

Main material
GFRPP

**A worldwide best-seller,
our high-quality compact
magnetic drive pumps**



A worldwide best-seller, our high-quality compact magnetic drive pumps

Our MD series leak-free compact magnetic pumps are a worldwide best-seller and are used in medical equipment, analyzers, constant-temperature baths and surface treatment equipment for chemical feeding in more than thirty countries worldwide.



Leak free

Magnetic drive seal-less pumps are free from leakage problems and the need for seal replacement. This feature and their compact nature make them ideal for built-in applications.



Extensive product range

The MD series comprises 50 models. The high-head type (MD-Z), the high flow type (MD-X) and threaded connection type (MD-M) are available as well as a standard type. The MD series offers the largest selection in the world.



MD-6K



MD-10K

MD-6·10

- Max Discharge capacity **5.5 - 11 L/min**
- Max Discharge head **1.0 - 2.1 m**



MD-15R



MD-20R



MD-30R

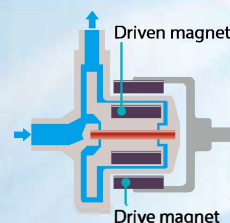
MD-15·20·30·40

- Max Discharge capacity **10 - 75 L/min**
- Max Discharge head **1.8 - 11.5 m**



Operating Principle

The centrifugal pump is driven by a pair of magnets which are incorporated in the impeller and motor shaft. The sealless pump structure eliminates shaft seals such as conventional mechanical seals because the pump chamber is shielded by the casings and the impeller is operated by the magnets. The combined coupling torque of the drive magnet and impeller magnet gives sufficient driving power against the motor torque.



High corrosion-resistance

GFRPP (Glass fiber reinforced polypropylene) wet ends of the MD series handle a wide range of chemicals.



Ease of maintenance

The pump unit is comprised of a small number of integrated parts, so maintenance is greatly simplified.



MD-40R



MD-55R



MD-70R



MD-100R

MD-55·70·100

GFRPP

- Max Discharge capacity **40 - 135** L/min
- Max Discharge head **5.6 - 14.3** m

Extensive product range

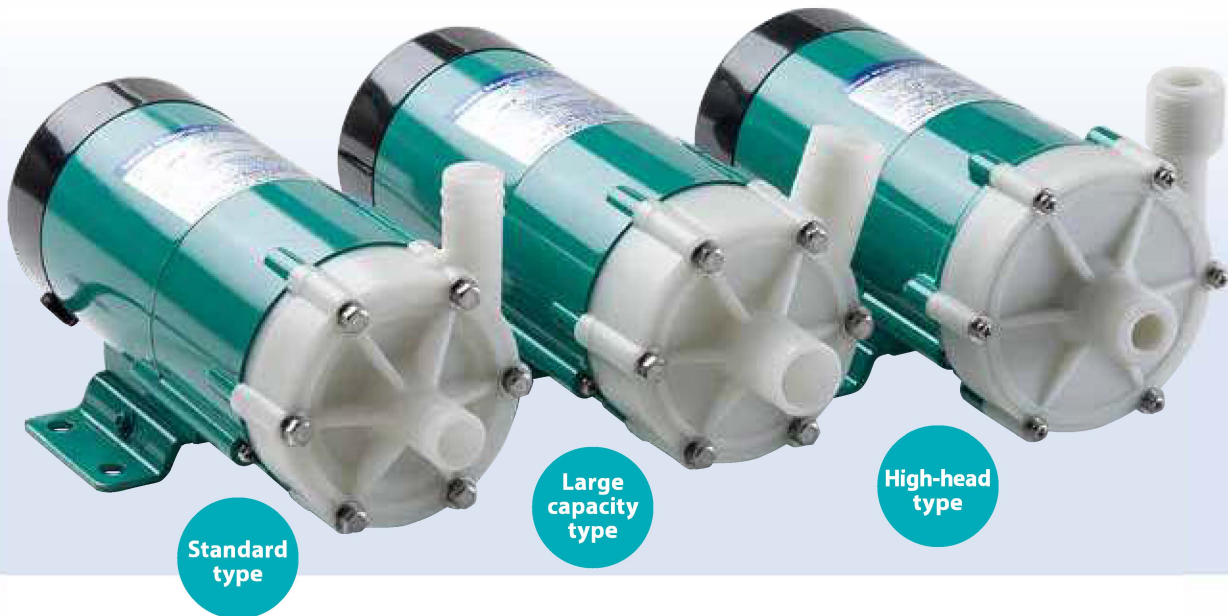
Ease of maintenance

The MD series has GFRPP wet ends. Hose connections, thread connections and flange connections (only 70^{Note}.100 size) are available. A large selection of models offer a wide flow range of 8.0-135L/min.

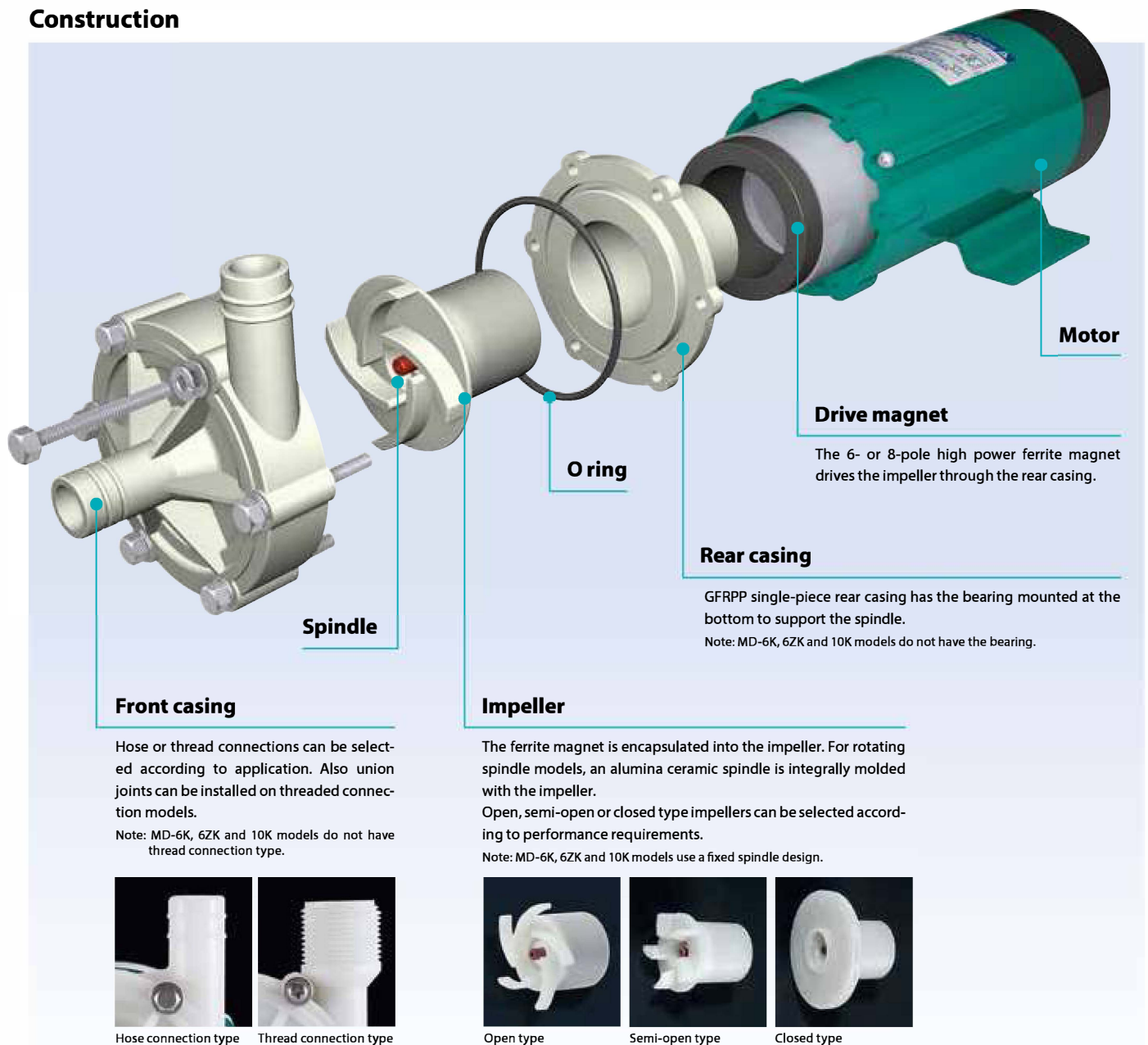
Note: For MD-70 size, MD-70RM type only.

Outline of the series

Main Material	Models	Max. discharge capacity (l/min)							Max. discharge head (m)				Limit of specific gravity
		20	40	60	80	100	120	140	5	10	15	20	
GFRPP	MD-6K Standard type	8.0							1.0				1.2
	MD-6ZK High head type	5.5							2.1				1.1
	MD-10K Standard type	11							1.5				1.1
	MD-15R Standard type	16							2.4				1.3
	MD-20R Standard type	27							3.1				1.1
	MD-20RX Large capacity type	46							1.8				1.3
	MD-20RZ High head type	10							4.6				1.1
	MD-30R Standard type	32							3.8				1.3
	MD-30RX Large capacity type	62							2.9				1.1
	MD-30RZ High head type	15							8.0				1.0
	MD-40R Standard type	45							4.6				1.1
	MD-40RX Large capacity type	75							3.3				1.1
	MD-40RZ High head type	22							10				1.0
	MD-40RZ-5	11							11.5				1.0
	MD-55R Standard type	60							5.6				1.2
	MD-55R-5	70							8.2				1.2
	MD-70R Standard type	86							6.7				1.0
	MD-70RZ High head type	40							14.3				1.0
	MD-100R Standard type	120							8.6				1.2
	MD-100R-5	135							11.7				1.1



Construction



MD-6K·6ZK·10K

GFRPP

- Max Discharge capacity **5.5 - 11 L/min**
- Max Discharge head **1.0 - 2.1 m**



MD-6K



MD-10K

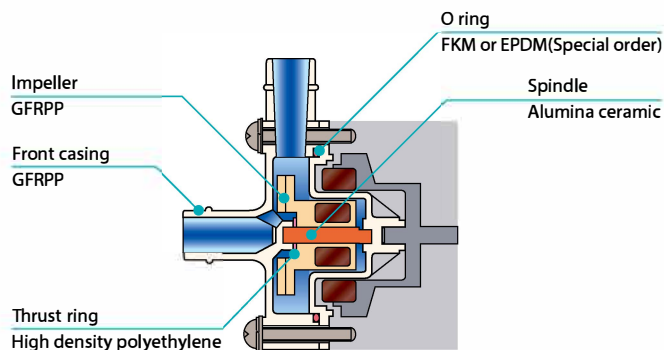
Specifications (50Hz)

Model	Hose connection		Max. Capacity L/min	Max. Head m	S.G.	Output W	Inlet W	Power source	Mass kg
	Inlet (mm)	Outlet (mm)							
MD-6K	Ø14	Ø14	8.0	1.0	1.2	5	12	220 - 240V Single phase	0.9
MD-6ZK			5.5	2.1	1.1		13		
MD-10K			11	1.5	1.1		13		

• Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1 S.G.) • Ambient temperature: 0 - 40°C
 • Motor type: Capacitor-run induction motor • MD-6K, 6ZK and 10K do not have thread connection type.

Construction and materials

Illustration shows model MD-6K



- GFRPP: Glass fiber reinforced polypropylene
- FKM: Fluorine rubber
- EPDM: Ethylene propylene rubber

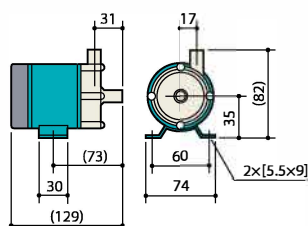
Pump identification

MD - 6 ZK - E N
 1 2 3

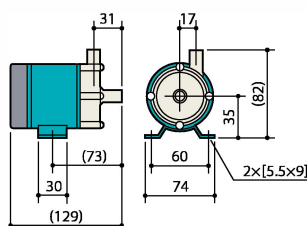
- 1 Pump size
6, 10
- 2 Type
K: Standard type
ZK: High head type
- 3 Material of O ring
No mark: FKM
E: EPDM (Special order)

Dimensions (mm)

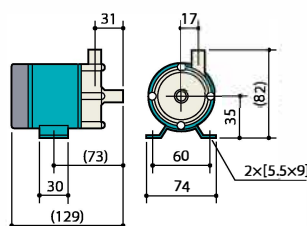
MD-6K



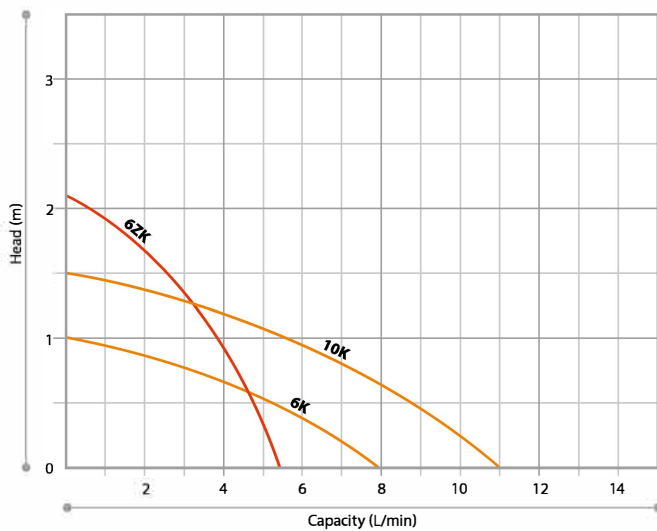
MD-6ZK



MD-10K



Performance curves



MD-6·MD-6Z·MD-10



Specifications (50/60Hz)

Model	Hoseconnection		Max.Capacity L/min	Max.Head m	S.G.	Output W	Input W	Power source	Mass Kg
	Inlet (mm)	Outlet (mm)							
MD-6	14	14	8.0 / 9.0	1.0 / 1.4	1.2	3 / 3	22 / 22	100V Single phase	0.9
MD-6Z			5.5 / 6.0	2.1 / 2.7	1.1				
MD-10			11 / 12	1.5 / 2.1		6 / 6	32 / 35		

• Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1 S.G.)

• Ambient temperature: 0 - 40°C • Motortype: Shaded pole motor • MD-6, 6Z and 10 do not have thread connection type.

Pump identification

MD - 6 Z

1 2

1 Pump size

6, 10

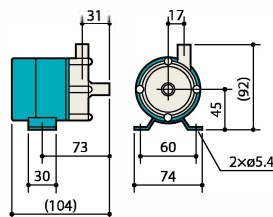
2 Type

No mark : Standard type

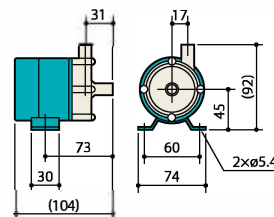
Z : High head type

Dimensions (mm)

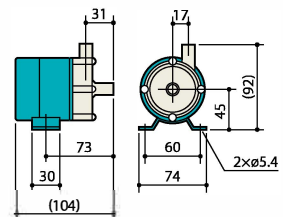
MD-6



MD-6Z



MD-10



MD-15·20·30·40

GFRPP

- Max Discharge capacity **10 - 75 L/min**
- Max Discharge head **1.8 - 11.5 m**



MD-15R

MD-20R

Specifications (50Hz)

Model	Hose connection		Thread connection		Max. Capacity (L/min)	Max. Head (m)	S.G.	Output (W)	Input (W)	Power source	Mass (kg)
	R - RZ- RX		R-M - RZ-M - RX-M								
	Inlet(mm)	Outlet(mm)	Inlet/Outlet	Union ^{Note1}							
MD-15R(M)	Ø14	Ø14	G3/4	13A	16	2.4	1.3	10	26	220V - 240V Single phase	1.6
MD-20R(M)	Ø18	Ø17	G3/4	16A	27	3.1	1.1	20	40		2.0
MD-20RX(M)	Ø26	Ø26	G1	20A	46	1.8	1.3				
MD-20RZ(M)	Ø17.5	Ø17	G3/4	13A	10	4.9	1.1				
MD-30R(M)	Ø20	Ø20	G3/4	16A	32	3.8	1.3	45	60		3.5
MD-30RX(M)	Ø26	Ø26	G1	20A	62	2.9	1.1		70		4.0
MD-30RZ(M)	Ø17.5	Ø17	G3/4	13A	15	8.0	1.0				3.5
MD-40R(M)	Ø20	Ø20	G3/4	16A	45	4.6	1.1	65	90		3.9
MD-40RX(M)	Ø26	Ø26	G1	20A	75	3.3			85		
MD-40RZ(M)	Ø20	Ø20	G3/4	16A	22	10	1.0	65	115		
MD-40RZ-5(M)					11	11.5			65		

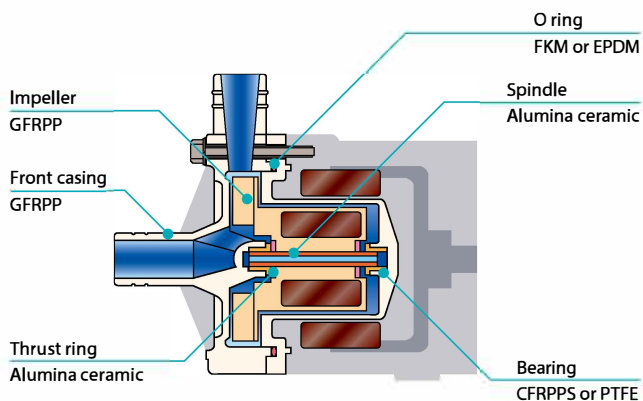
• Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1 S.G.) • Ambient temperature: 0 - 40°C

• Motor type: Capacitor-run induction motor

Note 1: The union field shows the nominal diameter of the applicable VP vinyl chloride hose. Heat resistance of the standard union is 0 - 55°C and that of the heat resistant union is 0 - 80°C.

Construction and materials

Illustration shows model MD-30R



- **GFRPP** Glass fiber reinforced polypropylene
- **CFRPPS** Carbon fiber reinforced polyphenylene sulfide
- **PTFE** Polytetrafluoroethylene ("Teflon", etc.)
- **FKM** Fluorine rubber
- **EPDM** Ethylene propylene rubber

Pump identification

MD - 30 RZ M - 220 E N

1 2 3 4 5

- 1 Pump size
15, 20, 30, 40

- 2 Type
R : Standard type
RZ-(5) : High head type
RX : Large capacity type

- 3 Connection
No mark : Hose type
M : G thread connection

- 4 Motor
220 : 220V - 240V single phase

- 5 Material of O ring
No mark : FKM (Standard)
E : EPDM (Special order)

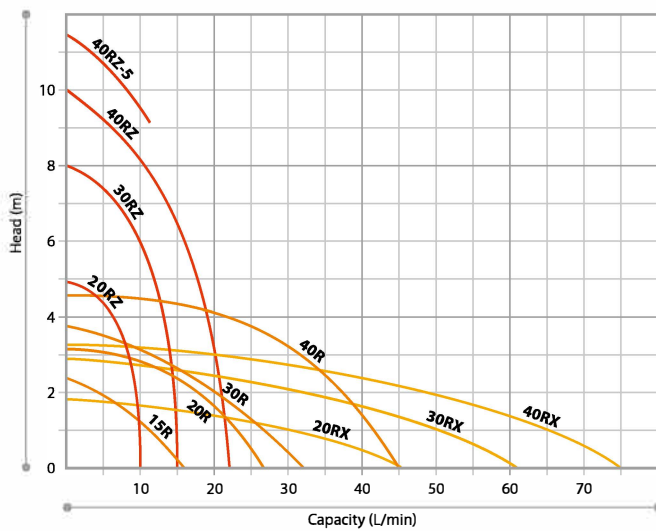
MD-30R



MD-40R



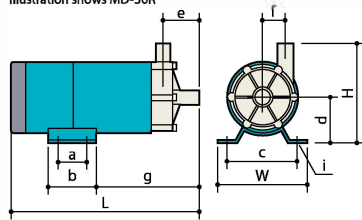
Performance curves (50Hz)



Dimensions (mm)

MD-15R(M)-20R(M)-30R(M)-40R(M)

Illustration shows MD-30R

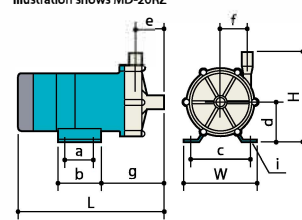


Model	W	H	L	a	b	c	d	e	f	g	i
MD-15R(M)	95	109 (114)	179.5 (179)	—	50	68	55	39 (38.5)	21.5	92 (91.5)	2 × Ø5.6
MD-20R(M)	85	115 (116.3)	208.5 (203)	30	50	68	55	38.5 (33)	28.5	101.5 (96)	4 × [6×10]
MD-30R(M)	120	130	248	40	64	100	60	48	31	137 (129)	4 × Ø9
MD-40R(M)			244								

- Dimension of the () inside are thread connection type.
- The number is rounded up to the nearest whole number.

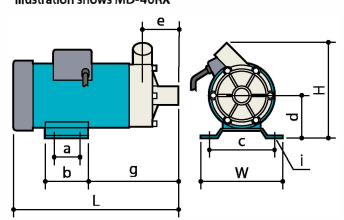
MD-20RZ(M)-30RZ(M)-40RZ(M)

Illustration shows MD-20RZ



MD-20RX(M)-30RX(M)-40RX(M)

Illustration shows MD-40RX



Model	W	H	L	a	b	c	d	e	f	g	i
MD-20RZ(M)	85	125	211	30	50	68	55	39.5	38.5	104	4 × [5.7×8]
MD-30RZ(M)	120	130	230	40	64	100	60			120	4 × Ø9
MD-40RZ-5(M)		150	235					128			
MD-20RX(M)	85	119 (122)	220	30	50	68	55	46.5	—	118	4 × [5.7×8]
MD-30RX(M)	120	137 (140)	254 250	40	64	100	60	50		143	4 × Ø9
MD-40RX(M)											

- Dimension of the () inside are thread connection type.
- RZ type (Hose connection) and RZM type (Thread connection type) are the same dimensions.
- The number is rounded up to the nearest whole number.

MD-55·70·100

GFRPP

- Max Discharge capacity **40 - 135 L/min**
- Max Discharge head **5.6 - 14.3 m**

MD-55R



Specifications (50Hz)

Model	Hose connection		Thread connection		Max. Capacity (L/min)	Max. Head (m)	S.G.	Output (W)	Input (W)	Power source		Mass (kg)
	R - RZ		R-M - RZ-M							Single phase	Three phase	
	Inlet(mm)	Outlet(mm)	Inlet/Outlet	Union ^{Note1}								
MD-55R(M)	Ø26	Ø26	G1	20A	60	5.6	1.2	90	130	220V - 240V	-	5.4
MD-55R-5(M)					70	8.2		90	170			
MD-70R(M)					Ø20	Ø20	G3/4	16A	86		6.7	1.0
MD-70RZ(M)	40	14.3	180	275								
MD-100R(M)	Ø26	Ø26	G1	20A	120	8.6	1.2	260	245		8.5	
MD-100R-5(M)					135	11.7	1.1	260	365			

• Temperature range: 0 - 80°C (Contact us for applications below zero.) • Limit of viscosity: 30 mPa·s (at 1 S.G.) • Ambient temperature: 0 - 40°C

• Motor type: Capacitor-run induction motor

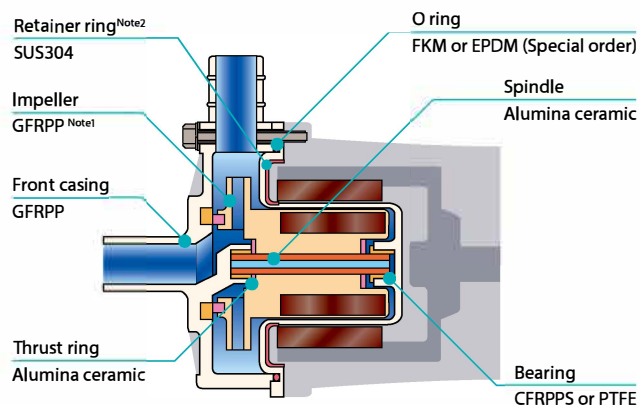
Note 1: The union field shows the nominal diameter of the applicable VP vinyl chloride hose. Heat resistance of the standard union is 0 - 55°C and that of the heat resistant union is 0 - 80°C.

Construction and materials

Illustration shows model MD-100R

Note 1: MD-70RZ / 100R is "CFRPP (carbon fiber reinforced polypropylene)".

Note 2: MD-70RZ/MD-100R only.



- GFRPP Glass fiber reinforced polypropylene
- CFRPPS Carbon fiber reinforced polyphenylene sulfide
- FKM Fluorine rubber
- EPDM Ethylene propylene rubber

Pump identification

MD - 100 R M

1 2 3

1 Pump size

55, 70, 100

2 Type

R : Standard type

R-5 : Standard type (Only 50Hz)

RZ : High head type (Only 70RZ)

3 Connection

No mark : Hose type

M : G thread connection

MD-55R-5M, MD-100R-5M

• Specify the pump model and power specification at an inquiry phase.

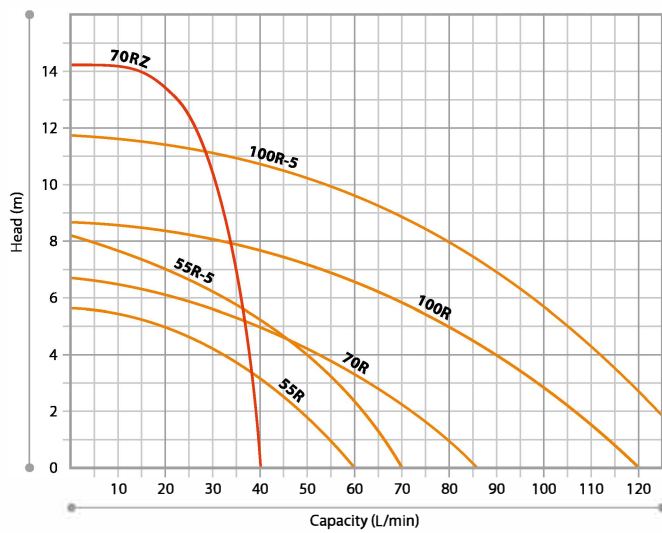


MD-70R



MD-100R

Performance curves (50Hz)

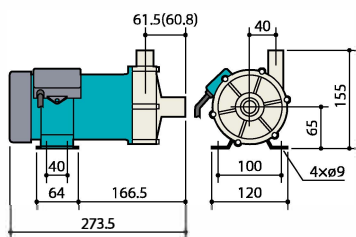


Dimensions (mm)

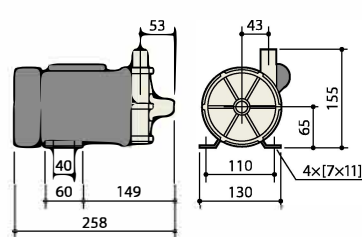
() : Thread connection type

MD-55R(M)-55R-5(M)

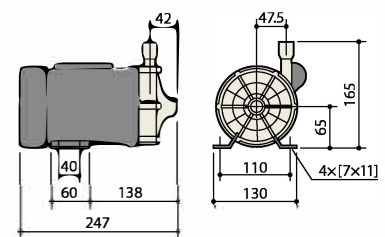
Illustration shows MD-55R



MD-70R(M)

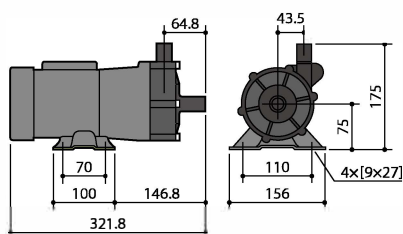


MD-70RZ(M)



MD-100R(M)-100R-5(M)

Illustration shows MD-100R



Special accessories

• Union joint

Special-purpose union joints are available to cope with three types (13mm, 16mm and 20mm dia.) of piping. Tight sealing O-rings are used to prevent thread damage caused by over-tightening.



Specifications

Model	13A	H13A	16A	H16A	20A	H20A
Material	PVC	HT-PVC	PVC	HT-PVC	PVC	HT-PVC
Range of temp.	0 - 55°C	0 - 80°C	0 - 55°C	0 - 80°C	0 - 55°C	0 - 80°C
Material of O ring	FKM or EPDM					

Please specify the type and the O-ring material at the time of arrangements.

• Self-priming chamber

Once fill up liquid, repriming is not required. It is very easy to use MD pump with self-priming chamber.



Specifications

Model	SC-4V	SC-4E	SC-7V	SC-7E
Material of O ring	FKM	EPDM	FKM	EPDM
Connection	G3/4		G1	
Suction limit	0.8m		1.2m	
Range of tank	0.8L		1.3L	
Applicable pump	MD-30RM-N, MD-40RM-N		MD-70RM	

Self-priming height depends on liquid temperature and characteristics. Please contact us for details. A union fitting is required for use.

Precautions for pump selection

- The performance curves shown in this catalog are data for fresh water at 20 °C. The maximum discharge amount is the discharge amount when the lift is 0 m. The maximum head indicates the total head.
- The magnet pump cannot be operated continuously due. Be sure to plan to secure the minimum flow rate. Minimum pump flow rate = Maximum pump flow rate x 0.1 (Please contact us for details)
- Pump pressure limit = Pump maximum head x 1.5 (Please contact us for details.)
- The temperature range of the handling liquid is 0 to 80 °C. However, it depends on the conditions such as the heat cycle of the liquid to be handled. (Frozen liquid cannot be used.)



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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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