

Magnetic drive pumps

Withstands difficult operating conditions and offers high efficiency



The MX Series represents the latest state of the art design in plastic magnetic drive pumps to meet the most severe of operating conditions.

Patent

TAIWAN/EU

Pat.Pend.

JAPAN/U.S.A./CHINA

Withstands difficult operating conditions and offers high efficiency

The MX Series represents the latest state of the art design in plastic magnetic drive pumps to meet the most severe of operating conditions.

When fitted with a carbon bearing the MX will allow for brief periods of dry running. The new “self radiating structure” (Pat.Pend.) in addition to the existing proven non contact principle and front and rear supported spindle greatly improves the pumps ability to withstand some cavitation and running against closed discharge valve.

MX series pumps are highly recommended for use in various production processes such as filtering, spraying, washing and etching in surface treatment processes.

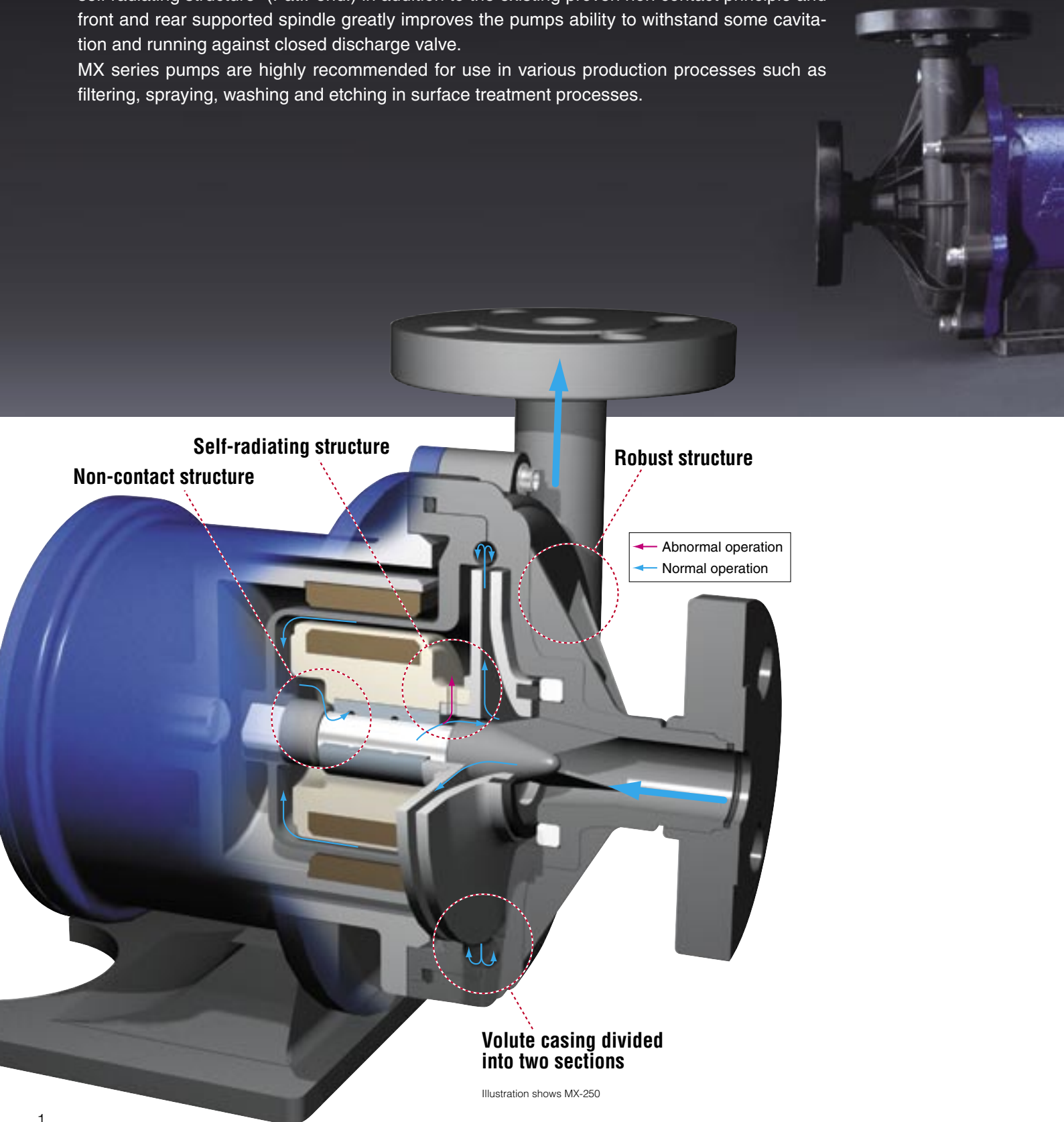


Illustration shows MX-250

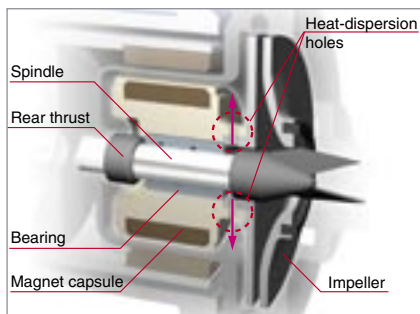
- An improved mechanical strength design allows operation under abnormal conditions and results in reduction of running cost and maintenance cost.
- The adoption of a volute casing divided into two raises efficiency. (Pat.Pend.)
- Simply constructed, it is robust and facilitates maintenance.



Self-radiating structure

(International patent applied)

Through heat-dispersion holes provided in the fixed portions of the impeller and the magnet capsule, the liquid around the spindle and the bearing is forced to circulate so that heat generated by sliding can be reduced effectively. Thus, thermal deformation and melt are prevented.



Non-contact structure

By installing the driving magnet and the driven magnet in an inventive way, the movement of the magnet capsule is controlled by magnetic force to

prevent the rear thrust and the rear portion of the bearing coming into contact with each other continuously even during dry running. This structure reduces heat generation and secures lubricant routes.

(Except MX-70, 100)

Volute casing divided into two sections

(International patent applied)

The MX series is the first resin magnet pump which uses the pump casing divided into the front casing and the rear casing to form a vortex chamber as an ideal form. Therefore, the internal leak phenomenon, which means that the liquid getting out of the impeller returns to the pump casing and is suppressed to a minimum and the liquid is efficiently guided to the discharge port to enhance overall efficiency.



Front casing

Rear casing

Robust structure

All stress bearing portions, such as the front and rear casings, are reinforced by means of ribs to improve the pressure resistance and the mechanical strength of the pump.

The bearing is not only fixed by conventional press fit but is also sandwiched between the abutting portion in the depth of the magnet capsule and the rear end of the impeller to improve its reliability under high temperature.

(Except MX-70, 100)

MX-402(H) and 403(H) models: an unplugging preventive lock pin is adopted for ensuring more steady securing.



Front casing of type 100 and 402/403

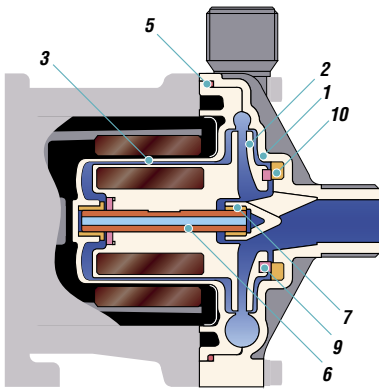


MX-403

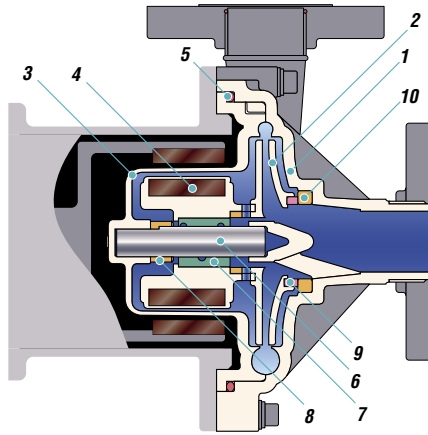
MX-401

Wet end materials

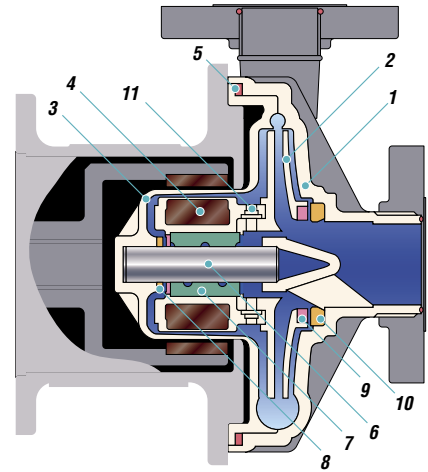
■ MX-70,100



■ MX-250 to 401



■ MX-402 to 403H



Model	MX-70		MX-100	MX-250 to 403H		MX-250 to 401
Mark	V(E)			CV(CE)	RV(RE)	AV(AE)
1 Front casing	GFRPP				GFRPP	
2 Impeller	CFRPP				GFRPP	
3 Rear casing	GFRPP				GFRPP	
4 Magnet capsule	-				PP	
5 O ring <small>Note 1</small>	FKM(EPDM)				FKM(EPDM)	
6 Spindle	Alumina ceramic				Alumina ceramic	
7 Bearing	CFRPPS		PTFE	Carbon	PTFE	Alumina ceramic
8 Rear thrust	-			CFRPPS (MX-402 to 403H: CFRPEEK)		
9 Mouth ring	-		PTFE	PTFE		
10 Thrust/Liner ring	Alumina ceramic			Alumina ceramic		
11 Lock pin	-			GFRPPS(Only available type 402 to 403H)		-

Note 1: An O-ring made of AFLAS® is also available

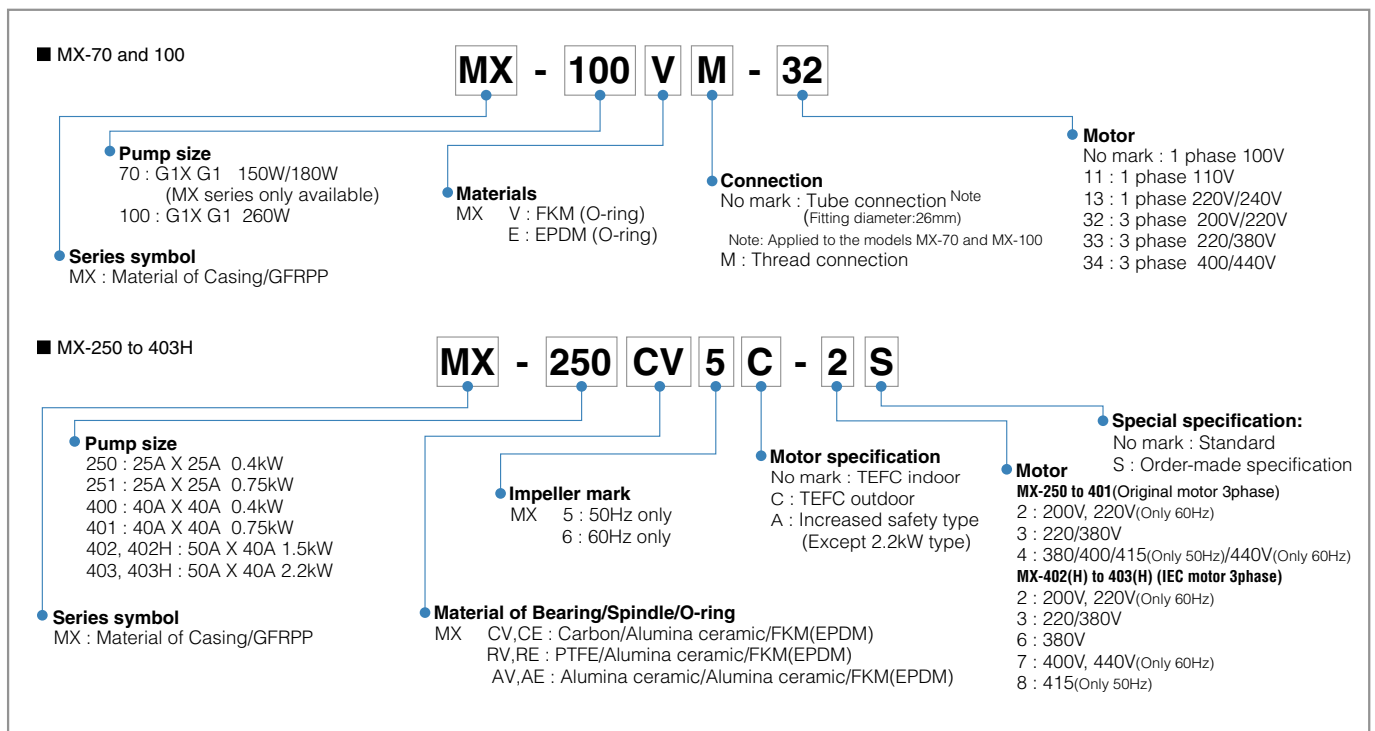


MX-250

MX-100

MX-70

Pump identification



Specifications

Model	Connection Suction X Discharge	Limit of specific gravity	Standard capacity L/min - m	Maximum capacity L/min	Motor kW	Mass kg
MX-70M	G1 x G1	1.2	50 - 5.4 / 7.8	90 / 100	0.15 / 0.18	6.5
MX-100M	G1 x G1	1.2	70 - 6 / 9	110 / 125	0.26	8.2
MX-250	25A x 25A	1.2	50 - 14 / 13.5	150	0.4	13.5
MX-251	25A x 25A	1.0	80 - 19	150	0.75	18.5
MX-400	40A x 40A	1.2	100 - 10.5 / 10	280	0.4	13.5
MX-401	40A x 40A	1.2	150 - 14.5	320	0.75	18.5
MX-402	50A x 40A	1.2	200 - 20/19.5	450	1.5	30.5
MX-402H	50A x 40A	1.0	100 - 30	160	1.5	30.5
MX-403	50A x 40A	1.2	250 - 23 / 25	500	2.2	33
MX-403H	50A x 40A	1.0	100 - 35 / 36	300 / 250	2.2	33

Note 1) The specific gravity limit values shown above are with maximum discharges. The specific gravity limit varies with the discharge. For details, please contact us.

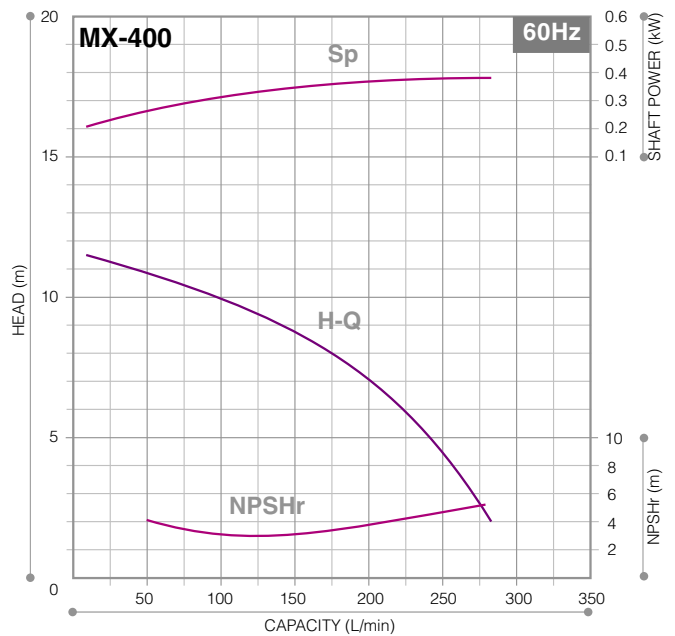
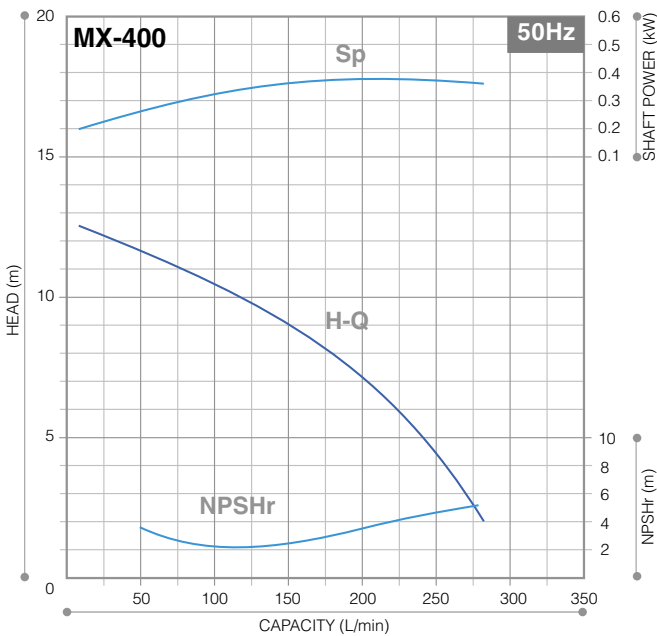
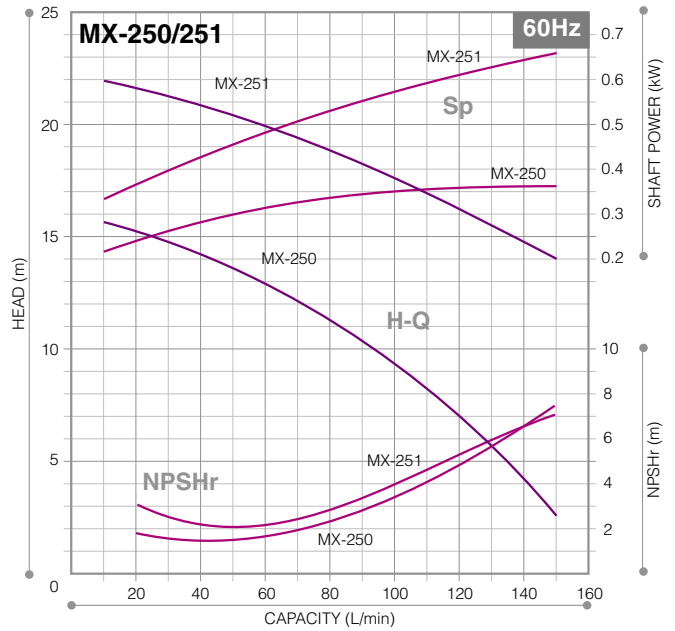
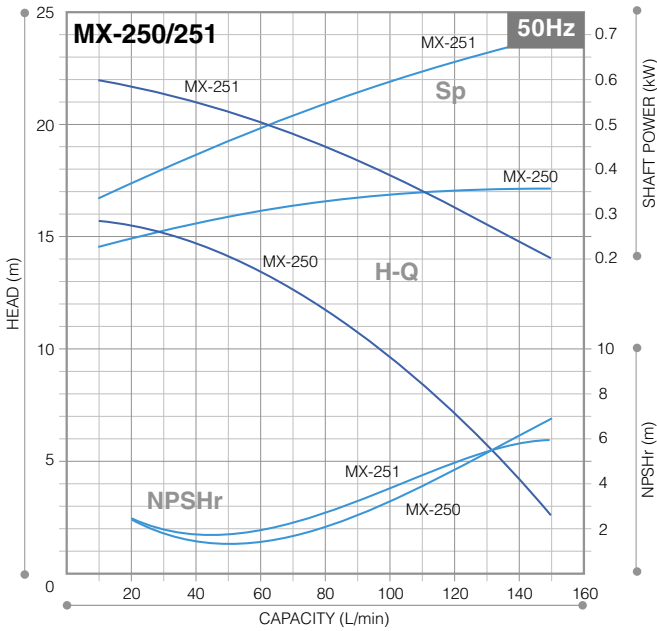
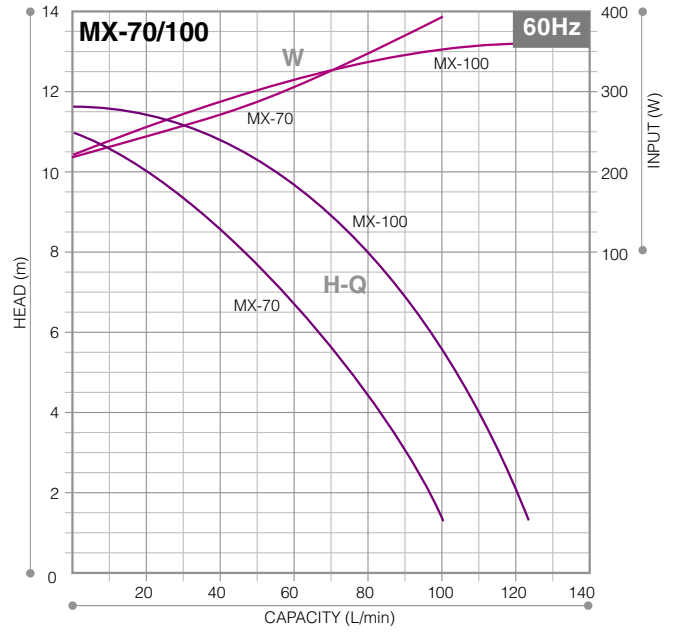
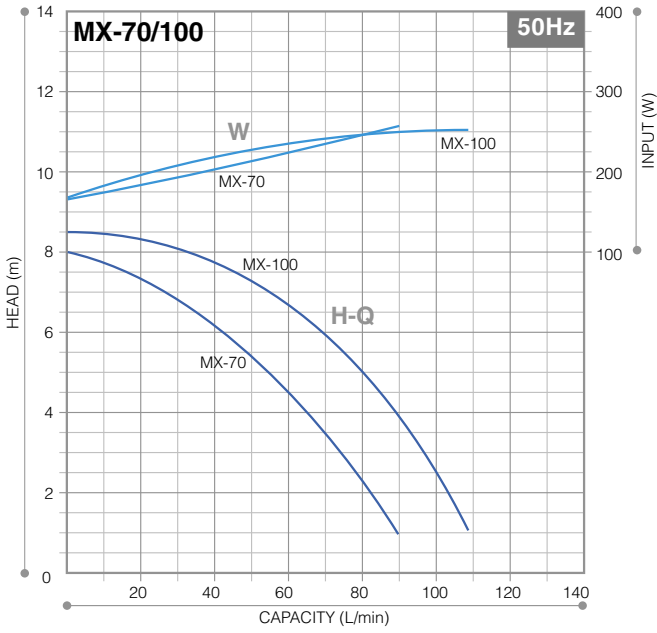
Note 2) 26mm tube connection option available on the MX-70 and MX-100.

Note 3) AV(AE) type is different in discharge capacity. For details, please contact us.

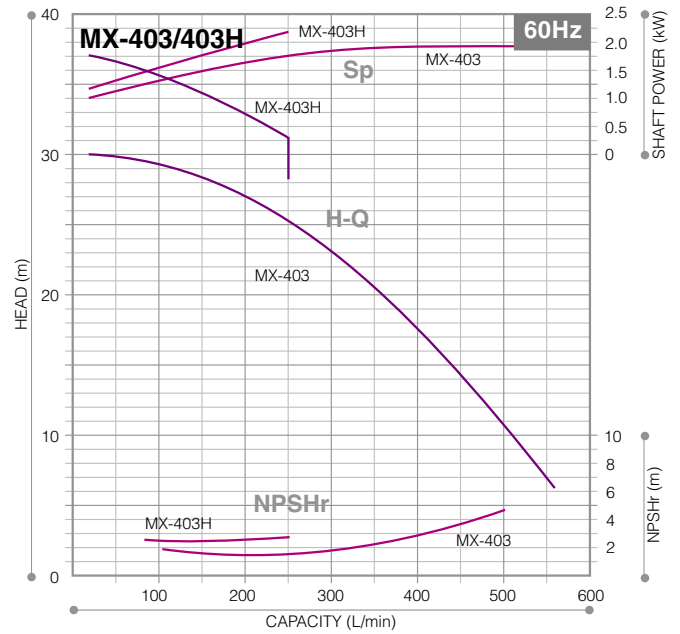
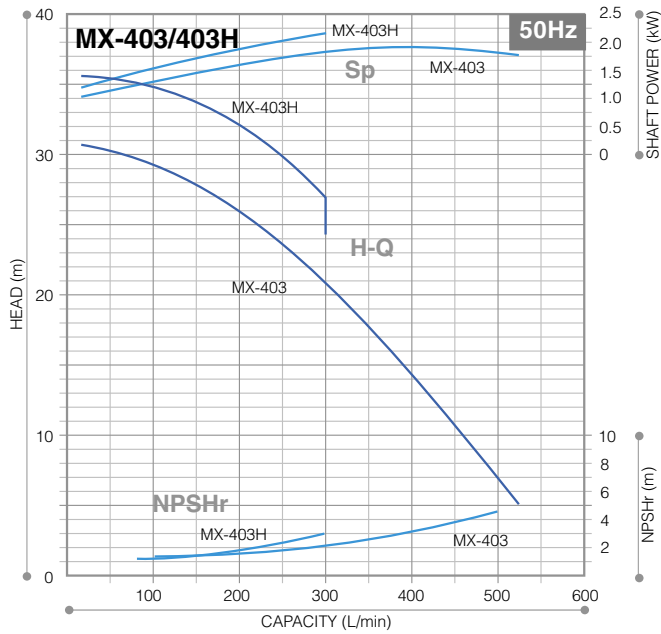
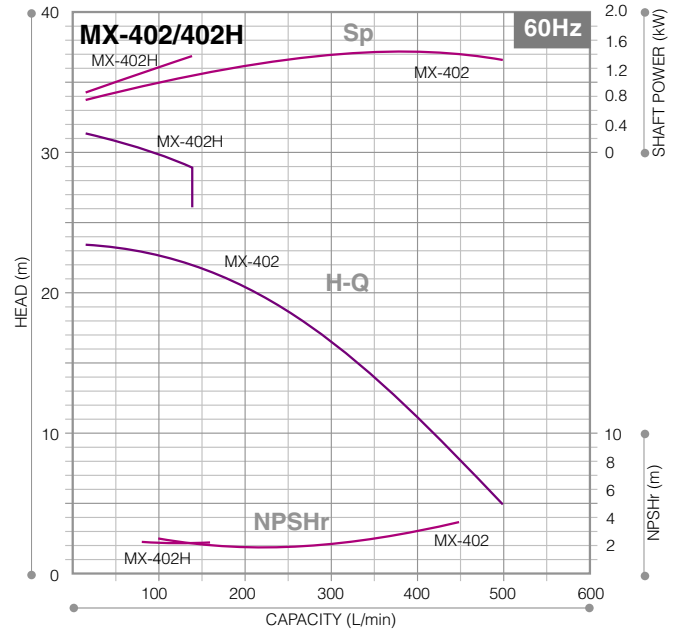
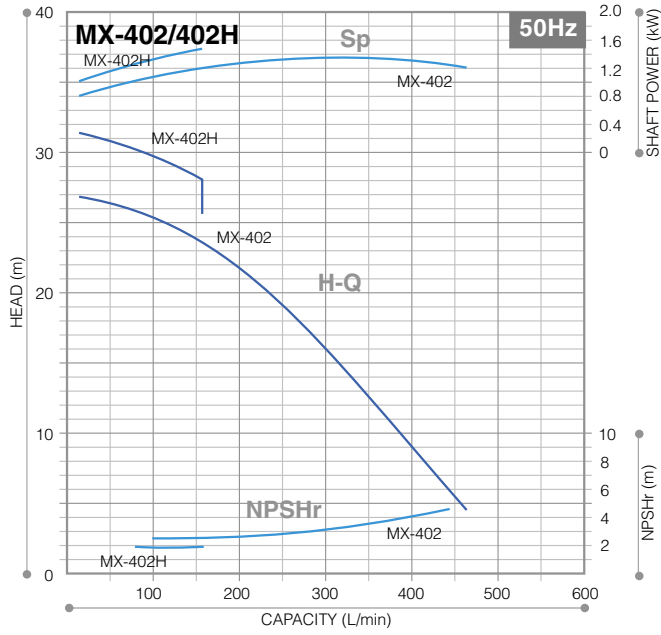
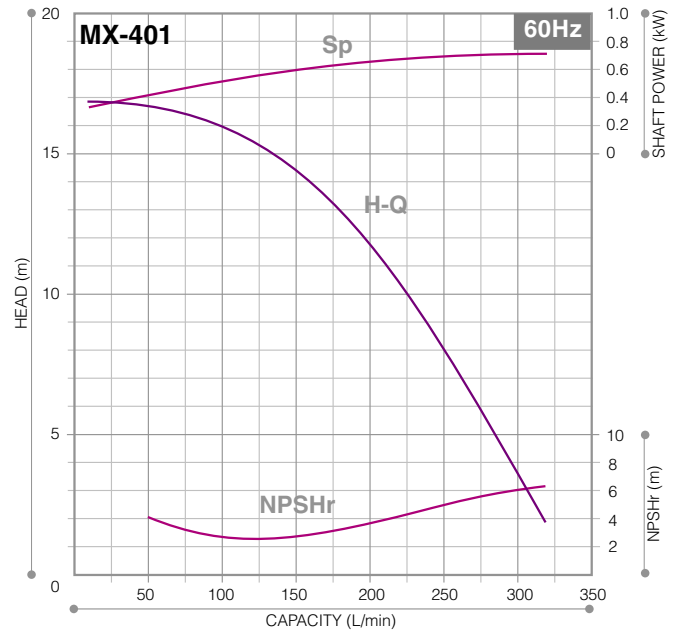
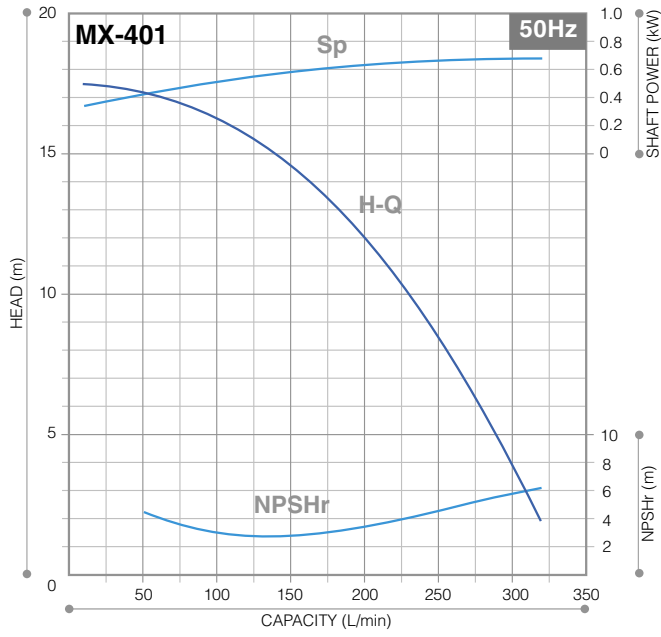
Common specifications

• Range of liquid temperature : 0 to 80°C (10 to 80°C in case AFLAS® O-rings are used.) • Range of ambient temperature : 0 to 40°C.

Performance curves



Performance curves

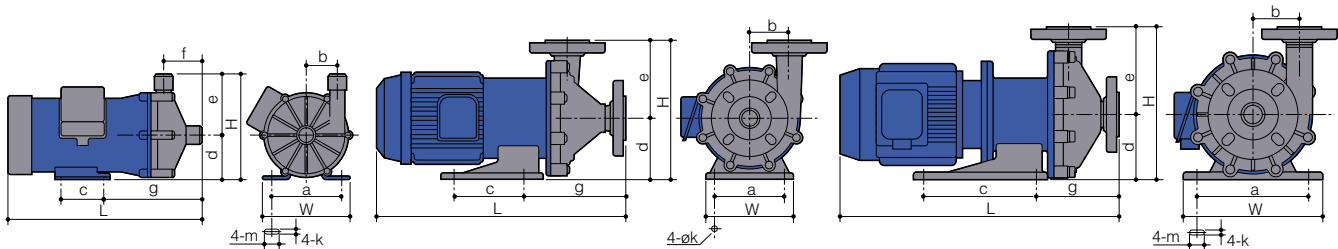


Dimensions

■ MX-70, 100

■ MX-250 to 401

■ MX-402, 402H, 403, 403H



Models		W	H	L	a	b	c	d	e	f	g	k	m
MX-70	Note 1	130	155	258.5	110	48	40	65	90	53	159.5	7	11
MX-100	Note 1	150	175	319.5	110	51	70	75	100	65	162	9	27
MX-250		160	255	408	130	65	130	115	140	90	163	12	—
MX-251		160	255	444	130	65	130	115	140	90	171	12	—
MX-400		140	225	408	110	54	98	95	130	87	150	12	—
MX-401		160	255	457	130	72	130	115	140	103	184	12	—
MX-402, 402H, 403, 403H		260	280	516	208	80	200	120	160	89	157	14	36

Note 1: MX-70 and MX-100 shows thread type in the above dimensions, Please contact us for tube connection type.

Optional accessories

Iwaki dry running protector DR series

Model DR is electric current sensing type dry running protector. It detects the decreased load current (lower limit) to stop the pump when it runs dry or runs with air sucking in. It can detect over-load, too.

- Current figure to be set is indicated on LCD.
- Both top/bottom figures can be set.
Top:Over-load
Bottom:Dry running, air sucking-in operation, operation with suction side closed
- Built-in current transformer
- DIN rail mounting
- It is unable to use DR when inverter is employed in the system.

Specification

50/60Hz

Model	DR-10	DR-20
Motor power	200 to 240V three phase	380 to 440V three phase
Applied motor	0.4 to 7.5kW	0.75 to 15kW
Power control	100 to 240V single phase	
Power	V	100V ±10%single phase
	Input	200 to 240V ±10%single phase
	3.5W	
Detective current	0.5 to 32.0A	
Current transformer(CT)	Built-in	
Outer dimension	D80 X W153 X H122	



DR-20

Union joint (Option)

Special purpose union joints are available.

Material : PVC/Heat resistant PVC

