



AMCAL
INDUSTRIAL PUMP SOLUTIONS

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Magnetic Drive Pump
Resistant to Abnormal Operations

Magnetic Drive Pumps
MX

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, 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.

(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.



Enhanced Suction Characteristics and Pump Efficiency (MX-505)

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



Volute Casing Divided Into Two Sections

The 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, is suppressed to a minimum and the liquid is efficiently guided to the discharge port to enhance overall efficiency.

(Except MX-70/400/505)

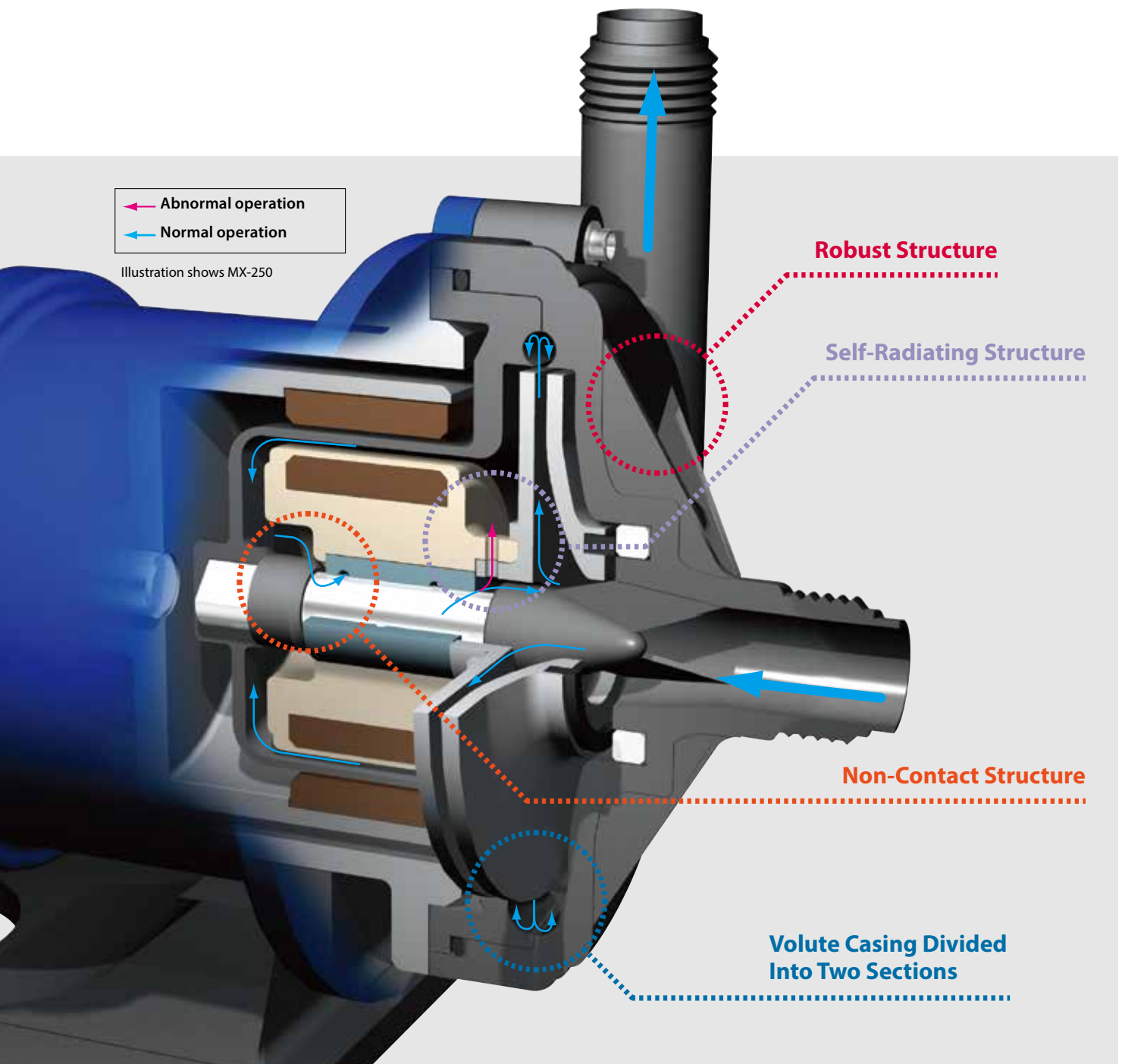


Non-Contact Structure

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)

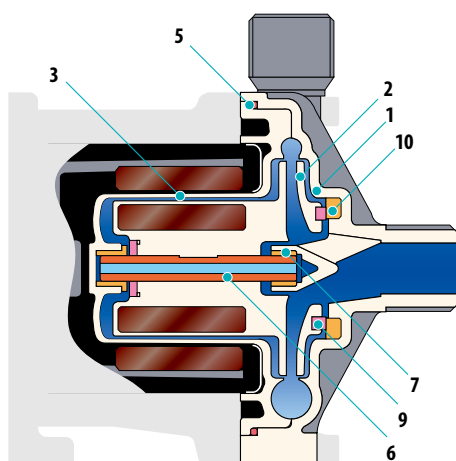


MX-505

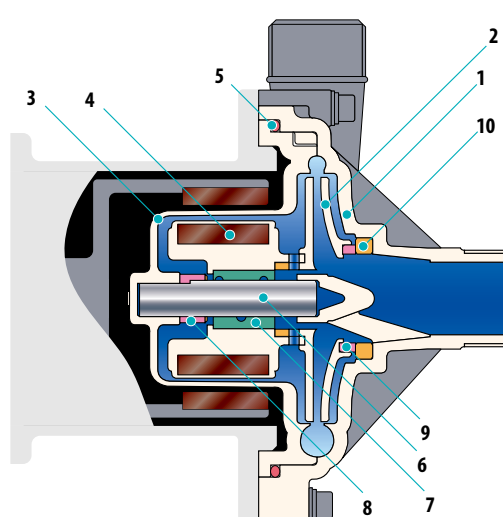


Wet End Materials

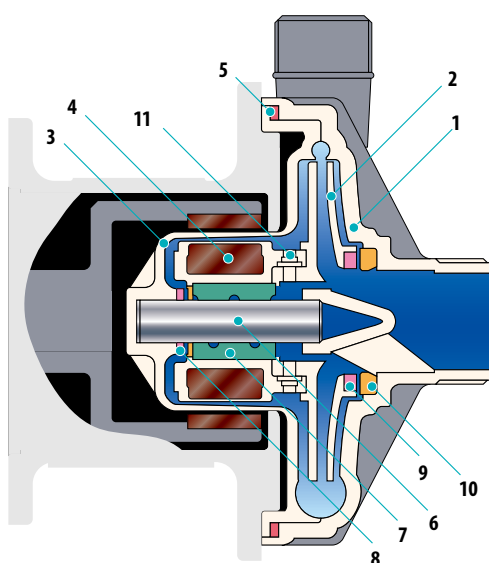
MX-70,100



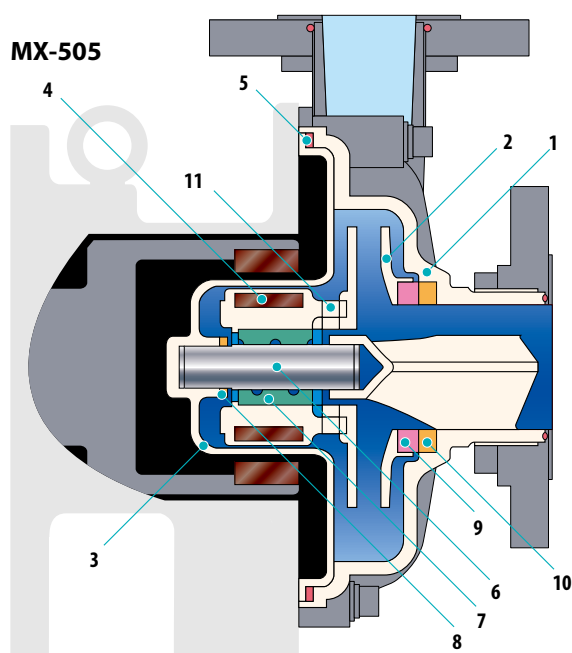
MX-250 to 401



MX-402 to 403H



MX-505



Model	MX-70	MX-100	MX-250 to 505		MX-250 to 401
Mark	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		Alumina ceramic		
7 Bearing	PPS	PTFE(with filler)	Carbon	PTFE(with filler)	Alumina ceramic
8 Rear thrust	—		CFRETFE		
9 Mouth ring			PTFE(with filler)		
10 Thrust/Liner ring	Alumina ceramic		Alumina ceramic		
11 Lock pin	—		GFRPPS(Only available type 402 to 505)		—

Note: An O rings made of FEPM are also available.

Pump Identification

MX-70 and 100

MX - 100 V M			
1	2	3	4
1 Series symbol MX : Material of Casing/GFRPP	2 Pump size 70 : G1X G1 150W 100 : G1X G1 260W	3 Materials MX V: FKM (O ring) E: EPDM (O ring)	4 Connection M : Thread connection

MX-250 to 505

MX - 250 CV 5 E - S					
1	2	3	4	5	6
1 Series symbol MX : Material of Casing/GFRPP	2 Pump size 250 : G1 X G1 0.37 kW 251 : G1 X G1 0.75 kW 400 : G1 1/2 X G1 1/2 0.37 kW 401 : G1 1/2 X G1 1/2 0.75 kW 402, 402H : G2 X G1 1/2 1.5 kW 403, 403H : G2 X G1 1/2 2.2 kW 505 : 65A X 50A 4.0 kW	3 Material of Bearing/Spindle/O ring MX CV,CE : Carbon/Alumina ceramic/FKM(EPDM) RV,RE : PTFE(with filler)/Alumina ceramic/FKM(EPDM) AV,AE : Alumina ceramic/Alumina ceramic/FKM(EPDM)	4 Impeller mark MX 5 : 50Hz 7 : 50Hz ^{Note}	5 Motor specification E : IEC motor	6 Special specification: No mark : Standard S : Order-made specification

Note: "7" means exclusive IE2 motor. Applicable models are MX-250/251, 400 & 401.

Specifications (50Hz)

Model	Connection Suction x Discharge	Limit of specific gravity ^{Note3}	Standard capacity L/min - m	Maximum capacity ^{Note4} L/min	Motor kW	Mass ^{Note5} kg
MX-70	G1xG1 ^{Note2}	1.2	50 - 5.4	90	0.15	6.5
MX-100 ^{Note1}	G1xG1 ^{Note2}	1.2	70 - 6	110	0.26	8.2
MX-250 (Impeller mark: 5)	G1xG1	1.0	50 - 14	150	0.37	7.7
MX-250 (Impeller mark: 7)			50 - 11.7			
MX-251 (Impeller mark: 5)	G1xG1	1.0	80 - 19	150	0.75	10.2
MX-251 (Impeller mark: 7)						
MX-400 (Impeller mark: 5)	G1 1/2 x G1 1/2	1.2	100 - 10.5	280	0.37	6.2
MX-400 (Impeller mark: 7)			100 - 9.5			
MX-401 (Impeller mark: 5)	G1 1/2 x G1 1/2	1.2	150 - 14.5	320	0.75	10.2
MX-401 (Impeller mark: 7)						
MX-402	G2 x G1 1/2	1.2	200 - 20	450	1.5	13.5
MX-402H	G2 x G1 1/2	1.0	100 - 30	140	1.5	13.5
MX-403	G2 x G1 1/2	1.2	250 - 23	500	2.2	14.5
MX-403H	G2 x G1 1/2	1.0	100 - 35	260	2.2	14.5
MX-505	65A x 50A	1.2	500 - 24.5	800	4.0	27.0

Note1: MX-F100 performance data and Mass kg are based on using Iwaki standard motor.

The motor to be mounted is an IEC motor.

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

Note3: The specific gravity limit varies with the discharge. For details, please contact us.

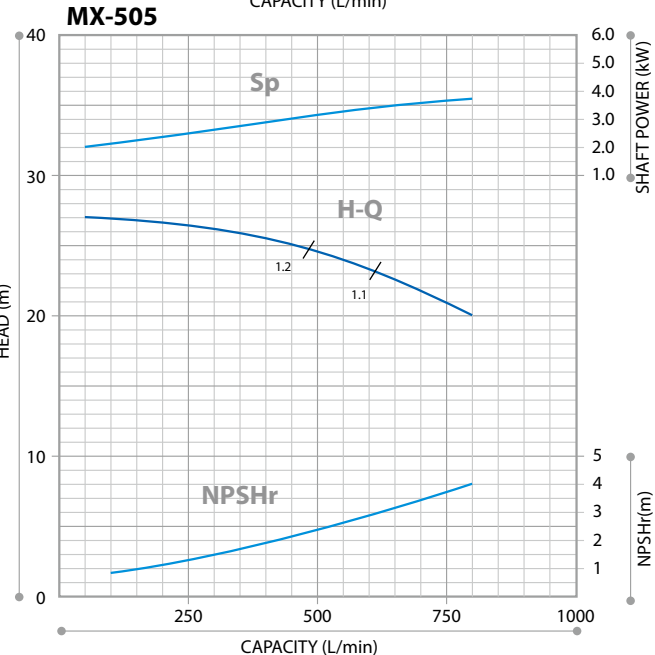
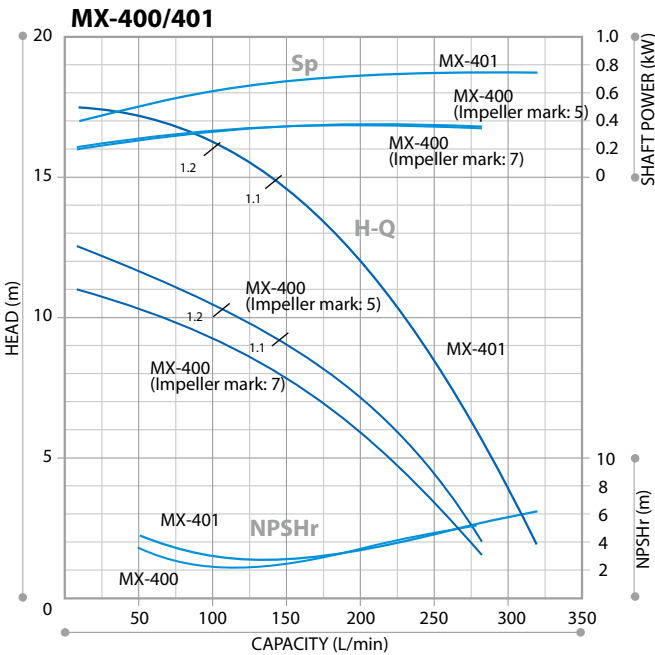
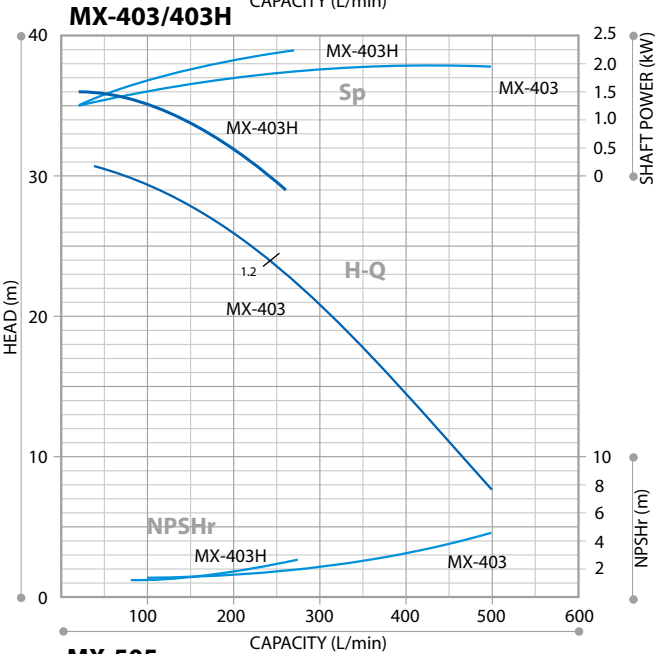
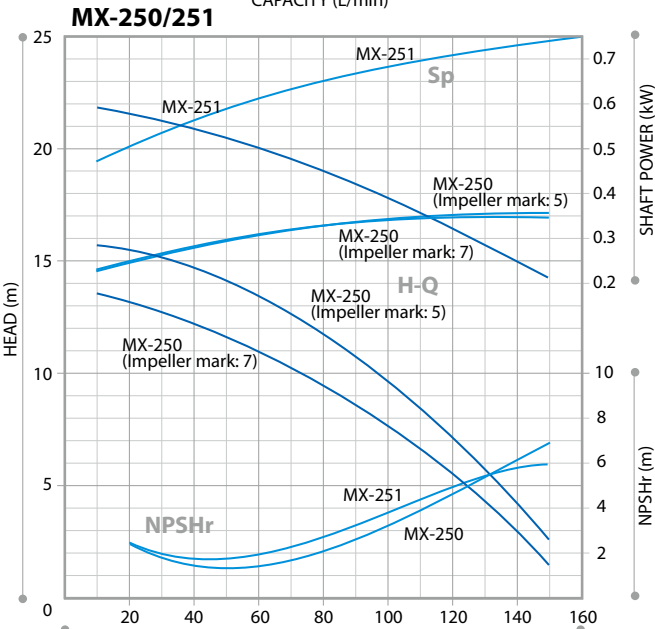
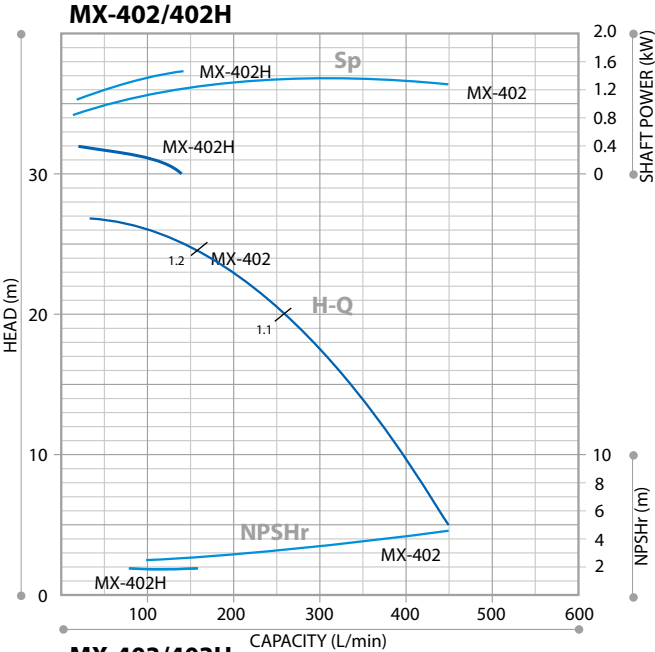
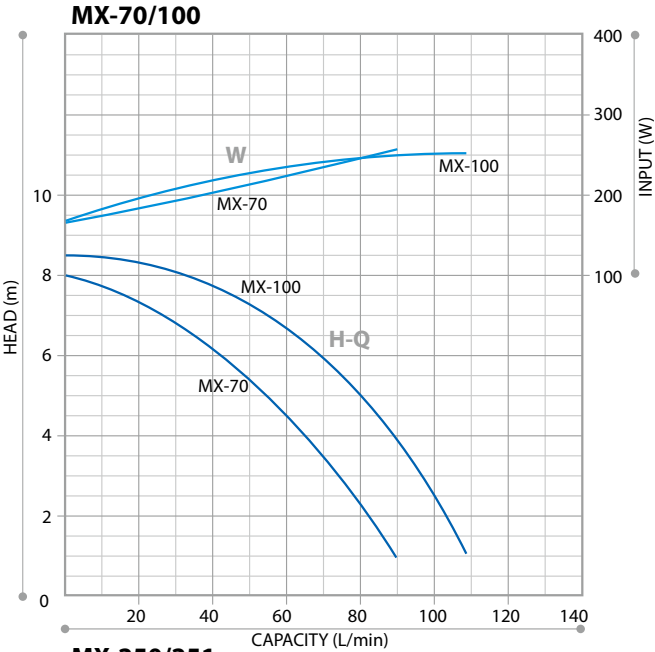
Note4: AV(AE) type is different in discharge capacity. For details, please contact us.

Note5: Less motor except MX-70 and 100.

Common specifications

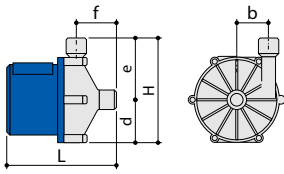
• Range of liquid temperature : 0 to 80°C (10 to 80°C in case FEPM O rings are used.) • Range of ambient temperature : 0 to 40°C.

Performance Curves (50Hz)

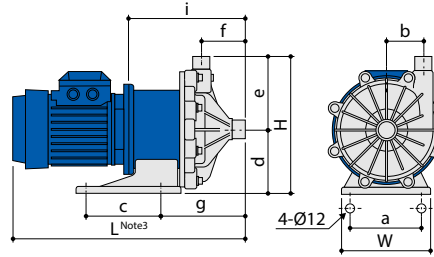


Dimensions in mm

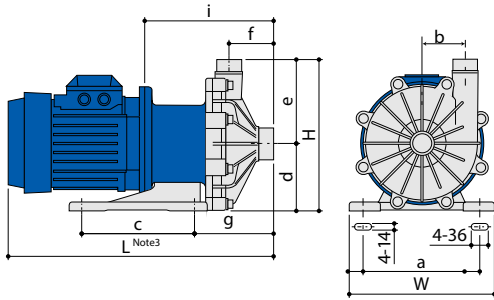
MX-70, 100 ^{Note 1, 2}



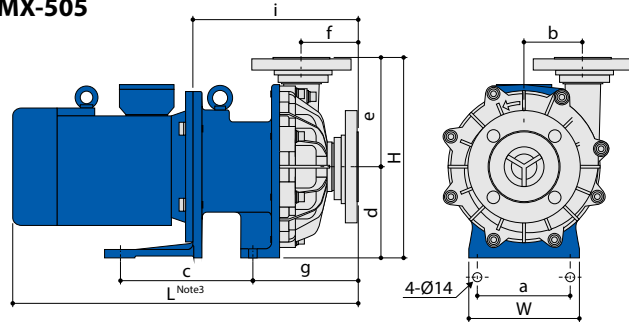
MX-250 to 401



MX-402, 402H, 403, 403H



MX-505



Models	W	H	L	a	b	c	d	e	f	g	i
MX-70	—	154	142.5	—	48	—	64	90	53	—	—
MX-100	—	169	177	—	51	—	69	100	65	—	—
MX-250	160	247.5	—	130	65	130	115	132.5	82.5	155.5	213.5
MX-251	160	247.5	—	130	65	130	115	132.5	82.5	163.5	225.5
MX-400	140	219	—	110	54	98	95	124	81	144	215
MX-401	160	249	—	130	72	130	115	134	97	178	240
MX402, 402H	260	274	—	208	80	200	120	154	83	151	235
MX403, 403H	260	274	—	208	80	200	120	154	83	151	235
MX-505	180	330	—	140	96	220	150	180	95	175	275

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

Note 2: MX-70 and MX-100 outer dimensions are without a motor. For the motor mounting dimensions, please contact us.

Note 3: The dimensions L may differ with the type of motor installed.

Optional Accessories

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. (Refer to the figure below)

Logging Capability

Data log feature for preventative maintenance scheduling.

Communication

RS485 external communication capability.

Clamp-Type Current Sensor for Ease of Installation

No modification of motor leads necessary.



Specifications

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

IWAKI Process Magnetic Drive Pump Series

MX-F Series

Withstands Difficult Operating Conditions and Offers High Efficiency

Max. discharge capacity: 510 L/min
Max. discharge head: 30 m
Main materials: CFRETFE



SMX Series

Versatile Self-Priming Magnetic Drive Pump with Enhanced Durability Under Abnormal Operation

Max. discharge capacity: 440 L/min
Max. head: 25.5 m
Main materials: GFRPP, CFRETFE



MXM Series

Magnetic Drive Pumps with an Excellent Balance of Features and Performance

Max. discharge capacity: 600 L/min
Max. head: 29 m
Main materials: CFRETFE



MDM Series

Magnetic Drive Processing Pump with Dry Running Capability

Max. discharge capacity: 1800 L/min
Max. head: 74 m
Main materials: CFRETFE, PFA



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() Country codes

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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