

■ 产品概述 INTRODUCTION

一、特点及适用范围 FEATURES AND APPLICATIONS



BM系列端面配流摆线液压马达，是一种低速大转矩液压马达。它的端面配油提高了容积效率及使用寿命。

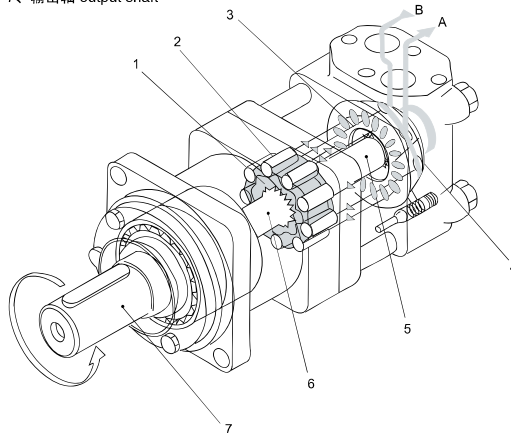
该系列马达具有输出扭矩大，转速范围宽、高速平稳、低速稳定、效率高、寿命长、体积小、重量轻、可以直接与工作机构相连接等优点。因而适用于各种低速重载的传动装置，广泛应用于农业、渔业、船舶、机床、注塑、起重装卸、采矿和建筑等部门。如：液压挖掘机的行走和回转驱动；机床主轴和进给机构的驱动；注塑机的预塑螺杆驱动；船舶的锚链升降及渔轮收网；绞车驱动及各种输送机的驱动；采煤机的液压牵引传动等。

BM hydraulic motor is one type of high torque low speed hydraulic motors, with high efficiency and long life. BM motor has a wide Speed range, high starting torque and rotating stable at high speed Compact and light, it can be connected to working machine directly, adapted to all kinds of low speed heavy load facilities.

BM hydraulic motors are widely applied in agriculture machinery, fishing machinery, plastic industry, mining, and construction machinery.

二、工作原理 WORKING PRINCIPLE

- 1、摆线轮 orbit cam 2、针柱体 roll 3、配流盘 distributor 4、辅助盘 auxiliary plate
- 5、配流轴 distributor shaft 6、传动轴 transmission shaft 7、输出轴 output shaft



如右图所示：

压力油经过油孔进入后壳体，通过辅助盘4、配流盘3和后侧板，进入摆线轮1与针柱体2间的工作腔。在油压的作用下，摆线轮被压向低压腔一侧旋转，摆线轮相对针柱体中心做自转和公转，并通过传动轴6将其自转传给输出轴7，同时通过配流轴5，使配流盘与摆线轮同步运转。以达到连续不断地配油，输出轴连续不断地旋转。改变输出的流量，就能输出不同的转速。改变进油方向，即能改变马达的旋转方向。

Shown as the drawing, high pressure oil goes into the motor's housing through the inlet, passing the auxiliary plate, distributor, then the working space between the orbit cam and rolls. Pressed by the high pressure oil, orbit cam rotates from the high pressure side to the low pressure side. The orbit cam makes rotation and revolution against the rolls, at the same time, high pressure oil is distributed continuously, thus, the output shaft can also rotate continuously.

The output speed can be controlled by adjusting the inlet flow capability of the motor, and the rotating direction can be changed by exchanging the flow direction.

■ BM3Y技术参数 TECHNICAL DATA

型号 TYPE	BM3Y-80 BM3SY-80 BM3SY-80 BM3WY-80	BM3Y-100 BM3SY-100 BM3SY-100 BM3WY-100	BM3Y-125 BM3SY-125 BM3SY-125 BM3WY-125	BM3Y-160 BM3SY-160 BM3SY-160 BM3WY-160	BM3Y-200 BM3SY-200 BM3SY-200 BM3WY-200	BM3Y-250 BM3SY-250 BM3SY-250 BM3WY-250	BM3Y-315 BM3SY-315 BM3SY-315 BM3WY-315	BM3Y-400 BM3SY-400 BM3SY-400 BM3WY-400	BM3Y-500 BM3SY-500 BM3SY-500 BM3WY-500
排量 Displacement(ml/r)	80.5	100.5	126.3	160.8	200.9	252.6	321.5	401.9	476.5
最大压降 Max.Pressure. Drop (Mpa)	连续 cont.	20.5	20.5	20.5	20.5	20	20	15.5	12
	间断 int.	27.5	27.5	27.5	26	25	24	19	14
	尖峰 peak.	29.5	29.5	29.5	28	27	27	21	16
最大扭矩 Max.torque (N.m)	连续 cont.	226	282	355	451	564	684	813	728
	间断 int.	293	365	459	559	672	845	1032	903
	尖峰 peak.	306	383	481	588	708	891	1141	1044
最大转速 (连续) Max.Speed(cont.)(r/min)	805	745	590	465	370	295	230	185	155
最大流量 (连续) Max.Flow(cont.)(L/min)	65	75	75	75	75	75	75	75	75
最大输出功率 (连续) Max.Output.Power(cont.)(Kw)	16	18	18	18	18	18	17	11	9
重量 Weight (kg)	9.8	10.0	10.3	10.7	11.1	11.6	12.3	13.2	14.3

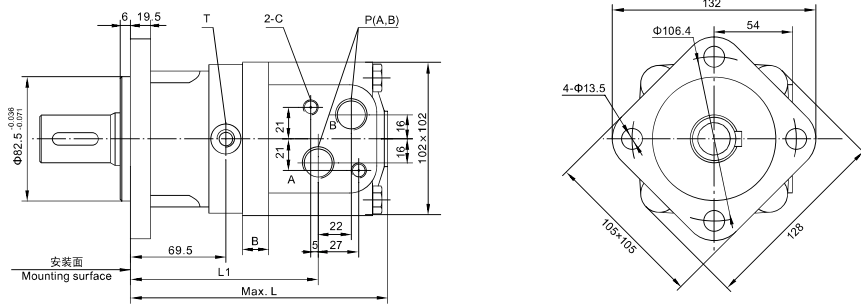
间断工作时间每分钟不得超过6秒，尖峰工作时间每分钟不得超过0.6秒

Intermittent operation the permissible values may occur for max. 10% of every minute

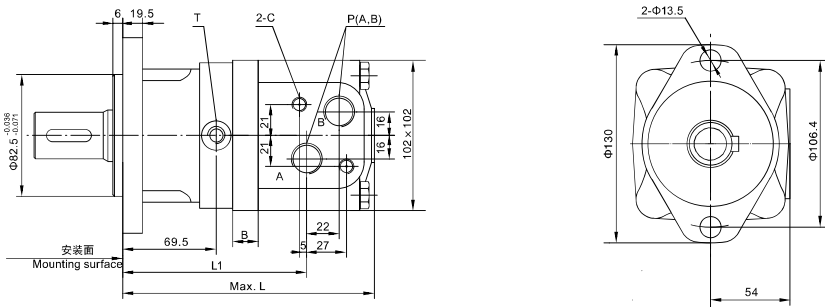
Peak load: the permissible values may occur for max. 1% of every minute

■ BM3Y外形安装图 Installation

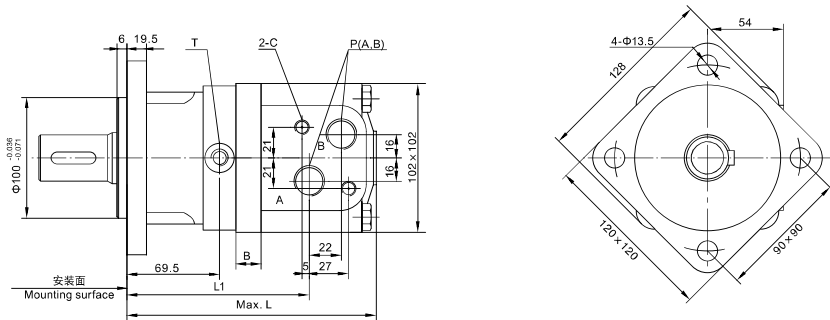
A 方法兰 Square flange A



AII, 2孔菱形法兰 2-hole oval flange AII

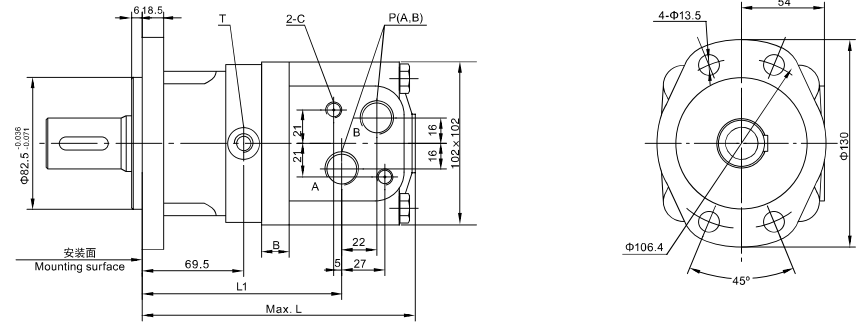


A2III 大方法兰 Square flange A2III



■ BM3Y外形安装图 Installation

AIV, 4孔菱形法兰 4-hole oval flange AIV



型号Type	BM3Y-80	BM3Y-100	BM3Y-125	BM3Y-160	BM3Y-200	BM3Y-250	BM3Y-315	BM3Y-400	BM3Y-500
L	170	173.5	178	184	191	200	212	226	239
L1	125.5	129	133.5	139.5	146.5	155.5	167.5	181.5	194.5
B	11	14.5	19	25	32	41	53	67	80

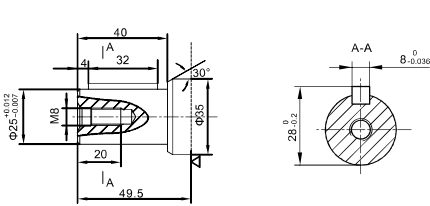
■ BM3Y油口代号 PORTS CODE

油口 Ports 代号 Code	P(A、B)(深deep)	C (深deep)	T (深deep)
Y	G1/2 (15)	M10 (12)	G1/4 (12)
Y1	M18 × 1.5 (15)	M10 (12)	M14 × 1.5 (12)
Y2	M22 × 1.5 (15)	M10 (12)	M14 × 1.5 (12)
Y3	M20 × 1.5 (15)	M10 (12)	M14 × 1.5 (12)
Y5	7/8-14UNF (15)	—	7/16-20 UNF(12)
Y8	NPT1/2 (15)	M10 (12)	G1/4 (12)
Y10	G1/2 (15)	—	G1/4 (12)

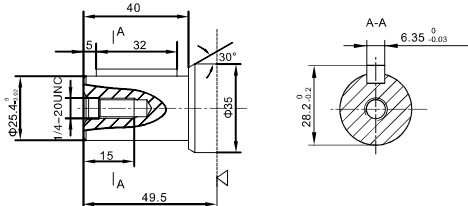
注: P(A、B)—进/出口, C—油口面安装螺纹 (—表示没有此螺纹孔), T—泄油口
 Note:P(A、B)—Ports, C—Mounting Thread (—Indicates no this thread), T—Drain connettion

■ BM3Y外形安装尺寸—输出轴 SHAFT VERSION

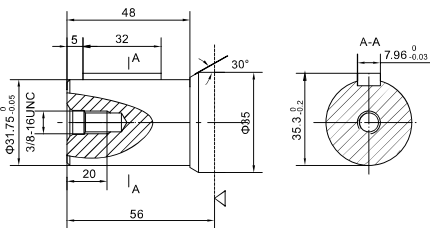
P1: Φ25平键轴, 平键8×7×32
 Φ25 Cylindrical shaft, parallel key8×7×32



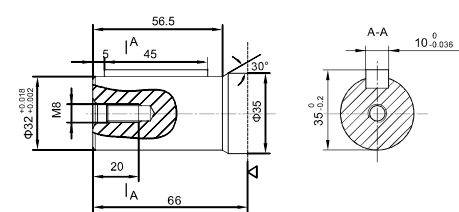
P3: Φ25.4平键轴, 平键6.35×6.35×32
 Φ25.4 Cylindrical shaft, parallel key6.35×6.35×32



P5: Φ31.75平键轴, 平键7.96×7.96×32
 Φ31.75 Cylindrical shaft, parallel key7.96×7.96×32



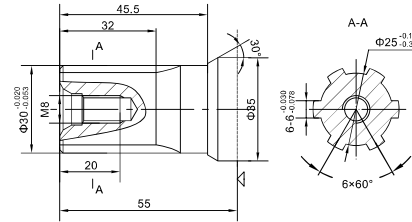
P10: Φ32平键轴, 平键10×8×45
 Φ32 Cylindrical shaft, parallel key10×8×45



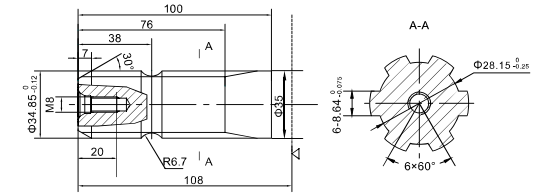
◁-- 马达安装面
 Motor mounting surface

■ BM3Y外形安装尺寸—输出轴 SHAFT VERSION

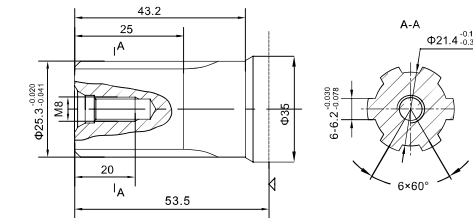
H1: Φ30矩形花键轴, 6-30×25×6
 Φ30 Splined shaft, 6-30×25×6



H3: Φ34.85矩形花键轴, 6-34.85×28.15×8.64
 Φ34.85 Splined shaft, 6-34.85×28.15×8.64

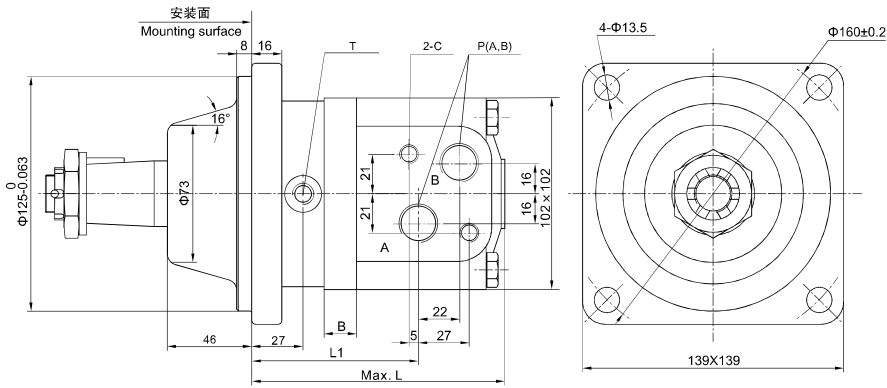


H51: Φ25.3矩形花键轴, 6-25.3×21.4×6.2
 Φ25.3 Splined shaft, 6-25.3×21.4×6.2



◁-- 马达安装面
 Motor mounting surface

■ BM3WY 轮用马达 外形安装图 Installation



型号 Type	BM3WY-80	BM3WY-100	BM3WY-125	BM3WY-160	BM3WY-200	BM3WY-250	BM3WY-315	BM3WY-400	BM3WY-500
L	127.5	131	135.5	141.5	148.5	157.5	169.5	183.5	196.5
L1	83	86.5	91	97	104	113	125	139	152
B	11	14.5	19	25	32	41	53	67	80

■ BM3WY 油口代号 PORTS CODE

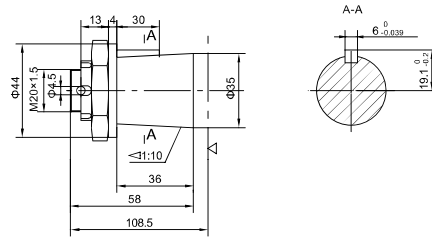
代号 Code	油口 Ports	P(A、B)(深deep)	C (深deep)	T (深deep)
Y		G1/2 (15)	M10 (12)	G1/4 (12)
Y5		7/8-14UNF (15)	—	7/16-20UNF (12)

注: P(A、B)—进出口, C—油口面安装螺纹 (—表示没有此螺纹孔), T—泄油口

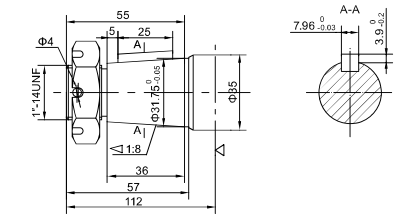
Note: P(A、B)—Ports, C—Mounting Thread (—Indicates no this thread), T—Drain connettion

■ BM3WY 外形安装尺寸—输出轴 SHAFT VERSION

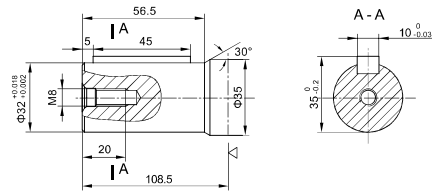
Z: Φ35 锥轴, 锥度 1:10, 平键 6 × 6 × 30
Φ35 Tapered shaft, taper 1:10, parallel key 6 × 6 × 30



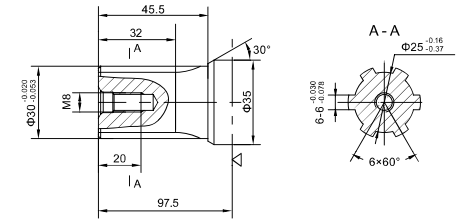
Z2: Φ31.75 锥轴, 锥度 1:8, 平键 7.96 × 7.96 × 25
Φ31.75 Tapered shaft, taper 1:8, parallel key 7.96 × 7.96 × 25



P10: Φ32 平键轴, 平键 10 × 8 × 45
Φ32 Cylindrical shaft, parallel key 10 × 8 × 45

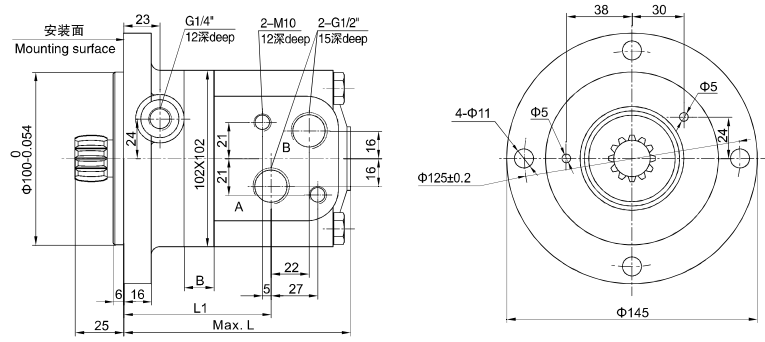


H1: Φ30 矩形花键轴, 6-30 × 25 × 6
Φ30 Splined shaft, 6-30 × 25 × 6



←-- 马达安装面
Motor mounting surface

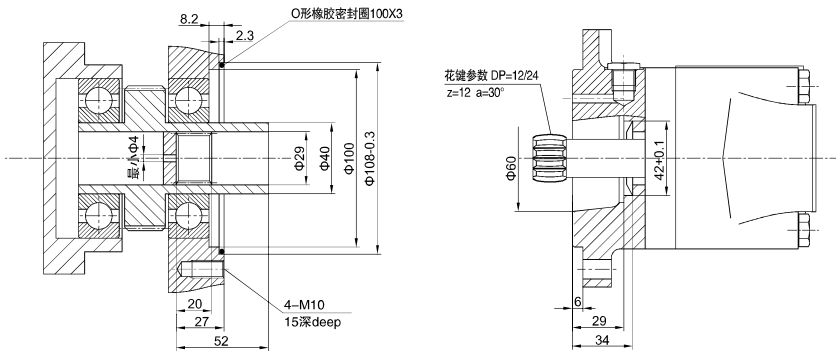
■ BM3SY外形安装图 Installation



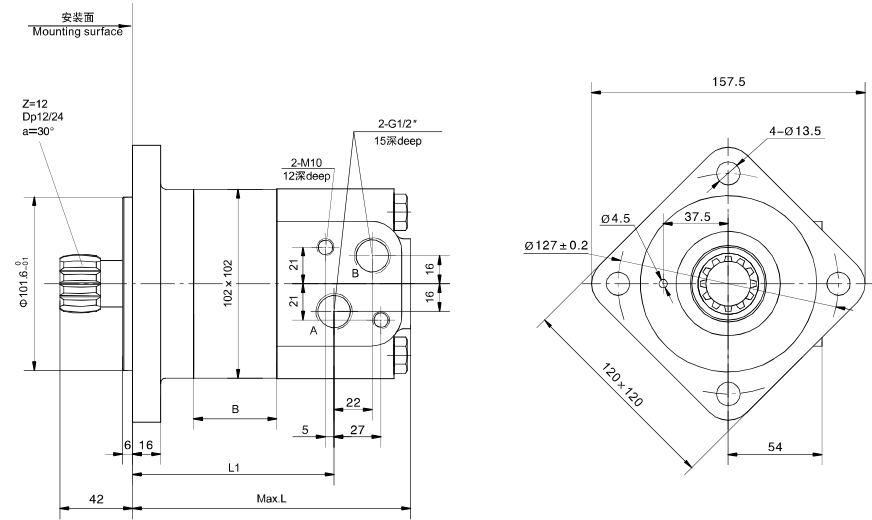
型号Type	BM3SY-80	BM3SY-100	BM3SY-125	BM3SY-160	BM3SY-200	BM3SY-250	BM3SY-315	BM3SY-400	BM3SY-500
L	124	127.5	132	138	145	154	166	180	193
L1	79.5	83	87.5	93.5	100.5	109.5	121.5	135.5	148.5
B	11	14.5	19	25	32	41	53	67	80

■ BM3SY外形连接尺寸 DIMENSIONS OF THE ATTACHED COMPONENT

(连接尺寸供参考)



■ BM3S3Y外形安装图 Installation

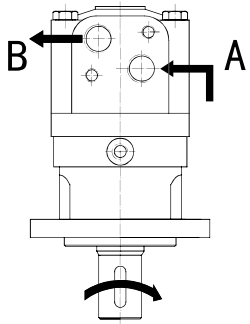


型号Type	BM3S3Y-80	BM3S3Y-100	BM3S3Y-125	BM3S3Y-160	BM3S3Y-200	BM3S3Y-250	BM3S3Y-315	BM3S3Y-400	BM3S3Y-500
L	124	127.5	132	138	145	154	166	180	193
L1	79.5	83	87.5	93.5	100.5	109.5	121.5	135.5	148.5
B	11	14.5	19	25	32	41	53	67	80

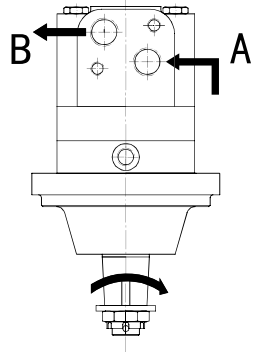
■ BM3Y、BM3WY、BM3SY 系列马达 Series Motor

输出轴旋向：标准
Direction of shaft rotation: Standard

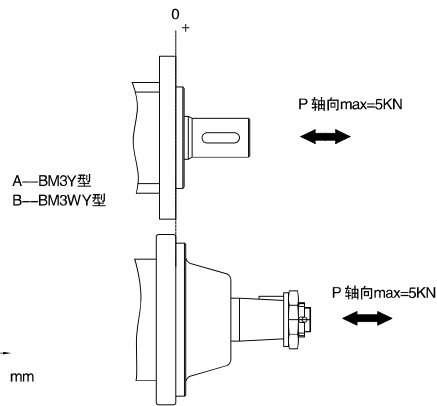
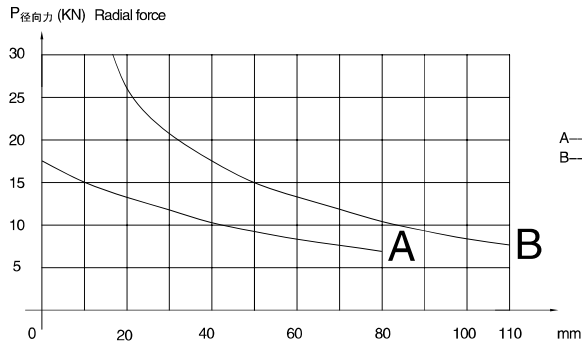
面向马达输出轴方向：
当“A”口进油时，马达顺时针方向旋转；
当“B”口进油时，马达逆时针方向旋转。



When facing shaft end of motor, shaft to rotate:
Clockwise when port “A” is pressurized.
Counter-clockwise port “B” is pressurized.



■ 输出轴允许负载 PERMISSIBLE SHAFT LOADS



■ BM3Y 型号意义 ORDERING CODE

1 2 3 4 5 6 7

BM3Y — — — — — — —

Pos.1	2	3	4	5	6	7
系列号 Series	排量 Disp	输出轴 Output	安装法兰 Flange	代号 Code	进出口 Ports	旋转方向 Rotation direction
BM3Y	80	φ25 平键轴, 平键8×7×32 φ25 Cylindrical shaft, parallel key8×7×32	A 4-φ13.5方法兰, 止口φ82.5 4-φ13.5 Square flange, pilotφ82.5	Y	进油口P(A,B)(深) Ports(A,B)(deep)	标准 Standard
	100	φ25.4 平键轴, 平键6.35×6.35×32 φ25.4 Cylindrical shaft, parallel key6.35×6.35×32		Y1	泄油口T(深) Drain port T(deep)	
	125	φ31.75 平键轴, 平键7.96×7.96×32 φ31.75 Cylindrical shaft, parallel key7.96×7.96×32	A II 2-φ13.5椭圆形法兰, 止口φ82.5 2-φ13.5 Oval flange, pilotφ82.5	Y2	G1/4(12)	标准 Standard
	160	φ32 平键轴, 平键10×8×45 φ32 Cylindrical shaft, parallel key10×8×45		Y3	M14×1.5(12)	
	250	φ30 矩形花键轴, 6-30×25×6 φ30 Spline shaft, 6-30×25×6	A2 III 4-φ13.5方法兰, 止口φ100 4-φ13.5 Square flange, pilotφ100	Y5	M18×1.5(15)	省略 Omit
	315	φ34.85 矩形花键轴, 6-34.85×28.15×8.64 φ34.85 Spline shaft, 6-34.85×28.15×8.64		Y8	M22×1.5(15)	
	400	φ25.3 矩形花键轴, 6-25.3×21.4×6.2 φ25.3 Spline shaft, 6-25.3×21.4×6.2	AW 4-φ13.5椭圆形法兰, 止口φ82.5 4-φ13.5 Oval flange, pilotφ82.5	Y10	M20×1.5(15)	相反 Opposite
	500				7/16-20UNF(12)	

BM3WY、BM3SY、BM3SY 型号意义 ORDERING CODE

1	2	3	4	5	6	7
BM3WY	-		/			-

Pos.1 系列号 Series	排量 Disp	输出轴 Output	安装法兰 Flange	代号 Code	进出口 Ports(A,B)(deep)	泄油口(T)(deep) Drain port T(deep)	特殊要求 Special features	旋转方向 Rotation direction
BM3WY	80	P10 032 平端轴, 平键10×8×45 032 Cylindrical shaft, parallel key10×8×45 H1 030 成形花键轴, 6-30×25×6 030 Splined shaft, 6-30×25×6 Z 035 锥轴, 锥度1:10, 平键6×6×30 035 Tapered shaft, taper1:10, parallel key6×6×30 400 031.75 锥轴, 锥度1:8, 平键7.96×7.96×25 500 031.75 Tapered shaft, taper1:8, parallel key7.96×7.96×25	安装法兰 Flange 4-φ13.5 方法兰, 止口 φ125 4-φ13.5 Square flange, pilot φ125	Y	G1/2(15)	M14×1.5(12)	标准 Standard	标准 Standard
	125							
	160							
	200							
	250							
315	Y5	7/8-14UNF(15)	7/16-20UNF(12)	相反 Opposite				



Pos.1 系列号 Series	排量 Disp	特殊要求 Special features				
BM3SY	80	标准 Standard 省略 Omit 100 125 160 200 250 315 400 500				
	100					
	125					
	160					
	200					
250	BM3SY	200	250	315	400	500

BM4 技术参数 TECHNICAL DATA

型号 TYPE	BM4-160 BM4S-160 BM4W-160	BM4-200 BM4S-200 BM4W-200	BM4-250 BM4S-250 BM4W-250	BM4-320 BM4S-320 BM4W-320	BM4-400 BM4S-400 BM4W-400	BM4-500 BM4S-500 BM4W-500
排量 Displacement(ml/r)	158.8	200.8	252.2	317.5	401.6	535.3
最大压降 Max.Pressure.Drop (Mpa)	连续 cont.	20	20	20	18	16
	间断 int.	24	24	24	21	18
	尖峰 peak.	28	28	28	24	21
最大扭矩 Max.torque (N.m)	连续 cont.	450	561	710	902	1121
	间断 int.	559	714	883	1143	1377
	尖峰 peak.	663	818	1021	1322	1598
最大转速 (连续) Max.Speed(cont.)(r/min)	625	495	395	310	245	185
最大流量 (连续) Max.Flow(cont.)(L/min)	100	100	100	100	100	100
最大输出功率 (连续) Max.Output.Power(cont.)(Kw)	20.1	25.2	25.2	25.2	22	21
重量 Weight (kg)	20.3	20.8	21.4	22.4	23	24

BM4Y 技术参数 TECHNICAL DATE

型号 TYPE	BM4Y-160	BM4Y-200	BM4Y-250	BM4Y-320	BM4Y-400	BM4Y-500
排量 Displacement(ml/r)	158.8	200.8	252.2	317.5	401.6	535.3
最大压降 Max.Pressure.Drop (Mpa)	连续 cont.	24	24	24	21	18
	间断 int.	27	27	27	26	20
	尖峰 peak.	30	30	30	29	23
最大扭矩 Max.torque (N.m)	连续 cont.	559	714	883	1095	1255
	间断 int.	639	789	985	1227	1371
	尖峰 peak.	710	876	1093	1369	1490
最大转速(连续) Max.Speed (cont.)(r/min)	625	495	395	310	245	185
最大流量(连续) Max.Flow(L/min)	100	100	100	100	100	100
最大输出功率 Max.Output.Power(cont.)(Kw)	24.1	30	30	28.8	25.3	24.1
重量 Weight (kg)	20.3	20.8	21.4	22.4	23	24

间断工作时间每分钟不得超过6秒, 尖峰工作时间每分钟不得超过0.6秒
 Intermittent operation the permissible values may occur for max.10% of every minute,
 Peak load:the permissible values may occur for max.1% of every minute.