



CQ型磁力驱动泵

说明书



浙江上武流体科技有限公司

Zhejiang Shang Wu Fluid Technology Co., Ltd.

产品概述

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关心和研究的方向。磁力传动静密封技术在泵领域的应用显示出其零泄漏的密封特性。

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，从而达到无泄漏抽送介质的目的，彻底解决了机械传动泵的轴封泄漏而设计的全密封、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、环保等企业的生产过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等系列，其中CQB、CQB-F、CQB-G、ZCQ、CQF、CQ系列符合国际标准ISO 2858、国家标准GB5662和JB/T-7742-1995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，安装简便，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。

Product information

In the fields of petroleum, chemicals, war industry pharmaceuticals and etc., there are often needs to handle some corrosive liquids. For this reason we dedicate ourselves to the development and research of fully sealed, leaktight and corrosionresisting centrifugal pumps. Magnetismdriven silent seal technology performs leaktight seal in pump industry.

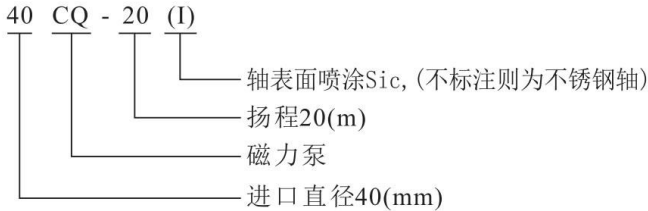
Magnetism-driven centrifugal pump (magnetic pump for short) is a late model uses the theory of modern magnetics. The no ncontact transfer of torque is actualized by the magnetic force of permanent magnet. Namely, when motor drives outer rotor (outer magnet steel) assembly rotating, inner rotor (inner magnet steel) assembly will rotate synchronously with impeller driven by magnetic line of force through spacer sleeve under the function of magnetic field. As medium is closed in the actionless spacer sleeve,leaktight delivery of medium can be effected, making it a newstyle industrial pump of full sealed 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 "leaktight workshop" and "eaktight 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 series and etc., thereinto CQB, CQB-F, CQB-G and ZCQ, CQF, CQ 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 best optimal for the industries of petroleum, chemicals, pharmaceuticals, electroplating electronics, environment protection and etc.

CQ系列磁力传动离心泵

型号意义



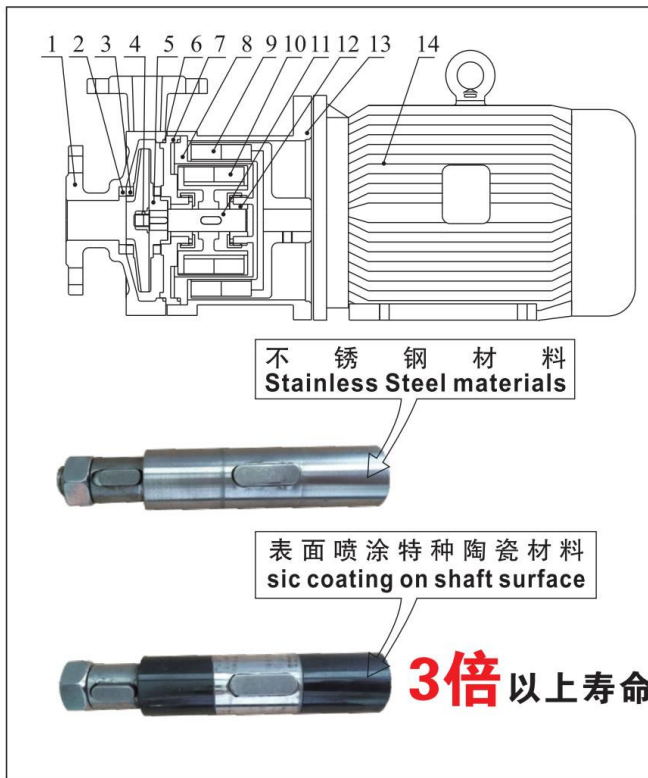
性能参数

过流部件材质: 不锈钢(奥氏体)
 联接方式: 法兰、管子
 流量 Q: 1.2~160m³/h
 扬程 H: 5~50m
 功率 N: 0.12~22kW
 介质的运动粘度: $\leq 32 \times 10^{-6} \text{m}^2/\text{s}$
 介质温度(t): -20°C~100°C

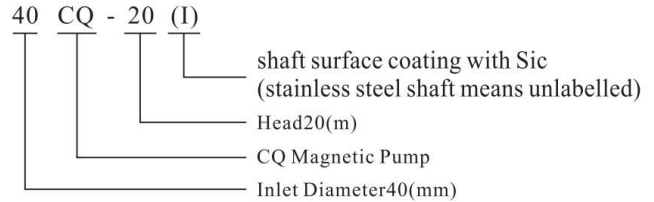
产品特点

CQ型泵具有结构简单、外型美观、体积小、噪音低、运转可靠、使用维修方便等优点。磁传动部分采用铁氧体为主要的材料, 产品价格极具竞争优势, 是目前应用最广泛的无泄漏泵。

结构说明 Structural description



Type designation



Performance parameters

Material of Wet Parts: Stainless Steel (Austenite)
 Connecting Type: Flange or Pipe
 Flow Q: 1.2~160m³/h
 Head H: 5~50m
 Power N: 0.12~22kW
 Kinematic Viscosity of medium: $\leq 32 \times 10^{-6} \text{m}^2/\text{s}$
 Medium Temperature(t): -20°C~100°C

Product features

CQseries pump, this pump is featured by simple structure, appealing profile, small volume, low noise, reliable running, easy operation and maintenance, and etc. its magnetism-driven part uses ferrite as main material, provided with competitive p-price, it is the most widely-used leak-tight pump at present.

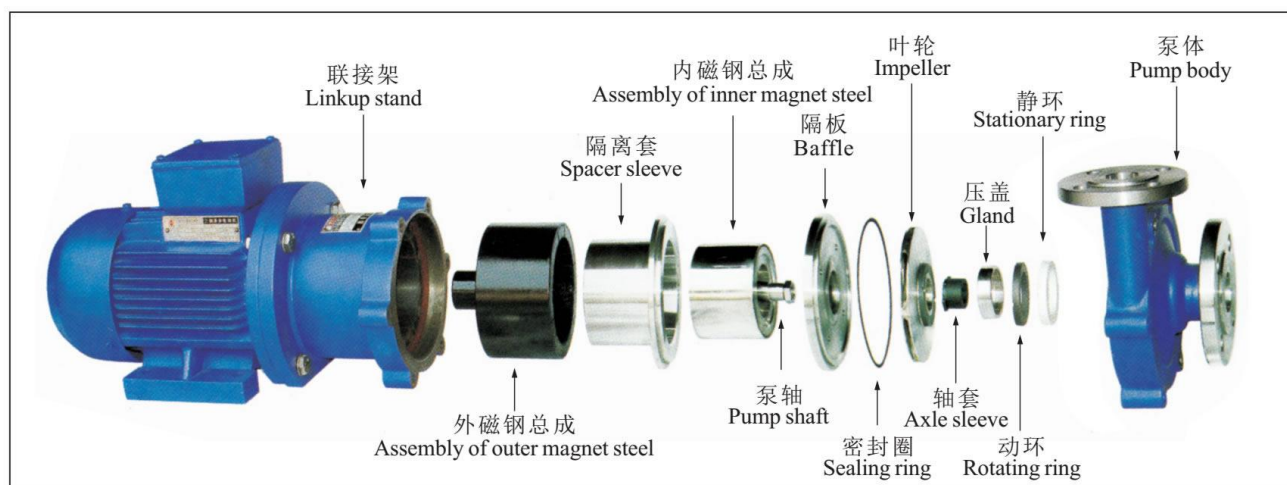
序号 No.	零件名称 Name of part	材质或型号 Material or type
1	泵体 Pump body	ZG1Cr18Ni9
2	静环 Stationary ring	陶瓷、氮化硅 Ceramic or nitrogen silicide
3	动环 Rotating ring	填充四氟 Packing PTFE
4	叶轮螺母 Impeller nut	1Cr18Ni9Ti
5	叶轮 Impeller	ZG1Cr18Ni9
6	密封圈 Sealing ring	丁腈橡胶 Acrylonitrile-butadiene rubber
7	隔板 Baffle	ZG1Cr18Ni9
8	隔离套 Spacer sleeve	1Cr18Ni9Ti
9	外磁钢总成 Assembly of outer magnet steel	铁氧体 Ferrite
10	内磁钢总成 Assembly of inner magnet steel	铁氧体 Ferrite
11	泵轴 Pump shaft	1Cr18Ni9Ti
12	轴套 Axle sleeve	填充四氟 Packing PTFE
13	联接架 Linkup stand	HT200
14	电机 Motor	Y(Y2)或YB系列 Y(Y2) or YB series

CQ系列磁力传动离心泵

性能参数 Performance parameters

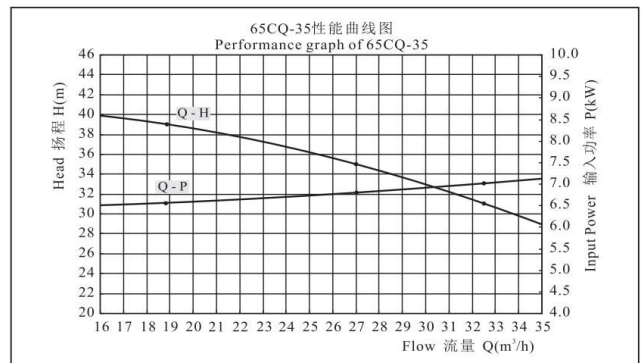
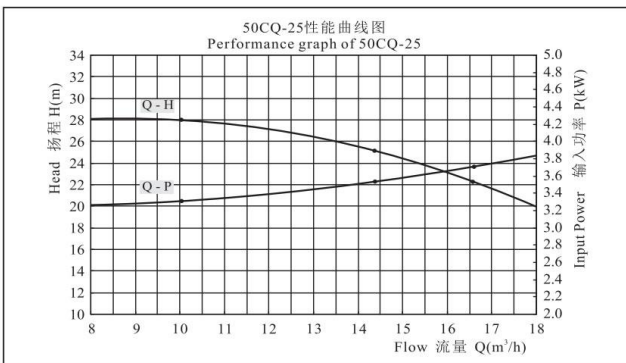
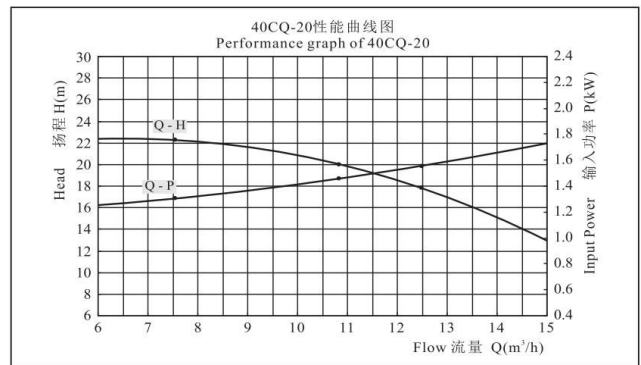
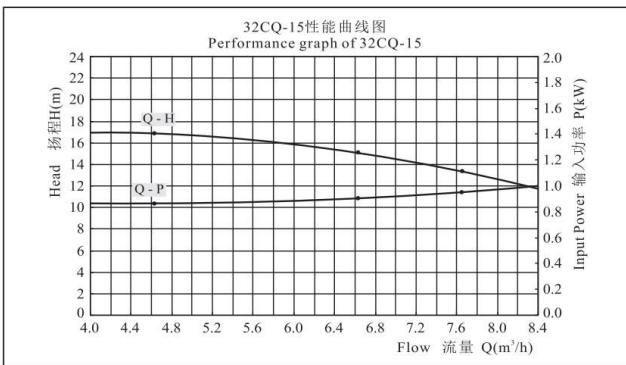
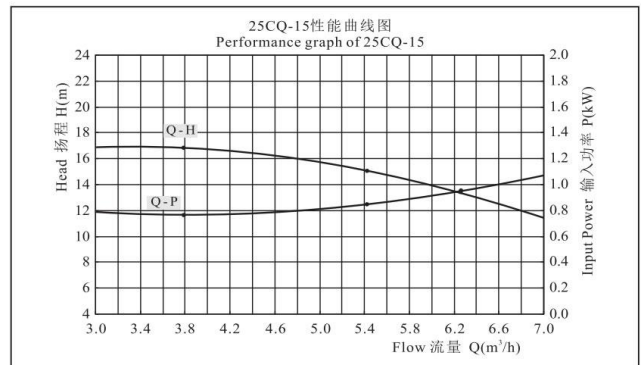
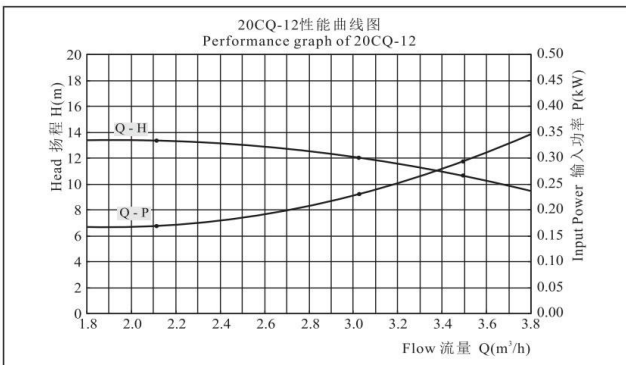
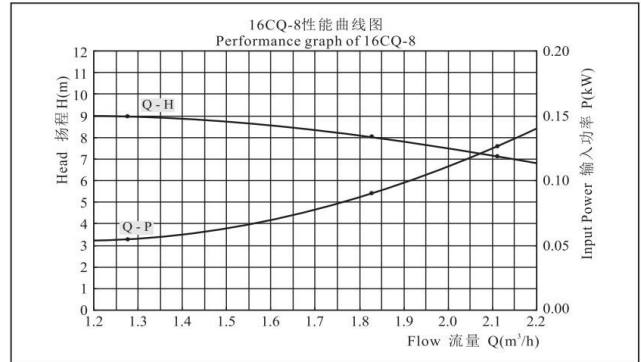
型号 Type	口径(mm) Caliber		流量 (L/min) Flow	扬程 (m) Head	汽蚀余量 (m) (NPSH)r	功率 (kW) Power	转速 (r/min) Speed	电压 (V) Voltage
	进口 Inlet	出口 Outlet						
16CQ-8	16	12	30	8	6.0	0.18	2800	220/380
20CQ-12	20	12	50	12	6.0	0.37	2800	220/380
25CQ-15	25	20	110	15	6.0	1.1	2800	380
32CQ-15	32	25	110	15	6.0	1.1	2800	380
32CQ-25	32	25	110	25	5.5	1.1	2800	380
32CQ-32	32	25	110	32	5.5	2.2	2800	380
40CQ-20	40	32	180	20	4.0	2.2	2800	380
40CQ-32	40	32	200	32	4.0	4	2800	380
50CQ-25	50	40	240	25	4.0	4	2800	380
50CQ-40	50	40	220	40	4.0	4	2800	380
50CQ-50	50	32	130	50	4.0	5.5	2800	380
65CQ-25	65	50	280	25	4.0	5.5	2800	380
65CQ-35	65	50	450	35	4.0	7.5	2800	380
80CQ-35	80	65	850	35	4.0	11	2800	380
80CQ-50	80	65	850	50	4.0	15	2800	380

爆炸图



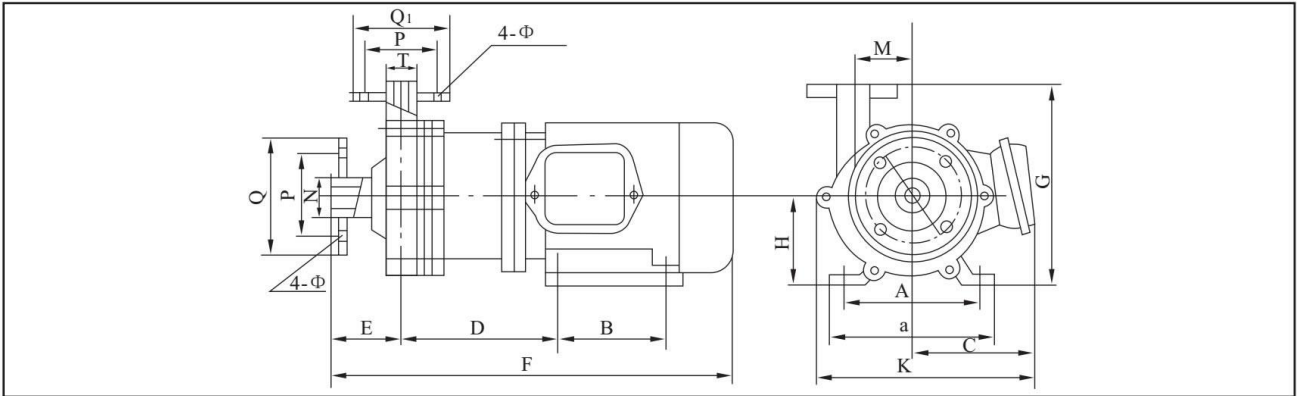
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性能曲线 Performance graph

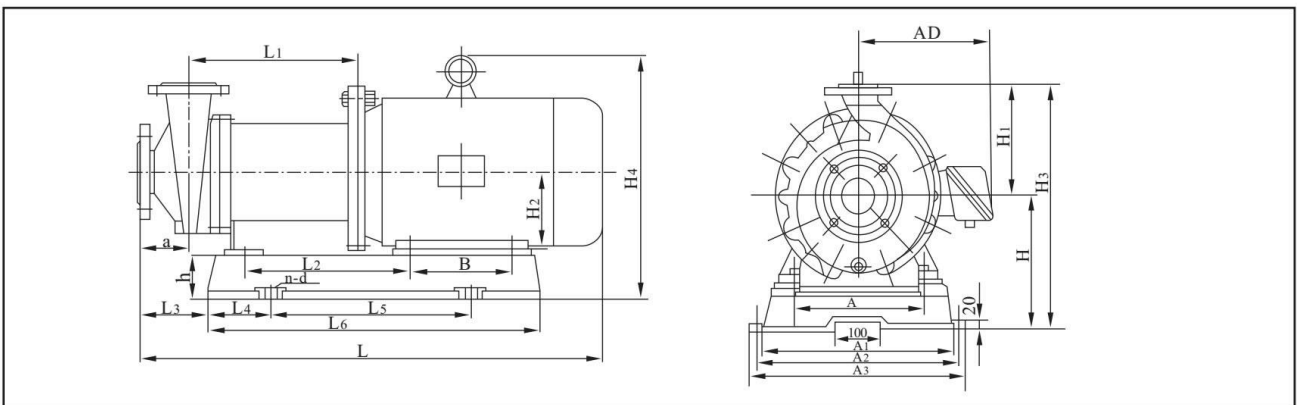


CQ系列磁力传动离心泵

安装尺寸 Installation dimensions



型号	A	B	C	D	E	F	G	H	T	a	K	M	N	机座螺孔	P	P ₁	Q	Q ₁	Φ	Φ ₁	
16CQ-8	90	70	80	125	55	320	160	65	18	115	140	40	22	Φ11							管子连接
20CQ-12	100	80	105	130	59.5	340	160	73	18	130	160	65	26	Φ12							
25CQ-15	125	100	140	189.5	67.5	460	205	90		160	240	71.5		Φ12	75	65	100	90	12	10	法兰连接
32CQ-15	125	100	140	189.5	67.5	460	205	90		160	240	71.5		Φ12	90	75	120	100	12	10	
32CQ-25	125	100	140	189.5	67.5	460	230	90		160	260	85		Φ12	90	75	120	100	12	10	
40CQ-20	140	120	155	235	75	545	220	100		180	290	78.5		Φ12	100	90	130	120	14	14	
40CQ-32	190	140	190	271	80	620	260	112		245	336	91		Φ12	100	90	130	120	14	14	
50CQ-25	190	140	190	271	80	620	260	112		245	336	91		Φ12	110	100	140	130	14	14	
50CQ-40	190	140	190	271	80	620	260	112		245	336	91		Φ12	110	100	140	130	14	14	
65CQ-25	216	140	200	305	90	695	300	132		280	350	91		Φ12	130	110	160	140	14	14	
65CQ-35	216	140	200	360	76	720	292	120		280	350	90		Φ12	130	110	160	140	14	14	



型号	A	AD	B	L	L ₁	H ₁	H ₂	a	A ₁	A ₂	A ₃	H	H ₃	H ₄	L ₂	L ₃	L ₄	L ₅	L ₆	h	n-d
80CQ-35	254	255	210	898	297	180	160	100	380	410	440	260	440	485	308	161	120	440	680	80	4-Φ15
80CQ-50	254	255	254	943	308	200	160	100	380	410	440	260	460	485	308	161	120	440	680	80	4-Φ15

注：由于产品改进技术创新参数可能有一定变化，公司不另行通知，请咨询公司技术部门索取最新数据。

安装和使用

- 1、磁力泵应水平安装不宜竖立，塑料泵不得承受管路重量，特殊垂直安装的情况，电机务必朝上。
- 2、抽吸液面高于泵轴心线时，启动前先开吸入管道阀门；抽吸液面低于泵轴心线，管道需配备底阀。
- 3、泵使用前应进行检查，电机转动要灵活，无卡滞及异常声响，各紧固件无松动现象。
- 4、检查电机旋转方向与转向标记是否一致。
- 5、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。
- 6、泵停止工作前，应先关闭排出阀门，然后关闭吸入管阀门。

注意事项

- 1、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所造成的空载运转。
- 2、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)。
- 3、被输送的介质及其温度应在泵材允许范围内(请向相关部门技术咨询)。工程塑料泵的使用温度 $<60^{\circ}\text{C}$ ，进口压力不大于 0.1MPa ，最大工作压力为 0.6MPa ；金属泵的使用温度 $<100^{\circ}\text{C}$ ，输送进口压力不大于 0.2MPa ，最大工作压力 1.6MPa ；
- 4、对于输送液为易沉淀结晶的介质，使用后应及时清洗，排净泵内积液。
- 5、磁力泵长时间运行或运行过程发现泵有异常情况(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 $0.5\sim 1\text{mm}$ ，叶轮轴向窜动 $2\sim 3\text{mm}$ 时，应更换轴承和轴向动环。

使用环境

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

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。

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。

Installation and operation


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 should not be loosened.
4. Check whether motor rotates 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 required opening.
6. Before pump stops working, turn off discharge valve first, and then the valve of intake pipe.


Cautions

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 avoiding the unloaded operation after restart 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 less than 60°C , inlet pressure not greater than 0.1MPa , maximum working pressure at 0.6MPa ; the service temperature of metal pump should be less than 100°C , inlet pressure not greater than 0.2MPa , maximum working pressure at 1.6MPa .
4. For mediums easily deposited or crystallized, please flush immediately after using to clear away the deposited liquid inside.
5. In case of any abnormal conditions (like large noise or violent vibration) occurred after longtime operation or during operation, disassemble the bearing and endface rotating ring for examination of abrasion. If the clearance between bearing and axle sleeve is greater than $0.5\sim 1\text{mm}$, and axial drunkenness of impeller from $2\sim 3\text{mm}$, then the bearing and axial rotating ring should be replaced.

Operation ambient

Ambient Temperature: $-20\sim 40^{\circ}\text{C}$; 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 cleaning of magnetic pump should be done after power supply is cut off. 

1. When disassembling magnetic pump, the magnetic field radiated by inner and outer 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 N-dFeB or rare earth-cobalt), users must take appropriate buffering measures to avoid work accidents like fingers being clamped.

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