

**Magnetic drive pump
resistant to abnormal operations**

Patent

JAPAN / U.S.A. / EU / CHINA / TAIWAN

The Heart of Industry

Even better dry-running resistance and efficiency than previous models. Iwaki MX magnetic drive pumps - reliable & energy efficient.



Self-radiating structure

Through heat-dispersion holes provided in the fixed portions of the impeller and the magnet capsule, liquid is circulated under pressure between the spindle and bearing to reduce friction heat transmission and prevent thermal deformation. (Except MX-70, 100)



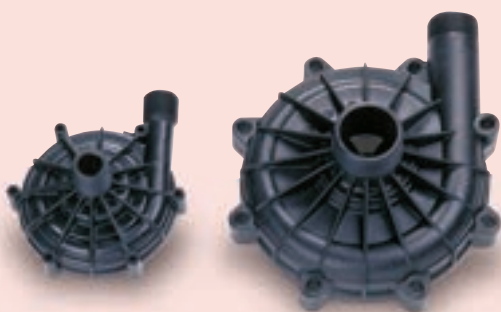
Robust structure

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), 403(H) and 505 models: an unplugging preventive lock pin is adopted for ensuring more steady securing.



Non-contact structure

The drive magnet and driven magnet are carefully positioned so that their strong magnetic field limits rear thrust contact of the magnet capsule parts, even during dry running. As a result, heat generation is greatly reduced and liquid circulation is maintained. (Except MX-70, 100)



Volute casing divided into two sections

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, internal leakage is kept to a minimum and overall hydraulic efficiency is enhanced.

(Except MX-70, 400, 505)



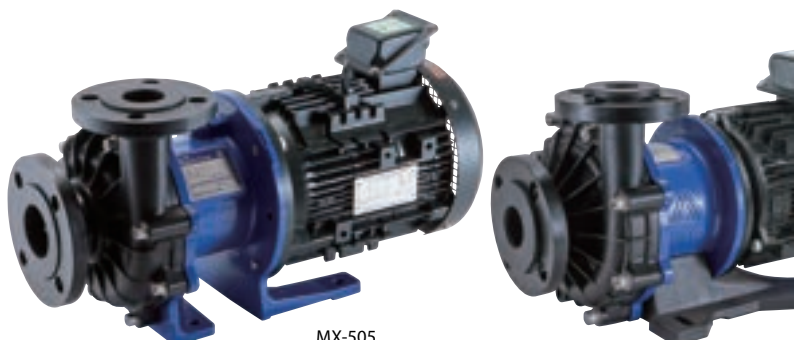
Enhanced suction characteristics and pump efficiency (PAT.)(MX-505)

Lineup of MX-505 with dramatically improved suction characteristics and pump efficiency, while maintaining the original durable structure.

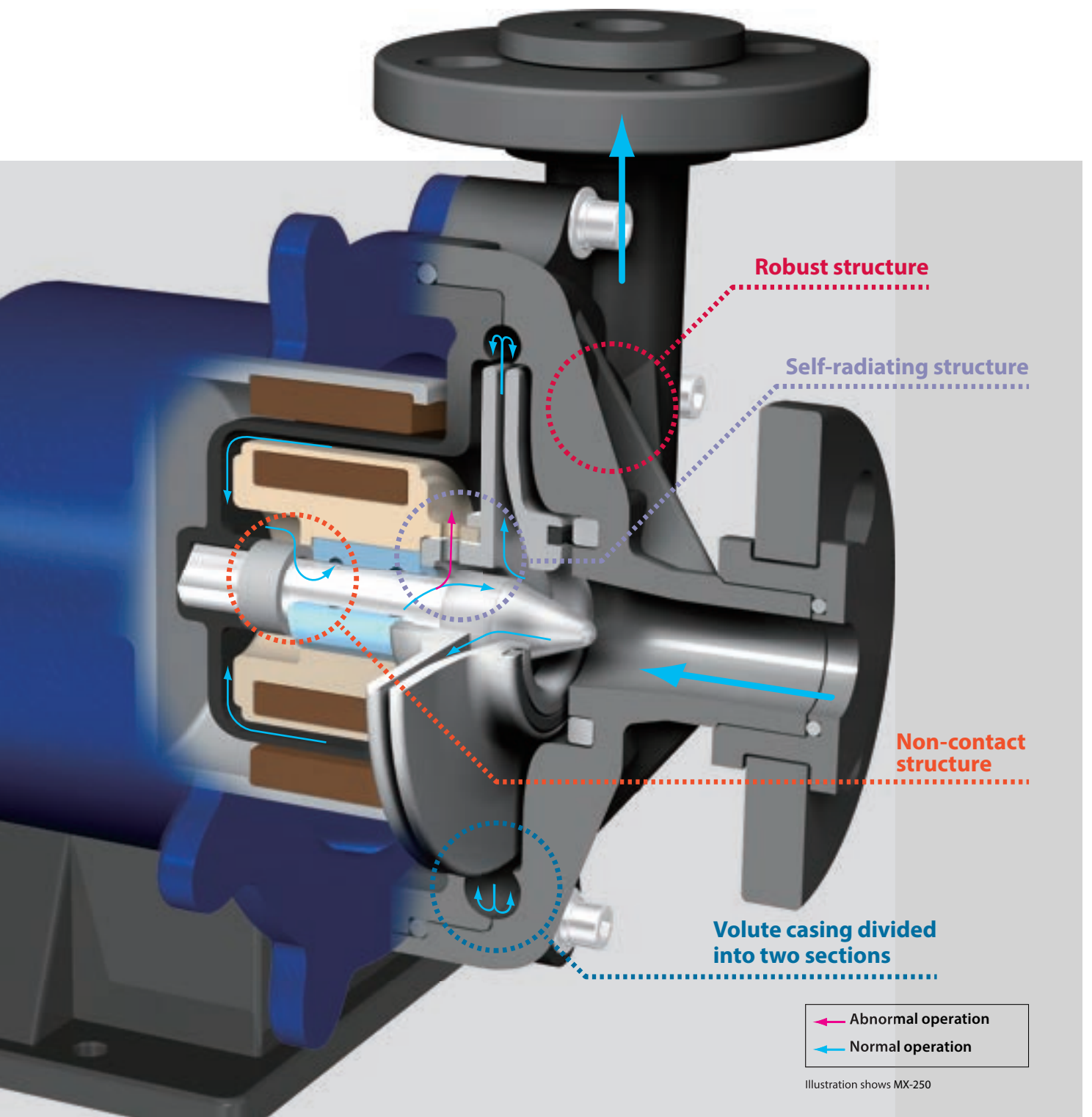


Lap joint flanges

New for this series or size - can be rotated to match the end users piping alignment with ease.

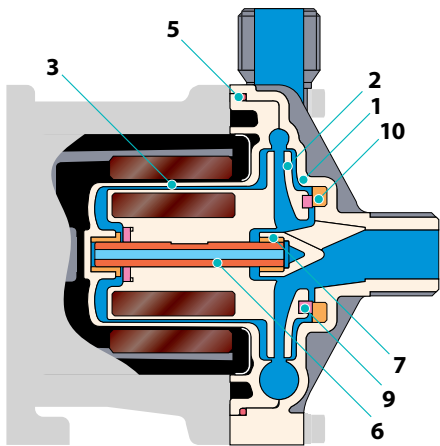


MX-505

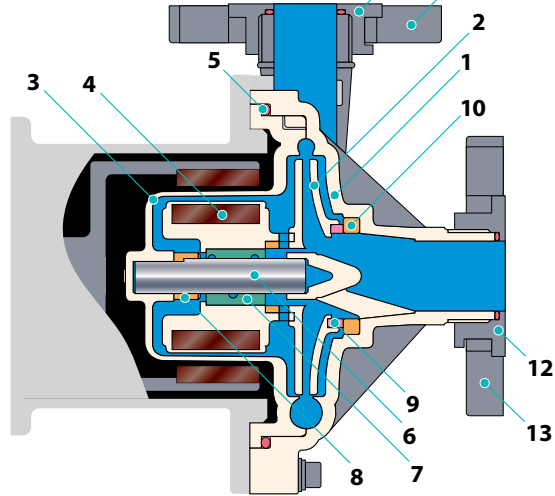


Wet end materials

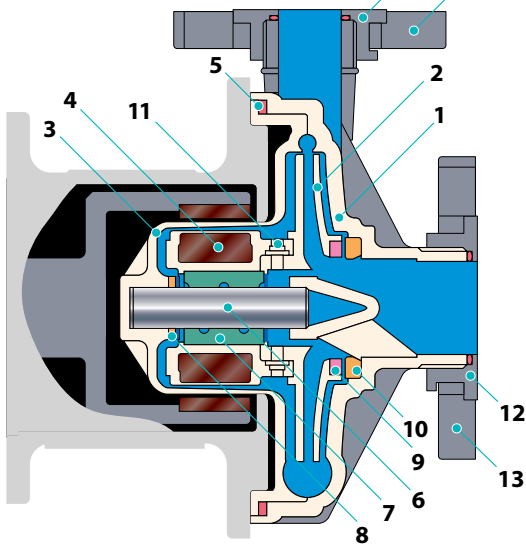
■ MX-70,100



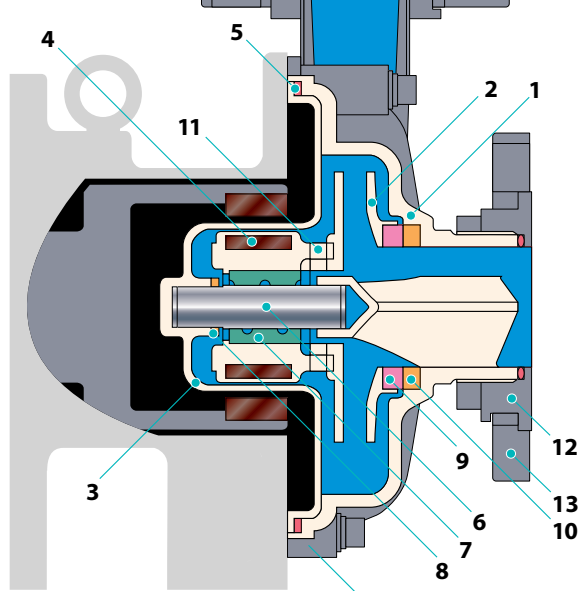
■ MX-250 to 401



■ MX-402 to 403H



■ MX-505



Model	MX-70	MX-100	MX-250 to 505		MX-250 to 401
		V/E	CV/CE	RV/RE	AV/AE
1 Front casing		GFRPP	GFRPP		
2 Impeller		CFRPP			
3 Rear casing		GFRPP			
4 Magnet capsule		-	PP		
5 O ring ^{Note}		FKM(EPDM)	FKM(EPDM)		
6 Spindle		Alumina ceramic	High purity alumina ceramic		
7 Bearing	CFRPPS	PTFE(with filler)	Carbon	PTFE(with filler)	Alumina ceramic
8 Rear thrust		-	CFRETFE		
9 Mouth ring		PTFE(with filler)	PTFE(with filler)		
10 Thrust/Liner ring		Alumina ceramic	Alumina ceramic		
11 Lock pin			GFRPPS(Only available type 402 to 505)		-
12 Inner flange		-	GFRPP		
13 Outer flange					

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

Pump identification

MX-70 and 100

MX - 100 V M - 32

1 2 3 4 5

1 Series symbol
MX : Material of Casing/GFRPP

2 Pump size
70 : G1X G1 150W/180W
(MX series only available)
100 : G1X G1 260W

3 Materials
MX V: FKM (O-ring)
E: EPDM (O-ring)

4 Connection
No mark : Tube connection^{Note}
(Fitting diameter:26mm)
Note: Applied to the models MX-70 and MX-100
M : Thread connection
FL : Flange connection
Not for Lap joint type

5 Motor
No mark : 1 phase 100V
11 : 1 phase 110V
13 : 1 phase 220V/240V
32 : 3 phase 200V/220V
34 : 3 phase 400/440V

MX-250 to 505

MX - 250 CV 5 C - L 2 S

1 2 3 4 5 6 7 8

1 Series symbol
MX : Material of Casing/GFRPP

2 Pump size
250 : 25A X 25A 0.4kW
251 : 25A X 25A 0.75kW
400 : 40A X 40A 0.4kW
401 : 40A X 40A 0.75kW
402, 402H : 50A X 40A 1.5kW
403, 403H : 50A X 40A 2.2kW
505 : 65A X 50A 3.7kW

3 Material of Bearing/Spindle/O-ring
MX CV,CE : Carbon/Alumina ceramic/FKM(EPDM)
RV,RE : PTFE(with filler)/High purity alumina ceramic/FKM(EPDM)
AV,AE : High purity alumina ceramic/Alumina ceramic/FKM(EPDM)

4 Impeller mark
MX 5 : 50Hz only
6 : 60Hz only

5 Motor specification
No mark : TEFC indoor
C : TEFC outdoor
A : Increased safety type
(Except 2.2kW type)

6 Flange type
No mark : flange type
L : Lap joint type

7 Motor
2 : 3phase 200/200/220V
3 : 3phase 220/380V (Only 250, 251, 400, 401)^{Note1}
4 : 3phase 380 to 440V^{Note2} (Only 250, 251, 400, 401)^{Note1}
6 : 3phase 380V (Only 402, 402H, 403, 403H, 505)
7 : 3phase 400/400/440V (Only 402, 402H, 403, 403H, 505)
8 : 3phase 415V (Only 402, 402H, 403, 403H, 505)
9 : 3phase 460V
Note1: 3 and 4 are reserved for a dedicated motor, while a general-purpose motor is assigned an ID number from among 6 through 8.
Note2: Frequency 380: 50/60Hz, 400: 50/60Hz, 415: 50Hz, 440: 60Hz

8 Special specification:
No mark : Standard
S : Order-made specification

Specifications (50/60Hz)

Model	Connection Suction X Discharge	Limit of specific gravity	Standard capacity L/min - m	Maximum capacity L/min	Motor kW	Mass kg
MX-70	G1 × G1	1.2	50 - 5.4 / 7.8	90 / 100	0.15 / 0.18	6.5
MX-100			70 - 6 / 9	110 / 125		
MX-250	25A × 25A	1.0	50 - 14 / 13.5	150	0.4	13.5
MX-251			80 - 19		0.75	22
MX-400	40A × 40A	1.2	100 - 10.5 / 10	280	0.4	13.5
MX-401			150 - 14.5	320	0.75	22
MX-402	50A × 40A	1.2	200 - 20 / 19.5	450	1.5	38
MX-402H		1.0	100 - 30	160		
MX-403	50A × 40A	1.2	250 - 23 / 25	500	2.2	43
MX-403H		1.0	100 - 35 / 36	300 / 250		
MX-505	65A × 50A	1.2	500 - 24.5 / 23.5	800	3.7	64

Note1: The specific gravity limit varies with the discharge. For details, please contact us.

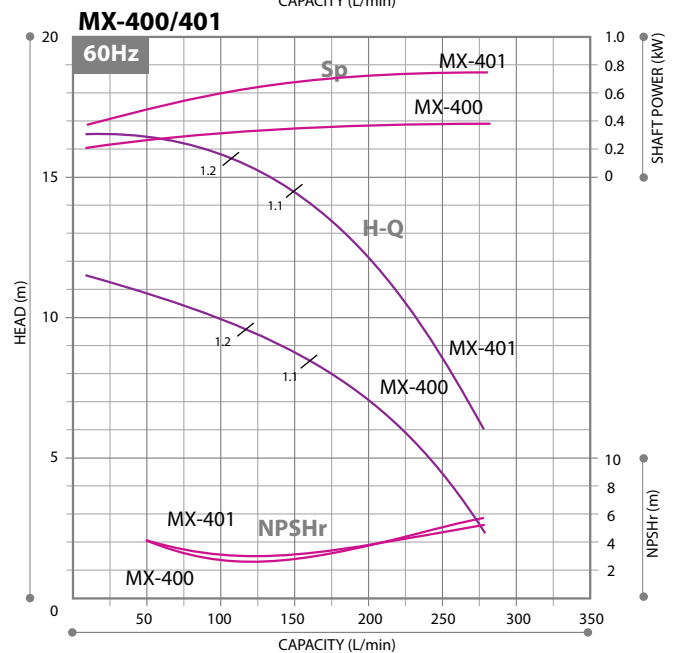
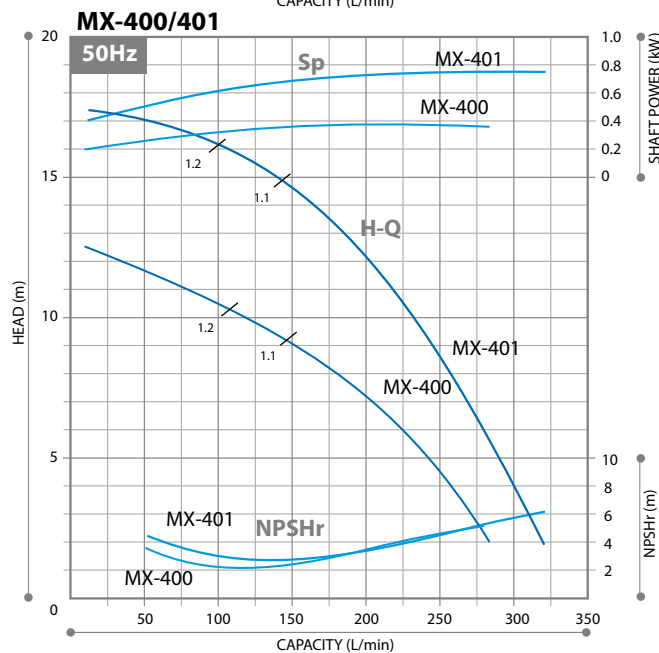
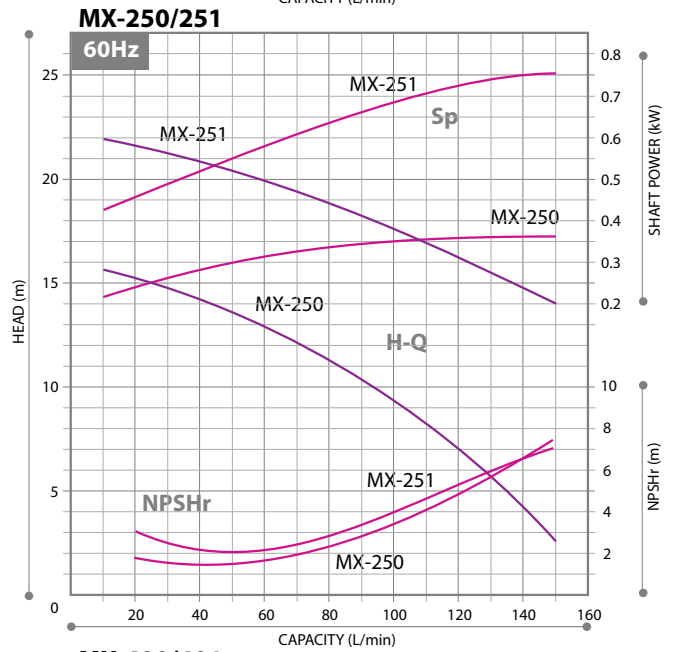
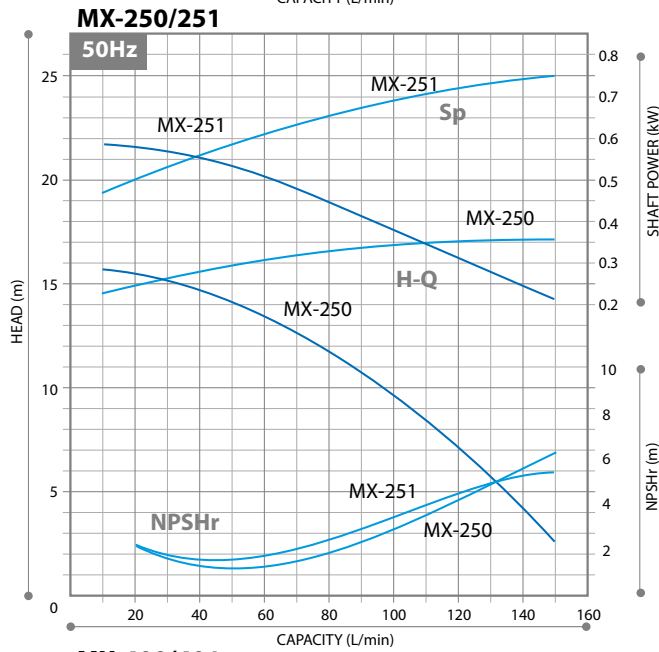
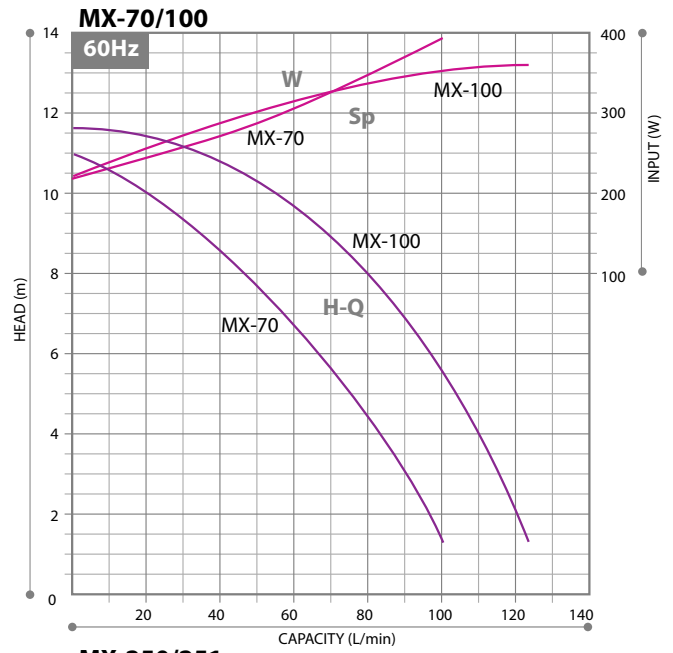
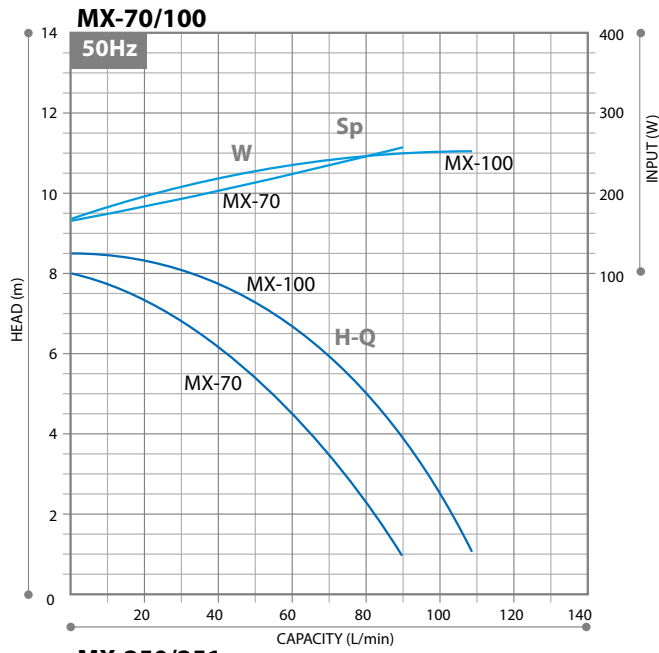
Note2: 26mm tube connection option available on the MX-70 and MX-100.

Note3: AV(AE) type is different in discharge capacity. For details, please contact us.

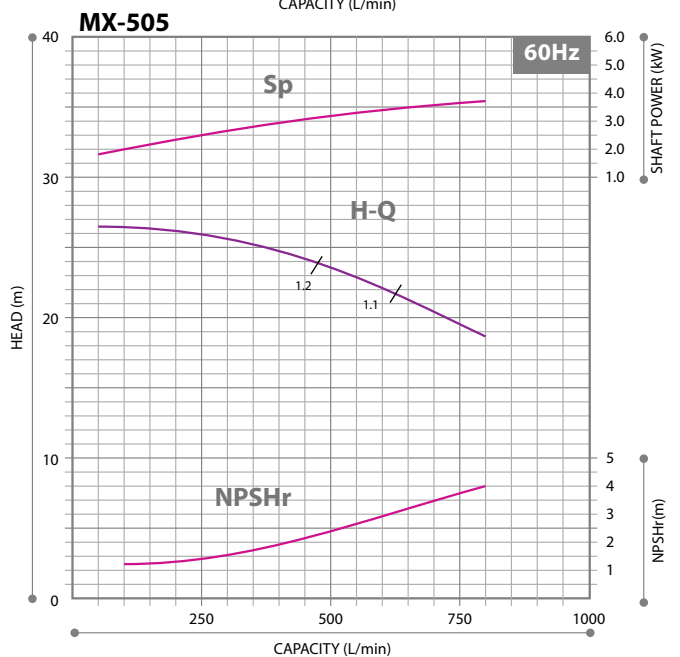
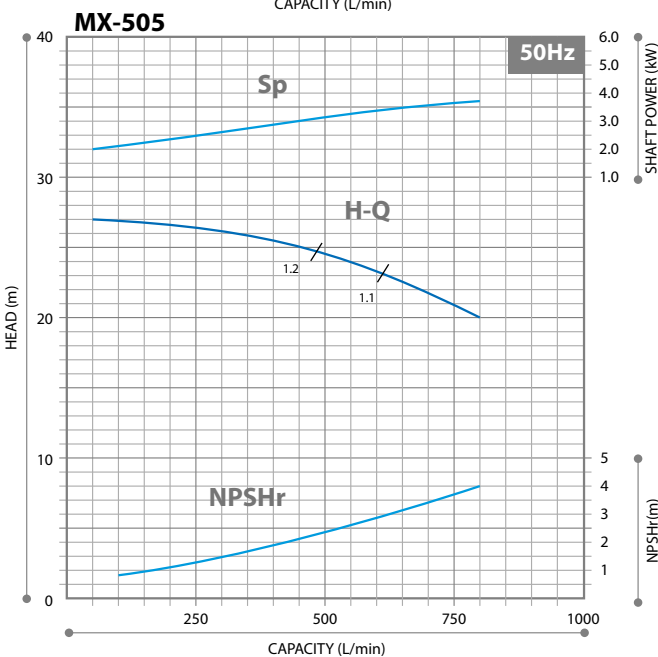
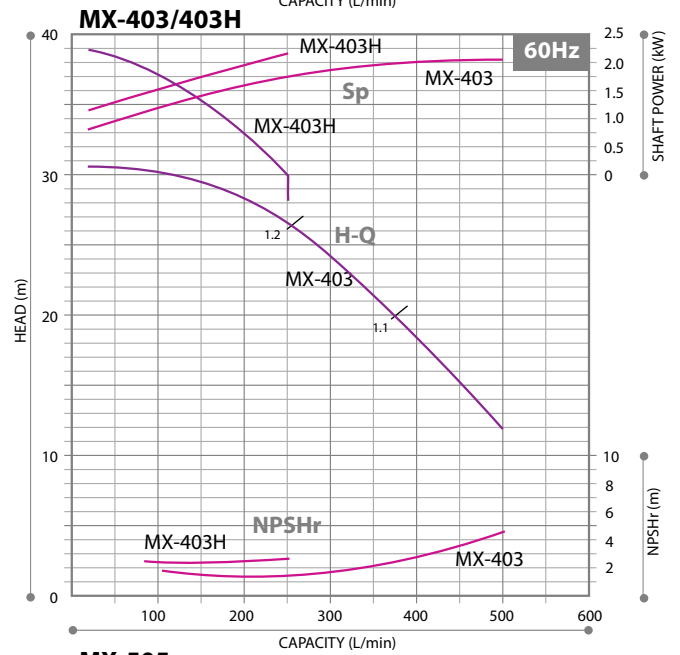
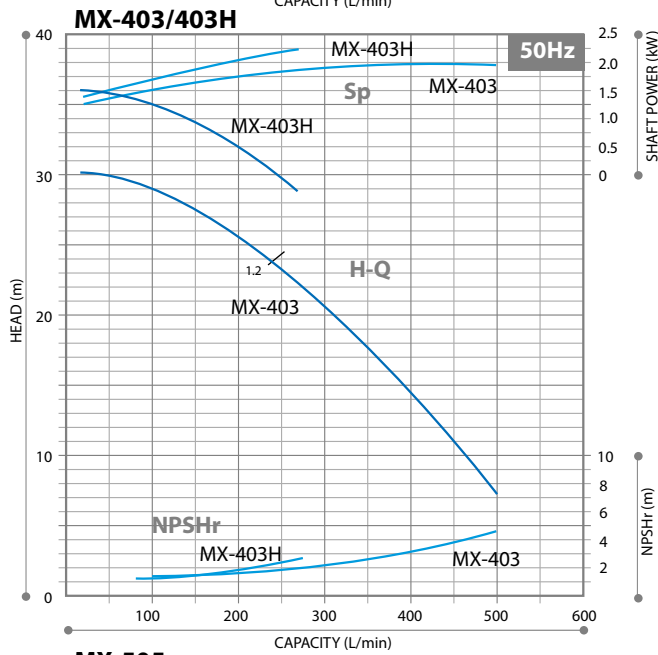
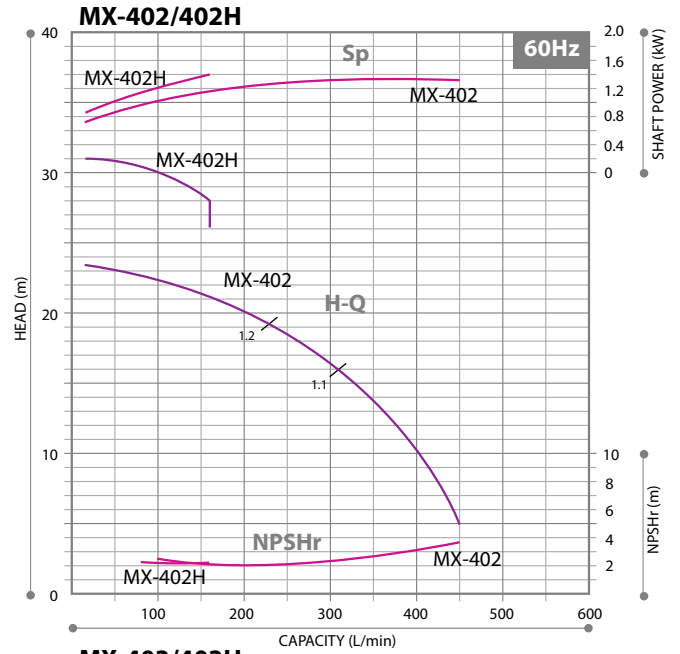
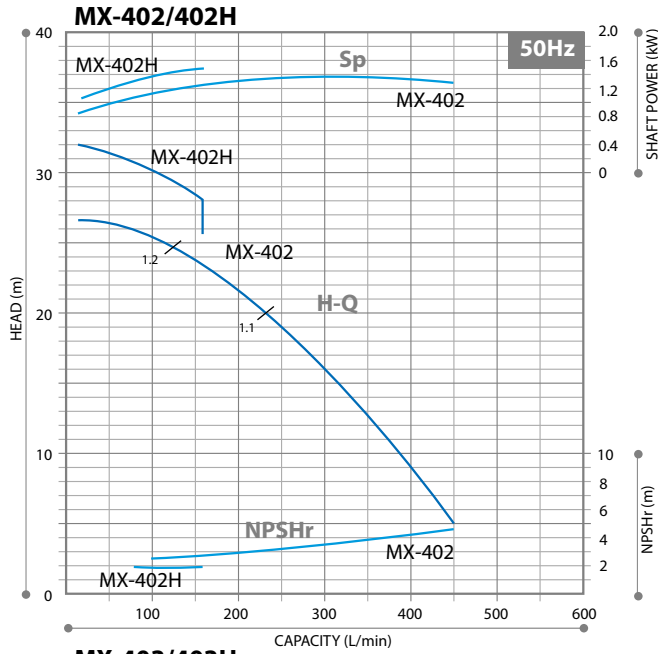
Common specifications

• 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



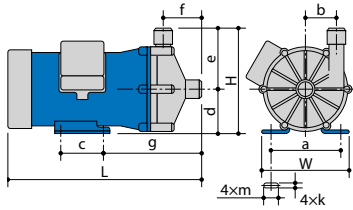
Performance curves



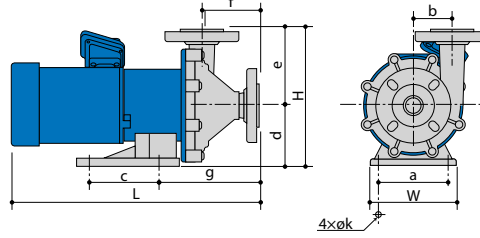
Dimensions

MX-70, 100

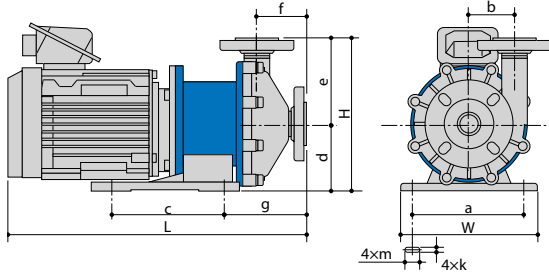
Note



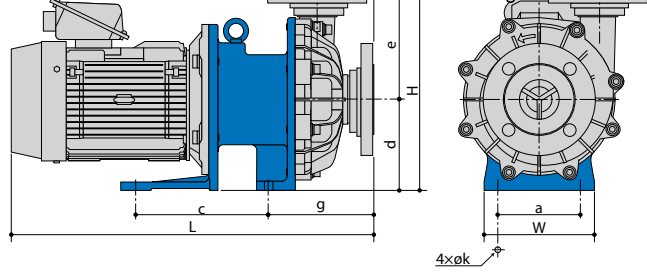
MX-250 to 401



MX-402, 402H, 403, 403H



MX-505



in mm

Models	W	H	L	a	b	c	d	e	f	g	k	m
MX-70	130	155	258.5	110	48	40	65	90	53	159.5	7	11
MX-100	150	175	319.5	110	51	70	75	100	65	162	9	27
MX-250	160	255	411	130	65	130	115	140	90	163	12	-
MX-251	160	255	446	130	65	130	115	140	90	171	12	-
MX-400	140	225	411	110	54	98	95	130	87	150	12	-
MX-401	160	255	459	130	72	130	115	140	103	184	12	-
MX402, 402H	260	280	514	208	80	200	120	160	89	157	14	36
MX403, 403H	260	280	543	208	80	200	120	160	89	157	14	36
MX-505	180	330	601	140	96	220	150	180	95	175	14	-

Note: MX-70 and MX-100 show thread type in the above dimensions, Please contact us for tube connection type.
 • The dimensions may differ with the type of motor installed.

Optional accessories

Iwaki pump protector DRN series

Detects unusual pump operating conditions including dry-running and overload

The DRN model protects equipment (including pumps) from damage! Minimizes production downtime. Identifies possible causes of alarms so they can be investigated and addressed.

- Multiple Input : Two analog, one digital, one temperature input and one current input
- Easy operation : Equipped with EASY setup mode to remember the operation status and set the lower/upper limit values, as well as AUTO setup mode
- Bar graph : Visible indication of current operating status
- Logging capability : Data log feature for preventative maintenance scheduling
- Communication : RS485 external communication capability



Specifications

Model	DRN-01	DRN-02
Amperometric range	0.5-30.00A	5.0-200.0A
Unit's source voltage	AC100-240V 50/60Hz 10VA	
Operating temperature	0-40°C	
Operating humidity	35-85%RH	

Union joint

Special purpose union joints are available. Material : PVC/Heat resistant PVC



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⚠ Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly.

Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.

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