



GOL PUMPS TECHNOLOGY INC

## MAGNET PUMP

Corrosive acids, Alkalies, Solvents, Brines,  
Plating solutions, Sterile solutions,

And other mildly corrosive chemicals and solutions that  
are compatible with the pump's material of construction.



CE

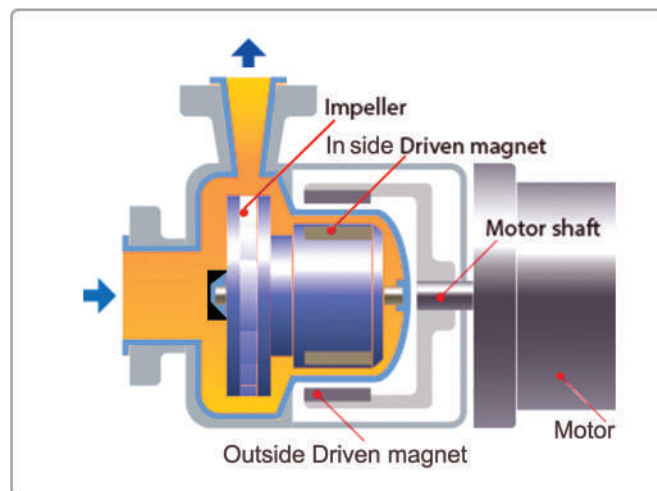
RoHS ISO9001:2000



## Description Magnet pumps

Magnetic Driven Pumps are seal-less pumps that use a coaxial magnetic coupling to transmit torque to an impeller. A standard electric motor drives a set of permanent magnets that are mounted on a carrier or drive assembly. In turn, the magnets drive the inner rotor and provide the no-slip or synchronous capability of the torque coupling.

Fluid is moved by a centrifugal pump through the use of centrifugal force. Fluid is taken into the center of the impeller through the inlet connection called Suction Eye. Most centrifugal pumps prefer a positive inlet pressure to prevent Cavitation (lack of enough positive inlet pressure to prevent liquid vaporization). This fluid is then caught by the vanes of the impeller as it spins. This rotation of the fluid mechanically by the vanes “throws” the fluid to the outside of the impeller and toward the discharge port of the liquid end of the pump. This mechanical movement of the fluid creates the discharge pressure of the pump. Variables like inlet fluid supply pressure, impeller diameter, motor horsepower and closed face versus open face all affect the flow and pressure of the pump. Each of these variables can be manipulated to achieve a desired flow and/or pressure.



A magnetic coupling consists of two magnet assemblies. One is the outer assembly (the drive magnet) and the other is the inner assembly (the driven magnet). The outer assembly is connected to a motor and the inner assembly is directly attached to the pump impeller. As illustrated, at rest, the magnet components of the outer assembly are aligned with their counterparts in the inner assembly. When load (torque) is applied, the coupling deflects angularly and the magnets create a force of simultaneous attraction and repulsion. This force is used to transfer torque from the motor to the impeller.

**GMD-Magnet** pumps are therefore seal less and hermetically closed.



## Typical applications

| Industry                   | Example of application                                                               |
|----------------------------|--------------------------------------------------------------------------------------|
| Chemical stockists         | Transfer of various chemicals from storage tanks to smaller containers               |
| Surface treatment          | Transfer, filtering and circulation of surface treatment baths                       |
| Food and beverage          | Pumping of CIP detergent used for cleaning of pipes and other food process equipment |
| Water treatment            | Dosing of acids and alkalis used as cleaning chemicals in nanofiltration             |
| Chemical manufacture       | Pumping of chemicals in industrial detergent equipment                               |
| Demineralizing             | Demi-water circulation and transfer in many industrial applications                  |
| Photo processing           | Transfer of photo develop chemicals and inclusion in processing machines             |
| Liquid crystal manufacture | Pumping of concentrated acids and alkalis                                            |

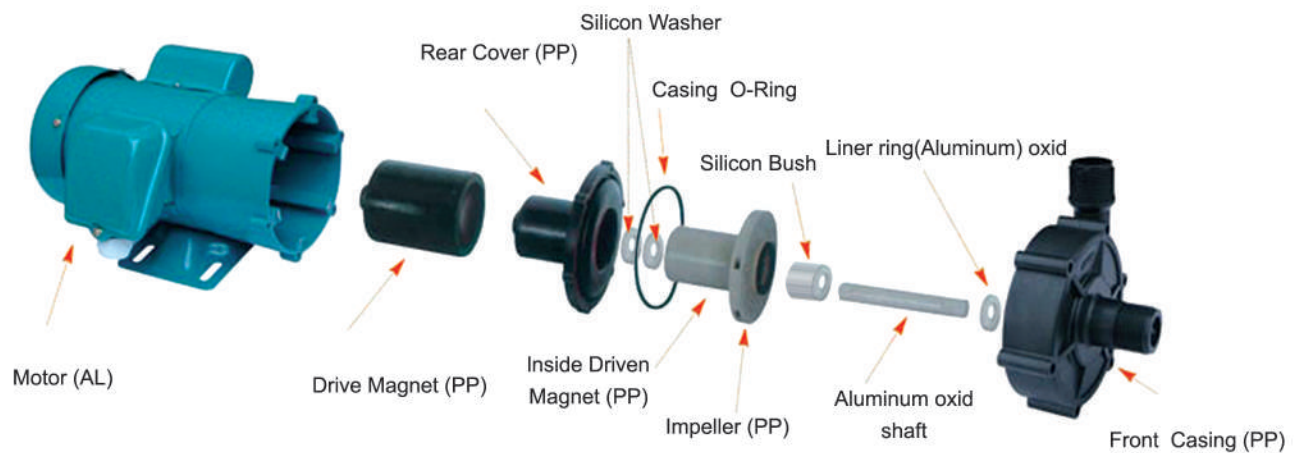
## Material of components

| Component of Pump   | Material/Info   |                 |
|---------------------|-----------------|-----------------|
|                     | Standard        | In order        |
| Pump casing         | PP              | PVDF            |
| Impeller            | PP              | PVDF            |
| Rear Cover          | PP              | PVDF            |
| Stationary bushings | Aluminum oxid   | Silicon Carbide |
| Rotation bushings   | Silicon Carbide | Silicon Carbide |
| O-rings             | FXM             | EPDM or FFKM    |



It is an internal replacement part for the high-performance compact magnet pump **MD** series (standard specification).

It is a set of front casing, spindle, impeller, **O-ring**, and rear casing.



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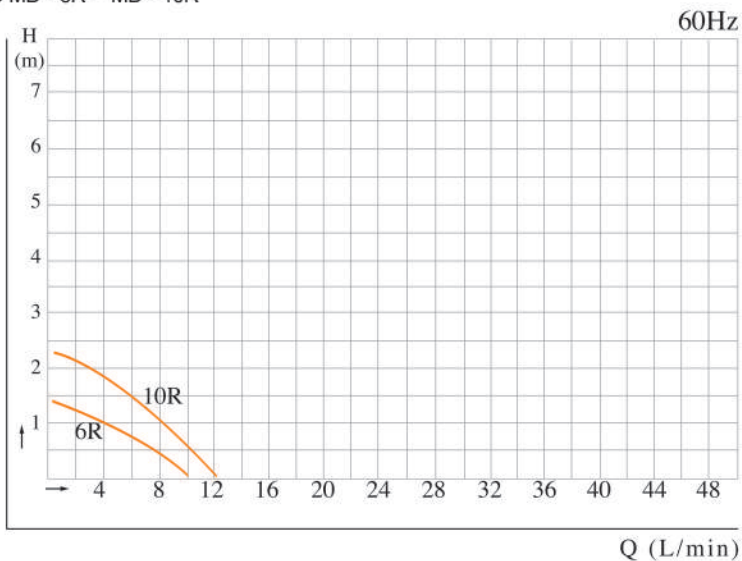
It is a set of front casing, spindle, impeller, **O-ring**, and rear casing.



## MAGNET PUMP

### > PERFORMANCE CURVE

G MD - 6R ~ MD - 10R



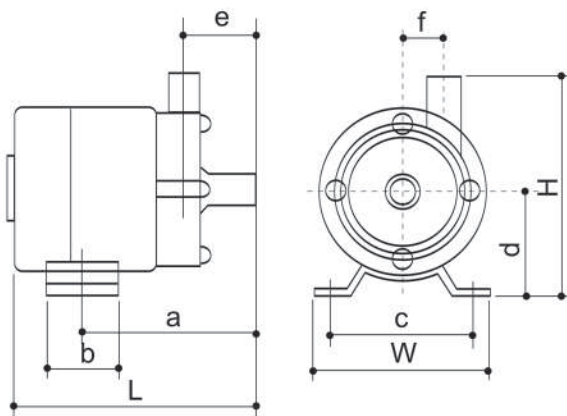
GMD-6R



GMD-10R

### > DIMENSIONS

G MD - 6R / 10R



#### DIMENSION (mm)-(inch)

| Model  | Unit | W    | H    | L    | a    | b    | c    | d    | e    | f    |
|--------|------|------|------|------|------|------|------|------|------|------|
| GMD-6  | mm   | 74   | 92   | 104  | 73   | 30   | 60   | 45   | 31   | 17   |
|        | inch | 2.91 | 3.62 | 4.09 | 2.87 | 1.18 | 2.36 | 1.77 | 1.22 | 0.67 |
| GMD-10 | mm   | 74   | 92   | 104  | 73   | 30   | 60   | 45   | 31   | 17   |
|        | mm   | 2.91 | 3.62 | 4.09 | 2.87 | 1.18 | 2.36 | 1.77 | 1.22 | 0.67 |

#### Technical Specifications

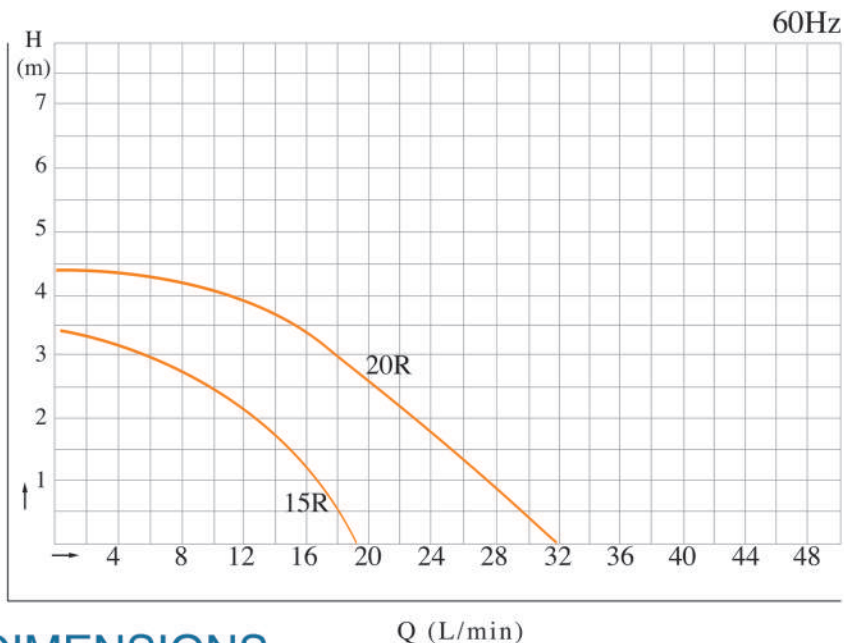
| Model   | Tube interface (hose) |        | Max outlet<br>m-L/min | Max Head<br>m-L/min | Temperature<br>°C | Liquid Specific<br>Weight | Motor    |            |             |        |
|---------|-----------------------|--------|-----------------------|---------------------|-------------------|---------------------------|----------|------------|-------------|--------|
|         | Inlet                 | Outlet |                       |                     |                   |                           | V        | Input<br>W | Output<br>W | Phase  |
| GMD1-6  | 14 mm                 | 14 mm  | 0.5 m / 8 L-min       | 1.2 m / 2 L-min     | 0 °C-80 °C        | 1.2 Kg                    | 108 -120 | 22         | 3           | Singel |
|         | 1/2 in                | 1/2 in | 1.7 ft / 2.1 Gpm      | 4 ft / 0.5Gpm       | 32 °F-176 °F      | 2.65 Lb                   |          |            |             |        |
| GMD1-10 | 14 mm                 | 14 mm  | 0.5 m / 10 L-min      | 2m -3 L-min         | 0 °C-80 °C        | 1.1 Kg                    | 108 -120 | 35         | 6           | Singel |
|         | 1/2 in                | 1/2 in | 1.7 ft / 2.6 Gpm      | 6.6 ft / 0.8Gpm     | 32 °F-176 °F      | 2.4 Lb                    |          |            |             |        |



## MAGNET PUMP

### > PERFORMANCE CURVE

G MD - 15R ~ MD - 20R



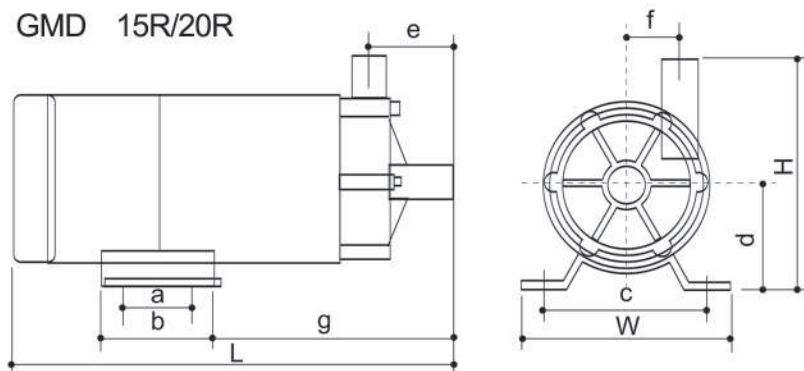
GMD-15R



GMD-20R

### > DIMENSIONS

GMD 15R/20R



**DIMENSION (mm)-(inch)**

| Model   | Unit | W    | H    | L     | a    | b    | c    | d    | e    | f    | g    |
|---------|------|------|------|-------|------|------|------|------|------|------|------|
| GMD-15R | mm   | 95   | 109  | 179.5 | -    | 50   | 68   | 55   | 39   | 21.5 | 92   |
|         | inch | 3.74 | 4.29 | 7.07  | -    | 1.97 | 2.68 | 2.17 | 1.54 | 0.85 | 3.62 |
| GMD-20R | mm   | 120  | 106  | 208.5 | 40   | 64   | 100  | 60   | 38   | 28.5 | 93.5 |
|         | inch | 4.72 | 4.17 | 8.21  | 1.57 | 2.52 | 3.94 | 2.36 | 1.50 | 1.12 | 3.68 |

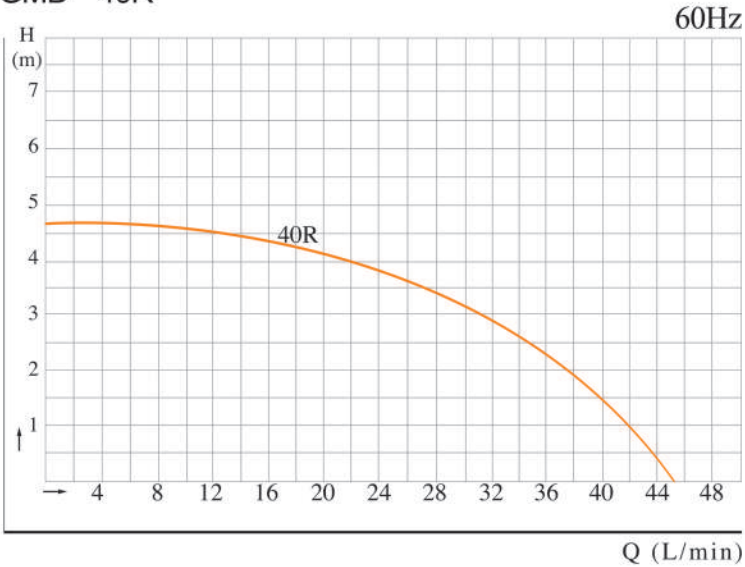
### Technical Specifications

| Model    | Tube interface (hose) |        | Max outlet<br>m-L/min | Max Head<br>m-L/min | Temperature<br>°C | Liquid Specific<br>Weight | Motor   |            |             |        |
|----------|-----------------------|--------|-----------------------|---------------------|-------------------|---------------------------|---------|------------|-------------|--------|
|          | Inlet                 | Outlet |                       |                     |                   |                           | V       | Input<br>W | Output<br>W | Phase  |
| GMD1-15R | 14 mm                 | 14 mm  | 1.2 m/16 Lmin         | 3 m / 6 Lmin        | 0 °C-80 °C        | 1.3 Kg                    | 108-120 | 26         | 10          | Singel |
|          | 1/2 in                | 1/2 in | 4 ft / 4.23 Gpm       | 10 ft / 1.58 Gpm    | 32 °F-176 °F      | 2.87 Lb                   |         |            |             |        |
| GMD1-20R | 18 mm                 | 18 mm  | 1.5 m /26 Lmin        | 4 m / 10 Lmin       | 0 °C-80 °C        | 1.1 Kg                    | 108-120 | 40         | 20          | Singel |
|          | 3/4 in                | 3/4 in | 5 ft / 6.7 Gpm        | 13.3 ft / 2.64 Gpm  | 32 °F-176 °F      | 2.43 Lb                   |         |            |             |        |



## > PERFORMANCE CURVE

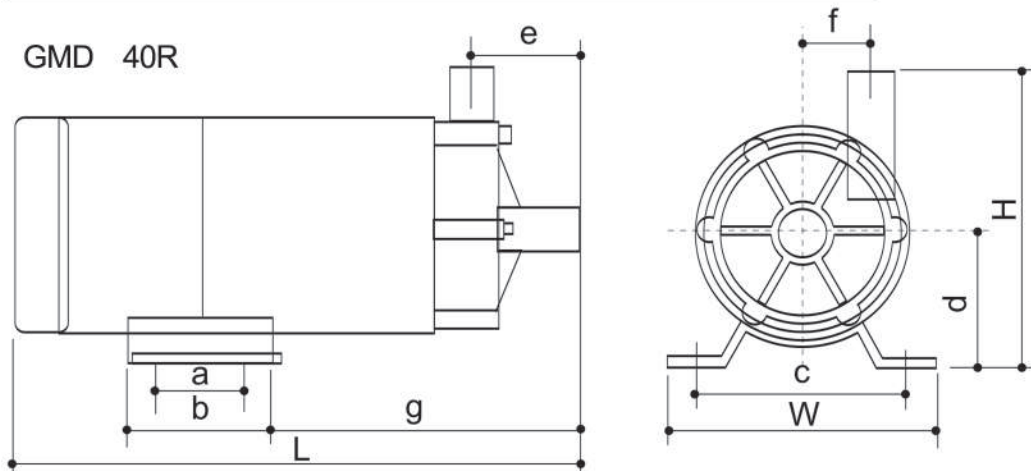
GMD 40R



GMD-40R

## > DIMENSIONS

GMD 40R



### DIMENSION (mm)-(inch)

| Model   | Unit | W    | H    | L    | a    | b    | c    | d    | e    | f    | g    |
|---------|------|------|------|------|------|------|------|------|------|------|------|
| GMD-40R | mm   | 120  | 130  | 250  | 40   | 64   | 100  | 60   | 48   | 31   | 137  |
|         | inch | 4.72 | 5.12 | 9.84 | 1.57 | 2.52 | 3.94 | 2.36 | 1.89 | 1.22 | 5.39 |

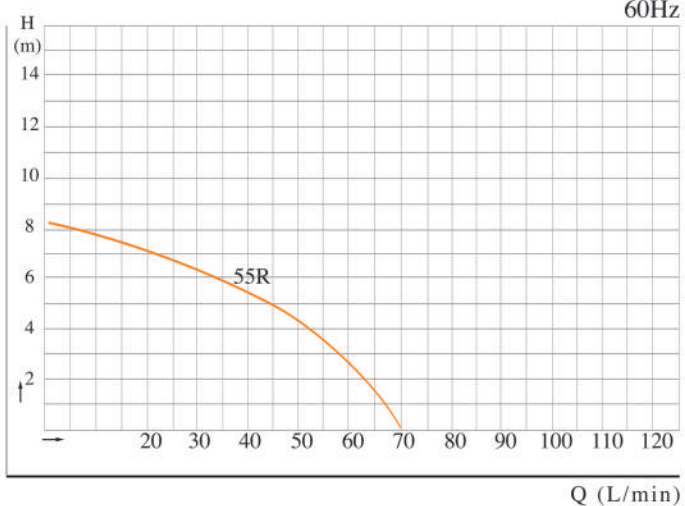
### Technical Specifications

| Model   | Tube interface (hose) |        | Max outlet<br>m-L/min | Max Head<br>m-L/min | Temperature<br>°C | Liquid Specific<br>Weight | Motor    |            |             |       |
|---------|-----------------------|--------|-----------------------|---------------------|-------------------|---------------------------|----------|------------|-------------|-------|
|         | Inlet                 | Outlet |                       |                     |                   |                           | V        | Input<br>W | Output<br>W | phase |
| GMD-40R | 20 mm                 | 20 mm  | 1.5 m / 40 Lmin       | 4.5 m / 13 Lmin     | 0 °C-80 °C        | 1.1 Kg                    | 108 -120 | 65         | 90          | 1     |
|         | 3/4 in                | 3/4 in | 5 ft / 10.6 Gpm       | 15 ft / 3.34 Gpm    | 32 °F-176 °F      | 2.43 Lb                   |          |            |             |       |



## > PERFORMANCE CURVE

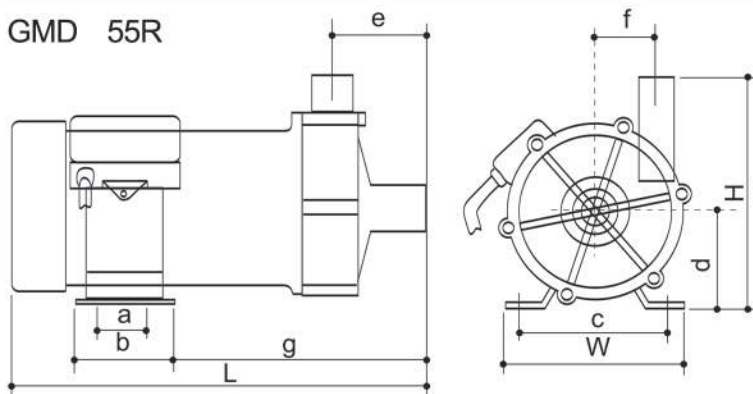
GMD 55R



GMD-55R

## > DIMENSIONS

GMD 55R



### DIMENSION (mm)-(inch)

| Model   | Unit | W    | H    | L     | a    | b    | c    | d    | e    | f    | g     |
|---------|------|------|------|-------|------|------|------|------|------|------|-------|
| GMD-55R | mm   | 120  | 155  | 273.5 | 40   | 64   | 100  | 65   | 61.5 | 40   | 166.7 |
|         | inch | 4.72 | 6.10 | 10.77 | 1.57 | 2.52 | 3.94 | 2.56 | 2.42 | 1.57 | 6.56  |

### Technical Specifications

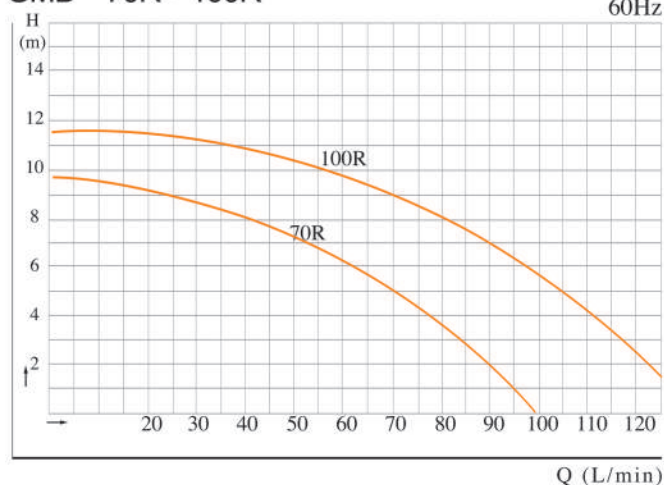
| Model   | Tube interface (hose) |        | Max outlet<br>m-L/min | Max Head<br>m-L/min | Temperature<br>°C | Liquid Specific<br>Weight | Motor    |            |             |        |
|---------|-----------------------|--------|-----------------------|---------------------|-------------------|---------------------------|----------|------------|-------------|--------|
|         | Inlet                 | Outlet |                       |                     |                   |                           | V        | Input<br>W | Output<br>W | phase  |
| GMD-55R | 26 mm                 | 26 mm  | 1.5 m / 65 L/min      | 7.5 m / 15 L/min    | 0-75              | 1.2 Kg                    | 108 -120 | 90         | 130         | Singel |
|         | 1"                    | 1"     | 5 ft / 17.17 Gpm      | 25 ft / 3.96 Gpm    | 32 °F-170 °F      | 2.65 Lb                   |          |            |             |        |



# MAGNET PUMP

## > PERFORMANCE CURVE

GMD 70R - 100R

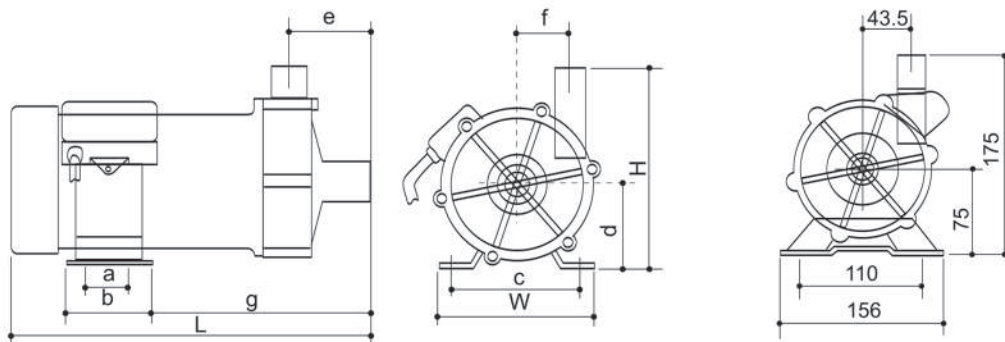


GMD-70R



GMD-100R

## > DIMENSIONS ( GMD 70 R - GMD 100 R )



### DIMENSION (mm)-(inch)

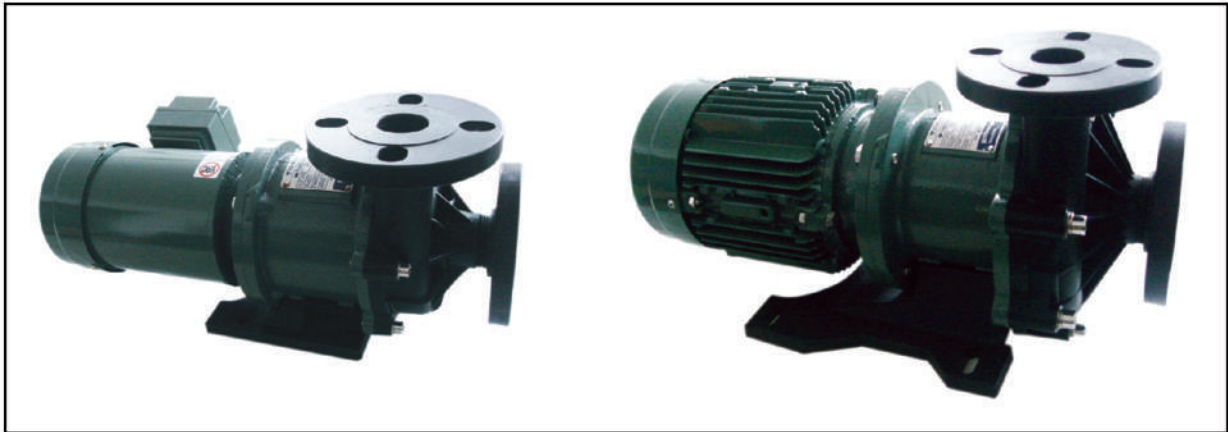
| Model        | Unit | W    | H    | L     | a    | b    | c    | d    | e    | f    | g     |
|--------------|------|------|------|-------|------|------|------|------|------|------|-------|
| GMD-70R (M)  | mm   | 130  | 155  | 258   | 40   | 60   | 110  | 65   | 53   | 43   | 149   |
|              | inch | 5.12 | 6.10 | 10.16 | 1.57 | 2.36 | 4.33 | 2.56 | 2.09 | 1.69 | 5.87  |
| GMD-100R (M) | mm   | 156  | 176  | 321.8 | 70   | 100  | 110  | 75   | 64.8 | 43.5 | 146.8 |
|              | inch | 6.14 | 6.93 | 12.67 | 2.76 | 3.94 | 4.33 | 2.95 | 2.55 | 1.71 | 5.78  |

### Technical Specifications

| Model    | Tube interface(hose) |        | Max outlet m-L/min  | Max Head m-L/min   | Temperature °C | Liquid Specific Weight | Motor    |         |          |        |
|----------|----------------------|--------|---------------------|--------------------|----------------|------------------------|----------|---------|----------|--------|
|          | Inlet                | Outlet |                     |                    |                |                        | V        | Input W | Output W | phase  |
| GMD-70R  | 26 mm                | 26 mm  | 2 m / 90 Lmin       | 9 m / 25 Lmin      | 0 °C-80 °C     | 1 Kg                   | 108 -120 | 150     | 265      | Singel |
|          | 1"                   | 1"     | 6.66 ft / 23.78 Gpm | 30 ft / 6.6 Gpm    | 32 °F-176 °F   | 2.205 Lb               |          |         |          |        |
| GMD-100R | 26 mm                | 26 mm  | 2.5 m / 120 Lmin    | 11 m / 37 Lmin     | 0 °C-80 °C     | 1.2 Kg                 | 108 -120 | 260     | 365      | Singel |
|          | 1"                   | 1"     | 8.3 ft / 31.7 Gpm   | 36.7 ft / 9.77 Gpm | 32 °F-176 °F   | 2.65 Lb                |          |         |          |        |



## GMD 400 Series



### 1. Magnetic heat dissipation structure (PAT.)

-Spindle and bearing through heat diffusion hole installed in the fixed part of impeller and magnet capsule  
Efficient diffusion, heat dissipation, and cooling of heat generated during abnormal operation by forcibly circulating the surrounding liquid To prevent thermal deformation and melting of the resin.

### 2. Sturdy structure

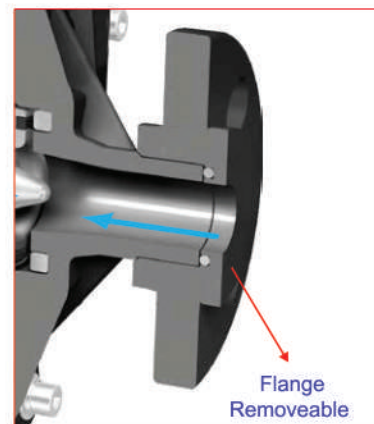
-All parts subject to stress such as front casing and rear casing are reinforced with ribs, We are trying to improve the mechanical strength.

### 3. Excellent corrosion resistance

-The main body is CFR-ETFE, and the other wetted parts are made of excellent corrosion-resistant materials such as carbon, ceramics, and SiC, so that acid/alkali, etc. Can be used for all chemicals.

### 4. Flange removable

- In these models, a standard threaded flange is used  
This pump can be used both with a flange and with a BSPT threaded outlet





## GMD 400 Series



GMD 400 / 401

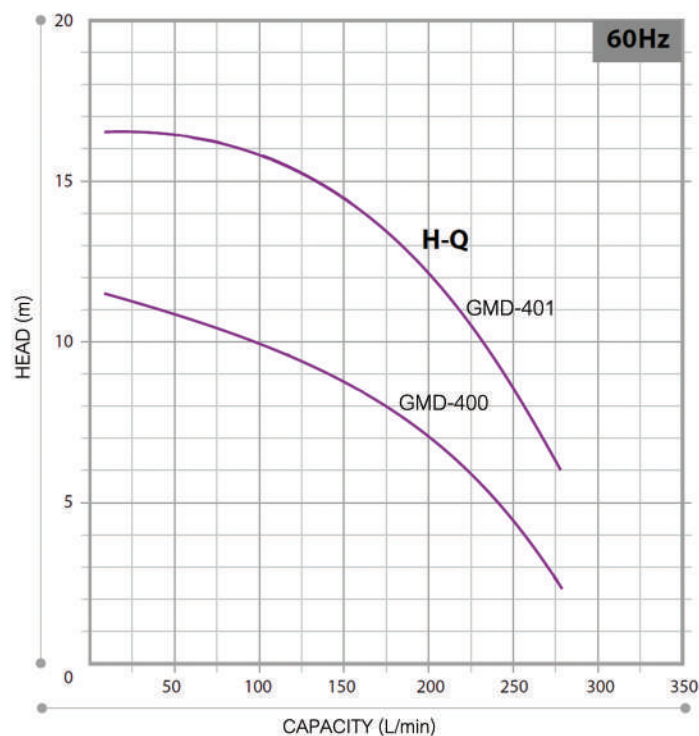


GMD 402-403

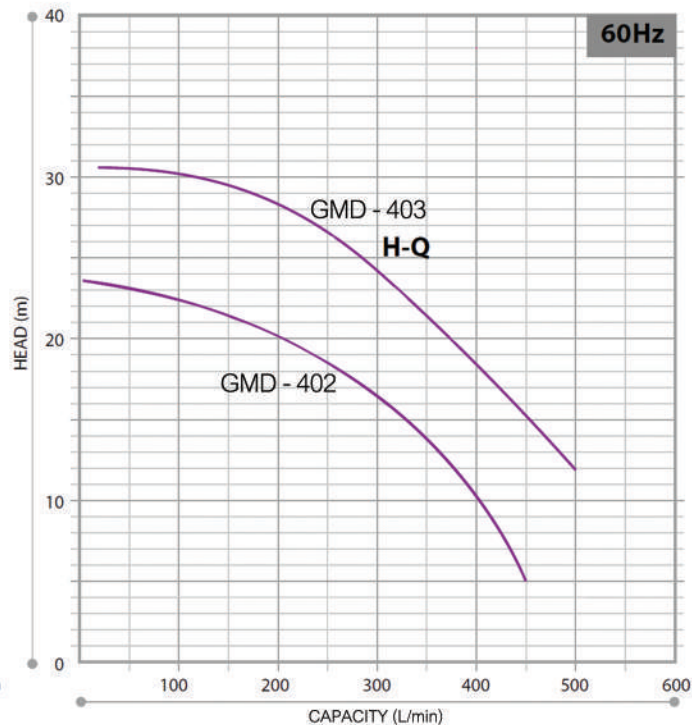
### Technical Specifications

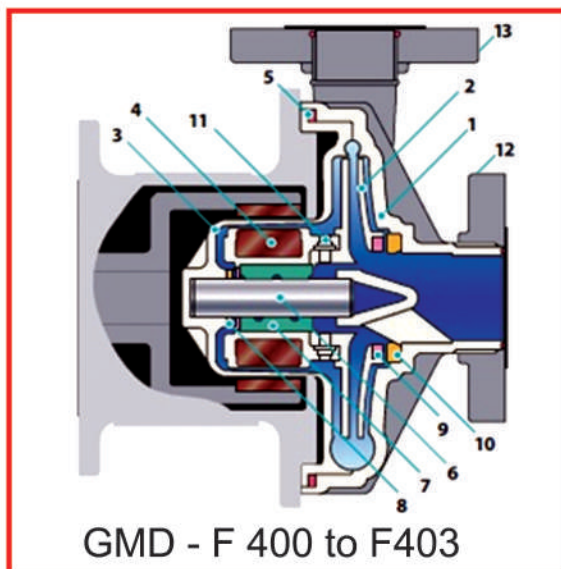
| Model    | Flange interface |        | Max Delivery<br>m-L/min | Max Head<br>m-L/min | Temperature<br>°C | Liquid Specific<br>Weight | Motor |             |              |
|----------|------------------|--------|-------------------------|---------------------|-------------------|---------------------------|-------|-------------|--------------|
|          | Inlet            | Outlet |                         |                     |                   |                           | V     | Output<br>W | phase        |
| GMD1-400 | 40 mm            | 40 mm  | 3 m / 240 Lmin          | 11 m / 35 Lmin      | 0 °C-80 °C        | 1.2 kg                    | 115   | 400         | Singel       |
|          | 1 ½"             | 1 ½"   | 10 ft / 63 Gpm          | 36.6 ft / 9 Gpm     | 32 °F-176 °F      | 2.65 Lb                   | 220   |             | Three phases |
| GMD1-401 | 40 mm            | 40 mm  | 6 m / 275 Lmin          | 16 m / 70 Lmin      | 0 °C-80 °C        | 1.2 kg                    | 115   | 750         | Singel       |
|          | 1 ½"             | 1 ½"   | 20 ft / 72 Gpm          | 53 ft / 18 Gpm      | 32 °F-176 °F      | 2.65 Lb                   | 220   |             | Three phases |
| GMD1-402 | 50 mm            | 40 mm  | 5 m / 450 Lmin          | 22 m / 100 Lmin     | 0 °C-80 °C        | 1.2 kg                    | 220   | 1500        | Singel       |
|          | 2"               | 1 ½"   | 16.6 ft / 118 Gpm       | 73 ft / 26 Gpm      | 32 °F-176 °F      | 2.65 Lb                   | 220   |             | Three phases |
| GMD1-403 | 50 mm            | 40 mm  | 12 m / 500 Lmin         | 30 m / 100 Lmin     | 0 °C-80 °C        | 1.2 kg                    | 220   | 2200        | Singel       |
|          | 2"               | 1 ½"   | 40 ft / 132 Gpm         | 100 ft / 26 Gpm     | 32 °F-176 °F      | 2.65 Lb                   | 220   |             | Three phases |

### GMD 400 / 401

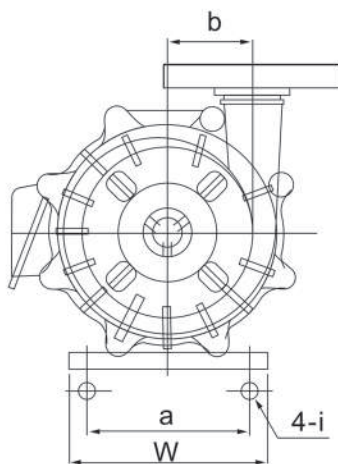


### GMD 402 / 403

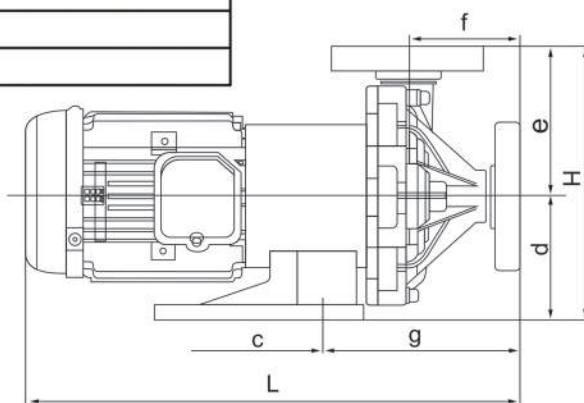




| Model             | GMD-400-403    |          |
|-------------------|----------------|----------|
| Mark              | CV (CE)        | In Order |
| 1 Front Casing    | GFRPP          |          |
| 2 Impeller        | GFRPP          |          |
| 3 Rear Casing     | GFRPP          |          |
| 4 Magnet capsule  | PP             |          |
| 5 O ring          | FKM (EPDM)     |          |
| 6 stationery Bush | Silicon Carbid |          |
| 7 Rotation        | Silicon Carbid | PTFE     |
| 8 Rear thrust     | CFRPP          | CFRPEEK  |
| 9 Mouth ring      | PTFE           |          |
| 10 Liner ring     | Alumina Oxide  |          |
| 11 Lock pin       | GFRPP          |          |
| 12 Inner flange   | GFRPP          |          |
| 13 Outer flange   | GFRPP          |          |

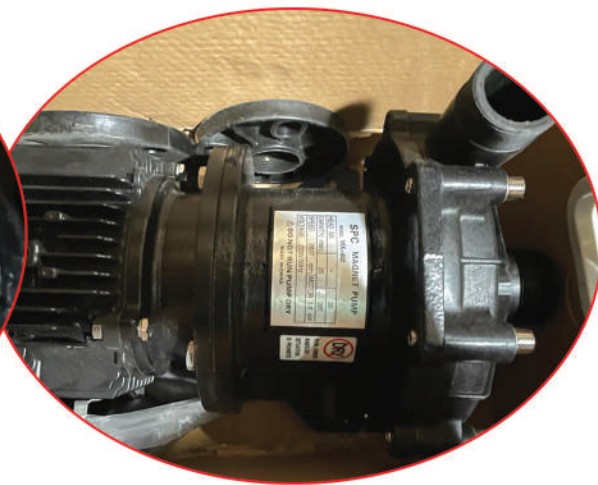
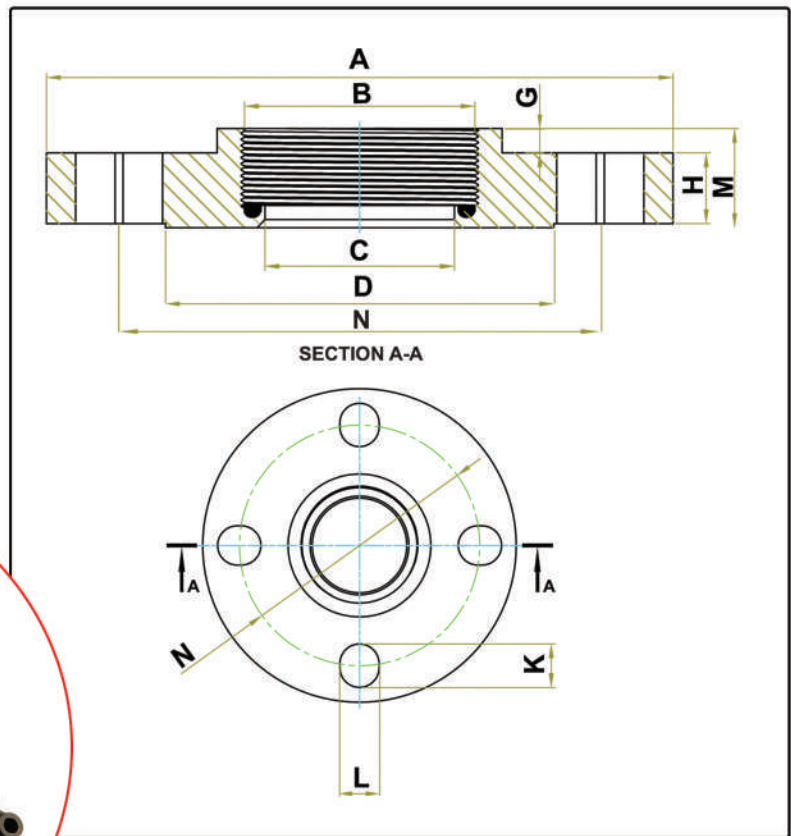


\* **GFRPP : Glass Fiber Reimforced Poly Propylene**



#### **DIMENSION (mm)-(inch)**

| Model   | Unit | W     | H     | L     | a    | b    | c    | d    | e    | f    | g    | i         |
|---------|------|-------|-------|-------|------|------|------|------|------|------|------|-----------|
| GMD-400 | mm   | 140   | 255   | 452   | 110  | 54   | 98   | 95   | 130  | 87   | 150  | 12        |
|         | inch | 5.51  | 10.04 | 17.80 | 4.33 | 2.13 | 3.86 | 3.74 | 5.12 | 3.43 | 5.91 | 0.47      |
| GMD-401 | mm   | 160   | 255   | 479   | 130  | 75   | 130  | 115  | 140  | 103  | 184  | 12        |
|         | inch | 6.30  | 10.04 | 18.86 | 5.12 | 2.95 | 5.12 | 4.53 | 5.51 | 4.06 | 7.24 | 0.47      |
| GMD-402 | mm   | 260   | 280   | 516   | 208  | 80   | 200  | 120  | 160  | 89   | 157  | 14x36     |
|         | inch | 10.24 | 11.02 | 20.31 | 8.19 | 3.15 | 7.87 | 4.72 | 6.30 | 3.50 | 6.18 | 0.55x1.42 |
| GMD-403 | mm   | 260   | 280   | 516   | 208  | 80   | 200  | 120  | 160  | 89   | 157  | 14x36     |
|         | inch | 10.24 | 11.02 | 20.31 | 8.19 | 3.15 | 7.87 | 4.72 | 6.30 | 3.50 | 6.18 | 0.55x1.42 |



## DIMENSION FELANGE

**DIMENSION TABLE**

|                 | A   | B  | C  | D  | G | H    | K    | L    | M    | N   |
|-----------------|-----|----|----|----|---|------|------|------|------|-----|
| Felange 2 inch  | 155 | 57 | 47 | 96 | 6 | 17.5 | 21.5 | 19   | 24.5 | 119 |
| Felange 1½ inch | 139 | 45 | 37 | 76 | 5 | 17.5 | 24.5 | 18.5 | 23.5 | 104 |



## Chemical resistance guide

### Chemical resistance ratings

A-Excellent  
B-Good  
C-Fair  
X-Not Recommended  
--Data Not Available

### Maximum operating temperature

1-20°C(68F)  
2-40°C(104F)  
3-60°C(140F)  
4-80°C(176F)  
5-100°C(212F)  
6-120°C(248F)

| CHEMICAL              |         | MATERIAL |      |     |          |      |           |                     |
|-----------------------|---------|----------|------|-----|----------|------|-----------|---------------------|
|                       |         | PP       | PTFE | FKM | Chemigum | EPDM | 95Ceramic | high density carbon |
| Sulfuric Acid         | 0~10%   | A4       | A6   | A6  | B2       | A4   | A5        | A6                  |
|                       | 10~75%  | A3       | A6   | A4  | X        | A3   | A5        | A6                  |
|                       | 75~100% | B2       | A4   | A4  | -        | B2   | A5        | A4                  |
| Nitric Acid           | 10%     | A3       | A5   | A5  | X        | A2   | A5        | A6                  |
|                       | 30%     | A2       | A6   | A6  | X        | A2   | A5        | A6                  |
|                       | 50%     | B2       | A3   | A1  | X        | X    | A5        | A5                  |
| Hydrochloric acid     | 0~25%   | A4       | A6   | A3  | B1       | A3   | A5        | A6                  |
|                       | 25~40%  | A4       | A6   | B2  | X        | C2   | A5        | A6                  |
| Hydrofluoric acid     | 10%     | B2       | A6   | A3  | X        | A3   | -         | A3                  |
|                       | 30%     | C2       | A6   | A4  | -        | B3   | -         | A3                  |
|                       | 60%     | X        | A6   | A4  | -        | C2   | -         | A2                  |
| Acetic acid           | 20%     | A2       | A6   | B1  | B2       | A2   | A5        | A4                  |
|                       | 80%     | B1       | A6   | X   | -        | -    | A5        | A4                  |
| Sodium hydroxide      | 20%     | A3       | A6   | B1  | B2       | A3   | -         | A3                  |
|                       | 50%     | A3       | A6   | X   | B1       | A4   | -         | A3                  |
| Bromine Water         |         | C1       | A3   | A2  | -        | X    | A1        | A2                  |
| Ethyl alcohol         |         | A2       | A3   | A3  | X        | B3   | A3        | A5                  |
| Acetone               |         | A2       | A6   | X   | -        | B2   | A3        | A5                  |
| 12 Freon12            |         | X        | A6   | A1  | X        | B1   | A4        | A4                  |
| Aluminum Chloride     |         | A4       | A6   | A5  | B4       | A4   | A4        | A5                  |
| Ammonia Liquid        |         | A1       | A6   | C1  | B4       | B3   | A3        | A5                  |
| Aqua Regia            |         | C2       | A5   | B2  | -        | C2   | A4        | -                   |
| Formaldehyde          |         | A4       | A6   | A4  | X        | A4   | A4        | A5                  |
| Gasolines             |         | X        | A6   | B3  | B3       | X    | A4        | A6                  |
| Kerosens              |         | A1       | A6   | A1  | B1       | X    | A4        | A6                  |
| Methyl alcohol        |         | A3       | A6   | B2  | B4       | A3   | A5        | A6                  |
| Toluene               |         | C1       | A4   | B1  | -        | X    | A5        | A4                  |
| Trichloroethylene     |         | C1       | A6   | A1  | -        | X    | A4        | A6                  |
| Xylene                |         | X        | A6   | B1  | -        | X    | A5        | A5                  |
| Nitric acid anhydrous |         | C1       | A3   | A1  | -        | X    | A5        | A2                  |
| Oleum                 |         | X        | A6   | A4  | -        | X    | A5        | A2                  |
| Potassium hydroxide   |         | A4       | A6   | B1  | C2       | A5   | -         | A6                  |

Note: 95ceramic means containing 95 percent of alumina.



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