JONSN
PUMPS & TECHNOLOGY



TÜVRheinland®
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CE

MR 系列精密级
磁力齿轮泵操作手册

MR Series Precision Magnetic Gear Pump Operation Manual

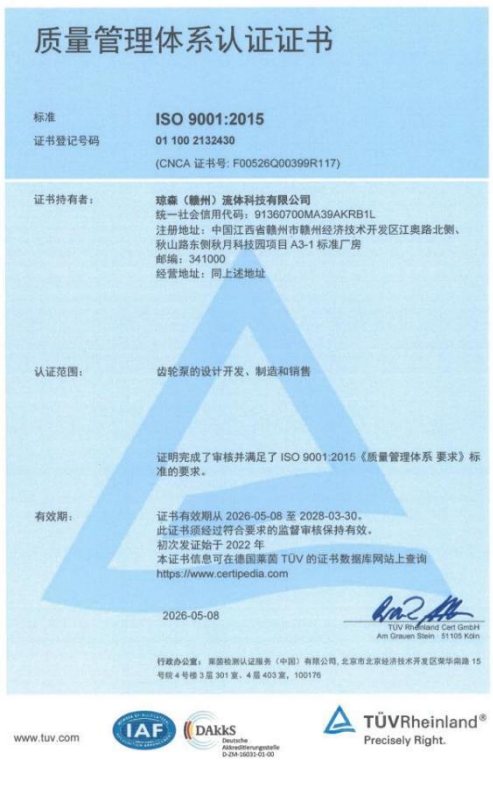
请妥善保管此手册。
Please keep this manual properly.
请确保先阅读此产品的使用说明，再按照其中的要求安装及使用此产品。
Be sure to read the instructions of this product first, and then follow the instructions to install and use this product.
本手册适用于：MR 系列精密级微型磁力齿轮泵
This manual applies to: MR Series Precision Magnetic Gear Pumps

琼森（赣州）流体科技成功取得 TÜV 莱茵 **ISO 9001:2015 质量管理体系认证证书**！ 经由德国莱茵权威严苛审核，公司齿轮泵的设计开发、制造及全流程销售服务，全面符合 ISO9001 国际质量管理标准。 此次认证是对我们生产管控、研发体系、品控流程的权威认可，未来我们将持续以标准化、精细化质量管理，严控每一台齿轮泵品质，为客户提供稳定可靠的流体输送解决方案。

Jonsn (Ganzhou) Fluid Technology Co., Ltd. has successfully obtained the ISO 9001:2015 Quality Management System Certificate issued by TÜV Rheinland!

After rigorous and authoritative audits conducted by TÜV Rheinland Germany, the company's design & development, manufacturing, and full-process sales services of gear pumps fully comply with the international quality management standard ISO 9001.

This certification serves as authoritative recognition of our production control, R&D system and quality control procedures. Moving forward, we will continue to implement standardized and refined quality management, strictly control the quality of every single gear pump, and deliver stable and reliable fluid transfer solutions for customers worldwide.



质量管理体系认证证书

标准 ISO 9001:2015
证书登记号码 01 100 2132430
(CNCA 证书号: F00526Q00399R117)

证书持有者：
琼森（赣州）流体科技有限公司
统一社会信用代码：91360700MA39AKRB1L
注册地址：中国江西省赣州市赣州经济技术开发区江奥路北侧、秋山路东侧秋月科技园项目 A3-1 标准厂房
邮编：341000
经营地址：同上述地址

认证范围：齿轮泵的设计开发、制造和销售

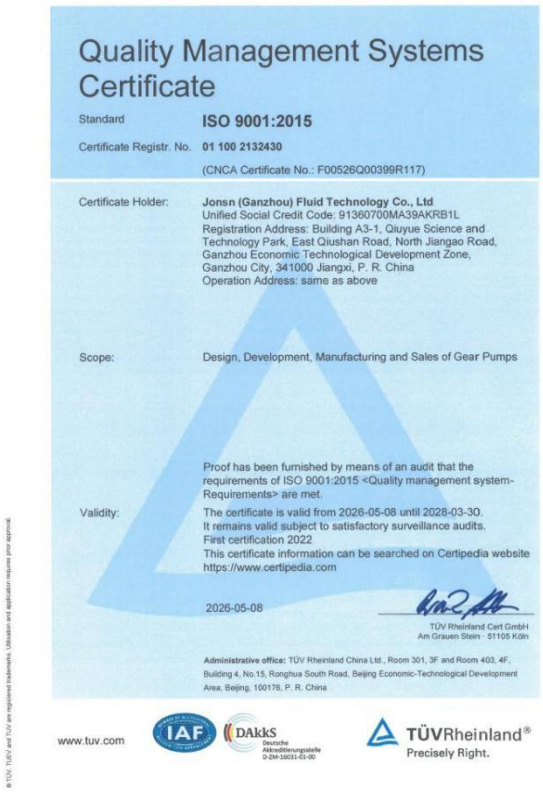
证明完成了审核并满足了 ISO 9001:2015《质量管理体系 要求》标准的要求。

有效期：证书有效期从 2026-05-08 至 2028-03-30。
此证书须经过符合要求的监督审核保持有效。
初次发证始于 2022 年
本证书信息可在德国莱茵 TÜV 的证书数据库网站上查询
https://www.certipedia.com

2026-05-08
TÜV Rheinland Cert GmbH
Am Grauen Stein 51105 Köln

行政办公室：莱茵检测认证服务（中国）有限公司，北京市北京经济技术开发区荣华南路 15 号院 4 号楼 3 层 301 室、4 层 403 室，100176

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Quality Management Systems Certificate

Standard ISO 9001:2015
Certificate Registr. No. 01 100 2132430
(CNCA Certificate No.: F00526Q00399R117)

Certificate Holder:
Jonsn (Ganzhou) Fluid Technology Co., Ltd
Unified Social Credit Code: 91360700MA39AKRB1L
Registration Address: Building A3-1, Qiuyue Science and Technology Park, East Qiushan Road, North Jiangao Road, Ganzhou Economic Technological Development Zone, Ganzhou City, 341000 Jiangxi, P. R. China
Operation Address: same as above

Scope: Design, Development, Manufacturing and Sales of Gear Pumps

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 <Quality management system-Requirements> are met.

Validity: The certificate is valid from 2026-05-08 until 2028-03-30.
It remains valid subject to satisfactory surveillance audits.
First certification 2022
This certificate information can be searched on Certipedia website https://www.certipedia.com

2026-05-08
TÜV Rheinland Cert GmbH
Am Grauen Stein 51105 Köln

Administrative office: TÜV Rheinland China Ltd., Room 301, 3F and Room 403, 4F, Building 4, No.15, Ronghua South Road, Beijing Economic-Technological Development Area, Beijing, 100176, P. R. China

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警告告诫注意

Warning and Note



警告：表示可能会引起人身伤害或设备损坏及其他安全事故。

Warning: indicates that could cause personal injury or damage to equipment and other accidents etc.



告诫：必须认真遵守，以免损坏设备。

Caution: must be observed to avoid damage to the device.

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1、责任声明 / Statement

所有安装、使用、检修、维护人员，必须完整通读本手册后方可作业。

All personnel responsible for installation, operation, maintenance and repair shall fully read this manual before work.



设备到货开箱后，先检查外包装完整性、泵体外观有无磕碰损伤，并对照装箱单清点配件；若配件缺失、泵体破损，禁止上机使用，由此产生的泄漏、设备损坏、人身伤害，制造商不承担相关责任。

After receiving the equipment, check the packaging integrity and pump appearance, and verify all spare parts against the packing list. Do not install damaged pumps or pumps with missing accessories. The manufacturer shall not be liable for equipment damage or personal injury caused by such issues.

使用方有义务遵守本手册全部安全规范，同时符合国家、行业相关安全生产法律法规；违规操作引发的故障与安全事故，责任由使用方自行承担。

Users shall comply with all safety requirements in this manual and relevant national industrial safety regulations. The user shall bear all liabilities for failures or accidents caused by non-compliant operation.

本泵仅适用于设备订货时约定的介质、温度、压力、粘度等相关工况；若需变更使用条件，必须提前取得制造商或官方授权代理商书面许可，未经许可不得投入使用。

This pump is suitable only for the operating conditions—such as the medium, temperature, pressure, and viscosity—specified at the time of the equipment order. Any change to the operating conditions requires prior written approval from the manufacturer or an officially authorized distributor; the pump must not be put into operation without such approval.

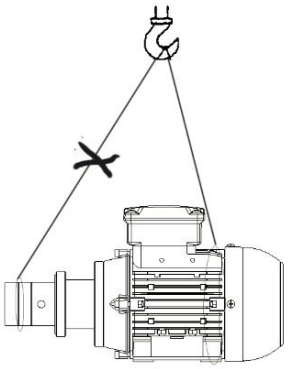
严禁超出手册规定工况、介质范围使用设备；超范围使用造成泵体腐蚀、卡死、泄漏、报废及人员受伤，制造商不予质保、不承担责任。

Do not operate the pump beyond the working scope specified in this manual. The manufacturer shall not provide warranty or take liability for pump damage or personal injury caused by out-of-spec operation.

2、注意事项 / Attention

2.1 搬运

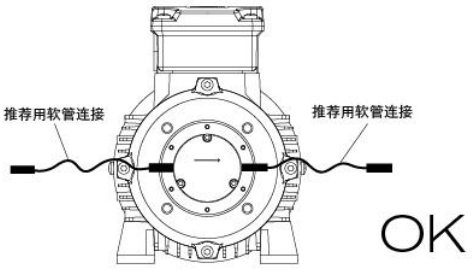
搬运泵和电机时，应双手抱紧电机主体整体搬运。禁止一手托泵头、一手托电机——这种受力方式极易将泵头压板拉变形，导致泵体泄漏。



2.2 安装

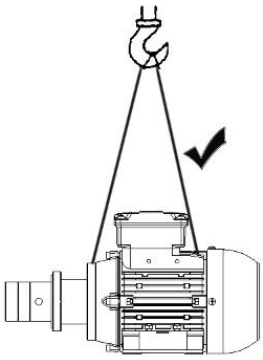
2.2.1 泵的安装 – 将泵的安装位置尽可能的靠近液体源，出入口管线尺寸不能小于泵接口尺寸， 并尽量缩短长度。如果入口管线必须很长，请加大管径。尽量减少泵入口的阀门和弯管的数量。

2.2.2 管道安装 – 使用螺纹密封胶或 PTFE（聚四氟乙烯）密封带对管道螺纹进行密封。安装过程中避免磕碰泵头，避免影响泵的对中。用扳手紧固螺纹时，请用手扶住泵头本体。优先使用软管连接：泵体体积较小，软管可有效减少管道应力传递到泵体。硬管连接的应力或拉力过大容易将泵体压板拉伸变形，导致泄漏。当进出口管路必须采用法兰硬管连接时，管道上需安装支撑管架固定，确保中心对准。配对法兰拧紧时不得将泵头侧管路拉动，必须尽可能消除管道应力变形。以下为安装示意图：



2.1 TRANSPORT

When carrying the pump and motor assembly, grip the motor body firmly with both hands. Do NOT hold the pump head with one hand and the motor with the other — this uneven force can deform the pump head pressure plate, causing leakage.

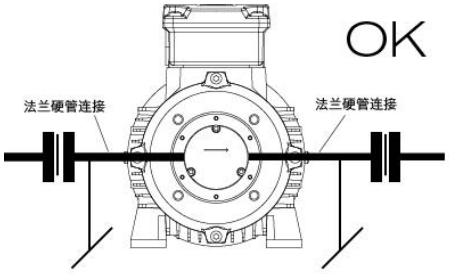


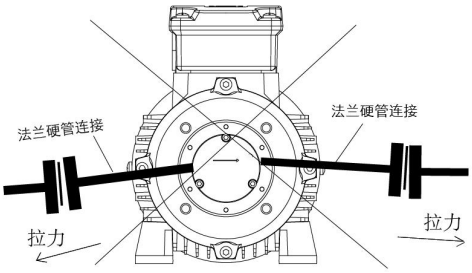
2.2 INSTALLATION

2.2.1 Pump installation - the pump is installed as close as possible to the liquid source, inlet and outlet pipeline size can't be smaller than the pump connection size, and try to shorten the length. If the inlet line must be very long, please increase the diameter. Minimize the pump inlet valve, the number of bends.

2.2.2 Piping Installation - Use thread sealant or PTFE (Teflon) tape for pipe thread sealing. Avoid impacting the pump head during installation; do not disturb pump alignment. Hold the pump head steady when tightening threads with a wrench. Prefer flexible hose connections: the pump body is compact and hoses minimize stress transfer to the pump. Hard-piped connections subject to excessive stress or tension can deform the pressure plate, causing leakage. If hard-piped flange connections are required, install support brackets on the piping, ensure center alignment, and verify that tightening the mating flanges does not pull on the pump-side piping — all pipe stress deformation must be eliminated. below is the installation instruction:







2.3 过滤器 – 在泵的入口应该安装 25μm 或精度更高的过滤器。

3、运行指南 / Operation Guide

3.1 磁力驱动环 – 磁力驱动可以让泵达到零泄漏的要求，它也能够对系统的过压和颗粒的进入提供保护。当内外磁环在极端外力的作用下发生错位，就会发生脱转现象。

3.2 堵转处理 – 泵堵转时，电机可能会继续运转，但泵将停止运行，要恢复运转，请将电机完全停止再重新启动。如果继续堵转，请检查系统是否超压。如果系统压力正常，必须拆开泵体检查是否有外部颗粒进入泵体，造成齿轮堵转。清理完内部部件后，重新组装泵组。在重新启动前，请转动电机风扇的叶片，此时泵和电机应该平稳无阻碍的旋转。

3.3 操作压力 – 过大的进出口压力差会使磁力联轴器脱转，系统压力会有波动，并发出震动噪音。

3.4 输送有粘度物料 – 粘度过大转速又很高会使磁力联轴器脱转，请按选型时提供的转速运行。

3.5 输送高温物料 – 泵出厂前齿轮和滑动轴承留有安全膨胀间隙，因此输送时请将泵加热至需要的温度，否则泵在常温下会出现内泄漏过大、压力有波动。

3.6 自吸 – 泵具有自吸功能，但在启动前确认齿轮被泵送的液体润湿过。

3.7 干转 – 干转会导致泵的永久损坏，请确认泵在运转时泵腔内有液体。

3.8 反转 – 泵应该顺时针旋转，短时间的反转是可以接受的，但长时间连续的反转会缩短泵的寿命。

3.9 工程塑料齿轮泵 – 严禁用于含二氯甲烷、四氢呋喃、丁基锂、二甲基乙酰胺的溶剂及物料输送或清洗，输送以上物料会使我们的工程塑料齿轮和轴套发生溶胀卡死。

2.3 Filter - A filter of 25 μm or finer mesh should be installed at the pump inlet.

3.Operation Guide

3.1 Magnetic drive ring - the magnetic drive lets pump achieve zero leakage requirements, it also can provide protection for overpressure to system and particle entering. When the internal and external magnetic loop occur dislocation under the extreme force, the decoupling phenomenon occurs.

3.2 Locked Rotor Troubleshooting - When the pump rotor locks, the motor may continue to run, but the pump will stop running.To resume running, please stop the motor completely before restarting.If stalling continues, check whether the system is over-pressurized. If the system pressure is normal, the pump must be disassembled to check if foreign particles enter the body, resulting in gear stall. Clean internal parts, reassemble the pump. Before restarting, turn the motor fan blades, the pump and motor should rotate smoothly and without obstruction.

3.3 Operating pressure - excessive inlet and outlet pressure difference causes the magnetic coupling slip. System pressure will have fluctuations and vibration noise.

3.4 Deliver viscous materials - excessively high viscosity and speed will cause the magnetic coupling to decouple, please run as per the selection speed.

3.5 Deliver high temperature materials - The pump gears and sliding bearings are factory-set with a safe thermal expansion clearance so heat the pump to required temperature when delivering, otherwise, the pump will appear excessive leakage and pressure fluctuations at normal temperature.

3.6 Self-suction - pump has self-priming, but ensure the gears are wetted by the pumped liquid before starting.

3.7 Dry-running – Dry-running will cause permanent damage to the pump, make sure that the pump has liquid when running.

3.8 Reverse - pump should rotate clockwise, short reversal is acceptable, but long continuous reversal will shorten the life of the pump.

3.9 Engineering plastic gear pump - Do not convey or clean with media containing dichloromethane, tetrahydrofuran, butyllithium or dimethylacetamide. These substances will cause swelling and seizure of engineering plastic gears and bushings.

4、技术参数 / Technical Parameters

参数名称 Parameter Name	技术参数 Technical Parameters
流量范围/Flow range	0.001 - 64 L/min
入口压力/Inlet pressure	-95 kPa
压差/Differential pressure	30 bar（取决于物料粘度 / depends on material viscosity）
工作温度/Temperature	-40 - 160℃（其它温度可定制 / Other temperatures can be customized）
适用粘度范围/Viscosity range	0.4-3000 cps
介质最大密度/Maximum density	1.8 g/cm³
适配电机/Available Motors	交流电机、无刷直流、伺服、变频防爆电机（AC motors, Brushless DC, Servo, frequency conversion explosion-proof motor）
进出口螺纹规格/Inlet & Outlet Thread	NPT1/8. NPT1/4. NPT3/8. NPT1/2. NPT3/4 或 G1/8. G1/4. G3/8. G3/4
非标定制服务/Non-standard Customization	OEM 机械设备配套、伺服系统定制（OEM mechanical equipment matching, servo system customization）

5、配置编码 / Configuration Code

MR A 18 S Z K L F

泵系列号
Pump serial

进出口螺纹
Import and export thread
A：NPT 1/8
B：NPT 1/4
C：NPT 3/8
D：NPT 1/2
E：NPT 3/4
F：G1 1/4
其他接口形式定制

排量
Displacement
毫升/转 cc/rev
例如：18=0.18cc/rev

泵体材质
Pump material
S:316L
P:PPS
H:哈氏合金
（适用于酸性介质）

滑动轴承
Bearing
K:PEEK
F:PTFE

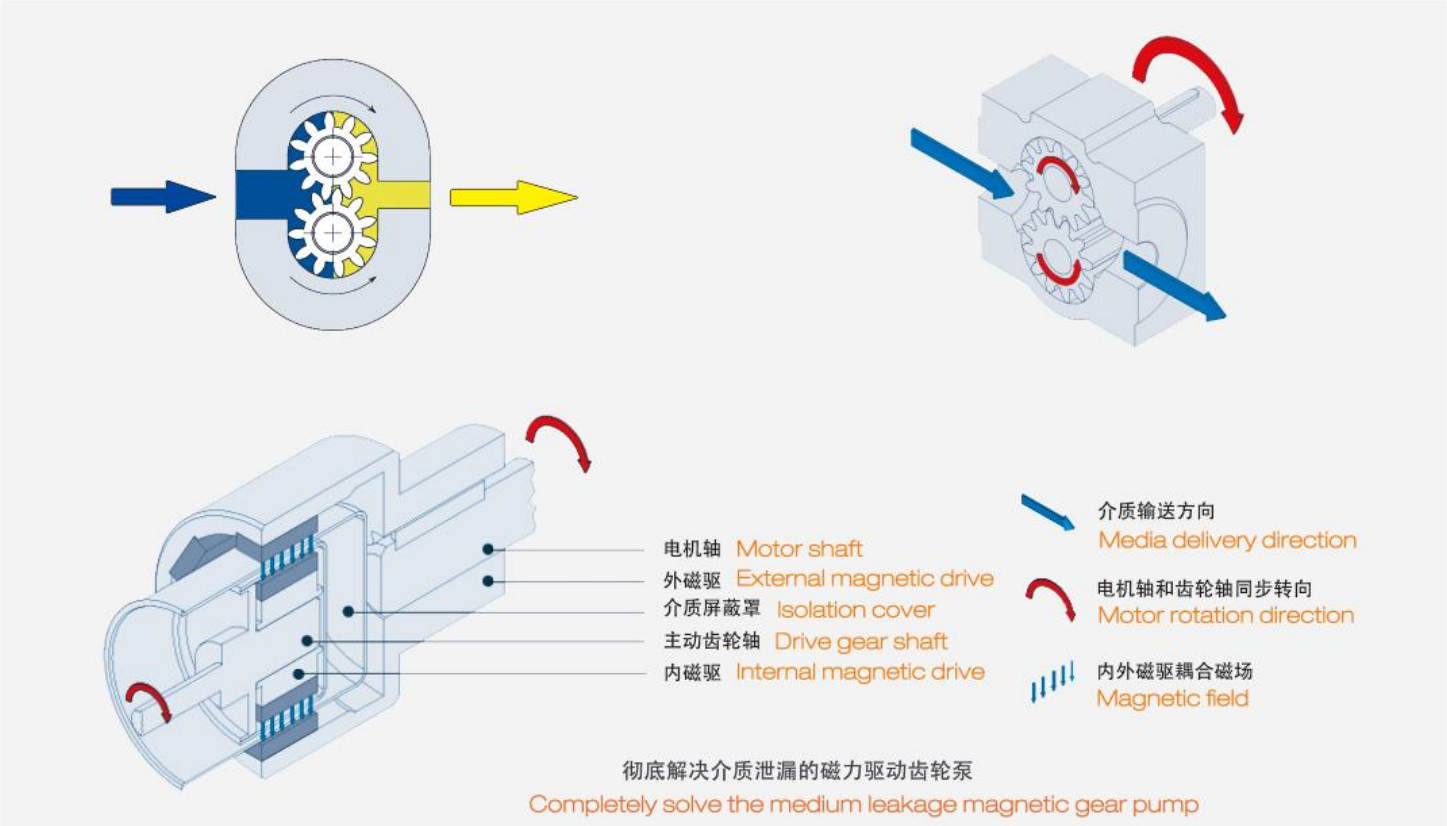
结构形式
Structure type
L:进出口180°(标准)
L:Import and export of 180°
(standard)
B:进出口90°
B: Import and export of 90

静密封圈
O-Ring
F：PTFE
M：FKM
E：EPDM
P：全氟醚
L：氯丁橡胶



齿轮轴材质
Gear shaft material
Z:齿轮PEEK+轴纳米陶瓷(适用于低粘度无磨蚀介质)**默认标配**
Z: Gear PEEK + Nano-ceramic shaft (for low viscosity non-abrasive media) Standard
K:齿轮PEEK+轴316(适用于中性低粘度无磨蚀介质)
K:GearPEEK+shaft 316(for neutral low viscosity non-abrasive media)
C:纳米陶瓷(适用于低粘度微细颗粒磨蚀介质)
C:Nano-ceramic (for low viscosity fine particle abrasive media)
S:合金(适用于润滑性较好的介质)
S:Alloy (for medium with better lubricity)

6、工作原理图 / Working Principle



核心结构：电机轴→外磁驱→磁场耦合→内磁驱→齿轮轴传动；屏蔽罩隔离介质侧与驱动侧，无动密封，实现零泄漏输送。 介质从入口吸入，一对啮合齿轮挤压增压后从出口排出；电机与齿轮同步旋转，依靠磁力传递扭矩，无机械接触。

Core structure: Motor shaft → Outer magnetic drive → Magnetic field coupling → Inner magnetic drive → Gear shaft transmission. A shielding can separates the medium side from the drive side; no dynamic seals are used, enabling zero-leakage fluid transfer.

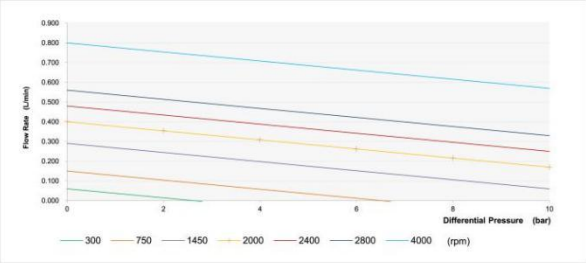
Fluid medium is drawn in through the inlet, pressurized by extrusion from a pair of meshed gears, and discharged via the outlet. The motor and gears rotate synchronously; torque is transmitted magnetically with no mechanical contact between components.

7、性能曲线、外形尺寸、电机配套图纸 / Performance Curves, Overall Sizes, Motor Assembly Drawings

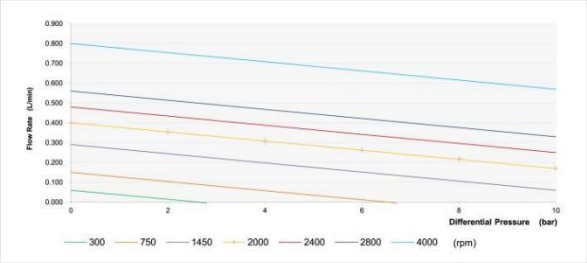
7. 1 性能曲线/Performance Curve

MRA Gear Pumps

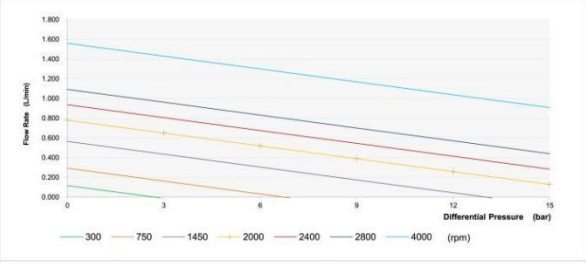
Pump Head MRA5/13
Measured with water 1 mPas 40℃



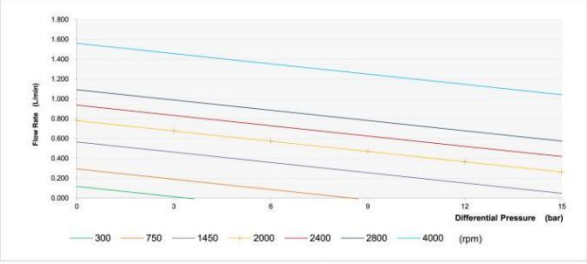
Pump Head MRA5/13
Measured with oil 100 mPas



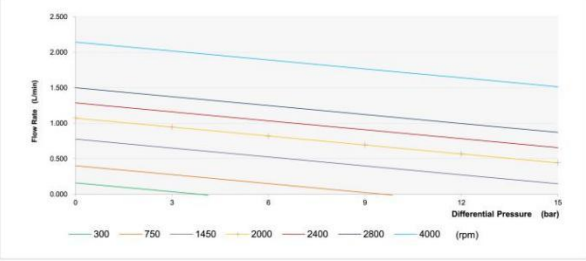
Pump Head MRA7/13
Measured with water 1 mPas 40℃



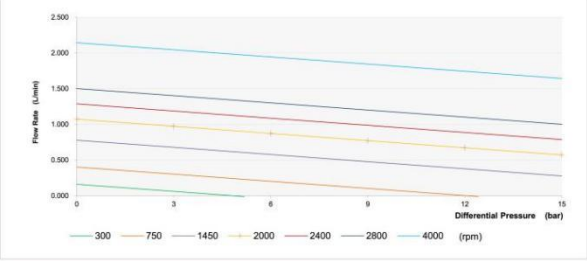
Pump Head MRA7/13
Measured with oil 100 mPas



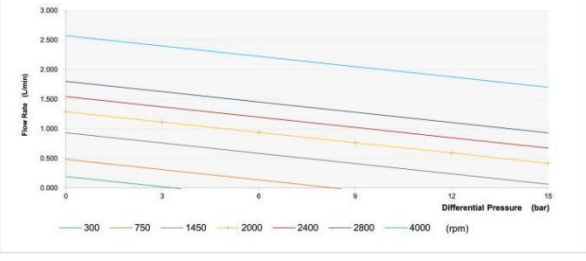
Pump Head MRA10/13
Measured with water 1 mPas 40℃



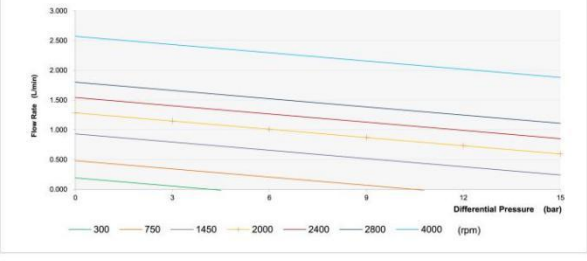
Pump Head MRA10/13
Measured with oil 100 mPas



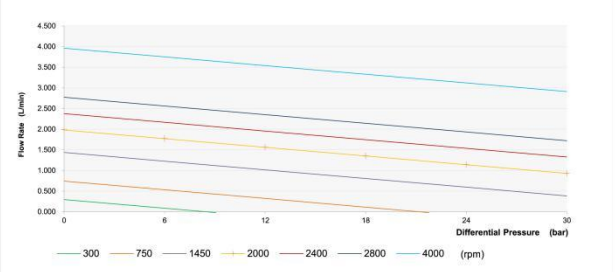
Pump Head MRA12/13
Measured with water 1 mPas 40℃



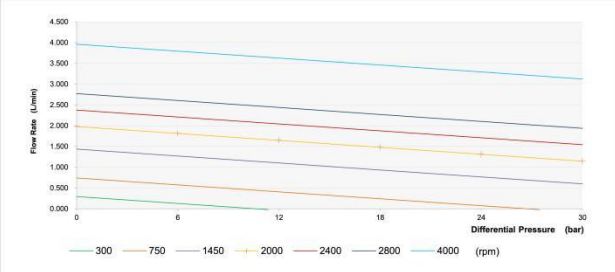
Pump Head MRA12/13
Measured with oil 100 mPas



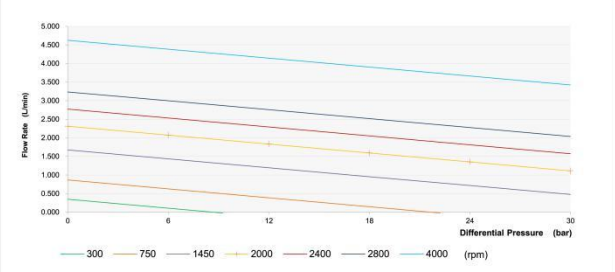
Pump Head MRB10/16
Measured with water 1 mPas 40℃



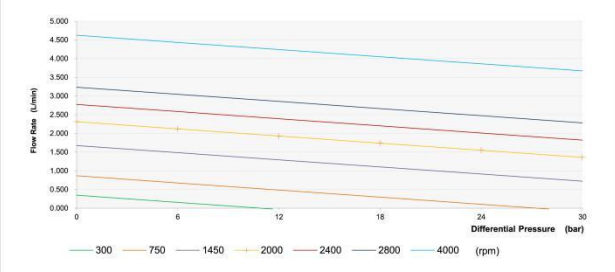
Pump Head MRB10/16
Measured with oil 100 mPas



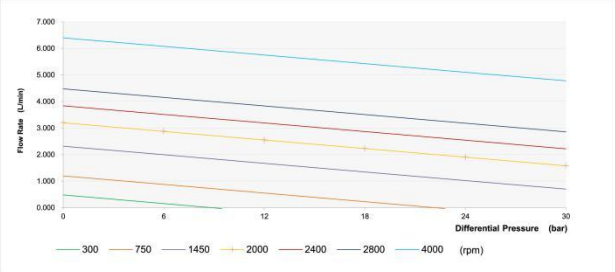
Pump Head MRB12/16
Measured with water 1 mPas 40℃



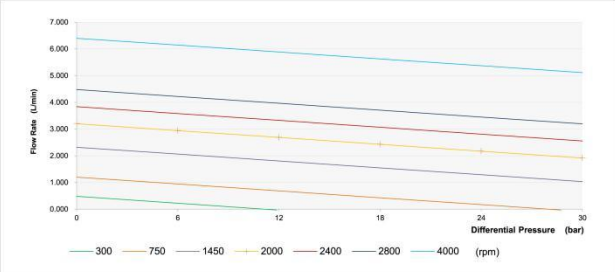
Pump Head MRB12/16
Measured with oil 100 mPas



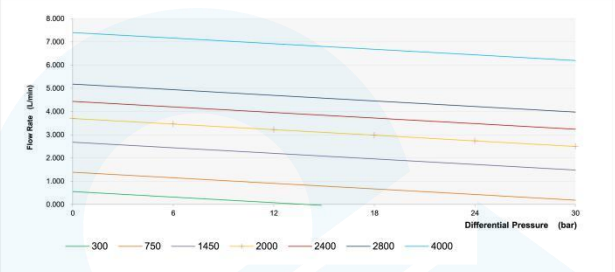
Pump Head MRB17/16
Measured with water 1 mPas 40℃



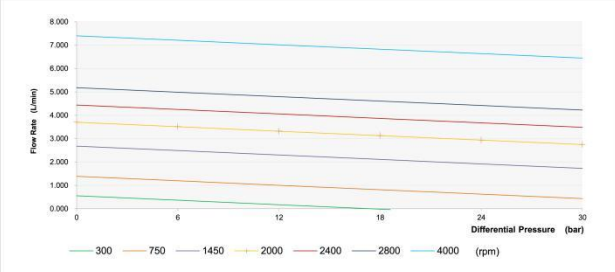
Pump Head MRB17/16
Measured with oil 100 mPas



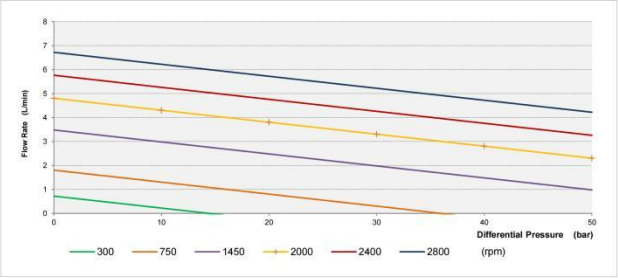
Pump Head MRB19/16
Measured with water 1 mPas 40℃



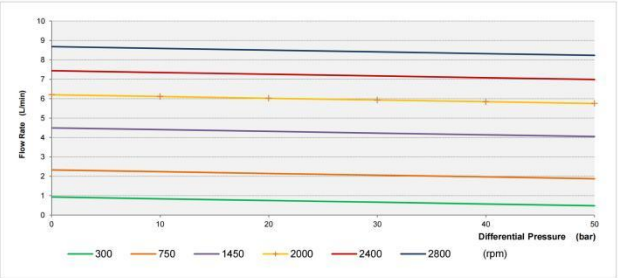
Pump Head MRB19/16
Measured with oil 100 mPas



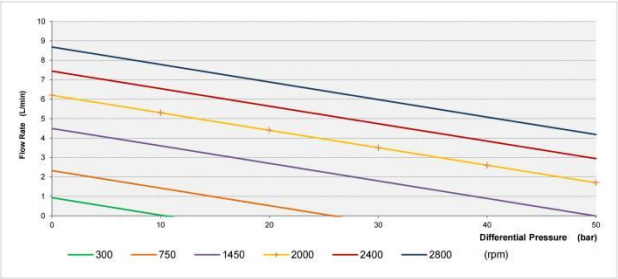
Pump Head MRC15/22
Measured with water 1 mPas 40℃



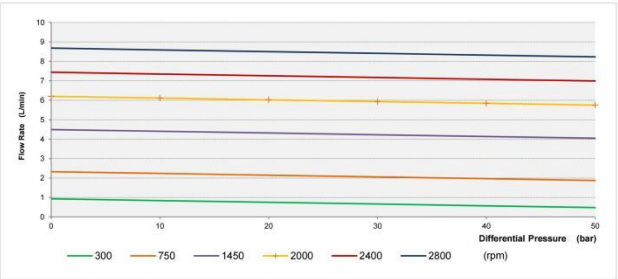
Pump Head MRC15/22
Measured with oil 100 mPas



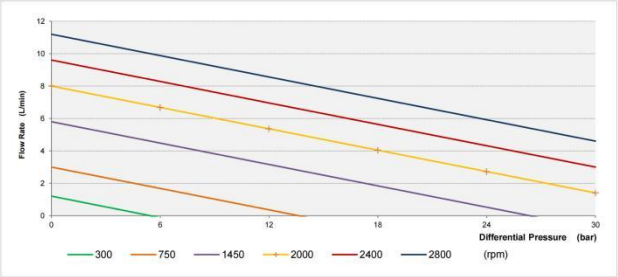
Pump Head MRC20/22
Measured with water 1 mPas 40℃



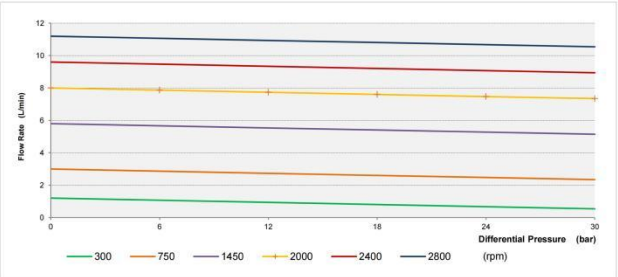
Pump Head MRC20/22
Measured with oil 100 mPas



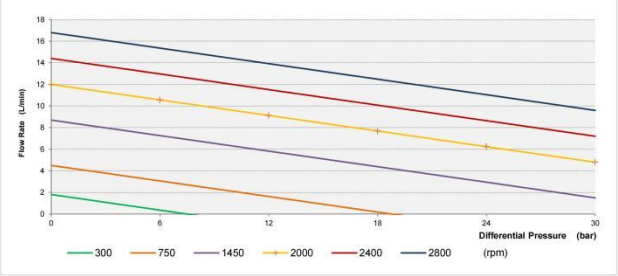
Pump Head MRC8/37
Measured with water 1 mPas 40℃



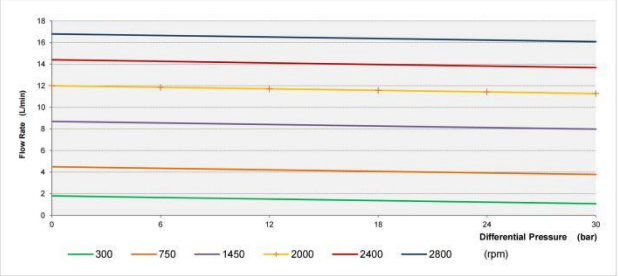
Pump Head MRC8/37
Measured with oil 100 mPas



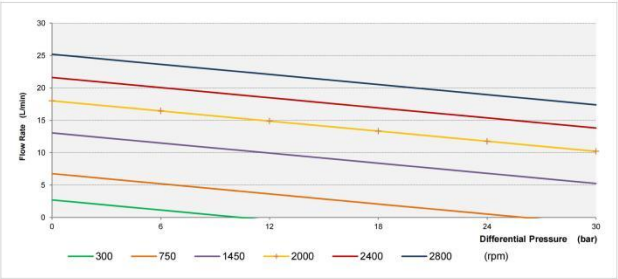
Pump Head MRC12/37
Measured with water 1 mPas 40℃



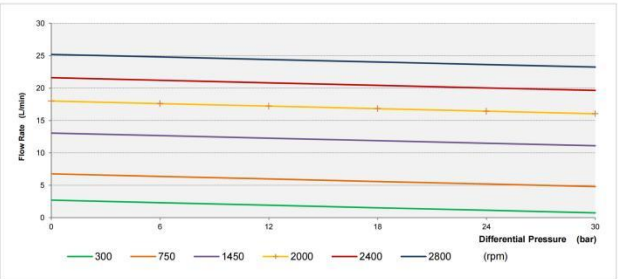
Pump Head MRC12/37
Measured with oil 100 mPas



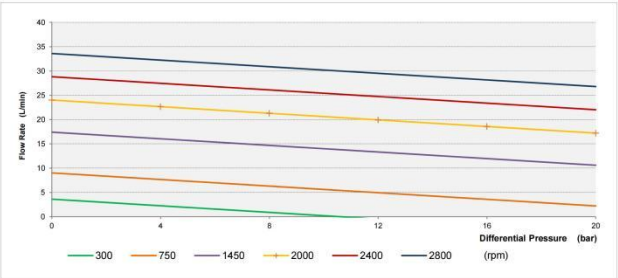
Pump Head MRE18/37
Measured with water 1 mPas 40°C



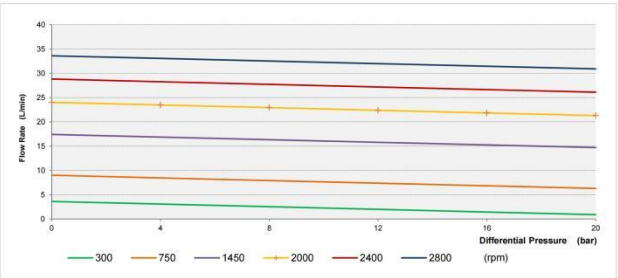
Pump Head MRE18/37
Measured with oil 100 mPas



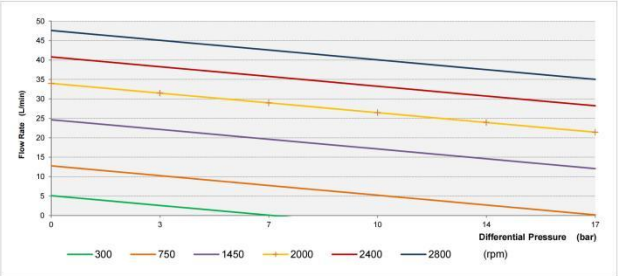
Pump Head MRE24/37
Measured with water 1 mPas 40°C



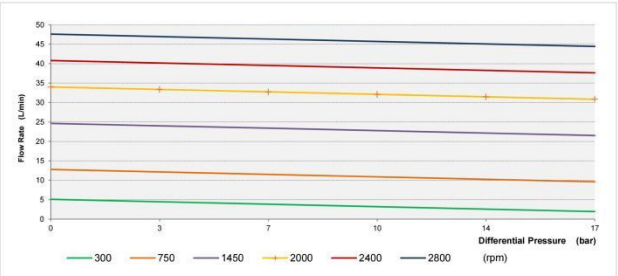
Pump Head MRE24/37
Measured with oil 100 mPas



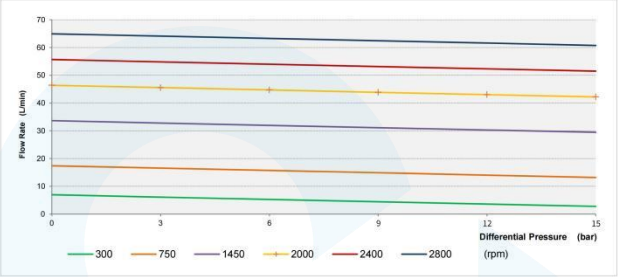
Pump Head MRE34/37
Measured with water 1 mPas 40°C



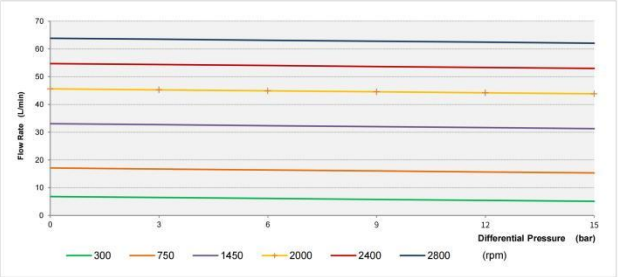
Pump Head MRE34/37
Measured with oil 100 mPas



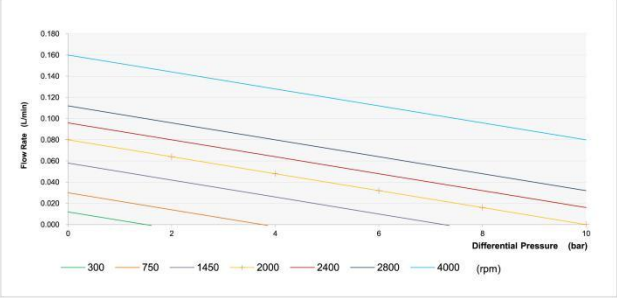
Pump Head MRF34/39
Measured with water 1 mPas 40°C



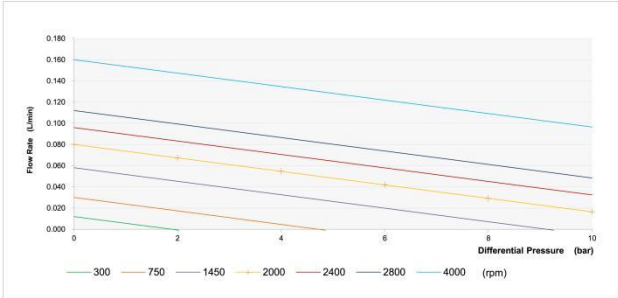
Pump Head MRF34/39
Measured with oil 100 mPas



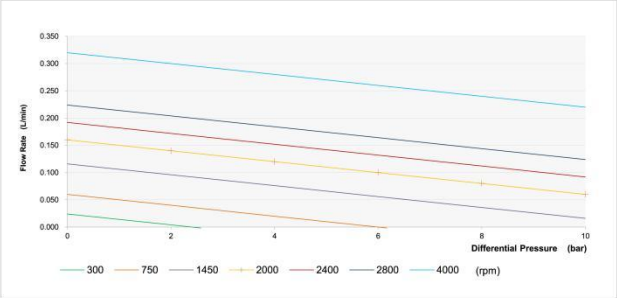
Pump Head MPGA004
Measured with water 1 mPas 40°C



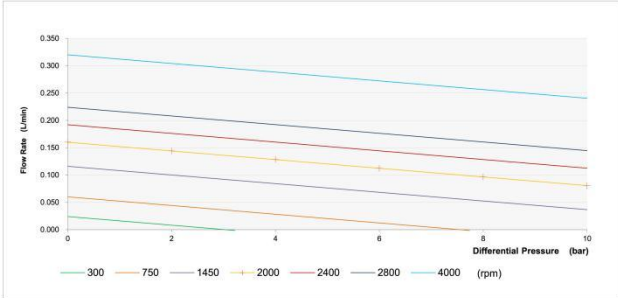
Pump Head MPGA004
Measured with oil 100 mPas



Pump Head MPGA008
Measured with water 1 mPas 40°C

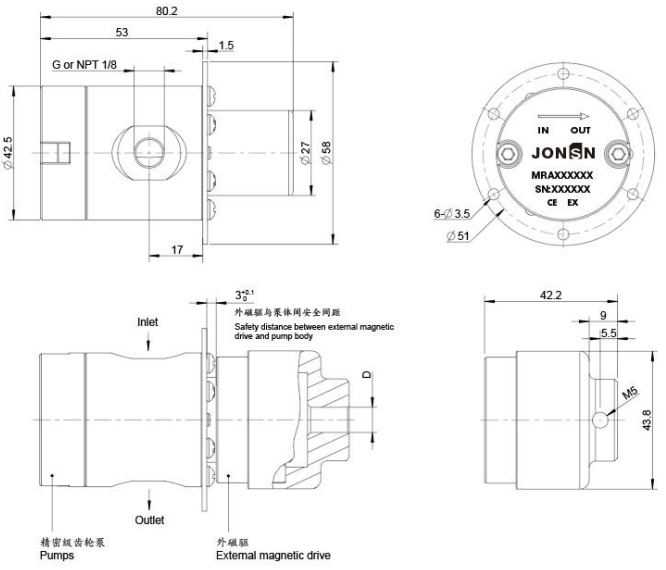


Pump Head MPGA008
Measured with oil 100 mPas



7. 2. 泵头独立尺寸图/ Pump Head Independent Dimension Drawing

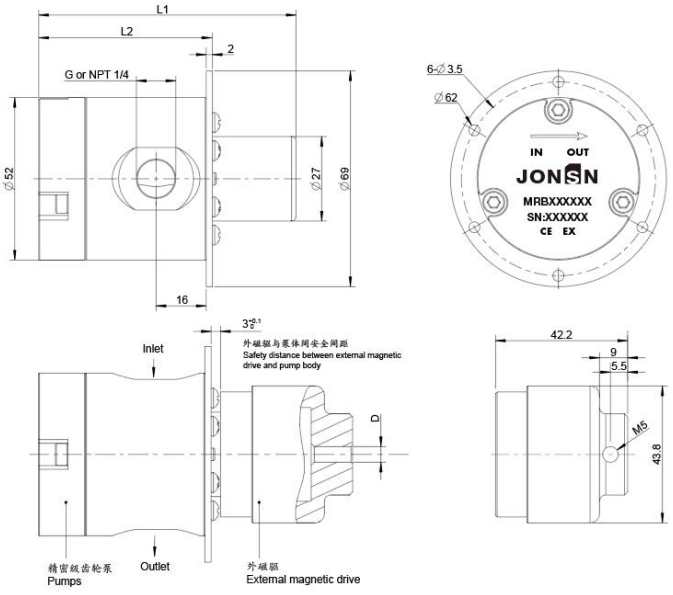
MRA Gear Pumps



Pumps order No.	
MRA 5/13	MRA泵头外形尺寸统一 MRA pumps head uniform dimensions
MRA 7/13	
MRA 10/13	
MRA 12/13	

D
5
6
8
11
14
19

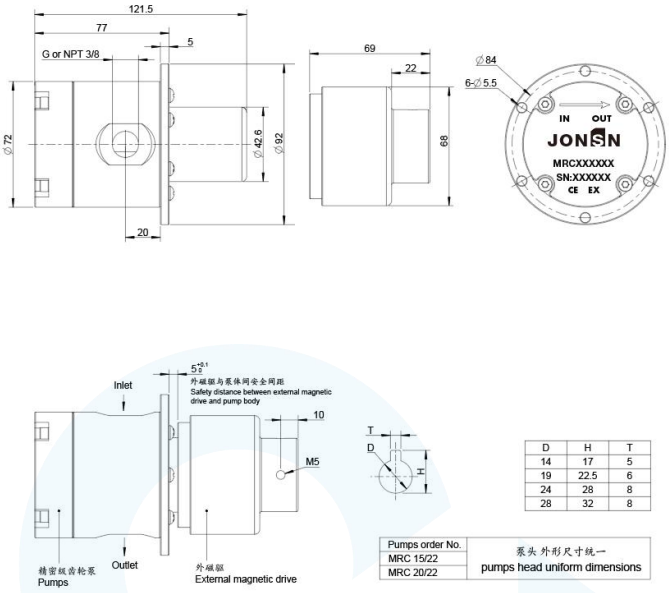
MRB Gear Pumps



Pumps order No.	L1	L2
MRB 10 /16	82.2	55.5
MRB 12 /16		
MRB 17 /16	87.2	60.5
MRB 19 /16		

D
5
6
8
11
14
19

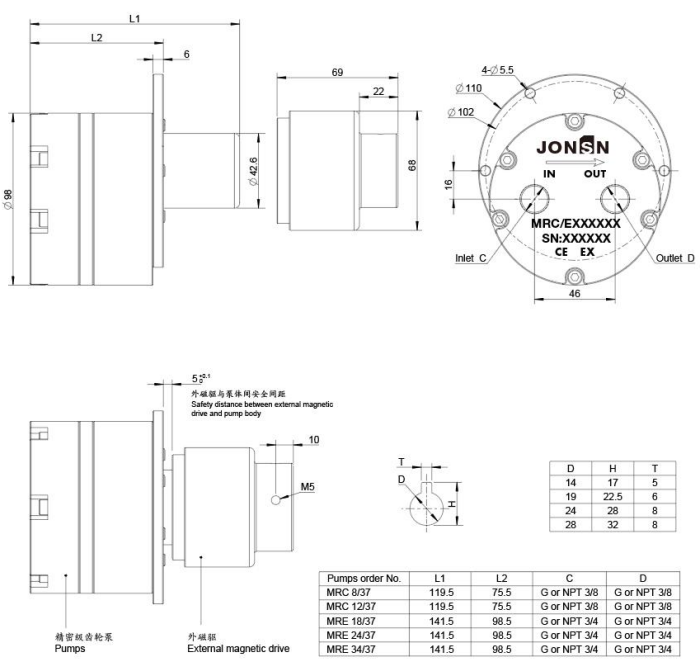
MRC15/22 MRC20/22 Gear Pumps



D	H	T
14	17	5
19	22.5	6
24	28	8
28	32	8

Pumps order No.	
MRC 15/22	泵头外形尺寸统一 pumps head uniform dimensions
MRC 20/22	

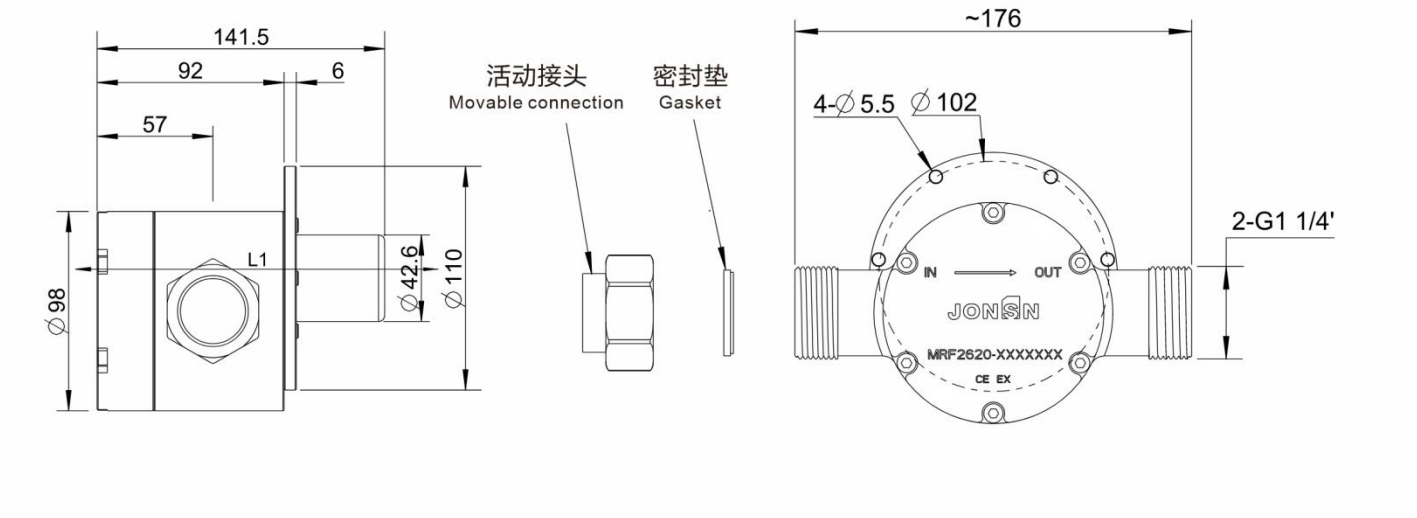
MRC8/37 MRC12/37 MRE18/37 MRE24/37 MRE34/37 Gear Pumps



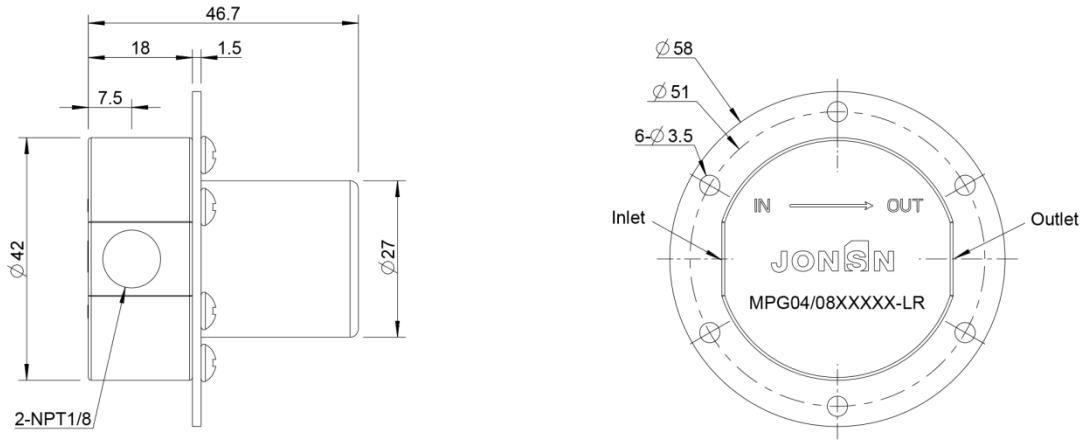
D	H	T
14	17	5
19	22.5	6
24	28	8
28	32	8

Pumps order No.	L1	L2	C	D
MRC 8/37	119.5	75.5	G or NPT 3/8	G or NPT 3/8
MRC 12/37	119.5	75.5	G or NPT 3/8	G or NPT 3/8
MRE 18/37	141.5	98.5	G or NPT 3/4	G or NPT 3/4
MRE 24/37	141.5	98.5	G or NPT 3/4	G or NPT 3/4
MRE 34/37	141.5	98.5	G or NPT 3/4	G or NPT 3/4

MRF34/39 Gear Pumps



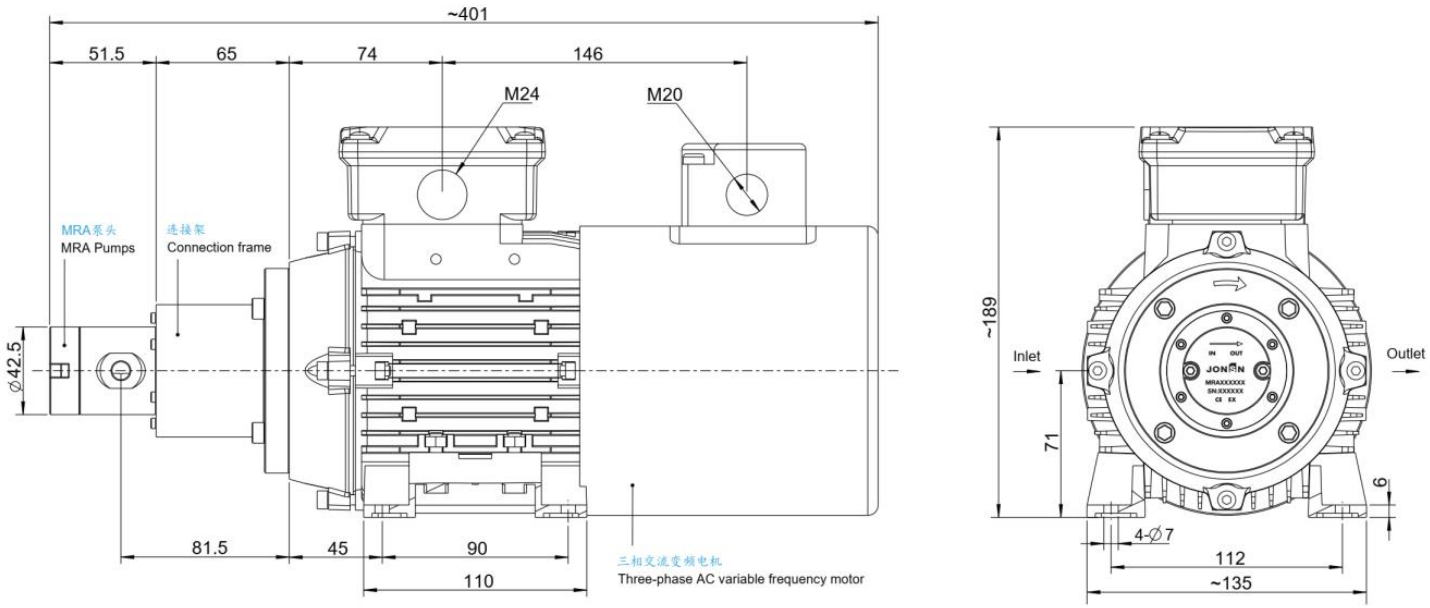
MPG Gear Pumps



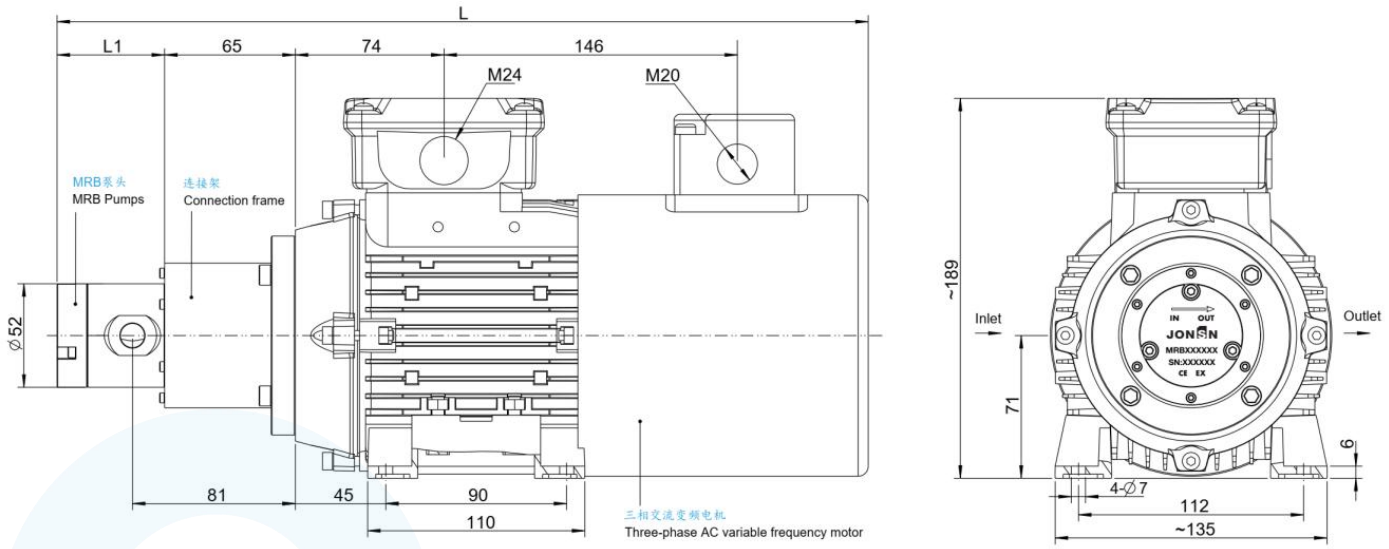
Pumps order NO.	
MPG04	外形尺寸统一 head uniform dimensions
MPG08	

7. 3. 各电机成套尺寸图纸/ Complete Dimension Drawings for Each Motor Assembly

MRA Pumps & IEC Motor 0.37Kw 71M B34

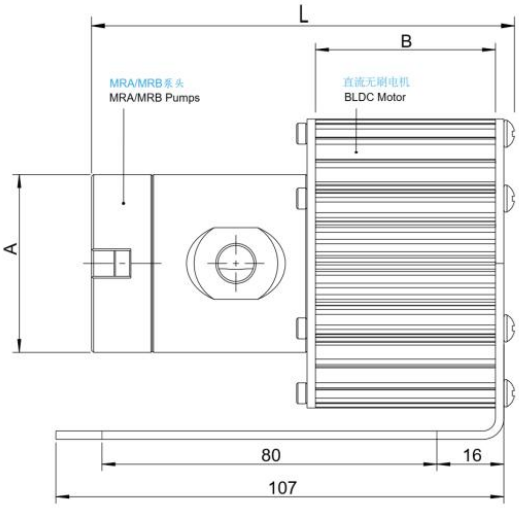


MRB Pumps & IEC Motor 0.37Kw 71M B34



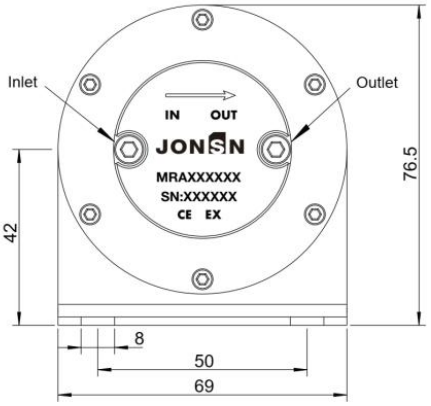
Pumps order No.	L	L1
MRB 10/16	~ 404	53.5
MRB 12/16	~ 404	53.5
MRB 17/16	~ 409	58.5
MRB 19/16	~ 409	58.5

MRA/MRB Pumps & BLDC Motor



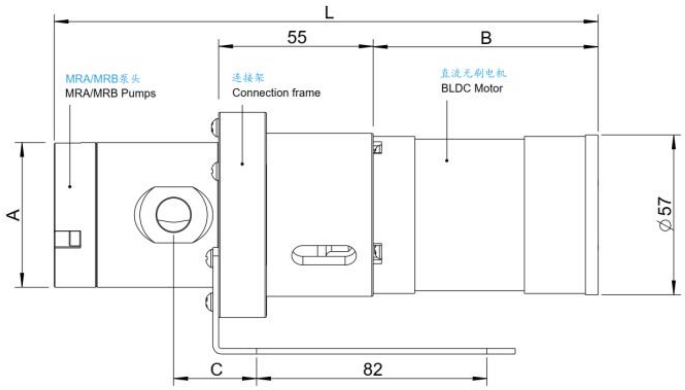
MRA / MRB & BLDC 12V / 24V 40W/70W 150-4000rpm

Pumps order No.	A	B	L
MRA	42.5	42	102
MRB 10/16 MRB12/16	52	42	104
MRB 17/16 MRB19/16	52	42	109



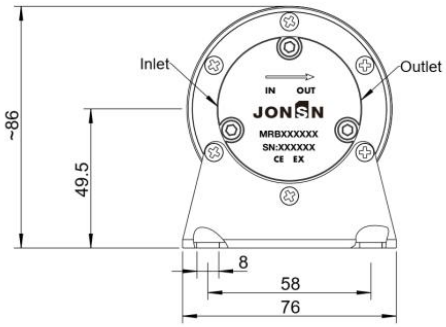
MRA / MRB & BLDC 12V / 24V 100W 150-4000rpm

Pumps order No.	A	B	L
MRA	42.5	49	107
MRB 10/16 MRB12/16	52	49	111
MRB 17/16 MRB19/16	52	49	116



MRA / MRB & BLDC 57 24V 120W 150-3000rpm

Order No.	A	B	C	L
MRA	42.5	118	30.5	~225
MRB 10/16 MRB12/16	52	118	29.5	~227
MRB 17/16 MRB19/16	55	118	29.5	~232



MRA / MRB & BLDC 24V 150W 150-3000rpm

Order No.	A	B	C	L
MRA	42.5	136	30.5	~243
MRB 10/16 MRB12/16	52	136	29.5	~265
MRB 17/16 MRB19/16	55	136	29.5	~250

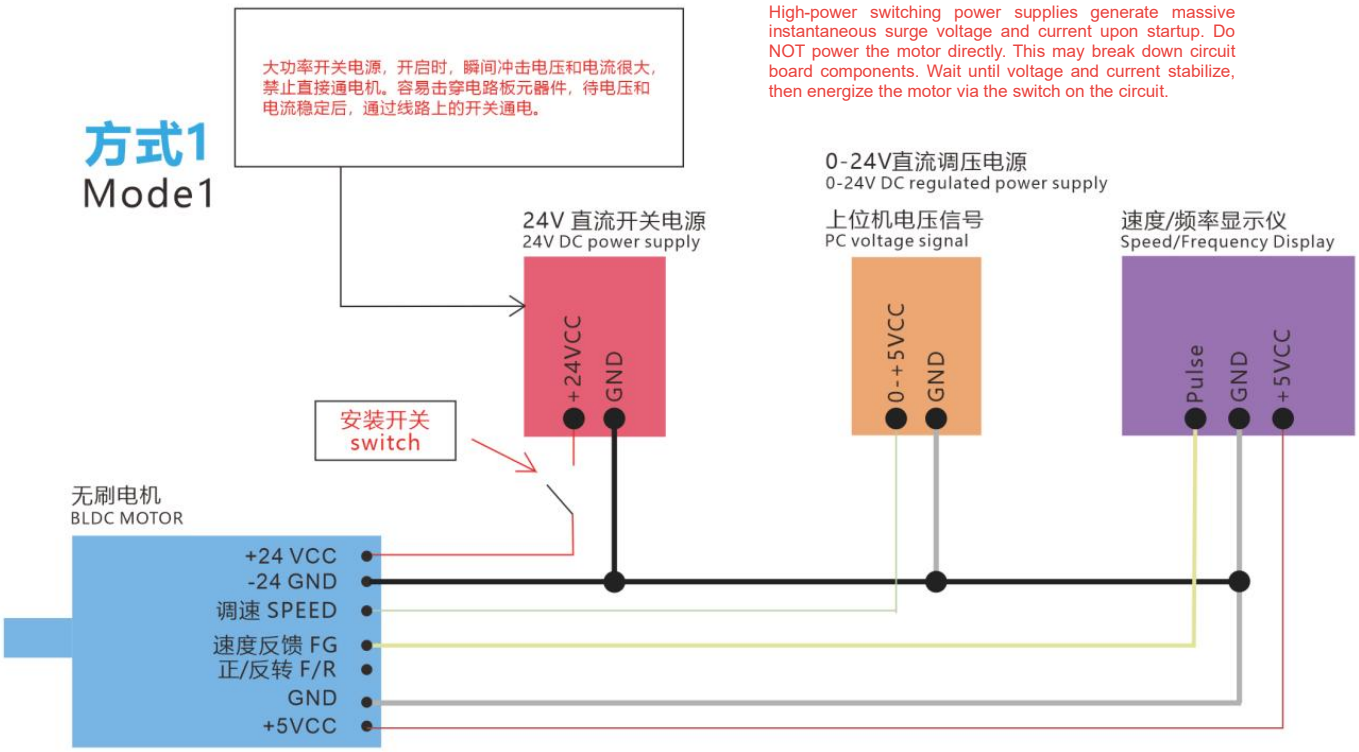
无刷电机参数（BLDC Motor Parameters）

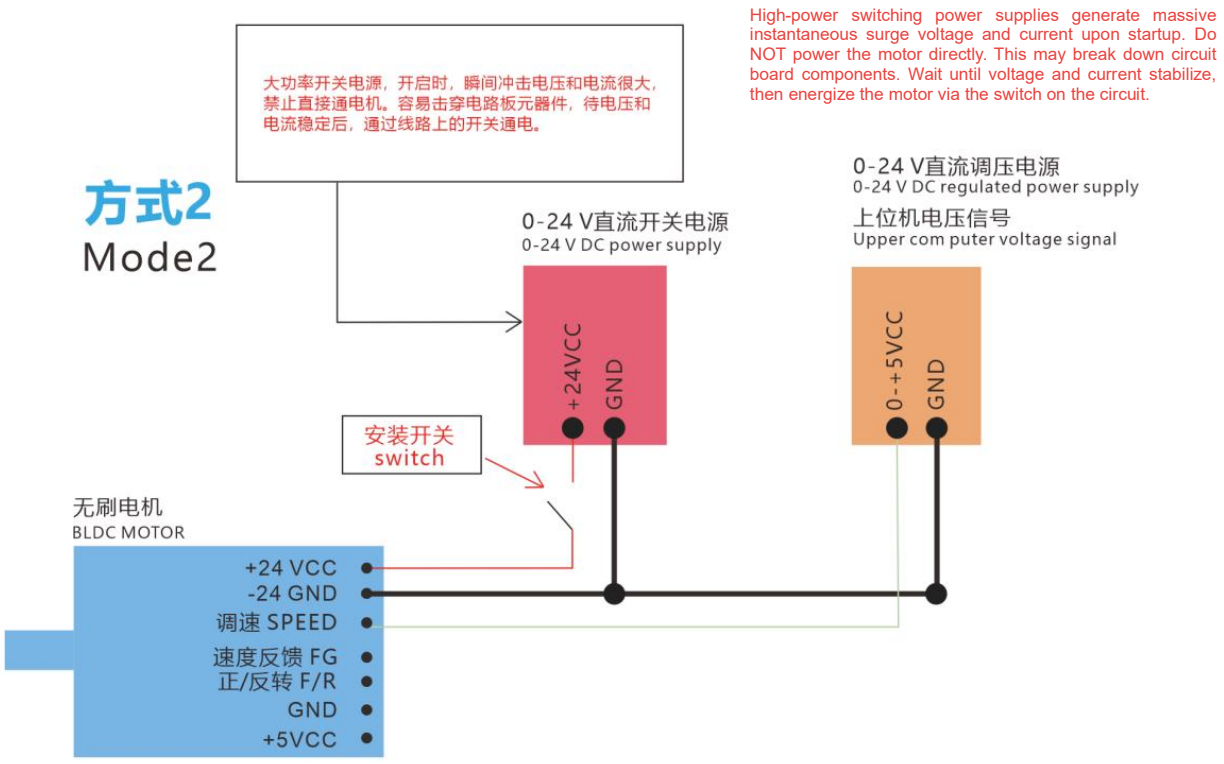
参数名称 Parameter Name	规格参数 Specifications
电压 Voltage	DC24V / DC24W / DC48V / DC48W（详见功率搭配表）
功率 Power	40W / 70W / 100W / 150W / 300W / 400W / 600W / 1000W / 1500W / 2000W
调速方式 Speed control mode	模拟量 0-5V / PWM（Analog 0-5V/PWM）
转速调节范围 Speed adjustment range	500~4000rpm（其他转速可定制 / other speeds can be customized）
启动电压 Start-up voltage	0.5V
绝缘等级 Insulation class	F 级（Class F）
环境温度 Ambient temperature	-40~60℃

接线说明（Wiring description）

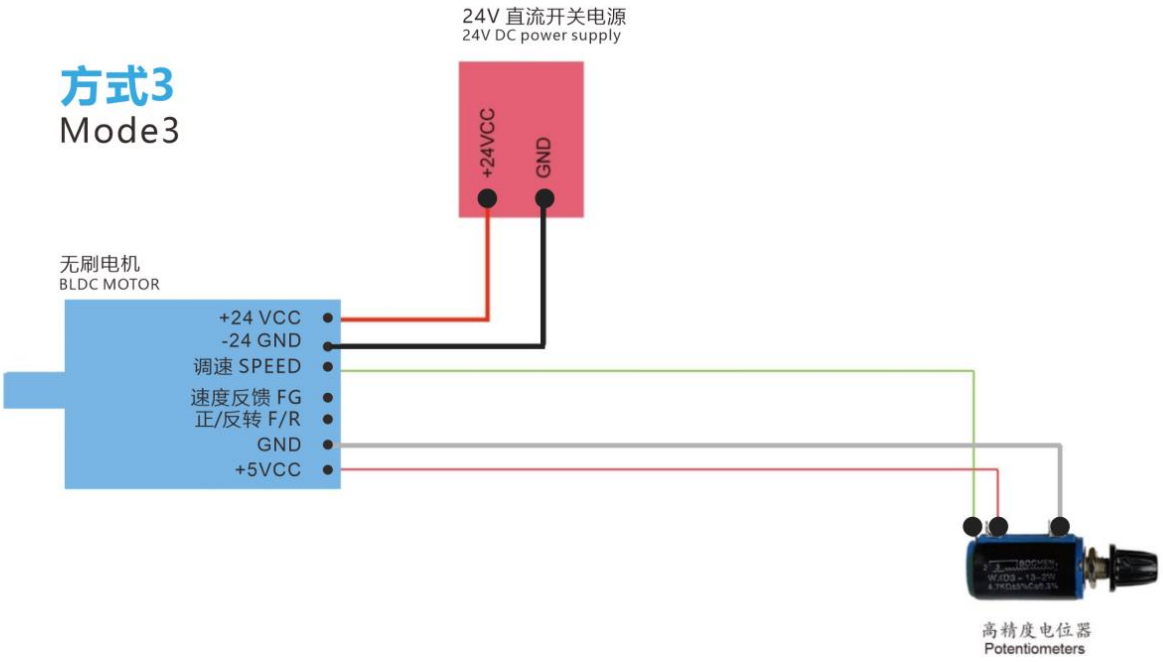
线色 / 规格 Thread Color / Specification	功能定义 Functional Definition
红线 Red wire	Vcc+，电源 24V+ 输入，长期工作电压不得超过 10%（Power 24V+ input; long-term operating voltage shall not exceed 10%）
黑线 Black wire	GND V-，GND 公共端，24V-，调速电压 V-，速度反馈仪表 V-（GND common terminal, 24V-, speed control voltage V-, speed feedback meter V-）
绿线 Green wire	0-5V+ 或 PWM 转速调节信号输入（0-5V+ or PWM speed regulation signal input）
黄线 Yellow wire	转速脉冲信号输出，电机每转输出 2 个脉冲（Speed pulse signal output; 2 pulses per motor revolution）
白线 White wire	正反转控制线，默认断开正转，接通 GND 反转（Forward/reverse control wire; default open = forward, connect to GND = reverse）
红色细线 Thin red wire	5V 输出，用于电位器旋钮调速方式预留，不使用时应做好绝缘隔离（5V output, reserved for potentiometer speed control; insulate when not in use to avoid short circuits）
黑色细线 Thin black wire	GND 公共端，用于电位器旋钮调速方式预留，不使用时应做好绝缘隔离（GND common terminal, reserved for potentiometer speed control; insulate when not in use to avoid short circuits）

4 种标准接线方案/ Four Standard Wiring Schemes

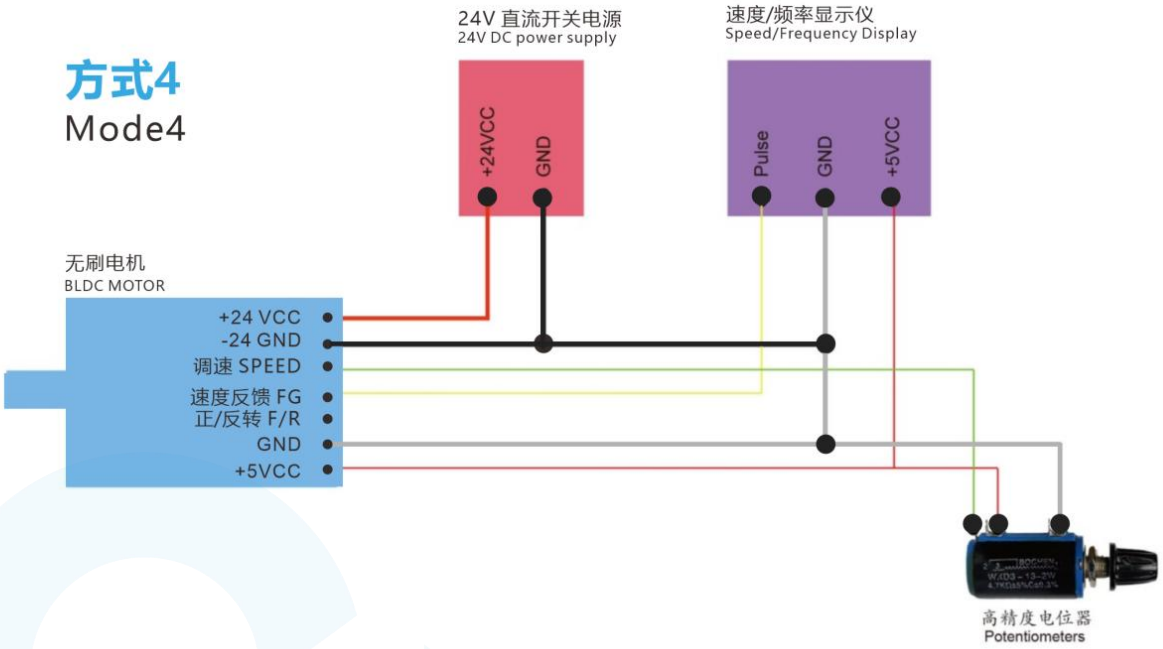




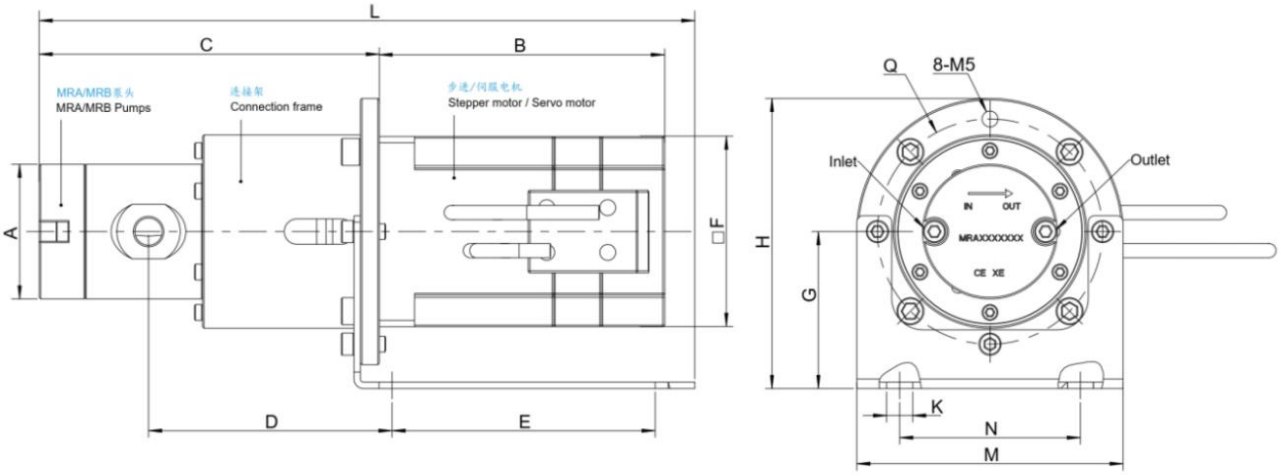
方式3
Mode3



方式4
Mode4



MRA/MRB Pumps & Servo/Stepper Motor



MRA / MRB & Servo motor 220V 100W-400W 0-3000rpm

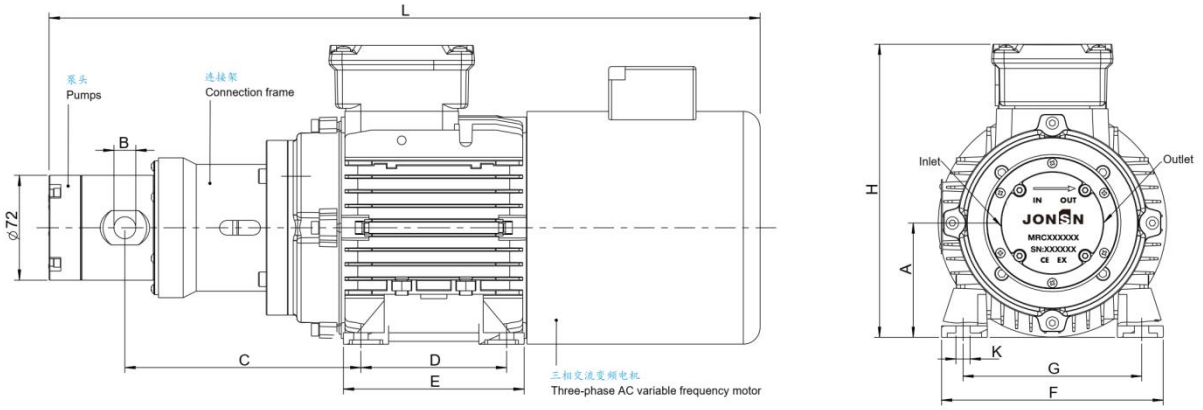
Pumps order No.	A	B	C	D	E	F	G	H	K	L	M	N	Q
MRA & 100W	42.5	100	111	81	80	40	49.5	~92	8	210	84	57	71
MRA & 200W	42.5	105	117	86	80	60	49.5	~92	8	209	84	57	71
MRB10/16 & 200W	52	105	123	80	80	60	72	~124	8	207	105	80	90
MRB12/16 & 200W	52	105	123	80	80	60	72	~124	8	207	105	80	90
MRB17/16 & 200W	52	105	128	80	80	60	72	~124	8	212	105	80	90
MRB19/16 & 400W	52	130	128	80	80	60	72	~124	8	237	105	80	90

MRA / MRB & Stepper motor 24V 2N.m 0-1500rpm

Pumps order No.	A	B	C	D	E	F	G	H	K	L	M	N	Q
MRA & ■ 60	42.5	90	106	77	80	60	49.5	~92	8	207	84	57	71
MRB10/16 & ■ 60	52	90	108.5	70	80	60	72	~124	8	208.5	105	80	90
MRB12/16 & ■ 60	52	90	108.5	70	80	60	72	~124	8	208.5	105	80	90
MRB17/16 & ■ 60	52	90	113.5	70	80	60	72	~124	8	213.5	105	80	90
MRB19/16 & ■ 60	52	90	113.5	70	80	60	72	~124	8	213.5	105	80	90

MRC15/22 MRC20/22 Pumps

IEC Motor



Power & 0.75-1.1Kw 2P 80M B34

Pumps order No.	A	B	C	D	E	F	G	H	L
MRC 15/22 MRC 20/22	80	G or NPT 3/8	162	100	135	~160	125	~205	~488

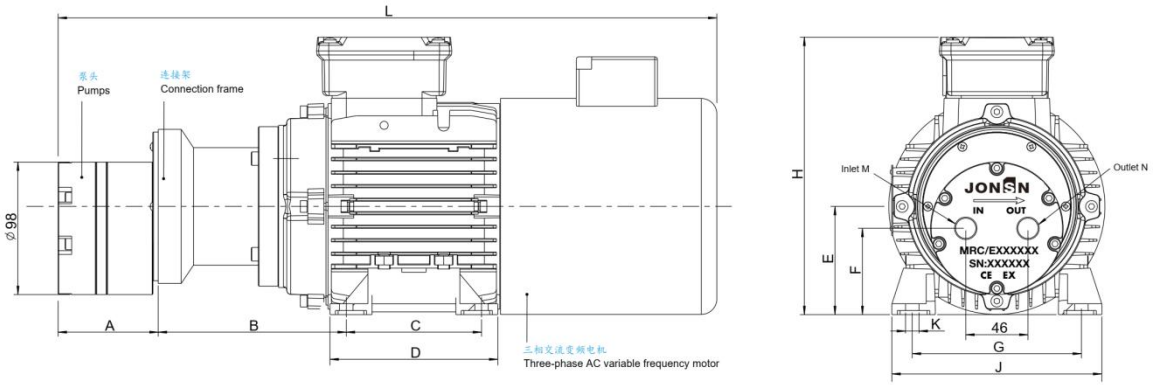
Power & 1.5Kw 2P 90L B34

Order No.	A	B	C	D	E	F	G	H	L
MRC 15/22 MRC 20/22	90	G or NPT 3/8	178	125	165	~175	140	~235	~535

MRC8/37 MRC12/37

MRE18/37 MRE24/37 MRE34/37

IEC Motor



Power & 0.75-1.1Kw 2P 80M B34

Pumps order No.	A	B	C	D	E	F	G	H	J	K	L	M	N
MRC 8/37 MRC12/37	74	139	100	135	80	64	125	~ 205	~ 160	4-∅10	~ 478	G or NPT 3/8	G or NPT 3/8
MRE 18/37 MRE 24/37 MRE34/37	96	139	125	165	90	64	140	~ 235	~ 175	4-∅10	~ 509	G or NPT 3/4	G or NPT 3/4

Power & 1.5Kw 2P 90L B34

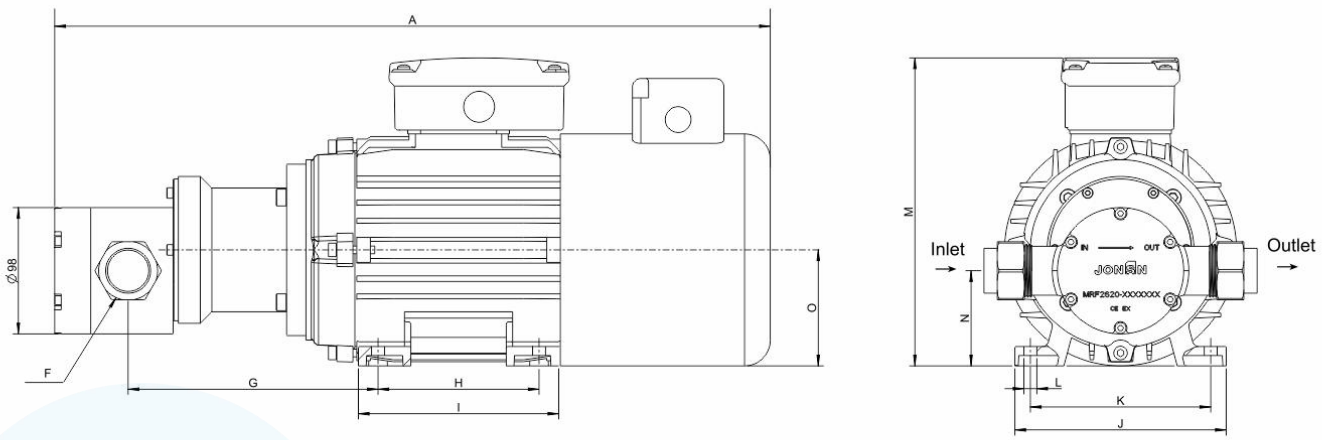
Pumps order No.	A	B	C	D	E	F	G	H	J	K	L	M	N
MRC 8/37 MRC12/37	74	155	100	135	80	64	125	~ 205	~ 160	4-∅10	~ 534	G or NPT 3/8	G or NPT 3/8
MRE 18/37 MRE 24/37 MRE34/37	96	155	125	165	90	64	140	~ 235	~ 175	4-∅10	~ 555	G or NPT 3/4	G or NPT 3/4

Power & 2.2-3Kw 2P 100L B34

Pumps order No.	A	B	C	D	E	F	G	H	J	K	L	M	N
MRE 18/37 MRE 24/37 MRE34/37	96	174	140	180	100	64	160	~ 275	~ 200	4-∅12	~ 584	G or NPT 3/4	G or NPT 3/4

MRF34/39

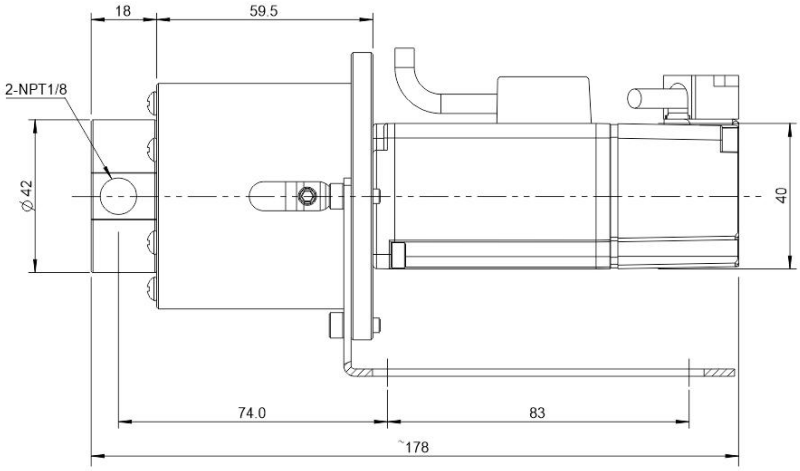
IEC Motor

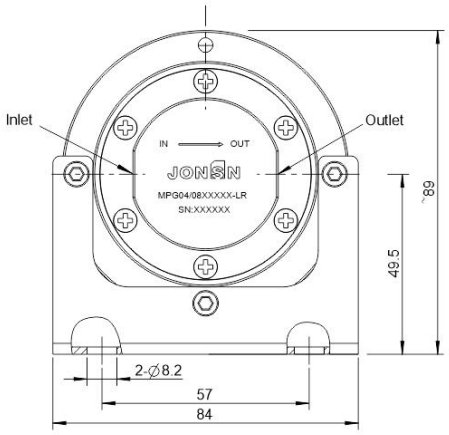


IEC Motor 2.2-3Kw 90L 100L b34

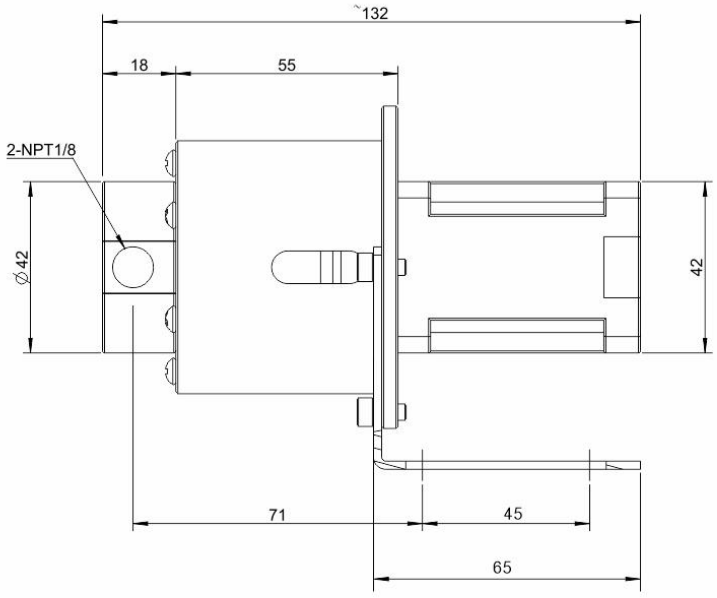
Pumps order NO.	A	F	G	H	I	J	K	L	M	N	O	Q
MRF34/39-90L	~556	2-G11/4'	194	125	156	160	140	4-Φ10	~240	74	90	~212
MRF34/39-100L	~605	2-G11/4'	211	140	173	188	160	4-Φ12	~275	83.8	100	~212

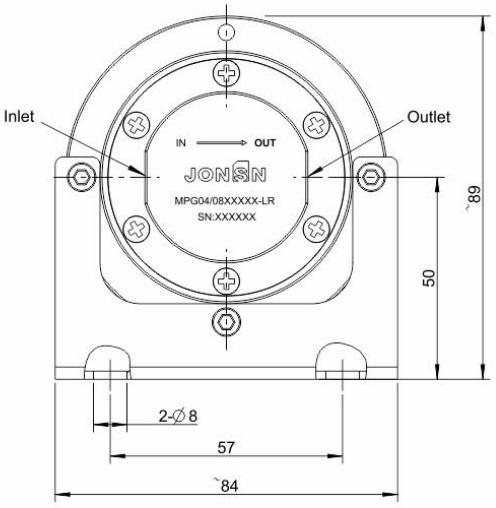
MPG Servo Motor 220V/110V 40 Frame





MPG Stepper Motor 24V 42 Frame

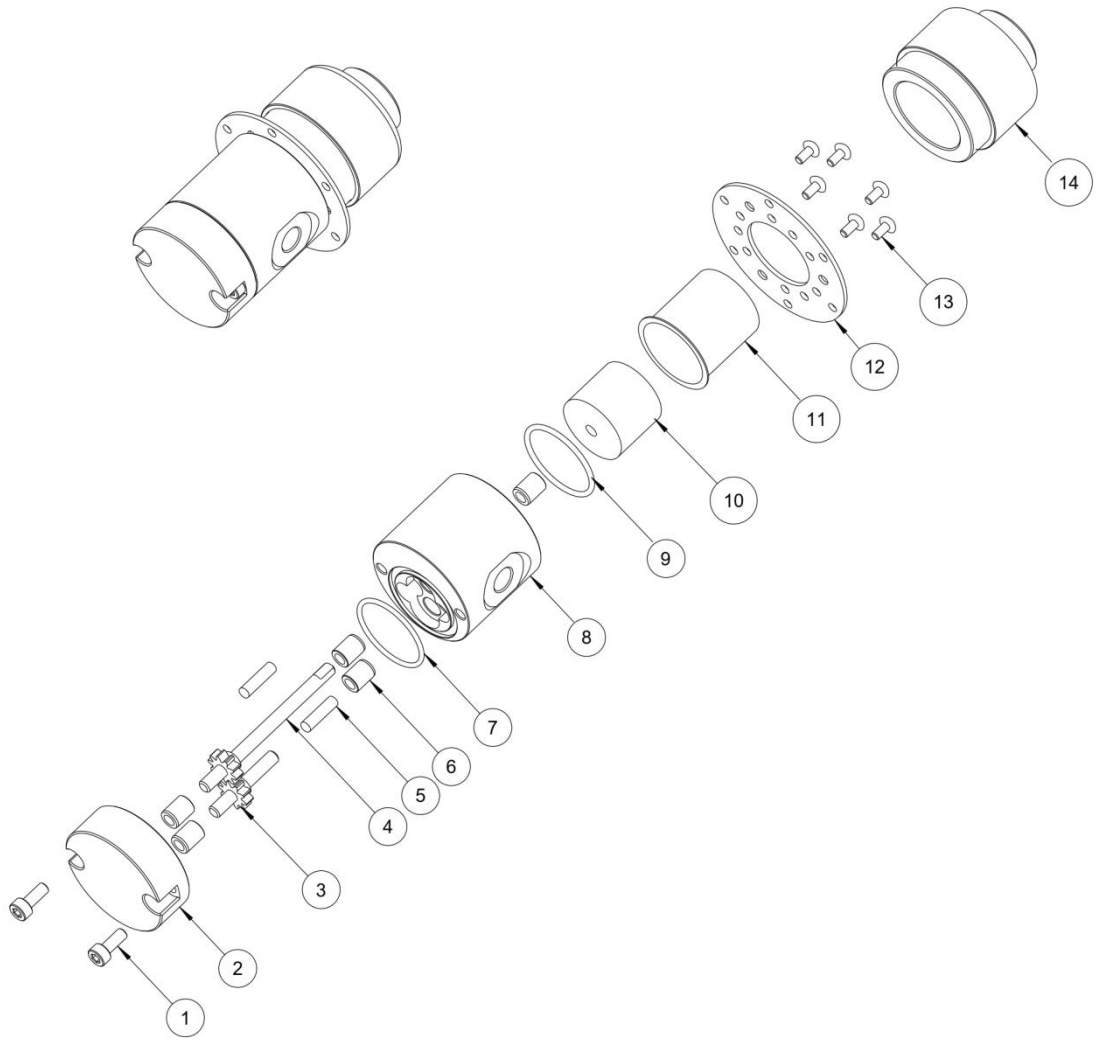




8、分解图/Exploded View

MRA & MRB

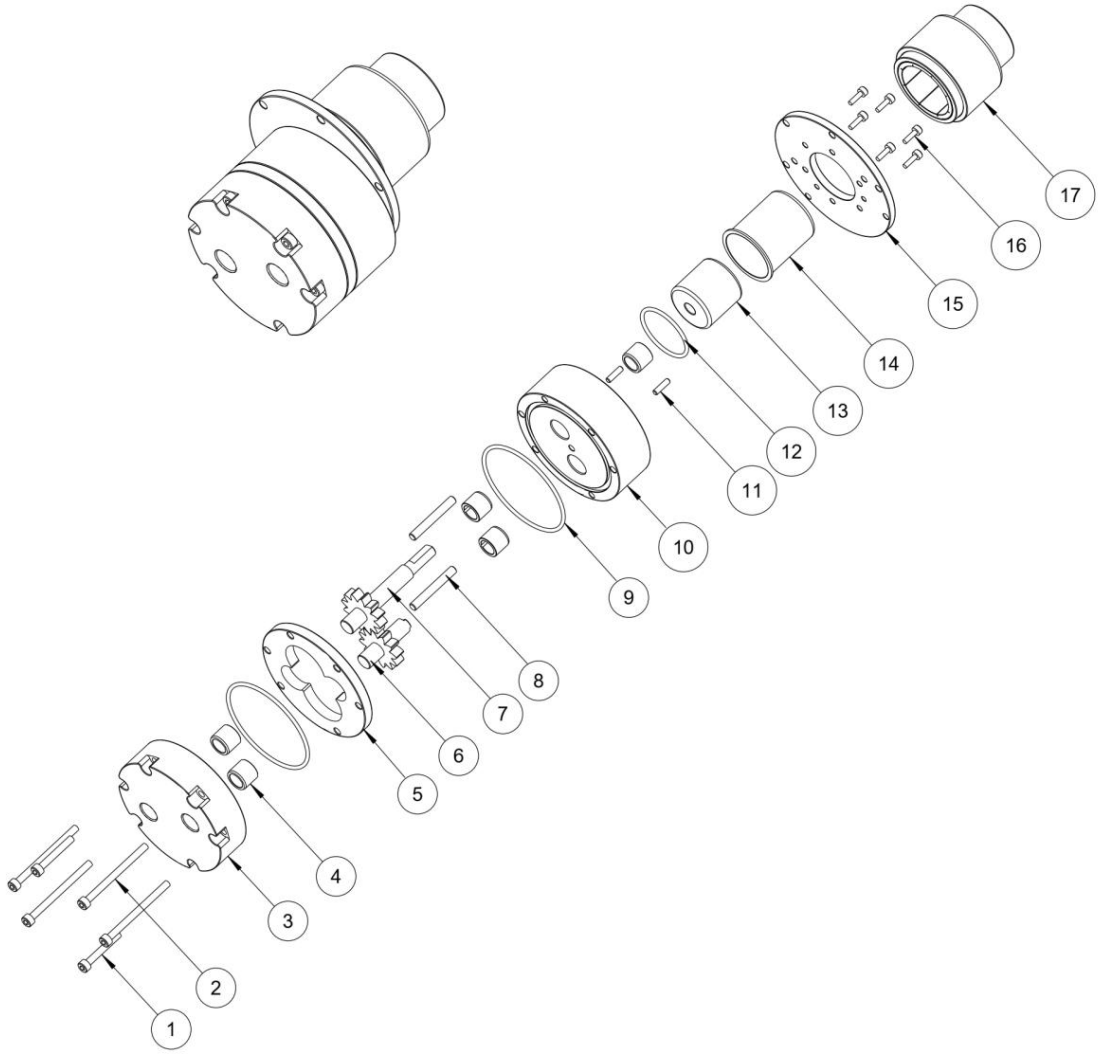
MRC15/22 & MRC20/22



序号 / NO.	零件名 / Part Name	数量 / Pcs.	序号 / NO.	零件名 / Part Name	数量 / Pcs.
1	内六角螺丝 / Socket Head Cap Screw	2	8	泵体 / Pump case	1
2	泵盖 / Pump Cover	1	9	密封圈 / O-ring	1
3	从动齿轮轴 / Idler Gear Shaft	1	10	内磁驱/ Internal magnetic drive	1
4	主动齿轮轴 / Drive Gear Shaft	1	11	屏蔽罩 / Shielding case	1
5	定位销 / Locating pin	2	12	压板 / Pressure plate	1
6	滑动轴承 / Sleeve Bearing	5	13	十字圆头螺丝 / Phillips head screws	6
7	密封圈 / O-ring	1	14	外磁驱组件 / Out mag.drive	1

MRC8/37 MRC12/37

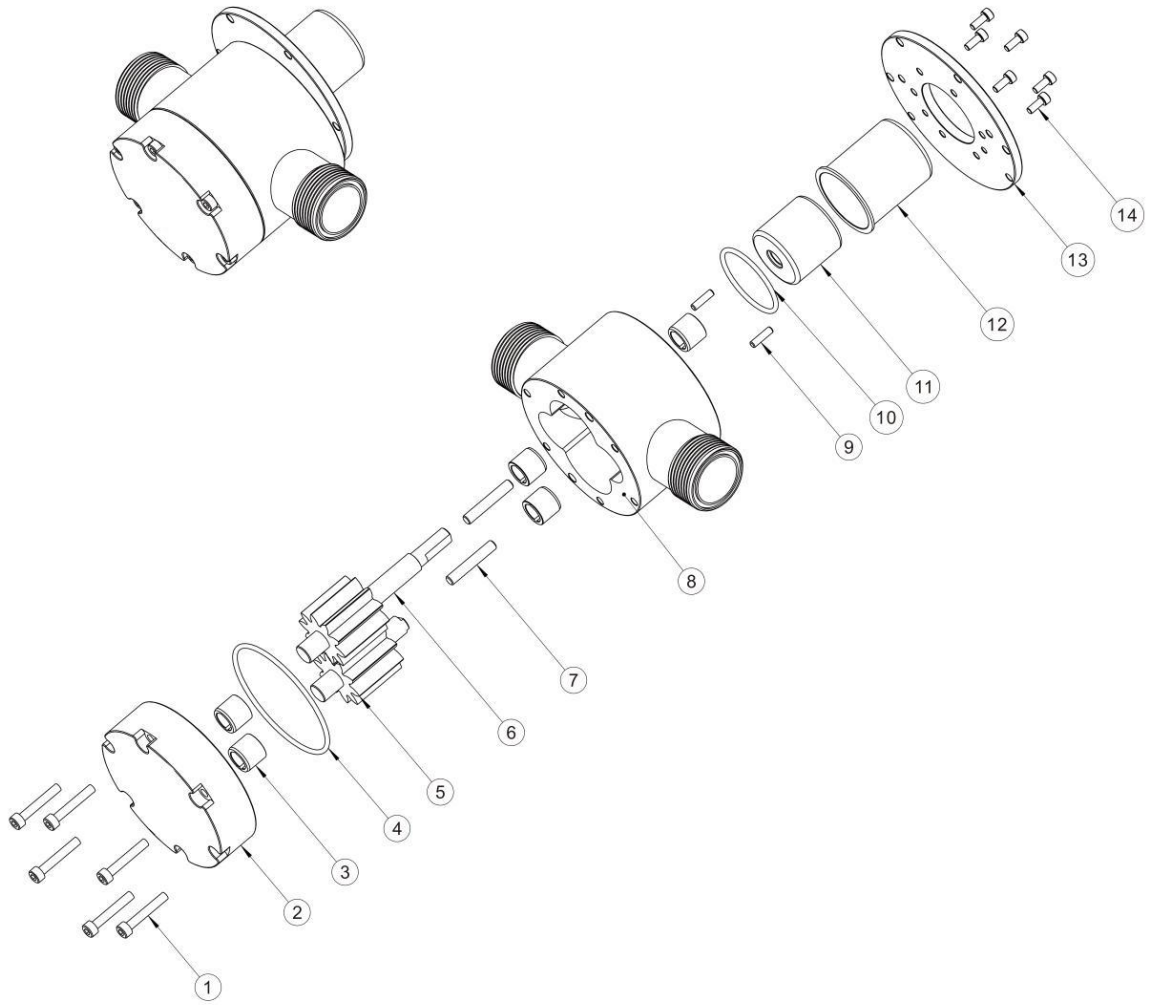
MRE18/37 MRE24/37 MRE34/37



序号 / NO.	零件名 / Part Name	数量 / Pcs.	序号 / NO.	零件名 / Part Name	数量 / Pcs.
1	内六角螺丝 / Socket Head Cap Screw	2	2	内六角螺丝 / Socket Head Cap Screw	4
3	泵盖 / Pump Cover	1	4	滑动轴承 / Sleeve Bearing	5
5	泵腔 / Pump cavity	1	6	从动齿轮轴 / Idler Gear Shaft	1
7	主动齿轮轴 / Drive Gear Shaft	1	8	定位销 / Locating pin	2
9	密封圈 / O-ring	2	10	泵体 / Pump case	1
11	定位销 / Locating pin	2	12	密封圈 / O-ring	1
13	内磁驱/ Internal magnetic drive	1	14	屏蔽罩 / Shielding case	1
15	压板 / Pressing plate	1	16	内六角螺丝 / Socket Head Cap Screw	6
17	外磁驱组件 / Out mag.drive	1			

MRF

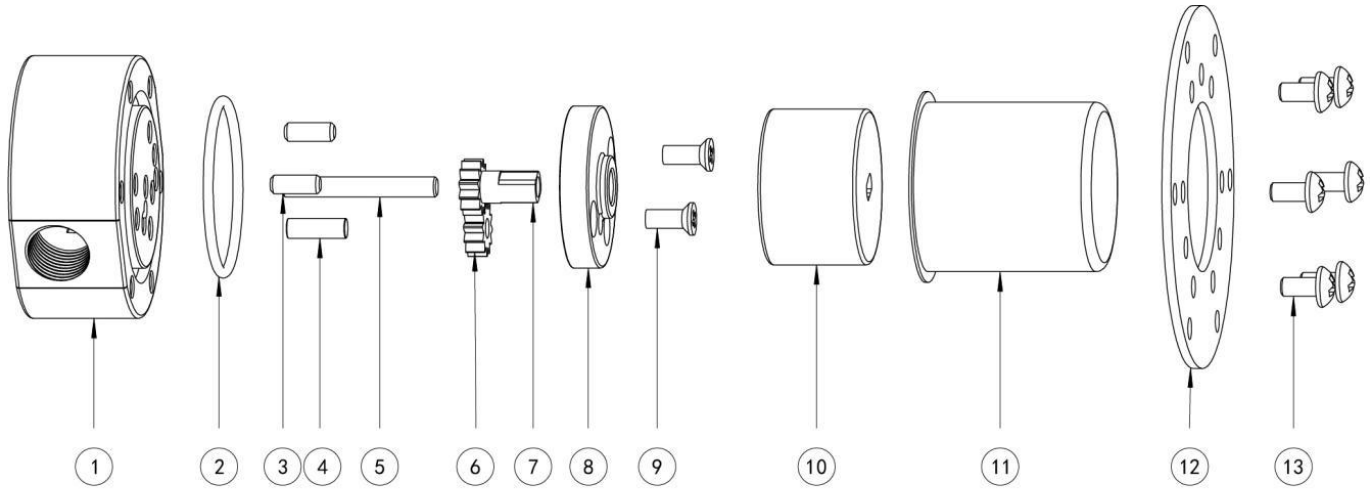
MRF34/39



序号/NO.	零件名/Part Name	数量/Pcs.	序号/NO.	零件名/Part Name	数量/Pcs.
1	内六角螺丝/Socket Head Cap Screw	1	2	泵盖/Pump Cover	1
3	滑动轴承 / Sleeve Bearing	5	4	密封圈/O-ring	1
5	从动齿轮轴/Idler Gear Shaft	1	6	主动齿轮轴/Drive Gear Shaft	1
7	定位销/Locating pin	2	8	泵体/Pump case	1
9	定位销/Locating pin	2	10	密封圈/O-ring	1
11	内磁驱/Internal magnetic drive	1	12	屏蔽罩/Shielding case	1
13	压板/Pressing plate	1	14	内六角螺丝 / Socket Head Cap Screw	6

MPG

MPGA004　MPGA008



序号 Item No.	零件名 Part Name	数量 Quantity
1	泵体 Body	1
2	密封圈 O-ring	1
3	定位销 Locating pin	2
4	从动陶瓷轴 Driven ceramic shaft	1
5	主动陶瓷轴 Drive ceramic shaft	1
6	从动齿轮 Driven gear	1
7	主动齿轮 Drive gear	1
8	齿轮腔板 Gear cavity plate	1
9	十字沉头螺丝 Cross countersunk screw	2
10	内磁驱 Inner mag.drive	1
11	屏蔽罩 Shield	1
12	压板 Pressure plate	1
13	十字圆头螺丝 Cross round screw	6

9、故障分析/ Malfunction Analysis

项目	故障	新泵故障排查项目	旧泵故障排查项目	解决方案
关于流量	电机正常工作，但没有流量	1. 接头密封不好 2. 新装管路未清洗，导致焊渣颗粒或密封带进入泵体内，导致齿轮卡死 3. 超压或粘度太大，导致内磁驱扁方磨损或主动轴断裂 4. 介质高或低温超过选型温度，导致齿轮抱死或齿轮间隙过大 5. 泵内部过流件材质被介质腐蚀。	1. 内磁驱塑料扁向磨损，导致内磁驱干转 2. 过滤器是否堵塞 3. 齿轮、泵腔、轴套磨损，内泄漏很大	1. 检测系统压力、温度、介质粘度 2. 清洗过滤器 3. 更换齿轮、内磁驱、轴套备件
	流量很小	1. 转速太低， 2. 管接头密封不好 3. 选型不对，选型粘度与实际工作粘度相差太大		1. 提高转速 2. 重新密封 3. 粘度大需要更换大泵头，降低转速
	流量变小	1. 入口管径太细 2. 电机转速不稳定 3. 齿轮运转不顺畅 4. 泵入口接头密封不好 5. 泵入口过滤器太脏 6. 出口压力不稳定 7. 工作温度不稳定	齿轮磨损	更换齿轮
	流量不稳定	1. 进油管尺寸过小。2. 电机转速不稳定。 3. 齿轮运转不平稳。4. 进油口接头密封不良。 5. 进油滤网脏污。6. 出油压力不稳定。 7. 工作温度不稳定。	检查齿轮，看看有没有磨损	1. 检查管件各处密封性 2. 检查齿轮、泵腔、管径 3. 清洗过滤器 4. 更换齿轮
关于压力	有流量，但没有压力	出口压力太小	齿轮、泵腔、滑动轴承磨损，内泄漏很大	1. 检测系统压力 2. 旧泵更换相关易损件
	压力跳动很厉害	出口压力太高或管径与流速不匹配	齿轮、泵腔磨损	检查齿轮、泵腔、管径
关于气泡	出口有气泡	1. 接头密封不好 2. 入口管太小，流速与管径不匹配 3. 入口管路过滤器堵塞		1. 重新密封 2. 检查齿轮、泵腔、管径 3. 清洗过滤器
关于电机	电机有震动	1. 安装管路时用力过大或管道应力过大，导致外磁驱与屏蔽罩不对中，外磁驱摩擦屏蔽罩的声音 2. 阀门没开，压力太大 3. 电机轴承损坏		1. 管道重新安装，同时管路安装固定支架，减少施加应力 2. 开机前，前后阀门打开 3. 更换电机轴承
	电机不转	接线不对		检查线路
	直流电机不转	直流电源开关打开瞬间电流过大，烧坏驱动器元器件	电机驱动器烧坏	更换电机
	直流电机忽然停止	泵过载，电机温升过高，触发驱动器温控开关	泵内有异物、齿轮卡死	1. 更换大功率电机 2. 清洗泵内齿轮
关于异响	压力太高，过载	出口管路堵住		清洗出口管路
	齿轮卡死，脱磁	异物进入		前端加过滤器
	电机功率不够	电机超载，电流过大		换大功率电机
	齿轮间隙过大		齿轮磨损	更换新齿轮

Items	Malfunction	New Pump Troubleshooting Items	Old Pump Troubleshooting Items	Solutions
About flowrate	Motor normal working but without flowrate	1.Joint sealing not good. 2.New pipelines not cleaned,welding slag particle or sealant entering pump body,causing the gear to jam. 3.Overpressure or high viscosity,cause internal magnetic drive flat abrasion or driving shaft breakage. 4.Medium high or low temperature exceed selected temperature,cause gear damaged or large gear gap. 5.Inside wetted parts corroded by medium.	1.Internal magnetic drive plastic flat abrasion, causing the magnetic drive to run dry. 2.Filter jammed or not. 3.Gear,pump body,shaft sleeve abrasion, internal leakage heavy.	1.Detecting system pressure, temperature, medium viscosity. 2.Clean filter. 3.Replace gear,internal magnetic driving, shaft sleeve.
	Small flowrate	1.Low rotating speed. 2.Pipeline joint sealing not good. 3.Model selection not right, big difference between selection viscosity with actual working viscosity.		1.Improve rotating speed. 2.Redo sealing. 3.Change big pump head and reduce rotating speed.
	Flow decreases	1.Inlet pipe size too small. 2.Unstable motor rotating speed. 3.Gear running not smoothly. 4.Inlet joint sealing not good. 5.Inlet filter dirty. 6.Unstable outlet pressure. 7.Unstable working temperature.	Gear abrasion	Replace gear
	Unstable flowrate	1.Inlet pipe size too small. 2.Unstable motor rotating speed. 3.Gear running not smoothly. 4.Inlet joint sealing not good. 5.Inlet filter dirty. 6.Unstable outlet pressure. 7.Unstable working temperature.	Inspect if gear worn or not.	1.Inspect pipes sealing. 2.Inspect gear,pump body,pipe diameter. 3.Clean filter. 4.Replace gear.
About pressure	Have flowrate but without pressure	Outlet pressure is too small.	Gear,pump body,sliding shaft bearing abrasion, heavy internal leakage.	1.Detecting system pressure 2.Change vulnerable parts.
	Pressure jumps severely	Outlet pressure too high or mismatch between pipe diameter and flow speed.	Gear,pump body abrasion	Inspect gear,pump body,pipe diameter.

Items	Malfunction	New Pump Troubleshooting Items	Old Pump Troubleshooting Items	Solutions
About bubbles	Outlet has bubbles	1.Joint sealing not good. 2.Inlet pipe too small, mismatch between pipe diameter and flow speed. 3.Inlet pipe filter jammed.		1.Redo sealing. 2.Inspect gear,pump body,pipe diameter. 3.Clean filter.
About motor	Motor vibration	1.When assemble pipes over stress,cause external magnetic drive not centering with shielding case,then have friction sound. 2.Valves not open,overpressure. 3.Motor shaft bearing damaged.		1.Reassemble pipes and fixed bracket to reduce the stress. 2.Front & back valves open before start. 3.Change motor shaft bearing
	Motor doesn't run	Wrong connection.		Inspect circuit.
	DC motor doesn't run	DC motor open overcurrent,driver components burn out.	Motor driver burn out.	Change motor.
	DC motor stops suddenly	Pump overloading,motor temperature rise too high,trigger driver temperature control switch.	Have foreign matters,gear jammed.	1.Change high power motor. 2.Clean internal gear.
About abnormal sound	Overpressure	Outlet pipe jammed.		Clean outlet pipe.
	Gear jammed,trip magnet	Foreign matters entering.		Add filter at pump front.
	Power shortage	Motor overload, overcurrent.		Change high power motor.
	Large gear gap		Gear abrasion	Replace gear.

MR 系列精密级齿轮泵备品及备件服务

MR Series Precision Gear Pump — Spare Parts & Services



JONSN 琼森致力于做好每一台精密级齿轮泵，用心、专业服务好每一位琼森客户。

JONSN is dedicated to crafting every precision gear pump with excellence, serving each customer with wholehearted dedication and professionalism.

泵属于动设备，难免遇到各种极端工况挑战、易损件磨损、过质保期等问题。
为确保您的稳定生产，对于关键工艺控制泵，建议做好一开一备方案，如果因设计空间不够和预算不够，建议购买一套易损备件，作为紧急备用方案。
我们的精密级微型齿轮泵采用两段式模块化设计，更换易损件快捷方便。

Pumps are dynamic equipment that inevitably faces various extreme operating conditions, wear of consumable parts, and post-warranty issues.
To ensure your production stability, for critical process control pumps, we recommend implementing a one-in-operation, one-in-standby configuration. Where design space or budget constraints make this impractical, we advise purchasing a set of spare wear parts as an emergency backup solution.
Our precision micro gear pumps feature a two-stage modular design, enabling quick and convenient replacement of wear parts.

您将享有以下服务：

- 质量可靠的原厂易损件备件包
- 高效物流全球配送
- 提供相关技术支持以帮助您选购合适备件（备件咨询）
- 提供专业选型服务（选型咨询）

购买 JONSN 精密级微型齿轮泵备件客户，您需要提供齿轮泵编码（如图示），我们可以根据编码查询出厂时齿轮配合间隙，并进行定制化生产加工，确保一致性。

You will enjoy the following services:

- Reliable OEM wear parts spare kit
- Efficient global logistics & delivery
- Technical support to help you select the appropriate parts (Parts Consultation)
- Professional model selection service (Selection Consultation)

For customers purchasing JONSN precision micro gear pump spare parts: please provide the gear pump identification code (as shown in the illustration). Based on this code, we can retrieve the factory gear mesh clearance data and perform customized manufacturing to ensure consistency.

JONSN 原厂易损件备件包:

JONSN OEM Wear Parts Spare Kit:



用心、专注做好每一台齿轮泵就是我们的创业初心

Concentrate and focus on making every precision gear pump well.

上海琼森流体设备有限公司（国内销售）
SHANG HAI JONSN FLUID EQUIPMENT CO.,LTD.

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