

## Magnetic Drive Pump



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

- **MX will allow for periods of dry running** when fitted with a carbon bearing.
- **MX Series pumps are highly recommended for use in various production processes** such as filtering, spraying, washing, plating, chemical transfer/blending, and etching in surface treatment applications.
- **MX utilizes standard NEMA frame motors** making them easy to install. (IEC and JIS versions available)
- **Non-metallic baseplate** will not corrode in hostile environments.
- **NPT male connections** ensure that the over-torque of a fitting will not damage the pump casing.



# MX

## series

### Model Identification Code

**MX-F 400 CFV 6**

**Series symbol**

**MX:** GFRPP casing  
**MX-F:** CFRETFE casing

**Pump size**

Suction x discharge	Motor HP
<b>250:</b> 1" x 1"	0.5 HP
<b>251:</b> 1" x 1"	1.0 HP
<b>400:</b> 1½" x 1½"	0.75 HP
<b>401:</b> 1½" x 1½"	1.5 HP
<b>402:</b> 2" x 1½"	2.0 HP
<b>403:</b> 2" x 1½"	3.0 HP

**Material of Bearing/Spindle/O-ring**

**MX** CV: High density carbon/Alumina ceramic/FKM (EPDM/AFLAS®)  
RV: PTFE/Alumina ceramic/FKM (EPDM/AFLAS®)  
AV: Alumina ceramic/Alumina ceramic/FKM (EPDM/AFLAS®) (models MX-250 to MX-401)

**MX-F** CFV: High density carbon/High Purity Alumina ceramic/FKM (EPDM/AFLAS®)  
RFV: PTFE/High Purity Alumina ceramic/FKM (EPDM/AFLAS®)  
KKV: SiC/SiC/FKM (EPDM/AFLAS®)  
AFV: Alumina ceramic/Alumina ceramic/FKM (EPDM/AFLAS®) (models MX-F250 to MX-F401)

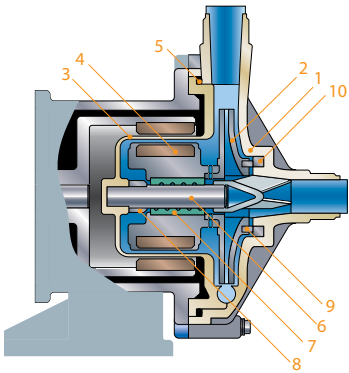
**Impeller mark**

**MX** 5: 50 Hz  
6: 60 Hz  
7: Large impeller

**MX-F** X: 50/60 Hz  
V: 50/60 Hz

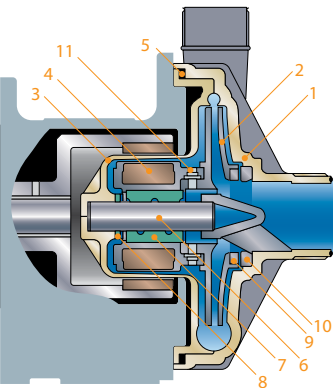
### Liquid End Construction

#### MX-(F)250 to (F)401



Model	MX-402 to F403H		
	MX-250 to 401		
Mark	AV(AE)	CV (CE)	RV (RE)
1 Front casing	GFRPP		
2 Impeller	GFRPP		
3 Rear casing	GFRPP		
4 Magnet capsule	PP		
5 O-ring	FKM <sup>1</sup>		
6 Spindle	High Purity Alumina Ceramic		
7 Bearing	Alumina Ceramic	Carbon	PTFE
8 Rear thrust	CFRPPS	CFRPPS <sup>2</sup>	
9 Mouth ring	PTFE		
10 Thrust/Liner ring	Alumina Ceramic		
11 Lock pin	----	GFRPPS (only on 402 & 403(H))	

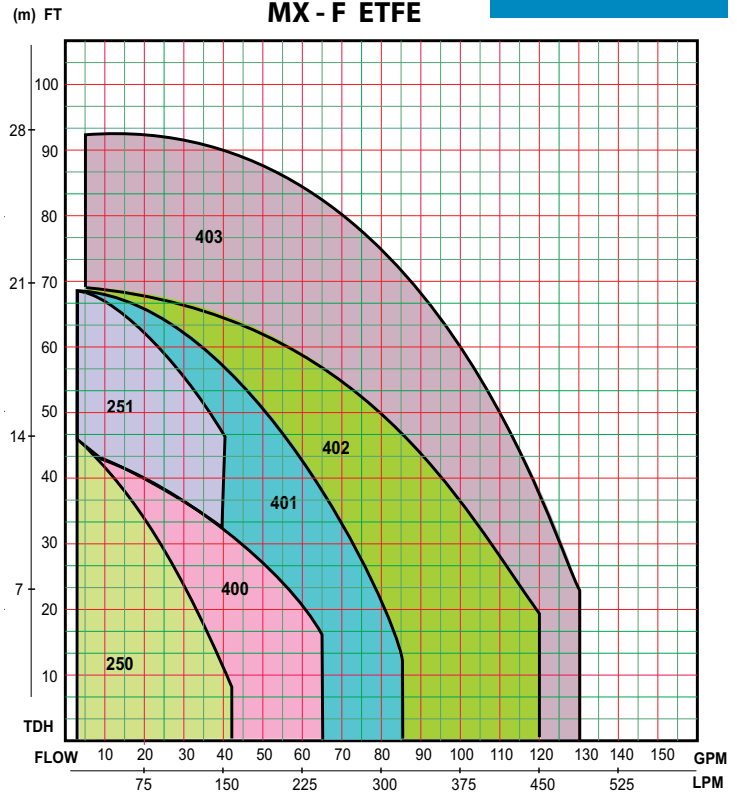
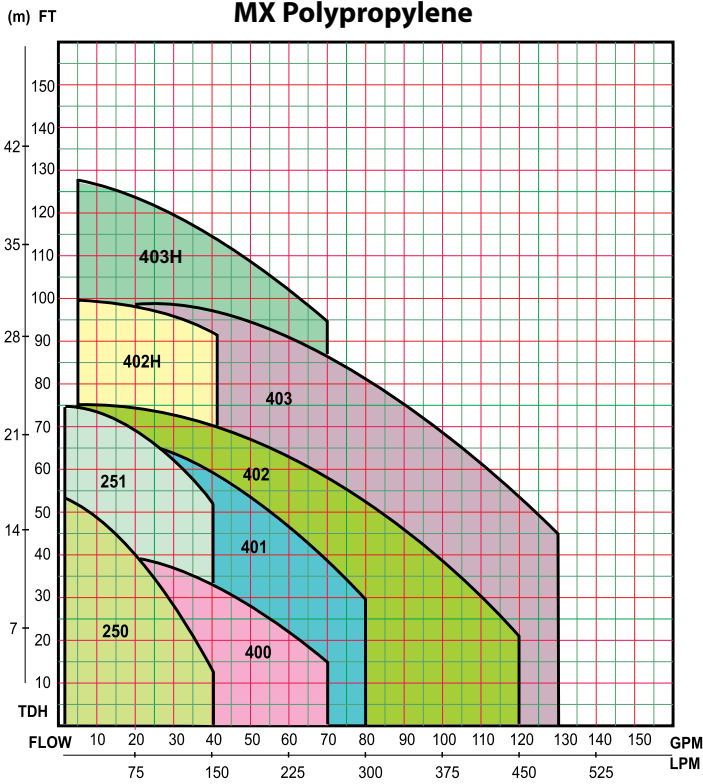
#### MX-(F)402(H) & (F)403(H)



Model	MX-F402 & F403			
	MX-F250 to F401			
Mark	CFV	RFV	KKV	AFV
1 Front casing	CFRETFE			
2 Impeller	CFRETFE			
3 Rear casing	CFRETFE			
4 Magnet capsule	CFRETFE			
5 O-ring	FKM <sup>1</sup>			
6 Spindle	High Purity Alumina Ceramic	SiC	High Purity Alumina Ceramic	
7 Bearing	Carbon	PTFE	SiC	High Purity Alumina Ceramic
8 Rear thrust	CFRETFE		CFRETFE <sup>3</sup>	CFRETFE
9 Mouth ring	PTFE		SiC	PTFE
10 Thrust/Liner ring	High Purity Alumina Ceramic		SiC	High Purity Alumina Ceramic
11 Lock pin	CFRETFE (only on 402 & 403)			----

<sup>1</sup> EPDM and AFLAS® o-ring also available <sup>2</sup> 402-403H have CFRPEEK rear thrust collars <sup>3</sup> F402-403 have CFRPFA rear thrust collars

# Performance Curves



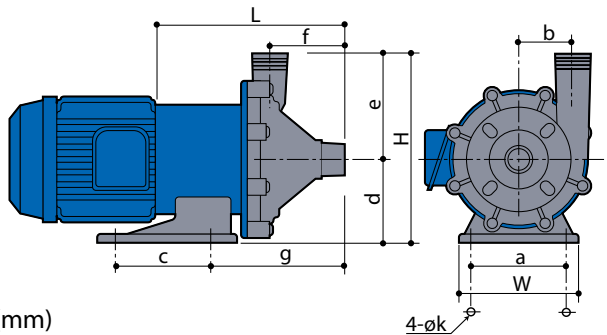
Performance based on water @ 70°F (21°C). Fluids with specific gravity other than 1.0 should be reviewed by the factory.

## Specifications

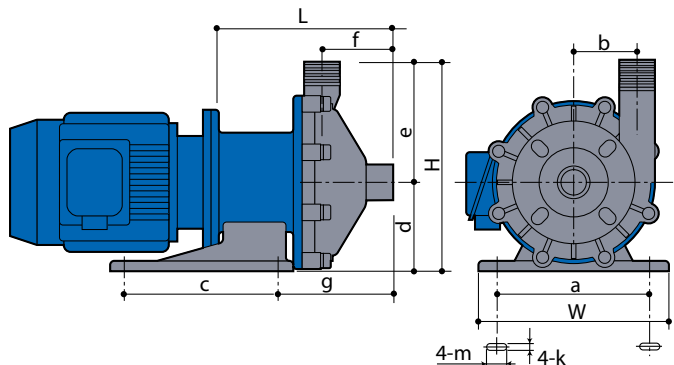
Model	Suction & Discharge (NPT)	Max Discharge Pressure (ft)	Max Flow (GPM)	Specific Gravity	Motor output @ 60 Hz	Weight (less motor) lbs
MX-250	1" x 1"	53	40	1.0	0.5 HP	17.0
MX-251	1" x 1"	75	40	1.0	1 HP	22.5
MX-400	6 1.5" x 1.5"	38	70	1.2	0.75 HP	13.7
	7 1.5" x 1.5"	43	70	1.2	0.75 HP	13.7
MX-401	6 1.5" x 1.5"	59	80	1.2	1.5 HP	22.5
	7 1.5" x 1.5"	68	80	1.2	1.5 HP	22.5
MX-402	2" x 1.5"	73	107	1.2	2 HP	29.8
MX-402H	2" x 1.5"	99	45	1.0	2 HP	29.8
MX-403	2" x 1.5"	101	130	1.2	3 HP	32.0
MX-403H	2" x 1.5"	126	70	1.0	3 HP	32.0
MX-F250	1" x 1"	48	43	1.2	0.5 HP	17.0
MX-F251	1" x 1"	69	40	1.0	1 HP	22.5
MX-F400	V 1.5" x 1.5"	43	65	1.2	0.75 HP	13.7
	X 1.5" x 1.5"	34	65	1.2	0.75 HP	13.7
MX-F401	V 1.5" x 1.5"	68	86	1.2	1.5 HP	22.5
	X 1.5" x 1.5"	50	75	1.2	1.5 HP	22.5
MX-F402	2" x 1.5"	70	120	1.2	2 HP	29.8
MX-F403	2" x 1.5"	93	130	1.2	3 HP	32.0

## Dimensions

### ■ MX-F250 to F401



### ■ MX-F402, F403



Inches (mm)

Model	W	H	L	a	b	c	d	e	f	g	k	m
MX-(F)250	6.30 (160)	9.75 (248)	9.39 (239)	5.12 (130)	2.56 (65)	5.12 (130)	4.53 (115)	5.22 (133)	3.25 (83)	6.12 (155)	0.47 (12)	---
MX-(F)251	6.30 (160)	9.75 (248)	9.39 (239)	5.12 (130)	2.56 (65)	5.12 (130)	4.53 (115)	5.22 (133)	3.25 (83)	6.12 (155)	0.47 (12)	---
MX-(F)400	5.51 (140)	8.62 (219)	9.37 (238)	4.33 (110)	2.13 (54)	3.86 (98)	3.74 (95)	4.88 (124)	3.19 (81)	5.67 (144)	0.47 (12)	---
MX-(F)401	6.30 (160)	9.81 (249)	9.96 (253)	5.12 (130)	2.83 (72)	5.12 (130)	4.53 (115)	5.28 (134)	3.82 (97)	7.01 (178)	0.47 (12)	---
MX-(F)402/403 (H)	10.24 (260)	10.78 (274)	9.53 (242)	8.19 (208)	3.15 (80)	7.87 (200)	4.72 (120)	6.06 (154)	3.27 (83)	5.94 (151)	0.55 (14)	1.42 (36)

The MX Series pumps represent the latest state of the art design in plastic magnetic drive pumps. With the experience gained from previous generations of MDH pumps, the MX Series has been engineered to meet the most severe operating conditions.

When fitted with a carbon bearing, the MX will allow for periods of dry running. The patented "self radiating structure", in addition to the existing proven non-contact principle with front and rear supported spindle, greatly improves the ability to withstand cavitation and running against a closed discharge valve.

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

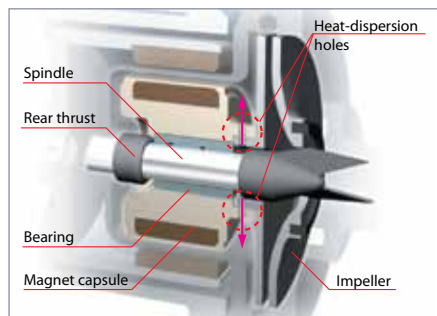
### Patented Split Volute Casing

The MX Series is the first resin magnet pump that uses a split volute pump casing that forms a vortex chamber. The volute limits the liquid flow from the impeller and returns it to the pump, which is efficiently guided to the discharge port to enhance overall efficiency.

### Patented Self-radiating structure

Through heat dispersion holes provided in fixed portions of the impeller and the magnet capsule, the liquid around the spindle and bearing is forced to circulate. Heat generated by friction can be reduced effectively, thereby preventing any thermal deformation and reducing wear.

MX utilizes standard NEMA frame motors making them easy to install. (IEC and JIS versions available)



Front casing



Rear casing



Reinforced front casing



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