

**MP系列塑料磁力  
驱动循环泵**

**上海申贝泵业制造有限公司**  
SHANGHAI SHENBEI BENGYE MANUFACTURE CO.,TD

## ■ 磁力泵概述

在石油、化工、军工、制药等领域中，经常存在着一些输送腐蚀性液体的场所，因此研制和开发全密封、无泄漏、抗腐蚀性能强的离心泵是我们研究和关心的方向。磁力传动静密封技术在泵领域的应用显示出其零泄露的密封特性。

磁力传动离心泵（简称磁力泵）是应用现代磁力学原理，利用永磁体的磁力传动实现扭矩的无接触传递的一种新型泵，也就是电机带动外转子（即外磁钢）总成旋转时，通过磁场的作用磁力线穿过隔离套带动内转子（即内磁钢）总成和叶轮同步旋转，由于介质封闭在静止的隔离套内，从而达到无泄露抽送介质的目的，彻底解决了机械传动泵的轴封泄露而设计的全密封、无泄漏、无污染的新型工业用泵。

磁力泵是化工流程中杜绝跑、冒、滴、漏现象，消除环境污染，创造“无泄漏车间”、“无泄漏工厂”，实现安全、文明生产的理想用泵。广泛应用于石油、化工、制药、印染、电镀、食品、环保等企业的生产流程中输送不含铁屑杂质的腐蚀性液体，尤其适用于易燃、易爆、易挥发、有毒和贵重液体的输送。

磁力泵产品有 CQ、CQF、ZCQ、CQB、CQB-F、CQB-G、IMC、ZBF、MP、MPH、CQG 等系列产品符合国际标准 ISO2858、国家标准 GB5662 和 JB/T7742-1995 的有关要求；以上各种系列磁力泵都采用最优秀的水力模型，达到了高效、节能、性能稳定等优点，而且结构简单，安装方便，占地面积小，拆卸维修方便，噪音低，是石油、化工、制药、电镀、电子、环保等行业的首选产品。

## ■ BRIEFING OF MAGNETIC PUMP

In the fields of petroleum, chemicals, war industry and pharmaceuticals etc, there are often needs to handle some corrosive liquids. For this reason we dedicate ourselves to the development and research of fully sealed, leak-tight and corrosion-resisting centrifugal pump. Magnetism-driven silent seal technology performs leak-tight seal in pump industry.

Magnetism-driven centrifugal pump (magnetic pump for short) is a late model uses the theory of modern magnetic. The no contact transfer of torque is actualized by the magnetic force of permanent magnetic. Namely, when motor drives outer rotor ( outer magnet steel ) assembly rotating, inner rotor (inner magnet steel ) assembly will rotate synchronously with impeller driver by magnet line of force through spacer sleeve under the function of magnetic field. As medium is closed in the action less spacer sleeve, leak-tight delivery of medium can be effected, making it a new-style industrial pump of full seal and no leakage and pollution, and away from the trouble of leakage at shaft seal borne by mechanical drive pumps.

Magnetic pump is an environmental-friendly solution to the phenomena of bleeding, emitting, dropping and leaking, thus to effect “leak-tight workshop” and “leak-tight factory” for safe and civilized production. They are widely used in the industries of petroleum, chemicals, pharmaceuticals, printing and dyeing, electroplating, foodstuff, environment protection and etc. to handle corrosive liquid not containing scrap irons, especially inflammable, explosive, volatile, toxic and precious liquids.

Magnetic pumps are provided with CQ, CQF, ZCQ, CQB, CQB-F, CQB-G, IMC, ZBF, MP MPH, CQG series conforming to ISO2858, GB5662 and JB/T7742-1995, using the most superior hydraulic model, all magnetic pumps above are featured by high efficiency, energy saving, steady performance, simple structure, easy installation, small occupation of floor, convenient disassembly and maintenance and low noise, making the optimal for the industries of petroleum, pharmaceuticals, electroplating, electronics, environment protection and etc.

## ■ 产品特性 Product features



该泵为磁力泵技术高领域的结晶。凝结了本单位设计人员多年的心血，也是磁力泵中技术含量最高的产品。

MP 型磁力泵设计特别、造型美观、尤其是轴承采用特种配方陶瓷材料，具有极强的耐磨性和抗腐蚀性，走出了磁力泵“严禁空载”的禁区，保证了它的先进性和安全性。

The pump is crystallization in the hi-tech field of magnetic pump. It combines many years of efforts our designers, which also contains the highest technical content among various magnetic pumps.

MP magnetic pump has a unique design with stylish appearance .In particular, its bearing adopts ceramic material with special formula, bringing about extremely strong resistance to abrasion and corrosion. Thus we've gone out of the forbidden area of "No Loading" for magnetic pump to ensure its leading position and safely.

## ■ 型号意义 Signification of model

MP - 20R - X

无代号为软管接口普通型；M为进出口用螺纹接口；X为大流量型；Z为高扬程型  
Non-code means the ordinary type; M means the thread mouthpiece of both inlet and outlet; X means the large capacity type; Z means the high-head type

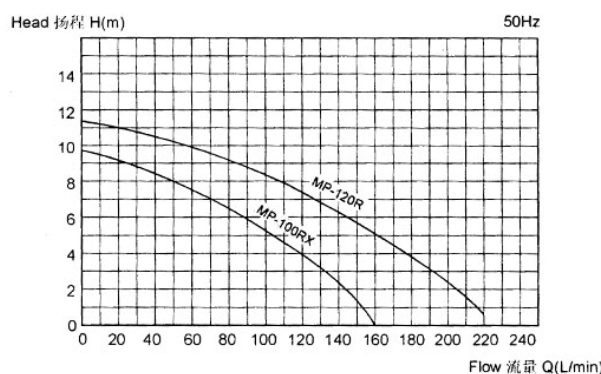
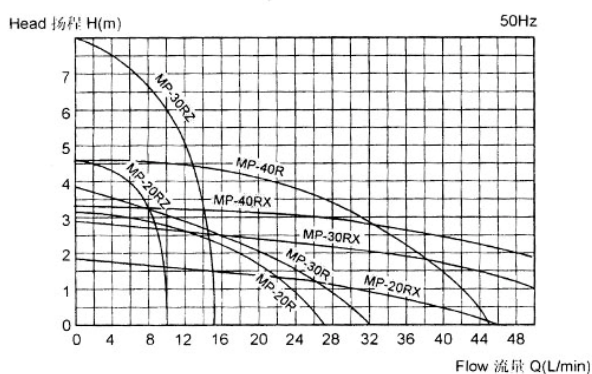
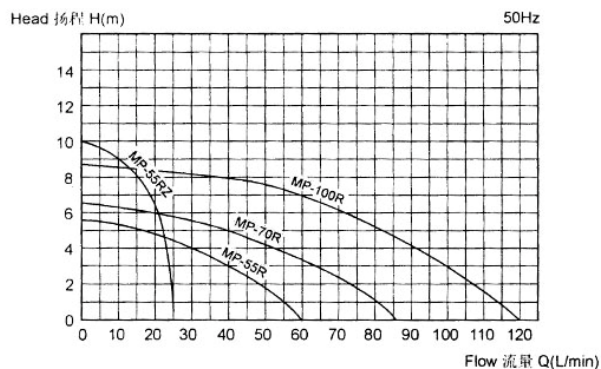
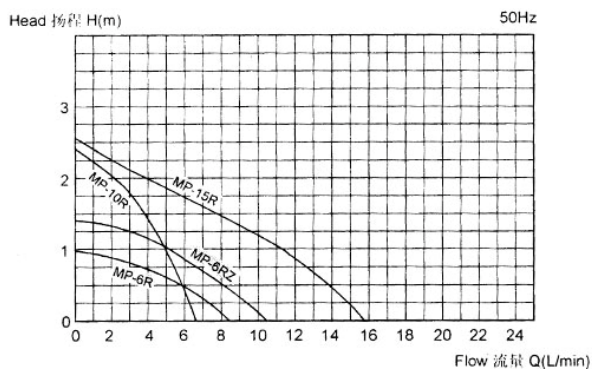
产品规格 Product specs

塑料磁力驱动循环泵 Plastic magnetic-driving centrifugal pump

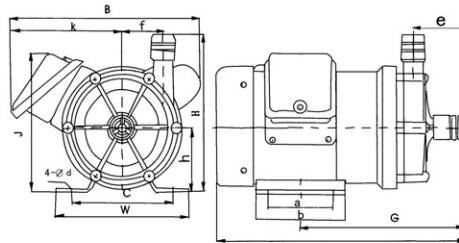
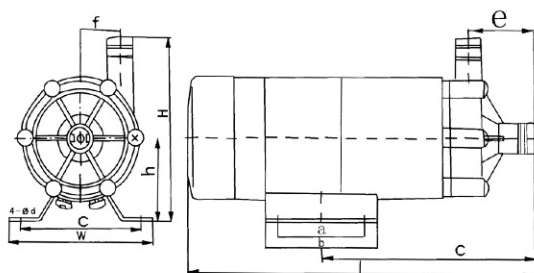
## ■ 性能参数 Performance parameters

型号 Model	软管接口 Tube interface		螺纹接口 Thread interface		最大流量 Max Capacity (L/min)	最高 扬程 (m) Max Head	标准输出 Standard capacity		介质密 度 (g/cm <sup>3</sup> ) Medim density	电机功 率 (W) Motor power	转速 (r/min) Rotary speed	电压 (V) Voltage
	进口 Inlet (mm)	出口 outlet (mm)	进 出 口 inlet&outlet (inch)	活 管 Tube (mm)			流量Flow (L/min)	扬程Head (m)				
MP-6R	14	14	-	-	8	1	2.8	0.8	<1.2	3	2900	220
MP-6RZ	14	14	-	-	5.5	2.1	3.2	0.8	<1.1	3	2900	220
MP-10R	14	14	-	-	11	1.5	5	1	<1.1	6	2900	220
MP-15R	16	16	-	-	16	2.7	8	1.5	<1.3	10	2900	220
MP-15RM	-	-	3/4	13	16	2.4	8	1.5	<1.3	10	2900	220
MP-20R	18	18	-	-	27	3.1	17	2	<1.2	20	2900	220
MP-20RM	-	-	3/4	16	27	3.1	17	2	<1.2	20	2900	220
MP-20RX	26	26	-	-	46	1.8	30	1	<1.3	20	2900	220
MP-20RXM	-	-	1	20	46	1.8	30	1	<1.3	20	2900	220
MP-20RZ	18	18	-	-	10	4.6	7	4	<1.1	20	2900	220
MP-20RZM	-	-	3/4	13	10	4.6	7	4	<1.1	20	2900	220
MP-30R	20	20	-	-	33	3.8	16	2.5	<1.3	20	2900	220
MP-30RM	-	-	3/4	16	33	3.8	16	2.5	<1.3	45	2900	220
MP-30RX	26	26	-	-	62	2.9	32	2	<1.1	45	2900	220
MP-30RXM	-	-	1	20	62	2.9	32	2	<1.1	45	2900	220
MP-30RZ	18	18	-	-	15	8	10	6	<1.1	45	2900	220
MP-30RZM	-	-	3/4	13	15	8	10	6	<1.1	45	2900	220
MP-40R	20	20	-	-	45	4.6	22	4	<1.1	65	2900	220
MP-40RM	-	-	3/4	16	45	4.6	22	4	<1.1	65	2900	220
MP-40RX	26	26	-	-	75	3.3	47	2	<1.1	65	2900	220
MP-40RXM	-	-	1	20	75	3.3	47	2	<1.1	65	2900	220
MP-55R	26	26	-	-	60	5.6	30	4	<1.2	90	2900	220/380
MP-55RM	-	-	1	20	60	5.6	30	4	<1.2	90	2900	220/380
MP-55RZ	26	26	-	-	25	10	15	8	<1.1	90	2900	220/380
MP-55RZM	-	-	1	20	25	10	15	8	<1.1	90	2900	220/380
MP-70R	26	26	-	-	86	6.7	50	4	<1.1	150/180	2900	220/380
MP-70RM	-	-	1	20	86	6.7	50	4	<1.1	150/180	2900	220/380
MP-100R	26	26	-	-	120	8.6	60	7	<1.1	250/265	2900	220/380
MP-100RM	-	-	1	20	120	8.6	60	7	<1.1	250/265	2900	220/380
MP-100RX	-	-	1 1/4	32	170	9	100	5	<1.3	250	2900	220/380
MP-120R	-	-	1 1/2	36	220	10.5	140	6	<1.3	370	2900	220/380

性能曲线 Performance graph



安装尺寸 Installation dimensions



型号 Model	a	c	n-Φ d	e	f	h	H	W	L
MP-6R	/	60	2-7	31	17	36	83	74	130
MP-6RZ	/	60	2-7	31	17	36	83	74	130
MP-15R	49	68	4-6	38	23	45	100	82	197
MP-20R	30	68	4-6	39	29	56	116	85	209
MP-20RZ	30	68	4-6	40	40	56	126	85	212
MP-20RM	30	68	4-6	34	29	56	117	85	205
MP-30R	40	100	4-9	48	30	60	130	120	250
MP-30RZ	40	100	4-9	40	40	60	130	120	234
MP-30RM	40	100	4-9	40	30	60	130	120	250

型号 Model	a	c	n-Φ d	e	f	h	H	W	L
MP-40R	40	100	9	48	30	60	130	120	274
MP-40RM	40	100	9	48	30	60	130	120	274
MP-55R	40	100	9	56	43	66	161	120	275
MP-55RZ	40	100	9	56	43	66	161	120	275
MP-70R	70	108	9	56	44	66	161	142	267
MP-70RM	70	108	9	53	44	66	156	142	264
MP-100R	70	110	9	66	44	74	174	156	322
MP-100RM	70	110	9	66	44	74	174	156	322
MP-100RX	70	110	9	63	40	74	174	156	323
MP-120R	98	110	12	80	51	93	208	140	359

### ■ 磁力泵安装和使用 installation and operation of magnetic pump

- 一、磁力泵应水平安装不宜竖立，塑料泵不得承受管路重量，特殊垂直安装场合，电机务必朝上。
- 二、抽吸液面高于泵轴心线时，起动前先开吸入管道阀门；抽吸液面低于泵轴心线时，管道需配备底阀。
- 三、泵使用前应先进行检查，电机转动要灵活，无卡滞及异常声响，各紧固件无松动现象。
- 四、检查电机旋转方向与转向标记是否一致。
- 五、电机启动后，缓慢打开排出阀，待泵进入正常工作状态后，再将排出阀调到所需开度。
- 六、泵停止工作前，应先关闭排出阀，然后关闭吸入管阀门。

1. Magnetic pump should be horizontally installed, but not upright. Plastic pump is not able to endure the weight of pipeline. In case of special occasions requiring upright installation, motor should be kept upward.
2. When liquid level is higher than the centerline of pump, turn on the valve of intake pipe before start; when liquid level is lower than the centerline, a bottom valve should be fitted to the pipeline.
3. Check before operation to make sure that motor rotates flexibly without jamming and abnormal sound, and that all fasteners are not loosened.
4. Check whether motor rotor in accordance with the direction sign.
5. After motor is started, slowly turn on discharge valve, when pump enters normal working state, adjust the discharge valve to the requiring opening.
6. Before pump stops working, turn off discharge valve first, and then the valve of intake pipe.

### ■ 磁力泵注意事项 cautions for magnetic pump

- 一、因磁力泵轴承的冷却和润滑是靠被输送的介质，所以绝对禁止空载运转，同时应避免在工作中途停电后再启动时所造成的空载运转。
- 二、被输送介质中，若含有固体颗粒，泵入口要加过滤网；如含有铁磁质微粒，需加磁性过滤器（本公司有生产，属于选购件）。
- 三、被输送的介质及其温度应在泵允许范围内（请向相关技术部门咨询）。工程塑料泵的使用温度 $<60^{\circ}\text{C}$ ，进出口压力不大于 $0.1\text{MPa}$ ，最大工作压力为 $0.3\text{MPa}$ ；金属泵的使用温度 $<100^{\circ}\text{C}$ ，输送进口压力不大于 $0.2\text{MPa}$ ，最大工作压力 $1.6\text{MPa}$ 。
- 四、对于输送液为易沉淀结晶的介质，使用后应及时清洗，排尽泵内积液。
- 五、磁力泵长时间运行或运行过程中发现泵有异常情况（噪音大，震动加剧）后，应拆检轴承和端面动环的磨损情况，若轴承和轴套的间隙大于 $0.5\text{-}1\text{mm}$ 时，叶轮轴向窜动 $2\text{-}3\text{mm}$ 时，应更换轴承和轴向动环。

1. As the cooling and lubrication of magnetic pump's bearing depends on the medium to be handled, that's why unloaded operation is absolutely prohibited. Meanwhile, pay close attention to avoid the unloaded operation after re-start due to power cut in process.
2. If the mediums to be handled contain solid particles, then there should be a filter net at the entrance of pump. If there are ferromagnetic particles contained in mediums, a magnetic filter should be fitted (available in factory for your options).
3. The mediums to be handled, as well as their temperature, should be kept within the allowed scope of pump material (please consult with relative technical department). The service temperature of engineering plastic pump should be  $<60^{\circ}\text{C}$ , inlet pressure not greater than  $0.1\text{MPa}$ , maximum working pressure at  $0.6\text{MPa}$ ; the service temperature of metal pump should be  $<100^{\circ}\text{C}$ , inlet pressure not greater than  $0.2\text{MPa}$ , maximum working pressure at  $1.6\text{MPa}$ .
4. For mediums easily deposited or crystallized, please flush immediately after use to clear away the deposited liquid inside.
5. In case of any abnormal conditions (like large noise or violent vibration) occurred after long-time operation or during operation, disassemble the bearing and end-face rotating ring for examination of abrasion. If the clearance between bearing and axle sleeve is greater than  $0.5\text{-}1\text{mm}$ , and axial drunkenness of impeller from  $2\text{-}3\text{mm}$ , then the bearing and axial rotating ring should be replaced.

### ■ 磁力泵使用环境 service conditions of magnetic pump

环境温度： $-20\text{-}40^{\circ}\text{C}$ ；环境湿度：95%；海拔高度：不超过 1000 米（大于时应在定货时提出）。

警告：a)、泵用电机应由专业人员进行有效安全接地，永久性标志为



B)、为防止触电，维修或清理磁力泵前应切断电源。



1、磁力泵在维修拆装过程中，内、外磁钢部件辐射出来的磁场将对如：心脏起搏器、信用卡、计算机磁盘、手表、精密仪器、仪表等产生磁场干扰，甚至产生危害性的影响。

A)、上述物件应远离磁性器件，保持 1 米以上的距离。

B)、装配好的整机磁力泵，不存在上述问题，因结构上有磁回路屏蔽，可放心使用。

2、装配内磁转子对准外磁转子轴向到位时，由于磁吸力（尤其是钕铁硼或稀土钴强磁），用户应采取适当的缓冲措施；以免卡，夹手指，防止工伤事故。

Ambient temperature:  $-20\text{-}40^{\circ}\text{C}$ ; Ambient humidity: 95%; Height above sea level: not exceeding 1,000m (if beyond, please clarify when placing an order).

Warning: a) pump motor should be safely earthed by a professional, permanent sign as

b) To avoid electric shock, the maintenance and clearing of magnetic pump should be done after power supply is cut off.

1. When disassembling magnetic pump, the magnetic field radiated by inner magnet steel components may produce interference, and even harmful influence to heart pacemaker, credit card, computer disk, watch, precision instrument, meter and etc.

a) The above articles should be kept over 1 meter away from magnetic parts.

b) The above-mentioned problems don't happen to assembled overall magnetic pump, because there is provided with a magnetic loop shield for your reassurance.

2 When inner magnet rotor is leveled to outer magnet rotor axially, and due to magnetic force (especially the strong magnet of NdFeB or rare earthcobalt), users must take appropriate buffering measures to avoid work accidents like fingers being clamped.