



**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, 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 (PAT.)(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)

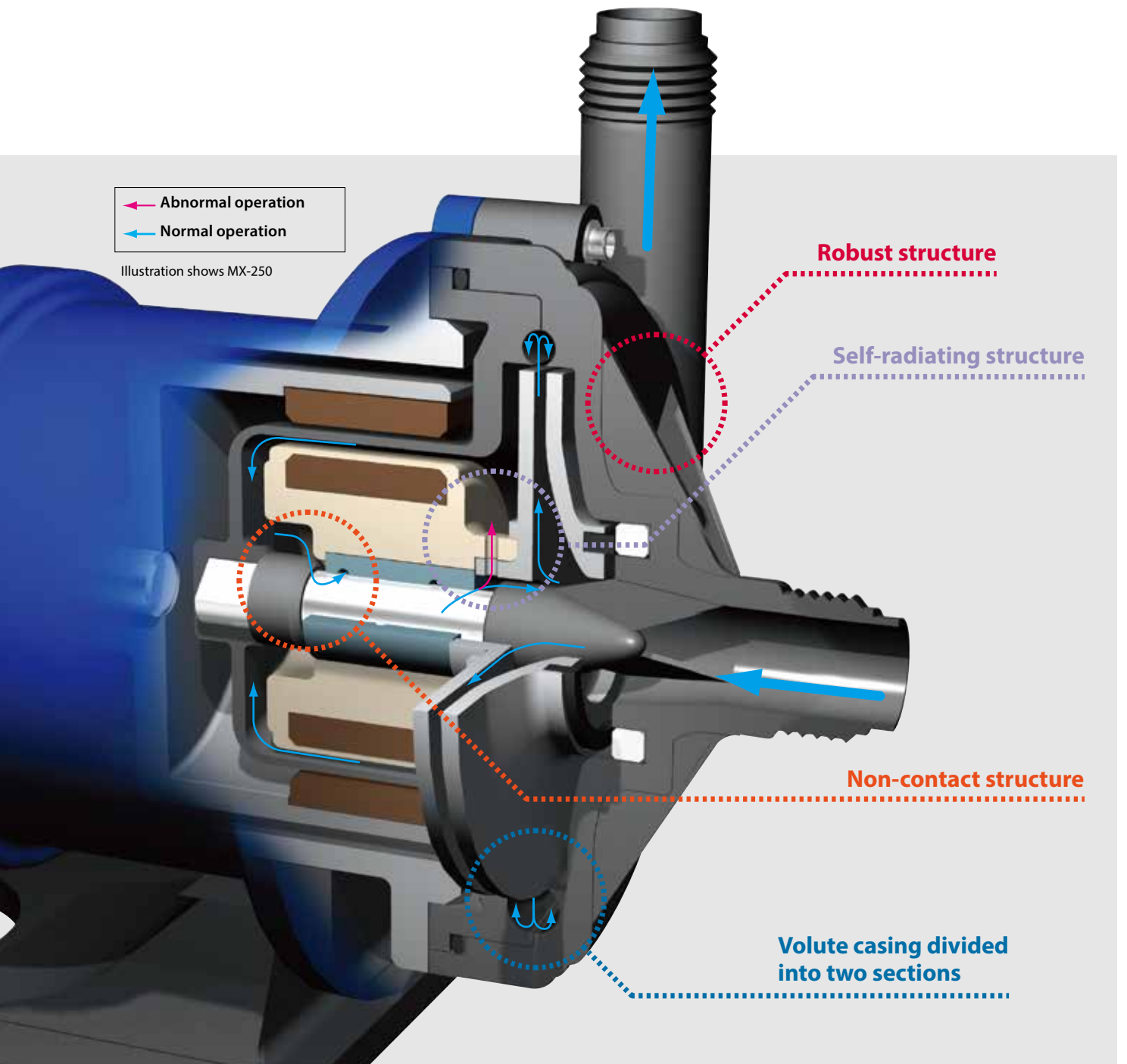


## Non-contact structure

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)

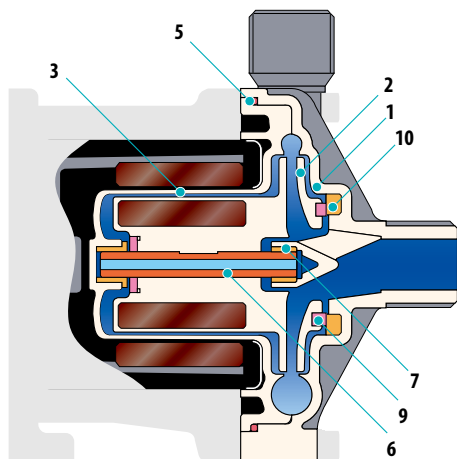


MX-505

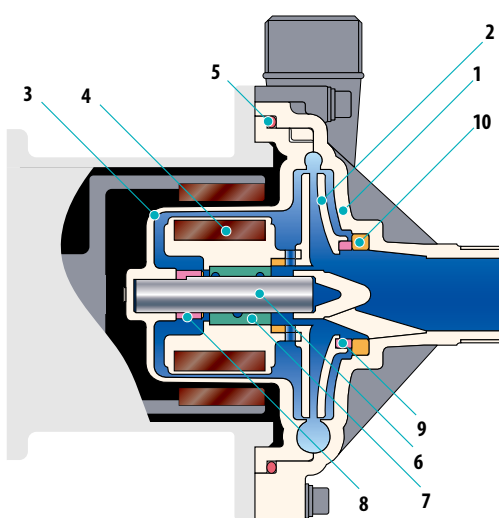


## Wet end materials

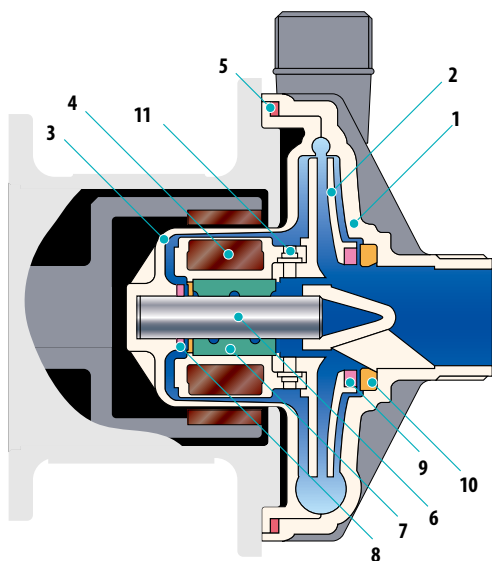
### ■ MX-70,100



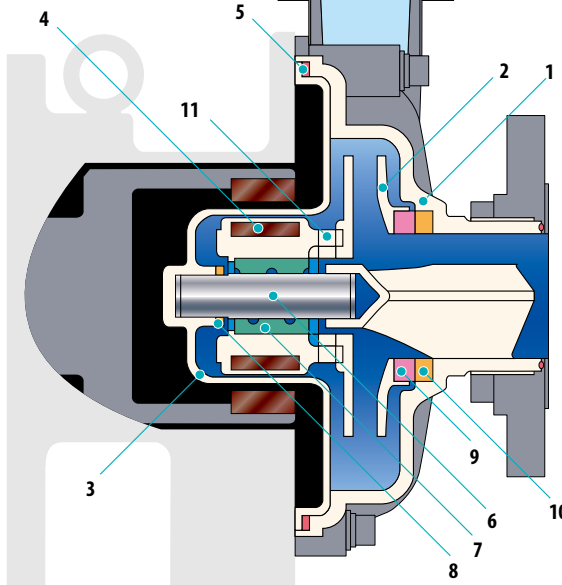
### ■ MX-250 to 401



### ■ 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		PP		
4 Magnet capsule	-				
5 O ring	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)	PTFE(with filler)		
10 Thrust/Liner ring	Alumina ceramic		Alumina ceramic		
11 Lock pin	-		GFRPPS(Only available type 402 to 505)		-

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

## Pump identification

<b>MX-70 and 100</b>		<b>MX</b> - <b>100</b> <b>V</b> <b>M</b>	
	<b>1</b>	<b>2</b>	<b>3</b> <b>4</b>
<b>1</b> Series symbol <b>MX</b> : Material of Casing/GFRPP	<b>2</b> Pump size <b>70</b> : G1X G1 150W <b>100</b> : G1X G1 260W	<b>3</b> Materials <b>MX</b> <b>V</b> : FKM (O-ring) <b>E</b> : EPDM (O-ring)	<b>4</b> Connection <b>M</b> : Thread connection
<b>MX-250 to 505</b>		<b>MX</b> - <b>250</b> <b>CV</b> <b>5</b> <b>E</b> - <b>S</b>	
	<b>1</b>	<b>2</b>	<b>3</b> <b>4</b> <b>5</b> <b>6</b>
<b>1</b> Series symbol <b>MX</b> : Material of Casing/GFRPP	<b>2</b> Pump size <b>250</b> : G1 X G1 0.37kW <b>251</b> : G1 X G1 0.75kW <b>400</b> : G1 1/2 X G1 1/2 0.37kW <b>401</b> : G1 1/2 X G1 1/2 0.75kW <b>402, 402H</b> : G2 X G1 1/2 1.5kW <b>403, 403H</b> : G2 X G1 1/2 2.2kW <b>505</b> : 65A X 50A 4.0kW	<b>3</b> Material of Bearing/Spindle/O-ring <b>MX</b> <b>CV,CE</b> : Carbon/Alumina ceramic/FKM(EPDM) <b>RV,RE</b> : PTFE(with filler)/Alumina ceramic/FKM(EPDM) <b>AV,AE</b> : Alumina ceramic/Alumina ceramic/FKM(EPDM)	<b>5</b> Motor specification <b>E</b> : IEC motor
	<b>4</b> Impeller mark <b>MX</b> <b>5</b> : 50Hz <b>7</b> : 50Hz <sup>Note</sup>	<b>6</b> Special specification: No mark : Standard <b>S</b> : Order-made specification	

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

## Specifications <sup>(50Hz)</sup>

Model	Connection Suction X Discharge	Limit of S.G. <sup>Note 3</sup>	Standard capacity L/min - m	Maximum capacity L/min <sup>Note 4</sup>	Motor kW	Mass kg <sup>Note 5</sup>
MX-70	G1xG1 <sup>Note 2</sup>	1.2	50 - 5.4	90	0.15	6.5
MX-100 <sup>Note 1</sup>	G1xG1 <sup>Note 2</sup>	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	160	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	300	2.2	14.5
MX-505	65A x 50A	1.2	500 - 24.5	800	4.0	27.0

Note 1: MX-F100 performance data and Mass kg are based on using Iwaki standard motor.

The motor to be mounted is an IEC motor.

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

Note 3: The specific gravity limit varies with the discharge. For details, please contact us.

Note 4: AV(AE) type is different in discharge capacity. For details, please contact us.

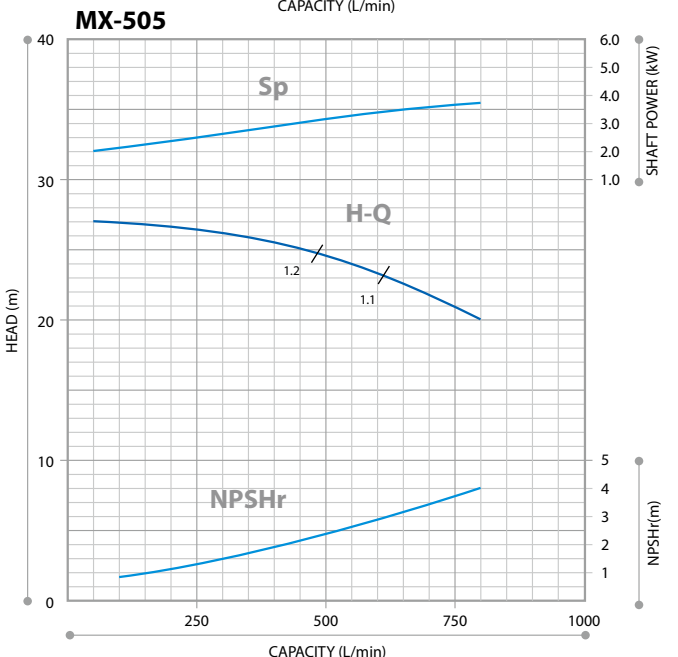
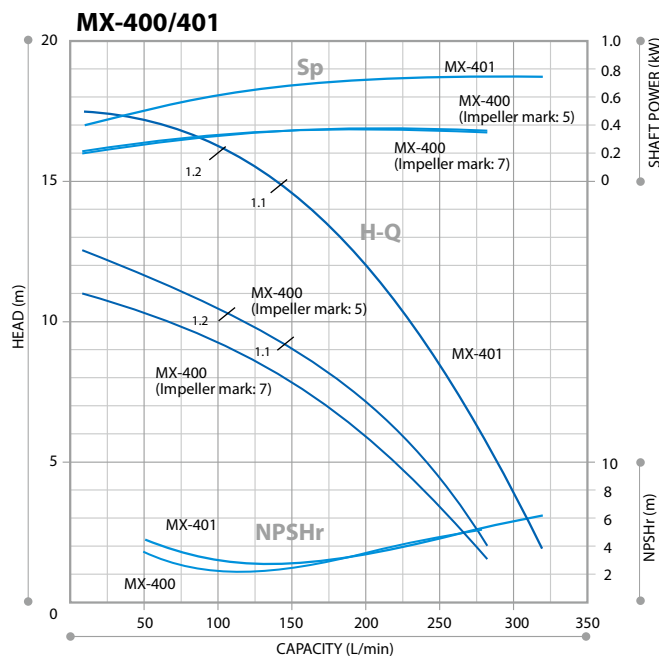
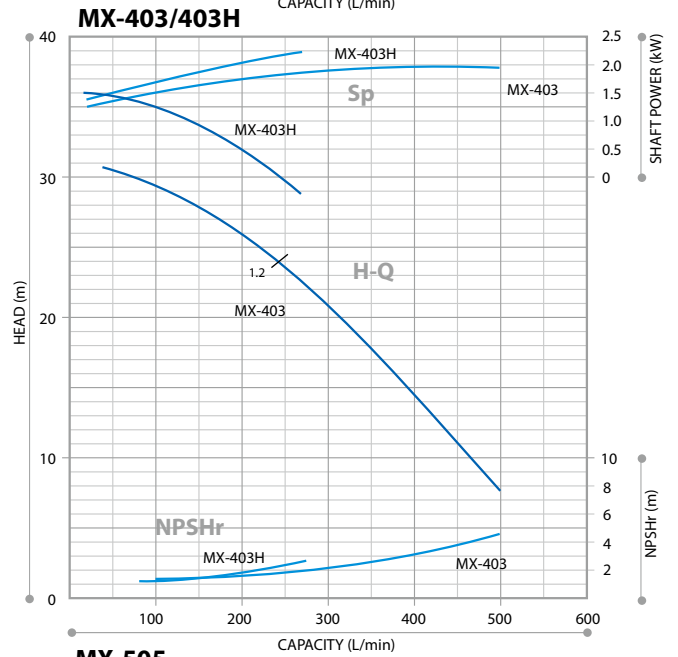
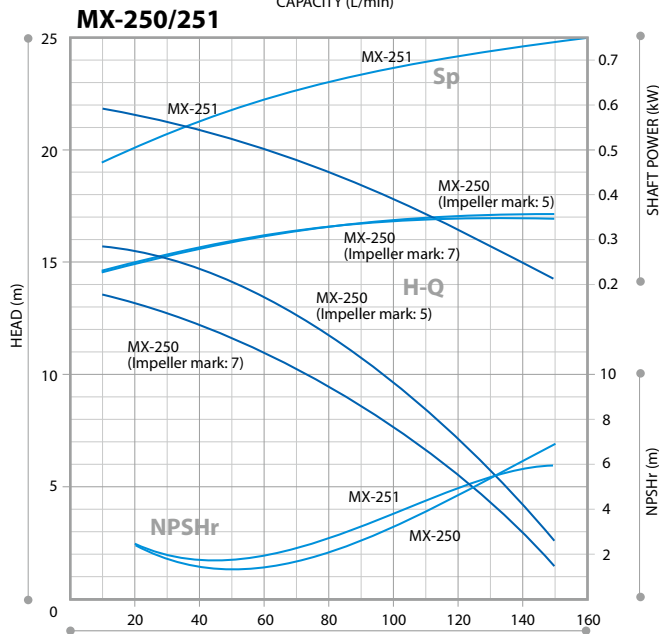
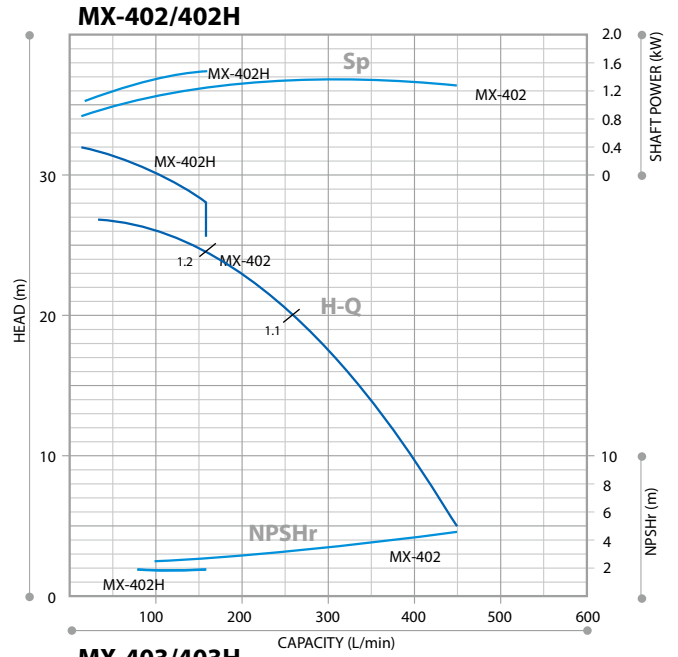
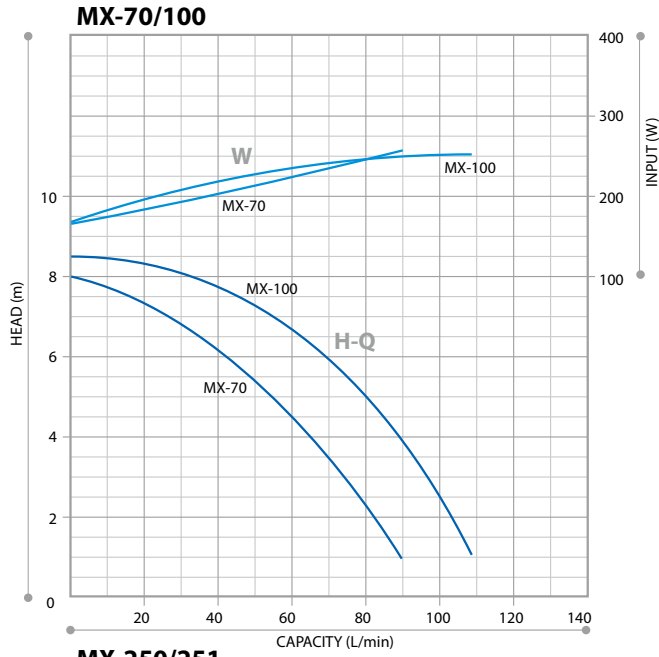
Note 5: Less motor except MX-70 and 100.

### 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.

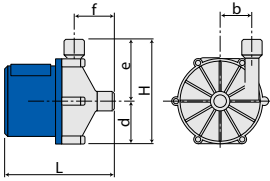
# Performance curves

50Hz

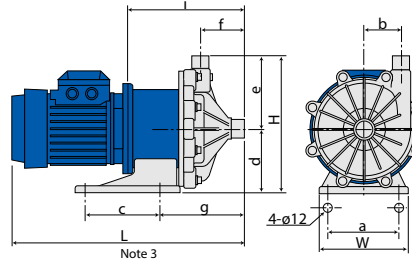


## Dimensions (mm)

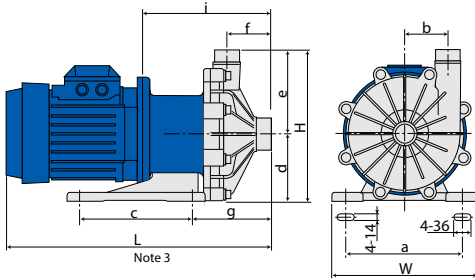
### ■ MX-70, 100 Note 1, 2



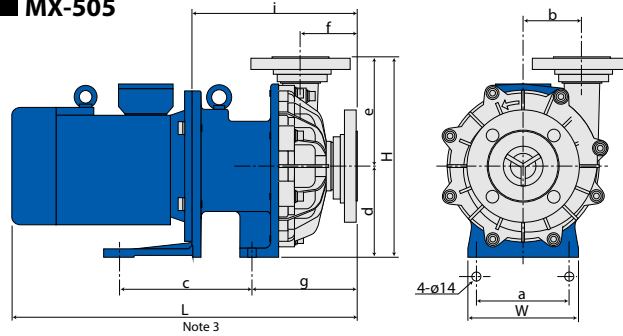
### ■ MX-250 to 401



### ■ 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

### 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	

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



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( ) Country codes

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