with flanges



Coverage chart



Tolerances in accordance with UNI EN ISO 9906:2012



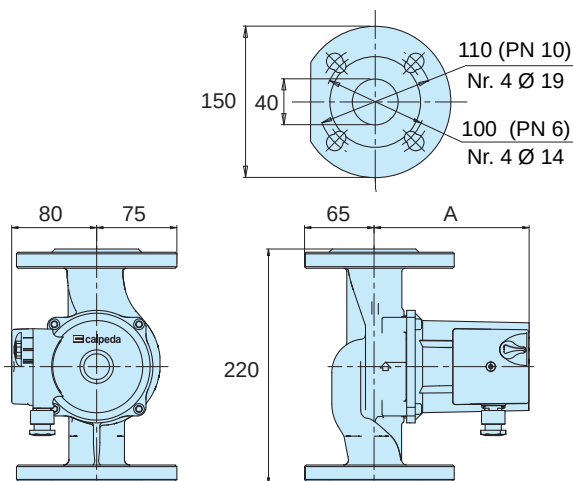
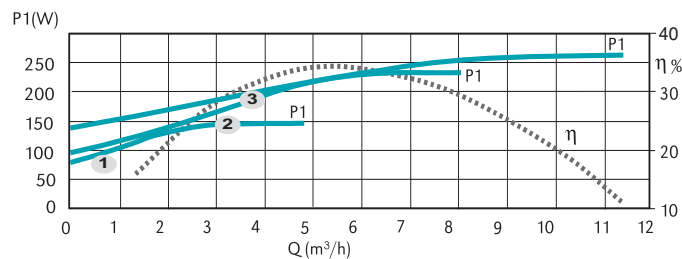
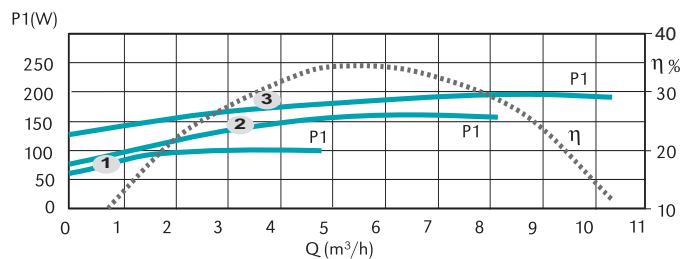
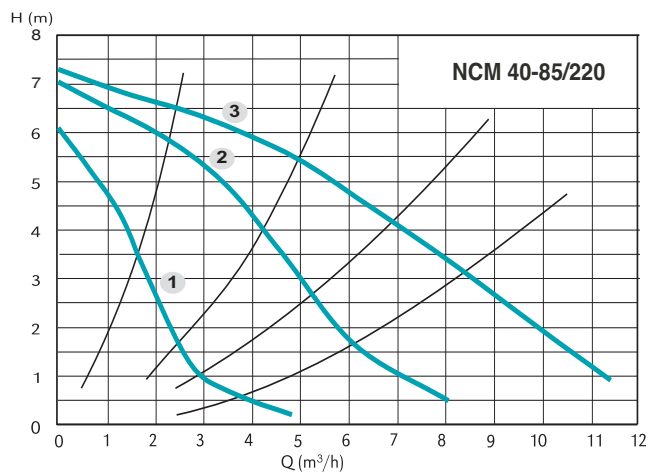
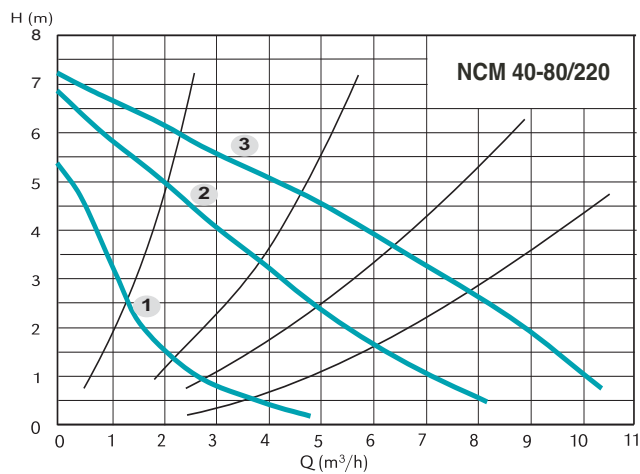
Tolerances in accordance with UNI EN ISO 9906:2012

NCM 40

Three speeds circulating pumps with flanges



Characteristic curves, dimensions and weights



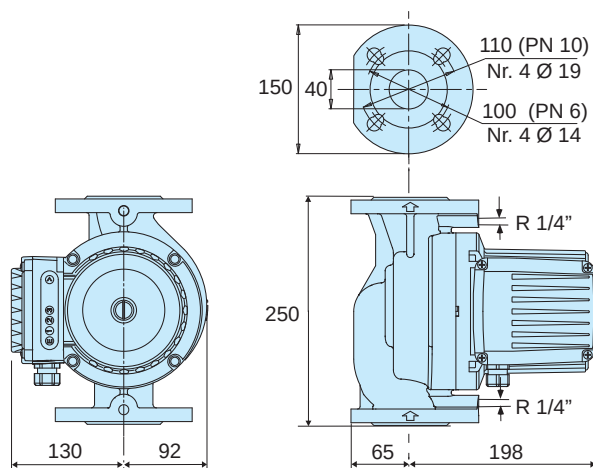
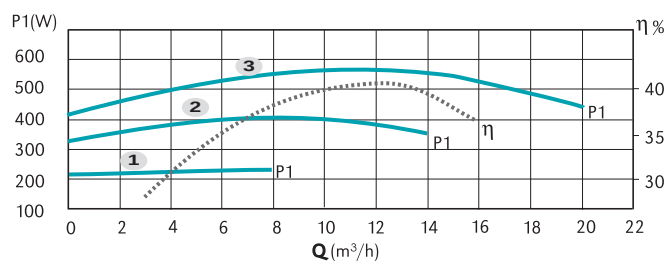
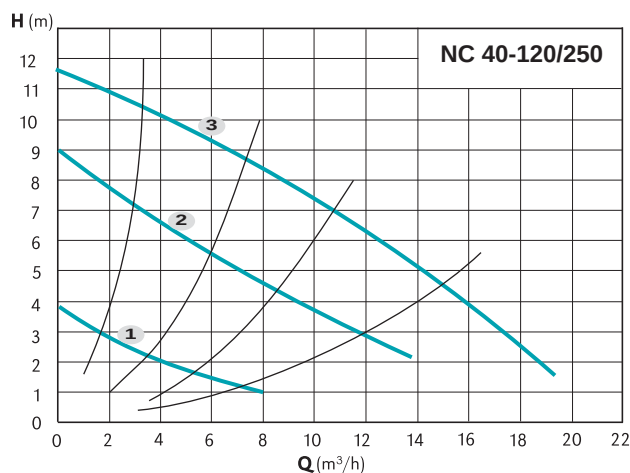
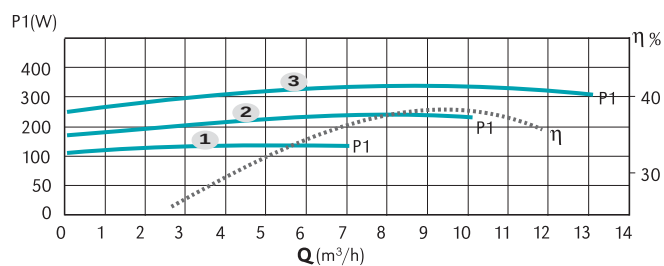
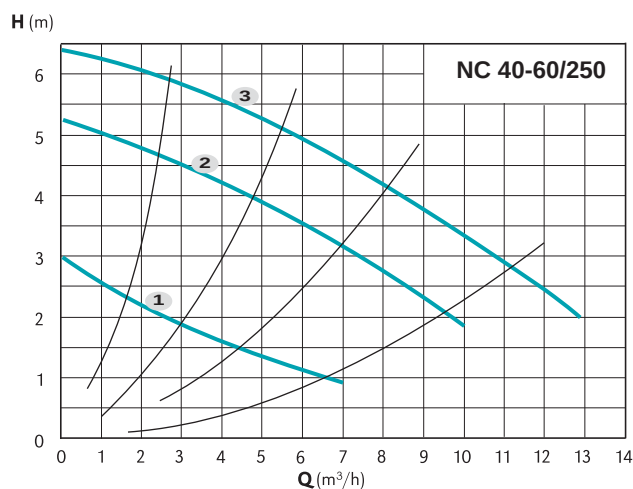
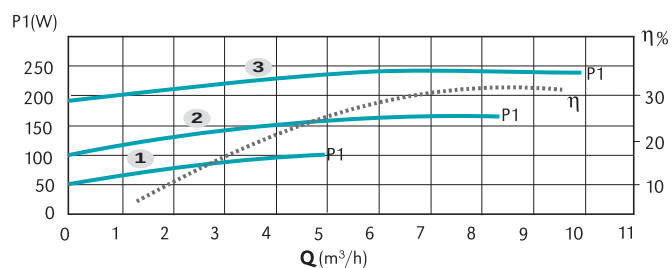
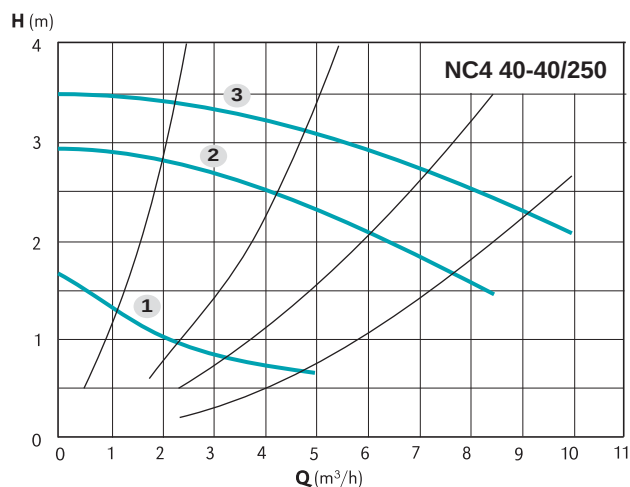
TYPE	DN	PN	N° Poli		Pos.	P1 (W)	1x 230 V [A]	A [mm]	[kg]
			2	4					
NCM 40-80/220	40	6/10	✓		3	206	0,91	150	8,1
					2	185	0,88		
					1	120	0,60		
NCM 40-85/220	40	6/10	✓		3	277	1,20	175	8,8
					2	250	1,16		
					1	172	0,85		

NC 40

Three speeds circulating pumps with flanges



Characteristic curves, dimensions and weights



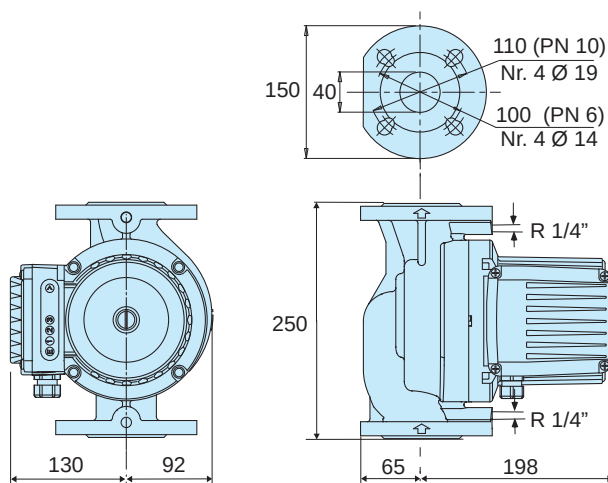
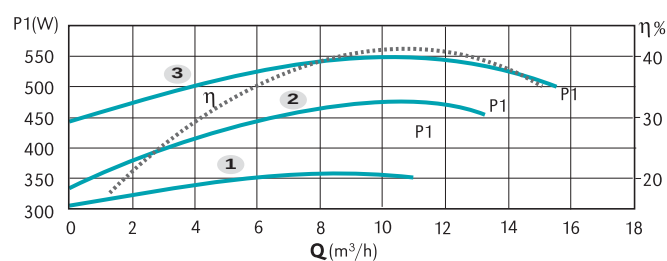
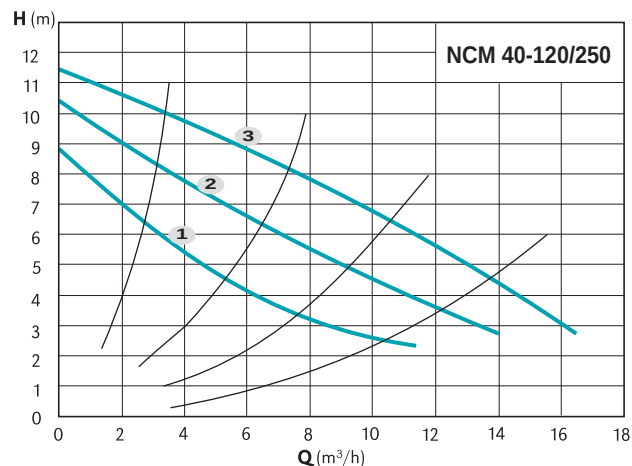
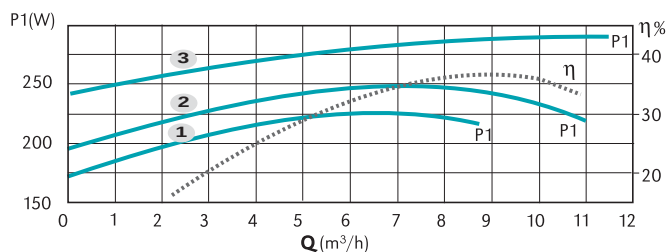
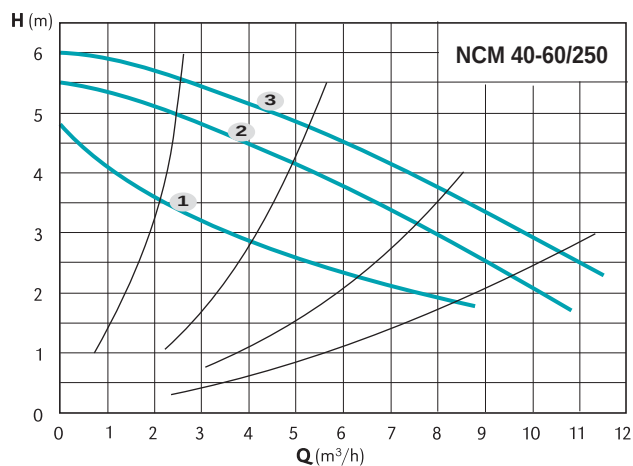
TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 40-40/250/A	40	6/10	✓	3	1440	240	0,76	17,0
				2	1200	160	0,24	
				1	660	100	0,11	
NC 40-60/250/A	40	6/10	✓	3	2790	320	0,74	17,5
				2	2240	240	0,36	
				1	1440	140	0,18	
NC 40-120/250/A	40	6/10	✓	3	2820	560	1,16	19,0
				2	2200	400	0,64	
				1	1250	220	0,26	

NCM 40

Three speeds circulating pumps with flanges



Characteristic curves, dimensions and weights



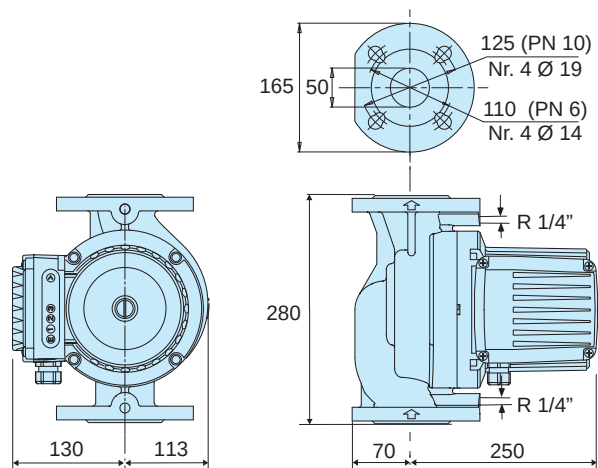
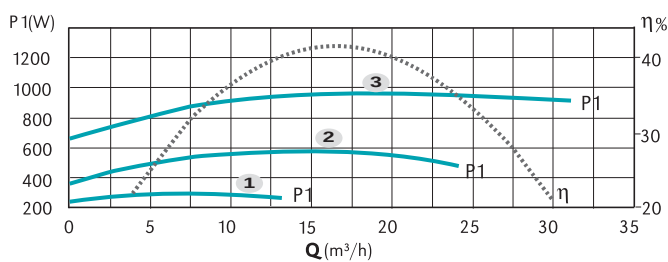
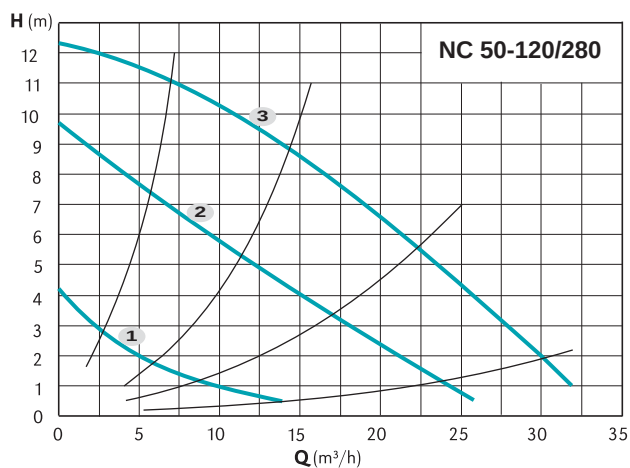
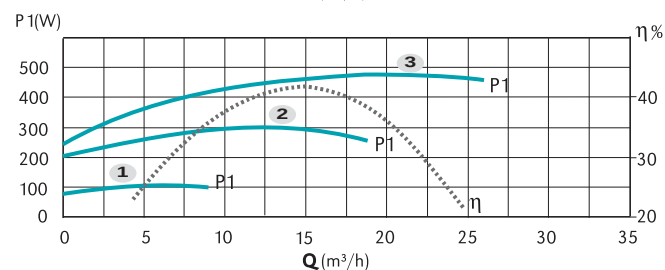
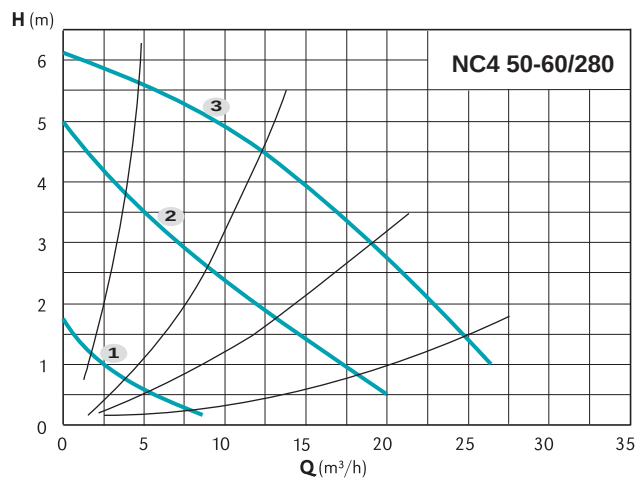
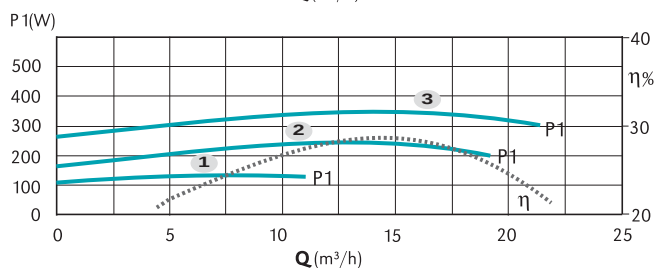
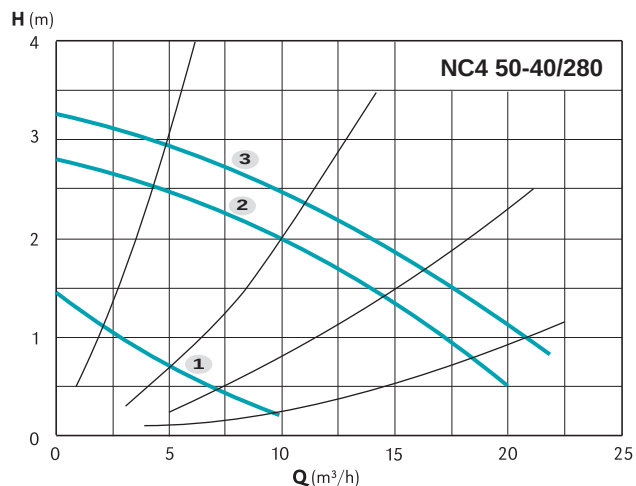
TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCM 40-60/250/A	40	6/10	✓	3	2690	285	1,20	17,5
				2	2360	245	1,18	
				1	1820	225	1,15	
NCM 40-120/250/A	40	6/10	✓	3	2750	550	2,35	19,0
				2	2100	475	2,30	
				1	1270	355	1,85	

NC 50

Three speeds circulating pumps with flanges



Characteristic curves, dimensions and weights



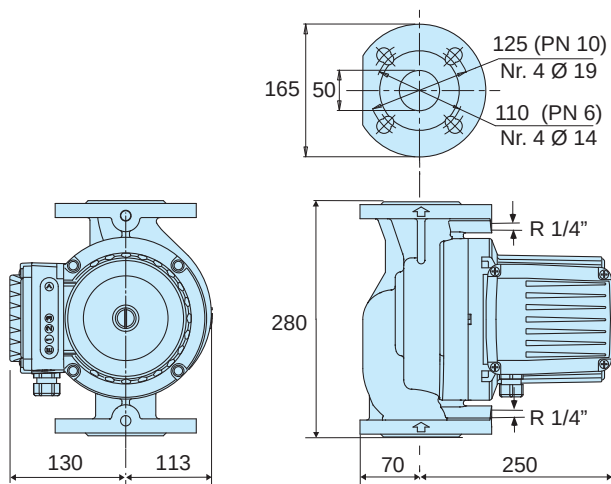
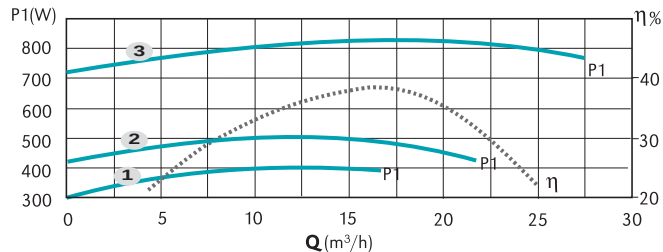
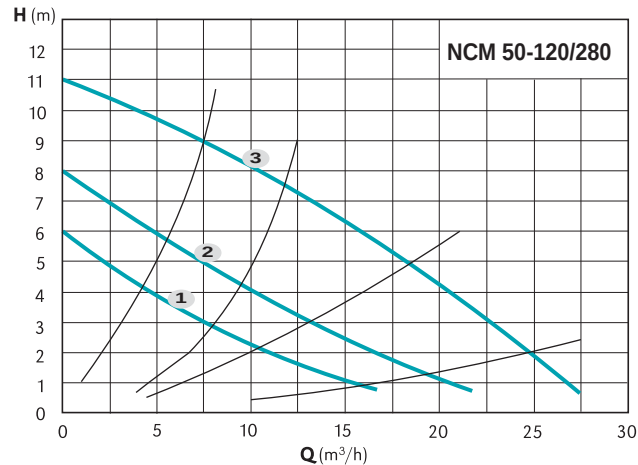
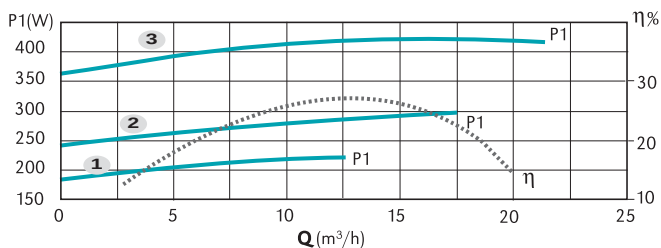
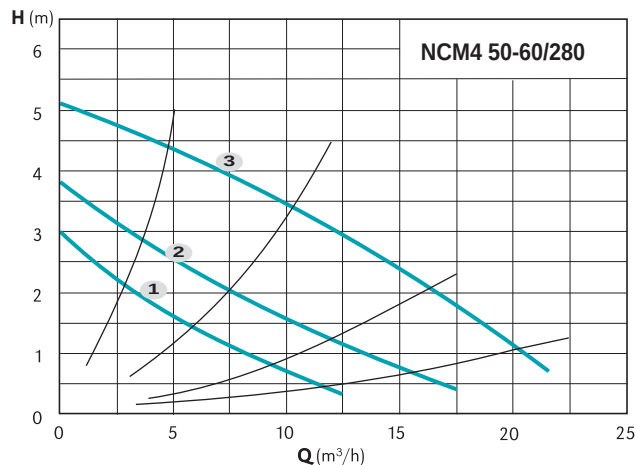
TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 50-40/280/A	50	6/10	✓	3	1450	340	1,05	24,0
				2	1220	240	0,44	
				1	620	120	0,22	
NC4 50-60/280/A	50	6/10	✓	3	1400	470	1,15	24,0
				2	1000	300	0,55	
				1	560	100	0,20	
NC 50-120/280/A	50	6/10	✓	3	2800	950	1,73	24,0
				2	2330	540	1,05	
				1	1270	265	0,46	

NCM 50

Three speeds circulating pumps with flanges



Characteristic curves, dimensions and weights



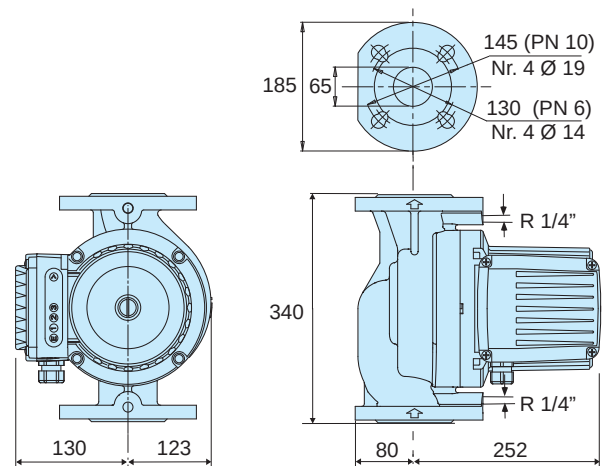
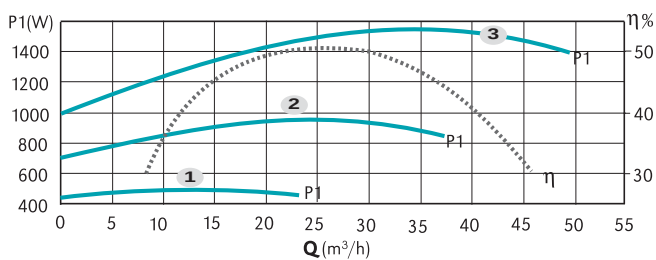
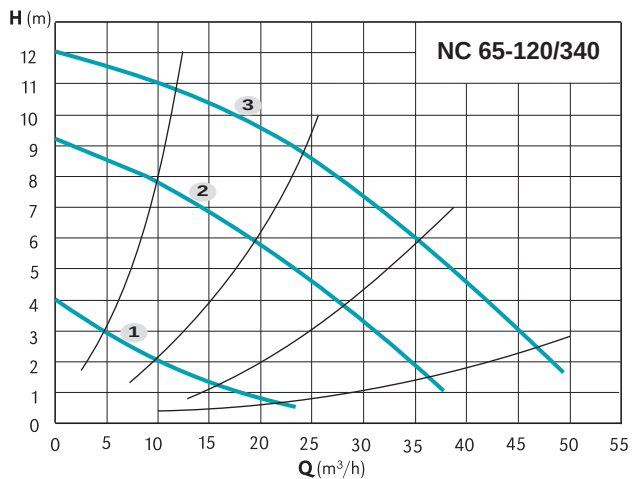
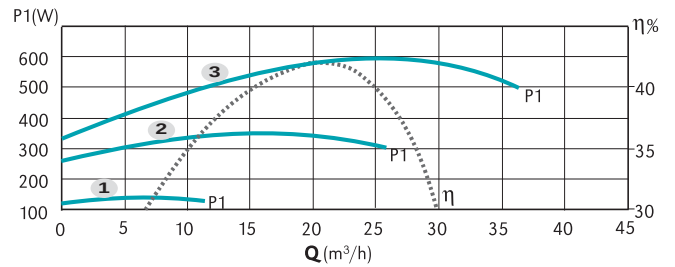
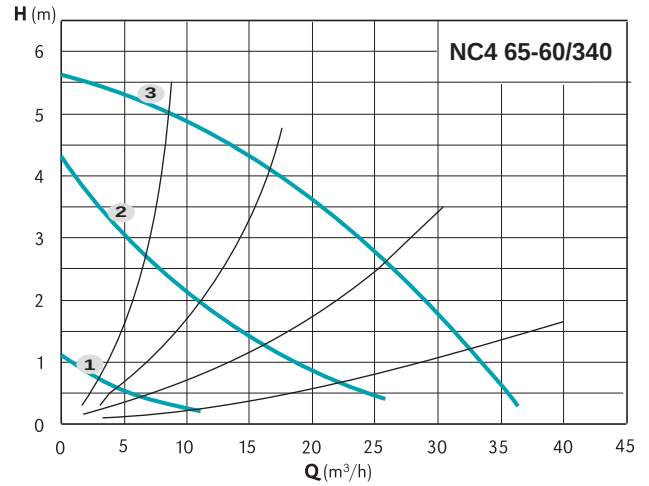
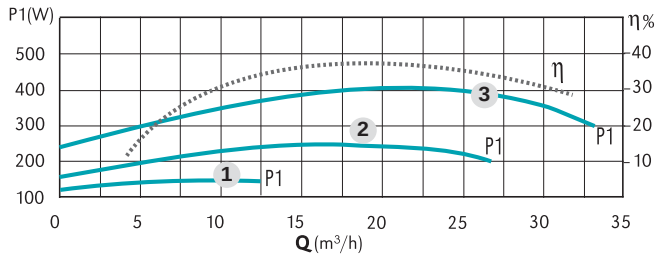
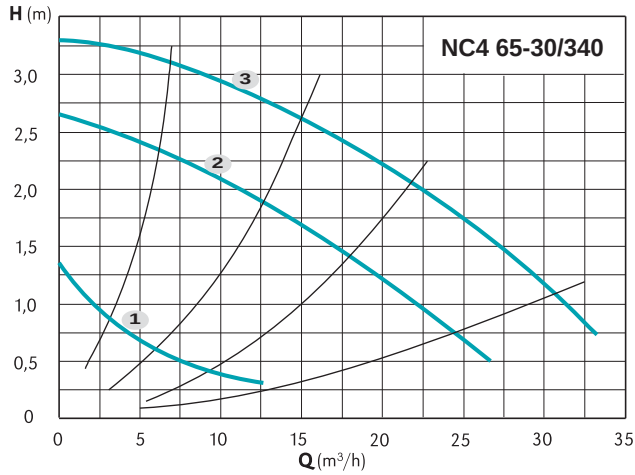
TYPE	DN	PN	N° Poli	Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCM4 50-60/280/A	50	6/10	✓	3	1260	415	1,8	24,5
				2	1030	300	1,3	
				1	740	230	1,0	
NCM 50-120/280/A	50	6/10	✓	3	2720	830	3,6	24,5
				2	1870	480	2,1	
				1	1450	390	1,7	

NC 65

Three speeds circulating pumps with flanges



Characteristic curves, dimensions and weights



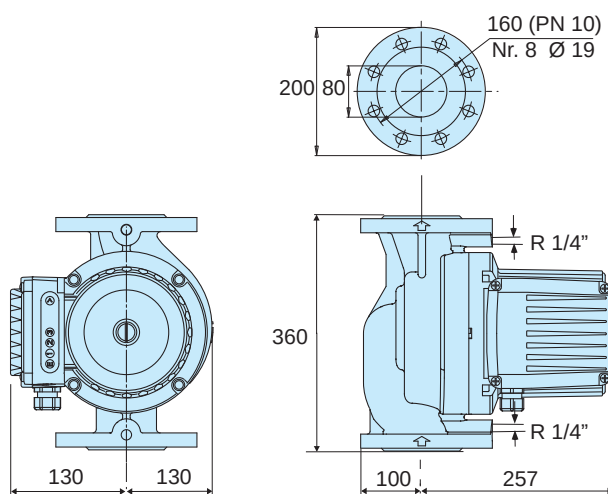
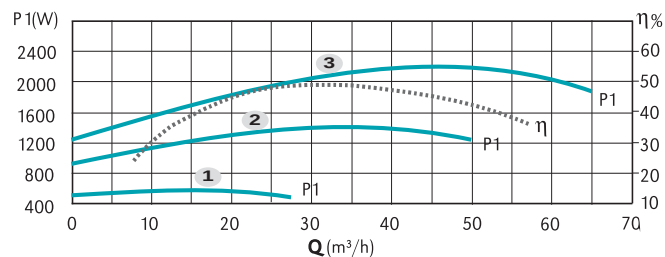
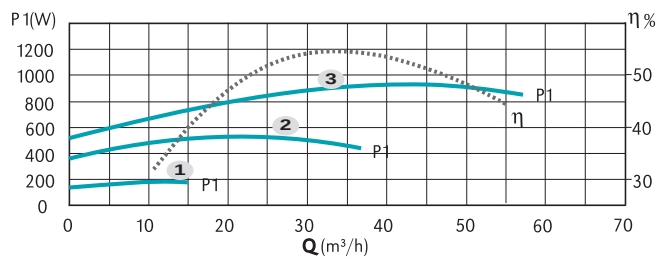
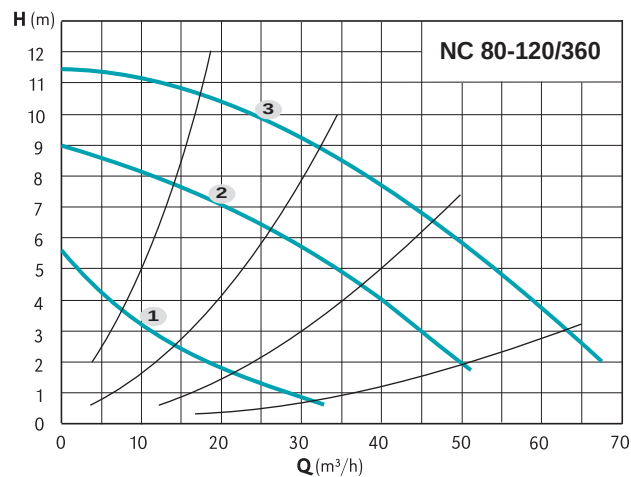
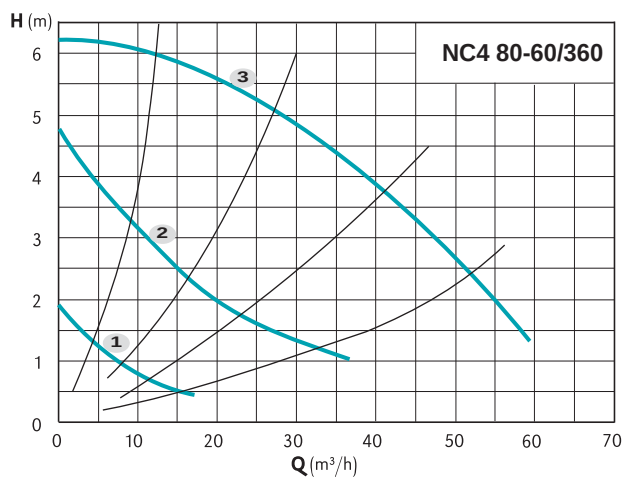
TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 65-30/340/A	65	6/10	✓	3	1430	400	1,10	29,0
				2	1150	260	0,50	
				1	600	120	0,22	
NC4 65-60/340/A	65	6/10	✓	3	1370	600	1,25	29,0
				2	950	360	0,64	
				1	450	120	0,22	
NC 65-120/340/A	65	6/10	✓	3	2810	1560	2,80	31,0
				2	2200	960	1,70	
				1	1250	460	0,84	

NC 80

Three speeds circulating pumps with flanges



Characteristic curves, dimensions and weights



TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NC4 80-60/360/A	80	10	✓	3	1350	960	2,20	33,5
				2	1000	560	1,10	
				1	600	200	0,38	
NC 80-120/360/A	80	10	✓	3	2800	2200	3,80	34,5
				2	2160	1400	2,40	
				1	1200	550	1,05	

NCD

Three speeds circulating twin pumps with flanges

calpeda[®]



CANNOT BE SOLD IN THE EU

Construction

Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

Materials:

Pump casing	Cast iron
Impeller	Stainless steel
Shaft	Stainless steel

Applications

For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).

For heating, conditioning, cooling and circulation plants.

For civil and industrial applications.

When low noise operation is required.

Operating conditions

Liquid temperature from -10 °C to +120 °C (in short-time duty up to +140 °C).

Ambient temperature up to 40 °C.

Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).

Maximum permissible working pressure 6/10 bar.

TYPE	Minimum suction pressure: bar		
	Temperature		
	50 °C	80 °C	110 °C
NCD 40	0,05	0,8	1,4
NCD 50	0,3	1	1,6
NCD 65	0,3	1	1,6
NCD 80	0,3	1	1,6

Motor

2-4-pole induction motor, 50 Hz.

Three adjustable speeds.

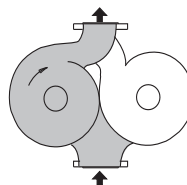
NCD: three-phase 230V or 400 V.

NCDM: single-phase 230 V.

Insulation class H.

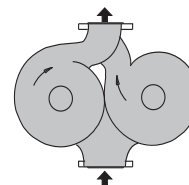
Protection IP 43.

Operation



Single operation

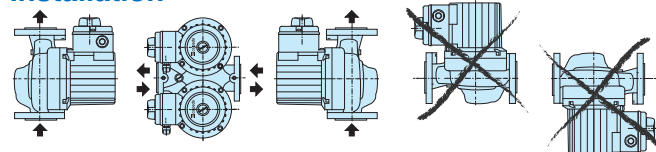
Operation of a single pump choosed by the customer, with the second pump on stand-by



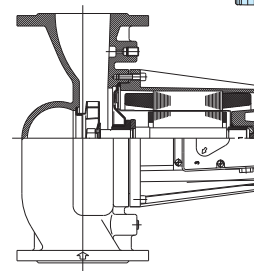
Double operation

Operation in parallel of the two pumps

Installation



Cross section drawings



Designation

NC D (M) 4 40 - 60 / 250

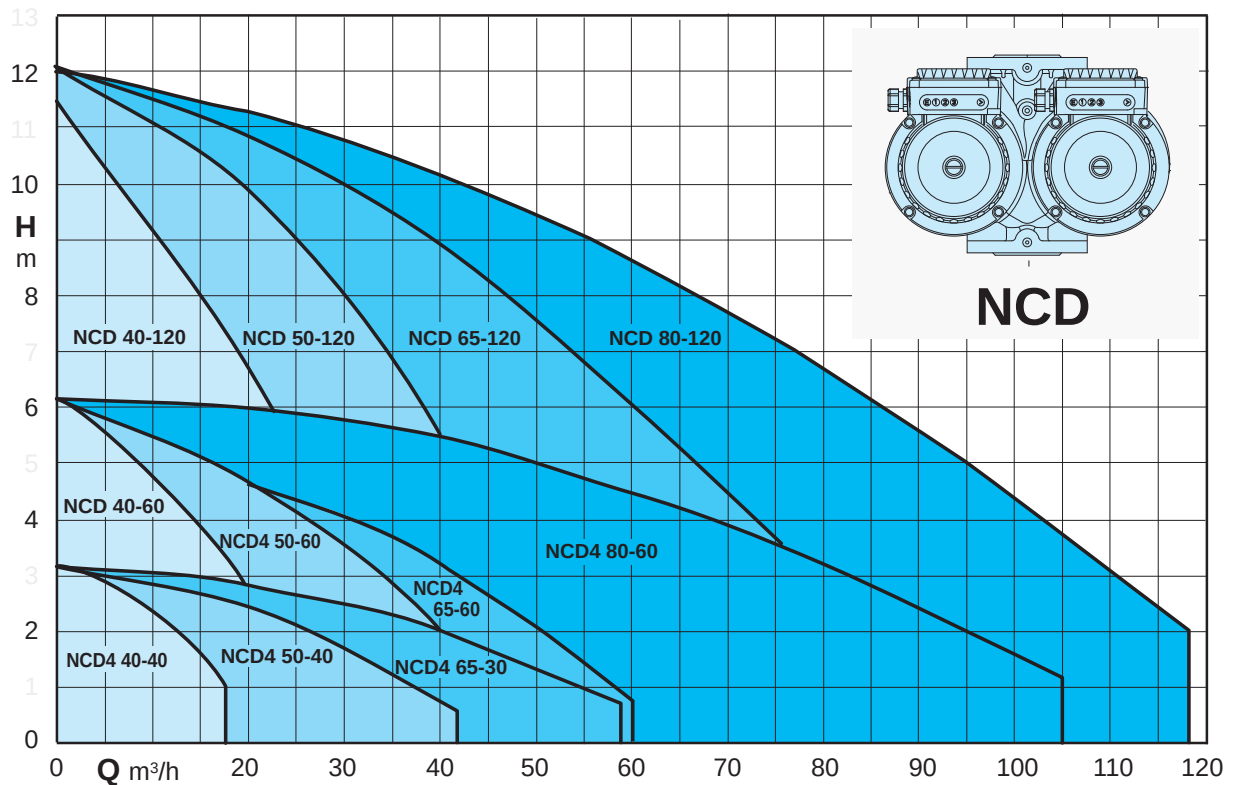
Series _____
Twin pumps version _____
Single-phase motor _____
4-pole motor _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

NCD

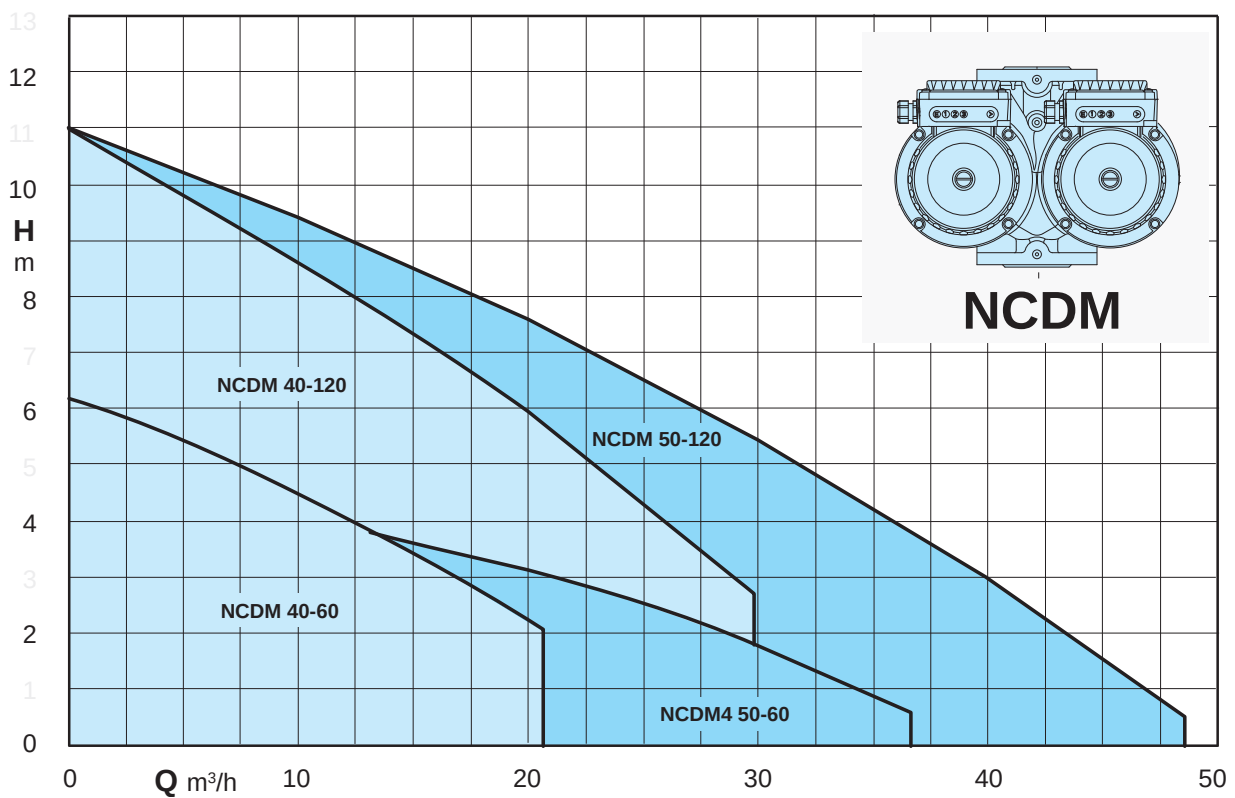
Three speeds circulating twin pumps
with flanges

calpeda[®]

Coverage chart



Tolerances in accordance with UNI EN ISO 9906:2012



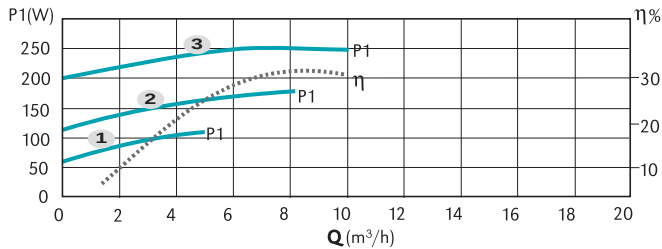
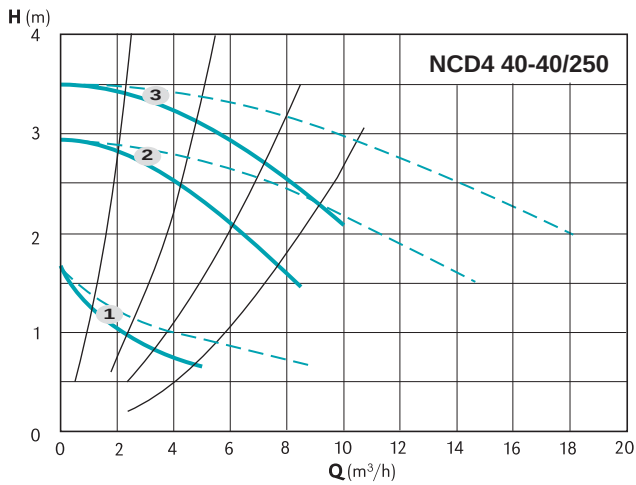
Tolerances in accordance with UNI EN ISO 9906:2012

NCD 40

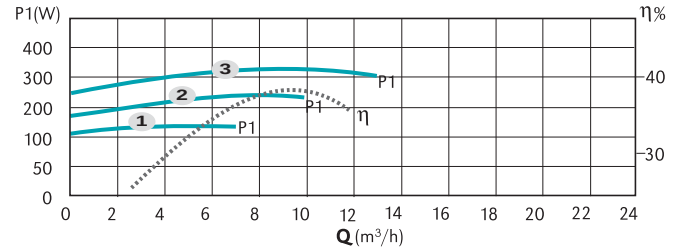
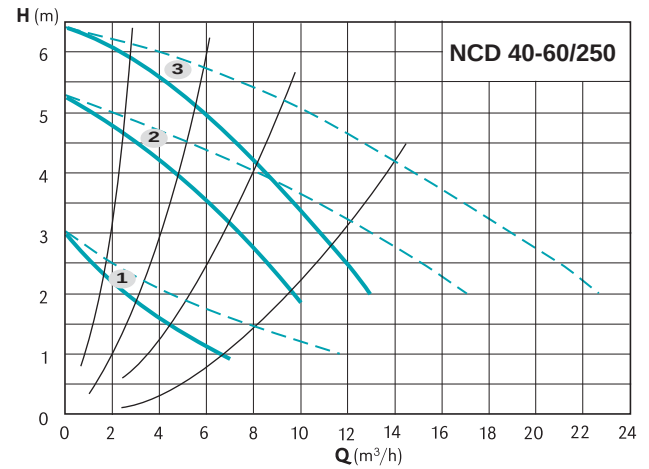
Three speeds circulating twin pumps
with flanges



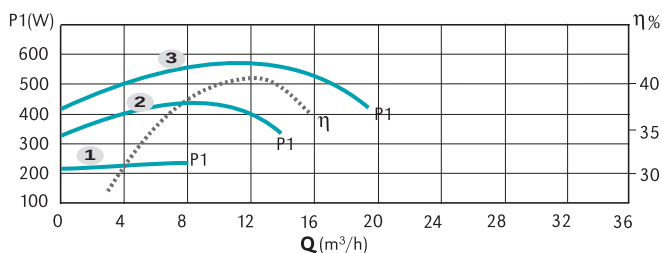
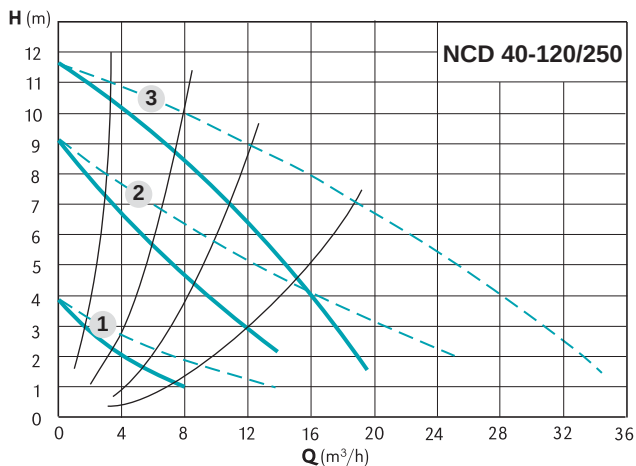
Characteristic curves, dimensions and weights



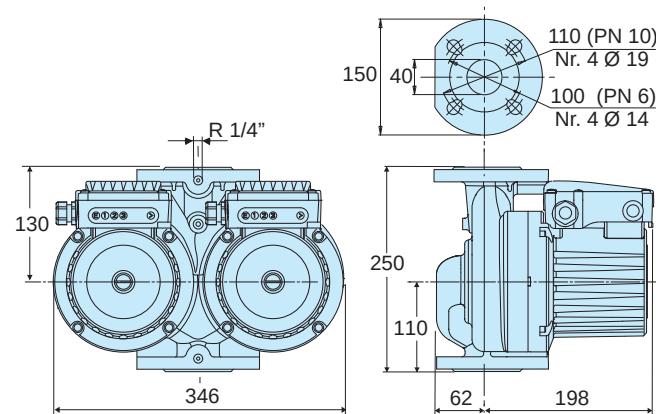
— Single operation
- - - Operation in parallel



— Single operation
- - - Operation in parallel



— Single operation
- - - Operation in parallel



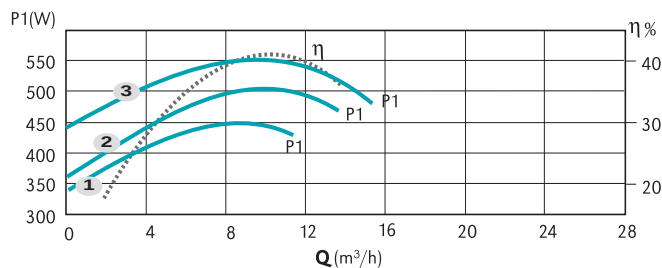
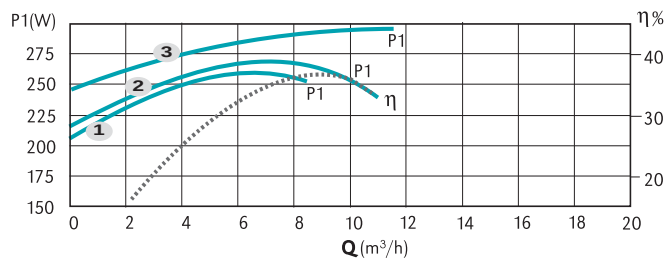
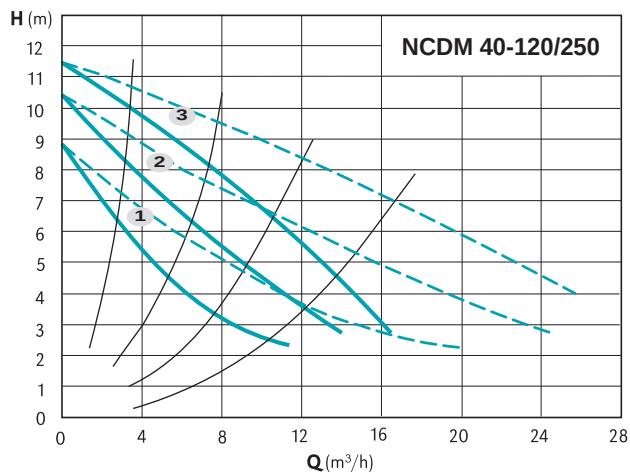
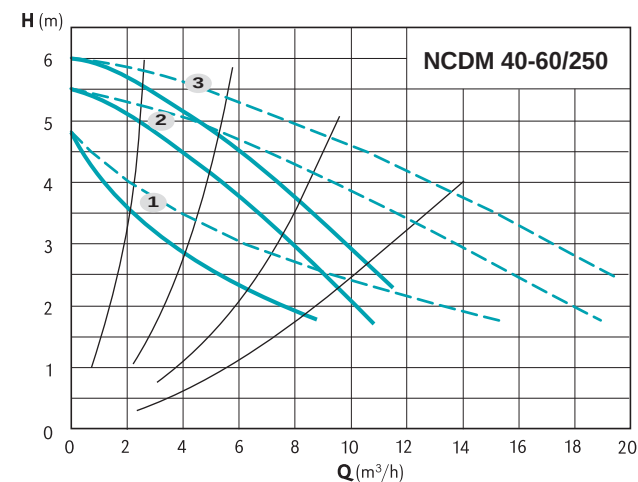
TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NCD4 40-40/250/A	40	6/10	✓	3	1440	240	0,76	34,0
				2	1200	160	0,24	
				1	660	100	0,11	
NCD 40-60/250/A	40	6/10	✓	3	2790	320	0,74	35,0
				2	2240	240	0,36	
				1	1440	140	0,18	
NCD 40-120/250/A	40	6/10	✓	3	2820	560	1,16	35,0
				2	2200	400	0,64	
				1	1250	220	0,26	

NCDM 40

Three speeds circulating twin pumps with flanges

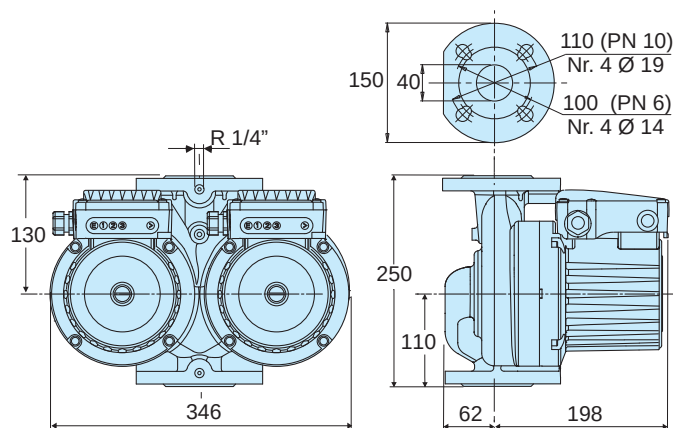


Characteristic curves, dimensions and weights



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



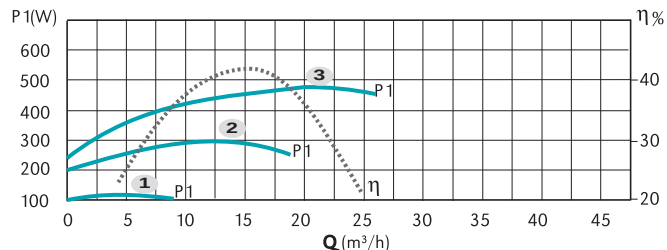
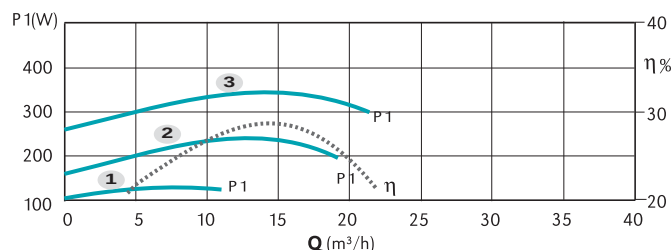
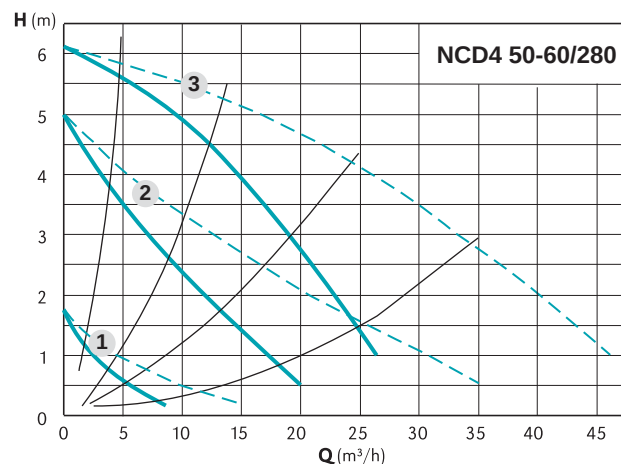
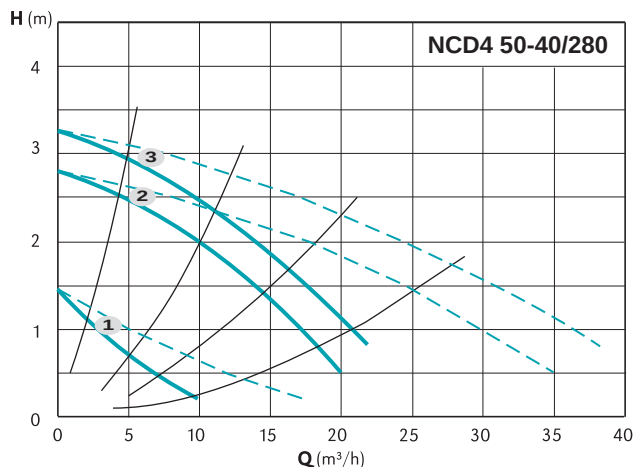
TYPE	DN PN		N° Poli 2 4		Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCDM 40-60/250/A	40	6/10	✓		3	2690	285	1,20	35,0
					2	2360	245	1,18	
					1	1820	225	1,15	
NCDM 40-120/250/A	40	6/10	✓		3	2755	550	2,35	35,0
					2	2100	475	2,30	
					1	1270	355	1,85	

NCD 50

Three speeds circulating twin pumps with flanges

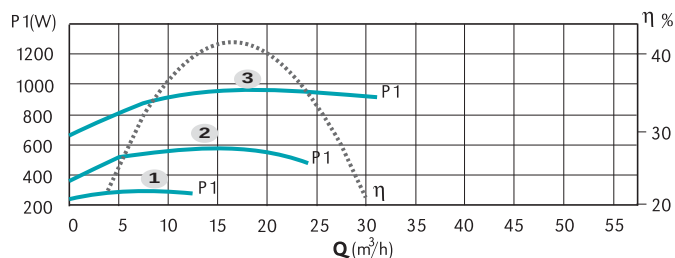
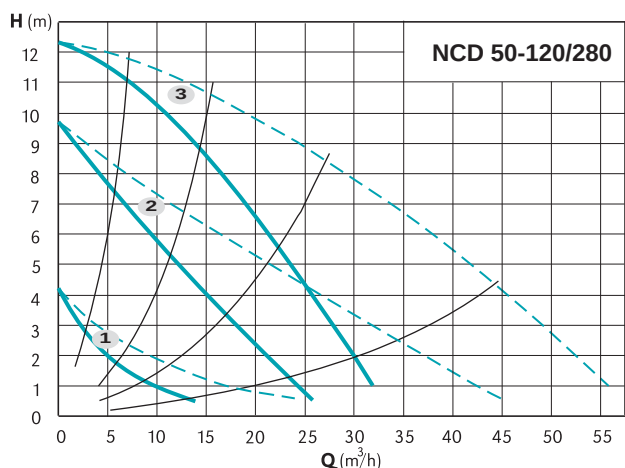


Characteristic curves, dimensions and weights

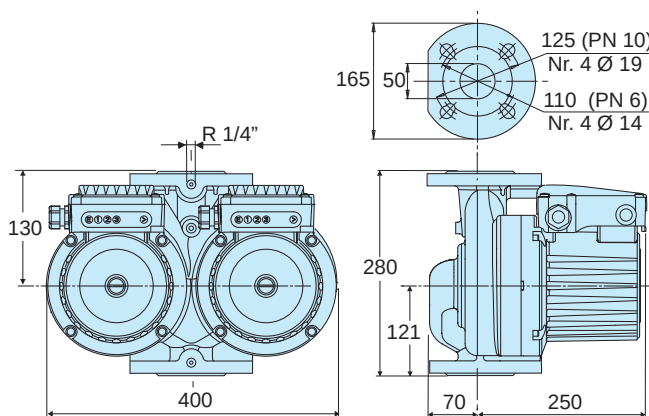


— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



— Single operation
- - - Operation in parallel



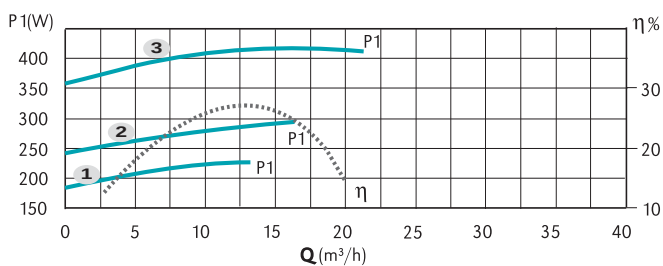
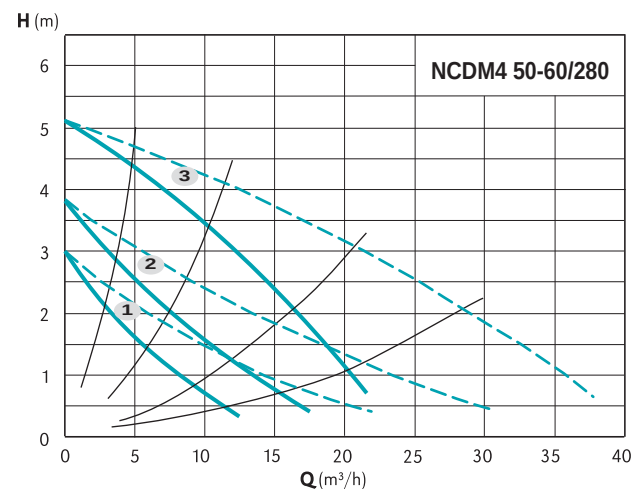
TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NCD4 50-40/280/A	50	6/10	✓	3 2 1	1450 1220 620	340 240 120	1,05 0,44 0,22	44,0
NCD4 50-60/280/A	50	6/10	✓	3 2 1	1400 1000 560	470 300 100	1,15 0,55 0,20	44,0
NCD 50-120/280/A	50	6/10	✓	3 2 1	2800 2330 1270	950 540 265	1,73 1,05 0,46	44,0

NCDM 50

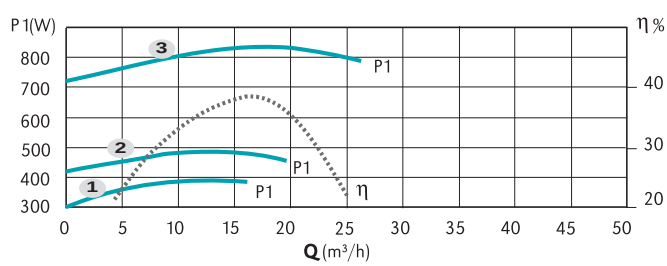
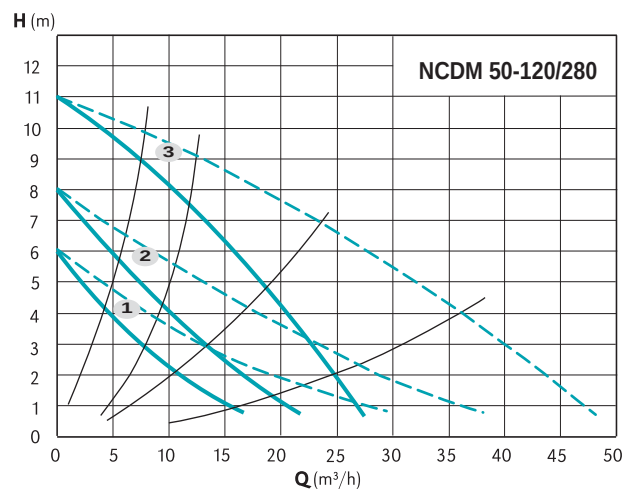
Three speeds circulating twin pumps with flanges



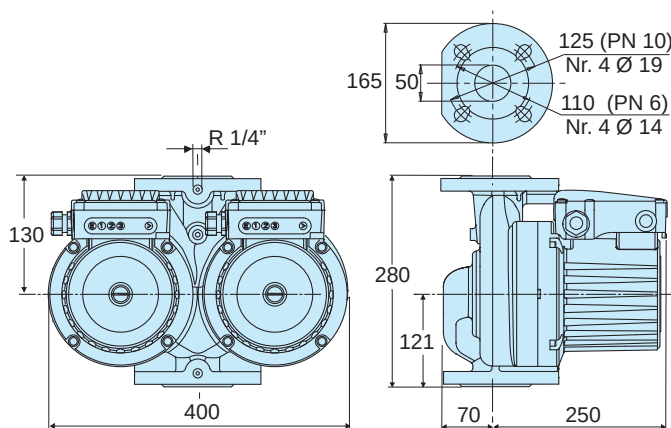
Characteristic curves, dimensions and weights



— Single operation
- - - Operation in parallel



— Single operation
- - - Operation in parallel



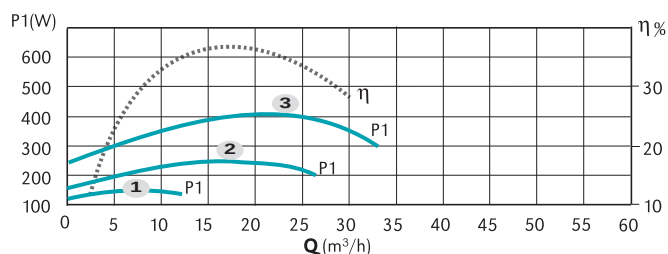
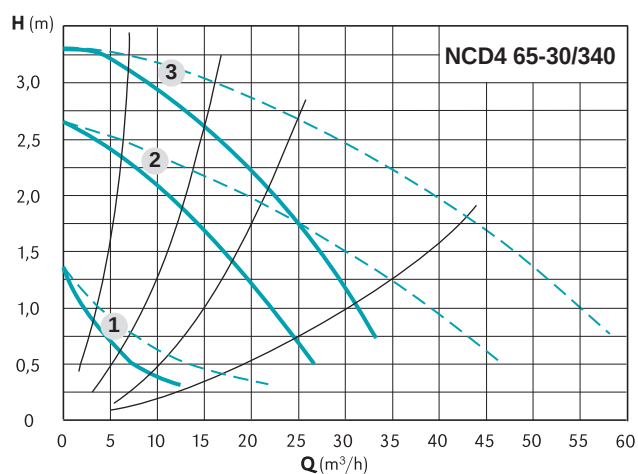
TYPE	DN	PN	N° Poli	Pos.	1/min	P1 (W)	1x 230 V [A]	[kg]
NCDM4 50-60/280/A	50	6/10	✓	3	1260	415	1,8	44,0
				2	1030	300	1,3	
				1	740	230	1,0	
NCDM 50-120/280/A	50	6/10	✓	3	2720	830	3,6	44,0
				2	1870	480	2,1	
				1	1450	390	1,7	

NCD 65

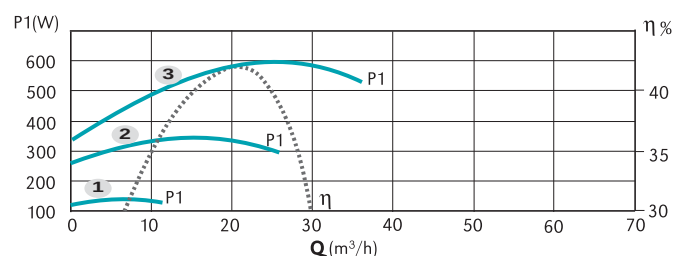
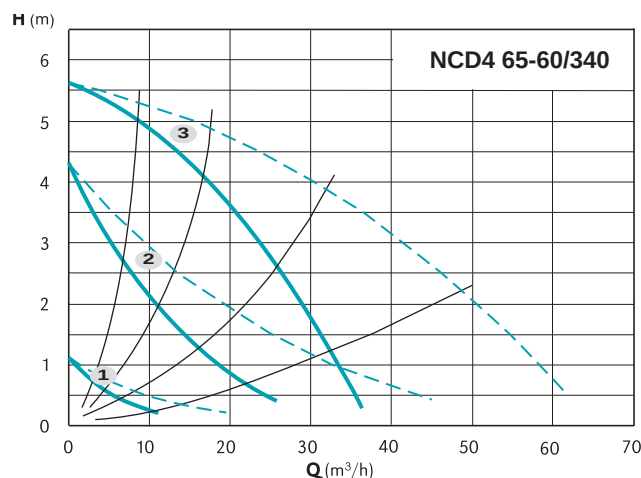
Three speeds circulating twin pumps with flanges



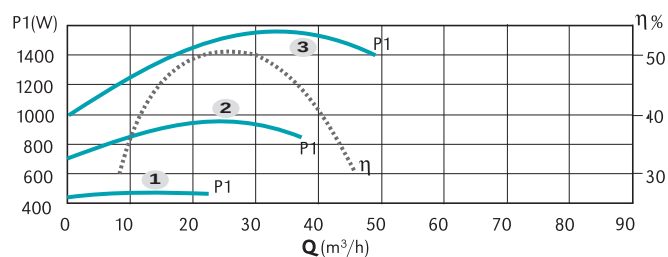
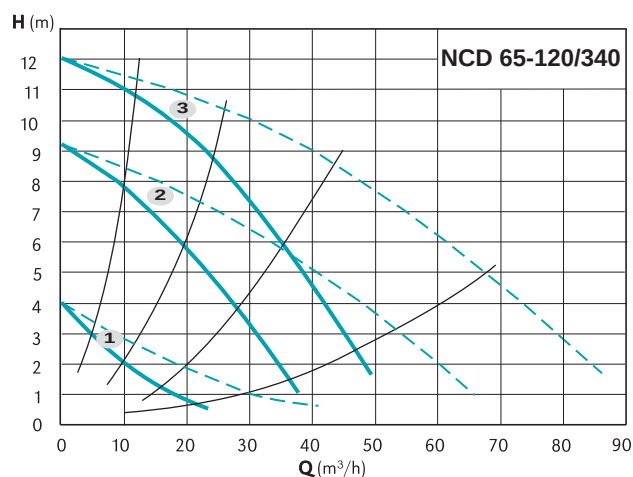
Characteristic curves, dimensions and weights



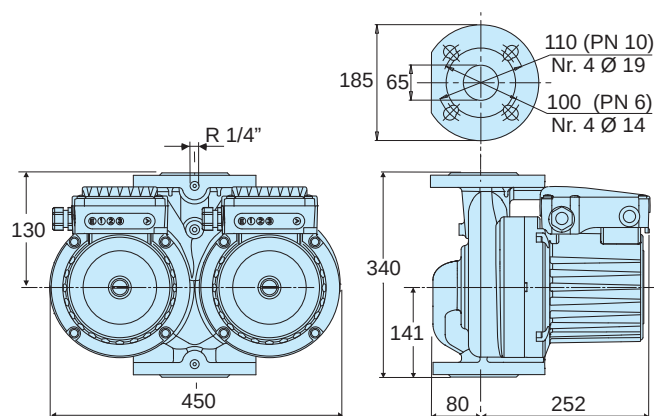
— Single operation
- - - Operation in parallel



— Single operation
- - - Operation in parallel



— Single operation
- - - Operation in parallel



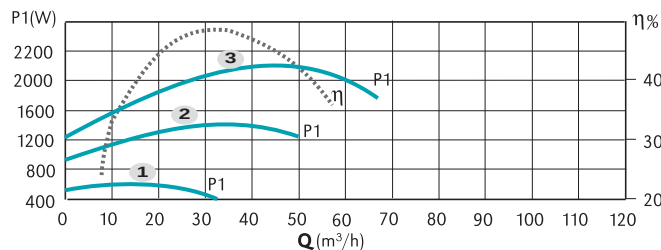
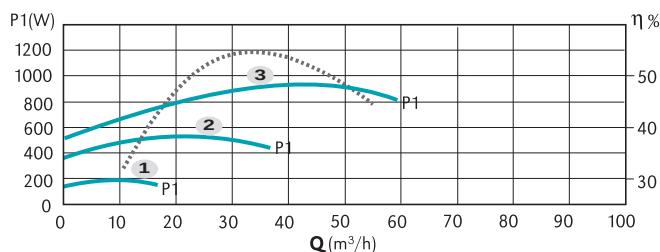
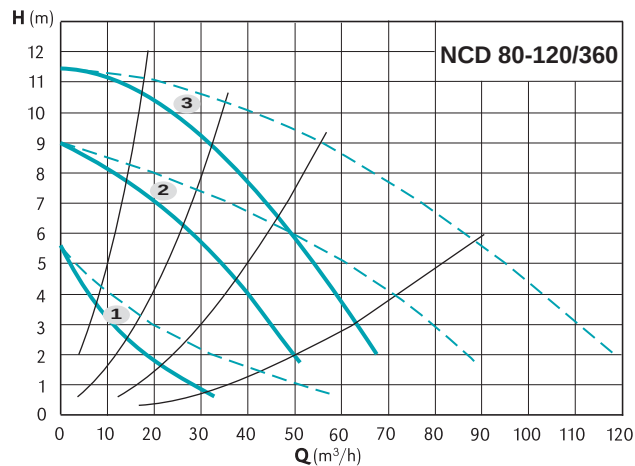
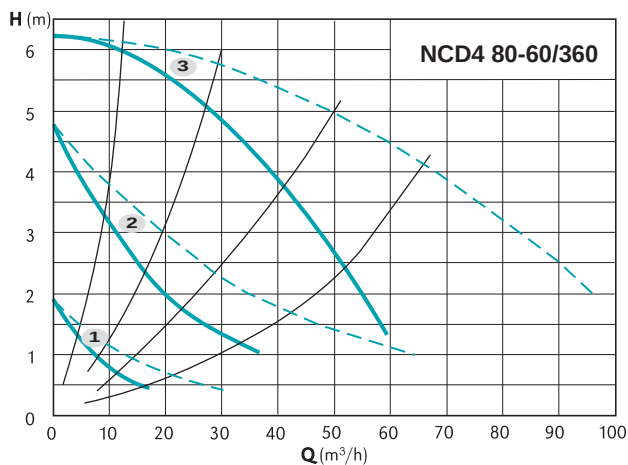
TYPE	DN	PN	N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A]	[kg]
NCD4 65-30/340/A	65	6/10	✓	3	1430	400	1,10	49,0
				2	1150	260	0,50	
				1	600	120	0,22	
NCD4 65-60/340/A	65	6/10	✓	3	1370	600	1,25	49,0
				2	950	360	0,64	
				1	450	120	0,22	
NCD 65-120/340/A	65	6/10	✓	3	2810	1560	2,80	54,0
				2	2200	960	1,70	
				1	1250	460	0,84	

NCD 80

Three speeds circulating twin pumps with flanges

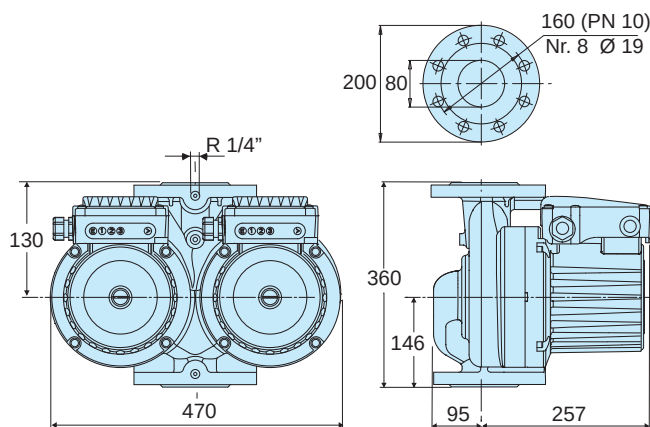


Characteristic curves, dimensions and weights



— Single operation
- - - Operation in parallel

— Single operation
- - - Operation in parallel



TYPE	DN PN		N° Poli 2 4	Pos.	1/min	P1 (W)	3x 400 V [A] [kg]	
	80	10						
NCD4 80-60/360/A	80	10	✓	3	1350	960	2,20	60,0
				2	1000	560	1,10	
				1	600	200	0,38	
NCD 80-120/360/A	80	10	✓	3	2800	2200	3,80	62,0
				2	2160	1400	2,40	
				1	1200	550	1,05	

IDROMAT 3-4

Electronic regulator for pumps



Construction

Regulation device for pump control equipped with flow and pressure sensor connected to an electronic system. Inlet and delivery connection ports of the same diameter (G1). Built-in check valve. Pressure gauge 0-10 bar supplied as standard for all the models. Automatic reset function in IDROMAT4 for the reset of the system without manual operation.

Applications

Automatic control of pumps for water supply and increase of network pressure.

Control of starting/stopping of the pump when cocks are opened/closed.

For protection of the pump:

- against dry running;
- against the risk of operation without water at the inlet (caused by a lack of water inflow in the inlet pipe under positive suction head, by a non-immersed suction pipe, by excessive suctionlift or by air entering the suction pipe);
- against operation with closed connection ports.

Operating conditions

TYPE	Switching-on pressure	Pump head
IDROMAT 3-30	3,0 bar	> 40 m
IDROMAT 4	adjustable from 1,5 to 2,5 bar	(1)

(1) 1,5 bar more than the expected restart pressure

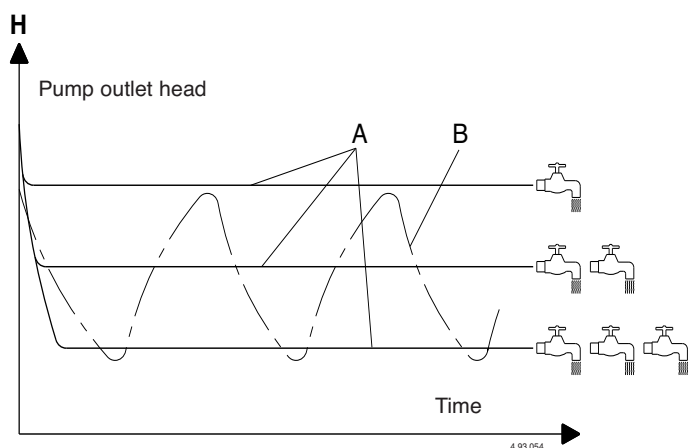
For pumps with delivery up to 10 m³/h.
Maximum working pressure: 10 bar.
Liquid temperature up to 60 °C.
Mains voltage: 230 V ±10%, single-phase.
Frequency: 50 - 60 Hz.
Protection: IP 65.
Current values:

- 8A max during operation (16A max at start-up) for IDROMAT 3;
- 16A max during operation (30A max at start-up) for IDROMAT 4

Materials

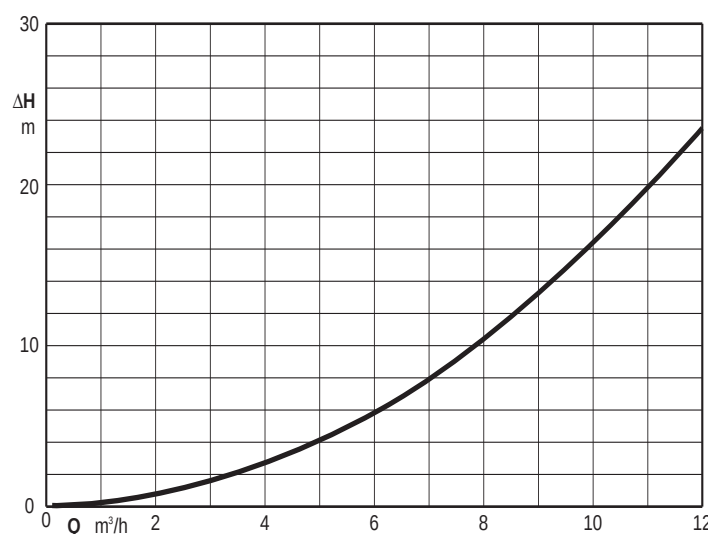
Component	IDROMAT 3-4
Housing	Polyamide PA 6 G.F. reinforced
Membrane	Natural rubber

Comparison of pressure values



A = operation with **IDROMAT** = constant pressure;
B = operation with traditional vessel and pressure switch system.

Diagram of head loss



ΔH = Head loss in meters

IDROMAT 3-4

Electronic regulator for pumps

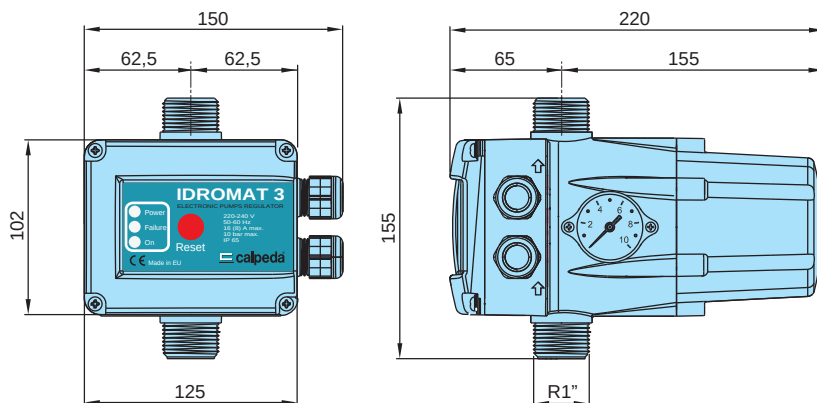


Dimensions and weights

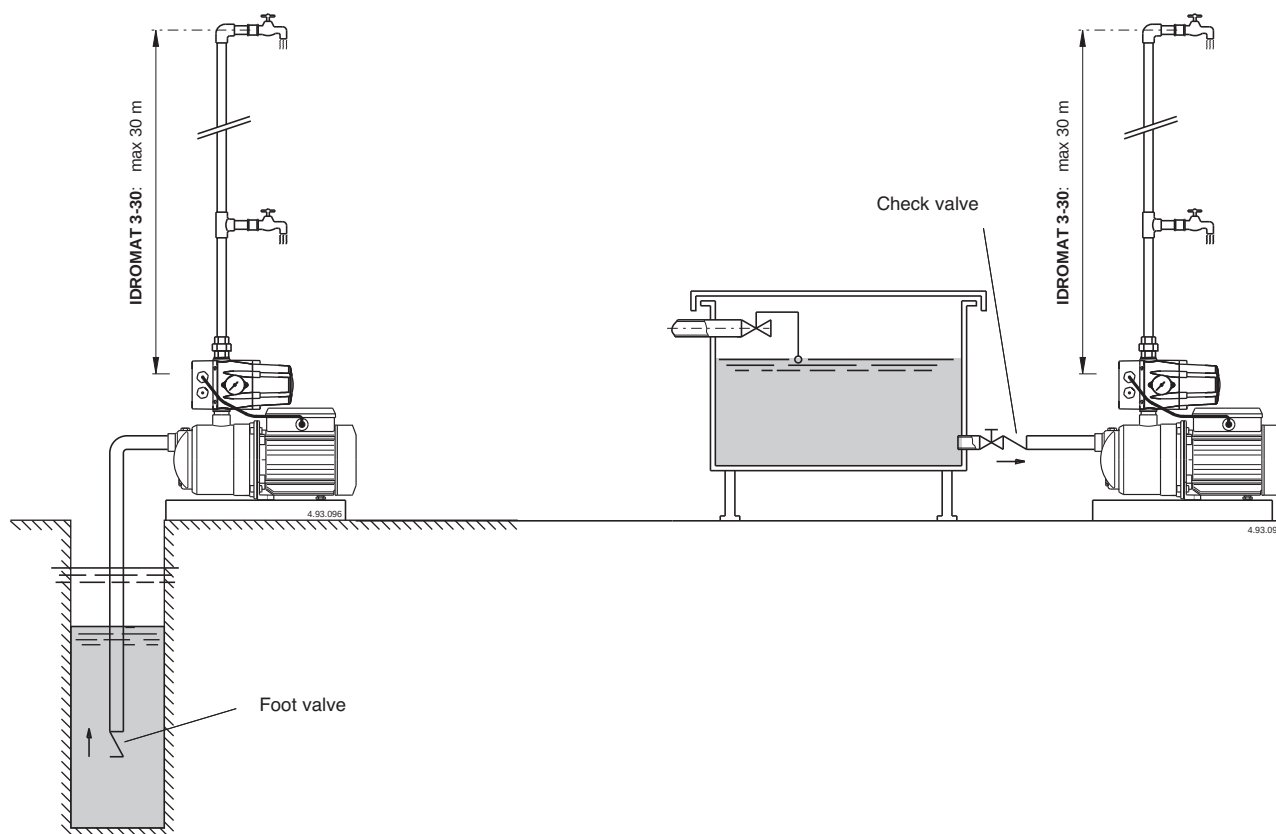
Weights

IDROMAT 3 kg 1,17

IDROMAT 4 kg 1,35



Installation example



IDROMAT 5

Electronic regulator for pumps



Construction

Regulation device for pump control equipped with flow and pressure sensor connected to an electronic system.
Inlet and delivery connection ports of the same diameter (G1).
Built-in check valve.
Pressure gauge 0-12 bar supplied as standard for all the models.
Automatic reset function for the reset of the system without manual operation.

Applications

Automatic control of pumps for water supply and increase of network pressure.

Control of starting/stopping of the pump when cocks are opened/closed.

For protection of the pump:

- against dry running;
- against the risk of operation without water at the inlet (caused by a lack of water inflow in the inlet pipe under positive suction head, by a non-immersed suction pipe, by excessive suctionlift or by air entering the suction pipe);
- against operation with closed connection ports.

Operating conditions

TYPE	Switching-on pressure	Pump head
IDROMAT 5-12	1,2 bar	> 20 m
IDROMAT 5-15	1,5 bar	> 23 m
IDROMAT 5-22	2,2 bar	> 30 m
IDROMAT 5e	adjustable from 1,5 to 2,5 bar	(1)

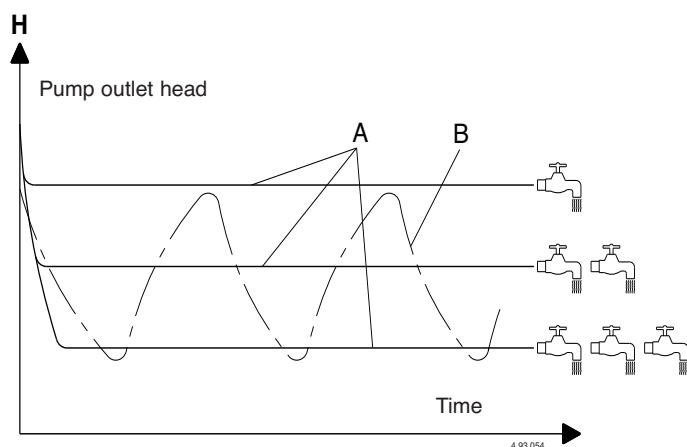
(1) 1,5 bar more than the expected restart pressure

Materials

Component	IDROMAT 5-5e
Housing	Polyamide PA 6 G.F. reinforced
Membrane	Natural rubber

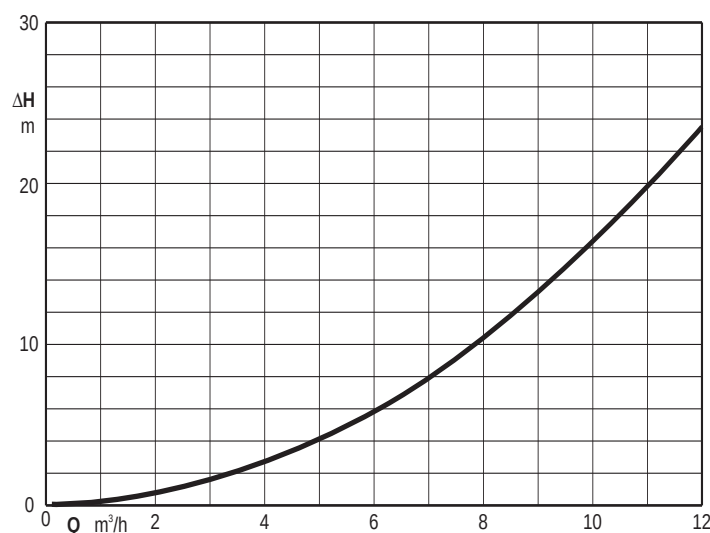
Mains voltage: 230 V $\pm 10\%$ (115 V, 230 V for Idromat5), single-phase.
Frequency: 50 - 60 Hz.
Maximum pump motor current 16 (8) A.
Maximum pump motor power 1,5 kW (2 HP).
Protection: IP 65.
Maximum working pressure: 12 bar (1,2 MPa)
Maximum Operating temperature up to 65 °C.
Minimum flow ~ 1 l/min.
Male connections 1".

Comparison of pressure values



A = operation with **IDROMAT** = constant pressure;
B = operation with traditional vessel and pressure switch system.

Diagram of head loss



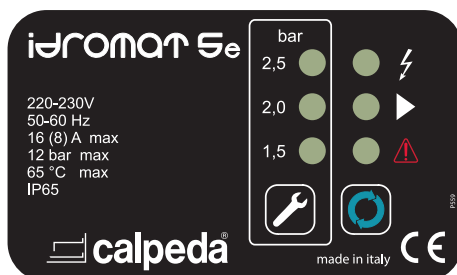
ΔH = Head loss in meters

IDROMAT 5

Electronic regulator for pumps



Control Panel



Status indications and system reset

The three leds give the information about the system operativity, the first led indicates the presence of supply, the second led indicates if the pump is operating and the third led indicates if an alarm has occurred in the system. The Reset button allows to manually restart the system when an alarm occur.



Programming of the re-start pressure

The display allows to visualize the re-start pressure of the system, the buttons allow to change the re-start pressure value.

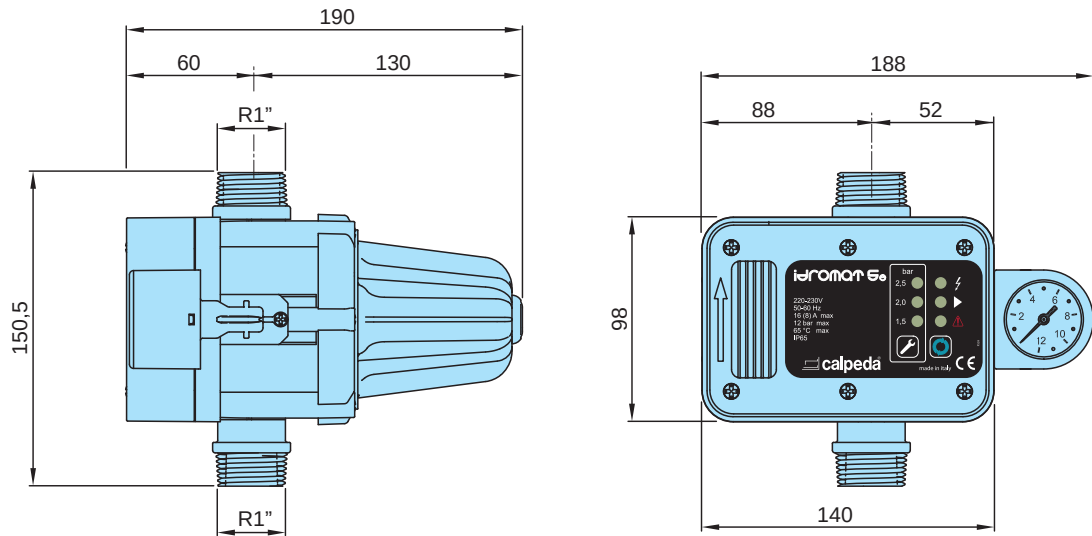
IDROMAT 5

Electronic regulator for pumps

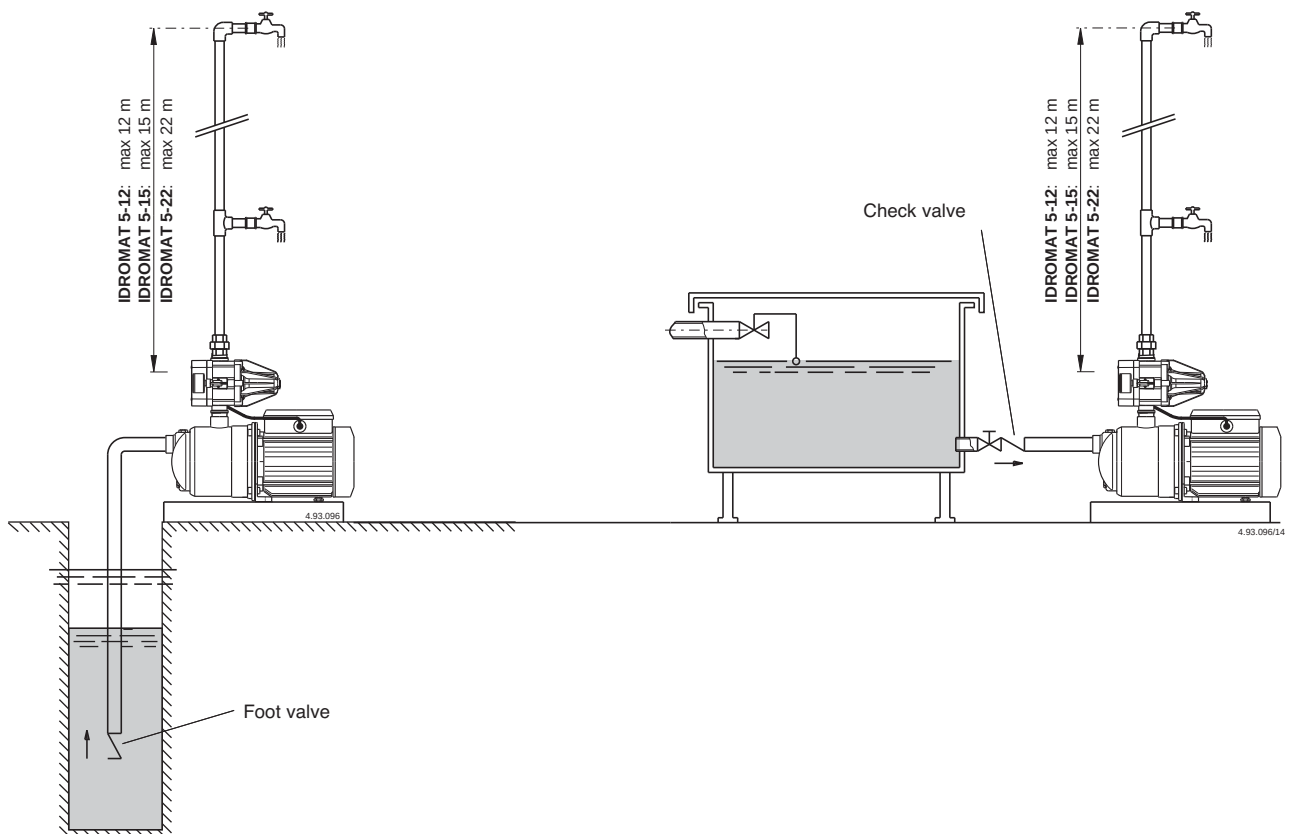


Dimensions and weights

Weights kg 1,2



Installation example



IDROMAT 5

Electronic regulator for pumps



Features



Flexibility

The standard double supply voltage (only for Idromat 5) allows to connect power supply of 115V or 230V without modifications on the device.

Easy to use

With the Idromat 5e it is possible to change the re-start pressure, the operation is possible also with the pump that operate.

Safety

The device includes a automatic re-start system with anti-lock mode in order to reduce the user operations.

Reliability

The pressure gauge locking system (patented) allows an easy replacement in case of failure and an easy drainage of the device.

User friendly

The high luminosity leds allows a higher visibility of the operating conditions.

EASYMAT

Variable speed system driven by frequency converter



Features

Constant pressure

The Easymat via a frequency inverter keeps the pressure constant as the flow demand changes.

Energy saving

The variable speed operation ensures that only the energy required by the plant at any instant is used.

System reliability

Because the easymat is independent of the pumped liquid it's operation is not affected by fluid impurity.

A float switch can also be integrated to further protect against dry running.

Flexibility

Thanks to it's patented design the easymat does not come into contact with the pumped fluid. This provides for more flexibility during installation eliminating the need for pipe-work modifications or the installation of isolating valves.

Easy to use

The easymat has a clear display making it very simple to set-up.

Cascade control mode

The system flexibility allows via a microprocessor for cascade operation of two easymat's via one pressure transducer.

Construction

Variable speed system driven by frequency converter, for the pressure control in domestic and residential plants.

The system is connected to the delivery pipe providing for simple installation and better cooling (patented) making the unit more compact and easy to assemble.

Easymat is supplied with one **pressure transducer**, G 1/4 connection and 1.5 m cable length.

Applications

Automatic frequency inverter control for use on pumps to increase network pressure.

The system maintains constant pressure whilst the controlling the pump operation against changing system demand.

For protection of the pumps:

- Against dry running
- Against operations with closed connection ports
- Against overcurrent of the motor
- Against overvoltage and undervoltage of the power supply

Operating conditions

EASYMAT MM - Input voltage: 1~ 230V $\pm 10\%$

- Output voltage: 1~ 230V

EASYMAT MT - Input voltage: 1~ 230V $\pm 10\%$

- Output voltage: 3~ 230V

Input frequency: 50-60 Hz

Output frequency: up to 70 Hz

Protection: IP 55

Max Ambient temperature: 40°C

Max liquid temperature: 40 °C (50°C for 5MM, 5,5MT)

Minimum Flow: 3 l/min

Altitude: no higher than 1000 m, inside a closed environment.

Construction

(Standard execution)

The system comprises of:

- Frequency converter.
- Pressure transducer.
- Pipe housing.
- Fixing screws.
- Terminal board.
- Cable glands.
- Multi-hole gaskets.

Type

Type (single-phase)	Frequency converter max current output A	Standard power motor 230V kW
Easymat 5MM	5	0,37 - 0,55
Easymat 9,2MM	9,2	0,75 - 1,5

Type (three-phase)	Frequency converter max current output A	Standard power motor 230V kW
Easymat 5MT	5	0,75 - 1,1
Easymat 7,5MT	7,5	1,5 - 1,8
Easymat 9,2MT	9,2	2,2

EASYMAT

Variable speed system driven
by frequency converter



Control Panel

Easymat is equipped with a control panel for simple system programming and parameter monitoring.

The **2 scroll buttons** are used to scroll the different operating parameters that EASYMAT can show.

At the same time you can use the 2 scroll buttons to move in the set up menu and to change the different options.

The **LCD custom display** gives an easy overview of the system situation and of the operating parameters.

The icons on the top and below the display area explain in which way EASYMAT is working and if there are problems on the system.

Le icone sopra e sotto l'area del display spiegano in quale modo EASYMAT sta lavorando e se ci sono alcuni problemi nel sistema.

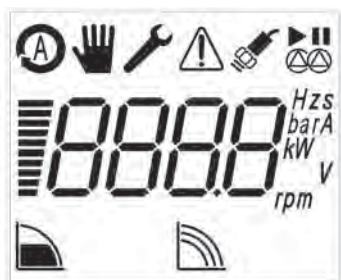
The four set-up buttons allow the operator to move between and set-up the menu's and to start and stop the pump. The symbols help to make the function of each button clear.

With these 4 buttons and the 2 scroll buttons you can manage all the set-up and operating parameters without the use of an other control panel or computer.



4.93.410

Display LCD



The integrated LCD custom display gives you an easy overview of the system situation and operating parameters.



DISPLAY AREA

The display area gives the status of the parameters of the pump.

The **OPERATING ICONS** show in which mode the system is operating:



Constant pressure mode

The system keeps the pressure constant when the quantity of water requested by the user changes. The user can choose the operating pressure according his needs.

Fixed speed mode

The system works at a fixed speed that user can choose according his needs.

The **SYSTEM ICONS** show in which way the system is operating:



Auto Mode

The icon shows that the system is operating in auto mode (constant pressure mode), the constant pressure mode it is indicated by the icon on the lower part of the display.

Manual Mode

The icon show that the system is operating in manual mode (fixed speed mode), with the navigation buttons the user can change the speed, the fixed speed mode is indicated by the icon on the lower part of the display.

Set-up Mode

The icon shows that the set-up menu is activated, in this mode it is possible to change all the operating parameters of the EASYMAT. With the navigations buttons it is possible to scroll the parameters and, if necessary, change them.

Sensor State

indicates the state of the pressure transducer connected to the EASYMAT, if lit it indicates that the pressure transducer is working, if it is blinking there is a fault or a incorrect connection of the pressure transducer.

Alarm

It indicates that there is a fault on the system, the error number appears on the display area.

Cascade Mode

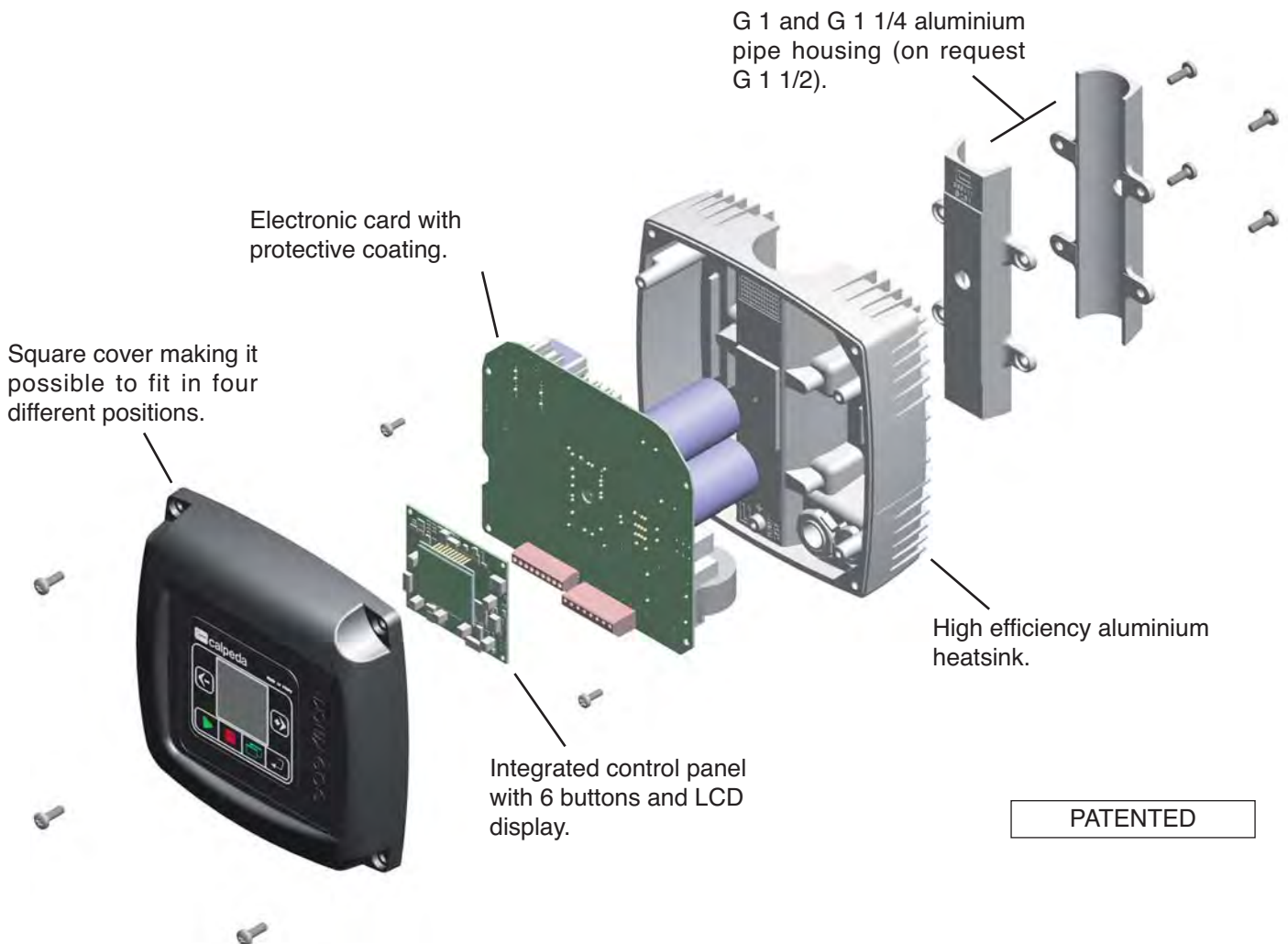
It indicates that the multi-pump mode (up to 2 pumps) is working, the upper icon shows if the pump connected with the frequency converter is running or is in stand-by, the lower icon indicates if the pump is the master pump (the icon is lit) or the slave pump (the icon is blinking).

EASYMAT

Variable speed system driven
by frequency converter

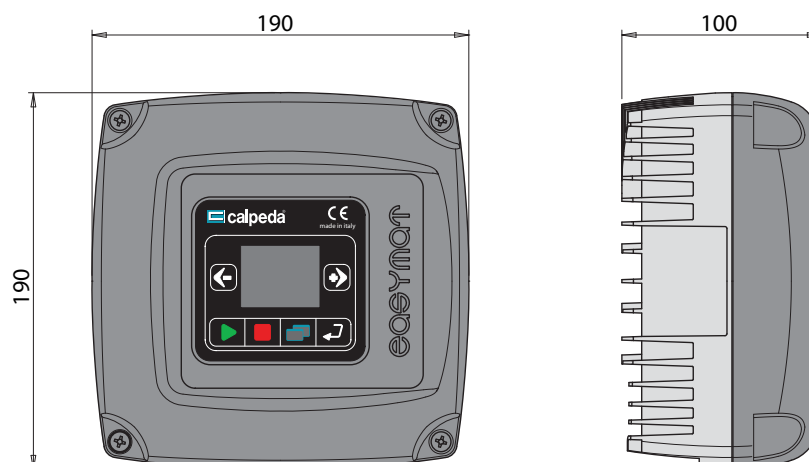


Overview



Dimensions and weights

Weight kg 1,9



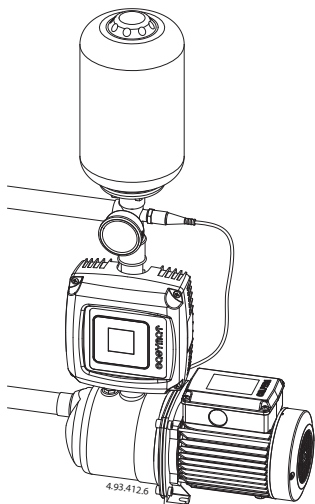
EASYMAT

Variable speed system driven
by frequency converter

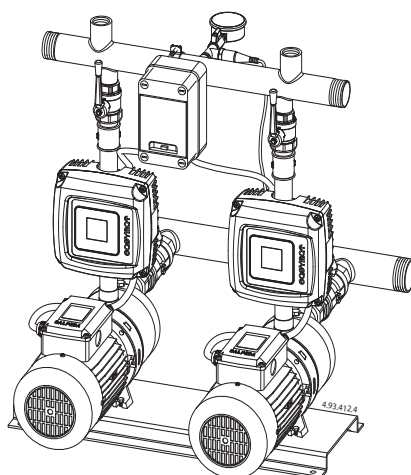


Installation example

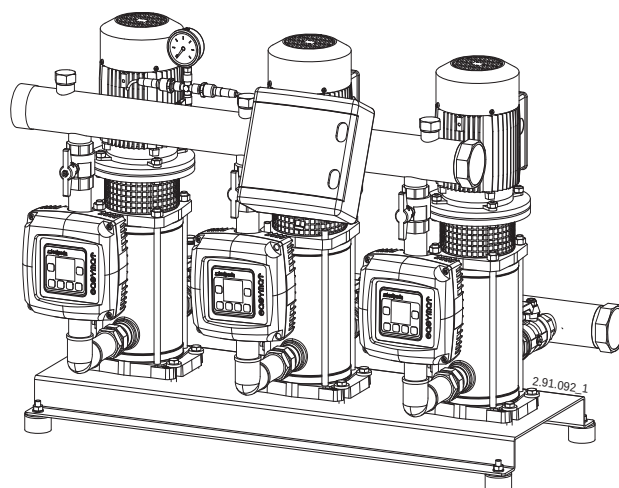
One pump
installation scheme



Two pumps
installation scheme

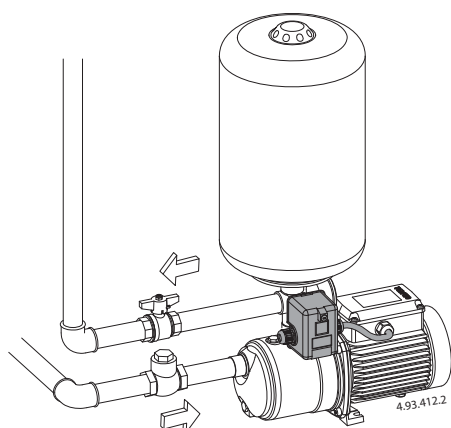


Three pumps
installation scheme



Plant conversion scheme

Existing fixed speed version

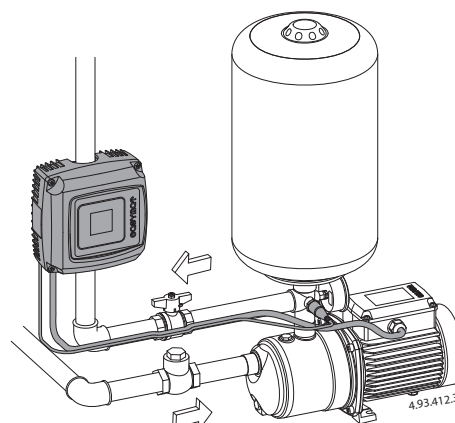


With EASYMAT it is easy to create a variable speed system starting from a existing fixed speed system without disturbing the existing pipe-work.

To create the variable speed system it is only necessary to:

- Disconnect the pressure switch from the system and, in the same housing connect the pressure transducer.
- Connect EASYMAT to the pipe.
- Connect EASYMAT to electric motor.
- Connect the supply cable to the electric grid.

Variable speed system version



VARIOMAT 2

Variable speed system driven by frequency converter



Construction

Variable speed system driven by frequency converter, for the pressure control in domestic and residential plants. The unit more compact and easy to assemble. Variomat 2 is supplied with integrated pressure transducer. Connection ports are available with G 1 1/4 and G 1 1/2 thread and are interchangeable.

Applications

Automatic frequency inverter control for use on pumps to increase network pressure. The system maintains constant pressure whilst the controlling the pump operation against changing system demand.

For protection of the pumps:

- Against dry running
- Against operations with closed connection ports
- Against overcurrent of the motor
- Against overvoltage and undervoltage of the power supply

Operating conditions

Standard voltage: 400 V $\pm 10\%$ (380-415V) three-phase
Max working pressure: 16 bar.
Frequency: 50-60 Hz
Protection: IP 65
Max Ambient temperature: 60°C
Max liquid temperature up to 60 °C
Minimum Flow: 1 l/min
Altitude: no higher than 1000 m, inside a closed environment.

Features

Constant pressure

The Variomat 2 via a frequency inverter keeps the pressure constant as the flow demand changes.

Energy saving

The variable speed operation ensures that only the energy required by the plant at any instant is used.

System reliability

A float switch can also be integrated to further protect against dry running.

Easy to use

The Variomat 2 has a clear display making it very simple to set-up.

Cascade control mode

The system flexibility allows via a microprocessor for cascade operation of two variomat's.

Construction

(Standard execution)

The system comprises of:

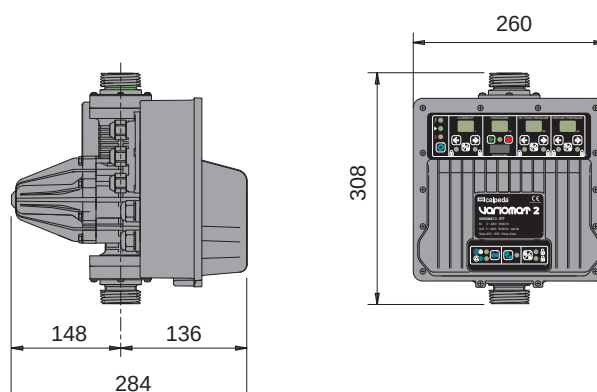
- Frequency converter.
- Pressure transducer.
- Pipe housing.
- Fixing screws.
- Terminal board.
- Cable glands.
- Multi-hole gaskets.

Type

Type (single-phase)	Frequency converter max current output A	Standard power motor 400V kW
VARIOMAT VTT2/A 9	9	0,75 - 3
VARIOMAT VTT2/A 12	12	4 - 5,5
VARIOMAT VTT2/A 16	16	7,5

Dimensions and weights

Weight kg 5

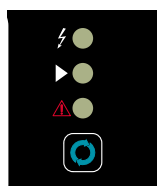
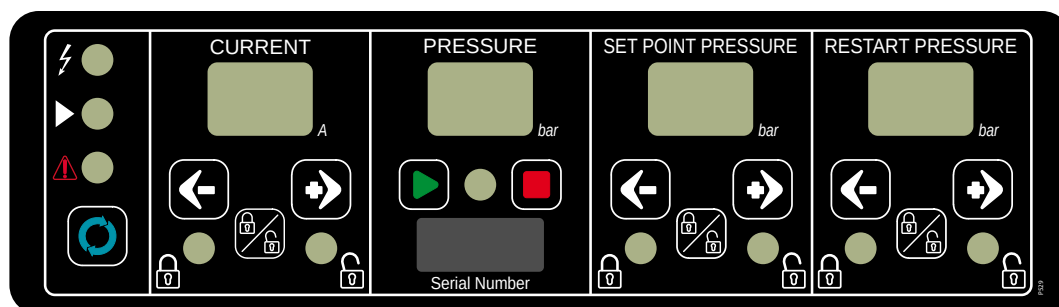


VARIOMAT 2

Variable speed system driven by frequency converter

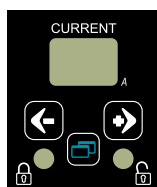


Control Panel



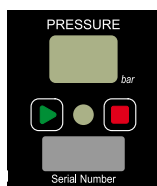
Status indications and system reset

The three leds give the informations about the system operativity, the first led indicates the presence of supply, the second led indicates if the pump is operating and the third led indicates if an alarm has occurred in the system. The Reset button allows to manually restart the system when an alarm occur.



Programming of the nominal current and absorbed current display

The 2 digit display allows to visualize the nominal motor current (in programming mode) , during the operating time of the system the display visualizes the line absorbed current. The buttons allow to set and change the nominal motor current.



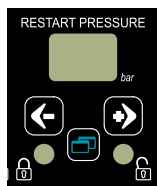
Pressure display and start/stop of the frequency converter

The display allows to visualize the operating pressure of the system, the buttons allow to start and stop manually the frequency converter.



Programming of the set-point pressure

The display allows to visualize the set-point pressure of the system, the buttons allow to change the set -point pressure value.

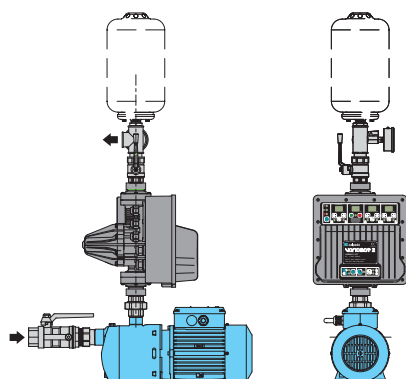


Programming of the re-start pressure

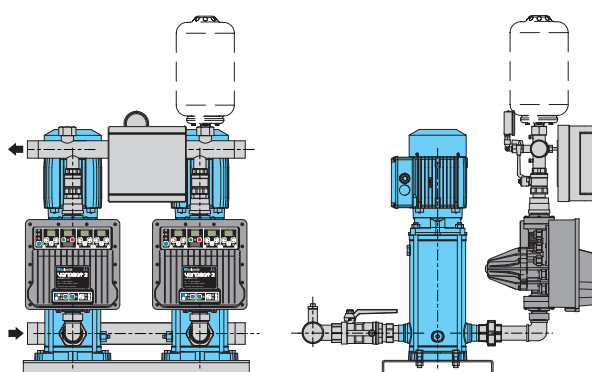
The display allows to visualize the re-start pressure of the system, the buttons allow to change the re-start pressure value.

Installation example

One pump installation scheme



Two pumps installation scheme



I-MAT Variable speed system driven by frequency converter



Benefits

Flexibility

I-MAT frequency converters are equipped with a software which provide different operating modes in order to cover a wide range of applications.

Reliability

The high efficiency heatsink with integrated fans allows to cool the frequency converter independently from the motor, to provide a higher reliability of the system.

Safety

The shape of the I-MAT frequency converters line, allowed to separate the signal terminals area, from the power terminals area, in this way the user can operate on the signals connections in safety conditions.

Easy to use

The integrated control panel allows to program all the parameters directly on the frequency converters. Moreover it's possible to remove the control panel and remote it with a connection cable.

Communications between units

The system flexibility allows, with an optional electronic card, to assemble more units making them communicate together. The system is capable to manage variable speed pumps (up to 6) and fixed speed pump (up to 5).

Construction

Variable speed system driven by frequency converter for the motor control in the water supply applications and in the production/distribution of hot/cold water.

I-MAT is an integrated control system which, applied to the motor, allows to manage a wide range of applications and operating modes.

Applications

Frequency converter for automatic pump control suitable for:

- water supply
- water transport and distribution
- production and distribution of hot/cold water
- water treatment

For protection of the pumps:

- Against dry running
- Against operations with closed connection ports
- Against overcurrent of the motor
- Against overvoltage and undervoltage of the power supply
- Against unbalance or missing supply phases.

Operating conditions

Standard voltage: 400 V $\pm 10\%$ (380-415V) three-phase

Input voltage: 3~380V-10% ÷ 3~480V+5%

Output voltage: 0 ÷ 100% of the input voltage

Input frequency: 50-60 Hz

Output frequency: up to 70 Hz

Protection: IP55

Max Ambient Temperature: 50°C

Altitude: no higher than 1000 m, inside closed environment.

Construction

(standard execution)

The system comprises of:

- Frequency converter
- Removable control panel
- Power terminal board
- Signals terminal board
- Cable glands

On request:

- Adapter for motor mounting
- Adapter for wall mounting
- Pressure and temperature transducer
- Main switch
- Line filter and output filter

Type

Type (three-phase)	Frequency converter max current output A	Standard power motor 400V kW
I-MAT 5,2 TT-A	5,2	0,55 ÷ 1,8
I-MAT 11,2 TT-B	11,2	2,2 ÷ 4
I-MAT 25,8 TT-C	25,8	5,5 ÷ 11

I-MAT

Variable speed system driven by frequency converter



Benefits

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Reliability

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Input voltage: 3~380V-10% $\div$ 3~480V+5%

Output voltage: 0 $\div$ 100% of the input voltage

Input frequency: 50-60 Hz

Output frequency: up to 70 Hz

Protection: IP55

Max Ambient Temperature: 50°C

Altitude: no higher than 1000 m, inside closed environment.

Construction

(standard execution)

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On request:

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- Adapter for wall mounting
- Pressure and temperature transducer
- Main switch
- Line filter and output filter

Type

Type (three-phase)	Frequency converter max current output A	Standard power motor 400V kW
I-MAT 5,2 TT-A	5,2	0,55 $\div$ 1,8
I-MAT 11,2 TT-B	11,2	2,2 $\div$ 4
I-MAT 25,8 TT-C	25,8	5,5 $\div$ 11

I-MAT

Variable speed system driven by frequency converter



Operating modes



Constant pressure mode

Constant pressure keeps the pressure constant at a fixed value set by the user. This value of pressure is automatically kept by the system to provide to the final user a constant pressure even with different water demand, within the maximum performance of the motor-pump system.



Proportional pressure modes

Proportional pressure reduces the pressure of the pump (and as a consequence, the operating frequency) proportionally with the water demand of the system.



Constant temperature mode

In this operating mode the system is used to keep the temperature at a constant value in a specified system point.



Constant flow mode

Constant flow mode grants that system change the speed of the pump in order to keep constant the flow which pass inside a flow meter.



Fixed speed mode

In this operating mode the system work as a fixed speed pump. The speed of the pump could be set by the user between a range of speeds, or controlled by an external signal.



Night mode

The night mode is an optional mode which allows to reduce the speed of the pump if the temperature in the system decreases below a set value, this operating mode can be used with all operating modes over described.

Control Panel



I-MAT is equipped with a control panel that allows to carry out the set-up of the system and to monitor all system parameters.

The control panel is inside a IP55 enclosure which is possible to rotate and install in remote positions.

It is possible use the control panel in remote positions by means a cable with M12 connectors (standard cable).

The LCD custom display gives an easy overview of the system situation and of the operating parameters.

The icons on the top and below the display area explain in which way i-MAT is working and if there are some problems on the system.

The 2 scroll buttons are used to scroll the different operating parameters that i-MAT can show. At the same time you can use the 2 scroll buttons to move in the set up menu and to change the different options.

The 4 set-up buttons are created to enter and to move on the set-up menus and to start and to stop the pump. The symbols help to understand the function of each button. With these 4 buttons and the 2 scroll buttons you can manage all the set-up and operating parameters without the use of another control panel or computers.

I-MAT

Variable speed system driven by frequency converter



Overview

Control panel

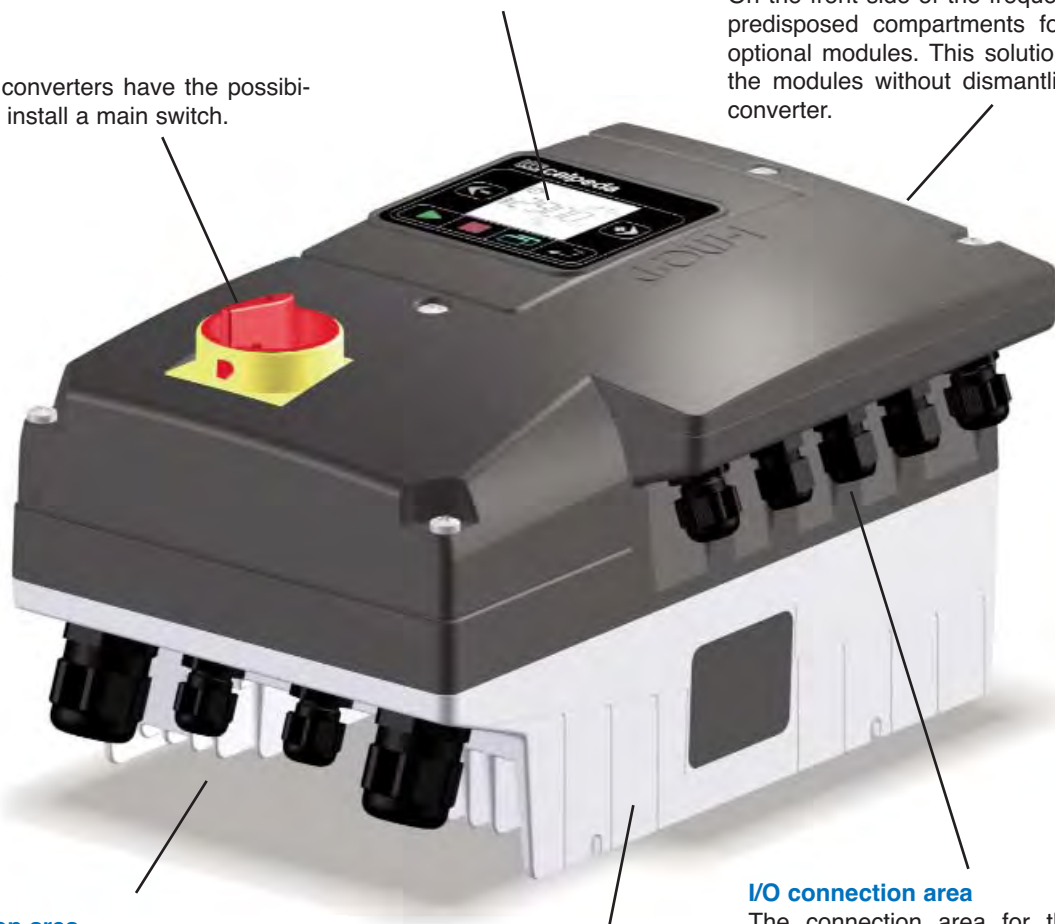
The integrated control panel gives the customer the possibility to set all the parameters of the frequency converter.

Optional modules

On the front side of the frequency converter are predisposed compartments for connecting the optional modules. This solution allows to install the modules without dismantling the frequency converter.

Main switch

The frequency converters have the possibility (optional) to install a main switch.



Power connection area

The connection area is protected by a safety cover, there are dedicated clamps to connect one PTC probe.

I/O connection area

The connection area for the input/outputs is separated from the power connection area, this solution allows to connect external.

Heatsink

The high efficiency heat sink cooled by fans guarantees a high reliability. The side connection system allows an easy connection with the motors.

I-MAT Variable speed system driven by frequency converter



Installation example

One pump installation scheme



MXH



NM



NR



MXV

Two pumps installation scheme



2MXH



2NM



2MXV

Pressure Boosting Sets

Fixed speed pump units

Variable speed pump units with frequency converter



page 488



MINIMAT, TURBOMAT CENTRIMAT, GETTOMAT

Small automatic water systems
with 1 pump series
**MXH, MGP, MXP, NM, NG, MXA
NGL, NGX**

page 535



BS.F

Fixed speed pump pressure
boosting sets for civil use
with 1-2-3 **MXSU**

BS1V.F, BS.V

Variable speed pump pressure
boosting sets for civil use
with 1-2-3 **MXSU**

page 4986



EASYMAT

Constant pressure boosting sets
with Easymat frequency converter
with 1 or 3
MGP, MXP, MXH, MXSU, MXVB, 4SDF

page 540



BS.F

Fixed speed pump pressure
boosting sets for civil use
with 1-2-3 **MXVB**

BS1V.F, BS.V

Variable speed pump pressure
boosting sets for civil use
with 1-2-3 **MXVB**

page 510



VARIOMAT 2

Constant pressure boosting sets
with Easymat frequency converter
with 1 or 2
MXH, MXVB

page 547



BS.F

Fixed speed pump pressure
boosting sets for civil use
with 1-2-3 **MXV**

BS1V.F, BS.V

Variable speed pump pressure
boosting sets for civil use
with 1-2-3 **MXV**

page 515



BS2F

Fixed speed pump pressure
boosting sets for domestic use with 2
MGP, MXP, NM, NMD, NG, NGL, NGX

BS1V1F, BS2V

Variable speed pump pressure
boosting sets for domestic use with 2
MGP, MXP, NM, NMD

page 555



BS.F

Fixed speed pump pressure
boosting sets for civil use
with 1-2-3 **NM, NMD**

BS1V.F, BS.V

Variable speed pump pressure
boosting sets for civil use
with 1-2-3 **NM, NMD**

page 528

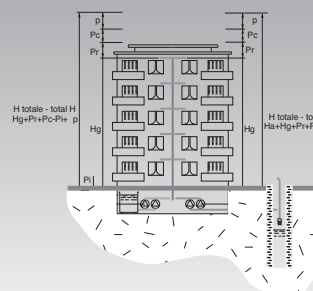


BS .F

Fixed speed pump pressure
boosting sets for civil use
with 1-2-3 **MXH**

BS1V.F, BS.V

Variable speed pump pressure
boosting sets for civil use
with 1-2-3 **MXH**



**TO SELECT
A PRESSURE
BOOSTING SET**

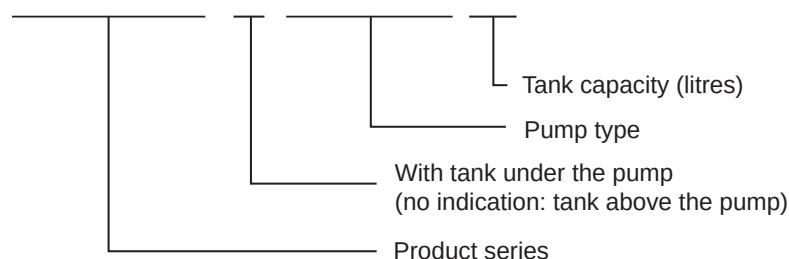
page 626

Pressure Boosting Sets

Designation

CENTRIMAT 1/1 MXH 205E /20

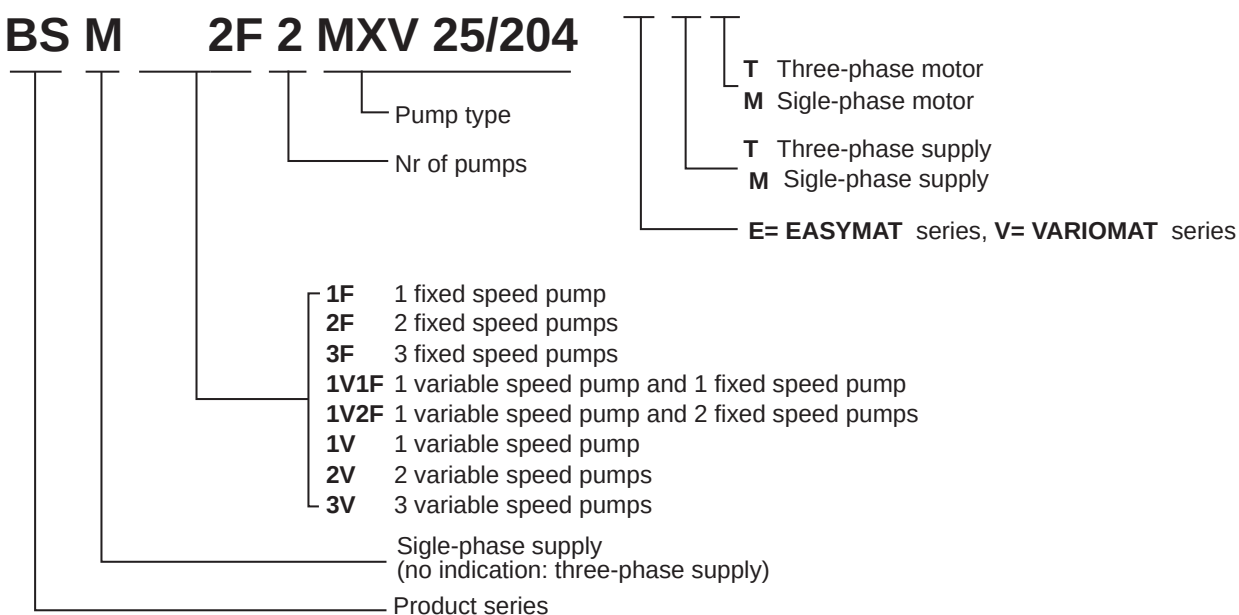
CENTRIMAT MXH 205E /24



BS M 2V 2 MXV 25/204 - E MT

BS M 1V 1F 2 MXV 25/204 - E MM

BS M 2F 2 MXV 25/204



To select a Pressure Boosting Set see chap. 55 technical appendix at page 626.

For booster sets with 4, 5 and 6 pumps contact our Technical Sales Department.

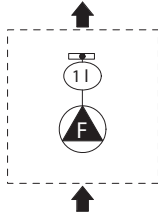
Operation

MINIMAT

with 1 fixed speed pump

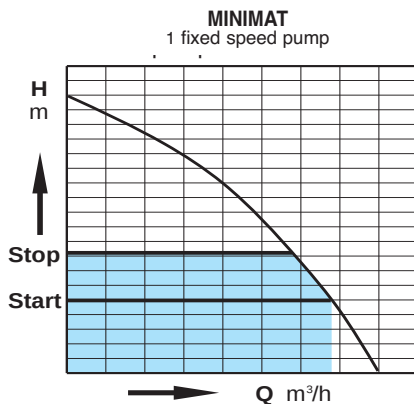
Construction

Small pressure boosting sets with automatic operation, consisting of pump, pressure switch and 1 litre diaphragm tank.



Operation

Pump is directly driven by the pressure switch.

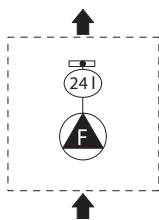


TURBOMAT, CENTRIMAT, GETTOMAT

with 1 fixed speed pump

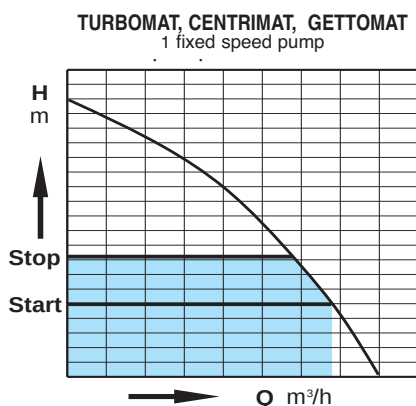
Construction

Small pressure boosting sets with automatic operation, consisting of with pump, pressure switch, pressure gauge and diaphragm tank (24litres if above the pump, 20litres if under the pump).



Operation

Pump is directly driven by the pressure switch..



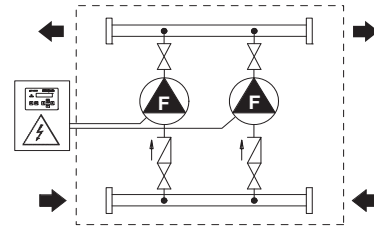
BSF

with 2 and 3 fixed speed pumps

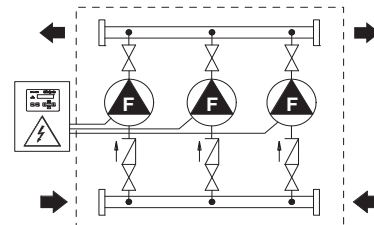
Construction

Pressure boosting sets with automatic operation, consisting in 2 and 3 pumps on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure switches, pressure gauge, control panel and from 100 to 1000 litres diaphragm tank (on request).

BS 2F
2 fixed speed pumps



BS 3F
3 fixed speed pumps

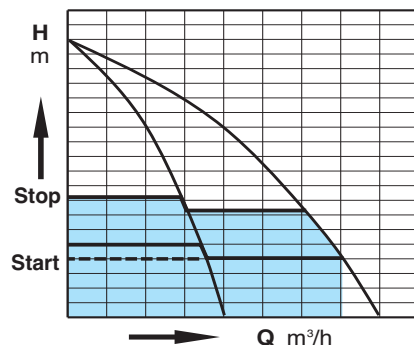


Operation

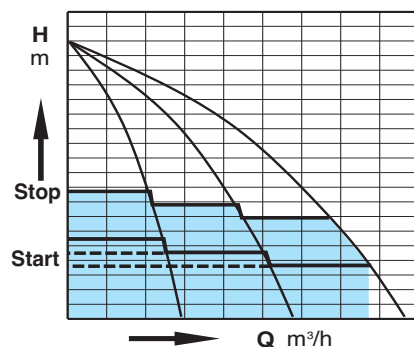
The control panel, with electronic card, manages the pump operation, the changeover of pump starting sequence and it stops the system when there is no air in the tank (patented system).

Pumps starting in a cascade sequence, with a signal from the pressure switches.

BS 2F
2 fixed speed pumps



BS 3F
3 fixed speed pumps

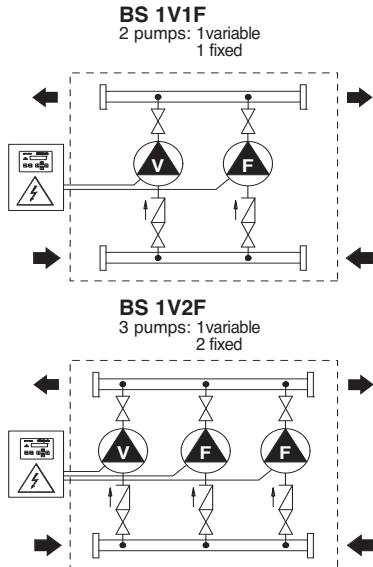


BSV.F.

1 variable speed pump (with frequency converter)
1 to 5 fixed speed pumps

Construction

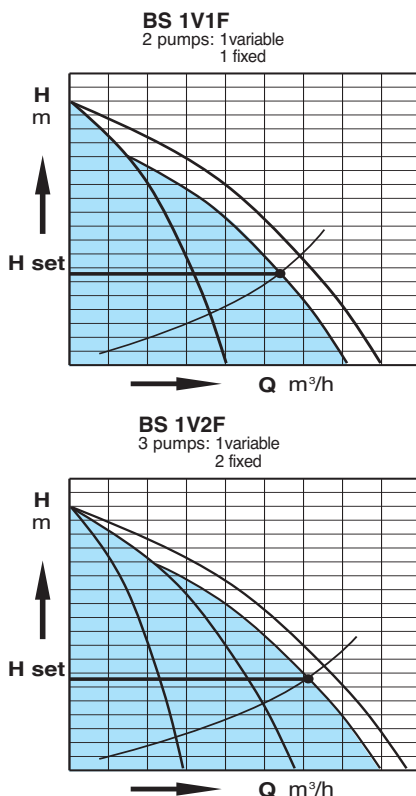
Pressure boosting sets with automatic operation, consisting of 1 variable speed pump with frequency converter into the control panel and from 1 to 5 fixed speed pumps, assembled on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure gauge, control panel and 20 litres diaphragm tank (on request).



Operation

The control panel, with electronic card, manages the pump operation, the changeover of fixed speed pumps starting sequence. Pumps starting is in a cascade sequence, with a signal from the pressure transducer.

Constant pressure is guaranteed by the variable speed pumps, while fixed speed pumps start when the request is higher than the capacity of the variable speed pump.

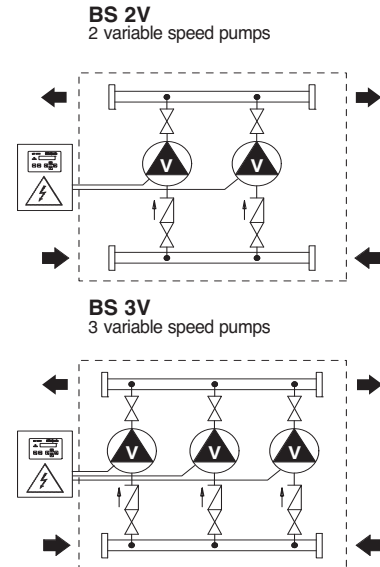


BSV

2-6 variable speed pumps (with frequency converter)

Construction

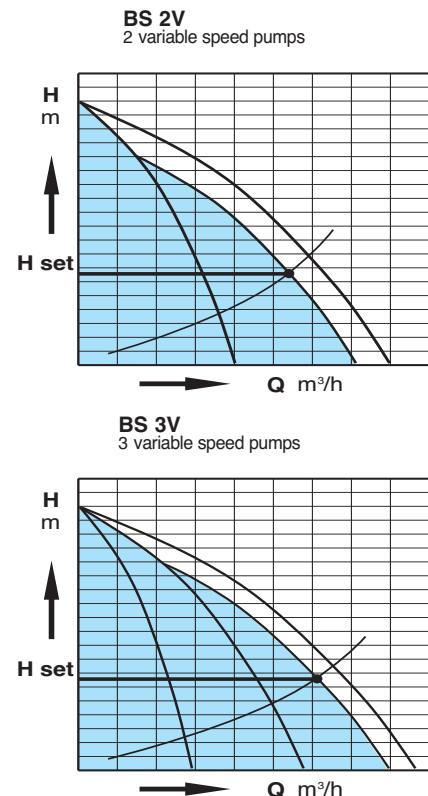
Pressure boosting sets with automatic operation, consisting of variable speed pumps (from 1 to 6) with frequency converter on the control panel, assembled on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure transducer, pressure gauge, control panel and 20 litres diaphragm tank (on request).



Operation

The control panel, with electronic card, manages the pump operation, the changeover of pumps starting sequence.

Pumps starting in a cascade sequence, with a signal from the pressure transducer.



Pressure Boosting Sets



Fixed speed pump units

New electrical control panels for fixed speed pump units.

New electrical control panels for pressurisation units, all with electronic card with microprocessors, for managing pump operation.

The microprocessor carries out continuous secure checks during all the various work phases of the pumps and incorporates all necessary functions, thus reducing electrical and electronic components inside the panel.

In particular:

- pumps starting in a cascade sequence according to water demand.
- changeover of pump starting sequence.
- delay start-up of the 2nd/3rd pump in case of breakdown of pressure switch 1 or after a power cut.
- avoid pump starting in case of water hammering.
- activate the alarm when pressure 1 fails.
- activate the alarm when air cushion in the vessel drops.
- stop the pump when air cushion is over*.

* Patent pending

Maximum clarity for all signals

The status of the unit can easily be identified on the front of the electronic card with the following signals:

- Power on led.
- No water led.
- Failure led.
- Pump running led (1 for each pump).
- Thermal block led (1 for each pump).
- Pump automatic operation led (1 for each pump).
- Pump stop led (1 for each pump).

Maximum simplicity of control

The front of electronic card features the following signals and controls:

- AUT-STOP push-button (1 for each pump)
- MAN push-button (1 for each pump)
- RESET push-button.

Optional remote control

The new panels have been designed to remotely reproduce all the electronic card signals (excluding the buttons), using RC 100 - RC 200 - RC 300 panels, connected with a simple two-pole cable.

The RA 100 panel enables a remote warning light and acoustic signal.

Control panel for units up to 6 pumps

Using the MPS 6000 (Multi Pumps System) electronic card it is possible to control pressure units up to a maximum of 6 fixed speed pumps with a single pressure calibration.

Automatic air supply systems

The pump control panels are completed by microprocessor controlled systems for automatic air supply in the pressure vessels by means of a compressor or solenoid valve.

Operation

For booster sets made up to three pumps: according to the pressure decrease in the system, the pressure switches make the pumps to start in cascade mode and the starting changeover is made by the microprocessor.

For sets made of 4, 5, 6 pumps: Operation controlled by a microprocessor with signal from a pressure transducer. The pumps operate with only one pressure setting.



Pressure Boosting Sets



Variable speed pump units with frequency converter

New electrical control panels for variable speed pump units.

New electrical control panels for pressurisation units with variable speed pumps.

These are indispensable in all those cases where constant pressure is required and when high pressure pumps are being controlled.

All the various working phases are managed and controlled by the MPS 6000 (Multi Pumps System) electronic card with microprocessor, which can operate up to 6 pumps working simultaneously.

Maximum clarity of signals

All the various calibration parameters appear as messages on the display of the MPS 6000 electronic card.

If there are any faults or defects a message appears on the display giving details of the problem.

Possibility of remote control

The pump status can be displayed and the unit can be controlled by means of a special computer program.

It is possible to obtain a remote warning light and acoustic signal on the RA 100 panel.

Constant or increased pressure

All the pumps can work with the same pressure value (set point), or, for systems with high head losses, the pressure can be increased depending on the number of pumps operating.

Silent operation

Motors working at reduced speed and check valves that close gradually mean that operation is particularly quiet.

Long life for pumps

All the mechanical components of the pumps and motors are stressed to a minimum, due to the variable speed operation.

Energy savings

The motors consume only the precise level of power necessary moment to moment, in order to supply the quantity of water required by the system.

No more high capacity vessels

The use of inverters means that high capacity pressure vessels and membrane vessels are no longer necessary. Even units with high flowrate pumps only require a small number of 20 litre membrane vessels.

Great versatility

The great versatility of the MPS 6000 electronic card enables the construction of special units with operational logics different from those of normal pressurisation units, depending on the requirements and characteristics of the systems.

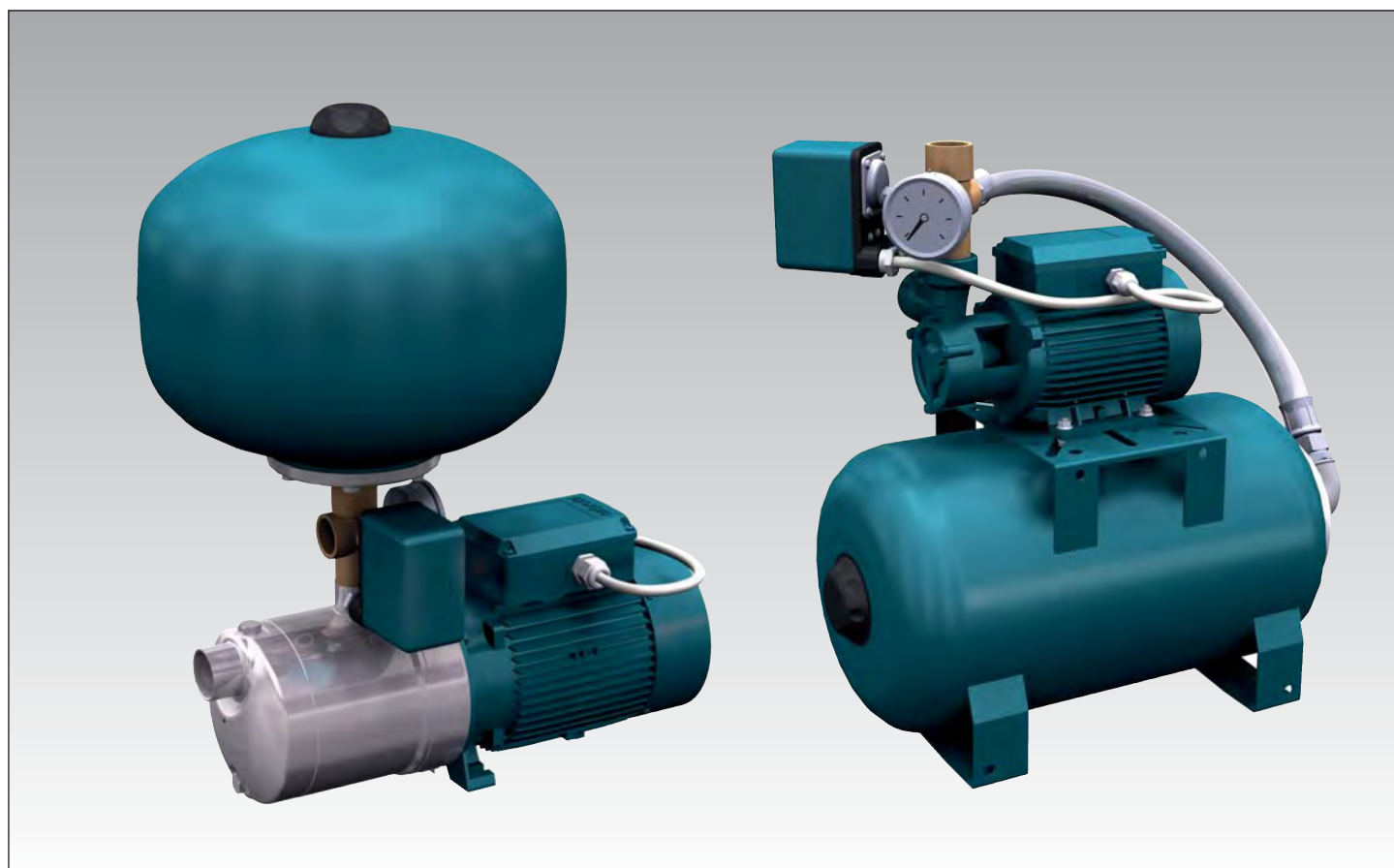
Operation

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.



MINIMAT - TURBOMAT - CENTRIMAT - GETTOMAT

Small automatic water systems



Construction

Compact, automatic autoclaves for household water feeding, consisting of:

- close-coupled pump
- membrane tank
- pressure switch
- pressure gauge (excluding MINIMAT)
- special connector
- flexible pipe for systems with pump over the vessel

Operation

According to the decrease or increase of pressure, the pressure switch determines when the pump will start or stop.

Applications

For drawing water out a well.

As pressure boosting pump for central water systems with thermal protector (follow specifications if increasing network pressure).

Motors

2-pole induction motors, 50 Hz, $n \approx 2900$ rpm.

Three-phase 230/400V $\pm 10\%$.

Single-phase 230V $\pm 10\%$, with thermal protector.

Insulation class F.

Protection IP 54.

Constructed in accordance with: IEC 60034.

Other voltages and frequencies on request.

Vessels

Spherical with capacity 24 litres, or cylindrical with capacity 20 litres, membrane type, air preordaining with pressure 0,2 bar below the minimum pressure switch rating.

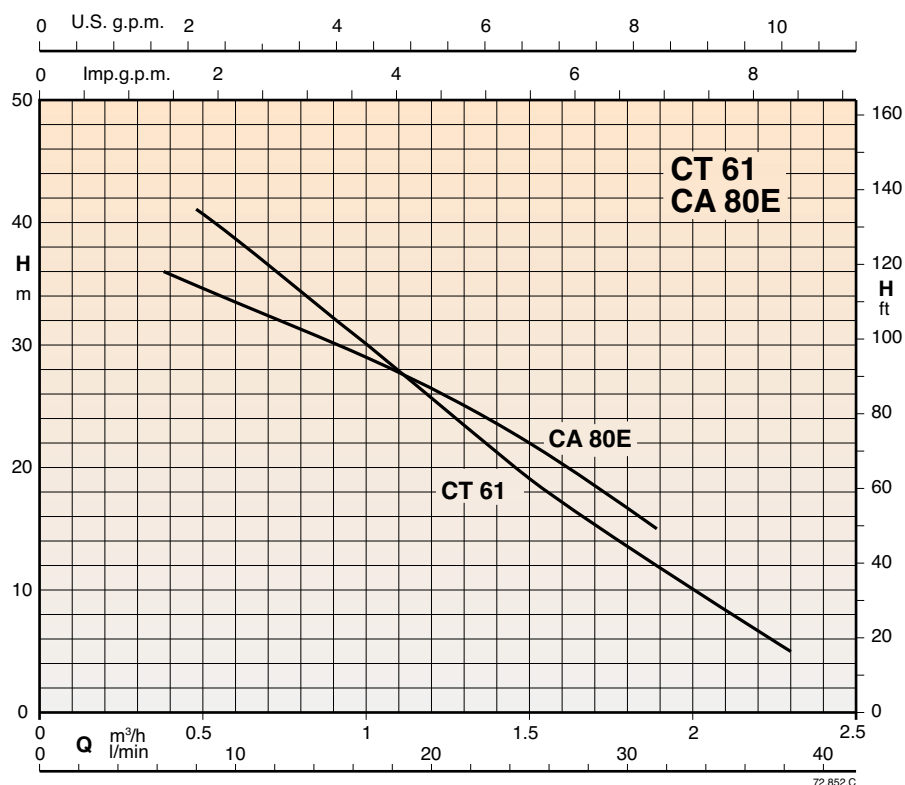
Capacity of the MINIMAT vessel 1 liter.

MINIMAT

Systems with liquid ring CA
and peripheral pumps CT

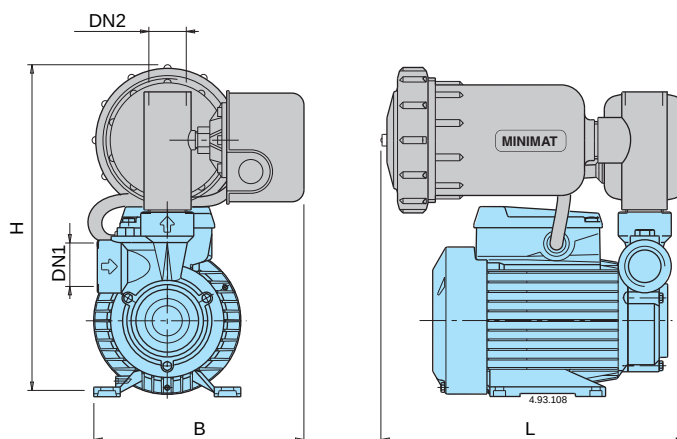
calpeda[®]

Coverage chart



Characteristic, dimensions and weights

MINIMAT



MINIMAT

3~ 230/400V	1~ 230V			Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
		kW	HP					B	L	H	
CT 61/1	CTM 61/1	0,33	0,45	30	1,4÷2,8	G1	G1	180	255	280	8
CA 80E/1	CAM 80E/1	0,45	0,6	32	1,4÷2,8	G 3/4	G1	180	255	330	11,5

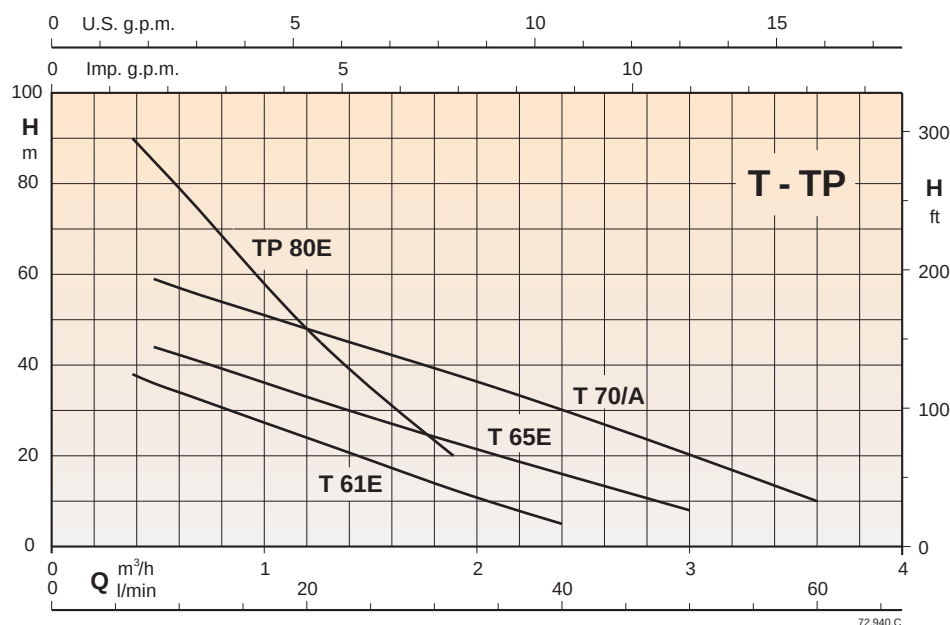
* Maximum pump flow at minimum set pressure of pressure switch.

TURBOMAT

Systems with peripheral pumps
series T, TP

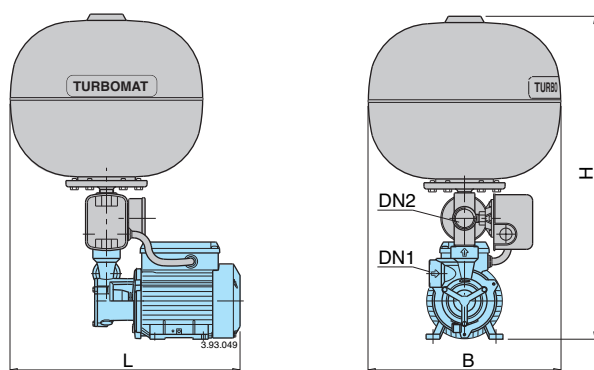
calpeda[®]

Coverage chart

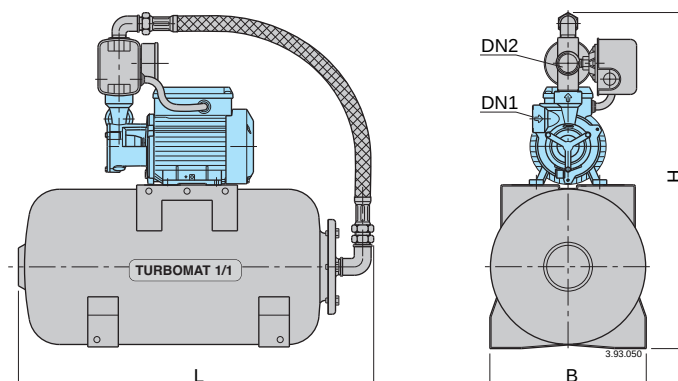


Characteristic, dimensions and weights

TURBOMAT



TURBOMAT 1/1



TURBOMAT

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
								B	L	H	
T 61E/24	TM 61E/24	0,33	0,45	32	1,4÷2,8	G1	G1	360	400	560	13,3
T 65E/24	TM 65E/24	0,45	0,6	43	1,4÷2,8	G1	G1		400	560	13,3
T 70/A/24	TM 70/A/24	0,75	1	50	2,0÷3,5	G1	G1		430	575	17,7
TP 80E/24	TPM 80E/24	0,75	1	22	4,0÷6,0	G 3/4	G1		485	575	22

TURBOMAT 1/1

3~ 230/400V	1~ 230 V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
								B	L	H	
T 61E/20	TM 61E/20	0,33	0,45	32	1,4÷2,8	G1	G1	255	530	508	25
T 65E/20	TM 65E/20	0,45	0,6	43	1,4÷2,8	G1	G1			508	25
T 70/A/20	TM 70/A/20	0,75	1	50	2,0÷3,5	G1	G1			526	29
TP 80E/20	TPM 80E/20	0,75	1	22	4,0÷6,0	G 3/4	G1			526	32,2

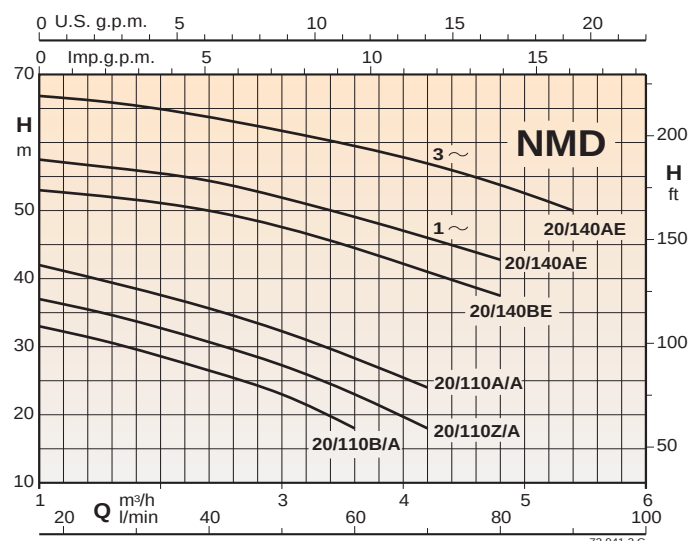
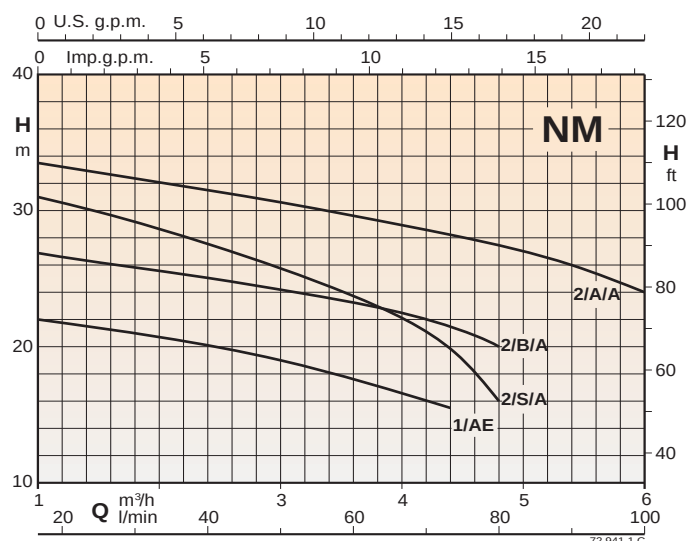
* Maximum pump flow at minimum set pressure of pressure switch.

CENTRIMAT

Systems with centrifugal pumps
series NM, NMD

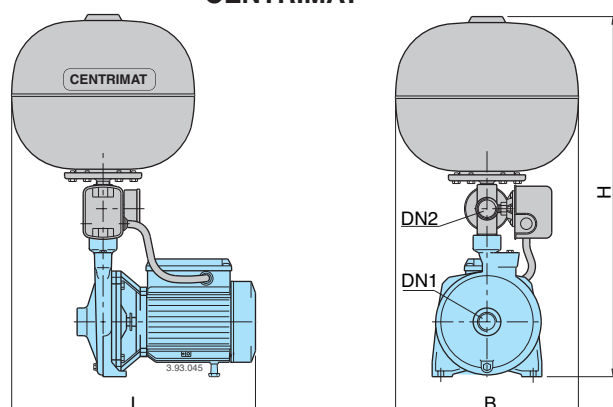
calpeda[®]

Coverage chart

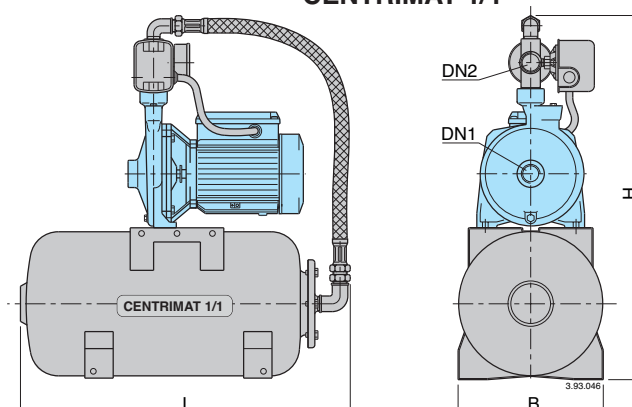


Characteristic, dimensions and weights

CENTRIMAT



CENTRIMAT 1/1



CENTRIMAT

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
								B	L	H	
NM 1/AE/24	NMM 1/AE/24	0,37	0,5	73	1,0÷1,8	G1	G1	360	400	620	17,7
NM 2/B/A/24	NMM 2/B/A/24	0,55	0,75	80	1,4÷2,4	G1	G1		440	650	21,4
NM 2/S/A/24	NMM 2/S/A/24	0,55	0,75	80	1,4÷2,8	G1	G1		440	650	21,5
NM 2/A/A/24	NMM 2/A/A/24	0,75	1	100	2,0÷3,0	G1	G1		440	650	22,7
NMD 20/110B/A/24	NMDM 20/110B/A/24	0,45	0,6	60	1,4÷2,8	G 1 1/4	G1		430	635	21,2
NMD 20/110Z/A/24	NMDM 20/110Z/A/24	0,55	0,75	70	1,8÷3,2	G 1 1/4	G1		430	635	22,3
NMD 20/110A/A/24	NMDM 20/110A/A/24	0,75	1	70	2,2÷3,6	G 1 1/4	G1		430	635	23,4
NMD 20/140BE/24	NMDM 20/140BE/24	1,1	1,5	80	3,5÷5,0	G 1 1/4	G1		510	670	30,7
NMD 20/140AE/24	NMDM 20/140AE/24	1,5	2	80	3,4÷5,4	G 1 1/4	G1		510	670	33
		1,5	2	90	4,4÷6,4	G 1 1/4	G1		510	670	32

CENTRIMAT 1/1

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
								B	L	H	
NM 1/AE/20	NMM 1/AE/20	0,37	0,5	73	1,0÷1,8	G1	G1	255	530	567	18,5
NM 2/B/A/20	NMM 2/B/A/20	0,55	0,75	80	1,4÷2,4	G1	G1			600	22,2
NM 2/S/A/20	NMM 2/S/A/20	0,55	0,75	80	1,4÷2,8	G1	G1			600	22,3
NM 2/A/A/20	NMM 2/A/A/20	0,75	1	100	2,0÷3,0	G1	G1			600	23,5
NMD 20/110B/A/20	NMDM 20/110B/A/20	0,45	0,6	60	1,4÷2,8	G 1 1/4	G1			582	22
NMD 20/110Z/A/20	NMDM 20/110Z/A/20	0,55	0,75	70	1,8÷3,2	G 1 1/4	G1			582	23,1
NMD 20/110A/A/20	NMDM 20/110A/A/20	0,75	1	70	2,2÷3,6	G 1 1/4	G1			582	24,2
NMD 20/140BE/20	NMDM 20/140BE/20	1,1	1,5	80	3,5÷5,0	G 1 1/4	G1			619	31,5
NMD 20/140AE/20	NMDM 20/140AE/20	1,5	2	80	3,4÷5,4	G 1 1/4	G1			619	33
		1,5	2	90	4,4÷6,4	G 1 1/4	G1			619	32

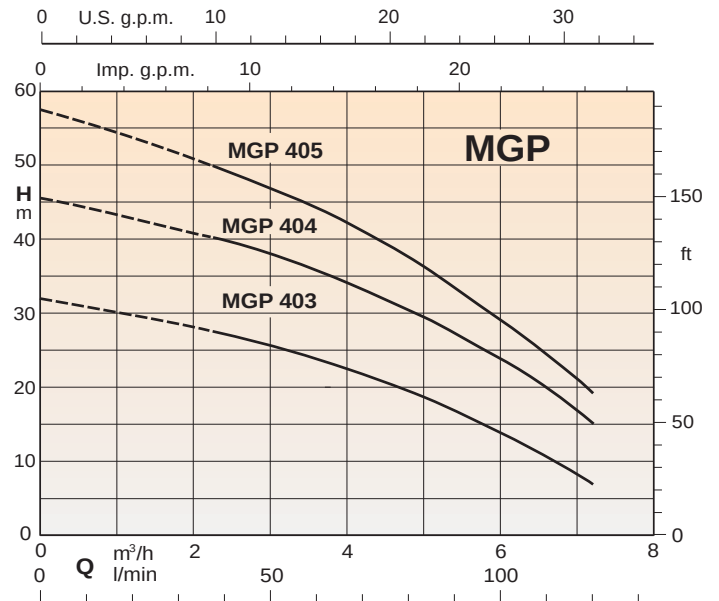
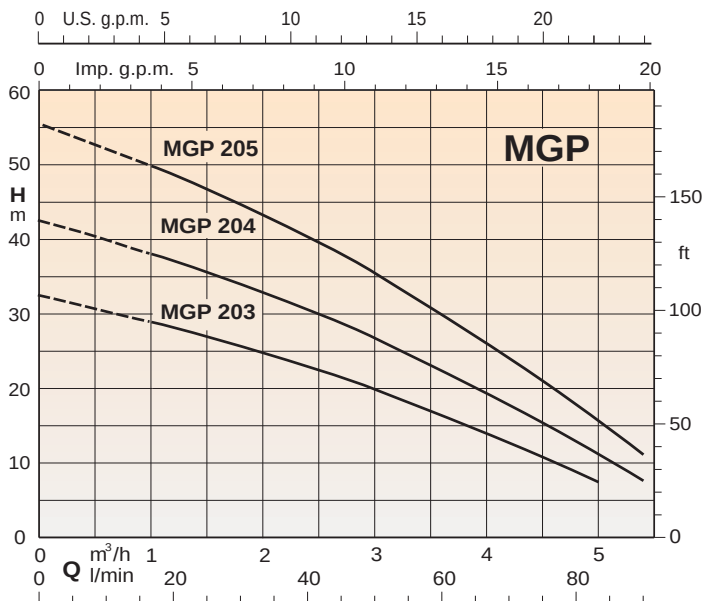
* Maximum pump flow at minimum set pressure of pressure switch.

CENTRIMAT

Systems with Multi-Stage
series MGP

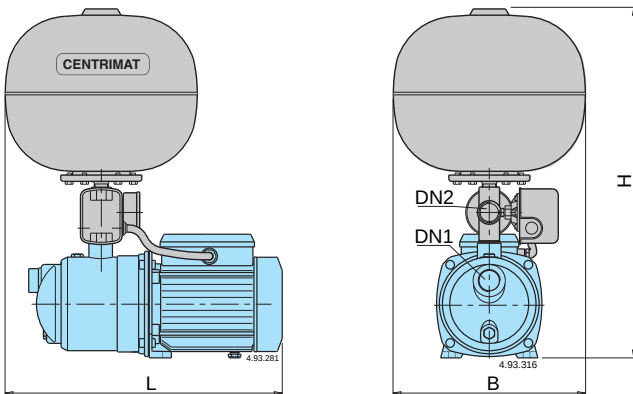
calpeda[®]

Coverage chart

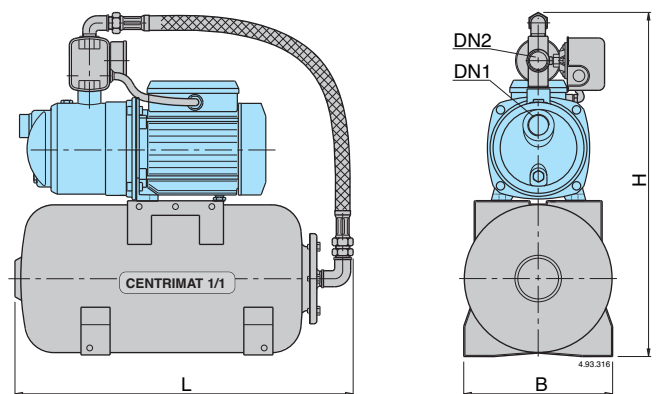


Characteristic, dimensions and weights

CENTRIMAT



CENTRIMAT 1/1



CENTRIMAT

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
MGP 203/24	MGPM 203/24	0,45	0,6	65	1,2÷2,4	G 1	G1	360	427	583	14
MGP 204/24	MGPM 204/24	0,55	0,75	70	2,0÷3,5	G 1	G1		456	583	15
MGP 205/24	MGPM 205/24	0,75	1	70	3,0÷4,5	G 1	G1		456	583	19
MGP 403/24	MGPM 403/24	0,55	0,75	110	1,2÷2,4	G 1	G1		456	583	15
MGP 404/24	MGPM 404/24	0,75	1	110	2,0÷3,5	G 1	G1		456	583	16
MGP 405/24	MGPM 405/24	1,1	1,5	110	3,0÷4,5	G 1	G1		456	583	20

CENTRIMAT 1/1

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
MGP 203/20	MGPM 203/20	0,45	0,6	65	1,2÷2,4	G 1	G1	255	530	516	15
MGP 204/20	MGPM 204/20	0,55	0,75	70	2,0÷3,5	G 1	G1		530	516	16
MGP 205/20	MGPM 205/20	0,75	1	70	3,0÷4,5	G 1	G1		530	516	19
MGP 403/20	MGPM 403/20	0,55	0,75	110	1,2÷2,4	G 1	G1		530	516	16
MGP 404/20	MGPM 404/20	0,75	1	110	2,0÷3,5	G 1	G1		530	532	17
MGP 405/20	MGPM 405/20	1,1	1,5	110	3,0÷4,5	G 1	G1		530	532	21

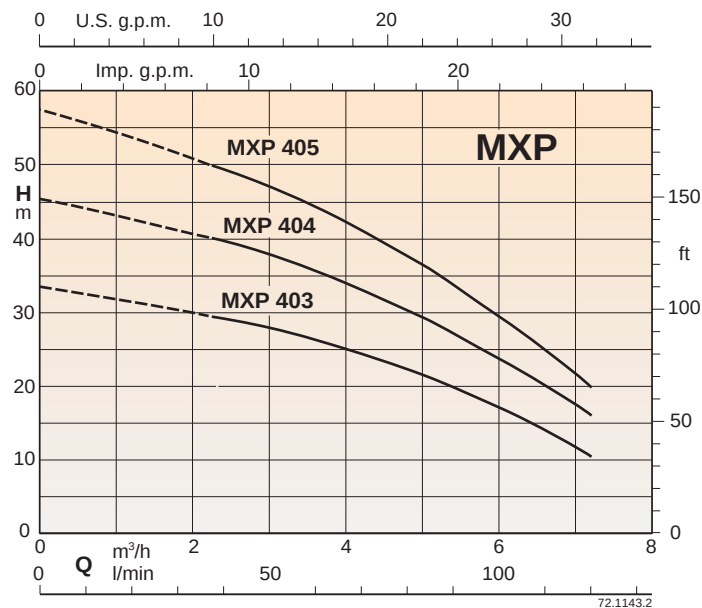
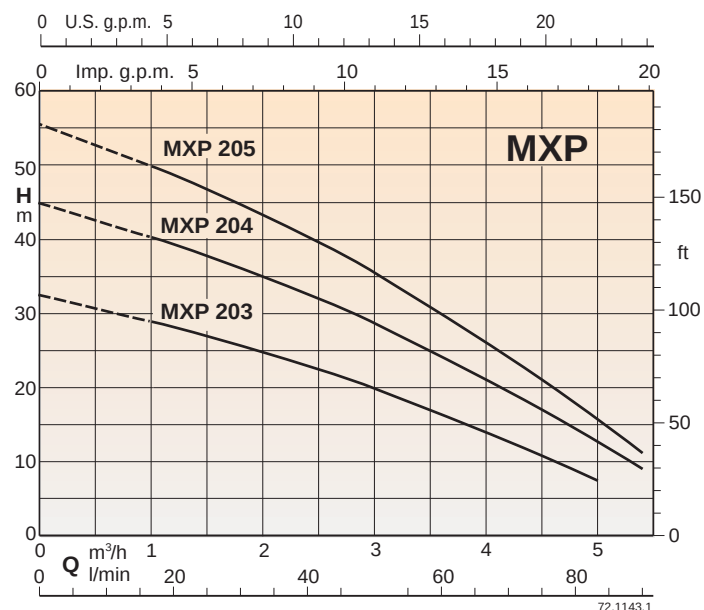
* Maximum pump flow at minimum set pressure of pressure switch.

CENTRIMAT

Systems with Multi-Stage stainless steel
series MXP

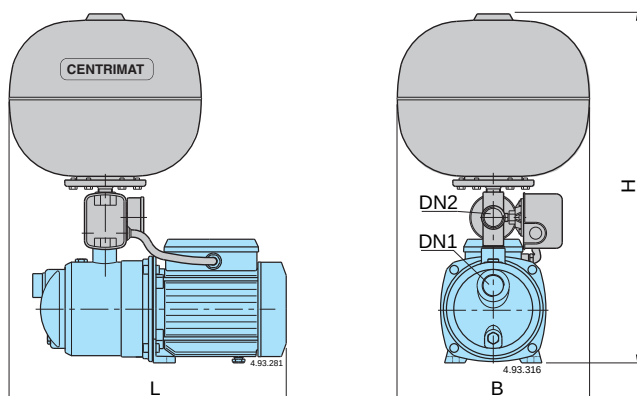
calpeda[®]

Coverage chart

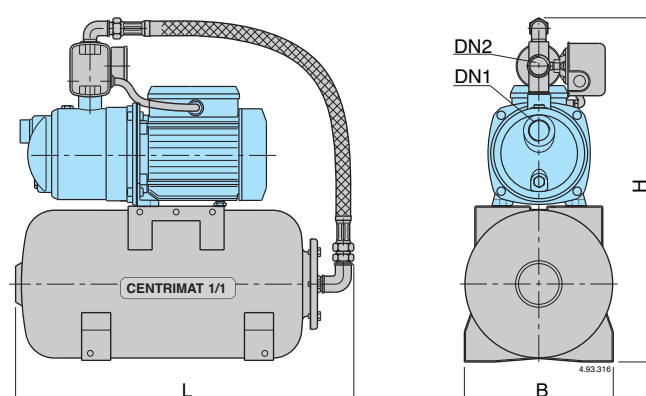


Characteristic, dimensions and weights

CENTRIMAT



CENTRIMAT 1/1



CENTRIMAT

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
MXP 203/24	MXPM 203/24	0,45	0,6	65	1,2÷2,4	G 1	G1	360	427	583	14
MXP 204/A/24	MXPM 204/A/24	0,55	0,75	70	2,0÷3,5	G 1	G1		456	583	15
MXP 205/24	MXPM 205/24	0,75	1	70	3,0÷4,5	G 1	G1		456	583	16
MXP 403/A/24	MXPM 403/A/24	0,55	0,75	110	1,5÷2,7	G 1	G1		456	583	15
MXP 404/A/24	MXPM 404/A/24	0,75	1	110	2,0÷3,5	G 1	G1		456	583	16
MXP 405/24	MXPM 405/24	1,1	1,5	110	3,0÷4,5	G 1	G1		456	583	19

CENTRIMAT 1/1

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
MXP 203/20	MXPM 203/20	0,45	0,6	65	1,2÷2,4	G 1	G1	255	530	532	15
MXP 204/A/20	MXPM 204/A/20	0,55	0,75	70	2,0÷3,5	G 1	G1		530	532	16
MXP 205/20	MXPM 205/20	0,75	1	70	3,0÷4,5	G 1	G1		530	532	17
MXP 403/A/20	MXPM 403/A/20	0,55	0,75	110	1,5÷2,7	G 1	G1		530	532	16
MXP 404/A/20	MXPM 404/A/20	0,75	1	110	2,0÷3,5	G 1	G1		530	532	17
MXP 405/20	MXPM 405/20	1,1	1,5	110	3,0÷4,5	G 1	G1		530	532	20

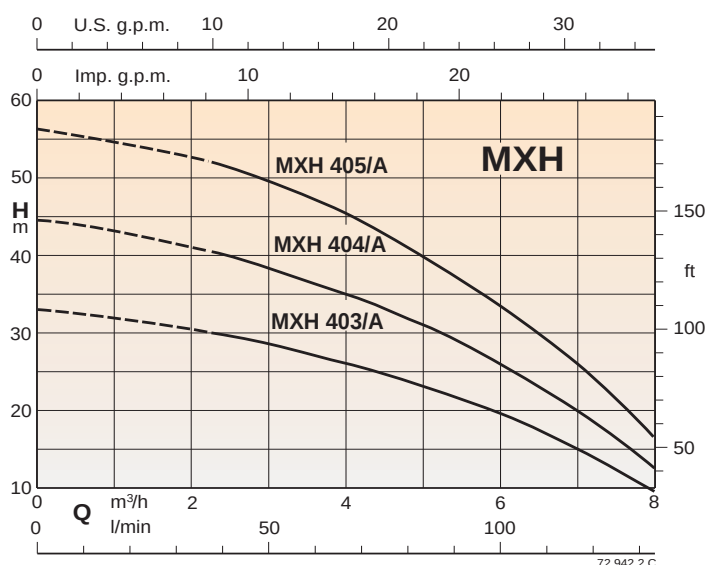
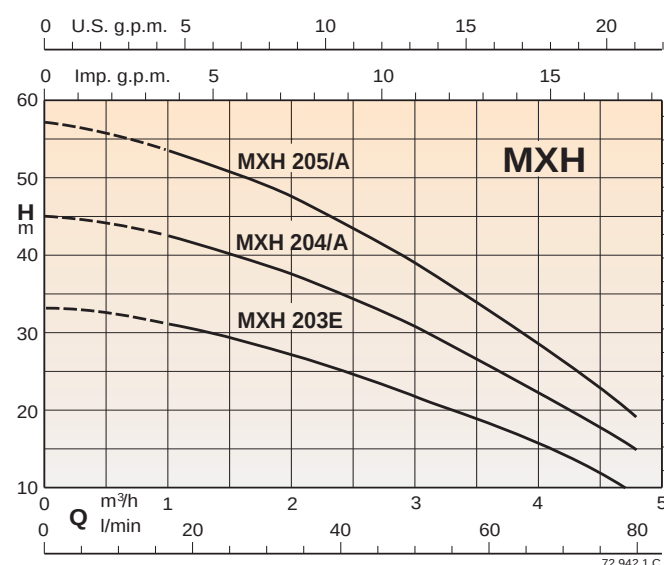
* Maximum pump flow at minimum set pressure of pressure switch.

CENTRIMAT

Systems with Multi-Stage stainless steel
series MXH

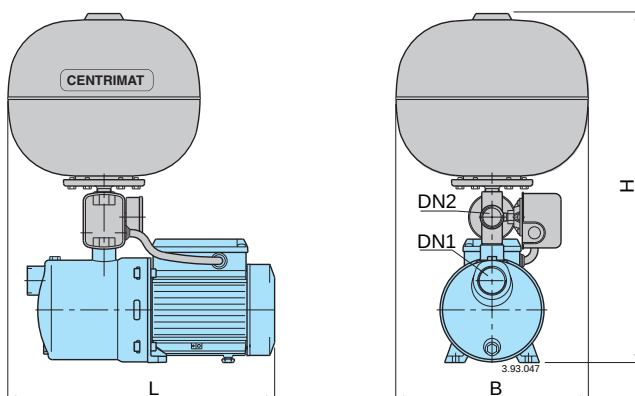
calpeda[®]

Coverage chart

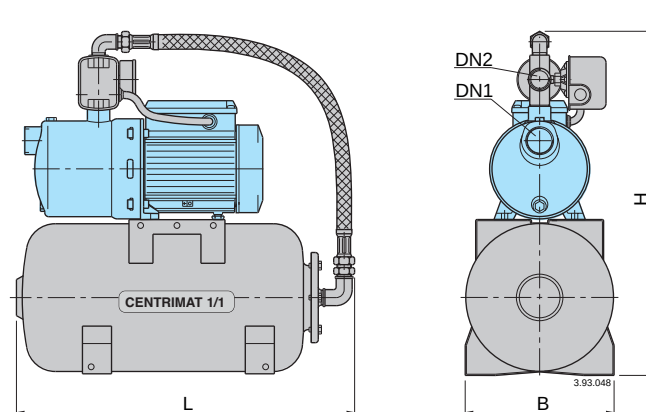


Characteristic, dimensions and weights

CENTRIMAT



CENTRIMAT 1/1



CENTRIMAT

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
MXH 203E/24	MXHM 203E/24	0,45	0,6	70	1,4÷2,8	G 1 1/4	G 1	360	417	590	15
MXH 204/A/24	MXHM 204/A/24	0,55	0,75	62	2,5÷4,0	G 1 1/4	G 1		443	590	16,5
MXH 205/A/24	MXHM 205/A/24	0,75	1	65	2,5÷4,5	G 1 1/4	G 1		443	590	18
MXH 403/A/24	MXHM 403/A/24	0,55	0,75	120	1,5÷2,7	G 1 1/4	G 1		443	590	16
MXH 404/A/24	MXHM 404/A/24	0,75	1	110	2,0÷3,5	G 1 1/4	G 1		443	590	17,5
MXH 405/B/24	MXHM 405/24	1,1	1,5	115	2,5÷4,5	G 1 1/4	G 1		502	590	23,5
		1,1	1,5	115	2,5÷4,5	G 1 1/4	G 1		443	590	18,5

CENTRIMAT 1/1

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
MXH 203E/20	MXHM 203E/20	0,45	0,6	70	1,4÷2,8	G 1 1/4	G 1	255	530	540	16
MXH 204/A/20	MXHM 204/A/20	0,55	0,75	62	2,5÷4,0	G 1 1/4	G 1		530	540	17,5
MXH 205/A/20	MXHM 205/A/20	0,75	1	65	2,5÷4,5	G 1 1/4	G 1		530	540	19
MXH 403/A/20	MXHM 403/A/20	0,55	0,75	120	1,5÷2,7	G 1 1/4	G 1		530	540	17
MXH 404/A/20	MXHM 404/A/20	0,75	1	110	2,0÷3,5	G 1 1/4	G 1		530	540	18,5
MXH 405/B/20	MXHM 405/20	1,1	1,5	115	2,5÷4,5	G 1 1/4	G 1		530	540	24,5
		1,1	1,5	115	2,5÷4,5	G 1 1/4	G 1		530	540	19,5

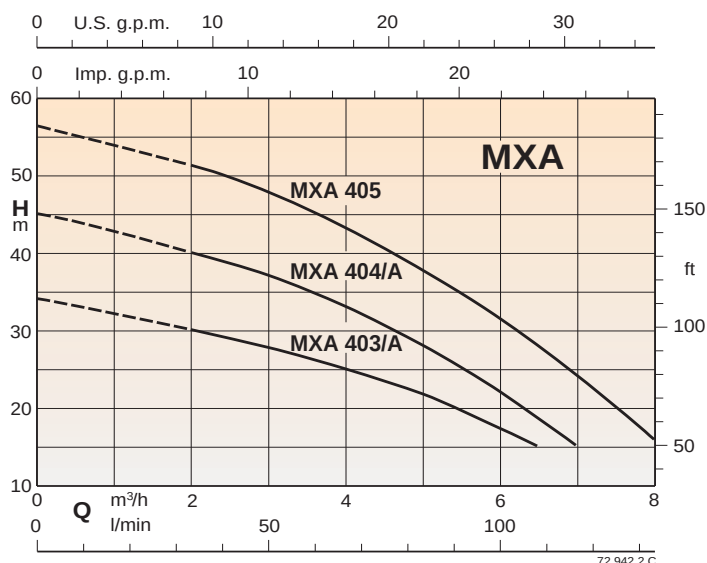
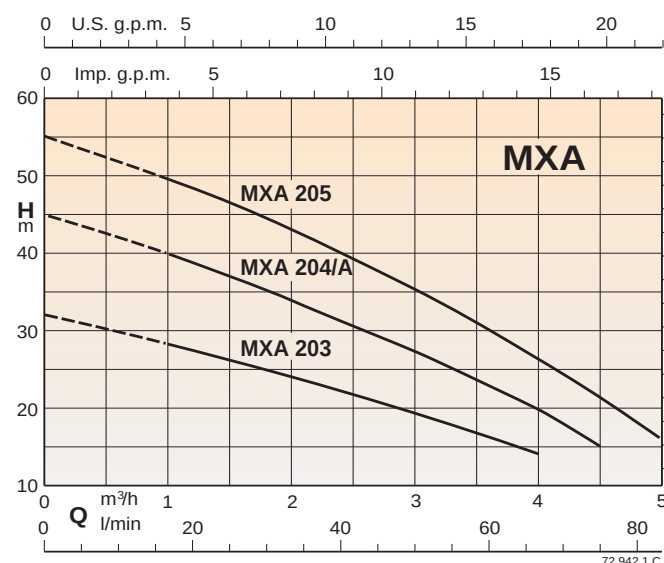
* Maximum pump flow at minimum set pressure of pressure switch.

CENTRIMAT

Systems with Multi-Stage Self-Priming pumps
series MXA

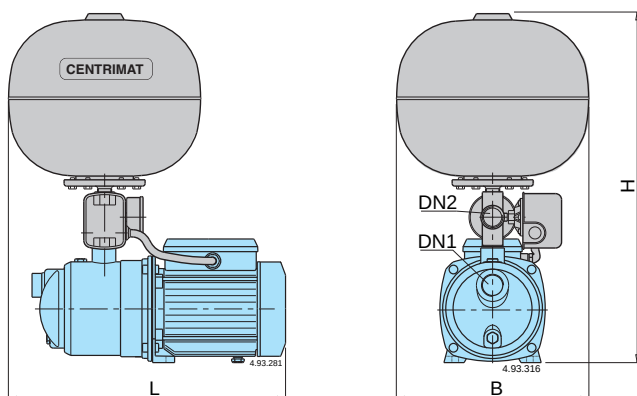
calpeda[®]

Coverage chart

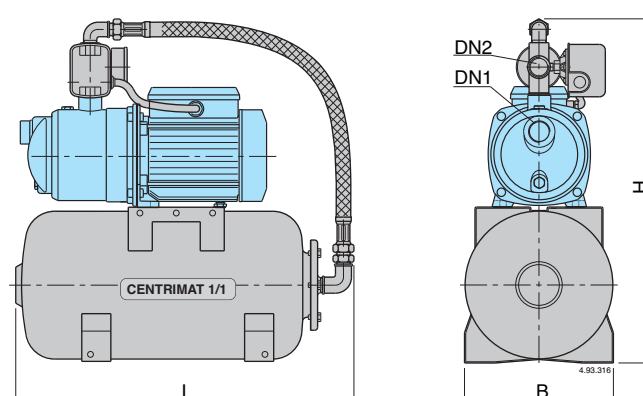


Characteristic, dimensions and weights

CENTRIMAT



CENTRIMAT 1/1



CENTRIMAT

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
								B	L	H	
MXA 203/24	MXAM 203/24	0,45	0,6	62	1,2÷2,4	G 1	G 1	360	427	583	13
MXA 204/A/24	MXAM 204/A/24	0,55	0,75	66	2,0÷3,5	G 1	G 1		456	583	16
MXA 205/24	MXAM 205/24	0,75	1	66	2,5÷4,5	G 1 1/4	G 1		529	626	22
MXA 403/A/24	MXAM 403/A/24	0,55	0,75	108	1,5÷2,7	G 1	G 1		456	583	16
MXA 404/A/24	MXAM 404/A/24	0,75	1	108	2,0÷3,5	G 1	G 1		456	583	17
MXA 405/24	MXAM 405/24	1,1	1,5	105	2,5÷4,5	G 1 1/4	G 1		529	626	23

CENTRIMAT 1/1

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
								B	L	H	
MXA 203/20	MXAM 203/20	0,45	0,6	62	1,2÷2,4	G 1	G 1	255	530	532	14
MXA 204/A/20	MXAM 204/A/20	0,55	0,75	66	2,0÷3,5	G 1	G 1		530	532	17
MXA 205/20	MXAM 205/20	0,75	1	66	2,5÷4,5	G 1 1/4	G 1		530	575	23
MXA 403/A/20	MXAM 403/A/20	0,55	0,75	108	1,5÷2,7	G 1	G 1		530	532	17
MXA 404/A/20	MXAM 404/A/20	0,75	1	108	2,0÷3,5	G 1	G 1		530	532	18
MXA 405/20	MXAM 405/20	1,1	1,5	105	2,5÷4,5	G 1 1/4	G 1		530	575	24

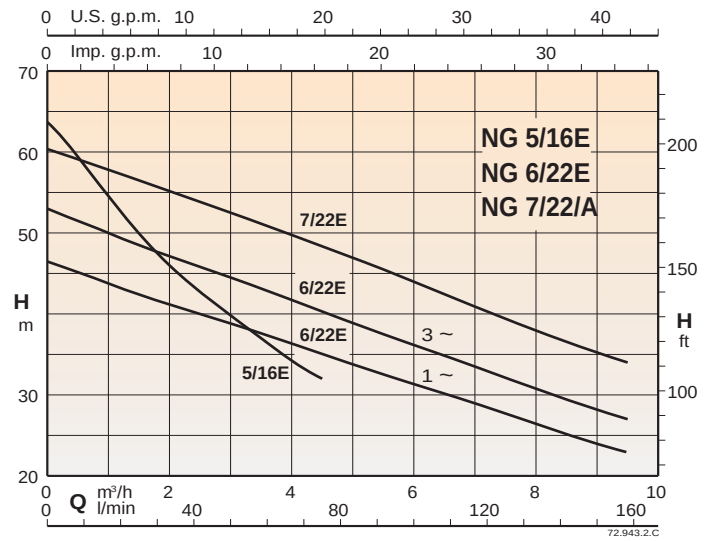
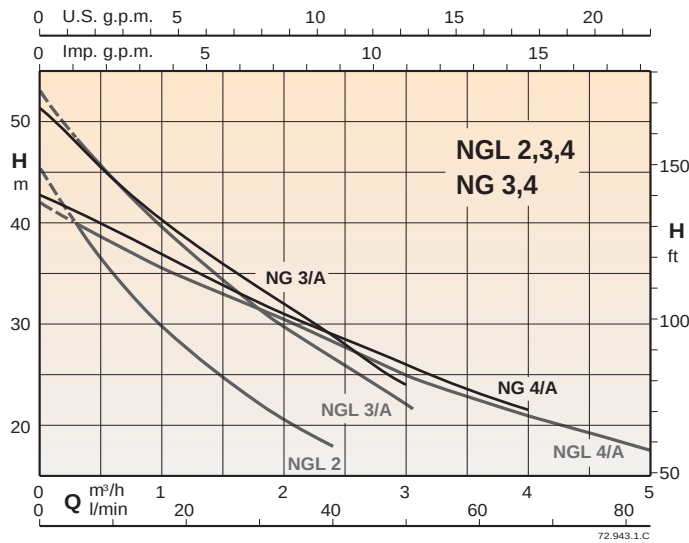
* Maximum pump flow at minimum set pressure of pressure switch.

GETTOMAT

Systems with Self-Priming jet pumps
series NG, NGL

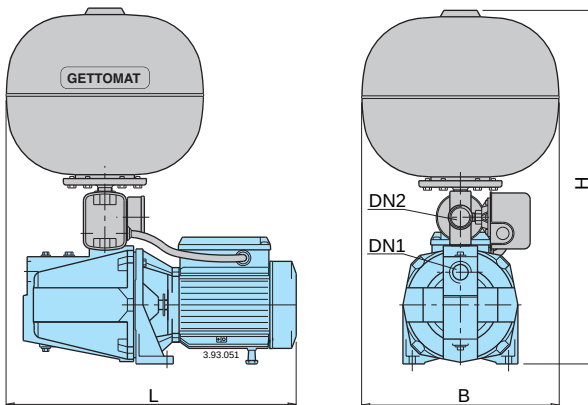


Coverage chart

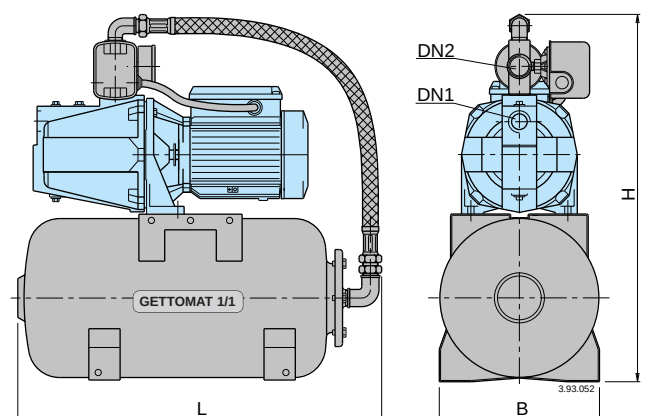


Characteristic, dimensions and weights

GETTOMAT



GETTOMAT 1/1



GETTOMAT

3~ 230/400V	1~ 230V	kW	HP	Q max * l/min	Pres. switch bar	DN1	DN2	mm			kg
NGL 2/24	NGLM 2/24	0,45	0,6	35	2,0÷3,5	G 1	G1	360	427	583	14,5
NGL 3/A/24	NGLM 3/A/24	0,55	0,75	45	2,5÷4,0	G 1	G1		456	583	16,5
NGL 4/A/24	NGLM 4/A/24	0,75	1	72	2,0÷3,5	G 1	G1		456	583	17,5
NG 3/A/24	NGM 3/A/24	0,55	0,75	50	2,5÷4,0	G1	G1		480	610	25,1
NG 4/A/24	NGM 4/A/24	0,75	1	65	2,0÷3,5	G1	G1		610	28,9	
NG 5/16E/24	NGM 5/16E/24	1,1	1,5	65	3,5÷5,0	G 11/2	G1		650	35,5	
NG 6/22E/24	NGM 6/22E/24	1,5	2	140	2,5÷4,0	G 11/2	G1	570	650	37,5	
NG 7/22/A/24	-	2,2	3	150	3,5÷5,0	G 11/2	G1		650	37,5	
									650	39,5	

GETTOMAT 1/1

3~ 230/400V	1~ 230V	kW	HP	Q max * l/min	Pres. switch bar	DN1	DN2	mm			kg
NGL 2/20	NGLM 2/20	0,45	0,6	35	2,0÷3,5	G 1	G1	255	530	516	15,5
NGL 3/A/20	NGLM 3/A/20	0,55	0,75	45	2,5÷4,0	G 1	G1			516	17,5
NGL 4/A/20	NGLM 4/A/20	0,75	1	72	2,0÷3,5	G 1	G1			516	18,5
NG 3/A/20	NGM 3/A/20	0,55	0,75	50	2,5÷4,0	G1	G1		580	548	26
NG 4/A/20	NGM 4/A/20	0,75	1	65	2,0÷3,5	G1	G1			548	29,7
NG 5/16E/20	NGM 5/16E/20	1,1	1,5	65	3,5÷5,0	G 11/2	G1			577	36,2
NG 6/22E/20	NGM 6/22E/20	1,5	2	140	2,5÷4,0	G 11/2	G1	600	577	38,5	
NG 7/22/A/20	-	2,2	3	150	3,5÷5,0	G 11/2	G1		577	38,5	
									600	577	40

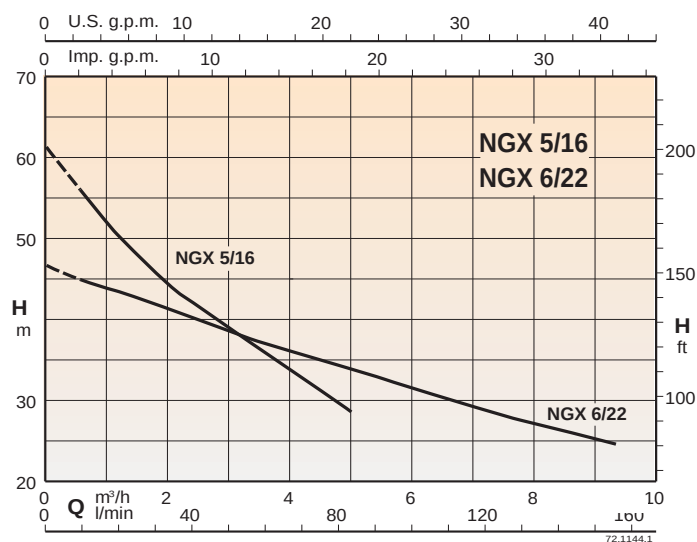
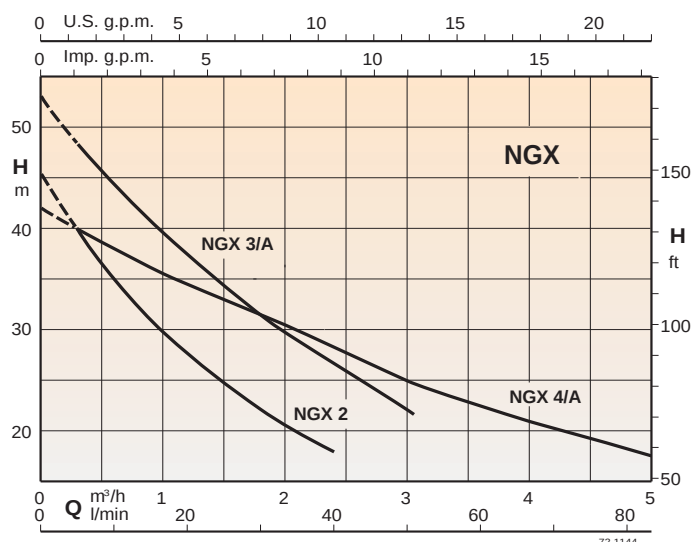
* Maximum pump flow at minimum set pressure of pressure switch.

GETTOMAT

Systems with Self-Priming jet pumps
series NGX

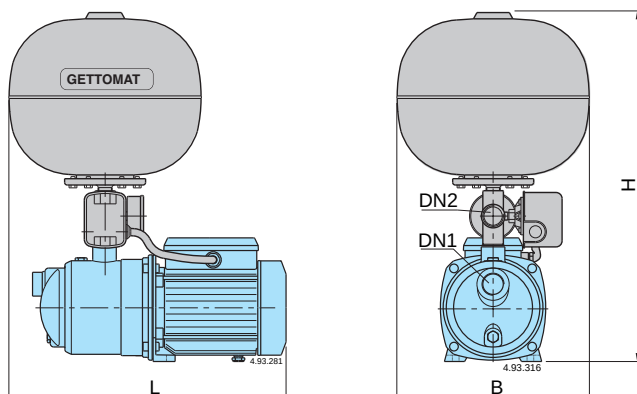
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Coverage chart

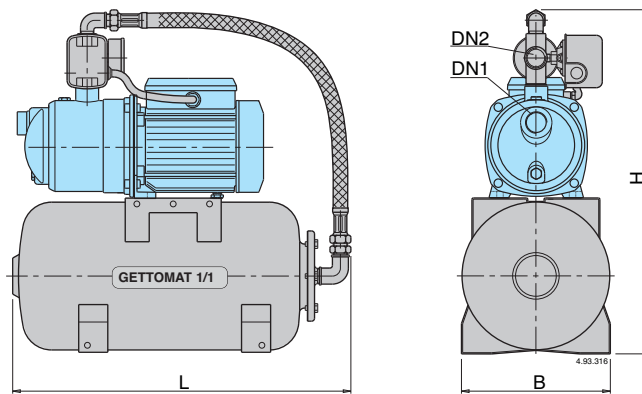


Characteristic, dimensions and weights

GETTOMAT



GETTOMAT 1/1



GETTOMAT

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
NGX 2/24	NGXM 2/24	0,45	0,6	35	2,0÷3,5	G 1	G1	B	L	H	
NGX 3/A/24	NGXM 3/A/24	0,55	0,75	45	2,5÷4,0	G 1	G1	427	583	14,5	
NGX 4/A/24	NGXM 4/A/24	0,75	1	72	2,0÷3,5	G 1	G1	456	583	16,5	
NGX 5/16/24	NGXM 5/16/24	1,1	1,5	62	3,5÷5,0	G 1 1/4	G1	456	583	17,5	
NGX 6/22/24	NGXM 6/22/24	1,5	2	150	2,5÷4,0	G 1 1/4	G1	528	626	23,5	
								528	626	25,5	

GETTOMAT 1/1

3~ 230/400V	1~ 230V	kW	HP	Q max* l/min	Pres. switch bar	DN1	DN2	mm			kg
NGX 2/20	NGXM 2/20	0,45	0,6	35	2,0÷3,5	G 1	G1	B	L	H	
NGX 3/A/20	NGXM 3/A/20	0,55	0,75	45	2,5÷4,0	G 1	G1	530	532	15,5	
NGX 4/A/20	NGXM 4/A/20	0,75	1	72	2,0÷3,5	G 1	G1	530	532	17,5	
NGX 5/16/20	NGXM 5/16/20	1,1	1,5	62	3,5÷5,0	G 1 1/4	G1	530	532	18,5	
NGX 6/22/20	NGXM 6/22/20	1,5	2	150	2,5÷4,0	G 1 1/4	G1	530	575	24,5	
								530	575	26,5	

* Maximum pump flow at minimum set pressure of pressure switch.



Operation

BS1V1F Pressure boosting sets with 1 variable speed pump (with **EASYMAT**) and 1 fixed speed pump

According to the water consumption, one or more pumps start, one at variable speed and one at fixed speed, to grant the water quantity required at the set pressure.

BS1-3V Pressure boosting sets with 1 to 3 variable speed pumps (with **EASYMAT**).

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.

Operation

CONSTANT PRESSURE MODE:

the system keeps the pressure constant when the quantity of water requested by the user changes.



FIXED SPEED MODE:

the system works at a fixed speed that user can choose according to his need.

Execution

Constant pressure boosting sets with **EASYMAT** frequency converter made of 1 to 3 pumps, ball valve and non return valve on suction side, ball valve and pressure gauge on delivery side.

Suction and delivery manifolds in stainless steel AISI 304 for 2 and 3 pump units.

Suitable for installation of a 8-lt cylindrical pressure vessel on delivery side.

EASYMAT device:

Frequency converter installed directly on the pump delivery pipe and water cooled (patented).

Only three parameters to set at starting:

- Maximum motor current
- Working frequency
- Working pressure

Possibility to display:

- Pressure of the system
- Working frequency
- Absorbed current
- Alarms

Applications

For drawing water out of a well

As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure)

Motors

2-pole induction motors, 50Hz, $n \approx 2900$ rpm, suitable for operation with frequency converter

- Single-phase 230V +/-10%
- Three-phase 230V +/-10%

Class F insulation

IP 54 protection

Execution according IEC 60034

Other voltages on demand

Pressure vessels (on demand)

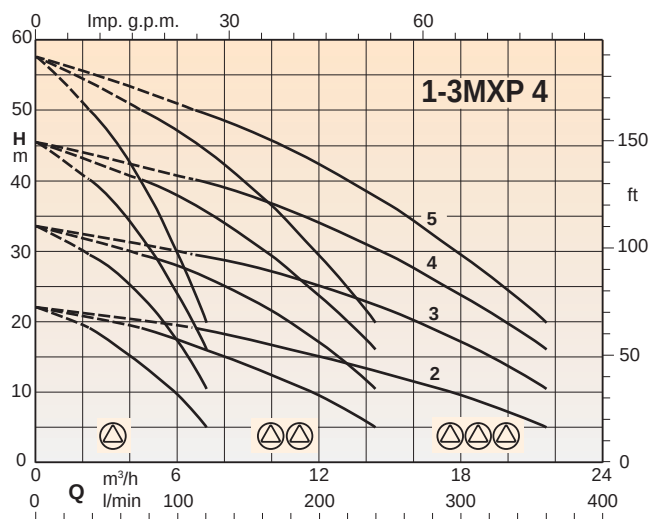
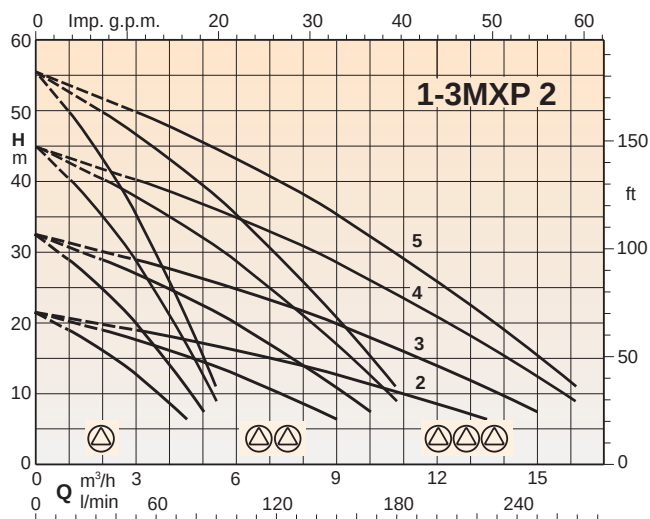
Cylindrical with capacity 8 liters, membrane type, air precharged

BS. MXP. EM

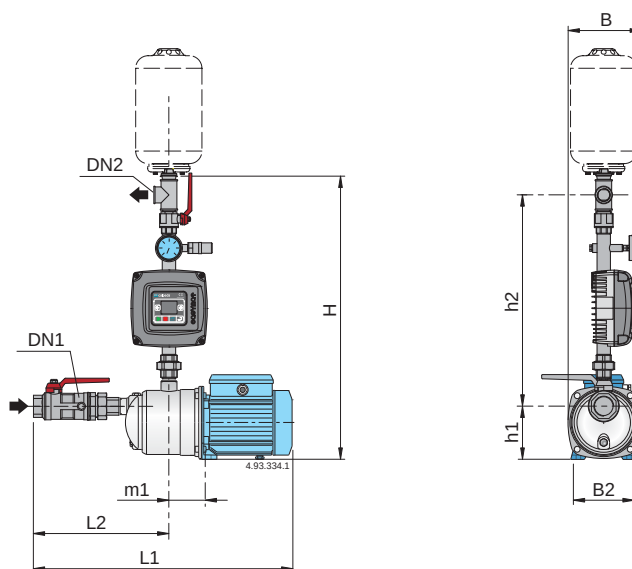
Pressure boosting sets with 1 to 3 horizontal multi-stage pumps with **EASYMAT** frequency converter



Coverage chart



Characteristic and dimensions



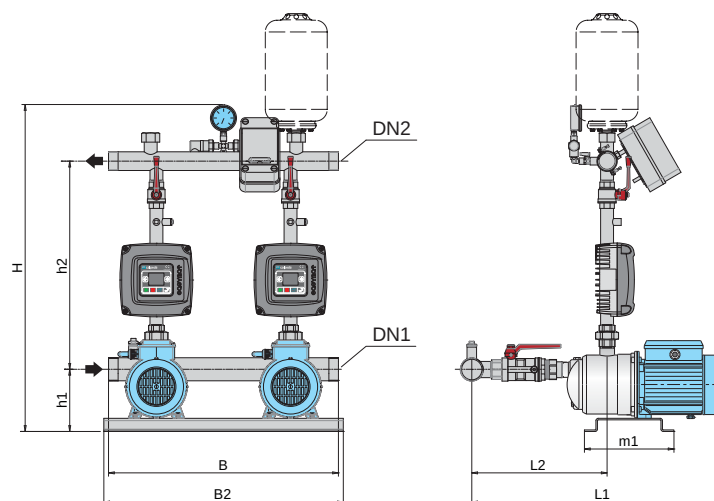
Mains: 1~ 230V Motor: 3~ 230V	mains A	motor A	Mains: 1~ 230V Motor: 1~ 230V	A	P ₂		DN1	DN2	mm							
					kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM1V 1MXP 202-EMT	2,1	1,7	BSM1V 1MXPM 202-EMM	2,3	0,33	0,45	G 1	G 1	680	127	495	516	269	95	165	146
BSM1V 1MXP 203-EMT	3,2	2,4	BSM1V 1MXPM 203-EMM	3	0,45	0,6						516				
BSM1V 1MXP 204-EMT	4	2,8	BSM1V 1MXPM 204-EMM	3,3	0,55	0,75						545				
BSM1V 1MGP 205-EMT	5	3,5	BSM1V 1MXPM 205-EMM	5,4	0,75	1						545				
BSM1V 1MGP 402-EMT	3,2	2,4	BSM1V 1MXPM 402-EMM	3	0,45	0,6	G 1	G 1	680	127	495	516	269	95	165	146
BSM1V 1MXP 403-EMT	4,3	3	BSM1V 1MXPM 403-EMM	3,5	0,55	0,75						545				
BSM1V 1MXP 404-EMT	5	3,5	BSM1V 1MXPM 404-EMM	5,4	0,75	1						545				
BSM1V 1MXP 405-EMT	6,4	4,5	BSM1V 1MXPM 405-EMM	7	1,1	1,5						575				

BS. MXP. EM

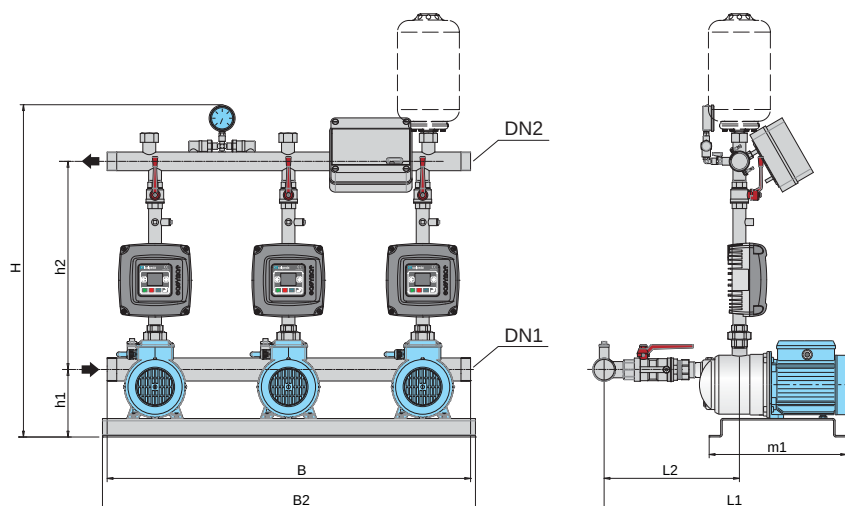
Pressure boosting sets with 1 to 3 horizontal multi-stage pumps with **EASYPUMP** frequency converter

calpeda®

Characteristic and dimensions



Mains: 1~ 230V Motor: 3~ 230V			Mains: 1~ 230V Motor: 1~ 230V		P ₂				mm							
	mains A	motor A		A	kW	HP			DN1	DN2	H	h1	h2	L1	L2	m1
BSM2V 2MGP 202-EMT	2 x 2,1	2 x 1,7	BSM2V 2MGPM 202-EMM	2 x 2,3	2 x 0,33	2 x 0,45	G 2	G 1 1/2	841	150	510	573	326	240	600	625
BSM2V 2MGP 203-EMT	2 x 3,2	2 x 2,4	BSM2V 2MGPM 203-EMM	2 x 3	2 x 0,45	2 x 0,6						573				
BSM2V 2MGP 204-EMT	2 x 4	2 x 2,8	BSM2V 2MGPM 204-EMM	2 x 3,3	2 x 0,55	2 x 0,75						602				
BSM2V 2MGP 205-EMT	2 x 5	2 x 3,5	BSM2V 2MGPM 205-EMM	2 x 5,4	2 x 0,75	2 x 1						602				
BSM2V 2MGP 402-EMT	2 x 3,2	2 x 2,4	BSM2V 2MGPM 402-EMM	2 x 3	2 x 0,45	2 x 0,6	G 2	G 1 1/2	841	150	510	573	326	240	600	625
BSM2V 2MGP 403-EMT	2 x 4,3	2 x 3	BSM2V 2MGPM 403-EMM	2 x 3,5	2 x 0,55	2 x 0,75						602				
BSM2V 2MGP 404-EMT	2 x 5	2 x 3,5	BSM2V 2MGPM 404-EMM	2 x 5,4	2 x 0,75	2 x 1						602				
BSM2V 2MGP 405-EMT	2 x 6,4	2 x 4,5	BSM2V 2MGPM 405-EMM	2 x 7	2 x 1,1	2 x 1,5						632				



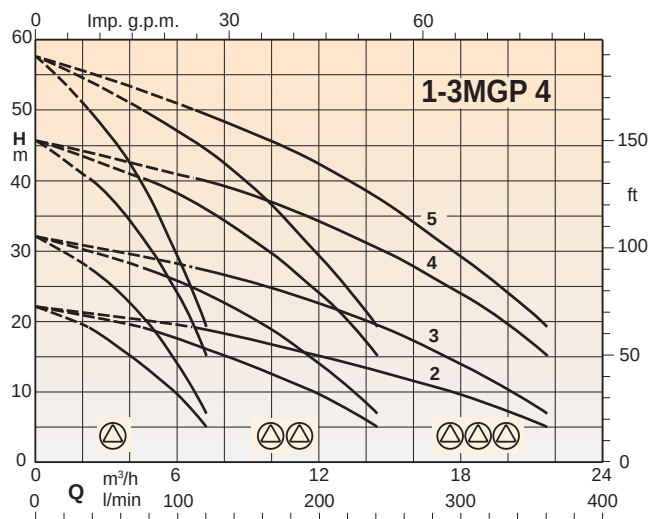
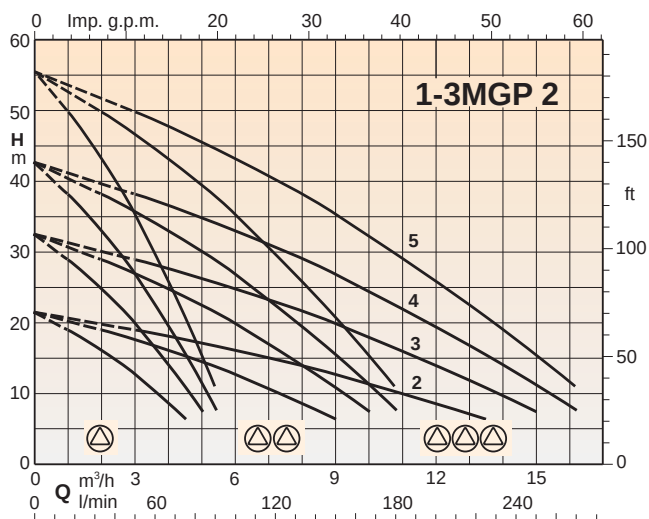
Mains: 1~ 230V Motor: 3~ 230V			Mains: 1~ 230V Motor: 1~ 230V		P ₂				mm							
mains	motor			kW	HP	H			h1	h2	L1	L2	m1	B	B2	
	A	A		A			DN1	DN2								
BSM3V 3MXP 202-EMT	3 x 2,1	3 x 1,7	BSM3V 3MXPM 202-EMM	3 x 2,3	3 x 0,33	3 x 0,45	G 2	G 1 1/2	841	150	510	573	326	240	600	625
BSM3V 3MXP 203-EMT	3 x 3,2	3 x 2,4	BSM3V 3MXPM 203-EMM	3 x 3	3 x 0,45	3 x 0,6						573				
BSM3V 3MXP 204-EMT	3 x 4	3 x 2,8	BSM3V 3MXPM 204-EMM	3 x 3,3	3 x 0,55	3 x 0,75						602				
BSM3V 3MXP 205-EMT	3 x 5	3 x 3,5	BSM3V 3MXPM 205-EMM	3 x 5,4	3 x 0,75	3 x 1						602				
BSM3V 3MXP 402-EMT	3 x 3,2	3 x 2,4	BSM3V 3MXPM 402-EMM	3 x 3	3 x 0,45	3 x 0,6	G 2	G 1 1/2	841	150	510	573	326	240	600	625
BSM3V 3MXP 403-EMT	3 x 4,3	3 x 3	BSM3V 3MXPM 403-EMM	3 x 3,5	3 x 0,55	3 x 0,75						602				
BSM3V 3MXP 404-EMT	3 x 5	3 x 3,5	BSM3V 3MXPM 404-EMM	3 x 5,4	3 x 0,75	3 x 1						602				
BSM3V 3MXP 405-EMT	3 x 6,4	3 x 4,5	BSM3V 3MXPM 405-EMM	3 x 7	3 x 1,1	3 x 1,5						632				

BS. MGP. EM

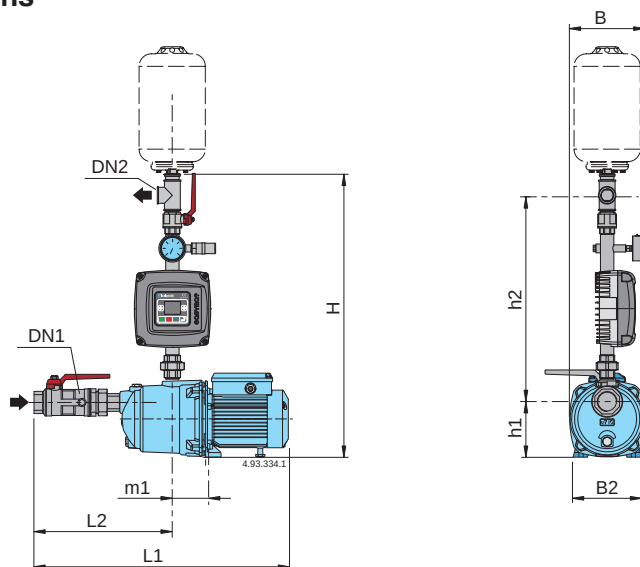
Pressure boosting sets with 1 to 3 horizontal multi-stage pumps with **EASYMAT** frequency converter



Coverage chart



Characteristic and dimensions



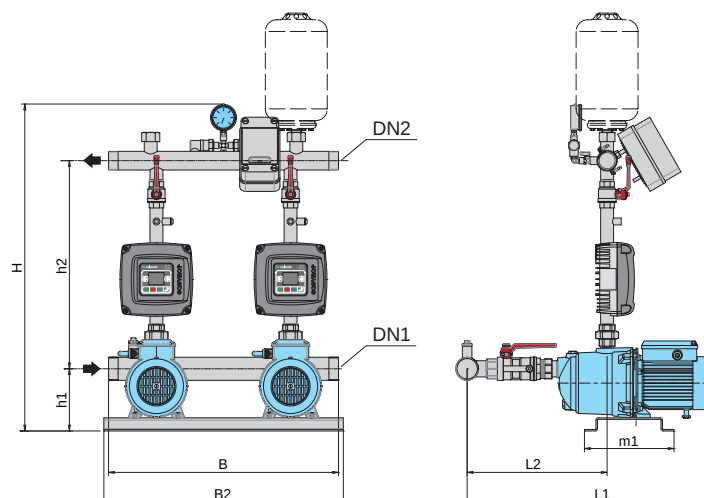
Mains: 1~ 230V Motor: 3~ 230V	mains		Mains: 1~ 230V Motor: 1~ 230V	A	P ₂		DN1	DN2	mm							
	A	motor A			kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM1V 1MGP 202-EMT	2,1	1,7	BSM1V 1MGPM 202-EMM	2,3	0,33	0,45	G 1	G 1	685	116	504	516	269	95	165	146
BSM1V 1MGP 203-EMT	3,2	2,4	BSM1V 1MGPM 203-EMM	3	0,45	0,6						516				
BSM1V 1MGP 204-EMT	4	2,8	BSM1V 1MGPM 204-EMM	3,3	0,55	0,75						516				
BSM1V 1MGP 205-EMT	5	3,5	BSM1V 1MGPM 205-EMM	5,4	0,75	1						545				
BSM1V 1MGP 402-EMT	3,2	2,4	BSM1V 1MGPM 402-EMM	3	0,45	0,6	G 1	G 1	685	116	504	516	269	95	165	146
BSM1V 1MGP 403-EMT	4,3	3	BSM1V 1MGPM 403-EMM	3,5	0,55	0,75						516				
BSM1V 1MGP 404-EMT	5	3,5	BSM1V 1MGPM 404-EMM	5,4	0,75	1						545				
BSM1V 1MGP 405-EMT	6,4	4,5	BSM1V 1MGPM 405-EMM	7	1,1	1,5						575				

BS. MGP. EM

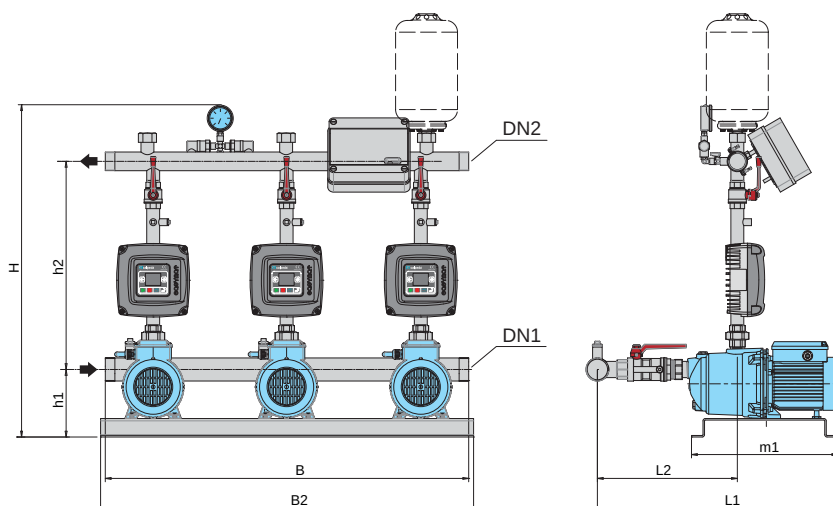
Pressure boosting sets with 1 to 3 horizontal multi-stage pumps with **EASYMAT** frequency converter

calpeda[®]

Characteristic and dimensions



Mains: 1~ 230V Motor: 3~ 230V	mains A	motor A	Mains: 1~ 230V Motor: 1~ 230V	A	P ₂		DN1	DN2	mm							
					kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM2V 2MGP 202-EMT	2 x 2,1	2 x 1,7	BSM2V 2MGPM 202-EMM	2 x 2,3	2 x 0,33	2 x 0,45	G 2	G 1 1/2	825	150	494	573	326	240	600	625
BSM2V 2MGP 203-EMT	2 x 3,2	2 x 2,4	BSM2V 2MGPM 203-EMM	2 x 3	2 x 0,45	2 x 0,6						573				
BSM2V 2MGP 204-EMT	2 x 4	2 x 2,8	BSM2V 2MGPM 204-EMM	2 x 3,3	2 x 0,55	2 x 0,75						573				
BSM2V 2MGP 205-EMT	2 x 5	2 x 3,5	BSM2V 2MGPM 205-EMM	2 x 5,4	2 x 0,75	2 x 1						602				
BSM2V 2MGP 402-EMT	2 x 3,2	2 x 2,4	BSM2V 2MGPM 402-EMM	2 x 3	2 x 0,45	2 x 0,6	G 2	G 1 1/2	825	150	494	573	326	240	600	625
BSM2V 2MGP 403-EMT	2 x 4,3	2 x 3	BSM2V 2MGPM 403-EMM	2 x 3,5	2 x 0,55	2 x 0,75						573				
BSM2V 2MGP 404-EMT	2 x 5	2 x 3,5	BSM2V 2MGPM 404-EMM	2 x 5,4	2 x 0,75	2 x 1						602				
BSM2V 2MGP 405-EMT	2 x 6,4	2 x 4,5	BSM2V 2MGPM 405-EMM	2 x 7	2 x 1,1	2 x 1,5						632				



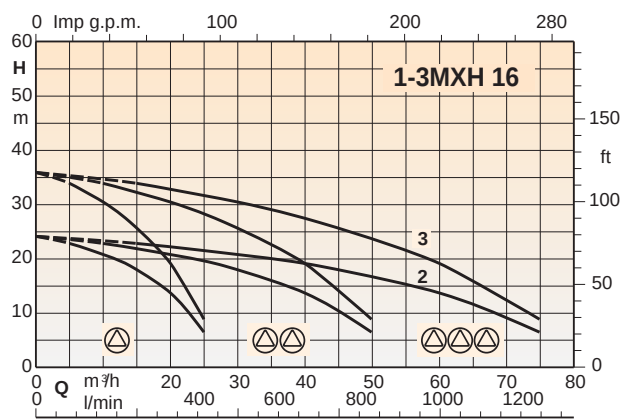
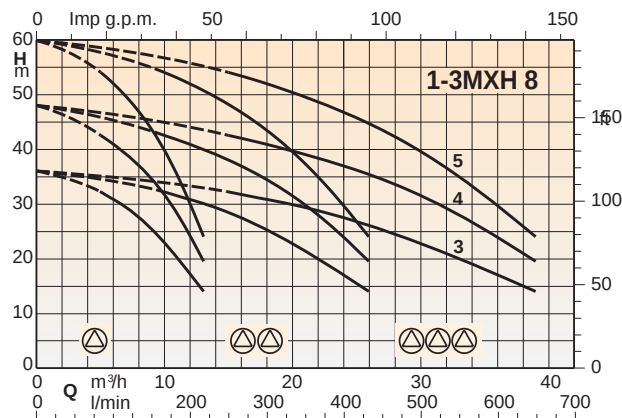
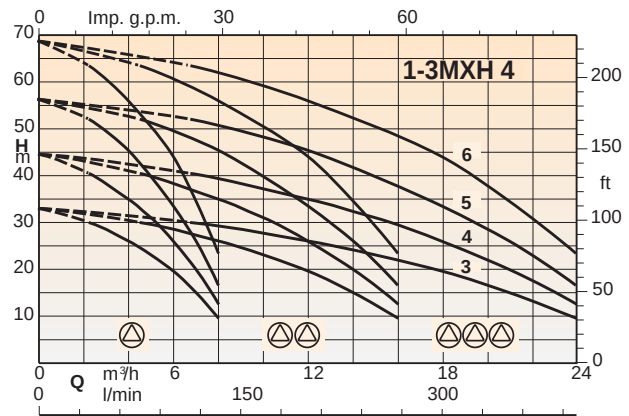
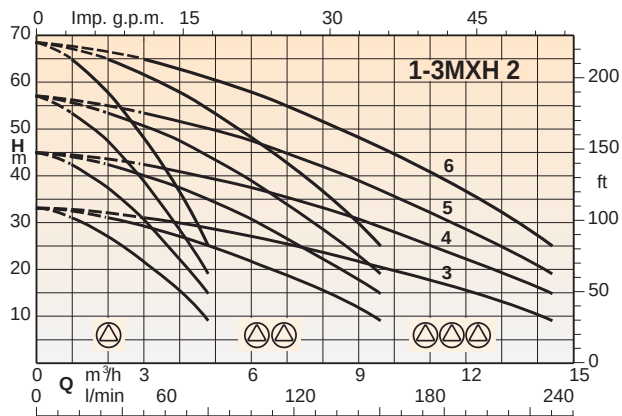
Mains: 1~ 230V Motor: 3~ 230V	mains A	motor A	Mains: 1~ 230V Motor: 1~ 230V	A	P ₂		DN1	DN2	mm							
					kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM3V 3MGP 202-EMT	3 x 2,1	3 x 1,7	BSM3V 3MGPM 202-EMM	3 x 2,3	3 x 0,33	3 x 0,45	G 2	G 1 1/2	825	150	494	573	326	240	600	625
BSM3V 3MGP 203-EMT	3 x 3,2	3 x 2,4	BSM3V 3MGPM 203-EMM	3 x 3	3 x 0,45	3 x 0,6						573				
BSM3V 3MGP 204-EMT	3 x 4	3 x 2,8	BSM3V 3MGPM 204-EMM	3 x 3,3	3 x 0,55	3 x 0,75						573				
BSM3V 3MGP 205-EMT	3 x 5	3 x 3,5	BSM3V 3MGPM 205-EMM	3 x 5,4	3 x 0,75	3 x 1						602				
BSM3V 3MGP 402-EMT	3 x 3,2	3 x 2,4	BSM3V 3MGPM 402-EMM	3 x 3	3 x 0,45	3 x 0,6	G 2	G 1 1/2	825	150	494	573	326	240	600	625
BSM3V 3MGP 403-EMT	3 x 4,3	3 x 3	BSM3V 3MGPM 403-EMM	3 x 3,5	3 x 0,55	3 x 0,75						573				
BSM3V 3MGP 404-EMT	3 x 5	3 x 3,5	BSM3V 3MGPM 404-EMM	3 x 5,4	3 x 0,75	3 x 1						602				
BSM3V 3MGP 405-EMT	3 x 6,4	3 x 4,5	BSM3V 3MGPM 405-EMM	3 x 7	3 x 1,1	3 x 1,5						632				

BS. MXH. EM

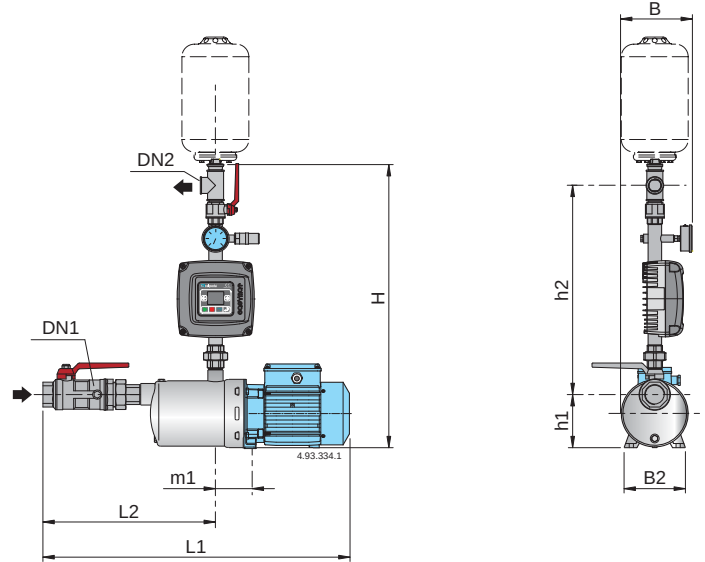
Pressure boosting sets with 1 to 3 horizontal multi-stage pumps with **EASYMAT** frequency converter



Coverage chart



Characteristic and dimensions



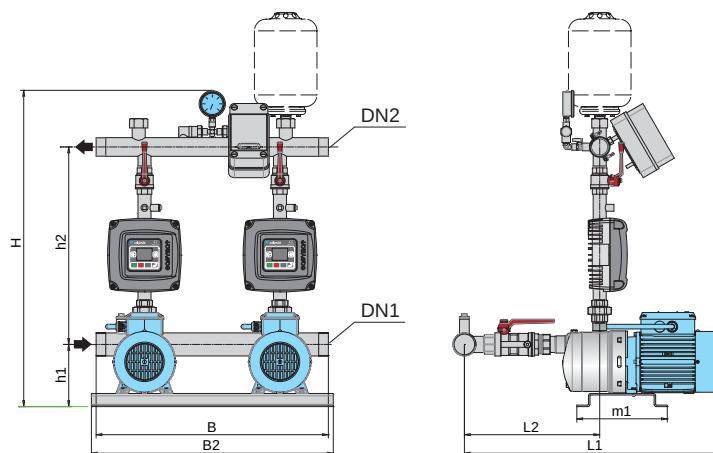
Mains: 1~ 230V Motor: 3~ 230V	mains		motor	A	P2		DN1	DN2	mm							
	A	A			kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM1V 1MXH 203E-EMT	3,2	2,4	BSM1V 1MXHM 203E-EMM	3	0,45	0,6	G 1 1/4	G 1	708	127	516	511	274	88	165	146
BSM1V 1MXH 204/A-EMT	4	2,8	BSM1V 1MXHM 204/A-EMM	4,2	0,55	0,75						561	298			
BSM1V 1MXH 205/A-EMT	5	3,5	BSM1V 1MXHM 205/A-EMM	5,4	0,75	1						585	322			
BSM1V 1MXH 206/B-EMT	6,3	4,7	BSM1V 1MXHM 206-EMM	7,4	1,1	1,5						609	346			
BSM1V 1MXH 403/A-EMT	4	2,8	BSM1V 1MXHM 403/A-EMM	4,2	0,55	0,75	G 1 1/4	G 1	708	127	516	537	274	88	165	146
BSM1V 1MXH 404/A-EMT	5	3,5	BSM1V 1MXHM 404/A-EMM	5,4	0,75	1						561	298			
BSM1V 1MXH 405/B-EMT	6,7	4,7	BSM1V 1MXHM 405-EMM	7,4	1,1	1,5						585	322			
BSM1V 1MXH 406-EMT	8	6,2			1,5	2						680	346			
BSM1V 1MXH 803-EMT	7,1	5	BSM1V 1MXHM 803-EMM	7,4	1,1	1,5	G 1 1/2	G 1	708	127	516	657	323	88	165	146
BSM1V 1MXH 804-EMT	8,6	6,2			1,5	2						687	353			
BSM1V 1MXH 805/A-EMT	10,7	7,5			1,8	2,5						717	383			
BSM1V 1MXH 1602-EMT	9,1	6,2			1,5	2	G 2	G 1 1/2	750	117	560	752	404	101	165	146
BSM1V 1MXH 1603/A-EMT	10,7	7,5			1,8	2,5						752	404			

BS. MXH. EM

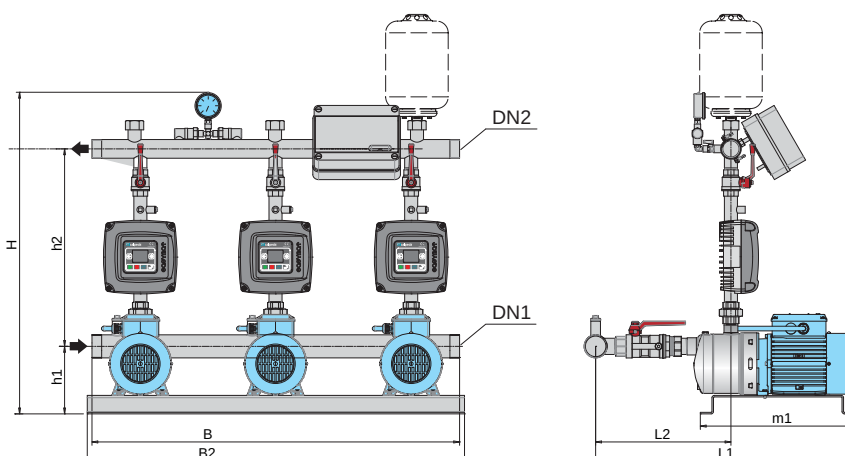
Pressure boosting sets with 1 to 3 horizontal multi-stage pumps with **EASYMAT** frequency converter



Characteristic and dimensions



Mains: 1~ 230V Motor: 3~ 230V	mains A	motor A	Mains: 1~ 230V Motor: 1~ 230V		P2 kW HP		DN1	DN2	mm							
									H	h1	h2	L1	L2	m1	B	B2
BSM2V 2MXH 203E-EMT	2 x 3,2	2 x 2,4	BSM2V 2MXHM 203E-EMM	2 x 3	2 x 0,45	2 x 0,6	G 2	G 1 1/2	848	161	506	563	326	240	600	625
BSM2V 2MXH 204/A-EMT	2 x 4	2 x 2,8	BSM2V 2MXHM 204/A-EMM	2 x 4,2	2 x 0,55	2 x 0,75						613	350			
BSM2V 2MXH 205/A-EMT	2 x 5	2 x 3,5	BSM2V 2MXHM 205/A-EMM	2 x 5,4	2 x 0,75	2 x 1						637	374			
BSM2V 2MXH 206/B-EMT	2 x 6,3	2 x 4,7	BSM2V 2MXHM 206-EMM	2 x 7,4	2 x 1,1	2 x 1,5						661	398			
BSM2V 2MXH 403/A-EMT	2 x 4	2 x 2,8	BSM2V 2MXHM 403/A-EMM	2 x 4,2	2 x 0,55	2 x 0,75	G 2	G 1 1/2	848	161	506	589	326	240	600	625
BSM2V 2MXH 404/A-EMT	2 x 5	2 x 3,5	BSM2V 2MXHM 404/A-EMM	2 x 5,4	2 x 0,75	2 x 1						613	350			
BSM2V 2MXH 405/B-EMT	2 x 6,7	2 x 4,7	BSM2V 2MXHM 405-EMM	2 x 7,4	2 x 1,1	2 x 1,5						637	374			
BSM2V 2MXH 406-EMT	2 x 8	2 x 6,2			2 x 1,5	2 x 2						732	398			
BSM2V 2MXH 803-EMT	2 x 7,1	2 x 5	BSM2V 2MXHM 803-EMM	2 x 7,4	2 x 1,1	2 x 1,5	G 2 1/2	G 2	854	161	512	727	393	240	600	625
BSM2V 2MXH 804-EMT	2 x 8,6	2 x 6,2			2 x 1,5	2 x 2						757	423			
BSM2V 2MXH 805/A-EMT	2 x 10,7	2 x 7,5			2 x 1,8	2 x 2,5	G 3	G 2 1/2	882	151	551	787	453	240	600	625
BSM2V 2MXH 1602-EMT	2 x 9,1	2 x 6,2			2 x 1,5	2 x 2						829	481			
BSM2V 2MXH 1603/A-EMT	2 x 10,7	2 x 7,5			2 x 1,8	2 x 2,5						829	481			



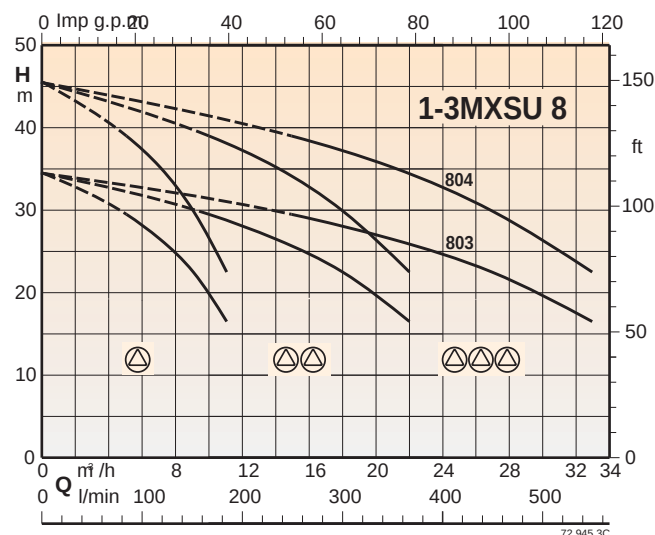
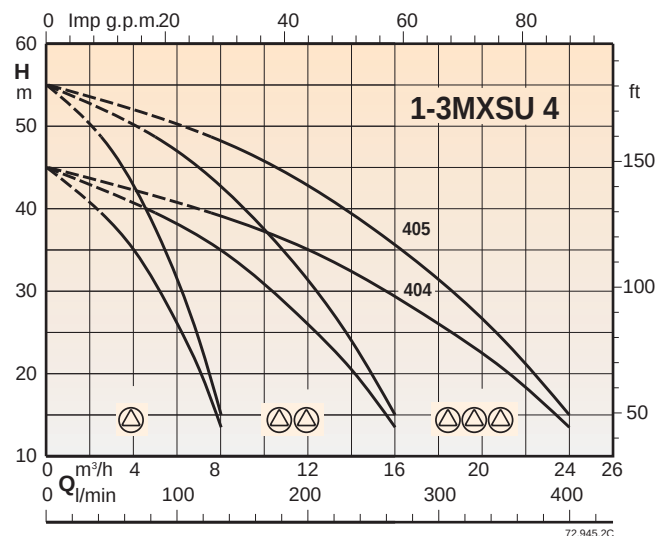
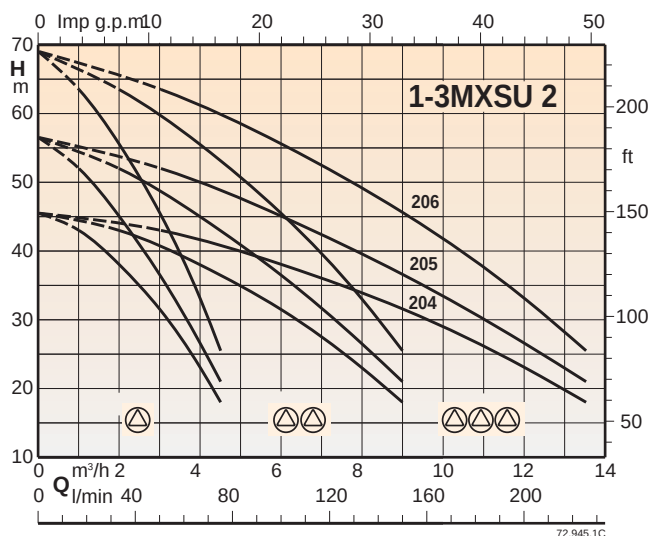
Mains: 1~ 230V Motor: 3~ 230V	mains A	motor A	Mains: 1~ 230V Motor: 1~ 230V		P2		DN1	DN2	mm							
					kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM3V 3MXH 203E-EMT	3x3,2	3x2,4	BSM3V 3MXHM 203E-EMM	3x3	3x0,45	3x0,6	G 2	G 1 1/2	848	161	506	563	326	240	600	625
BSM3V 3MXH 204/A-EMT	3x4	3x2,8	BSM3V 3MXHM 204/A-EMM	3x4,2	3x0,55	3x0,75						613	350			
BSM3V 3MXH 205/A-EMT	3x5	3x3,5	BSM3V 3MXHM 205/A-EMM	3x5,4	3x0,75	3x1						637	374			
BSM3V 3MXH 206/B-EMT	3x6,3	3x4,7	BSM3V 3MXHM 206-EMM	3x,4	3x1,1	3x1,5						661	398			
BSM3V 3MXH 403/A-EMT	3x4	3x2,8	BSM3V 3MXHM 403/A-EMM	3x4,2	3x0,55	3x0,75	G 2	G 1 1/2	848	161	506	589	326	240	600	625
BSM3V 3MXH 404/A-EMT	3x5	3x3,5	BSM3V 3MXHM 404/A-EMM	3x5,4	3x0,75	3x1						613	350			
BSM3V 3MXH 405/B-EMT	3x6,7	3x4,7	BSM3V 3MXHM 405-EMM	3x,4	3x1,1	3x1,5						637	374			
BSM3V 3MXH 406-EMT	3x8	3x6,2			3x1,5	3x2						732	398			
BSM3V 3MXH 803-EMT	3x7,1	3x5	BSM3V 3MXHM 803-EMM	3x7,4	3x1,1	3x1,5	G 2 1/2	G 2	854	161	512	727	393	240	600	625
BSM3V 3MXH 804-EMT	3x8,6	3x6,2			3x1,5	3x2						757	423			
BSM3V 3MXH 805/A-EMT	3x10,7	3x7,5			3x1,8	3x2,5	G 3	G 2 1/2	882	151	551	787	453	240	600	625
BSM3V 3MXH 1602-EMT	3x9,1	3x6,2			3x1,5	3x2						829	481			
BSM3V 3MXH 1603/A-EMT	3x10,7	3x7,5			3x1,8	3x2,5						829	481			

BS. MXSU. EM

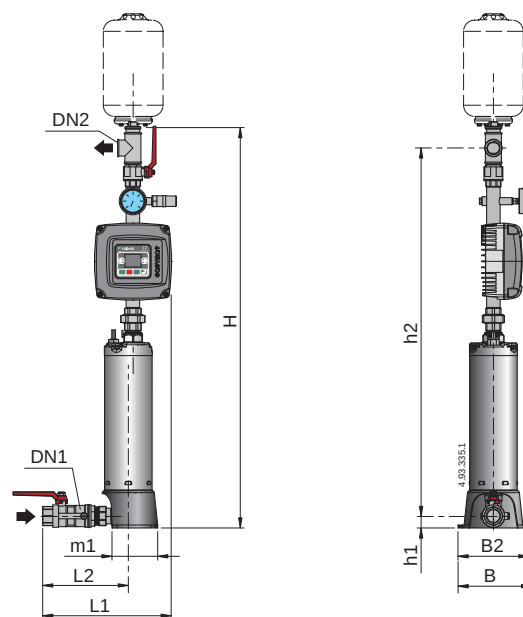
Pressure boosting sets with 1 to 3 vertical multi-stage pumps with **EASYPAT** frequency converter



Characteristic and dimensions



Characteristic and dimensions



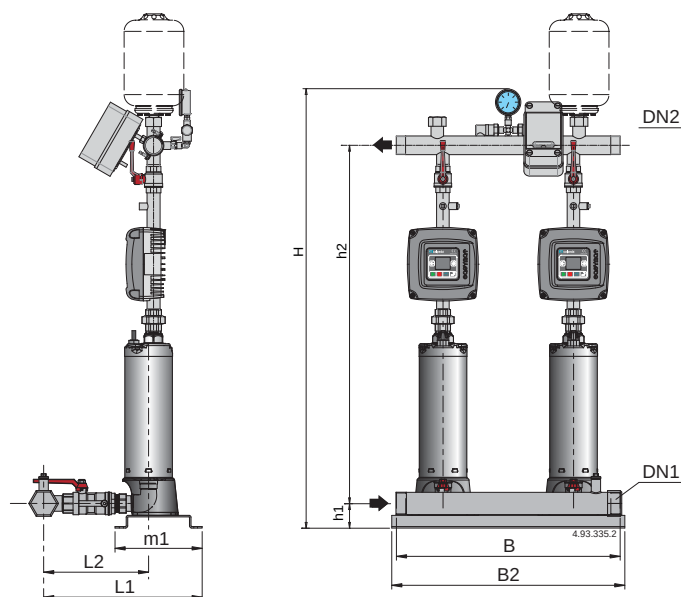
Mains: 1~ 230V Motor: 3~ 230V			Mains: 1~ 230V Motor: 1~ 230V		P2				mm									
mains	motor		A	kW	HP	H			h1	h2	L1	L2	m1	B	B2			
	A	A					DN1	DN2										
BSM1V 1MXSU 204/A-EMT	3,9	2,7	BSM1V 1MXSUM 204/A-EMM	4,1	0,55	0,75			1071		973							
BSM1V 1MXSU 205/A-EMT	4,7	3,3	BSM1V 1MXSUM 205/A-EMM	5	0,75	1	G 1 1/4	G 1 1/4	1095	32	997	304	225	123	190	190		
BSM1V 1MXSU 206/A-EMT	5,4	3,8			0,9	1,2			1119		1021							
BSM1V 1MXSU 404/A-EMT	5,4	3,8			0,9	1,2	G 1 1/4	G 1 1/4	1071		973	304	225	123	190	190		
BSM1V 1MXSU 405/A-EMT	6,4	4,5			1,1	1,5			1095	32	997							
BSM1V 1MXSU 803/A-EMT	6,4	4,5			1,1	1,5			1095		997							
BSM1V 1MXSU 804/A-EMT	9,4	6,6			1,5	2	G 1 1/4	G 1 1/4	1095	32	997	304	225	123	190	190		

BS. MXSU. EM

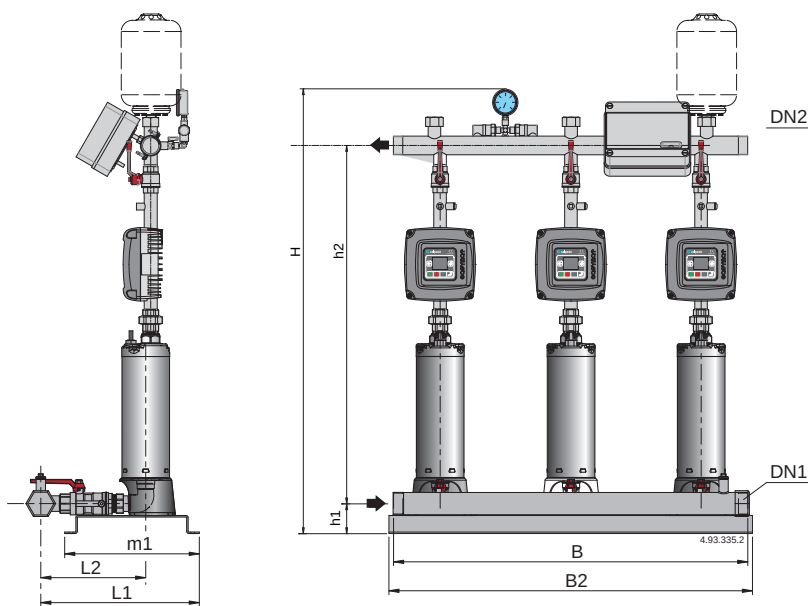
Pressure boosting sets with 1 to 3 vertical multi-stage pumps with **EASYPAT** frequency converter



Characteristic and dimensions



Mains: 1~ 230V Motor: 3~ 230V	mains A	motor A	Mains: 1~ 230V Motor: 1~ 230V	A	P2		DN1	DN2	mm							
					KW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM2V 2MXSU 204/A-EMT	2 x 3,9	2 x 2,7	BSM2V 2MXSUM 204/A-EMM	2 x 4,1	2 x 0,55	2 x 0,75	G 2	G 2	1205	66	958	417	277	240	600	625
BSM2V 2MXSU 205/A-EMT	2 x 4,7	2 x 3,3	BSM2V 2MXSUM 205/A-EMM	2 x 5	2 x 0,75	2 x 1			1229		982					
BSM2V 2MXSU 206/A-EMT	2 x 5,4	2 x 3,8			2 x 0,9	2 x 1,2			1253		1006					
BSM2V 2MXSU 404/A-EMT	2 x 5,4	2 x 3,8			2 x 0,9	2 x 1,2	G 2	G 2	1205	66	958	417	277	240	600	625
BSM2V 2MXSU 405/A-EMT	2 x 6,4	2 x 4,5			2 x 1,1	2 x 1,5			1229		982					
BSM2V 2MXSU 803/A-EMT	2 x 6,4	2 x 4,5			2 x 1,1	2 x 1,5	G 2	G 2	1229	66	982	417	277	240	600	625
BSM2V 2MXSU 804/A-EMT	2 x 9,4	2 x 6,6			2 x 1,5	2 x 2			1229		982					



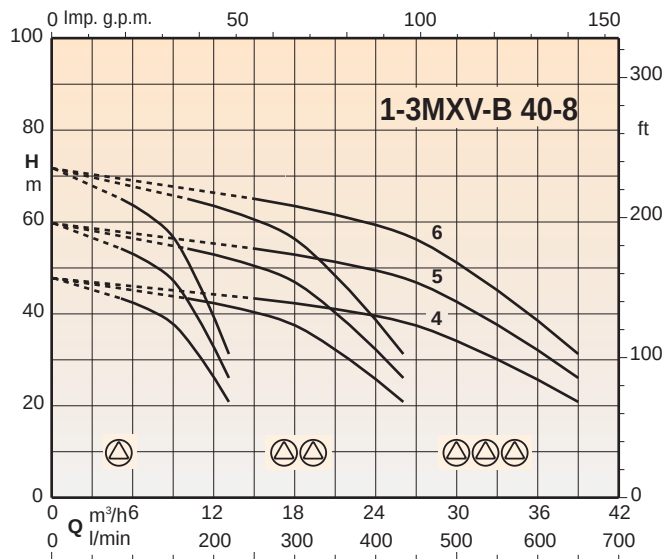
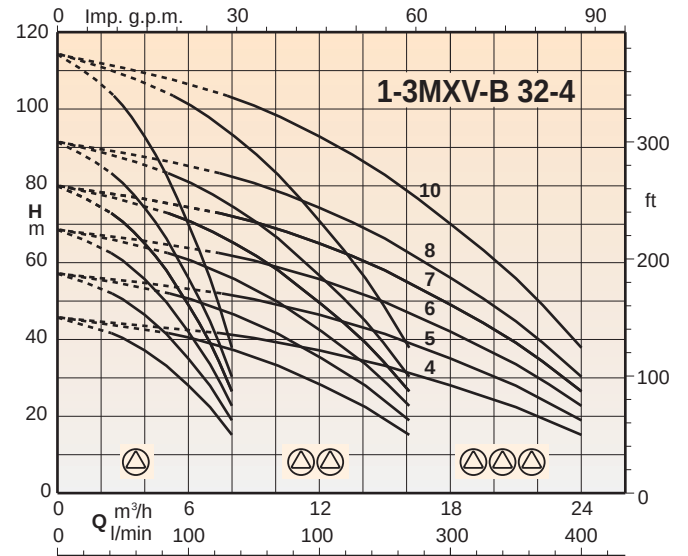
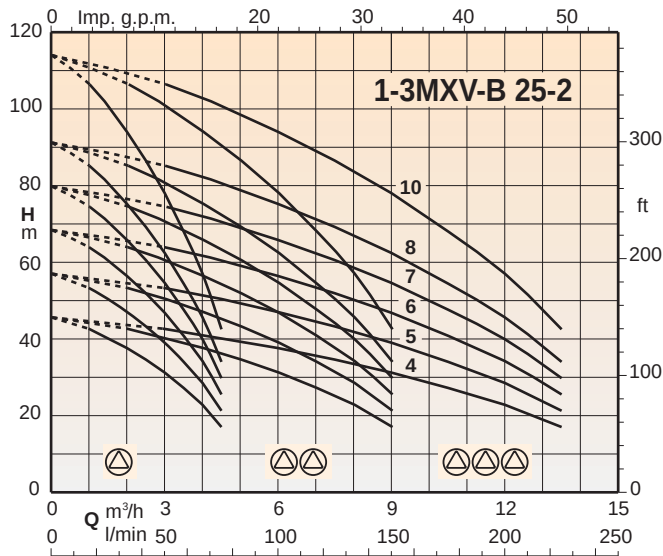
Mains: 1~ 230V Motor: 3~ 230V	mains A	motor A	Mains: 1~ 230V Motor: 1~ 230V	A	P2		DN1	DN2	mm							
					KW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM3V 3MXSU 204/A-EMT	3 x 3,9	3 x 2,7	BSM3V 3MXSUM 204/A-EMM	3 x 4,1	3 x 0,55	3 x 0,75	G 2	G 2	1205	66	958	417	277	240	600	625
BSM3V 3MXSU 205/A-EMT	3 x 4,7	3 x 3,3	BSM3V 3MXSUM 205/A-EMM	3 x 5	3 x 0,75	3 x 1			1229		982					
BSM3V 3MXSU 206/A-EMT	3 x 5,4	3 x 3,8			3 x 0,9	3 x 1,2			1253		1006					
BSM3V 3MXSU 404/A-EMT	3 x 5,4	3 x 3,8			3 x 0,9	3 x 1,2	G 2	G 2	1205	66	958	417	277	240	600	625
BSM3V 3MXSU 405/A-EMT	3 x 6,4	3 x 4,5			3 x 1,1	3 x 1,5			1229		982					
BSM3V 3MXSU 803/A-EMT	3 x 6,4	3 x 4,5			3 x 1,1	3 x 1,5	G 2	G 2	1229	66	982	417	277	240	600	625
BSM3V 3MXSU 804/A-EMT	3 x 9,4	3 x 6,6			3 x 1,5	3 x 2			1229		982					

BS. MXVB. EM

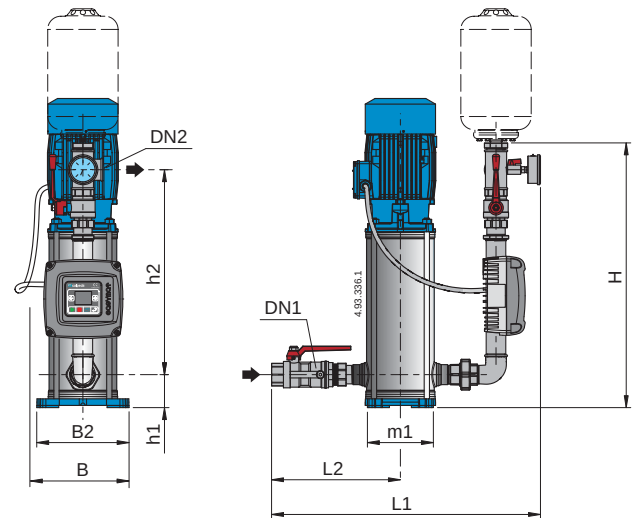
Pressure boosting sets with 1 to 3 vertical multi-stage pumps with **EASYMAT** frequency converter



Characteristic and dimensions



Characteristic and dimensions



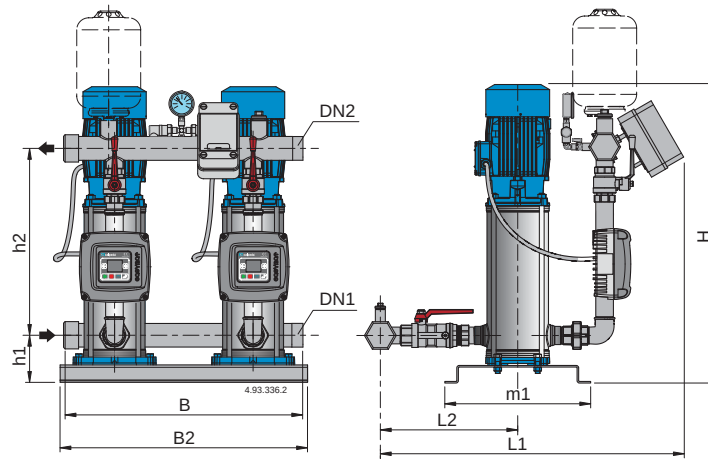
Mains: 1~ 230V Motor: 3~ 230V	mains		motor	Mains: 1~ 230V Motor: 1~ 230V		P2		DN1	DN2	mm							
	A	A			A	kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM1V 1MXV-B 25-204-EMT	5,4	3,3		BSM1V 1MXV-BM 25-204-EMM	5,8	0,75	1	G 1	G 1	577	75	437	588	262	150	218	210
BSM1V 1MXV-B 25-205-EMT	5,4	3,3		BSM1V 1MXV-BM 25-205-EMM	5,8	0,75	1										
BSM1V 1MXV-B 25-206-EMT	7,1	4,7		BSM1V 1MXV-BM 25-206-EMM	7,4	1,1	1,5										
BSM1V 1MXV-B 25-207-EMT	7,1	4,7		BSM1V 1MXV-BM 25-207-EMM	7,4	1,1	1,5										
BSM1V 1MXV-B 25-208-EMT	10,8	7,5				1,5	2										
BSM1V 1MXV-B 25-210-EMT	10,8	7,5				1,5	2	G 1 1/4	G 1 1/4	600	75	458	633	288	150	218	210
BSM1V 1MXV-B 32-404-EMT	7,1	4,7		BSM1V 1MXV-BM 32-404-EMM	7,4	1,1	1,5										
BSM1V 1MXV-B 32-405-EMT	7,1	4,7		BSM1V 1MXV-BM 32-405-EMM	7,4	1,1	1,5										
BSM1V 1MXV-B 32-406-EMT	10,8	7,5				1,5	2										
BSM1V 1MXV-B 32-407-EMT	10,8	7,5				1,5	2										
BSM1V 1MXV-B 32-408-EMT	13,2	9,15				2,2	3	G 1 1/2	G 1 1/2	623	80	470	675	318	190	246	246
BSM1V 1MXV-B 32-410-EMT	13,2	9,15				2,2	3										
BSM1V 1MXV-B 40-804-EMT	10,8	7,5				1,5	2										
BSM1V 1MXV-B 40-805-EMT	13,2	9,15				2,2	3										
BSM1V 1MXV-B 40-806-EMT	13,2	9,15				2,2	3										

BS. MXVB. EM

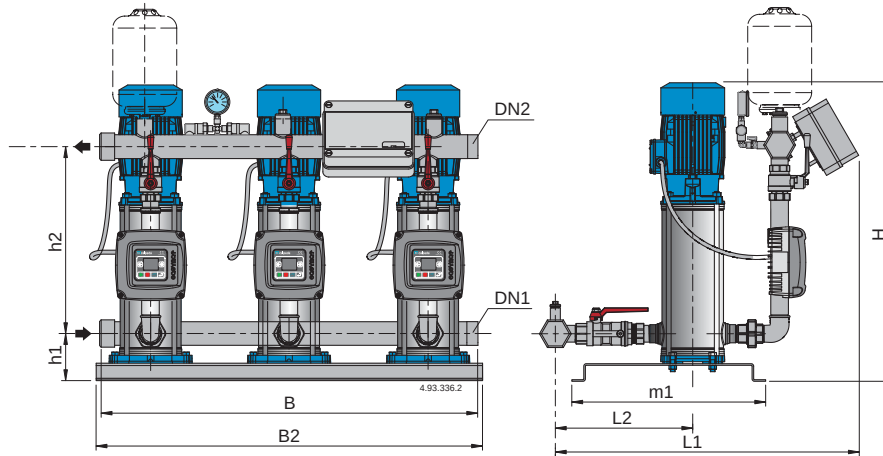
Pressure boosting sets with 1 to 3 vertical multi-stage pumps with **EASYMAT** frequency converter



Characteristic and dimensions



Mains: 1~ 230V Motor: 3~ 230V	mains		Mains: 1~ 230V Motor: 1~ 230V	A	P2		DN1	DN2	mm							
	A	A			kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM2V 2MXV-B 25-204-EMT	2 x 5,4	2 x 3,3	BSM2V 2MXV-BM 25-204-EMM	2 x 5,8	2 x 0,75	2 x 1	G 1 1/2	G 1 1/2	727	119	461	501	315	365	600	625
BSM2V 2MXV-B 25-205-EMT	2 x 5,4	2 x 3,3	BSM2V 2MXV-BM 25-205-EMM	2 x 5,8	2 x 0,75	2 x 1										
BSM2V 2MXV-B 25-206-EMT	2 x 7,1	2 x 4,7	BSM2V 2MXV-BM 25-206-EMM	2 x 7,4	2 x 1,1	2 x 1,5										
BSM2V 2MXV-B 25-207-EMT	2 x 7,1	2 x 4,7	BSM2V 2MXV-BM 25-207-EMM	2 x 7,4	2 x 1,1	2 x 1,5										
BSM2V 2MXV-B 25-208-EMT	2 x 10,8	2 x 7,5			2 x 1,5	2 x 2										
BSM2V 2MXV-B 25-210-EMT	2 x 10,8	2 x 7,5			2 x 1,5	2 x 2										
BSM2V 2MXV-B 32-404-EMT	2 x 7,1	2 x 4,7	BSM2V 2MXV-BM 32-404-EMM	2 x 7,4	2 x 1,1	2 x 1,5	G 2	G 2	743	119	477	544	340	365	600	625
BSM2V 2MXV-B 32-405-EMT	2 x 7,1	2 x 4,7	BSM2V 2MXV-BM 32-405-EMM	2 x 7,4	2 x 1,1	2 x 1,5										
BSM2V 2MXV-B 32-406-EMT	2 x 10,8	2 x 7,5			2 x 1,5	2 x 2										
BSM2V 2MXV-B 32-407-EMT	2 x 10,8	2 x 7,5			2 x 1,5	2 x 2										
BSM2V 2MXV-B 32-408-EMT	2 x 13,2	2 x 9,15			2 x 2,2	2 x 3										
BSM2V 2MXV-B 32-410-EMT	2 x 13,2	2 x 9,15			2 x 2,2	2 x 3										
BSM2V 2MXV-B 40-804-EMT	2 x 10,8	2 x 7,5			2 x 1,5	2 x 2	G 2 1/2	G 2 1/2	765	124	495	598	388	365	600	625
BSM2V 2MXV-B 40-805-EMT	2 x 13,2	2 x 9,15			2 x 2,2	2 x 3										
BSM2V 2MXV-B 40-806-EMT	2 x 13,2	2 x 9,15			2 x 2,2	2 x 3										



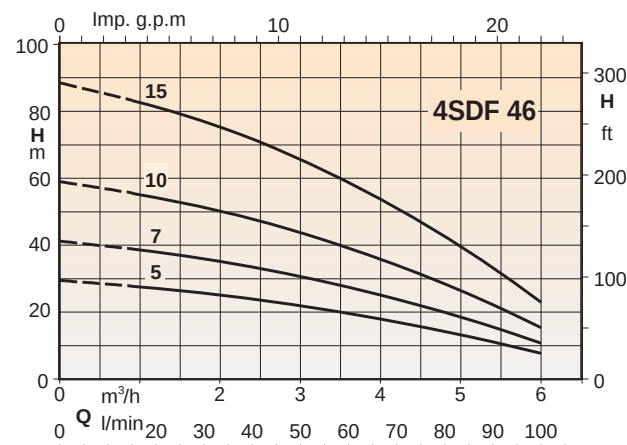
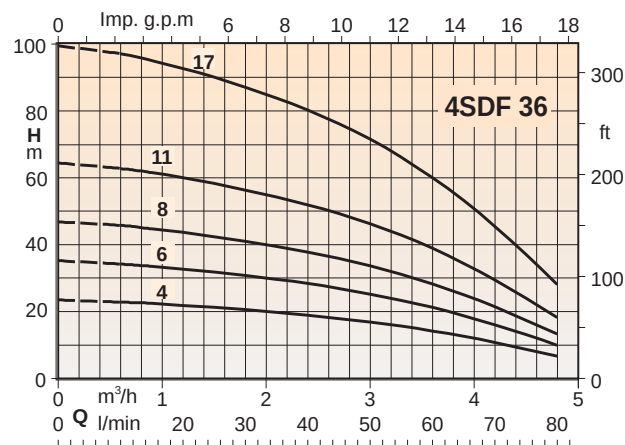
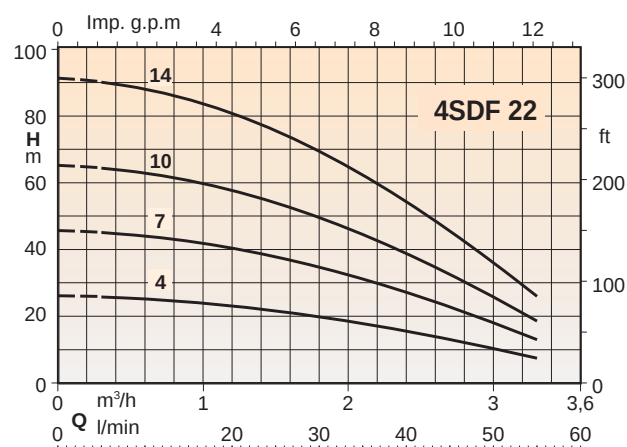
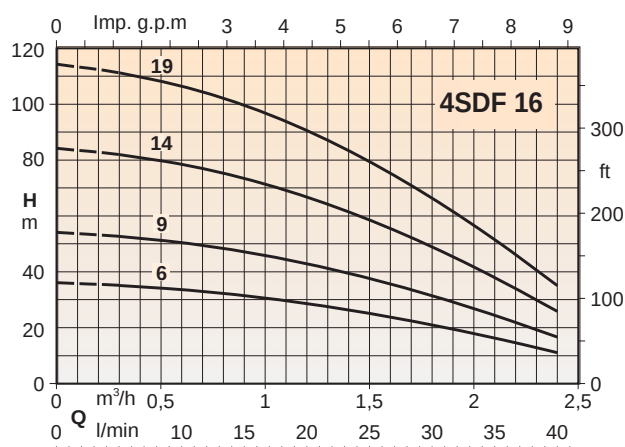
Mains: 1~ 230V Motor: 3~ 230V	mains		Mains: 1~ 230V Motor: 1~ 230V	A	P2		DN1	DN2	mm							
	A	A			kW	HP			H	h1	h2	L1	L2	m1	B	B2
BSM3V 3MXV-B 25-204-EMT	3 x 5,4	3 x 3,3	BSM3V 3MXV-BM 25-204-EMM	3 x 5,8	3 x 0,75	3 x 1	G 1 1/2	G 1 1/2	727	119	461	501	315	365	600	625
BSM3V 3MXV-B 25-205-EMT	3 x 5,4	3 x 3,3	BSM3V 3MXV-BM 25-205-EMM	3 x 5,8	3 x 0,75	3 x 1										
BSM3V 3MXV-B 25-206-EMT	3 x 7,1	3 x 4,7	BSM3V 3MXV-BM 25-206-EMM	3 x 7,4	3 x 1,1	3 x 1,5										
BSM3V 3MXV-B 25-207-EMT	3 x 7,1	3 x 4,7	BSM3V 3MXV-BM 25-207-EMM	3 x 7,4	3 x 1,1	3 x 1,5										
BSM3V 3MXV-B 25-208-EMT	3 x 10,8	3 x 7,5			3 x 1,5	3 x 2										
BSM3V 3MXV-B 25-210-EMT	3 x 10,8	3 x 7,5			3 x 1,5	3 x 2										
BSM3V 3MXV-B 32-404-EMT	3 x 7,1	3 x 4,7	BSM3V 3MXV-BM 32-404-EMM	3 x 7,4	3 x 1,1	3 x 1,5	G 2	G 2	743	119	477	544	340	365	600	625
BSM3V 3MXV-B 32-405-EMT	3 x 7,1	3 x 4,7	BSM3V 3MXV-BM 32-405-EMM	3 x 7,4	3 x 1,1	3 x 1,5										
BSM3V 3MXV-B 32-406-EMT	3 x 10,8	3 x 7,5			3 x 1,5	3 x 2										
BSM3V 3MXV-B 32-407-EMT	3 x 10,8	3 x 7,5			3 x 1,5	3 x 2										
BSM3V 3MXV-B 32-408-EMT	3 x 13,2	3 x 9,15			3 x 2,2	3 x 3										
BSM3V 3MXV-B 32-410-EMT	3 x 13,2	3 x 9,15			3 x 2,2	3 x 3										
BSM3V 3MXV-B 40-804-EMT	3 x 10,8	3 x 7,5			3 x 1,5	3 x 2	G 2 1/2	G 2 1/2	765	124	495	598	388	365	600	625
BSM3V 3MXV-B 40-805-EMT	3 x 13,2	3 x 9,15			3 x 2,2	3 x 3										
BSM3V 3MXV-B 40-806-EMT	3 x 13,2	3 x 9,15			3 x 2,2	3 x 3										

BS. 4SDF. EM

Pressure boosting sets with one submersible borehole pump with **EASYMAT** frequency converter

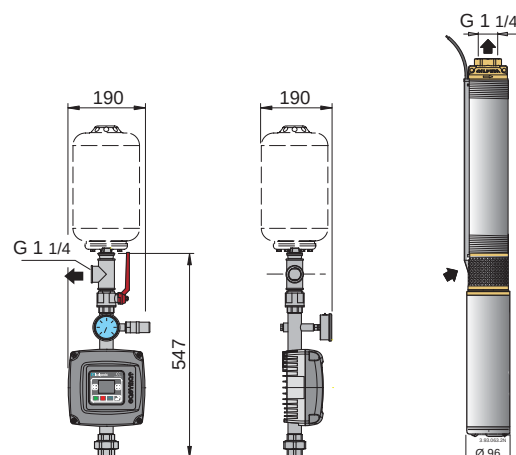
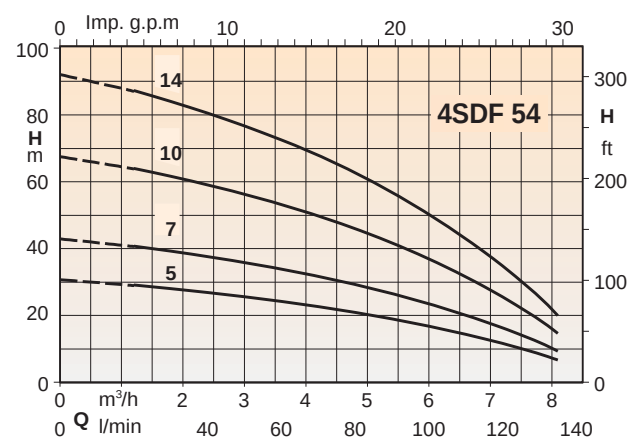


Coverage chart



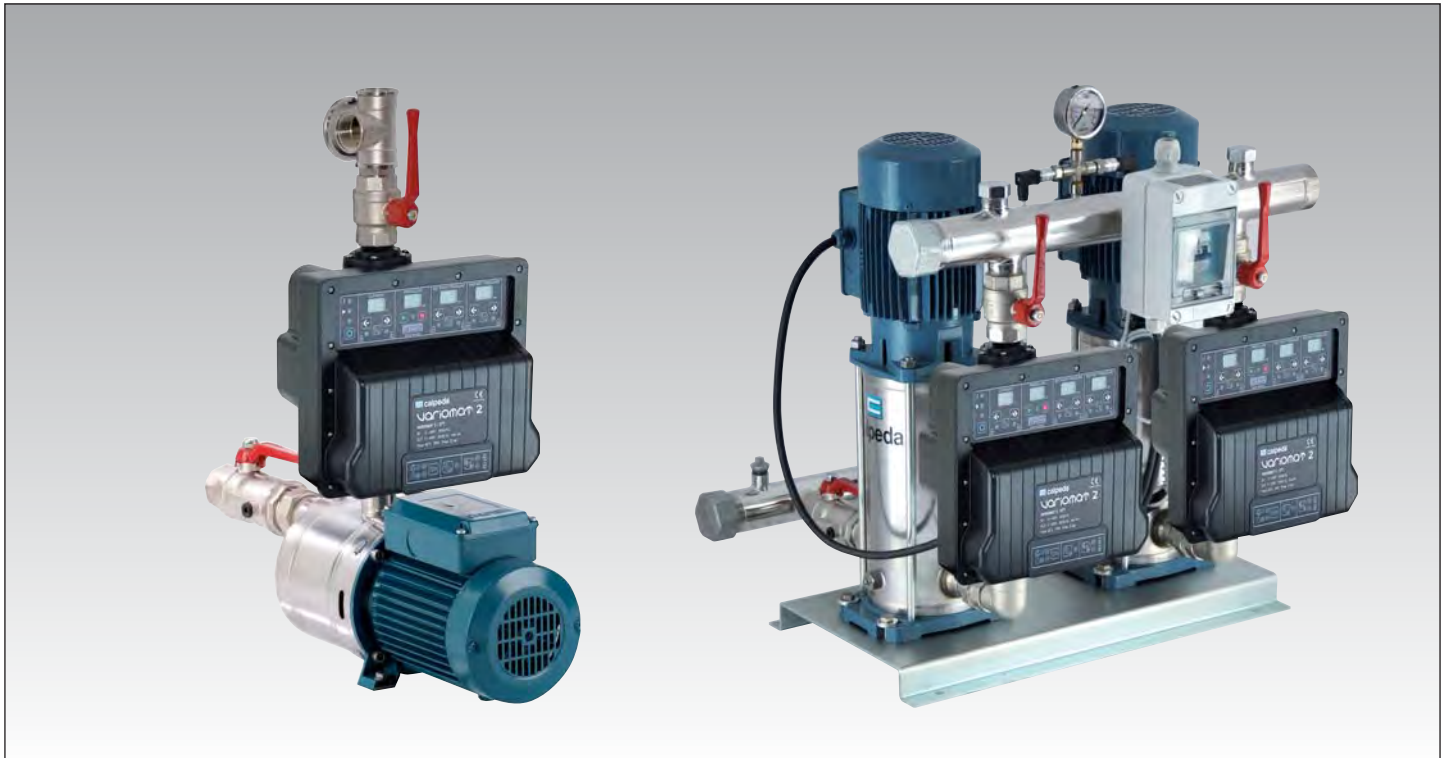
Characteristic and dimensions

Mains: 1~ 230V Motor: 3~ 230V	mains	motor	ent.	motore	P ₂	
					kW	HP
BSM1V 1-4SDF 16/6E-EMT		2.5	1.9	0.37	0.5	
BSM1V 1-4SDF 16/9E-EMT		2.5	1.9	0.37	0.5	
BSM1V 1-4SDF 16/14E-EMT		3.7	2.8	0.55	0.75	
BSM1V 1-4SDF 16/19E-EMT		4.8	3.5	0.75	1	
BSM1V 1-4SDF 22/4E-EMT		2.5	1.9	0.37	0.5	
BSM1V 1-4SDF 22/7E-EMT		2.5	1.9	0.37	0.5	
BSM1V 1-4SDF 22/10E-EMT		3.7	2.8	0.55	0.75	
BSM1V 1-4SDF 22/14E-EMT		4.8	3.5	0.75	1	
BSM1V 1-4SDF 36/4E-EMT		2.5	1.9	0.37	0.5	
BSM1V 1-4SDF 36/6E-EMT		2.5	1.9	0.37	0.5	
BSM1V 1-4SDF 36/8E-EMT		3.7	2.8	0.55	0.75	
BSM1V 1-4SDF 36/11E-EMT		4.8	3.5	0.75	1	
BSM1V 1-4SDF 36/17E-EMT		6.8	4.9	1.1	1.5	
BSM1V 1-4SDF 46/5E-EMT		2.5	1.9	0.37	0.5	
BSM1V 1-4SDF 46/7E-EMT		3.7	2.8	0.55	0.75	
BSM1V 1-4SDF 46/10E-EMT		4.8	3.5	0.75	1	
BSM1V 1-4SDF 46/15E-EMT		6.8	4.9	1.1	1.5	
BSM1V 1-4SDF 54/5E-EMT		3.7	2.8	0.55	0.75	
BSM1V 1-4SDF 54/7E-EMT		4.8	3.5	0.75	1	
BSM1V 1-4SDF 54/10E-EMT		6.8	4.9	1.1	1.5	
BSM1V 1-4SDF 54/14E-EMT		9.5	6.8	1.5	2	



BS.. VTT2

Pressure boosting sets with 1 to 2 pumps
with **VARIOMAT 2** frequency converter



Execution

Constant pressure boosting sets with **VARIOMAT 2** frequency converter made of one or two pumps, ball valve and non return valve on suction side, ball valve and pressure gauge on delivery side.

Suction and delivery manifolds in stainless steel AISI 304 for two pump units.

Suitable for installation of a 8-lt cylindrical pressure vessel on delivery side.

VARIOMAT 2 device:

Frequency converter installed directly on the pump delivery pipe and water cooled.

Only two parameters to set at starting:

- Working frequency
- Working pressure

Possibility to display:

- Pressure of the system
- Working frequency
- Absorbed current
- Alarms

Operation

According to the water consumption, one or more pumps starts, all at variable speed, to ensure the required water quantity at the set pressure.

CONSTANT PRESSURE MODE:

the system keeps the pressure constant when the quantity of water requested by the user changes.

Applications

For drawing water out of a well

As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).

Motors

2-pole induction motors, 50Hz, $n \approx 2900$ rpm, suitable for operation with frequency converter

- Three-phase 400V +/-10%

Class F insulation

IP 54 protection

Execution according IEC 60034

Other voltages on demand

Pressure vessels (on demand)

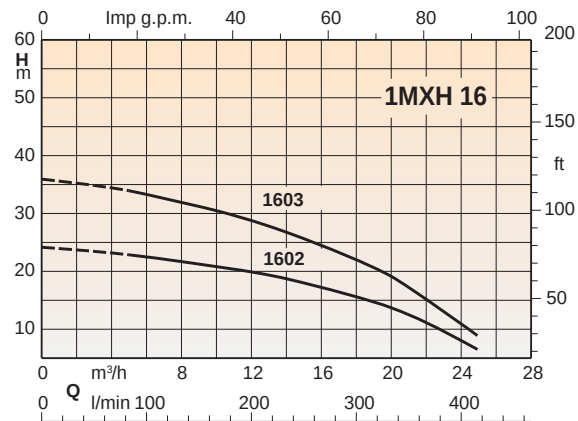
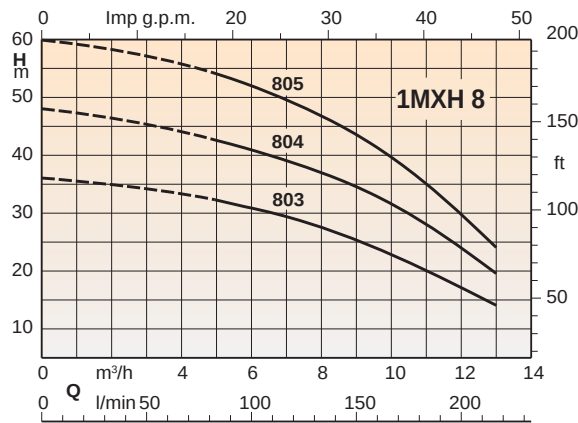
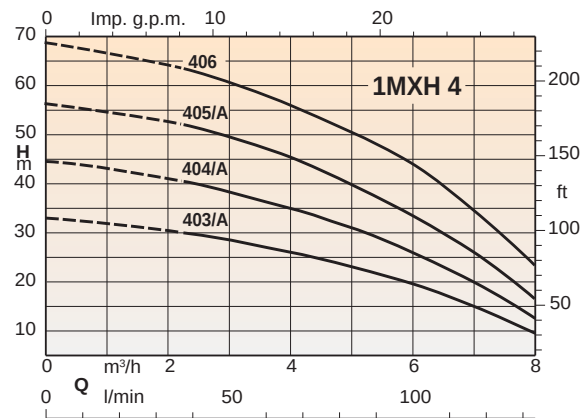
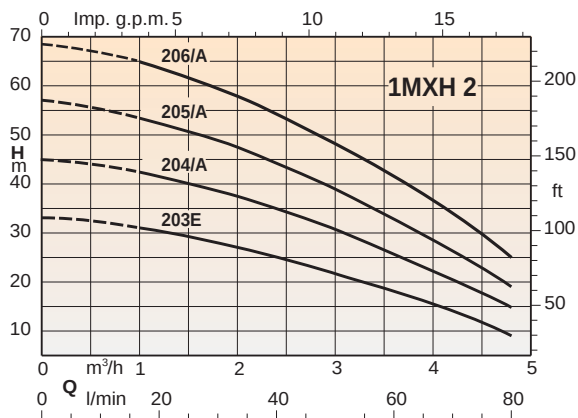
Cylindrical with capacity 8 liters, membrane type, air precharged

BS. MXH. VTT2

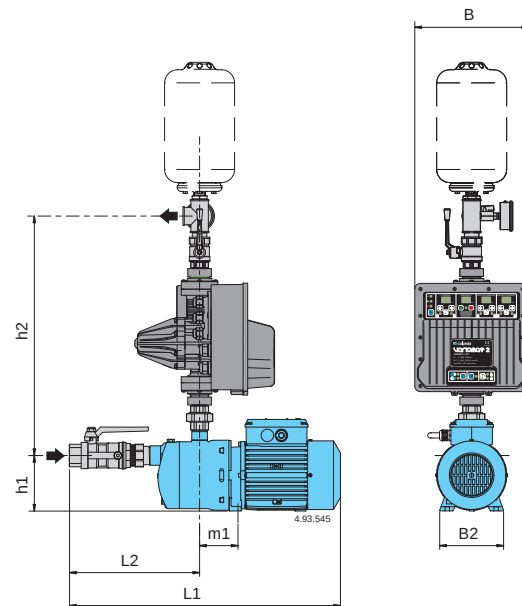
Pressure boosting sets with one horizontal multi-stage pump with **VARIOMAT 2** frequency converter



Coverage chart



Characteristic and dimensions



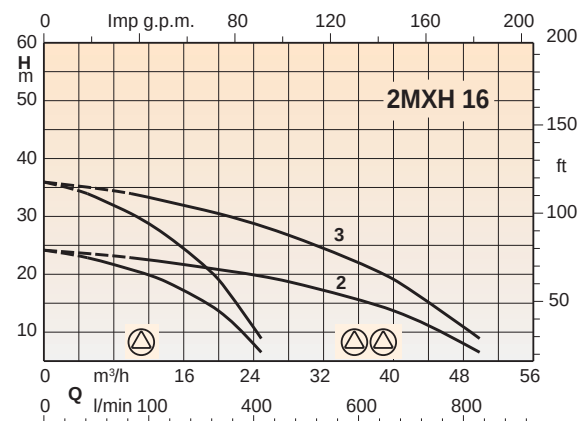
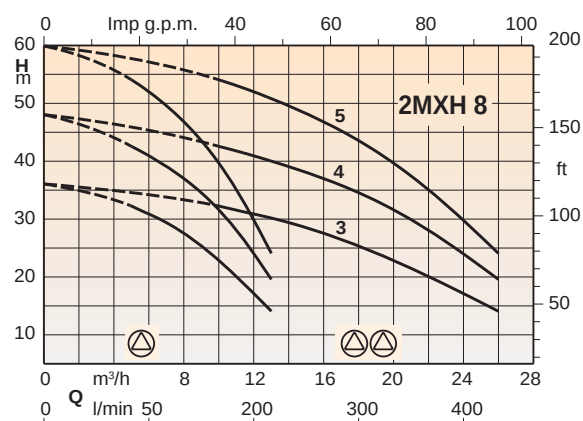
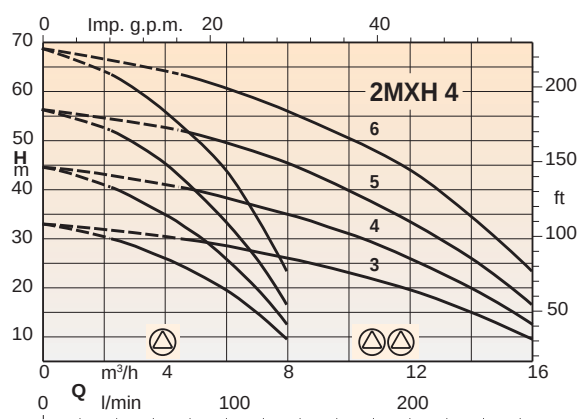
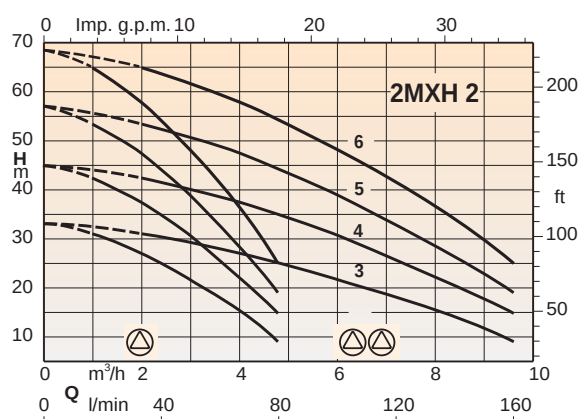
Mains: 3~ 400V Motor: 3~ 400V		P ₂				mm							
	A	kW	HP	DN1	DN2	H	h1	h2	L1	L2	m1	B	B2
BS1V 1MXH 203E-VTT2/A	1,4	0,45	0,6	G 1 1/4	G 1	722	127	548	545	305	28	260	210
BS1V 1MXH 204/A-VTT2/A	1,6	0,55	0,75						565	330			
BS1V 1MXH 205/A-VTT2/A	2	0,75	1						590	355			
BS1V 1MXH 206/A-VTT2/A	2,7	1,1	1,5						675	375			
BS1V 1MXH 403/A-VTT2/A	1,6	0,55	0,75	G 1 1/4	G 1	722	127	548	545	305	28	260	210
BS1V 1MXH 404/A-VTT2/A	2	0,75	1						565	330			
BS1V 1MXH 405/A-VTT2/A	2,7	1,1	1,5						615	375			
BS1V 1MXH 406-VTT2/A	3,7	1,5	2						675	375			
BS1V 1MXH 803-VTT2/A	2,9	1,1	1,5	G 1 1/2	G 1	722	127	548	675	350	31	260	210
BS1V 1MXH 804-VTT2/A	3,7	1,5	2						705	380			
BS1V 1MXH 805-VTT2/A	4,3	1,8	2,5						735	410			
BS1V 1MXH 1602-VTT2/A	3,7	1,5	2	G 2	G 1 1/2	715	117	537	746	410	31	260	210
BS1V 1MXH 1603-VTT2/A	4,3	1,8	2,5						746	410			

BS. MXH. VTT2

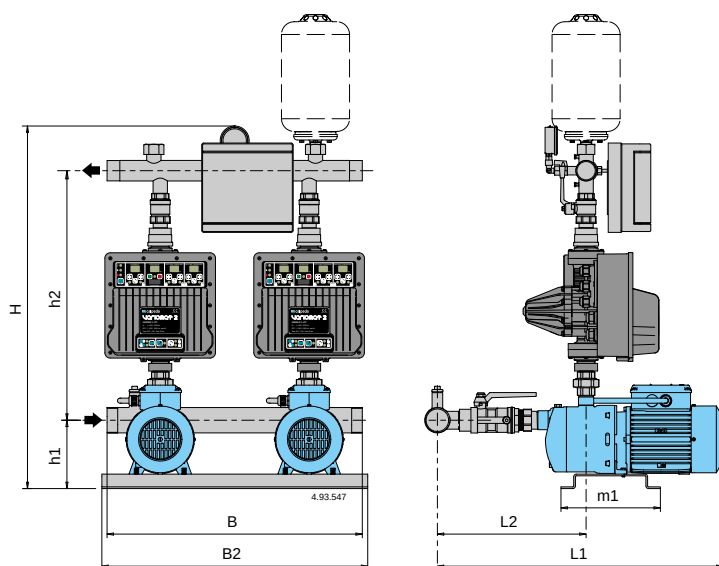
Pressure boosting sets with two horizontal multi-stage pumps with **VARIOMAT 2** frequency converter



Coverage chart



Characteristic and dimensions



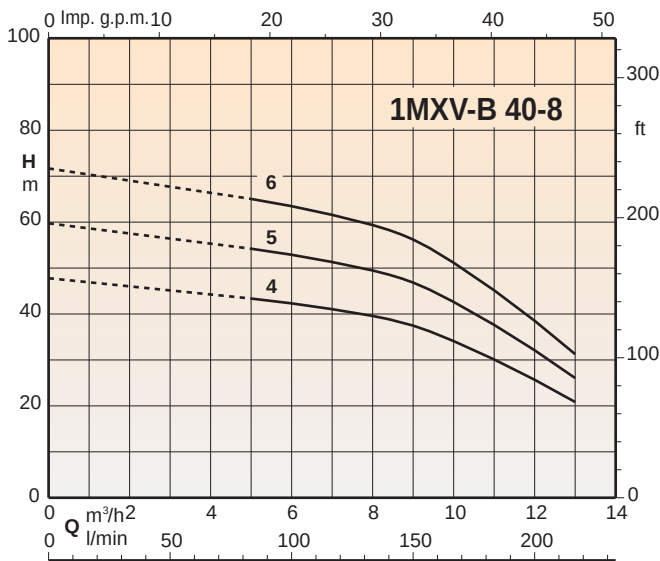
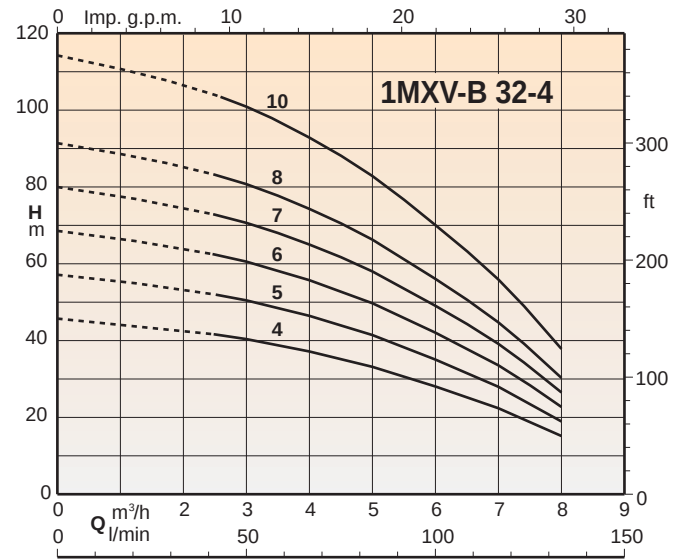
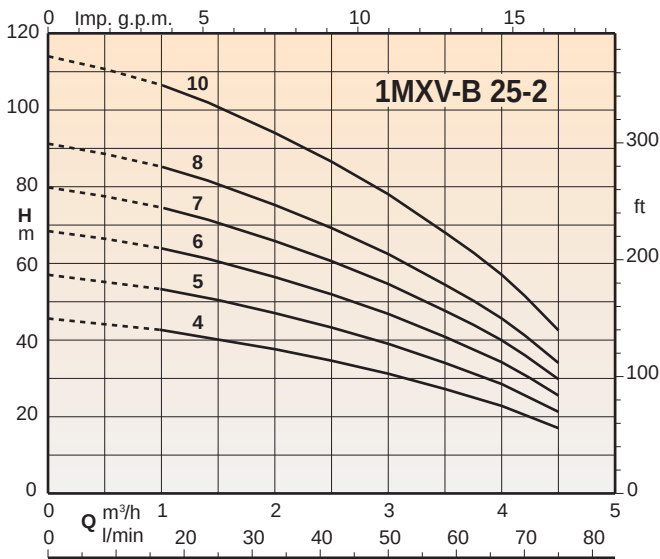
Mains: 3~ 400V Motor: 3~ 400V		P2		DN1		DN2		mm						
								H	h1	h2	L1	L2	m1	B
BS2V 2MXH 203E-VTT2/A	2 x 1,4	2 x 0,45	2 x 0,6	G 2	G 1 1/2	858	162	557	570	330	234	600	625	
BS2V 2MXH 204/A-VTT2/A	2 x 1,6	2 x 0,55	2 x 0,75						620	355				
BS2V 2MXH 205/A-VTT2/A	2 x 2	2 x 0,75	2 x 1						645	380				
BS2V 2MXH 206/A-VTT2/A	2 x 2,7	2 x 1,1	2 x 1,5						665	405				
BS2V 2MXH 403/A-VTT2/A	2 x 1,6	2 x 0,55	2 x 0,75	G 2	G 1 1/2	858	162	557	595	330	234	600	625	
BS2V 2MXH 404/A-VTT2/A	2 x 2	2 x 0,75	2 x 1						620	355				
BS2V 2MXH 405/A-VTT2/A	2 x 2,7	2 x 1,1	2 x 1,5						645	380				
BS2V 2MXH 406-VTT2/A	2 x 3,7	2 x 1,5	2 x 2						725	405				
BS2V 2MXH 803-VTT2/A	2 x 2,9	2 x 1,1	2 x 1,5	G 2 1/2	G 2	864	162	563	750	430	234	600	625	
BS2V 2MXH 804-VTT2/A	2 x 3,7	2 x 1,5	2 x 2						780	460				
BS2V 2MXH 805-VTT2/A	2 x 4,3	2 x 1,8	2 x 2,5						810	490				
BS2V 2MXH 1602-VTT2/A	2 x 3,7	2 x 1,5	2 x 2	G 3	G 2 1/2	830	152	679	830	495	234	600	625	
BS2V 2MXH 1603-VTT2/A	2 x 4,3	2 x 1,8	2 x 2,5						830	495				

BS. MXVB. VTT2

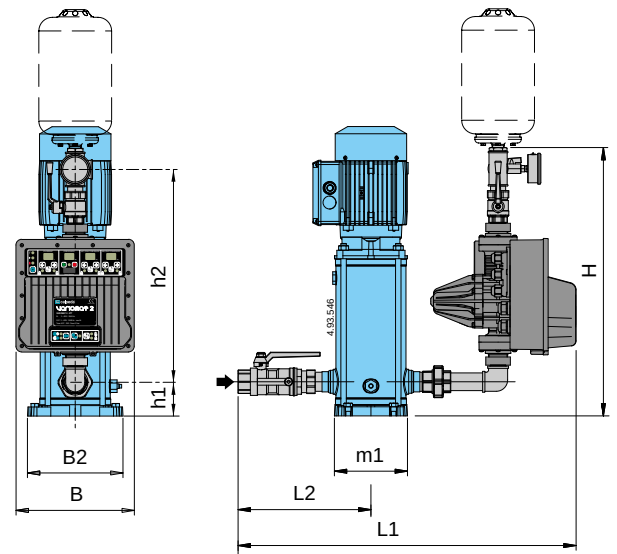
Pressure boosting sets with one vertical multi-stage pump with **VARIOMAT 2** frequency converter



Coverage chart



Characteristic and dimensions



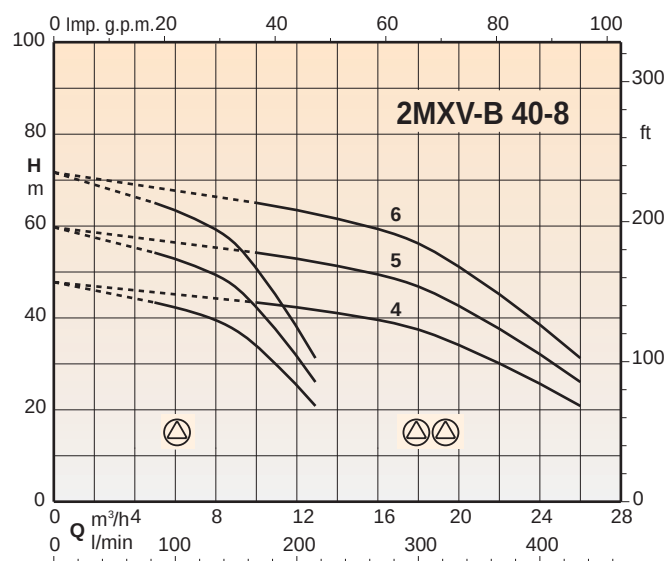
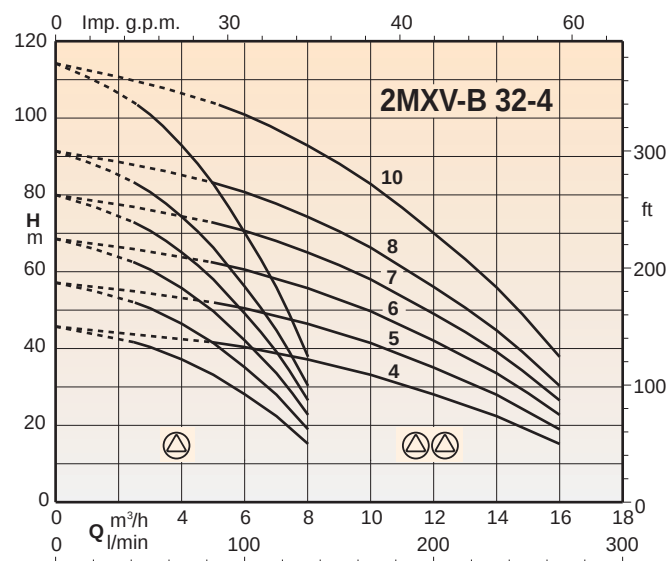
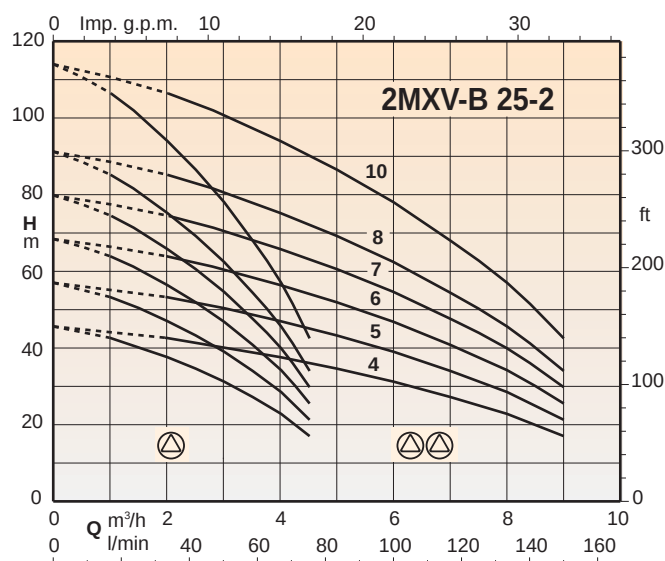
	A	P ₂		DN1	DN2	mm							
		kW	HP			H	h1	h2	L1	L2	m1	B	B2
Mains: 3~ 400V Motor: 3~ 400V													
BS1V 1MXV-B 25-204-VTT2/A	2,3	0,75	1	G 1	G 1	590	75	440	716	265	150	225	260
BS1V 1MXV-B 25-205-VTT2/A	2,3	0,75	1										
BS1V 1MXV-B 25-206-VTT2/A	2,9	1,1	1,5										
BS1V 1MXV-B 25-207-VTT2/A	2,9	1,1	1,5										
BS1V 1MXV-B 25-208-VTT2/A	4,3	1,5	2										
BS1V 1MXV-B 25-210-VTT2/A	4,3	1,5	2	G 1 1/4	G 1 1/4	585	75	460	761	295	150	225	260
BS1V 1MXV-B 32-404-VTT2/A	2,9	1,1	1,5										
BS1V 1MXV-B 32-405-VTT2/A	2,9	1,1	1,5										
BS1V 1MXV-B 32-406-VTT2/A	4,3	1,5	2										
BS1V 1MXV-B 32-407-VTT2/A	4,3	1,5	2										
BS1V 1MXV-B 32-408-VTT2/A	5,3	2,2	3										
BS1V 1MXV-B 32-410-VTT2/A	5,3	2,2	3										
BS1V 1MXV-B 40-804-VTT2/A	4,3	1,5	2	G 1 1/2	G 1 1/2	595	80	465	825	345	150	225	260
BS1V 1MXV-B 40-805-VTT2/A	5,3	2,2	3										
BS1V 1MXV-B 40-806-VTT2/A	5,3	2,2	3										

BS. MXVB. VTT2

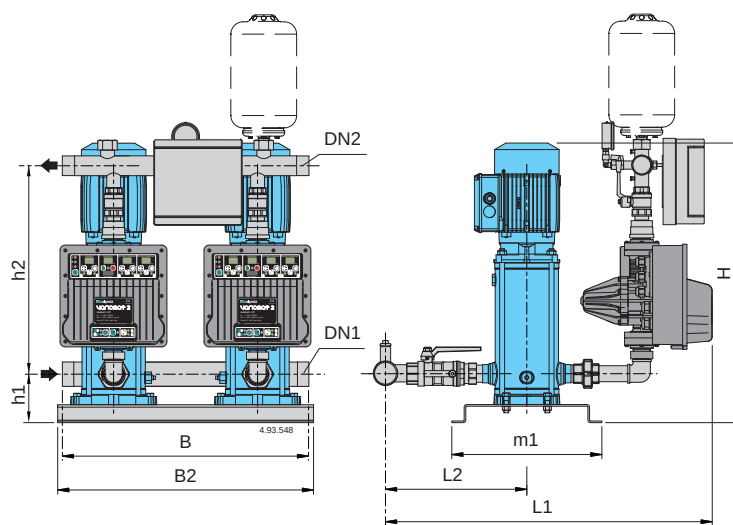
Pressure boosting sets with two vertical multi-stage pumps with **VARIOMAT 2** frequency converter



Coverage chart



Characteristic and dimensions



Mains: 3~400V Motor: 3~400V	A	P ₂		DN1	DN2	mm							
		kW	HP			H	h1	h2	L1	L2	m1	B	B2
BS2V 2MXV-B 25-204-VTT2/A	2 x 2,3	2 x 0,75	2 x 1	G 1 1/2	G 1 1/2	850	119	740	674	315	365	600	625
BS2V 2MXV-B 25-205-VTT2/A	2 x 2,3	2 x 0,75	2 x 1										
BS2V 2MXV-B 25-206-VTT2/A	2 x 2,9	2 x 1,1	2 x 1,5										
BS2V 2MXV-B 25-207-VTT2/A	2 x 2,9	2 x 1,1	2 x 1,5										
BS2V 2MXV-B 25-208-VTT2/A	2 x 4,3	2 x 1,5	2 x 2										
BS2V 2MXV-B 25-210-VTT2/A	2 x 4,3	2 x 1,5	2 x 2										
BS2V 2MXV-B 32-404-VTT2/A	2 x 2,9	2 x 1,1	2 x 1,5	G 2	G 2	850	119	740	644	345	365	600	625
BS2V 2MXV-B 32-405-VTT2/A	2 x 2,9	2 x 1,1	2 x 1,5										
BS2V 2MXV-B 32-406-VTT2/A	2 x 4,3	2 x 1,5	2 x 2										
BS2V 2MXV-B 32-407-VTT2/A	2 x 4,3	2 x 1,5	2 x 2										
BS2V 2MXV-B 32-408-VTT2/A	2 x 5,3	2 x 2,2	2 x 3										
BS2V 2MXV-B 32-410-VTT2/A	2 x 5,3	2 x 2,2	2 x 3										
BS2V 2MXV-B 40-804-VTT2/A	2 x 4,3	2 x 1,5	2 x 2	G 2 1/2	G 2 1/2	850	124	740	709	425	365	600	625
BS2V 2MXV-B 40-805-VTT2/A	2 x 5,3	2 x 2,2	2 x 3										
BS2V 2MXV-B 40-806-VTT2/A	2 x 5,3	2 x 2,2	2 x 3										

2 MX., 2 NM, 2 NMD, 2 NG..

Pressure boosting sets for domestic use with two electric pumps
Fixed speed pump or **Variable speed pump (frequency converter)**



Construction

Automatic pressure boosting plant consisting of two pumps complete with ball, non return valve on the suction side and ball valves on the discharge side.

Suction and delivery manifolds are in AISI 304 stainless steel.

Connections are located on the delivery manifold for the installation of two 20 litres cylindrical vessels.

Electrical control boards:

- with microprocessor for fixed speed pump units (see page 486).
- with frequency converter for variable speed pump units (see page 487).

The unit includes one pressure gauge and two adjustable differential pressure switches or pressure transducer (for sets with frequency converter).

Operation

BS 2F Fixed speed pump

Depending on the reduction of the pressure in the system, the pressure switches determine the starting up of the pumps in sequence and the microprocessor alternates the starts.

BS1V1F Pumps at variable speed with one frequency converter

According to the water consumption, one or more pumps start, one at variable speed and the others at fixed speed, to grant the water quantity required at the set pressure.

BS2V Pumps at variable speed with two frequency converter

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.

Applications

For drawing water out a well.

As pressure boosting pump to increase water pressure when needed (follow local rules).

Motors

2-pole induction motors, 50 Hz, $n \approx 2900$ rpm.

- Three-phase 230/400V $\pm 10\%$ up to 3 kW, suitable for operation with frequency converter;
400/690V $\pm 10\%$ for 4 kW, suitable for operation with frequency converter;
- Single-phase 230 V $\pm 10\%$, with thermal protector.

Insulation class F.

Protection IP 54.

Constructed in accordance with: IEC 60034.

Other voltages and frequencies on request.

Vessels (on request)

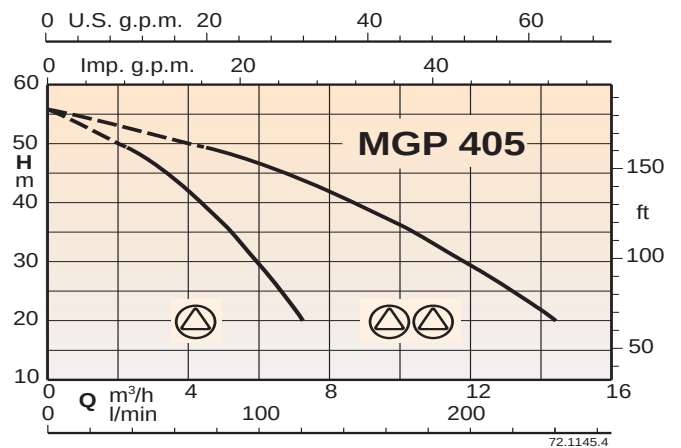
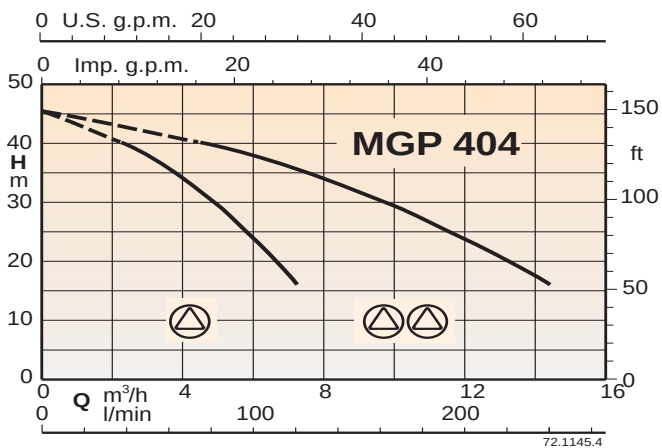
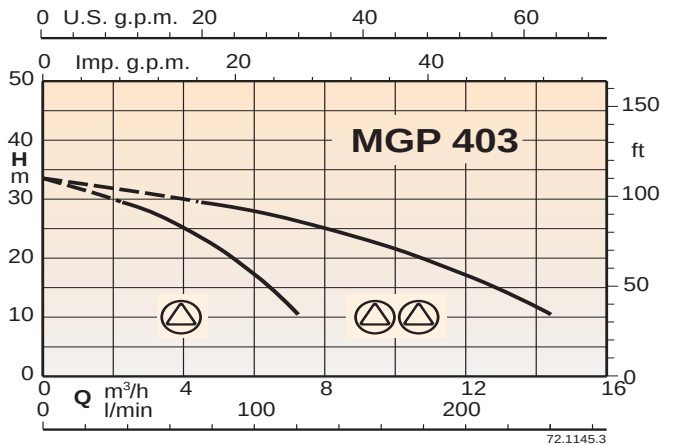
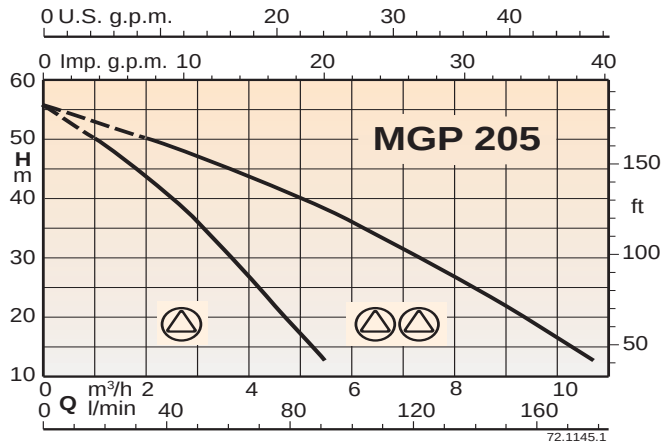
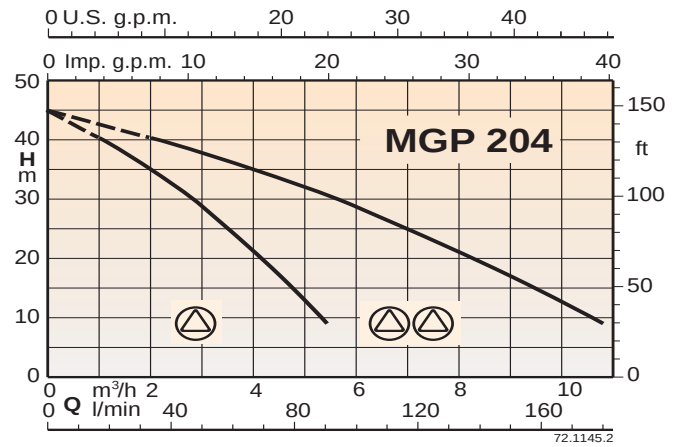
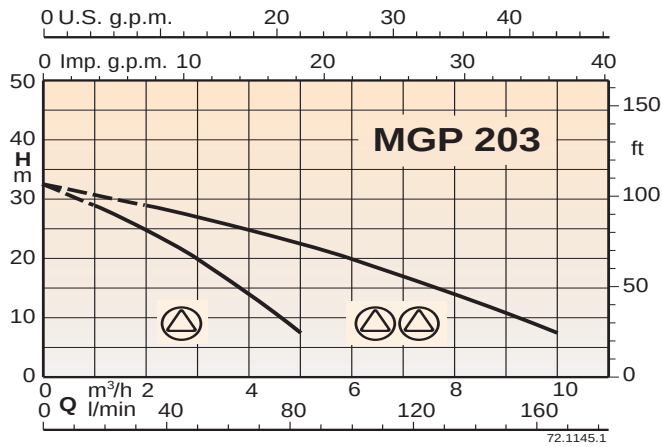
Cylindrical with capacity 20 litres, membrane type, air precharged.

2 MGP

Systems with two Multi-Stage stainless steel pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart

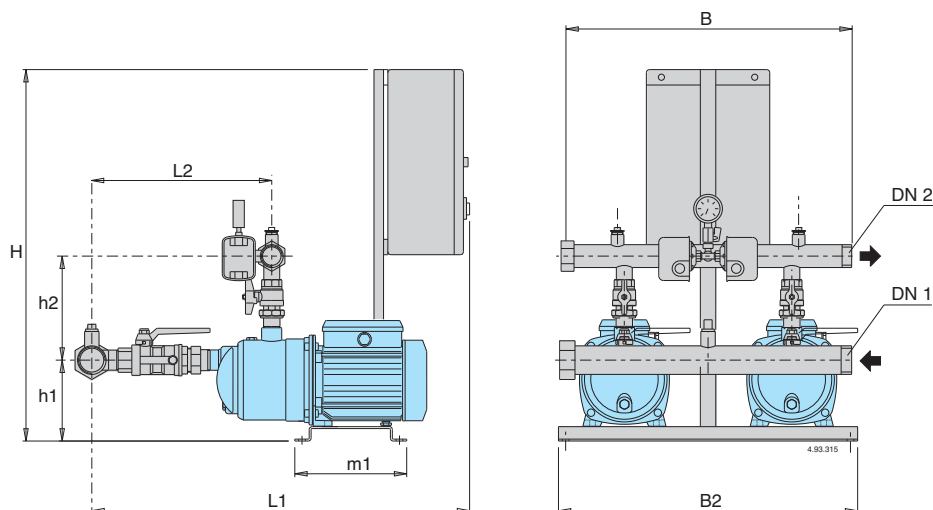


2 MGP

Systems with two Multi-Stage stainless steel pumps
Fixed speed pump or **Variable speed pump (frequency converter)**

calpeda[®]

Characteristic, dimensions and weights



BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Q max* l/min	Pres. switch setting		Manifolds		mm								Weight kg	Vessel	
		kW	HP		bar	bar	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B		Mem. litre	Vessel litre
BS2F 2MGP 203	BSM2F 2MGPM 203	0,45+0,45	0,6+0,6	155	1,4÷2,6	1,0÷2,2	G 2	G 1 1/2	840	151	206	793	355	235	625	600	41	24x2	100
BS2F 2MGP 204	BSM2F 2MGPM 204	0,55+0,55	0,75+0,75	160	2,0÷3,2	1,5÷2,7	G 2	G 1 1/2	840	151	206	793	355				46	24x2	100
BS2F 2MGP 205	BSM2F 2MGPM 205	0,75+0,75	1+1	160	3,0÷4,5	2,5÷4,0	G 2	G 1 1/2	840	151	206	793	355				52	24x2	100
BS2F 2MGP 403	BSM2F 2MGPM 403	0,55+0,55	0,75+0,75	230	1,2÷2,4	0,9÷2,1	G 2	G 1 1/2	840	151	206	793	355				46	24x2	100
BS2F 2MGP 404	BSM2F 2MGPM 404	0,75+0,75	1+1	220	2,4÷3,6	2,0÷3,2	G 2	G 1 1/2	840	151	206	793	355				48	80	200
BS2F 2MGP 405	BSM2F 2MGPM 405	1,1+1,1	1,5+1,5	220	3,0÷4,5	2,5÷4,0	G 2	G 1 1/2	840	151	206	793	355				54	80	200

* Maximum pumps flow at minimum set pressure of 2nd pressure switch.

BS1V1F BSM1V1F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 3~ and 230V 1~	Motor		Manifolds		mm									Weight kg	Vessel Membrane litre
		kW	HP	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B			
BS1V1F 2MGP 203	BSM1V1F 2MGP 203	0,45+0,45	0,6+0,6	G 2	G 1 1/2	1100	151	206	793	355	235	625	600	41	24x2	
BS1V1F 2MGP 204	BSM1V1F 2MGP 204	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS1V1F 2MGP 205	BSM1V1F 2MGP 205	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				52	24x2	
BS1V1F 2MGP 403	BSM1V1F 2MGP 403	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS1V1F 2MGP 404	BSM1V1F 2MGP 404	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				48	24x2	
BS1V1F 2MGP 405	BSM1V1F 2MGP 405	1.1+1.1	1.5+1.5	G 2	G 1 1/2	1100	151	206	793	355				54	24x2	

BS2V BSM2V

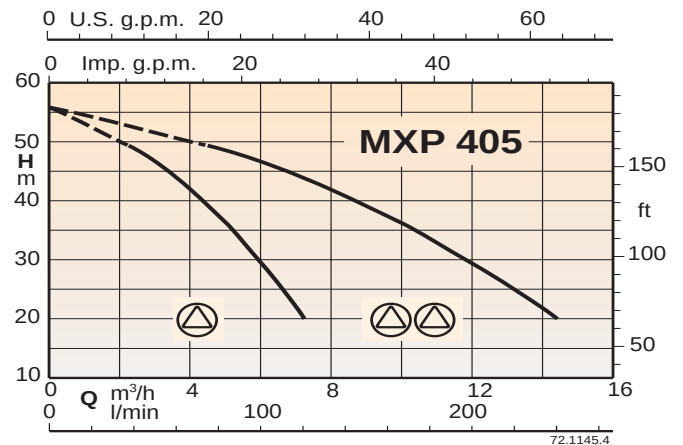
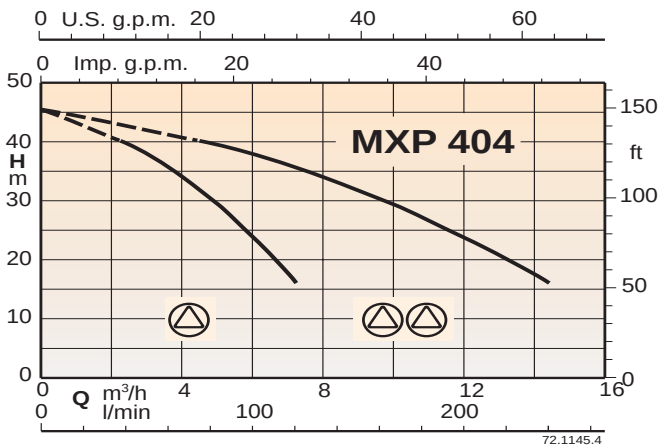
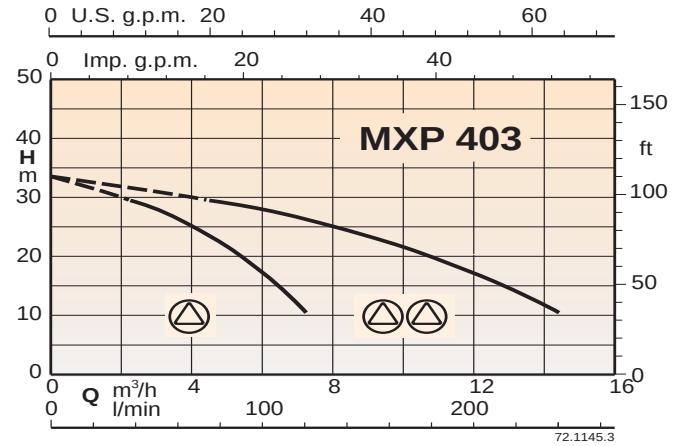
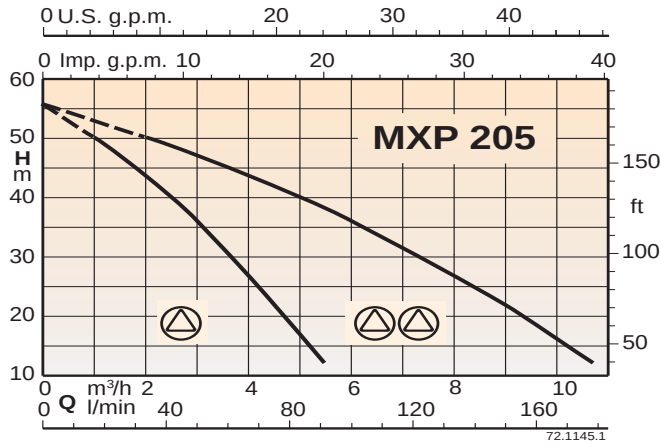
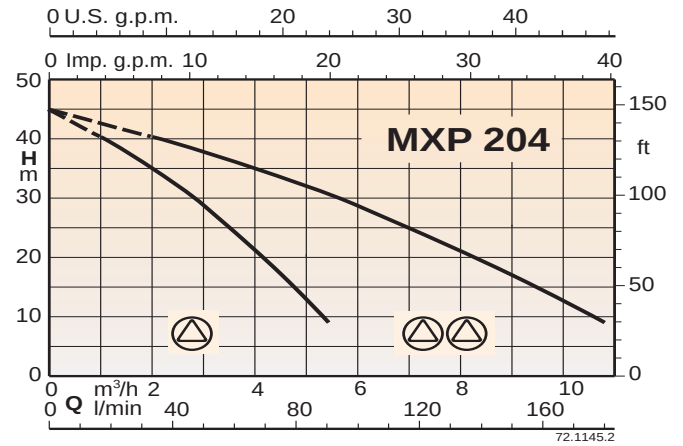
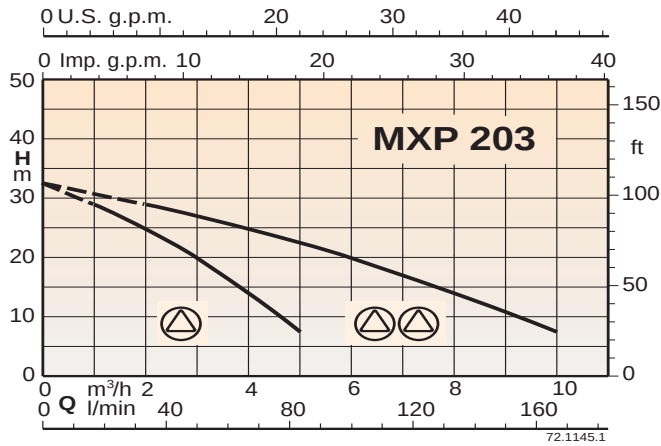
Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 3~	Motor		Manifolds		mm									Weight kg	Vessel Membrane litre
		kW	HP	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B			
BS2V 2MGP 203	BSM2V 2MGP 203	0,45+0,45	0,6+0,6	G 2	G 1 1/2	1100	151	206	793	355	235	625	600	41	24x2	
BS2V 2MGP 204	BSM2V 2MGP 204	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS2V 2MGP 205	BSM2V 2MGP 205	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				52	24x2	
BS2V 2MGP 403	BSM2V 2MGP 403	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS2V 2MGP 404	BSM2V 2MGP 404	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				48	24x2	
BS2V 2MGP 405	BSM2V 2MGP 405	1,1+1,1	1,5+1,5	G 2	G 1 1/2	1100	151	206	793	355				54	24x2	

2 MXP

Systems with two Multi-Stage stainless steel pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart

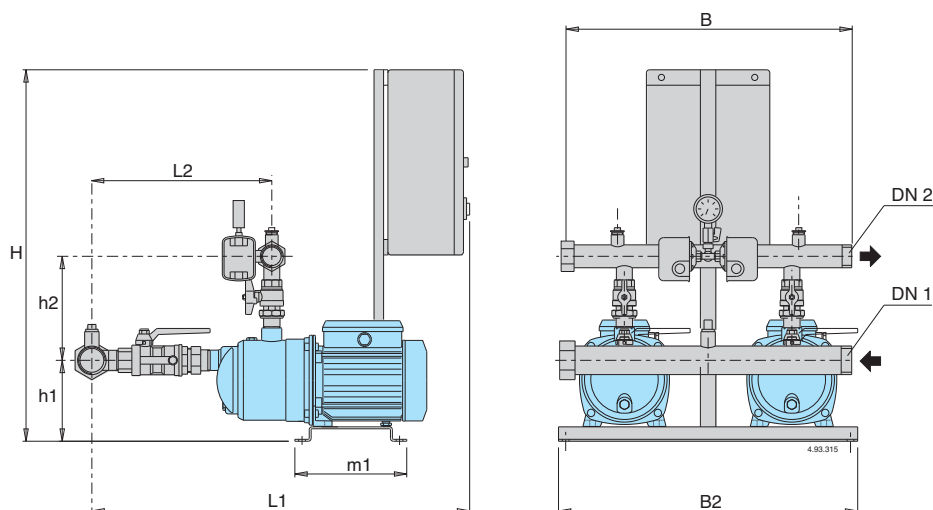


2 MXP

Systems with two Multi-Stage stainless steel pumps
Fixed speed pump or **Variable speed pump (frequency converter)**

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Characteristic, dimensions and weights



BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Q max* l/min	Pres. switch setting		Manifolds		mm										Weight kg	Vessel	
		kW	HP		bar	bar	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B	Mem. litre	Vessel litre			
BS2F 2MXP 203	BSM2F 2MXPM 203	0,45+0,45	0,6+0,6	155	1,4÷2,6	1,0÷2,2	G 2	G 1 1/2	840	151	206	793	355	235	625	600	41	24x2	100		
BS2F 2MXP 204/A	BSM2F 2MXPM 204/A	0,55+0,55	0,75+0,75	160	2,0÷3,2	1,5÷2,7	G 2	G 1 1/2	840	151	206	793	355				46	24x2	100		
BS2F 2MXP 205	BSM2F 2MXPM 205	0,75+0,75	1+1	160	3,0÷4,5	2,5÷4,0	G 2	G 1 1/2	840	151	206	793	355				48	24x2	100		
BS2F 2MXP 403/A	BSM2F 2MXPM 403/A	0,55+0,55	0,75+0,75	230	1,5÷2,7	1,2÷2,4	G 2	G 1 1/2	840	151	206	793	355				46	24x2	100		
BS2F 2MXP 404/A	BSM2F 2MXPM 404/A	0,75+0,75	1+1	220	2,4÷3,6	2,0÷3,2	G 2	G 1 1/2	840	151	206	793	355				48	80	200		
BS2F 2MXP 405	BSM2F 2MXPM 405	1,1+1,1	1,5+1,5	220	3,0÷4,5	3,5÷4,0	G 2	G 1 1/2	840	151	206	793	355				54	80	200		

* Maximum pumps flow at minimum set pressure of 2nd pressure switch.

BS1V1F BSM1V1F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 3~ and 230V 1~	Motor		Manifolds		mm									Weight kg	Vessel Membrane litre
		kW	HP	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B			
BS1V1F 2MXP 203	BSM1V1F 2MXP 203	0,45+0,45	0,6+0,6	G 2	G 1 1/2	1100	151	206	793	355	235	625	600	41	24x2	
BS1V1F 2MXP 204/A	BSM1V1F 2MXP 204/A	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS1V1F 2MXP 205	BSM1V1F 2MXP 205	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				48	24x2	
BS1V1F 2MXP 403/A	BSM1V1F 2MXP 403/A	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS1V1F 2MXP 404/A	BSM1V1F 2MXP 404/A	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				48	24x2	
BS1V1F 2MXP 405	BSM1V1F 2MXP 405	1,1+1,1	1,5+1,5	G 2	G 1 1/2	1100	151	206	793	355				54	24x2	

BS2V BSM2V

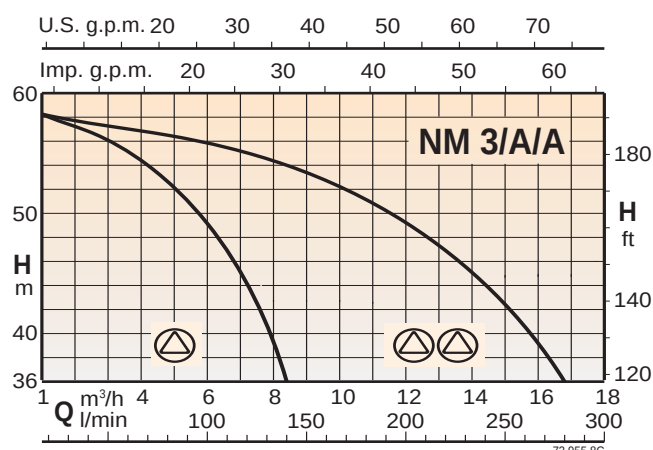
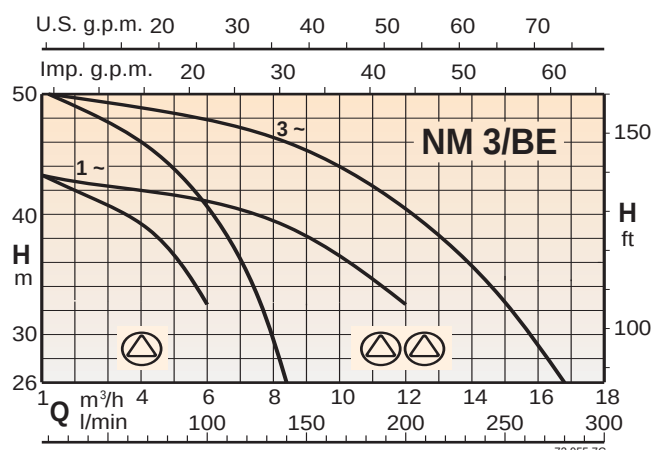
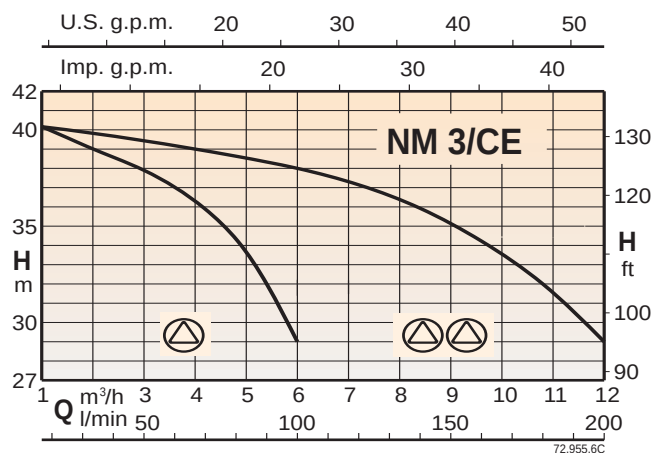
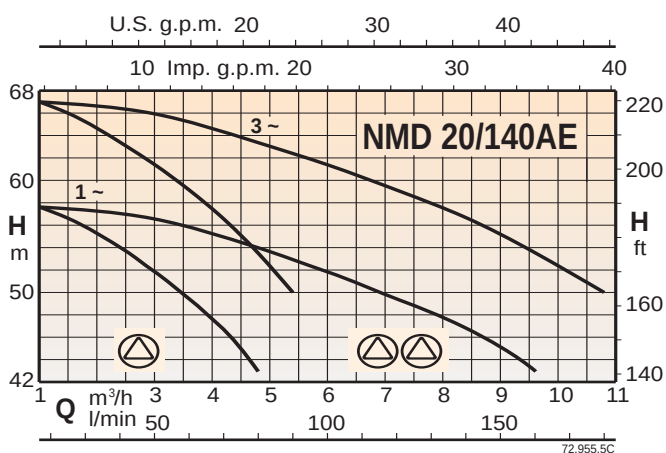
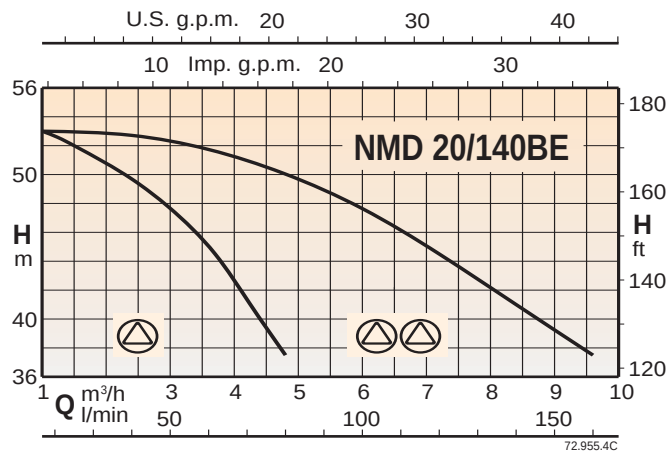
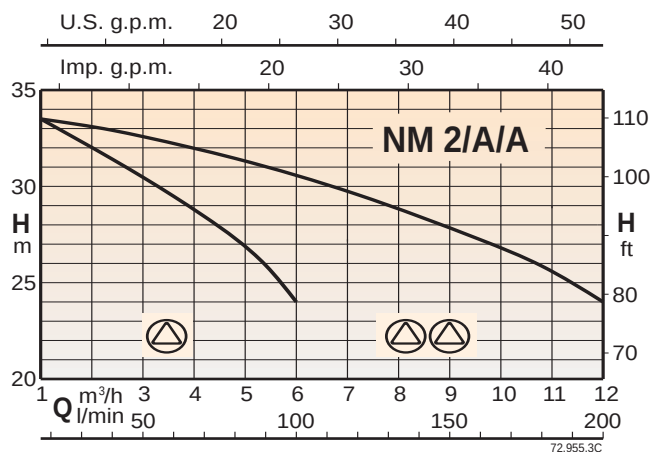
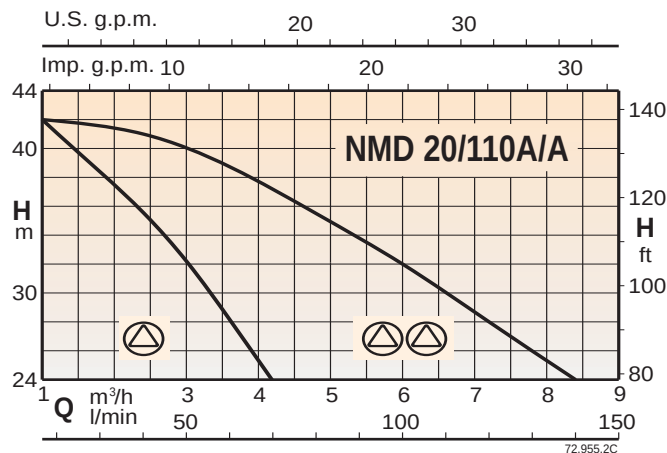
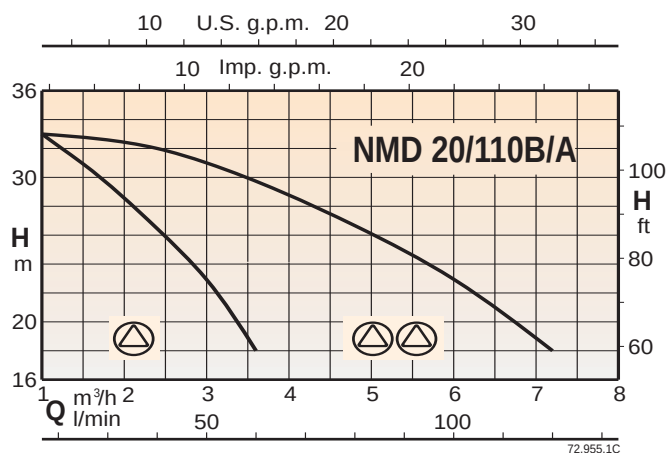
Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 3~	Motor		Manifolds		mm									Weight kg	Vessel Membrane litre
		kW	HP	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B			
BS2V 2MXP 203	BSM2V 2MXP 203	0,45+0,45	0,6+0,6	G 2	G 1 1/2	1100	151	206	793	355	235	625	600	41	24x2	
BS2V 2MXP 204/A	BSM2V 2MXP 204/A	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS2V 2MXP 205	BSM2V 2MXP 205	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				48	24x2	
BS2V 2MXP 403/A	BSM2V 2MXP 403/A	0,55+0,55	0,75+0,75	G 2	G 1 1/2	1100	151	206	793	355				46	24x2	
BS2V 2MXP 404/A	BSM2V 2MXP 404/A	0,75+0,75	1+1	G 2	G 1 1/2	1100	151	206	793	355				48	24x2	
BS2V 2MXP 405	BSM2V 2MXP 405	1,1+1,1	1,5+1,5	G 2	G 1 1/2	1100	151	206	793	355				54	24x2	

2 NM, NMD

Systems with two Centrifugal Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart

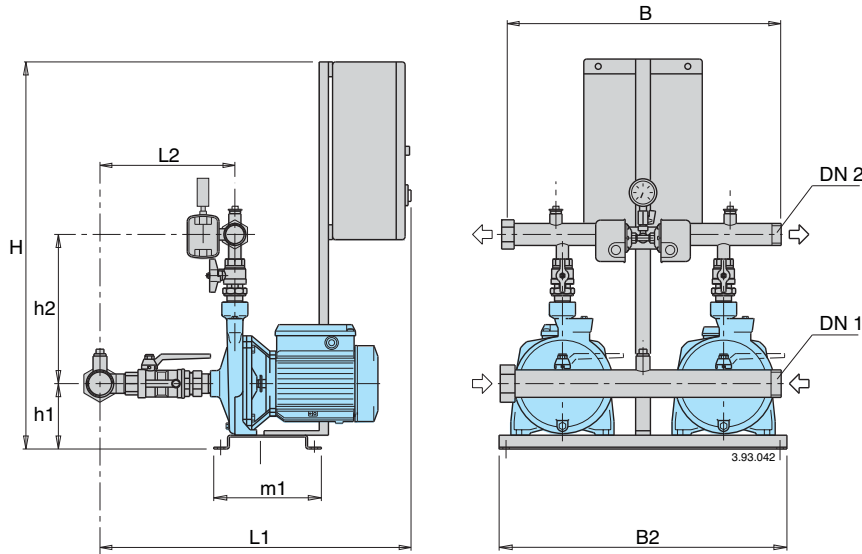


2 NM, NMD

Systems with two Centrifugal Pumps
Fixed speed pump or **Variable speed pump (frequency converter)**

calpeda®

Characteristic, dimensions and weights



BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Q max* l/min	Pres. switch setting		Manifolds		mm										Weight kg	Vessel	
		kW	HP		bar	bar	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B	Mem. litre	Vessel litre			
BS2F 2NMD 20/110B/A	BSM2F 2NMDM 20/110B/A	0,45+0,45	0,6+0,6	120	2,0÷3,0	1,7÷2,7	G2	G 1½	840	129	277	670	315	235	625	600	51	24x2	100		
BS2F 2NMD 20/110A/A	BSM2F 2NMDM 20/110A/A	0,75+0,75	1+1	130	2,8÷4,0	2,4÷3,6	G2	G 1½	840	129	277	670	315				55	60	100		
BS2F 2NM 2/A/A	BSM2F 2NMM 2/A/A	0,75+0,75	1+1	200	2,0÷3,0	1,7÷2,7	G2	G 1½	840	129	295	620	262				54	80	200		
BS2F 2NMD 20/140BE	BSM2F 2NMDM 20/140BE	1,1+1,1	1,5+1,5	160	3,4÷4,9	3,2÷4,7	G2	G 1½	840	146	295	670	320				72	80	200		
	BSM2F 2NMDM 20/140AE	1,5+1,5	2+2	160	4,0÷5,3	3,7÷5,0	G2	G 1½	840	146	295	670	320				75	100	200		
BS2F 2NMD 20/140AE		1,5+1,5	2+2	180	5,0÷6,3	4,7÷6,0	G2	G 1½	840	146	295	670	320				77	100	200		
BS2F 2NM 3/CE	BSM2F 2NMM 3/CE	1,1+1,1	1,5+1,5	200	2,5÷3,5	2,2÷3,2	G2	G 1½	840	146	325	650	267				71	100	200		
	BSM2F 2NMM 3/BE	1,5+1,5	2+2	200	3,0÷4,0	2,7÷3,7	G2	G 1½	840	146	325	650	267				75	100	300		
BS2F 2NM 3/BE		1,5+1,5	2+2	270	3,2÷4,5	2,9÷4,2	G2	G 1½	840	146	325	650	267				76	100	300		
BS2F 2NM 3/A/A		2,2+2,2	3+3	280	4,0÷5,3	3,7÷5,0	G2	G 1½	840	146	325	650	267				78	200	300		

* Maximum pumps flow at minimum set pressure of 2nd pressure switch.

BS1V1F BSM1V1F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 3~ and 230V 1~	Motor		Manifolds		mm										Weight kg	Vessel Membrane litre
		kW	HP	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B				
BS1V1F 2NMD 20/110B/A	BSM1V1F 2NMD 20/110B/A	0,45+0,45	0,6+0,6	G2	G 1 1/2	840	129	277	670	315	235	625	600	51	24x2		
BS1V1F 2NMD 20/110A/A	BSM1V1F 2NMD 20/110A/A	0,75+0,75	1+1	G2	G 1 1/2	840	129	277	670	315				55	24x2		
BS1V1F 2NM 2/A/A	BSM1V1F 2NM 2/A/A	0,75+0,75	1+1	G2	G 1 1/2	840	129	295	620	262				54	24x2		
BS1V1F 2NMD 20/140BE	BSM1V1F 2NMD 20/140BE	1,1+1,1	1,5+1,5	G2	G 1 1/2	840	146	295	670	320				72	24x2		
	BSM1V1F 2NMD 20/140AE	1,5+1,5	2+2	G2	G 1 1/2	840	146	295	670	320				75	24x2		
BS1V1F 2NMD 20/140AE		1,5+1,5	2+2	G2	G 1 1/2	840	146	295	670	320				77	24x2		
BS1V1F 2NM 3/CE	BSM1V1F 2NM 3/CE	1,1+1,1	1,5+1,5	G2	G 1 1/2	840	146	325	650	267				71	24x2		
	BSM1V1F 2NM 3/BE	1,5+1,5	2+2	G2	G 1 1/2	840	146	325	650	267				75	24x2		
BS1V1F 2NM 3/BE		1,5+1,5	2+2	G2	G 1 1/2	840	146	325	650	267				76	24x2		
BS1V1F 2NM 3/A/A		2,2+2,2	3+3	G2	G 1 1/2	840	146	325	650	267				78	24x2		

BS2V BSM2V

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 3~	Motor		Manifolds		mm										Weight kg	Vessel Membrane litre
		kW	HP	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B				
BS2V 2NMD 20/110B/A	BSM2V 2NMD 20/110B/A	0,45+0,45	0,6+0,6	G2	G 1 1/2	840	129	277	670	315					51	24x2	
BS2V 2NMD 20/110A/A	BSM2V 2NMD 20/110A/A	0,75+0,75	1+1	G2	G 1 1/2	840	129	277	670	315					55	24x2	
BS2V 2NM 2/A/A	BSM2V 2NM 2/A/A	0,75+0,75	1+1	G2	G 1 1/2	840	129	295	620	262					54	24x2	
BS2V 2NMD 20/140BE	BSM2V 2NMD 20/140BE	1,1+1,1	1,5+1,5	G2	G 1 1/2	840	146	295	670	320					72	24x2	
	BSM2V 2NMD 20/140AE	1,5+1,5	2+2	G2	G 1 1/2	840	146	295	670	320	235	625	600		75	24x2	
BS2V 2NMD 20/140AE		1,5+1,5	2+2	G2	G 1 1/2	840	146	295	670	320					77	24x2	
BS2V 2NM 3/CE	BSM2V 2NM 3/CE	1,1+1,1	1,5+1,5	G2	G 1 1/2	840	146	325	650	267					71	24x2	
	BSM2V 2NM 3/BE	1,5+1,5	2+2	G2	G 1 1/2	840	146	325	650	267					75	24x2	
BS2V 2NM 3/BE		1,5+1,5	2+2	G2	G 1 1/2	840	146	325	650	267					76	24x2	
BS2V 2NM 3/A/A		2,2+2,2	3+3	G2	G 1 1/2	840	146	325	650	267					78	24x2	

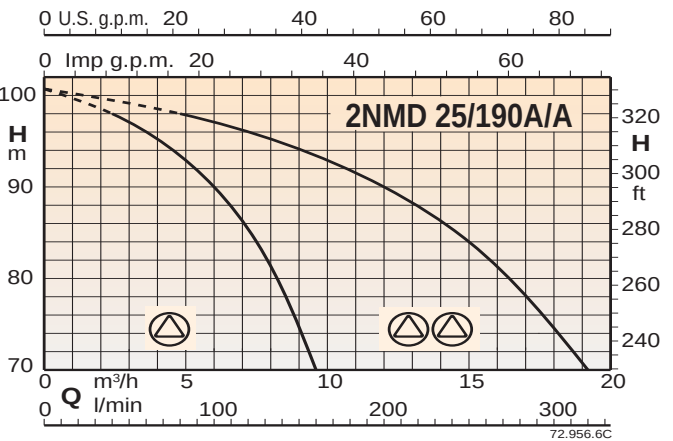
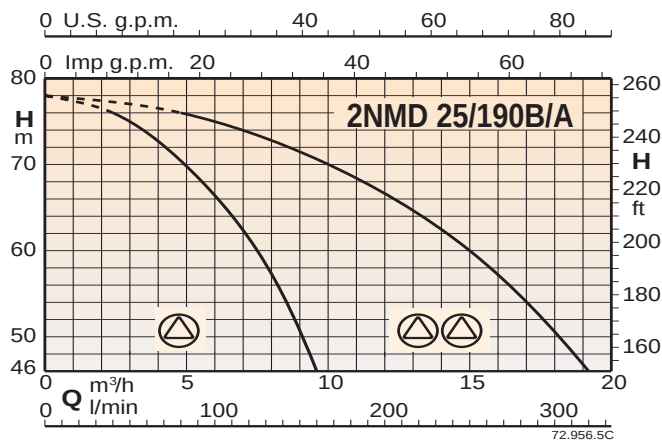
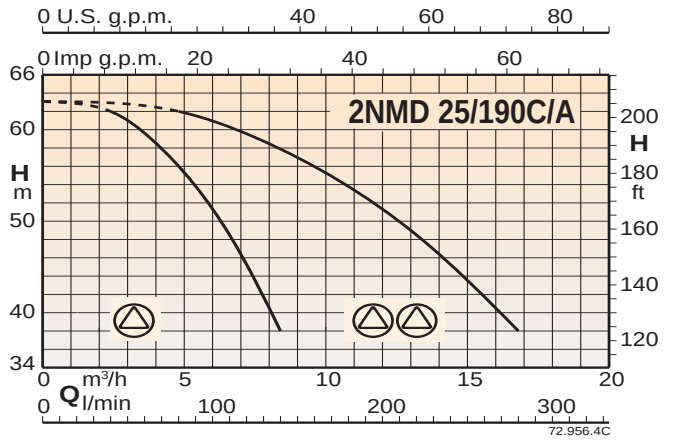
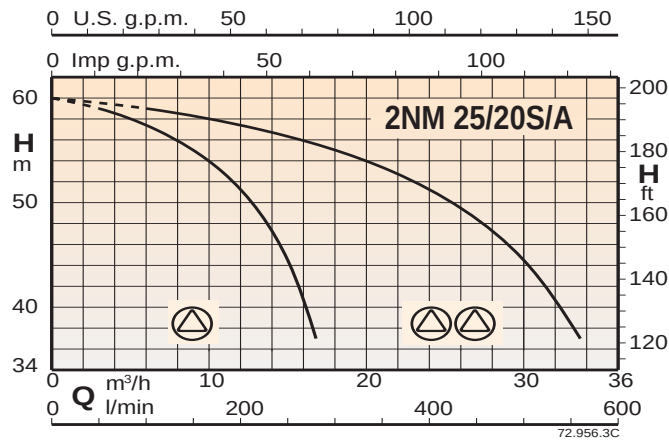
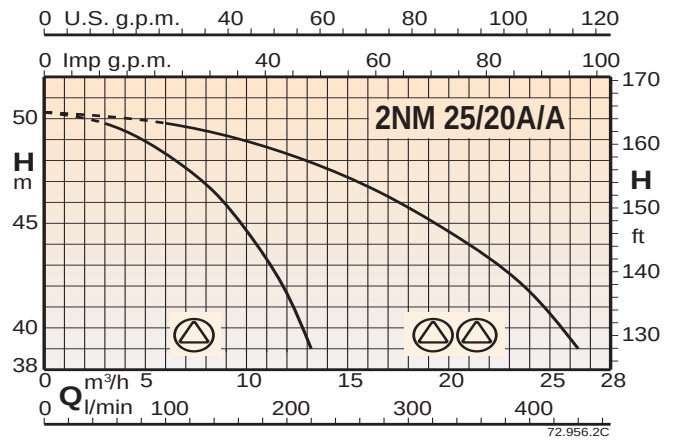
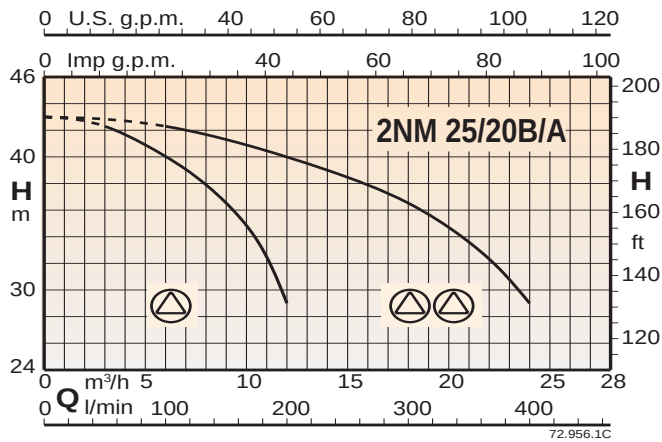
2 NM, NMD

Systems with two Centrifugal Pumps

Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart

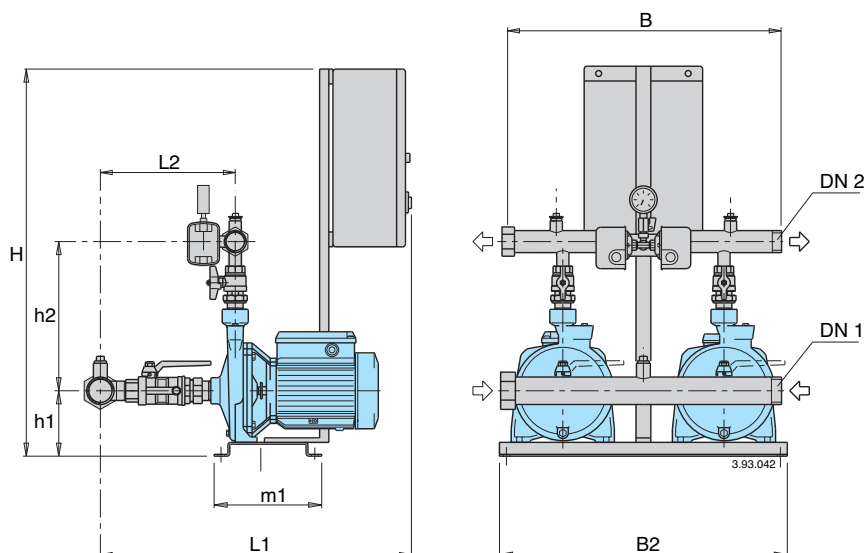


2 NM, NMD

Systems with two Centrifugal Pumps
Fixed speed pump or **Variable speed pump (frequency converter)**



Characteristic, dimensions and weights



BS2F

Mains: 400V 3~ Motor: 400V 3~	Motor		Q max* l/min	Pres. switch setting		Manifolds		mm								Weight kg	Vessel	
	kW	HP		bar	bar	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B		Mem. litre	Vessel litre
BS2F 2NM 25/20B/A	2,2+2,2	3+3	400	3,0÷4,0	2,7÷3,7	G 2 1/2	G 2	840	160	330	725	373	235	625	600	87	300	500
BS2F 2NM 25/20A/A	3+3	4+4	440	3,8÷4,8	3,5÷4,5	G 2 1/2	G 2	840	160	330	725	373				106	500	800
BS2F 2NM 25/20S/A	4+4	5,5+5,5	560	4,0÷5,5	3,5÷5,0	G 2 1/2	G 2	840	160	330	725	373				114	500	800
BS2F 2NMD 25/190C/A	2,2+2,2	3+3	280	4,3÷5,8	3,8÷5,3	G 2 1/2	G 2	840	175	330	760	407				108	200	300
BS2F 2NMD 25/190B/A	3+3	4+4	300	5,0÷7,0	4,5÷6,5	G 2 1/2	G 2	840	175	330	760	407				123	200	300
BS2F 2NMD 25/190A/A	4+4	5,5+5,5	320	7,5÷9,0	7,0÷8,5	G 2 1/2	G 2	840	175	330	760	407				132	300	500

* Maximum pumps flow at minimum set pressure of 2nd pressure switch.

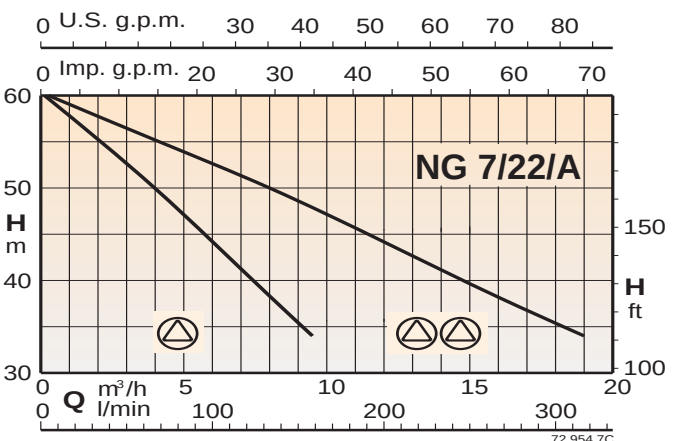
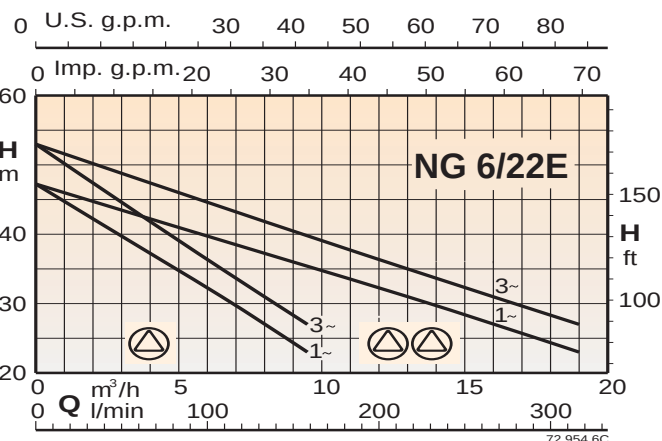
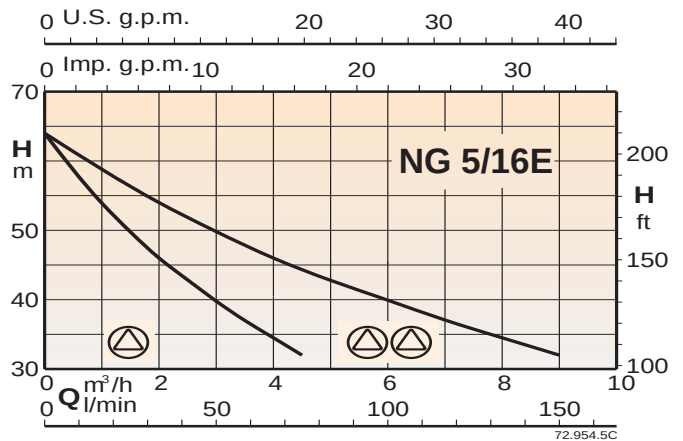
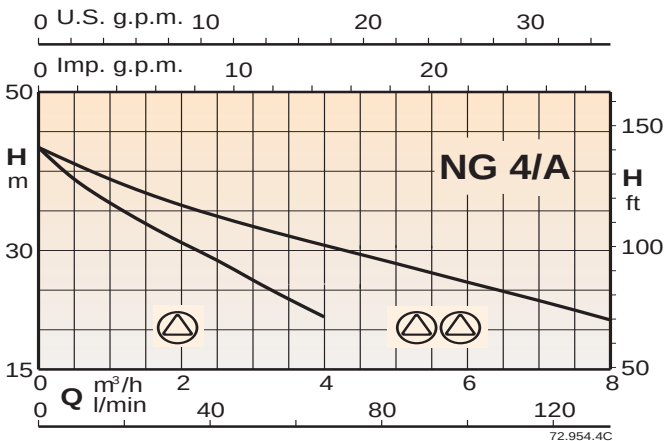
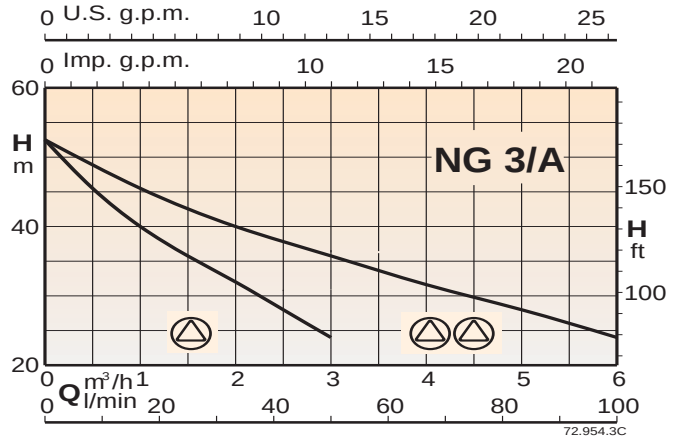
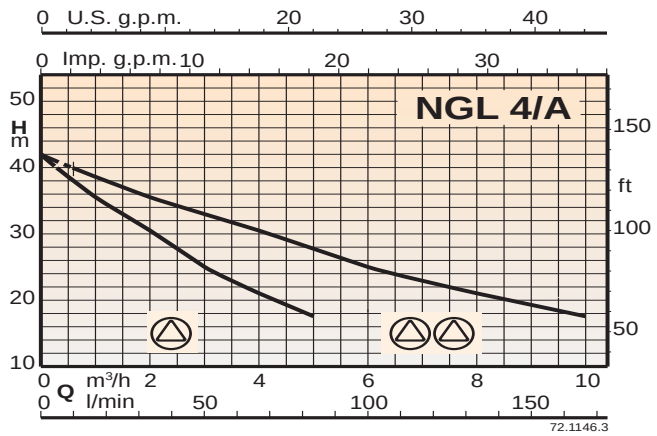
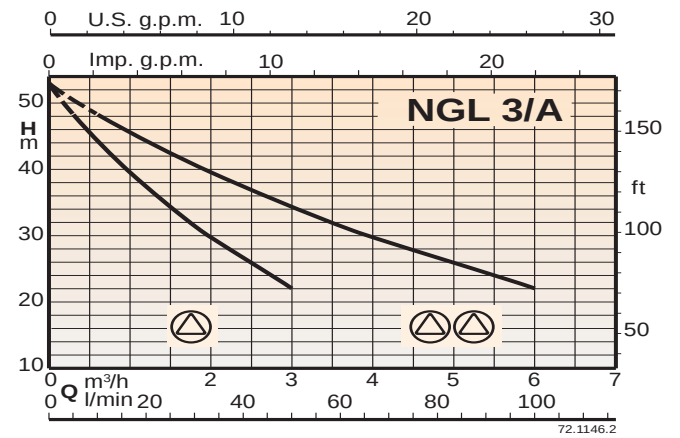
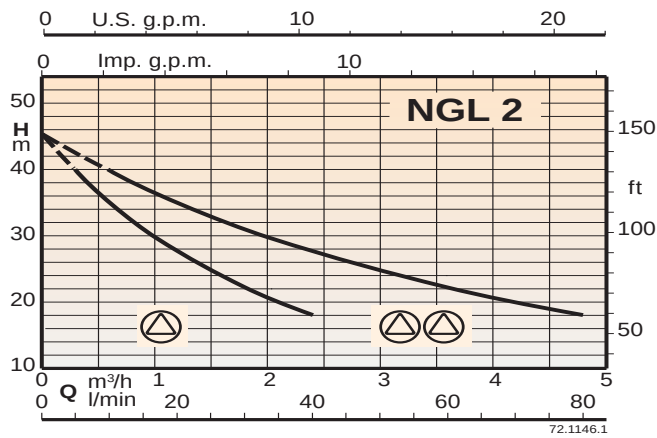
BS1V1F

Mains: 400V 3~ Motor: 400V 3~	Motor			Manifolds		mm								Weight kg	Vessel	
	kW	HP		DN1	DN2	H	h1	h2	L1	L2	m1	B2	B		Membrane litre	
BS1V1F 2NM 25/20B/A	2,2+2,2	3+3		G 2 1/2	G 2	840	160	330	725	373	235	625	600	87	24x2	
BS1V1F 2NM 25/20A/A	3+3	4+4		G 2 1/2	G 2	840	160	330	725	373				106	24x2	
BS1V1F 2NM 25/20S/A	4+4	5,5+5,5		G 2 1/2	G 2	840	160	330	725	373				114	24x2	
BS1V1F 2NMD 25/190C/A	2,2+2,2	3+3		G 2 1/2	G 2	840	175	330	760	407				108	24x2	
BS1V1F 2NMD 25/190B/A	3+3	4+4		G 2 1/2	G 2	840	175	330	760	407				123	24x2	
BS1V1F 2NMD 25/190A/A	4+4	5,5+5,5		G 2 1/2	G 2	840	175	330	760	407				132	24x2	

BS2V

Mains: 400V 3~ Motor: 400V 3~	Motor			Manifolds		mm								Weight kg	Vessel	
	kW	HP		DN1	DN2	H	h1	h2	L1	L2	m1	B2	B		Membrane litre	
BS2F 2NM 25/20B/A	2,2+2,2	3+3		G 2 1/2	G 2	840	160	330	725	373	235	625	600	87	24x2	
BS2F 2NM 25/20A/A	3+3	4+4		G 2 1/2	G 2	840	160	330	725	373				106	24x2	
BS2F 2NM 25/20S/A	4+4	5,5+5,5		G 2 1/2	G 2	840	160	330	725	373				114	24x2	
BS2F 2NMD 25/190C/A	2,2+2,2	3+3		G 2 1/2	G 2	840	175	330	760	407				108	24x2	
BS2F 2NMD 25/190B/A	3+3	4+4		G 2 1/2	G 2	840	175	330	760	407				123	24x2	
BS2F 2NMD 25/190A/A	4+4	5,5+5,5		G 2 1/2	G 2	840	175	330	760	407				132	24x2	

Coverage chart

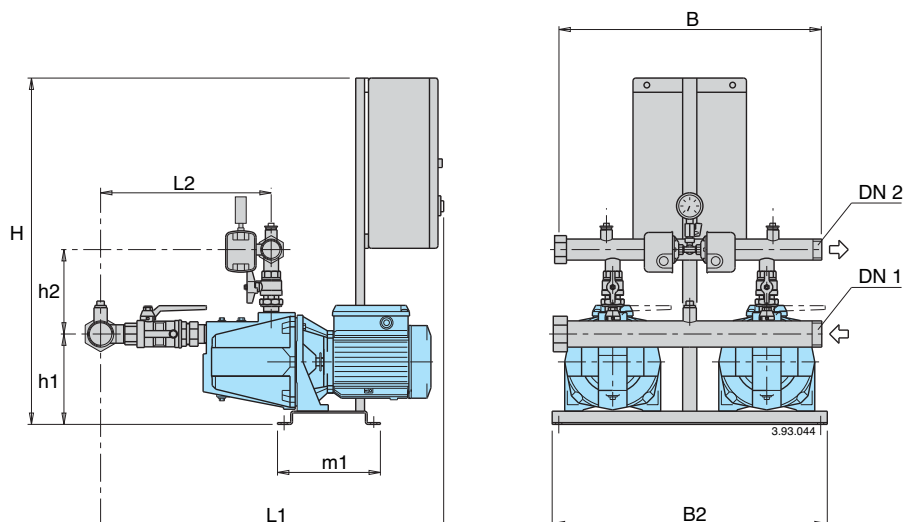


2 NGL, NG

Systems with two self-priming Jet pumps
Fixed speed pump

calpeda®

Characteristic, dimensions and weights



BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Q max* l/min	Pres. switch setting		Manifolds		mm								Weight kg	Vessel	
		kW	HP		bar	bar	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B		Mem. litre	Vessel litre
BS2F 2NGL 2	BSM2F 2NGLM 2	0,45+0,45	0,6+0,6	70	2,4÷3,6	2,0÷3,2	G 2	G 1 1/2	840	151	206	793	355				42	24x2	100
BS2F 2NGL 3/A	BSM2F 2NGLM 3/A	0,55+0,55	0,75+0,75	90	2,8÷4,0	2,4÷3,6	G 2	G 1 1/2	840	151	206	793	355	235	625	600	46	24x2	100
BS2F 2NGL 4/A	BSM2F 2NGLM 4/A	0,75+0,75	1+1	160	2,2÷3,4	1,8÷3,0	G 2	G 1 1/2	840	151	206	793	355				49	24x2	100

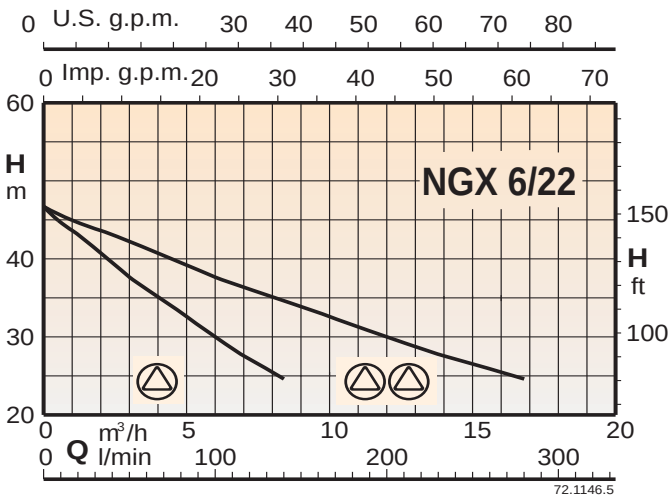
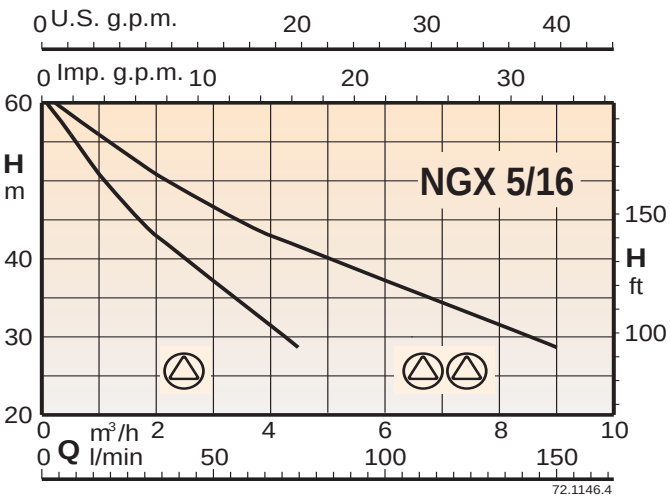
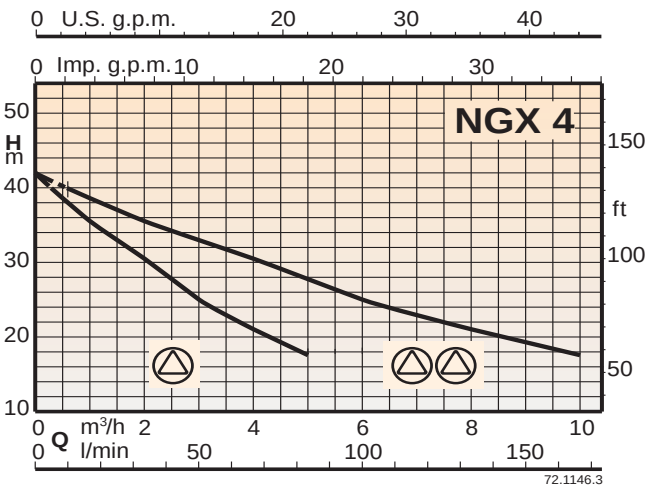
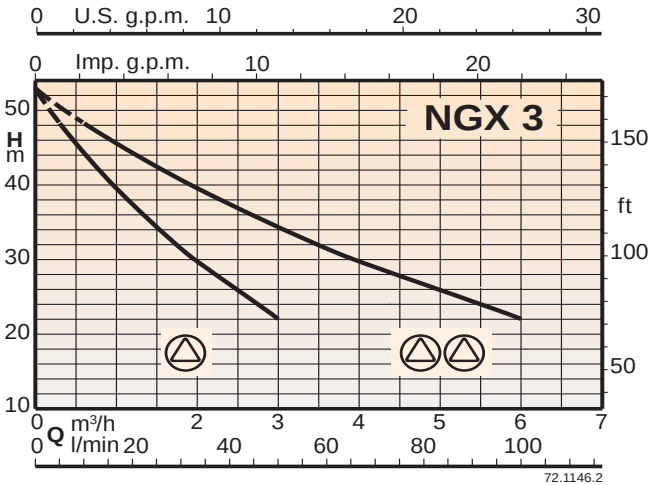
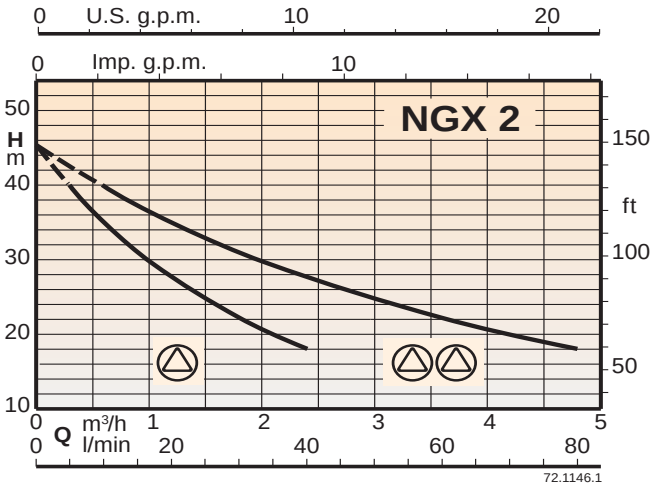
* Maximum pumps flow at minimum set pressure of 2nd pressure switch.

BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Q max* l/min	Pres. switch setting		Manifolds		mm								Weight kg	Vessel	
		kW	HP		bar	bar	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B		Mem. litre	Vessel litre
BS2F 2NG 3/A	BSM2F 2NGM 3/A	0,55+0,55	0,75+0,75	95	3,0÷4,2	2,5÷3,7	G2	G 1 1/2	840	184	188	775	345				61	24x2	100
BS2F 2NG 4/A	BSM2F 2NGM 4/A	0,75+0,75	1+1	130	2,4÷3,6	2,0÷3,2	G2	G 1 1/2	840	184	188	775	345				62	24x2	100
BS2F 2NG 5-16E	BSM2F 2NGM 5-16E	1,1+1,1	1,5+1,5	140	3,8÷5,3	3,4÷4,9	G 2 1/2	G 1 1/2	840	200	202	935	470				86	24x2	100
	BSM2F 2NGM 6-22E	1,5+1,5	2+2	290	3,0÷4,2	2,5÷3,7	G 2 1/2	G 1 1/2	840	200	202	935	470	235	625	600	89	100	200
BS2F 2NG 6-22E		1,5+1,5	2+2	290	3,2÷4,5	2,8÷4,0	G 2 1/2	G 1 1/2	840	200	202	935	470				90	100	200
BS2F 2NG 7-22/A		2,2+2,2	3+3	300	3,8÷5,3	3,4÷4,9	G 2 1/2	G 1 1/2	840	200	202	935	470				92	200	300

* Maximum pumps flow at minimum set pressure of 2nd pressure switch.

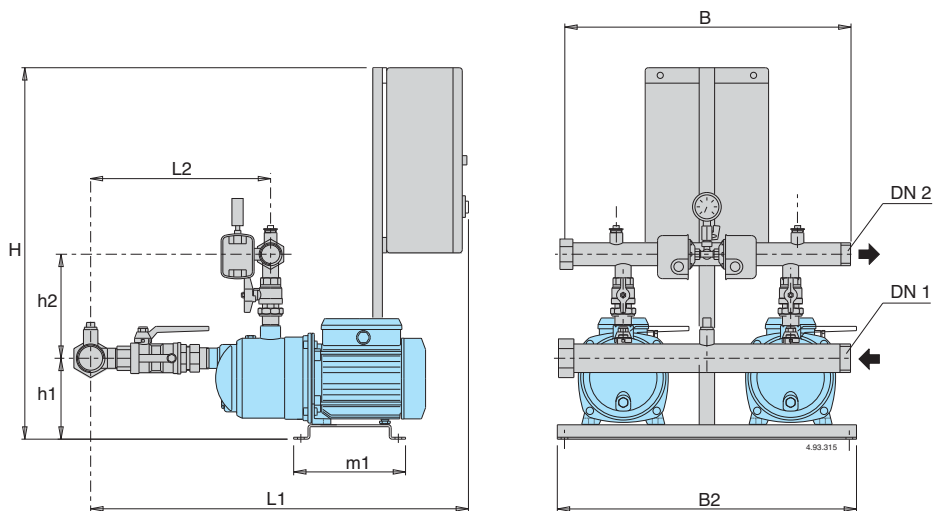
Coverage chart



2 NGX Systems with two self-priming Jet pumps Fixed speed pump



Characteristic, dimensions and weights



BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Q max* l/min	Pres. switch setting		Manifolds		mm								Weight kg	Vessel	
		kW	HP		bar	bar	DN1	DN2	H	h1	h2	L1	L2	m1	B2	B		Mem. litre	Vessel litre
BS2F 2NGX 2	BSM2F 2NGXM 2	0,45+0,45	0,6+0,6	70	2,4÷3,6	2,0÷3,2	G 2	G 1 1/2	840	151	206	793	355				42	24x2	100
BS2F 2NGX 3/A	BSM2F 2NGXM 3/A	0,55+0,55	0,75+0,75	90	2,8÷4,0	2,4÷3,6	G 2	G 1 1/2	840	151	206	793	355				46	24x2	100
BS2F 2NGX 4/A	BSM2F 2NGXM 4/A	0,75+0,75	1+1	160	2,2÷3,4	1,8÷3,0	G 2	G 1 1/2	840	151	206	793	355	235	625	600	49	24x2	100
BS2F 2NGX 5-16	BSM2F 2NGXM 5-16	1,1+1,1	1,5+1,5	140	3,4÷4,9	3,0÷4,5	G 2	G 1 1/2	840	187	212	836	380				61	24x2	100
BS2F 2NGX 6-22	BSM2F 2NGXM 6-22	1,5+1,5	2+2	280	3,0÷4,2	2,5÷3,7	G 2	G 1 1/2	840	187	212	836	380				65	100	200

* Maximum pumps flow at minimum set pressure of 2nd pressure switch.

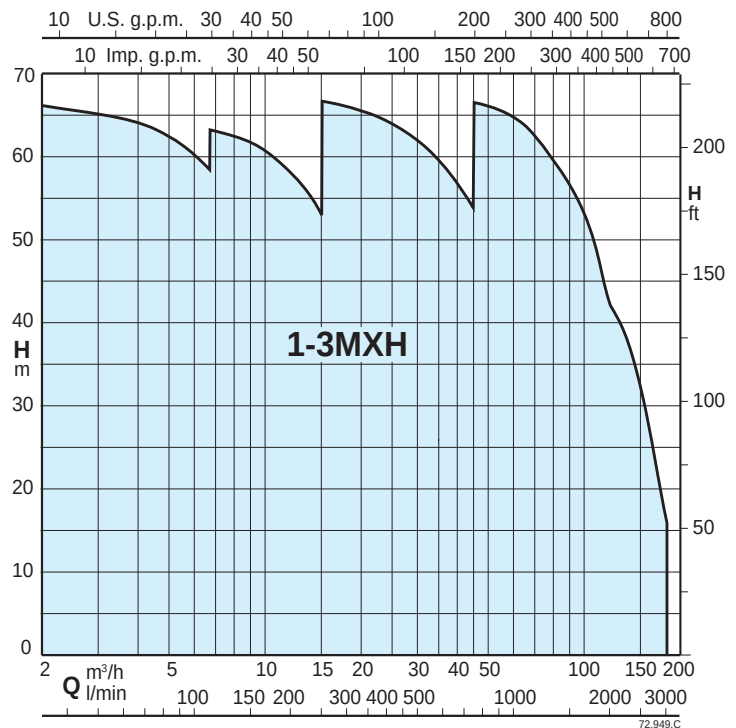
BS. MXH

Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

calpeda®



Coverage chart



Operation

BS 1-6F Pressure boosting sets with 1 to 6 fixed speed pump.
Sets with 4,5 and 6 pumps on request.
Depending on the reduction of the pressure in the system, the pressure switches determine the starting up of the pumps in sequence and the microprocessor alternates the starts.

BS1V2-5F Pressure boosting sets with 1 variable speed pump (with frequency converter into the control panel) and from 1 to 5 fixed speed pumps

Sets with 4,5 and 6 pumps on request.

According to the water consumption, one or more pumps start, one at variable speed and the others at fixed speed, to grant the water quantity required at the set pressure.

BS1-6V Pressure boosting sets with 1 to 6 variable speed pumps (with frequency converter into the control panel).

Sets with 4,5 and 6 pumps on request.

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.

Construction

- Automatic pressure boosting plant consisting of 1 horizontal multi-stage close coupled pump complete with ball valve on the delivery side, suitable for installation of one cylindrical pressure vessel.

- Automatic pressure boosting plant consisting of 2 to 6 horizontal multi-stage pumps complete with ball, non return valve on the suction side and ball valves on the delivery side.
Suction and delivery manifolds are in AISI 304.
Connections are located on the delivery manifold for the installation of 20 litres cylindrical vessels:
- 2 vessels for 2-pump sets.
- 3 vessels for 3-pump sets.

Electrical control boards:

- with microprocessor for fixed speed pump units (see page 486). Motor starting is D.O.L. up to 5,5 kW and Y/Δ for power rating 7,5 kW.
- with frequency converter for variable speed pump units (see page 487).

The unit includes one pressure gauge and three adjustable differential pressure switches or pressure transducer (for sets with frequency converter).

Applications

To supply water in civil and industrial buildings.
As pressure boosting pump to increase water pressure when needed (follow local rules).

Motors

2-pole induction motors, 50 Hz, $n \approx 2900$ rpm, suitable for operation with frequency converter.

- Three-phase 230/400V $\pm 10\%$ up to 3 kW;
400/690V $\pm 10\%$ for 4 kW to 7,5 kW;
- Single-phase 230 V $\pm 10\%$, with thermal protector.

Insulation class F.

Protection IP 54.

Constructed in accordance with: IEC 60034.

Other voltages and frequencies on request.

Vessels on request

When installing the unit, connect in the delivery section to a diaphragm or galvanised tank.

The recommended sized are shown in the following page.

Special features on request

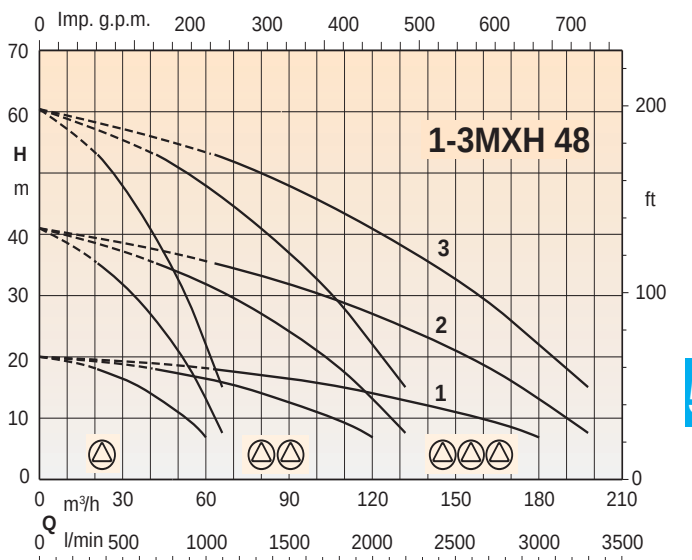
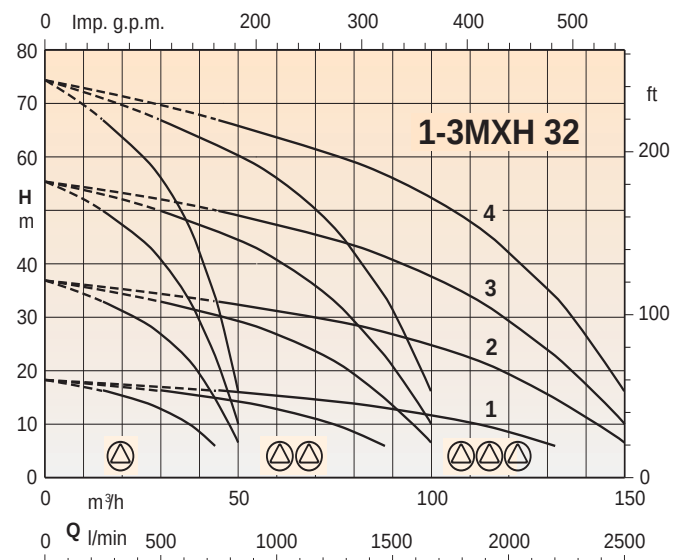
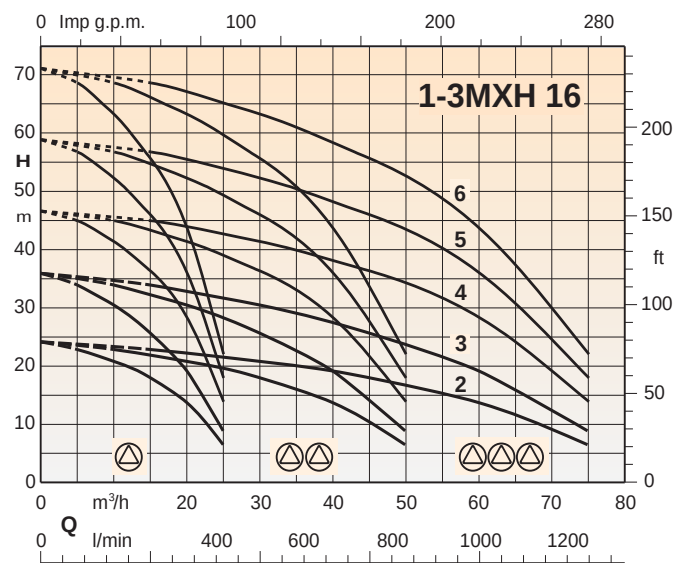
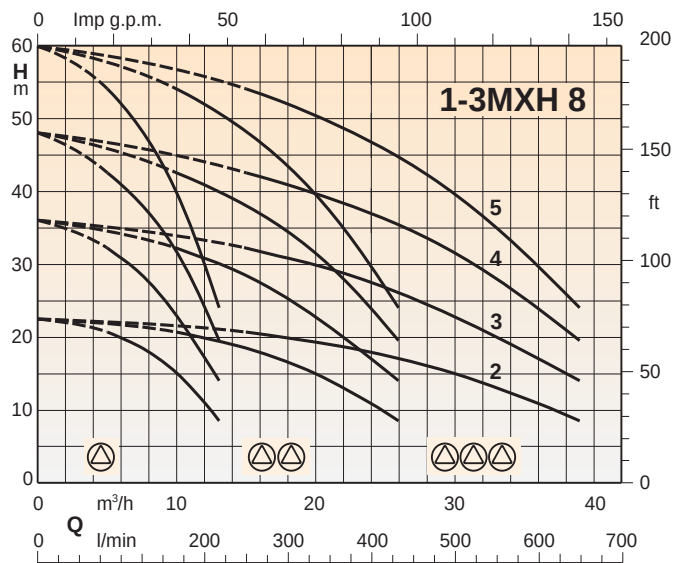
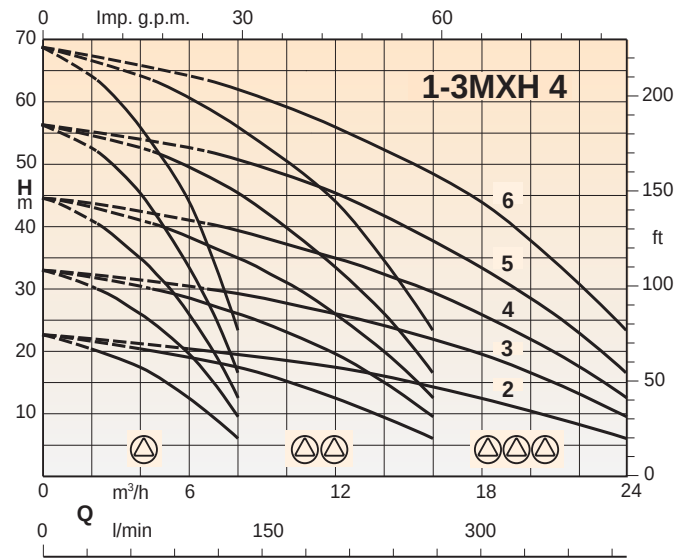
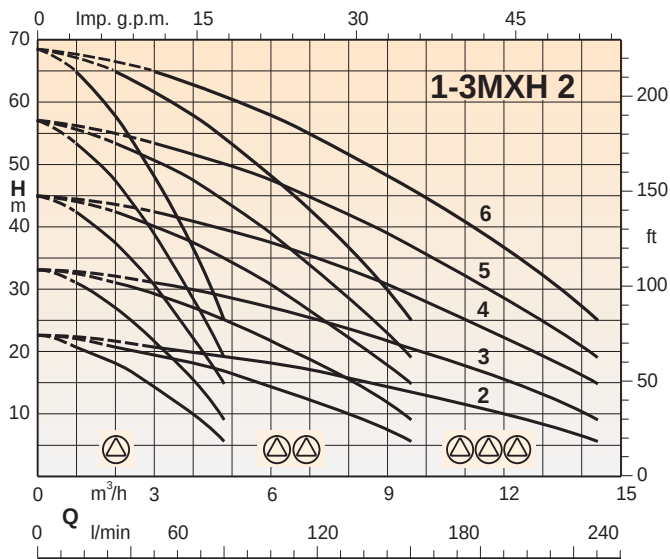
Pressure boosting sets with 4,5 and 6 pumps.

BS. MXH

Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart





Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Performance

BS1F BSM1F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Pres. switch 1 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	Q l/min	H m		
BS1F 1MXH 203E	BSM1F 1MXHM 203E	0,45	0,6	1,4	2,8	70	14	24	100
BS1F 1MXH 204/A	BSM1F 1MXHM 204/A	0,55	0,75	2,8	4	55	29	40	100
BS1F 1MXH 205/A	BSM1F 1MXHM 205/A	0,75	1	3,5	5	56	36	40	100
BS1F 1MXH 206/B	BSM1F 1MXHM 206	1,1	1,5	4	6	61	41	50	100
BS1F 1MXH 403/A	BSM1F 1MXHM 403/A	0,55	0,75	1,4	2,6	122	14	60	100
BS1F 1MXH 404/A	BSM1F 1MXHM 404/A	0,75	1	2,4	3,6	107	24	80	200
BS1F 1MXH 405/B	BSM1F 1MXHM 405	1,1	1,5	3,4	4,9	102	35	100	200
BS1F 1MXH 406	BSM1F 1MXHM 406	1,5	2	4	6	111	41	100	200
BS1F 1MXH 803	BSM1F 1MXHM 803	1,1	1,5	1,6	2,8	209	16	100	300
BS1F 1MXH 804	BSM1F 1MXHM 804	1,5	2	2,8	4	186	29	200	300
BS1F 1MXH 805/A		1,8	2,5	3,5	5	186	36	200	500
BS1F 1MXH 1603/A		1,8	2,5	1,5	3	382	15	300	500
BS1F 1MXH 1604/A		3	4	2,8	4	353	29	500	1000
BS1F 1MXH 1605/A		3,7	5	3,8	5,3	331	39	500	1000
BS1F 1MXH 1606/A		4	5,5	4,5	6,5	329	46	500	800
BS1F 1MXH 3202/A		4	5,5	1,8	3	718	18	1000	1500
BS1F 1MXH 3203/A		5,5	7,5	3,1	4,6	666	32	1000	2000
BS1F 1MXH 3204/A		7,5	10	4,7	6,2	633	48	1500	3000
BS1F 1MXH 4802/A		5,5	7,5	2,4	3,6	743	24	1000	2000
BS1F 1MXH 4803/A		7,5	10	3	4,5	886	31	2000	3000

* Maximum pumps flow at minimum setting pressure switch.

BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Alimentazione 230V 1~ Motore 230V 1~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	min	max	Q l/min	H m		
BS2F 2MXH 203E	BSM2F 2MXHM 203E	0,45 x2	0,6 x2	1,4	2,8	1	2,4	156	10	24	100
BS2F 2MXH 204/A	BSM2F 2MXHM 204/A	0,55 x2	0,75 x2	2,8	4	2,4	3,6	128	24	40	100
BS2F 2MXH 205/A	BSM2F 2MXHM 205/A	0,75 x2	1 x2	3,5	5	3	4,5	130	31	40	100
BS2F 2MXH 206/B	BSM2F 2MXHM 206	1,1 x2	1,5 x2	4	6	3,5	5,5	136	36	50	100
BS2F 2MXH 403/A	BSM2F 2MXHM 403/A	0,55 x2	0,75 x2	1,4	2,6	1	2,2	264	10	60	100
BS2F 2MXH 404/A	BSM2F 2MXHM 404/A	0,75 x2	1 x2	2,4	3,6	2	3,2	237	20	80	200
BS2F 2MXH 405/B	BSM2F 2MXHM 405	1,1 x2	1,5 x2	3,4	4,9	3	4,5	224	31	100	200
BS2F 2MXH 406E	BSM2F 2MXHM 406	1,5 x2	2 x2	4	6	3,5	5,5	241	36	100	200
BS2F 2MXH 803	BSM2F 2MXHM 803	1,1 x2	1,5 x2	1,6	2,8	1,2	2,4	442	12	100	300
BS2F 2MXH 804	BSM2F 2MXHM 804	1,5 x2	2 x2	2,8	4	2,4	3,6	406	24	200	300
BS2F 2MXH 805/A		1,8 x2	2,5 x2	3,5	5	3	4,5	405	31	200	500
BS2F 2MXH 1603/A		1,8 x2	2,5 x2	1,5	3	1,2	2,7	805	12	300	500
BS2F 2MXH 1604/A		3 x2	4 x2	2,8	4	2,4	3,6	770	24	500	1000
BS2F 2MXH 1605/A		3,7 x2	5 x2	3,8	5,3	3,4	4,9	728	35	500	1000
BS2F 2MXH 1606/A		4 x2	5,5 x2	4,5	6,5	4	6	725	41	500	800
BS2F 2MXH 3202/A		4 x2	5,5 x2	1,5	3	1,2	2,7	1594	13	1000	1500
BS2F 2MXH 3203/A		5,5 x2	7,5 x2	3	4,5	2,5	4	1474	27	1000	2000
BS2F 2MXH 3204/A		7,5 x2	10 x2	4	6	3,5	5,5	1404	43	1500	3000
BS2F 2MXH 4802/A		5,5 x2	7,5 x2	1,5	3	1,2	2,7	1950	15	1000	2000
BS2F 2MXH 4803/A		7,5 x2	10 x2	3	4,5	2,5	4	1946	25	2000	3000

* Maximum pumps flow at minimum setting pressure of 2nd pressure switch.

BS3F

Mains: 400V 3~ Motor: 400V 3~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Pres. switch 3 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
	kW	HP	min	max	min	max	min	max	Q l/min	H m		
BS3F 3MXH 203E	0,45 x3	0,6 x3	1,8	2,8	1,4	2,4	1	2	234	10	24	100
BS3F 3MXH 204/A	0,55 x3	0,75 x3	2,8	4	2,4	3,6	1,9	3,1	220	19	40	100
BS3F 3MXH 205/A	0,75 x3	1 x3	3,5	5	3	4,5	2,5	4	217	25	40	100
BS3F 3MXH 206/B	1,1 x3	1,5 x3	4	6	3,5	5,5	3	5	223	31	50	100
BS3F 3MXH 403/A	0,55 x3	0,75 x3	1,6	2,6	1,1	2,3	1	2	396	10	60	100
BS3F 3MXH 404/A	0,75 x3	1 x3	2,4	3,6	2	3,2	1,5	2,7	388	15	80	200
BS3F 3MXH 405/B	1,1 x3	1,5 x3	3,4	4,9	3	4,5	2,5	4	367	25	100	200
BS3F 3MXH 406E	1,5 x3	2 x3	4	6	3,5	5,5	3	5	383	31	100	200
BS3F 3MXH 803	1,1 x3	1,5 x3	1,9	2,9	1,5	2,5	1	2	673	10	100	300
BS3F 3MXH 804	1,5 x3	2 x3	2,8	4	2,4	3,6	1,9	3,1	651	19	200	300
BS3F 3MXH 805/A	1,8 x3	2,5 x3	3,5	5	3	4,5	2,5	4	643	25	200	500
BS3F 3MXH 1603/A	1,8 x3	2,5 x3	1,8	3	1,4	2,6	1	2,2	1237	10	300	500
BS3F 3MXH 1604/A	3 x3	4 x3	2,8	4	2,4	3,6	1,9	3,1	1228	19	500	1000
BS3F 3MXH 1605/A	3,7 x3	5 x3	3,8	5,3	3,4	4,9	2,9	4,4	1180	30	500	1000
BS3F 3MXH 1606/A	4 x3	5,5 x3	4,5	6,5	4	6	3,5	5,5	1166	36	500	800
BS3F 3MXH 3202/A	4 x3	5,5 x3	2	3	1,5	2,5	1	2	2470	10	1000	1500
BS3F 3MXH 3203/A	5,5 x3	7,5 x3	3,1	4,6	2,6	4,1	2,1	3,6	2365	21	1000	2000
BS3F 3MXH 3204/A	7,5 x3	10 x3	4,7	6,2	4,2	5,7	3,7	5,2	2270	38	1500	3000
BS3F 3MXH 4802/A	5,5 x3	7,5 x3	2	3,2	1,5	2,7	1	2,2	3193	10	1000	2000
BS3F 3MXH 4803/A	7,5 x3	10 x3	3	4,5	2,5	4	2	3,5	3141	20	2000	3000

* Maximum pumps flow at minimum setting pressure of 3rd pressure switch.



Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Fixed speed pump or **Variable speed pump (frequency converter)**



Performance

BS..

PUMPS Nos						PUMP TYPE	P ₂ For each pump	
1	2	3	4	5	6		kW	HP
BS1V	BS2V BS1V1F BSM1V1F* BSM2V**	BS3V BS1V2F	BS4V BS1V3F	BS5V BS1V4F	BS6V BS1V5F	MXH 203E	0,45	0,6
						MXH 204/A	0,55	0,75
						MXH 205/A	0,75	1
						MXH 206/B	1,1	1,5
						MXH 403/A	0,55	0,75
						MXH 404/A	0,75	1
						MXH 405/B	1,1	1,5
						MXH 406E	1,5	2
						MXH 803	1,1	1,5
						MXH 804	1,5	2
						MXH 805/A	1,8	2,5
						MXH 1603/A	1,8	2,5
						MXH 1604/A	3	4
						MXH 1605/A	3,7	5
						MXH 1606/A	4	5,5
						MXH 3202/A	4	5,5
						MXH 3203/A	5,5	7,5
						MXH 3204/A	7,5	10
						MXH 4802/A	5,5	7,5
						MXH 4803/A	7,5	10

(*) SYSTEMS WITH:

1 variable speed pump three-phase motor
1 fixed speed pump single-phase motor
Power supply to control panel 230 V single-phase

(**) Three-phase motor 230 V.

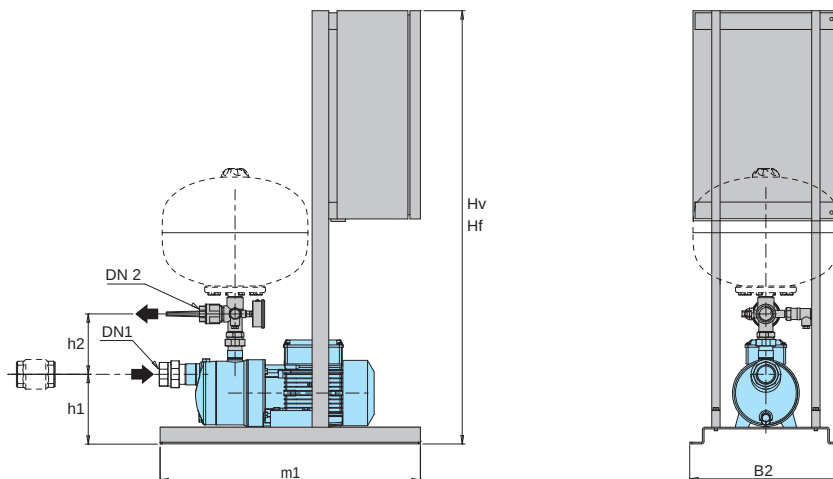
Power supply to control panel: - 230 V three-phase
- 230 V single-phase
Frequency converter output is always 230 V three-phase.

BS. MXH

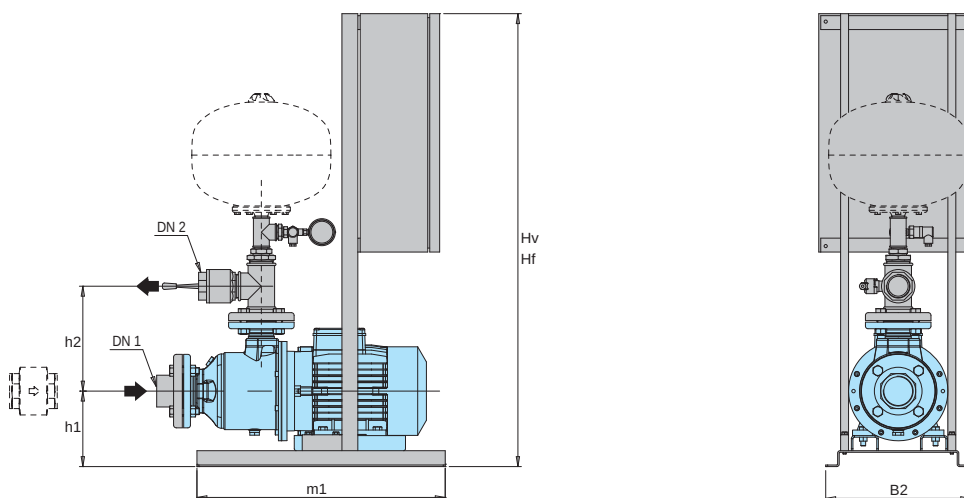
Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

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Dimensions and weights



TYPE	Connection		mm						weight
	DN 1	DN 2	Hv	Hf	h1	h2	m1	B2	kg
BS.. 1MXH 203E									-
BS.. 1MXH 204/A	G 1 1/4	G 1	1045	875	170	145	625	365	
BS.. 1MXH 205/A									
BS.. 1MXH 206/B									
BS.. 1MXH 403/A									
BS.. 1MXH 404/A	G 1 1/4	G 1	1045	875	170	145	625	365	
BS.. 1MXH 405/B									
BS.. 1MXH 406E									
BS.. 1MXH 803									
BS.. 1MXH 804	G 1 1/2	G 1	1045	875	170	145	625	365	
BS.. 1MXH 805/A									
BS.. 1MXH 1603/A									
BS.. 1MXH 1604/A		G 1 1/2	1045	875	175	195	625	365	
BS.. 1MXH 1605/A									
BS.. 1MXH 1606/A									



TYPE	Connection		mm						weight
	DN 1	DN 2	Hv	Hf	h1	h2	m1	B2	kg
BS.. 1MXH 3202/A	65	50	1045	875	195	265	625	365	
BS.. 1MXH 3203/A									
BS.. 1MXH 3204/A									
BS.. 1MXH 4802/A	80	65	1145	1145	195	275	625	365	
BS.. 1MXH 4803/A									

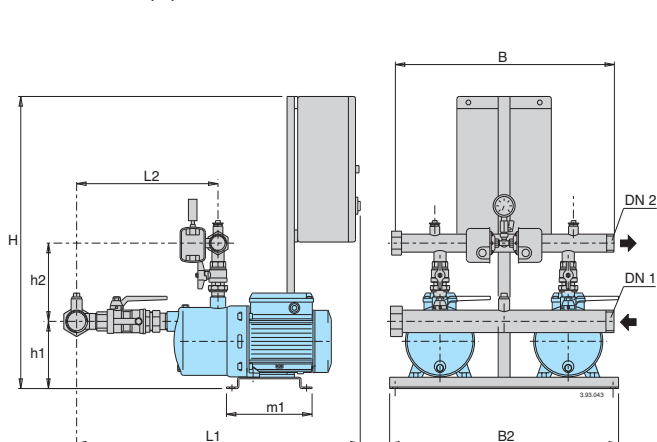
BS. MXH

Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

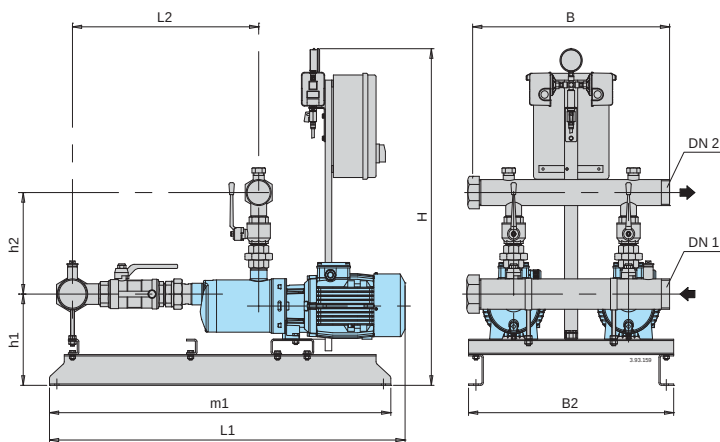
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Dimensions and weights

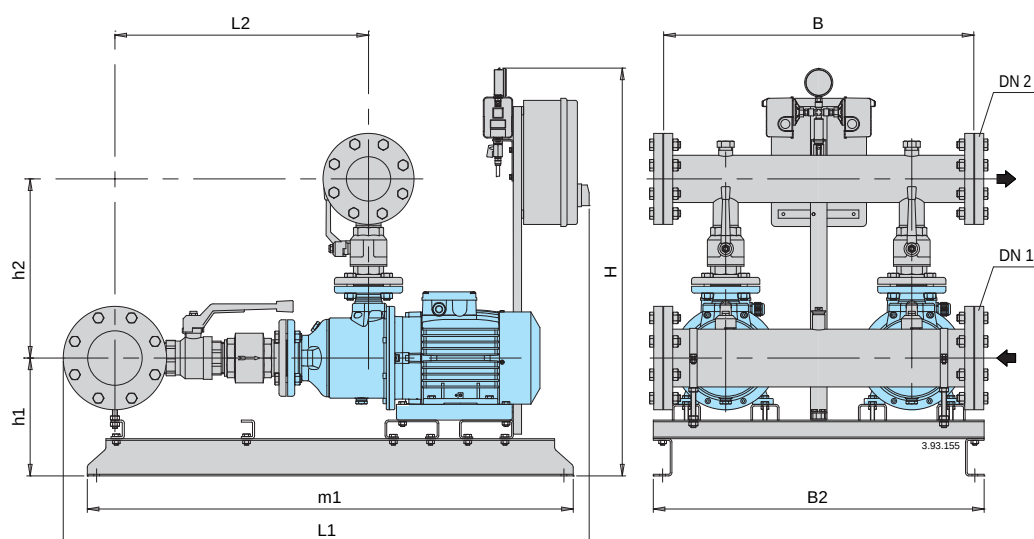
BS.. 2MXH 2,4,8



BS.. 2MXH 16



TYPE	Connection		mm								weight kg		
	DN 1	DN 2	H	h1	h2	L1	L2	m1	B2	B			
BS.. 2MXH 203E	G 2	G 1 1/2	840	162	202	773	335	235	625	600	42		
BS.. 2MXH 204/A	G 2	G 1 1/2	840	162	202	796	358				47		
BS.. 2MXH 205/A	G 2	G 1 1/2	840	162	202	820	382				50		
BS.. 2MXH 206/B	G 2	G 1 1/2	840	162	202	845	406				54		
BS.. 2MXH 403/A	G 2	G 1 1/2	840	162	202	773	335				46		
BS.. 2MXH 404/A	G 2	G 1 1/2	840	162	202	796	358				49		
BS.. 2MXH 405/B	G 2	G 1 1/2	840	162	202	820	382				53		
BS.. 2MXH 406E	G 2	G 1 1/2	840	162	202	845	406				57		
BS.. 2MXH 803	G 2 1/2	G 2	840	162	208	866	428				61		
BS.. 2MXH 804	G 2 1/2	G 2	840	162	208	896	458				66		
BS.. 2MXH 805/A	G 2 1/2	G 2	840	162	208	926	488				68		
BS.. 2MXH 1603/A	G 3	G 2 1/2	985	250	295	945	490	905	625	600	87		
BS.. 2MXH 1604/A	G 3	G 2 1/2	985	265	295	1045	530	1040			114		
BS.. 2MXH 1605/A	G 3	G 2 1/2	985	265	295	1085	565				122		
BS.. 2MXH 1606/A	G 3	G 2 1/2	985	265	295	1120	605				124		



TYPE	Connection		mm								weight kg
	DN 1	DN 2	H	h1	h2	L1	L2	m1	B2	B	
BS.. 2MXH 3202/A	100	80	1510	285	435	1265	565	1175	800	750	214
BS.. 2MXH 3203/A	100	80	1510	285	435	1270	615	1175			243
BS.. 2MXH 3204/A	100	80	1510	285	435	1320	660	1175			260
BS.. 2MXH 4802/A	125	100	1510	285	465	1380	665	1175			268
BS.. 2MXH 4803/A	125	100	1510	285	465	1420	725	1220			286

BS. MXH

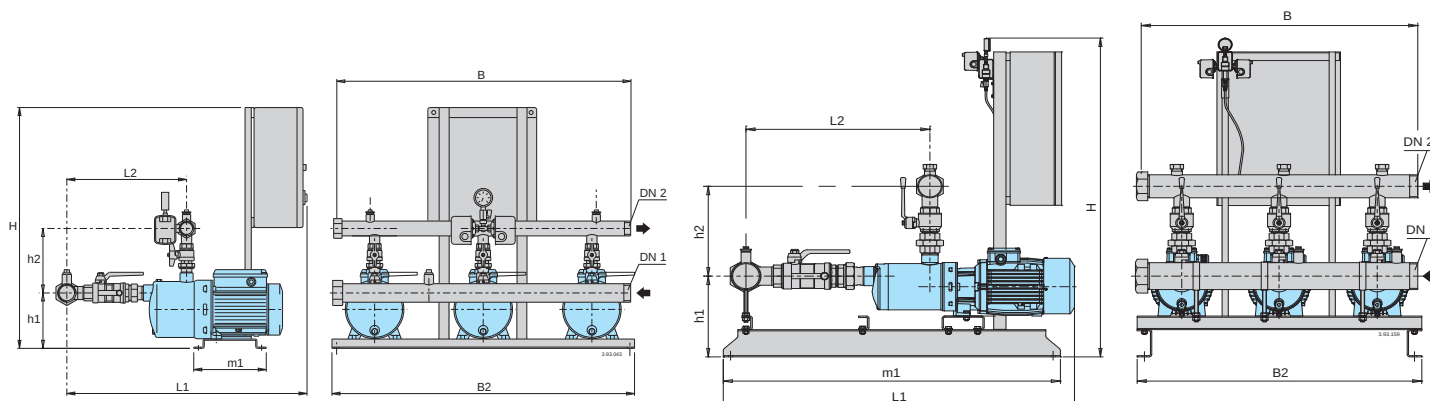
Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

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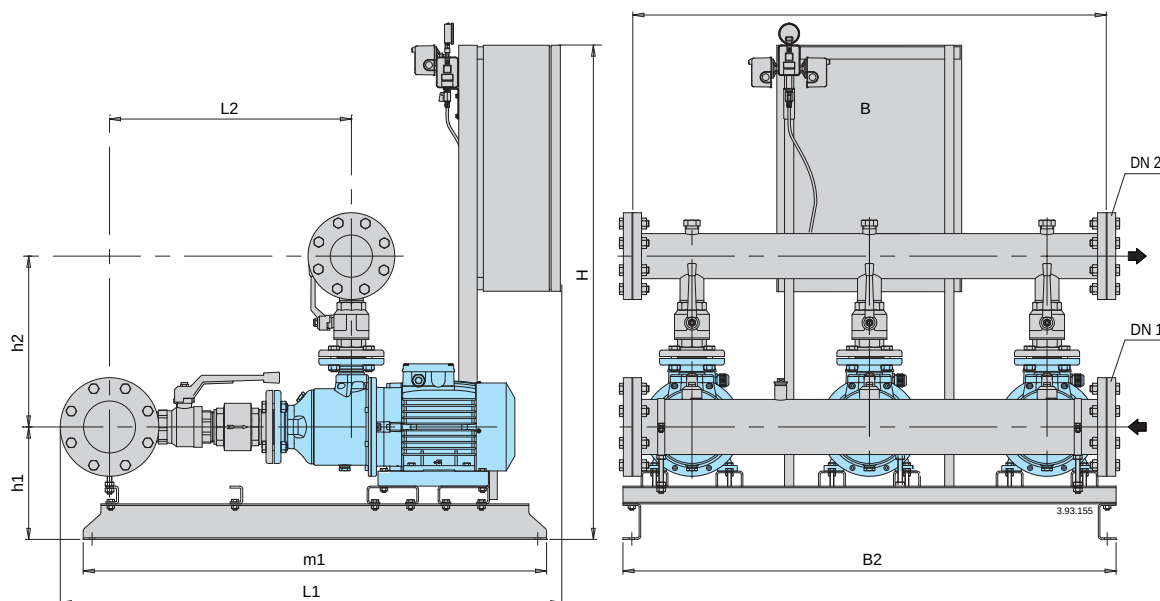
Dimensions and weights

BS.. 2MXH 2,4,8

BS.. 2MXH 16



TYPE	Collettori		mm								Peso kg
	DN 1	DN 2	H	h1	h2	L1	L2	m1	B2	B	
BS.. 3MXH 203E	G 2 1/2	G 2	840	162	202	773	335	235	1350	1200	-
BS.. 3MXH 204/A	G 2 1/2	G 2	840	162	202	796	358				
BS.. 3MXH 205/A	G 2 1/2	G 2	840	162	202	820	382				
BS.. 3MXH 206/B	G 2 1/2	G 2	840	162	202	845	406				
BS.. 3MXH 403/A	G 2 1/2	G 2	840	162	202	773	335				
BS.. 3MXH 404/A	G 2 1/2	G 2	840	162	202	796	358				
BS.. 3MXH 405/B	G 2 1/2	G 2	840	162	202	820	382				
BS.. 3MXH 406E	G 2 1/2	G 2	840	162	202	845	406				
BS.. 3MXH 803	G 3	G 21/2	840	162	208	866	428				
BS.. 3MXH 804	G 3	G 21/2	840	162	208	896	458				
BS.. 3MXH 805/A	G 3	G 21/2	840	162	208	926	488				
BS.. 3MXH 1603/A	DN 100	DN 80	985	250	295	945	490	905	1350	1200	
BS.. 3MXH 1604/A	DN 100	DN 80	985	265	295	1045	530	1040			
BS.. 3MXH 1605/A	DN 100	DN 80	985	265	295	1085	565				
BS.. 3MXH 1606/A	DN 100	DN 80	985	265	295	1120	605				



TYPE	Collettori		mm								Peso kg
	DN 1	DN 2	H	h1	h2	L1	L2	m1	B2	B	
BS.. 3MXH 3202/A	125	100	1510	285	435	1265	565	1175	1250	1200	-
BS.. 3MXH 3203/A	125	100	1510	285	435	1270	615	1175			-
BS.. 3MXH 3204/A	125	100	1510	285	435	1320	660	1175			-
BS.. 3MXH 4802/A	150	125	1510	285	465	1380	665	1175			-
BS.. 3MXH 4803/A	150	125	1510	285	465	1420	725	1220			-

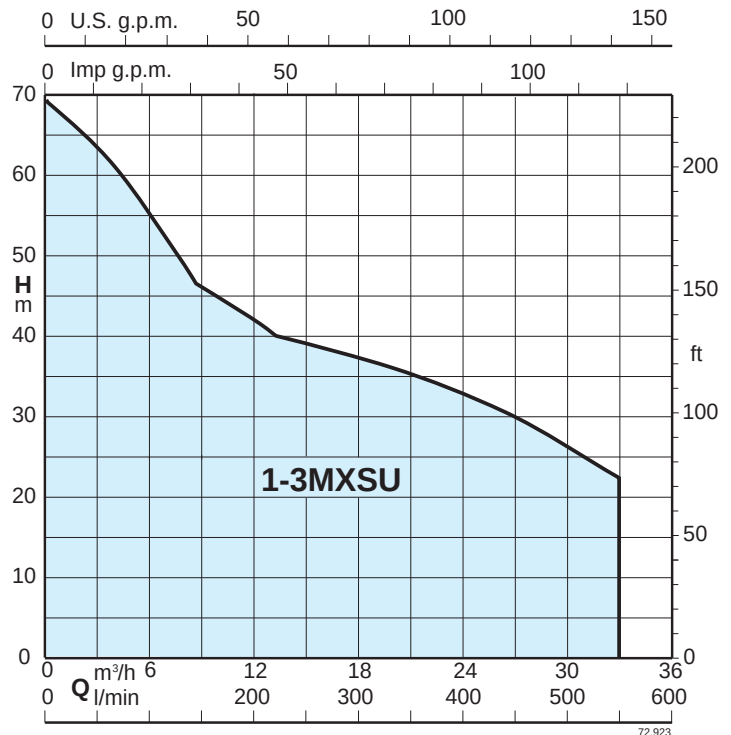
BS. MXSU

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

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Coverage chart



Operation

BS 1-6F Pressure boosting sets with 1 to 6 fixed speed pump.
Sets with 4,5 and 6 pumps on request.
Depending on the reduction of the pressure in the system, the pressure switches determine the starting up of the pumps in sequence and the microprocessor alternates the starts.

BS1V2-5F Pressure boosting sets with 1 variable speed pump (with frequency converter into the control panel) and from 1 to 5 fixed speed pumps
Sets with 4,5 and 6 pumps on request.

According to the water consumption, one or more pumps start, one at variable speed and the others at fixed speed, to grant the water quantity required at the set pressure.

BS1-6V Pressure boosting sets with 1 to 6 variable speed pumps (with frequency converter into the control panel).
Sets with 4,5 and 6 pumps on request.

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.

Construction

- Automatic pressure boosting plant consisting of 1 vertical multi-stage close coupled pump complete with ball valve on the delivery side, suitable for installation of one cylindrical pressure vessel.

- Automatic pressure boosting plant consisting of 2 to 6 vertical multi-stage close coupled pumps complete with ball, non return valve on the suction side and ball valves on the delivery side.
Suction and delivery manifolds are in AISI 304.
Connections are located on the delivery manifold for the installation of 20 litres cylindrical vessels:
- 2 vessels for 2-pump sets.
- 3 vessels for 3-pump sets.

Electrical control boards:

- with microprocessor for fixed speed pump units (see page 486).
- with frequency converter for variable speed pump units (see page 487).

The unit includes one pressure gauge and three adjustable differential pressure switches or pressure transducer (for sets with frequency converter).

Applications

To supply water in civil and industrial buildings.
As pressure boosting pump to increase water pressure when needed (follow local rules).

Motors

2-pole induction motors, 50 Hz, $n \approx 2900$ rpm, suitable for operation with frequency converter.

- Three-phase 230V - 400V $\pm 10\%$;
- Single-phase 230 V $\pm 10\%$.

Insulation class F.

Protection IP 54.

Constructed in accordance with: IEC 60034.

Other voltages and frequencies on request.

Vessels on request

When installing the unit, connect in the delivery section to a diaphragm or galvanised tank.

The recommended sized are shown in the following page.

Special features on request

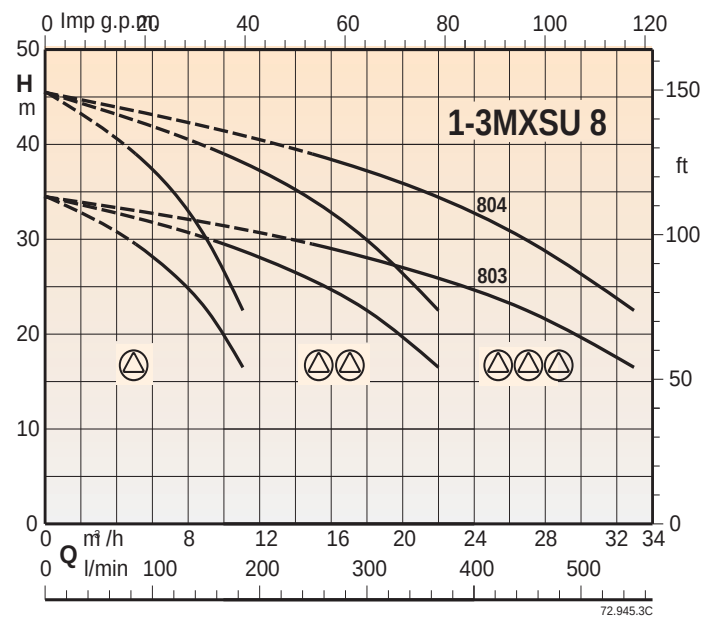
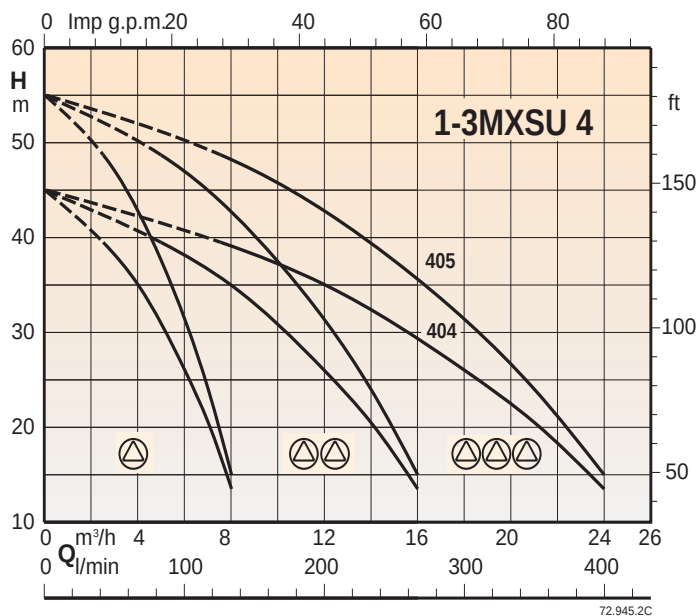
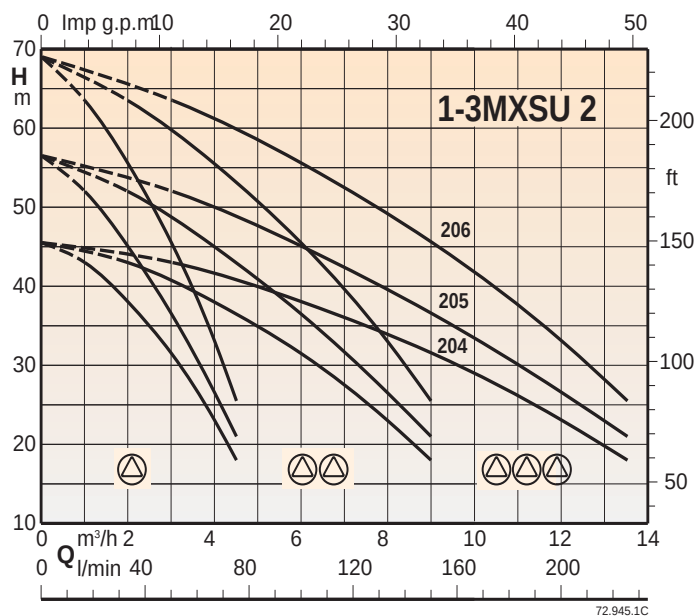
Pressure boosting sets with 4,5 and 6 pumps.

BS. MXSU

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart





Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Performance

BS1F BSM1F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Pres. switch 1 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	Q l/min	H m		
BS1F 1MXSU 204/A	BSM1F 1MXSU 204/A	0,55	0,75	2,3	3,8	63	23	40	100
BS1F 1MXSU 205/A	BSM1F 1MXSU 205/A	0,75	1	3	4,5	58	31	40	100
BS1F 1MXSU 206/A	BSM1F 1MXSU 206/A	0,9	1,2	3,8	5,8	56	39	50	100
BS1F 1MXSU 404/A	BSM1F 1MXSU 404/A	0,9	1,2	2,1	3,6	115	21	60	100
BS1F 1MXSU 405/A	BSM1F 1MXSU 405/A	1,1	1,5	3	4,5	104	31	80	300
BS1F 1MXSU 803/A	BSM1F 1MXSU 803/A	1,1	1,5	2	2,7	164	20	200	300
BS1F 1MXSU 804/A	BSM1F 1MXSU 804/A	1,5	2	2,4	3,6	177	24	200	300

* Maximum pumps flow at minimum setting pressure switch.

BS2F BSM2F

Mains: 400V 3~ Motor: 400V 3~	Alimentazione 230V 1~ Motore 230V 1~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	min	max	Q l/min	H m		
BS2F 2MXSU 204/A	BSM2F 2MXSU 204/A	0,55 x2	0,75 x2	2,3	3,8	1,8	3,3	143	18	40	100
BS2F 2MXSU 205/A	BSM2F 2MXSU 205/A	0,75 x2	1 x2	3	4,5	2,5	4	133	25	40	100
BS2F 2MXSU 206/A	BSM2F 2MXSU 206/A	0,9 x2	1,2 x2	3,8	5,8	3,5	5,5	121	36	50	100
BS2F 2MXSU 404/A	BSM2F 2MXSU 404/A	0,9 x2	1,2 x2	2,1	3,6	1,7	3,2	251	17	60	100
BS2F 2MXSU 405/A	BSM2F 2MXSU 405/A	1,1 x2	1,5 x2	3	4,5	2,5	4	233	25	80	300
BS2F 2MXSU 803/A	BSM2F 2MXSU 803/A	1,1 x2	1,5 x2	2	2,7	1,6	2,3	368	16	200	300
BS2F 2MXSU 804/A	BSM2F 2MXSU 804/A	1,5 x2	2 x2	2,4	3,6	2	3,2	378	20	200	300

* Maximum pumps flow at minimum setting pressure of 2nd pressure switch.

BS3F

Mains: 400V 3~ Motor: 400V 3~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Pres. switch 3 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
	kW	HP	min	max	min	max	min	max	Q l/min	H m		
BS3F 3MXSU 204/A	0,55 x3	0,75 x3	2,3	3,8	1,8	3,3	1,3	2,8	235	13	40	100
BS3F 3MXSU 205/A	0,75 x3	1 x3	3	4,5	2,5	4	2	3,5	220	20	40	100
BS3F 3MXSU 206/A	0,9 x3	1,2 x3	3,8	5,8	3,5	5,5	3,2	5,2	194	33	40	100
BS3F 3MXSU 404/A	0,9 x3	1,2 x3	2,1	3,6	1,7	3,2	1,2	2,7	403	12	60	100
BS3F 3MXSU 405/A	1,1 x3	1,5 x3	3	4,5	2,5	4	2	3,5	379	20	80	200
BS3F 3MXSU 803/A	1,1 x3	1,5 x3	2	2,7	1,6	2,3	1,2	1,9	581	12	200	200
BS3F 3MXSU 804/A	1,5 x3	2 x3	2,6	3,6	2,2	3,2	1,8	2,8	579	18	200	300

* Maximum pumps flow at minimum setting pressure of 3rd pressure switch.

BS..

PUMPS Nos						PUMP TYPE	P ₂ For each pump	
1	2	3	4	5	6		kW	HP
BS1V	BS2V BS1V1F BSM1V1F* BSM2V**	BS3V BS1V2F	BS4V BS1V3F	BS5V BS1V4F	BS6V BS1V5F	MXSU 204/A	0,55	0,75
						MXSU 205/A	0,75	1
						MXSU 206/A	0,9	1,2
						MXSU 404/A	0,9	1,2
						MXSU 405/A	1,1	1,5
						MXSU 803/A	1,1	1,5
						MXSU 804/A	1,5	2

(*) SYSTEMS WITH:
1 variable speed pump three-phase motor
1 fixed speed pump single-phase motor
Power supply to control panel 230 V single-phase

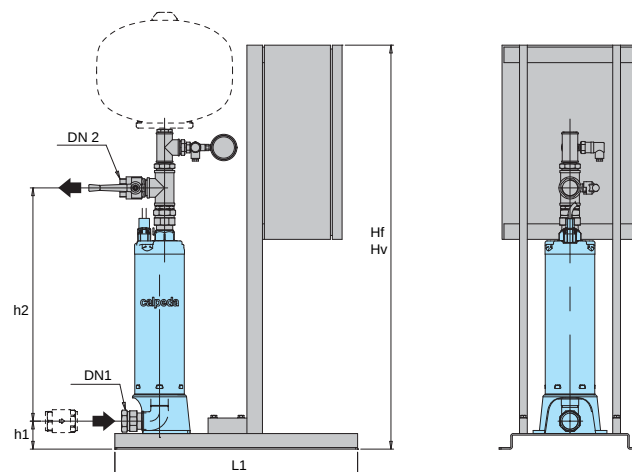
(**) Three-phase motor 230 V.
Power supply to control panel: - 230 V three-phase
- 230 V single-phase
Frequency converter output is always 230 V three-phase.

BS. MXSU

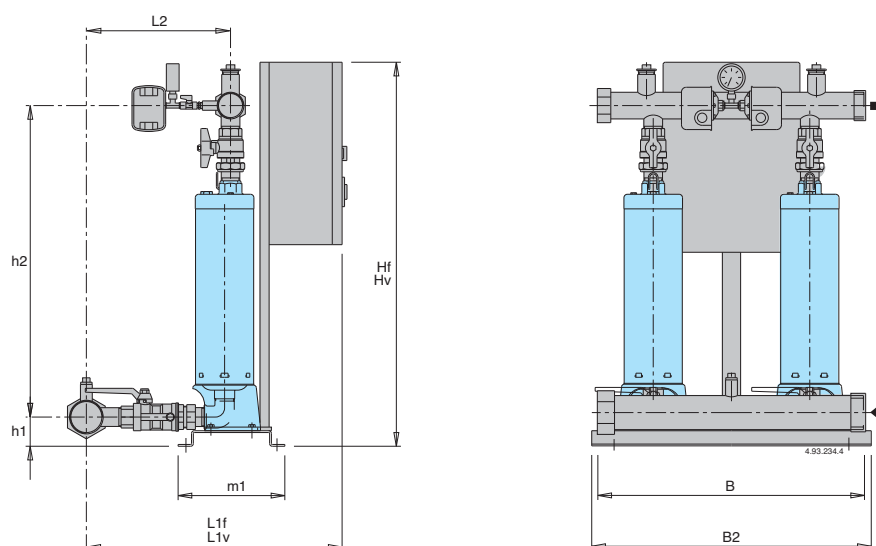
Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

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Dimensions and weights



TYPE	TYPE	Connection		mm						weight kg
		DN 1	DN 2	Hf	Hv	h1	h2	L1	m1	
BS.. 1MXSU 204/A	BSM.. 1MXSU 204/A	G 1 1/4	G 1 1/4	875	1045	75	600	625	365	-
BS.. 1MXSU 205/A	BSM.. 1MXSU 205/A						625			
BS.. 1MXSU 206/A	BSM.. 1MXSU 206/A						650			
BS.. 1MXSU 404/A	BSM.. 1MXSU 404/A	G 1 1/4	G 1 1/4	875	1045	75	600	625	365	
BS.. 1MXSU 405/A	BSM.. 1MXSU 405/A						625			
BS.. 1MXSU 803/A	BSM.. 1MXSU 803/A						625			
BS.. 1MXSU 804/A	BSM.. 1MXSU 804/A	G 1 1/4	G 1 1/4	875	1045	75	625	625	365	



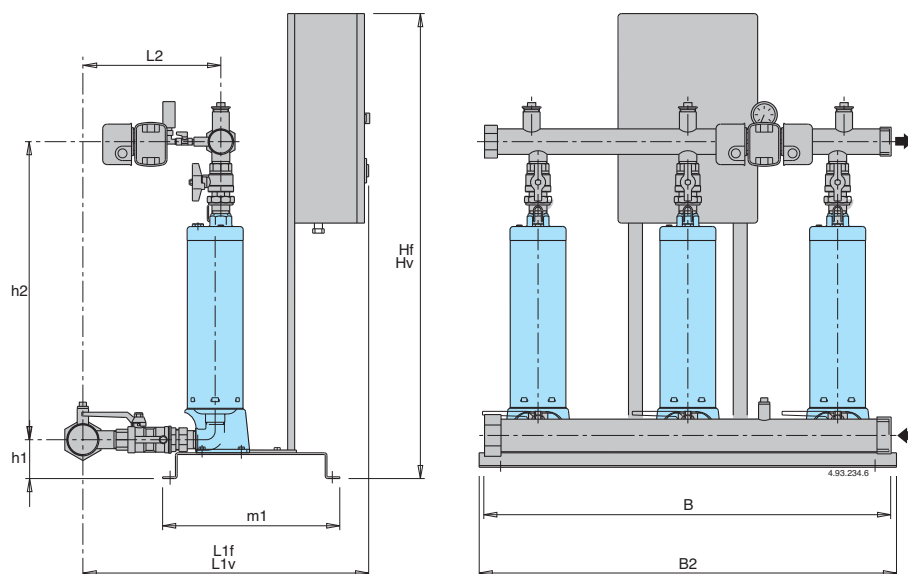
TYPE	TYPE	Connection		mm										weight kg
		DN 1	DN 2	Hf	Hv	h1	h2	L1f	L1v	L2	m1	B	B	
BS.. 2MXSU 204/A	BSM.. 2MXSU 204/A	G 2	G 2	865	1135	66	657	690	740	300	234	600	625	50 - 50
BS.. 2MXSU 205/A	BSM.. 2MXSU 205/A						681							52 - 52
BS.. 2MXSU 206/A	BSM.. 2MXSU 206/A						705							54 - 55
BS.. 2MXSU 404/A	BSM.. 2MXSU 404/A	G 2	G 2	865	1135	66	657	690	740	300	234	600	625	52 - 53
BS.. 2MXSU 405/A	BSM.. 2MXSU 405/A						681							53 - 54
BS.. 2MXSU 803/A	BSM.. 2MXSU 803/A						681							52 - 53
BS.. 2MXSU 804/A	BSM.. 2MXSU 804/A	G 2	G 2	865	1135	66	681	690	740	300	234	600	625	57

BS. MXSU

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

calpeda[®]

Dimensions and weights



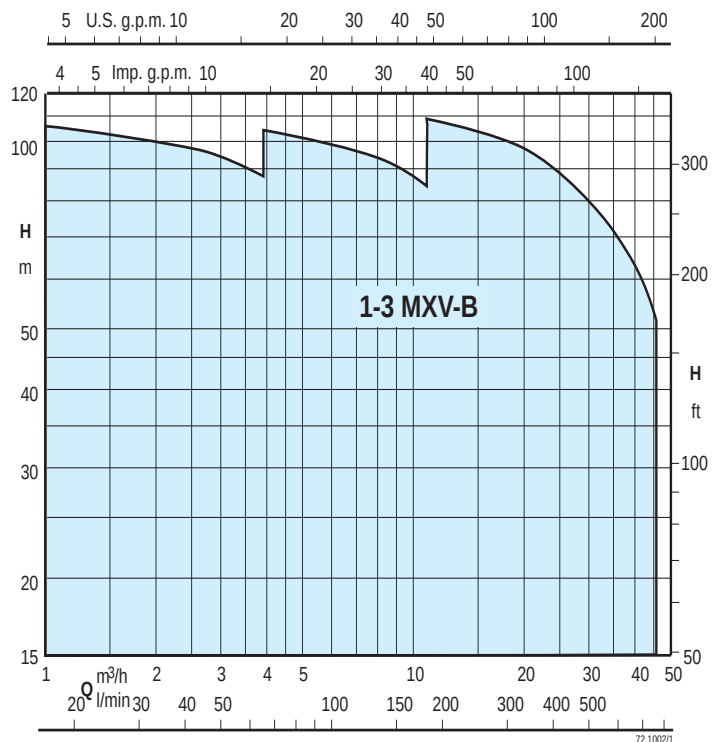
TYPE	Connection		mm										weight	
	DN 1	DN 2	Hf	Hv	h1	h2	L1f	L1v	L2	m1	B	B	kg	
BS.. 3MXSU 204/A						657							85	
BS.. 3MXSU 205/A	G 2 1/2	G 2	1090	1260	91	681	735	805	305	406	950	1000	88	
BS.. 3MXSU 206/A						705							91	
BS.. 3MXSU 404/A						657							88	
BS.. 3MXSU 405/A	G 2 1/2	G 2	1090	1260	91	681	735	805	305	406	950	1000	89	
BS.. 3MXSU 803/A						690							88	
BS.. 3MXSU 804/A	G 2 1/2	G 2	1090	1260	91	690	735	805	305	406	950	1000	96	

BS. MXV-B

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart



Operation

BS 1-6F Pressure boosting sets with 1 to 6 fixed speed pump.
Sets with 4,5 and 6 pumps on request.
Depending on the reduction of the pressure in the system, the pressure switches determine the starting up of the pumps in sequence and the microprocessor alternates the starts.

BS1V2-5F Pressure boosting sets with 1 variable speed pump (with frequency converter into the control panel) and from 1 to 5 fixed speed pumps
Sets with 4,5 and 6 pumps on request.

According to the water consumption, one or more pumps start, one at variable speed and the others at fixed speed, to grant the water quantity required at the set pressure.

BS1-6V Pressure boosting sets with 1 to 6 variable speed pumps (with frequency converter into the control panel).
Sets with 4,5 and 6 pumps on request.

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.

Construction

- Automatic pressure boosting plant consisting of 1 vertical multi-stage close coupled pump complete with ball valve on the delivery side, suitable for installation of one cylindrical pressure vessel.

- Automatic pressure boosting plant consisting of 2 to 6 vertical multi-stage close coupled pumps complete with ball, non return valve on the suction side and ball valves on the delivery side.
Suction and delivery manifolds are in AISI 304.
Connections are located on the delivery manifold for the installation of 20 litres cylindrical vessels:
- 2 vessels (for 2MXV-B 25-32-40), 1 vessel (for 2MXV-B 50).
- 3 vessels (for 3MXV-B 25-32-40), 2 vessels (for 3MXV-B 50).

Electrical control boards:

- with microprocessor for fixed speed pump units (see page 486). Motor starting is D.O.L. up to 5,5 kW and Y/Δ for power rating 7,5 kW.
- with frequency converter for variable speed pump units (see page 487).

The unit includes one pressure gauge and three adjustable differential pressure switches or pressure transducer (for sets with frequency converter).

Applications

To supply water in civil and industrial buildings.
As pressure boosting pump to increase water pressure when needed (follow local rules).

Motors

2-pole induction motors, 50 Hz, $n \approx 2900$ rpm, suitable for operation with frequency converter.

- Three-phase 230/400V $\pm 10\%$ up to 3 kW;
400/690V $\pm 10\%$ for 4 kW to 7,5 kW;
- Single-phase 230 V $\pm 10\%$, with thermal protector.

Insulation class F.

Protection IP 54.

Constructed in accordance with: IEC 60034.

Other voltages and frequencies on request.

Vessels on request

When installing the unit, connect in the delivery section to a diaphragm or galvanised tank.

The recommended sized are shown in the following page.

Special features on request

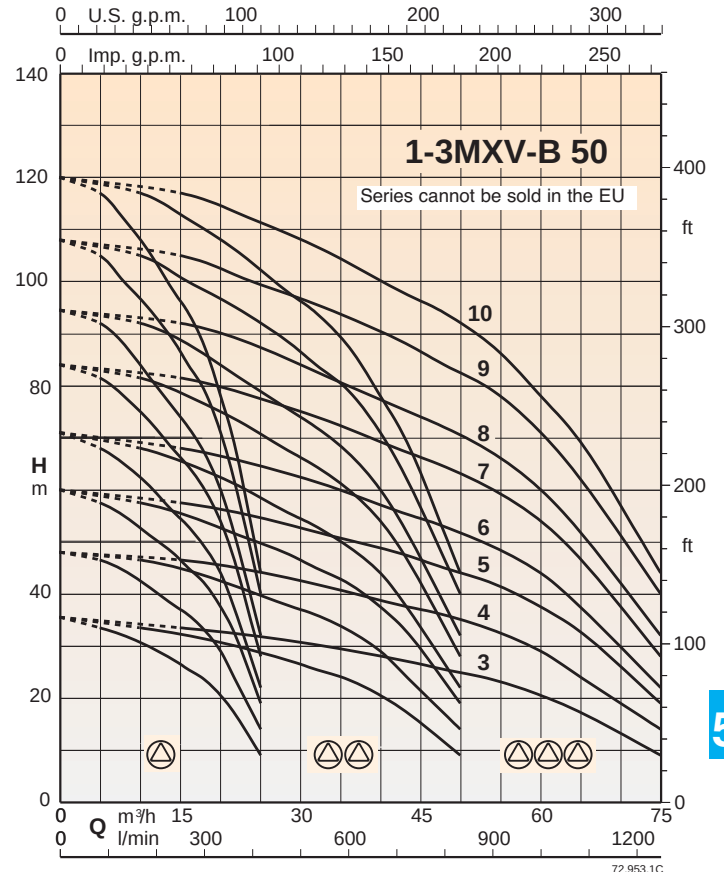
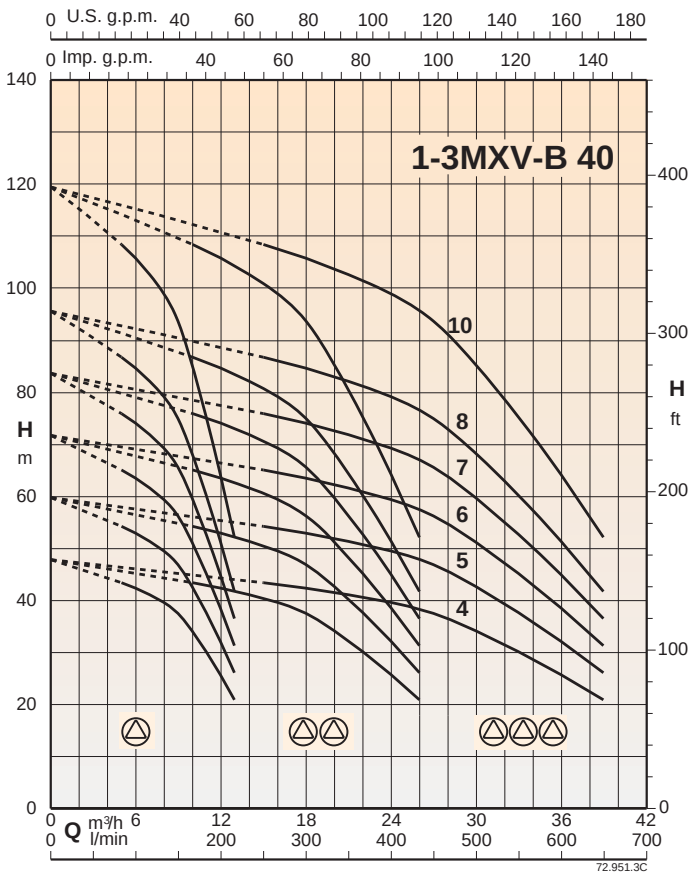
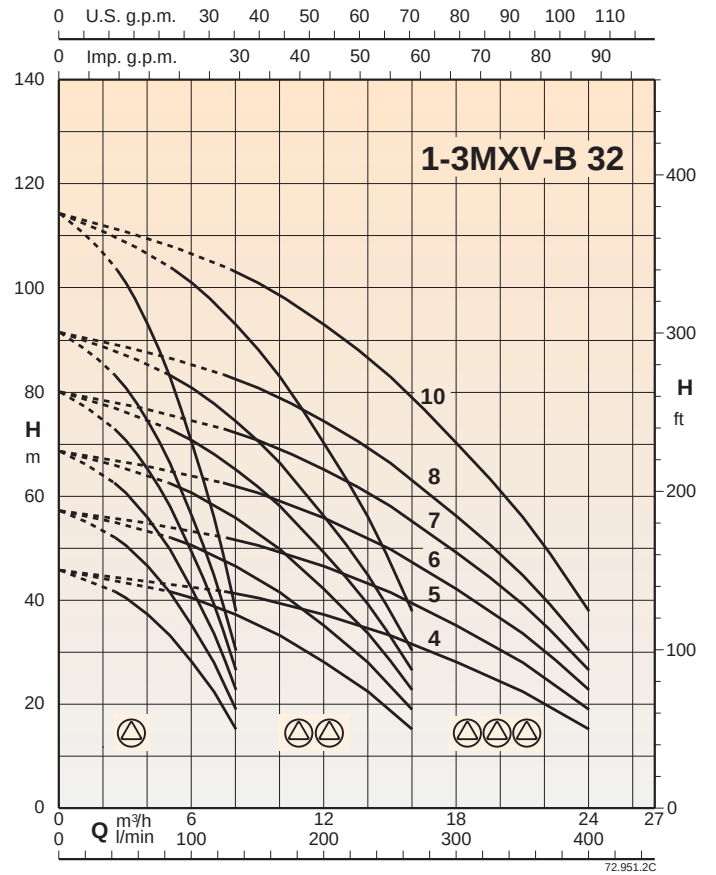
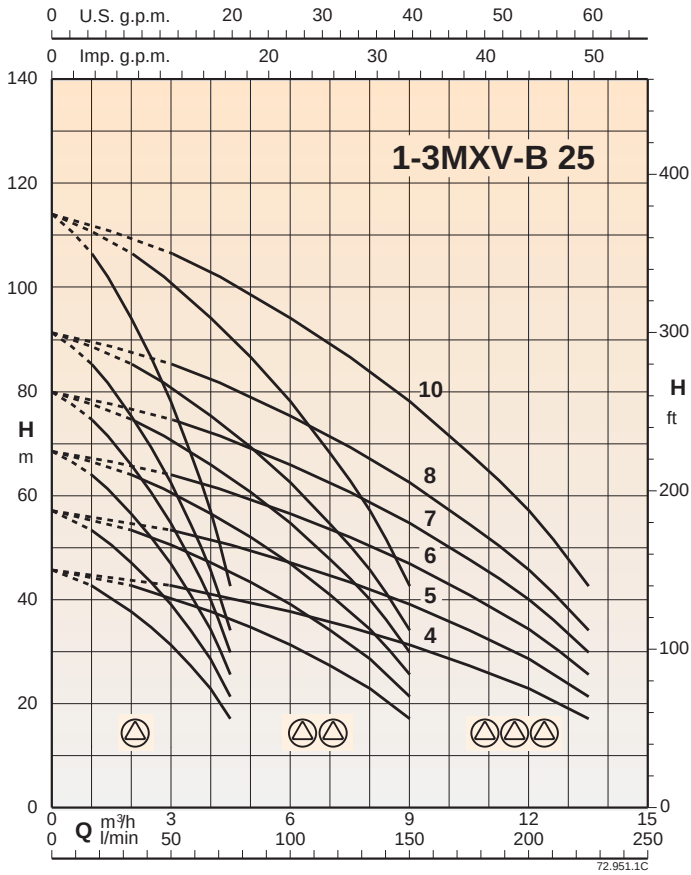
Pressure boosting sets with 4,5 and 6 pumps.

BS. MXV-B

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart



BS. MXV-B

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Performance

BS1F

BSM1F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Pres. switch 1 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	Q l/min	H m		
BS1F 1MXV-B 25-204	BSM1F 1MXV-BM 25-204	0,75	1	2,5	4	62	25	40	100
BS1F 1MXV-B 25-205	BSM1F 1MXV-BM 25-205	0,75	1	3,5	5	56	36	50	100
BS1F 1MXV-B 25-206	BSM1F 1MXV-BM 25-206	1,1	1,5	4	6	59	41	50	100
BS1F 1MXV-B 25-207	BSM1F 1MXV-BM 25-207	1,1	1,5	5	7	55	51	50	100
BS1F 1MXV-B 25-208	BSM1F 1MXV-BM 25-208	1,5	2	6	8	51	61	60	100
BS1F 1MXV-B 25-210	BSM1F 1MXV-BM 25-210	1,5	2	6,5	9,5	60	66	60	100
BS1F 1MXV-B 32-404	BSM1F 1MXV-BM 32-404	1,1	1,5	2,3	3,8	114	23	80	100
BS1F 1MXV-B 32-405	BSM1F 1MXV-BM 32-405	1,1	1,5	3,4	4,9	103	35	100	100
BS1F 1MXV-B 32-406	BSM1F 1MXV-BM 32-406	1,5	2	4	6	105	41	100	100
BS1F 1MXV-B 32-407	BSM1F 1MXV-BM 32-407	1,5	2	5	7	99	51	100	300
BS1F 1MXV-B 32-408/A		2,2	3	6	8	93	61	150	300
BS1F 1MXV-B 32-410/A		2,2	3	6	9	114	61	150	300
BS1F 1MXV-B 40-804	BSM1F 1MXV-BM 40-804	1,5	2	2,5	4	214	25	200	300
BS1F 1MXV-B 40-805/A		2,2	3	3,5	5	211	36	300	500
BS1F 1MXV-B 40-806/A		2,2	3	4	6	211	41	300	500
BS1F 1MXV-B 40-807/A		3	4	5	7	208	51	300	500
BS1F 1MXV-B 40-808/A		3	4	6	8	199	61	300	500
BS1F 1MXV-B 40-810/A		3,7	5	8	10	188	82	500	800
BS1F 1MXV-B 50-1803/A		2,2	3	1,5	3	395	15	300	500
BS1F 1MXV-B 50-1804/A		3	4	2,5	4	373	25	500	800
BS1F 1MXV-B 50-1805/A		3,7	5	3,5	5	357	36	500	1000
BS1F 1MXV-B 50-1806/A		4	5,5	4	6	359	41	500	800
BS1F 1MXV-B 50-1807/A		5,5	7,5	5	7	358	51	750	1000
BS1F 1MXV-B 50-1808/A		5,5	7,5	6	8	341	61	750	1000
BS1F 1MXV-B 50-1809/A		7,5	10	7	9	343	71	1000	2000
BS1F 1MXV-B 50-1810/A		7,5	10	8	10	333	82	1000	2000

* Maximum pumps flow at minimum setting pressure switch.

BS2F

BSM2F

Mains: 400V 3~ Motor: 400V 3~	Alimentazione 230V 1~ Motore 230V 1~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	min	max	Q l/min	H m		
BS2F 2MXV-B 25-204	BSM2F 2MXV-BM 25-204	0,75 x2	1 x2	2,5	4	2,2	3,7	135	22	40	100
BS2F 2MXV-B 25-205	BSM2F 2MXV-BM 25-205	0,75 x2	1 x2	3,5	5	3	4,5	128	31	50	100
BS2F 2MXV-B 25-206	BSM2F 2MXV-BM 25-206	1,1 x2	1,5 x2	4	6	3,5	5,5	130	36	50	100
BS2F 2MXV-B 25-207	BSM2F 2MXV-BM 25-207	1,1 x2	1,5 x2	5	7	4,5	6,5	122	46	50	100
BS2F 2MXV-B 25-208	BSM2F 2MXV-BM 25-208	1,5 x2	2 x2	6	8	5,5	7,5	113	56	60	100
BS2F 2MXV-B 25-210	BSM2F 2MXV-BM 25-210	1,5 x2	2 x2	6,5	9,5	6	9	128	61	60	100
BS2F 2MXV-B 32-404	BSM2F 2MXV-BM 32-404	1,1 x2	1,5 x2	2,3	3,8	1,8	3,3	253	18	80	100
BS2F 2MXV-B 32-405	BSM2F 2MXV-BM 32-405	1,1 x2	1,5 x2	3,4	4,9	3	4,5	226	31	100	100
BS2F 2MXV-B 32-406	BSM2F 2MXV-BM 32-406	1,5 x2	2 x2	4	6	3,5	5,5	232	36	100	100
BS2F 2MXV-B 32-407	BSM2F 2MXV-BM 32-407	1,5 x2	2 x2	5	7	4,5	6,5	218	46	100	300
BS2F 2MXV-B 32-408/A		2,2 x2	3 x2	6	8	5,5	7,5	205	56	150	300
BS2F 2MXV-B 32-410/A		2,2 x2	3 x2	6	9	5,5	8,5	239	56	150	300
BS2F 2MXV-B 40-804	BSM2F 2MXV-BM 40-804	1,5 x2	2 x2	2,5	4	2,2	3,7	435	22	200	300
BS2F 2MXV-B 40-805/A		2,2 x2	3 x2	3,5	5	3	4,5	438	31	300	500
BS2F 2MXV-B 40-806/A		2,2 x2	3 x2	4	6	3,5	5,5	435	36	300	500
BS2F 2MXV-B 40-807/A		3 x2	4 x2	5	7	4,5	6,5	434	46	300	500
BS2F 2MXV-B 40-808/A		3 x2	4 x2	6	8	5,5	7,5	418	56	300	500
BS2F 2MXV-B 40-810/A		3,7 x2	5 x2	8	10	7,5	9,5	399	76	500	800
BS2F 2MXV-B 50-1803/A		2,2 x2	3 x2	1,5	3	1,2	2,7	822	12	300	500
BS2F 2MXV-B 50-1804/A		3 x2	4 x2	2,5	4	2,2	3,7	784	22	500	800
BS2F 2MXV-B 50-1805/A		3,7 x2	5 x2	3,5	5	3	4,5	777	31	500	1000
BS2F 2MXV-B 50-1806/A		4 x2	5,5 x2	4	6	3,5	5,5	771	36	500	800
BS2F 2MXV-B 50-1807/A		5,5 x2	7,5 x2	5	7	4,5	6,5	764	46	750	1000
BS2F 2MXV-B 50-1808/A		5,5 x2	7,5 x2	6	8	5,5	7,5	733	56	750	1000
BS2F 2MXV-B 50-1809/A		7,5 x2	10 x2	7	9	6,5	8,5	731	66	1000	2000
BS2F 2MXV-B 50-1810/A		7,5 x2	10 x2	8	10	7,5	9,5	711	76	1000	2000

* Maximum pumps flow at minimum setting pressure of 2nd pressure switch.

BS. MXV-B

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Performance

BS3F

Mains: 400V 3~ Motor: 400V 3~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Pres. switch 3 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
	kW	HP	min	max	min	max	min	max	Q l/min	H m		
BS3F 3MXV-B 25-204	0,75 x3	1 x3	2,5	4	2,2	3,7	1,9	3,4	216	19	40	100
BS3F 3MXV-B 25-205	0,75 x3	1 x3	3,5	5	3,2	4,7	2,9	4,4	197	30	50	100
BS3F 3MXV-B 25-206	1,1 x3	1,5 x3	4,5	6	4,2	5,7	3,9	5,4	180	40	50	100
BS3F 3MXV-B 25-207	1,1 x3	1,5 x3	5,5	7	5,2	6,7	4,9	6,4	168	50	50	100
BS3F 3MXV-B 25-208	1,5 x3	2 x3	6,5	8	6,2	7,7	5,9	7,4	157	60	60	100
BS3F 3MXV-B 25-210	1,5 x3	2 x3	6,5	9,5	6	9	5,5	8,5	203	56	60	100
BS3F 3MXV-B 32-404	1,1 x3	1,5 x3	2,3	3,8	2	3,5	1,7	3,2	385	17	80	100
BS3F 3MXV-B 32-405	1,1 x3	1,5 x3	3,4	4,9	3,1	4,6	2,8	4,3	353	29	100	100
BS3F 3MXV-B 32-406	1,5 x3	2 x3	4,4	5,9	4,1	5,6	3,8	5,3	330	39	100	100
BS3F 3MXV-B 32-407	1,5 x3	2 x3	5,5	7	5,2	6,7	4,9	6,4	304	50	100	300
BS3F 3MXV-B 32-408/A	2,2 x3	3 x3	6,5	8	6,2	7,7	5,9	7,4	285	60	150	300
BS3F 3MXV-B 32-410/A	2,2 x3	3 x3	6	9	5,5	8,5	5	8	373	51	150	300
BS3F 3MXV-B 40-804	1,5 x3	2 x3	2,5	4	2,2	3,7	1,9	3,4	643	19	200	300
BS3F 3MXV-B 40-805/A	2,2 x3	3 x3	3,5	5	3,2	4,7	2,9	4,4	658	30	300	500
BS3F 3MXV-B 40-806/A	2,2 x3	3 x3	4,5	6	4,2	5,7	3,9	5,4	640	40	300	500
BS2F 3MXV-B 40-807/A	3 x3	4 x3	5,5	7	5,2	6,7	4,9	6,4	632	50	300	500
BS2F 3MXV-B 40-808/A	3 x3	4 x3	6,5	8	6,2	7,7	5,9	7,4	604	60	300	500
BS2F 3MXV-B 40-810/A	3,7 x3	5 x3	8	10	8,5	10,5	8	10	565	82	500	800
BS3F 3MXV-B 50-1803/A	2,2 x3	3 x3	1,8	3	1,5	2,7	1,2	2,4	1233	12	300	500
BS3F 3MXV-B 50-1804/A	3 x3	4 x3	2,5	4	2,2	3,7	1,9	3,4	1218	19	500	800
BS3F 3MXV-B 50-1805/A	3,7 x3	5 x3	3,5	5	3,2	4,7	2,9	4,4	1181	30	500	1000
BS3F 3MXV-B 50-1806/A	4 x3	5,5 x3	4,5	6	4,2	5,7	3,9	5,4	1096	40	500	800
BS3F 3MXV-B 50-1807/A	5,5 x3	7,5 x3	5,5	7	5,2	6,7	4,9	6,4	1090	50	750	1000
BS3F 3MXV-B 50-1808/A	5,5 x3	7,5 x3	6,5	8	6,2	7,7	5,9	7,4	1041	60	750	1000
BS3F 3MXV-B 50-1809/A	7,5 x3	10 x3	7	9	6,5	8,5	6	8	1153	61	1000	2000
BS3F 3MXV-B 50-1810/A	7,5 x3	10 x3	8	10	7,5	9,5	7	9	1123	71	1000	2000

* Maximum pumps flow at minimum setting pressure of 3rd pressure switch.

Performance

BS..

PUMPS Nos						PUMP TYPE	P ₂ For each pump	
1	2	3	4	5	6		kW	HP
BS1V	BS2V BS1V1F BSM1V1F* BSM2V**	BS3V BS1V2F	BS4V BS1V3F	BS5V BS1V4F	BS6V BS1V5F	MXV-B 25-204	0,75	1
						MXV-B 25-205	0,75	1
						MXV-B 25-206	1,1	1,5
						MXV-B 25-207	1,1	1,5
						MXV-B 25-208	1,5	2
						MXV-B 25-210	1,5	2
						MXV-B 32-404	1,1	1,5
						MXV-B 32-405	1,1	1,5
						MXV-B 32-406	1,5	2
						MXV-B 32-407	1,5	2
						MXV-B 32-408/A	2,2	3
						MXV-B 32-410/A	2,2	3
						MXV-B 40-804	1,5	2
						MXV-B 40-805/A	2,2	3
						MXV-B 40-806/A	2,2	3
						MXV-B 40-807/A	3	4
						MXV-B 40-808/A	3	4
						MXV-B 40-810/A	3,7	5
						MXV-B 50-1803/A	2,2	3
						MXV-B 50-1804/A	3	4
						MXV-B 50-1805/A	3,7	5
						MXV-B 50-1806/A	4	5,5
						MXV-B 50-1807/A	5,5	7,5
						MXV-B 50-1808/A	5,5	7,5
						MXV-B 50-1809/A	7,5	10
						MXV-B 50-1810/A	7,5	10

(*) SYSTEMS WITH:
1 variable speed pump three-phase motor
1 fixed speed pump single-phase motor
Power supply to control panel 230 V single-phase

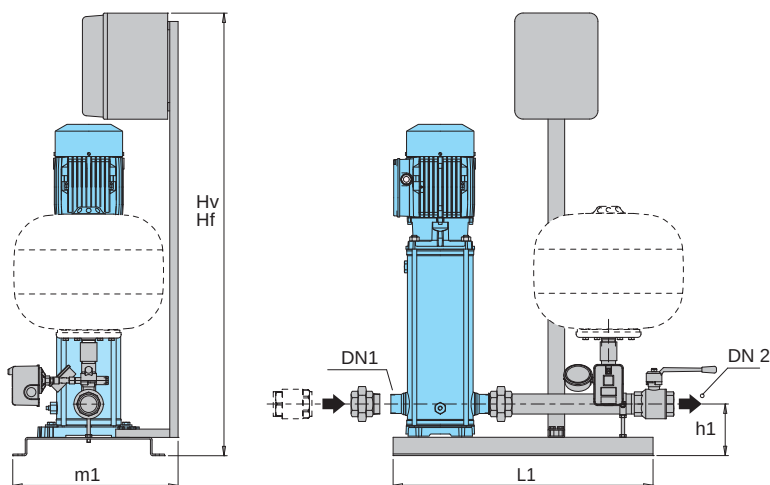
(**) Three-phase motor 230 V.
Power supply to control panel: - 230 V three-phase
- 230 V single-phase
Frequency converter output is always 230 V three-phase.

BS. MXV-B

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Dimensions and weights



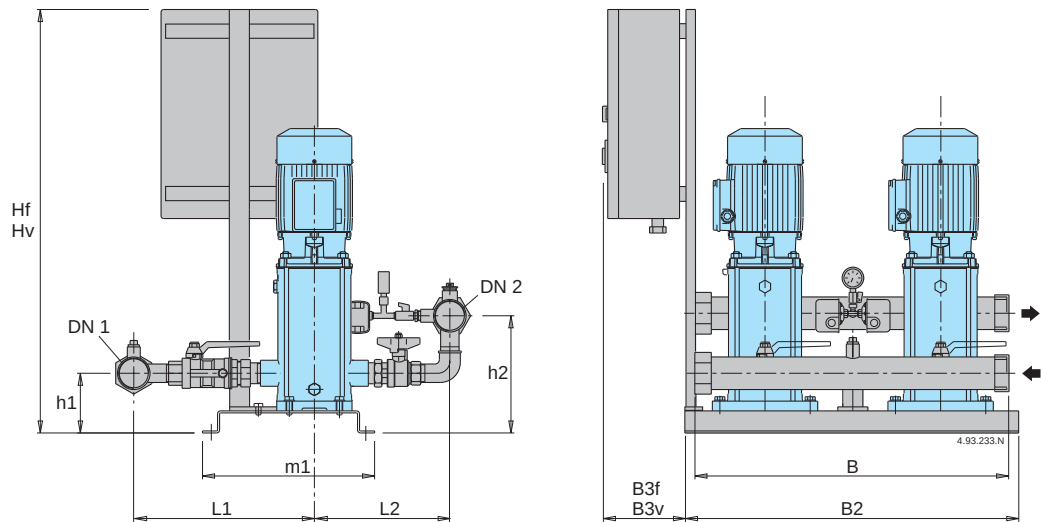
TYPE	TYPE	Connection		mm					weight kg
		DN 1	DN 2	Hv	Hf	h1	L1	m1	
BS1. 1MXV-B 25-204	BSM1. 1MXV-BM 25-204	G 1	G 1	1345	1065	120	625	410	-
BS1. 1MXV-B 25-205	BSM1. 1MXV-BM 25-205								
BS1. 1MXV-B 25-206	BSM1. 1MXV-BM 25-206								
BS1. 1MXV-B 25-207	BSM1. 1MXV-BM 25-207								
BS1. 1MXV-B 25-208	BSM1. 1MXV-BM 25-208								
BS1. 1MXV-B 25-210	BSM1. 1MXV-BM 25-210	G 1 1/4	G 1 1/4	1345	1065	120	625	410	
BS1. 1MXV-B 32-404	BSM1. 1MXV-BM 32-404								
BS1. 1MXV-B 32-405	BSM1. 1MXV-BM 32-405								
BS1. 1MXV-B 32-406	BSM1. 1MXV-BM 32-406								
BS1. 1MXV-B 32-407	BSM1. 1MXV-BM 32-407								
BS1. 1MXV-B 32-408/A		G 1 1/2	G 1 1/2	1345	1065	125	625	410	
BS1. 1MXV-B 32-410/A									
BS1. 1MXV-B 40-804	BSM1. 1MXV-BM 40-804								
BS1. 1MXV-B 40-805/A									
BS1. 1MXV-B 40-806/A									
BS1. 1MXV-B 40-807/A		G 2	G 2	1345	1065	135	625	410	
BS1. 1MXV-B 40-808/A									
BS1. 1MXV-B 40-810/A									
BS1. 1MXV-B 50-1803/A				1445	1445	135	625	410	
BS1. 1MXV-B 50-1804/A									
BS1. 1MXV-B 50-1805/A									
BS1. 1MXV-B 50-1806/A									
BS1. 1MXV-B 50-1807/A									
BS1. 1MXV-B 50-1808/A									
BS1. 1MXV-B 50-1809/A									
BS1. 1MXV-B 50-1810/A									

BS. MXV-B

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Dimensions and weights



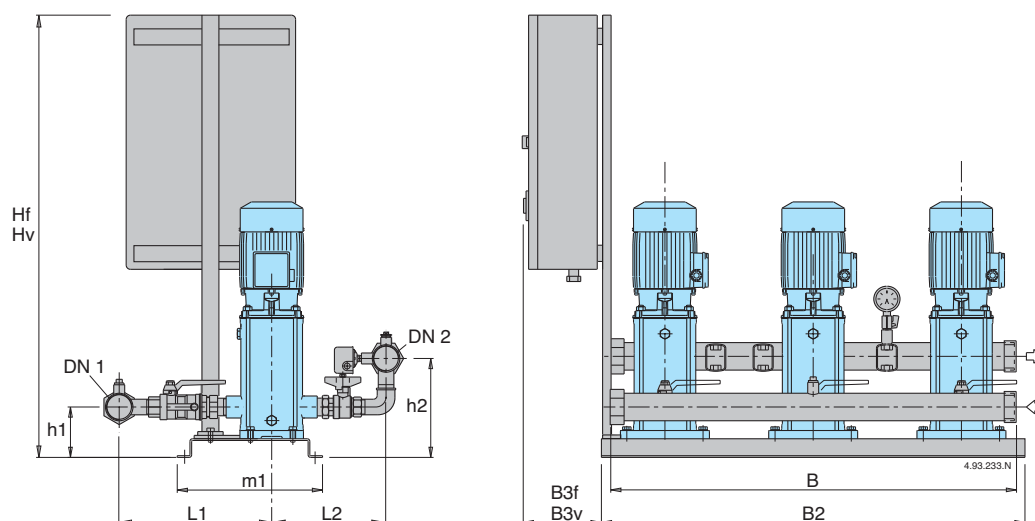
TYPE	TYPE	Connection		mm											weight kg
		DN 1	DN 2	Hf	Hv	h1	h2	L1	L2	m1	B	B2	B3f	B3v	
BS.. 2MXV-B 25-204	BSM.. 2MXV-BM 25-204	G 1 1/2	G 1 1/2	875	1145	119	218	335	254	365	600	625	195	260	105
BS.. 2MXV-B 25-205	BSM.. 2MXV-BM 25-205														107
BS.. 2MXV-B 25-206	BSM.. 2MXV-BM 25-206														109
BS.. 2MXV-B 25-207	BSM.. 2MXV-BM 25-207														111
BS.. 2MXV-B 25-208	BSM.. 2MXV-BM 25-208														118
BS.. 2MXV-B 25-210	BSM.. 2MXV-BM 25-210	G 2	G 2	875	1145	119	225	360	295	365	600	625	195	260	108
BS.. 2MXV-B 32-404	BSM.. 2MXV-BM 32-404														111
BS.. 2MXV-B 32-405	BSM.. 2MXV-BM 32-405														115
BS.. 2MXV-B 32-406	BSM.. 2MXV-BM 32-406														118
BS.. 2MXV-B 32-407	BSM.. 2MXV-BM 32-407														121
BS.. 2MXV-B 32-408/A		G 2 1/2	G 2 1/2	875	1145	124	245	400	305	365	600	625	195	260	108
BS.. 2MXV-B 32-410/A															111
BS.. 2MXV-B 40-804	BSM.. 2MXV-BM 40-804														119
BS.. 2MXV-B 40-805/A															121
BS.. 2MXV-B 40-806/A															143
BS.. 2MXV-B 40-807/A		G 3	G 3	965	1445	225	225	495	405	550	700	950	160	220	145
BS.. 2MXV-B 40-808/A															208
BS.. 2MXV-B 40-810/A															228
BS.. 2MXV-B 50-1803/A															238
BS.. 2MXV-B 50-1804/A															240
BS.. 2MXV-B 50-1805/A		G 3	G 3	965	1445	225	225	495	405	550	700	950	160	220	260
BS.. 2MXV-B 50-1806/A															262
BS.. 2MXV-B 50-1807/A															264
BS.. 2MXV-B 50-1808/A															
BS.. 2MXV-B 50-1809/A															
BS.. 2MXV-B 50-1810/A															

BS. MXV-B

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Dimensions and weights



TYPE	Connection		mm											weight kg
	DN 1	DN 2	Hf	Hv	h1	h2	L1	L2	m1	B	B2	B3f	B3v	
BS.. 3MXV-B 25-204	G 2	G 2	1090	1160	134	233	340	254	406	950	1000	220	220	103
BS.. 3MXV-B 25-205														105
BS.. 3MXV-B 25-206														107
BS.. 3MXV-B 25-207														118
BS.. 3MXV-B 25-208														120
BS.. 3MXV-B 25-210	G 2 1/2	G 2 1/2	1090	1160	134	240	368	295	406	950	1000	220	220	104
BS.. 3MXV-B 32-404														108
BS.. 3MXV-B 32-405														113
BS.. 3MXV-B 32-406														118
BS.. 3MXV-B 32-407														122
BS.. 3MXV-B 32-408/A	G 3	G 3	1090	1160	139	260	405	305	406	950	1000	220	220	111
BS.. 3MXV-B 32-410/A														117
BS.. 3MXV-B 40-804														123
BS.. 3MXV-B 40-805/A														156
BS.. 3MXV-B 40-806/A														159
BS.. 3MXV-B 40-807/A	100	100	1190	1360	280	280	507	418	550	1200	1400	220	220	251
BS.. 3MXV-B 40-808/A														281
BS.. 3MXV-B 40-810/A														296
BS.. 3MXV-B 50-1803/A														299
BS.. 3MXV-B 50-1804/A														332
BS.. 3MXV-B 50-1805/A														335
BS.. 3MXV-B 50-1806/A														
BS.. 3MXV-B 50-1807/A														
BS.. 3MXV-B 50-1808/A														
BS.. 3MXV-B 50-1809/A														
BS.. 3MXV-B 50-1810/A														

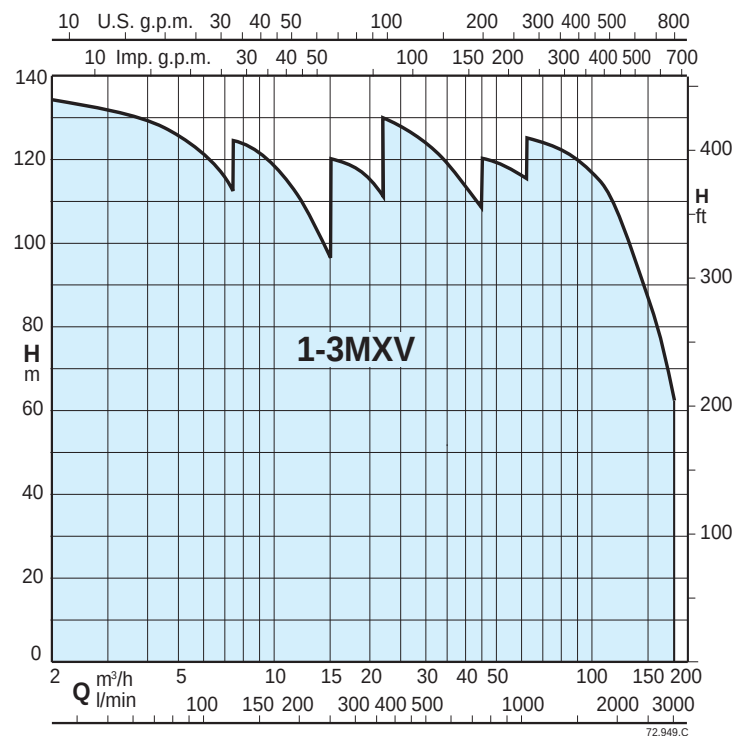
BS. MXV

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

calpeda[®]



Coverage chart



Operation

BS 1-6F Pressure boosting sets with 1 to 6 fixed speed pump.
Sets with 4,5 and 6 pumps on request.
Depending on the reduction of the pressure in the system, the pressure switches determine the starting up of the pumps in sequence and the microprocessor alternates the starts.

BS1V2-5F Pressure boosting sets with 1 variable speed pump (with frequency converter into the control panel) and from 1 to 5 fixed speed pumps

Sets with 4,5 and 6 pumps on request.

According to the water consumption, one or more pumps start, one at variable speed and the others at fixed speed, to grant the water quantity required at the set pressure.

BS1-6V Pressure boosting sets with 1 to 6 variable speed pumps (with frequency converter into the control panel).

Sets with 4,5 and 6 pumps on request.

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.

Construction

- Automatic pressure boosting plant consisting of 1 vertical multi-stage close coupled pump complete with ball valve on the delivery side, suitable for installation of one cylindrical pressure vessel.

- Automatic pressure boosting plant consisting of 2 to 6 vertical multi-stage close coupled pumps complete with ball, non return valve on the suction side and ball valves on the delivery side.
Suction and delivery manifolds are in AISI 304.
Connections are located on the delivery manifold for the installation of 20 litres cylindrical vessels:
- 2 vessels (for 2MXV 25-32-40), 1 vessel (for 2MXV 50-65-80).
- 3 vessels (for 3MXV 25-32-40), 2 vessels (for 3MXV 50-65-80).

Electrical control boards:

- with microprocessor for fixed speed pump units (see page 486). Motor starting is D.O.L. up to 5,5 kW and Y/Δ for power rating 7,5 up to 15 kW.
- with frequency converter for variable speed pump units (see page 487).

The unit includes one pressure gauge and three adjustable differential pressure switches or pressure transducer (for sets with frequency converter).

Applications

To supply water in civil and industrial buildings.
As pressure boosting pump to increase water pressure when needed (follow local rules).

Motors

2-pole induction motors, 50 Hz, $n \approx 2900$ rpm, suitable for operation with frequency converter.

- Three-phase 230/400V $\pm 10\%$ up to 3 kW;
400/690V $\pm 10\%$ for 4 kW to 18,5 kW;
- Single-phase 230 V $\pm 10\%$, (on request).

Insulation class F.

Protection IP 54.

Constructed in accordance with: IEC 60034.

Other voltages and frequencies on request.

Vessels on request

When installing the unit, connect in the delivery section to a diaphragm or galvanised tank.

The recommended sized are shown in the following page.

Special features on request

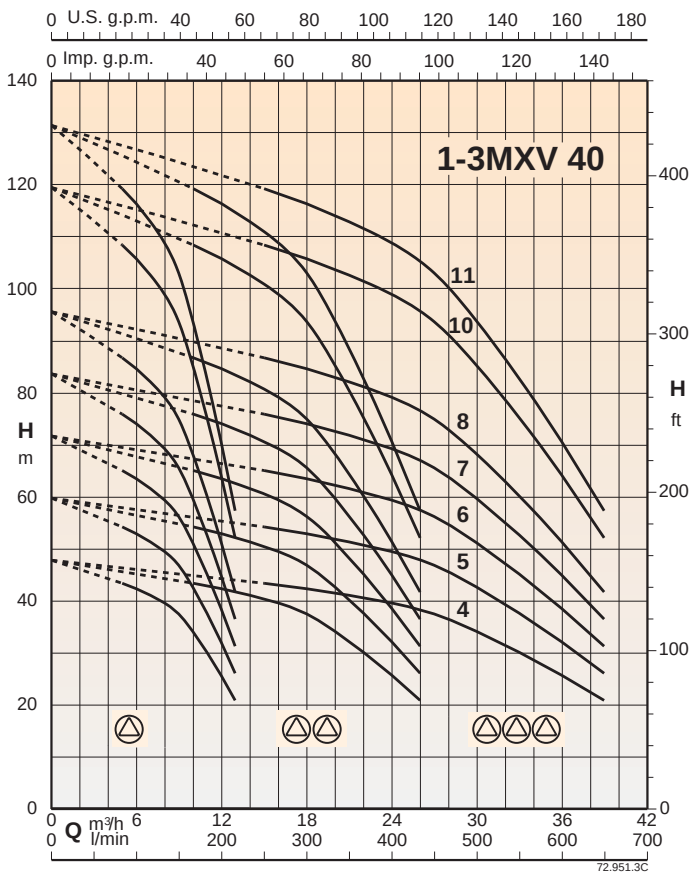
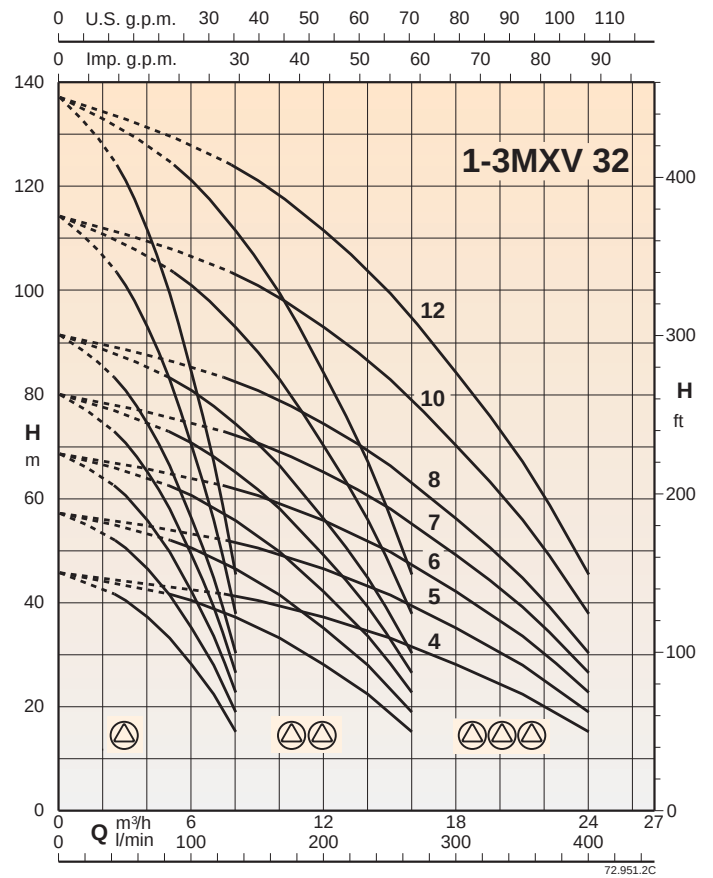
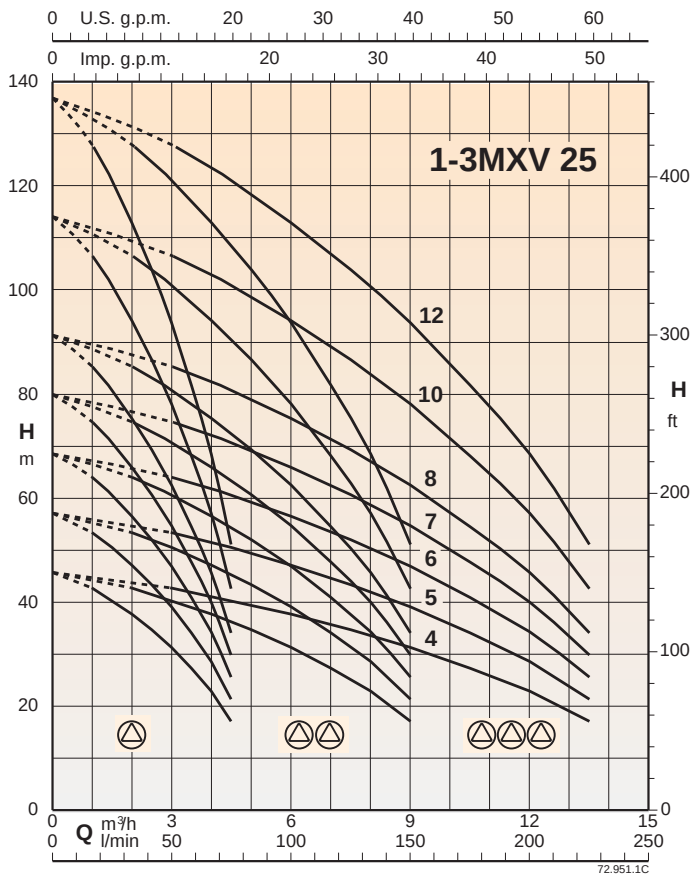
Pressure boosting sets with 4,5 and 6 pumps.

BS. MXV

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart

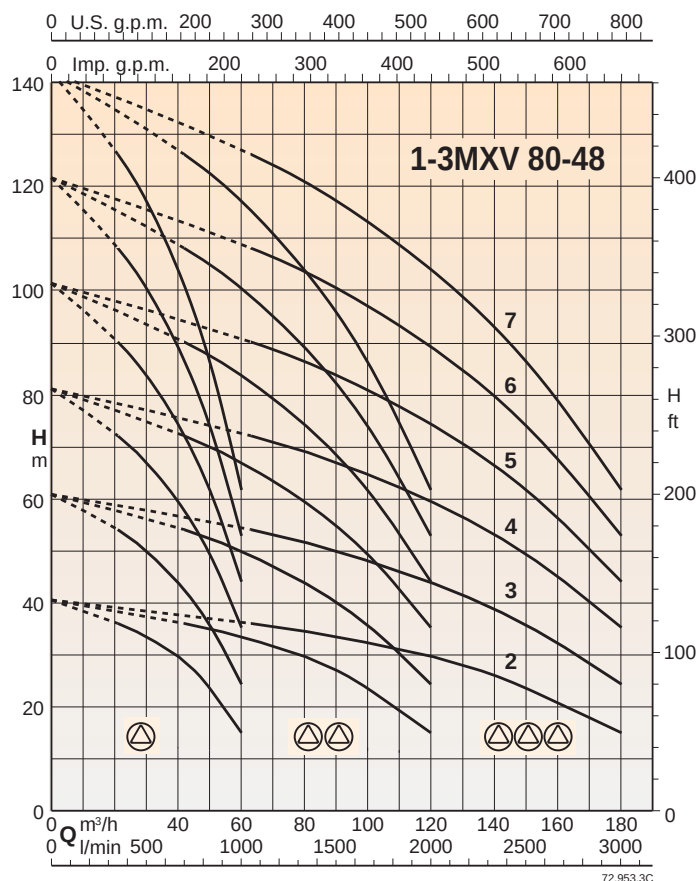
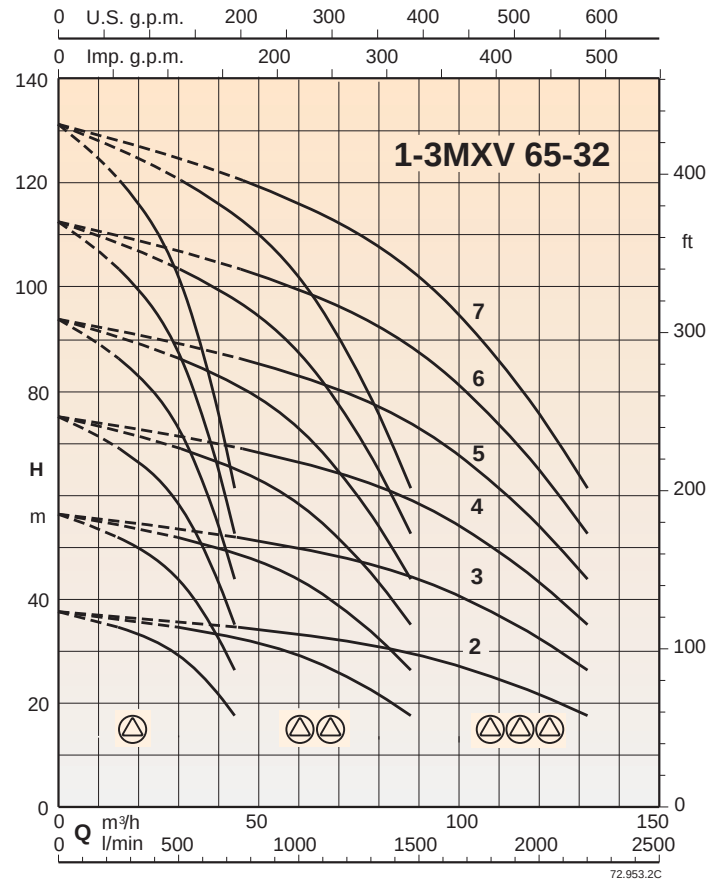
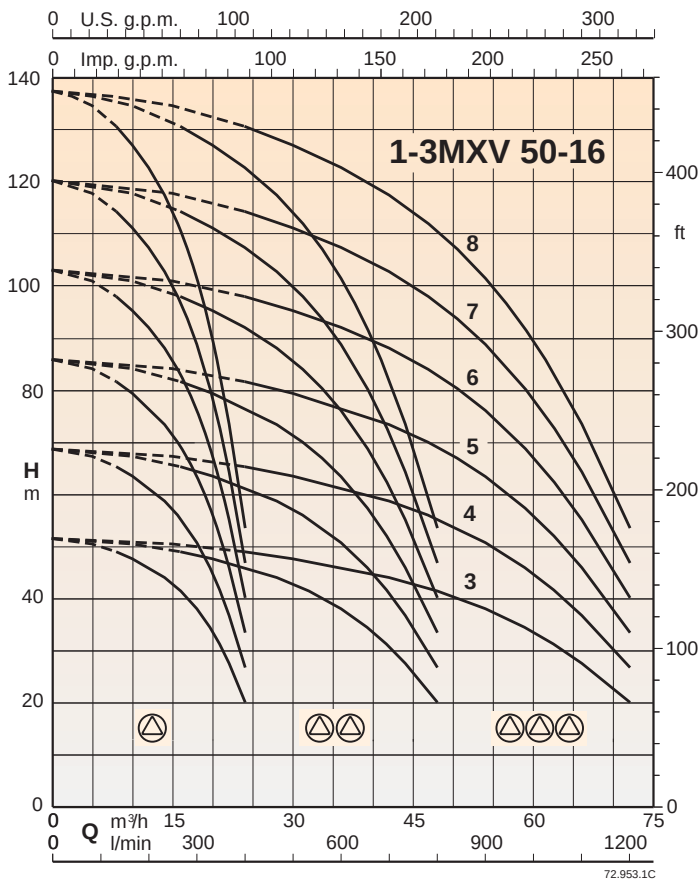


BS. MXV

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Coverage chart





Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)



Performance

BS1F

BSM1F

Mains: 400V 3~ Motor: 400V 3~	Mains: 230V 1~ Motor: 230V 1~	Motor		Pres. switch 1 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	Q l/min	H m		
BS1F 1MXV 25-204/C	BSM1F 1MXV 25-204M/C	0,75	1	2,3	3,8	66	23	40	100
BS1F 1MXV 25-205/C	BSM1F 1MXV 25-205M/C	0,75	1	3,5	5	56	36	50	100
BS1F 1MXV 25-206/C	BSM1F 1MXV 25-206M/C	1,1	1,5	4,5	6	51	46	50	100
BS1F 1MXV 25-207/C	BSM1F 1MXV 25-207M/C	1,1	1,5	5,5	7	48	56	60	100
BS1F 1MXV 25-208/C	BSM1F 1MXV 25-208M/C	1,5	2	6,5	8	45	66	100	100
BS1F 1MXV 25-210/C		1,5	2	7,5	9	51	76	100	200
BS1F 1MXV 25-212/C		2,2	3	8,5	10	55	87	200	200
BS1F 1MXV 32-404/C	BSM1F 1MXV 32-404M/C	1,1	1,5	2,3	3,8	114	23	100	100
BS1F 1MXV 32-405/C	BSM1F 1MXV 32-405M/C	1,1	1,5	3,4	4,9	103	35	100	200
BS1F 1MXV 32-406/C	BSM1F 1MXV 32-406M/C	1,5	2	4,5	6	93	46	100	200
BS1F 1MXV 32-407/C	BSM1F 1MXV 32-407M/C	1,5	2	5,5	7	88	56	100	200
BS1F 1MXV 32-408/C		2,2	3	6,5	8	83	66	200	300
BS1F 1MXV 32-410/C		2,2	3	7,5	9	94	76	300	500
BS1F 1MXV 32-412/C		3	4	8,5	10	100	87	300	500
BS1F 1MXV 40-804/C	BSM1F 1MXV 40-804M/C	1,5	2	2,5	4	214	25	200	300
BS1F 1MXV 40-805/C		2,2	3	3,5	5	211	36	300	500
BS1F 1MXV 40-806/C		2,2	3	4,5	6	198	46	300	500
BS1F 1MXV 40-807/C		3	4	5,5	7	194	56	500	800
BS1F 1MXV 40-808/C		3	4	6,5	8	184	66	500	800
BS1F 1MXV 40-810/C		4	5,5	7,5	9	199	76	1000	1000
BS1F 1MXV 40-811/C		4	5,5	8,5	10	195	87	1000	1000
BS1F 1MXV 50-1603/C		3	4	3	4,5	367	31	500	800
BS1F 1MXV 50-1604/C		4	5,5	4,5	6	341	46	750	1000
BS1F 1MXV 50-1605/C		5,5	7,5	6	7,5	313	61	1000	1500
BS1F 1MXV 50-1606/C		5,5	7,5	7,5	9	297	76	1000	1500
BS1F 1MXV 50-1607/C		7,5	10	9	10,5	286	92	1500	2000
BS1F 1MXV 50-1608/C		7,5	10	10,5	12	272	107	1500	2000
BS1F 1MXV 65-3202/C		4	5,5	2,2	3,1	670	22	1000	2000
BS1F 1MXV 65-3203/C		5,5	7,5	3,8	4,8	587	39	1500	3000
BS1F 1MXV 65-3204/C		7,5	10	5	6,5	602	51	1500	3000
BS1F 1MXV 65-3205/D		11	15	6,5	8	572	66	2000	4000
BS1F 1MXV 65-3206/D		11	15	8	9,5	555	82	3000	4000
BS1F 1MXV 65-3207/D		15	20	9,5	11	538	97	4000	5000
BS1F 1MXV 80-4802/C		5,5	7,5	2,2	3,2	869	22	1500	3000
BS1F 1MXV 80-4803/C		7,5	10	3,8	5	778	39	2000	3000
BS1F 1MXV 80-4804/D		11	15	5	6,5	820	51	3000	4000
BS1F 1MXV 80-4805/D		15	20	6,5	8	782	66	4000	5000
BS1F 1MXV 80-4806/D		15	20	8	9,5	756	82	5000	-
BS1F 1MXV 80-4807/D		18,5	25	9,5	11	741	97	5000	-

BS2F

BSM2F

* Maximum pumps flow at minimum setting pressure switch.

Mains: 400V 3~ Motor: 400V 3~	Alimentazione 230V 1~ Motore 230V 1~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
		kW	HP	min	max	min	max	Q l/min	H m		
BS2F 2MXV 25-204/C	BSM2F 2MXV 25-204M/C	0,75 x2	1 x2	2,5	4	2,2	3,7	135	22	40	100
BS2F 2MXV 25-205/C	BSM2F 2MXV 25-205M/C	0,75 x2	1 x2	3,5	5	3,2	4,7	122	33	50	100
BS2F 2MXV 25-206/C	BSM2F 2MXV 25-206M/C	1,1 x2	1,5 x2	4,5	6	4,2	5,7	111	43	50	100
BS2F 2MXV 25-207/C	BSM2F 2MXV 25-207M/C	1,1 x2	1,5 x2	5,5	7	5,2	6,7	104	53	60	100
BS2F 2MXV 25-208/C	BSM2F 2MXV 25-208M/C	1,5 x2	2 x2	6,5	8	6,2	7,7	97	63	100	100
BS2F 2MXV 25-210/C		1,5 x2	2 x2	7,5	9	7	8,5	112	71	100	200
BS2F 2MXV 25-212/C		2,2 x2	3 x2	8,5	10	8	9,5	118	82	200	200
BS2F 2MXV 32-404/C	BSM2F 2MXV 32-404M/C	1,1 x2	1,5 x2	2,3	3,8	2	3,5	244	20	100	100
BS2F 2MXV 32-405/C	BSM2F 2MXV 32-405M/C	1,1 x2	1,5 x2	3,4	4,9	3,1	4,6	222	32	100	200
BS2F 2MXV 32-406/C	BSM2F 2MXV 32-406M/C	1,5 x2	2 x2	4,5	6	4,2	5,7	202	43	100	200
BS2F 2MXV 32-407/C	BSM2F 2MXV 32-407M/C	1,5 x2	2 x2	5,5	7	5,2	6,7	190	53	100	200
BS2F 2MXV 32-408/C		2,2 x2	3 x2	6,5	8	6,2	7,7	178	63	200	300
BS2F 2MXV 32-410/C		2,2 x2	3 x2	7,5	9	7	8,5	203	71	300	500
BS2F 2MXV 32-412/C		3 x2	4 x2	8,5	10	8	9,5	213	82	300	500
BS2F 2MXV 40-804/C	BSM2F 2MXV 40-804M/C	1,5 x2	2 x2	2,5	4	2,2	3,7	435	22	200	300
BS2F 2MXV 40-805/C		2,2 x2	3 x2	3,5	5	3,2	4,7	435	33	300	500
BS2F 2MXV 40-806/C		2,2 x2	3 x2	4,5	6	4,2	5,7	414	43	300	500
BS2F 2MXV 40-807/C		3 x2	4 x2	5,5	7	5,2	6,7	407	53	500	800
BS2F 2MXV 40-808/C		3 x2	4 x2	6,5	8	6,2	7,7	387	63	500	800
BS2F 2MXV 40-810/C		4 x2	5,5 x2	7,5	9	7	8,5	416	71	1000	1000
BS2F 2MXV 40-811/C		4 x2	5,5 x2	8,5	10	8	9,5	408	82	1000	1000
BS2F 2MXV 50-1603/C		3 x2	4 x2	3	4,5	2,5	4	785	25	500	800
BS2F 2MXV 50-1604/C		4 x2	5,5 x2	4,5	6	4	5,5	743	41	750	1000
BS2F 2MXV 50-1605/C		5,5 x2	7,5 x2	6	7,5	5,5	7	686	56	1000	1500
BS2F 2MXV 50-1606/C		5,5 x2	7,5 x2	7,5	9	7	8,5	650	71	1000	1500
BS2F 2MXV 50-1607/C		7,5 x2	10 x2	9	10,5	8,5	10	623	87	1500	2000
BS2F 2MXV 50-1608/C		7,5 x2	10 x2	10,5	12	10	11,5	592	102	1500	2000
BS2F 2MXV 65-3202/C		4 x2	5,5 x2	2,1	3,1	1,8	2,8	1451	18	1000	2000
BS2F 2MXV 65-3203/C		5,5 x2	7,5 x2	3,8	4,8	3,3	4,3	1340	34	1500	3000
BS2F 2MXV 65-3204/C		7,5 x2	10 x2	5	6,5	4,5	6	1325	46	1500	3000
BS2F 2MXV 65-3205/D		11 x2	15 x2	6,5	8	6	7,5	1255	61	2000	4000
BS2F 2MXV 65-3206/D		11 x2	15 x2	8	9,5	7,5	9	1212	76	3000	4000
BS2F 2MXV 65-3207/D		15 x2	20 x2	9,5	11	9	10,5	1165	92	4000	5000
BS2F 2MXV 80-4802/C		5,5 x2	7,5 x2	2,2	3,2	1,9	2,9	1877	19	1500	3000
BS2F 2MXV 80-4803/C		7,5 x2	10 x2	3,8	5	3,3	4,5	1755	34	2000	3000
BS2F 2MXV 80-4804/D		11 x2	15 x2	5	6,5	4,5	6	1788	46	3000	4000
BS2F 2MXV 80-4805/D		15 x2	20 x2	6,5	8	6	7,5	1696	61	4000	5000
BS2F 2MXV 80-4806/D		15 x2	20 x2	8	9,5	7,5	9	1628	76	5000	-
BS2F 2MXV 80-4807/D		18,5 x2	25 x2	9,5	11	9	10,5	1586	92	5000	-

* Maximum pumps flow at minimum setting pressure of 2nd pressure switch.



Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or **Variable speed pump (frequency converter)**



Performance

BS3F

Mains: 400V 3~ Motor: 400V 3~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Pres. switch 3 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
	kW	HP	min	max	min	max	min	max	Q l/min	H m		
BS3F 3MXV 25-204/C	0,75 x3	1 x3	2,5	4	2,2	3,7	1,9	3,4	216	19	40	100
BS3F 3MXV 25-205/C	0,75 x3	1 x3	3,5	5	3,2	4,7	2,9	4,4	197	30	50	100
BS3F 3MXV 25-206/C	1,1 x3	1,5 x3	4,5	6	4,2	5,7	3,9	5,4	180	40	50	100
BS3F 3MXV 25-207/C	1,1 x3	1,5 x3	5,5	7	5,2	6,7	4,9	6,4	168	50	60	100
BS3F 3MXV 25-208/C	1,5 x3	2 x3	6,5	8	6,2	7,7	5,9	7,4	157	60	100	100
BS3F 3MXV 25-210/C	1,5 x3	2 x3	7,5	9	7	8,5	6,5	8	181	66	100	200
BS3F 3MXV 25-212/C	2,2 x3	3 x3	8,5	10	8	9,5	7,5	8	187	76	200	200
BS3F 3MXV 32-404/C	1,1 x3	1,5 x3	2,3	3,8	2	3,5	1,7	3,2	385	17	100	100
BS3F 3MXV 32-405/C	1,1 x3	1,5 x3	3,4	4,9	3,1	4,6	2,8	4,3	353	29	100	200
BS3F 3MXV 32-406/C	1,5 x3	2 x3	4,5	6	4,2	5,7	3,9	5,4	323	40	100	200
BS3F 3MXV 32-407/C	1,5 x3	2 x3	5,5	7	5,2	6,7	4,9	6,4	304	50	100	200
BS3F 3MXV 32-408/C	2,2 x3	3 x3	6,5	8	6,2	7,7	5,9	7,4	285	60	200	300
BS3F 3MXV 32-410/C	2,2 x3	3 x3	7,5	9	7	8,5	6,5	8	325	66	300	500
BS3F 3MXV 32-412/C	3 x3	4 x3	8,5	10	8	9,5	7,5	9	335	76	300	500
BS3F 3MXV 40-804/C	1,5 x3	2 x3	2,5	4	2,2	3,7	1,9	3,4	643	19	200	300
BS3F 3MXV 40-805/C	2,2 x3	3 x3	3,5	5	3,2	4,7	2,9	4,4	658	30	300	500
BS3F 3MXV 40-806/C	2,2 x3	3 x3	4,5	6	4,2	5,7	3,9	5,4	640	40	300	500
BS3F 3MXV 40-807/C	3 x3	4 x3	5,5	7	5,2	6,7	4,9	6,4	632	50	500	800
BS3F 3MXV 40-808/C	3 x3	4 x3	6,5	8	6,2	7,7	5,9	7,4	604	60	500	800
BS3F 3MXV 40-810/C	4 x3	5,5 x3	7,5	9	7	8,5	6,5	8	642	66	1000	1000
BS3F 3MXV 40-811/C	4 x3	5,5 x3	8,5	10	8	9,5	7,5	9	633	76	1000	1000
BS3F 3MXV 50-1603/C	3 x3	4 x3	3	4,5	2,5	4	2	3,5	1201	20	500	800
BS3F 3MXV 50-1604/C	4 x3	5,5 x3	4,5	6	4	5,5	3,5	5	1173	36	750	1000
BS3F 3MXV 50-1605/C	5,5 x3	7,5 x3	6	7,5	5,5	7	5	6,5	1101	51	1000	1500
BS3F 3MXV 50-1606/C	5,5 x3	7,5 x3	7,5	9	7	8,5	6,5	8	1045	66	1000	1500
BS3F 3MXV 50-1607/C	7,5 x3	10 x3	9	10,5	8,5	10	8	9,5	1003	82	1500	2000
BS3F 3MXV 50-1608/C	7,5 x3	10 x3	10,5	12	10	11,5	9,5	11	952	97	1500	2000
BS3F 3MXV 65-3202/C	4 x3	5,5 x3	2,1	3,1	1,8	2,8	1,5	2,5	2208	15	1000	2000
BS3F 3MXV 65-3203/C	5,5 x3	7,5 x3	3,8	4,8	3,3	4,3	2,8	3,8	2159	29	1500	3000
BS3F 3MXV 65-3204/C	7,5 x3	10 x3	5	6,5	4,5	6	4	5,5	2116	41	1500	3000
BS3F 3MXV 65-3205/D	11 x3	15 x3	6,5	8	6	7,5	5,5	7	2017	56	2000	4000
BS3F 3MXV 65-3206/D	11 x3	15 x3	8	9,5	7,5	9	7	8,5	1945	71	3000	4000
BS3F 3MXV 65-3207/D	15 x3	20 x3	9,5	11	9	10,5	8,5	10	1865	87	4000	5000
BS3F 3MXV 80-4802/C	5,5 x3	7,5 x3	2,2	3,2	1,9	2,9	1,6	2,6	2969	16	1500	3000
BS3F 3MXV 80-4803/C	7,5 x3	10 x3	3,8	5	3,3	4,5	2,8	4	2864	29	2000	3000
BS3F 3MXV 80-4804/D	11 x3	15 x3	5	6,5	4,5	6	4	5,5	2857	41	3000	4000
BS3F 3MXV 80-4805/D	15 x3	20 x3	6,5	8	6	7,5	5,5	7	2713	56	4000	5000
BS3F 3MXV 80-4806/D	15 x3	20 x3	8	9,5	7,5	9	7	8,5	2598	71	5000	-
BS3F 3MXV 80-4807/D	18,5 x3	25 x3	9,5	11	9	10,5	8,5	10	2520	87	5000	-

* Maximum pumps flow at minimum setting pressure of 3rd pressure switch.

BS..

PUMPS Nos						PUMP TYPE	P ₂ For each pump	
1	2	3	4	5	6		kW	HP
BS1V	BS2V BS1V1F BSM1V1F* BSM2V**	BS3V BS1V2F	BS4V BS1V3F	BS5V BS1V4F	BS6V BS1V5F	MXV 25-204/C	0,75	1
						MXV 25-205/C	0,75	1
						MXV 25-206/C	1,1	1,5
						MXV 25-207/C	1,1	1,5
						MXV 25-208/C	1,5	2
						MXV 25-210/C	1,5	2
						MXV 25-212/C	2,2	3
						MXV 32-404/C	1,1	1,5
						MXV 32-405/C	1,1	1,5
						MXV 32-406/C	1,5	2
						MXV 32-407/C	1,5	2
						MXV 32-408/C	2,2	3
						MXV 32-410/C	2,2	3
						MXV 32-412/C	3	4
						MXV 40-804/C	1,5	2
						MXV 40-805/C	2,2	3
						MXV 40-806/C	2,2	3
						MXV 40-807/C	3	4
						MXV 40-808/C	3	4
						MXV 40-810/C	4	5,5
						MXV 40-811/C	4	5,5
						MXV 50-1603/C	3	4
						MXV 50-1604/C	4	5,5
						MXV 50-1605/C	5,5	7,5
						MXV 50-1606/C	5,5	7,5
						MXV 50-1607/C	7,5	10
						MXV 50-1608/C	7,5	10
						MXV 65-3202/C	4	5,5
						MXV 65-3203/C	5,5	7,5
						MXV 65-3204/C	7,5	10
						MXV 65-3205/D	11	15
						MXV 65-3206/D	11	15
						MXV 65-3207/D	15	20
						MXV 80-4802/C	5,5	7,5
						MXV 80-4803/C	7,5	10
						MXV 80-4804/D	11	15
						MXV 80-4805/D	15	20
						MXV 80-4806/D	15	20
						MXV 80-4807/D	18,5	25

(*) SYSTEMS WITH:
1 variable speed pump three-phase motor
1 fixed speed pump single-phase motor
Power supply to control panel 230 V single-phase

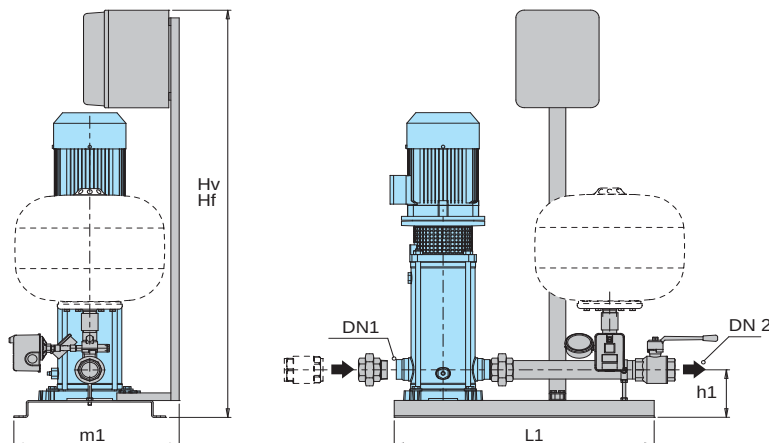
(**) Three-phase motor 230 V.
Power supply to control panel:
- 230 V three-phase
- 230 V single-phase
Frequency converter output is always 230 V three-phase.

BS. MXV

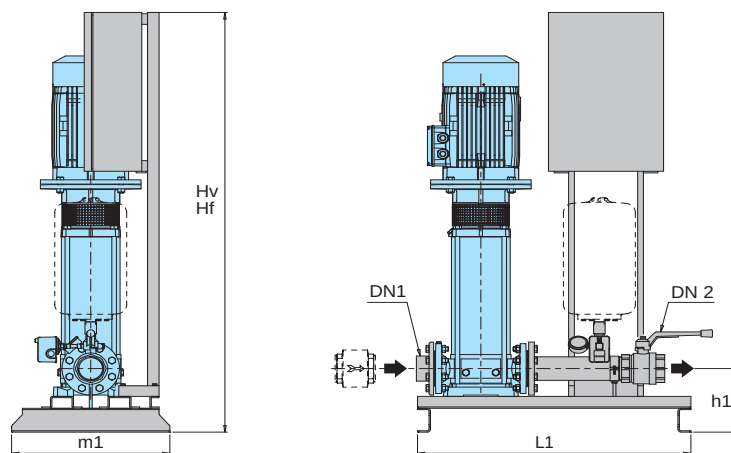
Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

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Dimensions and weights



TYPE	TYPE	Connection		mm					weight kg
		DN 1	DN 2	Hv	Hf	h1	L1	m1	
BS1. 1MXV 25-204	BSM1. 1MXV 25-204M	G 1	G 1	1345	1065	120	625	410	-
BS1. 1MXV 25-205	BSM1. 1MXV 25-205M								
BS1. 1MXV 25-206	BSM1. 1MXV 25-206M								
BS1. 1MXV 25-207	BSM1. 1MXV 25-207M								
BS1. 1MXV 25-208	BSM1. 1MXV 25-208M								
BS1. 1MXV 25-210									
BS1. 1MXV 25-212									
BS1. 1MXV 32-404	BSM1. 1MXV 32-404M	G 1 1/4	G 1 1/4	1345	1065	120	625	410	
BS1. 1MXV 32-405	BSM1. 1MXV 32-405M								
BS1. 1MXV 32-406	BSM1. 1MXV 32-406M								
BS1. 1MXV 32-407	BSM1. 1MXV 32-407M								
BS1. 1MXV 32-408									
BS1. 1MXV 32-410									
BS1. 1MXV 32-412									
BS1. 1MXV 40-804	BSM1. 1MXV 40-804M	G 1 1/2	G 1 1/2	1345	1065	125	625	410	
BS1. 1MXV 40-805									
BS1. 1MXV 40-806									
BS1. 1MXV 40-807									
BS1. 1MXV 40-808									
BS1. 1MXV 40-810									
BS1. 1MXV 40-811									



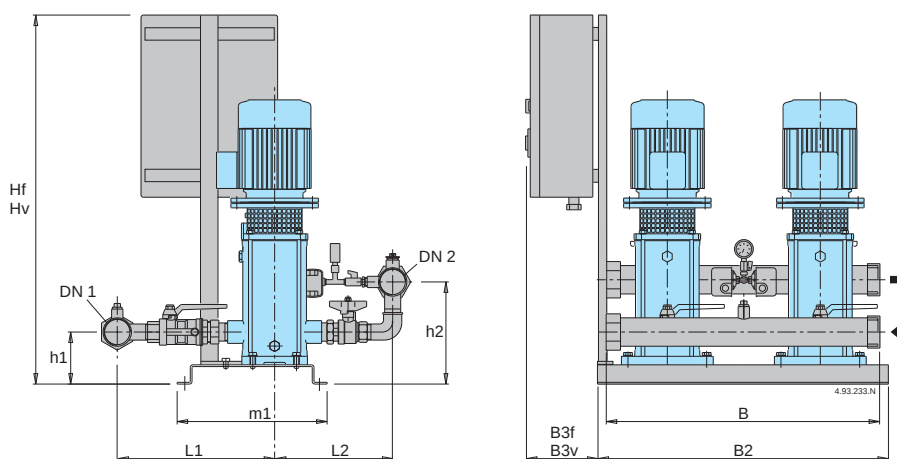
TYPE	Connection		mm					weigh kg
	DN 1	DN 2	Hv	Hf	h1	L1	m1	
BS.. 1MXV 50-1603	G 2	G 2	1485	1155	225	950	550	
BS.. 1MXV 50-1604								
BS.. 1MXV 50-1605								
BS.. 1MXV 50-1606			1585	1585				
BS.. 1MXV 50-1607								
BS.. 1MXV 50-1608								
BS.. 1MXV 65-3202	G 2 1/2	G 2 1/2	1485	1155	240	950	550	
BS.. 1MXV 65-3203								
BS.. 1MXV 65-3204			1585	1585				
BS.. 1MXV 65-3205								
BS.. 1MXV 65-3206								
BS.. 1MXV 65-3207								
BS.. 1MXV 80-4802	G3	G3	1585	1155	240	950	550	
BS.. 1MXV 80-4803								
BS.. 1MXV 80-4804			1685	1585				
BS.. 1MXV 80-4805								
BS.. 1MXV 80-4806								
BS.. 1MXV 80-4807				1785				

BS. MXV

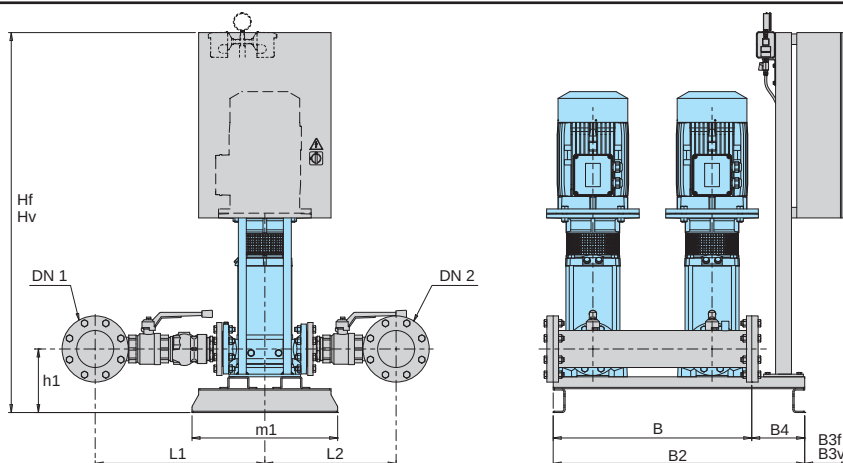
Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

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Dimensions and weights



TYPE	TYPE	Connection		mm											weight kg
		DN 1	DN 2	Hf	Hv	h1	h2	L1	L2	m1	B	B2	B3f	B3v	
BS.. 2MXV 25-204	BS.. 2MXV 25-204M	G 1 1/2	G 1 1/2	875	1145	119	218	335	254	365	600	625	195	260	110
BS.. 2MXV 25-205	BS.. 2MXV 25-205M														112
BS.. 2MXV 25-206	BS.. 2MXV 25-206M														114
BS.. 2MXV 25-207	BS.. 2MXV 25-207M														116
BS.. 2MXV 25-208	BS.. 2MXV 25-208M														126
BS.. 2MXV 25-210	BS.. 2MXV 25-210M														
BS.. 2MXV 25-212	BS.. 2MXV 25-212M	G 2	G 2	875	1145	119	225	360	295	365	600	625	195	260	113
BS.. 2MXV 32-404	BS.. 2MXV 32-404M														115
BS.. 2MXV 32-405	BS.. 2MXV 32-405M														125
BS.. 2MXV 32-406	BS.. 2MXV 32-406M														127
BS.. 2MXV 32-407	BS.. 2MXV 32-407M														137
BS.. 2MXV 32-408															
BS.. 2MXV 32-410		G 2 1/2	G 2 1/2	875	1145	124	245	400	305	365	600	625	195	260	126
BS.. 2MXV 32-412															136
BS.. 2MXV 40-804	BS.. 2MXV 40-804M														138
BS.. 2MXV 40-805															164
BS.. 2MXV 40-806															166
BS.. 2MXV 40-807															
BS.. 2MXV 40-808															
BS.. 2MXV 40-810															
BS.. 2MXV 40-811															



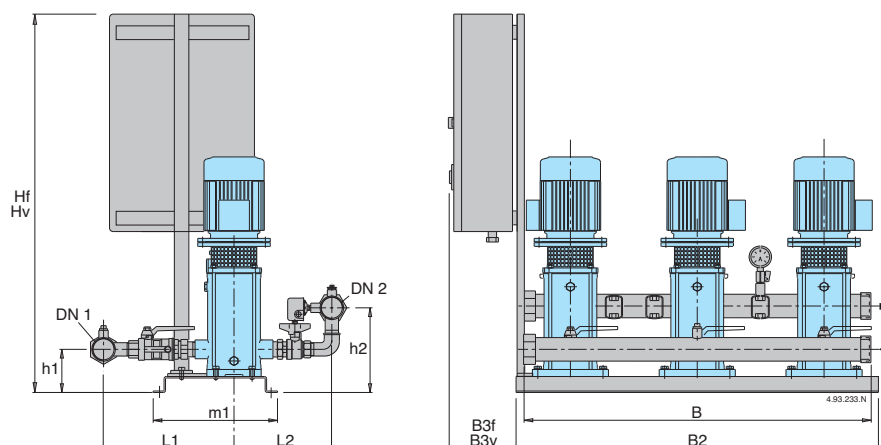
TYPE	Connection		mm											weight kg
	DN 1	DN 2	Hf	Hv	h1	L1	L2	m1	B	B2	B3f	B3v	B4	
BS.. 2MXV 50-1603	G 3	G 3	965	1445	225	455	355	550	700	950	160	170	225	282
BS.. 2MXV 50-1604														298
BS.. 2MXV 50-1605														336
BS.. 2MXV 50-1606														340
BS.. 2MXV 50-1607														
BS.. 2MXV 50-1608	100	100	965	1445	240	560	425	550	750	950	160	170	200	358
BS.. 2MXV 65-3202														396
BS.. 2MXV 65-3203														420
BS.. 2MXV 65-3204														480
BS.. 2MXV 65-3205														
BS.. 2MXV 65-3206	125	125	1445	1545	240	640	500	550	750	950	160	170	200	408
BS.. 2MXV 65-3207														432
BS.. 2MXV 80-4802														490
BS.. 2MXV 80-4803														520
BS.. 2MXV 80-4804														
BS.. 2MXV 80-4805			965	1445	240	560	425	550	750	950	160	170	200	408
BS.. 2MXV 80-4806														432
BS.. 2MXV 80-4807														490

BS. MXV

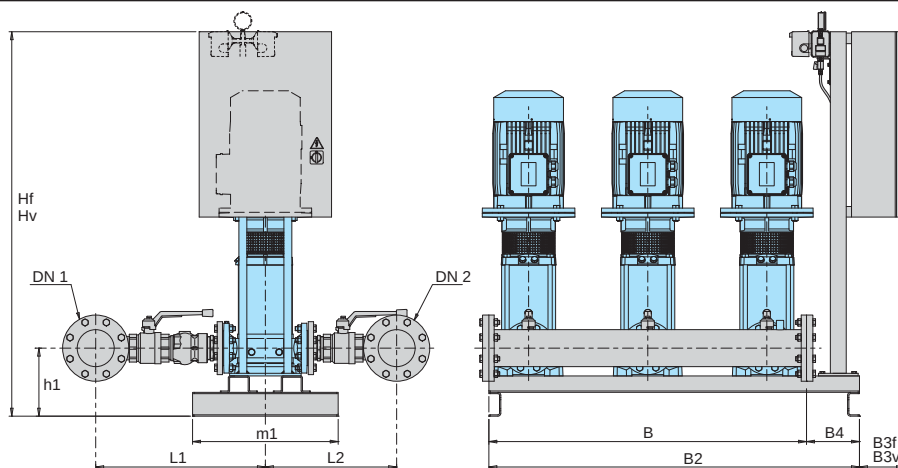
Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Fixed speed pump or Variable speed pump (frequency converter)

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Dimensions and weights



TYPE	Connection		mm											weight kg
	DN 1	DN 2	Hf	Hv	h1	h2	L1	L2	m1	B	B2	B3f	B3v	
BS.. 3MXV 25-204	G 2	G 2	1090	1160	134	233	340	254	406	950	1000	220	220	110
BS.. 3MXV 25-205														112
BS.. 3MXV 25-206														114
BS.. 3MXV 25-207														116
BS.. 3MXV 25-208														126
BS.. 3MXV 25-210														
BS.. 3MXV 25-212	G 2 1/2	G 2 1/2	1090	1160	134	240	368	295	406	950	1000	220	220	113
BS.. 3MXV 32-404														115
BS.. 3MXV 32-405														125
BS.. 3MXV 32-406														127
BS.. 3MXV 32-407														137
BS.. 3MXV 32-408														
BS.. 3MXV 32-410	G 3	G 3	1090	1160	139	260	405	305	406	950	1000	220	220	126
BS.. 3MXV 32-412														136
BS.. 3MXV 40-804														138
BS.. 3MXV 40-805														164
BS.. 3MXV 40-806														166
BS.. 3MXV 40-807														
BS.. 3MXV 40-808														
BS.. 3MXV 40-810														
BS.. 3MXV 40-811														



	Connection		mm											weigh
	DN 1	DN 2	Hf	Hv	h1	L1	L2	m1	B	B2	B3f	B3v	B4	kg
BS.. 3MXV 50-1603	100	100	1160	1440	275	470	365	550	1200	1400	200	170	200	282
BS.. 3MXV 50-1604				1540								220		298
BS.. 3MXV 50-1605														220
BS.. 3MXV 50-1606				220								220		
BS.. 3MXV 50-1607			220		220	220								
BS.. 3MXV 50-1608				220			220	220						
BS.. 3MXV 65-3202	125	125	1160		1440	290			672	487	550	1200	1400	200
BS.. 3MXV 65-3203				1540	220		396							
BS.. 3MXV 65-3204							220	220						420
BS.. 3MXV 65-3205				220	220									220
BS.. 3MXV 65-3206			220			220	220	220						
BS.. 3MXV 65-3207				220	220				220	220				
BS.. 3MXV 80-4802	150	150	1160			1540	290	655			515	550	1200	1400
BS.. 3MXV 80-4803				1540	220	432								
BS.. 3MXV 80-4804						220			220	490				
BS.. 3MXV 80-4805				220	220					220				
BS.. 3MXV 80-4806			220			220	220	220						
BS.. 3MXV 80-4807				220	220				220	220				

* Cabinet version

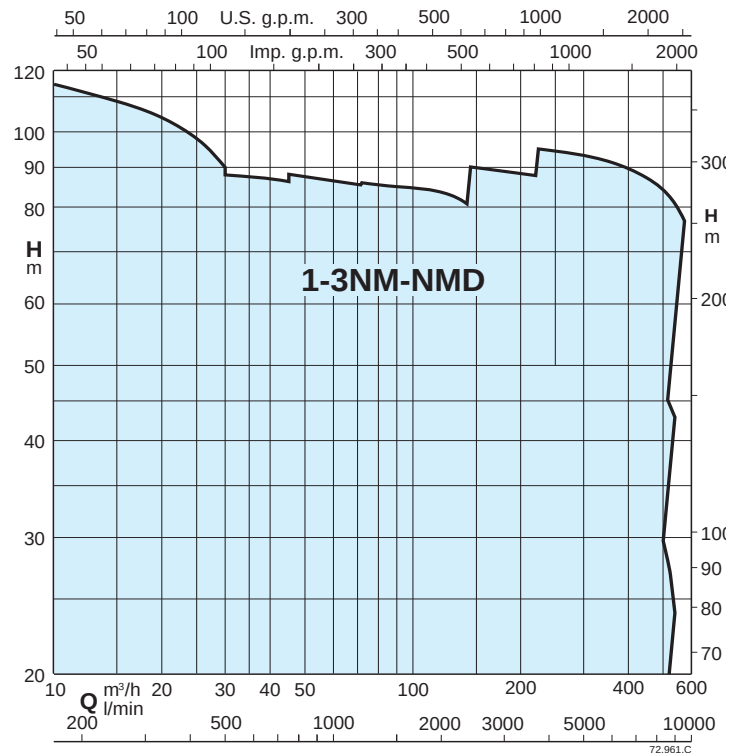
BS. NM

Pressure boosting sets with 1 to 3 Centrifugal Pumps
Fixed speed pump or **Variable speed pump (frequency converter)**

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Coverage chart



Operation

BS 1-6F **Pressure boosting sets with 1 to 6 fixed speed pump.**
Sets with 4,5 and 6 pumps on request.
Depending on the reduction of the pressure in the system, the pressure switches determine the starting up of the pumps in sequence and the microprocessor alternates the starts.

BS1V2-5F **Pressure boosting sets with 1 variable speed pump (with frequency converter into the control panel) and from 1 to 5 fixed speed pumps**

Sets with 4,5 and 6 pumps on request.

According to the water consumption, one or more pumps start, one at variable speed and the others at fixed speed, to grant the water quantity required at the set pressure.

BS1-6V **Pressure boosting sets with 1 to 6 variable speed pumps (with frequency converter into the control panel).**

Sets with 4,5 and 6 pumps on request.

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.

Construction

- Automatic pressure boosting plant consisting of 1 centrifugal pump complete with ball valve on the delivery side, suitable for installation of one cylindrical pressure vessel.

- Automatic pressure boosting plant consisting of 2 to 6 centrifugal pumps complete with ball, non return valve on the suction side and ball valves on the delivery side.
Suction and delivery manifolds are in steel.
Connections are located on the delivery manifold for the installation of 20 litres cylindrical vessels:
- 2 vessels (for 2NM).
- 3 vessels (for 3NM).

Electrical control boards:

- with microprocessor for fixed speed pump units (see page 486). Motor starting is D.O.L. up to 5,5 kW and Y/Δ for power rating 7,5 up to 55 kW.
- with frequency converter for variable speed pump units (see page 487).

The unit includes one pressure gauge and three adjustable differential pressure switches or pressure transducer (for sets with frequency converter).

Applications

To supply water in civil and industrial buildings.
As pressure boosting pump to increase water pressure when needed (follow local rules).

Motors

2-pole induction motors, 50 Hz, $n \approx 2900$ rpm, suitable for operation with frequency converter.

- Three-phase 230/400V $\pm 10\%$ up to 3 kW;
400/690V $\pm 10\%$ for 4 kW to 55 kW;

Insulation class F.

Protection IP 54.

Constructed in accordance with: IEC 60034.

Other voltages and frequencies on request.

Vessels on request

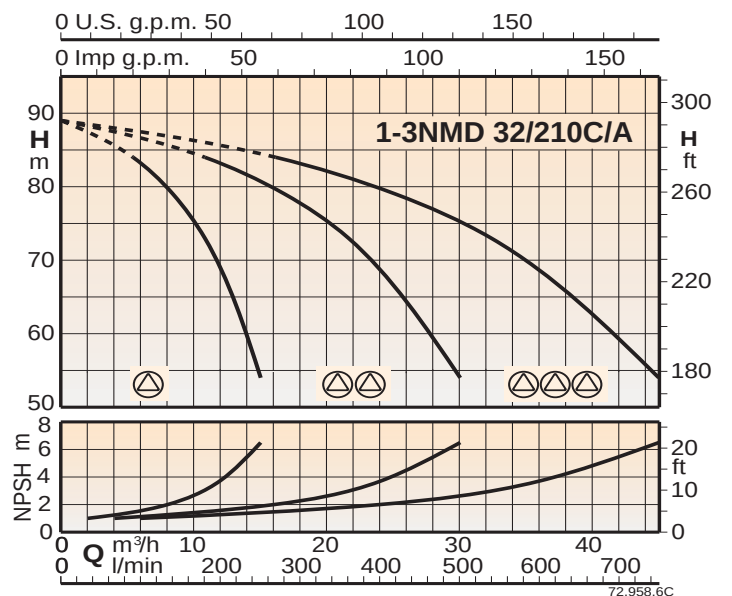
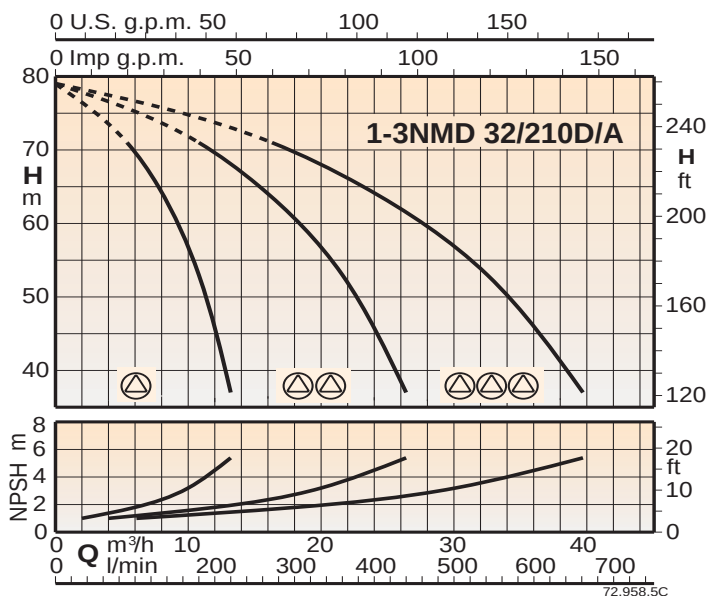
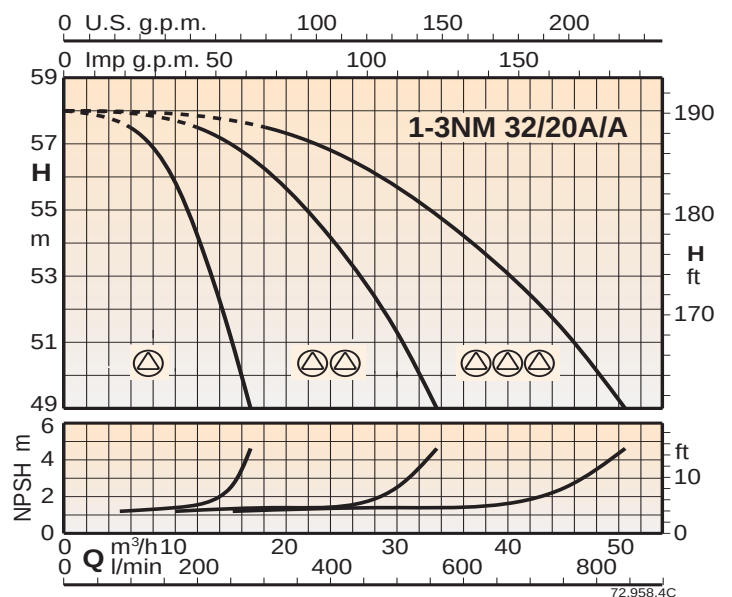
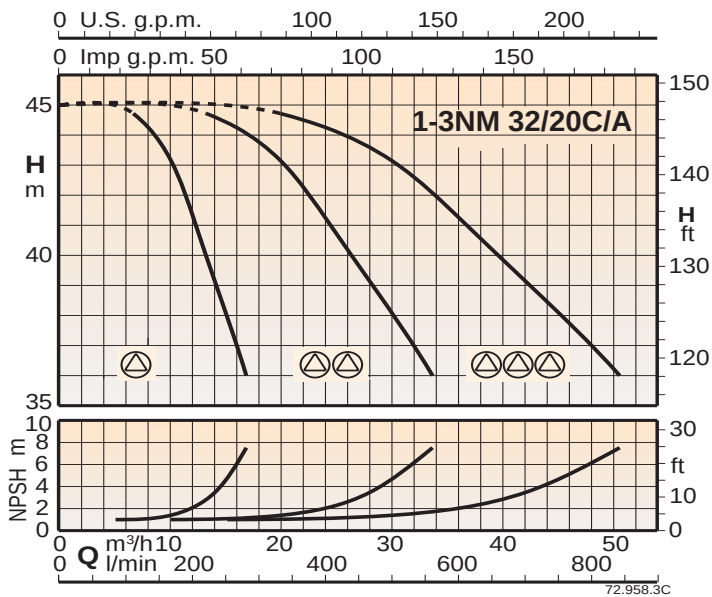
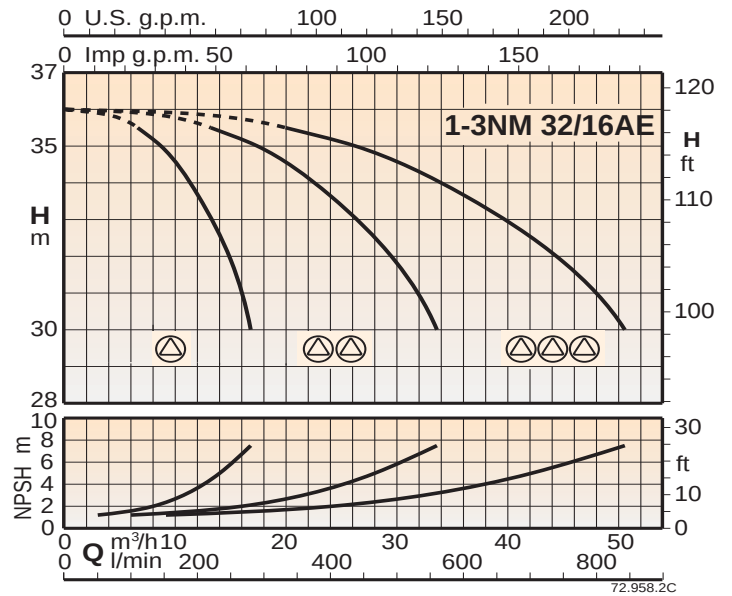
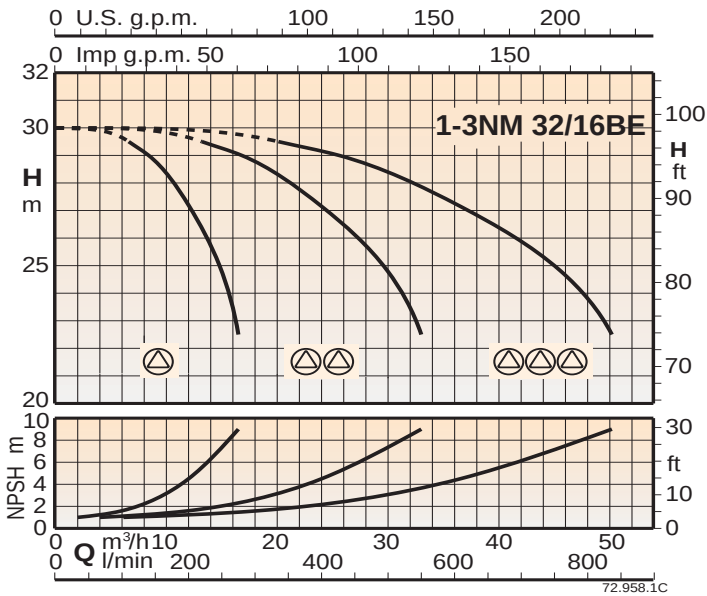
When installing the unit, connect in the delivery section to a diaphragm or galvanised tank.

The recommended sized are shown in the following page.

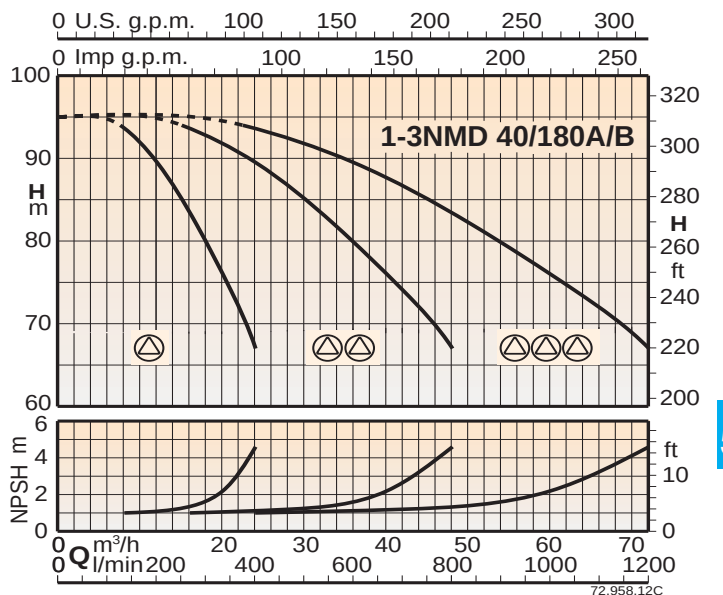
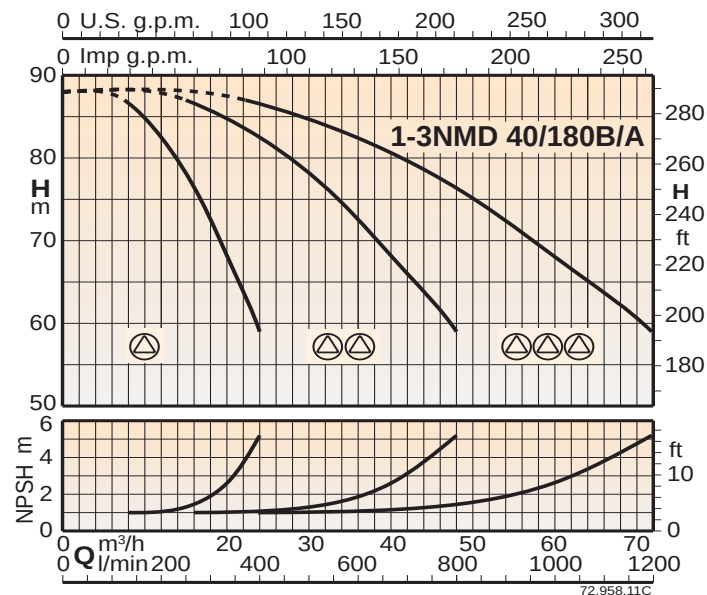
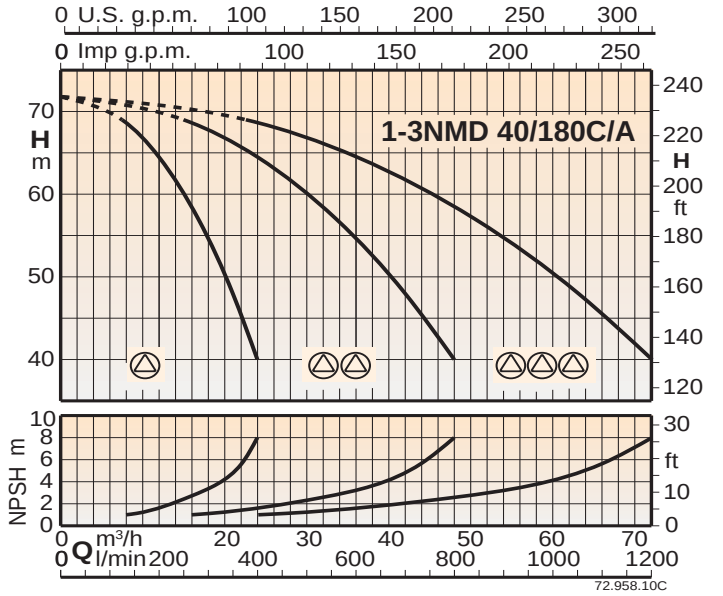
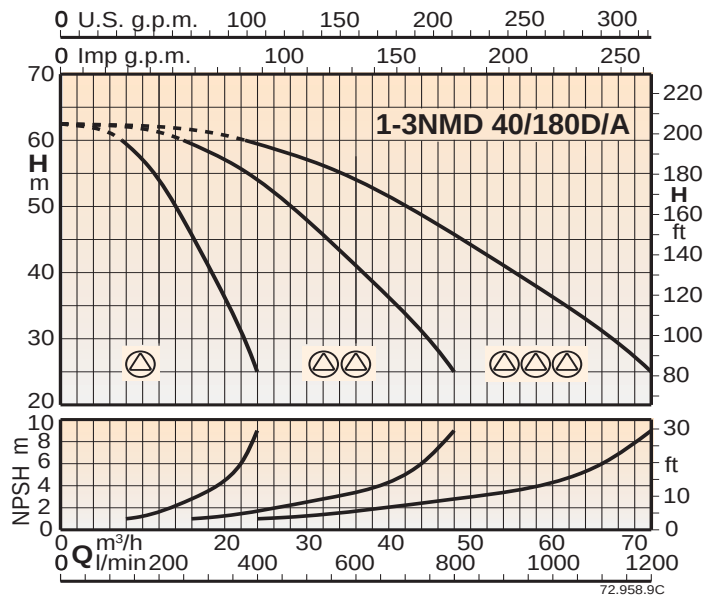
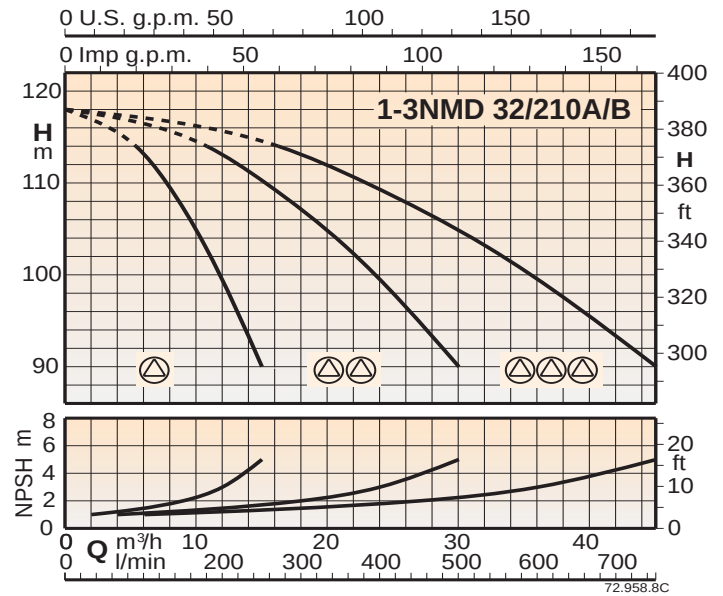
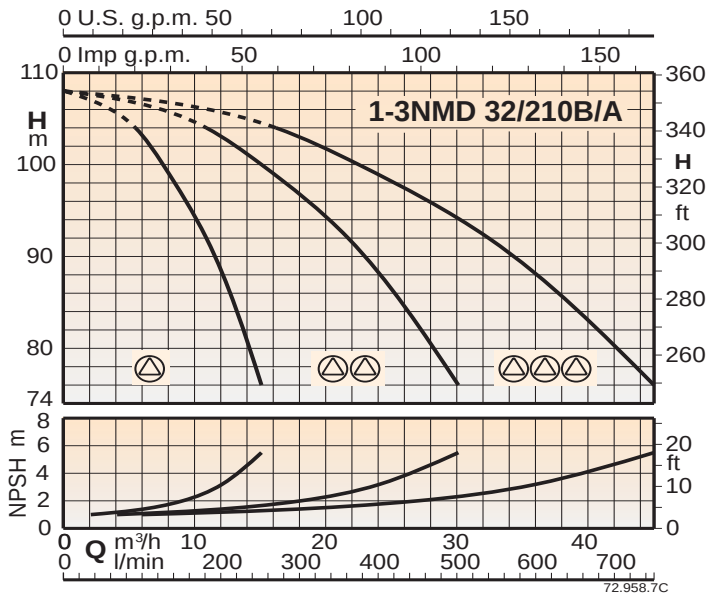
Special features on request

Pressure boosting sets with 4,5 and 6 pumps.

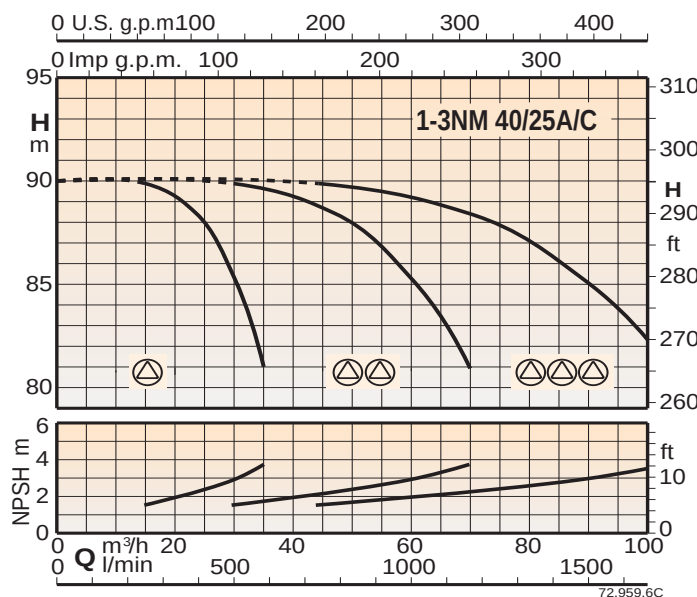
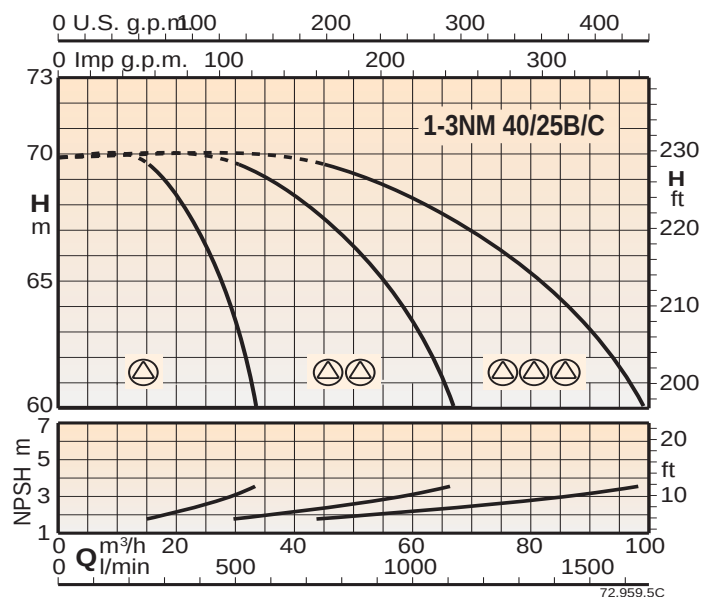
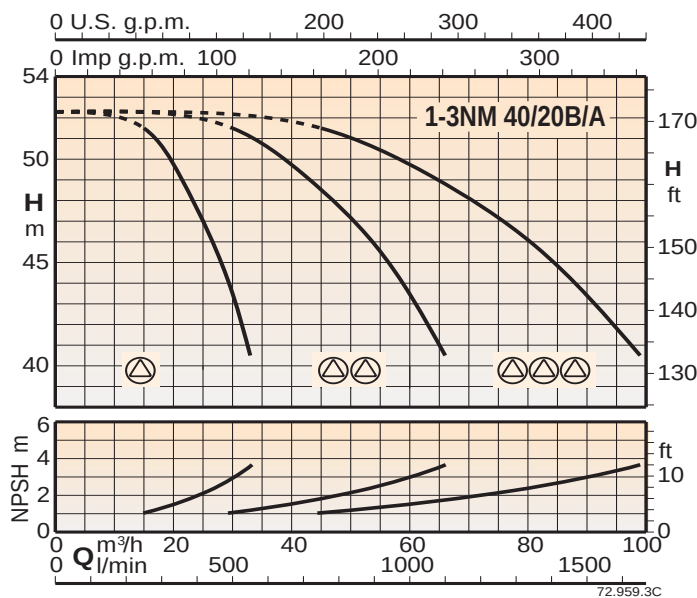
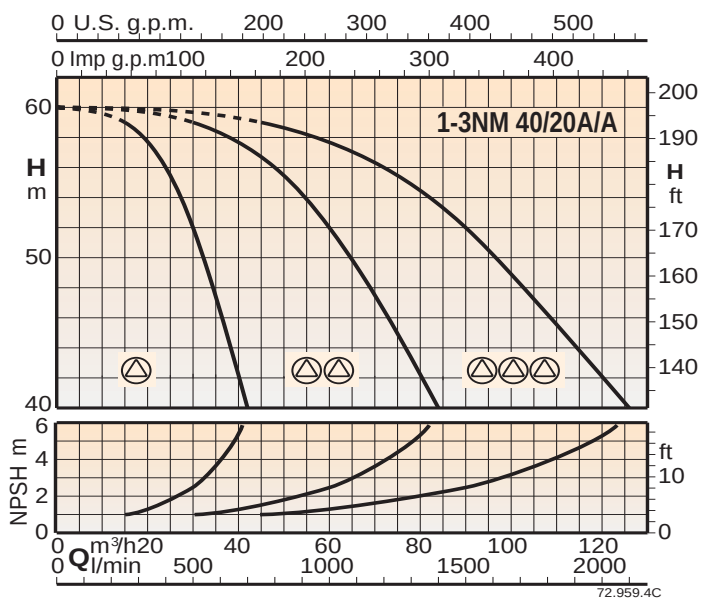
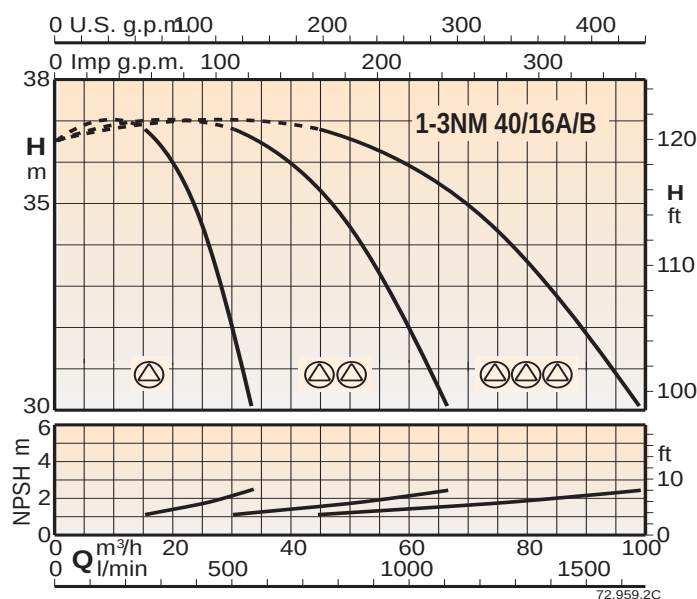
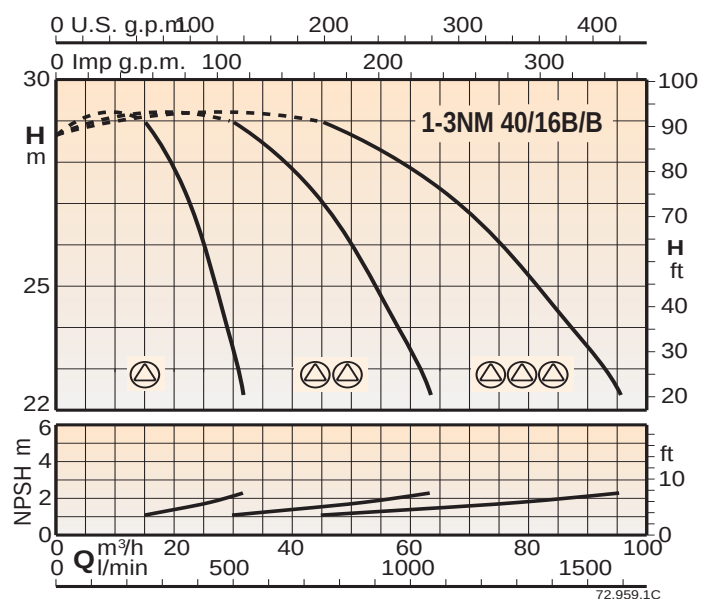
Coverage chart



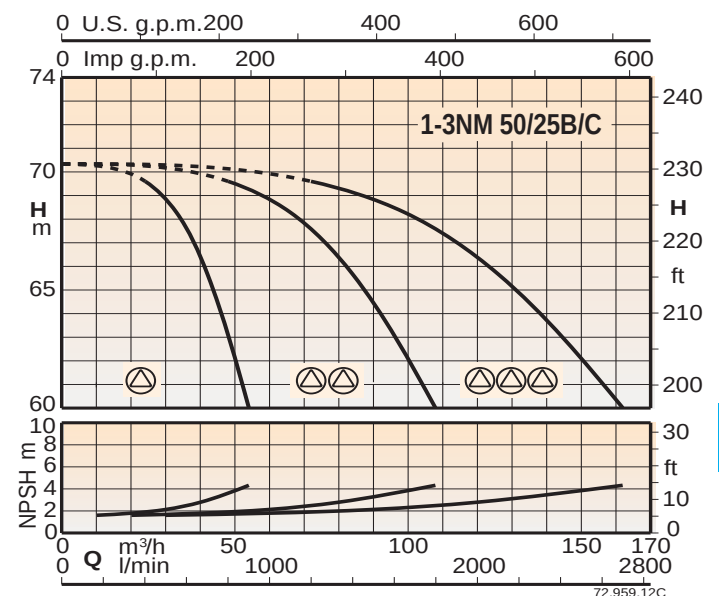
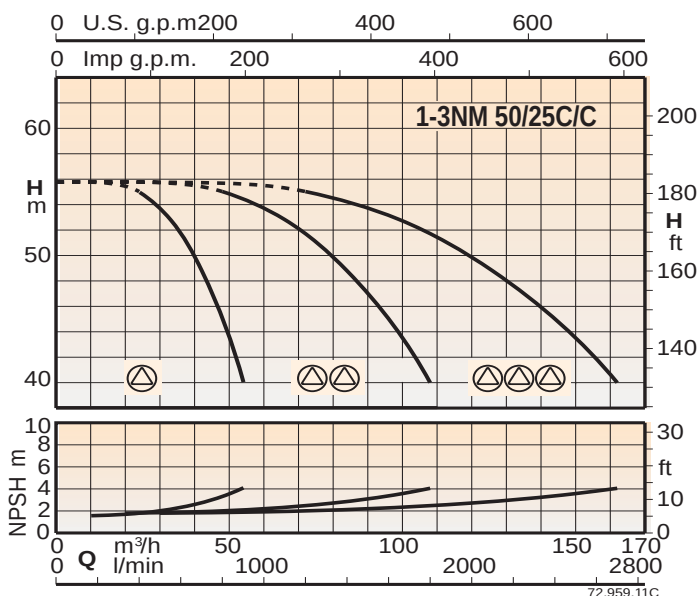
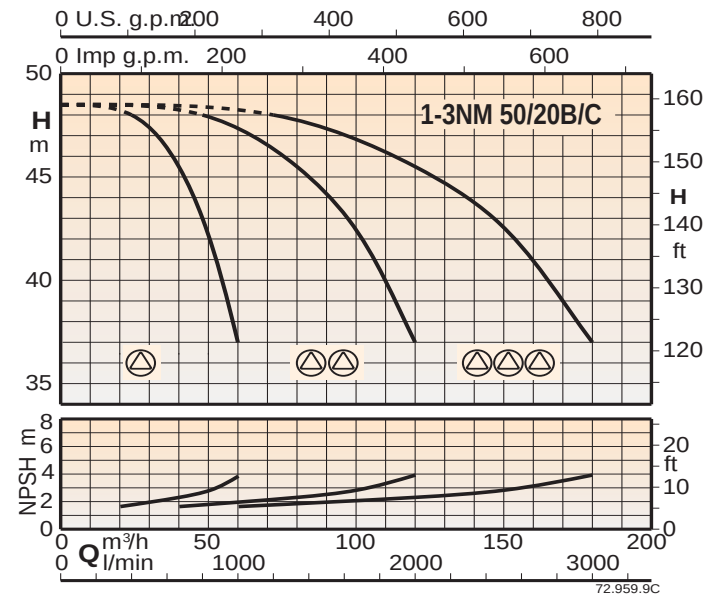
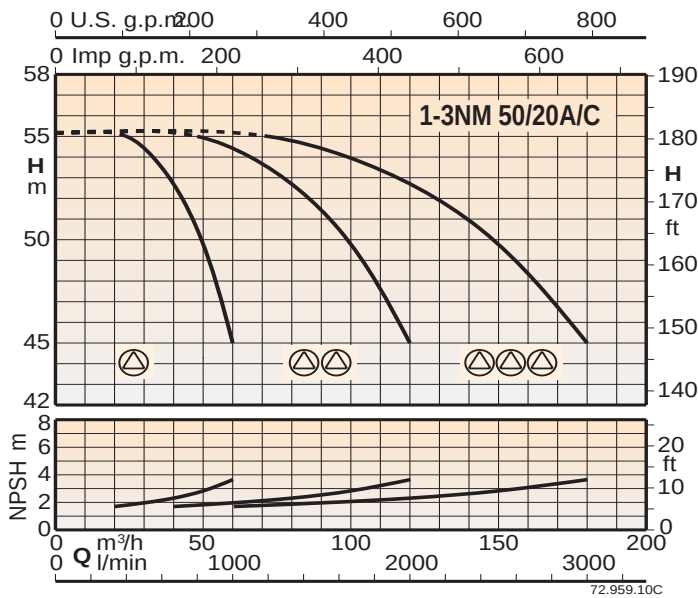
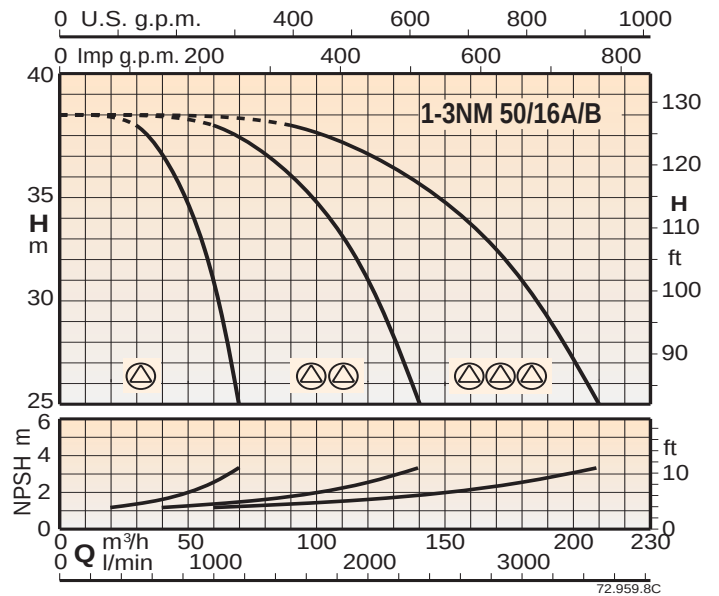
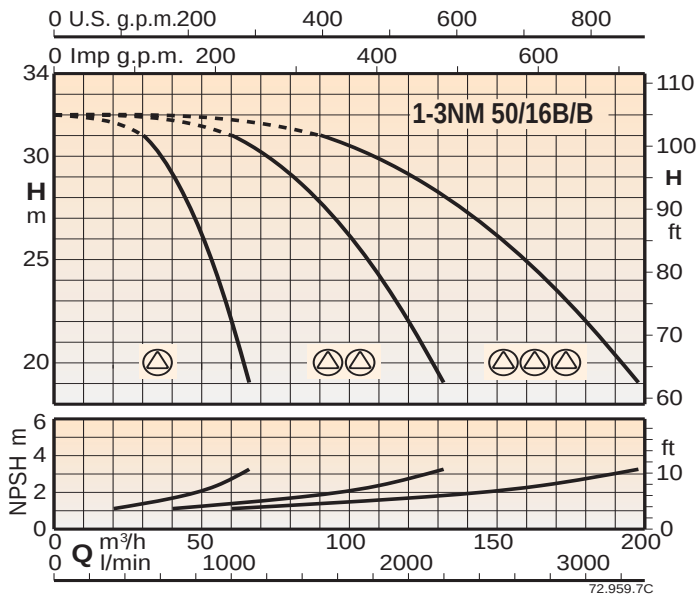
Coverage chart



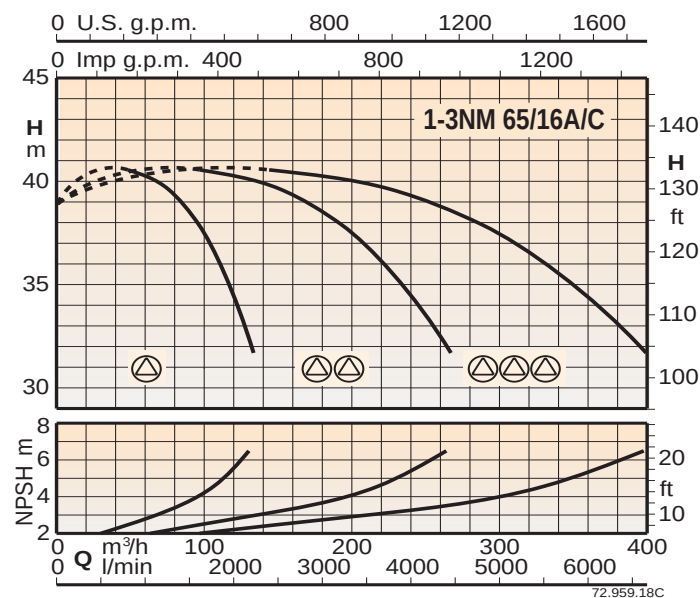
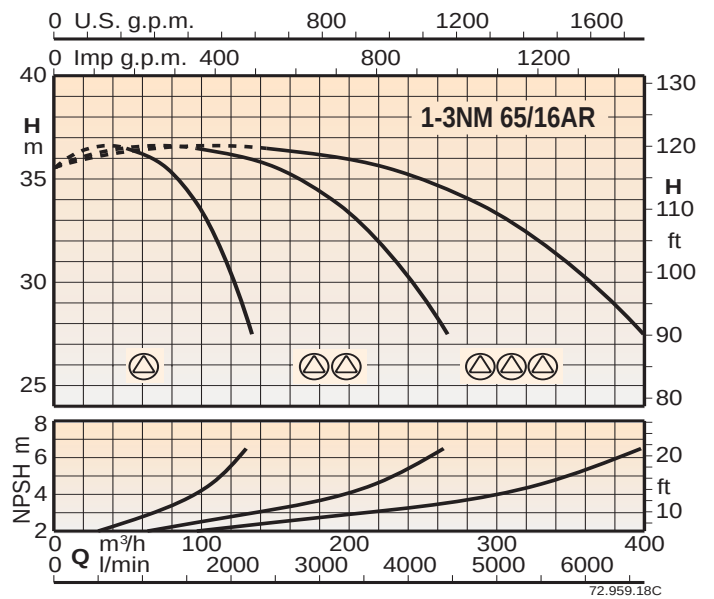
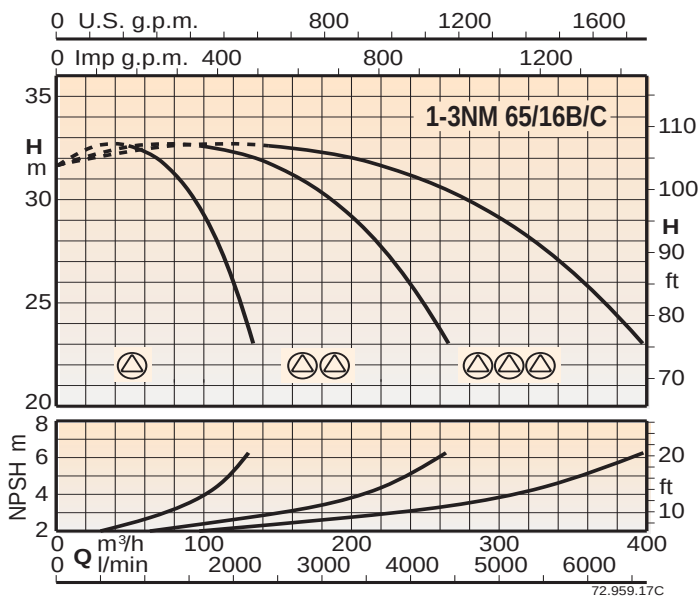
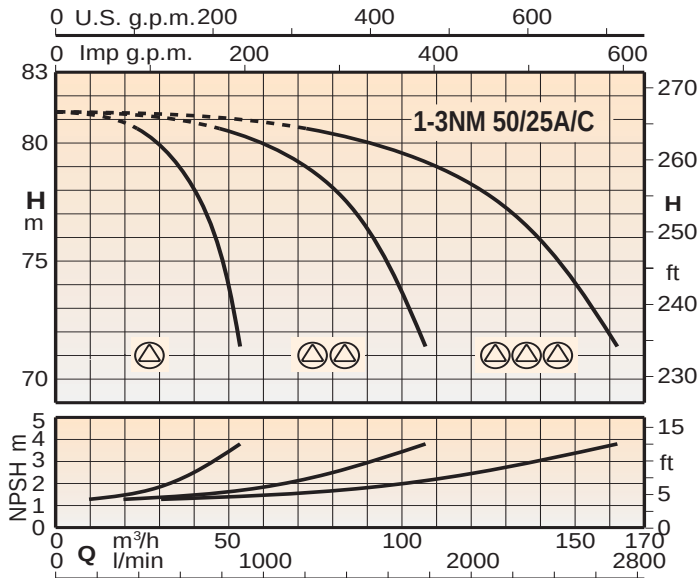
Coverage chart



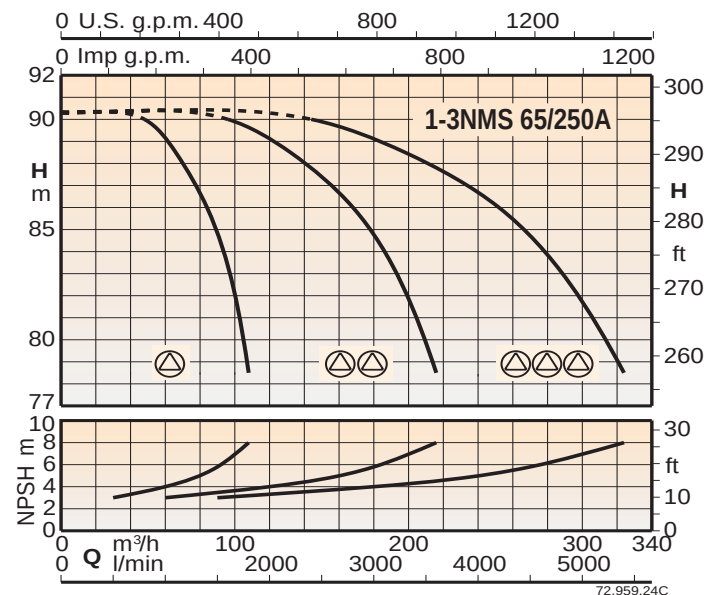
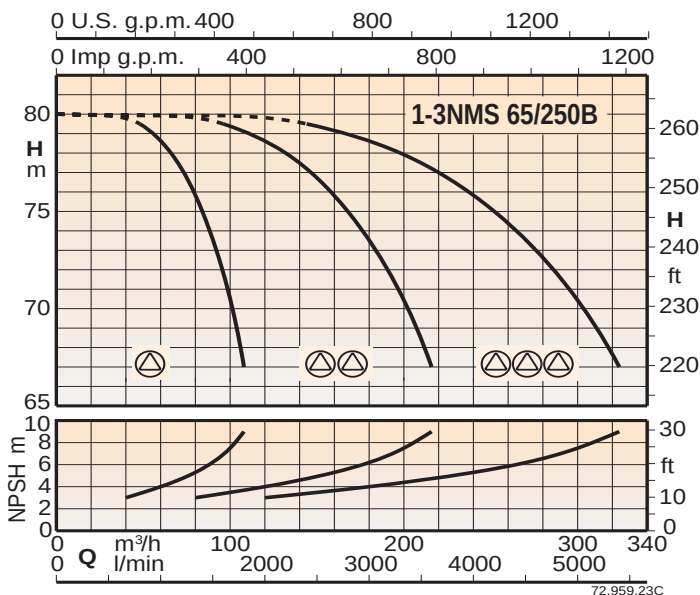
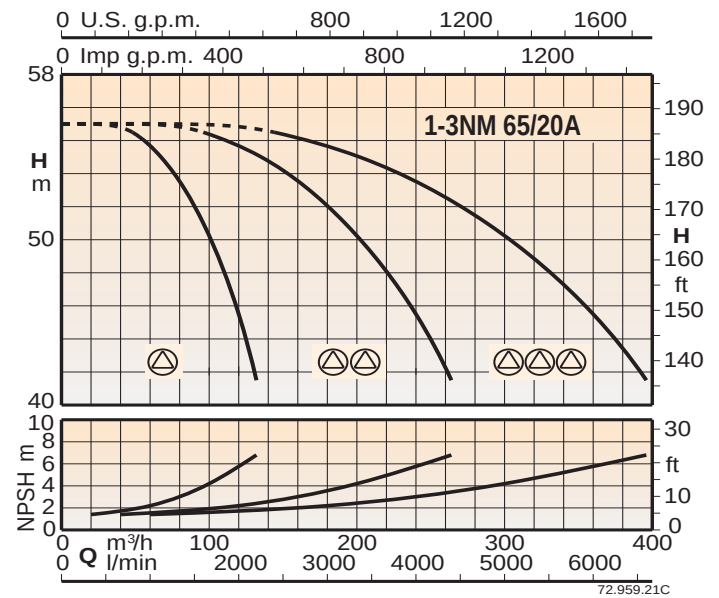
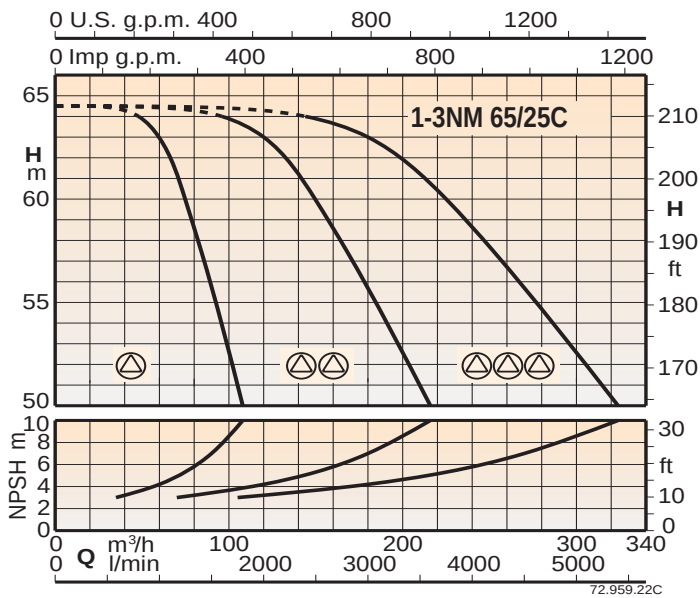
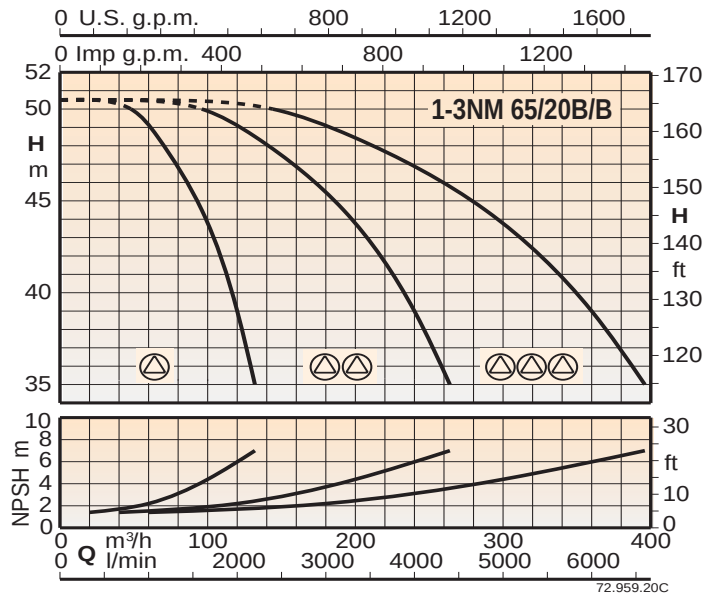
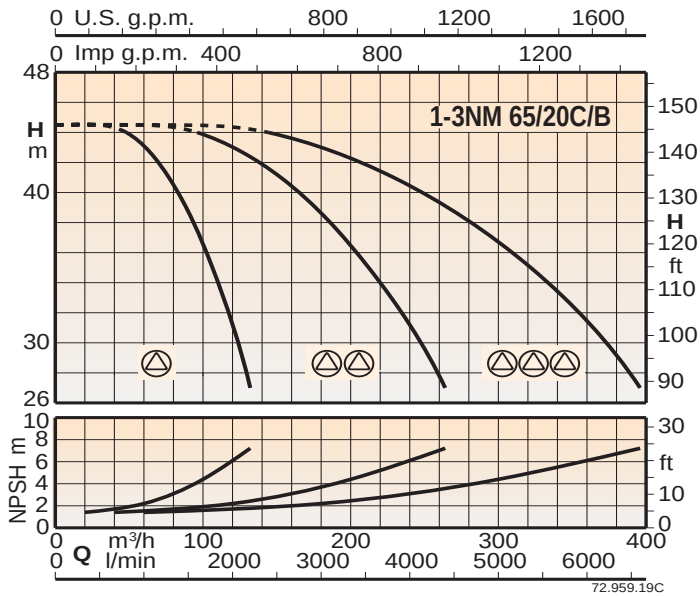
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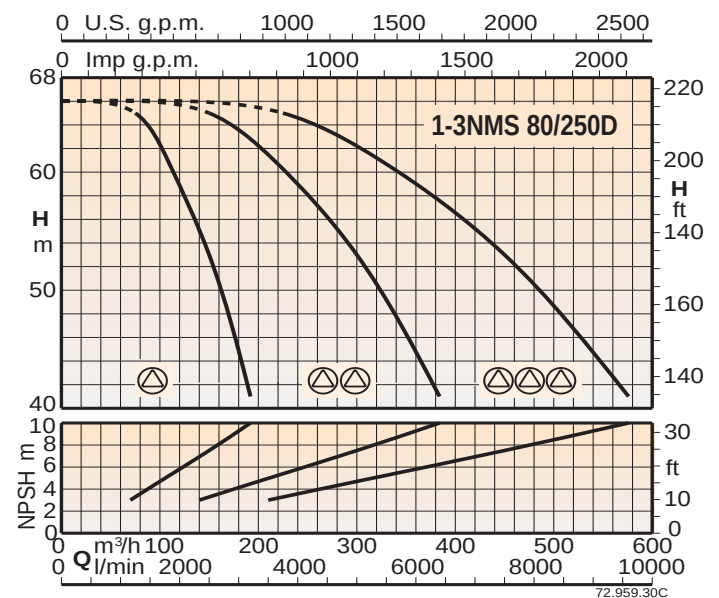
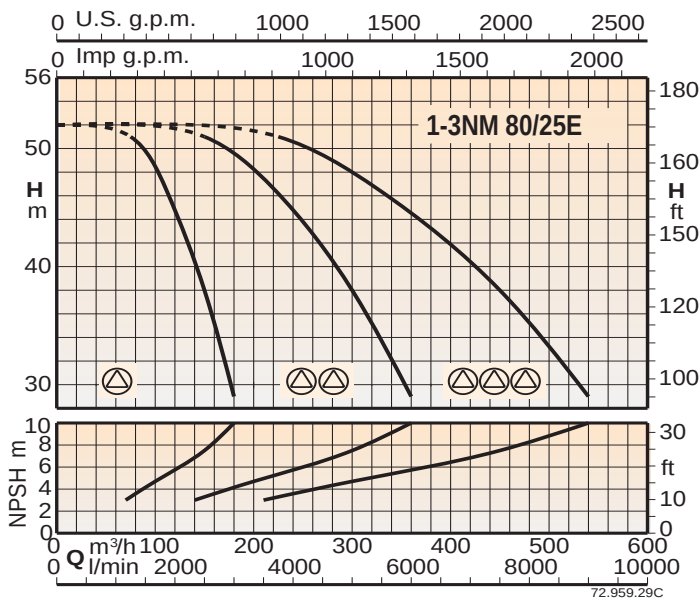
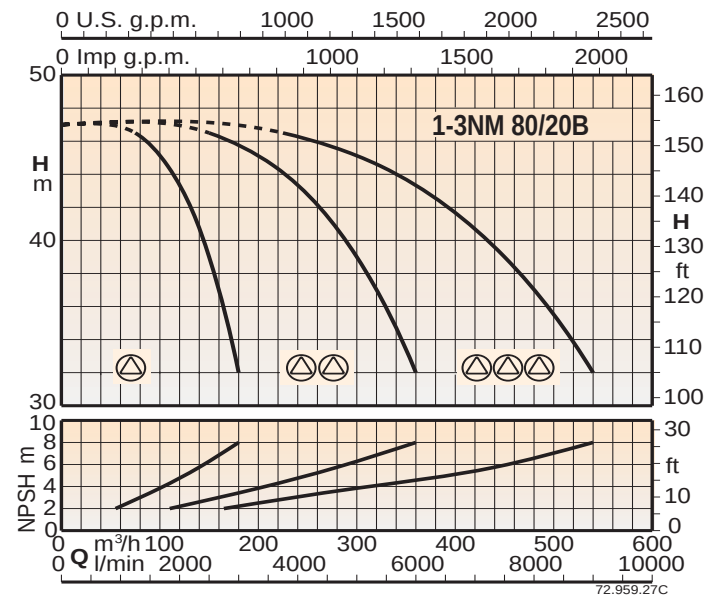
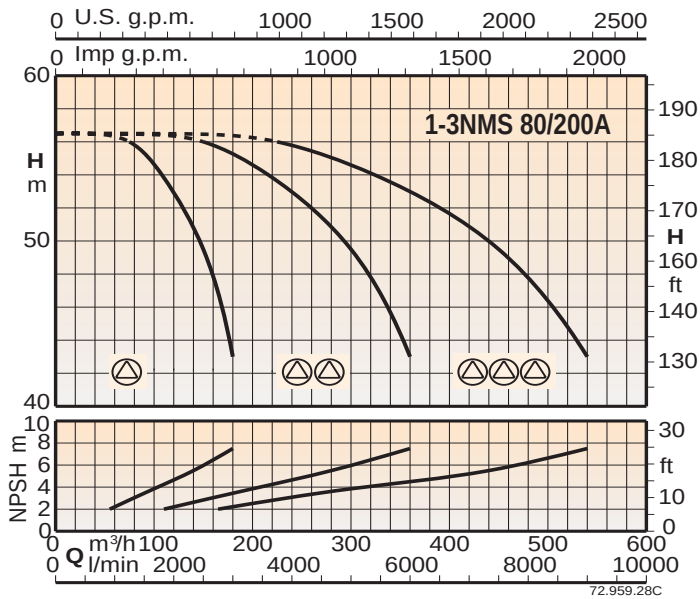
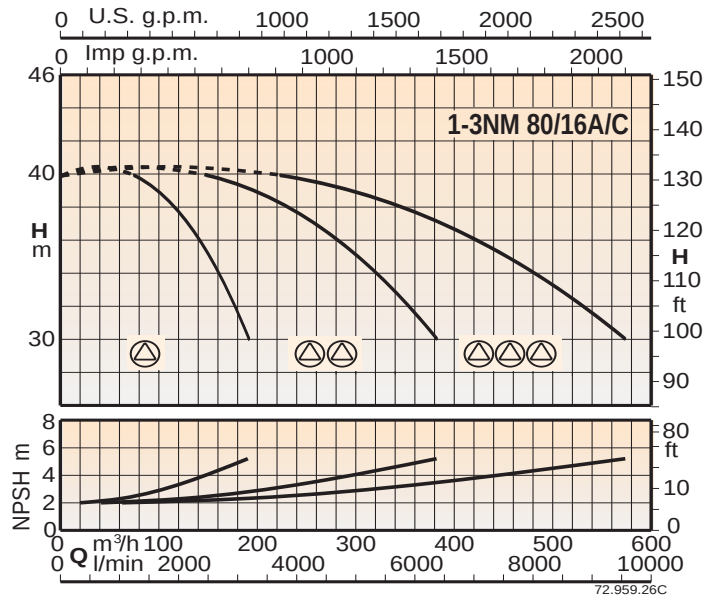
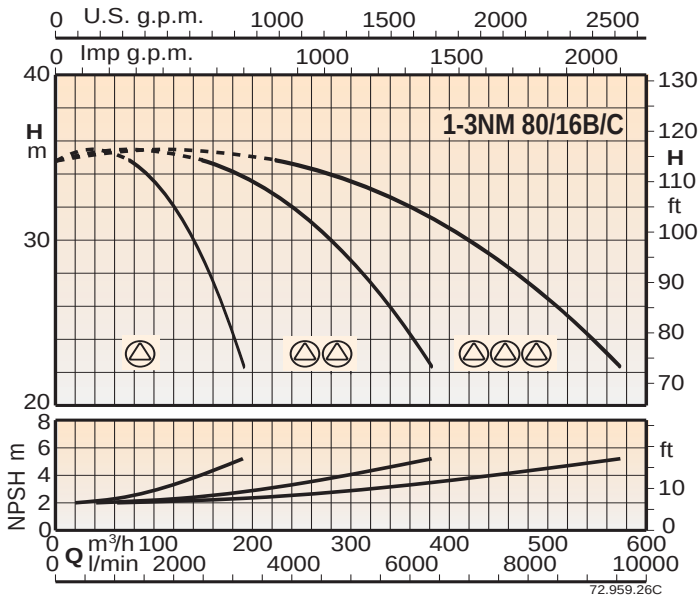
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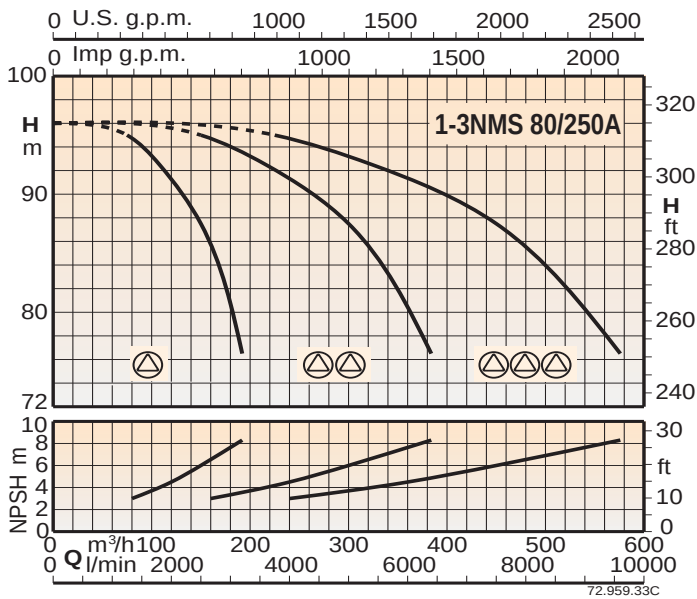
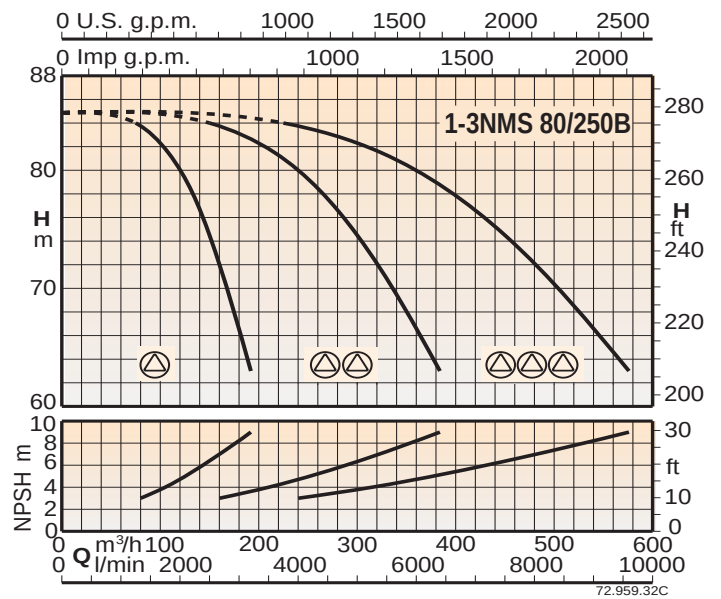
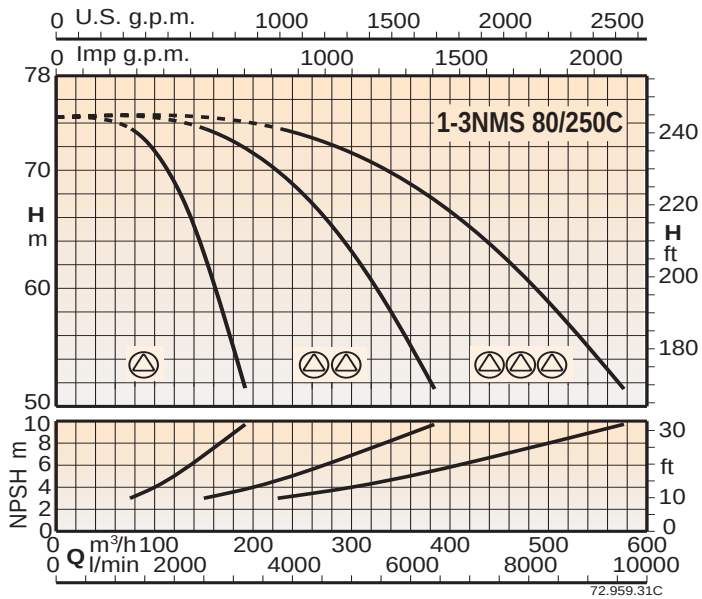
Coverage chart



Coverage chart



Coverage chart





Pressure boosting sets with 1 Centrifugal Pumps

Fixed speed pump



Performance

Mains: 400V 3~ Motor: 400V 3~	Motor		Pres. switch 1 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
	kW	HP	min	max	Q l/min	H m		
BS1F 1NM 32/16BE	1,5	2	2,2	2,8	281	22	500	800
BS1F 1NM 32/16A/A	2,2	3	2,7	3,4	279	28	500	1000
BS1F 1NM 32/20C/A	3	4	3,2	4,2	285	33	500	1000
BS1F 1NM 32/20A/A	4	5,5	4,5	5,5	259	46	750	1000
BS1F 1NMD 32/210D/A	4	5,5	5	7	189	51	500	500
BS1F 1NMD 32/210C/A	5,5	7,5	6	8	242	61	500	800
BS1F 1NMD 32/210B/A	7,5	10	8	10	233	82	750	1000
BS1F 1NMD 32/210A/B	9,2	12,5	9,5	11	215	97	1000	1500
BS1F 1NMD 40/180D/A	4	5,5	4	5,5	314	41	500	1000
BS1F 1NMD 40/180C/A	5,5	7,5	5	6,5	351	51	750	1500
BS1F 1NMD 40/180B/A	7,5	10	6,7	8,2	356	68	1000	2000
BS1F 1NMD 40/180A/B	9,2	12,5	7,5	9	348	76	1500	2000
BS1F 1NM 40/16B/B	3	4	1,5	2,5	690	15	750	1500
BS1F 1NM 40/16A/B	4	5,5	2,4	3,4	735	24	1000	2000
BS1F 1NM 40/20B/A	5,5	7,5	3,7	4,7	566	38	1500	3000
BS1F 1NM 40/20A/A	7,5	10	4,4	5,4	645	45	2000	4000
BS1F 1NM 40/25B/C	11	15	5,6	6,6	667	57	3000	5000
BS1F 1NM 40/25A/C	15	20	7,7	8,7	686	78	4000	-
BS1F 1NM 50/16B/B	5,5	7,5	1,7	2,7	1171	17	2000	4000
BS1F 1NM 50/16A/B	7,5	10	2,5	3,5	1212	25	3000	5000
BS1F 1NM 50/20B/C	9,2	12,5	3,5	4,5	1087	36	3000	5000
BS1F 1NM 50/20A/C	11	15	4,2	5,2	1143	43	4000	-
BS1F 1NM 50/25C/C	11	15	4,1	5,1	999	42	4000	-
BS1F 1NM 50/25B/C	15	20	5,6	6,6	993	57	4000	-
BS1F 1NM 50/25A/C	18,5	25	6,6	7,6	1175	67	5000	-
BS1F 1NM 65/16B/C	11	15	2,2	3,2	2223	22	4000	-
BS1F 1NM 65/16A/R	15	20	2,6	3,6	2238	27	5000	-
BS1F 1NM 65/16A/C	15	20	3,1	4,1	2205	32	5000	-
BS1F 1NM 65/20C/B	15	20	3	4	2101	31	-	-
BS1F 1NM 65/20B/B	18,5	25	3,6	4,6	2195	37	-	-
BS1F 1NM 65/20A	22	30	4,2	5,2	2238	43	-	-
BS1F 1NM 65/25C	22	30	5	6	1783	51	-	-
BS1F 1NMS 65/250B	30	40	6,6	7,6	1812	67	-	-
BS1F 1NMS 65/250A	37	50	7,7	8,7	1800	78	-	-
BS1F 1NM 80/16B/C	15	20	2,5	3,5	3391	25	-	-
BS1F 1NM 80/16A/C	18,5	25	2	3	2105	20	-	-
BS1F 1NM 80/20B	22	30	3,3	4,3	3040	34	-	-
BS1F 1NMS 80/200A	30	40	4,3	5,3	3005	44	-	-
BS1F 1NM 80/25E	22	30	3,8	4,8	2465	39	-	-
BS1F 1NMS 80/250D	30	40	4,5	6	2988	46	-	-
BS1F 1NMS 80/250C	37	50	5,5	7	3091	56	-	-
BS1F 1NMS 80/250B	45	60	6,5	8	3150	66	-	-
BS1F 1NMS 80/250A	55	75	8	9	3094	82	-	-

* Maximum pumps flow at minimum setting pressure switch.



Pressure boosting sets with 2 Centrifugal Pumps Fixed speed pump



Performance

BS2F

Mains: 400V 3~ Motor: 400V 3~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
	kW	HP	min	max	min	max	Q l/min	H m		
BS2F 2NM 32/16BE	1,5 x2	2 x2	2,2	2,8	2	2,6	580	20	500	800
BS2F 2NM 32/16A/A	2,2 x2	3 x2	2,7	3,4	2,5	3,2	483	25	500	1000
BS2F 2NM 32/20C/A	3 x2	4 x2	3,2	4,2	3	4	546	31	500	1000
BS2F 2NM 32/20A/A	4 x2	5,5 x2	4,5	5,5	4	5	254	41	750	1000
BS2F 2NMD 32/210D/A	4 x2	5,5 x2	5	7	4,5	6,5	408	46	500	500
BS2F 2NMD 32/210C/A	5,5 x2	7,5 x2	6	8	5,5	7,5	500	56	500	800
BS2F 2NMD 32/210B/A	7,5 x2	10 x2	8	10	7,5	9,5	498	76	750	1000
BS2F 2NMD 32/210A/B	9,2 x2	12,5 x2	9,5	11	9	10,5	484	92	1000	1500
BS2F 2NMD 40/180D/A	4 x2	5,5 x2	4	5,5	3,5	5	697	36	500	1000
BS2F 2NMD 40/180C/A	5,5 x2	7,5 x2	5	6,5	4,5	6	764	46	750	1500
BS2F 2NMD 40/180B/A	7,5 x2	10 x2	6,7	8,2	6,2	7,7	772	63	1000	2000
BS2F 2NMD 40/180A/B	9,2 x2	12,5 x2	7,5	9	7	8,5	764	71	1500	2000
BS2F 2NM 40/16B/B	3 x2	4 x2	1,5	2,5	1,2	2,2	1410	12	750	1500
BS2F 2NM 40/16A/B	4 x2	5,5 x2	2,4	3,4	2	3	1583	20	1000	2000
BS2F 2NM 40/20B/A	5,5 x2	7,5 x2	3,7	4,7	3,3	4,3	1227	34	1500	3000
BS2F 2NM 40/20A/A	7,5 x2	10 x2	4,4	5,4	3,9	4,9	1403	40	2000	4000
BS2F 2NM 40/25B/C	11 x2	15 x2	5,6	6,6	5,1	6,1	1452	52	3000	5000
BS2F 2NM 40/25A/C	15 x2	20 x2	7,7	8,7	7,3	8,3	1446	74	4000	-
BS2F 2NM 50/16B/B	5,5 x2	7,5 x2	1,7	2,7	1,2	2,2	2609	12	2000	4000
BS2F 2NM 50/16A/B	7,5 x2	10 x2	2,5	3,5	2	3	2665	20	3000	5000
BS2F 2NM 50/20B/C	9,2 x2	12,5 x2	3,5	4,5	3	4	2466	31	3000	5000
BS2F 2NM 50/20A/C	11 x2	15 x2	4,2	5,2	3,7	4,7	2549	38	4000	-
BS2F 2NM 50/25C/C	11 x2	15 x2	4,1	5,1	3,6	4,6	2236	37	4000	-
BS2F 2NM 50/25B/C	15 x2	20 x2	5,6	6,6	5,1	6,1	2236	52	4000	-
BS2F 2NM 50/25A/C	18,5 x2	25 x2	6,6	7,6	6,1	7,1	2426	62	5000	-
BS2F 2NM 65/16B/C	11 x2	15 x2	2,2	3,2	1,7	2,7	4254	17	4000	-
BS2F 2NM 65/16A/R	15 x2	15 x2	2,6	3,6	2,1	3,1	4111	21	5000	-
BS2F 2NM 65/16A/C	15 x2	15 x2	3,1	4,1	2,6	3,6	4228	27	5000	--
BS2F 2NM 65/20C/B	15 x2	20 x2	3	4	2,5	3,5	4422	25	-	-
BS2F 2NM 65/20B/B	18,5 x2	25 x2	3,6	4,6	3,2	4,2	4283	33	-	-
BS2F 2NM 65/20A	22 x2	30 x2	4,2	5,2	3,8	4,8	4044	39	-	-
BS2F 2NM 65/25C	22 x2	30 x2	5	6	4,6	5,6	3608	47	-	-
BS2F 2NMS 65/250B	30 x2	40 x2	6,6	7,6	6,2	7,2	2970	63	-	-
BS2F 2NMS 65/250A	37 x2	50 x2	7,7	8,7	7,3	8,3	2994	74	-	-
BS2F 2NM 80/16B/C	15 x2	20 x2	2,2	3,2	1,7	2,7	6712	20	-	-
BS2F 2NM 80/16A/C	18,5 x2	25 x2	2,8	3,8	2,3	3,3	6593	23	-	-
BS2F 2NM 80/20B	22 x2	30 x2	3,3	4,3	3	4	5836	31	-	-
BS2F 2NMS 80/200A	30 x2	40 x2	4,3	5,3	4	5	5818	41	-	-
BS2F 2NM 80/25E	22 x2	30 x2	3,8	4,8	3,2	4,2	5691	33	-	-
BS2F 2NMS 80/250D	30 x2	40 x2	4,5	6	4	5,5	6416	41	-	-
BS2F 2NMS 80/250C	37 x2	50 x2	5,5	7	5	6,5	6407	51	-	-
BS2F 2NMS 80/250B	45 x2	60 x2	6,5	8	6	7,5	6376	61	-	-
BS2F 2NMS 80/250A	55 x2	75 x2	8	9	7,5	8,5	6400	76	-	-

* Maximum pumps flow at minimum setting pressure of 2nd pressure switch.



Pressure boosting sets with 3 Centrifugal Pumps Fixed speed pump



Performance

BS3F

Mains: 400V 3~ Motor: 400V 3~	Motor		Pres. switch 1 bar		Pres. switch 2 bar		Pres. switch 3 bar		Maximum capacity *		Vessel Membrane litre	Vessel litre
	kW	HP	min	max	min	max	min	max	Q l/min	H m		
BS3F 3NM 40/16B/B	3 x3	4 x3	2	2,6	1,6	2,2	1,2	1,8	2115	12	750	1500
BS3F 3NM 40/16A/B	4 x3	5,5 x3	2,7	3,4	2,3	3	1,9	2,6	2393	19	1000	2000
BS3F 3NM 40/20B/A	5,5 x3	7,5 x3	3,9	4,7	3,5	4,3	3,1	3,9	1879	32	1500	3000
BS3F 3NM 40/20A/A	7,5 x3	10 x3	4,4	5,4	4	5	3,6	4,6	2120	37	2000	4000
BS3F 3NM 40/25B/C	11 x3	15 x3	5,6	6,6	5,2	6,2	4,8	5,8	2189	49	3000	5000
BS3F 3NM 40/25A/C	15 x3	20 x3	7,9	8,7	7,5	8,3	7,1	7,9	2155	72	4000	-
BS3F 3NM 50/16B/B	5,5 x3	7,5 x3	1,9	2,7	1,5	2,3	1,1	1,9	3971	11	2000	4000
BS3F 3NM 50/16A/B	7,5 x3	10 x3	2,7	3,5	2,3	3,1	1,9	2,7	4039	19	3000	5000
BS3F 3NM 50/20B/C	9,2 x3	12,5 x3	3,5	4,5	3	4	2,5	3,5	3894	25	3000	5000
BS3F 3NM 50/20A/C	11 x3	15 x3	4,2	5,2	3,7	4,7	3,2	4,2	3903	33	4000	-
BS3F 3NM 50/25C/C	11 x3	15 x3	4,1	5,1	3,6	4,6	3,1	4,1	3524	32	4000	-
BS3F 3NM 50/25B/C	15 x3	20 x3	5,6	6,6	5,1	6,1	4,6	5,6	3497	47	4000	-
BS3F 3NM 50/25A/C	18,5 x3	25 x3	6,7	7,7	6,3	7,3	5,9	6,9	3563	60	5000	-
BS3F 3NM 65/16B/C	11 x3	15 x3	2,2	3,2	1,9	2,9	1,6	2,6	6128	16	4000	-
BS3F 3NM 65/16A/R	15 x3	20 x3	2,6	3,6	2,3	3,3	2	3	5831	20	5000	-
BS3F 3NM 65/16A/C	15 x3	20 x3	3,1	4,1	2,8	3,8	2,5	3,5	6053	25	5000	-
BS3F 3NM 65/20C/B	15 x3	20 x3	3	4	2,7	3,7	2,4	3,4	6622	24	-	-
BS3F 3NM 65/20B/B	18,5 x3	25 x3	3,6	4,6	3,3	4,3	3	4	6090	31	-	-
BS3F 3NM 65/20A	22 x3	30 x3	4,2	5,2	3,9	4,9	3,6	4,6	5410	37	-	-
BS3F 3NM 65/25C	22 x3	30 x3	5	6	4,7	5,7	4,4	5,4	5290	45	-	-
BS3F 3NMS 65/250B	30 x3	40 x3	6,6	7,6	6,3	7,3	6	7	3590	61	-	-
BS3F 3NMS 65/250A	37 x3	50 x3	7,7	8,7	7,4	8,4	7,1	8,1	3651	72	-	-
BS3F 3NM 80/16B/C	15 x3	20 x3	2,2	3,2	1,9	2,9	1,6	2,6	7854	16	-	-
BS3F 3NM 80/16A/C	18,5 x3	25 x3	2,8	3,8	2,5	3,5	2,2	3,2	8027	22	-	-
BS3F 3NM 80/20B	22 x3	30 x3	3,3	4,3	3,1	4,1	2,9	3,9	8491	30	-	-
BS3F 3NMS 80/200A	30 x3	40 x3	4,3	5,3	4,1	5,1	3,9	4,9	8488	40	-	-
BS3F 3NM 80/25E	22 x3	30 x3	3,8	4,8	3,4	4,4	3	4	8818	31	-	-
BS3F 3NMS 80/250D	30 x3	40 x3	5	6	4,5	5,5	4	5	9625	41	-	-
BS3F 3NMS 80/250C	37 x3	50 x3	6	7	5,5	6,5	5	6	9610	51	-	-
BS3F 3NMS 80/250B	45 x3	60 x3	7	8	6,5	7,5	6	7	9564	61	-	-
BS3F 3NMS 80/250A	55 x3	75 x3	8	9	7,6	8,6	7,2	8,2	9323	73	-	-

* Maximum pumps flow at minimum setting pressure of 3rd pressure switch.



Pressure boosting sets with 1 to 3 Centrifugal Pumps
Fixed speed pump or **Variable speed pump (frequency converter)**



Performance

BS..

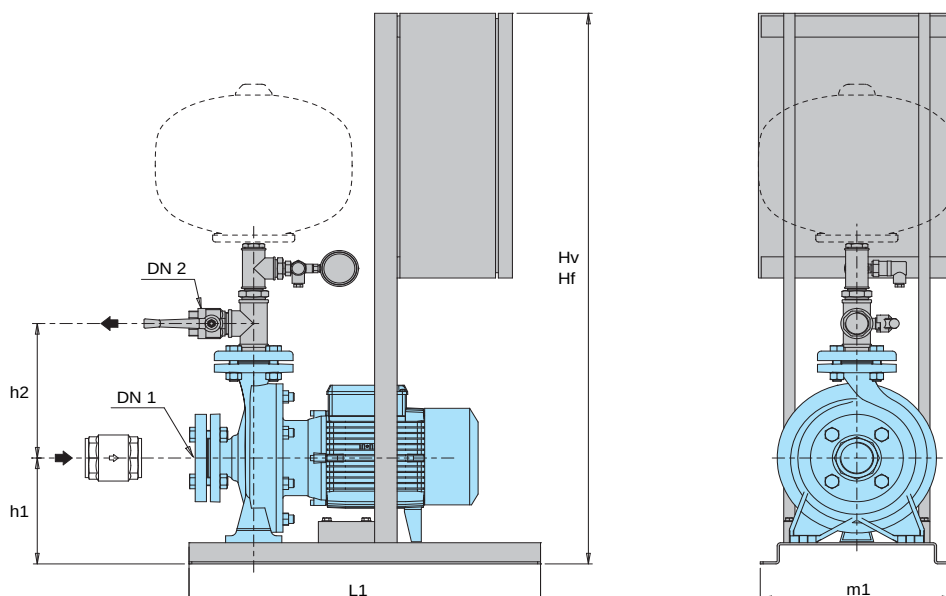
PUMPS Nos						PUMP TYPE	P ₂ For each pump	
1	2	3	4	5	6		kW	HP
BS1V	BS2V BS1V1F	BS3V BS1V2F	BS4V BS1V3F	BS5V BS1V4F	BS6V BS1V5F	NM 32/16BE	1,5	2
						NM 32/16A/A	2,2	3
						NM 32/20C/A	3	4
						NM 32/20A/A	4	5,5
						NMD 32/210D/A	4	5,5
						NMD 32/210C/A	5,5	7,5
						NMD 32/210B/A	7,5	10
						NMD 32/210A/B	9,2	12,5
						NMD 40/180D/A	4	5,5
						NMD 40/180C/A	5,5	7,5
						NMD 40/180B/A	7,5	10
						NMD 40/180A/B	9,2	12,5
						NM 40/16B/B	3	4
						NM 40/16A/B	4	5,5
						NM 40/20B/A	5,5	7,5
						NM 40/20A/A	7,5	10
						NM 40/25B/C	11	15
						NM 40/25A/C	15	20
						NM 50/16B/B	5,5	7,5
						NM 50/16A/B	7,5	10
						NM 50/20B/C	9,2	12,5
						NM 50/20A/C	11	15
						NM 50/25C/C	11	15
						NM 50/25B/C	15	20
						NM 50/25A/C	18,5	25
						NM 65/16B/C	11	15
						NM 65/16A/R	15	20
						NM 65/16A/C	15	20
						NM 65/20C/B	15	20
						NM 65/20B/B	18,5	25
						NM 65/20A	22	30
						NM 65/25C	22	30
						NMS 65/250B	30	40
						NMS 65/250A	37	50
						NM 80/16B/C	15	20
						NM 80/16A/C	18,5	25
						NM 80/20B	22	30
						NMS 80/200A	30	40
						NM 80/25E	22	30
						NMS 80/250D	30	40
						NMS 80/250C	37	50
						NMS 80/250B	45	60
						NMS 80/250A	55	75

BS. NM

Pressure boosting sets with 1 to 3 Centrifugal Pumps
Fixed speed pump or **Variable speed pump (frequency converter)**

calpeda[®]

Dimensions



		Connection		mm					weight kg
				Hv	Hf	h1	L1	m1	
BS1F 1NM 32/16BE	G 2	G 1	1045	875	175	625	365		
BS1F 1NM 32/16A/A									
BS1F 1NM 32/20C/A									
BS1F 1NM 32/20A/A	G 2	G 1 1/4	1045	875	205	625	365		
BS1F 1NMD 32/210D/A									
BS1F 1NMD 32/210C/A									
BS1F 1NMD 32/210B/A	G 2	G 1 1/2	1045	875	135	625	365		
BS1F 1NMD 32/210A/B									
BS1F 1NMD 40/180D/A									
BS1F 1NMD 40/180C/A	G 2	G 1 1/2	1045	875	155	625	365		
BS1F 1NMD 40/180B/A									
BS1F 1NMD 40/180A/B									
BS1F 1NM 40/16B/B	G 2 1/2	G 1 1/2	1045	875	175	625	365		
BS1F 1NM 40/16A/B									
BS1F 1NM 40/20B/A									
BS1F 1NM 40/20A/A	G 2 1/2	G 1 1/2	1145	875 1145	205	625	365		
BS1F 1NM 40/25B/C									
BS1F 1NM 40/25A/C									
BS1F 1NM 50/16B/B	G 2 1/2	G 2	-	-	-	-	-		
BS1F 1NM 50/16A/B									
BS1F 1NM 50/20B/C									
BS1F 1NM 50/20A/C	G 2 1/2	G 2	-	-	-	-	-		
BS1F 1NM 50/25C/C									
BS1F 1NM 50/25B/C									
BS1F 1NM 50/25A/C	G 2 1/2	G 2	-	-	-	-	-		
BS1F 1NM 65/16B/C									
BS1F 1NM 65/16A/R									
BS1F 1NM 65/16A/C	G 3	G 2 1/2	-	-	-	-	-		
BS1F 1NM 65/20C/B									
BS1F 1NM 65/20B/B									
BS1F 1NM 65/20A	G 3	G 2 1/2	-	-	-	-	-		
BS1F 1NM 65/25C									
BS1F 1NMS 65/250B									
BS1F 1NMS 65/250A	G 3	G 2 1/2	-	-	-	-	-		
BS1F 1NMS 80/16B/C									
BS1F 1NM 80/16A/C									
BS1F 1NM 80/20B	100	80	-	-	-	-	-		
BS1F 1NMS 80/200A	100	80	-	-	-	-	-		
BS1F 1NM 80/25E									
BS1F 1NMS 80/250D									
BS1F 1NMS 80/250C	100	80	-	-	-	-	-		
BS1F 1NMS 80/250B									
BS1F 1NMS 80/250A									

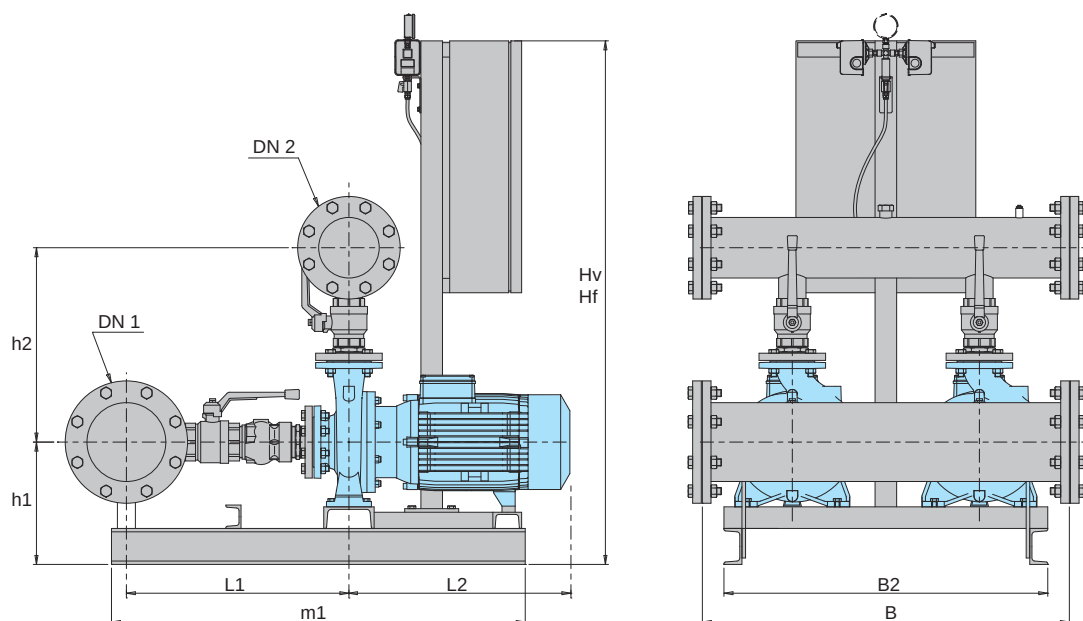
* Cabinet version

BS. NM

Pressure boosting sets with 1 to 3 Centrifugal Pumps
Fixed speed pump or Variable speed pump (frequency converter)

calpeda[®]

Dimensions



TYPE	Connection		mm										weight kg
	DN 1	DN 2	Hf	Hv	h1	h2	L1	L2	m1	B	B2		
BS2.. 2NM 32/16BE	G 3	G 21/2	830	1210	165	345	385	330	235	600	625		
BS2.. 2NM 32/16A/A			830	1210	165			370					
BS2.. 2NM 32/20C/A	G 3	G 21/2	830	1210	195	365	385	395	235	600	625		
BS2.. 2NM 32/20A/A			830	1210	195			395					
BS2.. 2NMD 32/210D/A	G 3	G 21/2	890	1270	245	380	460	420	550	700	800		
BS2.. 2NMD 32/210C/A			890	1370	272			440					
BS2.. 2NMD 32/210B/A			1370	1370	272			440					
BS2.. 2NMD 32/210A/B			1370	1670	307			515					
BS2.. 2NMD 40/180D/A	G 3	G 21/2	890	1270	245	460	475	415	550	700	800		
BS2.. 2NMD 40/180C/A			890	1370	272			435					
BS2.. 2NMD 40/180B/A			1370	1370	272			435					
BS2.. 2NMD 40/180A/B			1370	1670	307			510					
BS2.. 2NM 40/16B/B	100	80	830	1210	187	380	480	395	550	820	800		
BS2.. 2NM 40/16A/B			830	1210	187			395					
BS2.. 2NM 40/20B/A	100	80	830	1310	215	400	500	425	550	820	800		
BS2.. 2NM 40/20A/A			1310	1310	215			425					
BS2.. 2NM 40/25B/C	100	80	1455	1755	340	440	500	540	-	820	-		
BS2.. 2NM 40/25A/C			1455	1755	240			615					
BS2.. 2NM 50/16B/B	125	100	975	1455	315	435	515	425	-	820	-		
BS2.. 2NM 50/16A/B			1455	1455	215			425					
BS2.. 2NM 50/20B/C	125	100	1455	1755	315	455	515	540	-	820	-		
BS2.. 2NM 50/20A/C			1455	1755	215			540					
BS2.. 2NM 50/25C/C	125	100	1455	1755	340	480	515	545	-	820	-		
BS2.. 2NM 50/25B/C			1455	1755	240			620					
BS2.. 2NM 50/25A/C			1455	1855	240			620					
BS2.. 2NM 65/16B/C			1455	1755	320			540					
BS2.. 2NM 65/16A/R	200	150	1455	1755	320	525	625	540	-	1020	-		
BS2.. 2NM 65/16A/C			1455	1755	220			615					
BS2.. 2NM 65/20C/B	200	150	1455	1755	340	550	625	615	-	1020	-		
BS2.. 2NM 65/20B/B			1455	1855	240			615					
BS2.. 2NM 65/20A			1655	1855	260			725					
BS2.. 2NM 65/25C			1655	1855	360			725					
BS2.. 2NMS 65/250B	200	150	1655	1855	260	575	625	725	-	1200	-		
BS2.. 2NMS 65/250A			1855	1600*	310			975					
BS2.. 2NM 80/16B/C	250	200	1455	1755	340	615	730	620	-	1050	-		
BS2.. 2NM 80/16A/C			1455	1855	240			620					
BS2.. 2NM 80/20B	250	200	1655	1855	360	640	730	725	-	1050	-		
BS2.. 2NMS 80/200A			1655	1855	260			725					
BS2.. 2NM 80/25E	250	200	1655	1855	360	670	730	725	-	1200	-		
BS2.. 2NMS 80/250D			1655	1855	260			725					
BS2.. 2NMS 80/250C			1855	1600*	310			975					
BS2.. 2NMS 80/250B			1400*	2100*	310			1040					
BS2.. 2NMS 80/250A			1400*	2100*	310			1110					
BS2.. 2NMS 80/250A													

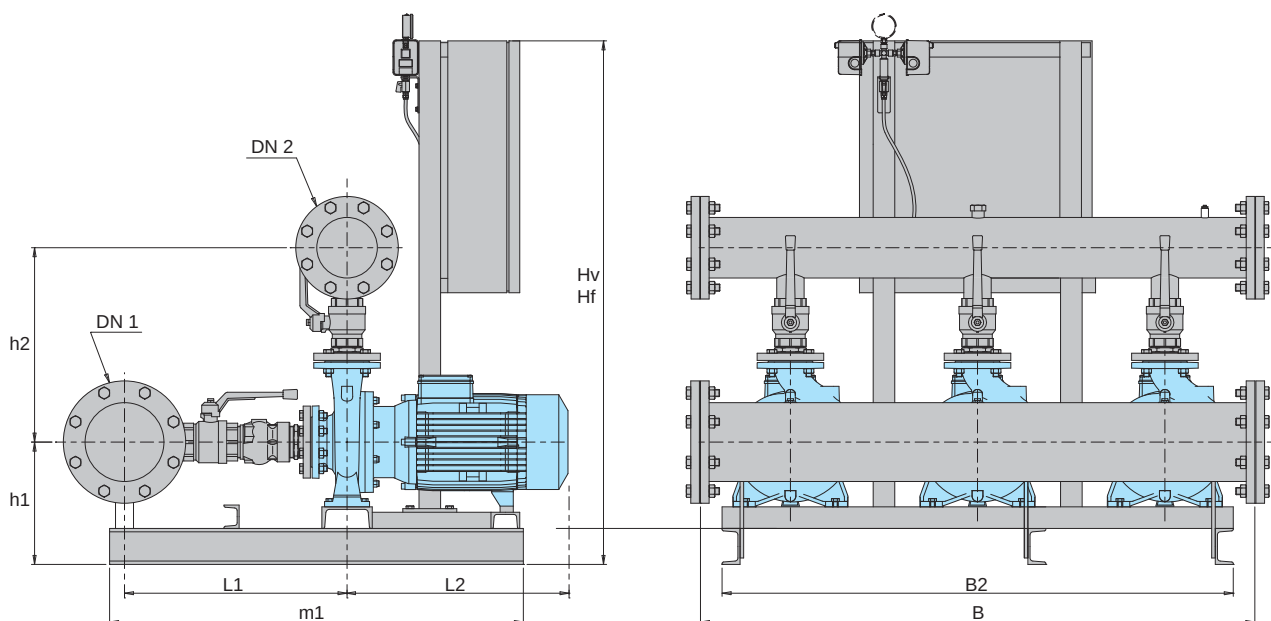
* Cabinet version

BS. NM

Pressure boosting sets with 1 to 3 Centrifugal Pumps
Fixed speed pump or Variable speed pump (frequency converter)

calpeda[®]

Dimensions



TYPE	Connection		mm										weight
	DN 1	DN 2	Hf	Hv	h1	h2	L1	L2	m1	B	B2	kg	
BS3.. 3NM 40/16B/B	125	100	830	1310	187	390	495	395	550	1340	800	kg	
BS3.. 3NM 40/16A/B			830	1310	187			395					
BS3.. 3NM 40/20B/A			830	1610	215			425					
BS3.. 3NM 40/20A/A	125	100	1410	1610	215	410	515	425	550	1340	800		
BS3.. 3NM 40/25B/B			1555	1700*	340			540					
BS3.. 3NM 40/25A/B			1555	1700*	240			615					
BS3.. 3NM 50/16B/B	150	125	975	1755	315	448	525	425	-	1340	-		
BS3.. 3NM 50/16A/B			1555	1755	215			425					
BS3.. 3NM 50/20B/B			1555	1700*	315			540					
BS3.. 3NM 50/20A/B	150	125	1555	1700*	215	468	525	540	-	1340	-		
BS3.. 3NM 50/25C/B			1555	1700*	340			545					
BS3.. 3NM 50/25B/B			1555	1700*	240			620					
BS3.. 3NM 50/25A/B	150	125	1755	1700*	240	493	525	620	-	1540	-		
BS3.. 3NM 50M/E/A			1555	1700*	317			545					
BS3.. 3NM 50M/D/A			1555	1700*	217			620					
BS3.. 3NM 50M/C/A	200	150	1755	1700*	217	508	760	620	-	1540	-		
BS3.. 3NM 65/16B/A			1555	1700*	320			540					
BS3.. 3NM 65/16A/A			1555	1700*	220			615					
BS3.. 3NM 65/20C/A	250	200	1555	1700*	340	580	650	615	-	1540	-		
BS3.. 3NM 65/20B/A			1755	1700*	240			615					
BS3.. 3NM 65/200A/A			1855	1700*	260			725					
BS3.. 3NM 65/250C/A	250	200	1855	1700*	360	605	650	725	-	1900	-		
BS3.. 3NM 65/250B/A			1855	1700*	260			725					
BS3.. 3NMS 65/250A			1545	-	310			975					
BS3.. 3NM 80/16B/A	300 ⁽¹⁾	250	1555	1700*	340	645	755	620	-	1900	-		
BS3.. 3NM 80/16A/A			1755	1700*	240			620					
BS3.. 3NM 80/200B/A	300 ⁽¹⁾	250	1855	1700*	360	670	755	725	-	1900	-		
BS3.. 3NM 80/200A/A			1855	1700*	260			725					
BS3.. 3NM 80/250E/A	300 ⁽¹⁾	250	1855	1700*	360	700	755	725	-	1900	-		
BS3.. 3NM 80/250D/A			1855	1700*	260			725					
BS3.. 3NMS 80/250C			1400*	-	310			975					
BS3.. 3NMS 80/250B			1400*	-	310			1040					
BS3.. 3NMS 80/250A			1400*	-	310			1110					

⁽¹⁾ Only on request

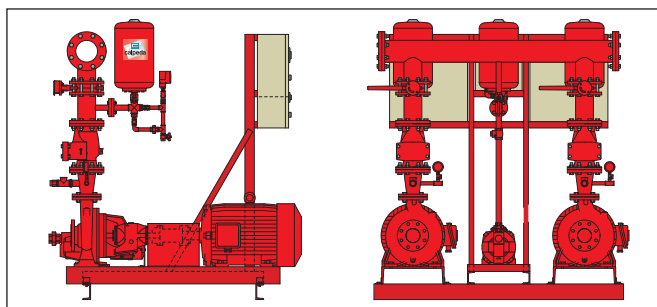
* Cabinet version

AUE, AUD, AUED

UNI-EN 12845 fire-fighting systems



INDEX



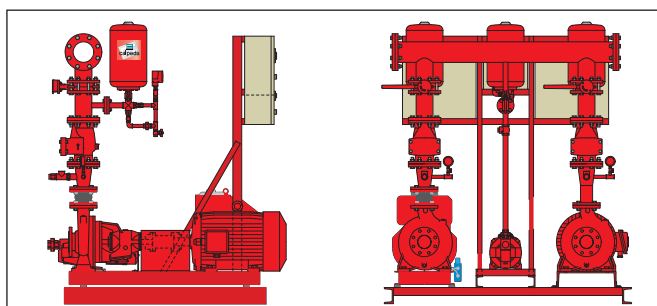
AUE 11

UNI-EN 12845 units with 1 **N** series electric main pump

pag. 576

AUE 21

UNI-EN 12845 units with 2 **N series** electric main pumps



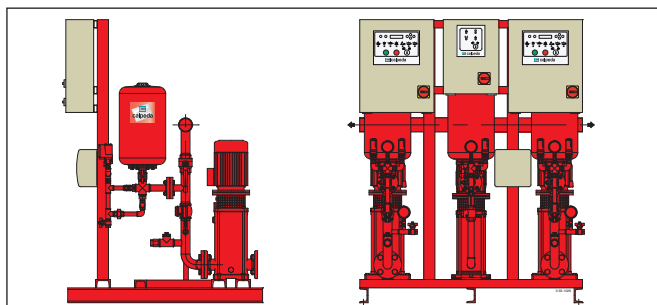
AUD 11

UNI-EN 12845 units with 1 **N** series main pump (diesel motor)

pag. 581

AUED 21

UNI-EN 12845 units with 2 **N** series main pumps
(electric and diesel motors)



AUE 11

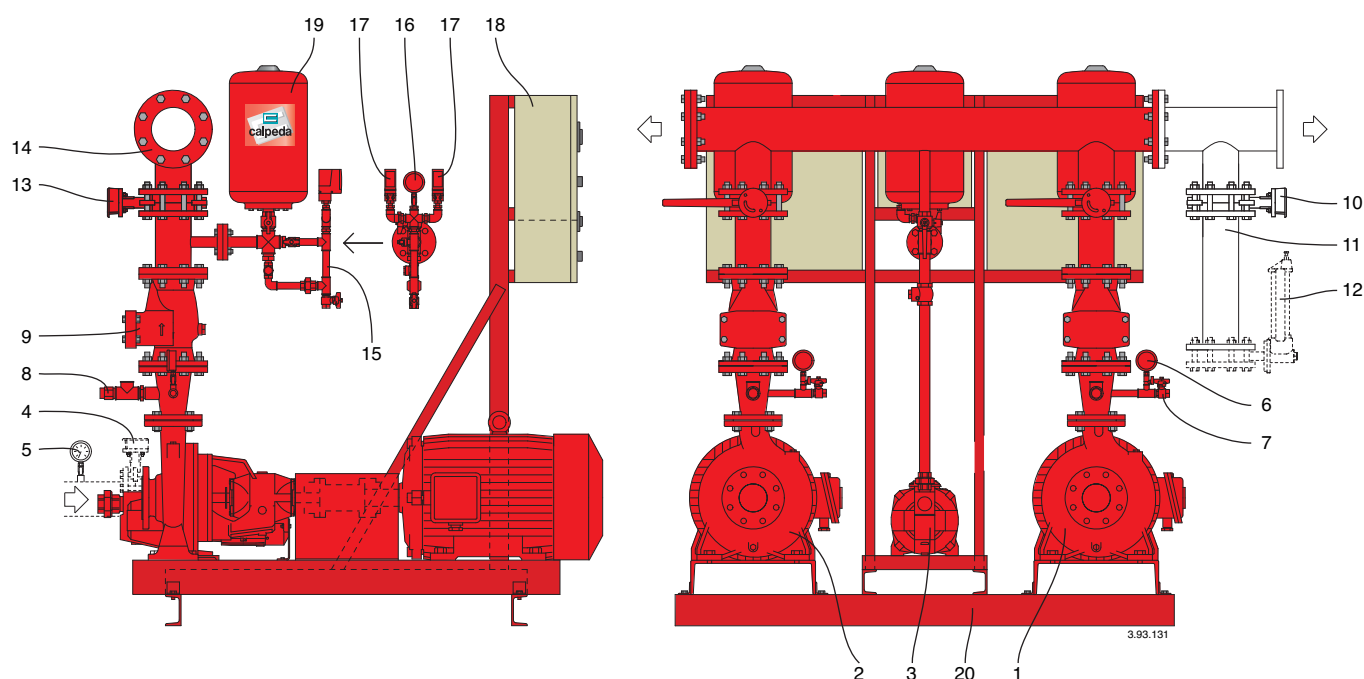
UNI-EN 12845 units with 1 **MXV** series multi-stage vertical electric main pump

pag. 586

AUE 21

UNI-EN 12845 units with 2 **MXV** series multi-stage vertical electric main pumps

Construction



- 1) Main pump
- 2) Main pump
- 3) Jockey pump
- 4) Butterfly valve in suction section (on request only for installation with positive head)
- 5) Vacuometer
- 6) Pressure gauge in delivery section
- 7) Ball valve for draining
- 8) Adjusted diaphragm
- 9) Non-return valve (accessible)
- 10) Butterfly valve for capacity-check system (on request)
- 11) Manifold for flow meter (on request)
- 12) Flow meter (on request)
- 13) Butterfly valve or ball valve in delivery section
- 14) Delivery manifold
- 15) Test circuit (manual) (one for each pump)
- 16) Pressure gauge
- 17) Starting pressure switches of main pumps
Starting pressure switch to stop jockey pump
- 18) Electric boxes (one for each pump)
- 19) Diaphragm tanks
- 20) Steel base for all pumps

All the butterfly valves or ball valve are locked in the normal position by means of a lock and key.
On request: anti-vibration couplings in both the suction and delivery sections.

Construction

Units constructed in accordance with UNI-EN 12845 standards for automatic fire-fighting systems (with sprinkler) and according to UNI 10779 for fire-fighting systems with fire hydrants.

The units may be composed of 1 or 2 main pumps.

Units are fitted with a jockey pump, with which the system pressure level can be maintained without having to start the main pumps.

Application

For feeding water to automatic fire-fighting systems and units with hydrants.

Operation

The pumps start operating after a fall in the pressure level in the fire-extinguishing system.

The first pump to be triggered is the jockey pump.

If this pump cannot restore the pressure level, the main pump starts. When there is more than one main pump, the pumps start in cascade sequence, with the starting pressure switches set at different pressure levels.

The pressure switches of the main pumps are used only for starting, as the pumps must be stopped manually for UNI-EN 12845 units or automatically with a timer for UNI 10779 sets.

The recirculation diaphragm allows for operation of the main pumps also when the delivery port is closed (with no consumption of water in the system), avoiding overheating of the water inside the pump body.

Weekly test (on request)

The programmable clock in the electric box controls the forced starting of the main pump (electric driven pump only).

The diaphragm avoids overheating of the water in the pump body.

Pumps

Main pumps

The main pumps can be :

N series: single stage horizontal centrifugal pumps

NMD series: centrifugal pumps with two impellers

MXV series: multistage vertical centrifugal pumps

SD-SDS- SDX series: submersible centrifugal borehole pumps

The N series centrifugal pumps are coupled with the electric or diesel motor through a bearing coupling. This solution allows to operate on the hydraulic part without moving the motor.

Jockey pump

Jockey pump can be a self-priming jet pump, a centrifugal pump with two impellers, a vertical multistage pump or a submersible borehole pump.

The maximum pressure developed by the jockey pump is always greater than the pressure of the main pumps.

Motors

Two-pole induction type, 50 Hz, n = 2,900 rpm

Three-phase 230/400V ± 10% up to 3 kW

400/690V ± 10% 4 kW and higher.

Insulation class F

Protection IP 54 for close coupled pumps, IP 55 for pumps with coupling and IP 68 for submersible borehole pumps.

Construction in accordance with: IEC 60034

Other voltage and frequency ratings available on request

Diesel motors (for standardised N-series pumps)

These are direct-injection pumps fitted with electric control box, fuel tank, starter batteries and silencer.

Hydraulic components

Each main pump is fitted with:

- Pressure and vacuum gauge in the suction section.
- Butterfly valve in the suction section (on request only for installation with positive suction head).
- Pressure gauge in the delivery section.
- Adjusted diaphragm.
- Pressure switch to indicate the pump is operating.
- Non-return valve of the accessible swing-type.
- Butterfly valve in the delivery section.
- Manual test circuit with pressure switches, pressure gauge, non-return valve and ball valve and cylindrical 20-liter (15 bar) tank (one for each pump).

The jockey pump is fitted with:

- Ball valve in the suction section (on request only if the pump has a positive suction head).
- Non-return valve and ball valve in the delivery section.
- Manual test circuit with pressure switch, pressure gauge, non-return valve and ball valve and cylindrical 20-liter (15 bar) tank (one for each pump).

Other components:

- Delivery manifold.
- Coupling for connection of a priming tank (only for the pumps installed with positive suction head).
- The suction manifold is never supplied as such execution is forbidden by the standards.
- The units with vertical multistage pumps and submersible borehole pumps with pressure higher than 6-7 bar are fitted with an adjustable safety valve to release the overpressure.

On request:

- Manifold for flow meter.
- Adjusted-flange, diaphragm type, flow meter.

Electric boxes

Electric main-pump box (electric motor)

Each main pump has its own electric control board housed in a metal cabinet with IP54 protection. The box contains the devices required for operation and control of the pump.

Motor starting is direct for power ratings up to 7.5 kW.

For motors with a rating equal to or higher than 11 kW pump starting is of the Y/Δ type with fuses, contactors and timer.

On request:

programmable clock for the weekly test.

Timer for pumps stop after 20 minutes (UNI 10779)

The following devices are located on the internal door panel:

- Line-sectioning handle - Voltmeter and ammeter with switch
- "Manual-0-Automatic" selector with extractible key only in "automatic" position - Start/Stop pushbuttons - Pilot lights to indicate: no-volt, pump running, voltage on.

Electric main-pump box (diesel motor)

This cabinet contains the electronic control devices for the control of the diesel motor and the battery chargers for feeding the starter accumulators.

The following devices are located on the front of the box:

- Line-sectioning handle.
- Front panel of the electronic unit.
- Manual-0-Automatic selector with extractible key only an "automatic" position.

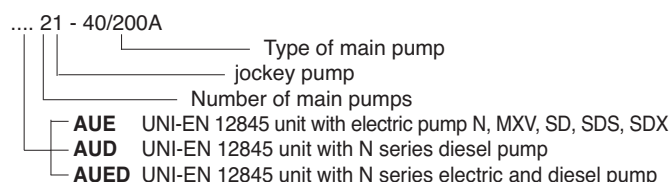
Electric jockey-pump box

When installed, the jockey pump is fitted with its own electric panel, metal housing with IP 54 protection.

Control box (on request).

To be installed in a place to be looked after, to signal any possible failure of the unit state. It must be connected to V.220 and it gives an acoustic and visual signal for 24 hours.

Designation of units



Control panels

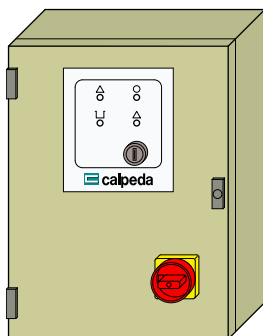
UNI-EN 12845 fire-fighting systems

www.calpeda-romania.ro 0722.244.944
www.infinity-pumps.ro 0734.789.888

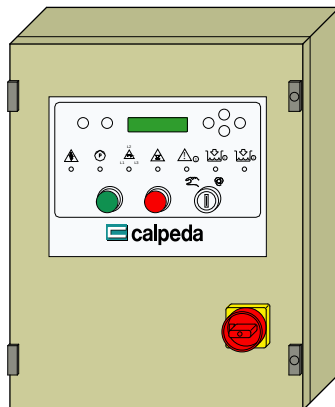


Control panels

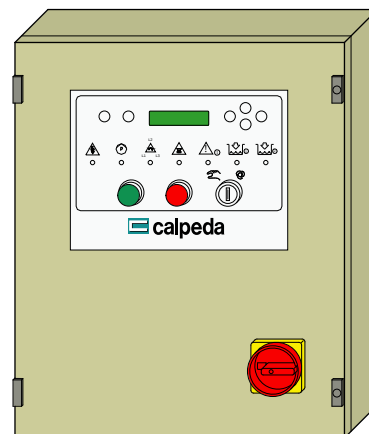
QTPAN 1,1-1,5-5,5 kW
Jockey pumps control panel



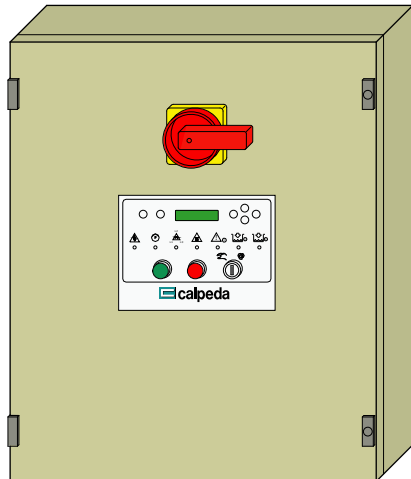
QTPAN 1D 2,2÷5,5 kW
Main pump control panel
(D.O.L. starting)



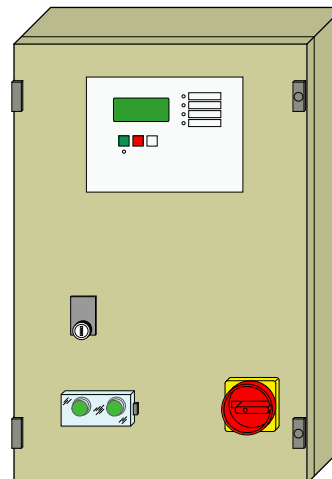
QTPAN 1ST 9,2÷45 kW
Main pump control panel
(Y/Δ starting)



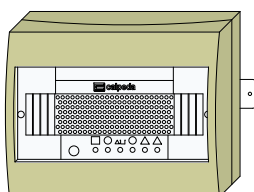
QTPAN 1ST 55÷75 kW
Main pump control panel (Y/Δ starting)



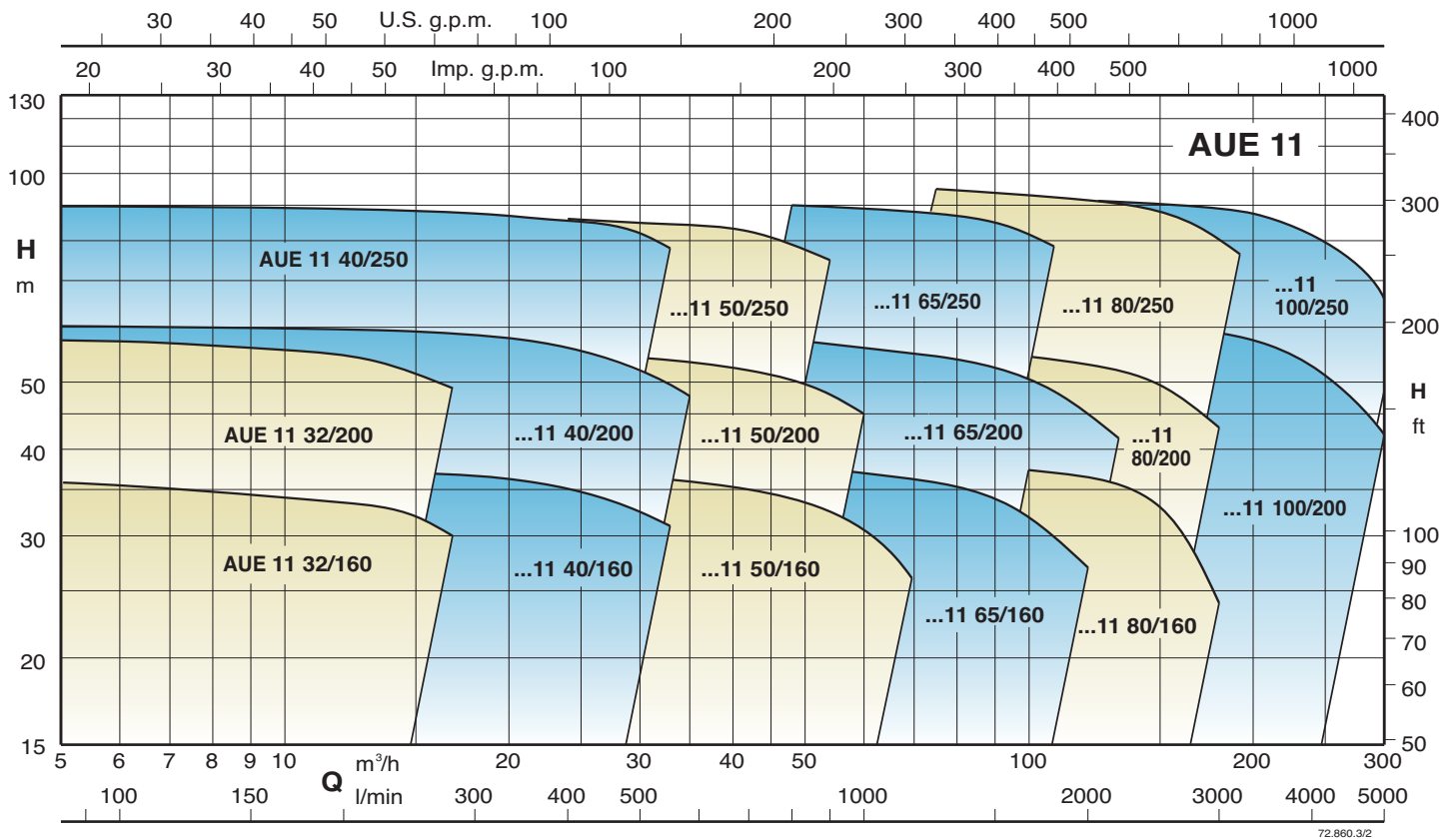
QANM 1
Main pump control panel (diesel motor)



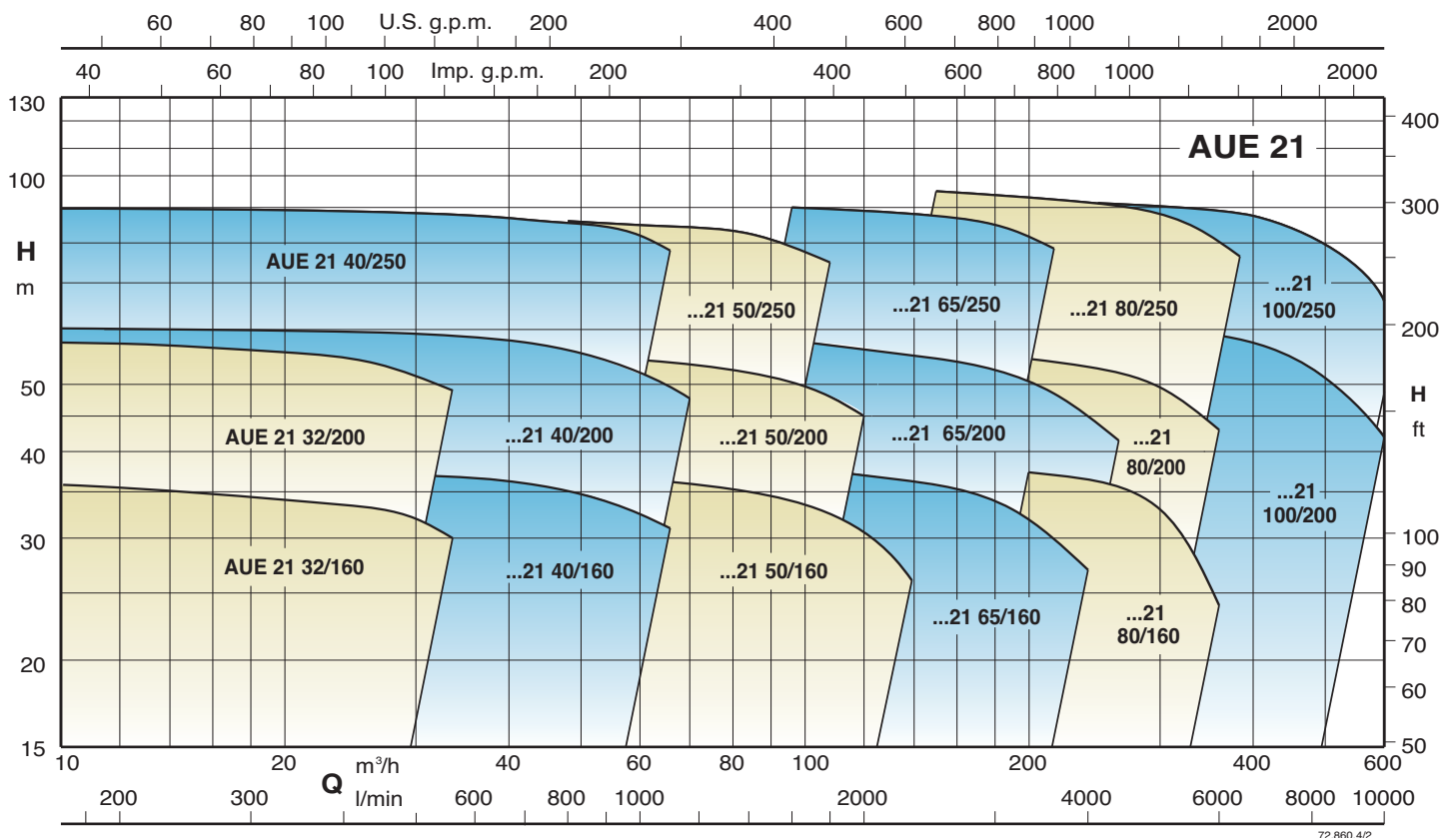
QACR 11-21
Control panel for remote control



With 1 electric pump



With 2 electric pumps



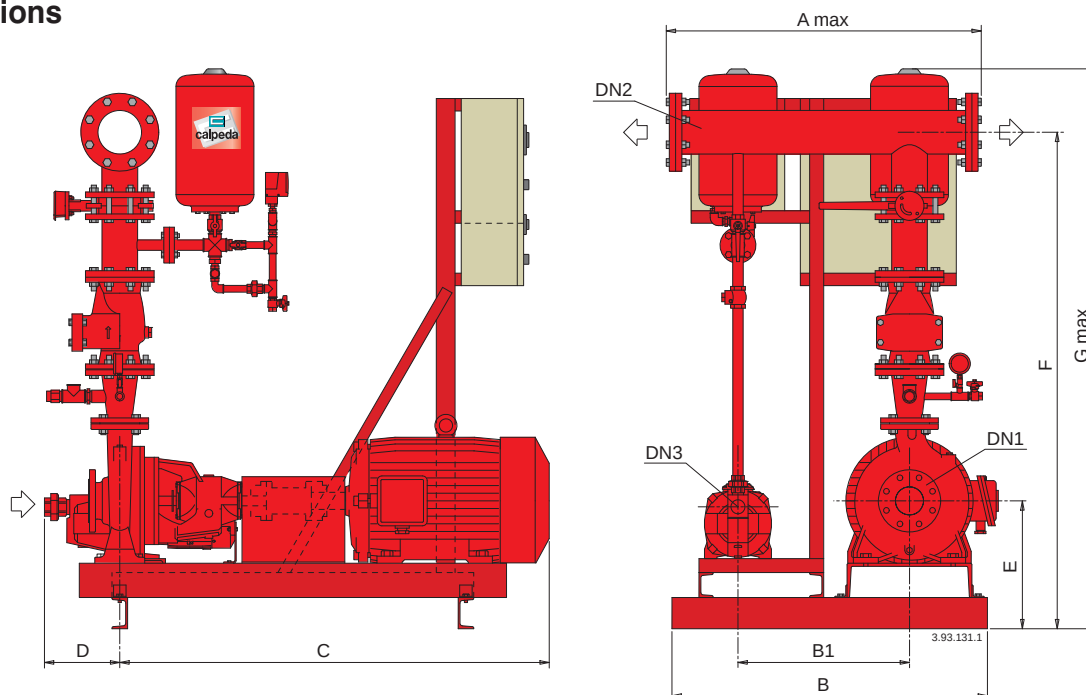
Performance

Unit designation		Power kW	Average capacity pump		Max. capacity pump		Pressure switch settings	
Main pump	Jockey pump		m ³ /h	m	m ³ /h	m	Main pump bar	Jockey pump bar
AUE 11 - 32/160A/A	NG 5/18E	3 + 1,1	12	34	16,8	30	2,7 ÷ 3,3	3 ÷ 3,6
AUE 11 - 32/200C/A	NG 5/16E	4 + 1,1	12	41	16,8	36	3,6 ÷ 4,2	4 ÷ 4,7
AUE 11 - 32/200A/A	NG 6/18E	5,5 + 1,5	12	54,5	16,8	49	4,7 ÷ 5,4	5 ÷ 5,7
AUE 11 - 40/160B/A	NG 5/22E	4 + 1,1	28,5	32,5	42	14	1,8 ÷ 2,5	2,2 ÷ 2,9
AUE 11 - 40/160A/A	NG 5/18E	5,5 + 1,1	32	30	48	17	2,3 ÷ 3	2,8 ÷ 3,5
AUE 11 - 40/200D/A	NG 5/18E	5,5 + 1,1	26,5	33	37,8	14	2,8 ÷ 3,4	3,3 ÷ 4
AUE 11 - 40/200B/A	NG 5/16E	7,5 + 1,1	26,5	44	37,8	30,5	3,6 ÷ 4,3	3,9 ÷ 4,6
AUE 11 - 40/200A/A	NG 6/18E	11 + 1,5	29	51	42	35	4,3 ÷ 5	4,6 ÷ 5,3
AUE 11 - 40/250C/A	NG 6/18E	11 + 1,5	28,5	55	42	33,5	4,5 ÷ 5,3	4,8 ÷ 5,6
AUE 11 - 40/250B/A	NG 7/18/A	15 + 2,2	28,5	64,5	42	45	5,5 ÷ 6,3	5,8 ÷ 6,6
AUE 11 - 40/250A/A	NG 7/16/A	18,5 + 2,2	28,5	86	42	70,5	7,6 ÷ 8,2	8 ÷ 8,6
AUE 11 - 50/160B/A	NG 5/22E	7,5 + 1,1	55,5	23	81	9,5	1,5 ÷ 2,2	1,8 ÷ 2,5
AUE 11 - 50/160A/A	NG 5/18E	11 + 1,1	55,5	32	81	19	2,3 ÷ 3	2,6 ÷ 3,3
AUE 11 - 50/200B/A	NG 5/16E	11 + 1,1	51	41,5	78	23	3,3 ÷ 4	3,6 ÷ 4,3
AUE 11 - 50/200A/A	NG 6/18E	15 + 1,5	51	49	78	32,5	4 ÷ 4,7	4,3 ÷ 5
AUE 11 - 50/200S/A	NG 6/18E	18,5 + 1,5	51	54,5	78	37	4,6 ÷ 5,2	5 ÷ 5,7
AUE 11 - 50/250C/A	NG 5/16E	15 + 1,1	46,5	48,5	69	24,5	3,5 ÷ 4,2	3,8 ÷ 4,5
AUE 11 - 50/250B/A	NG 7/18/A	18,5 + 2,2	46,5	62	69	43	5 ÷ 5,6	5,4 ÷ 6
AUE 11 - 50/250A/A	NG 7/16/A	22 + 2,2	46,5	75	69	58,5	6,5 ÷ 7,2	6,8 ÷ 7,5
AUE 11 - 65/160B/B	NG 5/18E	15 + 1,1	90	30	132	23	2,4 ÷ 3	2,8 ÷ 3,5
AUE 11 - 65/160AR	NG 5/18E	18,5 + 1,1	90	34	132	27	2,8 ÷ 3,4	3,2 ÷ 3,8
AUE 11 - 65/160A/B	NG 5/18E	18,5 + 1,1	90	38	132	32	3,2 ÷ 3,8	3,5 ÷ 4,2
AUE 11 - 65/200C/A	NG 5/16E	18,5 + 1,1	90	38,5	132	27	3,4 ÷ 4	3,8 ÷ 4,5
AUE 11 - 65/200B/A	NG 5/16E	22 + 1,1	90	45,5	132	35	3,9 ÷ 4,5	4,3 ÷ 5
AUE 11 - 65/200A/A	NG 6/18E	30 + 1,5	90	52	132	41,5	4,5 ÷ 5,2	5 ÷ 5,6
AUE 11 - 65/250C/A	NG 7/18/A	30 + 2,2	78	59	108	50	5,4 ÷ 6	5,8 ÷ 6,5
AUE 11 - 65/250B/A	NG 7/16/A	37 + 2,2	78	76	108	67	7 ÷ 7,6	7,4 ÷ 8
AUE 11 - 65/250A/A	NMD 25/190A/A	45 + 4	78	87	108	78	7,8 ÷ 8,5	8,3 ÷ 9
AUE 11 - 80/160B/B	NG 5/18E	18,5 + 1,1	134	31	192	22	2,4 ÷ 3	2,8 ÷ 3,5
AUE 11 - 80/160A/B	NG 5/18E	22 + 1,1	134	36	192	28	2,8 ÷ 3,4	3,3 ÷ 3,9
AUE 11 - 80/200B/A	NG 6/18E	30 + 1,5	128	42	180	32	3,5 ÷ 4,2	4 ÷ 4,7
AUE 11 - 80/200A/A	NG 6/18E	37 + 1,5	128	52	180	43	4,5 ÷ 5,2	5 ÷ 5,7
AUE 11 - 80/250E/A	NG 6/18E	30 + 1,5	128	43	180	29	4,1 ÷ 4,7	4,5 ÷ 5,1
AUE 11 - 80/250D/A	NG 7/18/A	37 + 2,2	134	56	192	41	5,5 ÷ 6,1	5,9 ÷ 6,5
AUE 11 - 80/250C/A	NG 7/16/A	45 + 2,2	134	67	192	51	6,3 ÷ 6,9	6,8 ÷ 7,4
AUE 11 - 80/250B/A	NG 7/16/A	55 + 2,2	134	78	192	63	7,2 ÷ 7,9	7,8 ÷ 8,4
AUE 11 - 80/250A/A	NMD 25/190A/A	75 + 4	134	90	192	76	8,3 ÷ 9	8,8 ÷ 9,4
AUE 11 - 100/200E/A	NG 5/22E	22 + 1,1	174	26	240	19	2 ÷ 2,6	2,4 ÷ 3
AUE 11 - 100/200D/A	NG 6/22E	30 + 1,5	189	31	270	19	2,5 ÷ 3,2	3 ÷ 3,7
AUE 11 - 100/200C/A	NG 7/22/A	37 + 2,2	204	39	300	22	3,5 ÷ 4,1	3,9 ÷ 4,6
AUE 11 - 100/200B/A	NG 7/18/A	45 + 2,2	204	48	300	32	4,4 ÷ 5	4,8 ÷ 5,5
AUE 11 - 100/200A/A	NG 7/18/A	55 + 2,2	204	57	300	42	4,8 ÷ 5,5	5,4 ÷ 6
AUE 11 - 100/250B/A	NG 7/16/A	75 + 2,2	204	65	300	48	6 ÷ 6,8	6,6 ÷ 7,3
AUE 11 - 100/250A/A	NMD 25/190A/A	92 + 4	204	85	300	67	7,8 ÷ 8,5	8,2 ÷ 9

Performance

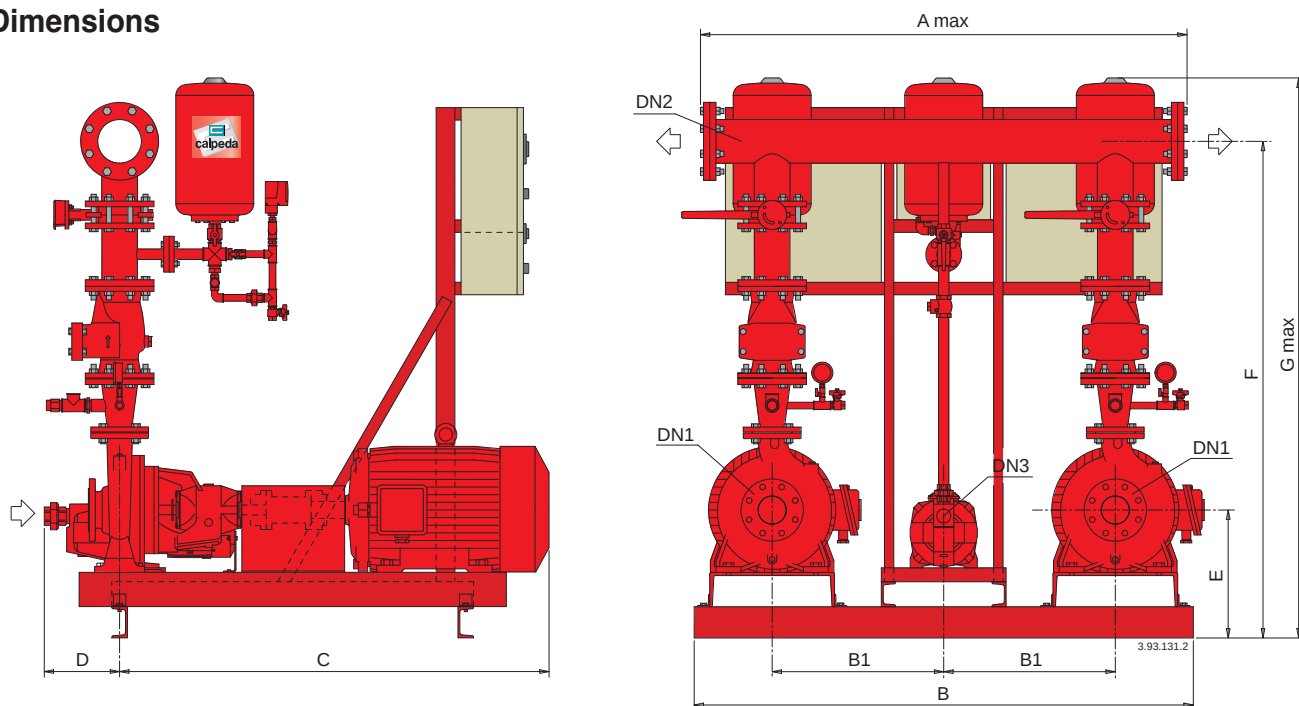
Unit designation		Power	Average capacity of one pump		Max. capacity of one pump		Pressure switch settings		
							Main pump 1 bar	Main pump 2 bar	Jockey pump
Main pump	Jockey pump	kW	m³/h	m	m³/h	m			bar
AUE 21 - 32/160A/A	NG 5/18E	3 + 3 +1,1	12	34	16,8	30	2,7 ÷ 3,3	2,3 ÷ 2,9	3 ÷ 3,6
AUE 21 - 32/200C/A	NG 5/16E	4 + 4 + 1,1	12	41	16,8	36	3,6 ÷ 4,2	3,2 ÷ 3,8	4 ÷ 4,7
AUE 21 - 32/200A/A	NG 6/18E	5,5+5,5+1,5	12	54,5	16,8	49	4,7 ÷ 5,4	4,3 ÷ 5	5 ÷ 5,7
AUE 21 - 40/160B/A	NG 5/22E	4 + 4 + 1,1	28,5	32,5	42	14	1,8 ÷ 2,5	1,5 ÷ 2,3	2,2 ÷ 2,9
AUE 21 - 40/160A/A	NG 5/18E	5,5+5,5+1,1	32	30	48	17	2,3 ÷ 3	2 ÷ 2,7	2,8 ÷ 3,5
AUE 21 - 40/200D/A	NG 5/18E	5,5+5,5+1,1	26,5	31	37,8	14	2,8 ÷ 3,4	2,4 ÷ 3	3,3 ÷ 4
AUE 21 - 40/200B/A	NG 5/16E	7,5+7,5+1,1	26,5	44	37,8	30,5	3,6 ÷ 4,3	3,3 ÷ 4	3,9 ÷ 4,6
AUE 21 - 40/200A/A	NG 6/18E	11 + 11 + 1,5	29	51	42	35	4,3 ÷ 5	4 ÷ 4,7	4,6 ÷ 5,3
AUE 21 - 40/250C/A	NG 6/18E	11 + 11 + 1,5	28,5	55	42	33,5	4,5 ÷ 5,3	4,2 ÷ 5,1	4,8 ÷ 5,6
AUE 21 - 40/250B/A	NG 7/18/A	15 + 15 + 2,2	28,5	64,5	42	45	5,5 ÷ 6,3	5,2 ÷ 6,3	5,8 ÷ 6,6
AUE 21 - 40/250A/A	NG 7/16/A	18,5+18,5+2,2	28,5	86	42	70,5	7,6 ÷ 8,2	7,2 ÷ 7,8	8 ÷ 8,6
AUE 21 - 50/160B/A	NG 5/12E	7,5+7,5+1,1	55,5	23	81	9,5	1,5 ÷ 2,2	1,2 ÷ 1,9	1,8 ÷ 2,5
AUE 21 - 50/160A/A	NG 5/18E	11 + 11 + 1,1	55,5	32	81	19	2,3 ÷ 3	2 ÷ 2,7	2,6 ÷ 3,3
AUE 21 - 50/200B/A	NG 5/16E	11 + 11 + 1,1	51	41,5	78	23	3,3 ÷ 4	3 ÷ 3,7	3,6 ÷ 4,3
AUE 21 - 50/200A/A	NG 6/18E	15 + 15 + 1,5	51	49	78	32,5	4 ÷ 4,7	3,7 ÷ 4,4	4,3 ÷ 5
AUE 21 - 50/200S/A	NG 6/18E	18,5+18,5+1,5	51	54,5	78	37	4,6 ÷ 5,2	4,2 ÷ 4,8	5 ÷ 5,7
AUE 21 - 50/250C/A	NG 5/16E	15 + 15 + 1,1	46,5	48,5	69	24,5	3,5 ÷ 4,2	3,2 ÷ 3,9	3,8 ÷ 4,5
AUE 21 - 50/250B/A	NG 7/18/A	18,5+18,5+2,2	46,5	62	69	43	5 ÷ 5,6	4,7 ÷ 5,3	5,4 ÷ 6
AUE 21 - 50/250A/A	NG 7/16/A	22 + 22 + 2,2	46,5	75	69	58,5	6,5 ÷ 7,2	6,2 ÷ 6,9	6,8 ÷ 7,5
AUE 21 - 65/160B/B	NG 5/18E	15 + 15 + 1,1	90	30	132	23	2,4 ÷ 3	2 ÷ 2,6	2,8 ÷ 3,5
AUE 21 - 65/160AR	NG 5/18E	18,5+18,5+1,1	90	34	132	27	2,8 ÷ 3,4	2,4 ÷ 3	3,2 ÷ 3,8
AUE 21 - 65/160A/B	NG 5/18E	18,5+18,5+1,1	90	38	132	32	3,2 ÷ 3,8	2,8 ÷ 3,4	3,5 ÷ 4,2
AUE 21 - 65/200C/A	NG 5/16E	18,5+18,5+1,1	90	38,5	132	27	3,4 ÷ 4	3 ÷ 3,6	3,8 ÷ 4,5
AUE 21 - 65/200B/A	NG 5/16E	22 + 22 + 1,1	90	45,5	132	35	3,9 ÷ 4,5	3,5 ÷ 4,1	4,3 ÷ 5
AUE 21 - 65/200A/A	NG 6/18E	30 + 30 + 1,5	90	52	132	41,5	4,5 ÷ 5,2	4,1 ÷ 4,8	5 ÷ 5,6
AUE 21 - 65/250C/A	NG 7/18/A	30 + 30 + 2,2	78	59	108	50	5,4 ÷ 6	5 ÷ 5,6	5,8 ÷ 6,5
AUE 21 - 65/250B/A	NG 7/16/A	37 + 37 + 2,2	78	76	108	67	7 ÷ 7,6	6,6 ÷ 7,2	7,4 ÷ 8
AUE 21 - 65/250A/A	NMD 25/190A/A	45 + 45 + 4	78	87	108	78	7,8 ÷ 8,5	7,4 ÷ 8,1	8,3 ÷ 9
AUE 21 - 80/160B/B	NG 5/18E	18,5+18,5+1,1	134	31	192	22	2,4 ÷ 3	2 ÷ 2,6	2,8 ÷ 3,5
AUE 21 - 80/160A/B	NG 5/18E	22 + 22 + 1,1	134	36	192	28	2,8 ÷ 3,4	2,4 ÷ 3	3,3 ÷ 3,9
AUE 21 - 80/200B/A	NG 6/18E	30 + 30 + 1,5	128	42	180	32	3,5 ÷ 4,2	3,1 ÷ 3,8	4 ÷ 4,7
AUE 21 - 80/200A/A	NG 6/18E	37 + 37 + 1,5	128	52	180	43	4,5 ÷ 5,2	4,1 ÷ 4,8	5 ÷ 5,7
AUE 21 - 80/250E/A	NG 6/18E	30 + 30 + 1,5	128	43	180	29	4,1 ÷ 4,7	3,7 ÷ 4,3	4,5 ÷ 5,1
AUE 21 - 80/250D/A	NG 7/18/A	37 + 37 + 2,2	134	56	192	41	5,5 ÷ 6,1	5,1 ÷ 5,7	5,9 ÷ 6,5
AUE 21 - 80/250C/A	NG 7/16/A	45 + 45 + 2,2	134	67	192	51	6,3 ÷ 6,9	5,9 ÷ 6,5	6,8 ÷ 7,4
AUE 21 - 80/250B/A	NG 7/16/A	55 + 55 + 2,2	134	78	192	63	7,2 ÷ 7,9	6,8 ÷ 7,5	7,8 ÷ 8,4
AUE 21 - 80/250A/A	NMD 25/190A/A	75 + 75 + 4	134	90	192	76	8,3 ÷ 9	7,9 ÷ 8,6	8,8 ÷ 9,4
AUE 21 - 100/200E/A	NG 5/22E	22 + 22 + 1,1	174	26	240	19	2 ÷ 2,6	1,6 ÷ 2,2	2,4 ÷ 3
AUE 21 - 100/200D/A	NG 6/22E	30 + 30 + 1,5	189	31	270	19	2,5 ÷ 3,2	2,1 ÷ 2,8	3 ÷ 3,7
AUE 21 - 100/200C/A	NG 7/22/A	37 + 37 + 2,2	204	39	300	22	3,5 ÷ 4,1	3,1 ÷ 3,7	3,9 ÷ 4,6
AUE 21 - 100/200B/A	NG 7/18/A	45 + 45 + 2,2	204	48	300	32	4,4 ÷ 5	4 ÷ 4,6	4,8 ÷ 5,5
AUE 21 - 100/200A/A	NG 7/18/A	55 + 55 + 2,2	204	57	300	42	4,8 ÷ 5,5	4,4 ÷ 5,1	5,4 ÷ 6
AUE 21 - 100/250B/A	NG 7/16/A	75 + 75 + 2,2	204	65	300	48	6 ÷ 6,8	5,6 ÷ 6,4	6,6 ÷ 7,3
AUE 21 - 100/250A/A	NMD 25/190A/A	92 + 92 + 4	204	85	300	67	7,8 ÷ 8,5	7,4 ÷ 8,1	8,2 ÷ 9

Dimensions



Unit designation		Connections			Dimensions mm							
Main pump	Jockey pump	DN 1	DN 2	DN 3	A	B	B1	C	D	E	F	G
AUE 11 - 32/160A/A	NG 5/18E	50	G2	G 1 1/2	750	900	500	835	240	317	1150	1500
AUE 11 - 32/200C/A	NG 5/16E	50	G2	G 1 1/2	750	900	500	855	240	345	1200	1500
AUE 11 - 32/200A/A	NG 6/18E							915		360	1215	
AUE 11 - 40/160B/A	NG 5/22E	65	65	G 1 1/2	800	900	500	835	240	317	1290	1530
AUE 11 - 40/160A/A	NG 5/18E							855				
AUE 11 - 40/200D/A	NG 5/18E	65	65	G 1 1/2	800	950	500	855	240	360	1355	1600
AUE 11 - 40/200B/A	NG 5/16E							915				
AUE 11 - 40/200A/A	NG 6/18E							1065				
AUE 11 - 40/250C/A	NG 6/18E	65	65	G 1 1/2	800	950	500	955	240	380	1420	1660
AUE 11 - 40/250B/A	NG 7/18/A							1060				
AUE 11 - 40/250A/A	NG 7/16/A							1060				
AUE 11 - 50/160B/A	NG 5/22E	65	80	G 1 1/2	850	950	550	915	240	360	1380	1615
AUE 11 - 50/160A/A	NG 5/18E							1065				
AUE 11 - 50/200B/A	NG 5/16E	65	80	G 1 1/2	850	1000	550	955	240	360	1400	1635
AUE 11 - 50/200A/A	NG 6/18E							1060				
AUE 11 - 50/200S/A	NG 6/18E							1060				
AUE 11 - 50/250C/A	NG 5/16E	65	80	G 1 1/2	850	1000	550	1060	240	380	1445	1700
AUE 11 - 50/250B/A	NG 7/18/A							1060				
AUE 11 - 50/250A/A	NG 7/16/A							1100				
AUE 11 - 65/160B/B	NG 5/18E	80	100	G 1 1/2	850	1000	550	1060	240	360	1480	1700
AUE 11 - 65/160AR	NG 5/18E							1060				
AUE 11 - 65/160A/B	NG 5/18E							1060				
AUE 11 - 65/200C/A	NG 5/16E	80	100	G 1 1/2	850	1000	550	1100	240	380	1525	1740
AUE 11 - 65/200B/A	NG 5/16E							1140				
AUE 11 - 65/200A/A	NG 6/18E							1140				
AUE 11 - 65/250C/A	NG 7/18/A	80	100	G 1 1/2	850	1050	550	1275	240	410	1580	1795
AUE 11 - 65/250B/A	NG 7/16/A							1375				
AUE 11 - 65/250A/A	NMD 25/190A/A							1375				
AUE 11 - 80/160B/B	NG 5/18E	100	125	G 1 1/2	950	1000	550	1100	250	380	1640	1840
AUE 11 - 80/160A/B	NG 5/18E							1140				
AUE 11 - 80/200B/A	NG 6/18E	100	125	G 1 1/2	950	1000	550	1275	250	380	1675	1875
AUE 11 - 80/200A/A	NG 6/18E							1375				
AUE 11 - 80/250E/A	NG 6/18E	100	125	G 1 1/2	950	1050	550	1275	250	410	1725	1925
AUE 11 - 80/250D/A	NG 7/18/A				950			1375		410	1725	1925
AUE 11 - 80/250C/A	NG 7/16/A				950			1375		410	1725	1925
AUE 11 - 80/250B/A	NG 7/16/A				950			1415		485	1800	2000
AUE 11 - 80/250A/A	NMD 25/190A/A				1050			1530		515	1830	2030
AUE 11 - 100/200E/A	NG 5/22E	125	150	G 1 1/2	1300	1200	700	1250	260	410	1805	1990
AUE 11 - 100/200D/A	NG 6/22E							1275		410	1805	1990
AUE 11 - 100/200C/A	NG 7/22/A							1375		410	1805	1990
AUE 11 - 100/200B/A	NG 7/18/A							1375		410	1805	1990
AUE 11 - 100/200A/A	NG 7/18/A							1415		485	1880	2065
AUE 11 - 100/250B/A	NG 7/16/A	125	150	G 1 1/2	1300	1200	700	1530	260	515	1910	2095
AUE 11 - 100/250A/A	NMD 25/190A/A							1620		605	2000	2185

Dimensions



Unit designation		Connections			Dimensions mm							
Main pump	Jockey pump	DN 1	DN 2	DN 3	A	B	B1	C	D	E	F	G
AUE 21 - 32/160A/A	NG 5/18E	50	65	G 1 1/2	1200	1350	450	835	240	317	1160	1500
AUE 21 - 32/200C/A	NG 5/16E	50	65	G 1 1/2	1200	1350	450	855	240	345	1210	1500
AUE 21 - 32/200A/A	NG 6/18E							915		360	1225	
AUE 21 - 40/160B/A	NG 5/22E	65	80	G 1 1/2	1200	1350	450	835	240	317	1295	1530
AUE 21 - 40/160A/A	NG 5/18E							855				
AUE 21 - 40/200D/A	NG 5/18E	65	80	G 1 1/2	1200	1350	450	855	240	360	1360	1600
AUE 21 - 40/200B/A	NG 5/16E							915				
AUE 21 - 40/200A/A	NG 6/18E							915				
AUE 21 - 40/250C/A	NG 6/18E	65	80	G 1 1/2	1200	1550	450	955	240	380	1425	1660
AUE 21 - 40/250B/A	NG 7/18/A							1060				
AUE 21 - 40/250A/A	NG 7/16/A							1060				
AUE 21 - 50/160B/A	NG 5/12E	65	100	G 1 1/2	1400	1500	550	915	240	360	1395	1615
AUE 21 - 50/160A/A	NG 5/18E											
AUE 21 - 50/200B/A	NG 5/16E	65	100	G 1 1/2	1400	1500	550	955	240	360	1415	1635
AUE 21 - 50/200A/A	NG 6/18E							1060				
AUE 21 - 50/200S/A	NG 6/18E							1060				
AUE 21 - 50/250C/A	NG 5/16E	65	100	G 1 1/2	1400	1550	550	1060	240	380	1460	1700
AUE 21 - 50/250B/A	NG 7/18/A							1060				
AUE 21 - 50/250A/A	NG 7/16/A							1100				
AUE 21 - 65/160B/B	NG 5/18E	80	125	G 1 1/2	1500	1550	550	1060	240	360	1495	1700
AUE 21 - 65/160AR	NG 5/18E											
AUE 21 - 65/160A/B	NG 5/18E											
AUE 21 - 65/200C/A	NG 5/16E	80	125	G 1 1/2	1500	1550	550	1100	240	380	1540	1740
AUE 21 - 65/200B/A	NG 5/16E							1140				
AUE 21 - 65/200A/A	NG 6/18E							1140				
AUE 21 - 65/250C/A	NG 7/18E	80	125	G 1 1/2	1500	1550	550	1275	240	410	1595	1795
AUE 21 - 65/250B/A	NG 7/16/A							1375				
AUE 21 - 65/250A/A	NMD 25/190A/A							1375				
AUE 21 - 80/160B/B	NG 5/18E	100	150	G 1 1/2	1500	1550	550	1100	250	380	1655	1840
AUE 21 - 80/160A/B	NG 5/18E							1140				
AUE 21 - 80/200B/A	NG 6/18E	100	150	G 1 1/2	1500	1550	550	1275	250	380	1690	1875
AUE 21 - 80/200A/A	NG 6/18E							1375				
AUE 21 - 80/250E/A	NG 6/18E	100	150	G 1 1/2	1500	1800	550	1275	250	410	1740	1925
AUE 21 - 80/250D/A	NG 7/18/A							1375		410	1740	1925
AUE 21 - 80/250C/A	NG 7/16/A							1275		410	1740	1925
AUE 21 - 80/250B/A	NG 7/16/A							1415		485	1815	2000
AUE 21 - 80/250A/A	NMD 25/190A/A							1530		515	1845	2030
AUE 21 - 100/200E/A	NG 5/22E	125	200	G 1 1/2	1500	1800	550	1250	260	410	1830	1990
AUE 21 - 100/200D/A	NG 6/22E							1275		410	1830	1990
AUE 21 - 100/200C/A	NG 7/22/A							1375		410	1830	1990
AUE 21 - 100/200B/A	NG 7/18/A							1375		410	1830	1990
AUE 21 - 100/200A/A	NG 7/18/A							1415		485	1905	2065
AUE 21 - 100/250B/A	NG 7/16/A	125	200	G 1 1/2	1500	1800	550	1530	260	515	1935	2095
AUE 21 - 100/250A/A	NMD 25/190A/A							1620		665	2155	2325

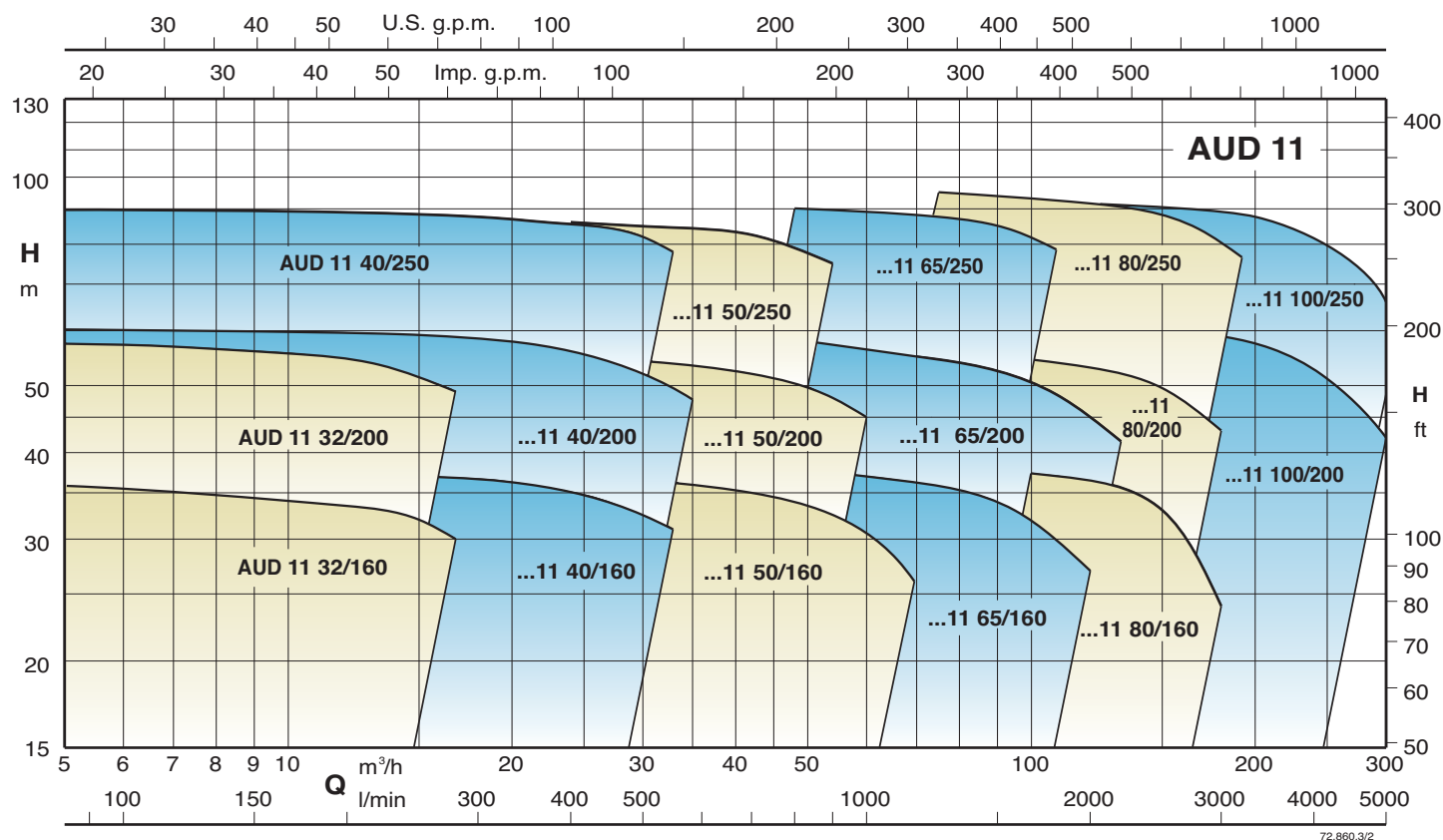
AUD - AUED

UNI-EN 12845 fire-fighting systems

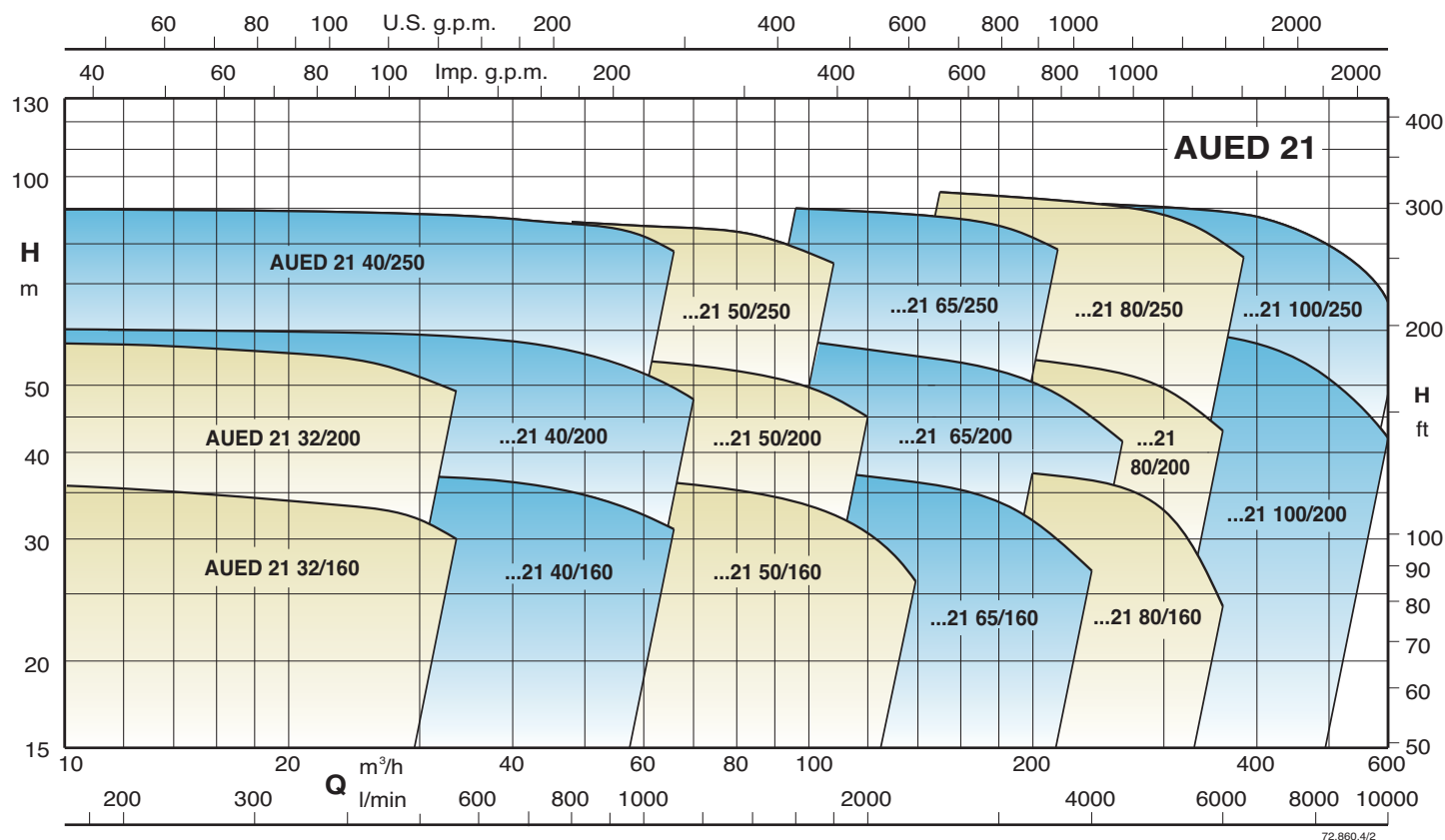
www.calpeda-romania.ro 0722.244.944
www.infinity-pumps.ro 0734.789.888



With 1 pump (diesel motor)



With 2 pumps (electric and diesel motors)



Performance

Unit designation		Power	Average capacity pump		Max. capacity pump		Pressure switch settings	
			m³/h	m	m³/h	m	Main pump bar	Jockey pump bar
Main pump	Jockey pump	kW						
AUD 11 - 32/160A/A	NG 5/18E	4,2 / 2900	12	34	16,8	30	2,7 ÷ 3,3	3 ÷ 3,6
AUD 11 - 32/200C/A	NG 5/16E	4,2 / 2900	12	41	16,8	36	3,6 ÷ 4,2	4 ÷ 4,7
AUD 11 - 32/200A/A	NG 6/18E	6,1 / 2900	12	54,5	16,8	49	4,7 ÷ 5,4	5 ÷ 5,7
AUD 11 - 40/160B/A	NG 5/12E	4,2 / 2900	28,5	32,5	42	14	1,8 ÷ 2,5	2,2 ÷ 2,9
AUD 11 - 40/160A/A	NG 5/18E	6,1 / 2900	32	30	48	17	2,3 ÷ 3	2,8 ÷ 3,5
AUD 11 - 40/200D/A	NG 5/18E	6,1 / 2900	26,5	31	37,8	14	2,8 ÷ 3,4	3,3 ÷ 4
AUD 11 - 40/200B/A	NG 5/16E	6,8 / 2900	26,5	44	37,8	30,5	3,6 ÷ 4,3	3,9 ÷ 4,6
AUD 11 - 40/200A/A	NG 6/18E	10,5 / 2900	29	51	42	35	4,3 ÷ 5	4,6 ÷ 5,3
AUD 11 - 40/250C/A	NG 6/18E	10,5 / 2900	28,5	55	42	33,5	4,5 ÷ 5,3	4,8 ÷ 5,6
AUD 11 - 40/250B/A	NG 7/18/A	17,5 / 2900	28,5	64,5	42	45	5,5 ÷ 6,3	5,8 ÷ 6,6
AUD 11 - 40/250A/A	NG 7/16/A	26,2 / 2900	28,5	86	42	70,5	7,6 ÷ 8,2	8 ÷ 8,6
AUD 11 - 50/160B/A	NG 5/22E	6,1 / 2900	55,5	23	81	9,5	1,5 ÷ 2,2	1,8 ÷ 2,5
AUD 11 - 50/160A/A	NG 5/18E	10,5 / 2900	55,5	32	81	19	2,3 ÷ 3	2,6 ÷ 3,3
AUD 11 - 50/200B/A	NG 5/16E	10,5 / 2900	51	41,5	78	23	3,3 ÷ 4	3,6 ÷ 4,3
AUD 11 - 50/200A/A	NG 6/18E	17,5 / 2900	51	49	78	32,5	4 ÷ 4,7	4,3 ÷ 5
AUD 11 - 50/200S/A	NG 6/18E	17,5 / 2900	51	54,5	78	37	4,6 ÷ 5,2	5 ÷ 5,7
AUD 11 - 50/250C/A	NG 5/16E	17,5 / 2900	46,5	48,5	69	24,5	3,5 ÷ 4,2	3,8 ÷ 4,5
AUD 11 - 50/250B/A	NG 7/18/A	26,2 / 2900	46,5	62	69	43	5 ÷ 5,6	5,4 ÷ 6
AUD 11 - 50/250A/A	NG 7/16/A	26,2 / 2900	46,5	75	69	58,5	6,5 ÷ 7,2	6,8 ÷ 7,5
AUD 11 - 65/160B/B	NG 5/18E	17,5 / 2900	90	30	132	23	2,4 ÷ 3	2,8 ÷ 3,5
AUD 11 - 65/160AR	NG 5/18E	26,2 / 2900	90	36	132	27	2,8 ÷ 3,4	3,2 ÷ 3,8
AUD 11 - 65/160A/B	NG 5/18E	26,2 / 2900	90	38	132	32	3,2 ÷ 3,8	3,6 ÷ 4,2
AUD 11 - 65/200C/A	NG 5/16E	26,2 / 2900	90	38,5	132	27	3,4 ÷ 4	3,8 ÷ 4,5
AUD 11 - 65/200B/A	NG 5/16E	26,2 / 2900	90	45,5	132	35	3,9 ÷ 4,5	4,3 ÷ 5
AUD 11 - 65/200A/A	NG 6/18E	32,5 / 2900	90	52	132	41,5	4,5 ÷ 5,2	5 ÷ 5,6
AUD 11 - 65/250C/A	NG 7/18/A	32,5 / 2900	78	59	108	50	5,4 ÷ 6	5,8 ÷ 6,5
AUD 11 - 65/250B/A	NG 7/16/A	48 / 2900	78	76	108	67	7 ÷ 7,6	7,4 ÷ 8
AUD 11 - 65/250A/A	NMD 25/190A/A	48 / 2900	78	87	108	78	7,8 ÷ 8,5	8,3 ÷ 9
AUD 11 - 80/160B/B	NG 5/18E	17,5 / 2900	134	31	192	22	2,4 ÷ 3	2,8 ÷ 3,5
AUD 11 - 80/160A/B	NG 5/18E	26,2 / 2900	134	36	192	28	2,8 ÷ 3,4	3,3 ÷ 3,9
AUD 11 - 80/200B/A	NG 6/18E	26,2 / 2900	128	42	180	32	3,5 ÷ 4,2	4 ÷ 4,7
AUD 11 - 80/200A/A	NG 6/18E	32,5 / 2900	128	52	180	43	4,5 ÷ 5,2	5 ÷ 5,7
AUD 11 - 80/250E/A	NG 6/18E	26,2 / 2900	128	43	180	29	4,1 ÷ 4,7	4,5 ÷ 5,1
AUD 11 - 80/250D/A	NG 7/18E	32,5 / 2900	134	60	192	41	5,5 ÷ 6,1	5,9 ÷ 6,5
AUD 11 - 80/250C/A	NG 7/16/A	48 / 2900	134	67	192	51	6,3 ÷ 6,9	6,8 ÷ 7,4
AUD 11 - 80/250B/A	NG 7/16/A	61 / 2900	134	78	192	63	7,2 ÷ 7,9	7,8 ÷ 8,4
AUD 11 - 80/250A/A	NMD 25/190A/A	61 / 2900	134	90	192	76	8,3 ÷ 9	8,8 ÷ 9,4
AUD 11 - 100/200E/A	NG 5/22E	26,2 / 2900	174	26	240	19	2 ÷ 2,6	2,4 ÷ 3
AUD 11 - 100/200D/A	NG 6/22E	26,2 / 2900	189	31	270	19	2,5 ÷ 3,2	3 ÷ 3,7
AUD 11 - 100/200C/A	NG 7/22/A	32,5 / 2900	204	39	300	22	3,5 ÷ 4,1	3,9 ÷ 4,6
AUD 11 - 100/200B/A	NG 7/18/A	48 / 2900	204	48	300	32	4,4 ÷ 5	4,8 ÷ 5,5
AUD 11 - 100/200A/A	NG 7/18/A	61 / 2900	204	57	300	42	4,8 ÷ 5,5	5,4 ÷ 6
AUD 11 - 100/250B/A	NG 7/16/A	61 / 2900	204	65	300	48	6 ÷ 6,8	6,6 ÷ 7,3
AUD 11 - 100/250A/A	NMD 25/190A/A	93,5 / 2900	204	85	300	67	7,8 ÷ 8,5	8,2 ÷ 9

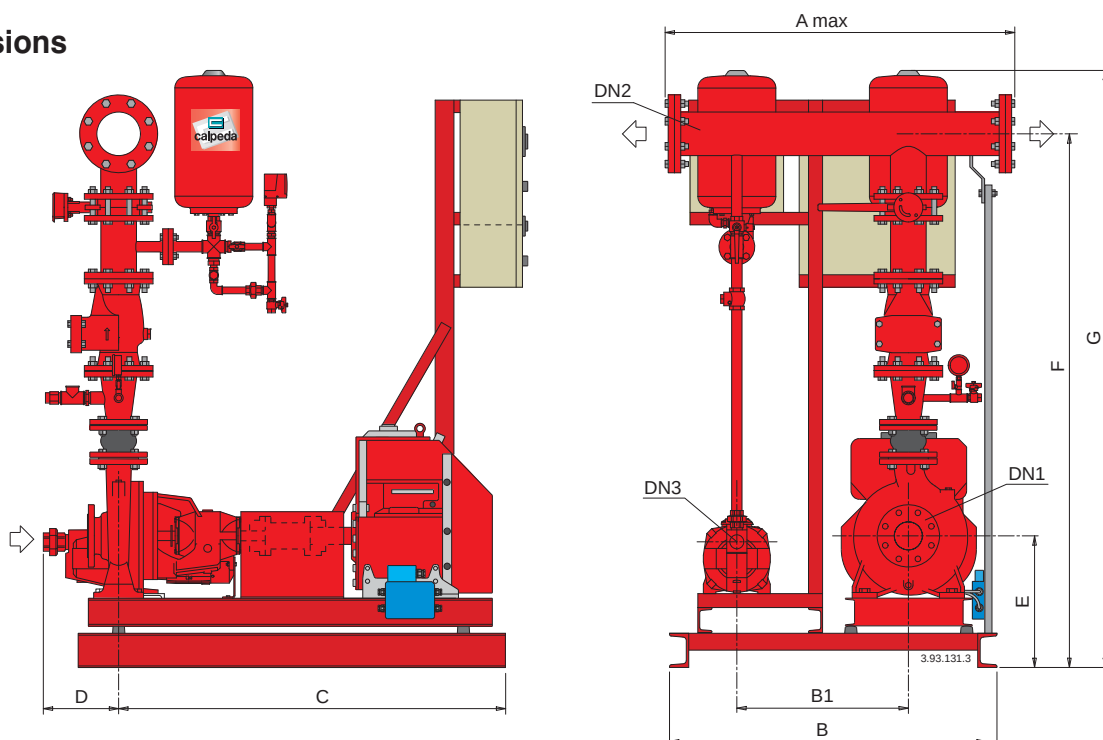
Jockey pump	kW	Diesel motors	kW*	* Continuous rating overloading capacity, NA curve.
NG 5/16E	1,1	15LD350	4,2	
NG 5/18E	1,1	15LD440	6,1	
NG 5/22E	1,1	15LD500	6,8	
NG 6/18E	1,5	25LD425-2	10,5	
NG 6/22E	1,5	9LD625-2	17,5	
NG 7/16E	2,2	11LD625-3	26,2	
NG 7/18E	2,2	D703L.F30	32,5	
NMD 25/190AE	4	D703LT.F30	48	
		D704LT.F30	61	
		D706LT.F30	93,5	

Performance

Unit designation	Jockey pump	Motors power		Average capacity of one pump		Max. capacity of one pump		Pressure switch settings		
		electric	diesel					Pump 1 bar	Pump 2 bar	Jockey pump bar
Pumps										
Electric	diesel	kW	kW / giri-rpm	m³/h	m	m³/h	m			
AUED 21 - 32/160A/A - 32/160A/A	NG 5/18E	3	4,2 / 2900	12	34	16,8	30	2,7 ÷ 3,3	2,3 ÷ 2,9	3 ÷ 3,6
AUED 21 - 32/200C/A - 32/200C/A	NG 5/16E	4	4,2 / 2900	12	41	16,8	36	3,6 ÷ 4,2	3,2 ÷ 3,8	4 ÷ 4,7
AUED 21 - 32/200A/A - 32/200A/A	NG 6/18E	5,5	6,1 / 2900	12	54,5	16,8	49	4,7 ÷ 5,4	4,3 ÷ 5	5 ÷ 5,7
AUED 21 - 40/160B/A - 40/160B/A	NG 5/22E	4	4,2 / 2900	28,5	32,5	42	14	1,8 ÷ 2,5	1,5 ÷ 2,3	2,2 ÷ 2,9
AUED 21 - 40/160A/A - 40/160A/A	NG 5/18E	5,5	6,1 / 2900	32	30	48	17	2,3 ÷ 3	2 ÷ 2,7	2,8 ÷ 3,5
AUED 21 - 40/200D/A - 40/200D/A	NG 5/18E	5,5	6,1 / 2900	26,5	31	37,8	14	2,8 ÷ 3,4	2,4 ÷ 3	3,3 ÷ 4
AUED 21 - 40/200B/A - 40/200B/A	NG 5/16E	7,5	6,8 / 2900	26,5	44	37,8	30,5	3,6 ÷ 4,3	3,3 ÷ 4	3,9 ÷ 4,6
AUED 21 - 40/200A/A - 40/200A/A	NG 6/18E	11	10,5 / 2900	29	51	42	35	4,3 ÷ 5	4 ÷ 4,7	4,6 ÷ 5,3
AUED 21 - 40/250C/A - 40/250C/A	NG 6/18E	11	10,5 / 2900	28,5	55	42	33,5	4,5 ÷ 5,3	4,2 ÷ 5,1	4,8 ÷ 5,6
AUED 21 - 40/250B/A - 40/250B/A	NG 7/18A	15	17,5 / 2900	28,5	64,5	42	45	5,5 ÷ 6,3	5,2 ÷ 6	5,8 ÷ 6,6
AUED 21 - 40/250A/A - 40/250A/A	NG 7/16A	18,5	26,2 / 2900	28,5	86	42	70,5	7,6 ÷ 8,2	7,2 ÷ 7,8	8 ÷ 8,6
AUED 21 - 50/160B/A - 50/160B/A	NG 5/22E	7,5	6,1 / 2900	55,5	23	81	9,5	1,5 ÷ 2,2	1,2 ÷ 1,9	1,8 ÷ 2,5
AUED 21 - 50/160A/A - 50/160A/A	NG 5/18E	11	10,5 / 2900	55,5	32	81	19	2,3 ÷ 3	2 ÷ 2,7	2,6 ÷ 3,3
AUED 21 - 50/200B/A - 50/200B/A	NG 5/16E	11	10,5 / 2900	51	41,5	78	23	3,3 ÷ 4	3 ÷ 3,7	3,6 ÷ 4,3
AUED 21 - 50/200A/A - 50/200A/A	NG 6/18E	15	17,5 / 2900	51	49	78	32,5	4 ÷ 4,7	3,7 ÷ 4,4	4,3 ÷ 5
AUED 21 - 50/200S/A - 50/200S/A	NG 6/18E	18,5	17,5 / 2900	51	49	78	32,5	4 ÷ 4,7	3,7 ÷ 4,4	4,3 ÷ 5
AUED 21 - 50/250C/A - 50/250C/A	NG 5/16E	15	17,5 / 2900	46,5	48,5	69	24,5	3,5 ÷ 4,2	3,2 ÷ 3,9	3,8 ÷ 4,5
AUED 21 - 50/250B/A - 50/250B/A	NG 7/18A	18,5	26,2 / 2900	46,5	62	69	43	5 ÷ 5,6	4,7 ÷ 5,3	5,4 ÷ 6
AUED 21 - 50/250A/A - 50/250A/A	NG 7/16A	22	26,2 / 2900	46,5	75	69	58,5	6,5 ÷ 7,2	6,2 ÷ 6,9	6,8 ÷ 7,5
AUED 21 - 65/160B/B - 65/160B/B	NG 5/18E	15	17,5 / 2900	90	30	132	23	2,4 ÷ 3	2 ÷ 2,6	2,8 ÷ 3,5
AUED 21 - 65/160AR - 65/160AR	NG 5/18E	18,5	26,2 / 2900	90	36	132	27	2,8 ÷ 3,4	2,4 ÷ 3	3,2 ÷ 3,8
AUED 21 - 65/160A/B - 65/160A/B	NG 5/18E	18,5	26,2 / 2900	90	38	132	32	3,2 ÷ 3,8	2,8 ÷ 3,4	3,6 ÷ 4,2
AUED 21 - 65/200C/A - 65/200C/A	NG 5/16E	18,5	26,2 / 2900	90	38,5	132	27	3,4 ÷ 4	3 ÷ 3,6	3,8 ÷ 4,5
AUED 21 - 65/200B/A - 65/200B/A	NG 5/16E	22	26,2 / 2900	90	45,5	132	35	3,9 ÷ 4,5	3,5 ÷ 4,1	4,3 ÷ 5
AUED 21 - 65/200A/A - 65/200A/A	NG 6/18E	30	32,5 / 2900	90	52	132	41,5	4,5 ÷ 5,2	4,1 ÷ 4,8	5 ÷ 5,6
AUED 21 - 65/250C/A - 65/250C/A	NG 7/18A	30	32,5 / 2900	78	59	108	50	5,4 ÷ 6	5 ÷ 5,6	5,8 ÷ 6,5
AUED 21 - 65/250B/A - 65/250B/A	NG 7/16A	37	48 / 2900	78	76	108	67	7 ÷ 7,6	6,6 ÷ 7,2	7,4 ÷ 8
AUED 21 - 65/250A/A - 65/250A/A	NMD 25/190A/A	45	48 / 2900	78	87	108	78	7,8 ÷ 8,5	7,4 ÷ 8,1	8,3 ÷ 9
AUED 21 - 80/160B/B - 80/160B/B	NG 5/18E	18,5	17,5 / 2900	134	31	192	22	2,4 ÷ 3	2 ÷ 2,6	2,8 ÷ 3,5
AUED 21 - 80/160A/B - 80/160A/B	NG 5/18E	22	26,2 / 2900	134	36	192	28	2,8 ÷ 3,4	2,4 ÷ 3	3,3 ÷ 3,9
AUED 21 - 80/200B/A - 80/200B/A	NG 6/18E	30	26,2 / 2900	128	42	180	32	3,5 ÷ 4,2	3,1 ÷ 3,8	4 ÷ 4,7
AUED 21 - 80/200A/A - 80/200A/A	NG 6/18E	37	32,5 / 2900	128	52	180	43	4,5 ÷ 5,2	4,1 ÷ 4,8	5 ÷ 5,7
AUED 21 - 80/250E/A - 80/250E/A	NG 6/18E	30	26,2 / 2900	128	43	180	29	4,1 ÷ 4,7	3,7 ÷ 4,3	4,5 ÷ 5,1
AUED 21 - 80/250D/A - 80/250D/A	NG 7/18A	37	32,5 / 2900	134	56	192	41	5,5 ÷ 6,1	5,1 ÷ 5,7	5,9 ÷ 6,5
AUED 21 - 80/250C/A - 80/250C/A	NG 7/16A	45	48 / 2900	134	67	192	51	6,3 ÷ 6,9	5,9 ÷ 6,5	6,8 ÷ 7,4
AUED 21 - 80/250B/A - 80/250B/A	NG 7/16A	55	61 / 2900	134	78	192	63	7,2 ÷ 7,9	6,8 ÷ 7,5	7,8 ÷ 8,4
AUED 21 - 80/250A/A - 80/250A/A	NMD 25/190A/A	75	61 / 2900	134	90	192	76	8,3 ÷ 9	7,9 ÷ 8,6	8,8 ÷ 9,4
AUED 21 - 100/200E/A - 100/200E/A	NG 5/22E	22	26,2 / 2900	174	26	240	19	2 ÷ 2,6	1,6 ÷ 2,2	2,4 ÷ 3
AUED 21 - 100/200D/A - 100/200D/A	NG 6/22E	30	26,2 / 2900	189	31	270	19	2,5 ÷ 3,2	2,1 ÷ 2,8	3 ÷ 3,7
AUED 21 - 100/200C/A - 100/200C/A	NG 7/22A	37	32,5 / 2900	204	39	300	22	3,5 ÷ 4,1	3,1 ÷ 3,7	3,9 ÷ 4,6
AUED 21 - 100/200B/A - 100/200B/A	NG 7/18A	45	48 / 2600	204	48	300	32	4,4 ÷ 5	4 ÷ 4,6	4,8 ÷ 5,5
AUED 21 - 100/200A/A - 100/200A/A	NG 7/18A	55	61 / 2900	204	57	300	42	4,8 ÷ 5,5	4,4 ÷ 5,1	5,4 ÷ 6
AUED 21 - 100/250B/A - 100/250B/A	NG 7/16A	75	61 / 2900	204	65	300	48	6 ÷ 6,8	5,6 ÷ 6,4	6,6 ÷ 7,3
AUED 21 - 100/250A/A - 100/250A/A	NMD 25/190A/A	92	93,5 / 2900	204	85	300	67	7,8 ÷ 8,5	7,4 ÷ 8,1	8,2 ÷ 9

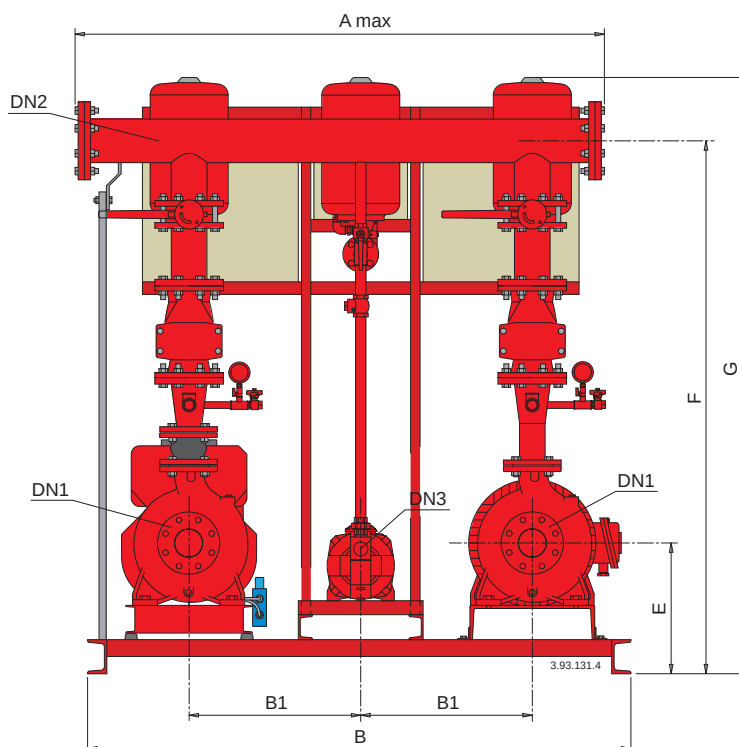
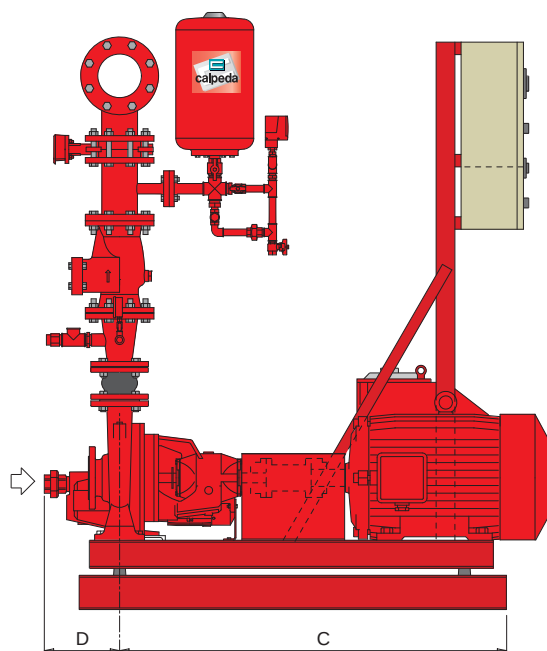
Jockey pump	kW	Diesel motors	kW*	* Continuous rating overloading capacity, NA curve.
NG 5/16E	1,1	15LD350	4,2	
NG 5/18E	1,1	15LD440	6,1	
NG 5/22E	1,1	15LD500	6,8	
NG 6/18E	1,5	25LD425-2	10,5	
NG 6/22E	1,5	9LD625-2	17,5	
NG 7/16E	2,2	11LD625-3	26,2	
NG 7/18E	2,2	D703L.F30	32,5	
NMD 25/190AE	4	D703LT.F30	48	
		D704LT.F30	61	
		D706LT.F30	93,5	

Dimensions



Unit designation		Connections			Dimensions mm							
Main pump	Jockey pump	DN 1	DN 2	DN 3	A	B	B1	C	D	E	F	G
AUD 11 - 32/160A/A	NG 5/18E	50	G2	G 1 1/2	1150	1000	500	900	240	532	1470	1695
AUD 11 - 32/200C/A	NG 5/16E	50	G2	G 1 1/2	1150	1000	500	950	240	560	1520	1745
AUD 11 - 32/200A/A	NG 6/18E											
AUD 11 - 40/160B/A	NG 5/22E	65	65	G 1 1/2	1200	1000	500	950	240	532	1620	1860
AUD 11 - 40/160A/A	NG 5/18E											
AUD 11 - 40/200D/A	NG 5/18E											
AUD 11 - 40/200B/A	NG 5/16E	65	65	G 1 1/2	1200	1050	500	1000	240	560	1670	1910
AUD 11 - 40/200A/A	NG 6/18E									570	1680	1920
AUD 11 - 40/250C/A	NG 6/18E									570	1680	1920
AUD 11 - 40/250B/A	NG 7/18/A	65	65	G 1 1/2	1200	1050	500	1200	240	590	1745	1985
AUD 11 - 40/250A/A	NG 7/16/A									605	1760	2000
AUD 11 - 50/160B/A	NG 5/22E	65	80	G 1 1/2	1250	1050	550	1000	240	605	1760	2000
AUD 11 - 50/160A/A	NG 5/18E											
AUD 11 - 50/200B/A	NG 5/16E	65	80	G 1 1/2	1250	1050	550	1200	240	570	1720	1955
AUD 11 - 50/200A/A	NG 6/18E									585	1740	1975
AUD 11 - 50/200S/A	NG 6/18E									585	1755	1990
AUD 11 - 50/250C/A	NG 5/16E									585	1755	1990
AUD 11 - 50/250B/A	NG 7/18/A	65	80	G 1 1/2	1250	1050	550	1200	240	605	1800	2035
AUD 11 - 50/250A/A	NG 7/16/A									605	1800	2035
AUD 11 - 65/160B/B	NG 5/18E									625	1820	2055
AUD 11 - 65/160AR	NG 5/18E	80	100	G 1 1/2	1300	1200	550	1200	240	605	1885	2100
AUD 11 - 65/160A/B	NG 5/18E									625	1905	2120
AUD 11 - 65/200C/A	NG 5/16E	80	100	G 1 1/2	1300	1200	550	1400	240	625	1905	2120
AUD 11 - 65/200B/A	NG 5/16E									645	1950	2165
AUD 11 - 65/200A/A	NG 6/18E									665	1970	2185
AUD 11 - 65/250C/A	NG 7/18/A	80	100	G 1 1/2	1300	1200	550	1500	240	665	1970	2185
AUD 11 - 65/250B/A	NG 7/16/A									665	1970	2185
AUD 11 - 65/250A/A	NMD 25/190A/A									665	1970	2185
AUD 11 - 80/160B/B	NG 5/18E	100	125	G 1 1/2	1300	1200	550	1500	250	605	2035	2235
AUD 11 - 80/160A/B	NG 5/18E									625	2055	2255
AUD 11 - 80/200B/A	NG 6/18E	100	125	G 1 1/2	1300	1200	550	1700	250	645	2110	2310
AUD 11 - 80/200A/A	NG 6/18E									665	2130	2330
AUD 11 - 80/250E/A	NG 6/18E									645	2130	2330
AUD 11 - 80/250D/A	NG 7/18/A									665	2150	2350
AUD 11 - 80/250C/A	NG 7/16/A	100	125	G 1 1/2	1300	1250	550	1750	250	665	2150	2350
AUD 11 - 80/250B/A	NG 7/16/A									665	2150	2350
AUD 11 - 80/250A/A	NMD 25/190A/A									665	2150	2350
AUD 11 - 100/200E/A	NG 5/22E									645	2220	2405
AUD 11 - 100/200D/A	NG 6/22E									645	2220	2405
AUD 11 - 100/200C/A	NG 7/22/A	125	150	G 1 1/2	1500	1250	700	1750	260	665	2240	2425
AUD 11 - 100/200B/A	NG 7/18/A									665	2240	2425
AUD 11 - 100/200A/A	NG 7/18/A									665	2240	2425
AUD 11 - 100/250B/A	NG 7/16/A	125	150	G 1 1/2	1500	1250	700	1750	260	690	2265	2450
AUD 11 - 100/250A/A	NMD 25/190A/A									735	2310	2495

Dimensions

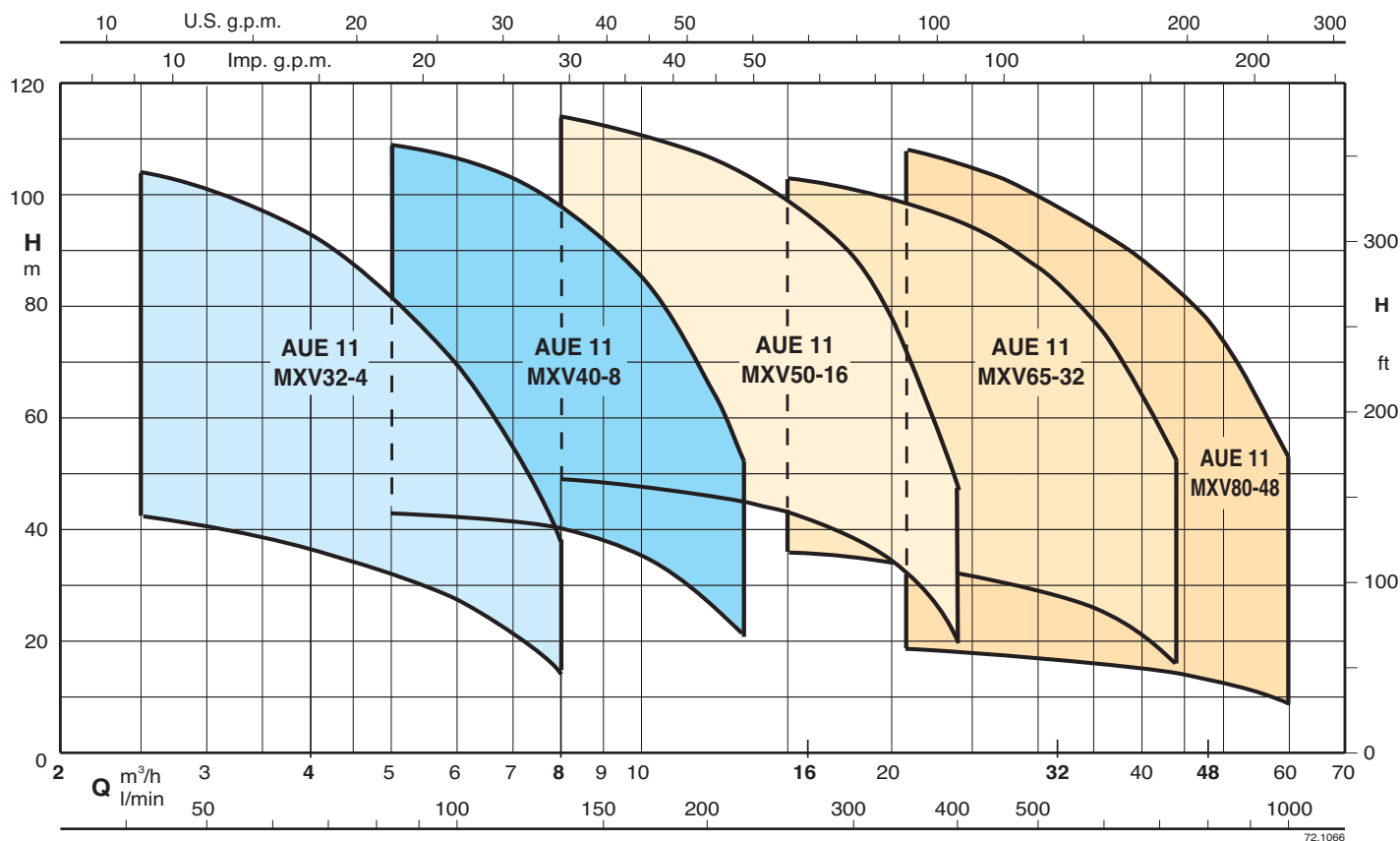


Unit designation				Connections			Dimensions mm							
Main pump	Electric	Diesel	Jockey pump	DN 1	DN 2	DN 3	A	B	B1	C	D	E	F	G
AUED 21 - 32/160A/A - 32/160A/A			NG 5/18E	50	65	G 1 1/2	1450	1400	450	900	240	532	1480	1695
AUED 21 - 32/200C/A - 32/200C/A			NG 5/16E	50	65	G 1 1/2	1450	1400	450	950	240	560	1530	1745
AUED 21 - 32/200A/A - 32/200A/A			NG 6/18E											
AUED 21 - 40/160B/A - 40/160B/A			NG 5/22E	65	80	G 1 1/2	1500	1400	450	950	240	532	1625	1860
AUED 21 - 40/160A/A - 40/160A/A			NG 5/18E					1450						
AUED 21 - 40/200D/A - 40/200D/A			NG 5/18E							1000		560	1675	1910
AUED 21 - 40/200B/A - 40/200B/A			NG 5/16E	65	80	G 1 1/2	1500	1450	450	1000	240	570	1685	1920
AUED 21 - 40/200A/A - 40/200A/A			NG 6/18E							1150		570	1685	1920
AUED 21 - 40/250C/A - 40/250C/A			NG 6/18E									590	1750	1985
AUED 21 - 40/250B/A - 40/250B/A			NG 7/18/A	65	80	G 1 1/2	1500	1450	450	1200	240	605	1765	2000
AUED 21 - 40/250A/A - 40/250A/A			NG 7/16/A									605	1765	2000
AUED 21 - 50/160B/A - 50/160B/A			NG 5/22E	65	100	G 1 1/2	1700	1600	550	1000	240	570	1745	1955
AUED 21 - 50/160A/A - 50/160A/A			NG 5/18E							1150				
AUED 21 - 50/200B/A - 50/200B/A			NG 5/16E									570	1755	1975
AUED 21 - 50/200A/A - 50/200A/A			NG 6/18E	65	100	G 1 1/2	1700	1600	550	1200	240	585	1770	1990
AUED 21 - 50/200S/A - 50/200S/A			NG 6/18E									585	1770	1990
AUED 21 - 50/250C/A - 50/250C/A			NG 6/16E							1200		605	1815	2035
AUED 21 - 50/250B/A - 50/250B/A			NG 7/18/A	65	100	G 1 1/2	1700	1600	550	1200	240	605	1815	2035
AUED 21 - 50/250A/A - 50/250A/A			NG 7/16/A							1400		625	1835	2055
AUED 21 - 65/160B/B - 65/160B/B			NG 5/18E											
AUED 21 - 65/160AR - 65/160AR			NG 5/18E	80	125	G 1 1/2	1800	1750	550	1200	240	585	1855	2055
AUED 21 - 65/160A/B - 65/160A/B			NG 5/18E											
AUED 21 - 65/200C/A - 65/200C/A			NG 5/16E									605	1900	2100
AUED 21 - 65/200B/A - 65/200B/A			NG 5/16E	80	125	G 1 1/2	1800	1750	550	1400	240	625	1920	2120
AUED 21 - 65/200A/A - 65/200A/A			NG 6/18E									625	1920	2120
AUED 21 - 65/250C/A - 65/250C/A			NG 7/18/A							1500		645	1965	2165
AUED 21 - 65/250B/A - 65/250B/A			NG 7/16/A	80	125	G 1 1/2	1800	1750	550	1750	240	665	1985	2185
AUED 21 - 65/250A/A - 65/250A/A			NMD 25/190A/A							1750		665	1985	2185
AUED 21 - 80/160B/B - 80/160B/B			NG 5/18E	100	150	G 1 1/2	1800	1750	550	1500	250	605	2050	2235
AUED 21 - 80/160A/B - 80/160A/B			NG 5/18E									625	2070	2255
AUED 21 - 80/200B/A - 80/200B/A			NG 6/18E	100	150	G 1 1/2	1800	1800	550	1700	250	645	2125	2310
AUED 21 - 80/200A/A - 80/200A/A			NG 6/18E									665	2145	2330
AUED 21 - 80/250E/A - 80/250E/A			NG 6/18E					1750		1500		645	2145	2330
AUED 21 - 80/250D/A - 80/250D/A			NG 7/18/A					1800		1750		665	2165	2350
AUED 21 - 80/250C/A - 80/250C/A			NG 7/16/A	100	150	G 1 1/2	1800	1800	550	1750	250	665	2165	2350
AUED 21 - 80/250B/A - 80/250B/A			NG 7/16/A					1900		1750		665	2165	2350
AUED 21 - 80/250A/A - 80/250A/A			NMD 25/190A/A					1800		1750		665	2165	2350
AUED 21 - 100/200E/A - 100/200E/A			NG 5/22E							1500		645	2245	2405
AUED 21 - 100/200D/A - 100/200D/A			NG 6/22E							1500		645	2245	2405
AUED 21 - 100/200C/A - 100/200C/A			NG 7/22/A	125	200	G 1 1/2	2150	1850	700	1700	260	665	2265	2425
AUED 21 - 100/200B/A - 100/200B/A			NG 7/18/A							1700		665	2265	2425
AUED 21 - 100/200A/A - 100/200A/A			NG 7/18/A							1700		665	2265	2425
AUED 21 - 100/250B/A - 100/250B/A			NG 7/16/A	125	200	G 1 1/2	2150	2200	700	1750	260	690	2290	2450
AUED 21 - 100/250A/A - 100/250A/A			NMD 25/190A/A							1900		735	2335	2495

AUE 11 MXV

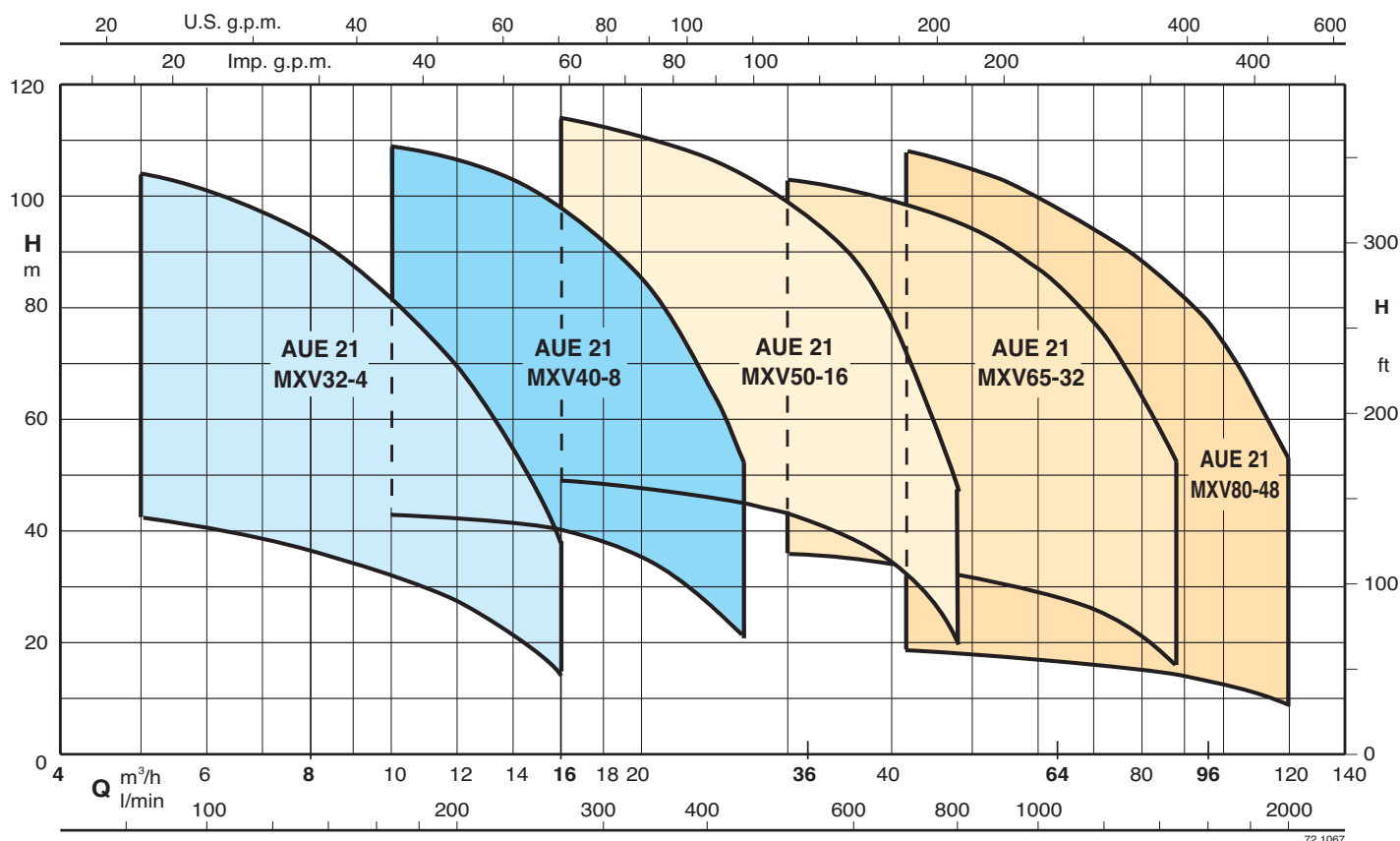
UNI-EN 12845 units with 1 multi-stage vertical electric main pump

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Performance

Unit designation		Power kW	Average capacity pump		Max. capacity pump		Pressure switch settings	
Main pump	Jockey pump		m³/h	m	m³/h	m	Main pump bar	Jockey pump bar
AUE 11 - MXV 32-404	MXV 25-205	1,1 + 0,75	5	32	8	14	3,4 ÷ 4,0	3,7 ÷ 4,3
AUE 11 - MXV 32-405	MXV 25-206	1,1 + 1,1	5	41	8	18	4,5 ÷ 5,1	4,8 ÷ 5,4
AUE 11 - MXV 32-406	MXV 25-206	1,5 + 1,1	5	49	8	22	5,4 ÷ 6,0	5,7 ÷ 6,3
AUE 11 - MXV 32-407	MXV 25-207	1,5 + 1,1	5	58	8	26	6,4 ÷ 7,0	6,7 ÷ 7,3
AUE 11 - MXV 32-408	MXV 25-208	2,2 + 1,5	5	66	8	30	7,4 ÷ 8,0	7,7 ÷ 8,3
AUE 11 - MXV 32-410	MXV 25-210	2,2 + 1,5	5	83	8	38	9,0 ÷ 9,6	9,4 ÷ 10
AUE 11 - MXV 40-804	MXV 25-205	1,5 + 0,75	9	37	13	21	3,7 ÷ 4,3	4,0 ÷ 4,6
AUE 11 - MXV 40-805	MXV 25-206	2,2 + 1,1	9	47	13	26	4,8 ÷ 5,4	5,1 ÷ 5,7
AUE 11 - MXV 40-806	MXV 25-207	2,2 + 1,1	9	56	13	31	5,8 ÷ 6,4	6,1 ÷ 6,7
AUE 11 - MXV 40-807	MXV 25-208	3 + 1,5	9	66	13	36	6,8 ÷ 7,4	7,1 ÷ 7,7
AUE 11 - MXV 40-808	MXV 25-210	3 + 1,5	9	75	13	42	7,5 ÷ 8,1	7,8 ÷ 8,4
AUE 11 - MXV 40-810	MXV 25-210	4 + 1,5	9	94	13	52	9,0 ÷ 9,6	9,4 ÷ 10
AUE 11 - MXV 50-1603	MXV 25-205	3 + 0,75	16	41	24	20	4,0 ÷ 4,6	4,4 ÷ 5,0
AUE 11 - MXV 50-1604	MXV 25-207	4 + 1,1	16	55	24	27	5,5 ÷ 6,1	5,9 ÷ 6,5
AUE 11 - MXV 50-1605	MXV 25-208	5,5 + 1,5	16	69	24	33	7,0 ÷ 7,6	7,4 ÷ 8,0
AUE 11 - MXV 50-1606	MXV 25-210	5,5 + 1,5	16	83	24	40	8,5 ÷ 9,1	8,9 ÷ 9,5
AUE 11 - MXV 50-1607	MXV 25-212	7,5 + 2,2	16	97	24	47	9,0 ÷ 9,6	9,4 ÷ 10
AUE 11 - MXV 65-3202	MXV 25-204	4 + 0,75	30	29	44	17	2,8 ÷ 3,4	3,2 ÷ 3,8
AUE 11 - MXV 65-3203	MXV 25-206	5,5 + 1,1	30	43	44	25	4,5 ÷ 5,1	4,9 ÷ 5,5
AUE 11 - MXV 65-3204	MXV 25-207	7,5 + 1,1	30	58	44	35	6,0 ÷ 6,6	6,4 ÷ 7,0
AUE 11 - MXV 65-3205	MXV 25-210	11 + 1,5	30	73	44	44	7,5 ÷ 8,1	7,9 ÷ 8,5
AUE 11 - MXV 65-3206	MXV 25-210	11 + 1,5	30	87	44	52	9,0 ÷ 9,6	9,4 ÷ 10
AUE 11 - MXV 80-4802	MXV 25-205	5,5 + 0,75	40	30	60	17	3,0 ÷ 3,6	3,3 ÷ 3,9
AUE 11 - MXV 80-4803	MXV 25-206	7,5 + 1,1	40	45	60	26	4,8 ÷ 5,4	5,1 ÷ 5,7
AUE 11 - MXV 80-4804	MXV 25-208	11 + 1,5	40	59	60	35	6,5 ÷ 7,1	6,8 ÷ 7,4
AUE 11 - MXV 80-4805	MXV 25-210	15 + 1,5	40	74	60	44	8,0 ÷ 8,6	8,3 ÷ 8,9
AUE 11 - MXV 80-4806	MXV 25-212	15 + 2,2	40	89	60	53	9,0 ÷ 9,6	9,4 ÷ 10



Performance

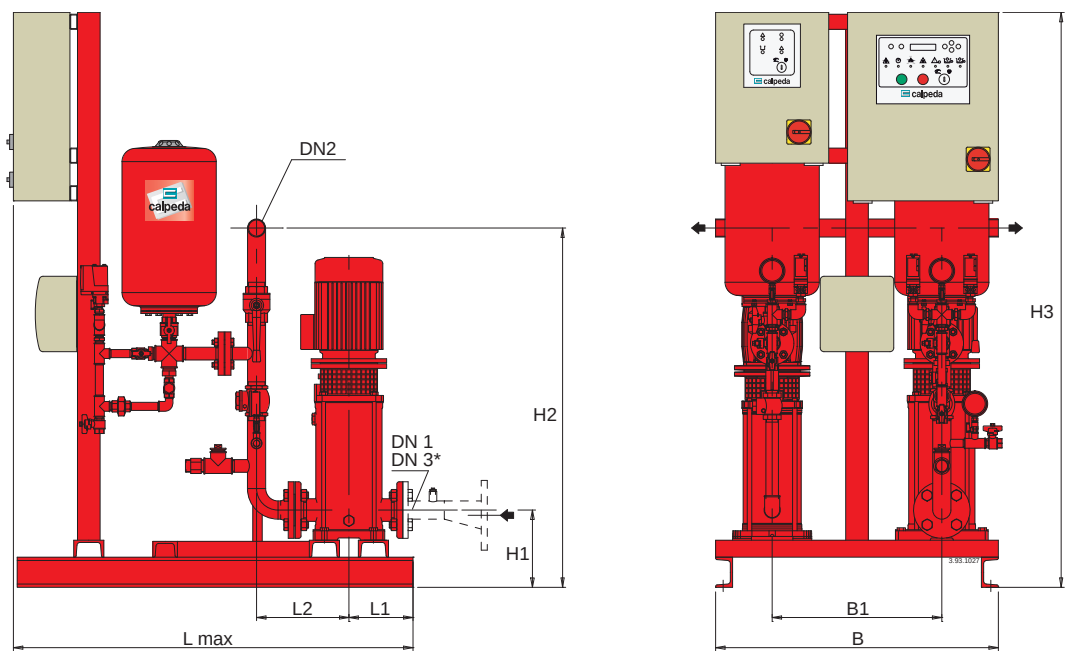
Unit designation		Power	Average capacity of one pump		Max. capacity of one pump		Pressure switch settings		
							Main pump 1 bar	Main pump 2 bar	Jockey pump bar
Main pump	Jockey pump	kW	m³/h	m	m³/h	m			
AUE 21 - MXV 32-404	MXV 25-205	1,1 + 1,1 + 0,75	5	32	8	14	3,4 ÷ 4,0	3,1 ÷ 3,7	3,7 ÷ 4,3
AUE 21 - MXV 32-405	MXV 25-206	1,1 + 1,1 + 1,1	5	41	8	18	4,5 ÷ 5,1	4,2 ÷ 4,8	4,8 ÷ 5,4
AUE 21 - MXV 32-406	MXV 25-206	1,5 + 1,5 + 1,1	5	49	8	22	5,4 ÷ 6,0	5,1 ÷ 5,7	5,7 ÷ 6,3
AUE 21 - MXV 32-407	MXV 25-207	1,5 + 1,5 + 1,1	5	58	8	26	6,4 ÷ 7,0	6,0 ÷ 6,6	6,7 ÷ 7,3
AUE 21 - MXV 32-408	MXV 25-208	2,2 + 2,2 + 1,5	5	66	8	30	7,4 ÷ 8,0	7,0 ÷ 7,6	7,7 ÷ 8,3
AUE 21 - MXV 32-410	MXV 25-210	2,2 + 2,2 + 1,5	5	83	8	38	9,0 ÷ 9,6	8,5 ÷ 9,1	9,4 ÷ 10
AUE 21 - MXV 40-804	MXV 25-205	1,5 + 1,5 + 0,75	9	37	13	21	3,7 ÷ 4,3	3,4 ÷ 4,0	4,0 ÷ 4,6
AUE 21 - MXV 40-805	MXV 25-206	2,2 + 2,2 + 1,1	9	47	13	26	4,8 ÷ 5,4	4,5 ÷ 5,1	5,1 ÷ 5,7
AUE 21 - MXV 40-806	MXV 25-207	2,2 + 2,2 + 1,1	9	56	13	31	5,8 ÷ 6,4	5,5 ÷ 6,1	6,1 ÷ 6,7
AUE 21 - MXV 40-807	MXV 25-208	3 + 3 + 1,5	9	66	13	36	6,8 ÷ 7,4	6,4 ÷ 7,0	7,1 ÷ 7,7
AUE 21 - MXV 40-808	MXV 25-210	3 + 3 + 1,5	9	75	13	42	7,5 ÷ 8,1	7,0 ÷ 7,6	7,8 ÷ 8,4
AUE 21 - MXV 40-810	MXV 25-210	4 + 4 + 1,5	9	94	13	52	9,0 ÷ 9,6	8,5 ÷ 9,1	9,4 ÷ 10
AUE 21 - MXV 50-1603	MXV 25-205	3 + 3 + 0,75	16	41	24	20	4 ÷ 4,6	3,7 ÷ 4,3	4,4 ÷ 5,0
AUE 21 - MXV 50-1604	MXV 25-207	4 + 4 + 1,1	16	55	24	27	5,5 ÷ 6,1	5,2 ÷ 5,8	5,9 ÷ 6,5
AUE 21 - MXV 50-1605	MXV 25-208	5,5 + 5,5 + 1,5	16	69	24	33	7,0 ÷ 7,6	6,5 ÷ 7,1	7,4 ÷ 8,0
AUE 21 - MXV 50-1606	MXV 25-210	5,5 + 5,5 + 1,5	16	83	24	40	8,5 ÷ 9,1	8,0 ÷ 8,6	8,9 ÷ 9,5
AUE 21 - MXV 50-1607	MXV 25-212	7,5 + 7,5 + 2,2	16	97	24	47	9,0 ÷ 9,6	8,5 ÷ 9,1	9,4 ÷ 10
AUE 21 - MXV 65-3202	MXV 25-204	4 + 4 + 0,75	30	29	44	17	2,8 ÷ 3,4	2,5 ÷ 3,1	3,2 ÷ 3,8
AUE 21 - MXV 65-3203	MXV 25-206	5,5 + 5,5 + 1,1	30	43	44	25	4,5 ÷ 5,1	4,1 ÷ 4,7	4,9 ÷ 5,5
AUE 21 - MXV 65-3204	MXV 25-207	7,5 + 7,5 + 1,1	30	58	44	35	6 ÷ 6,6	5,5 ÷ 6,1	6,4 ÷ 7,0
AUE 21 - MXV 65-3205	MXV 25-210	11 + 11 + 1,5	30	73	44	44	7,5 ÷ 8,1	7,0 ÷ 7,6	7,9 ÷ 8,5
AUE 21 - MXV 65-3206	MXV 25-210	11 + 11 + 1,5	30	87	44	52	9,0 ÷ 9,6	8,5 ÷ 9,1	9,4 ÷ 10
AUE 21 - MXV 80-4802	MXV 25-205	5,5 + 5,5 + 0,75	40	30	60	17	3,0 ÷ 3,6	2,7 ÷ 3,3	3,3 ÷ 3,9
AUE 21 - MXV 80-4803	MXV 25-206	7,5 + 7,5 + 1,1	40	45	60	26	4,8 ÷ 5,4	4,5 ÷ 5,1	5,1 ÷ 5,7
AUE 21 - MXV 80-4804	MXV 25-208	11 + 11 + 1,5	40	59	60	35	6,5 ÷ 7,1	6,0 ÷ 6,6	6,8 ÷ 7,4
AUE 21 - MXV 80-4805	MXV 25-210	15 + 15 + 1,5	40	74	60	44	8,0 ÷ 8,6	7,5 ÷ 8,1	8,3 ÷ 8,9
AUE 21 - MXV 80-4806	MXV 25-212	15 + 15 + 2,2	40	89	60	53	9,0 ÷ 9,6	8,5 ÷ 9,1	9,4 ÷ 10

AUE 11 MXV

UNI-EN 12845 units with 1 multi-stage vertical electric main pump



Dimensions



Unit designation	Connections			Dimensions mm							
	DN1	DN2	DN3*	L max	B	B1	L1	L2	H1	H2	H3
AUE 11 - MXV 32-...	32	G 1 ¼	G 1	1005	750	450	150	215	200	910	1525
AUE 11 - MXV 40-...	40	G 1 ½	G 1	1060	750	450	170	245	205	955	1525
AUE 11 - MXV 50-...	50	G 2	G 1	1125	850	450	200	270	215	980	1525
AUE 11 - MXV 65-...	65	65	G 1	1160	850	450	200	300	230	1200	1525
AUE 11 - MXV 80-...	80	80	G 1	1210	850	450	200	335	230	1255	1525

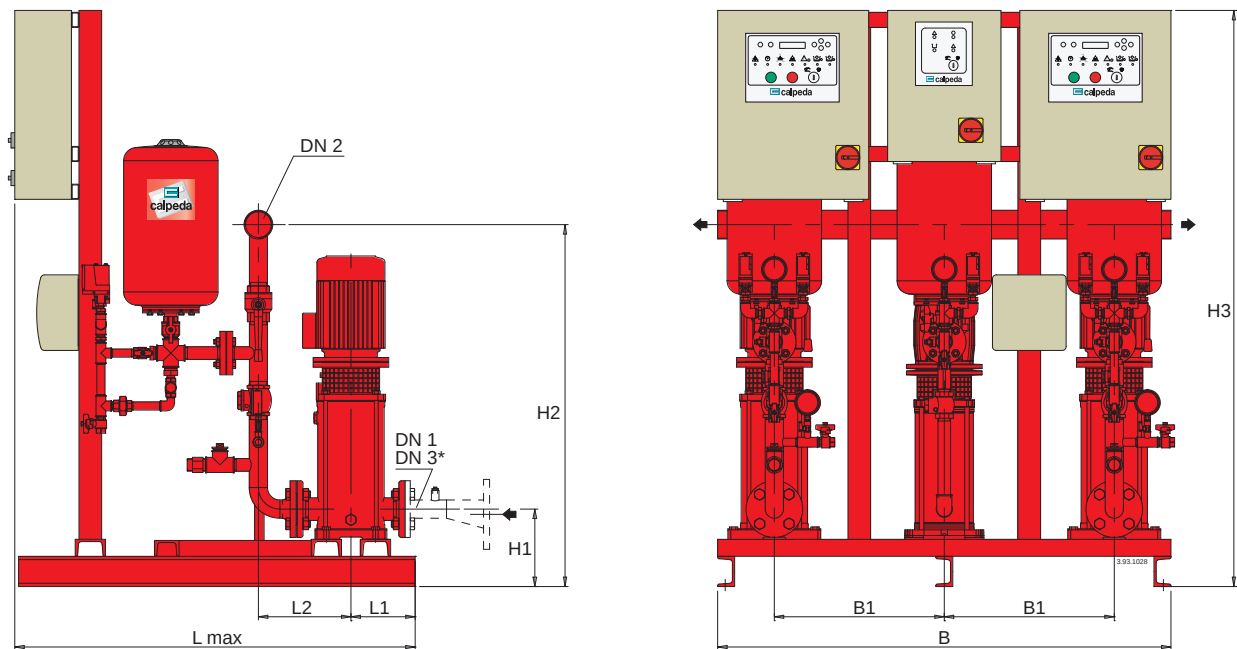
* Suction connection jockey pump

AUE 21 MXV

UNI-EN 12845 units with 2 multi-stage vertical electric main pumps



Dimensions



Unit designation	Connections			Dimensions mm							
	DN1	DN2	DN3*	L max	B	B1	L1	L2	H1	H2	H3
AUE 21 - MXV 32-...	32	G 1 ½	G 1	1005	1200	450	150	215	200	910	1525
AUE 21 - MXV 40-...	40	G 2	G 1	1060	1200	450	170	245	205	960	1525
AUE 21 - MXV 50-...	50	65	G 1	1125	1400	450	200	270	215	990	1525
AUE 21 - MXV 65-...	65	80	G 1	1160	1400	450	200	300	230	1205	1525
AUE 21 - MXV 80-...	80	100	G 1	1210	1400	450	200	335	230	1270	1525

* Suction connection jockey pump

Characteristics of full-jet nozzles

Capacity

Pressure bar	Nozzle diameter mm			
	10	12	16	20
	Flow-rate l/min			
3	115	165	295	460
4	130	190	340	530
5	150	215	380	590
6	160	235	415	650
7	175	250	450	700
8	185	270	480	750

Water-jet range

Pressure bar	Nozzle diameter mm			
	10	12	16	20
	Range m			
3	10 a 20	11 a 22	15 a 30	16 a 33
5	11 a 23	11 a 25	17 a 33	18 a 36
8	12 a 26	12 a 30	19 a 36	20 a 40

Characteristics of sprinkler nozzles

Capacity

Pressure bar	Rated diameter of orifice mm		
	10	15	20
	Flow-rate l/min		
2	80	113	162
3	98	139	199
4	114	160	230
5	127	180	258
6	139	196	282
7	150	214	305
8	161	226	325
9	171	240	345

QM, QT

Control panels



Index



TYPE	Supply		No. pumps				Application		
	1 ~	3 ~	1	2	3	4	Bore-hole	Submersible	Surface
QM	✓		✓				✓	✓	✓
M COMP	✓		✓				✓	✓	
PFC-M	✓		✓				✓		
QML 1 FT	✓		✓				✓	✓	✓
T COMP		✓	✓				✓	✓	
PFC-T		✓	✓				✓		
QTL 1 FT		✓	✓				✓		✓
QTL 1 D FTE		✓	✓				✓		✓
QTL 1 ST FT		✓	✓				✓		✓
QTL 1 ST FTE		✓	✓				✓		✓
QTL 1 SS E		✓	✓				✓		✓
QTL 1 IS FTE		✓	✓				✓		
QML 2 D	✓			✓					✓
QTL 2 FT		✓		✓					✓
QTL 2 ST FT		✓		✓					✓
QML 3 FT	✓				✓				✓
QTL 3 FT		✓			✓				✓
QTL 3 ST FT		✓			✓				✓
QTL 4 D FT		✓				✓			✓
QTL 4 ST FT		✓				✓			✓
QML 1 VFT	✓		✓						✓
QTL 1 VFT		✓	✓						✓
QML 2 VFT	✓			✓			✓		✓
QTL 2 VFT		✓		✓			✓		✓
QML 1.1 VFT	✓			✓					✓
QTL 1.1 VFT				✓					✓
QML 3 VFT	✓				✓				✓
QTL 3 VFT		✓			✓				✓
QTL 1.2 VFT		✓			✓				✓
QTL 4 VFT		✓				✓			✓
QTL 1.3 VFT		✓				✓			✓
QMLD 1D	✓		✓					✓	
QTLD 1D		✓	✓					✓	
QTLD 1ST FT		✓	✓					✓	
QMLD 2D	✓			✓				✓	
QTLD 2D		✓		✓				✓	
QTLD 2ST FT		✓		✓				✓	
QTLD 3D FT-RL		✓			✓			✓	
QTLD 3 ST-RL		✓			✓			✓	

Power kW	Rotation speed		Starting				Typology		page
	Fixed Speed	Variable speed	D.O.L.	Y/Δ	Soft start	Impedance stator	Electromechanical	Electronic	
0,3 ÷ 1,5	✓		✓				✓		594
0,37 ÷ 2,2	✓		✓				✓		595
0,37 ÷ 2,2	✓		✓					✓	595
0,37 ÷ 2,2	✓		✓					✓	596
0,37 ÷ 7,5	✓		✓				✓		596
0,37 ÷ 5,5	✓		✓					✓	597
0,37 ÷ 11	✓		✓					✓	597
4 ÷ 30	✓		✓				✓		598
5,5 ÷ 45	✓			✓				✓	598
5,5 ÷ 110	✓			✓			✓		599
7,5 ÷ 132	✓				✓			✓	599
5,5 ÷ 110	✓					✓	✓		600
0,37 ÷ 1,5	✓		✓					✓	601
0,37 ÷ 5,5	✓		✓					✓	601
5,5 ÷ 45	✓			✓				✓	602
0,37 ÷ 2,2	✓		✓					✓	602
0,37 ÷ 5,5	✓		✓					✓	603
5,5 ÷ 4,5	✓							✓	603
0,37 ÷ 5,5	✓		✓					✓	604
5,5 ÷ 45	✓							✓	604
0,37 ÷ 3,7		✓	✓					✓	605
0,4 ÷ 7,5		✓	✓					✓	605
0,37 ÷ 3,7		✓						✓	606
0,4 ÷ 7,5		✓						✓	606
0,37 ÷ 3,7		✓						✓	607
0,4 ÷ 7,5		✓						✓	607
0,37 ÷ 3,7		✓						✓	608
0,4 ÷ 7,5		✓						✓	608
0,4 ÷ 7,5		✓						✓	609
0,4 ÷ 7,5		✓						✓	609
0,4 ÷ 7,5		✓						✓	610
0,25 ÷ 1,1	✓		✓					✓	611
0,25 ÷ 1,1	✓		✓					✓	611
4 ÷ 92	✓			✓				✓	612
0,25 ÷ 1,1	✓		✓					✓	613
0,25 ÷ 1,1	✓		✓					✓	613
4 ÷ 92	✓			✓				✓	614
0,55 ÷ 5,5	✓		✓					✓	615
4 ÷ 92	✓			✓				✓	615

Control panels



QM Control panel for 1 single-phase submersible pump



Code	Type	Capacitor	Motor 230V - 1~	Dimensions
		450Vc	kW	HxBxP mm
44017940000	QM 6,3	6,3 μ F	0,3	200x75x76
44017960000	QM 20	20 μ F	0,55 - 0,75	200x75x76
44017950000	QM 25	25 μ F	0,9 - 1,1	200x75x76
44017990000	QM 30	30 μ F	0,9 - 1,1	200x75x76
	QM 35	35 μ F	1,5	200x75x76

Construction

Control panel with ON-OFF switch and capacitor, for 1 submersible pump with single-phase motor without built-in capacitor.

Technical data

- Mains single-phase 230V $\pm$ 10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Enclosure in thermoplastic material
- ON-OFF switch with lamp
- Capacitor
- Terminal board
- Cable glands

QM Control panel with circuit breaker for 1 single-phase submersible pump



Code	Type	Protector	Capacitor	Motor 230V - 1~	Dimensions
		max A	450Vc	kW	HxBxP mm
-	QM 4-16	4	16 μ F	0,37	200x75x76
	QM 5-20	5	20 μ F	0,55	200x75x76
	QM 5-25	5	25 μ F	0,55	200x75x76
	QM 6-20	6	20 μ F	0,75	200x75x76
	QM 7-25	7	25 μ F	0,9	200x75x76
	QM 7-30	7	30 μ F	0,75	200x75x76
	QM 8-25	8	25 μ F	1,1	200x75x76
	QM 8-30	8	30 μ F	1,1	200x75x76
	QM 10-40	10	40 μ F	1,1	200x75x76
	QM 12-35	12	35 μ F	1,5	200x75x76

Construction

Control panel with ON-OFF switch, circuit breaker and capacitor, for 1 submersible pump with single-phase motor without built-in capacitor.

Technical data

- Mains single-phase 230V $\pm$ 10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Enclosure in thermoplastic material
- ON-OFF switch with lamp
- Thermal device
- Capacitor
- Terminal board
- Cable glands

Control panels



M COMP Control panel for 1 single-phase submersible pump



Code	Type	Protector max A	Capacitor 450Vc	Motor 230V - 1~ kW	Dimensions HxBxP mm
4402000000	M COMP 4-16	4,5	16 µF	0,37	220x210x110
4402000100	M COMP 4-20	4,5	20 µF	0,55	220x210x110
4402001000	M COMP 5-20	5	20 µF	0,55	220x210x110
4402001100	M COMP 5-25	5	25 µF	0,55	220x210x110
4402002100	M COMP 6-20	6	20 µF	0,75	220x210x110
4402002300	M COMP 6-35	6	35 µF	0,9	220x210x110
4402003100	M COMP 7-25	7	25 µF	0,9	220x210x110
4402003200	M COMP 7-30	7	30 µF	0,9	220x210x110
4402004000	M COMP 8-25	8	25 µF	1,1	220x210x110
4402004100	M COMP 8-30	8	30 µF	1,1	220x210x110
4402005200	M COMP 10-35	10	35 µF	1,1	220x210x110
4402005300	M COMP 10-40	10	40 µF	1,1	220x210x110
4402006000	M COMP 12-35	12	35 µF	1,5	220x210x110
4402006200	M COMP 12-50	12	50 µF	1,5	220x210x110
	M COMP 12-60	12	60 µF	1,5	220x210x110
4402008100	M COMP 16-70	16	70 µF	2,2	220x210x110

Construction

Control panel with ON-OFF switch and capacitor for 1 submersible pump with single-phase motor.
Suitable for use with LVBT board for level control.
Protection is provided by means of a main bi-polar switch with a phase. protected against overload by means of a thermal element.

Technical data

- Mains single-phase 230V ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.
- Control through pressure switch (pressure booster set).
- Control through float switch (for filling a tank).

Components

- Enclosure in thermoplastic material.
- ON-OFF switch with pilot lamp with thermal protector.
- Capacitor.
- Terminal board.
- Terminals for LVBT board for level control.
- In/Out cable glands.
- Power relay (for M COMP 18 only)

On request:

- LVBT card for level control.

PFC-M Power Factor Control Control panel for 1 submersible pump with single-phase motor, PF control



Type	Setting A	Capacitor 450Vc	Motor 50/60Hz 220V-240V - 1~ kW	Dimensions HxBxP mm
PFC-M 18-16	1 - 18	16 µF	0,37	220x210x110
PFC-M 18-20	1 - 18	20 µF	0,55	220x210x110
PFC-M 18-25	1 - 18	25 µF	0,55	220x210x110
PFC-M 18-30	1 - 18	30 µF	0,75	220x210x110
PFC-M 18-35	1 - 18	35 µF	0,75	220x210x110
PFC-M 18-40	1 - 18	40 µF	1,1	220x210x110
PFC-M 18-50	1 - 18	50 µF	1,5	220x210x110
PFC-M 18-60	1 - 18	60 µF	1,5	220x210x110
PFC-M 18-70	1 - 18	70 µF	2,2	220x210x110

Construction

Control panel for controlling one submersible pump with single-phase motor. Electronic control of the operation and dry-running protection through the power factor (PF) control.
The installation of level probes into the well is not required.
It stops the pump in case of lack of air cushion in the pressure vessel (patented system).
Displayed operating data and alarms available in four languages.

Technical data

- Mains single-phase 220-240V, 50/60 Hz.
- Max output current: 18 A.
- Ambient temperature from -5 °C to +40 °C.
- Relative humidity: from 20% to 90% without condensation
- Protection IP 55.
- Control through pressure switch (pressure booster set).
- Control through float switch (for filling a tank).
- Alarm output signal.
- Constructed in accordance with: IEC/EN 60439-1.

Setting

- Min – Max voltage range.
- Motor rated current.
- Power factor (PF) value for dry-running protection.
- Up to four programmable restarts in case of no water condition.

Alarms (with pump stop)

- Mains failure.
- Undervoltage and overvoltage.
- Motor overload.
- No water.
- No air cushion in the pressure vessel.

Components

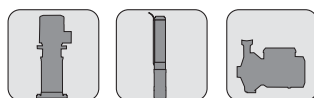
- Enclosure in thermoplastic material.
- Capacitor.
- Terminal board.
- Display : 2x16 characters.
- 6 button key board.
- In/Out Cable glands.

On request: - RA 100 control panel for remote alarm.

Control panels



QML 1 FT Control panel for 1 pump with single-phase motor, direct starting



Code	Type	Motor 230V - 1~ kW	Setting A	Dimensions HxBxP mm
---	QML 1 FT 0,37	0,37	1,6 - 2,5	200x255x170
	QML 1 FT 0,55	0,45 - 0,55	2,5 - 4	200x255x170
	QML 1 FT 0,75	0,75	4 - 6,5	200x255x170
	QML 1 FT 1,1	1,1	6,3 - 10	200x255x170
	QML 1 FT 1,5	1,5	9 - 12	200x255x170

Construction

Control panel for 1 pump with single-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Arranged for the capacitor internal connection (for pumps without built-in capacitor) and for the SRL 3 level control card application against dry running.

Pump operation controlled by an electronic board type MP 1000 with microprocessor which allows three different modes of operation of the pump: standard, emergency and timed.

Technical data

- Mains single-phase 230V $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Thermoplastic case.
- Door lock master switch.
- Fuses for power line.
- Fuses for auxiliary circuit.
- Starting contactor.
- Thermal relay.
- Electronic board type MP 1000 with microprocessor.
- Terminals for pressure switch connection.
- Terminals for float switch connection against dry-running.
- Cable glands.

The panel is suitable for remote control of all the signals of the box (excluding pump stop led and push buttons).

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

T COMP Control panel for 1 submersible pump with three-phase motor



LVBT



Code	Type	Protector A	Motor 230V - 3~ kW	Motor 400V - 3~ kW	Dimensions HxBxP mm
14013130000	T COMP 8	1 ÷ 8	0,37 ÷ 1,5	0,5 ÷ 2,2	170x145x85
14013480000	T COMP 10	7 ÷ 10	---	3 ÷ 3,7	230x180x155
14024250000	T COMP 12	9 ÷ 12	2,2	4	230x180x155
14013560000	T COMP 16	11 ÷ 16	3	5,5	230x180x155
14013490000	T COMP 20	14 ÷ 20	3,7 - 4	7,5	230x180x155

Construction

Control panel and protection for 1 submersible pump with three-phase motor.

Arranged for the LVBT level control internal connection against dry running (T COMP8 model has the level control as a standard).

Control pumps with pressure switch and float-type switch.

Technical data

- Mains 230V or 400V $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

Components

- Enclosure in thermoplastic material
- ON-OFF control switch
- Fuse holder - Contactor - Thermal relay
- Fuses for change of voltage: 230 V or 400 V - Transformer
- Terminals for pressure switch or float switch connection
- Terminals for LVBT board (for T COMP 10,12,16,20 models)
- Green LED indicator: voltage ON
- Red LED indicator: thermic block
- Cable glands

ON REQUEST:

LVBT board for level control (for T COMP 10,12,16,20 models)

Control panels



PFC-T Power Factor Control Control panel for 1 submersible pump with three-phase motor, PF control



Type	Setting A	Motor		Dimensions <i>HxBxP mm</i>	<i>kg</i>
		400V 50Hz - 3~ kW	380V 60Hz - 3~ kW		
PFC-T 11	1 - 11	0,37 - 4	0,37 - 4	255x200x135	1,7
PFC-T 16	1 - 16	5,5	5,5	255x200x135	1,7

Construction

Control panel for controlling 1 submersible pump with three-phase motor. Electronic control of the operation and dry-running protection through the power factor (PF) control.

The installation of level probes into the well is not required.

It stops the pump in case of lack of air cushion in the pressure vessel (patented system)

Displayed operating data and alarms, available in four languages.

Technical data

- Mains three-phase 380-400V - 3 ~ ±10% 50-60 Hz
- Output current: 11 A - 16 A
- Ambient temperature from -5 °C to +40 °C.
- Relative humidity: from 20% to 90% without condensation
- IP 55 protection
- Control through pressure switch (pressure booster set)
- Control through float switch (for filling a tank)
- Alarm output signal
- Constructed in accordance with: IEC/EN 60439-1.

Setting

- Min – Max voltage range
- Motor rated current
- Power factor (PF) value for dry-running protection
- Up to four programmable restarts in case of no water condition

Alarms (with pump stop)

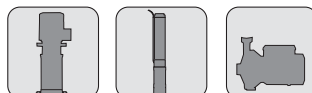
- Phase failure - Wrong phase sequence
- Undervoltage and overvoltage
- Motor overload
- No water
- No air cushion in the pressure vessel

Components

- Enclosure in thermoplastic material.
- Terminal board.
- Display : 2x16 characters. - 6 button key board.
- In/Out Cable glands.

On request: - RA 100 control panel for remote alarm.

QTL 1 FT Control panel for 1 pump with three-phase motor, direct starting



Code	Type	Motor 400V - 3~ kW	Setting A	Dimensions <i>HxBxP mm</i>
---	QTL 1 FT 0,55	0,37 - 0,45 - 0,55	1 - 1,6	200x255x170
	QTL 1 FT 1,1	0,75 - 1,1	1,6 - 2,5	200x255x170
	QTL 1 FT 1,5	1,5	2,5 - 4	200x255x170
	QTL 1 FT 3	2,2 - 3	4 - 6,5	200x255x170
	QTL 1 FT 4	4	6,3 - 10	200x255x170
	QTL 1 FT 5,5	5,5	9 - 12	200x255x170
	QTL 1 D 7,5 FT	7,5	13 - 18	400x300x160
	QTL 1 D 9,2 FT	9,2	17 - 23	400x300x160
	QTL 1 D 11 FT	11	20 - 25	400x300x160

Construction

Control panel for 1 pump with three-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel.

Pump operation controlled by an electronic card type MP 1000 with microprocessor which allows three different modes of operation of the pump: standard, emergency and timed.

Dry-running protection with float switch.

Arranged for SRL 3 level control application for probes connection against dry-running.

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Thermoplastic case (metallic for 7,5-9,2-11kW).
- Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Starting contactor. - Thermal relay.
- Electronic board type MP 1000 with microprocessor.
- Terminals for pressure switch connection.
- Terminals for float switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

Control panels



QTL 1 D FTE Control panel for 1 pump with three-phase motor, direct starting



Code	Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
---	QTL 1 D 4 FTE	4	6,3 - 10	400x300x160
	QTL 1 D 5,5 FTE	5,5	9 - 12	400x300x160
	QTL 1 D 7,5 FTE	7,5	13 - 18	400x300x160
	QTL 1 D 9,2 FTE	9,2	17 - 23	400x300x160
	QTL 1 D 11 FTE	11	20 - 25	400x300x160
	QTL 1 D 15 FTE	15	24 - 32	500x350x200
	QTL 1 D 18,5 FTE	18,5	32 - 38	500x350x200
	QTL 1 D 22 FTE	22	35 - 50	500x350x200
	QTL 1 D 30 FTE	30	46 - 65	500x350x200

Construction

Electromechanical control panel for 1 pump with three-phase motor, direct starting.

Operating signals by E 1000 led card.

Dry-running protection with float switch.

Construction with SRLE level control for probes connection against dry-running on request .

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Metal case. - Door lock master switch.
- Power circuit fuses. - Fuses for auxiliary circuit.
- Starting contactor. - Thermal relay
- Transformer. - E 1000 led card.
- Terminals for connection pump operating signal.
- Terminals for float switch connection against dry-running.
- Cable glands.

ON REQUEST:

- RLE level control for probes against dry running
- RLE level control for pump operating probes.
- Voltmeter. - Ammeter.

QTL 1 ST FT Control panel for 1 pump with three-phase motor, Y/Δ starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTL 1 ST 5,5 FT	5,5	11 - 15	600x400x200
	QTL 1 ST 7,5 FT	7,5	12 - 17	600x400x200
	QTL 1 ST 11 FT	9,2 - 11	16 - 24	600x400x200
	QTL 1 ST 15 FT	15	23 - 31	600x400x200
	QTL 1 ST 18,5 FT	18,5	30 - 39	600x400x200
	QTL 1 ST 22 FT	22	35 - 43	700x500x200
	QTL 1 ST 30B FT	30	42 - 55	700x500x200
	QTL 1 ST 30A FT	30	55 - 65	700x500x200
	QTL 1 ST 37 FT	37	61 - 84	800x600x250
	QTL 1 ST 45 FT	45	80 - 105	800x600x250

Construction

Control panel for 1 pump with three-phase motor, Y/Δ starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Pump operation controlled by an electronic card type MP 1000 with microprocessor which 3 different pump operating modes: standard, emergency and timed.

Dry-running protection with float switch.

Arranged for SRL 3 level control application for probes connection against dry-running on request .

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Starting contactors. - Thermal relay. - Transformer.
- Electronic board MP 1000 with microprocessor.
- Terminals for motor connection.
- Terminals for connection pressure switch of pump operating.
- Terminals for float switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm .
- Voltmeter. - Ammeter.

Control panels



QTL 1 ST FTE Control panel for 1 pump with three-phase motor, Y/Δ starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTL 1 ST 5,5 FTE	5,5	11 - 15	500x350x200
	QTL 1 ST 7,5 FTE	7,5	12 - 17	500x350x200
	QTL 1 ST 11 FTE	9,2 - 11	16 - 24	500x350x200
	QTL 1 ST 15 FTE	15	23 - 31	500x350x200
	QTL 1 ST 18,5 FTE	18,5	30 - 39	500x350x200
	QTL 1 ST 22 FTE	22	35 - 43	600x400x200
	QTL 1 ST 30B FTE	30	42 - 55	600x400x200
	QTL 1 ST 30A FTE	30	55 - 65	600x400x200
	QTL 1 ST 37 FTE	37	61 - 84	700x500x200
	QTL 1 ST 45 FTE	45	80 - 105	700x500x200
	QTL 1 ST 55 FTE	55	100 - 125	700x500x200
	QTL 1 ST 75 FTE	75	120 - 160	800x600x250
	QTL 1 ST 92 FTE	92	140 - 198	800x600x250
	QTL 1 ST 110 FTE	110	180 - 250	800x600x250

Construction

Electromechanical control panel for 1 pump with three-phase motor, Y/Δ starting.
Operating signals by E 1000 led board.
Dry-running protection with float switch.
Construction with SRLE level control for probes connection against dry-running on request .

Components

- Metal case. - Door lock master switch. - Fuses for power line.
- Fuses for auxiliary circuit. - Starting contactors. - Thermal relay.
- Y/Δ timer. - Transformer. - E 1000 led board.
- Terminals for motor connection.
- Terminals for connection of pump operating signal.
- Terminals for float switch connection against dry-running.
- Cable glands.

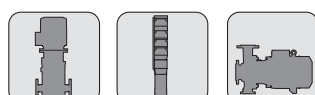
Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

ON REQUEST:

- RLE level control for probes against dry running.
- RLE level control for pump operating probes.
- Voltmeter. - Ammeter.

QTL 1 SS E Control panel for 1 pump with three-phase motor, start/stop with soft starter



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QTL 1 SS 7,5 E	7,5	17	700x500x250
	QTL 1 SS 9,2 E	9,2	22	700x500x250
	QTL 1 SS 15 E	11 - 15	34	700x500x250
	QTL 1 SS 22 E	18,5 - 22	48	700x500x250
	QTL 1 SS 26 E	26	58	900x600x300
	QTL 1 SS 30 E	30	68	900x600x300
	QTL 1 SS 37 E	37	82	900x600x300
	QTL 1 SS 45 E	45	92	900x600x300
	QTL 1 SS 55 E	55	114	900x600x300
	QTL 1 SS 63 E	63	126	1100x700x300
	QTL 1 SS 75 E	75	150	1100x700x300
	QTL 1 SS 92 E	92	196	1200x800x400
	QTL 1 SS 110 E	110	231	1200x800x400
	QTL 1 SS 132 E	132	245	1200x800x400

Construction

Control panel for 1 pump with three-phase motor, start/stop with soft starter.
Operating signals on E 1000 led board.
Application: control of submersible motor with great cable length and surface motors.
Dry-running protection with float switch.
Construction with SRLE level control for probes connection against dry-running on request .

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Soft starter - Transformer.
- By pass contactors (built into the soft starter) - E 1000 led board.
- Terminals for float switch or level probes connection for pump operating.
- Terminals for float switch or level probes connection against dry-running.
- Cable glands.

ON REQUEST:

- RLE level control for connection level probes of pump operating.
- RLE level control for probes against dry running.
- Voltmeter. - Ammeter.

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Control panels



QTL 1 IS FTE Control panel for 1 pump with three-phase motor, with Stator Impedance starter



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTL 1 IS 5,5 FTE-2RL	5,5	11 - 15	
	QTL 1 IS 7,5 FTE-2RL	7,5	12 - 17	
	QTL 1 IS 11 FTE-2RL	9,2 - 11	16 - 24	
	QTL 1 IS 15 FTE-2RL	15	23 - 31	
	QTL 1 IS 18,5 FTE-2RL	18,5	30 - 39	
	QTL 1 IS 22 FTE-2RL	22	35 - 43	
	QTL 1 IS 30 FTE-2RL	30	42 - 65	
	QTL 1 IS 37 FTE-2RL	37	61 - 84	
	QTL 1 IS 45 FTE-2RL	45	80 - 105	
	QTL 1 IS 55 FTE-2RL	55	100 - 125	
	QTL 1 IS 75 FTE-2RL	75	120 - 160	
	QTL 1 IS 92 FTE-2RL	92	140 - 198	
	QTL 1 IS 110 FTE-2RL	110	180 - 250	

Construction

Electromechanical control panel for 1 submersible pump with three-phase motor, with Stator Impedance starter.

Operating signals on led board type E 1000.

Application : submersible motors control with great cable length.

Construction with SRLE level control for probes connection against dry-running .

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Stator Impedance - By pass contactors
- Transformer. - E 1000 led board.
- RLE level control for connection level probes of pump control.
- RLE level control for probes against dry running.
- Terminals for connection level probes or float switch for operating pump.
- Terminals for level probes or float switch connection against dry-running.
- Cable glands.

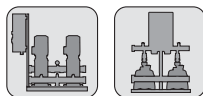
ON REQUEST:

- Voltmeter. - Ammeter.

Control panels



QML 2 D Control panel for 2 pumps with single-phase motor, direct starting



Code	Type	Motor 230V - 1~ kW	Protector max A	Dimensions HxBxP mm
---	QML 2 D 0,45	0,37 - 0,45	4	200x255x110
	QML 2 D 0,55	0,55	6	200x255x110
	QML 2 D 0,75	0,75	7	200x255x110
	QML 2 D 1,1	1,1	9	200x255x110
	QML 2 D 1,5	1,5	12	200x255x110

Construction

Control panel for 2 pumps with single-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation cascade mode controlled by an electronic board type MP 2000 with microprocessor which allows three different operation modes: standard, emergency and timed.

Technical data

- Mains single-phase 230V $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

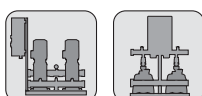
Components

- Thermoplastic case.- Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Starting relay. - Circuit breaker.
- Two capacitor (on request)
- Electronic board type MP 2000 with microprocessor.
- Terminals for pressure switch connection.
- Terminals for float switch or float switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

QTL 2 FT Control panel for 2 pumps with three-phase motor, direct starting



Code	Type	Motor 400V - 3~ kW	Setting max A	Dimensions HxBxP mm
---	QTL 2 FT 0,45	0,37 - 0,45	0,9 - 1,5	230x310x130
	QTL 2 FT 0,55	0,55	1,4 - 2,3	230x310x130
	QTL 2 FT 1,1	0,75 - 1,1	2 - 3,3	230x310x130
	QTL 2 FT 1,5	1,5	3 - 5	230x310x130
	QTL 2 FT 3	2,2 - 3	4,5 - 7,5	230x310x130
	QTL 2 FT 4	4	6,3 - 10	230x310x130
	QTL 2 FT 5,5	5,5	9 - 12	230x310x130

Construction

Control panel for 2 pumps with three-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation cascade mode controlled by an electronic board type MP 2000 with microprocessor which allows three different operation modes: standard, emergency and timed.

Technical data

- Mains 400V 3 ~ $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Thermoplastic case.
- Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Starting contactors. - Thermal relay.
- Electronic board type MP 2000 with microprocessor.
- Terminals for pressure switch connection.
- Terminals for float switch or flow switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

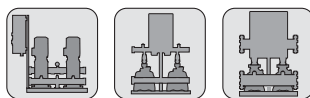
ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

Control panels



QTL 2 ST FT Control panel for 2 pumps with three-phase motor, Y/Δ starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTL 2 ST 5,5 FT	5,5	11 - 15	700x500x200
	QTL 2 ST 7,5 FT	7,5	12 - 17	700x500x200
	QTL 2 ST 11 FT	9,2 - 11	16 - 24	700x500x200
	QTL 2 ST 15 FT	15	23 - 31	700x500x200
	QTL 2 ST 18,5 FT	18,5	30 - 39	700x500x200
	QTL 2 ST 22 FT	22	35 - 43	900x600x250
	QTL 2 ST 30B FT	30	42 - 55	900x600x250
	QTL 2 ST 30A FT	30	55 - 65	900x600x250
	QTL 2 ST 37 FT	37	61 - 84	1100x700x250
	QTL 2 ST 45 FT	45	80 - 105	1100x700x250

Construction

Control panel for 2 pumps with three-phase motor, Y/Δ starting, for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Pump operation cascade mode controlled by an electronic board type MP 2000 with microprocessor which allows three different operation modes: standard, emergency and timed.

Technical data

- Mains 400V ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

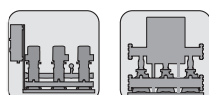
Components

- Metal case.
- Door lock master switch.
- Fuses for power line.
- Fuses for auxiliary circuit.
- Starting contactors.
- Thermal relay.
- Y/Δ timers.
- Transformer.
- Electronic board type MP 2000 with microprocessor.
- Terminals for pressure switch connection.
- Terminals for float switch or float switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Voltmeter.
- Ammeter.
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

QML 3 FT Control panel for 3 pumps with single-phase motor, direct starting



Code	Type	Motor 230V - 1~ kW	Setting max A	Dimensions HxBxP mm
---	QML 3 FT 0,37	0,37	1,6 - 2,5	390x470x130
	QML 3 FT 0,55	0,45 - 0,55	2,5 - 4	390x470x130
	QML 3 FT 0,75	0,75	4 - 6,5	390x470x130
	QML 3 FT 1,1	1,1	6,3 - 10	390x470x130
	QML 3 FT 1,5	1,5	9 - 12	390x470x130
	QML 3 FT 2,2	2,2	13 - 18	390x470x130

Construction

Control panel for 2 pumps with single-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation cascade mode controlled by an electronic board type MP 2000 with microprocessor which allows three different operation modes: standard, emergency and timed.

Technical data

- Mains single-phase 230V ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Thermoplastic case.
- Door lock master switch.
- Fuses for power line.
- Fuses for auxiliary circuit.
- Starting relay.
- Circuit breaker.
- Electronic board type MP 3000 with microprocessor.
- Terminals for pressure switch connection.
- Terminals for float switch or float switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

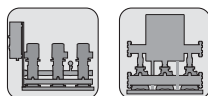
ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

Control panels



QTL 3 FT Control panel for 3 pumps with three-phase motor, direct starting



Code	Type	Motor 400V - 3~ kW	Setting max A	Dimensions HxBxP mm
---	QTL 3 FT 0,55	0,37 - 0,45 - 0,55	1 - 1,6	470x390x170
	QTL 3 FT 1,1	0,75 - 1,1	1,6 - 2,5	470x390x170
	QTL 3 FT 1,5	1,5	2,5 - 4	470x390x170
	QTL 3 FT 3	2,2 - 3	4 - 6,5	470x390x170
	QTL 3 FT 4	4	6,3 - 10	470x390x170
	QTL 3 FT 5,5	5,5	9 - 12	470x390x170

Construction

Control panel for 3 pumps with three-phase motor, direct starting, for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel . Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation cascade mode controlled by an electronic board type MP 3000 with microprocessor which allows three different operation modes: standard, emergency and timed.

Components

- Thermoplastic case.
- Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Starting contactors. - Thermal relay.
- Electronic board type MP 3000 with microprocessor.
- Terminals for pressure switch connection.
- Terminals for float switch or flow switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

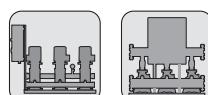
Technical data

- Mains 400V 3 ~ $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

QTL 3 ST FT Control panel for 3 pumps with three-phase motor, Y/ Δ starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTL 3 ST 5,5 FT	5,5	11 - 15	800x600x250
	QTL 3 ST 7,5 FT	7,5	12 - 17	800x600x250
	QTL 3 ST 11 FT	9,2 - 11	16 - 24	800x600x250
	QTL 3 ST 15 FT	15	23 - 31	800x600x250
	QTL 3 ST 18,5 FT	18,5	30 - 39	1000x600x250
	QTL 3 ST 22 FT	22	35 - 43	1100x700x250
	QTL 3 ST 30B FT	30	42 - 55	1200x800x300
	QTL 3 ST 30A FT	30	55 - 65	1200x800x300
	QTL 3 ST 37 FT	37	61 - 84	1400x800x400
	QTL 3 ST 45 FT	45	80 - 105	1400x800x400

Construction

Control panel for 3 pumps with three-phase motor, Y/ Δ starting, for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation cascade mode controlled by an electronic board type MP 3000 with microprocessor which allows three different operation modes: standard, emergency and timed.

Components

- Metal case. - Door lock master switch. - Fuses for power line.
- Fuses for auxiliary circuit. - Starting contactors.
- Thermal relay. - Y/ Δ timers. - Transformer.
- Electronic board type MP 3000 with microprocessor.
- Terminals for pumps connection.
- Terminals for pressure switch connection.
- Terminals for float switch or flow switch connection against dry-running.
- Terminals for remote signals - Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Voltmeter. - Ammeter.
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

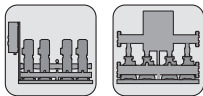
Technical data

- Mains 400V $\pm 10\%$ 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Control panels



QTL 4 D FT Control panel for 4 pumps with three-phase motor, direct starting



Code	Type	Motor 400V - 3~ kW	Setting max A	Dimensions HxBxP mm
---	QTL 4 D 0,55 FT	0,37- 0,45 - 0,55	1 - 1,6	600x400x200
	QTL 4 D 1,1 FT	0,75 - 1,1	1,6 - 2,5	600x400x200
	QTL 4 D 1,5 FT	1,5	2,5 - 4	600x400x200
	QTL 4 D 3 FT	2,2 - 3	4 - 6,5	600x400x200
	QTL 4 D 4 FT	4	6,3 - 10	600x400x200
	QTL 4 D 5,5 FT	5,5	9 - 12	600x400x200

Construction

Control panel for 4 pumps with three-phase motor, direct starting, for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation cascade mode controlled by an electronic board type MP 6000 with microprocessor alternating the starting order and allows three different operation modes: standard, emergency and timed.

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

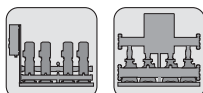
Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- Starting contactors.
- Thermal relay. - Transformer.
- Electronic board type MPS 6000 with microprocessor.
- Terminals for pressure transducer connection.
- Terminals for float switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M.
- RA 100 control panel for remote alarm.

QTL 4 ST FT Control panel for 4 pumps with three-phase motor, Y/Δ starting



5,5 ÷ 45 kW

Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTL 4 ST 5,5 FT	5,5	11 - 15	
	QTL 4 ST 7,5 FT	7,5	12 - 17	900x600x250
	QTL 4 ST 11 FT	11	16 - 24	900x600x250
	QTL 4 ST 15 FT	15	23 - 31	1000x800x250
	QTL 4 ST 18,5 FT	18,5	30 - 39	1000x800x250
	QTL 4 ST 22 FT	22	35 - 43	1200x800x250
	QTL 4 ST 30B FT	30	42 - 55	1200x800x250
	QTL 4 ST 30A FT	30	55 - 65	1200x800x250
	QTL 4 ST 37 FT	37	61 - 84	1400x800x400
	QTL 4 ST 45 FT	45	80 - 105	1400x800x400

Construction

Control panel for 3 pumps with three-phase motor, Y/Δ starting, for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation cascade mode controlled by an electronic board type MP 6000 with microprocessor alternating the starting order and allows three different operation modes: standard, emergency and timed.

Technical data

- Mains 400V ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Metal case. - Door lock master switch. - Fuses for power line.
- Fuses for auxiliary circuit. - Starting contactors.
- Thermal relay. - Y/Δ timers. - Transformer.
- Electronic board type MPS 6000 with microprocessor.
- Terminals for pumps connection.
- Terminals for pressure transducer connection.
- Terminals for float switch connection against dry-running.
- Terminals for remote signals
- Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Voltmeter. - Ammeter.

Control panels



QML 1 VFT Control panel for 1 pump with **variable speed** three-phase motor.



Code	Type	Motor 230V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QML 1 VFT 0,4	0,37 - 0,45	2,4	500x350x200
	QML 1 VFT 0,75	0,55 - 0,75	4,2	500x350x200
	QML 1 VFT 1,5	1,1 - 1,5	7,5	500x350x200
	QML 1 VFT 2,2	2,2	10	500x350x200

Construction

Single-phase mains supply control panel with frequency converter for 1 pump with three-phase 230V variable speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor.

Technical data

- Mains single-phase 230V $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- EMC filter. - Frequency converter. - MPS 4000 electronic card.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling.
- Terminals board. - Terminals for remote signals
- Pressure transducer - Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 9M.
- RA 100 control panel for remote alarm.

QTL 1 VFT Control panel for 1 pump with **variable speed** three-phase motor



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
14046510000	QTL 1 VFT 0,4	0,4	1,5	500x350x200
14046520000	QTL 1 VFT 0,75	0,55 - 0,75	2,3	500x350x200
14046530000	QTL 1 VFT 1,5	1,1 - 1,5	4,1	500x350x200
14046540000	QTL 1 VFT 2,2	2,2	5,5	500x350x200
14046550000	QTL 1 VFT 4	3 - 4	9,5	500x350x200
14046560000	QTL 1 VFT 5,5	5,5	14,3	600x400x200
14046570000	QTL 1 VFT 7,5	7,5	17	600x400x200
14046580000	QTL 1 VFT 11	9,2 - 11	27,7	700x500x200
14046590000	QTL 1 VFT 15	15	33	700x500x200
14046600000	QTL 1 VFT 18,5	18,5	41	800x600x250
14046610000	QTL 1 VFT 22	22	48	800x600x250
14046620000	QTL 1 VFT 30	30	66	800x600x250
14046630000	QTL 1 VFT 37	37	79	1100x700x300
14046640000	QTL 1 VFT 45	45	94	1200x800x300
14046650000	QTL 1 VFT 55	55	116	1200x800x300
14046660000	QTL 1 VFT 75	75	160	1200x800x300

Construction

Control panel with frequency converter for 1 pump with three-phase variable speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor.

Technical data

- Mains 400V $\pm 10\%$ 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- EMC filter. - Frequency converter. - MPS 4000 electronic board.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling.
- Terminals board. - Terminals for remote signals
- Pressure transducer - Cable glands.

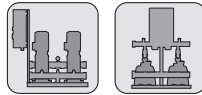
ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 9M.
- RA 100 control panel for remote alarm.

Control panels



QML 2 VFT Control panel for 2 pumps with variable speed three-phase motor



Code	Type	Motor 230V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QML 2 VFT 0,4	0,37 - 0,45	2,4x2	600x400x200
	QML 2 VFT 0,75	0,55 - 0,75	4,2x2	600x400x200
	QML 2 VFT 1,5	1,1 - 1,5	7,5x2	600x400x200
	QML 2 VFT 2,2	2,2	10x2	600x400x200

Construction

Single-phase mains supply control panel with frequency converter for 2 pumps with three-phase 230V variable speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit. - EMC filter.
- Frequency converter (1 for each pump).
- MPS 4000 electronic board.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling.
- Terminals board. - Terminals for remote signals
- Pressure transducer - Cable glands.

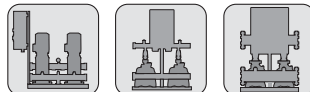
Technical data

- Mains single-phase 230V $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 9M.
- RA 100 control panel for remote alarm.

QTL 2 VFT Control panel for 2 pumps with variable speed three-phase motor



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
14046670000	QTL 2 VFT 0,4	0,4	1,5x2	600x400x200
14046680000	QTL 2 VFT 0,75	0,55 - 0,75	2,3x2	600x400x200
14046690000	QTL 2 VFT 1,5	1,1 - 1,5	4,1x2	600x400x200
14046700000	QTL 2 VFT 2,2	2,2	5,5x2	600x400x200
14046710000	QTL 2 VFT 4	3 - 4	9,5x2	600x400x200
14046720000	QTL 2 VFT 5,5	5,5	14,3x2	700x500x200
14046730000	QTL 2 VFT 7,5	7,5	17x2	700x500x200
14046740000	QTL 2 VFT 11	9,2 - 11	27,7x2	1000x800x250
14046750000	QTL 2 VFT 15	15	33x2	1000x800x250
14046760000	QTL 2 VFT 18,5	18,5	41x2	1200x800x300
14046770000	QTL 2 VFT 22	22	48x2	1200x800x300
14046780000	QTL 2 VFT 30	30	66x2	1200x800x300
14046790000	QTL 2 VFT 37	37	79x2	1600x1000x400
14046800000	QTL 2 VFT 45	45	94x2	2100x1400x500
14046810000	QTL 2 VFT 55	55	116x2	2100x1400x500
14046820000	QTL 2 VFT 75	75	160x2	2100x1400x500

Construction

Control panel with frequency converter for 2 pump with three-phase variable speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- EMC filter. - Frequency converter.
- MPS 4000 electronic board.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling. - Pressure transducer
- Terminals board. - Terminals for remote signals - Cable glands.

Technical data

- Mains 400V $\pm 10\%$ 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

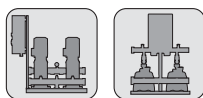
ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 9M.
- RA 100 control panel for remote alarm.

Control panels



QML 1.1 VFT Control panel for 1 variable speed pump and 1 fixed speed pump



Code	Type	Motor 230V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QML 1.1 VFT 0,4 - D 0,4	0,37 - 0,45	2,4	600x400x200
	QML 1.1 VFT 0,75 - D 0,75	0,55 - 0,75	4,2	600x400x200
	QML 1.1 VFT 1,5 - D 1,5	1,1 - 1,5	7,5	600x400x200
	QML 1.1 VFT 2,2 - D 2,2	2,2	10	600x400x200

Construction

Single-phase mains supply control panel with frequency converter for 2 pumps, one with three-phase 230V variable speed motor and one with fixed speed single-phase motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- EMC filter. - Frequency converter.
- Starting contactors of the second pump. - Transformer.
- MPS 4000 electronic board.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling. - Pressure transducer
- Terminals board. - Terminals for remote signals - Cable glands.

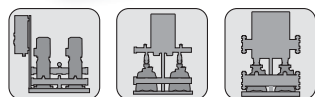
Technical data

- Mains single-phase 230V $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 9M.
- RA 100 control panel for remote alarm.

QTL 1.1 VFT Control panel for 1 variable speed pump and 1 fixed speed pump



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QTL 1.1 VFT 0,4 - D 0,4	0,4	1,5	600x400x200
14047460000	QTL 1.1 VFT 0,75 - D 0,75	0,55 - 0,75	2,3	600x400x200
14047230000	QTL 1.1 VFT 1,5 - D 1,5	1,1 - 1,5	4,1	600x400x200
14047130000	QTL 1.1 VFT 2,2 - D 2,2	2,2	5,5	600x400x200
	QTL 1.1 VFT 4 - D 3	3	9,5	600x400x200
14047160000	QTL 1.1 VFT 4 - D 4	4	9,5	600x400x200
14047120000	QTL 1.1 VFT 5,5 - D 5,5	5,5	14,3	700x500x200
14047030000	QTL 1.1 VFT 7,5 - ST 7,5	7,5	17	700x500x200
14048390000	QTL 1.1 VFT 11 - ST 11	9,2 - 11	27,7	800x600x250
14048210000	QTL 1.1 VFT 15 - ST 15	15	33	800x600x250
	QTL 1.1 VFT 22 - ST 18,5	18,5	41	1000x800x250
	QTL 1.1 VFT 22 - ST 22	22	48	1000x800x250
	QTL 1.1 VFT 30 - ST 30B	30	66	1000x800x250
	QTL 1.1 VFT 30 - ST 30A	30	66	1000x800x250
	QTL 1.1 VFT 37 - ST 37	37	79	1200x800x300
	QTL 1.1 VFT 45 - ST 45	45	94	1200x800x300
	QTL 1.1 VFT 55 - ST 55	55	116	1200x800x300
	QTL 1.1 VFT 75 - ST 75	75	160	1200x800x300

Construction

Control panel with frequency converter for 2 pumps with three-phase motor, one with variable speed and one with fixed speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Components

- Metal case. - Door lock master switch. - Fuses for power line.
- Fuses for auxiliary circuit. - EMC filter. - Frequency converter.
- Starting contactors of the second pump. - Timer (Y/Δ) from 7,5 kW.
- Transformer. - MPS 4000 electronic card.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling. - Pressure transducer
- Terminals board. - Terminals for remote signals - Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 9M.
- RA 100 control panel for remote alarm.

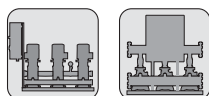
Technical data

- Mains 400V $\pm 10\%$ 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

Control panels



QML 3 VFT Control panel for 3 variable speeds pump with three-phase motor



Code	Type	Motor 230V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QML 3 VFT 0,4	0,37 - 0,45	2,4x3	700x500x200
	QML 3 VFT 0,75	0,55 - 0,75	4,2x3	700x500x200
	QML 3 VFT 1,5	1,1 - 1,5	7,5x3	700x500x200
	QML 3 VFT 2,2	2,2	10x3	700x500x200

Construction

Single-phase mains supply control panel with frequency converter for 3 pumps with three-phase 230V variable speed motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- EMC filter. - Frequency converter (1 for each pump).
- MPS 4000 electronic card.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling.
- Terminals board. - Terminals for remote signals
- Pressure transducer - Cable glands.

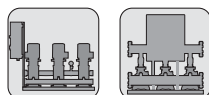
Technical data

- Mains single-phase 230V $\pm 10\%$ 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 13M.
- RA 100 control panel for remote alarm.

QTL 3 VFT Control panel for 3 pumps with variable speed three-phase motor



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QTL 3 VFT 0,4	0,4	1,5x3	700x500x200
	QTL 3 VFT 0,75	0,55 - 0,75	2,3x3	700x500x200
14046930000	QTL 3 VFT 1,5	1,1 - 1,5	4,1x3	700x500x200
14047140000	QTL 3 VFT 2,2	2,2	5,5x3	700x500x200
14047040000	QTL 3 VFT 4	3 - 4	9,5x3	700x500x200
14048250000	QTL 3 VFT 5,5	5,5	14,3x3	1000x800x250
	QTL 3 VFT 7,5	7,5	17x3	1000x800x250
	QTL 3 VFT 11	9,2 - 11	27,7x3	1700x1000x400
	QTL 3 VFT 15	15	33x3	1700x1000x400
14047150000	QTL 3 VFT 22	18,5 - 22	48x3	1700x1000x400
14047270000	QTL 3 VFT 30	30	66x3	1700x1000x400
	QTL 3 VFT 37	37	79x3	A richiesta
	QTL 3 VFT 45	45	94x3	A richiesta
	QTL 3 VFT 55	55	116x3	A richiesta
	QTL 3 VFT 75	75	160x3	A richiesta

Construction

Control panel with frequency converter for 3 pumps with variable speed three-phase motor, for constant pressure booster sets.

Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- EMC filter. - Frequency converter (1 for each pump).
- MPS 4000 electronic card.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling. - Pressure transducer
- Terminals board. - Terminals for remote signals - Cable glands.

Technical data

- Mains 400V $\pm 10\%$ 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

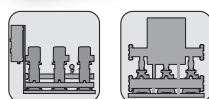
ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 13M.
- RA 100 control panel for remote alarm.

Control panels



QTL 1.2 VFT Control panel for 1 variable speed pump and 2 fixed speed pumps



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
	QTL 1.2 VFT 0,4 - D 0,4	0,4	1,5	600x400x200
	QTL 1.2 VFT 0,75 - D 0,75	0,55 - 0,75	2,3	600x400x200
14047640000	QTL 1.2 VFT 1,5 - D 1,5	1,1 - 1,5	4,1	600x400x200
14048510000	QTL 1.2 VFT 2,2 - D 2,2	2,2	5,5	600x400x200
	QTL 1.2 VFT 4 - D 3	3	9,5	600x400x200
14048260000	QTL 1.2 VFT 4 - D 4	4	9,5	600x400x200
14047200000	QTL 1.2 VFT 5,5 - D 5,5	5,5	14,3	700x500x200
	QTL 1.2 VFT 7,5 - ST 7,5	7,5	17	800x600x250
14047300000	QTL 1.2 VFT 11 - ST 11	9,2 - 11	27,7	900x600x250
	QTL 1.2 VFT 15 - ST 15	15	33	900x600x250
	QTL 1.2 VFT 22 - ST 18,5	18,5	41	900x600x250
14048660000	QTL 1.2 VFT 22 - ST 22	22	48	1000x800x250
	QTL 1.2 VFT 30 - ST 30B	30	66	1000x800x250
	QTL 1.2 VFT 30 - ST 30A	30	66	1000x800x250
	QTL 1.2 VFT 37 - ST 37	37	79	1200x800x300
	QTL 1.2 VFT 45 - ST 45	45	94	
	QTL 1.2 VFT 55 - ST 55	55	116	
	QTL 1.2 VFT 75 - ST 75	75	160	

Construction

Control panel with frequency converter for 3 pumps with three-phase motor: one with variable speed motor (with frequency converter) and 2 with fixed speed motor, for constant pressure booster sets. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Components

- Metal case. - Door lock master switch. - Fuses for power line.
- Fuses for auxiliary circuit. - EMC filter. - Frequency converter.
- Starting contactors of the second and third pump.
- Timer (Y/Δ) from 7,5 kW. - Transformer.
- MPS 4000 electronic board.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling. - Pressure transducer
- Terminals board. - Terminals for remote signals - Cable glands.

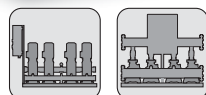
Technical data

- Mains 400V ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 13M.
- RA 100 control panel for remote alarm.

QTL 4 VFT Control panel for 4 pumps with variable speed three-phase motor



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
	QTL 4 VFT 0,4	0,4	1,5x4	900x600x250
	QTL 4 VFT 0,75	0,55 - 0,75	2,3x4	900x600x250
	QTL 4 VFT 1,5	1,1 - 1,5	4,1x4	900x600x250
	QTL 4 VFT 2,2	2,2	5,5x4	900x600x250
14047840000	QTL 4 VFT 4	3 - 4	9,5x4	900x600x250
	QTL 4 VFT 5,5	5,5	14,3x4	1200x800x300
	QTL 4 VFT 7,5	7,5	17x4	1200x800x300
	QTL 4 VFT 11	9,2 - 11	27,7x4	1700x1000x400
	QTL 4 VFT 15	15	33x4	1700x1000x400
	QTL 4 VFT 22	18,5 - 22	48x4	2000x1800x400
	QTL 4 VFT 30	30	66x4	2000x1800x400
	QTL 4 VFT 37	37	79x4	2000x1800x400
	QTL 4 VFT 45	45	94x4	2000x1800x400
	QTL 4 VFT 55	55	116x4	2000x1800x400
	QTL 4 VFT 75	75	160x4	2000x1800x400

Construction

Control panel with frequency converter for 4 pumps with variable speed three-phase motor, for constant pressure booster sets. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Components

- Metal case. - Door lock master switch.
- Fuses for power line. - Fuses for auxiliary circuit.
- EMC filter. - Frequency converter (1 for each pump).
- MPS 4000 electronic board.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling. - Pressure transducer
- Terminals board. - Terminals for remote signals - Cable glands.

Technical data

- Mains 400V ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

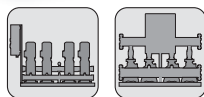
ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 13M.
- RA 100 control panel for remote alarm.

Control panels



QTL 1.3 VFT Control panel for 1 variable speed pump and 3 fixed speed pumps



Code	Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
---	QTL 1.3 VFT 0,4 - D 0,4	0,4	1,5	800x600x250
	QTL 1.3 VFT 0,75 - D 0,75	0,55 - 0,75	2,3	800x600x250
	QTL 1.3 VFT 1,5 - D 1,5	1,1 - 1,5	4,1	800x600x250
	QTL 1.3 VFT 2,2 - D 2,2	2,2	5,5	800x600x250
	QTL 1.3 VFT 4 - D 3	3	9,5	800x600x250
	QTL 1.3 VFT 4 - D 4	4	9,5	800x600x250
	QTL 1.3 VFT 5,5 - D 5,5	5,5	14,3	1100x700x250
	QTL 1.3 VFT 7,5 - ST 7,5	7,5	17	1100x700x250
14046890000	QTL 1.3 VFT 11 - ST 11	9,2 - 11	27,7	1200x800x300
	QTL 1.3 VFT 15 - ST 15	15	33	1200x800x300
	QTL 1.3 VFT 22 - ST 18,5	18,5	41	1200x800x300
	QTL 1.3 VFT 22 - ST 22	22	48	1200x800x300
	QTL 1.3 VFT 30 - ST 30B	30	66	1200x800x300
	QTL 1.3 VFT 30 - ST 30A	30	66	1200x800x300
	QTL 1.3 VFT 37 - ST 37	37	79	1700x800x400
	QTL 1.3 VFT 45 - ST 45	45	94	1700x800x400
	QTL 1.3 VFT 55 - ST 55	55	116	
	QTL 1.3 VFT 75 - ST 75	75	160	

Construction

Control panel with frequency converter for 4 pumps with three-phase motor: one with variable speed motor (with frequency converter) and 3 with fixed speed motor, for constant pressure booster sets. Arranged for SRL 3 level control application for probes connection against dry-running.

Pump operation controlled by an electronic board type MPS 4000 with microprocessor alternating the starting order at each start.

Technical data

- Mains 400V $\pm 10\%$ 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 44.

Components

- Metal case. - Door lock master switch. - Fuses for power line.
- Fuses for auxiliary circuit. - EMC filter. - Frequency converter.
- Starting contactors of the second, third and fourth pump.
- Timer (Y/ Δ) from 7,5 kW. - Transformer. - MPS 4000 electronic board.
- Interface for MPS 4000 electronic board.
- Ventilator for electric panel cooling. - Pressure transducer
- Terminals board. - Terminals for remote signals - Cable glands.

ON REQUEST:

- SRL 3 level control for probes against dry running
- Volt free contact module MSP 1M, MPS 13M.
- RA 100 control panel for remote alarm.

Control panels



QMLD 1 D Control panel for 1 submersible drainage pump with single-phase motor, direct starting



Code	Type	Motor 230V - 1~ kW	Setting A	Capacitor 450Vc	Dimensions HxBxP mm
---	QMLD 1D 12A-FA	0,25 ÷ 1,1	1 ÷ 12 A	-	200x255x135
	QMLD 1D 12A-FA-20	0,25 ÷ 1,1	1 ÷ 12 A	20 µF	200x255x135
	QMLD 1D 12A-FA-25	0,25 ÷ 1,1	1 ÷ 12 A	25 µF	200x255x135

Construction

Control panel with protection for 1 submersible drainage pump with single-phase motor, with a 12A max. nominal current.

Possibility to install one capacitor inside the control panel, for pumps without capacitor inside the motor.

Operation managed by a DR 1000 type electronic board with microprocessor that has the following functions:

- automatic operating test of the pump every 48 hours of inactivity (with pump in the automatic operating mode).
- Pump control with signals coming from:
 - **2 float switches:** one for starting-up and stopping pump, one for the alarm maximum level (optional).
 - **3 float switches:** one for starting-up pump, one for stopping the pump and one for the alarm maximum level (optional).

Technical data

- Mains: 230V 1~ ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Thermoplastic case.
- Line selector switch with door-locking device.
- Power line fuses.
- Auxiliary circuit fuses.
- Starting-up relay.
- Amperometric transformer.
- Capacitor (on request).
- DR 1000 type electronic board with microprocessor.
- Terminals for capacitor connection.
- Terminals for float switches connection.
- Terminals for connection of remote alarm control panel RA 100E, RA 100A type.
- Cable glands.

The panel is suitable for remote control of all the signals of the box.

ON REQUEST:

- Volt free contact module MSP 1M - MSP 9M.
- RA 100 - RA 100A control panel for remote alarm.

QTLD 1 D Control panel for 1 submersible drainage pump with three-phase motor, direct starting



Code	Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
14039020000	QTLD 1D 12A-FA	0,25 ÷ 5	1 ÷ 12 A	200x255x135

Construction

Control panel with protection for 1 submersible drainage pump with three-phase motor, with a 12A max. nominal current.

Operation managed by a DR 1000 type electronic board with microprocessor that has the following functions:

- automatic operating test of the pump every 48 hours of inactivity (with pump in the automatic operating mode).
- Pump control with signals coming from:
 - **2 float switches:** one for starting-up and stopping pump, one for the alarm maximum level (optional).
 - **3 float switches:** one for starting-up pump, one for stopping the pump and one for the alarm maximum level (optional).

Technical data

- Mains: 400V 3~ ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Thermoplastic case.
- Line selector switch with door-locking device.
- Power line fuses.
- Auxiliary circuit fuses.
- Contactor.
- Amperometric transformer.
- DR 1000 electronic board with microprocessor.
- Terminals for float switches connection.
- Connection terminals for the RA 100 RA 100A type remote alarm control panel or volt free contact module.
- Cable glands.

ON REQUEST:

- Volt free contact module MSP 1M - MSP 9M.
- RA 100 - RA 100A control panel for remote alarm.

Control panels



QTLD 1 ST FT Control panel for 1 submersible drainage pump with three-phase motor, Y/Δ starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTLD 1ST 4 FT-RL	4	7 - 11	600x400x200
	QTLD 1ST 5,5 FT-RL	5,5	11 - 15	600x400x200
	QTLD 1ST 7,5 FT-RL	7,5	12 - 17	600x400x200
	QTLD 1ST 11 FT-RL	9,2 - 11	16 - 24	600x400x200
	QTLD 1ST 15 FT-RL	15	23 - 31	600x400x200
	QTLD 1ST 18,5 FT-RL	18,5	30 - 39	600x400x200
	QTLD 1ST 22 FT-RL	22	35 - 43	700x500x250
	QTLD 1ST 30B FT-RL	30	42 - 55	700x500x250
	QTLD 1ST 30A FT-RL	30	55 - 65	700x500x250
	QTLD 1ST 37 FT-RL	37	61 - 84	800x600x250
	QTLD 1ST 45 FT-RL	45	80 - 105	800x600x250
	QTLD 1ST 55 FT-RL	55	100 - 125	1100x700x250
	QTLD 1ST 75 FT-RL	75	120 - 150	1100x700x250
	QTLD 1ST 92 FT-RL	92	155 - 255	1100x700x250

Construction

Control panel with protection for 1 submersible drainage pump with three-phase motor, Y/Δ starting.

Operation managed by the DR1000 electronic circuit board that has the following functions:

- automatic operating test of the pump every 24 hours of inactivity (with pump in the automatic operating mode).
- Pump control with signals coming from:
 - **2 float switches:** for starting-up and stopping pump, for the alarm (maximum level is optional).
 - **3 float switches:** for starting-up pump, for stopping the pump and for the alarm (maximum level is optional).

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Metal case. - Line selector switch with door-locking device.
- Power line fuses. - Auxiliary circuit fuses. - Contactors.
- Y/Δ timer. - Thermal relay. - Level regulator.
- DR 1000 type circuit board with microprocessor.
- Connection terminals for float switches or level probes.
- Connection terminals for thermal protectors.
- Connection terminals for water seepages probe.
- Connection terminals for the RA 100 RA 100A type remote alarm control panel or volt free contact module.
- Cable glands.

ON REQUEST:

- Volt free contact module MSP 1M - MSP 9M.
- RA 100 - RA 100A control panel for remote alarm.
- Voltmeter. - Ammeter.

Control panels



QMLD 2 D Control panel for 2 submersible drainage pumps with single-phase motor, direct starting



Code	Type	Motor 230V - 1~ kW	Setting A	Capacitor 450Vc	Dimensions HxBxP mm
---	QMLD 2D 12A-FA ...	0,25 ÷ 1,1	1 ÷ 12 A	-	230x310x130
	QMLD 2D 12A-FA 20	0,25 ÷ 1,1	1 ÷ 12 A	2x20 µF	230x310x130
	QMLD 2D 12A-FA 25	0,25 ÷ 1,1	1 ÷ 12 A	2x25 µF	230x310x130
	QMLD 2D 12A-FA 35-85	0,25 ÷ 1,1	1 ÷ 12 A	2x35 µF	470x390x170

Construction

Control panel with protection for 2 submersible drainage pumps with single-phase motor, with a 12A max. nominal current. Possibility to install two capacitors inside the control panel, for pump without capacitor inside the motor.

Operation managed by the DR 2000 electronic board that has the following functions:

- pump changing at every pump start.
- working pumps changing after 30 minutes of uninterrupted operation.
- automatic operating test of each individual pump every 48 hours of inactivity (with pumps in the automatic functioning mode).
- Pump control with signals coming from:
 - **3 float switches:** for starting-up and stopping pump 1, for starting-up and stopping pump 2, for the alarms (maximum level is optional).
 - **4 float switches:** for starting-up pump 1, for starting up pump 2, for stopping the pumps and for the alarms (maximum level is optional).

Technical data

- Mains: 230V 1~ ±10% 50/60 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Box in thermoplastic material.
- Line selector switch with door-locking device.
- Power line fuses.
- Auxiliary circuit fuses.
- Starting-up relays.
- Amperometric transformers.
- Capacitors (on request).
- DR 2000 electronic board with microprocessor.
- Terminals for capacitors connection.
- Terminals for float switches connection.
- Terminals for connection the RA 100E, RA 100A type remote alarm control panel or volt free contact module.
- Cable glands.

The panel is suitable for remote control of all the signals of the box.

ON REQUEST:

- Volt free contact module MSP 1M - MSP 9M.
- RA 100 - RA 100A control panel for remote alarm.

QTL D 2 Control panel for 2 submersible drainage pumps with three-phase motor, direct starting



Code	Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
---	QTL D 2 12A-FA	0,25 ÷ 5	1 ÷ 12 A	230x310x130

Construction

Control panel with protection for 2 submersible drainage pumps with three-phase motors, with a 12A max. nominal current.

Operation managed by the DR 2000 electronic card that incorporates the following functions:

- changes pumps at every pump start.
- changes working pumps after 30 minutes of uninterrupted operation.
- automatic functioning test of each individual pump every 48 hours of inactivity (with pumps in the automatic functioning mode).
- Pump control with signals coming from:
 - **3 float switches:** for starting-up and stopping pump 1, for starting-up and stopping pump 2, for the alarms (maximum level is optional).
 - **4 float switches:** for starting-up pump 1, for starting up pump 2, for stopping the pumps and for the alarms (maximum level is optional).

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C. - Protection IP 55.

Components

- Box in thermoplastic material.
- Line selector switch with door-locking device.
- Power line fuses.
- Auxiliary circuit fuses.
- Contactors.
- Amperometric transformers.
- DR 2000 type electronic board with microprocessor.
- Connection terminals for float switches.
- Terminals for connection the RA 100A type remote alarm control panel or volt free contact module.
- Cable glands.

The panel is suitable for remote control of all the signals of the box.

ON REQUEST:

- Volt free contact module MSP 1M - MSP 9M.
- RA 100A control panel for remote alarm.

Control panels



QTLD 2 ST FT Electric control panel for 2 drainage pumps with three-phase motor, Y/Δ starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTLD 2ST 4 FT-RL	4	7 - 11	700x500x200
	QTLD 2ST 5,5 FT-RL	5,5	11 - 15	700x500x200
	QTLD 2ST 7,5 FT-RL	7,5	12 - 17	700x500x200
	QTLD 2ST 11 FT-RL	9,2 - 11	16 - 24	700x500x200
	QTLD 2ST 15 FT-RL	15	23 - 31	700x500x200
	QTLD 2ST 18,5 FT-RL	18,5	30 - 39	700x500x200
	QTLD 2ST 22 FT-RL	22	35 - 43	900x600x250
	QTLD 2ST 30B FT-RL	30	42 - 55	900x600x250
	QTLD 2ST 30A FT-RL	30	55 - 65	900x600x250
	QTLD 2ST 37 FT-RL	37	61 - 84	1100x700x250
	QTLD 2ST 45 FT-RL	45	80 - 105	1100x700x250
	QTLD 2ST 55 FT-RL	55	100 - 125	1200x800x300
	QTLD 2ST 75 FT-RL	75	120 - 150	1200x800x300
	QTLD 2ST 92 FT-RL	92	155 - 255	1400x800x400

Construction

Control panel with protection for 2 submersible drainage pumps with three-phase motor, Y/Δ starting.

Operation managed by the DR 2000 electronic circuit board that has the following functions:

- pump changing at every pump start.
- working pumps changing after 30 minutes of uninterrupted operation.
- automatic operating test of each individual pump every 48 hours of inactivity (with pumps in the automatic functioning mode).
- Pump control with signals coming from:
 - **3 float switches:** for starting-up and stopping pump 1, for starting-up and stopping pump 2, for the alarms (maximum level is optional).
 - **4 float switches:** for starting-up pump 1, for starting up pump 2, for stopping the pumps and for the alarms (maximum level is optional).

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C.
- Protection IP 55.

Components

- Metal case.
- Line selector switch with door-locking device.
- Power line fuses.
- Auxiliary circuit fuses. - Contactors.
- Y/Δ timers. - Level regulator.
- DR 2000 type circuit board with microprocessor.
- Connection terminals for float switches.
- Connection terminals for thermal protectors.
- Connection terminals for water seepages probe.
- Connection terminals for the RA 100, RA 100A type remote alarm control panel or volt free contact module.
- Cable glands.

ON REQUEST:

- Volt free contact module MSP 1M - MSP 9M.
- RA 100 - RA 100A control panel for remote alarm.
- Voltmeter.
- Ammeter.

Control panels



QTLTD 3 D FT Control panel for 3 submersible drainage pumps with three-phase motor, direct starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTLTD 3D 0,55 FT	0,55	1 - 1,6	470x390x170
	QTLTD 3D 1,1 FT	0,75 - 1,1	1,6 - 2,5	470x390x170
	QTLTD 3D 1,5 FT	1,5	2,5 - 4	470x390x170
	QTLTD 3D 3 FT	2,2 - 3	4 - 6,5	470x390x170
	QTLTD 3D 4 FT	4	6,3 - 10	470x390x170
	QTLTD 3D 5,5 FT	5,5	9 - 12	470x390x170

Construction

Control panel with protection for 3 submersible drainage pumps with three-phase motor, direct starting.

Operation managed by the DR 3000 electronic circuit board that has the following functions:

- changes pumps at every pump start.
- changes working pumps after 30 minutes of uninterrupted operation.
- automatic functioning test of each individual pump every 48 hours of inactivity (with pumps in the automatic functioning mode).
- Pump control with signals coming from:
 - **4 float switches:** for starting-up and stopping pump, for the alarm (maximum level is optional).
 - **5 float switches:** for starting-up pump, for stopping the pumps and for the alarm (maximum level is optional).

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C. - Protection IP 55.

Components

- Metal case.
- Line selector switch with door-locking device.
- Power line fuses.
- Auxiliary circuit fuses.
- Contactors.
- Thermal relay
- DR 3000 type circuit board with microprocessor.
- Connection terminals for float switches.
- Connection terminals for the RA 100, RA 100A type remote alarm control panel or MSP 1M volt free contact module.
- Cable glands.

ON REQUEST:

- Volt free contact module MSP 1M.
- RA 100 - RA 100A control panel for remote alarm .
- Voltmeter.
- Ammeter.

QTLTD 3 ST FT Electric control panel for 3 drainage pumps with three-phase motor, Y/Δ starting



Code	Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
---	QTLTD 3ST 4 FT-RL	4	7 - 11	800x600x250
	QTLTD 3ST 5,5 FT-RL	5,5	11 - 15	800x600x250
	QTLTD 3ST 7,5 FT-RL	7,5	12 - 17	800x600x250
	QTLTD 3ST 11 FT-RL	9,2 - 11	16 - 24	800x600x250
	QTLTD 3ST 15 FT-RL	15	23 - 31	800x600x250
	QTLTD 3ST 18,5 FT-RL	18,5	30 - 39	1000x600x250
	QTLTD 3ST 22 FT-RL	22	35 - 43	1100x700x250
	QTLTD 3ST 30B FT-RL	30	42 - 55	1200x800x300
	QTLTD 3ST 30A FT-RL	30	55 - 65	1200x800x300
	QTLTD 3ST 37 FT-RL	37	61 - 84	1400x800x400
	QTLTD 3ST 45 FT-RL	45	80 - 105	1400x800x400
	QTLTD 3ST 55 FT-RL	55	100 - 125	1600x800x400
	QTLTD 3ST 75 FT-RL	75	120 - 150	1600x1000x400
	QTLTD 3ST 92 FT-RL	92	155 - 255	1600x1000x400

Construction

Control panel with protection for 3 submersible drainage pumps with three-phase motor, Y/Δ starting.

Operation managed by the DR 3000 electronic circuit board that incorporates the following functions:

- changes pumps at every pump start.
- changes working pumps after 30 minutes of uninterrupted operation.
- automatic functioning test of each individual pump every 48 hours of inactivity (with pumps in the automatic functioning mode).
- Pump control with signals coming from:
 - **4 float switches:** for starting-up and stopping pump, for the alarm (maximum level is optional).
 - **5 float switches:** for starting-up pump, for stopping the pumps and for the alarm (maximum level is optional).

Technical data

- Mains 400V 3 ~ ±10% 50 Hz (other voltages on request).
- Ambient temperature from -5 °C to +40 °C. - Protection IP 55.

Components

- Metal case.
- Line selector switch with door-locking device.
- Power line fuses.
- Auxiliary circuit fuses.
- Contactors.
- Y/Δ timers.
- Level regulator.
- DR 3000 type circuit board with microprocessor.
- Interface for DR 3000.
- Connection terminals for float switches.
- Connection terminals for thermal protectors.
- Connection terminals for water seepages probe.
- Connection terminals for the RA 100E, RA 100A type remote alarm control panel or MSP 1M volt free contact module.
- Cable glands.

ON REQUEST:

- Volt free contact module MSP 1M.
- RA 100 - RA 100A control panel for remote alarm .
- Voltmeter.
- Ammeter.

ELECTRONIC PROTECTION DEVICE FOR PUMP



Construction

Electronic device for pumps protection, the device stops the pump in case of dry running and motor overcurrent.

Electrical connection

- To pump motor cable (Schuko plug built-in)
- To electric line socket (Schuko plug built-in)

Applications

For protection of the pump:

- The device protect the pump:**
- against dry running;
 - against overcurrent.

Operating conditions

Maximum ambient temperature max 55 °C.

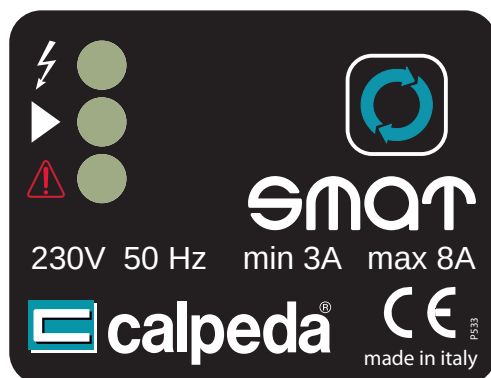
Single-phase mains voltage: 230 V ±10%.

Frequency: 50 - 60 Hz.

Protection IP 65.

Pump motor current Minimum 3 A - Maximum 8 A.

Control Panel



Operation



Green Led on = Device energised



Yellow Led on = Pump running



Blinking red Led = Water shortage
Red Led on = Power surge

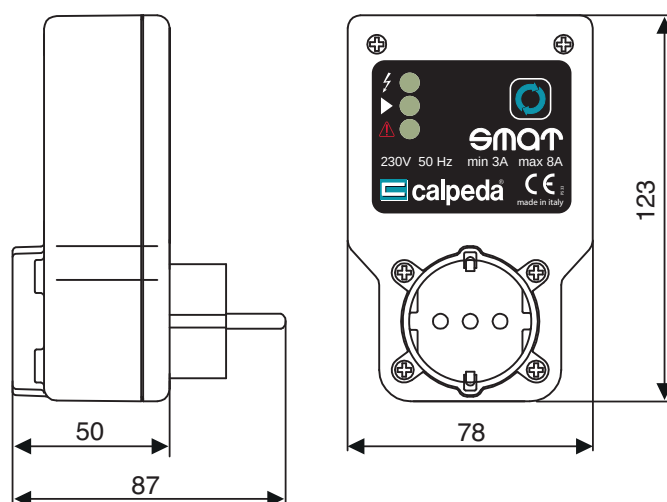


RESTART button =

- Acquisition motor data
- Reset after fault

ELECTRONIC PROTECTION DEVICE FOR PUMP

Dimensions and weights



Example of installation

In order to operate, the electrical power supply of the pump must be connected to the mains.

For this reason the power supply plug of the pump must be inserted in the socket of the device which is in turn connected to the power point (see Figure).

In case of a water shortage on suction, the device will stop the pump and protect it against dry running.

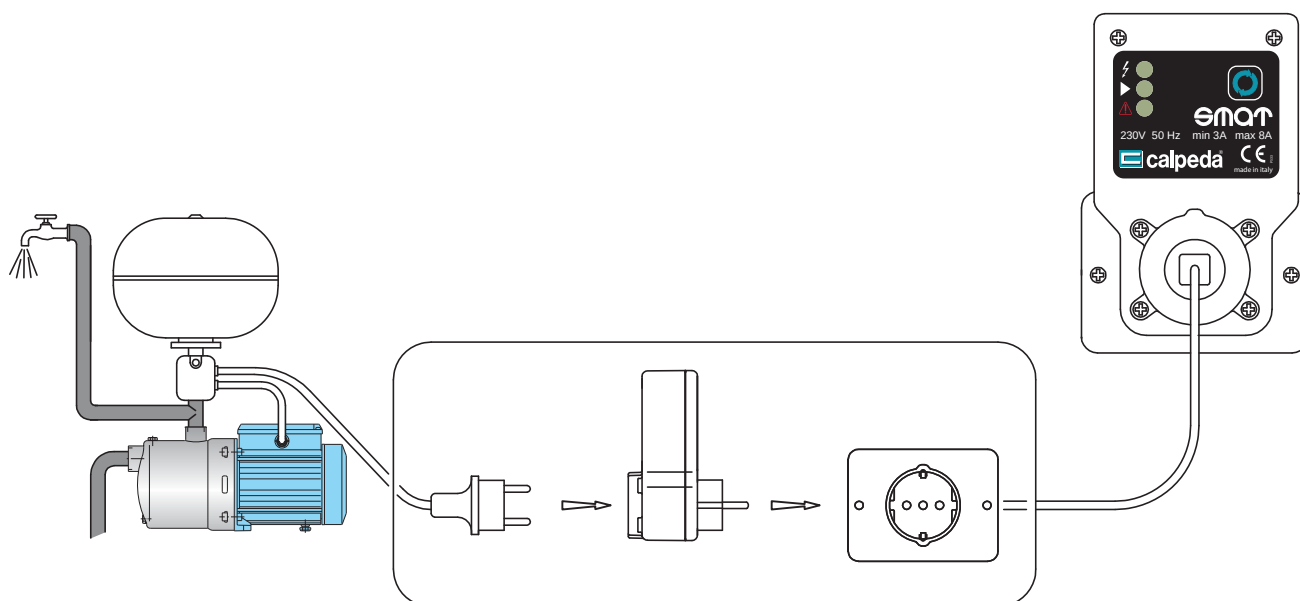
This malfunctioning is indicated with the red "Failure" Led lit up.

In case of the current absorption exceeding 8 amperes, the device will stop the pump motor and protect it against over-current.

This malfunctioning is indicated with the red "Failure" Led lit up.

To restore normal operation to the device and the system simply press the red "Restart" button.

In case of a blackout, it will automatically rearm again several seconds after the electricity returns.



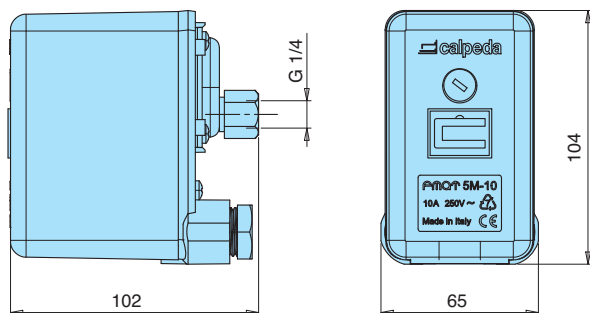
PRESSURE SWITCHES FOR WATER SYSTEM APPLICATIONS



Adjustment key included



Dimensions



Construction

- Pressure switches for use with water in autoclave systems
- The switch ensures automatically the starting and stopping of the electric pump according to the set pressure values
- Electric contacts: normally closed and made of brass alloy with Ag-Ni surfacing
- Terminals with M4 screws and 8x8 mm pressure dice
- NBR rubber membrane with textile insert (food grade for PMAT 5M-10, PMAT 5M/T-16, PMAT 5.5M/T-16)
- 1/4" hydraulic connection made of galvanized steel
- Standard protection degree IP 44
- Max ambient temperature: 55°C
- Tear resistant cable clamps

Technical data

2-pins	max A	Pressure range bar	Differential min bar	Differential max bar	Factory setting bar
PMAT 5M-10	10	1 - 5	0,6	2,3	1,4 - 2,8

Maximum rated voltage 250V

2-pins	max A	Pressure range bar	Differential min bar	Differential max bar	Factory setting bar
PMAT 5M/T-16	16	1 - 5	0,6	2,3	1,4 - 2,8
PMAT 5.5M/T-16	16	1,5 - 5,5	0,8	2,2	1,8 - 3
PMAT 12M/T-16	16	3 - 12	1,5	5	5 - 7

Maximum rated voltage 500V

Connection diagram

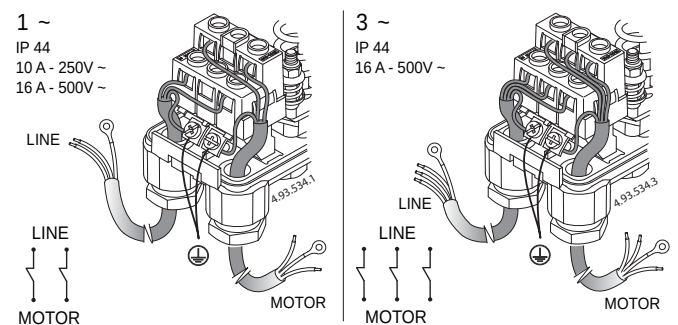
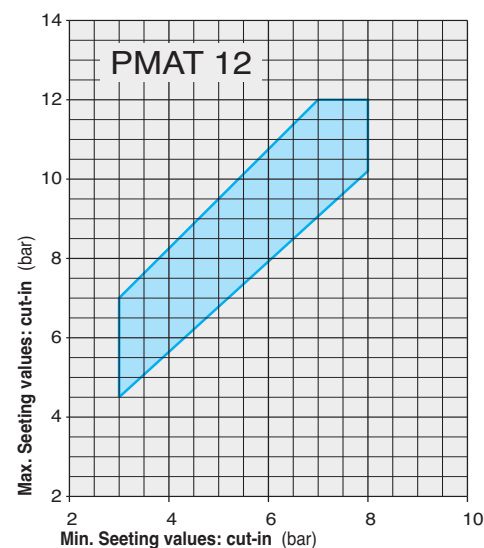
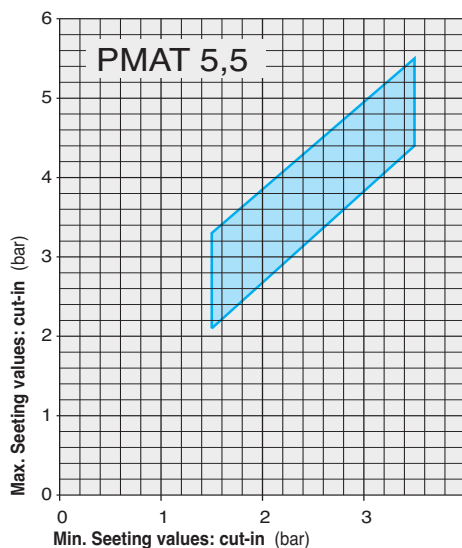
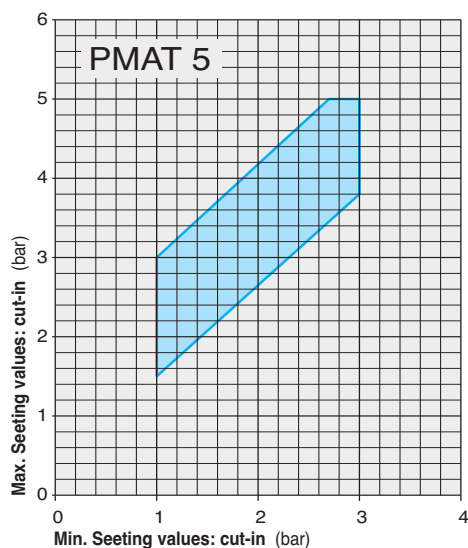


Diagram setting



AUTOMATIC AIR FEEDER



ARIAMAT

type

AR 300E

AR 1000E

AR 2000E

Complete with connections
and 1 m polyethylene pipe

Materials

Component	Material
Upper elbow	Brass
Air valve	Brass
Feeder body	Polycarbonate
Ball valve	Rubber
Conical fittings	Polyethylene
Pipe	Polyethylene

Construction

The automatic air feeder ARIAMAT controls the air cushion in the pressure vessel by replacing the air dissolved in the water at every pump start. This device limits the number of pump starts and stops, allows a better use of the water reserve and improves the overall performance of the automatic pressure system.

Operation

ARIAMAT operation is explained in pictures 1-2-3-4.

At the end of every cycle, ARIAMAT AR 300E, AR 1000E and AR 2000E let in the vessel 300, 1000 and 2000 cm³ of air respectively.

For a good operation of ARIAMAT it is necessary to have enough suction pressure in the pipe whilst the pumps are running.

If the pumps work under positive suction head and water falls to the suction inlet, there will not be enough suction pressure in the suction pipe to allow a correct operation of ARIAMAT; in this case, it is necessary to create an artificial loss in the suction pipe, by closing gradually the gate valve when the pump is running until the water level in the ARIAMAT starts dropping.

When a sufficient suction pressure to grant a safe ARIAMAT operation cannot be achieved, it is recommended to feed the vessel with a compressed air system and level probes.

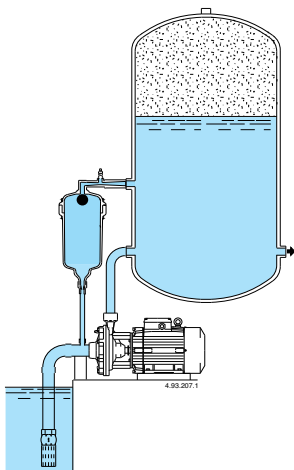
Description of the supply

The ARIAMAT is normally fitted on our automatic water systems.

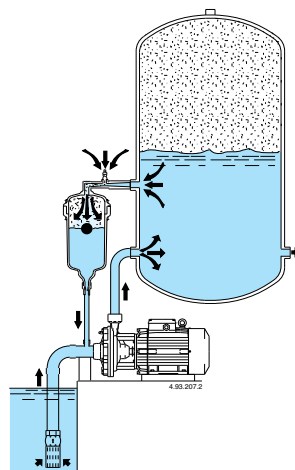
The supply of ARIAMAT, as a spare part to be installed by the customer, includes:

- n° 1 ARIAMAT assembled with upper elbow and air valve;
- m 1 Polyethylene tube with ring nut and fitting for connection to the pump suction side.

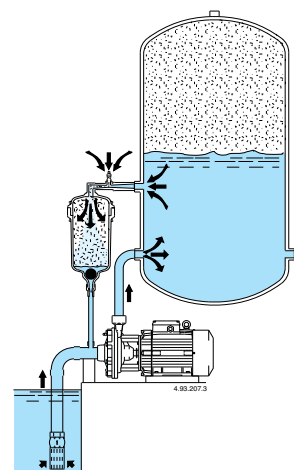
Pressure in m	Pressure vessel capacity in litres												
	100	200	300	400	500	750	1000	1500	2000	3000	4000	5000	
14/28	AR 300E						AR 1000E						AR 2000E
20/30	AR 300E					AR 1000E						AR 2000E	
30/40	AR 300E			AR 1000E							AR 2000E		
35/55	AR 300E			AR 1000E						AR 2000E			
55/70	AR 300E		AR 1000E							AR 2000E			
75/95	AR 300E	AR 1000E				The use of an air compressor is recommended.							



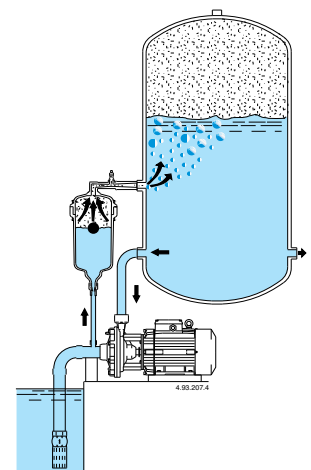
1) When the pump is stopped, ARIAMAT is full of water.



2) When starting, the pumps creates a suction pressure which also takes the water from ARIAMAT, allowing some more water to come from the vessel. The water through the ARIAMAT venturi sucks air from the upper valve.



3) The water level in the ARIAMAT drops until the ball valve moves to the bottom of the ARIAMAT closing the hole of the pipe connected to the pump. ARIAMAT is now full of water.



4) When stopping, there is a back-flow of water from the vessel through the pump, to the ARIAMAT. Air is pushed inside the vessel.

ACCESSORIES



VALVES



check valve

VNR 1
VNR 1 1/4
VNR 1 1/2
VNR 2

foot valve

VDF 1
VDF 1 1/4
VDF 1 1/2
VDF 2

PRESSURE GAUGES



axial connection type

MA 0-6
MA 0-6 ABS

radial connection type

MR 0-10
MR 0-12
MR 0-16

CONNECTOR



type	connection
RA5 H 92	G 1
RA5 H 105	G 1

LEVEL PROBES



type

SL 2 electrodes
SLA Assembled level probes
Cable 2x0,75 mm²
(cable length on request)

example: **SLA 30**
Assembled level probes
30 m cable length

SPHERICAL VESSEL



type	connect.	capacity
SS 24	G 1	24 l

BUTYL rubber diaphragm.

CYLINDRICAL VESSEL



vessel with base and feet

type	connect.	capacity
SC 20 BP	G 1	20 l

BUTYL rubber diaphragm.

INOX CYLINDRICAL VESSEL



vertical cylindrical vessel

type	connect.	capacity
SCX 20	G 1	20 l

BUTYL rubber diaphragm.

INOX CYLINDRICAL VESSEL



vessel with base and feet

type	connect.	capacity
SCX 20 BP	G 1	20 l

BUTYL rubber diaphragm.

ACCESSORIES



KIT 1



Type	KIT 1A	KIT 1B	KIT 1CX	KIT 1DX
Components				
Connector	RA5 H 92	RA5 H 92	RA5 H 92	RA5 H 92
Pressure switch	FSG 2	FYG 22	FSG 2	FYG 22
Pressure gauge	MA 0-6 ABS	MR 0-10	MA 0-6 ABS	MR 0-10
Vessel	SS 24	SS 24	SCX 20	SCX 20

KIT 2



Type	KIT 2A	KIT 2B	KIT 2CX	KIT 2DX
Components				
Connector	RA5 H 92	RA5 H 92	RA5 H 92	RA5 H 92
Pressure switch	FSG 2	FYG 22	FSG 2	FYG 22
Pressure gauge	MA 0-6 ABS	MR 0-10	MA 0-6 ABS	MR 0-10
Flexible hose	FP 1-680	FP 1-680	FP 1-680	FP 1-680
Bend	1" M.F.	1" M.F.	1" M.F.	1" M.F.
Bend	1" F.F.	1" F.F.	1" F.F.	1" F.F.
Vessel	SC 20 BP	SC 20 BP	SCX 20 BP	SCX 20 BP

CE 97/23 PED APPROVED PRESSURE VESSELS (Air tanks)

Hot galvanized vessels	TYPE	Dimensions D x H mm	DN	weight kg
	100- 5	400 x 1020	G 1	32
	200- 5	450 x 1440	G 1	48
	300- 8	550 x 1500	G 1 1/2	65
	500- 8	650 x 1820	G 2	105
	500- 12	600 x 2000	G 2	120
	800- 8	800 x 1900	G 2	145
	1000- 8	800 x 2150	G 2 1/2	160
	1000- 12 ▲	800 x 2300	G 2 1/2	203
	1500- 5	950 x 2500	G 2	190
	1500- 8 ▲	950 x 2500	G 2	255
	2000- 8 ▲	1100 x 2570	G 2 1/2	330
	2000- 12 ▲	1000 x 2780	G 2 1/2	387
	3000- 8 ▲	1250 x 2930	G 3	470
	3000- 12 ▲	1200 x 2930	G 3	596
	4000- 8 ▲	1450 x 3090	G 3	620
	4000- 12 ▲	1450 x 3090	G 3	880
	5000- 8 ▲	1450 x 3590	G 4	715
	5000- 12 ▲	1450 x 3590	G 4	1020

The vessels are suitable for water up to 50 °C
They are all approved at manufacturer's premises and are supplied complete with safety valve, tested pressure gauge and fittings.

CE 97/23 PED APPROVED MEMBRANE VESSELS (Membrane vessels)

	TYPE	Pressure bar	Dimensions D x H mm	DN	weight kg
	SM 60 C	10	388 x 840	G 1	-
	SM 80 C	10	430 x 960	G 1	-
	SM 100 C	10	460 x 990	G 1	-
	SM 200 C	10	590 x 1120	G 1 1/2	-
	SM 300 C	10	640 x 1230	G 1 1/2	-
	SM 500 C	10	750 x 1540	G 2	-
	SM 750 C	10	750 x 1850	G 2	-
	SM 1000 C	10	800 x 2180	G 2	-
	SM 60 V	10	382 x 845	G 1	-
	SM 80 V	10	450 x 850	G 1	-
	SM 100 V	10	450 x 950	G 1	-
	SM 200 V	10	550 x 1255	G 1 1/2	-
	SM 300 V	10	630 x 1405	G 1 1/2	-
	SM 500 V	10	780 x 1550	G 1 1/2	-
	SM 750 V	10	780 x 1940	G 1 1/2	-
	SM 1000 V	10	980 x 1970	G 2	-

EPDM diaphragm
Temperature -10 ÷ +100 °C
With safety valve and pressure gauge 0÷16 bar

ACCESSORIES



FLOAT SWITCH



tipo

INTGALL

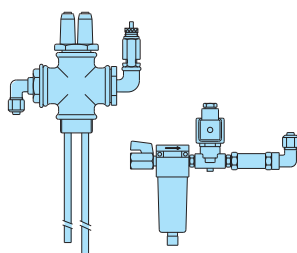
(cable 2,5 m)

FLEXIBLE HOSE



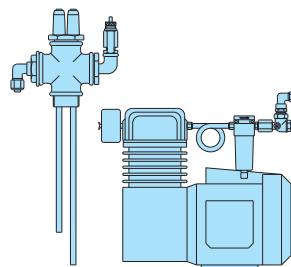
type	d x length
FP 1-630	G 1 x 630
FP 1-680	G 1 x 680

SYSTEM FOR AIR INTAKE



Kit of level probes
with solenoid valve

SYSTEM FOR AIR INTAKE



Kit of level probes
with compressor

MOTOR COVER PROTECTION KIT



Type	Motor kW
Ø 157 cover	0,75 ÷ 2,2
Ø 180 cover	3 ÷ 4
Ø 223 cover	5,5 ÷ 7,5
Ø 263 cover	9,2 ÷ 18,5
Ø 314 cover	22 ÷ 30

The kit includes: 1 Plate
1 Cilinder
2 Screws
1 Washer

Technical appendix



How to select a centrifugal pump

The selection of a centrifugal pump should be made according to the actual characteristics and conditions of the plant.

The required data for a correct selection are the following:

Flow Q

Quantity of fluid delivered by the pump in the unit of time, generally expressed in m³/h.

Total manometric head H_{mt}

It is considered as the sum between the geometric head existing between the fluid levels and the head loss due to frictions from the fluid passage in the pipework, into the pump and relevant hydraulic accessories.

The expression is the following:

$$H_{mt} = H_g + \Delta p_{c \text{ mt fluid column}}$$

H_g = geometric head inlet (H_{ga}) + geometric head outlet (H_{gp})

Δp_c = sum of head loss of the plant calculated from the following data:

- Diameter, length and material of the suction and delivery piping (see table no. 1 page 632).
- Number and type of elbows in the piping and hydraulic accessories such as foot valves, gate valves, non-return valves and strainers etc. (see table no. 2 page 632).
- Type, temperature, viscosity and density of the fluid (if different from that of water)

Pay attention to the manometric suction lift **H_{ga} + Δp_{c asp}**, which should be compared with the suction capability of the pump.

This suction capability or **NPSH_r** is defined as net positive suction head and its value is obtained from a curve in accordance with the flow.

For this purpose, once the pump has been selected according to the required flow and head, where possible at the middle of the curve, check the following simplified formula:

$$10 \text{ mt} \pm H_{ga} - \Delta p_{c \text{ asp}} > \text{NPSH required} + 0.5 \text{ mt}$$

H_{ga} is the difference in height between the free surface of the water, and its value is negative if the pump is installed above the free water surface.

Δp_{c asp} is the sum of the remaining distributed (piping) and concentrate (valves, bends, etc.) suction head loss

If the final result is negative, it is often possible to adjust flow via a gate valve on the delivery side, in order to restore correct pump operating conditions, without cavitation.

For fluid temperatures higher than the average of about 20°C, the pumps lose their suction capability.

Such changes, referred to pumps with suction capability of 7 meter at normal temperature, are shown on table no. 3 page 633.

CHARACTERISTIC DATA OF THE PUMPS

Once the flow (Q) and total manometric head of the installation (H_{mt}) are established, the pump absorbed power **N** should be calculated through the following formula:

$$N = \frac{Q \times H \times \gamma}{367 \times \eta_p} \text{ in kW}$$

where:

Q = Flow in m³/h

H = Head in mt

γ = Fluid density (water = 1 kg/dm³)

η_p = Pump efficiency (Ex. Pump efficiency 68% = ⇒ η_p = 0.68)

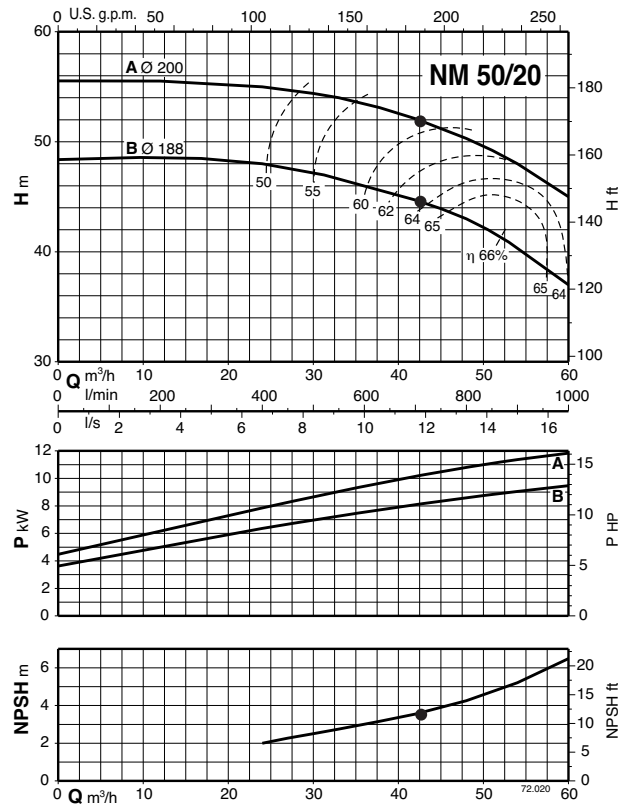
The pumps are normally connected to electric motors, which operate at 2900 rpm with 2-pole motors at 50Hz, or at 1450 rpm with 4-pole motors at 50Hz. However, they can run at any other speed within the limits of design.

Therefore, when changing the number of revolutions, the pump performance will change according to the following rules:

The flow in proportion to the number of revolutions: $Q_2 = Q_1 \times \frac{n_2}{n_1}$

The head, in proportion to the square of the number of revolutions: $H_2 = H_1 \times \left(\frac{n_2}{n_1} \right)^2$

The absorbed power, in proportion to the cube of the number of revolutions: $N_2 = N_1 \times \left(\frac{n_2}{n_1} \right)^3$



How to select a centrifugal pump

Calculation example for the selection of a centrifugal pump

Case A Installation data

- Q (Flow) = 42 m³/h
- H_{ga} (geometric head inlet) = 3,5 m
- H_{gp} (geometric head outlet) = 39 m
- 5 m DN 100 mm diameter suction pipe complete with 1 elbow and 1 foot valve
- 70 m DN 80 mm diameter delivery pipe with 1 non-return valve, 1 gate valve and 3 sweep elbows

Hg = H_{gp} + H_{ga} = 39 + 3,5 = 42,5 m Geometric head of the installation

Δpc = total head loss

Suction side:
5 m Ø100 piping
1 Elbows
1 Foot valve

pc = 0,12 m
pc = 0,045 m
pc = 0,46 m

Delivery side:
70 m Ø 80 pipe
1 Non-return valve
1 Gate valve
3 Elbows

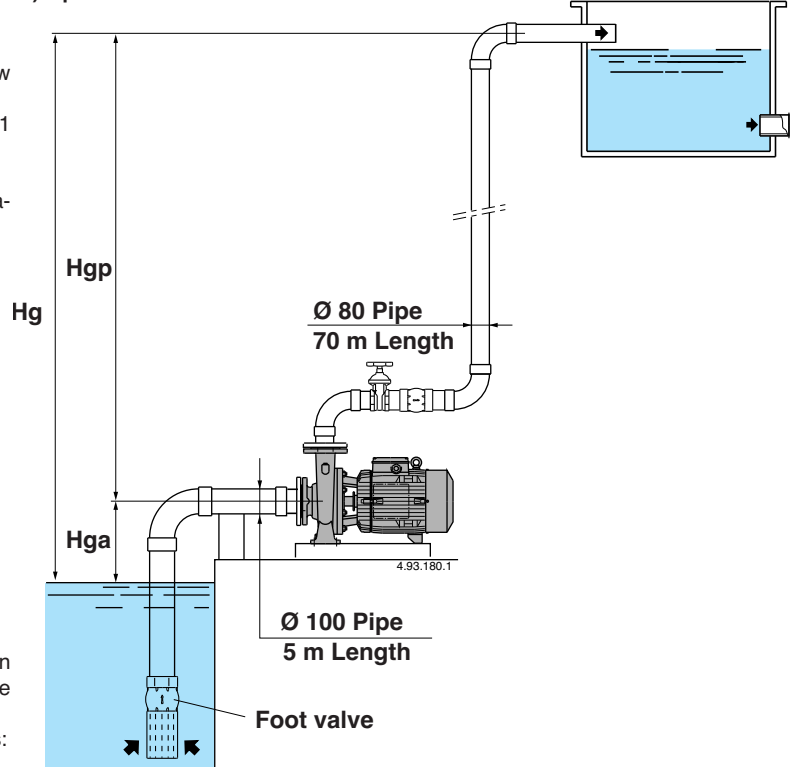
pc = 5,25 m
pc = 0,5 m
pc = 0,05 m
pc = 0,09 m

Total Δpc = 6,5 m.

Considering that the calculation has been made for new pipes, an increase of 15/20% is to be applied for ageing etc. Therefore the total head loss Δp amounts to about 8 m.
Therefore, the total manometric head which the pump must achieve is:

H_{mt} = Hg + Δp = H_{gp} + H_{ga} + Δpc = 39 + 3,5 + 8 = 50,5 m total.
The pump type NM 50/20AE can be chosen (see pump diagram)

A) Operation with suction lift



Case B Installation data

- Q (Flow) = 42 m³/h
- H_{ga} (geometric head inlet) = 3,5 m
- H_{gp} (geometric head outlet) = 39 m
- 5 m DN 100 mm diameter suction pipe complete with 1 gate valve and 1 foot valve
- 70 m DN 80 mm diameter delivery pipe with 1 non-return valve, 1 gate valve and 3 sweep elbows

Hg = H_{gp} - H_{ga} = 39 - 3,5 = 35,5 m Geometric head of the installation

Δpc = total head loss

Suction side:
5 m Ø 100 piping
1 Non-return valve
1 Gate valve

pc = 0,12 m
pc = 0,5 m
pc = 0,05 m

Delivery side:
70 m Ø 80 pipe
1 Non-return valve
1 Gate valve
3 Elbows

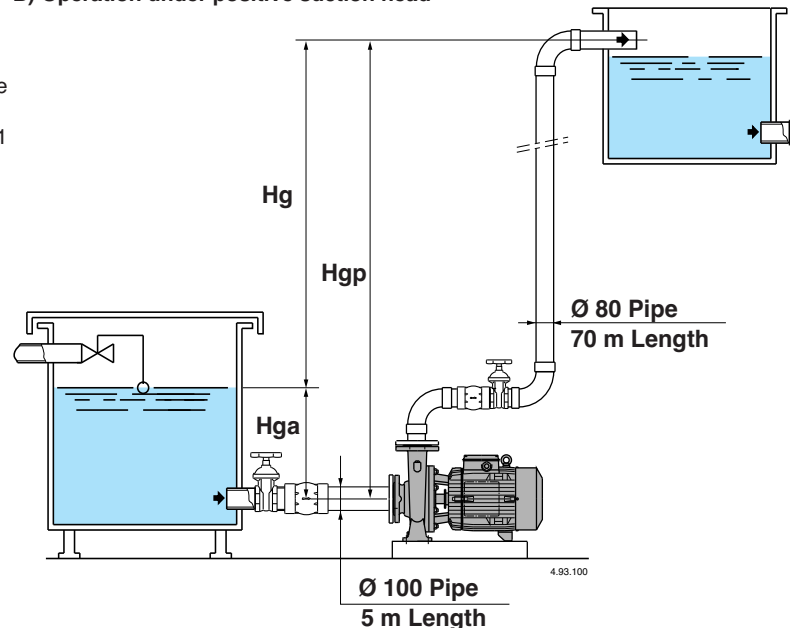
pc = 5,25 m
pc = 0,5 m
pc = 0,05 m
pc = 0,09 m

Total Δpc = 6,5 m

Considering that the calculation has been made for new pipes, an increase of 15/20% is to be applied for ageing etc. Therefore the total head loss Δpc amount to about 8 m.
Therefore, the total manometric head which the pump must achieve is:

H_{mt} = Hg + Δp = H_{gp} - H_{ga} + Δpc = 39 - 3,5 + 8 = 43,5 m total.
The pump type NM 50/20BE can be chosen (see pump diagram)

B) Operation under positive suction head



How to select a centrifugal pump

ACCESSORIES FOR WATER SUPPLY

Foot valve with strainer - Sealing member installed on the lower end of the suction pipe. It prevents the water coming out from the piping and pump at every plant stop. It must be always immersed in the fluid at an installation depth which allows a perfect operation without cavitation.

It is a good rule to also install a float switch to automatically stop the pump when the water goes below a fixed level.

Non-return valve - It must be installed on the pump delivery port to avoid reflux in case of a sudden stop of the plant. It is recommended using a type fitted with an inner return spring and with ogive shutter, as this will help to diminish water hammering.

Gate valve - The installation of a gate valve is very important. In addition to allowing the pump to be dissassembled without emptying the plant, it is used to start the plant and to adjust the flow.

PIPING

The piping must be selected in-line with the water velocity which is recommended to be 1.5 meter per second on the suction side and 3 meter per second on the delivery side. The calculation of the suction piping must be carefully checked so as to avoid the maximum head loss and allow the pumps maximum suction capability. The piping must be perfectly tight and have no counterslopes towards the pump port, so to avoid the development or entrapment of air bubbles or pockets.

All the piping must be secured to rests, so that they will not weigh on the pump ports.

Problems at the pump

Faults	Possible causes
Jammed pump	This may happen after periods of inactivity due to inner oxidation. To release smaller sized monobloc electropumps use a screwdriver at the notch on the back part of the shaft. For the larger sizes, turn on the shaft or the flexible coupling
Pumps which do not prime	Pump and/or suction pipe with air entrapped. Uncomplete priming or totally unprimed. Possible air entering from taps, drain or fill plugs, joints or stuffing box Foot valve not fully immersed in the fluid or obstructed by deposits. Suction lift too high compared with the capability of the pump. Wrong direction of rotation Wrong number of revolutions
Insufficient flow	Piping and accessories of too small a diameter which cause too high head loss. Jammed impeller with presence of debris in the vanes. Corroded or broken impeller Impeller wear rings and/or pump casing worn by abrasion. Gas presence in the water, or too high fluid viscosity in case of fluids different from water.
Noise and vibrations in the pump	Unbalanced rotary part or worn ball bearings. Pump and piping not properly secured. Too low flow rate for the selected pump Operation with cavitation
Overloaded motor	Pump characteristics higher than those of the plant Fixed and rotary parts in contact tending to seize owing to a lack of lubrication Too high rotation speed Wrong mains supply Poor unit allignement Fluid with too higher density than the design

How to select a Pressure Boosting Sets

Choosing a pressure-boosting set

Required quantity of water

The public water-supply system is normally capable of supplying water at an adequate pressure and capacity level to the various outlets connected to it. In those cases where a water-supply system is non-existent or insufficient for correct operation of the various facilities, a pressure-boosting system has to be installed to ensure an acceptable level of pressure and capacity also at the outlets in the most unfavourable positions. The size of the water-supply unit is determined according to the quantity of water and pressure required.

Residential buildings

The main data needed for calculation of the quantity of water required is given in the following list:

- the number of outlets
- consumption per each type of outlet (Tab.1)
- the contemporaneity factor (Fc)

Table 1: Maximum consumption at points of demand

Outlet	Qu. delivered (l/min)
Sink	10
Wash-basin	10
Bath/whirlpool tub	18
Shower	12
WC - flush-tank type	7
WC - fast-feed type	90
Bidet	6
Washing machine	12
Kitchen sink	12
Dishwasher	8
Outlet w/ 1/2" tap	20
Outlet w/ 3/4" tap	25

The maximum theoretical requirement is given by the sum of the quantities of water delivered to the various outlets of an apartment multiplied by the number of apartments. In practice, it is generally found that only some of the outlets are used simultaneously.

The contemporaneity factor (Fc) allows for definition of the real maximum delivery that may be required by the outlets.

The following formulae are used to calculate the Fc factor. The value "Ut" is the total number of outlets (the number of outlets in an apartment multiplied by the number of apartments).

Appartments with 1 toilet - flush-type tank: $F_c = \frac{1}{V_{0,85} \times U_t}$

Appartments with 1 toilet - fast-feed type: $F_c = \frac{1}{V_{0,7} \times U_t}$

Appartments with 2 toilets - flush-type tank: $F_c = \frac{1}{V_{1,1} \times U_t}$

Appartments with 2 toilets - fast-feed type: $F_c = \frac{1}{V_{0,83} \times U_t}$

Diagram **A** gives the values of actual delivery, which depend on the number of appartments connected to the water-supply system. Seven outlets are hypothesized for one-bathroom appartments and ten outlets for two-bathroom appartments.

Non-residential buildings

For calculation of quantities of water required, the following types of building are considered:

- offices
- shopping centres
- hospitals
- hotels

These buldings require quantities of water greater than those needed in residential buildings.

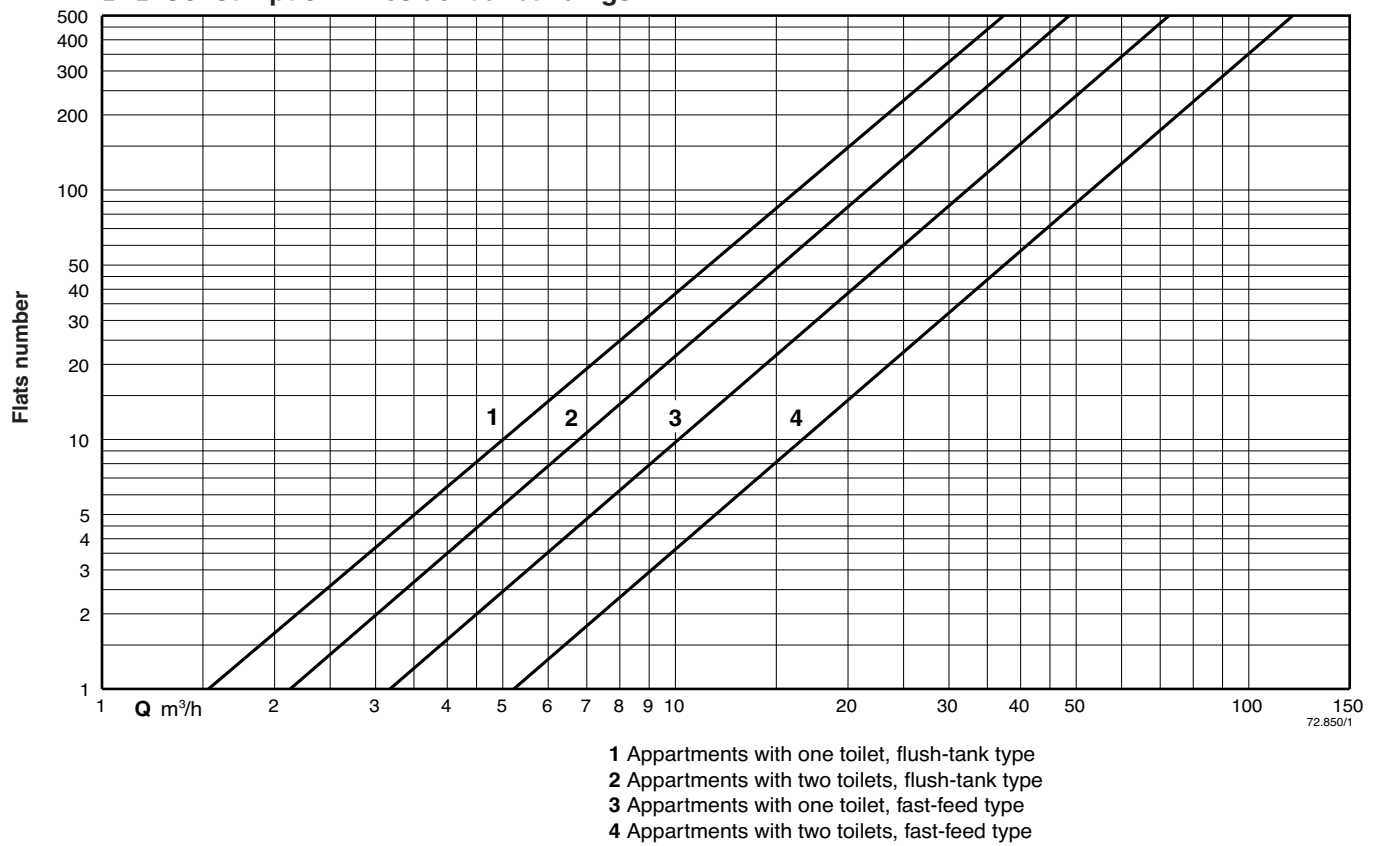
Diagram **B** shows the values of actual delivery for the main types of building. The values are based on hypothetical numbers of persons present in these buildings.

These values offer a guideline and may vary in accordance with particular requirements of projects.

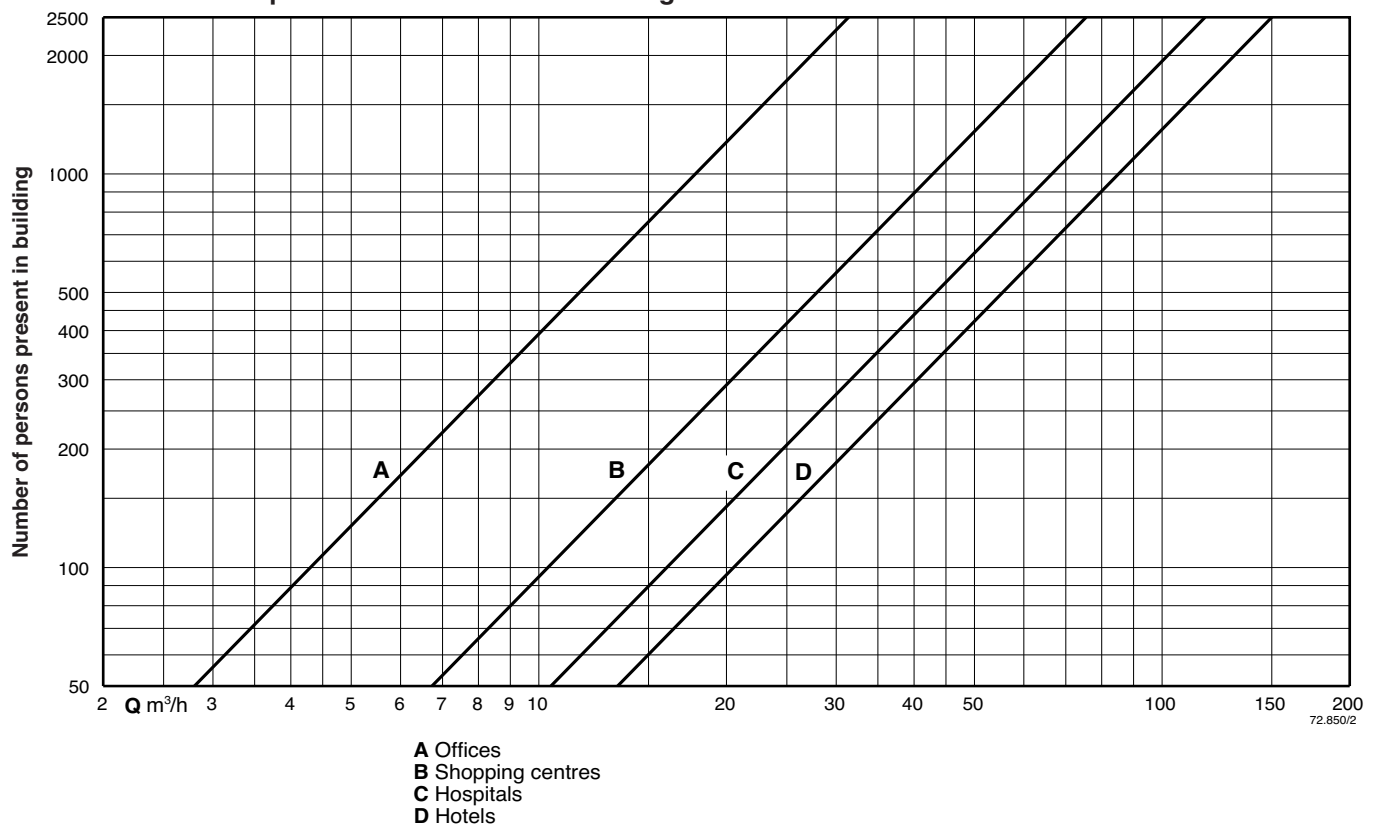
How to select a Pressure Boosting Sets

Choosing a pressure-boosting set

A Consumption in residential buildings



B Consumption in non-residential buildings



How to select a Pressure Boosting Sets

Choosing a pressure-boosting set

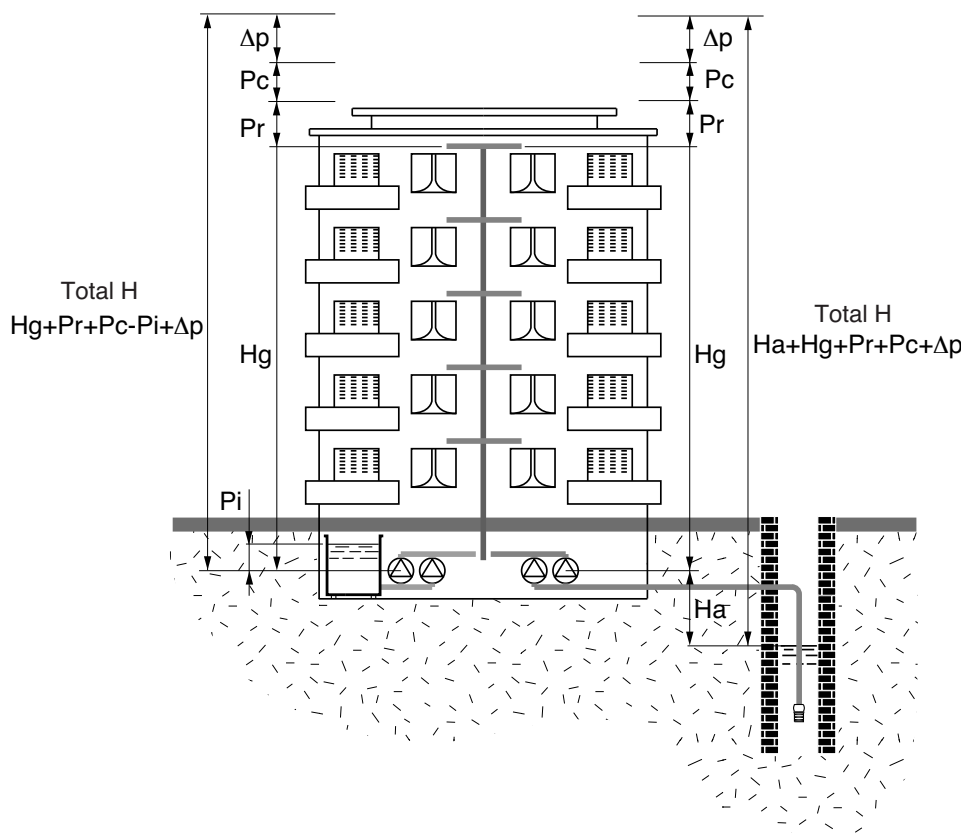
Delivery head

The outlet pressure required for proper operation of electrical appliances must not be lower than 1.5 bar and not greater than 4-5 bar.

When the pressure level is insufficient and to such a degree that it impedes operation of domestic appliances, a pressure-boosting system must be installed to ensure adequate pressure also at the more unfavourably—located points of demand.

The values to consider for calculation of the pressure level are the following:

- **H_g** the geodetic head between the pressure-boosting unit and the highest outlet.
- **H_a** the suction lift.
- **P_i** the initial pressure (or positive suction head).
- **P_r** the minimum residual pressure at the highest outlet (normally 1.5 bar).
- **P_c** the system head loss.
- **Δp** the difference in pressure between starting and stopping pumps.



When the pumps draw water from a well, the dynamic height difference (H_a), when pumps are operating, should not exceed 4 m.

A greater suction head or erroneous sizing of the suction pipe may cause improper operation of the pumps - e.g. cavitation and priming loss.

The pumps are installed with a positive suction head when they are connected to a raised tank or a pressurized primary collection tank.

The pumps therefore have an initial pressure at the suction port which can vary from 0.1 bar (suction with a collection tank) to 2-3 bar (with suction from a pressurized primary collection tank).

When choosing a pressure-boosting system, the positive value of the initial pressure (P_i) must be considered as a value to be subtracted from the height (H_g).

The system head loss (P_c) are given by the sum of the losses of the pipes (including the suction pipe) added to the losses due to gate valves, non-return valves, water purifiers, counters, filters, elbows etc.

Head loss in the tubes, caused by the friction of the water against the inner surface of the pipelines, may be quantified as 0.5 m per floor in the case of new systems and 1 m per floor in the case of old systems.

To avoid pressure levels greater than 4-5 bar arriving at outlets on the lower floors of apartment blocks and other buildings with a height greater than 30 m (about 10 floors), pressure reducers must be installed at the offtake point of the lower floors or otherwise two pressure-boosting units can be installed: one for the lower floors and one for the upper floors.

How to select a Pressure Boosting Sets

Surge tanks

The purpose of surge tanks is to retain a quantity of water, under pressure, thus avoiding continuous pump starts, as water is demanded. The selection of the vessel must be made in-line with the pump flow and pressure and number of starts allowed by the motor. For water pressure units with more than one pump, the selection of the vessel should refer to the data for one pump only.

The surge vessel may be of the following type:

- Air cushion vessels
- Membrane vessels

Air cushion vessels

In this type of vessels the air and water are in contact with each other. This will therefore result in a decrease of air as it dissolves into the water.

The installation will therefore require an automatic air feed ("Ariamat" air feeder, compressor or auto valve connected to existing compressed air network).

Air cushion vessels are normally manufactured from hot galvanized sheet steel, with rated pressures from 6 to 12 bar and capacity from 100 to 5000 ltrs, complete with safety valves, pressure gauge and level indicator.

Membrane vessels

These vessels are fitted with an inner membrane separating the water and air. When installed, they must be pre-charged at a pressure in-line with the pressure switch settings.

Calculation to size an air cushion vessel.

$$V_t = \frac{1.25 \times Q_m \times (P_1 + 10)}{4 \times Z \times (P_1 - P_2)}$$

where:

V_t = Total volume of air cushion vessel in m³

Q_m = Average pump flow in m³

P₁ = Maximum set pressure of pressure switch

P₂ = Minimum set pressure of pressure switch

Z = Maximum number of starts/hour allowed by the motor (see table).

Q_m flow is the average between the flow at starting pressure (Q min) and the flow at stop pressure (Q max):

$$Q_m = \frac{Q_{min} + Q_{max}}{2} \quad (m^3/h)$$

Exemple: Pump MXV 40-807

P₁ = 70 m

P₂ = 50 m

Q_m = 9,45 m³/h

Z = 23 starts/hour

$$V_t = \frac{1.25 \times 9.45 \times (70 + 10)}{4 \times 23 \times (70 - 50)} = 0,514 \text{ m}^3$$

From the calculation, it would result in the selection of a 500 litre vessel.

Calculation to size a membrane vessel

$$V_t = \frac{Q_m}{4 \times Z} \times \frac{1}{1 - \frac{(P_2 - 2)}{P_1}}$$

where:

V_t = Total volume of air cushion vessel in m³

Q_m = Average pump flow in m³

P₁ = Maximum set pressure of pressure switch

P₂ = Minimum set pressure of pressure switch

Z = Maximum number of starts/hour allowed by the motor (see table)

Exemple: Pump MXV 40-807

P₁ = 70 m

P₂ = 50 m

Q_m = 9,45 m³/h

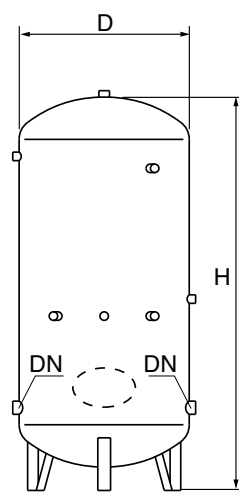
Z = 23 starts/hour

$$V_t = \frac{9.45}{4 \times 23} \times \frac{1}{1 - \frac{(50 - 2)}{70}} = 0,327 \text{ m}^3$$

From the calculation it will result in the selection of a 300 litre membrane vessel.

CE 97/23 PED APPROVED PRESSURE VESSELS (Air tanks)

Hot galvanized vessels

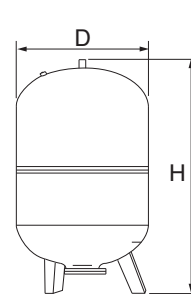


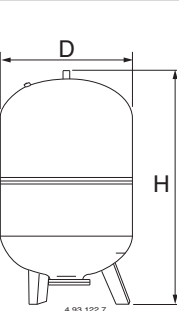
TYPE	Dimensions D x H mm	DN	Weight kg
100- 5	400 x 1020	G 1	32
200- 5	450 x 1440	G 1	48
300- 8	550 x 1500	G 1 1/2	65
500- 8	650 x 1820	G 2	105
500- 12	600 x 2000	G 2	120
800- 8	800 x 1900	G 2	145
1000- 8	800 x 2150	G 2 1/2	160
1000- 12 ▲	800 x 2300	G 2 1/2	203
1500- 5	950 x 2500	G 2	190
1500- 8 ▲	950 x 2500	G 2	255
2000- 8 ▲	1100 x 2570	G 2 1/2	330
2000- 12 ▲	1000 x 2780	G 2 1/2	387
3000- 8 ▲	1250 x 2930	G 3	470
3000- 12 ▲	1200 x 2930	G 3	596
4000- 8 ▲	1450 x 3090	G 3	620
4000- 12 ▲	1450 x 3090	G 3	880
5000- 8 ▲	1450 x 3590	G 4	715
5000- 12 ▲	1450 x 3590	G 4	1020

The vessels are suitable for water up to 50 °C

They are all approved at manufacturer's premises and are supplied complete with safety valve, tested pressure gauge and fittings.

CE 97/23 PED APPROVED MEMBRANE VESSELS

	TYPE	Pressure bar	Dimensions D x H mm	DN	weight kg
	SM 60 C	10	388 x 840	G 1	-
	SM 80 C	10	430 x 960	G 1	-
	SM 100 C	10	460 x 990	G 1	-
	SM 200 C	10	590 x 1120	G 1 1/2	-
	SM 300 C	10	640 x 1230	G 1 1/2	-
	SM 500 C	10	750 x 1540	G 2	-
	SM 750 C	10	750 x 1850	G 2	-
	SM 1000 C	10	800 x 2180	G 2	-

	TYPE	Pressure bar	Dimensions D x H mm	DN	weight kg
	SM 60 V	10	382 x 845	G 1	-
	SM 80 V	10	450 x 850	G 1	-
	SM 100 V	10	450 x 950	G 1	-
	SM 200 V	10	550 x 1255	G 1 1/2	-
	SM 300 V	10	630 x 1405	G 1 1/2	-
	SM 500 V	10	780 x 1550	G 1 1/2	-
	SM 750 V	10	780 x 1940	G 1 1/2	-
	SM 1000 V	10	980 x 1970	G 2	-

EPDM diaphragm

Temperature -10 ÷ +100 °C

With safety valve and pressure gauge 0÷16 bar

How to select a centrifugal pump

Number of starts/hour allowed for CALPEDA motors

Rated motor power output	kW	0,25	0,37	0,55	0,75	1,1	1,5	2,2	3	4	5,5	7,5	9,2	11	15	18,5	22	30	37	45
Max. number of starts/hour	Z	59	51	44	38	35	30	25	23	20	18	16	15	14	12	11	10	9	9	8

The number of starts/hour mentioned in the table is approximate.

The maximum admissible starts/hour depends on the pump model and are mentioned in the original operating manual.

Table no. 1

Head loss in m for steel pipes

Pipe	Q m³/h	1	3	6	9	12	18	24	30	36	42	48	60	90	120	180	240	300	360	420
G Ø mm	Q l/min	16	50	100	150	200	300	400	500	600	700	800	1000	1500	2000	3000	4000	5000	6000	7000
G 1 DN 25	HL V m/100m m/s	2,7 0,6	21 1,7	80 3,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G 1 1/4 DN 32		0,7 0,35	5,5 1	22 2,1	47 3,1	75 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G 1 1/2 DN 40		-	1,8 0,7	7 1,35	14 1,9	23 2,5	50 3,8	90 5,2	-	-	-	-	-	-	-	-	-	-	-	-
G 2 DN 50		-	0,5 0,4	2,2 0,8	4 1,25	8 1,5	17 2,5	28 3,2	45 4,1	62 5	-	-	-	-	-	-	-	-	-	-
G 2 1/2 DN 65		-	-	0,6 0,5	1,2 0,75	2,1 1	4,2 1,4	8 2	12 2,5	17 3	22 3,4	28 4	45 5	-	-	-	-	-	-	-
DN 80		-	-	-	-	0,8 0,7	1,6 0,95	2,8 1,25	4,2 1,6	6,5 2	7,5 2,1	10,5 2,6	15 3,3	32 4,9	50 6	-	-	-	-	-
DN 100		-	-	-	-	-	0,55 0,6	0,9 0,8	1,4 1,1	2 1,25	2,4 1,4	3,5 1,6	5 2	11 3,2	20 4	40 6	-	-	-	-
DN 125		-	-	-	-	-	-	-	-	-	0,9 0,95	1,2 1,1	1,8 1,4	4 2	6,5 2,7	15 4	23 5,2	-	-	-
DN 150		-	-	-	-	-	-	-	-	-	-	-	0,6 0,9	1,5 1,4	2,5 1,7	5 2,7	8 3,5	14 4,8	20 5,6	-
DN 200		-	-	-	-	-	-	-	-	-	-	-	-	0,4 0,8	0,6 1	1,3 1,6	2 2	3,5 2,6	4,6 3	6,5 3,5
DN 250		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,4 1	0,7 1,3	1,1 1,6	1,6 2	2 2,3
DN 300		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,3 0,9	0,45 1,25	0,7 1,4	0,9 1,6

Q Flow.

HL Head loss, m per 100 m.

v = Flow velocity: max 1,5 m/s for suction and 3 m/s for delivery.

Table no. 2

Head loss in cm for bends, gate valves, foot valves and check valves

Water flow velocity m/sec.	Elbows					$\alpha = 90$ sweep elbow					Gate valves	Foot valves	Check valves
	$\alpha = 30$	$\alpha = 40$	$\alpha = 60$	$\alpha = 80$	$\alpha = 90$	$\frac{d}{R} = 0,4$	$\frac{d}{R} = 0,6$	$\frac{d}{R} = 0,8$	$\frac{d}{R} = 1$	$\frac{d}{R} = 1,5$			
0,4	0,43	0,52	0,71	1,0	1,2	0,11	0,13	0,16	0,23	0,43	0,23	32	31
0,5	0,67	0,81	1,1	1,6	1,9	0,18	0,21	0,26	0,37	0,67	0,37	33	32
0,6	0,97	1,2	1,6	2,3	2,8	0,25	0,29	0,36	0,52	0,97	0,52	34	32
0,7	1,35	1,65	2,2	3,2	3,9	0,34	0,40	0,48	0,70	1,35	0,70	35	32
0,8	1,7	2,1	2,8	4,0	4,8	0,45	0,53	0,64	0,93	1,7	0,95	36	33
0,9	2,2	2,7	3,6	5,2	6,2	0,57	0,67	0,82	1,18	2,2	1,20	37	34
1,0	2,7	3,3	4,5	6,4	7,6	0,7	0,82	1,0	1,45	2,7	1,45	38	35
1,5	6,0	7,3	10	14	17	1,6	1,9	2,3	3,3	6	3,3	47	40
2,0	11	14	18	26	31	2,8	3,3	4,0	5,8	11	5,8	61	48
2,5	17	21	28	40	48	4,4	5,2	6,3	9,1	17	9,1	78	58
3,0	25	30	41	60	70	6,3	7,4	9	13	25	13	100	71
3,5	33	40	55	78	93	8,5	10	12	18	33	18	123	85
4,0	43	52	70	100	120	11	13	16	23	42	23	150	100
4,5	55	67	90	130	160	14	21	26	37	55	37	190	120
5,0	67	82	110	160	190	18	29	36	52	67	52	220	140

How to select a centrifugal pump

Table no. 3

Diagram of manometric suction head with water up to 100 °C

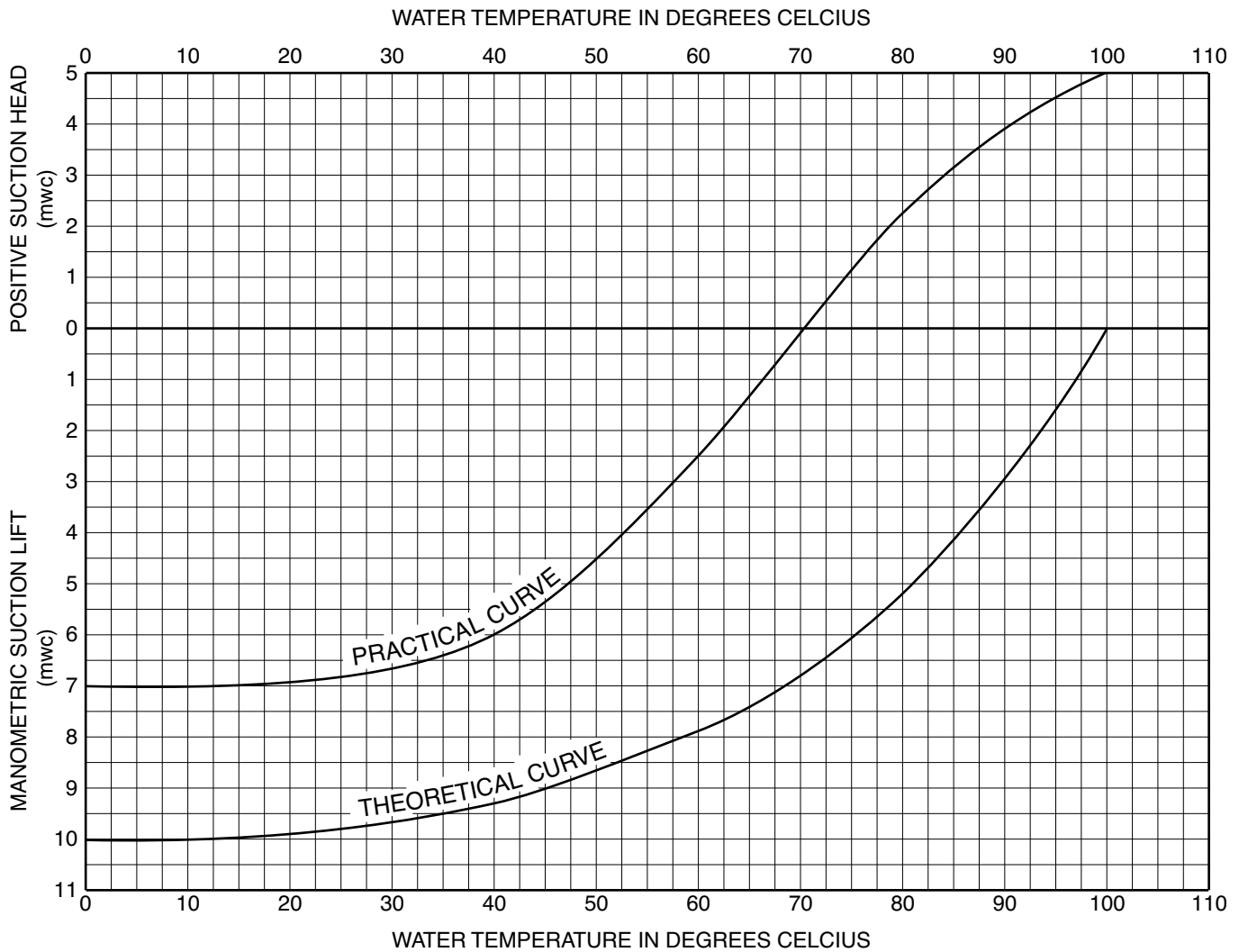


Diagram referred to pumps with manometric suction head of 7 mwc. at 20 °C

Technical appendix



EFFICIENCY OF ELECTRIC MOTORS

Directive of the European Parliament COMMISSION REGULATION (EC) No 640/2009

Having regard to Directive 2005/32/EC of the European Parliament establishing a framework for the setting of ecodesign requirements for energy-related products, it specifies the time and the efficiency levels that motors sold in the European market will have to comply.



This Regulation shall apply to:

electric single speed motor, three-phase 50 Hz or 50/60 Hz, squirrel cage induction motor that:

- has 2 to 6 poles,
- has a rated voltage of U_N up to 1 000 V,
- has a rated output P_N between 0,75 kW and 375 kW,
- is rated on the basis of continuous duty operation.

This Regulation shall not apply to:

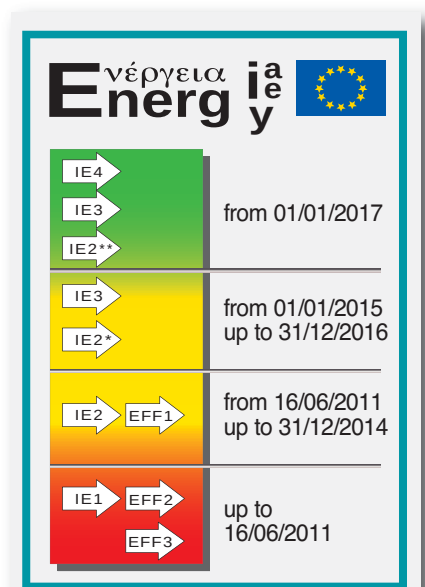
- a) motors designed to operate wholly immersed in a liquid;
- b) motors completely integrated into a product (for example gear, pump, fan or compressor) of which the energy performance cannot be tested independently from the product;
- c) motors specifically designed to operate:
 - at altitudes exceeding 1000 metres above sea-level;
 - where ambient air temperatures exceed 60 °C;
 - in maximum operating temperature above 400 °C;
 - where ambient air temperatures are less than -30 °C for any motor or less than 0 °C for a motor with air cooling;
 - where the water coolant temperature at the inlet to a product is less than 0 °C or exceeding 32 °C;
 - in potentially explosive atmospheres as defined in Directive 94/9/EC of the European Parliament and of the Council.
- d) brake motors.

Each ecodesign requirement shall apply in accordance with the following timetable:

- 1) **from 16 June 2011:**
motors shall not be less efficient than the IE2 efficiency level;
- 2) **from 1 January 2015:**
motors with a rated output of 7,5-375 kW shall not be less efficient than the IE3 efficiency level or meet the IE2 efficiency level, and be equipped with a variable speed drive.
- 3) **from 1 January 2017:**
all motors with a rated output of 0,75-375 kW shall not be less efficient than the IE3 efficiency level or meet the IE2 efficiency, and be equipped with a variable speed drive.

* IE2 up to 7,5 kW from 7,5 up to 375 kW shall be equipped with a variable speed drive

** IE2 from 0,75 up to 375 kW shall be equipped with a variable speed drive

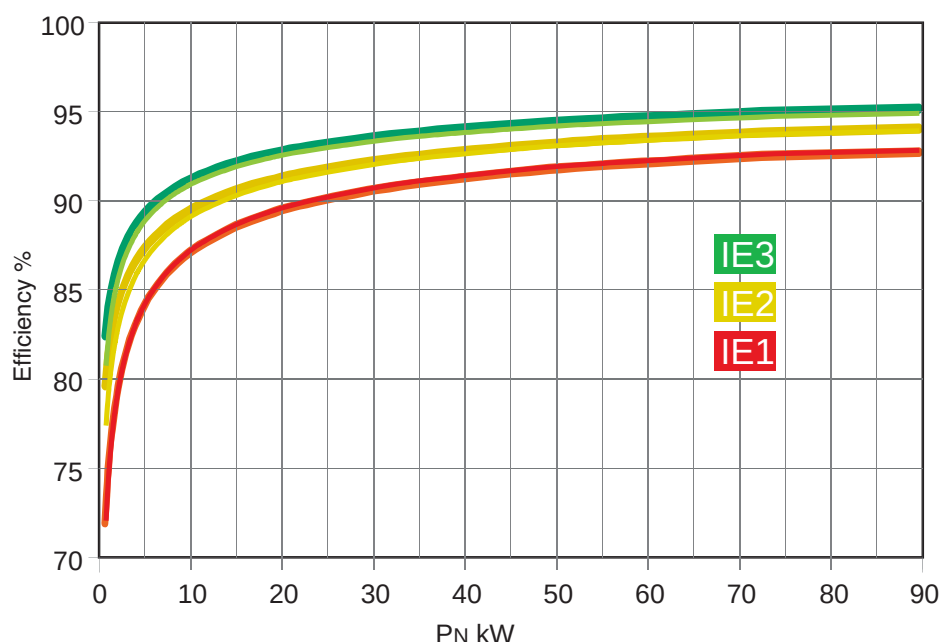


Technical appendix



EFFICIENCY OF ELECTRIC MOTORS

Summary table of the levels of efficiency as expected in IEC 60034-30



2-pole

Rated power output kW	Efficiency %		
	IE1	IE2	IE3
0.75	72.1	77.4	80.7
1.1	75.0	79.6	82.7
1.5	77.2	81.3	84.2
1.8	78.4	82.2	85.0
2.2	79.7	83.2	85.9
3	81.5	84.6	87.1
4	83.1	85.8	88.1
4.4	83.6	86.2	88.4
5.5	84.7	87.0	89.2
7.5	86.0	88.1	90.1
9.2	86.9	88.8	90.7
11	87.6	89.4	91.2
15	88.7	90.3	91.9
18.5	89.3	90.9	92.4
22	89.9	91.3	92.7
30	90.7	92.0	93.3
37	91.2	92.5	93.7
45	91.7	92.9	94.0
55	92.1	93.2	94.3
75	92.7	93.8	94.7
90	93.0	94.1	95.0

4-pole

Rated power output kW	Efficiency %		
	IE1	IE2	IE3
0.75	72.1	79.6	82.5
1.1	75.0	81.4	84.1
1.5	77.2	82.8	85.3
2.2	79.7	84.3	86.7
3	81.5	85.5	87.7
4	83.1	86.6	88.6
5.5	84.7	87.7	89.6
7.5	86.0	88.7	90.4
9.2	86.9	89.3	91.0
11	87.6	89.8	91.4
15	88.7	90.6	92.1
18.5	89.3	91.2	92.6
22	89.9	91.6	93.0
30	90.7	92.3	93.6
37	91.2	92.7	93.9
45	91.7	93.1	94.2
55	92.1	93.5	94.6
75	92.7	94.0	95.0
90	93.0	94.2	95.2

Technical appendix



CALPEDA MOTORS FEATURES

2-pole

Motor for MXV pump	Motor for monoblock pump	Rated power output P _N		Rated current 400 V A	Fréquence Hz	Rotation speed R.P.M.	Power factor cos φ	Efficiency			I _A I _N	C _A C _N	Efficiency class IE
		kW	HP					100%	75%	50%			
	71	0,75	1	2,2	50	2900	0,76	77,4	77,8	74,6	3,9	2,6	IE2-77.4
M80V1-0.75T	80	0,75	1	1,9	50	2900	0,75	77,4	76,2	72	5,8	3,2	IE2-77.4
	71	1,1	1,5	2,6	50	2900	0,77	80	80,1	77,8	7,1	4,5	IE2-79.6
M80V1-1.1T	80	1,1	1,5	3	50	2900	0,75	79,6	79,2	76,1	5,1	3,2	IE2-79.6
M90V1-1.5T	80	1,5	2	4,3	50	2900	0,75	81,3	81,5	79,3	5,5	3,5	IE2-81.3
	80	1,8	2,5	4,3	50	2900	0,77	82,2	82,7	80,6	9,1	5,4	IE2-82.2
M90V1-2.2T	80	2,2	3	5,5	50	2900	0,81	83,2	84,7	82,8	7,1	4,4	IE2-83.2
M100V1-3T	90	3	4	6,6	50	2900	0,80	84,6	85,2	84,5	8,2	4,4	IE2-84.6
M112V1-4T	90	4	5,5	9,6	50	2900	0,80	85,8	86,4	85,7	7,6	3,9	IE2-85.8
M132V1-5.5T	112	5,5	7,5	10,9	50	2900	0,84	89,2	90,1	89,9	9,1	3,1	IE3-89.2
M132V1-7.5T	112	7,5	10	14,3	50	2900	0,83	90,1	90,9	90,6	9,1	3,2	IE3-90.1
	132	9,2	12,5	18,5	50	2900	0,82	90,7	91	89,8	8,2	3,2	IE3-90.7
M160V1-11T	132	11	15	21,5	50	2900	0,85	91,2	91,7	91,1	8,5	3,4	IE3-91.2
M160V1-15T	132	15	20	27,3	50	2900	0,87	91,9	92	90,7	9,5	4,3	IE3-91.9
M160V1-18.5T	132	18,5	25	34	50	2900	0,90	92,4	93,3	93,4	9,4	3,3	IE3-92.4
M180V1-22T	160	22	30	41	50	2900	0,88	92,7	92,7	91,5	10,7	3,6	IE3-92.7

4-pole

Motor for monoblock pump	Rated power output P _N		Rated current 400 V A	Fréquence Hz	Rotation speed R.P.M.	Power factor cos φ	Efficiency			I _A I _N	C _A C _N	Efficiency class IE
	kW	HP					100%	75%	50%			
80	0.75	1	1.9	50	1450	0.76	79.6	79.9	77.2	5.5	2.8	IE2-79.6
80	1.1	1.5	2.9	50	1450	0.77	81.4	81.9	79.6	5.9	2.7	IE2-81.4
90	1.5	2	3.5	50	1450	0.77	82.8	82.7	80.0	7.4	3.7	IE2-82.8
90	2.2	3	5	50	1450	0.81	84.3	85.1	83.8	7.2	3.4	IE2-84.3
112	3	4	6.4	50	1450	0.79	85.5	85.9	84.7	5.8	2.6	IE2-85.5
112	4	5.5	8.3	50	1450	0.83	86.8	87.1	86.0	7.2	3.2	IE2-86.6
132	5.5	7.5	12.5	50	1450	0.83	87.7	88.0	86.4	8.2	2.3	IE2-87.7
132	7.5	10	16	50	1450	0.81	88.7	88.8	87.3	8.1	2.2	IE2-88.7
132	9.2	12.5	19.0	50	1450	0.82	89.3	89.2	87.2	8.4	2.8	IE2-89.3
160	11	15	22.5	50	1450	0.82	89.8	89.8	88.4	8.5	3.6	IE2-89.8
160	15	20	29	50	1450	0.83	90.6	91.3	90.9	9.0	3.6	IE2-90.6

NAMEPLATE

The legislation requires that a nameplate is fitted detailing the following data; the class of motor efficiency (IE1 or IE2 or IE3), the rated power, and the value of the performance with 100% efficiency at full load, 75% load and 50 % load.

Example of CALPEDA nemeplate:

the legend describes the parameters and values shown on the nameplate.

DISPOSAL:

This product or parts of it must be disposed of in anenvironmentally sound way:

1. Use the public or private waste collection service.
2. If this is not possible, contact your local Calpeda representative.

Example plate motor

 calpeda					
MONTORSO VICENZA				 	
5,5kW (7,5Hp)				0705158995	
400Δ/690Y V3~50Hz				10,8 / 6,2 A	
n 2900/min S1 I.cl. F					
V	%	cosφ	η		
400	100	0,84	87,5	45kg	
400	75	0,78	88,1	IP 54	
400	50	0,67	87,4		
IEC 60034-1				IE2-87	
Rotation speed rpm				Efficiency class	
Operation Duty / Insul. class				Protection	
Supply voltage				Weight	
Fréquence/Nom. motor current					
Rated power					

Technical appendix



EFFICIENCY OF CIRCULATORS

Directive of the European Parliament COMMISSION REGULATION (EC) No 641/2009

With the Eco-design Directive of Energy Using Products (**ErP Directive – Energy-related Products**) the European Union wants to improve the design of equipment that “consume” significant energy (e.g. televisions, refrigerators, washing machines, boilers, pumps, motors etc.) to improve eco-design providing environmental sustainability, reducing negative environmental impact as the consequence of production, use and disposal of products.

The objective of the Directive is to force manufacturers and importers to produce and distribute products with high energy efficiency, and reduced carbon output. The criteria for eco-design will be an integral part of the declaration of conformity (**CE**), which is a necessary requirement/mark for products being sold in the EU.



This Regulation shall apply to:

Stand-alone* or integrated** circulators with the motor immersed in the pumped medium, with hydraulic power from 1 up to 2500 W, designed for use in heating systems or in secondary circuits of cooling distribution systems.

* Stand alone circulators are commonly available on the market.

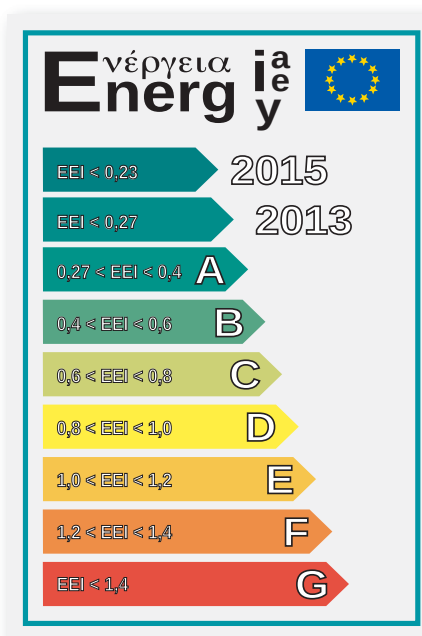
** circulators integrated in products are component of a device, such as boilers, heat pumps, etc..

This Regulation shall not apply to:

- drinking water circulators
- circulators integrated in products and placed on the market not later than 1 January 2020 as replacement for identical circulators integrated in products and placed on the market no later than 1 August 2015. The replacement product or its packaging must clearly indicate the product(s) for which it is intended.

This Regulation shall apply in accordance with the following timetable:

- from **1 January 2013**, glandless standalone circulators shall meet the efficiency level (EEI) less than 0.27, with the exception of those specifically designed for primary circuits of thermal solar systems and of heat pumps;
- from **1 August 2015**, glandless standalone circulators and glandless circulators integrated in products shall meet the efficiency level (EEI) less than 0.23.



EFFICIENCY OF WATER PUMPS

Directive of the European Parliament COMMISSION REGULATION (EC) No 547/2012

With the Eco-design Directive of Energy Using Products (**ErP Directive – Energy-related Products**) the European Union wants to improve the design of equipment that “consume” significant energy (e.g. televisions, refrigerators, washing machines, boilers, pumps, motors etc.) to improve eco-design providing environmental sustainability, reducing negative environmental impact as the consequence of production, use and disposal of products.

The objective of the Directive is to force manufacturers and importers to produce and distribute products with high energy efficiency, and reduced carbon output. The criteria for eco-design will be an integral part of the declaration of conformity (**CE**), which is a necessary requirement/mark for products being sold in the EU.



This Regulation shall apply to:

The Regulation 547/2012/EC defines the eco-design requirements for marketing centrifugal water pumps in the European market, even if they are integrated in other products (OEM). The Regulation provides the introduction and the calculation of a minimum efficiency index (MEI).

The pumps involved in the Regulation are:

- End suction own bearing water pumps (ESOB) designed for pressures up to 16 bar, a maximum shaft power of 150 kW, a maximum head of 90 m at nominal speed of 1450 rpm and a maximum head of 140 m at nominal speed of 2900 rpm;
- End suction close coupled water pumps (ESCC) designed for pressures up to 16 bar, a maximum shaft power of 150 kW, a maximum head of 90 m at nominal speed of 1450 rpm and a maximum head of 140 m at nominal speed of 2900 rpm;
- End suction close coupled in-line water pumps (ESCCi) designed for pressures up to 16 bar, a maximum shaft power of 150 kW, a maximum head of 90 m at nominal speed of 1450 rpm and a maximum head of 140 m at nominal speed of 2900 rpm;
- Vertical multistage water pumps (MS-V) designed for pressures up to 25 bar, with a nominal speed of 2900 rpm and a maximum flow of 100 m³/h (27,78·10⁻³ m³/s);
- Submersible multistage water pumps (MSS) with a nominal outer diameter of 4" (10,16 cm) or 6" (15,24 cm) designed to operate in a borehole at nominal speed of 2 900 rpm, at operating temperatures within a range of 0 °C and 90 °C;

This Regulation shall not apply to:

- a) Water pumps designed specifically for pumping clean water at temperatures below – 10 °C or above 120 °C.
- b) Water pumps designed only for fire-fighting applications.
- c) Displacement water pumps.
- d) Self-priming water pumps.

This regulation shall apply in accordance with the following timetable:

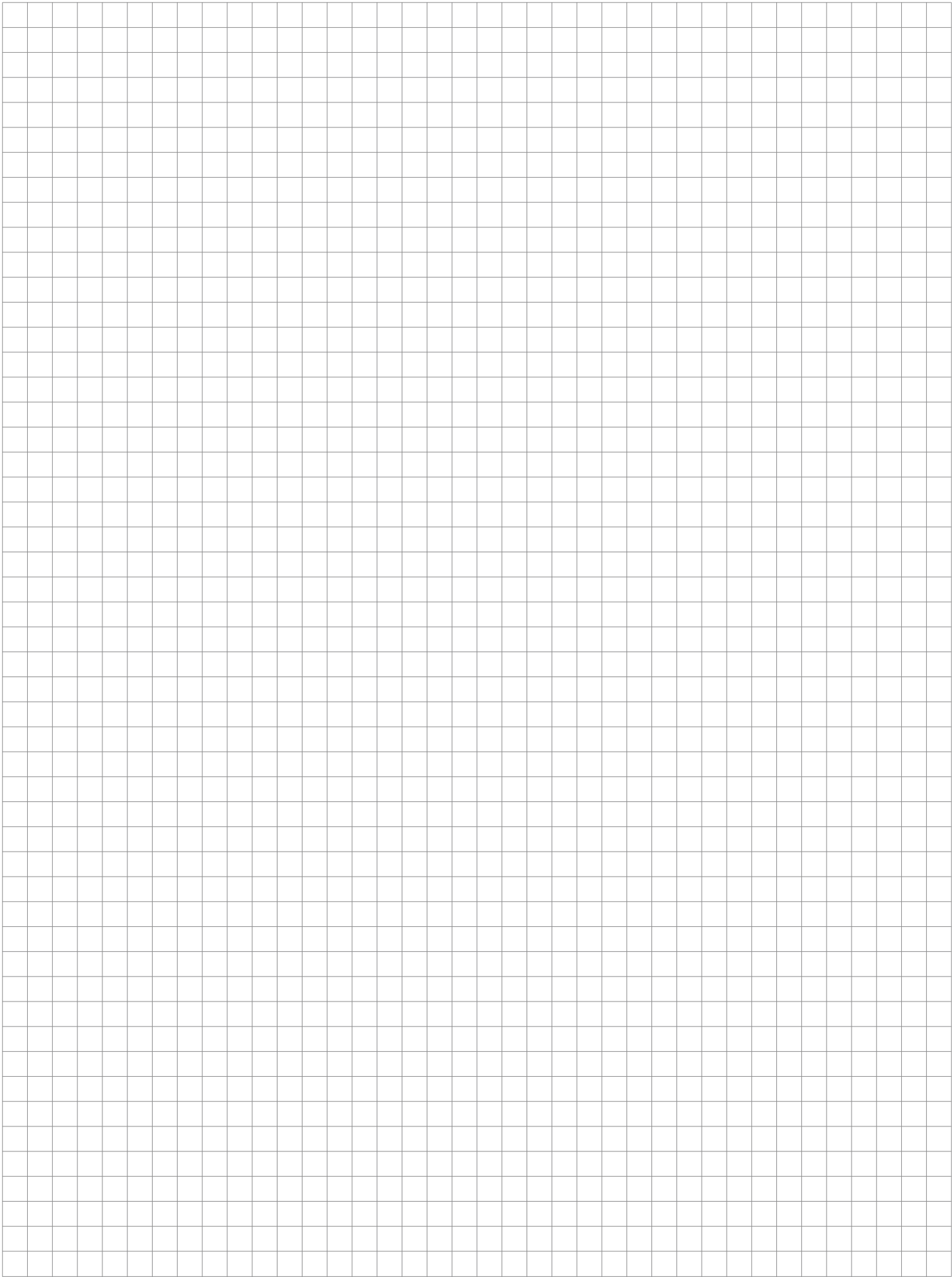
- 1) From 1 January 2013, water pumps shall have: at the best efficiency point (BEP), at part load (PL), at over load (OL) a minimum efficiency index $MEI \geq 0,10$.
- 2) From 1 January 2015, water pumps shall have: at the best efficiency point (BEP), at part load (PL), at over load (OL) a minimum efficiency index $MEI \geq 0,40$.

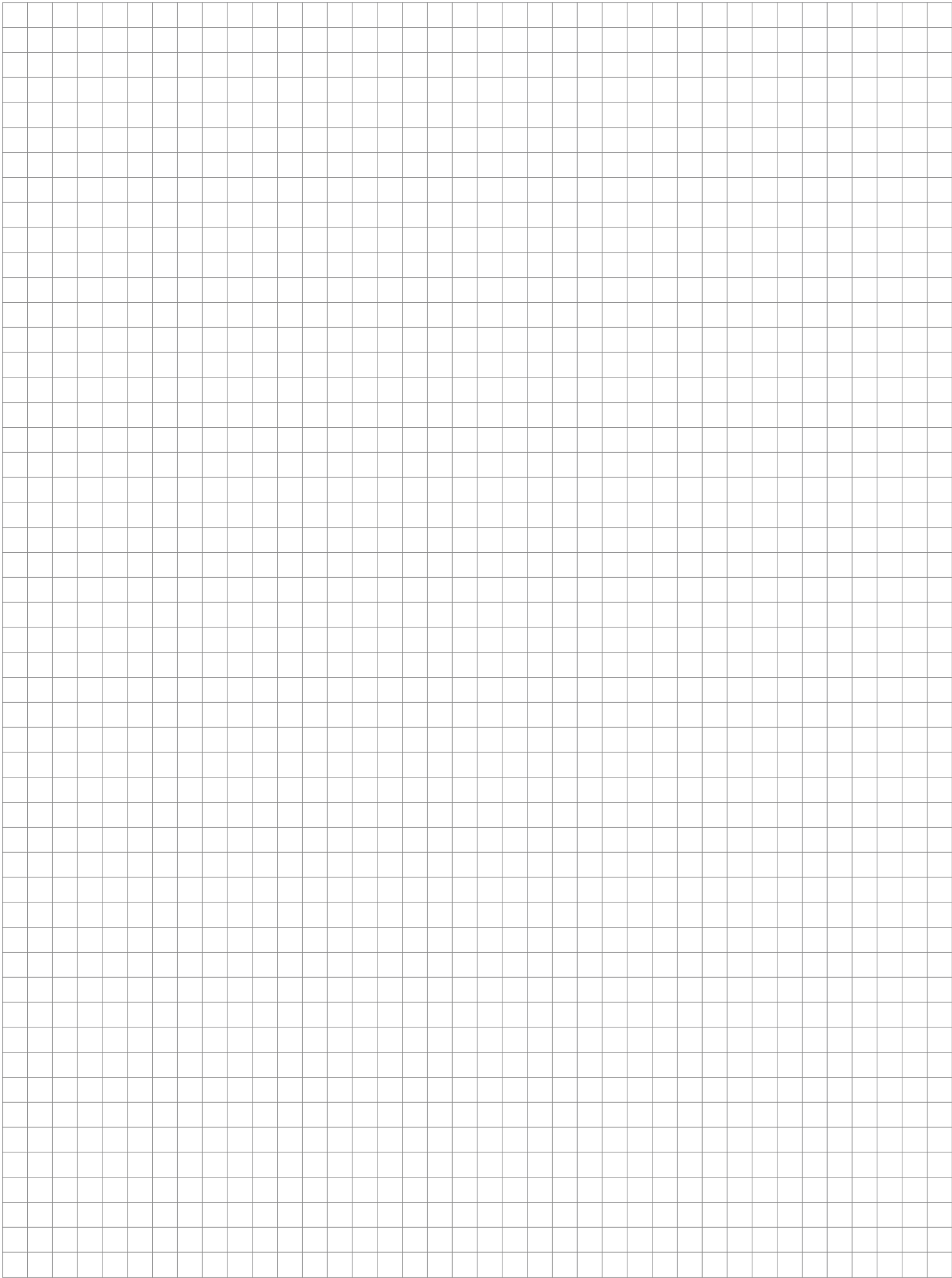
The information on benchmark efficiency is available on the web site www.europump.org/efficiencycharts

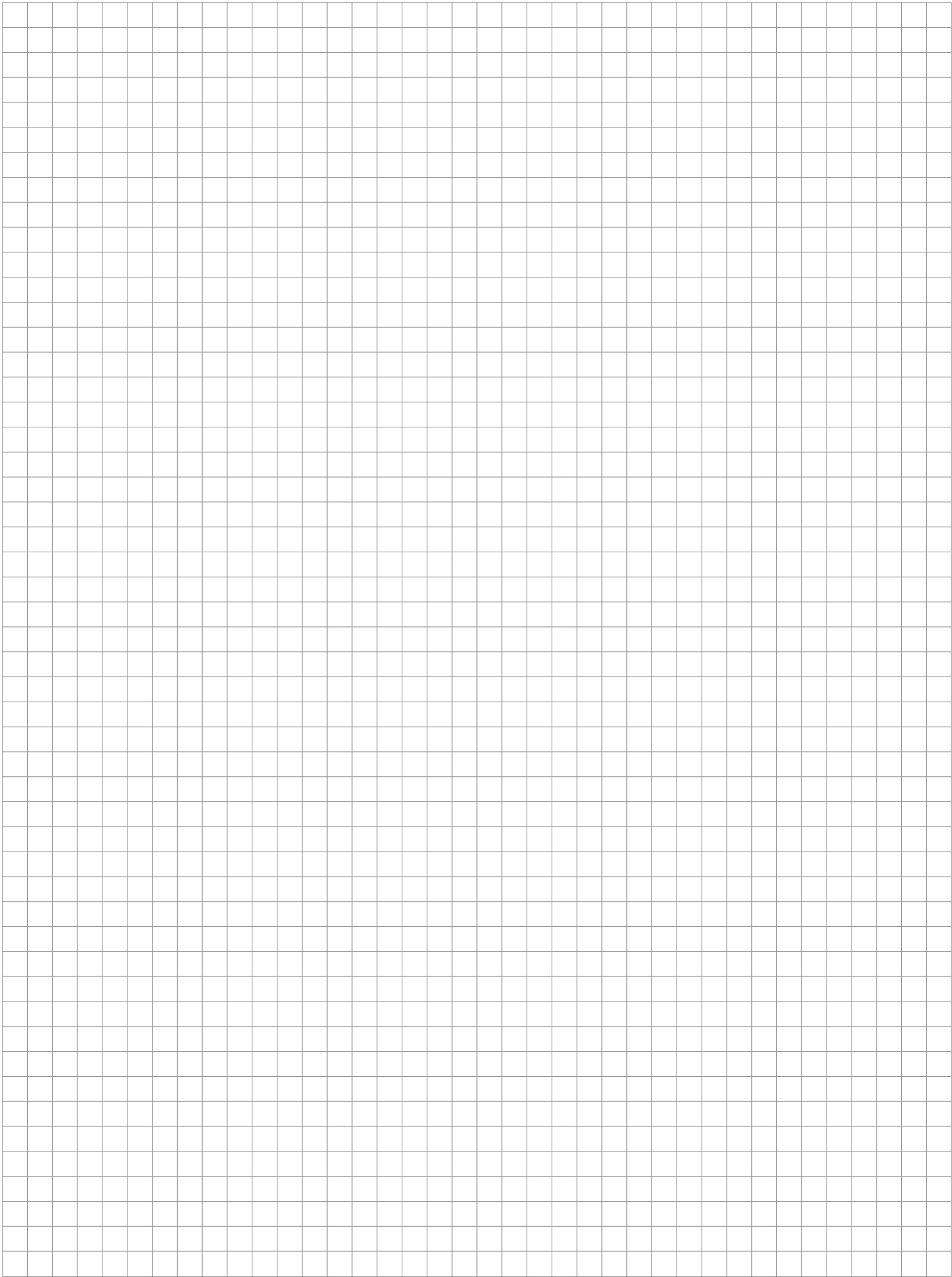
The MEI value of Calpeda pumps is available on the web site www.calpeda.com

Regulation (EU) No 547/2012

- The benchmark for most efficient water pumps is $MEI \geq 0,70$.
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.







Catalogue **50Hz**

February 2015 C201-14/3

Changes reserved