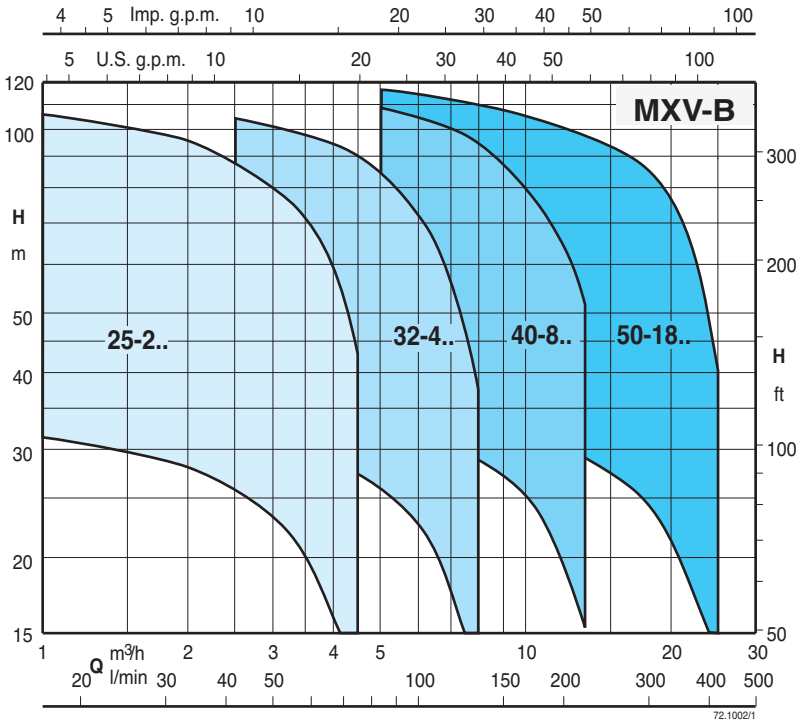
MXV-B

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 ≈ 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.

Version with frequency converter (on request)

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 °C.
Operating environment temperature: up to 40 °C.
Maximum permissible pressure in pump casing: 16 bar.

Motor

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
MXV-B: three-phase 230/400 V ± 10% up to 3 kW;
400/690 V ± 10% from 3,7 to 7,5 kW.
MXV-BM: single-phase 230 V ± 10%, with thermal protector. Capacitor inside the terminal box.
Insulation class F. Protection IP 54.
Motor suitable for operation with frequency converter from 1,1 kW.
Classification scheme IE3 for three-phase motors from 0,75 kW.
Constructed in accordance with: EN 60034-1, EN 60034-30-1. EN 60335-1, EN 60335-2-41.

Materials (wetted parts)

Component	Material
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)
Mechanical seal ISO 3069 - KU	Ceramic alumina/Carbon/EPDM
Wear ring	PTFE
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 0,75 kW.

Designation

MXV-B M EI 25 - 205

- Series
- Single-phase motor (up to 2.2 kW)
- With frequency converter I-MAT
- DN ports in mm
- Rated capacity in m³/h
- Number of stages

MXV-B EI

Vertical Multi-Stage In-Line Pumps

Pumps with frequency converter

The **MXV-B EI** pumps are available with power from 0,75 kW up to 7,5 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.

Advantages
- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

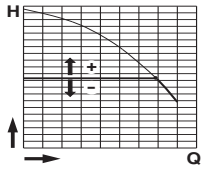
Costruction
The system comprises of:
- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers

Main features
Rated motor power output from 0,75 kW to 7,5 kW
Control range from 1750 to 2900 rpm (2-pole)
Protection against dry running
Protection against operations with closed connection ports
Protection against system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

Operating modes

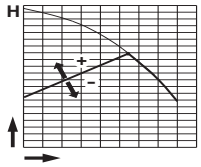
Constant pressure mode
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.



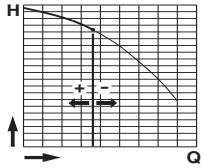
Proportional pressure mode
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.



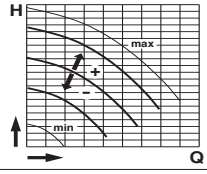
Constant flow mode
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.



Fixed speed mode
with setting of the speed preferential rotation.

In this mode, by changing the working frequency, you may choose any operational curve included within the working range.

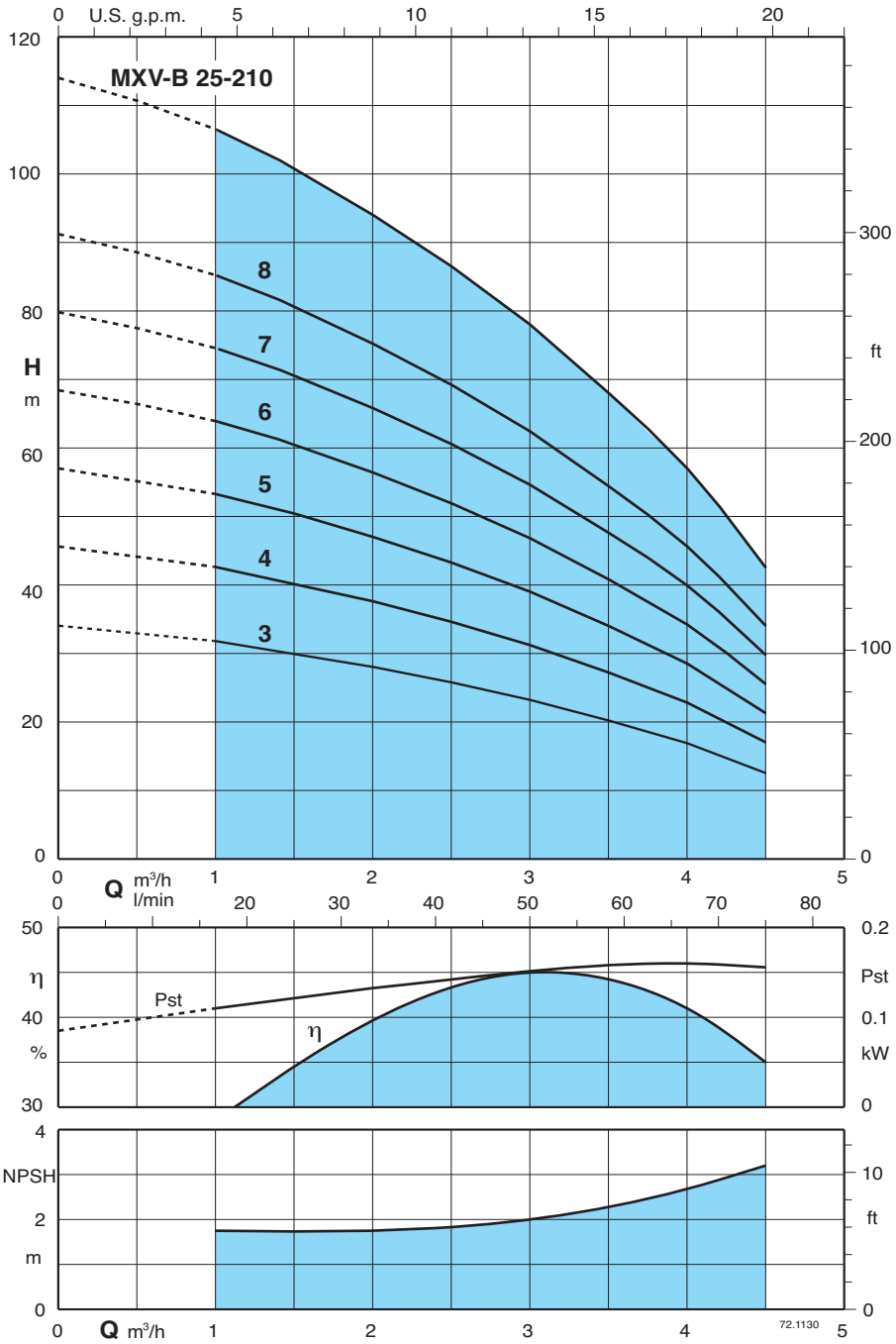


Constant temperature mode
with temperature transducer

In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

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

Characteristic curves and performance n ≈ 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

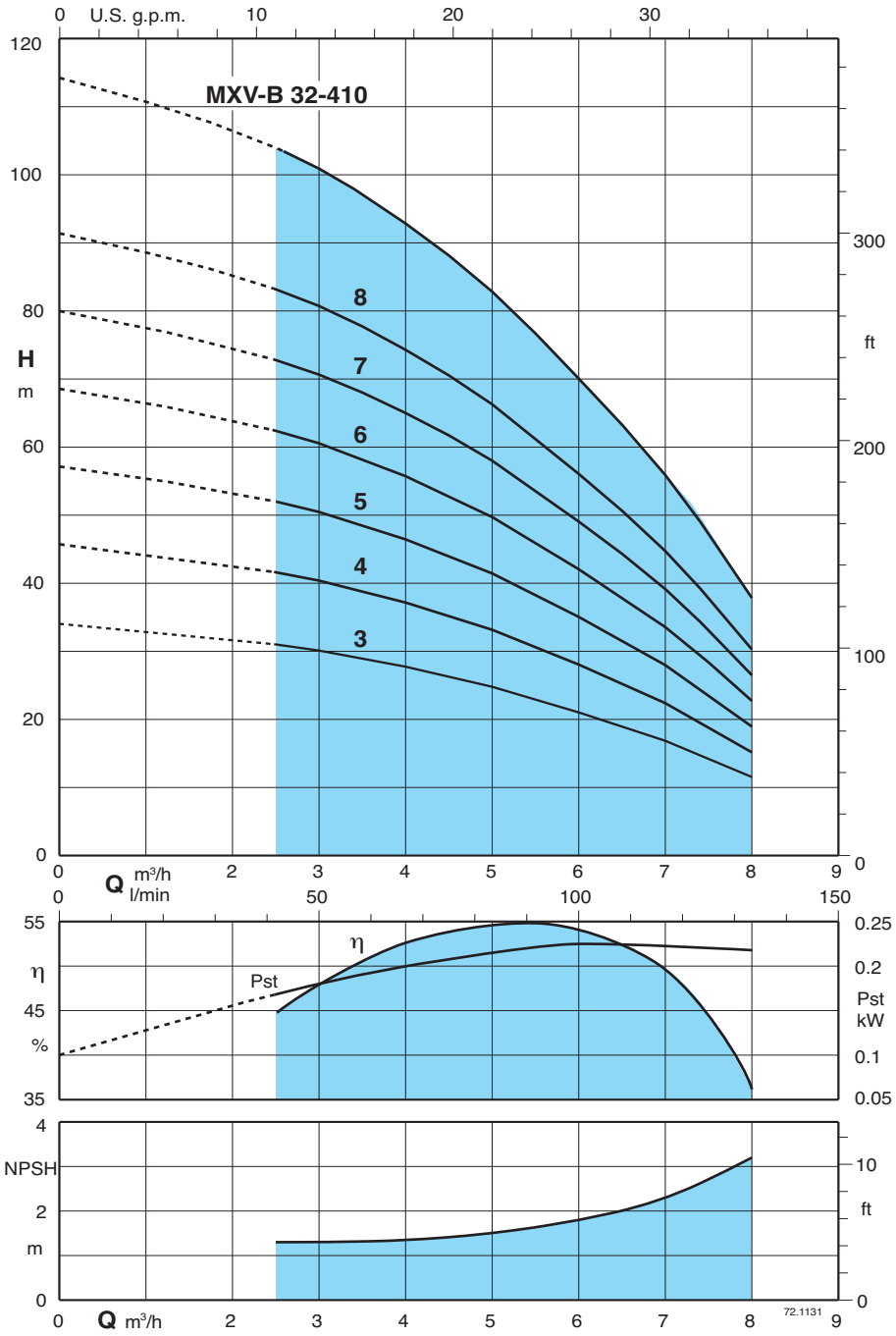
Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Pst = Power with reference to one stage.
P_1 Max. power input.
P_2 Rated motor power output.

3 ~	230 V	400 V	1 ~	230 V	P_1	P_2		m^3/h	0	1	1,5	2	2,5	3	3,5	4	4,5
	A	A		A	kW	kW	HP	Q l/min	0	16,6	25	33,3	41,6	50	58,3	66,6	75
MXV-B 25-203	4	2,3	MXV-BM 25-203	5,8	1,1	0,75	1		34	32	30	28	26	23,5	20,5	17	12,5
MXV-B 25-204	4	2,3	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	4	2,3	MXV-BM 25-205	5,8	1,1	0,75	1		56	53	50	47	43	39	34	28	21
MXV-B 25-206/A	4,7	2,7	MXV-BM 25-206	7,4	1,5	1,1	1,5	H	68	63,5	60,5	56	51,5	46,5	40,5	34	25
MXV-B 25-207/A	4,7	2,7	MXV-BM 25-207	7,4	1,6	1,1	1,5	m	79,5	74	70,5	65,5	60	54,5	47,5	39,5	30
MXV-B 25-208/A	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/A	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 ≈ 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

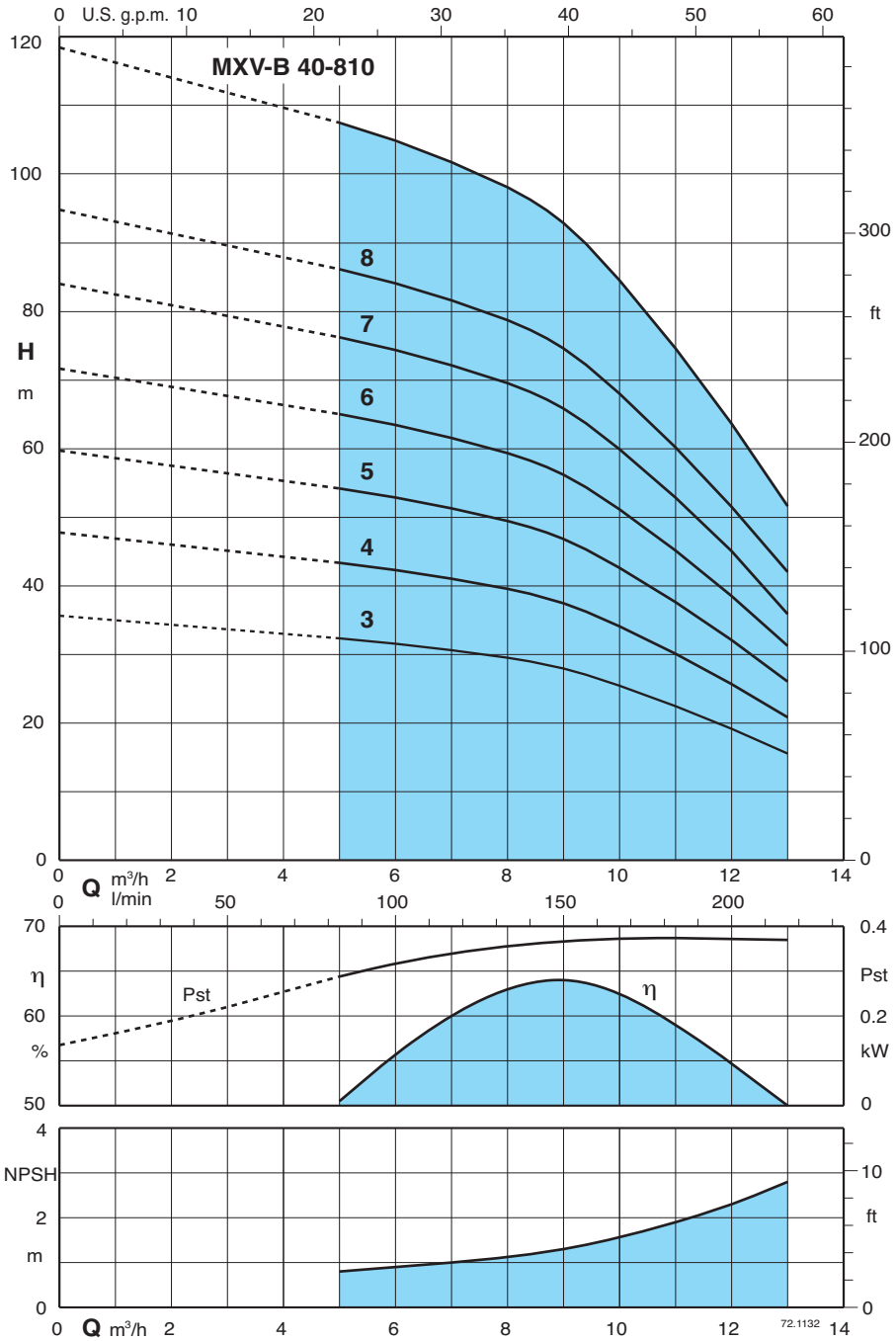
Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Pst = Power with reference to one stage.
P_1 Max. power input.
P_2 Rated motor power output.

3 ~	230 V	400 V	1 ~	230 V	P_1	P_2		m³/h	0	2,5	3	3,5	4	4,5	5	6	7	8
	A	A		A	kW	kW	HP	Q l/min	0	41,6	50	58,3	66,6	75	83,3	100	116,6	133,3
MXV-B 32-403	4	2,3	MXV-BM 32-403	5,8	1,1	0,75	1		34	31	30,5	29	28	26,5	25	21	17	11,5
MXV-B 32-404/A	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/A	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/A	7,5	4,3	MXV-BM 32-406	9,2	2	1,5	2	H m	68	62	60	58	55,5	52,5	49,5	42	33,5	22,5
MXV-B 32-407/A	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/B	9,15	5,3				2,2	3		91	83	80,5	78	74	70	66	56	44,5	30
MXV-B 32-410/B	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 ≈ 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

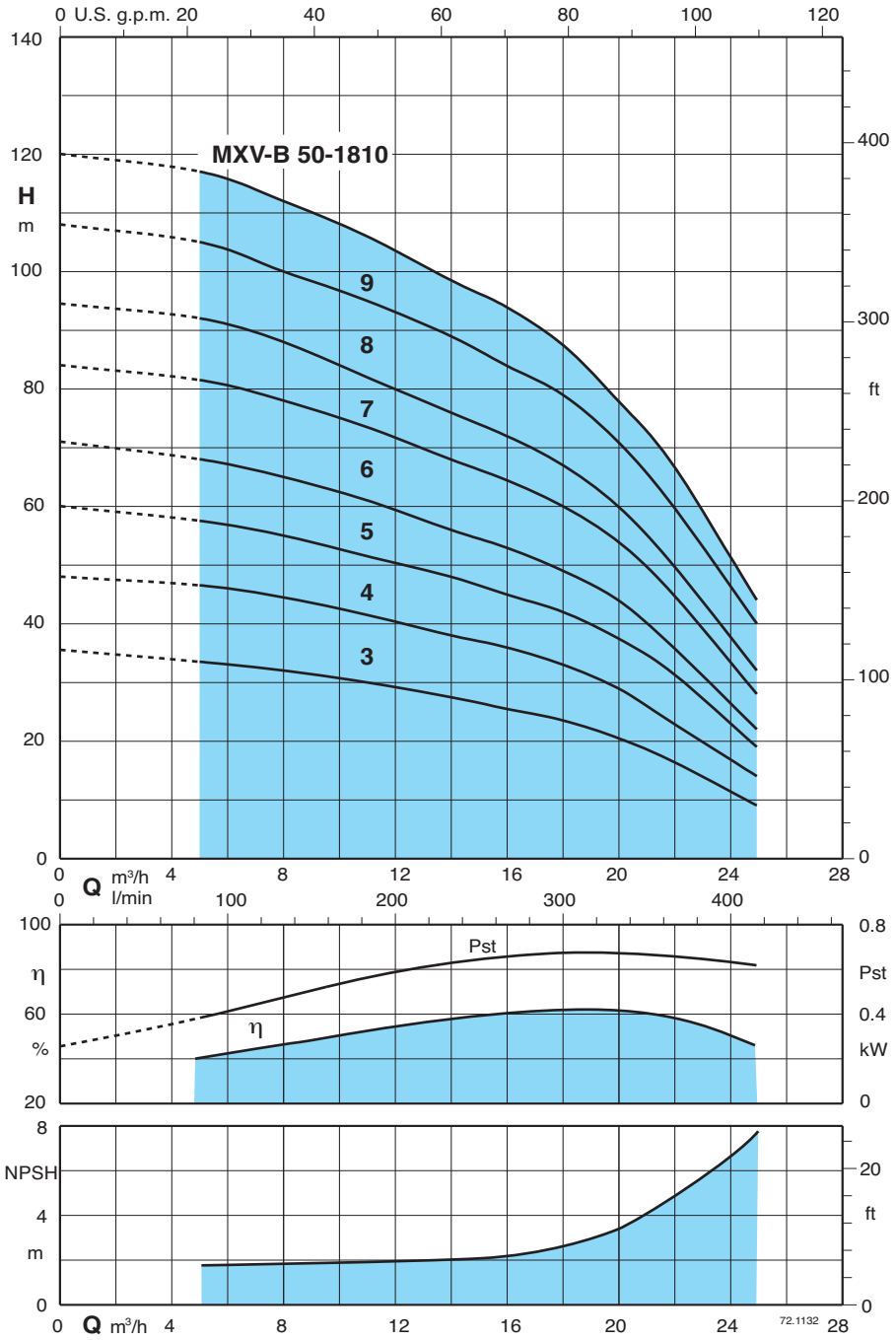
Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Pst = Power with reference to one stage.
P_1 Max. power input.
P_2 Rated motor power output.

3 ~	230 V	400 V	1 ~	230 V	P_1	P_2		m³/h	0	5	6	7	8	9	10	11	12	13
	A	A		A	kW	kW	HP	Q l/min	0	83,3	100	116,6	133,3	150	166,6	183,3	200	216,6
MXV-B 40-803/A	4,7	2,7	MXV-BM 40-803	7,4	1,6	1,1	1,5		35,5	32,5	31,5	31	29,5	28	25,5	22,5	19,5	15,5
MXV-B 40-804/A	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/B	9,15	5,3				2,2	3		59	54	53	51	50	47	43	38	32	26
MXV-B 40-806/B	9,15	5,3				2,2	3	H m	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/B		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 ≈ 2900 rpm



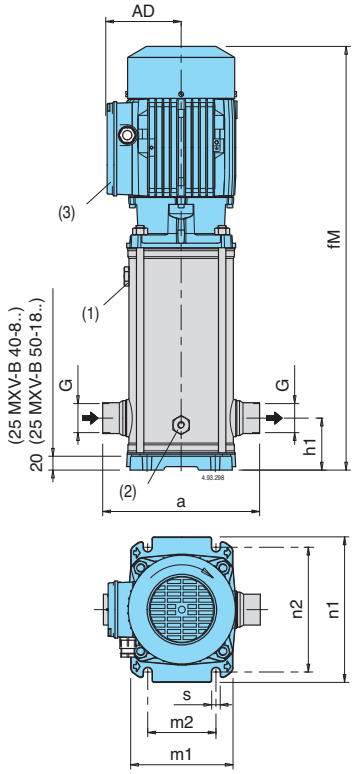
Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.
Tolerances in accordance with UNI EN ISO 9906:2012

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Pst = Power with reference to one stage.
P_1 Max. power input.
P_2 Rated motor power output.

3 ~	230 V	400 V		P_2		Q m³/h	0	5	8	11	14	16	18	20	22	25
	A	A		kW	HP	Q l/min	0	83,3	133,3	183,3	233	266	300	333	366	416
MXV-B 50-1803/B	9,15	5,3		2,2	3		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/B		9,6		3,7	5		60	57,5	55	51,5	48	45	42	37,5	31,5	19
MXV-B 50-1806/B		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	H m	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

Dimensions and weights

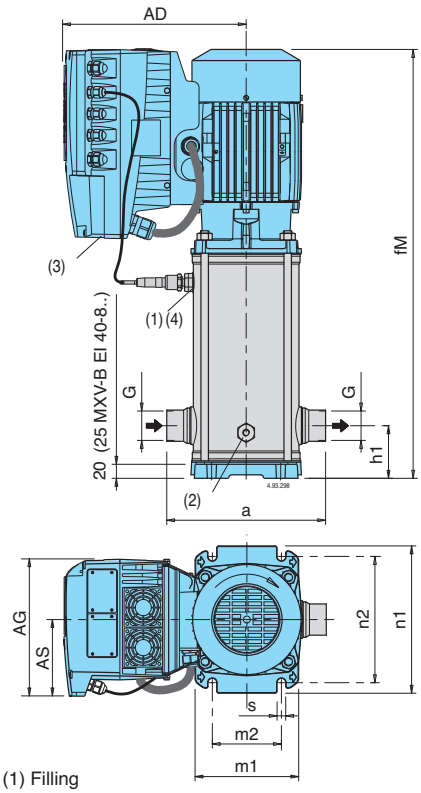


(1) Filling

(2) Draining

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

Pump	Motor P2		G		mm								Net weight	
	kW	HP	ISO 228	a	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/A	1,1	1,5	G 1	215	75	612	128	210	180	150	100	12,5	26	27
MXV-B(M) 25-207/A	1,1	1,5	G 1	215	75	636	128	210	180	150	100	12,5	27	28
MXV-B(M) 25-208/A	1,5	2	G 1	215	75	660	128	210	180	150	100	12,5	30	31
MXV-B(M) 25-210/A	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/A	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/A	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/A	1,5	2	G 1 1/4	215	75	612	128	210	180	150	100	12,5	28	29
MXV-B(M) 32-407/A	1,5	2	G 1 1/4	215	75	636	128	210	180	150	100	12,5	29	30
MXV-B 32-408/B	2,2	3	G 1 1/4	215	75	700	128	210	180	150	100	12,5	34	-
MXV-B 32-410/B	2,2	3	G 1 1/4	215	75	748	128	210	180	150	100	12,5	35	-
MXV-B(M) 40-803/A	1,1	1,5	G 1 1/2	225	80	593	128	246	215	190	130	14	27	28
MXV-B(M) 40-804/A	1,5	2	G 1 1/2	225	80	593	128	246	215	190	130	14	28	29
MXV-B 40-805/B	2,2	3	G 1 1/2	225	80	663	128	246	215	190	130	14	33	-
MXV-B 40-806/B	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/B	3,7	5	G 1 1/2	225	80	953	138	246	215	190	130	14	49	-
MXV-B 50-1803/B	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/B	3,7	5	G 2	250	90	738	138	246	215	190	130	14	46,5	-
MXV-B 50-1806/B	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	-



(1) Filling

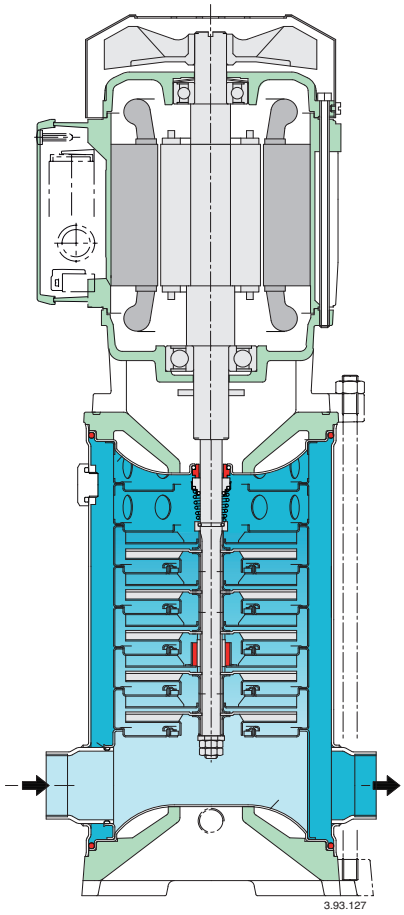
(2) Draining

(3) Standard position of I-MAT
(for other positions rotate motor through 90° or 180°)

(4) Pressure transducer

Pump	Motor P2		G		mm										Net weight
	kW	HP	ISO 228	a	h1	fM	AD	AG	AS	n1	n2	m1	m2	s	kg
MXV-B EI 25-203	0,75	1	G 1	215	75	564	286	190	105	210	180	150	100	12,5	29,4
MXV-B EI 25-204	0,75	1	G 1	215	75	565	286	190	105	210	180	150	100	12,5	29,9
MXV-B EI 25-205	0,75	1	G 1	215	75	588	286	190	105	210	180	150	100	12,5	30,9
MXV-B EI 25-206/A	1,1	1,5	G 1	215	75	612	286	190	105	210	180	150	100	12,5	32,4
MXV-B EI 25-207/A	1,1	1,5	G 1	215	75	636	286	190	105	210	180	150	100	12,5	33,4
MXV-B EI 25-208/A	1,5	2	G 1	215	75	660	286	190	105	210	180	150	100	12,5	36,4
MXV-B EI 25-210/A	1,5	2	G 1	215	75	708	286	190	105	210	180	150	100	12,5	37,4
MXV-B EI 32-403	0,75	1	G 1 1/4	215	75	564	286	190	105	210	180	150	100	12,5	30,4
MXV-B EI 32-404/A	1,1	1,5	G 1 1/4	215	75	565	286	190	105	210	180	150	100	12,5	31,4
MXV-B EI 32-405/A	1,1	1,5	G 1 1/4	215	75	588	286	190	105	210	180	150	100	12,5	32,4
MXV-B EI 32-406/A	1,5	2	G 1 1/4	215	75	612	286	190	105	210	180	150	100	12,5	34,4
MXV-B EI 32-407/A	1,5	2	G 1 1/4	215	75	636	286	190	105	210	180	150	100	12,5	35,4
MXV-B EI 32-408/B	2,2	3	G 1 1/4	215	75	700	286	210	118	210	180	150	100	12,5	41,5
MXV-B EI 32-410/B	2,2	3	G 1 1/4	215	75	748	286	210	118	210	180	150	100	12,5	42,5
MXV-B EI 40-803/A	1,1	1,5	G 1 1/2	225	80	593	286	190	105	246	215	190	130	14	33,4
MXV-B EI 40-804/A	1,5	2	G 1 1/2	225	80	593	286	190	105	246	215	190	130	14	34,4
MXV-B EI 40-805/B	2,2	3	G 1 1/2	225	80	663	286	190	105	246	215	190	130	14	40,5
MXV-B EI 40-806/B	2,2	3	G 1 1/2	225	80	693	286	190	105	246	215	190	130	14	41,5
MXV-B EI 40-807/A	3	4	G 1 1/2	225	80	746	294	210	118	246	215	190	130	14	52,5
MXV-B EI 40-808/A	3	4	G 1 1/2	225	80	776	294	210	118	246	215	190	130	14	56,5
MXV-B EI 40-810/B	3,7	5	G 1 1/2	225	80	953	294	210	118	246	215	190	130	14	56,5
MXV-B EI 50-1803/B	2,2	3	G 2	250	90	635	286	210	118	246	215	190	130	14	41,5
MXV-B EI 50-1804/A	3	4	G 2	250	90	701	294	210	118	246	215	190	130	14	51,5
MXV-B EI 50-1805/B	3,7	5	G 2	250	90	738	294	210	118	246	215	190	130	14	54,0
MXV-B EI 50-1806/B	4	5,5	G 2	250	90	776	294	210	118	246	215	190	130	14	55,0
MXV-B EI 50-1807/A	5,5	7,5	G 2	250	90	841	368	281	153	246	215	190	130	14	73,8
MXV-B EI 50-1808/A	5,5	7,5	G 2	250	90	878	368	281	153	246	215	190	130	14	74,8
MXV-B EI 50-1809/A	7,5	10	G 2	250	90	916	368	281	153	246	215	190	130	14	81,8
MXV-B EI 50-1810/A	7,5	10	G 2	250	90	953	368	281	153	246	215	190	130	14	82,8

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.