

国家级高新技术企业  
浙江省级液压马达技术研发中心  
ISO9001质量体系认证  
ISO14001环境体系认证  
OHSAS18001职业健康安全体系认证

宁波中意液压马达有限公司  
NINGBO ZHONGYI HYDRAULIC MOTOR CO., LTD.

**THOTH** 萨奥思

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微信二维码



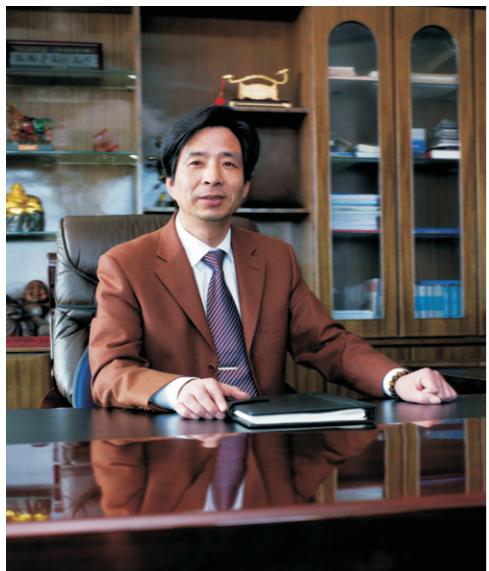
# PISTON

HYDRAULIC MOTOR PRODUCT  
MANUALS

柱塞马达产品手册



宁波中意液压马达有限公司 | **THOTH**  
NINGBO ZHONGYI HYDRAULIC MOTOR CO.,LTD. | 萨奥思



我们愿以“诚信、合作、互利、共赢”的原则，与国内外各界朋友真诚合作，共同创造；以先进的技术、卓越的品质、优良的服务竭尽全力成为广大用户值得信赖的合作伙伴。

We would like to sincerely cooperate with all the friends, domestic and overseas, on the principle of "good faith, cooperation, mutual benefits and co-winning", and jointly create the future. We will try our best to become your reliable partner with our leading technology, outstanding quality and best services.

蔡国定  
Cai Guoding

## COMPANY INTRODUCTION 企业简介

宁波中意液压马达有限公司成立于1971年，是中国目前规模最大的专业生产液压马达的高新技术企业之一，公司目前国内设有两大生产基地，其中宁波厂区占地面积44000多平方米，企业总资产达到3亿元；安徽芜湖厂区占地面积80000多平方米，一期投资1.5亿元。公司不仅具有国际标准化的加工车间，更拥有国际、国内领先技术的制造、检测设备。中意人将与您携手打造一流产品、一流服务、一流品牌。

公司位于中国经济最发达和最具有潜力的长江三角洲，浙江省的东部—宁波镇海经济开发区，海陆空交通发达。公司距宁波栎社国际机场20公里，距国际四大深水良港之一的北仑港10公里。宁波杭州湾跨海大桥的贯通，使宁波融入上海2小时交通圈。

Ningbo Zhongyi Hydraulic Motor Co., Ltd. was founded in 1971, and is one of the largest hi-tech enterprises in China that specialize in production of hydraulic motors. At present the company owns two manufacturing bases, one is in Ningbo covering an area of 44,000m<sup>2</sup>, with total asset of RMB300 million. The other is in Wuhu Anhui with an area of 80,000m<sup>2</sup>. First phase investment will be RMB150 million. The Company has manufacturing workshop meeting the international standards and the manufacture and test equipments that are leading technologically home and abroad. The staff of Zhongyi will create first-class products, services and brand hands in hands with you.

The Company is situated in Zhenhai Economic Development Zone in the east of Zhejiang Province in the Yangtze River Delta that is the most developed and has the greatest potential in economy in China, with convenient sea, land and air transportation conditions. The Company is 20km away from Ningbo Lishe International Airport, and 10km away from Beilun Seaport (one of four largest deep-water seaports in the world). The completed Ningbo Hangzhou Bay Crossing-sea Bridge merges Ningbo into the Shanghai 2-hour traffic circle.

2015年公司为加大研发力度成立了太原中意高科液压科技有限公司

2015年建立“浙江省博士后工作站”

2015年与中科院宁波材料所成立了“液压马达耐磨涂层材料研发中心”

2014宁波重大科技攻关项目成功验收

2013年安徽芜湖厂区正式投产

2012年被认定为宁波市企业技术创新团队

2011年建立多功能马达寿命检测中心

2010年被认定为浙江省级高新技术企业研究开发中心

2009年全面启用“THOTH”萨奥思品牌

2008年自主研发的ZYH型液压回转装置被列入国家火炬计划项目

2008年被评为国家级高新技术企业

2005年被评为浙江省高新技术企业

2005年与浙江大学共建“浙大宁波中意液压马达工程技术研究中心”

2004年工程技术中心被镇海科技创新“10+1”工程评为镇海区重点工程技术中心  
2004年被评为宁波市高新技术企业 2004年新厂房落成，全面投入生产使用

2002年公司网站建成，www.zihyd.com，同年获得自营进出口经营权，产品成功打入国际市场

2001年与上海大学合作建立中意液压工程技术中心

2000年实行股份制，并开发生产液压回转装置和液压绞车同年公司通过了ISO9001国际质量体系认证

1996年正式更名为宁波中意液压马达有限公司

1991年研究开发JMDG系列曲轴连杆液压马达

1989年同上海煤炭科学研究院合作开发生产BM系列摆线液压马达，并建立煤炭科学研究院上海分院镇海液压研究所

1978年试制生产QJM系列钢球马达，同时建立宁波镇海液压机械厂

1971年10月建厂当时厂名为宁波镇海城关农机厂

- In 2015, the company set up Taiyuan Zhongyi Gaoke Hydraulic Technology Co., Ltd. for research.
- In 2015 the company established Zhejiang province postdoctoral workstation.
- In 2015, the company established Hydraulic motor wear resistant coating material research Center.
- In 2014, Ningbo major scientific and technological projects successful acceptance.
- In 2013, Anhui Wuhu plant is put into operation officially.
- In 2012, the company was identified as the technology innovation team in Ningbo City.
- In 2011, multifunctional test center for motor life was established.
- In 2010, the company was evaluated as Zhejiang Hi-tech R&D Center.
- In 2009, the company launched new brand “THOTH”.
- In 2008, ZYH Hydraulic Slewer was listed in State Torch Plan.
- In 2008, the company was evaluated State Hi-tech Enterprise.
- In 2005, the company was evaluated Zhejiang Hi-tech Enterprise.
- In 2005, the company established Zhongyi Hydraulic motor Engineering Technology Center through cooperation with Zhejiang University.
- In 2004, the Engineering Technology Center was evaluated as key engineering technology center of Zhenhai by Zhenhai Technological Innovation “10+1” Project.
- In 2004, the Company was evaluated Ningbo Hi-tech Enterprise.
- In 2002, the Company's website www.zihyd.com was established, and in the same year, the Company was granted with import-export operations right for its materials and products. Its products successfully enter international market.
- In 2001, the Company established Zhongyi Hydraulic Engineering Technology Center through cooperation with Shanghai University.
- In 2000, joint stock system transformation was executed in the Company, and it developed and manufactured hydraulic slewer and hydraulic winch. In the same year, the Company passed ISO9001 international quality system certification.
- In 1996, the factory renamed Ningbo Zhongyi Hydraulic Motor Co., Ltd.
- In 1991, the factory researched and developed JMDG Series Radial Piston hydraulic motor.
- In 1989, the factory developed and produced BM Orbit hydraulic motor through cooperation with Shanghai Coal Science Research Institute, and Coal Science Research Academy Shanghai Branch Zhenhai Hydraulic Research Institute.
- In 1978, the factory started trial production of QJM sphere hydraulic motor, and meanwhile Ningbo Zhenhai Hydraulic Machinery Factory was established.
- The original factory name was Ningbo Zhenhai Chengguan Agricultural Machinery Factory when the factory was set up in October 1971.

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全球尖端设备，打造中意产品，“工欲善其事，必先利其器”，中意不惜巨资引进全球最高精设备，以雄厚的制造实力，为社会和广大用户源源不断的奉献优质产品。

Global sophisticated equipment is used for production of Zhongyi products. A handy tool makes a handy man. Zhongyi invests a large quantity of fund to import most sophisticated equipment in the world and with its strong manufacturing strength provide high-quality products to the society and users.



# PRODUCTS APPLICATION

## 产品应用

公司生产的各类产品可广泛应用于矿山建筑工程机械、起重运输设备、重型冶金机械、石油煤矿机械、船舶甲板机械、机床、轻工、塑料机械、地质钻探设备、农业和林业机械、矿物机械、建筑设备和工作平台、割草机、特殊车辆、渔业卷扬机、工具机、木工和锯木机、橡胶机械等各种机械的液压传动系统中。特别适用于注塑机的螺杆驱动、提升绞盘、卷筒的驱动、各种回转机构的驱动履带和轮子行走机构的驱动。

All kinds of products manufactured by the Company can be widely applied in the hydraulic drive systems of mine construction machinery, cranes and transporting equipment, heavy-type metallurgic machinery, petroleum and coal mine machinery, vessel deck machinery, machine tools, light industry, plastic machinery, geological drilling equipment, agricultural and forest machinery, mineral equipment, construction equipment and working platform, lawn mowers, special vehicles, fishery winches, machine tools, carpenter machinery and sawing machines, and rubber machinery. These products are especially applicable to screw drives of plastics injection machines, the drives of lifting winches and winding drums, and driving tracks of rotating mechanisms and the drive of wheel traveling mechanisms.



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四

## ● 产品概述



JMDG 径向曲轴连杆式液压马达是一种可补偿式端面配油结构的低速大扭矩液压马达，广泛应用于石油、化工、矿山船舶，建筑等机械的液压传动系统中，特别适用于注塑机的螺杆驱动以及绞盘、卷筒，各种

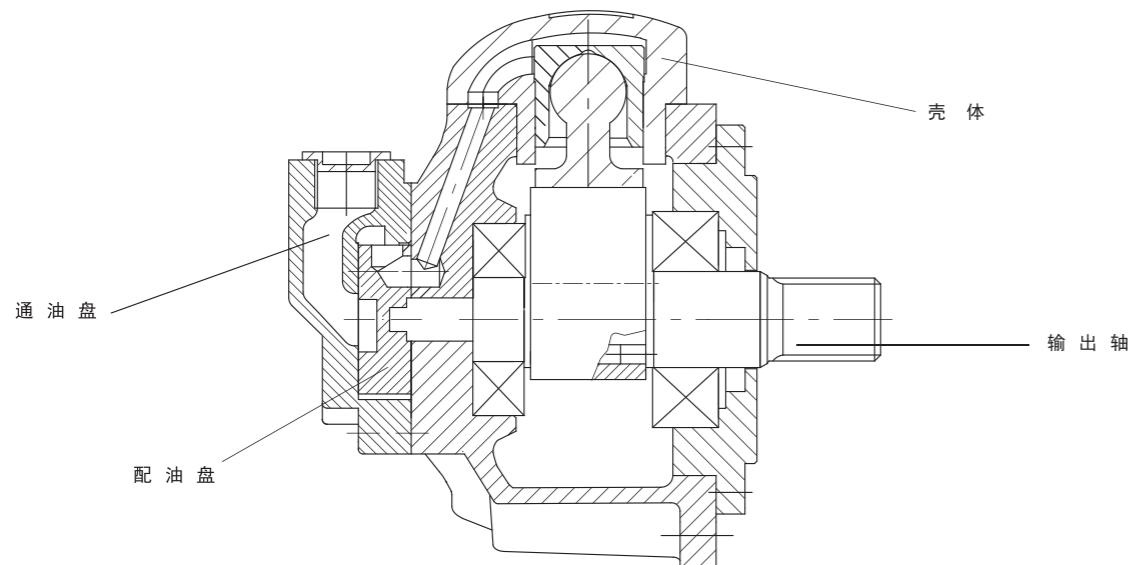
回转机构的驱动，履带和轮子行走机构的驱动等传动机构中。

## ● 性能特点

- ※ 采用了曲轴及较低激振频率的五缸五活塞机构，保持了原有的低噪音特点；
- ※ 启动扭矩大（启动机械效率提高到 0.9 以上）具有良好的低速稳定性，能在很低的速度下平稳运转；
- ※ 采用了可靠的可补偿式端面配油结构，泄漏减少，维修方便，活塞和缸体间用新型活塞环密封，具有较高的容积效率；
- ※ 曲轴和连杆间由滚柱支撑具有很高机械效率；
- ※ 旋转方向可逆，输出轴允许承受径向和轴向外力；
- ※ 具有较高的功率质量比。

## ● 工作原理

通压力油的柱塞缸受液压力的作用，在柱塞体上产生推力 P。此力通过连杆作用在曲轴中心，使输出轴旋转，同时配油盘随着一起转动，当柱塞所处位置超过下死点时，柱塞缸由配油盘接通总回油口，曲轴向上推动柱塞，此时，作功后的液压油通过配油盘返回油箱。各柱塞依次接通高低压力油，各柱塞对输出轴中心所产生的驱动力矩同向相加，就使马达输出轴获得连续而平稳的回转扭矩。当改变油流方向时，便可改变马达的旋转方向。如将配油盘旋转 180° 装配，也可以实现马达的反转。



## ● INTRODUCTION

JMDG is one kind of low speed high torque radial piston hydraulic motor. It can be widely applied in petroleum industry, chemical industry, mining, shipping, constructing machinery, especially for plastic injection molding machinery, hydraulic winch, transmission etc.

## ● CHARACTERISTICS

- ※ Low noise
- ※ High starting torque(mechanical efficiency improved to over 0.9), good stability when low speed
- ※ High volumetric efficiency
- ※ Higher mechanical efficiency
- ※ Opposite rotating available
- ※ Radial and axial load available
- ※ Higher kw/kg ratio

## ● WORKING PRINCIPLE

High pressure oil comes into the cylinder, working on the piston, pushing the piston down, the piston is connected to the crankshaft, then the crankshaft will turn. Together with oil distributor. When piston walks to its lowest position, the cylinder will get through with the oil tank, then the piston goes back. Total 5 pistons work one by one, the crankshaft will turn continually. When the working oil flows oppositely, the shaft will turn in another direction.

## ● 型号意义 ORDERING CODE

**JMDG**

1	2	3	4	5	6	7	8	9

1.宁波中意液压马达有限公司径向柱塞曲轴连杆式低速大扭矩液压马达

Low speed high torque radial piston hydraulic motor manufactured by Ningbo Zhongyi Hydraulic Motor Co.,Ltd.

2.系列号（同一系列不同排量的液压马达其安装联接尺寸相同）

Series number(Motors in one series have same dimensions.)

3.理论排量

Theoretical displacement

4.输出轴类型

Output shaft

1) A表示标准矩形外花键轴

A means standard rectangle spline shaft

2) B表示标准平键轴

B means standard key shaft

3) I表示矩形内花键轴

I means female rectangle spline shaft

5.壳体种类

Shell type

壳体代号用C表示，标准壳体省略

The shell code is expressed in C, standard shell omit

6.安装法兰种类

Flange type

1) 无连接板用F表示，标准省略

No connecting plate is expressed in F,standard omit

2) 有连接板用S表示

With connecting plate is expressed in S

7.通油盘种类

Distributor

1)通油盘代号，标准通油盘见各系列马达安装联接图

Distributor code, standard distributors can be found in different series

2)如有特殊需要请参见P25页，并在定货中注明

Special distributor can be found in page 25

8.特殊要求用T表示，标准省略

Special features is expressed in T,standard omit

9.输出转向

Output turning

R为顺时针旋转，L为逆时针旋转（从轴头看）

R means clockwise,L means anticlockwise(see from the shaft end)

备注：定单上必须注明完整的采购代码

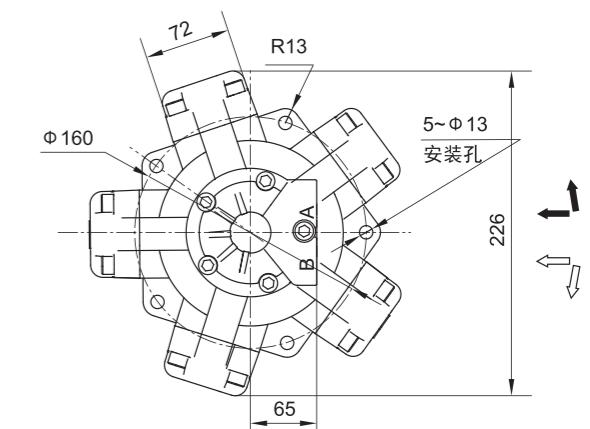
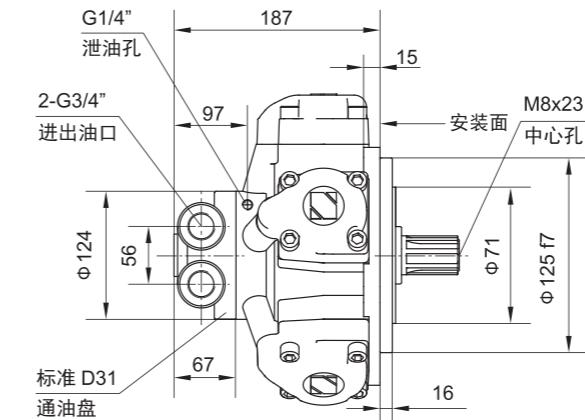
Note:Full ordering code is a must when placing an order.

\*如有其他特殊要求请与本公司联系

## ● 技术参数 TECHNICAL DATA

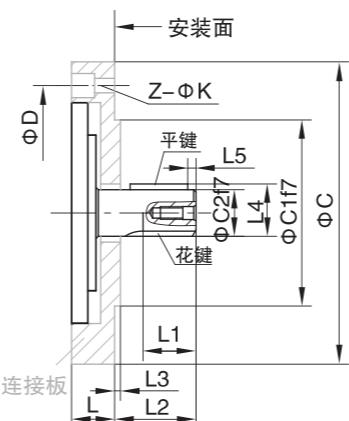
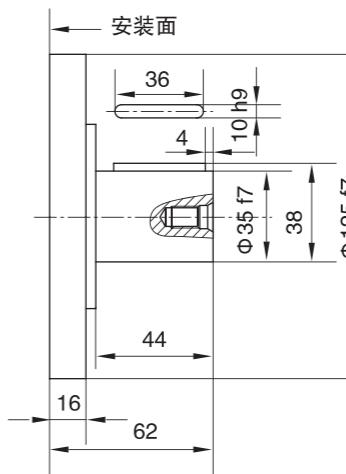
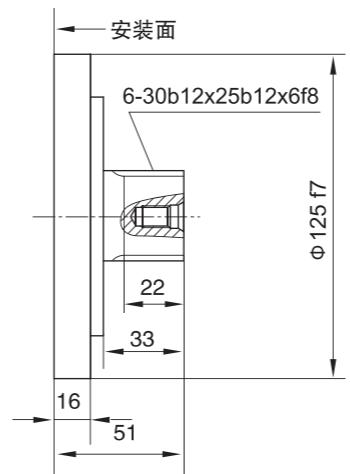
型号 TYPE	排量 Displacement (ml/r)	压力 Pressure (Mpa)		扭矩 Torque (N.m)		转速 范围 Speed Range (r/min)	最大 输出功率 Max.cont. Power (kw)	重量 Weight (kg)
		尖峰压 力 peak pressure	连续压 力 cont. pressure	额定扭 矩 (N.m) Rate torque	单位理论扭 矩 N.m/Mpa Theoric Torque			
JMDG1-50	56	24	20	164	8	35-500	6	23
JMDG1-63	64	24	20	188	9	35-500	7	23
JMDG1-80	78	22	18	206	11	35-500	9	23
JMDG1-100	96	22	18	253	14	35-500	11	23
JMDG1-125	126	22	18	332	18	35-500	15	23
JMDG1-160	159	20	16	373	23	35-500	16	23
JMDG2-100	113	24	20	331	17	30-400	11	28
JMDG2-150	157	24	20	460	23	30-400	15	28
JMDG2-175	176	22	18	464	26	30-400	17	28
JMDG2-200	201	22	18	530	29	30-400	19	28
JMDG2-250	254	20	16	595	37	30-400	21	28
JMDG2-280	271	20	16	635	39	30-400	23	28
JMDG3-200	199	22	18	525	29	30-350	25	36
JMDG3-250	254	22	18	670	37	30-350	32	36
JMDG3-300	289	22	18	762	42	30-350	32	36
JMDG3-350	351	22	18	926	51	30-350	32	36
JMDG3-400	397	20	16	931	58	30-350	32	36
JMDG3-450	462	20	16	1083	68	30-350	32	36
JMDG6-400	397	22	18	1047	58	25-320	46	65
JMDG6-450	452	22	18	1192	66	25-320	53	65
JMDG6-500	491	22	18	1295	72	25-320	53	65
JMDG6-600	594	22	18	1566	87	25-320	63	65
JMDG6-700	683	22	18	1801	100	25-320	63	65
JMDG6-750	754	20	16	1767	110	25-320	63	65
JMDG6-800	799	20	16	1873	117	25-320	63	65
JMDG8-600	617	22	18	1627	90	20-280	80	71
JMDG8-700	710	22	18	1872	104	20-280	80	71
JMDG8-800	810	22	18	2136	118	20-280	85	71
JMDG8-900	889	20	16	2084	130	20-280	85	71
JMDG8-1000	1000	20	16	2344	146	20-280	85	71
JMDG8Y-700	710	24	20	2080	101	20-280	85	75
JMDG8Y-800	810	24	20	2373	116	20-280	85	75
JMDG8Y-900	889	24	20	2604	127	20-280	85	75
JMDG8Y-1000	1000	24	20	2930	143	20-280	85	75
JMDG8Y-1100	1117	22	18	2945	160	20-280	90	75
JMDG8Y-1200	1178	22	18	3106	168	20-280	90	75
JMDG11-700	714	24	20	2092	104	18-280	80	90
JMDG11-800	782	24	20	2291	114	18-280	80	90
JMDG11-900	903	24	20	2646	114	18-280	80	90
JMDG11-1000	995	22	18	2624	146	18-280	85	90
JMDG11-1100	1116	22	18	2943	163	18-280	85	90
JMDG11-1200	1175	20	16	2754	172	18-280	85	90
JMDG11-1300	1296	20	16	3038	190	18-280	80	90
JMDG16-1400	1413	24	20	4050	202	15-250	100	160
JMDG16-1600	1648	24	20	4829	241	15-250	110	160
JMDG16-1800	1814	22	18	4783	265	15-250	110	160
JMDG16-2000	2034	22	18	5364	298	15-250	110	160
JMDG16-2400	2412	20	16	5654	353	15-250	97	160
JMDG16Y-2500	2665	24	20	7808	390	10-200	110	260
JMDG16Y-3000	3029	24	20	8875	444	10-200	110	260
JMDG16Y-3150	3161	24	20	9262	463	10-200	110	260
JMDG31-2500	2550	24	20	7471	373	10-200	150	325
JMDG31-2800	2826	24	20	8280	414	10-200	150	325
JMDG31-3000	3050	22	18	8043	447	10-200	140	325
JMDG31-3150	3142	22	18	8285	460	10-200	140	325
JMDG31-3500	3419	22	18	9016	501	10-200	140	325
JMDG31-4000	4170	22	18	10996	611	10-200	130	325
JMDG31-4500	4522	22	18	11924	663	10-160	130	325
JMDG31-5000	5190	20	16	12165	760	10-160	130	325
JMDG71-4600	4617	22	16	10822	676	5-125	145	415
JMDG71-5400	5459	20	16	12795	799	5-125	145	415
JMDG71-6300	6361	18	14	13046	932	5-125	145	415
JMDG100-6300	6133	20	16	14375	898	5-100	168	700
JMDG100-8000	7693	20	16	18032	1127	5-100	168	700
JMDG100-10000	10688	18	14	21921	1565	5-100	168	700
JMDG160-12500	13335	20	16	30577	1911	3-80	200	1000
JMDG160-16000	16040	18	14	32182	2298	3-63	200	1000

## ● JMDG1 外型安装图 Installation



标准外花键 JMDG1-\*\*A

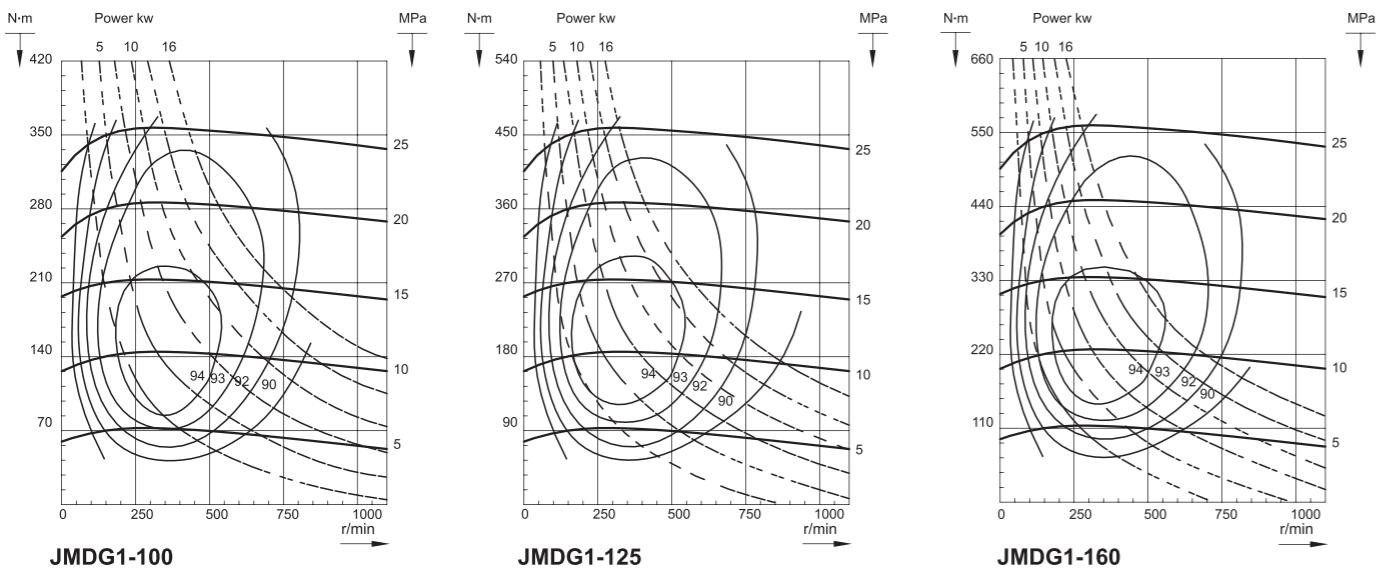
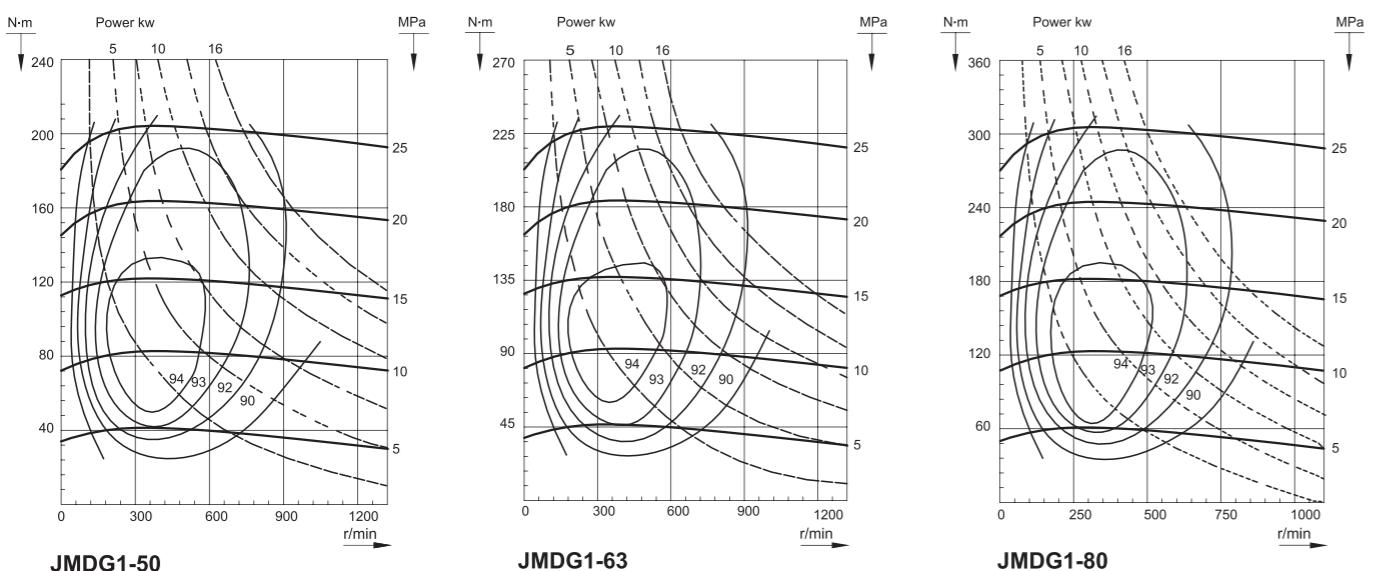
标准平键 JMDG1-\*\*B



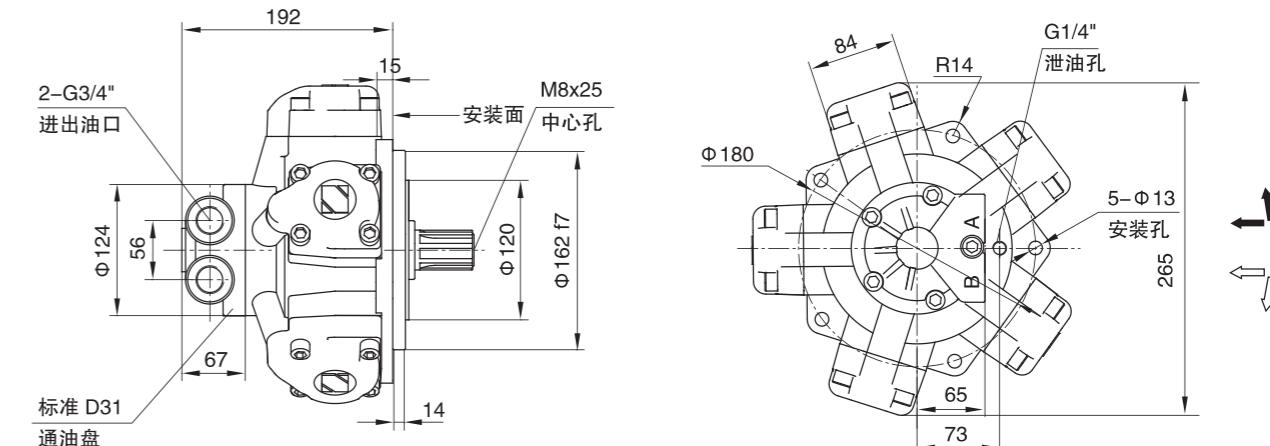
外型安装 型号	接板 直径	止口	轴径	接板厚	花键有效长度	安装面与 轴端距离	止口高	轴径与平 键总高	轴端与平 键距离	安装孔分度圆	安装孔	键参数
	C	C1	C2	L	L1	L2	L3	L4	L5	D	Z- $\phi$ K	
JMDG1-**B5D31L4	-	125	30	-	-	65	16	33	3	160	5- $\phi$ 13	8x40
JMDG1-**B1S1	186	82.5	25.4	32	-	51	10	28	4	106.4	2- $\phi$ 11	6.35x32
JMDG1-**B2	-	125	35	-	-	78	16	38	4	160	5- $\phi$ 13	10x45
JMDG1-**B11S2	186	125	25	22	-	51	10	28	4	105	4- $\phi$ 11	8x32

型号 TYPE	排量 Displacement (ml/r)	压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG1-50	56	24	20	164	8	35-500	6	23
JMDG1-63	64	24	20	188	9	35-500	7	23
JMDG1-80	78	22	18	206	11	35-500	9	23
JMDG1-100	96	22	18	253	14	35-500	11	23
JMDG1-125	126	22	18	332	18	35-500	15	23
JMDG1-160	159	20	16	373	23	35-500	16	23

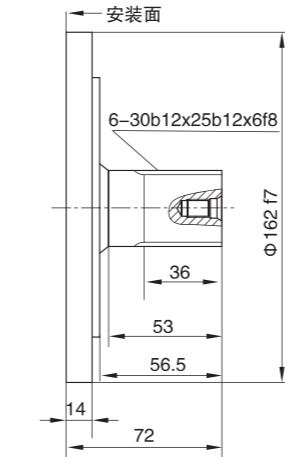
## ● JMDG1-50~160 性能曲线图 PERFORMANCE DIAGRAMS



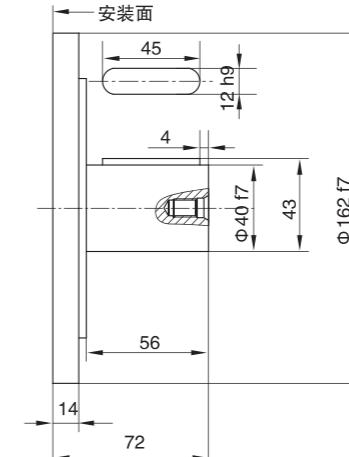
## ● JMDG2 外型安装图 Installation



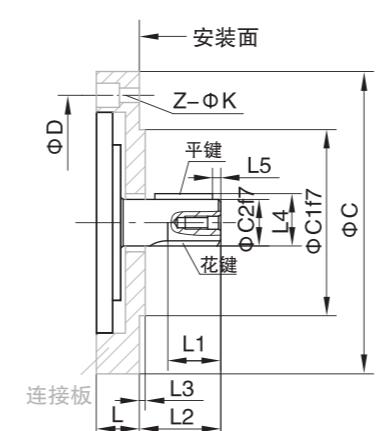
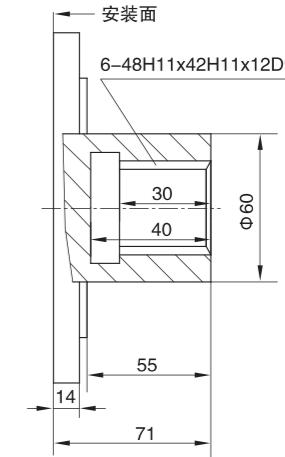
标准外花键 JMDG2-\*\*A



标准平键 JMDG2-\*\*B



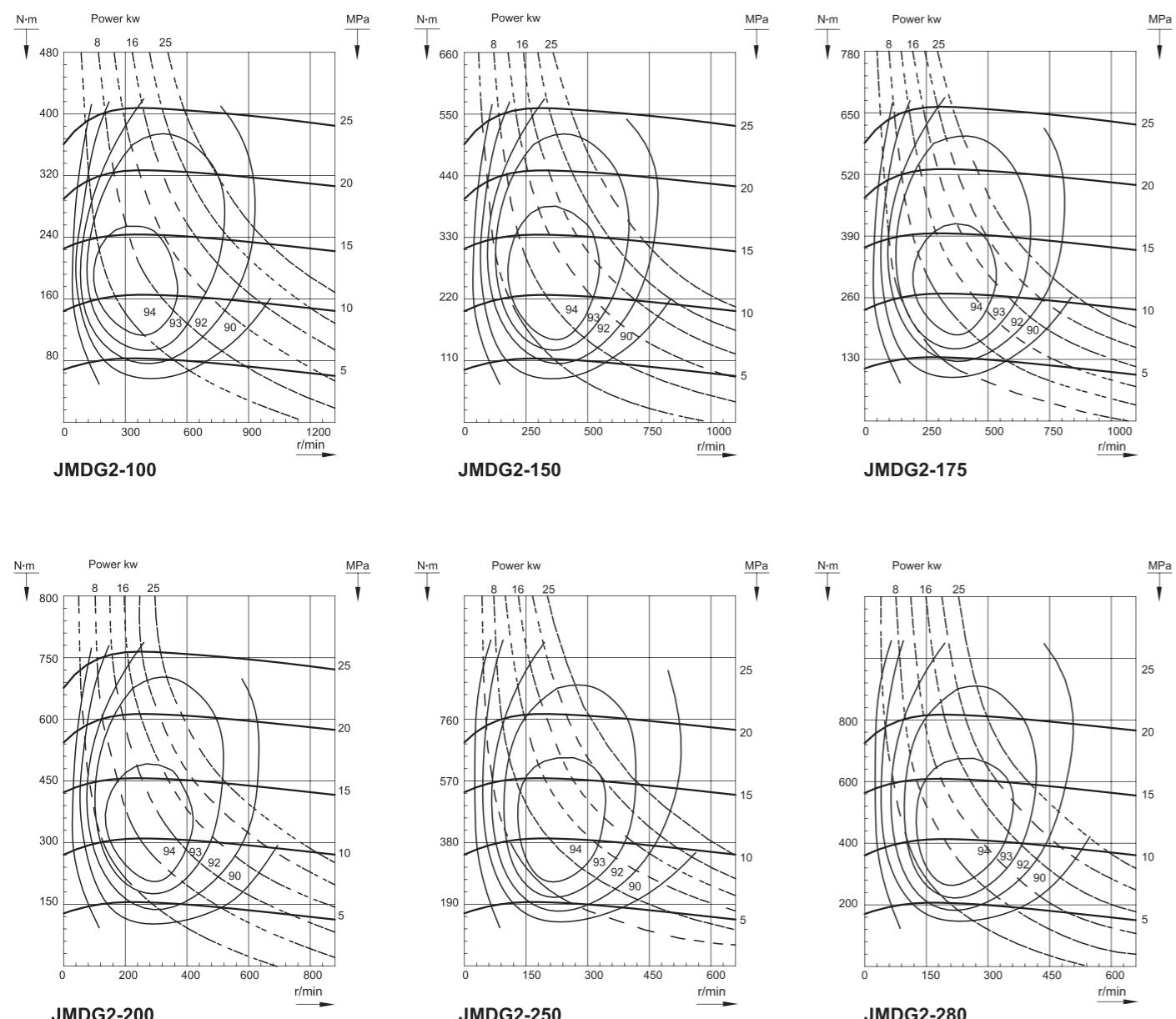
标准内花键 JMDG2-\*\*I



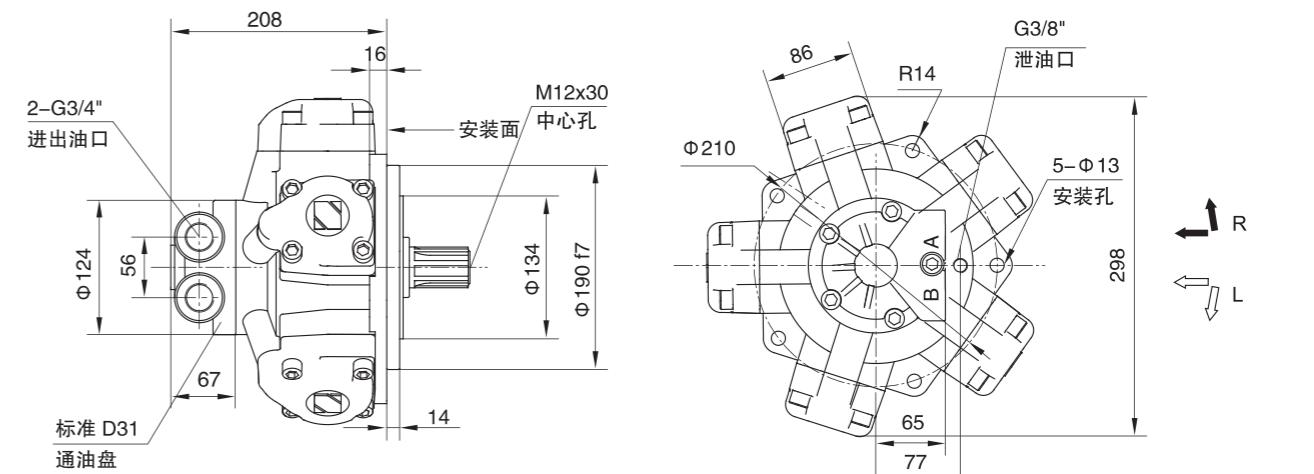
型号	外型安装	接板直径 C	止口					轴径 L	接板厚 L1	花键有效长度 L2	安装面与轴端距离 L3	止口高 L4	轴径与平键总高 L5	轴端与平键距离 D	安装孔分度圆 Z-ΦK	键参数
			C1	C2	L	L1	L2									
JMDG2-**B7(C2)F4	-	172	32	-	-	59	14	35	4	190	5-Φ11	10x35				
JMDG2-**A1S7	232	175	34	30	30	42	3	-	-	210	2-Φ13	6-34d11x28d11x7f8				
JMDG2-**B1S8	232	175	40	30	-	58	3	43	6	210	5-Φ13	12x50				
JMDG2-**B1S2	208	125	40	35	-	56	5	43	4	160	4-Φ13	12x50				
JMDG2-**B2S3	208	82.5	25.4	35	-	56	5	28	4	106.4	2-Φ11	6.35x32				
JMDG2-**B3S5	162	100	35	40	-	39	4	38	4	160	5-Φ13	10x45				

型号 TYPE	排量 Displacement (ml/r)	压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG2-100	113	24	20	331	17	30~400	11	28
JMDG2-150	157	24	20	460	23	30~400	15	28
JMDG2-175	176	22	18	464	26	30~400	17	28
JMDG2-200	201	22	18	530	29	30~400	19	28
JMDG2-250	254	20	16	595	37	30~400	21	28
JMDG2-280	271	20	16	635	39	30~400	23	28

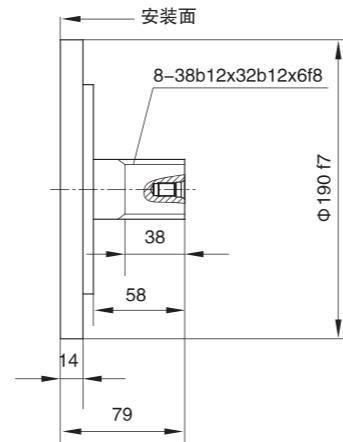
## ● JMDG2-100~280 性能曲线图 PERFORMANCE DIAGRAMS



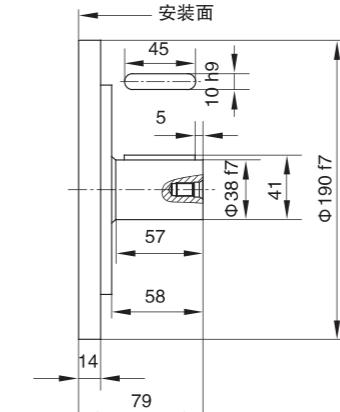
## ● JMDG3 外型安装图 Installation



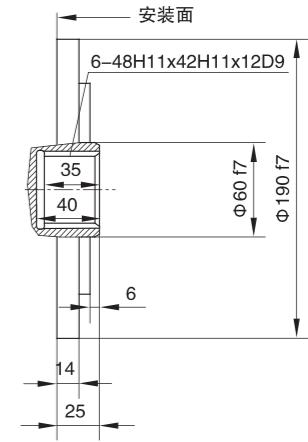
标准外花键 JMDG3-\*\*A



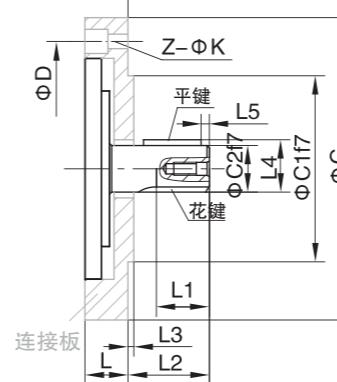
标准平键 JMDG3-\*\*B



标准内花键 JMDG3-\*\*I



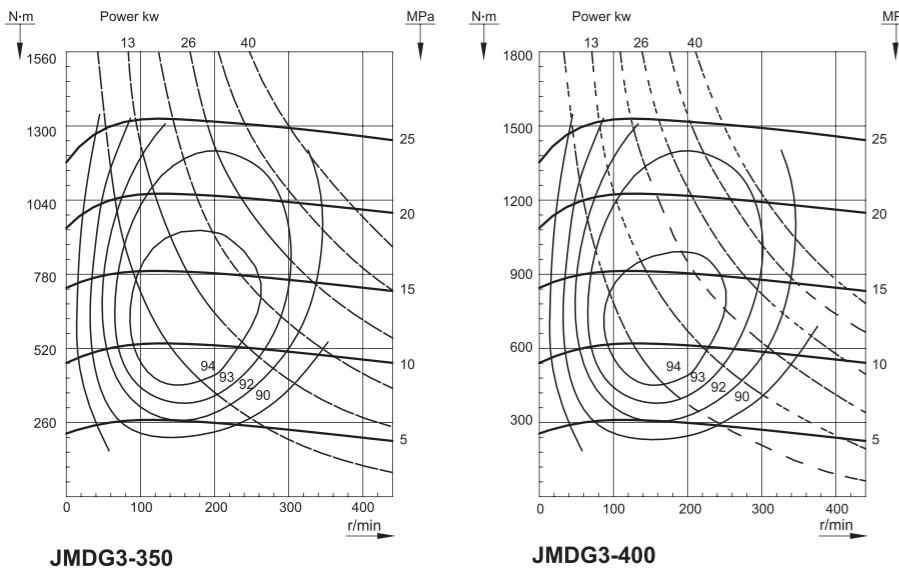
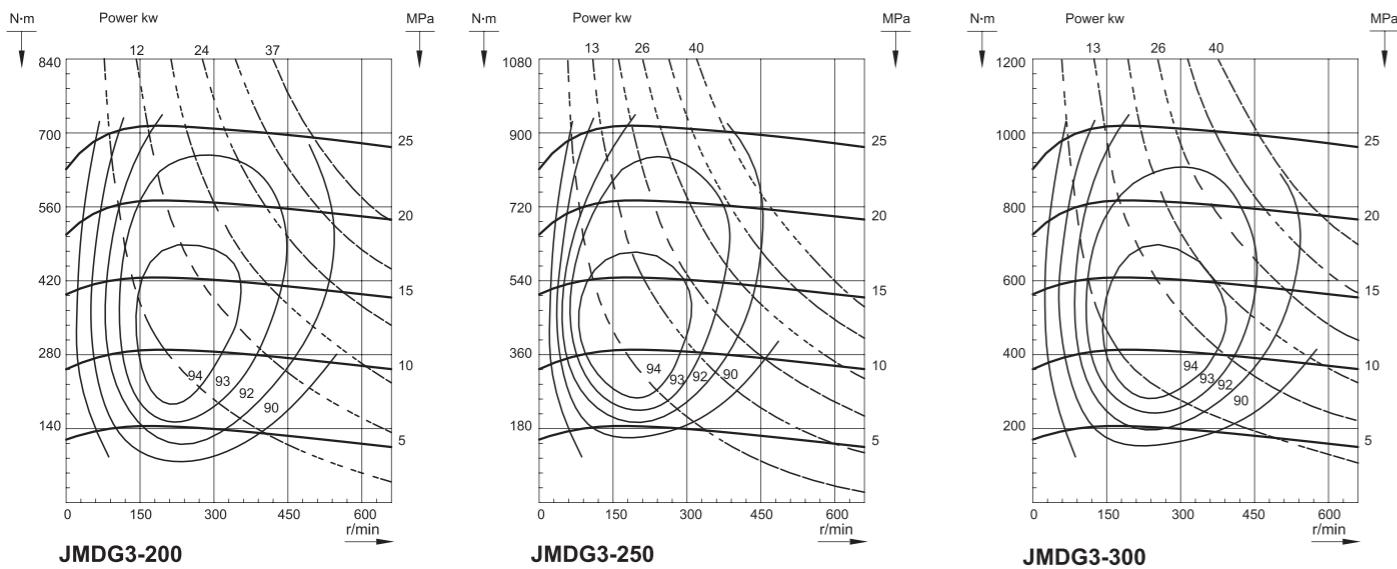
安装面



型号	外型安装	键参数										
		C	C1	C2	L	L1	L2	L3	L4	L5	D	Z-Φ K
JMDG3-**A8	-	190	38	-	27	68	14	-	-	210	5-Φ 13	8-38b12x32b12x6f8
JMDG3-**A5(C2)S7D31L4	238	175	34	37	38	42	3	-	-	210	5-Φ 13	6-34d11x28d11x7f8
JMDG3-**A6S8D31L4	226	150	40	37	60	72	5	-	-	195	5-Φ 13	8-40d11x36d11x7f8
JMDG3-**B1S1	238	125	40	37	-	64.5	5	43	4	160	4-Φ 13	12x50
JMDG3-**B2S2	238	160	50	37	-	98	5	53.5	4	200	2-Φ 17	14x50
JMDG3-**B4S2	238	160	50	37	-	85	5	53.5	4	200	2-Φ 17	14x50

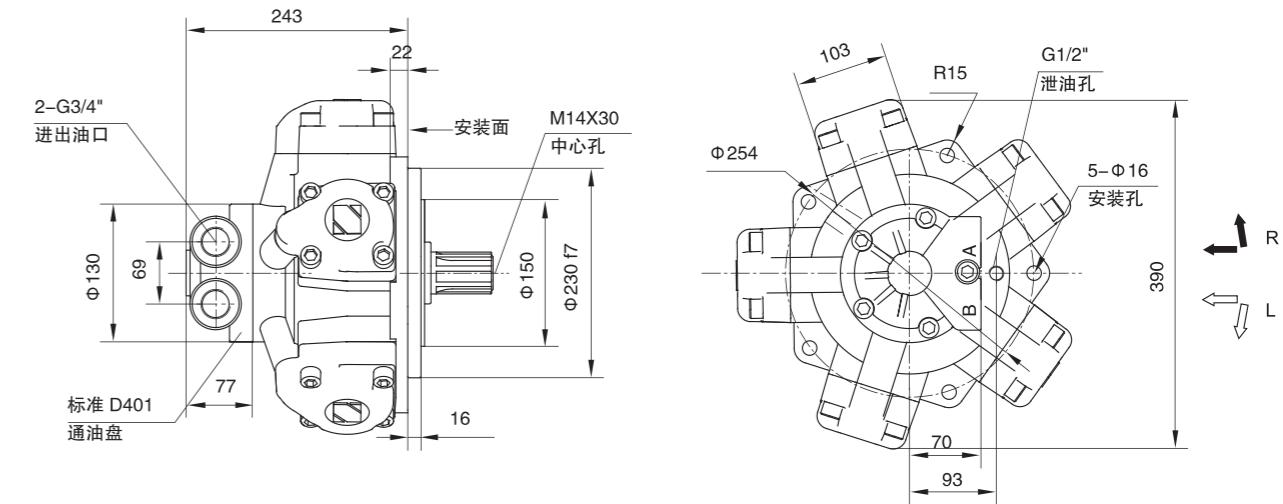
型号 TYPE	排量 Displacement (ml/r)	压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG3-200	199	22	18	525	29	30-350	25	36
JMDG3-250	254	22	18	670	37	30-350	32	36
JMDG3-300	289	22	18	762	42	30-350	32	36
JMDG3-350	351	22	18	926	51	30-350	32	36
JMDG3-400	397	20	16	931	58	30-350	32	36
JMDG3-450	462	20	16	1083	68	30-350	32	36

#### ● JMDG3-200~400 性能曲线图 PERFORMANCE DIAGRAMS

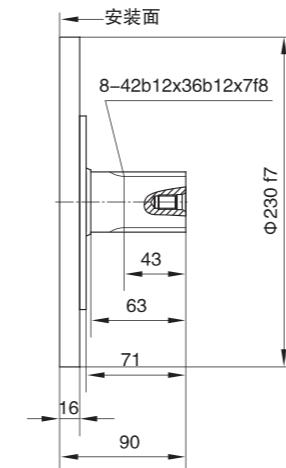


JMDG6 曲轴连杆式径向柱塞液压马达 JMDG6 Radial piston hydraulic motor

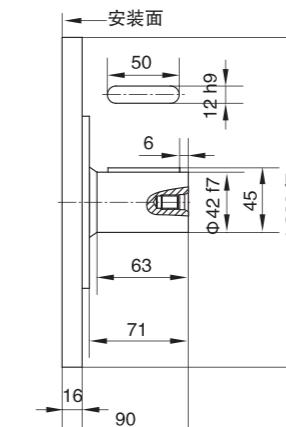
## ● JMDG6 外型安装图 Installation



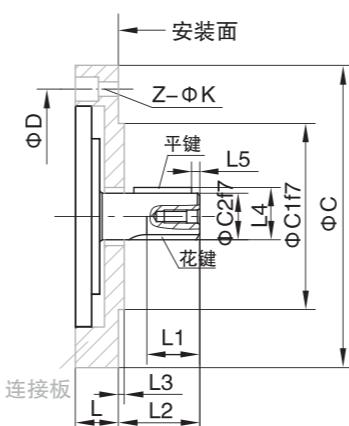
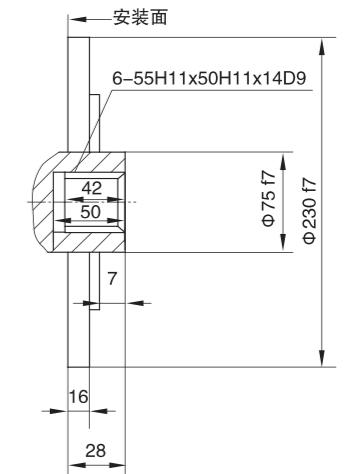
标准外花键 JMDG6-\*\*A



标准平键JMDG6-\*\*B



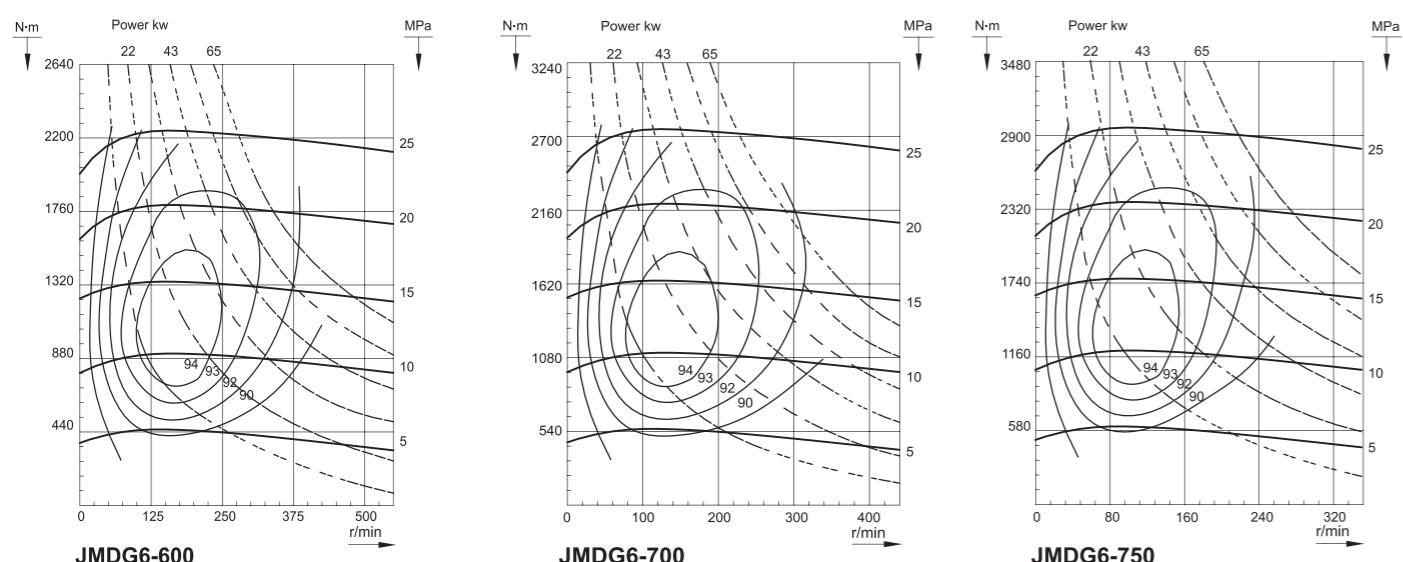
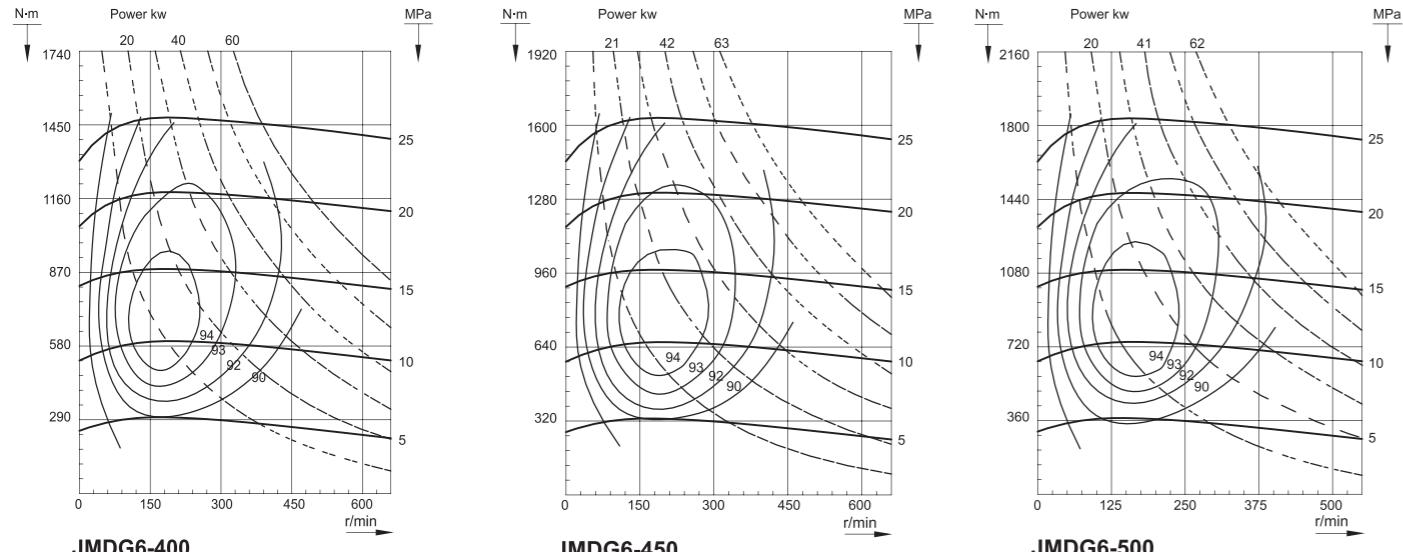
标准内花键 JMDG6-\*\*



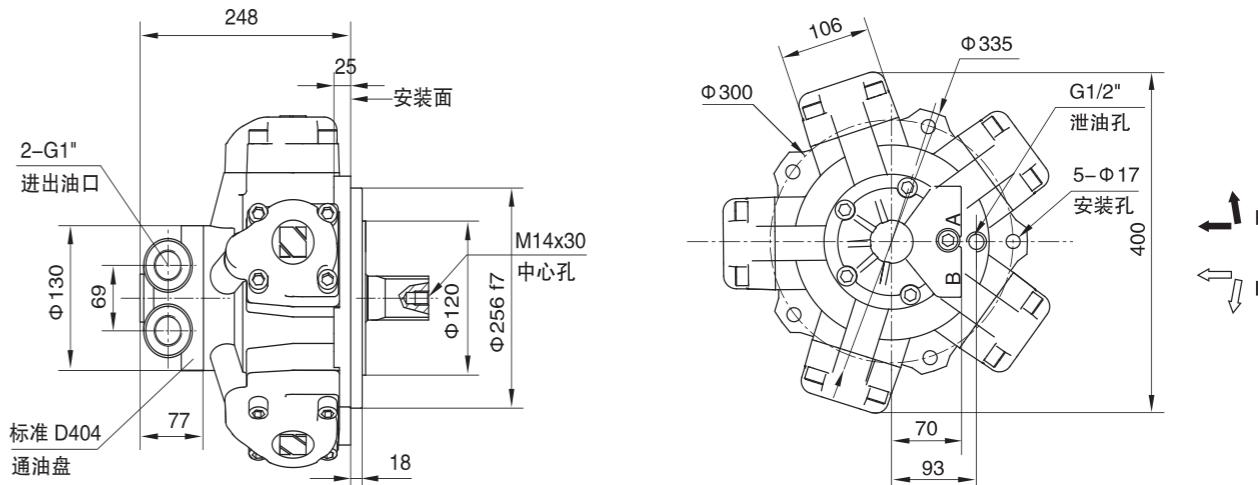
外型安装 型号	接板 直径	止口	轴径	接板厚	花键有效 齿长	安装面与 轴端距离	止口高	轴端与平 键总高	轴端与平 键距离	安装孔 分度圆	安装孔	键参数
	C	C1	C2	L	L1	L2	L3	L4	L5	D	Z-φK	
JMDG6-**A10(C5)	-	230	42	-	43	86	16	-	-	254	5-φ16	8-42b12x36b12x7f8
JMDG6-**A7S10	284	150	40	37	48	72	5	-	-	195	5-φ13	8-40b11x36b11x7f8
JMDG6-**A6(C3)S9	-	150	40	-	48	72	5.3	-	-	250	5-φ16	8-40d11x36d11x7f8
JMDG6-**B8S11	350	265	50	30	-	86	10	53.5	6	310	5-φ20	16x70
JMDG6-**B1S4	284	125	40	37	-	70	5	43	6	160	4-φ17	12x50
JMDG6-**B2S5	284	160	50	37	-	103	5	53.5	4	200	4-φ17	14x50

型号 TYPE	排量 Displacement (ml/r)	压力Pressure (MPa)		扭矩Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG6-400	397	22	18	1047	58	25-320	46	65
JMDG6-450	452	22	18	1192	66	25-320	53	65
JMDG6-500	491	22	18	1295	72	25-320	53	65
JMDG6-600	594	22	18	1566	87	25-320	63	65
JMDG6-700	683	22	18	1801	100	25-320	63	65
JMDG6-750	754	20	16	1767	110	25-320	63	65
JMDG6-800	799	20	16	1873	117	25-320	63	65

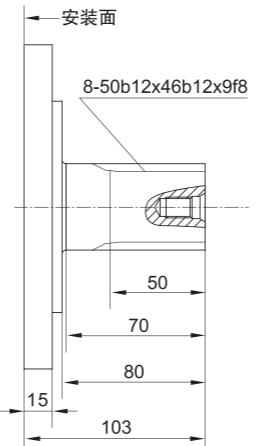
## ● JMDG6-400~750 性能曲线图 PERFORMANCE DIAGRAMS



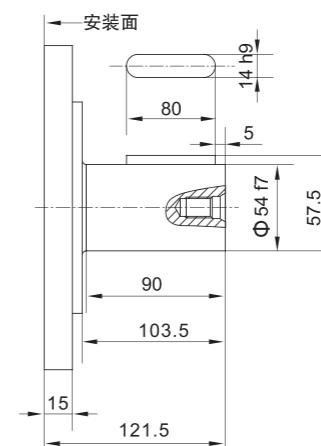
## ● JMDG8 外型安装图 Installation



标准外花键 JMDG8-\*\*A



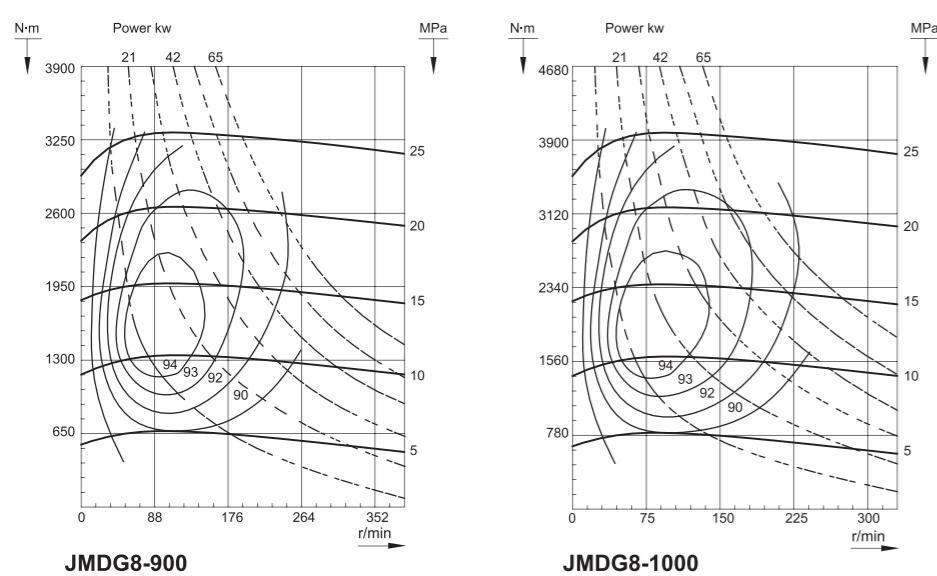
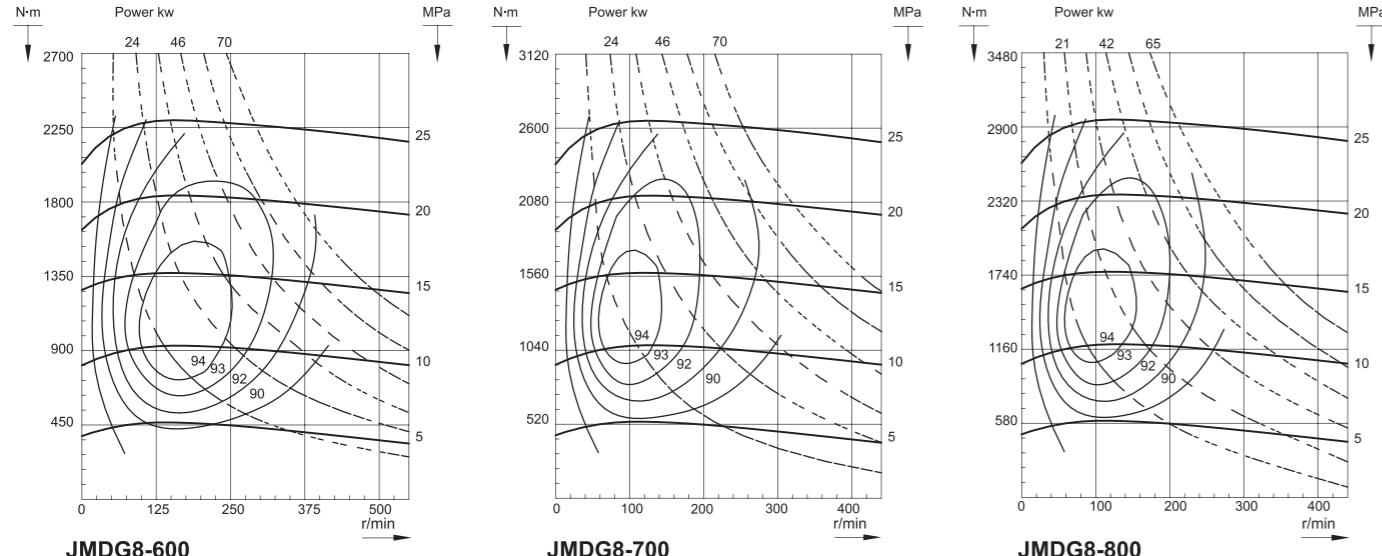
标准平键 JMDG8-\*\*B



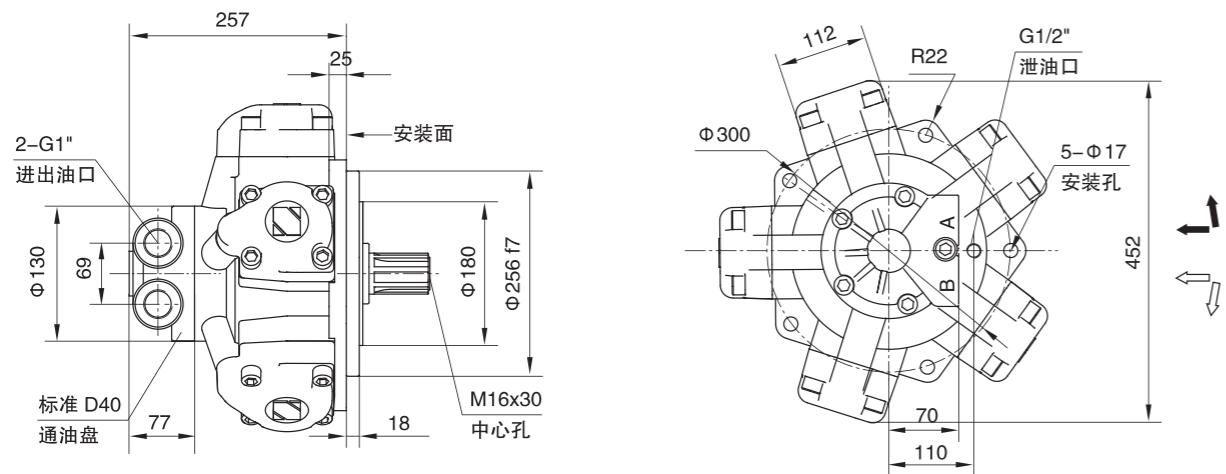
型号 TYPE	排量 Displacement (ml/r)	压力Pressure (MPa)		扭矩Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG8-600	617	22	18	1627	90	20-280	80	71
JMDG8-700	710	22	18	1872	104	20-280	80	71
JMDG8-800	810	22	18	2136	118	20-280	85	71
JMDG8-900	889	20	16	2084	130	20-280	85	71
JMDG8-1000	1000	20	16	2344	146	20-280	85	71
JMDG8Y-700	710	24	20	2080	101	20-280	85	75
JMDG8Y-800	810	24	20	2373	116	20-280	85	75
JMDG8Y-900	889	24	20	2604	127	20-280	85	75
JMDG8Y-1000	1000	24	20	2930	143	20-280	85	75
JMDG8Y-1100	1117	22	18	2945	160	20-280	90	75
JMDG8Y-1200	1178	22	18	3106	168	20-280	90	75

备注：JMDG8Y 的最大外形尺寸 430，其它与 JMDG8 相同。

## ● JMDG8-600~1000 性能曲线图 PERFORMANCE DIAGRAMS



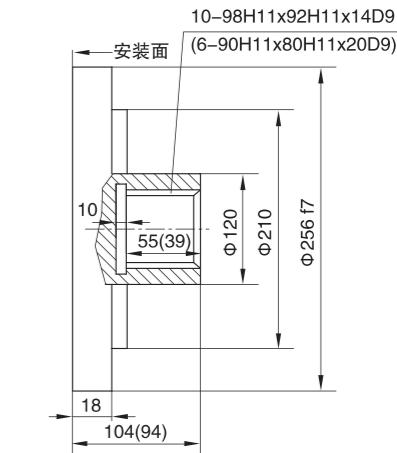
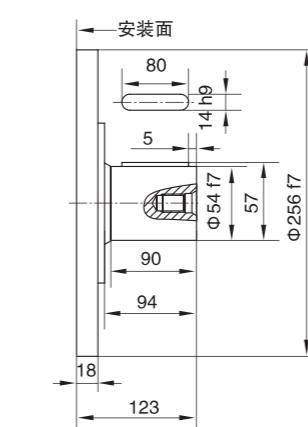
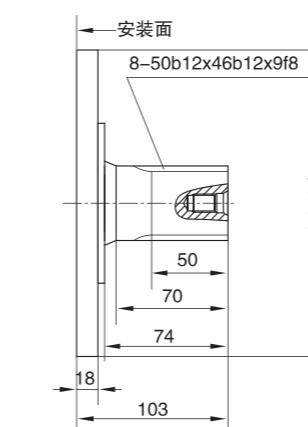
## ● JMDG11 外型安装图 Installation



标准外花键 JMDG11-\*\*A

标准平键 JMDG11-\*\*B

标准内花键 JMDG11-\*\*I



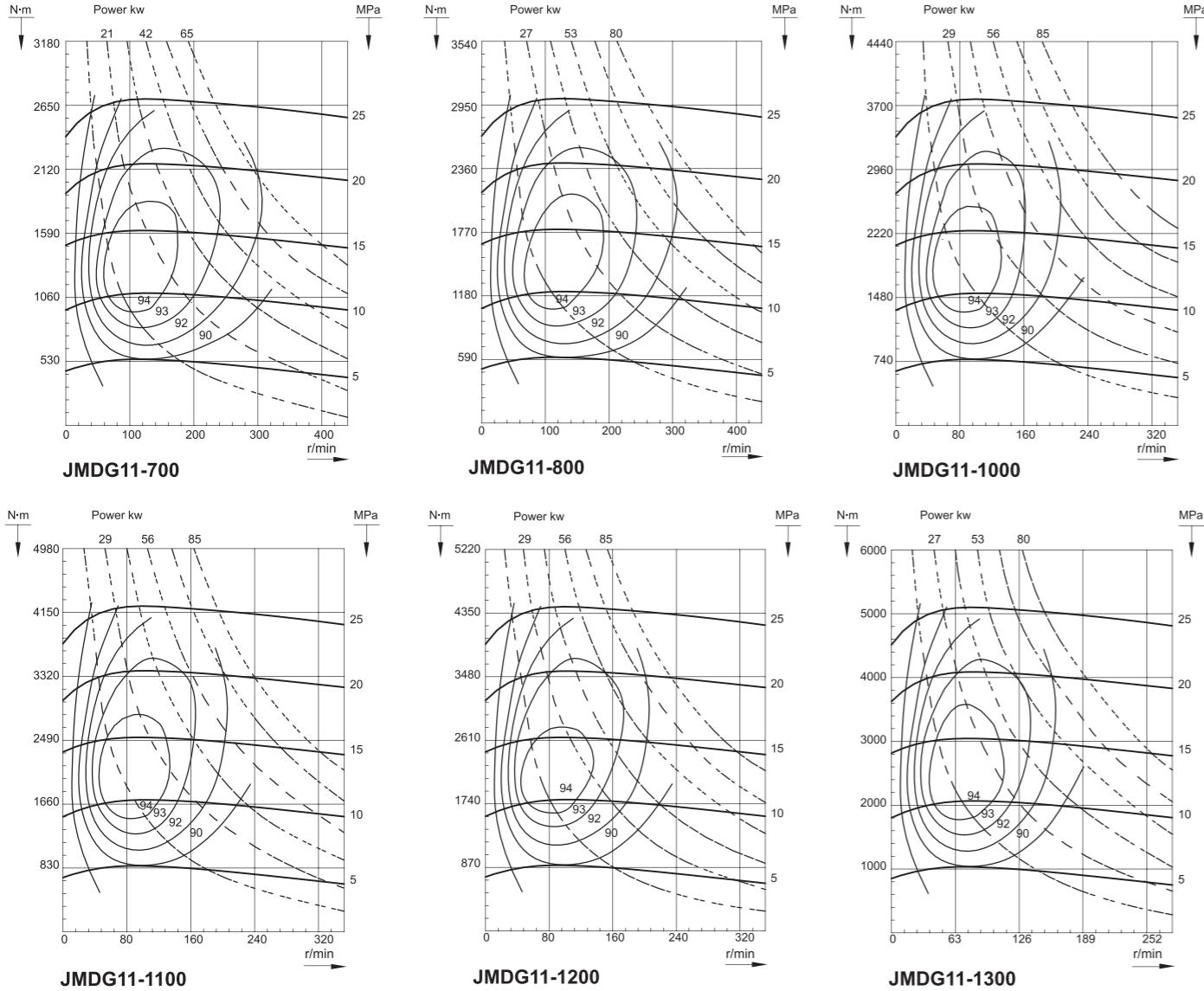
马达型号	安装尺寸								键参数							
	L	L1	L2	L3	L4	L5	L6	L7	C	C1	C2	C3	B1	B2	D	N-ΦA
JMDG11-**B14(C5)F9	90	—	79	80	74.5	5	10	45	344	265	—	70	—	—	310	5-Φ17
JMDG11-**A5S9	136	61	—	108	—	—	18	25	340	256	175	65	86	6	300	5-Φ17
JMDG11-**B2S6	176	—	140	146	67.4	5	18	25	348	256	200	63	127	7	300	5-Φ17
JMDG11-**B3F4	122	—	90	92	63	5	18	25	344	260	—	60	—	—	300	5-Φ17
JMDG11-**B4(C2)F5	153	—	110	130	74.5	5	13	32	344	280	—	70	—	—	320	5-Φ18
JMDG11-**B5S7	176	—	140	146	64.4	5	18	25	344	256	150	60	127	7	300	5-Φ17
JMDG11-**D	138	—	109	109	67.4	5	18	25	344	256	—	63	—	—	300	5-Φ17

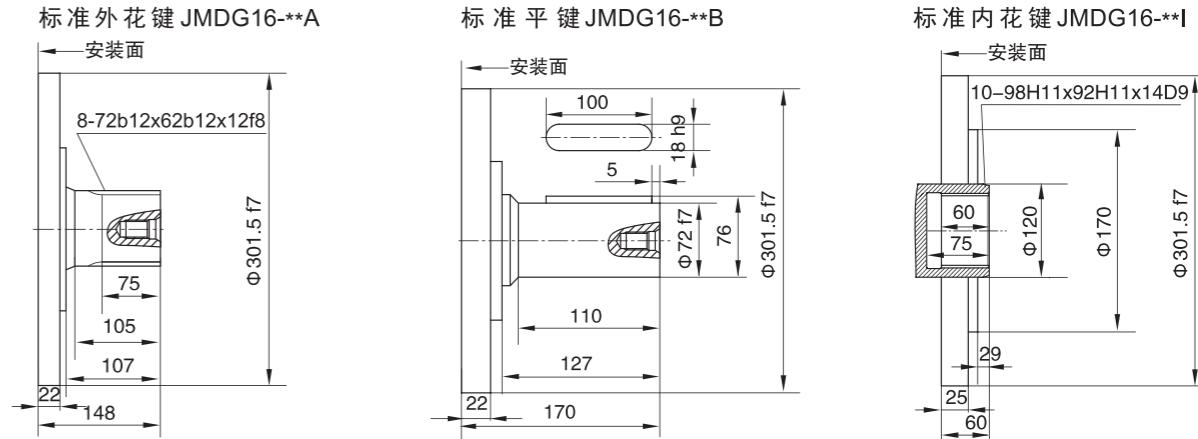
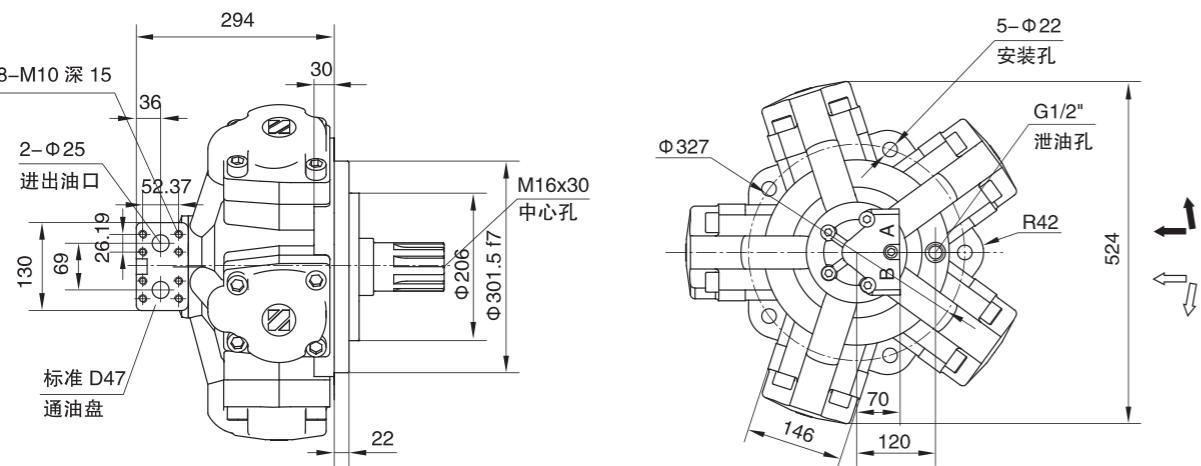
马达型号	安装尺寸			连接板安装分度圆	接板安装孔直径	键参数
	D1	Z-Φ K				
JMDG11-**B14(C5)F9	—	—			20x70	
JMDG11-**A5S9	310	5-Φ 15	8-65d11x56d11x10f8			
JMDG11-**B2S6	250	4-Φ 22	18x80			
JMDG11-**B3F4	—	—	18x80			
JMDG11-**B4(C2)F5	—	—	20x80			
JMDG11-**B5S7	228	4-Φ 22	18x95			
JMDG11-**D	—	—	18x90			

型号 TYPE	排量 Displacement (ml/r)	压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m)	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG11-700	714	24	20	2092	104	18-280	80	90
JMDG11-800	782	24	20	2291	114	18-280	80	90
JMDG11-900	903	24	20	2646	114	18-280	80	90
JMDG11-1000	995	22	18	2624	146	18-280	85	90
JMDG11-1100	1116	22	18	2943	163	18-280	85	90
JMDG11-1200	1175	20	16	2754	172	18-280	85	90
JMDG11-1300	1296	20	16	3038	190	18-280	80	90

## ● JMDG11-700~1300 性能曲线图 PERFORMANCE DIAGRAMS



## ● JMDG16 外型安装图 Installation



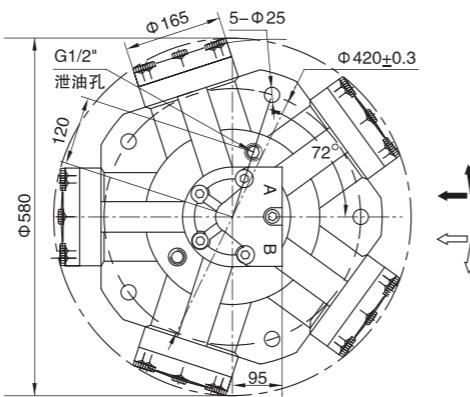
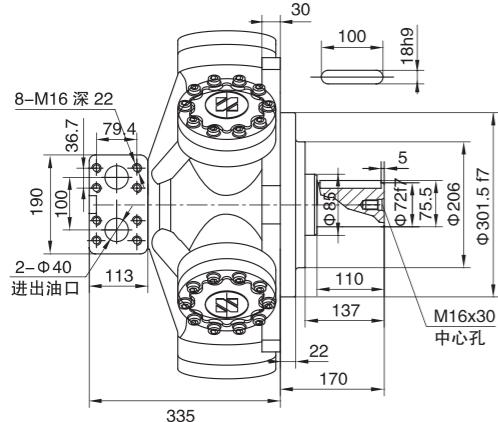
马达型号	安装尺寸															
	L	L1	L2	L3	L4	L5	L6	L7	C	C1	C2	C3	B1	B2	D	N-Φ A
JMDG16-**A5S5	165	80	124.5	128	—	—	22	30	410	301.5	290	82	132	10	327	5-Φ 22
JMDG16-**A1	148	70	105	107	—	—	22	30	411	301.5	—	82	—	—	327	5-Φ 22
JMDG16-**A2	148	70	105	107	—	—	22	30	411	301.5	—	62	—	—	327	5-Φ 22
JMDG16-**A3S1	148	50	85	108.5	—	—	22	30	360	301.5	256	50	103	10	327	5-Φ 22
JMDG16-**A4	136	70	93	95	—	—	22	30	411	301.5	—	72	—	—	327	5-Φ 22
JMDG16-**B2(C4)F5	198	—	154	161	85	5	22	30	411	320	—	80	—	—	360	5-Φ 22

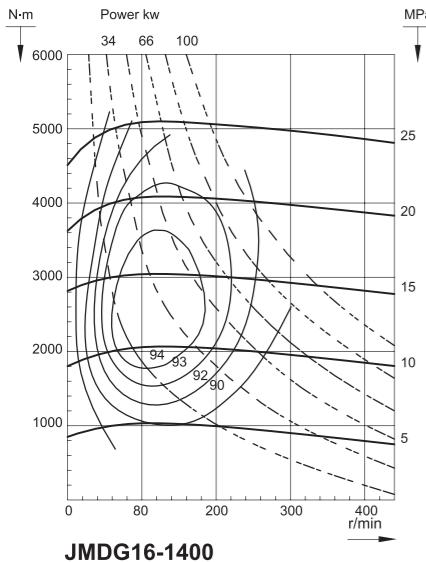
马达型号	安装尺寸			接板安装孔分度圆		接板安装孔		键参数		
	D1	Z-Φ K	接板安装面	接板安装面	接板安装孔	接板安装孔	键参数	D1	Z-Φ K	键参数
JMDG16-**A5S5	380	5-Φ 17	10-82b12x72b12x12f8	—	—	—	—	—	—	—
JMDG16-**A1	—	—	10-82b12x72b12x12f8	—	—	—	—	—	—	—
JMDG16-**A2	—	—	8-62b12x56b12x10f8	—	—	—	—	—	—	—
JMDG16-**A3S1	300	5-Φ 17	8-50b12x46b12x9f8	—	—	—	—	—	—	—
JMDG16-**A4	—	—	8-72b12x62b12x12f8	—	—	—	—	—	—	—
JMDG16-**B2(C4)F5	—	—	24x145	—	—	—	—	—	—	—

型号 TYPE	排量 Displacement (ml/r)	压力Pressure (MPa)		扭矩Torque(N·m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N·m)	单位理论扭矩 (N·m/MPa) Theoric torque			
JMDG16-1400	1375	24	20	4029	201	15-250	100	160
JMDG16-1600	1648	24	20	4829	241	15-250	110	160
JMDG16-1800	1814	22	18	4783	265	15-250	110	160
JMDG16-2000	2034	22	18	5364	298	15-250	110	160
JMDG16-2400	2412	20	16	5654	353	15-250	97	160
JMDG16Y-2500	2665	24	20	7808	390	10-200	110	260
JMDG16Y-3000	3029	24	20	8875	444	10-200	110	260
JMDG16Y-3150	3161	24	20	9262	463	10-200	110	260

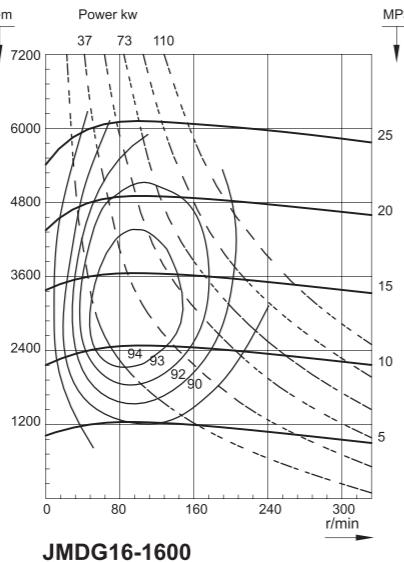
## ● JMDG16Y 外型安装图 Installation



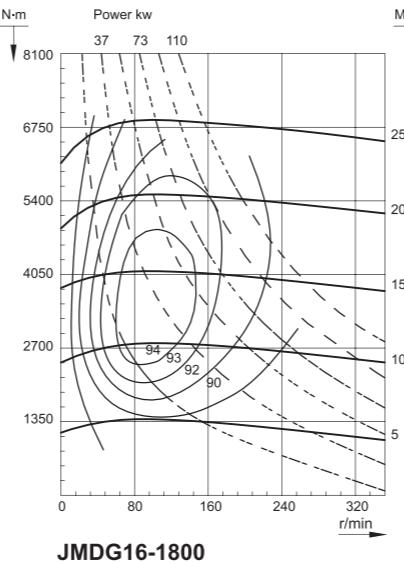
#### ● JMDG16-1400~2400 性能曲线图 PERFORMANCE DIAGRAMS



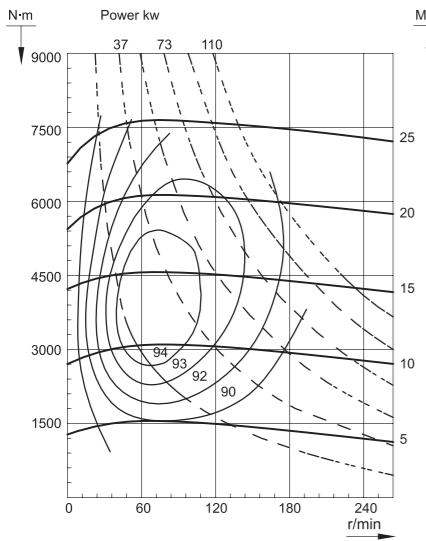
JMDG16-1400



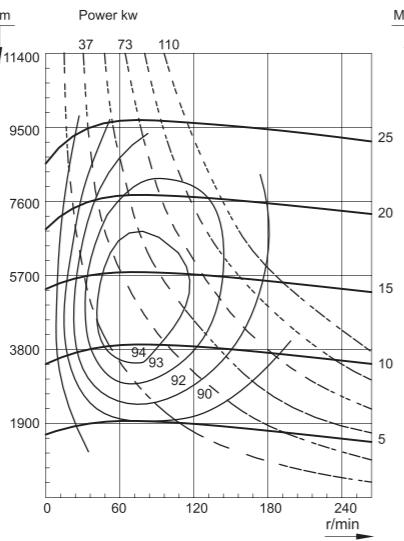
JMDG16-160



JMDG16-180

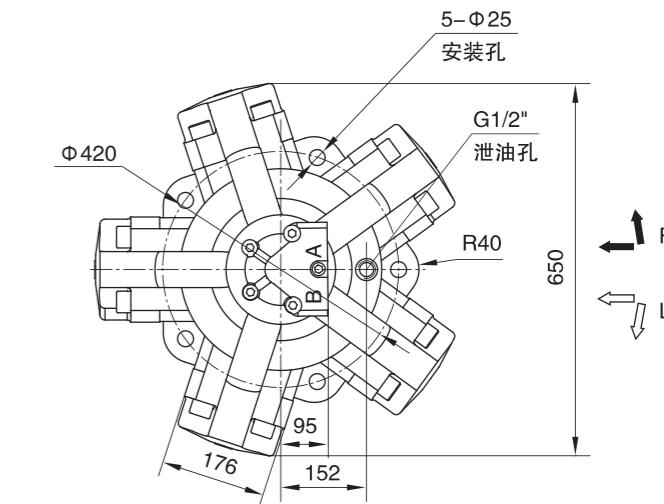
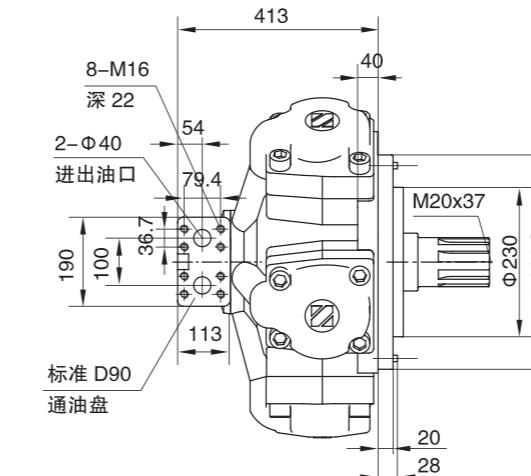


JMDG16-2000

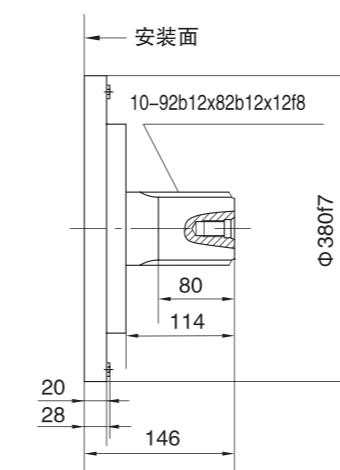


JMDG16-240

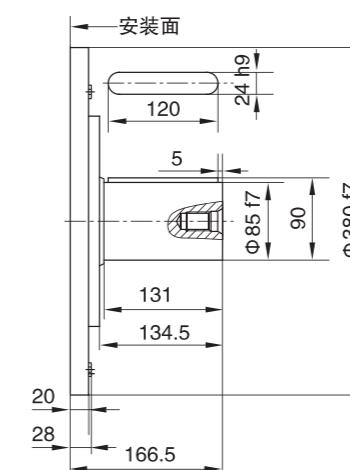
#### ● JMDG31 外型安装图 Installation



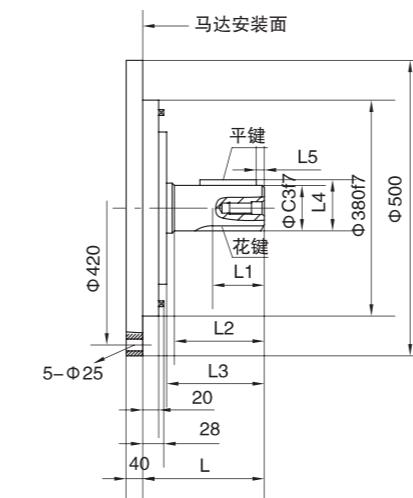
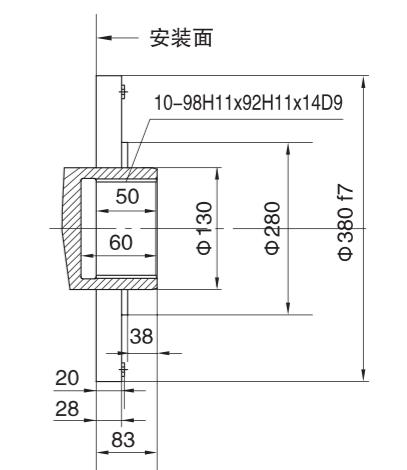
标准外花键 JMDG31-\*\*A



标准平键JMDG31-\*\*由



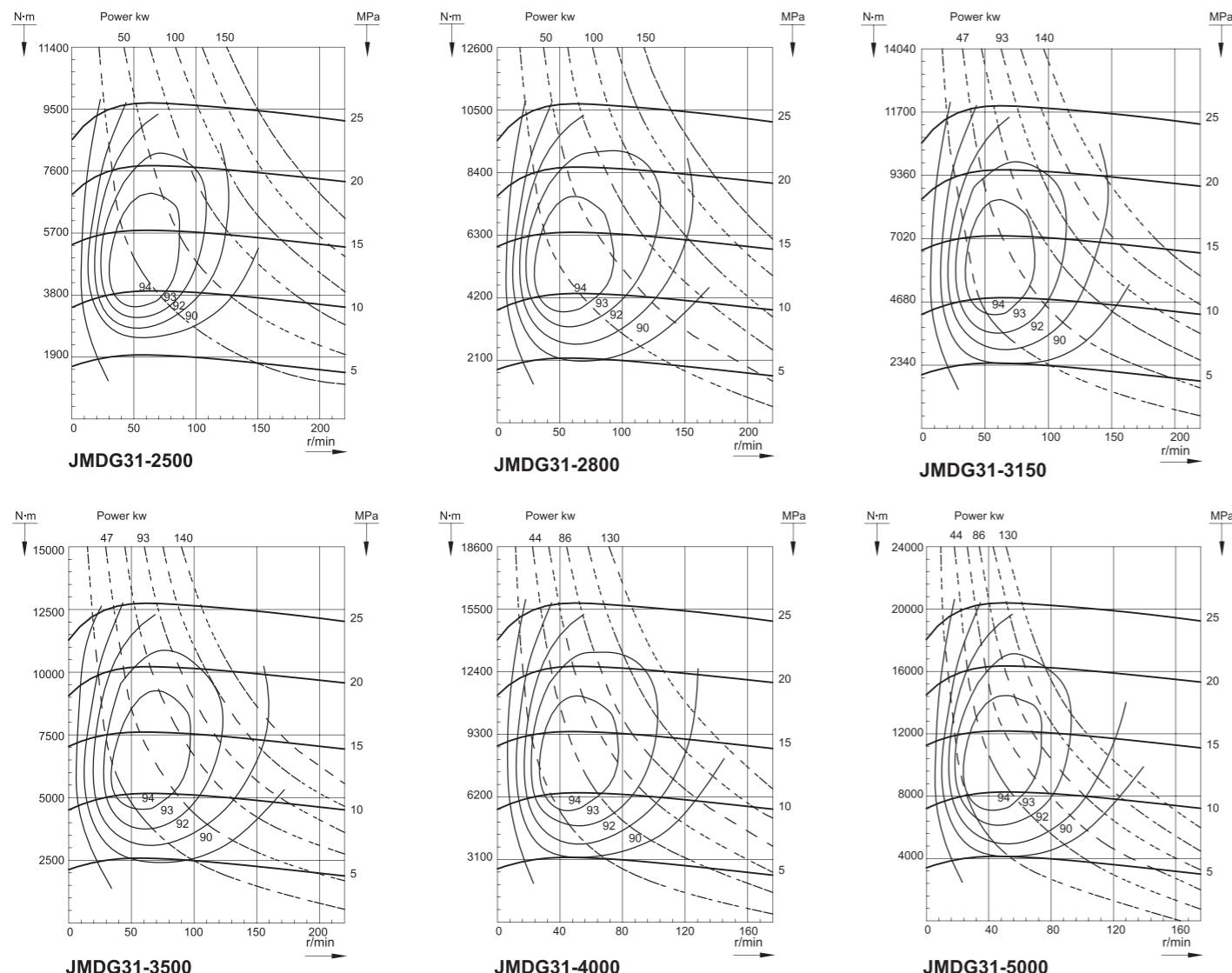
标准内花键 JMDG31-\*\*|



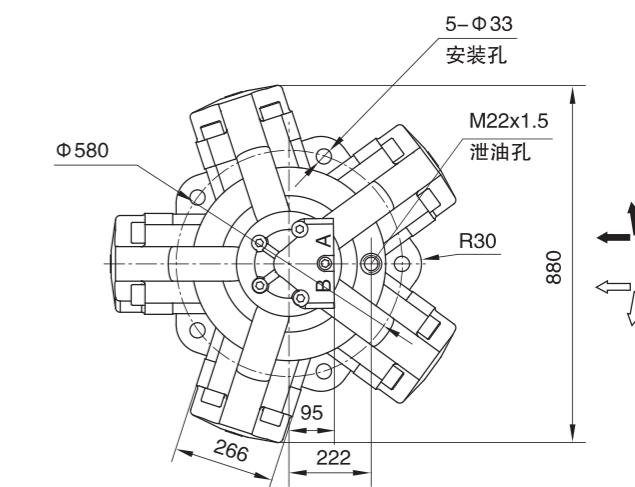
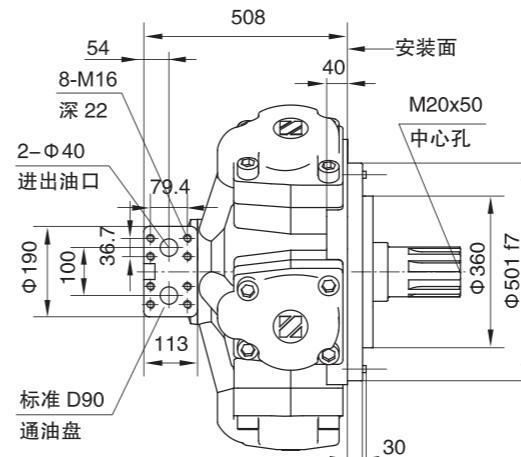
安装尺寸 型号	安装面到 轴端距离	键宽有 效长度	轴肩到轴 距距离	轴端到封 盖距离	轴径与平 键总高	轴端与平 键距离	轴径	键参数
	L	L1	L2	L3	L4	L5		
JMDG31-**A1	202	130	167	172	—	—	92	10-92b12x82b12x12f8
JMDG31-**B1	161.5	—	131	132	92	5	90	25x120
JMDG31-**B3F1	190	—	158	160	106.4	5	101.4	25.4x142

型号 Type	排量 Displacement (ml/r)	压力Pressure (MPa)		扭矩Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG31-2500	2550	24	20	7471	373	10-200	150	325
JMDG31-2800	2826	24	20	8280	414	10-200	150	325
JMDG31-3000	3050	22	18	8043	447	10-200	140	325
JMDG31-3150	3142	22	18	8285	460	10-200	140	325
JMDG31-3500	3419	22	18	9016	501	10-200	140	325
JMDG31-4000	4170	22	18	10996	611	10-200	130	325
JMDG31-4500	4522	22	18	11924	663	10-160	130	325
JMDG31-5000	5190	20	16	12165	760	10-160	130	325

#### ● JMDG31-2500~5000 性能曲线图 PERFORMANCE DIAGRAMS



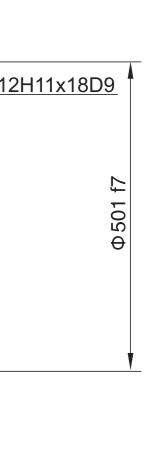
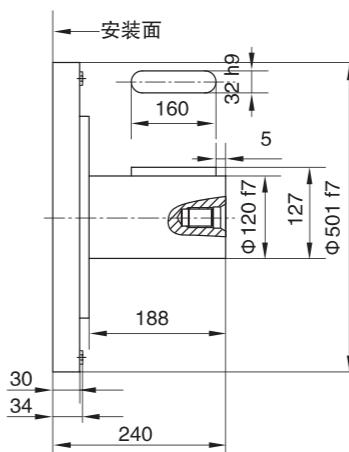
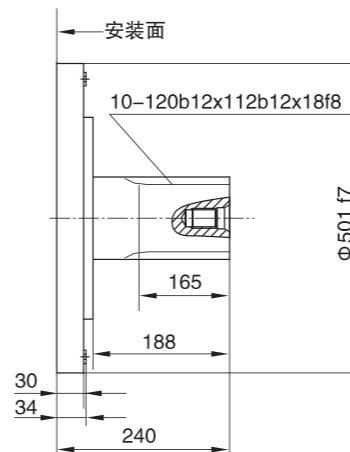
#### ● JMDG100 外型安装图 Installation



标准外花键 JMDG100-\*\*A

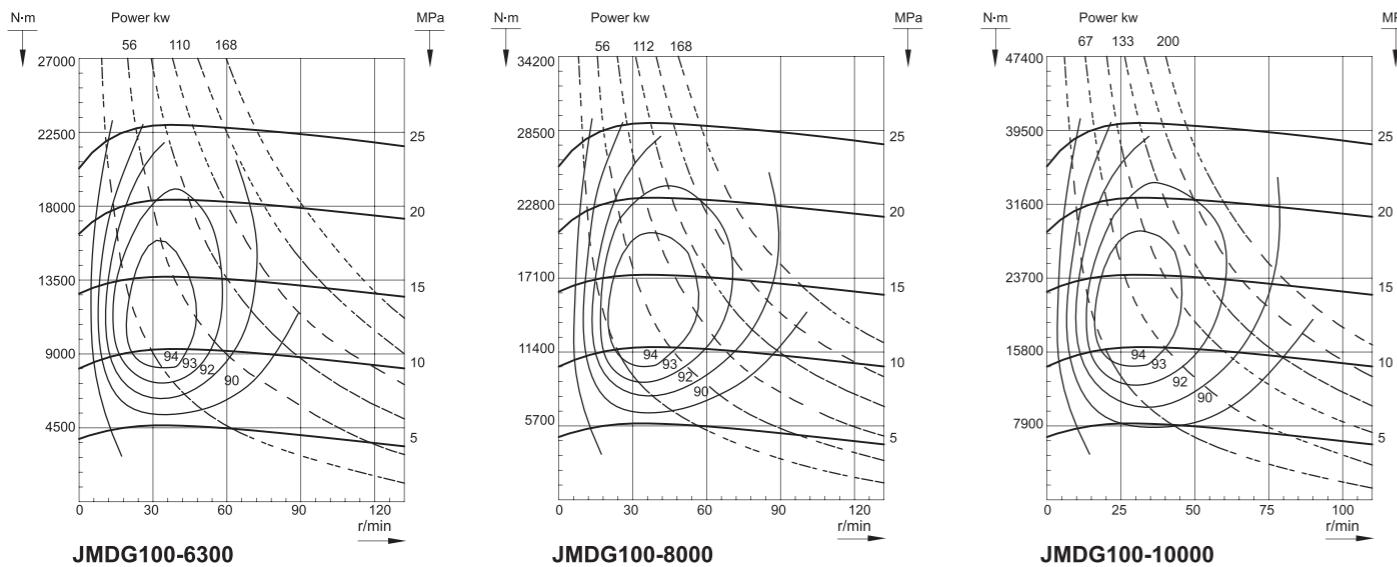
标准平键 JMDG100-\*\*B

标准内花键 JMDG100-\*\*I

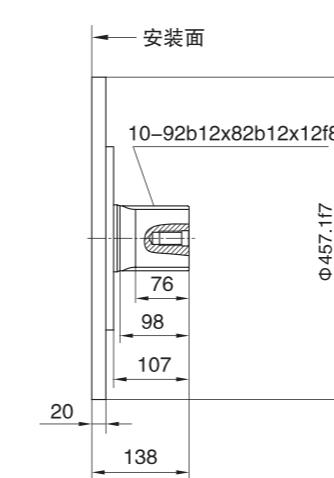


型号 TYPE	排量 Displacement (ml/r)	压力Pressure (MPa)		扭矩Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoretic torque			
JMDG100-6300	6133	20	16	14375	898	5-100	168	700
JMDG100-8000	7693	20	16	18032	1127	5-100	168	700
JMDG100-10000	10688	18	14	21921	1565	5-100	168	700

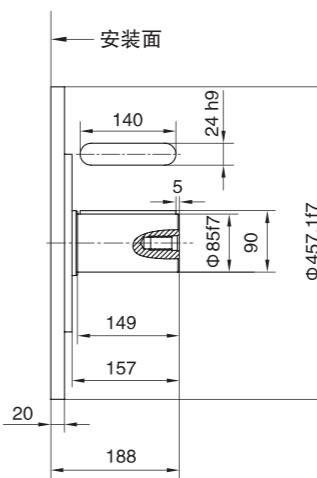
## ● JMDG100-6300~10000 性能曲线图 PERFORMANCE DIAGRAMS



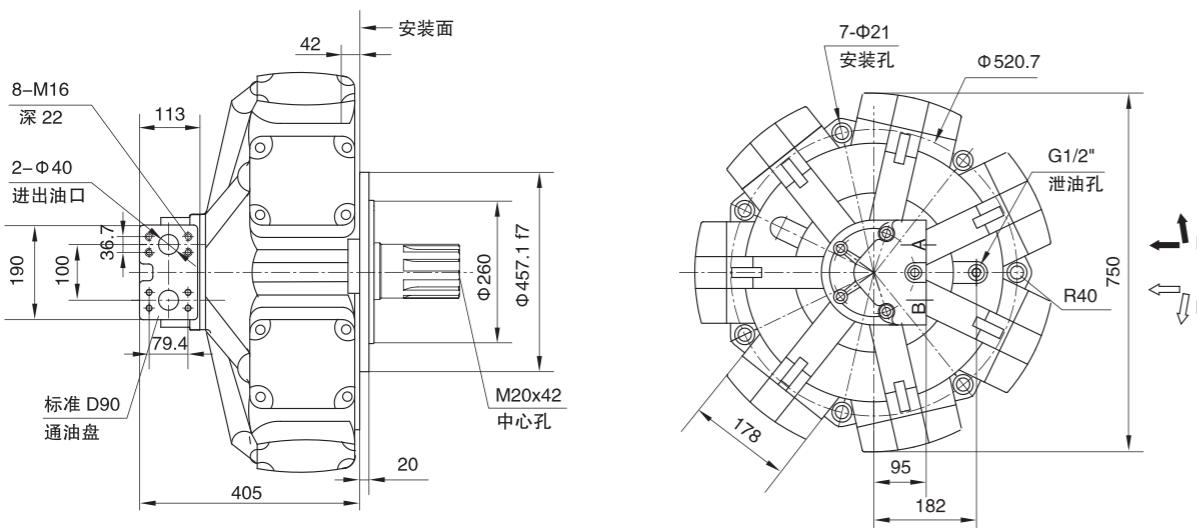
## 标准外花键 JMDG71-\*\*A



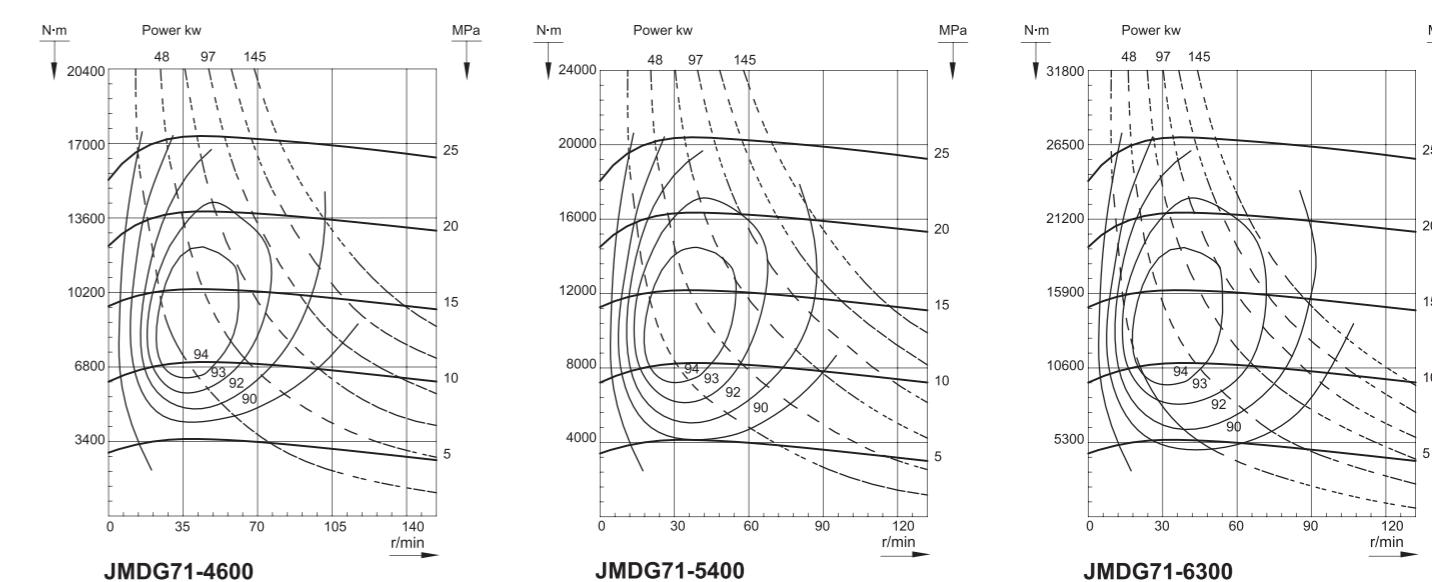
## 标准平键 JMDG71-\*\*B



## ● JMDG71 外型安装图 Installation

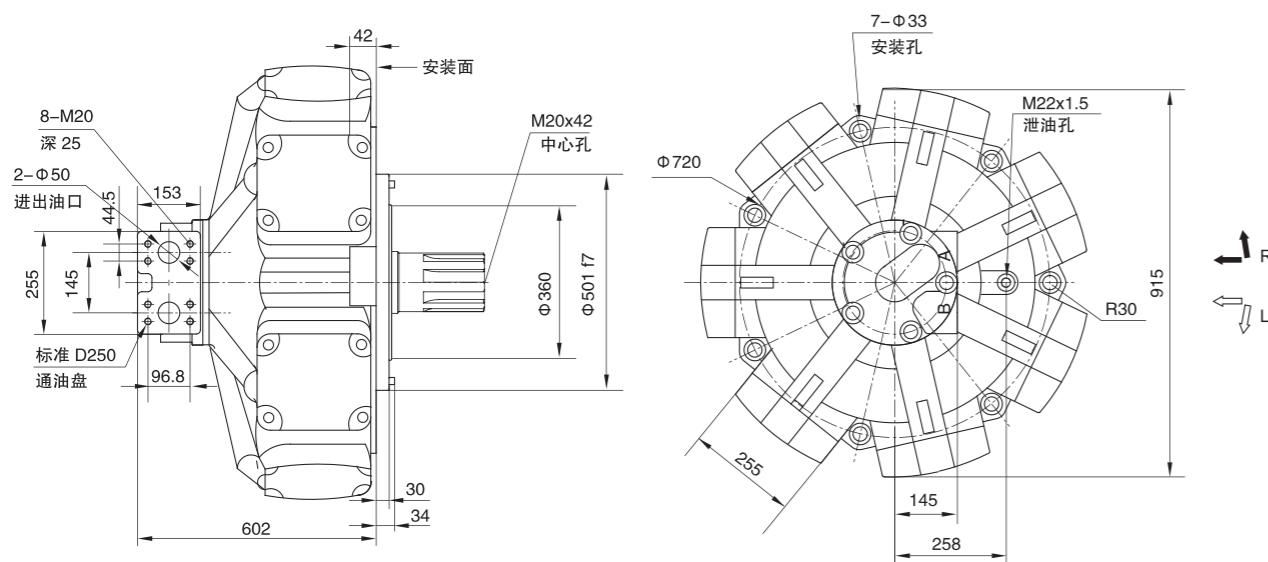


## ● JMDG71-4600~6300 性能曲线图 PERFORMANCE DIAGRAMS

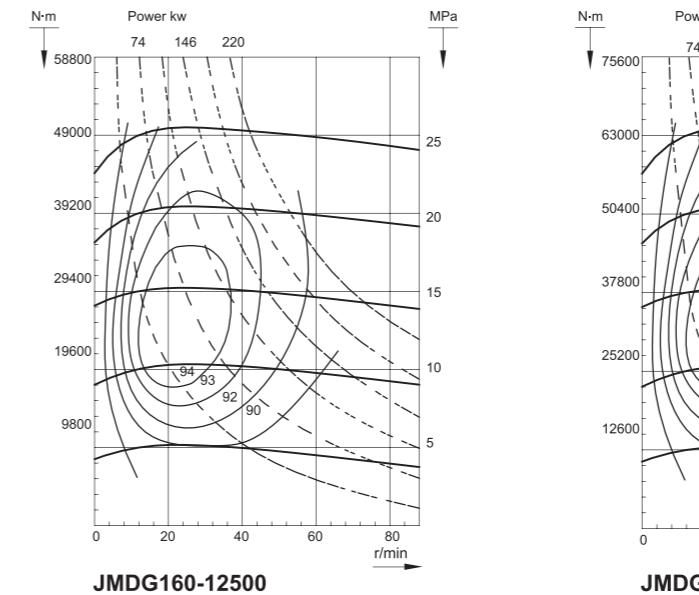


型号 TYPE	排量 Displacement (ml/r)	压力 Pressure (MPa)		扭矩 Torque(N·m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG71-4600	4617	22	16	10822	676	5-125	145	415
JMDG71-5400	5459	20	16	12795	799	5-125	145	415
JMDG71-6300	6361	18	14	13046	932	5-125	145	415

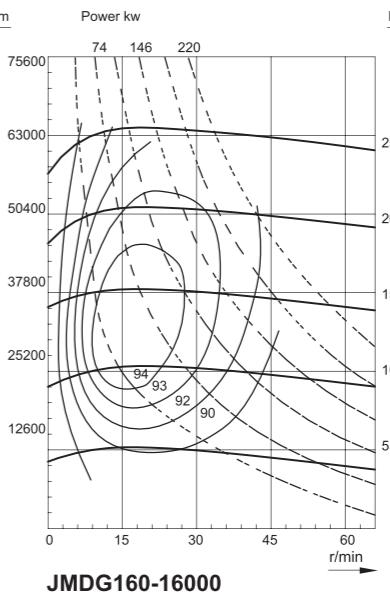
## ● JMDG160 外型安装图 Installation



## ● JMDG160-12500~16000 性能曲线图 PERFORMANCE DIAGRAMS

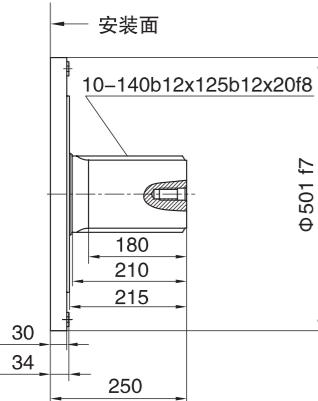


JMDG160-12500

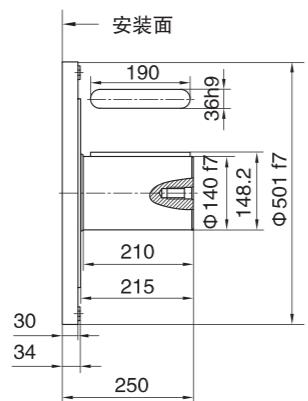


JMDG160-16000

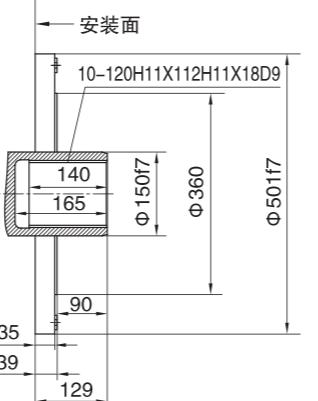
标准外花键 JMDG160-\*\*A



标准平键 JMDG160-\*\*B

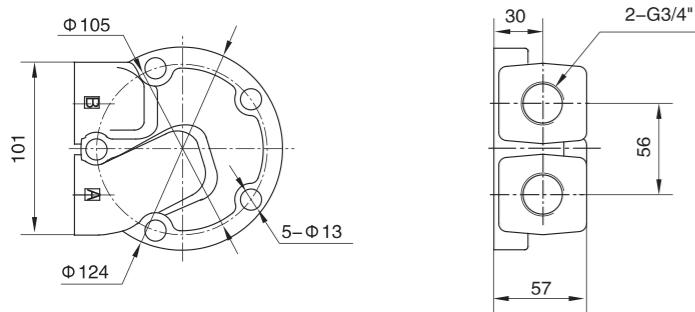


标准内花键 JMDG160-\*\*I

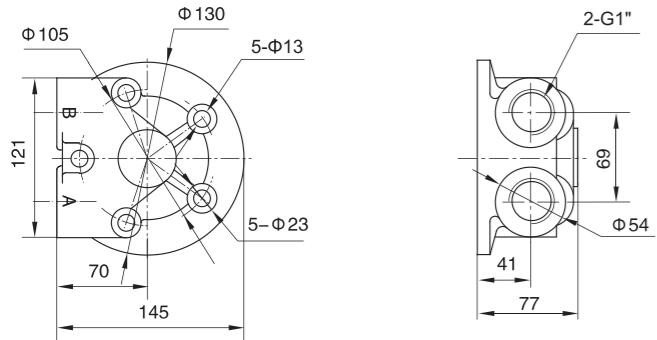


型号 TYPE	排量 Displacement (ml/r)	压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)	重量 Weight (Kg)
		尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque			
JMDG160-12500	13335	20	16	30577	1911	3-80	220	1000
JMDG160-16000	16040	18	14	32182	2298	3-63	220	1000

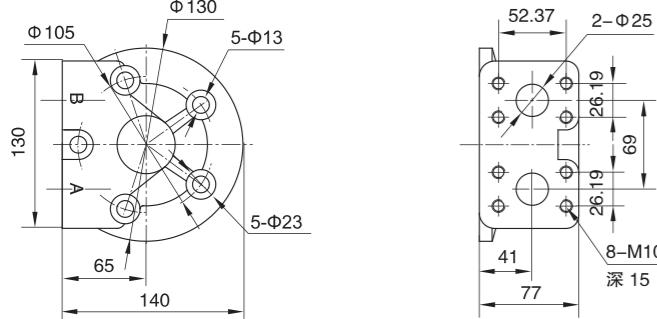
## ● 通油盘的种类 Oil distributor



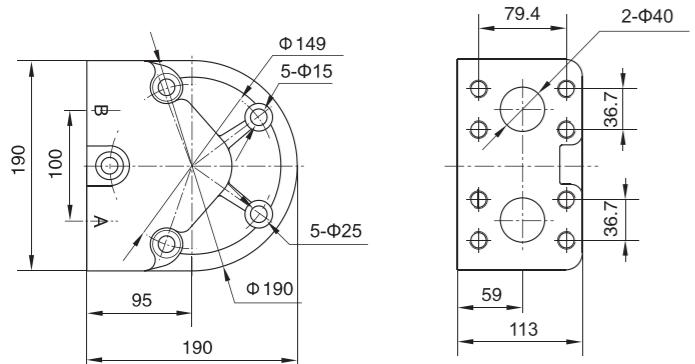
D31



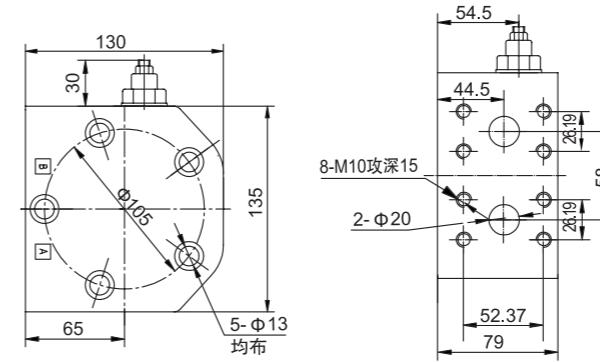
D40



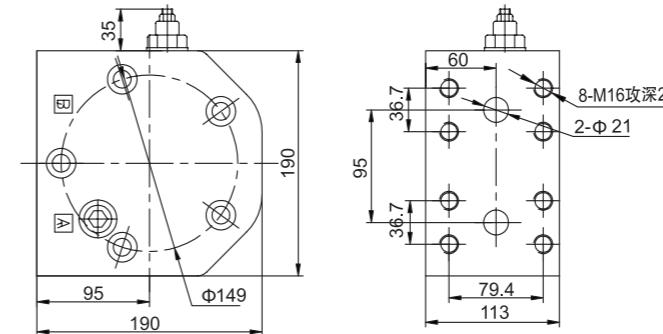
D47



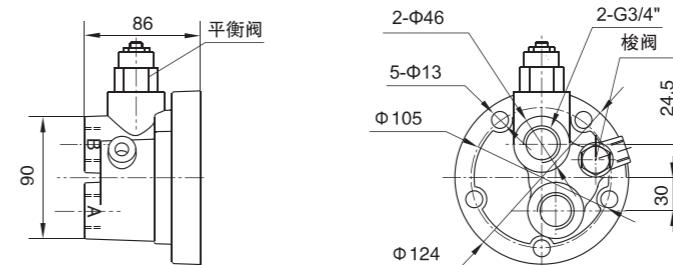
D90



D1201



D2401



D501

阀块代号	所用阀代号	油口尺寸	阀块代号	所用阀代号	油口尺寸
D47PF8	CBEG-LJN平衡阀	2-M33*2	D47A2F4	YF06-02安全阀2个	2-G1"
D47PAF8(240)	CBGG-LJN平衡阀	2-M33*2	D47P2A2BF4	CBEG-LJN平衡阀2个	
	YF06-02-00安全阀			YF06-02安全阀2个	2-G1"
D47PAF8	CBEG-LJN平衡阀	2-M33*2		补油阀组件	
	YF06-02安全阀		D47P2SF	CBEG-LJN平衡阀2个	
D47P2F8	CBEG-LJN平衡阀2个	2-M33*2		SF06-01-00梭阀	2-G3/4"
D47P2F2	CBEG-LJN平衡阀2个	2-NPT3/4			

阀块代号	所用阀代号	油口尺寸
D90PF2	CBGG-LJN平衡阀	Φ48
D90PF5	CBGG-LJN平衡阀	2-M33*2
D90PAF5	CBGG-LJN平衡阀 YF10-01-00安全阀	2-M33*2
D90P2F5	CBGG-LJN平衡阀2个	2-M33*2
D90PHF5	CBGG-LJN平衡阀 34S-25BOD换向阀	2-M33*2
D90PF12(480)	GBIG-LJN平衡阀	2-M42*2
D90P2A2F5	CBGG-LJN平衡阀2个 YF10-01-00安全阀2个	2-M33*2

注意：平衡阀按流量大小分为不同规格，所以选型时应与客户实际流量相匹配，否则会引起较大压力损失或出现工作不稳定现象。

#### 使用及注意事项 USAGE AND NOTICE

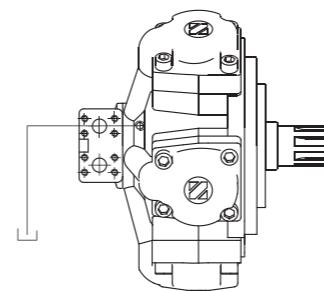
##### 基本要求：

- 液压油应按环境温度和使用情况的不同，所用的油液应具有良好的粘温性能，消泡性好、防氧化、防锈蚀、闪点高等。马达在运转过程中，其粘度在  $(25-70) \times 10^{-6} \text{m}^2/\text{s}$  之间，油中的水、酸、碱和机械杂质等，不得超过允许值。
- 过滤精度在额定工作中优于  $25 \mu\text{m}$ 。
- 正常工作油温  $25-55^\circ\text{C}$ ，短期工作温度不得高于  $65^\circ\text{C}$ 。
- 在正常情况下，壳体内腔压力控制在  $0.1\text{Mpa}$  内，若压力过高，易使油封损坏，引起外泄。
- 马达只要在大于  $0.2\text{Mpa}$  的回油压力下即可以正常工作。如果背压不足，低速运转时易产生爬行现象。
- 马达与负载一般采用同轴联接，花键轴于工作机械的花键孔应对中，并保证两者滑动配合。
- 该型马达应避免在泵工况下运转。

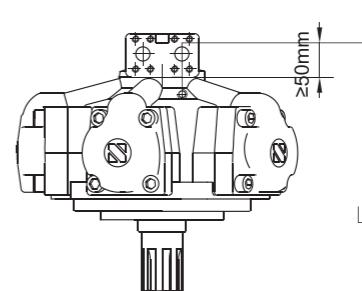
##### BASE REQUIREMENT

- According to air temperature and working condition , the oil you choose should have high performances of viscosity , defoaming property ,anti-oxidation , anti-rust , and high flash point etc. During the motor-running period , its viscosity is between  $(25-70) \times 10^{-6} \text{m}^2/\text{s}$  , and water acid , alkali and mechanical impurity should not exceed allowable value.
- Filtering Precision, Superior to  $25 \mu\text{m}$  under rated operation condition.
- Oil temperature keeps  $25^\circ\text{C} - 55^\circ\text{C}$  in normal continuous operation, not more than  $65^\circ\text{C}$  in intermittent operation.
- Under normal condition, Max. pressure for the motor body is  $0.1\text{Mpa}$ . If pressure too high, oil seal is prone to be damaged and oil will be leaked out .
- The motor can normal work as long as the backpressure exceeds  $0.2\text{Mpa}$ . In case of insufficient backpressure ,motor will creep in low-speed operation.
- Motor and load shall be coaxially linked . Spline shaft and the splined hole of working mechanism shall be aligned .Besides , sliding fit of both should be ensured.
- The motor cannot work as a pump.

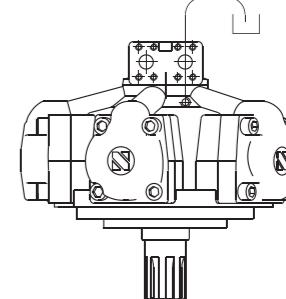
#### 泄油管的连接方式 DRAIN CONNECTION



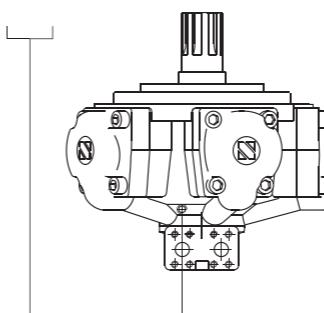
主轴水平  
(Motor axis horizontal)



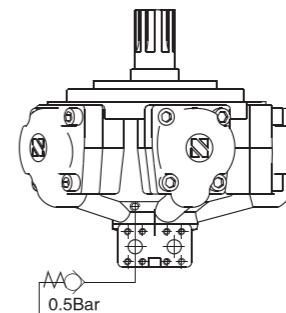
主轴垂直向下  
(Axis vertical,shaft down)



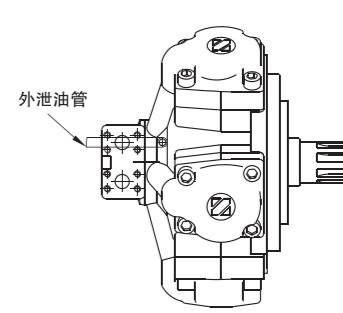
主轴垂直向下  
(Axis vertical,shaft down)



主轴垂直向上  
(Axis vertical,shaft up)



主轴垂直向上  
(Axis vertical,shaft up)



泄油管示意  
(Drain pipe)

#### 注意 NOTE

- 所有 JMDG 系列在开启之前须从泄油管加满液压油。  
Motors should be fulfilled with oil through the drain port before using.
- 不管什么位置安装，泄油管最高水平位置应高于马达最高水平位置，泄油管一般应单独与回油箱接通，不允许与回油管连通，泄油阻力不应过大。  
The highest position of drain pipe should be higher than the highest position of the motor the drain port should not be connected with outlet port, pressure in drain pipe should not be high.

## ● 产品概述 INTRODUCTION



TMS 系列液压马达是一种低速大扭矩的内曲线式径向柱塞马达，采用端面配油方式，滚柱式结构，使用压力高，低速稳定性好，同时可集成各类阀组，制动器，特别适用于车轮式行走驱动工况，此马达广泛应用于矿山机械，起重机械，地质钻探，工程建筑等领域。

TMS is one kind of low speed high torque radial piston motor with advanced design in disc distribution flow, piston structure, high pressurerating, smooth running at very low speeds, available with different valves, brakes. It is widely applied in mining, crane, geologic drlling, constructionmachinery,etc.

### ● 性能特点 CHARACTERISTICS

### ※ 模块化设计：

马达整体结构按模块化设计，片式叠装，包括机械输出装置，液压功能装置，机械制动装置三部分，因而能方便与各种主机优化配套；

※ 工作压力高，低速稳定性好：

采用自动补偿式平面配油，对压力和温度敏感度低，自动补偿配流摩擦副间的磨损，从而长时期保证马达很高容积效率，最高工作压力能到35Mpa；对称式柱塞布局，启动效率高，低速性能好，最低稳定转速≤5r.p.m；

※ 承受径向和轴向载荷：

采用独立设置机械输出装置，轴承和输出轴的设计可靠，动力驱动装置径向力平衡且为纯扭矩输出，因而马达可承受较大的轴向力和径向力，可以是直接齿轮输出或直接安装在驱动轴上。

#### ※ 多种功能可搭配使用

马达可加装各种阀门、机械式制动器、限位开关等原件，马达可做成双排量，多功能搭配以满足各个领域用户的需求。

#### ※ Modular design :

Motor integral structure according to the modular design, with chip stacking, including mechanical output device, hydraulic device, mechanical brake device of three parts, which can be conveniently matched with various host optimization.

※ High pressure Excellent low-speed stability :

Using the automatic compensation oil distributor of plane type, with low sensitivity of pressure and temperature, automatic compensating the wear of the friction pair, so as to ensure high volumetric efficiency of motor for any time, the highest working pressure to 35Mpa; symmetrical piston, high start efficiency, excellent low-speed performance, the lowest stable speed is less than or equal to 5r.p.m.

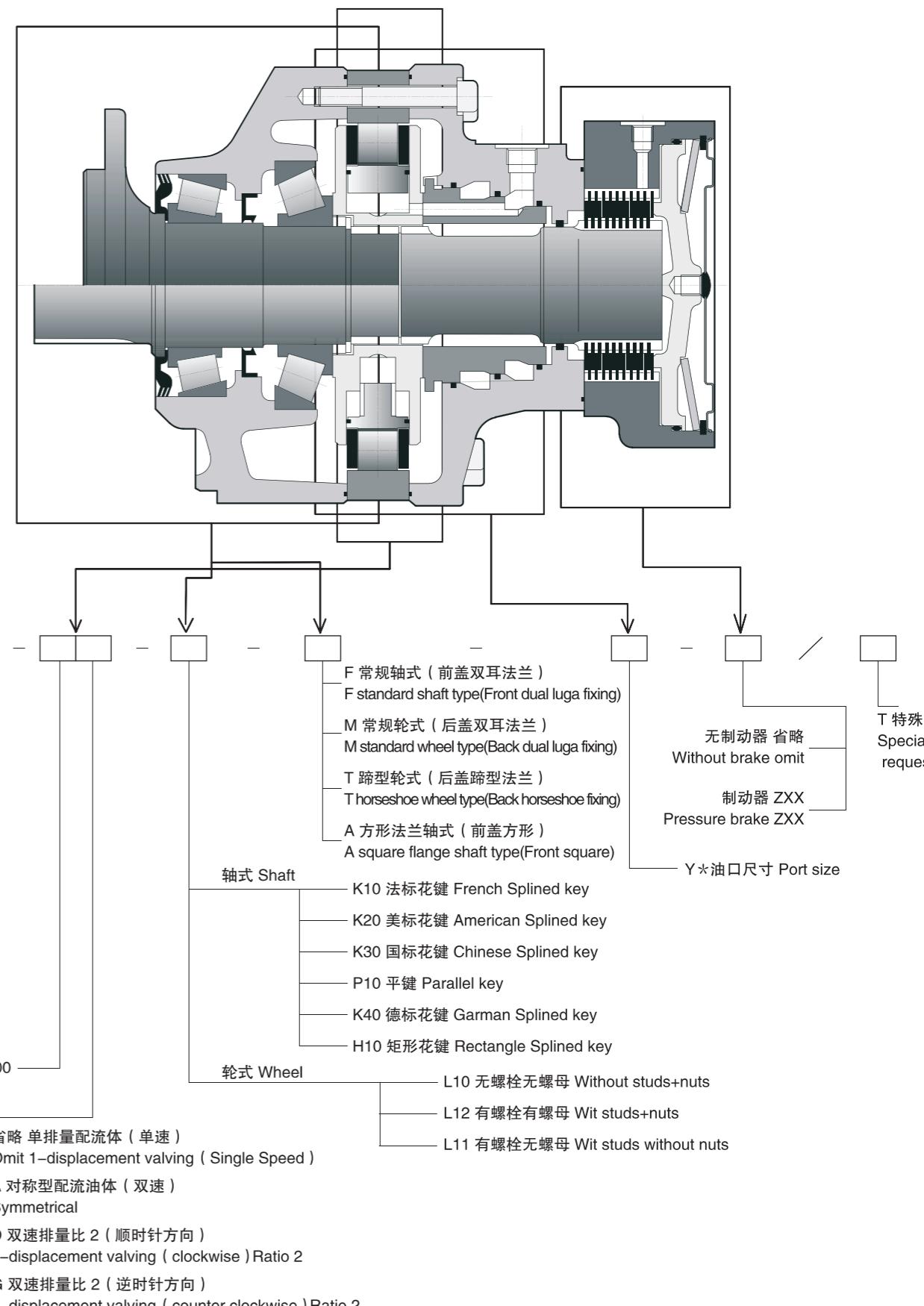
※ Bear axial and radial force

Using an independent set of mechanical output device, reliable designing of output shaft and bearing, The power driving device with balance radial force and pure torque outputs, So the motor can bear large axial force and radial force, can be directly with gear output or installed on the vehicle driving wheel

## ※ Multi-functions

The motor can be added all kinds of hydraulic valves, mechanical brake, wheel output shaft and other components, motor can make a double displacement. Multi-functions collection can meet the needs of users in various fields.

## ● 马达编码 MOTOR CODE



## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS03-160	160	80	40	25	605	24	0-250	16
TMS03-230	225	113	40	25	850	34	0-250	16
TMS03-250	255	127	40	25	964	38	0-250	16
TMS03-280	280	140	40	25	1058	42	0-250	16
TMS03-320	325	162	35	25	1229	49	0-200	16
TMS03-360	365	182	35	25	1380	55	0-200	16
TMS03-400	400	200	35	25	1512	60	0-200	16

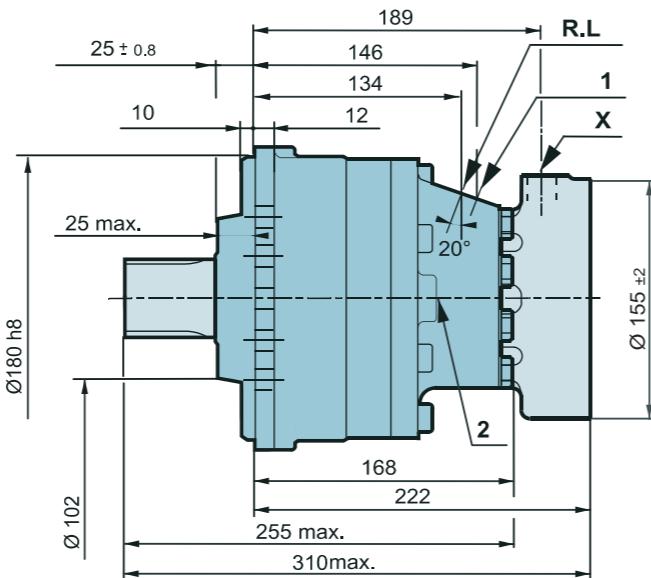
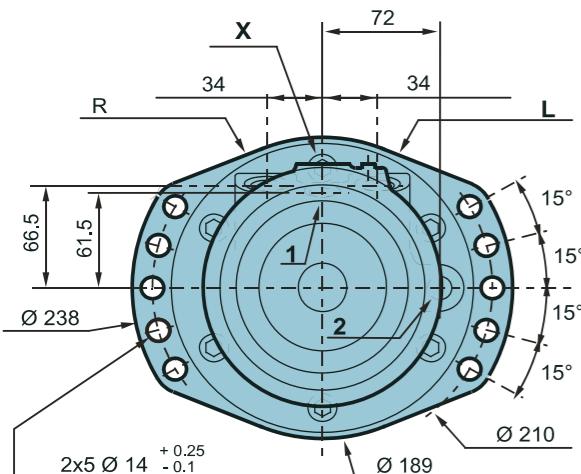
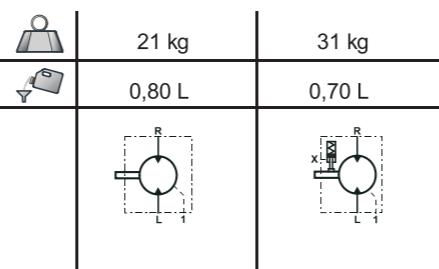
## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K10	NF E22-141 花键 Splines						
	公称直径 Nominal $\Phi$ 40						
	模数 Module 1.667	15	R2	23.8	2 × M10	19	49
K40	Z 22						
	DIN 5480 花键 Splines						
	公称直径 Nominal $\Phi$ 50						
	模数 Module 2	15	R2.5	23.8	2 × M10	22	60
	Z 24						

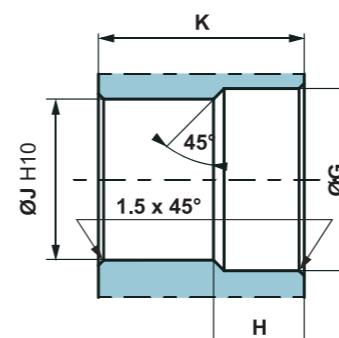
## 轴马达 SHAFT MOTOR

## ● 单排量外形安装图 Dimensions for 1 displacement motor

订货代码 Ordering code: TMS03-\*\*-\*\*-F-Y\*



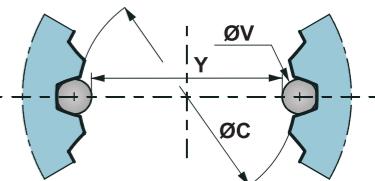
## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\varnothing$  Nominal  $\varnothing$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

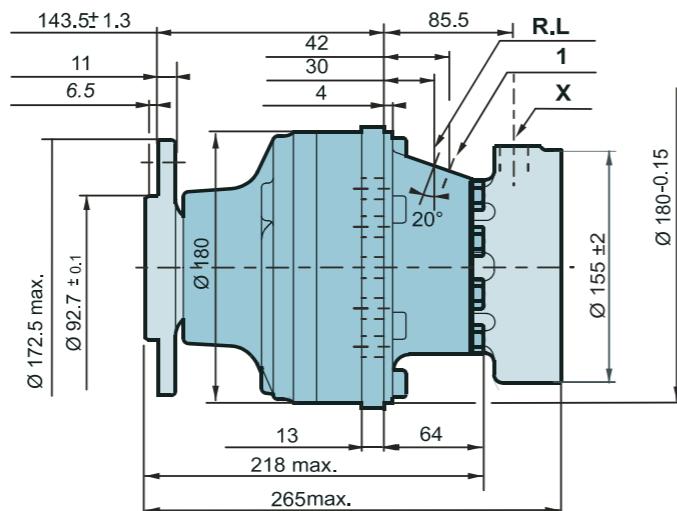
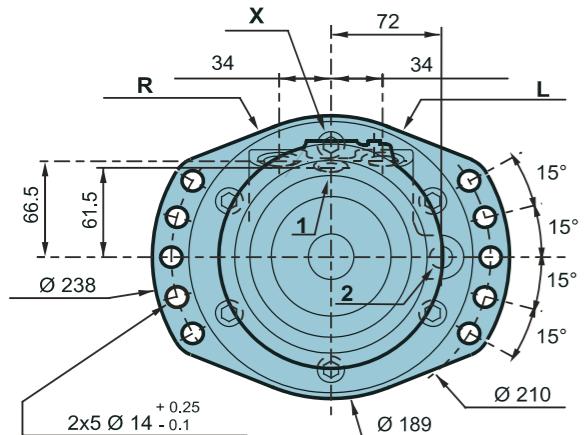
标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)



	$\varnothing$ G	H	$\varnothing$ J	K	N	Mo	Z	偏差 Offset	$\varnothing$ C(H10)	$\varnothing$ V	Y	公差 Tolerance $\mu m$
K10	41.3	20	36.7	48.3	40	1.667	22	-	36.7	3.5	33.446	+86/0
K40	51.5	23	46	59	50	2	24	-0.1	46	3.5	42.6	+72/0

# 轮边马达 WHEEL MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS03-\*\*-\*\*-M-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L	
L10	Φ92.7	Φ140	Φ169	143.4	Φ179.5	Φ18	5×M14×1.5	11	
L20	Φ77.6	Φ130	Φ169	140.6	Φ179.5	Φ18	5×M14×1.5	11	

## ● 螺栓 STUDS

	P mm	Cmin.mm	Cmax.mm	D mm	等级	① N.m	② N.m
各种螺栓 Various studs	M14 × 1.5	45		18	5	12.9	200
	M14 × 1.5	50		23			
	M14 × 1.5	62		33			
	M16 × 1.5	50		23			
螺钉 Screws	M12 × 1.75 1/2-20 UNF			21		10.9 8.8	300 380

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	变量油口 Displacement control	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
			R-L	1.2		X

Y4 SAE J514 ISO 11 926-1 7/8"-14 UNF 3/4"-16 UNF 9/16"-18 UNF 9/16"-18 UNF

Y BSPP ISO 1 197-1 G1/2" G3/8" G3/8" G3/8"

Y1 NF E46 050 ISO 9 974-1 M22 × 1.5 M18 × 1.5 M18 × 1.5 M18 × 1.5

## ● 制动器 BRAKES

制动腔内压力为0时制动器的制动力矩 (新制动器) Parking brake torque at 0 bars on housing(new brake) 1400Nm 2500Nm

制动腔内压力为0时紧急制动力矩 (最多可作紧急制动使用10次) Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes) 910Nm 1625Nm

制作腔内压力为0时剩余的驻车制动力矩\* Residual parking braking at 0 bars on housing 1050Nm 1875Nm

最小的制动器释放压力 Min,brake release pressure 12bar 12bar

最大的制动器释放压力 Max,brake release pressure 30bar 30bar

油量 Oil capacity 100cm³ 100cm³

用于制动器释放的液压油量 Volume for brake release 16cm³ 16cm³

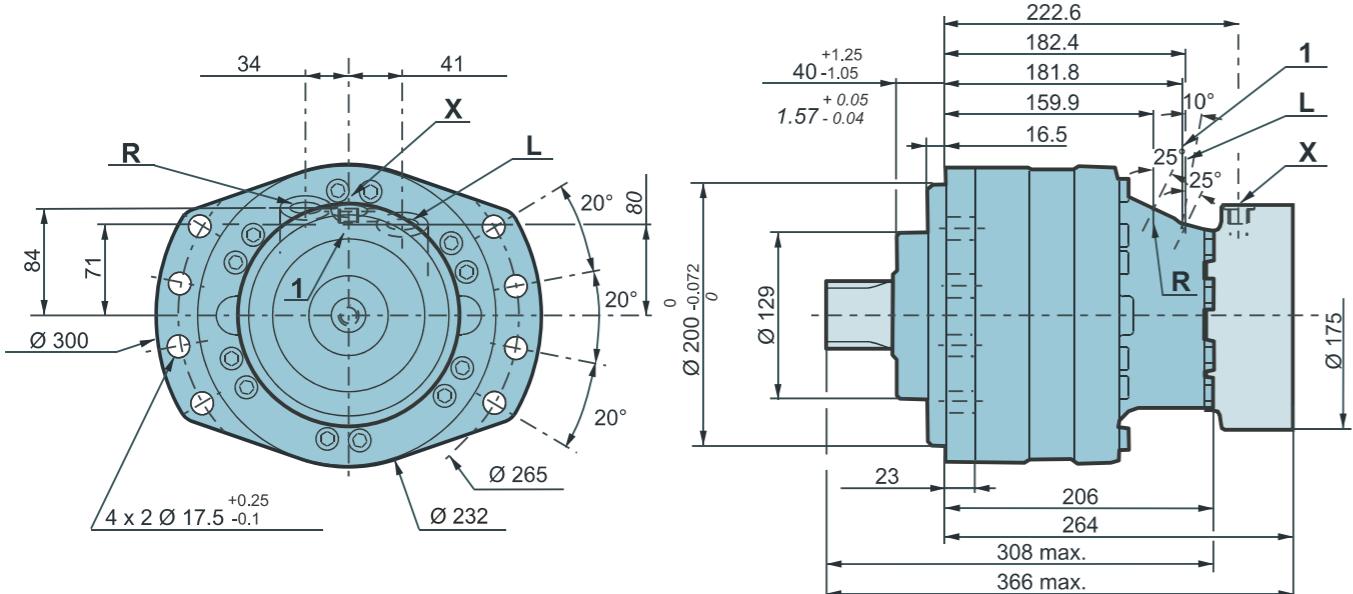
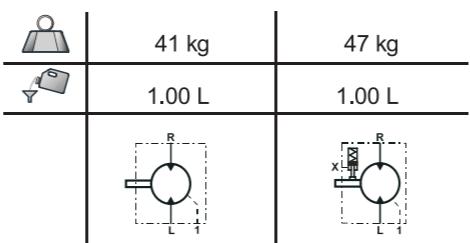
最大能量消耗 Max, energy dissipation 38179J

## ● 技术参数 TECHNICAL DATA

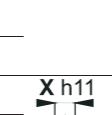
型号 TYPE	排量Displacement (ml/r)		压力Pressure (MPa)		扭矩Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	(N.m/MPa) Theoric torque		
TMS05-380	376	188	40	25	1421	56	0-200	25
TMS05-470	468	234	40	25	1769	70	0-200	25
TMS05-520	514	257	40	25	1943	77	0-200	25
TMS05-560	560	280	40	25	2117	84	0-200	25
TMS05-620	625	312.5	35	25	2363	94	0-190	25
TMS05-680	688	344	35	25	2601	104	0-180	25
TMS05-750	750	375	35	25	2836	113	0-160	25
TMS05-820	820	410	35	25	3101	124	0-140	25

## 轴马达 SHAFT MOTOR

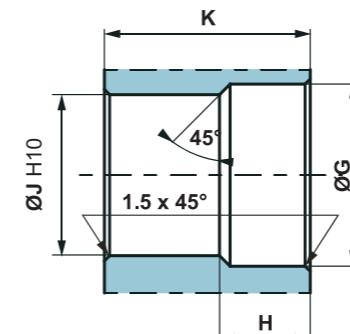
- 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS05-\*\*-\*\*-F-Y\*



#### ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	F	G
K40 DIN 5480 花键 Splines							
公称直径 Nominal $\Phi 55$	15	R2.3	23.8	$2 \times M10$	23	60	-
模数 Module 3							
Z 17							
K10 NF E22-141 花键 Splines							
公称直径 Nominal $\Phi 50$	15	R2.3	23.8	$2 \times M10$	20	54	-
模数 Module 1.667							
Z 28							
P10 DIN 6885 平键 Flat key							
X 14	25	R2	$\Phi 49.99$	M12	71.5	82	5
Y 52.5 max.							

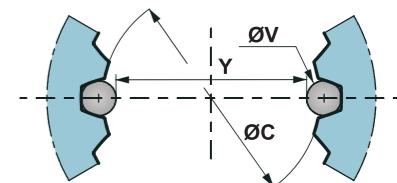
#### ● 花键套联接 SPLINED COUPLING



N : 公称直径 Ø Nominal Ø  
 Mo : 模数 Module  
 Z : 齿数 Number of teeth

**标准 DIN 5480** Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
运动配合 (ZH 精度) Slide adjustment (ZH quality)

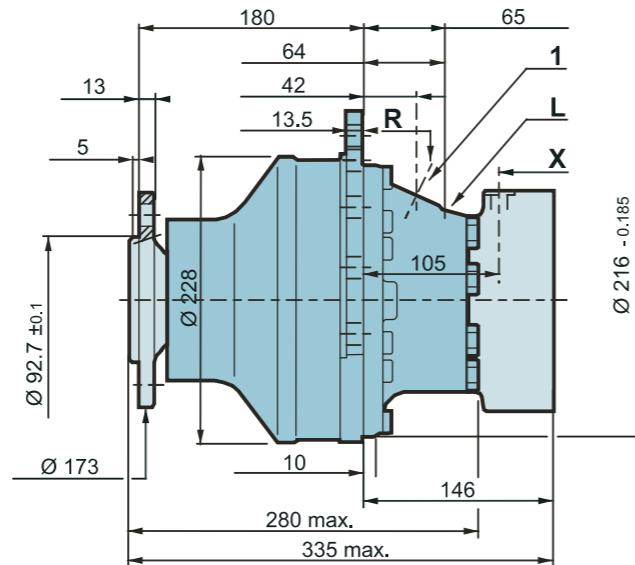
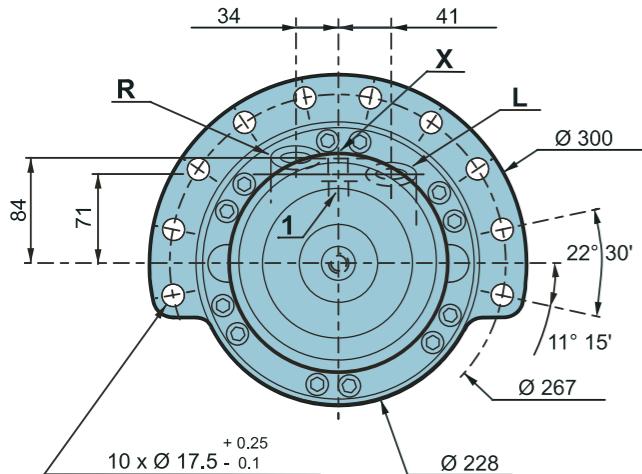
**标准 NFE 22-141** Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
运动配合 (7H 精度) Slide adjustment (7H quality)



	Φ G	H	Φ J	K	N	Mo	Z	偏差 Offset	Φ C(H10)	Φ V	Υ	公差 Tolerance μm
K40	56.5	24	49	59	55	3	17	+0.35	49	5.25	43.807	+78/0
K10	51	23	46.7	53	50	1.667	28	+1.333	46.7	3.333	43.446	+86/0

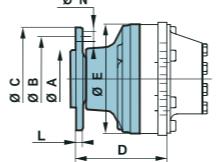
# 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor
- 订货代码 Ordering code: TMS05-\*\*-\*\*-T-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L
L10	Φ92.7	Φ140	Φ170	178.6	Φ228	Φ18	10×M14×1.5	11
L20	Φ160.7	Φ205	Φ245	178.5	Φ228	Φ20	6×M18×1.5	14
L30	Φ95.7	Φ140	Φ180	145.4	Φ228	Φ18	5×M14×1.5	10.5



## ● 螺栓 STUDS

	P mm	Cmin.mm	Cmax.mm	D mm	等级	① N.m	② N.m
各种螺栓 Various studs	M14 × 1.5	45		18	5	12.9	200
	M14 × 1.5	50		23			
	M14 × 1.5	62		33			
	M16 × 1.5	65		28			
螺钉 Screws	M12 × 1.75 1/2-20 UNF	-	-	-	10.9 8.8	120	120

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	变量油口 Displacement control	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
			A-R, R-L	Y	1.2	X
Y5	SAE J514	ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF	3/4"-16 UNF	9/16"-18 UNF
Y	BSPP	ISO 1 179-1	G 3/4"	G 1/4"	G 3/8"	G 1/4"
Y3	DIN 3852	ISO 9 974-1	M27×2	M14×1.5	M16×1.5	M14×1.5
Y1	NF E48 050	ISO 6 149-1	M18×1.5	M14×1.5	M14×1.5	M14×1.5

## ● 制动器 BRAKES

制动腔内压力为0时制动器的制动力矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)	3060Nm	3060Nm
制动腔内压力为0时紧急制动扭矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)	1990Nm	1990Nm
制作腔内压力为0时剩余的驻车制动 扭矩*	Residual parking braking at 0 bars on housing	2295Nm	2995Nm
最小的制动器释放压力	Min,brake release pressure	12bar	12bar
最大的制动器释放压力	Max,brake release pressure	30bar	30bar
油量	Oil capacity	70cm <sup>3</sup>	70cm <sup>3</sup>
用于制动器释放的液压油量	Volume for brake release	32cm <sup>3</sup>	32cm <sup>3</sup>
制动器承受压力	Brake bearing pressure	50bar	/

## ● 技术参数 TECHNICAL DATA

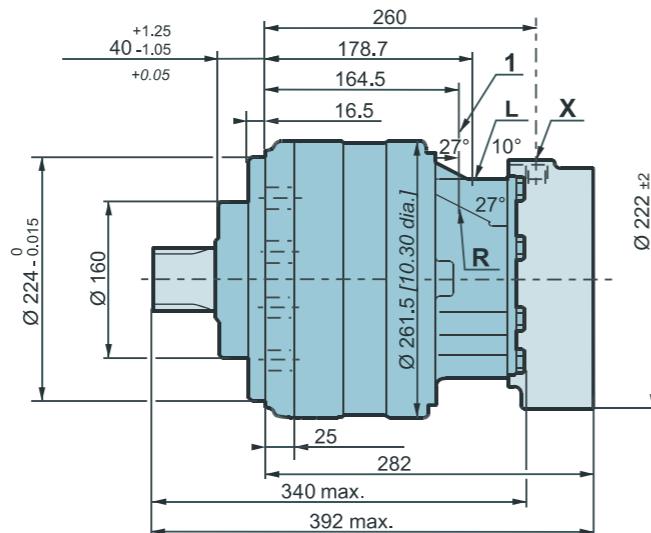
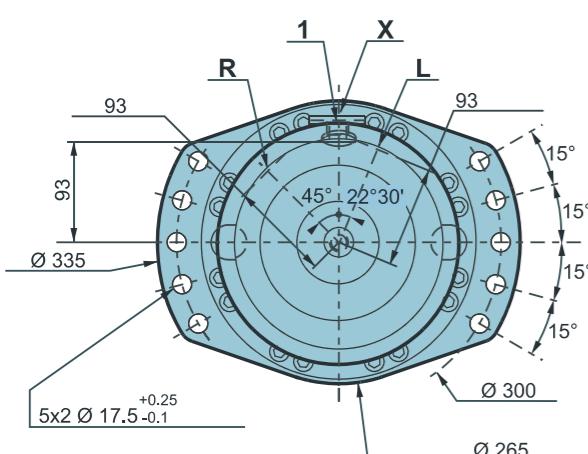
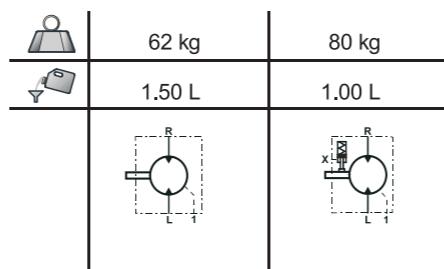
型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS08-630	627	314	40	25	2371	94	0-170	36
TMS08-700	702	351	40	25	2654	106	0-170	36
TMS08-780	780	390	40	25	2949	117	0-170	36
TMS08-860	857	429	40	25	3241	129	0-170	36
TMS08-930	934	467	40	25	3532	141	0-170	36
TMS08-1050	1043	522	35	25	3944	157	0-100	36
TMS08-1150	1146	573	35	25	4333	173	0-100	36
TMS08-1250	1248	624	35	25	4719	188	0-90	36

## ● 输出轴类型 OUTPUT SHAFT VERSION

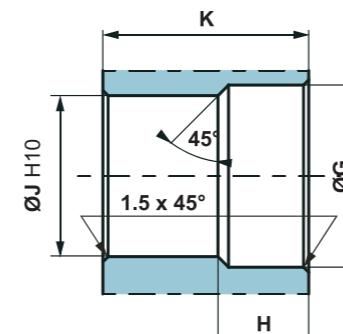
	A	B	C	D	E	F
DIN 5480 花键 Splines K40 公称直径 Nominal $\Phi$ 70 模数 Module 3 Z 22						
NF E22-141 花键 Splines K10 公称直径 Nominal $\Phi$ 65 模数 Module 2.5 Z 24						
DIN 6885 平键 Flat key P10 X 20 Y 74 max.	30	R2.5	$\Phi$ 69.99	M16	90	106

## 轴马达 SHAFT MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS08-\*\*-\*\*-F-Y\*

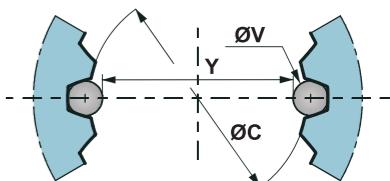


## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\varnothing$  Nominal  $\varnothing$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

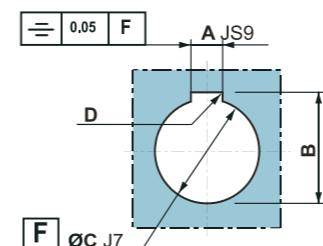
标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)



标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

	Φ G	H	Φ J	K	N	Mo	Z	偏差 Offset	Φ C(H10)	Φ V	Y	公差 Tolerance $\mu m$
K10	66	25	60	69	65	2.5	24	2	60	5	55.169	+86/0
K40	71.5	25	64	69	70.0	3	22	+0.35	64	5.25	59.042	+76/28

## ● 平键连接 CYLINDRICAL KEYED COUPLING

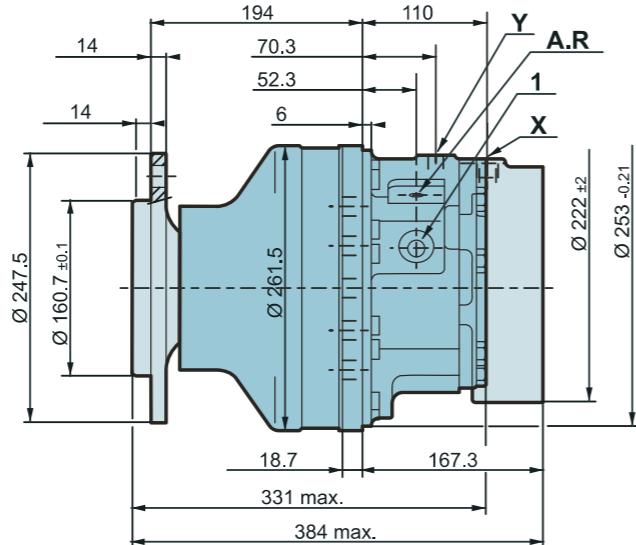
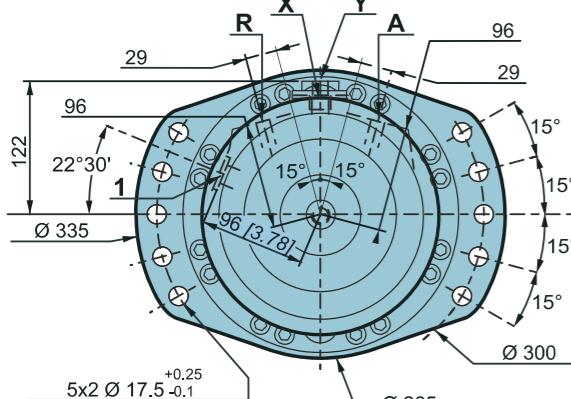


	A	B	Φ C	D
P10	20 ± 0.026	74.1 $^{+0.2}_0$	70	0.7

# 轮边马达 WHEEL MOTOR

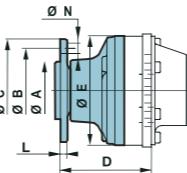
## ● 单排量外形安装图 Dimensions for 1 displacement motor

订货代码 Ordering code: TMS08-\*\*-\*\*-M-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L
L10	Φ160.7	Φ205	Φ245	195	Φ261.5	6 × Φ20	M18 × 1.5	13.5
L20	Φ150.9	Φ203.2	Φ238	194.1	Φ261.5	8 × Φ22	M20 × 1.5	13.5
L30	Φ175.7	Φ225	Φ270	188.8	Φ261.5	10 × Φ18	M16 × 1.5	15



## ● 螺栓 STUDS

各种螺栓 Various studs	P mm	Cmin.mm	Cmax.mm	D mm	等级	(1)*	(2)*
						N.m	N.m
M14 × 1.5	45		15	16.5	5	200	250
	55		18	23.0		420	550
	60		23			600	770
	60		21	25		695	1050
	55		15	26			
	80		40				
螺钉 Screws	M12 × 1.75	-	-			10.9	120
	1/2-20 UNF	-	-			10.9	250

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	变量油口 Displacement control	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
			A-R, R-L A1	Y	1.2	X
Y5	SAE J514	ISO 11 926-1	1"1/16-12 UNF	9/16" -18 UNF	3/4" -16 UNF	9/16" -18 UNF
Y4	ISO 6 162 DIN 3852	ISO 6 162 ISO 9 974-1	DN13 PN400	M14 × 1.5	M18 × 1.5	M16 × 1.5
Y2	NF E48 050	ISO 9 974-1	M22 × 1.5	M14 × 1.5	M18 × 1.5	M16 × 1.5
Y3	DIN 3852	ISO 6 149-1	M27 × 2	M14 × 1.5	M18 × 1.5	M16 × 1.5

## ● 制动器 BRAKES

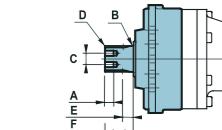
Z 08	Z 09
制动腔内压力为0时制动器的制动扭矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)
5620Nm	9000Nm
制动腔内压力为0时紧急制动扭矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)
3653Nm	5850Nm
制作腔内压力为0时剩余的驻车制动 扭矩*	Residual parking braking at 0 bars on housing
4215Nm	6750Nm
最小的制动器释放压力	Min,brake release pressure
12bar	12bar
油量	Oil capacity
100cm <sup>3</sup>	100cm <sup>3</sup>
用于制动器释放的液压油量	Volume for brake release
40cm <sup>3</sup>	40cm <sup>3</sup>
最大能量消耗	Max, energy dissipation
110336J	

## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS11-840	837	419	40	25	3165	126	0-150	44
TMS11-950	943	472	40	25	3566	142	0-150	44
TMS11-1050	1048	524	40	25	3963	158	0-150	44
TMS11-1260	1259	630	40	25	4761	190	0-150	44
TMS11-1270	1263	632	35	25	4776	191	0-150	44
TMS11-1400	1404	702	35	25	5309	212	0-80	44
TMS11-1550	1536	768	35	25	5808	232	0-80	44
TMS11-1700	1687	844	35	25	6379	255	0-80	44

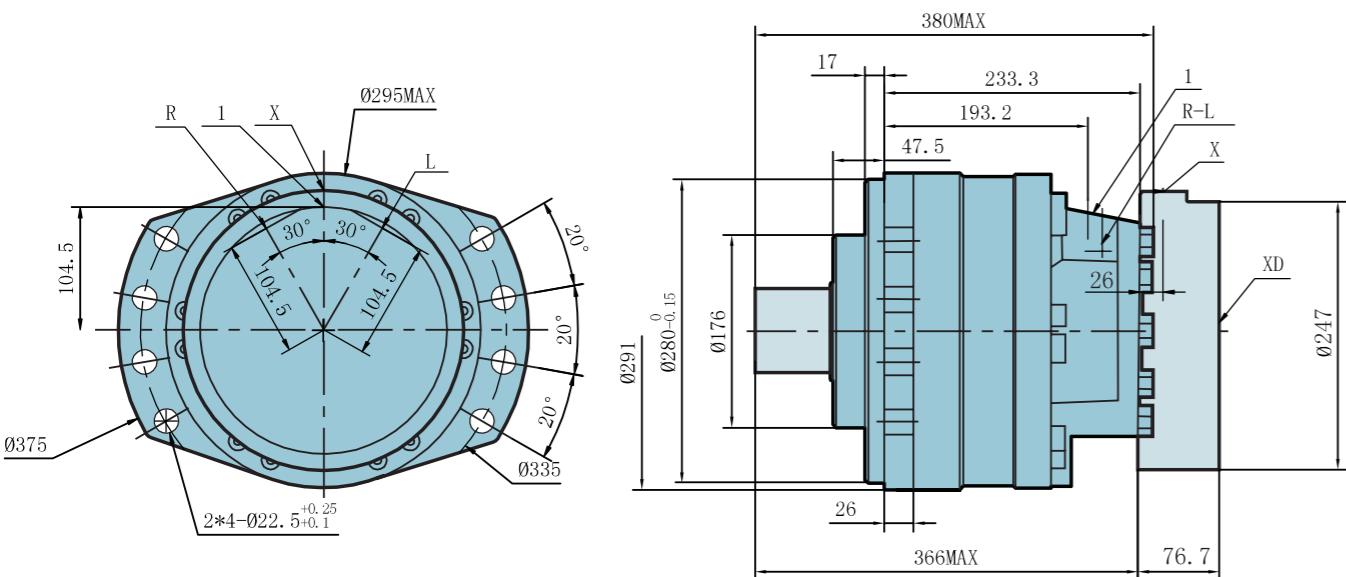
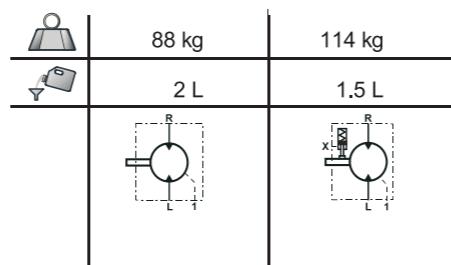
## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K40	DIN 5480 花键 Splines						
	公称直径 Nominal $\Phi$ 80						
	模数 Module 3	15	R2.75	35	2×M10	23	80
K10	Z 25						
	NF E22-141 花键 Splines						
	公称直径 Nominal $\Phi$ 75						
Z 28	模数 Module 2.5	15	R2.75	35	2×M10	24	70

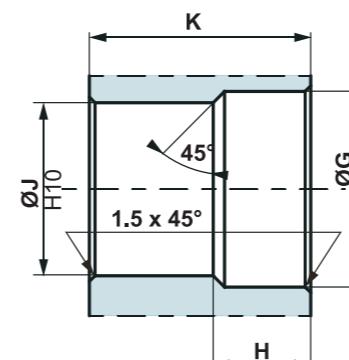


## 轴马达 SHAFT MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS11-\*\*-\*\*-F-Y\*



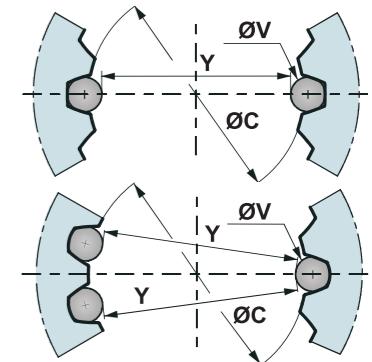
## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\Phi$  Nominal  $\Phi$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

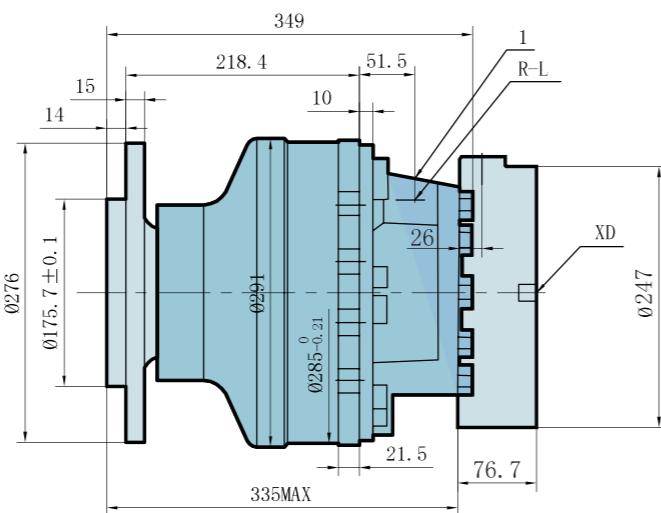
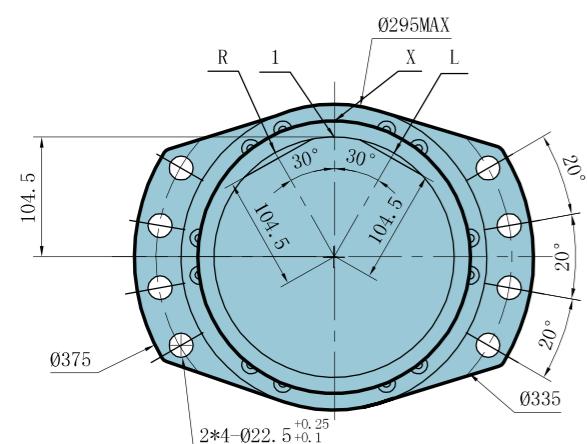
标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)



	$\Phi$ G	H	$\Phi$ J	K	N	Mo	Z	偏差 Offset	$\Phi$ C(H10)	$\Phi$ V	Y	公差 Tolerance $\mu m$
K10	76	25	70	69	75	2.5	28	2	70	5	65.169	+103/0
K40	81.5	25	74	79	80	3	25	0.85	74	5.25	68.957	+71/0

# 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor
- 订货代码 Ordering code: TMS11-\*\*-\*\*-M-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L	
L10	Φ175.7	Φ225	Φ276	218.6	Φ291	Φ24	5 × M22 × 1.5	14	
L20	Φ175.7	Φ225	Φ276	218.6	Φ291	Φ22	10 × M20 × 1.5	14	

## ● 螺栓 STUDS

各种螺栓 Various studs	P mm	Cmin.mm	Cmax.mm	D mm	等级 Grade	(1)* N.m	(2)* N.m
	M18 × 1.5	55	17	23		420	550
	M20 × 1.5	60	14	25	12.9	600	770
	M22 × 1.5	65	24	26		695	1050
螺钉 Screws	M12					120	120

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
		R-L	1.2	X	
Y5	SAE J514	ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF	9/16"-18 UNF
Y	ISO 6162 DIN 3852	ISO 6 162 ISO 9 974-1	DN19 PN40	M18 × 1.5	M16 × 1.5
Y3	ISO 6162 BSPP	ISO 6 162 ISO 1 179-1	DN19 PN400	Φ21	Φ17

## ● 制动器 BRAKES

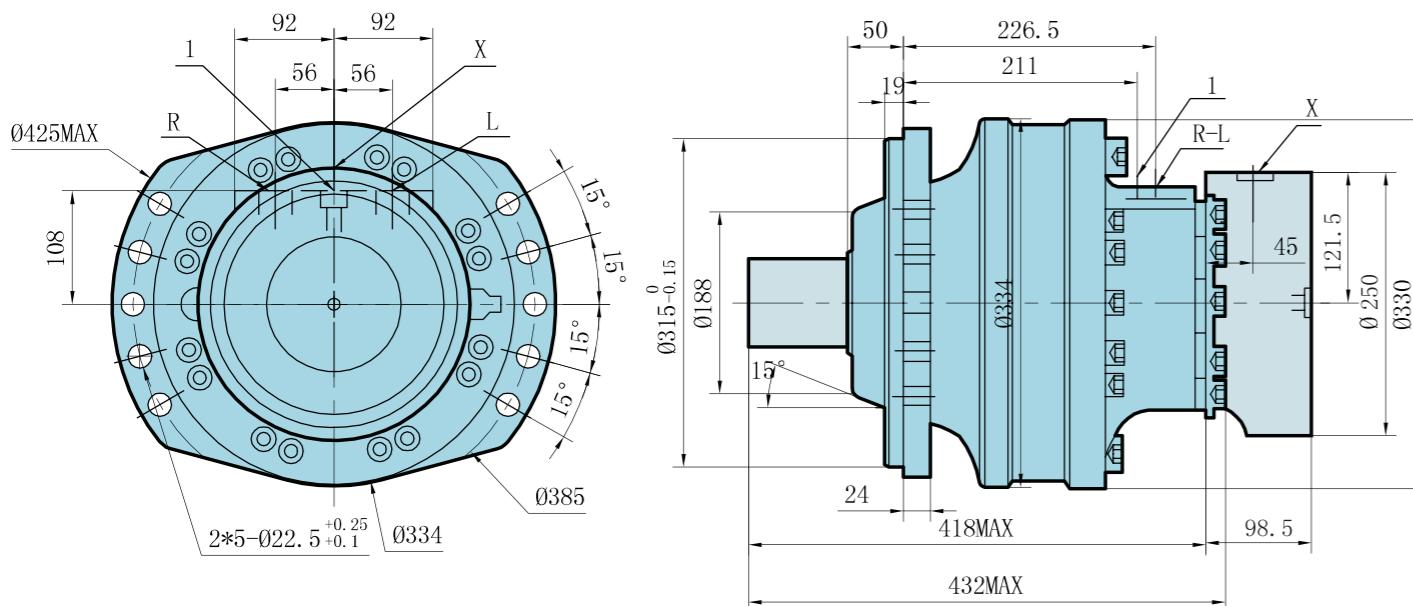
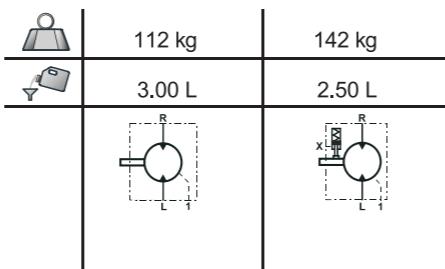
Z 12	制动腔内压力为0时制动力矩 (新制动机)	Parking brake torque at 0 bars on housing(new brake)	11840Nm
	制动腔内压力为0时紧急制动力矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)	7695Nm
	制作腔内压力为0时剩余的驻车制动力矩*	Residual parking braking at 0 bars on housing	8880Nm
	最小的制动器释放压力	Min,brake release pressure	12bar
	最大的制动器释放压力	Max,brake release pressure	30bar
	油量	Oil capacity	170cm <sup>3</sup>
	用于制动器释放的液压油量	Volume for brake release	40cm <sup>3</sup>
	最大能量消耗	Max, energy dissipation	123699J

## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS18-1400	1395	698	40	25	5275	211	0-150	62
TMS18-1600	1571	786	40	25	5941	237	0-150	62
TMS18-1700	1747	874	40	25	6606	264	0-150	62
TMS18-1900	1911	956	40	25	7227	289	0-135	62
TMS18-2100	2099	1050	40	25	7938	317	0-135	62
TMS18-2300	2340	1170	35	25	8849	353	0-100	62
TMS18-2500	2560	1280	35	25	9681	387	0-80	62
TMS18-2800	2812	1406	35	25	10634	425	0-80	62

## 轴马达 SHAFT MOTOR

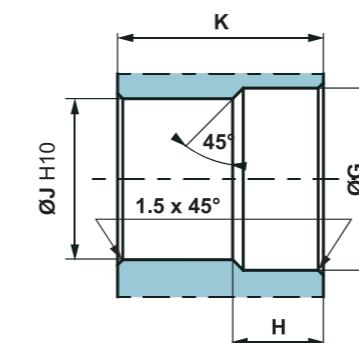
● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS18-\*\*-\*\*-F-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K40	花键 Splines						
	公称直径 Nominal $\varnothing$ 90						
	模数 Module 3	23	R3	35	2×M14	23	90
K10	花键 Splines						
	公称直径 Nominal $\varnothing$ 90						
	模数 Module 2.5	23	R3	35	2×M14	23	90
Z 28							
Z 34							

## ● 花键套联接 SPLINED COUPLING

N : 公称直径  $\varnothing$  Nominal  $\varnothing$ 

Mo : 模数 Module

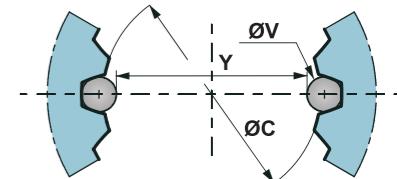
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480

压力角 30° Pressure angle 30°

齿侧面定位 Centering on flanks

滑动配合 (7H 精度) Slide adjustment (7H quality)



标准 NFE 22-141 Standard NFE 22-141

压力角 20° Pressure angle 20°

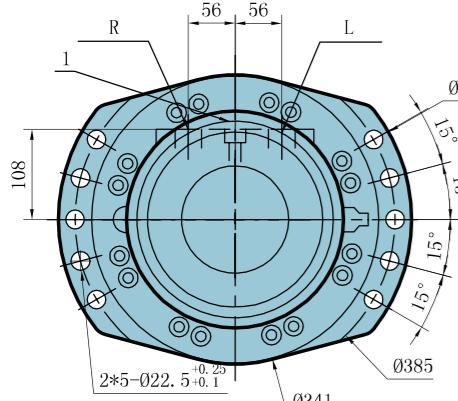
齿侧面定位 Centering on flanks

滑动配合 (7H 精度) Slide adjustment (7H quality)

	Φ G	H	Φ J	K	N	Mo	Z	偏差 Offset	Φ C(H10)	Φ V	Y	公差 Tolerance $\mu m$
K10	91	28	85	89	90	2.5	34	2	85	5	80.169	+104/0
K40	91.5	25	84	89	90	3	28	1.35	84	5.25	79.110	+68/0

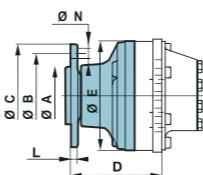
# 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor
- 订货代码 Ordering code: TMS18-\*\*-\*\*-M-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L
L10	Φ175.7	Φ225	Φ265	253.45	Φ334	Φ24	10 × M22 × 1.5	14
L20	Φ220.7	Φ275	Φ314	253.25	Φ291	Φ22	8 × M20 × 1.5	14
L30	Φ220.7	Φ275	Φ314	253.25	Φ334	Φ22	8 × M20 × 1.5	18



## ● 螺栓 STUDS

各种螺栓 Various studs	P mm	Cmin.mm	Cmax.mm	D mm	等级	(1)*	(2)*
						N.m	N.m
M16 × 2	50		17.75	21		300	380
M20 × 1.5	60		20	25		600	770
M20 × 1.5	70	5	27	25	12.9	695	1050
M22 × 1.5	65		24	26		275	275
M22 × 1.5	80		29	26		535	535
M16 × 1.5	-	-			10.9		
螺钉 Screws	M20 × 1.75	-	-				

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
Y5	SAE J514	ISO 11 926-1	1"1/16-12 UNF	7/8"-14 UNF	9/16"-18 UNF 3/4"-16 UNF
Y3	NF E48 050	ISO 9 974-1	M27 × 2	M22 × 1.5	M16 × 1.5

## ● 制动器 BRAKES

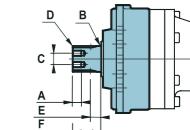
制动腔内压力为0时制动器的制动力矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)	11840Nm	18600Nm
制动腔内压力为0时紧急制动扭矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)	7695Nm	12800Nm
制作腔内压力为0时剩余的驻车制动 扭矩*	Residual parking braking at 0 bars on housing	8880Nm	13940Nm
最小的制动器释放压力	Min,brake release pressure	12bar	12bar
最大的制动器释放压力	Max,brake release pressure	30bar	30bar
油量	Oil capacity	170cm <sup>3</sup>	180cm <sup>3</sup>
用于制动器释放的液压油量	Volume for brake release	40cm <sup>3</sup>	70cm <sup>3</sup>
最大能量消耗	Max, energy dissipation	123699bar	193033bar

## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS25-2000	2004	1002	35	25	7578	303	0-130	80
TMS25-2500	2498	1249	35	25	9447	377	0-130	80
TMS25-2800	2752	1376	35	25	10407	416	0-120	80
TMS25-3000	3006	1503	35	25	11368	454	0-110	80

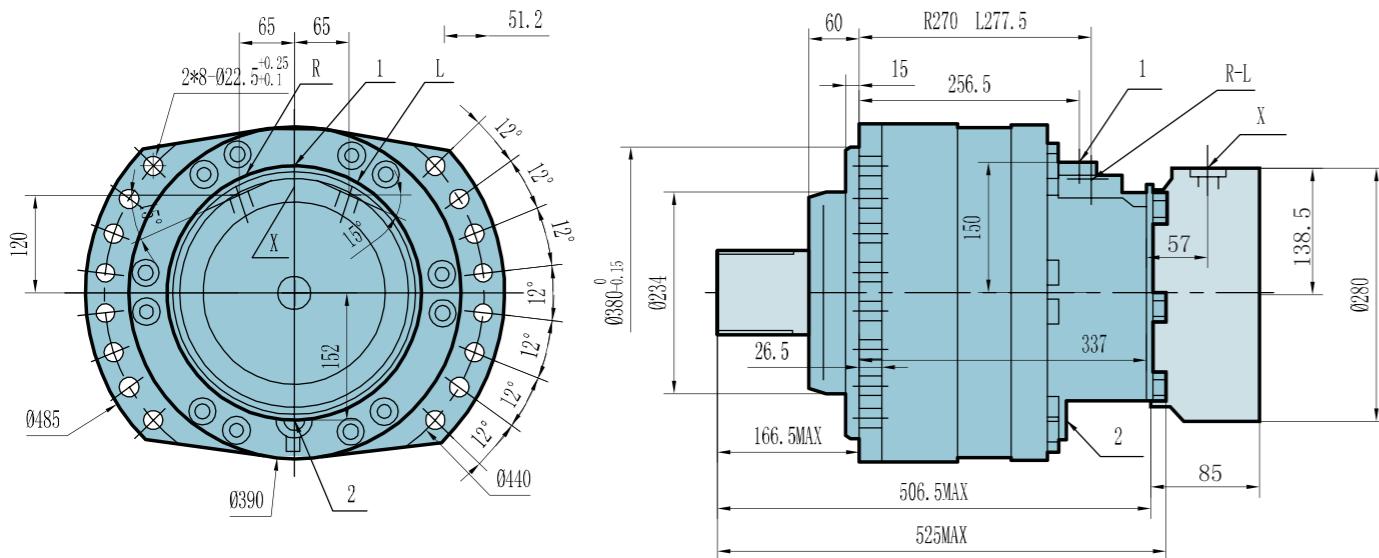
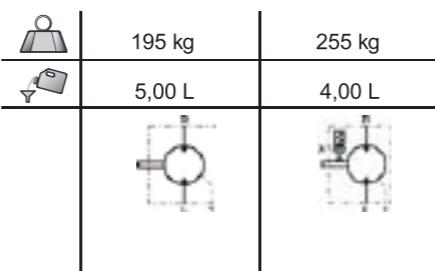
## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K40	DIN 5480 花键 Splines						
	公称直径 Nominal $\Phi$ 100						
	模数 Module 3	23	R4	35	2×M14	25	105
K10	Z 32						
	NF E22-141 花键 Splines						
	公称直径 Nominal $\Phi$ 100						
K10	模数 Module 2.5	23	R4	35	2×M14	26.5	105
	Z 38						

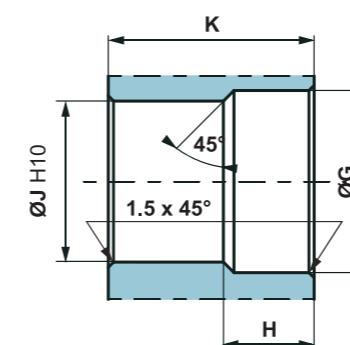


## 轴马达 SHAFT MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS25-\*\*-\*\*-F-Y\*



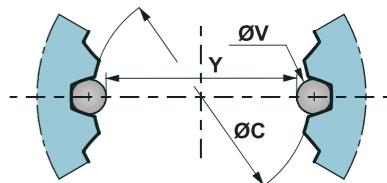
## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\Phi$  Nominal  $\Phi$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

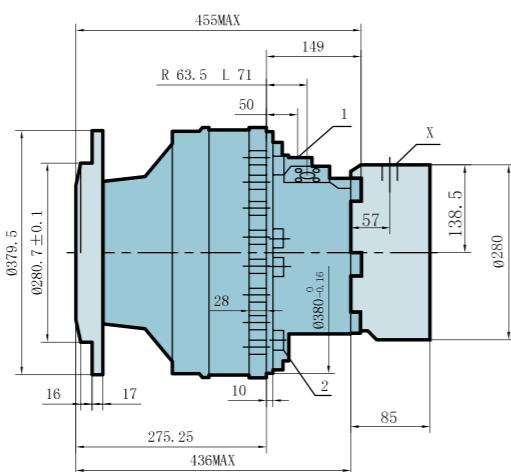
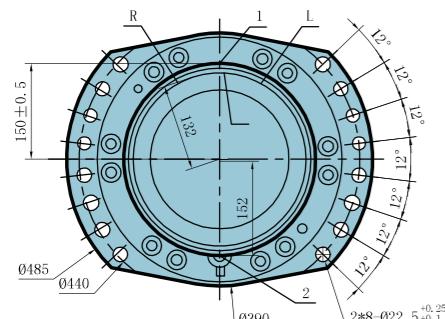
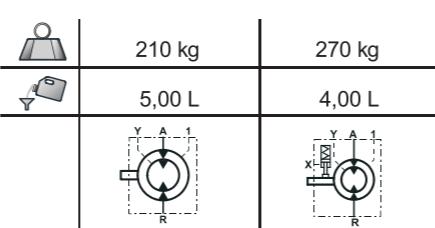
标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)



	$\Phi$ G	H	$\Phi$ J	K	N	Mo	Z	偏差 Offset	$\Phi$ C(H10)	$\Phi$ V	Y	公差 Tolerance $\mu m$
K10	101	28	95	104	100	2.5	38	-0.35	95	5	90.125	+104/0
K40	101.5	28	94	104	100	3	32	-0.35	94	5.25	89.066	+73/0

# 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS25-\*\*-\*\*-M-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L	
L10	Φ280.7	Φ335	Φ379	275.5	Φ390	Φ24	10 × M22 × 1.5	17	
L20	Φ370	Φ425	Φ472	333.45	Φ390	Φ26	12 × M24 × 2	24	
L30	Φ280.7	Φ335	Φ385	236.5	Φ390	Φ24	10 × M22 × 1.5	17	
L50	Φ220.7	Φ275	Φ314	241.5	Φ390	8 × Φ22 4 × Φ22	-	17	

## ● 螺栓 STUDS

	P mm	Cmin.mm	Cmax.mm	D mm	等级	(1)* N.m	(2)* N.m
各种螺栓 Various studs	M22 × 1.5	80	36	26		695	1050
	M24 × 2	95	5	38	12.9	910	1150
螺钉 Screws	M20	-	-		12.9	600	770

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
Y	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DIN25 PN400	M22 × 1.5	M18 × 1.5

## ● 制动器 BRAKES

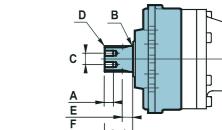
制动腔内压力为0时制动器的制动力矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)	20500Nm
制动腔内压力为0时紧急制动扭矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)	13325Nm
制作腔内压力为0时剩余的驻车制动 扭矩*	Residual parking braking at 0 bars on housing	15375Nm
最小的制动器释放压力	Min,brake release pressure	12bar
最大的制动器释放压力	Max,brake release pressure	30bar
油量	Oil capacity	700cm³
用于制动器释放的液压油量	Volume for brake release	70cm³

## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS35-2500	2439	1220	35	25	9223	368	0-100	97
TMS35-3150	3143	1572	35	25	11886	475	0-100	97
TMS35-3500	3494	1747	35	25	13213	528	0-90	97
TMS35-3800	3843	1922	35	25	14533	581	0-80	97
TMS35-4200	4198	2099	35	25	15876	635	0-80	97

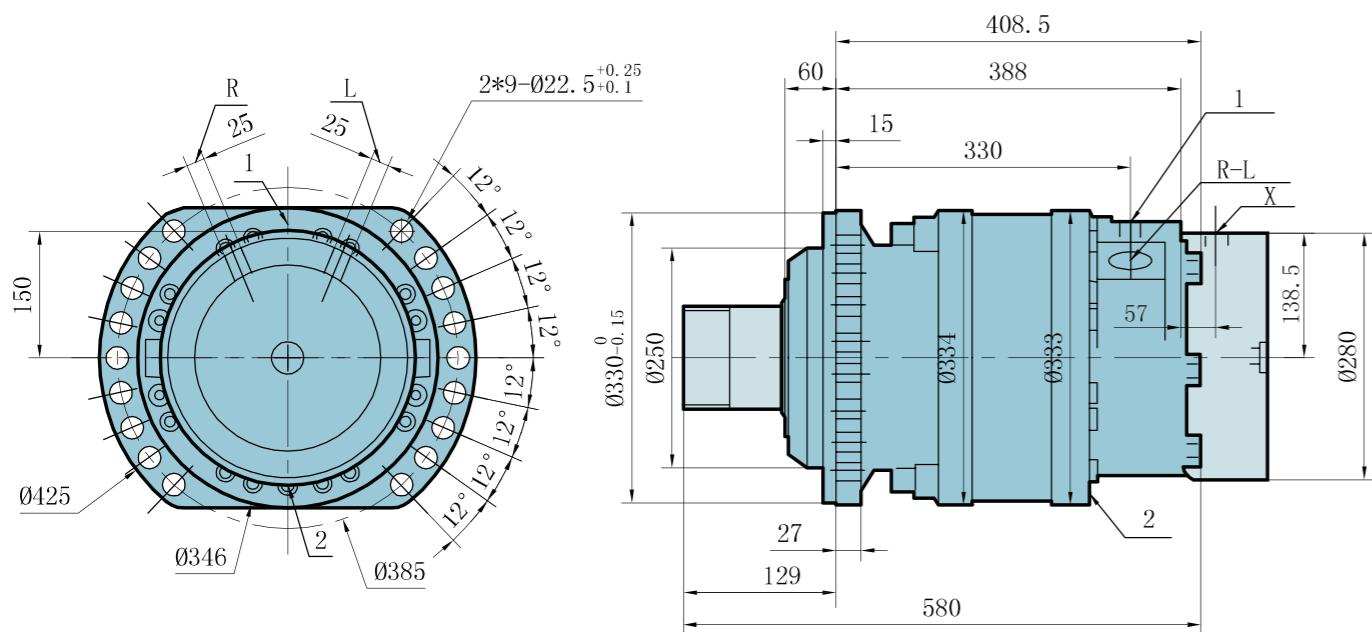
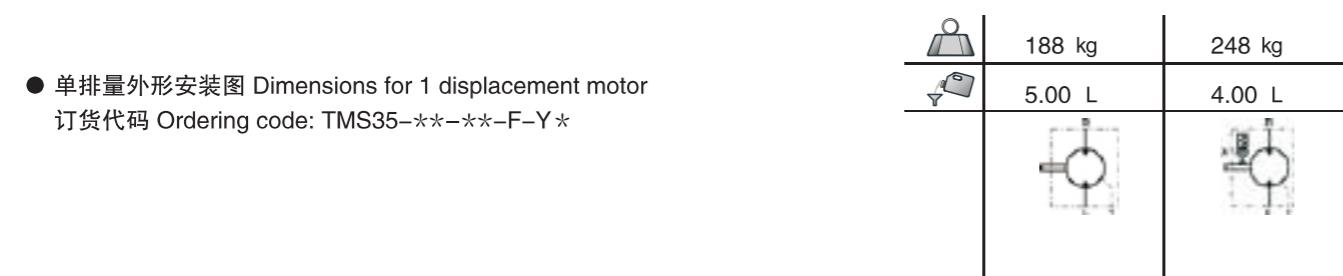
## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K40	DIN 5480 花键 Splines						
	公称直径 Nominal $\Phi$ 120						
	模数 Module 5	40	R3	60	2×M16	28	110
K10	Z 22						
	NF E22-141 花键 Splines						
	公称直径 Nominal $\Phi$ 120						
K10	模数 Module 3.75	40	R3	60	2×M16	28	110
	Z 30						

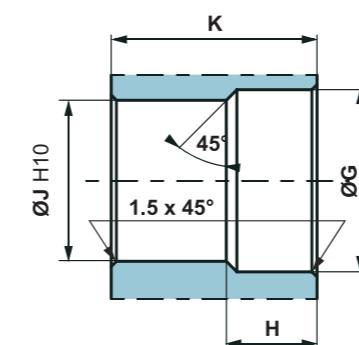


## 轴马达 SHAFT MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS35-\*\*-\*\*-F-Y\*



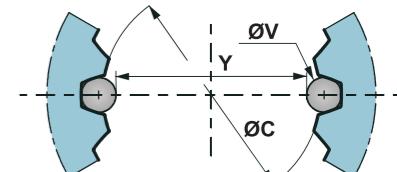
## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\Phi$  Nominal  $\Phi$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

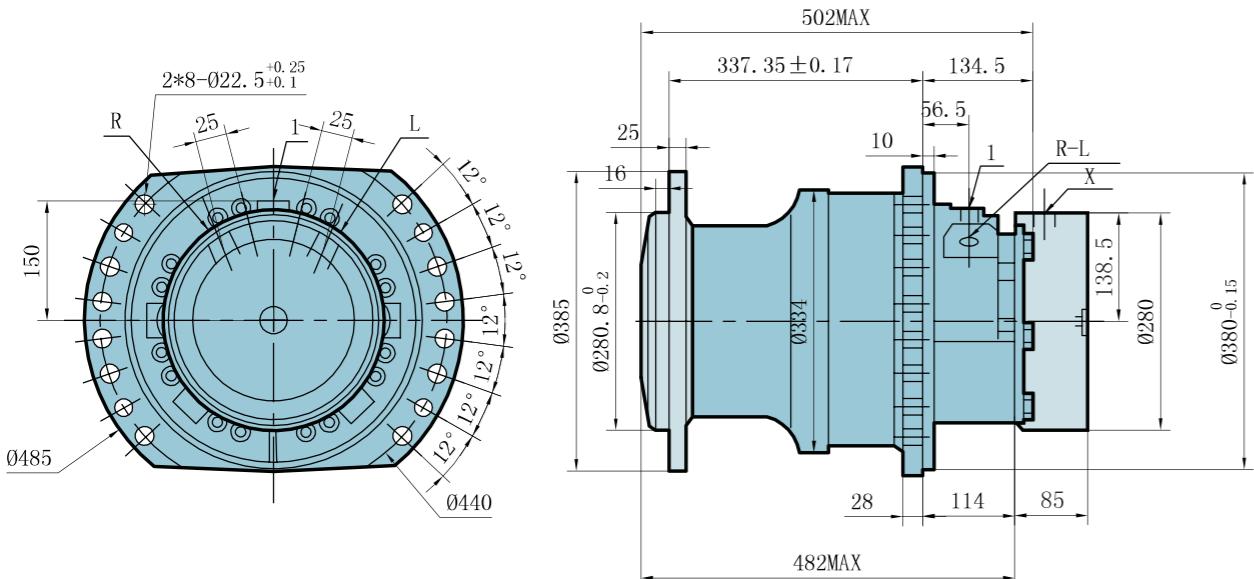
标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)



	$\Phi$ G	H	$\Phi$ J	K	N	Mo	Z	偏差 Offset	$\Phi$ C(H10)	$\Phi$ V	Y	公差 Tolerance $\mu m$
K10	121	29	112.5	109	120	3.75	30	3	112.5	7.5	105.253	+104/0
K40	122	29	110	109	120	5	22	2.25	110	9	101.104	+87/0

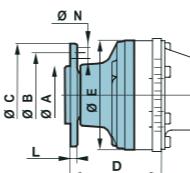
# 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor
- 订货代码 Ordering code: TMS35-\*\*-\*\*-M-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L
L10	Φ280.7	Φ335	Φ385	338	Φ334	Φ24	10 × M22 × 1.5	24
L20	Φ220.7	Φ275	Φ314	300.5	Φ334	Φ22	8 × M20 × 1.5	14
L30	Φ175.7	Φ225	Φ276	300.5	Φ334	Φ24	10 × M22 × 1.5	15



## ● 螺栓 STUDS

各种螺栓 Various studs	P mm	Cmin.mm	Cmax.mm	D mm	等级	(1)* N.m	(2)* N.m
	M16 × 1.5	50		21		300	380
	M20 × 1.5	60		25		600	770
	M20 × 1.5	70	5	26	12.9	695	1050
	M22 × 1.5	64					
	M22 × 1.5	80					
螺钉 Screws	M16 × 1.5	-	-	23	10.9	250	315

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
Y	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DN32 PN400	M22 × 1.5	M16 × 1.5

## ● 制动器 BRAKES

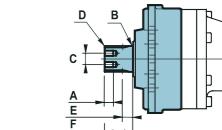
制动腔内压力为0时制动器的制动扭矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)	20500Nm	25000Nm	30000Nm
制动腔内压力为0时紧急制动扭矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)	13325Nm	16250Nm	19500Nm
制作腔内压力为0时剩余的驻车制动 扭矩*	Residual parking braking at 0 bars on housing	15375Nm	18750Nm	22500Nm
最小的制动器释放压力	Min,brake release pressure	12bar	12bar	12bar
最大的制动器释放压力	Max,brake release pressure	30bar	30bar	30bar
油量	Oil capacity	70cm³	400cm³	450cm³
用于制动器释放的液压油量	Volume for brake release	70cm³	135cm³	135cm³

## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS50-3500	3500	1750	35	25	13226	529	0-90	110
TMS50-4000	4008	2004	35	25	15157	606	0-90	110
TMS50-5000	4997	2499	35	25	18897	755	0-80	110
TMS50-5500	5504	2752	35	25	20815	832	0-70	110
TMS50-6000	6011	3006	35	25	22732	909	0-70	110

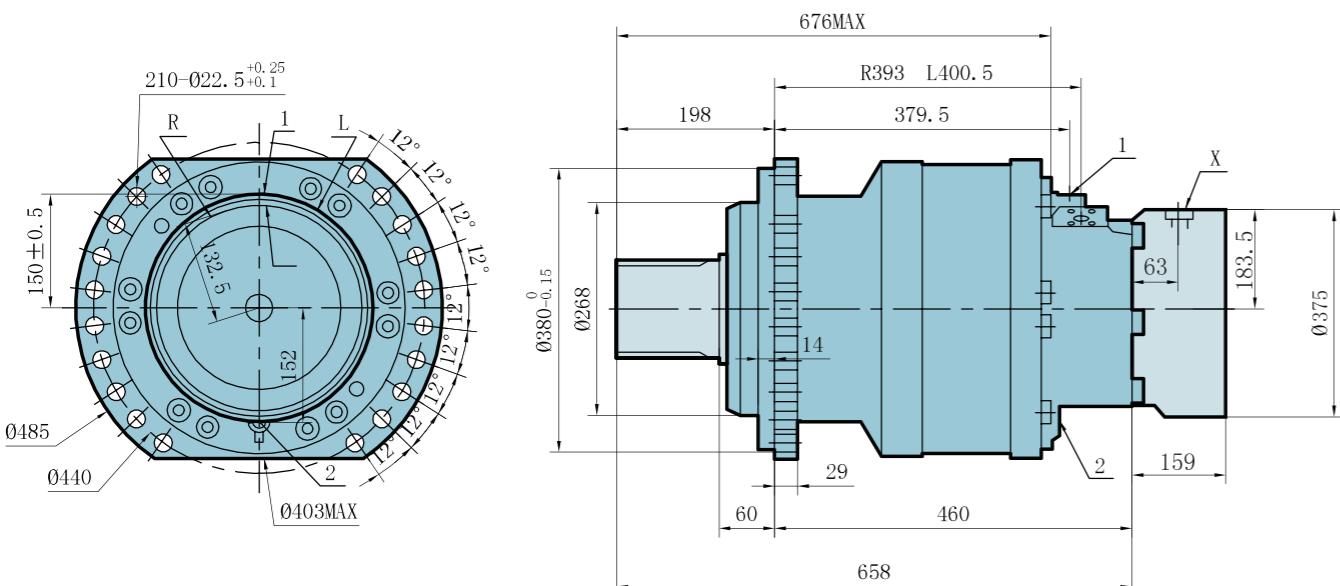
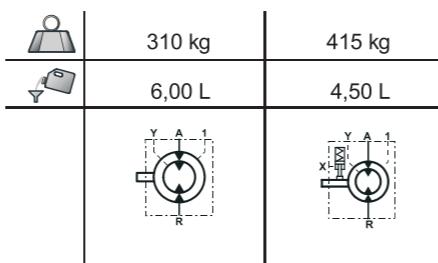
## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K40	DIN 5480 花键 Splines						
	公称直径 Nominal $\Phi$ 130						
	模数 Module 5	40	R4	60	2 × M16	32	136
K10	Z 24						
	NF E22-141 花键 Splines						
	公称直径 Nominal $\Phi$ 130						
K10	模数 Module 3.75	40	R4	60	2 × M16	32	136
	Z 33						

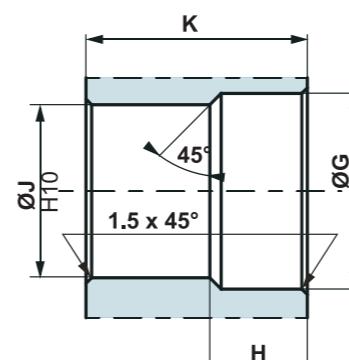


## 轴马达 SHAFT MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS50-\*\*-\*\*-F-Y\*



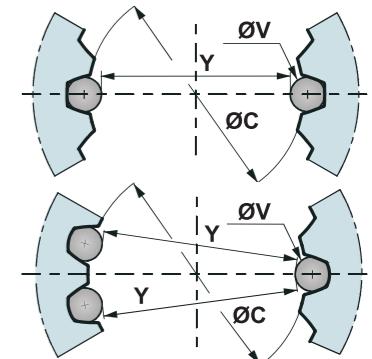
## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\Phi$  Nominal  $\Phi$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

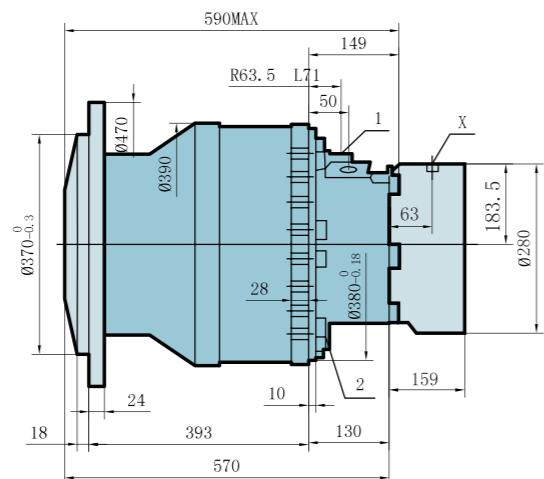
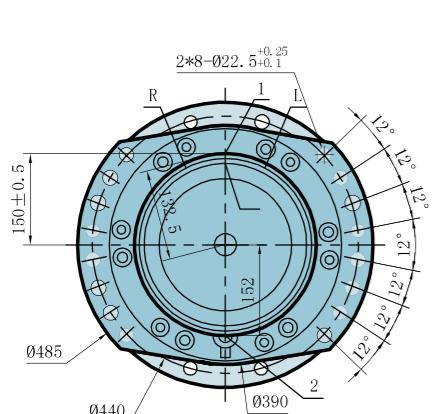


	$\Phi$ G	H	$\Phi$ J	K	N	Mo	Z	偏差 Offset	$\Phi$ C(H10)	$\Phi$ V	Y	公差 Tolerance $\mu m$
K10	132	33	120	135	130	5	24	2.25	120	9	111.104	+87/0
K40	131	33	122.5	135	130	3.75	33	2.373	122.5	7.5	115.081	+113/0

# 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS50-\*\*-\*\*-M-Y\*

	310 kg	415 kg
	6,00 L	4,50 L



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L	
L10	Φ370	Φ425	Φ472	393	Φ390	Φ26	12×M24×2	24	
L20	Φ280.7	Φ335	Φ379	335	Φ390	Φ24	10×M22×1.5	17	
L30	Φ280.7	Φ335	Φ379	296	Φ390	10×Φ24	-	17	

## ● 螺栓 STUDS

	P mm	Cmin.mm	Cmax.mm	D mm		等级	(1)* N.m	(2)* N.m
各种螺栓 Various studs	M22×1.5	80	5	36	26	12.9	695	1050
	M24×2	95		38	30		910	1150

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
Y	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DN25 PN400	M22×1.5	M18×1.5

## ● 制动器 BRAKES

制动腔内压力为0时制动器的制动力矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)	25000Nm	30000Nm	42000Nm
制动腔内压力为0时紧急制动力矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)	16250Nm	19500Nm	27300Nm
制作腔内压力为0时剩余的驻车制动力矩*	Residual parking braking at 0 bars on housing	18750Nm	22500Nm	31500Nm
最小的制动器释放压力	Min,brake release pressure	12bar	12bar	14bar
最大的制动器释放压力	Max,brake release pressure	30bar	30bar	30bar
油量	Oil capacity	400cm <sup>3</sup>	450cm <sup>3</sup>	450cm <sup>3</sup>
用于制动器释放的液压油量	Volume for brake release	135cm <sup>3</sup>	135cm <sup>3</sup>	135cm <sup>3</sup>

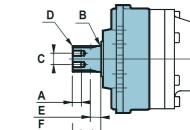
Z 42      Z 50      Z 83

## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量Displacement (ml/r)		压力Pressure (MPa)		扭矩Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS83-6700	6679	3340	35	25	25258	1010	0-65	123
TMS83-8300	8328	4164	35	25	31495	1259	0-50	123
TMS83-10000	10019	5010	35	25	37890	1515	0-40	123

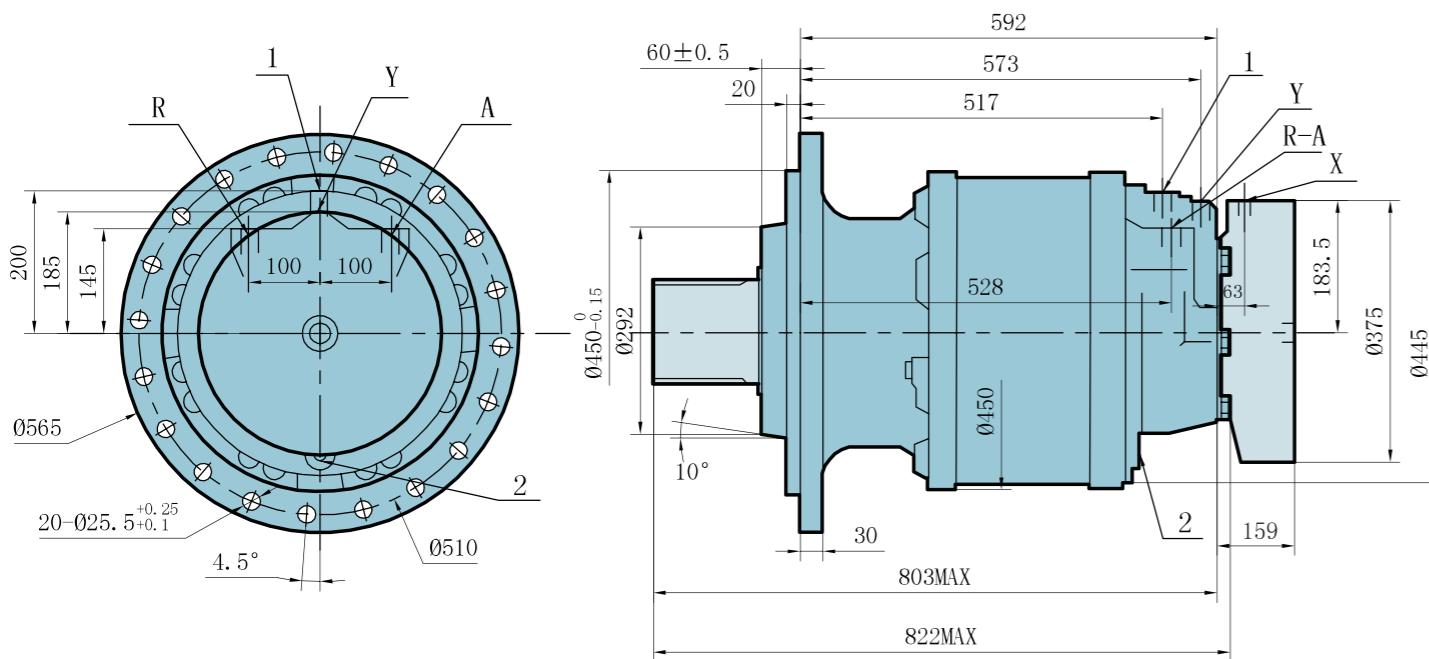
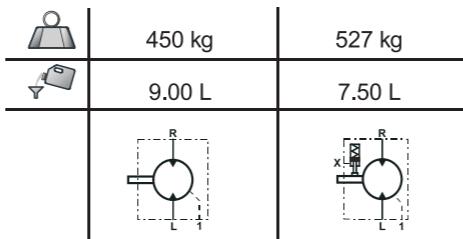
## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K40	DIN 5480 花键 Splines						
	公称直径 Nominal $\Phi$ 150						
	模数 Module 3.75	40	R4	60	2×M16	31	150
K10	Z 38						
	NF E22-141 花键 Splines						
	公称直径 Nominal $\Phi$ 150						
	模数 Module 5	40	R4	60	2×M16	32	150
	Z 28						

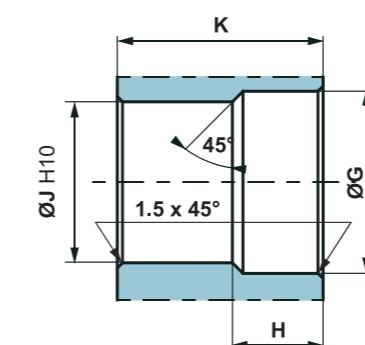


## 轴马达 SHAFT MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS83-\*\*-\*\*-F-Y\*



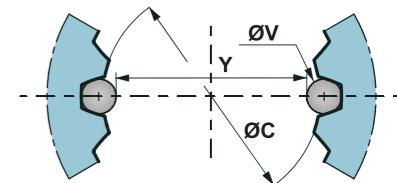
## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\Phi$  Nominal  $\Phi$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

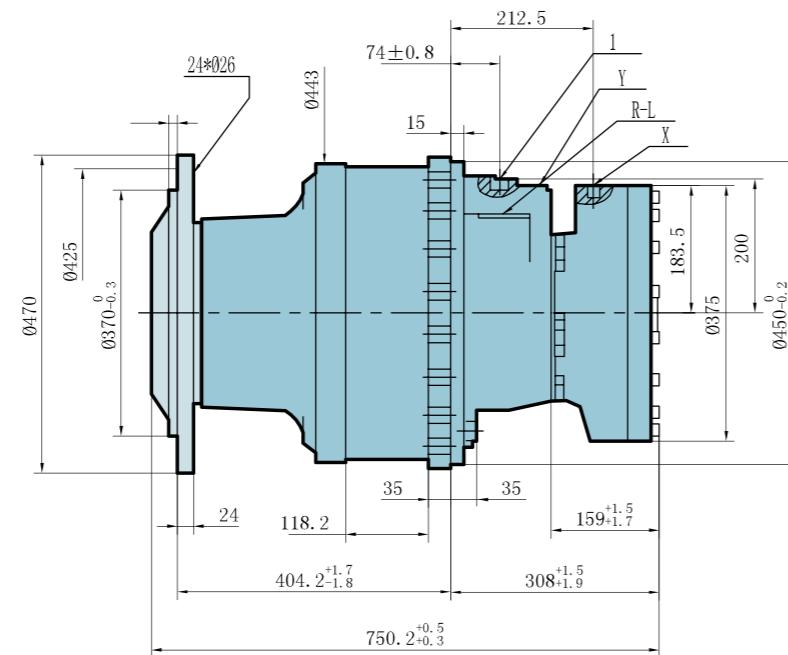
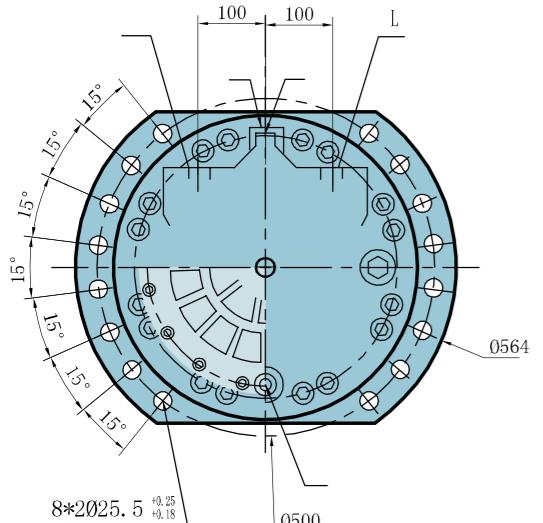


	$\Phi$ G	H	$\Phi$ J	K	N	Mo	Z	偏差 Offset	$\Phi$ C(H10)	$\Phi$ V	Y	公差 Tolerance $\mu m$
K40	152	33	140	149	150	5	28	2.25	140	9	131.104	+87/0
K10	151	32	142.5	149	150	3.75	38	3	142.5	7.5	135.254	+104/0

## 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor
- 订货代码 Ordering code: TMS83-\*\*-\*\*-M-Y\*

	445 kg	522 kg
	9.00 L	7.50 L



### ● 螺栓 STUDS

	P mm	Cmin.mm	Cmax.mm	D mm	等级	(1)* N.m	(2)* N.m	
M24×5	95	5	39	30		12.9	910	1150

### ● 连接油口 CONNECTIONS

	标准 Standard	主油口 Power supply	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
	R-L	1.2	X	
Y	ISO 6 162	DN25 PN400	M27×2	M18×1.5

### ● 制动器 BRAKES

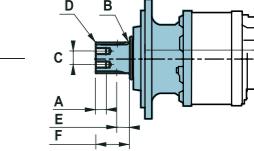
Z 83		
制动腔内压力为0时制动器的制动扭矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)	42000Nm
制动腔内压力为0时紧急制动扭矩 (最多可作紧急制动使用10次)	Dynamic energy braking torque at 0 bars on housing(max 10 uses of emergency brakes)	27300Nm
制作腔内压力为0时剩余的驻车制动 扭矩*	Residual parking braking at 0 bars on housing	31500Nm
最小的制动器释放压力	Min,brake release pressure	14bar
最大的制动器释放压力	Max,brake release pressure	30bar
油量	Oil capacity	450cm <sup>3</sup>
用于制动器释放的液压油量	Volume for brake release	135cm <sup>3</sup>

## ● 技术参数 TECHNICAL DATA

型号 TYPE	排量 Displacement (ml/r)		压力 Pressure (MPa)		扭矩 Torque(N.m)		转速范围 Speed range (r/min)	最大输出功率 Max cont Power (Kw)
	单速 Single speed	双速 Double speed	尖峰压力 Peak pressure	连续压力 Cont pressure	额定扭矩 (N.m) Rate torque	单位理论扭矩 (N.m/MPa) Theoric torque		
TMS125-10000	10000	5000	30	25	37818	1512	0-50	150
TMS125-12500	12500	6250	30	25	47273	1890	0-40	150
TMS125-15000	15000	7500	30	25	56727	2269	0-30	150

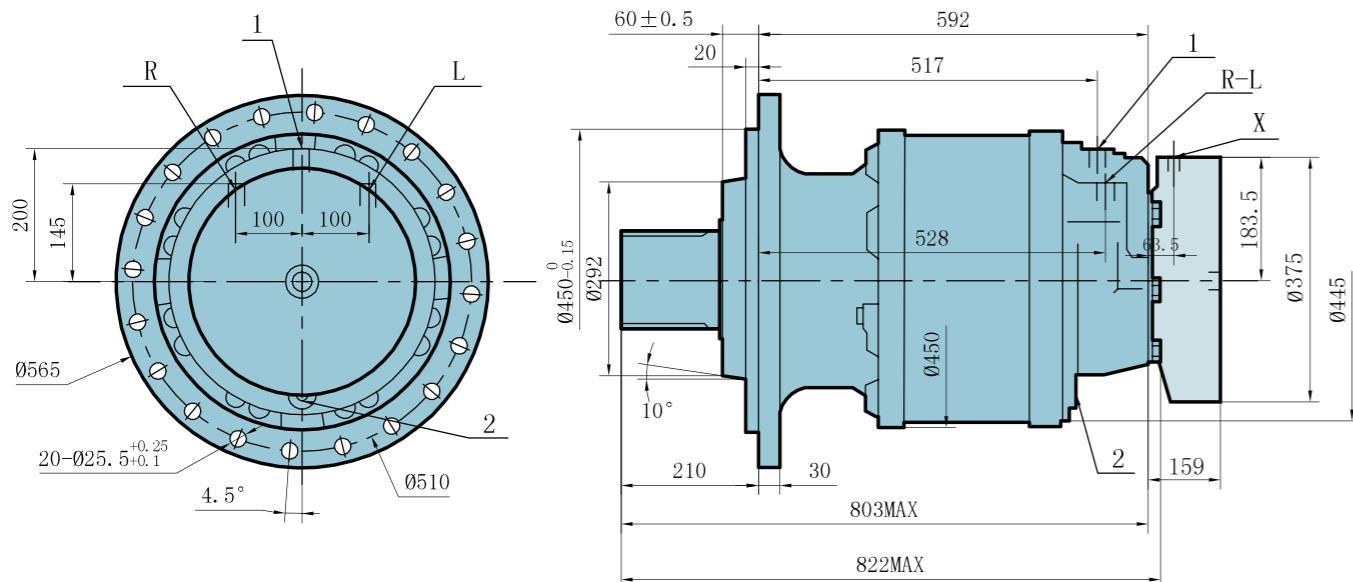
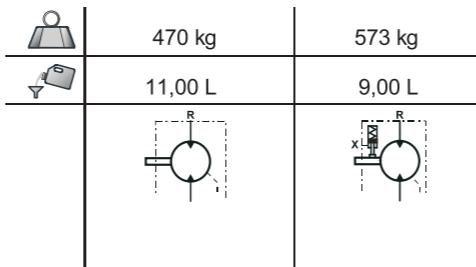
## ● 输出轴类型 OUTPUT SHAFT VERSION

		A	B	C	D	E	F
K40	DIN 5480 花键 Splines						
	公称直径 Nominal $\Phi$ 150						
	模数 Module 5	40	R4	60	2 × M16	32	150
K10	Z 28						
	NF E22-141 花键 Splines						
	公称直径 Nominal $\Phi$ 150						
	模数 Module 3.75	40	R4	60	2 × M16	31	150
	Z 38						

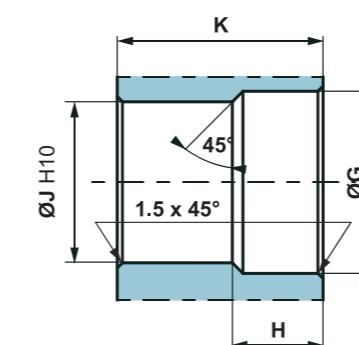


## 轴马达 SHAFT MOTOR

● 单排量外形安装图 Dimensions for 1 displacement motor  
订货代码 Ordering code: TMS125-\*\*-\*\*-F-Y\*



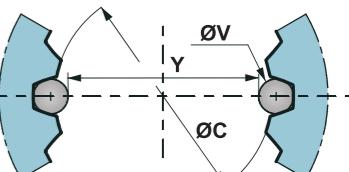
## ● 花键套联接 SPLINED COUPLING



N : 公称直径  $\Phi$  Nominal  $\Phi$   
Mo : 模数 Module  
Z : 齿数 Number of teeth

标准 DIN 5480 Standard DIN 5480  
压力角 30° Pressure angle 30°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)

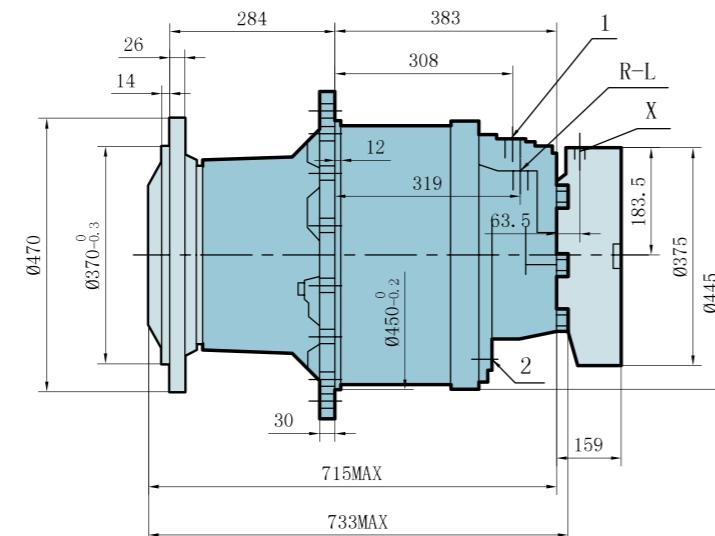
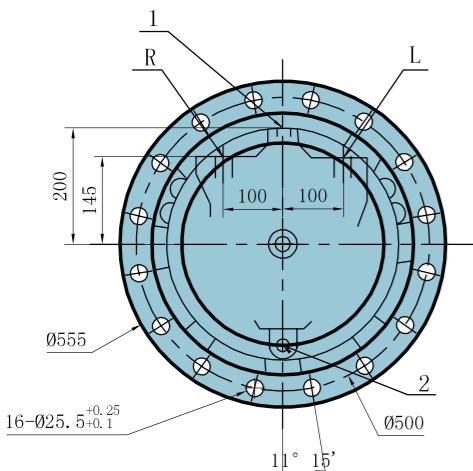
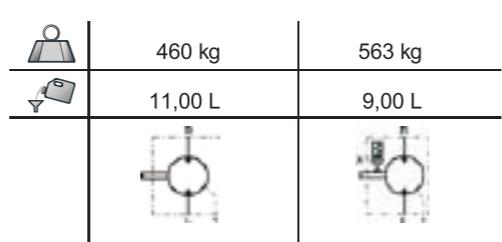
标准 NFE 22-141 Standard NFE 22-141  
压力角 20° Pressure angle 20°  
齿侧面定位 Centering on flanks  
滑动配合 (7H 精度) Slide adjustment (7H quality)



	$\Phi$ G	H	$\Phi$ J	K	N	Mo	Z	偏差 Offset	$\Phi$ C(H10)	$\Phi$ V	Y	公差 Tolerance $\mu m$
K40	152	33	140	149	150	5	28	2.25	140	9	131.104	+87/0
K10	151	32	142.5	149	150	3.75	38	3	142.5	7.5	135.254	+104/0

# 轮边马达 WHEEL MOTOR

- 单排量外形安装图 Dimensions for 1 displacement motor
- 订货代码 Ordering code: TMS125-\*\*-\*\*-M-Y\*



## ● 输出轴类型 OUTPUT SHAFT VERSION

	A	B	C	D	E	N	轮辋安装 Wheelrim mounting	L
L10	Φ370	Φ425	Φ470	284	Φ445	Φ26	24×M24×2	26
L20	Φ370	Φ425	Φ470	239	Φ445	Φ26	24×M24×2	25

## ● 螺栓 STUDS

	P mm	Cmin.mm	Cmax.mm	D mm	等级	(1)* N.m	(2)* N.m
各种螺栓 Various studs	M24×2	95 115	5 -	39 59	30	12.9	910 1150
螺钉 Screws	M24×2	-	-	-	12.9	910	1150

## ● 连接油口 CONNECTIONS

	旧标准 Old standard	标准 Standard	主油口 Power supply	壳体泄油口 Case drain	驻车制动控制油口 Control of parking break
Y	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	R-L DN25 PN400	1.2 M22×1.5	X M18×1.5

## ● 制动器 BRAKES

制动腔内压力为0时制动器的制动扭矩 (新制动器)	Parking brake torque at 0 bars on housing(new brake)	30000Nm	42000Nm
制动腔内压力为0时紧急制动扭矩 (最多可作紧急制动使用10次)	Dynamic emergency braking torque at 0 bars on housing(max 10 uses of emergency brakes)	19500Nm	27300Nm
制作腔内压力为0时剩余的驻车制动 扭矩*	Residual parking braking at 0 bars on housing	22500Nm	31500Nm
最小的制动器释放压力	Min,brake release pressure	12bar	14bar
最大的制动器释放压力	Max,brake release pressure	30bar	30bar
油量	Oil capacity	450cm <sup>3</sup>	450cm <sup>3</sup>
用于制动器释放的液压油量	Volume for brake release	135cm <sup>3</sup>	135cm <sup>3</sup>

## ● 产品概述 INTRODUCTION



QJM型液压马达与各种油泵、阀及液压件组成液压传动装置，由于它在设计上采取了一定措施，故可适应各种机器工况。该型马达具有重量轻、体积小、调速范围大，可有级变量、工作可靠、寿命长等优点，目前已应用于矿山工程、起重运输，冶金、船舶、机床、塑料加工、地质勘探等领域。主要用在履带行走、轨道轮子驱动、各种回转机构、勘探钻孔、绞车提升、皮带运输传动、物料搅拌、路面切割、船舶推进、塑料注射等部位。

QJM hydraulic motor that can constitute a hydraulic actuator with different oil pumps, valves and hydraulic parts is able to adapt itself to all kinds of mechanical conditions by reason of some measures taken to its design. The motor has many advantages, e.g. light weight, small size, wide speed regulating range, capable of stepping variation, reliable performance and long useful life, etc. It has been widely applied for mine engineering, hoisting transport, metallurgy, ships, machine tools, plastics processing and geological prospecting, etc. It is mainly used for pedrail walking, driving railway wheels, different slewing gears, drilling, winch hoisting, belt transmission, material agitation, cutting road surfaces, ship propulsion, plastics injection, etc.

## ● 性能特点 CHARACTERISTICS

1、该型马达的滚动体用一只钢球代替了一般内曲线液压马达所用的两只以上滚轮和横梁，因而结构简单、工作可靠、体积、重量显著减少。

2、运动副惯量小，钢球结实可靠，故该型马达可以在较高转速和冲击负载下连续工作。

3、磨擦副小，配油轴与转子内力平衡，活塞副具有静压平衡和良好润滑条件，并采用软性塑料球垫密封高压油，因而具有较高的机械和容积效率。

4、因配油轴与定子刚性联结，故该型马达进出油管允许用钢管连接。

5、该型马达具有二级和三级变排量，因而具有较大的调速范围。

6、结构简单，拆修方便。

7、该系列标准型液压马达的出轴一般只允许承受扭矩，不能承受径向和轴向外力，“QJM\*\*-\*\*Z”型液压马达的出轴可承受径向和轴向外力。

8、“QJM\*\*-\*\*T”型马达，中心具有通孔，转动轴可以穿过液压马达。

1. Because the rolling body of this motor is replaced by a steel ball rather than two or more rollers and beams commonly used in inner curve hydraulic motors, it is simple in structure, reliable in performance and greatly reduced in volume or weight.

2. A small kinematic pair inertia and a hard steel ball make this motor continuously work during the rotation at higher speed and under stronger impact load.

3. It has higher mechanical and volumetric efficiency for its small friction pair, oil feed shaft balanced with roller, piston pair capable of static pressure balance & good lubrication and coated high pressure sealing oil on soft plastic mat.

4. As the oil feed shaft and stator are in rigid connection, the oil pipeline of this model can be connected with steel pipe.

5. As this model has variable displacements dual and trinal speeds, it is wider in speed regulating range.

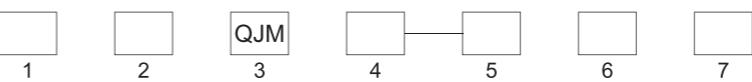
6. Simple structure and easy maintenance.

7. The output shaft of the standard model can only endure the torque rather than outside radial and axial forces, while that one of Z series hydraulic motor can endure outside radial and axial forces.

8. As T series hydraulic motor has a central through hole, the rotating shaft can pass through the motor.

## 型号意义

### ORDERING CODE



- 1 1- 表示定量,  
1-fixed displacement  
2- 表示二级变量  
2-Variable displacement dual speeds  
3- 表示三级变量  
3-Variable displacement trinal speeds

2 变量控制方式 :

- F- 滑阀手动  
F-manual control with spool Valve,  
L- 螺杆手动  
L-manual Control with screw  
无符号为液控  
no code:hydraulic control

3 径向球塞式液压马达

Radial sphere piston hydraulic motor

4 机座号 ( 同一机座号联接尺寸相同 )

- Base number (all the coupling dimensions with the same base number are the same)  
11- 其中 1 表示第 1 种基型，1 表示活塞为 1 排  
11-1 Stands for the first base,1 stands for a row of pistons

5 排量 ( 升 / 转 )

Displacement(L/r)

6 省略 - 标准形

- no code-standard model  
Z\*- 带支承，\* 表示种类  
Z\*-motor with bearing,\*-mode  
T\*- 通孔，\* 为孔径  
T\*-motor with central through hole, \*-diameter

7 B- 带通油接板

B-Motor with oil passing flange

S- 带自控式制动器

S-motor with brake

Se- 带外控式制动器 ( 内花键 )

Se-out control brake (female spline)

SeZ- 带外控式制动器 ( 平键 )

SeZ-out control brake(key shaft)

SeZH- 带外控式制动器 ( 花键 )

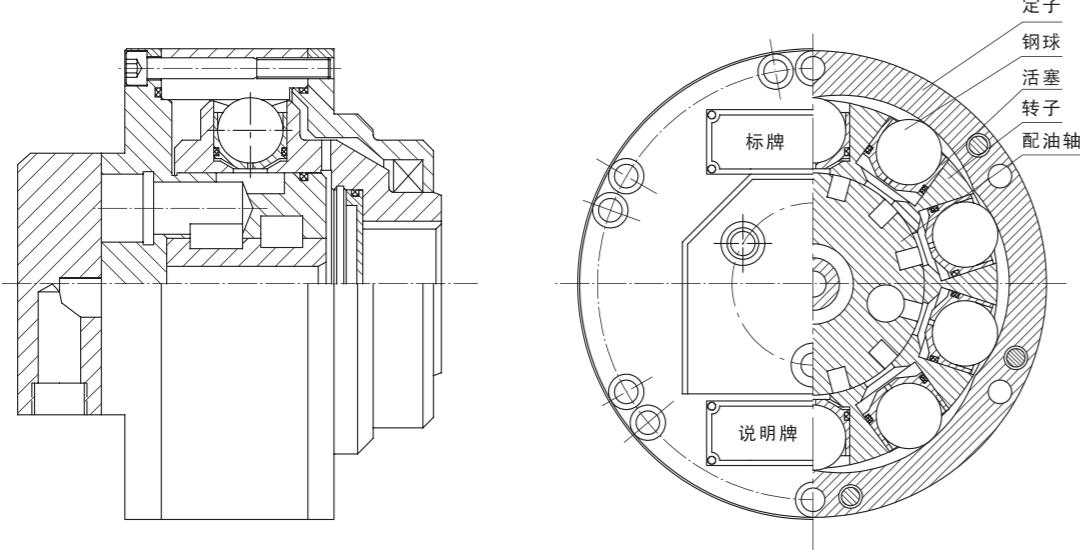
SeZH-out control brake(Spline shaft)

F- 带阀组

F-with Valve block

A- 花键尺寸不同于本系列

A-the spline size is different from this series.



由图可见, QJM型液压马达(标准型)的配油轴是与后盖刚性联结的,而转子体以配油轴作径向支承,以定子滚道和钢球作轴向支承(不另设轴承),它的输出轴是内花键(要求与工作机构输入轴松动配合),所以转子体是浮动的,而配油轴是刚性(它允许用钢管来联结)。压力油经配油轴中通道(或变速阀)分配到通高压腔的配油窗口,进入各活塞缸孔,活塞在压力作用下,通过钢球以N作用到定子上。

$$N = \frac{0.785d^2P}{\cos a}$$

式中d—活塞直径 p—工作油压力 a—压力角

同时定子以与N值相同的反作用力N'作用到钢球上,钢球以切向力F通过活塞作用于转子体。

$$F=0.785d^2ptga$$

因此,转子体在F力的作用下绕配油轴旋转,由于同一瞬时有几只活塞都在压力油的作用下,所以产生很大扭矩。

当活塞随转子体旋转至定子曲线顶点后,活塞向轴心回程,活塞缸中工作油经配油轴窗口排回低压腔。如此往复即完成将液压能转换成机械能之任务。

通过改变两个通油口的油流方向,即可实现正反转。

液压马达的有级变量是由变速阀控制的(变速阀已装置在马达中),变速阀可以用手动或先导阀来控制,也可以把变速阀固定在某一个位置,使之变为定量马达(当要求改为定量马达或手动控制时,订货合同中应该注明)当用先导阀来控制时,控制油路的压力应在0.3—10Mpa范围内。

As shown in figure, the oil feed shaft and rear cover of QJM hydraulic motor (standard) are in rigid connection, the roller is supported in radial direction by the oil feed shaft, and in axial direction by the stator groove and steel ball (without bearings), and its output shaft is the inner spline (in loose coordination with the input shaft of its operation mechanism), so the roller is fluctuating while the oil feed shaft is rigid (allowed to be connected with the steel pipe). The hydraulic oil is fed to the oil feed opening to high-pressure cavity through the oil feed shaft channel (or the speed change valve), then the oil enters into every piston cylinder bore to make the piston actuate the ball steel to act on the stator in N for pressure.

$$N = \frac{0.785d^2P}{\cos a}$$

d—piston diameter p—pressure of working oil a—pressure angle

Meanwhile, the stator acts on the steel ball in a counterforce N' the same as N, then the steel ball actuates the piston to act on the roller in a tangential force F.

$$F=0.785d^2ptga$$

Therefore, the roller rotates around the oil feed shaft in F, then a large torque is caused by the rotation of several pistons at the same time, influenced by the pressure oil.

When the piston rotates to the top of the stator displacement curve around the roller, the piston begins to return to the shaft center, and working oil in the piston cylinder is pushed back into the low pressure cavity through the oil feed shaft opening. Thus, the hydraulic energy is transformed into mechanical energy again and again for repeated operations.

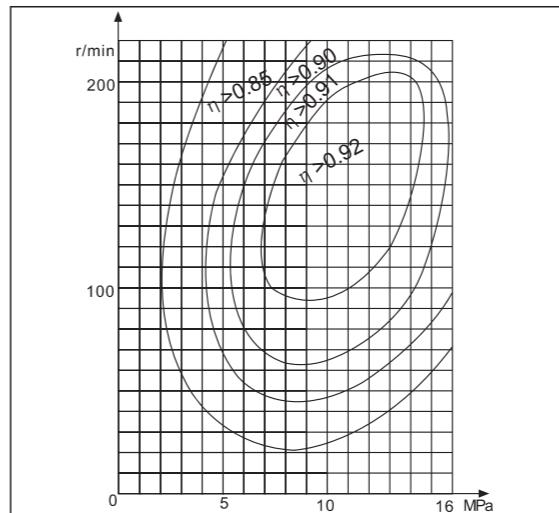
By changing the oil flow direction of two oil feed openings, positive and negative rotations can be realized.

The stepping variable displacement of the hydraulic motor is controlled by the speed change valve (installed in the motor) that can be controlled by hand or the pilot-actuated valve, and also fixed in a position, which makes the motor into a fixed displacement motor (the requirements changed to the fixed displacement motor or manual control should be indicated in the contract). When the motor is controlled by the pilot-actuated valve, the pressure for controlling the oil pipeline should be within the range from 0.3 to 10Mpa.

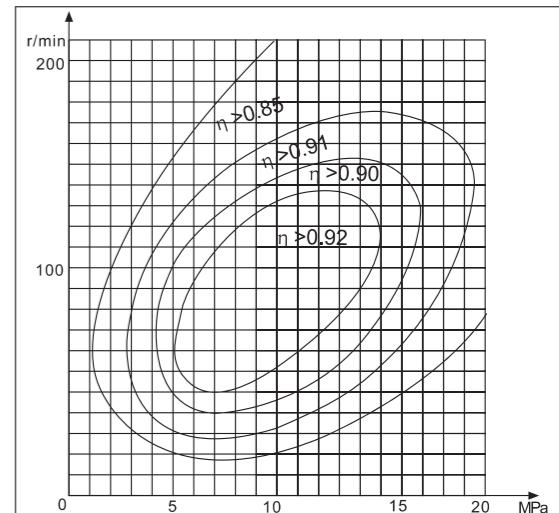
### QJM型各基型的额定流量(=额定转速x排量) Flow rate of QJM motors= rated speed x displacement

基型 Series	QJM001	QJM01	QJM11	QJM12	QJM21	QJM32	QJM42	QJM52	QJM62
额定流量 Flow rate L/min	50	63	80	80	100	160	250	320	400
外径 Outer diameter (mm)	Φ140	Φ180	Φ240	Φ240	Φ300	Φ320	Φ350	Φ420	Φ485

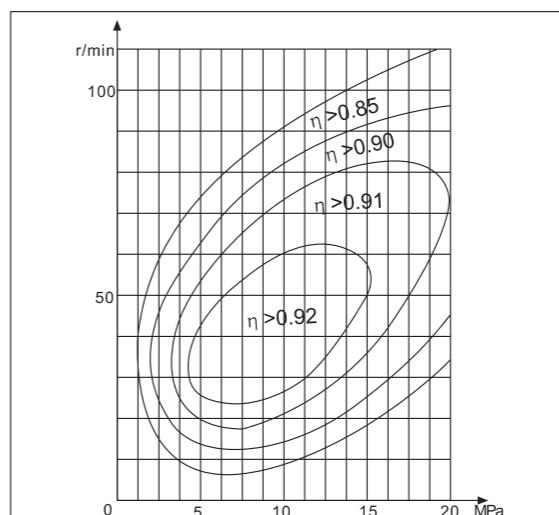
### 效率特性曲线 Performance Curve of Efficiency



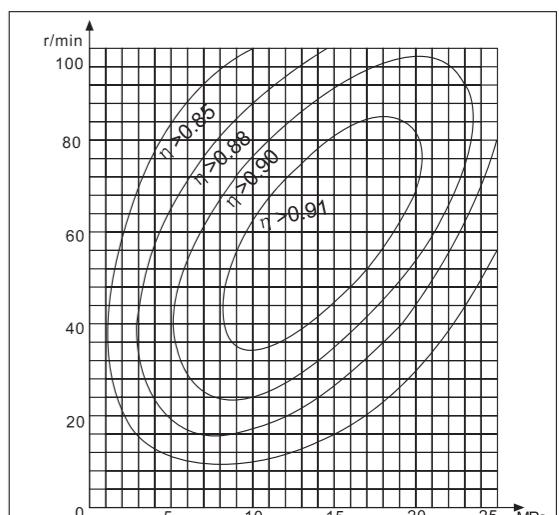
1QJM11-0.5型效率特性曲线  
Model 1QJM11-0.5 performance curve of efficiency



1QJM21-0.63型效率特性曲线  
Model 1QJM21-0.63 performance curve of efficiency



1QJM32-1.25型效率特性曲线  
Model 1QJM32-1.25 performance curve of efficiency



1QJM42-2.5型效率特性曲线  
Model 1QJM42-2.5 performance curve of efficiency

## ● 1QJM\*\*--\*\*型液压马达的技术参数

1QJM\*\*--\*\*series Technical Data

型号 Type	排量 Displacement (L/r)	压力 Pressure(Mpa)		转速范围 Rotational Speed Range(r/min)	额定输出扭矩 Rated output Torque (N · m)	最大功率 Max.power (Kw)
		额定 Rated	尖峰 Peak			
1QJM001-0.08	0.083	10	16	15 ~ 400	123	5
1QJM001-0.10	0.104	10	16	15 ~ 350	154	5
1QJM002-0.2	0.2	10	16	15 ~ 300	295	8
1QJM01-0.1	0.10	10	16	15 ~ 500	148	10
1QJM01-0.16	0.163	10	16	15 ~ 500	241	12.5
1QJM01-0.2	0.203	10	16	15 ~ 450	300	12.5
1QJM02-0.32	0.326	10	16	15 ~ 350	483	13
1QJM02-0.4	0.406	10	16	15 ~ 300	600	13
1QJM11-0.32	0.339	10	16	15 ~ 350	468	20
1QJM11-0.4A1	0.404	10	16	15 ~ 350	598	20
1QJM11-0.5	0.496	10	16	15 ~ 300	734	20
1QJM11-0.63	0.664	10	16	15 ~ 200	983	20
1QJM11-0.63A1	0.664	10	16	15 ~ 200	983	20
1QJM12-0.8	0.8	10	16	15 ~ 200	1170	25
1QJM12-1.0	1.0	10	16	15 ~ 180	1480	25
1QJM12-1.25	1.33	10	16	15 ~ 140	1968	25
1QJM21-0.4	0.404	14	20	10 ~ 350	810	32
1QJM21-0.5	0.496	14	20	10 ~ 280	995	32
1QJM21-0.63	0.664	14	20	10 ~ 200	1332	32
1QJM21-0.8	0.808	14	20	10 ~ 160	1621	32
1QJM21-1.0	1.01	10	16	10 ~ 160	1447	25
1QJM21-1.25	1.354	10	16	10 ~ 125	1940	25
1QJM21-1.6	1.65	10	16	10 ~ 100	2364	25
1QJM32-0.63	0.635	16	20	10 ~ 400	1450	80
1QJM32-0.8	0.808	16	20	10 ~ 400	1853	80
1QJM32-1.0	1.06	16	20	10 ~ 350	2431	80
1QJM32-1.25	1.295	16	20	10 ~ 300	2969	80
1QJM32-1.6	1.649	16	20	10 ~ 230	3782	80
1QJM32-2.0	2.03	14	20	10 ~ 180	4072	80
1QJM32-2.5	2.71	10	16	10 ~ 140	3884	62
1QJM32-3.2	3.2	10	16	10 ~ 100	4586	62
1QJM32-4.0	4.0	10	16	10 ~ 80	5733	62
1QJM42-2.0	2.11	16	20	10 ~ 300	4839	105
1QJM42-2.5	2.56	16	20	10 ~ 230	5871	105
1QJM42-3.2	3.24	10	20	10 ~ 180	4644	90
1QJM42-4.0	4.0	10	16	10 ~ 150	5732	90
1QJM42-4.5	4.6	10	16	10 ~ 100	6593	90
1QJM52-2.5	2.67	16	20	8 ~ 300	6123	130
1QJM52-3.2	3.24	16	20	8 ~ 200	7430	130
1QJM52-4.0	4.0	14	20	8 ~ 180	8026	130
1QJM52-5.0	5.23	10	16	8 ~ 150	7496	120
1QJM52-6.3	6.36	10	16	8 ~ 120	9114	120
1QJM62-4.0	4.0	16	20	5 ~ 140	9172	150
1QJM62-5.0	5.18	16	20	5 ~ 120	11878	150
1QJM62-6.3	6.27	14	20	5 ~ 120	12580	150
1QJM62-8.0	7.85	10	16	5 ~ 100	11250	121
1QJM62-10	10.15	10	16	5 ~ 80	14547	121

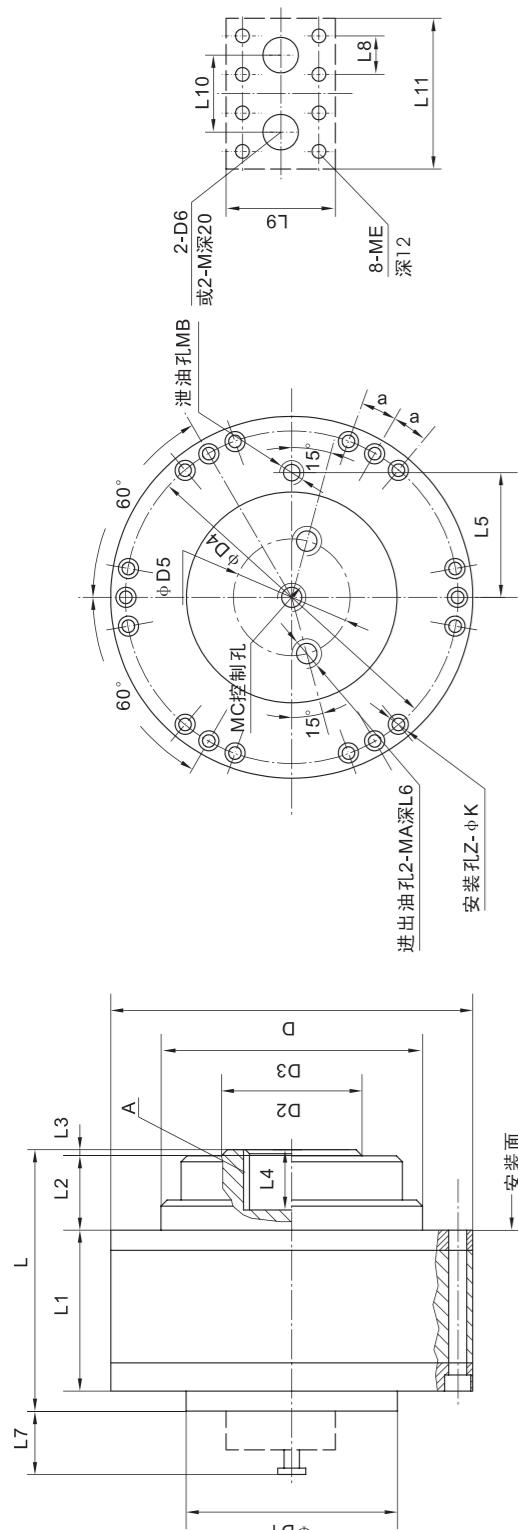
注:各型带支承和带阀组液压马达其技术参数与上表中对应的标准型液压马达技术参数相同。

Note:The technical data of various sorts of types hydraulic motors with bearing have the same data as standard type hydraulic motors.

## ● 2QJM\*\*--\*\*型液压马达的技术参数

2QJM\*\*--\*\*series Technical Data

型号 Type	排量 Displacement (L/r)	压力 Pressure(Mpa)		转速范围 Rotational Speed Range(r/min)	额定输出扭矩 Rated output Torque (N · m)	最大功率 Max.power (Kw)
		额定 Rated	尖峰 Peak			
2QJM02-0.32	0.322	0.16	10	16	5~400	484 242
2QJM02-0.4	0.406	0.203	10	16	5~320	600 300
2QJM11-0.4	0.404	0.202	10	16	5~400	598 299
2QJM11-0.5	0.496	0.248	10	16	5~320	734 367
2QJM11-0.63	0.664	0.332	10	16	4~250	938 492
2QJM12-0.8	0.80	0.40	10	16	4~250	1170 585
2QJM12-1.0	1.0	0.5	10	16	4~200	1478 739
2QJM12-1.25	1.25	0.63	10	16	4~160	1870 935
2QJM21-0.32	0.317	0.1585	16	25	2~500	751 376
2QJM21-0.5	0.496	0.248	16	25	2~320	1175 588
2QJM21-0.63	0.664	0.332	16	25	2~250	1572 786
2QJM21-1.0	1.01	0.505	10	16	2~160	1495 748
2QJM21-1.25	1.354	0.677	10	16	2~125	2004 1002
2QJM21-1.6	1.65	0.825	10	16	2~100	2442 1221
2QJM32-0.63	0.635	0.318	20	31.5	3~500	1880 940
2QJM32-1.0	1.06	0.53	20	31.5	2~400	3138 1519
2QJM32-1.25	1.295	0.648	20	31.5	2~320	3833 1917
2QJM32-1.6	1.649	0.825	20	31.5	2~250	4881 2441
2QJM32-1.6/0.4	1.6	0.4	20	31.5	2~250	4736 1184
2QJM32-2.0	2.03	1.015	16	25	2~200	4807 2404
2QJM32-2.5	2.71	1.355	10	16	1~160	4011 2006
2QJM32-3.2	3.3	1.65	10	16	1~125	4884 2442
2QJM32-4.0	4.0	2.0	10	16	1~100	5920 2960
2QJM42-2.0	2.11	1.055	20	31.5	1~320	6246 3123
2QJM42-2.5	2.56	1.28	20	31.5	1~250	7578 3789
2QJM42-3.2	3.24	1.62	10	16	1~200	4850 2425
2QJM42-4.0	4.0	2.0	10	16	1~160	5920 2960
2QJM42-4.5	4.6	2.3	10	16	1~125	6808 3404
2QJM52-2.5	2.67	1.335	20	31.5	1~320	7903 3952
2QJM52-3.2	3.24	1.62	20	31.5	1~250	9590 4795
2QJM52-4.0	4.0	2.0	16	25	1~200	9472 4736
2QJM52-5.0	5.23	2.615	10	16	1~160	7740 3870
2QJM52-6.3	6.36	3.18	10	16	1~125	9413 4707
2QJM62-4.0	4.0	2.0	20	31.5	0.5~200	11840 5920
2QJM62-5.0	5.18	2.59	20	31.5	0.5~160	15333 7667
2QJM62-6.3	6.27	3.135	16	25	0.5~125	14847 7424
2QJM62-8.0	7.85	3.925	10	16	0.5~100	11618 5809
2QJM62-10	10.15	5.075	10	16	0.5~80	15022 7511
3QJM32-1.25	1.295					



外形安装图 Installation

型号 Type	L	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	D	D1	D2	D3	D4	Z-ΦK	D5	D6	MA	MB	MC	ME	a	重量 (kg)	
1QJM001-**	101	58	38	5	20	43	20	37	-	35	63	Φ140	-	Φ60	Φ110g6	Φ128	12-Φ6.5	-	-	M18x1.5	M12x1.5	-	-	10°	6-48H11x2H11x1D9	7	
1QJM01-**	130	80	37	3	30	62	20	-	-	-	-	Φ180	Φ105	Φ70	Φ130g7	Φ165	12-Φ9	Φ58	-	M27x2	M12x1.5	-	-	10°	6-48H11x2H11x1D9	15	
1QJM02-**	162	99	38	3	34	62	20	-	-	-	-	Φ180	Φ105	Φ70	Φ130g7	Φ165	12-Φ9	Φ58	-	M27x2	M12x1.5	-	-	10°	6-48H11x2H11x1D9	24	
1QJM11-**	134	82	33	3	32	87	18	-	-	-	-	Φ240	Φ150	Φ110	Φ160g7	Φ220	12-Φ11	Φ69	-	M33x2	M16x1.5	M12x1.5	-	10°	6-70H11x2H11x1D9	28	
1QJM11-**A	134	82	25	11	38	87	18	-	-	-	-	Φ240	Φ150	Φ60	Φ200g7	Φ220	12-Φ11	Φ69	-	M33x2	M16x1.5	-	-	10°	8-42H11x3H11x1D9	28	
1QJM12-**	165	123	33	2	39	87	20	-	-	-	-	Φ240	Φ150	Φ110	Φ160g7	Φ220	12-Φ11	Φ69	-	M33x2	M16x1.5	M12x1.5	-	10°	6-90H11x8H11x2D9	39	
1QJM21-**	168	99	29	14	38	100	20	-	-	-	-	Φ304	Φ150	Φ110	Φ160g7	Φ283	12-Φ11	Φ69	-	M33x2	M22x1.5	M12x1.5	-	10°	6-90H11x8H11x2D9	50	
2LSQJM21-**	215	140	42	10	55	115	22	-	-	-	-	Φ320	Φ165	Φ120	Φ170g7	Φ299	12-Φ13	Φ79	-	M33x2	M22x1.5	M12x1.5	-	10°	10-98H11x9H11x1D9	70	
2LSQJM32-**	209	160	16	12	35	124	22	-	-	-	-	Φ350	Φ190	Φ140	Φ200g7	Φ320	12-Φ13	Φ100	-	M42x2	M22x1.5	M16x1.5	M16	10°	10-112H11x102H11x1D9	90	
2LSQJM42-**	207	158	23	5	35	124	22	-	-	-	-	Φ340	Φ190	Φ120	Φ170g7	Φ320	12-Φ13	Φ100	-	M42x2	M22x1.5	-	-	10°	10-98H11x9H11x1D9	90	
1QJM42-**A	207	158	23	5	35	135	24	-	-	-	-	Φ420	Φ220	Φ160	Φ315g7	Φ360	6-Φ22	Φ110	Φ40	M48x2	M22x1.5	M16x1.5	M16	6°	10-120H11x12H11x1D9	150	
1QJM52-**	238	175	30	6	45	144	73	101	105	220	-	-	Φ485	Φ255	Φ170	Φ395g7	Φ435	6-Φ22	Φ128	Φ48	M48x2	M22x1.5	M16x1.5	M16	6°	10-120H11x12H11x1D9	160
2LSQJM52-**	264	182	29	11	45	165	24	144	73	101	123	255	-	-	-	-	-	-	-	-	-	-	-	200			
1QJM62-**	264	182	29	11	45	165	24	144	73	101	123	255	-	-	-	-	-	-	-	-	-	-	-	212			

● <sup>1</sup><sub>2</sub>QJM\*\*--\*\*Z(Z2、Z3、Ze3)型液压马达技术参数  
<sup>1</sup><sub>2</sub>QJM\*\*--\*\*Z(Z2、Z3、Ze3)Type of Hydraulic Motor Technical Data

型号 Type	排量 Displacement (L/r)	压力 Pressure(Mpa)		转速范围 Rotational Speed Range(r/min)	额定输出扭矩 Rated output Torque (N·m)	最大功率 Max.power (Kw)
		额定 Rated	尖峰 Peak			
1QJM001-0.063Z	0.064	10	16	8~600	95	5
1QJM001-0.08Z	0.083	10	16	8~500	123	5
1QJM001-0.10Z(ZC)	0.104	10	16	8~400	154	5
1QJM002-0.2Z	0.2	10	16	5~320	295	8
1QJM002-0.315Z	0.326	10	16	5~320	483	13
1QJM002-0.4Z	0.406	10	16	5~320	600	13
1QJM002-0.38Z2	0.38	10	16	5~320	560	13
1QJM002-0.47Z2	0.47	10	16	5~320	692	13
1QJM11-0.315Z	0.339	10	16	5~500	468	20
1QJM11-0.4Z	0.404	10	16	5~400	598	20
1QJM11-0.5Z	0.496	10	16	5~320	734	20
1QJM11-0.63Z	0.664	10	16	4~250	983	20
1QJM12-0.8Z(ZC)	0.8	10	16	4~250	1170	25
1QJM12-1.0Z(ZC)	1.0	10	16	4~200	1480	25
1QJM12-1.25Z(ZC)	1.33	10	16	4~160	1968	25
<sup>1</sup> <sub>2</sub> QJM21-0.32Z3	0.32 0.16	16	25	2~600	770 384	32
<sup>1</sup> <sub>2</sub> QJM21-0.4Z3(Ze3)	0.4 0.2	16	25	2~400	957 479	32
<sup>1</sup> <sub>2</sub> QJM21-0.5Z3(Ze3)	0.496 0.258	16	25	2~320	1175 588	32
<sup>1</sup> <sub>2</sub> QJM21-0.63Z3(Ze3)	0.664 0.332	16	25	2~250	1572 786	32
<sup>1</sup> <sub>2</sub> QJM21-0.8Z3(Ze3)	0.808 0.404	16	25	2~200	1913 957	32
<sup>1</sup> <sub>2</sub> QJM21-1.0Z3(Ze3)	1.01 0.505	10	16	2~160	1495 748	25
<sup>1</sup> <sub>2</sub> QJM21-1.25Z3(Ze3)	1.354 0.667	10	16	2~125	2004 1002	25
<sup>1</sup> <sub>2</sub> QJM21-1.6Z3(Ze3)	1.65 0.825	10	16	2~100	2442 1221	25
<sup>1</sup> <sub>2</sub> QJM32-0.63Z(Z3,Ze3)	0.635 0.318	20	31.5	3~500	1880 940	80
<sup>1</sup> <sub>2</sub> QJM32-1.0Z(Z3,Ze3)	1.06 0.503	20	31.5	2~400	3138 1519	80
<sup>1</sup> <sub>2</sub> QJM32-1.25Z(Z3,Ze3)	1.295 0.648	20	31.5	2~320	3833 1917	80
<sup>1</sup> <sub>2</sub> QJM32-1.6Z(Z3,Ze3)	1.649 0.825	20	31.5	2~250	4881 2441	80
<sup>1</sup> <sub>2</sub> QJM32-2.0Z(Z3,Ze3)	2.03 1.015	16	25	2~200	4807 2404	80
<sup>1</sup> <sub>2</sub> QJM32-2.5Z(Z3,Ze3)	2.71 1.355	10	16	1~160	4011 2006	62
<sup>1</sup> <sub>2</sub> QJM32-3.2Z(Z3,Ze3)	3.3 1.65	10	16	1~125	4884 2442	62
<sup>1</sup> <sub>2</sub> QJM52-2.5Z	2.67 1.335	20	31.5	1~200	7903 3952	130
<sup>1</sup> <sub>2</sub> QJM52-3.2Z	3.24 1.62	20	31.5	1~200	9590 4795	130
<sup>1</sup> <sub>2</sub> QJM52-4.0Z	4.0 2.0	16	25	1~200	9472 4736	130
<sup>1</sup> <sub>2</sub> QJM52-5.0Z	5.23 2.165	10	16	1~160	7740 3870	120
<sup>1</sup> <sub>2</sub> QJM52-6.3Z	6.36 3.18	10	16	1~125	9413 4707	120
<sup>1</sup> <sub>2</sub> QJM62-4.0Z	4.0 2.0	20	31.5	0.5~150	11840 5920	150
<sup>1</sup> <						

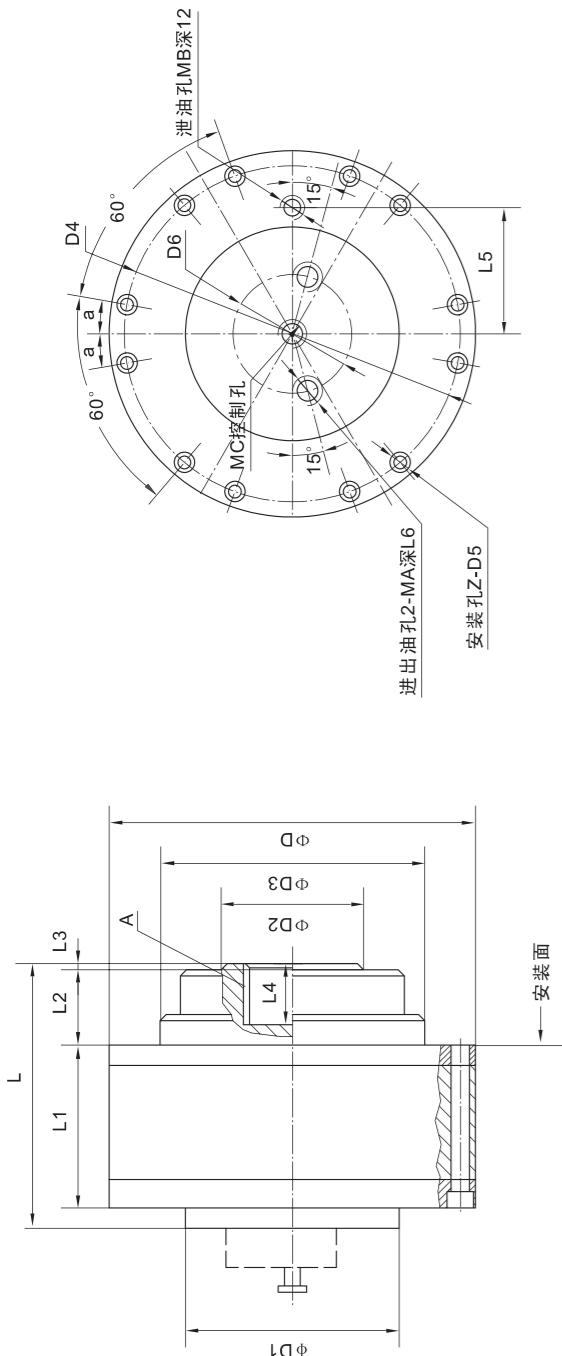


●  $\frac{1}{2}$ QJM\*\*--\*\*S型自控式带制动器液压马达的技术参数  
Technical data of  $\frac{1}{2}$ QJM\*\*--\*\*S series hydraulic motor with brake

型号 Type	排量 Displacement (L/r)	压力 Pressure(Mpa)		转速范围 Rotational Speed range (r/min)	额定输出扭矩 Rated output Torque (N · m)	制动器开启压力 Open brake Pressure(MPa)	制动器制动扭矩 Brake torque (N · m)
		额定 Rated	尖峰 Peak				
1QJM11-0.32S	0.317	10	16	5~400	468	4~6	400~600
1QJM11-0.40S	0.404	10	16	5~400	598	3~5	400~600
1QJM11-0.50S	0.496	10	16	5~320	734	3~5	400~600
1QJM11-0.63S	0.664	10	16	4~250	983	3~5	400~600
2QJM11-0.40S	0.404 0.202	10	16	5~400	598 299	3~5	400~600
2QJM11-0.50S	0.496 0.248	10	16	5~320	734 367	3~5	400~600
2QJM11-0.63S	0.664 0.332	10	16	4~250	983 492	3~5	400~600
1QJM21-0.32S	0.317	16	25	2~500	751	4~6	1000~1400
1QJM21-0.40S	0.404	16	25	2~400	957	4~6	1000~1400
1QJM21-0.50S	0.496	16	25	2~320	1175	4~6	1000~1400
1QJM21-0.63S	0.664	16	25	2~250	1572	4~6	1000~1400
1QJM21-0.8S	0.808	16	25	2~200	1913	4~6	1000~1400
1QJM21-1.0S	1.01	10	16	2~160	1495	3~5	1000~1400
1QJM21-1.25S	1.354	10	16	2~125	2004	3~5	1000~1400
1QJM21-1.6S	1.65	10	16	2~100	2442	3~5	1000~1400
2QJM21-0.32S	0.317 0.1585	16	25	2~500	751 376	4~7	1000~1400
2QJM21-0.40S	0.404 0.202	16	25	2~320	957 479	4~7	1000~1400
2QJM21-0.50S	0.496 0.248	16	25	2~320	1175 588	4~7	1000~1400
2QJM21-0.63S	0.664 0.332	16	25	2~250	1572 786	4~7	1000~1400
2QJM21-0.8S	0.808 0.404	16	25	2~200	1913 957	4~7	1000~1400
2QJM21-1.0S	1.01 0.505	10	16	2~160	1495 748	3~5	1000~1400
2QJM21-1.25S	1.354 0.667	10	16	2~125	2004 1002	3~5	1000~1400
2QJM21-1.6S	1.65 0.825	10	16	2~100	2442 1221	3~5	1000~1400

●  $\frac{1}{2}$ QJM\*\*--\*\*S型自控式带制动器液压马达技术参数  
Technical data of  $\frac{1}{2}$ QJM\*\*--\*\*S series hydraulic motor with brake

型号 Type	排量 Displacement (L/r)	压力 Pressure(Mpa)		转速范围 Rotational Speed range (r/min)	额定输出扭矩 Rated output Torque (N · m)	制动器开启压力 Open brake Pressure(MPa)	制动器制动扭矩 Brake torque (N · m)
		额定 Rated	尖峰 Peak				
$\frac{1}{2}$ QJM32-0.63S	0.635 0.318	20	31.5	3~500	1880 940	4~7	$\geq 2500$
$\frac{1}{2}$ QJM32-0.8S	0.808 0.404	20	31.5	2~450	2368 1184	4~7	$\geq 2500$
$\frac{1}{2}$ QJM32-1.0S	1.06 0.53	20	31.5	2~400	3138 1569	4~7	$\geq 2500$
$\frac{1}{2}$ QJM32-1.25S	1.295 0.648	20	31.5	2~320	3833 1916	3~5	$\geq 2500$
$\frac{1}{2}$ QJM32-1.6S	1.649 0.825	20	31.5	2~250	4881 2440	3~5	$\geq 2500$
$\frac{1}{2}$ QJM32-2.0S	2.03 1.015	16	25	2~200	4807 2403	3~5	$\geq 2500$
$\frac{1}{2}$ QJM32-2.5S	2.71 1.355	10	16	1~160	4011 2005	3~5	$\geq 2500$
$\frac{1}{2}$ QJM32-3.2S	3.3 1.65	10	16	1~125	4884 2442	3~5	$\geq 2500$
$\frac{1}{2}$ QJM32-4.0S	4.0 2.00	10	16	1~100	5920 2960	3~5	$\geq 2500$
$\frac{1}{2}$ QJM32-0.63S2	0.635 0.318	20	31.5	3~500	1880 940	4~7	$\geq 4000$
$\frac{1}{2}$ QJM32-0.8S2	0.808 0.404	20	31.5	1~450	2368 1184	4~7	$\geq 4000$
$\frac{1}{2}$ QJM32-1.0S2	0.993 0.497	20	31.5	2~400	3138 1069	4~7	$\geq 4000$
$\frac{1}{2}$ QJM32-1.25S2	1.295 0.648	20	31.5	2~320	3833 1916	3~5	$\geq 4000$
$\frac{1}{2}$ QJM32-1.6S2	1.649 0.825	20	31.5	2~250	4881 2440	3~5	$\geq 4000$
$\frac{1}{2}$ QJM32-2.0S2	2.03 1.015	16	25	2~200	4807 2403	3~5	$\geq 4000$
$\frac{1}{2}$ QJM32-2.5S2	2.71 1.355	10	16	1~160	4011 2005	3~5	$\geq 4000$
$\frac{1}{2}$ QJM32-3.2S2	3.3 1.65	10	16	1~125	4884 2442	3~5	$\geq 4000$
$\frac{1}{2}$ QJM32-4.0S2	4.0 2.0	10	16	1~100	5920 2960	3~5	$\geq 4000$
$\frac{1}{2}$ QJM42-2.0S	2.11 1.055	20	31.5	1~320	6246 3123	4~7	$\geq 5000$
$\frac{1}{2}$ QJM42-2.5S	2.56 1.28	20	31.5	1~250	7578 3769	4~7	$\geq 5000$
$\frac{1}{2}$ QJM42-3.2S	3.28 1.64	10	16	1~200	4850 2425	4~6	$\geq 5000$
$\frac{1}{2}$ QJM42-4.0S	4.0 2.0	10	16	1~160	5920 2960	3~5	$\geq 5000$
$\frac{1}{2}$ QJM42-4.5S	4.56 2.28	10	16	1~125	6808 3404	3~5	$\geq 5000$
$\frac{1}{2}$ QJM52-2.5S	2.67 1.335	20	31.5	1~320	7903 3951	4~7	$\geq 6000$
$\frac{1}{2}$ QJM52-3.2S	3.24 1.62	20	31.5	1~250	9590 4795	4~7	$\geq 6000$
$\frac{1}{2}$ QJM52-4.0S	4.0 2.0	16	25	1~200	9472 4736	4~6	$\geq 6000$
$\frac{1}{2}$ QJM52-5.0S	5.23 2.615	16	25	1~160	7740 3870	3~5	$\geq 6000$
$\frac{1}{2}$ QJM52-6.3S	6.36 3.18	16	25	1~125	9413 4706	3~5	$\geq 6000$

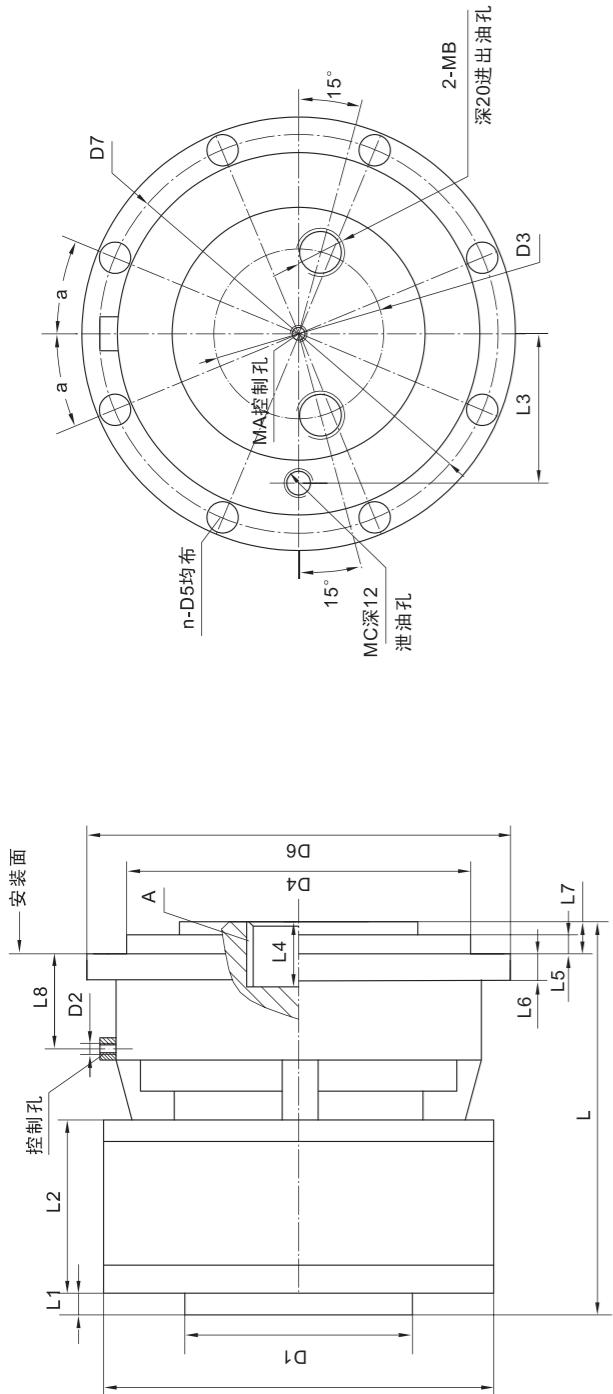


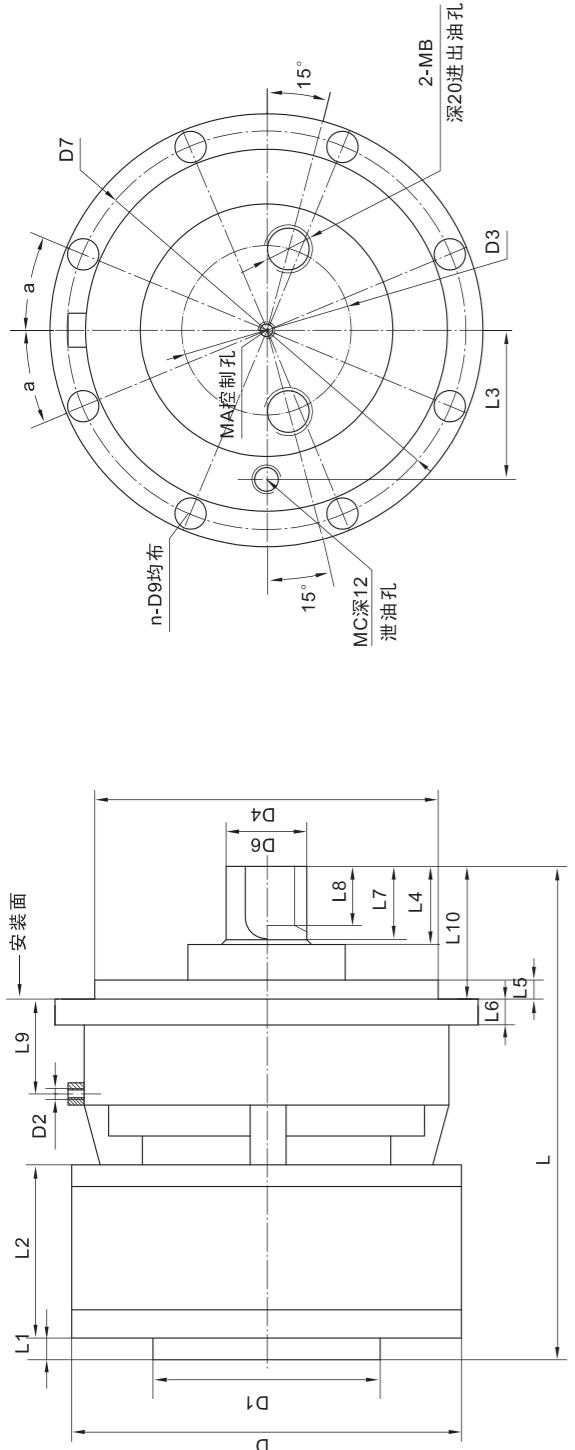
外形安装图 Installation

型号 Type	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	L <sub>5</sub>	L <sub>6</sub>	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	D <sub>6</sub>	MA	MB	MC	a	A	重量 (kg)
1 QJM1-**S	146.5	97	20	11.5	28	87	20	Φ240	Φ150	Φ100	Φ160g7	Φ220	12-Φ11	Φ69	M33x2	M16x1.5	M12x1.5	10°	6-70H1x62H11x16D9	35
2 QJM21-**S	170	117	17	7	31	100	20	Φ304	Φ150	Φ100	Φ160g7	Φ283	12-Φ11	Φ69	M33x2	M22x1.5	M12x1.5	10°	6-90H1x80H11x20D9	53
1 QJM32-**S	231	140	58	7	55	115	20	Φ320	Φ165	Φ120	Φ280g7	Φ299	12-Φ13	Φ79	M33x2	M22x1.5	M12x1.5	10°	10-98H11x92H11x14D9	86
2 QJM32-**S2	252	167.5	58	3	55	115	20	Φ320	Φ165	Φ120	Φ280g7	Φ299	12-Φ13	Φ79	M33x2	M22x1.5	M12x1.5	10°	10-98H11x92H11x14D9	86
1 QJM42-**S	229	187	16	3	35	124	22	Φ350	Φ190	Φ140	Φ200g7	Φ320	12-Φ13	Φ100	M42x2	M22x1.5	M12x1.5	10°	10-112H11x102H11x16D9	108
2 QJM52-**S	266	187	56	3	55	135	24	Φ420	Φ220	Φ160	Φ315g7	Φ360	10-Φ22	Φ110	M48x2	M22x1.5	M12x1.5	6°	10-120H11x112H11x18D9	167

●  $^1_2$ QJM\*\*--\*\*Se型外控式带制动器液压马达技术参数Technical data of out control  $^1_2$ QJM\*\*--\*\*Se series hydraulic motor with brake

型号 Type	排量 Displacement (L/r)	压力 Pressure(Mpa)		转速范围 Rotational Speed range (r/min)	额定输出扭矩 Rated output Torque (N·m)	制动器开启压力 Open brake Pressure(MPa)	制动器制动扭矩 Brake torque (N·m)
		额定 Rated	尖峰 Peak				
1QJM12-0.8Se	0.808	10	16	4~250	1076	1.3≤P≤6.3	≥1800
1QJM12-1.0Se	0.993	10	16	4~200	1332	1.3≤P≤6.3	≥1800
1QJM12-1.25Se	1.328	10	16	4~160	1771	1.3≤P≤6.3	≥1800
$^1_2$ QJM21-0.32Se	0.317 0.158	16	25	2~500	751 376	2.5≤P≤6.3	≥2500
$^1_2$ QJM21-0.40Se	0.404 0.202	16	25	2~400	957 479	2.5≤P≤6.3	≥2500
$^1_2$ QJM21-0.50Se	0.496 0.248	16	25	2~320	1175 588	2.5≤P≤6.3	≥2500
$^1_2$ QJM21-0.63Se	0.664 0.332	16	25	2~250	1572 786	2.5≤P≤6.3	≥2500
$^1_2$ QJM21-0.80Se	0.808 0.404	16	25	2~200	1913 957	2.5≤P≤6.3	≥2500
$^1_2$ QJM21-1.0Se	1.01 0.505	10	16	2~160	1495 748	2.5≤P≤6.3	≥2500
$^1_2$ QJM21-1.25Se	1.354 0.677	10	16	2~125	2004 1002	2.5≤P≤6.3	≥2500
$^1_2$ QJM21-1.6Se	1.65 0.825	10	16	2~100	2442 1221	2.5≤P≤6.3	≥2500
$^1_2$ QJM32-0.63Se	0.635 0.318	20	31.5	1~500	1880 940	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-0.8Se	0.808 0.404	20	31.5	1~500	2368 1184	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-1.0Se	0.993 0.497	20	31.5	2~400	3138 1569	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-1.25Se	1.328 0.664	20	31.5	2~320	3833 1942	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-1.6Se	1.616 0.808	20	31.5	2~250	4881 2441	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-2.0Se	2.03 1.015	16	25	2~200	4807 2404	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-2.5Se	2.71 1.355	10	16	1~160	4011 2006	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-3.2Se	3.3 1.65	10	16	1~125	4884 2442	2.5≤P≤6.3	≥6000
$^1_2$ QJM32-4.0Se	4.0 2.0	10	16	1~100	5920 2960	2.5≤P≤6.3	≥6000
$^1_2$ QJM42-2.0Se	2.11 1.055	20	31.5	1~250	6246 3123	2.1≤P≤6.3	≥9000
$^1_2$ QJM42-2.5Se	2.56 1.28	20	31.5	1~250	7578 3789	2.1≤P≤6.3	≥9000
$^1_2$ QJM42-3.2Se	3.3 1.65	10	16	1~200	4884 2442	2.1≤P≤6.3	≥9000
$^1_2$ QJM42-4.0Se	4.0 2.0	10	16	1~160	5920 2960	2.1≤P≤6.3	≥9000
$^1_2$ QJM42-4.5Se	4.56 2.28	10	16	1~125	6808 3404	2.1≤P≤6.3	≥9000
$^1_2$ QJM52-2.5Se	2.67 1.355	20	31.5	1~200	7903 3952	2.2≤P≤6.3	≥10000
$^1_2$ QJM52-3.2Se	3.24 1.62	20	31.5	1~200	9590 4795	2.2≤P≤6.3	≥10000
$^1_2$ QJM52-4.0Se	4.0 2.0	16	25	1~200	9472 4736	2.2≤P≤6.3	≥10000
$^1_2$ QJM52-5.0Se	5.23 2.615	10	16	1~160	7740 3870	2.2≤P≤6.3	≥10000
$^1_2$ QJM52-6.3Se	6.36 3.18	10	16	1~125	9413 4707	2.2≤P≤6.3	≥10000





外形安装图 Installation

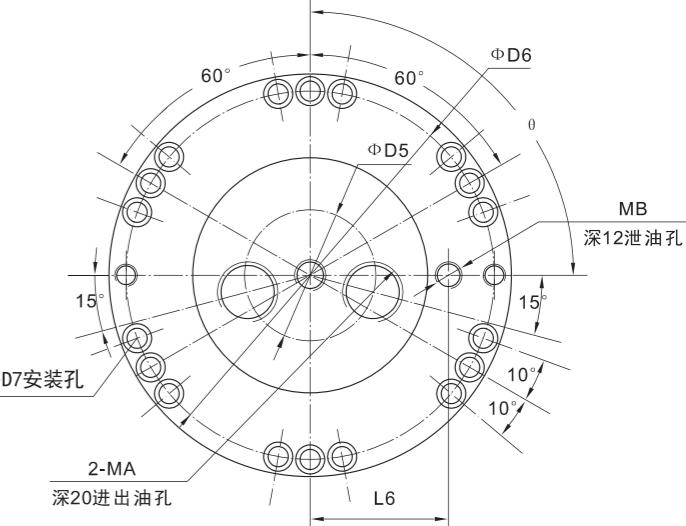
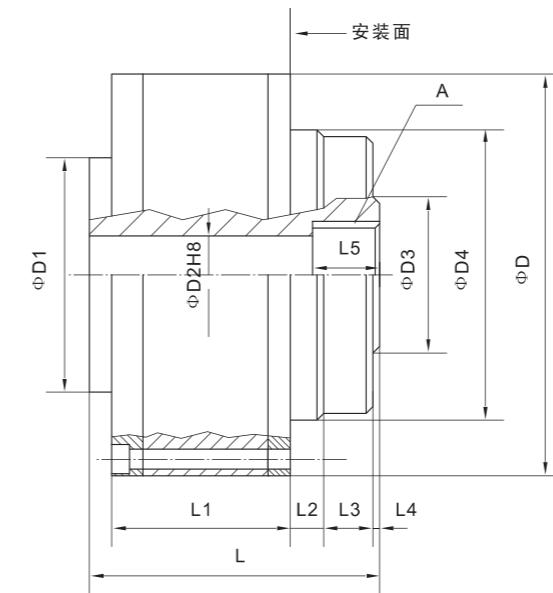
型 号 Type	L	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	D	D1	D2	D3	D4	D5	D6	D7	D8	n-D9	MA	MB	MC	a	平键	花键	重量 (kg)
1QJM12-**SeZ	350	17	121	87	66	10	13	62	-	24	96	Φ240	Φ150	M16x1.5	Φ69	Φ250g7	Φ60h7	Φ265	Φ285	8-Φ11	-	2-M33x2	M16x1.5	22.5°	C18x60	-	60	
1QJM12-**SeZH	370	17	121	87	62	12	13	58	39	24	100	Φ240	Φ150	M16x1.5	Φ69	Φ290g7	-	Φ307	Φ327	8-Φ11	-	2-M33x2	M16x1.5	22.5°	-	6-90b12x80x12x2009	60	
1QJM21-**SeZ	410	27	102	100	69.5	14	16	65	-	36	113	Φ304	Φ150	M18x1.5	Φ69	Φ310g7	Φ70h7	Φ330	Φ360	8-Φ13	M12x1.5	2-M33x2	M22x1.5	22.5°	C20x60	-	80	
1QJM32-**SeZ	416	24	140	115	81	13	16	78	-	35	136	Φ320	Φ165	M16x1.5	Φ79	Φ335g7	Φ70h7	Φ354	Φ380	12-Φ13	M12x1.5	2-M33x2	M22x1.5	15°	C20x70	-	95	
1QJM32-**SeZH	410	24	140	115	75	13	16	72	55	35	114	Φ320	Φ165	M16x1.5	Φ79	Φ335g7	-	Φ354	Φ380	12-Φ13	M12x1.5	2-M33x2	M22x1.5	15°	-	10-98b12x92b12x14d9	95	
1QJM42-**SeZ	466	21	160	124	75	12	18	71	50	44	135	Φ350	Φ190	M16x1.5	Φ100	Φ365g7	-	Φ398	Φ430	12-Φ17	M16x1.5	2-M42x2	M22x1.5	15°	-	10-112b12x102b12x16d9	120	
1QJM42-**SeZH	456	21	160	124	75	15	18	71	50	37	120	Φ350	Φ190	M16x1.5	Φ100	Φ365g7	-	Φ398	Φ430	12-Φ17	M16x1.5	2-M42x2	M22x1.5	15°	-	10-112b12x102b12x16d9	120	
1QJM52-**SeZ	532	27	175	135	141	17	18	136	-	45	184	Φ420	Φ220	M16x1.5	Φ110	Φ395f6	Φ78h7	Φ418	Φ445	12-Φ17	M16x1.5	2-M48x2	M22x1.5	15°	C22x132	150		
1QJM52-**SeZH	471	27	175	135	71	17	18	-	45	45	114	Φ420	Φ220	M16x1.5	Φ110	Φ395f6	-	Φ418	Φ445	12-Φ17	M16x1.5	2-M48x2	M22x1.5	15°	-	12-120b12x112b12x2009	150	

QJM 钢球液压马达 QJM Sphere Piston Hydraulic Motor

## ● <sup>1</sup><sub>2</sub>QJM\*\*—\*\*T\*\*型通孔液压马达技术参数

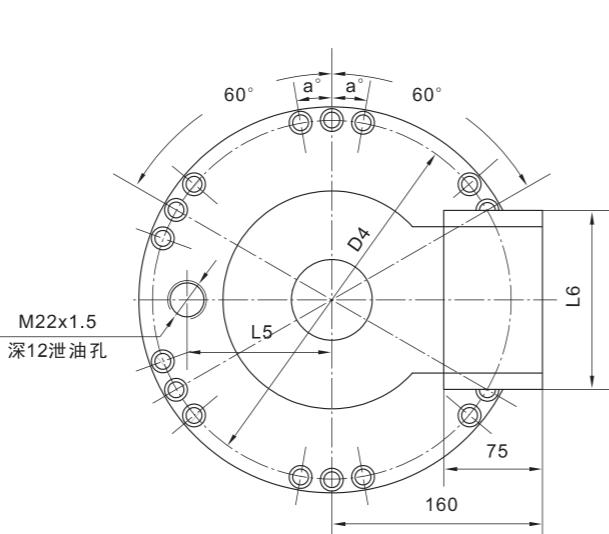
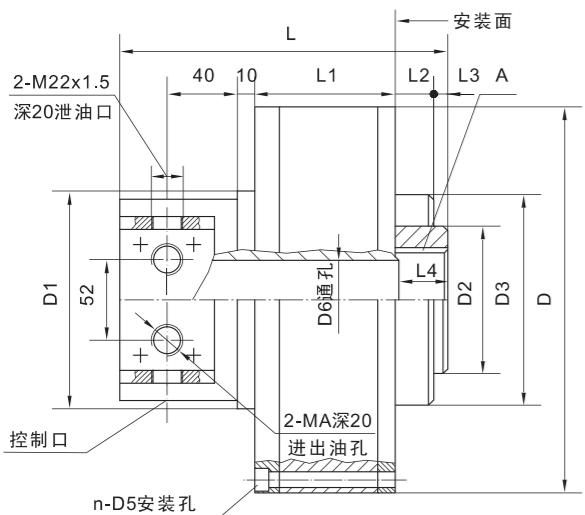
## 1/2 QJM\*\*\*\*\*T\*\*series Technical Data

型号 Type	排量 Displacement (L/r)	压力 Pressure(Mpa)		转速范围 Rotational Speed range (r/min)	额定输出扭矩 Rated output Torque (N · m)	通孔直径 Through hole dia mm
		额定 Rated	尖峰 Peak			
1QJM01-0.1T40	0.1	10	16	8~800	148	40
1QJM01-0.16T40	0.163	10	16	8~630	241	40
1QJM01-0.2T40	0.203	10	16	8~500	300	40
1QJM11-0.32T50	0.317	10	16	5~400	468	50
1QJM11-0.4T50	0.404	10	16	5~400	598	50
1QJM11-0.5T50	0.5	10	16	5~320	734	50
<sup>1</sup> QJM21-0.32T65	0.317 0.159	16	25	2~500	751 376	65
<sup>1</sup> QJM21-0.5T65	0.496 0.248	16	25	2~320	1175 588	65
<sup>1</sup> QJM21-0.63T65	0.664 0.332	16	25	2~250	1572 786	65
<sup>1</sup> QJM21-1.0T65	1.01 0.505	10	16	2~160	1495 748	65
<sup>1</sup> QJM21-1.25T65	1.354 0.677	10	16	2~125	2004 1002	65
<sup>1</sup> QJM32-0.63T75	0.635 0.318	20	25	1~500	1880 940	75
<sup>1</sup> QJM32-1.0T75	1.06 0.53	20	25	1~400	3138 1519	75
<sup>1</sup> QJM32-1.25T75	1.30 0.65	20	25	2~320	3833 1917	75
<sup>1</sup> QJM32-2.0T75	2.03 1.02	16	25	2~200	4807 2404	75
<sup>1</sup> QJM32-2.5T75	2.71 1.36	10	16	1~160	4011 2006	75
<sup>1</sup> QJM42-2.5T80	2.56 1.26	20	31.5	1~250	7578 3789	80
<sup>1</sup> QJM52-3.2T80	3.24 1.62	20	31.5	1~250	9590 4795	80
<sup>1</sup> QJM52-4.0T80	4.0 2.0	16	25	1~200	9472 4736	80
<sup>1</sup> QJM52-5.0T80	5.23 2.615	10	16	1~160	7740 3870	80
<sup>1</sup> QJM52-6.3T80	6.36 3.18	10	16	1~125	9413 4707	80
<sup>1</sup> QJM62-4.0T125	4.0 2.0	20	31.5	0.5~150	11840 5920	125
<sup>1</sup> QJM62-5.0T125	5.18 2.59	20	31.5	0.5~125	15333 7667	125
<sup>1</sup> QJM62-6.3T125	6.27 3.135	16	25	0.5~125	14847 7424	125
<sup>1</sup> QJM62-8.0T125	7.85 3.925	10	16	0.5~100	11618 5809	125
<sup>1</sup> QJM62-10T125	10.15 5.075	10	16	0.5~80	15022 7501	125



外形安装图 Installation

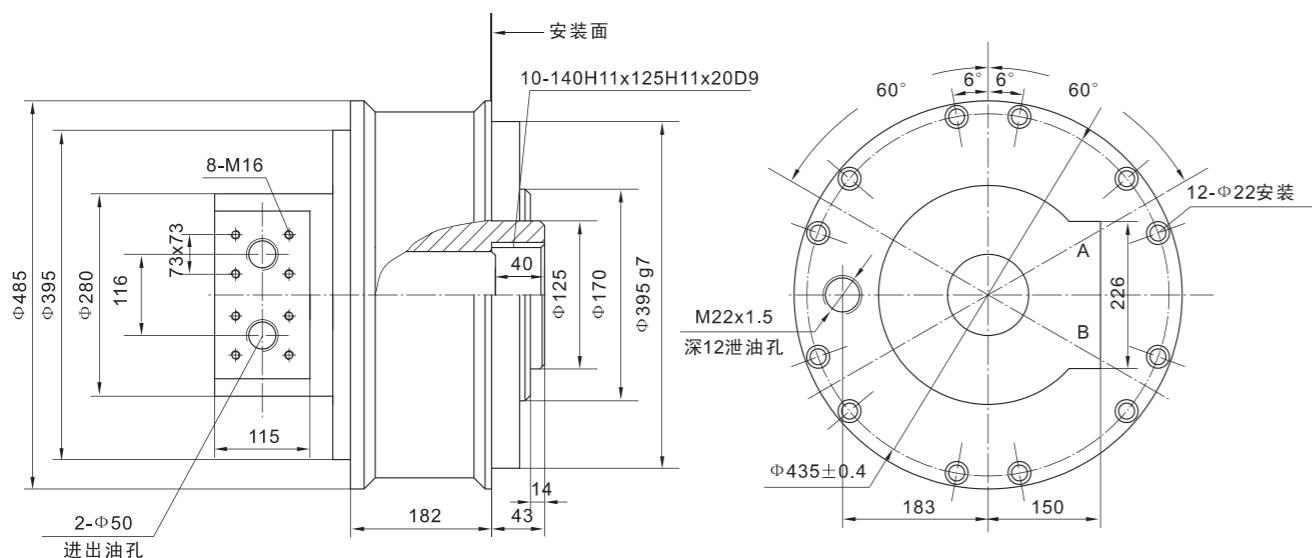
型号 Type	L	L1	L2	L3	L4	L5	L6	θ	D	D1	D2	D3	D4	D5	D6	n-D7	MA	MB	A	重量 (kg)
1QJM01-**T40	130	79	15	23	3	30	62	180°	Φ180	Φ105	Φ40	Φ110	Φ130g6	Φ68	Φ165	11-Φ9	M22x1.5	M12x1.5	6-48H11x42H11x12D9	15
1QJM11-**T50	139	87	16	17	3	28	87	90°	Φ240	Φ150	Φ50	Φ100	Φ160g6	Φ80	Φ220	12-Φ11	M22x1.5	M16x1.5	6-70H11x62H11x16D9	26



外形安装图 INSTALLATION

型号 Type	L	L1	L2	L3	L4	L5	L6	D	D1	D2	D3	D4	n-D5	D6	MA	a	A	重量 (kg)
1QJM21-**T50	229	99	29	14	36	100	156	Φ300	Φ148	Φ110	Φ160g6	Φ283	10-Φ11	Φ50	M27x2	10°	10-98H11x92H11x14D9	60
1QJM21-**T65	230	98	29	14	37	110	146	Φ304	Φ186	Φ110	Φ160g6	Φ283	10-Φ11	Φ65	M33x2	10°	10-98H11x92H11x14D9	64
1QJM32-**T75	273	138	43	10	41	115	146	Φ320	Φ186	Φ120	Φ170g6	Φ299	10-Φ13	Φ75	M33x2	10°	10-98H11x92H11x14D9	88
1QJM42-**2.5T80	292	160	16	30	40	124	146	Φ350	Φ190	Φ140	Φ200h8	Φ320	10-Φ13	Φ80	M33x2	10°	10-112H11x102H11x16D9	120
1QJM52-**2.5T80	367	175	30	24	45	135	190	Φ420	Φ220	Φ160	Φ315g7	Φ360	6-Φ22	Φ80	M48x2	6°	10-120H11x112H11x18D9	162

注:2QJM52-2.5T80 达控制口和泄油口 上图所示对调



1QJM62-\*\*T125型 达外形安装尺寸图

## 使用及注意事项

### 一、基本要求

马达的使用是否正确，将直接影响工作寿命，因此，必须满足以下基本要求。

1、QJM液压马达的工作介质必须用抗磨液压油，建议使用YB-N46或YB-N68液压油。

2、正常工作油温控制在-40℃~80℃。短期工作最高油温不超过90℃。

3、工作介质必须清洁，滤油精度可按所配油泵要求选定。

### 二、安装

安装液压马达必须注意：

1、液压马达花键孔与工作机构的花键轴必须对中，并保证二者松动配合。对花键处和安装定位机座的技术要求见下图所示，液压马达在机器中安装并联接好管路后，应用手或扳手盘动液压马达、此时转子应灵活，不得有卡住或重轻现象。

2、因QJM液压马达转子呈浮动状态，故安装时花键联接必须留轴向空隙2~3毫米，以保证转子体可以在轴向自由窜动（见图所示）。

3、所有安装螺钉必须拧得很紧。

4、安装过程中各通油孔必须堵塞，以防脏物进入液压马达。

### 三、使用和维护

1、新装液压马达的系统，工作油在运转2~3月后应调换一次，以后每隔1~2年换一次油，具体视使用条件和工作环境而定。

2、马达在二速或三速档或在工作中存在作泵工况时，主回路应有0.3~0.8Mpa的背压。转速高时取大值，具体视工况而定，以不出现冲击声为准。

3、液压系统中不得吸入空气，否则会使马达运转不平稳，出现冲击声。

4、泄漏油管路及接头的孔径一般在Φ12以下，并直接与油箱接通，若要过滤单独用过滤器，壳体内压力一般不允许大于0.1Mpa。

5、马达禁止轴朝下安装使用。

## USAGE AND NOTICE

### I. Principal requirements

How to use the motor has direct influences on its useful life, therefore the following principal requirements must be satisfied.

1.QJM hydraulic motor must be lubricated with anti-wear hydraulic oil, recommended for YB-N46 or YB-N68 hydraulic oil.

2.The normal temperature range of working oil is from -40℃ to 80℃. The maximum temperature for its short-term usage mustn't exceed 90℃.

3.The working media must be clean. The oil-filtrating precision is decided by the provided oil pump.

### II. Mounting

The motor must be mounted according to the following steps:

1.The splined hole of motor and the splined shaft of operating mechanism should be aligned and kept in loose coordination. For technical requirements on the spline and locating seat, see the following drawing. After mounting the hydraulic motor in the machine and connecting the pipeline, turn the motor by hand or a spanner. The rotor should be flexible and free from block or unbalance.

2.As the rotor of QJM motor is in floating status, 2~3 mm distance should be left before connecting the spline to ensure the unrestricted movement of rotor in the shaft direction (as shown in drawing).

3.All the mounting screws must be tightened.

4.During the installation, all the oil feed openings must be blocked for avoiding the entrance of dirts into the motor.

### III. Usage and maintenance

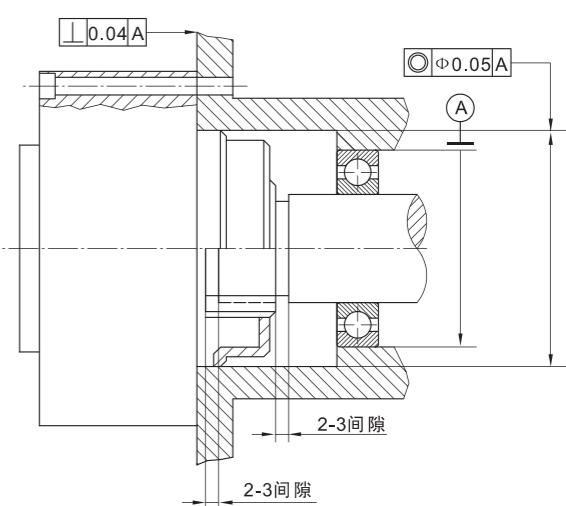
1. For the system newly equipped with hydraulic motors, its working oil must be renewed once after running for 2 to 3 months, and afterwards once every 1 to 2 years. For details, see its operating conditions and working environment.

2. If pump operating conditions exist when the motor is running in dual or triad speeds or working, the back pressure from 0.3 to 0.8Mpa must act on the major loop. Apply the maximum pressure during the rotation at high speed. Please select the pressure according to actual conditions, but it shouldn't cause any impact sound.

3. No air exists in the hydraulic system, otherwise the motor can't run smoothly or will make some impact sound.

4. The bore diameter of the leakage oil pipe and the joint should be generally less than Φ12. The pipe can be directly connected to the oil tank. If filtered, please use separate strained oil filter. The pressure of inner shell should not exceed 0.2Mpa.

5. The motor forbids the shaft to go down for working.





## ● 产品概述 INTRODUCTION

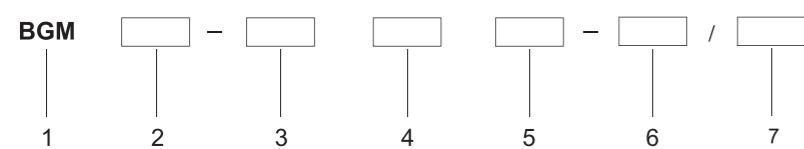
BGM 型摆缸马达是一种端面配油无连杆式曲轴低速大扭矩液压马达。广泛应用于塑料机械、轻工机械、冶金机械、矿山机械、起重运输设备、重型机械、石油煤矿机械、船舶机械等各种机械的液压传动系统中。

BGM series of swivelling cylinder hydraulic motors are low speed high torque hydraulic motors without connecting staff. It has been widely applied in many kinds of hydraulic transmission system, such as plastic injection machine, light industry equipment, heavy metallurgical machinery, petroleum and mine machine, hoist and transport vehicle, ship and deck machinery and equipment etc. In particular, it can be well available in slew driving, hoisting capstan and winches, wheel slew drives etc.

## ● 性能特点 CHARACTERISTICS

- \* 活塞和缸体间用新型活塞环密封, 无泄漏, 所以具有较高的容积效率。
- \* 由于活塞和摆缸不存在侧向力, 活塞底部为静压平衡, 活塞和曲轴之间通过滚动轴承传递扭矩, 因而具有很高的机械效率和起动扭矩。
- \* 由于结构上减少了摩擦损失, 提高了密封性能, 因而低速稳定性好, 能在很低的转速下(小于1r/min)平稳运转, 而且调速范围大, 速度调节比可达1000。
- \* 由于这种马达结构简单、设计合理(无连杆, 减少了马达径向尺寸和自重, 采用了负荷能力大的滚动轴承), 因而具有体积小、重量轻、工作可靠、寿命长和噪音低等优点。
- \* To avoid leakage and get high volumetric efficiency ,a new-style piston ring will be airproofed between the piston and the block.
- \* The side loading between the piston and swiveling cylinder has been eliminated;the hydrostatic balance is built between the piston feet;the pistons transmit load to the shaft via a rolling bearing .So this hydraulic motor features high mechanical efficiency and high starting torque.
- \* Due to the reduced friction loss in structure and improved sealing capability,so the motor can operate at low speeds with a high degree of speed stability,even if at 1r/min of speed.Herby the speed control range is wide (the speed control ratio is up to 1000).
- \* Because of simple structure, reasonable design (no connecting rod, minish the motor radial size and weight.and using large load capacity bearing.).The series motors has many excellent features as follow light weight ,small size ,good reliability,long lifetime and low noise.

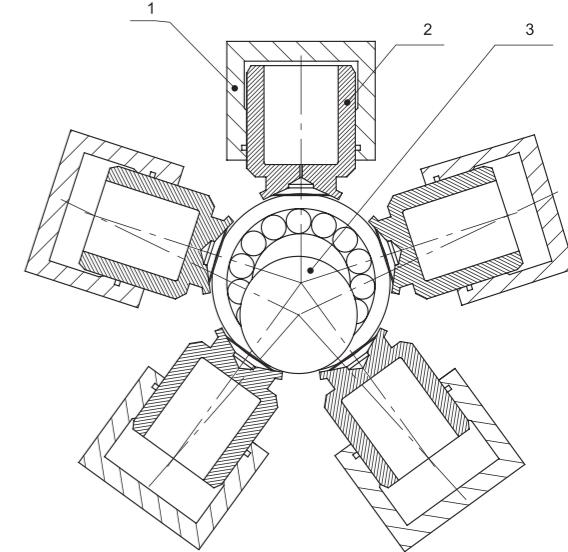
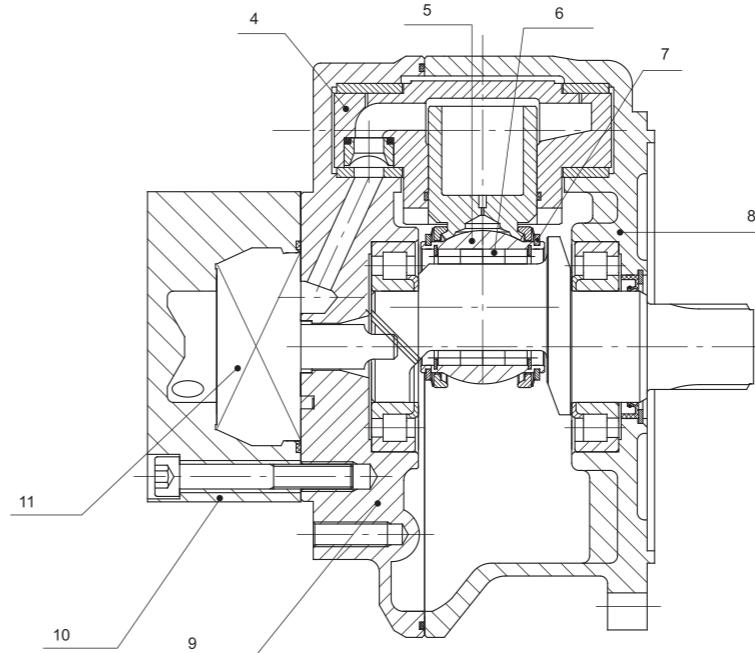
## ● 型号意义 ORDERING CODE



1. 中意液压马达有限公司径向柱塞摆缸式低速大扭矩液压马达。
2. 系列号(同一系列不同排量的液压马达其安装连接尺寸相同)。
3. 理论排量(mL/r)
4. 输出轴类型(无字母——矩形花键轴; A——渐开线花键轴; B——圆柱平键轴; I——渐开线内花键轴)。
5. 通油盘种类(如D31L1、D31L4、D401、D404等)。
6. 输出转向(从输出轴端看, R为顺时针旋转, L为逆时针旋转)。
7. 特殊代码: 有特殊要求, 请和公司联系。

1. Low speed high torque radial piston swivelling cylinder hydraulic motor manufactured by Ningbo Zhongyi Hydraulic Motor Co.,Ltd.
2. Series number ( Motor in one series have same dimensions ) .
3. Theoretical displacement ( mL/ r ) .
4. Output shaft ( unletter——rectangle spline shaft ; A——involute spline shaft ; B——column parallelkey shaft ; I——involute inner spline shaft ) .
5. Distributor ( D31L1, D31L4, D401, D404 and so on) .
6. Output turning ( see from the shaft end , R means clockwise, L means anticlockwise).
7. Special code:Special needs please contact us.

## ● 工作原理 WORKING PRINCIPLE



BGM 液压马达的内部构造

序号	名称
1	缸体
2	柱塞
3	曲轴
4	耳轴套

序号	名称
5	球面轴承套
6	滚柱
7	卡环
8	前壳体

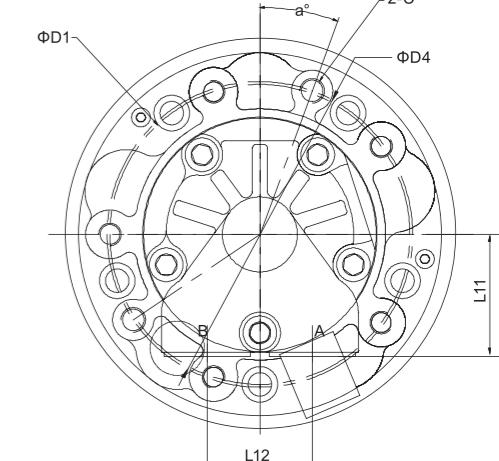
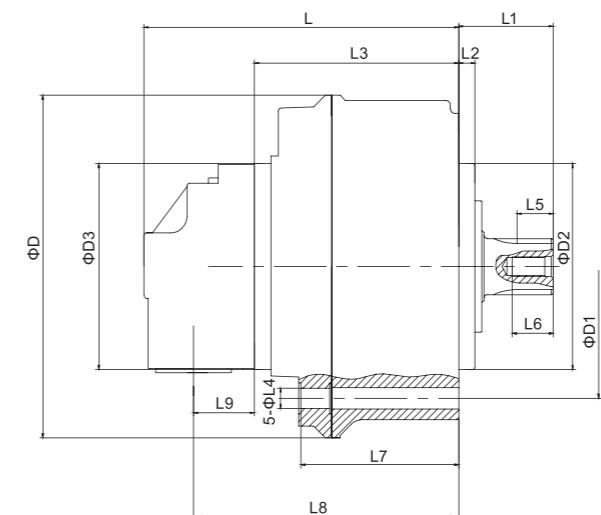
序号	名称
9	后壳体
10	通油盘
11	配油盘

BGM 型液压马达见上图,由缸体1、柱塞2、曲轴3、前壳体8、后壳体9、等零件组成。马达运行中,由于缸体1带动柱塞2自动以耳轴套4为中心进行摆动,从而保证缸体1和柱塞2的轴线始终通过曲轴球面轴承套5的中心,因此,柱塞2在往复运动中对缸体1不产生侧向力,高压油从通油盘10的进油口进入与曲轴一起旋转的配流盘11,并经后壳体9中的流道和耳轴套4上的油道进入柱塞2上部,再经节流小孔进入柱塞下部平衡腔a,此时,通高压油的空心柱塞在油压作用下,通过球面轴承套5和滚柱6把液压作用力传递给曲轴3上。曲轴在偏心力矩作用下传动。随着高压油的进入,柱塞径向马达旋转轴心处移动直至下死点时,由于同步旋转配流盘11的切换作用。柱塞2的上部油室通过配流盘11开始与马达回油口接通,柱塞2在旋转曲轴3的推动下,油室容积减小,油室所存油液经耳轴套4通道、后壳体9中通道、配流盘11、通油盘10排往回油口。各缸柱塞依次接通高压油和低压回油通道,各通高压的柱塞对曲轴3产生的驱动力矩同向叠加,使液压马达输出轴获得连续而稳定的回转扭矩。改变通油盘进、出油道方向,便可以改变液压马达的转向;如果将配流盘11进行转过180°装配,也可实现马达的反向旋转。

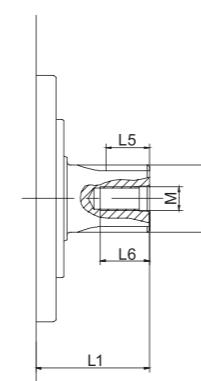
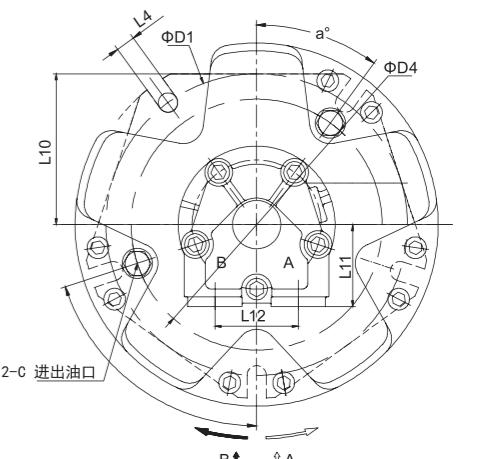
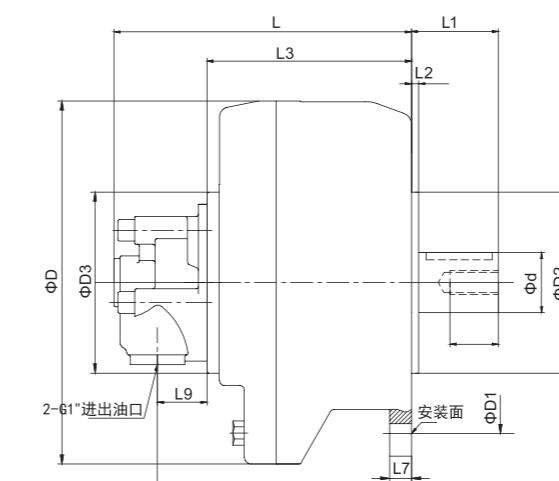
## ● BGM 技术参数 BGM TECHNICAL DATA

型号 Model	排量 Displacement ml/r	压力 (Mpa)		扭矩		连续转速 Speed range r/min	最高转速 Max. cont Power r/min	重量 Weight kg
		尖峰压力 Peak pressure	额定压力 Cont pressure	额定扭矩 Rate torque N.m	单位理论扭矩 Theoric torque N.m/Mpa			
BGM05-60	59	25	20	173	9	1-700	900	22
BGM05-75	74	25	20	217	11	1-700	900	22
BGM05-90	86	25	20	252	13	1-700	900	22
BGM05-110	115	25	20	337	17	1-650	850	22
BGM05-130	129	25	20	378	19	1-650	850	22
BGM05-150	151	25	20	442	22	1-650	850	22
BGM05-170	166	25	20	486	24	1-600	800	22
BGM05-200	191	25	20	560	28	1-600	800	22
BGM1-100	99	25	20	290	15	1-550	900	31
BGM1-150	154	25	20	451	23	1-550	900	31
BGM1-175	172	25	20	504	25	1-550	850	31
BGM1-200	201	25	20	589	29	1-550	800	31
BGM1-250	243	25	20	712	36	1-450	700	31
BGM1-300	290	25	20	850	42	1-350	650	31
BGM1-320	314	25	20	920	46	1-350	600	31
BGM1-350	340	25	20	996	50	1-350	600	31
BGM2-200	192	25	20	563	28	1-550	800	51
BGM2-250	251	25	20	735	37	1-550	800	51
BGM2-300	304	25	20	891	45	1-500	750	51
BGM2-350	347	25	20	1017	51	1-500	750	51
BGM2-420	425	25	20	1245	62	1-450	750	51
BGM2-500	493	25	20	1444	72	1-450	700	51
BGM2-600	565	25	20	1655	83	1-450	700	51
BGM2-630	623	25	20	1825	91	1-400	650	51
BGM3-425	426	25	20	1248	62	0.5-500	650	87
BGM3-500	486	25	20	1424	71	0.5-450	600	87
BGM3-600	595	25	20	1743	87	0.5-450	575	87
BGM3-700	690	25	20	2022	101	0.5-400	500	87
BGM3-800	792	25	20	2321	116	0.5-400	500	87
BGM3-900	873	25	20	2558	128	0.5-350	400	87
BGM3-1000	987	25	20	2892	145	0.5-300	350	87
BGM4-600	616	25	20	1805	90	0.5-400	550	120
BGM4-800	793	25	20	2323	116	0.5-350	550	120
BGM4-900	904	25	20	2649	132	0.5-325	450	120
BGM4-1000	1022	25	20	2994	150	0.5-300	450	120
BGM4-1100	1116	25	20	3270	163	0.5-275	400	120
BGM4-1300	1316	25	20	3856	193	0.5-225	400	120
BGM5-800	807	25	20	2364	118	0.3-325	350	175
BGM5-1000	1039	25	20	3044	152	0.3-300	450	175
BGM5-1200	1185	25	20	3472	174	0.3-300	450	175
BGM5-1300	1340	25	20	3926	196	0.3-300	400	175
BGM5-1450	1462	25	20	4284	214	0.3-275	400	175
BGM5-1600	1634	25	20	4788	239	0.3-250	350	175
BGM5-1800	1816	25	20	5321	266	0.3-250	300	175
BGM5-2000	2007	25	20	5880	294	0.3-200	300	175
BGM6-1700	1690	25	20	4952	248	0.3-250	400	275
BGM6-2100	2127	25	20	6232	312	0.3-225	350	275
BGM6-2500	2513	25	20	7363	368	0.3-200	300	275
BGM6-3000	3041	25	20	8910	445	0.3-175	325	275

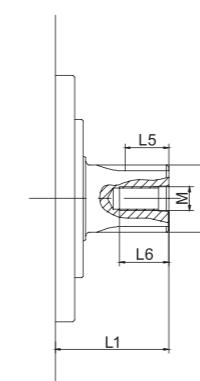
## ● BGM05 外形图安装图



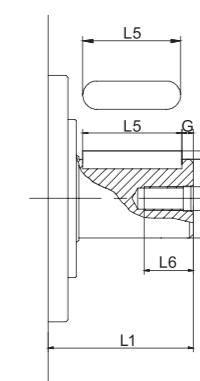
## ● BGM1, 2, 3, 4, 5, 6 外形安装图



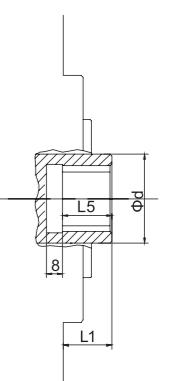
矩形外花键



渐开线外花键A



平键B



内花键I

型号 Type	d	B	G	H	M	D	D1	D2(f7)	D3	D4	a	C	L	L1
BGM05-**	34	-	-	-	M12	205	160	125	125	163	20	G1/4	182	57
BGM05-**A	34	-	-	-	M12	205	160	125	125	163	20	G1/4	182	57
BGM05-**B	30	3	3	8	M12	205	160	125	125	163	20	G1/4	182	65
BGM05-**I	45	-	-	-	M12	205	160	125	125	163	20	G1/4	182	23
BGM1-**	34	-	-	-	M12	242	210	175	150	200	19	G1/4	221	42
BGM1-**A	34	-	-	-	M12	242	210	175	150	200	19	G1/4	221	42
BGM1-**B	40	3	6	12	M12	242	210	175	150	200	19	G1/4	221	58
BGM1-**I	45	-	-	-	M12	242	210	175	150	200	19	G1/4	221	8
BGM2-**	40	-	-	-	M16	310	250	150	150	208	36	G1/2	246.5	72
BGM2-**A	40	-	-	-	M16	310	250	150	150	208	36	G1/2	246.5	72
BGM2-**B	50	4	6	16	M16	310	250	150	150	208	36	G1/2	246.5	72
BGM2-**I	55	-	-	-	M16	310	250	150	150	208	36	G1/2	246.5	18
BGM3-**	54	-	-	-	M16	380	310	265	175	270	36	G1/4	269	72
BGM3-**A	40	-	-	-	M16	380	310	265	175	270	36	G1/4	269	72
BGM3-**B	50	4	6	16	M16	380	310	265	175	270	36	G1/4	269	86
BGM3-**I	55	-	-	-	M16	380	310	265	175	270	36	G1/4	269	18
BGM4-**	65	-	-	-	M20	410	310	265	175	285	36	G1/2	288	90
BGM4-**A	65	-	-	-	M20	410	310	265	175	285	36	G1/2	288	90
BGM4-**B	70	4.5	5	20	M20	410	310	265	175	285	36	G1/2	288	90
BGM4-**I	73	-	-	-	M20	410	310	265	175	285	36	G1/2	288	14
BGM5-**	65	-	-	-	M20	495	310	265	200	350	36	G1/2	325	90
BGM5-**A	65	-	-	-	M20	495	310	265	200	350	36	G1/2	325	90
BGM5-**B	70	4.5	6	20	M30	495	310	265	200	350	36	G1/2	325	132
BGM5-**I	73	-	-	-	-	495	310	265	200	350	36	G1/2	325	14
BGM6-**	92	-	-	-	M20	510	419	381	300	378	36	G1/2	416	130
BGM6-**A	80	-	-	-	M20	510	419	381	300	378	36	G1/2	416	130
BGM6-**B	85	6	3.5	24	M20	510	419	381	300	378	36	G1/2	416	166
BGM6-**I	110	-	-	-	-	510	419	381	300	378	36	G1/2	416	20

型号 Type	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	A
BGM05-**	10	114	13	22	26	96	161	37	-	65	56	6-34d11*28g6*7g7
BGM05-**A	10	114	13	22	26	96	161	37	-	65	56	35-2-16DIN5480
BGM05-**B	10	114	13	45	26	96	161	37	-	65	56	-
BGM05-**I	10	114	13	23	-	96	161	37	-	65	56	6-34H11*28H7*7F7
BGM1-**	5	144	14	22	26	15	185	41	100	68	69	6-34d11*28g6*7g7
BGM1-**A	5	144	14	22	26	15	185	41	100	68	69	35-2-16DIN5480
BGM1-**B	5	144	14	50	26	15	185	41	100	68	69	-
BGM1-**I	5	144	14	23	-	15	185	41	100	68	69	6-34H11*28H7*7F7
BGM2-**	5	169.5	14	48	32	20	210.5	41	123	68	69	8-40d11*36g6*7f7
BGM2-**A	5	169.5	14	48	32	20	210.5	41	123	68	69	40-3-12DIN5480
BGM2-**B	5	169.5	14	55	40	20	210.5	41	123	68	69	-
BGM2-**I	5	169.5	14	40	-	20	210.5	41	123	68	69	8-40H11*36H7*7F7
BGM3-**	10	192	20	48	32	20	233	41	171	68	69	8-54d11*46g6*7f7
BGM3-**A	10	192	20	48	32	20	233	41	171	68	69	40-3-12DIN5480
BGM3-**B	10	192	20	70	40	20	233	41	171	68	69	-
BGM3-**I	10	192	20	40	-	20	233	41	171	68	69	8-54H11*45*H7*7F7
BGM4-**	10	211	20	61	38	20	252	41	160	68	69	10-65h11*56g6*10f7
BGM4-**A	10	211	20	61	38	20	252	41	160	68	69	65-3-20DIN5480
BGM4-**B	10	211	20	70	55	20	252	41	160	68	69	-
BGM4-**I	10	211	20	43	-	20	252	41	160	68	69	10-65H11*56H7*10F7
BGM5-**	10	229	20	61	38	20	288.5	41	-	68	69	10-65h11*56g6*10f7
BGM5-**A	10	229	20	61	38	20	288.5	41	-	68	69	65-3-20DIN5480
BGM5-**B	10	229	20	110	55	20	288.5	41	-	68	69	-
BGM5-**I	10	229	20	43	-	20	288.5	41	-	68	69	10-65H11*56H7*10F7
BGM6-**	18	227	22	77	44	30	357	41	205	95	100	10-92b12*82b12*12f8
BGM6-**A	18	227	22	77	44	30	357	41	205	95	100	80-3-25DIN5480
BGM6-**B	18	227	22	130	44	30	357	41	205	95	100	-
BGM6-**I	18	227	22	68	-	30	357	41	205	95	100	10-92D12*82D12*12H8