PRODUCT DATASHEET

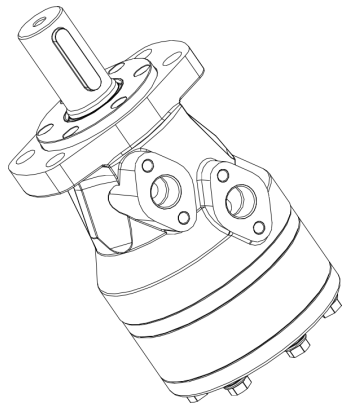
BMH / BMHD Series

BMH / BMHD Series
Orbital Hydraulic Motor

Professional hydraulic components for
mobile machinery and industrial systems.

Category: Orbital Hydraulic Motors
Application:
Heavy-Duty Mobile Machinery / Industrial Hydraulic Systems

BMH Series Orbital Hydraulic Motor



BMH Series Orbital Hydraulic Motor is a shaft-distribution hydraulic motor. This series uses a column-mounted gerotor pair and has a structure that operates under high pressure with automatic compensation, giving the complete motor good efficiency retention and long service life. Features:

*Advanced gerotor parameter design provides low starting pressure, high efficiency, good efficiency retention, and smooth operation.

*High-pressure shaft seal withstands higher back pressure and allows series or parallel operation.

*Special drive shaft structure design can meet low-noise requirements.

*Special distribution system parameter design can meet low-noise requirements.

*The motor has a compact structure and is easy to install.

Main Technical Parameters

Type		BMH 195	BMH 245	BMH 310	BMH 390	BMH 490
Actual Displacement (cm³/rev.)		195.7	246.2	311.7	391.4	491
Max. Speed (rpm)	Rated	295	235	185	145	115
	Continuous	375	295	235	185	146
	Intermittent	455	360	285	225	180
Max. Torque (Nom)	Rated	385	480	590	675	670
	Continuous	490	595	730	815	830
	Intermittent	555	702	815	950	1030
	Peak	625	760	950	1050	1170
Max. Output Power (KW)	Continuous	16	16	14	12.5	11
	Intermittent	18.5	18.5	15.5	15	14
Max. Working Pressure Difference (MPa)	Rated	14	14	14	12.5	10
	Continuous	17.5	17.5	17.5	15.5	12.5
	Intermittent	20	20	20	19	16
	Peak	22.5	22.5	22.5	21	18
Max. Flow (L/min)	Rated	60	60	60	60	60
	Continuous	75	75	75	75	75
	Intermittent	90	90	90	90	90

Type		Max. Inlet Pressure	Max. Back Pressure (with Drain Port)
BMH195-490 (MPa)	Continuous	20	17.5
	Intermittent	22.5	20
	Peak	25	22.5

*Rated speed and torque refer to output values under rated flow and pressure.

*Continuous values refer to the maximum values at which this displacement motor can operate continuously.

*Intermittent values refer to the maximum values at which this displacement motor operates for 6 seconds within 1 minute.

*Peak values refer to the maximum values at which this displacement motor operates for 0.6 seconds within 1 minute.

Performance Parameters

BMH-195 [195.7cm3/rev.]

Flow (L/min)	Pressure (MPa) 3.5	7	10.5	14	17.5	20
5	94 26	187 26	274 22			
10	97 45	196 43	290 37	377 30	464 15	
20	95 104	193 101	293 96	387 88	490 72	555 58
30	93 150	190 148	289 144	387 135	491 118	558 105
40	87 202	183 201	281 197	384 195	488 174	557 159
50	79 254	176 252	274 249	378 244	481 221	550 207
60	70 303	168 301	264 298	370 290	475 270	542 253
70 (Max. Continuous)	61 357	157 355	254 353	360 348	463 330	533 312
75	57 380	151 379	250 377	352 368	457 360	527 331
80 (Max. Intermittent)	51 396	144 396	244 395	345 385	449 365	518 351
90	38 456	135 454	232 450	335 442	439 422	506 407

Max. Continuous / Max. Intermittent

BMH-245 [246.2cm3/rev.]

Flow (L/min)	Pressure (MPa) 3.5	7	9	12	14.5	17.5	20
5	116 20	237 20	306 19	383 15			
10	125 35	248 34	318 32	409 30	495 24	572 13	
20	125 81	248 80	319 79	416 76	500 68	597 55	675 44
30	117 119	241 117	315 115	413 109	500 100	597 87	673 78
40	111 162	231 161	310 160	406 155	493 144	592 132	671 118
50	101 202	223 201	302 199	395 192	486 180	583 165	661 153
60	90 241	211 239	290 235	386 226	477 214	573 200	650 187
70 (Max. Continuous)	78 282	201 281	277 278	374 276	465 262	560 247	640 230
75	69 301	195 300	269 298	366 290	457 276	552 260	634 245
80 (Max. Intermittent)	63 315	187 314	263 310	357 301	449 290	544 274	626 259
90	47 362	171 360	246 358	341 337	436 338	531 321	610 303

Max. Continuous / Max. Intermittent

BMH-310 [311.7cm³/rev.]

Flow (L/min)	Pressure (MPa) 3.5	7.5	10	13.5	15.5	17.5	20
5	152 16	320 13					
10	161 27	337 24	448 18	548 14			
20	167 64	344 62	462 56	574 49	655 40	723 32	798 19
30	163 94	339 90	463 83	572 78	660 68	730 60	812 47
40	152 128	332 127	458 121	569 112	654 100	727 89	815 74
50	139 161	320 157	448 150	560 141	647 128	718 117	812 99
60	119 189	307 188	434 181	547 171	634 156	705 145	800 126
70 (Max. Continuous)	101 225	294 223	415 218	533 208	622 190	693 178	789 159
75	93 239	283 236	411 227	521 218	614 199	686 186	781 168
80 (Max. Intermittent)	81 249	273 247	400 239	511 231	602 213	678 200	773 176
90	61 286	252 284	380 279	489 270	585 251	660 237	756 212

Torque (N•m) 593
Speed (rpm) 248

Max. Continuous / Max. Intermittent

BMH-390 [391.4cm /³rev.]

Flow (L/min)	Pressure (MPa) 3.5	6	10.5	12.5	15.5	19
5	189 13	335 13	497 10			
10	197 23	350 22	526 22	676 18	827 12	
20	201 51	352 51	523 48	682 43	842 37	951 31
30	194 76	344 75	522 73	680 65	832 58	948 53
40	188 103	333 102	512 100	675 89	826 80	937 74
50	167 128	320 127	499 123	662 111	817 101	923 93
60	148 152	305 150	483 146	643 133	802 119	909 110
70 (Max. Continuous)	133 180	294 179	462 175	625 162	784 146	891 135
75	123 190	283 188	449 184	613 169	772 155	877 143
80 (Max. Intermittent)	109 199	267 198	434 195	598 180	757 164	866 150
90	87 228	245 227	417 223	573 210	739 190	848 171

Max. Continuous / Max. Intermittent

Continuous
Intermittent

Performance Parameters

BMH-490
[491cm³/rev.]

Max. ContinuousMax. Intermittent

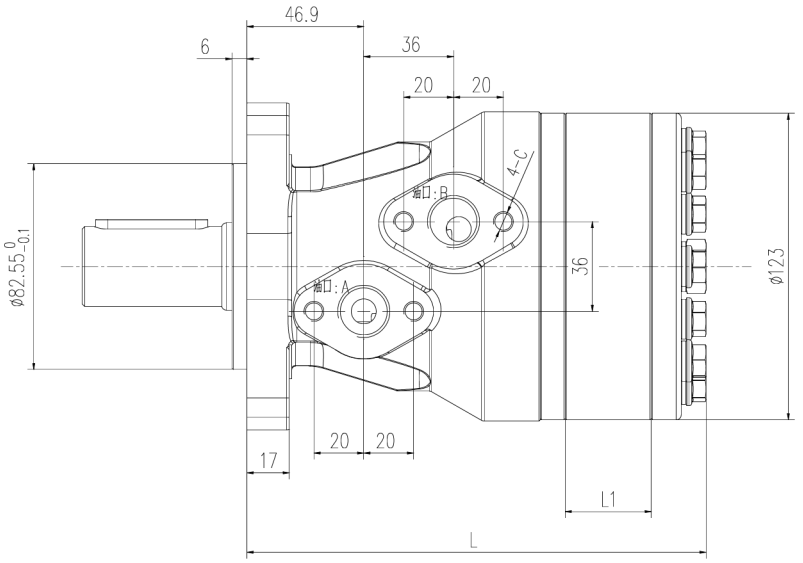
Flow (L/min) \ Pressure (MPa)	2.5	5	8.5	10	12.5	16
5	165 11	317 11	516 8			
10	178 20	335 19	555 17	669 15	791 13	969 9
20	177 42	331 42	559 41	673 38	799 36	988 29
30	172 64	320 63	553 61	663 57	792 53	983 47
40	163 85	309 85	541 83	654 79	783 75	971 67
50	146 103	296 103	523 103	635 97	768 93	954 85
60	121 124	275 124	502 123	614 117	747 113	934 103
70 (Max. Continuous)	97 148	256 148	482 148	597 140	729 134	917 122
75	79 155	240 155	469 155	582 152	714 144	902 130
80	60 166	226 166	453 166	570 159	701 153	884 139
90 (Max. Intermittent)	34 184	201 183	421 182	550 177	673 166	869 155

Torque (N•m) 673
Speed (rpm) 166

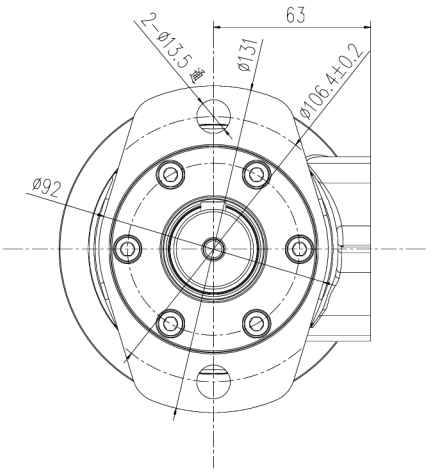
Continuous /
Intermittent

BMH Mounting and Connection Dimensions

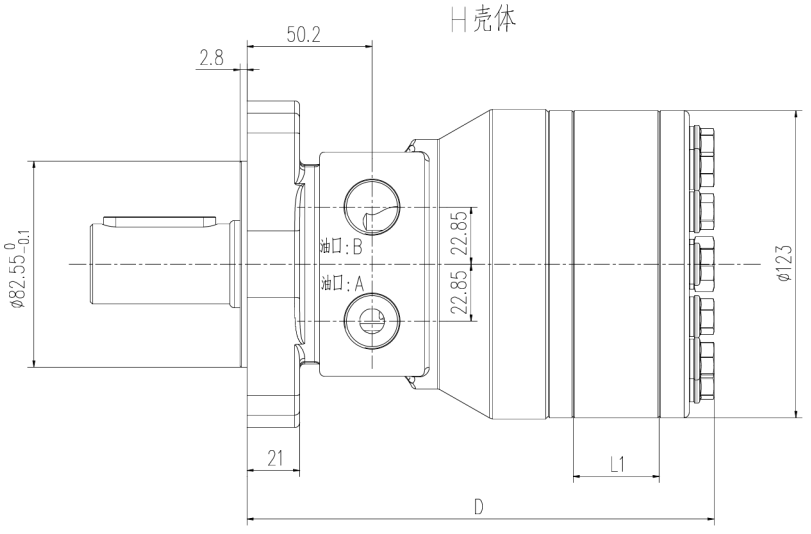
S壳体



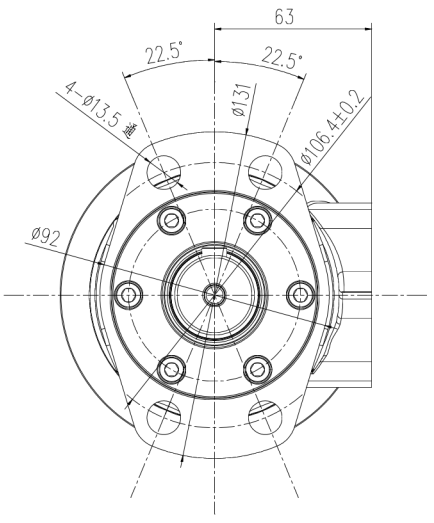
2孔法兰



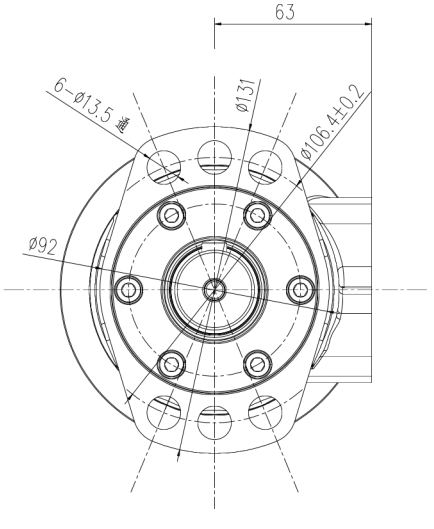
H壳体



4孔法兰



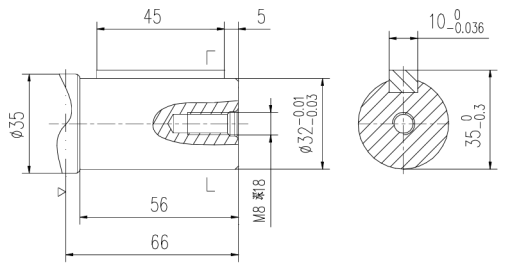
6孔法兰



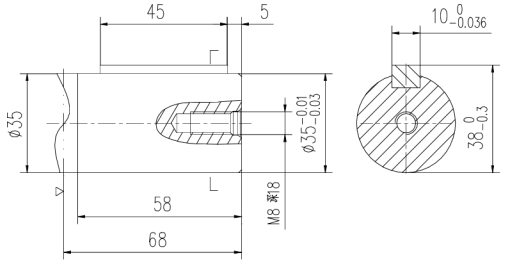
型号	L	D	L1
BMH-195	171.4	174.6	21.7
BMH-245	177	180.2	27.3
BMH-310	184.2	187.4	34.5
BMH-390	193.1	196.3	43.4
BMH-490	204.2	207.4	54.5

代号 \ 连接形式	P(A/B)	C	T
D(深)	G1/2(15)	4-M8	G1/4(12)
M(深)	M22X1.5(15)	4-M8	M14X1.5(12)
S(深)	7/8-14UNF 'O'-ring(17)	4-5/16-18UNC(13)	7/16-20UNF(12)
P(深)	1/2-14NPTF(15)	4-5/16-18UNC(13)	7/16-20UNF(12)
H(深)	7/8-14UNF 'O'-ring(17)	/	7/16-20UNF(12)

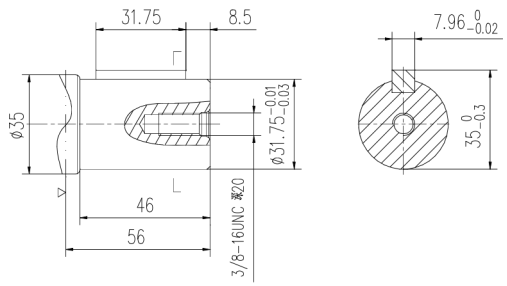
BMH Shaft Extension Dimensions



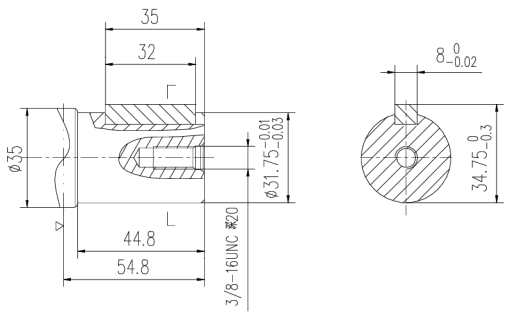
B轴：圆柱轴 ø32　平键 10X8X45



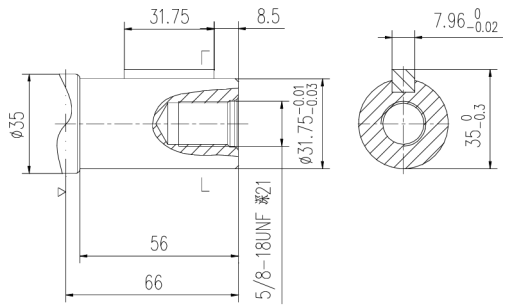
M轴：圆柱轴 ø35　平键 10X8X45



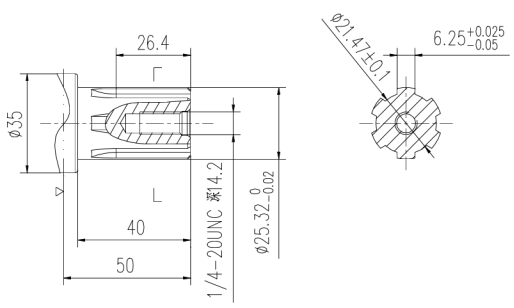
G轴：圆柱轴 ø31.75　平键 7.96X7.96X31.75



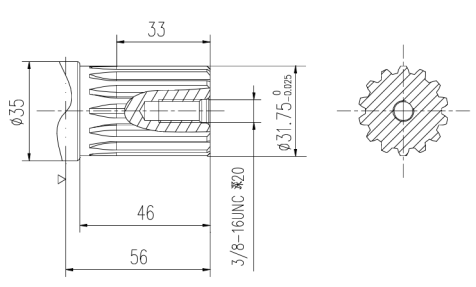
G2轴：圆柱轴 ø31.75　平键 8X7X32



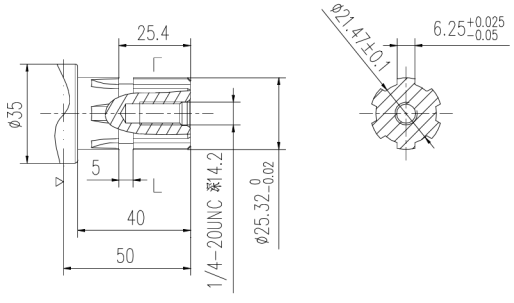
G3轴：圆柱轴 ø31.75　平键 7.96x7.96x31.75



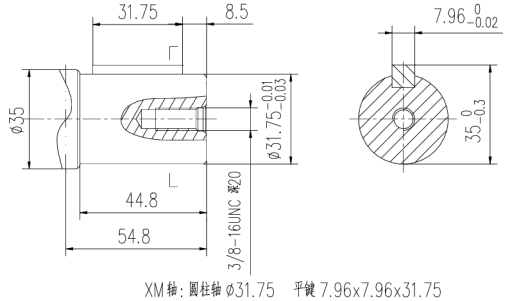
S轴：矩形花键轴　6-25.32X21.47X6.25



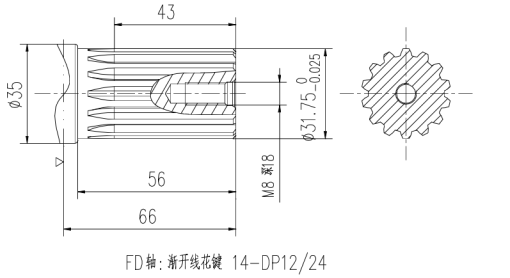
F轴：渐开线花键　14-DP12/24



S2轴：矩形花键轴　6-25.32X21.47X6.25



XM轴：圆柱轴 ø31.75　平键 7.96x7.96x31.75



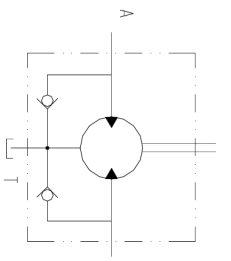
FD轴：渐开线花键　14-DP12/24

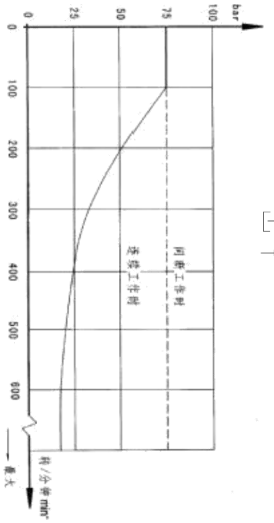
▷ 马达安装面

H壳体马达轴端到马达安装面的长度相对 S壳体长度减 3mm
（图示长度为 S壳体长度尺寸）

BMH Series Orbital Hydraulic Motor

Allowable Pressure on Output Shaft Seal

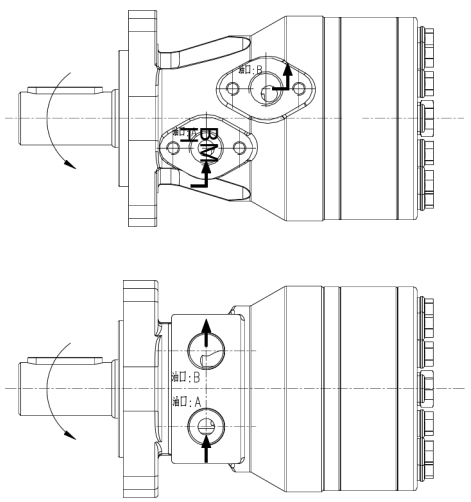




When used without an external drain line, the pressure on the output shaft seal is slightly higher than the pressure in the return line. When an external drain line is used, the output shaft seal pressure is the same as the pressure in the drain line.

Output Shaft Rotation Direction: Standard

Facing the motor shaft extension, when port A is supplied with high-pressure oil, the output shaft rotates clockwise
otherwise, it rotates counterclockwise



Drain Port Leakage Flow

The following table lists the maximum drain port leakage flow of the standard motor when the drain return line pressure is lower than 0.5 to 1 MPa.

工作压差 (MPa)	油液运动粘度 (mm^2/s)	外泄油口外泄流量 (L/min)
10	20	2.5
	35	1.8
14	20	3.5
	35	2.8

Ordering Information

1	2	3	4	5	6	7	8
BMH –	[ ] –	[ ] –	[ ] –	[ ] –	[ ] –	[ ] –	[ ]

POS.1	2	3		4		5		6		7		8	
Structure Code	Displacement	Flange / Pilot		Shaft Extension		Oil Port / Drain Port		Rotation Direction		Paint Option		Special Function	
BMH	195	2	2-φ13.5Diamond Flange, Pilotφ82.5X6	B	Straight Shaftφ32, Length56, Parallel Key10X8X45, M8	D	G1/2,Subplate4-M8,G1/4	None	Standard	00	Unpainted	None	Standard
	245	4	4-φ13.5Diamond Flange, Pilotφ82.5X6	M	Straight Shaftφ35, Length58, Parallel Key10X8X45, M8	M	M22X1.5,Subplate4-M8,M14X1.5	R	Reverse	None	Blue Paint	H	High-Pressure Shaft Seal
	310	6	6-φ13.5Diamond Flange, Pilotφ82.5X6	G	Straight Shaftφ31.75, Length46, Parallel Key7.96X7.96X31.75, 3/8-16UNC	S	7/8-14UNF 'O'-ring,Subplate4-5/16-18UNC,7/16- 20UNF			B	Black Paint		
	390	H2	2-φ13.5Diamond Flange, Horizontal Port, Pilot φ82.5X2.8	G2	Straight Shaftφ31.75, Length44.8, Parallel Key8X7X32,Through Keyway, 3/8-16UNC	S1	7/8-14UNF 'O'-ring,Subplate4-M8,7/16-20UNF			S	Silver Gray Paint		
	490	H4	4-φ13.5Diamond Flange, Horizontal Port, Pilot φ82.5X2.8	G3	Straight Shaftφ31.75, Length56, Parallel Key7.96X7.96X31.75, 5/8-18UNF	P	1/2-14NPTF,Subplate4-5/16-18UNC,7/16-20UNF						
	630	H6	6-φ13.5Diamond Flange, Horizontal Port, Pilot φ82.5X2.8	S	Straight-sided Spline Shaft6-25.32X21.47X6.25, Without Groove, Length40, 1/4- 20UNC	H	Horizontal Port7/8-14UNF 'O'-rin, No Connection Thread, 7/16-20UNF						
	800			S2	Straight-sided Spline Shaft6-25.32X21.47X6.25, Grooved, Length40, 1/4-20UNC	H1	Horizontal PortG1/2, No Connection Thread, G1/4						
	985			F	Involute Spline Shaftφ31.75,Length46,14-DP12/24, 3/8-16UNC								
				FD	Involute Spline Shaftφ31.75,Length56,14-DP12/24, M8								
				XM	Straight Shaftφ31.75, Length44.8, Parallel Key7.96X7.96X31.75, 3/8-16UNC								

Note: When using the ordering information, select the codes for motor structure, displacement, mounting flange, shaft extension, inlet/outlet ports, etc. from the colored positions on the left and write them to us in the above format. If the selected specification is not listed above or special requirements are needed, please contact us.

BMHD Series Orbital Hydraulic Motor is a reinforced shaft-distribution hydraulic motor with radial bearing support. Features:

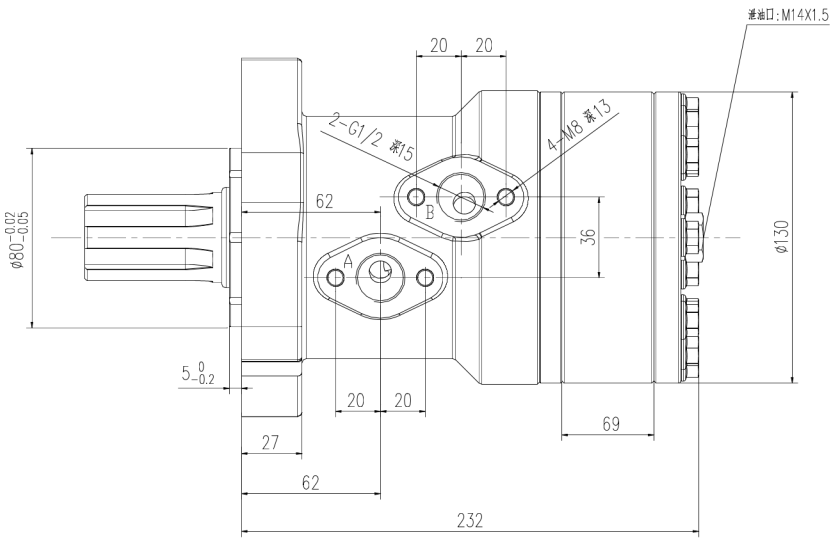
*The distribution mechanism is integrated with the shaft extension, providing high distribution accuracy and high mechanical efficiency.

*Bearing support structure design gives the motor greater radial load capacity.

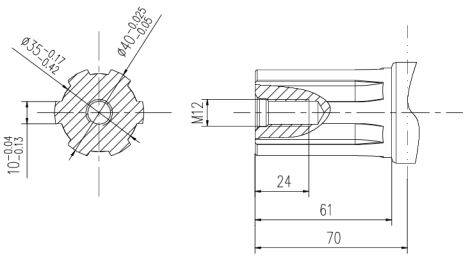
*Column-mounted gerotor pair design provides high mechanical efficiency and good efficiency retention.

*Reliable rotary shaft seal design provides strong back-pressure resistance and allows series or parallel operation.

*Advanced structural design provides high power density, strong pressure resistance, and outstanding impact resistance.



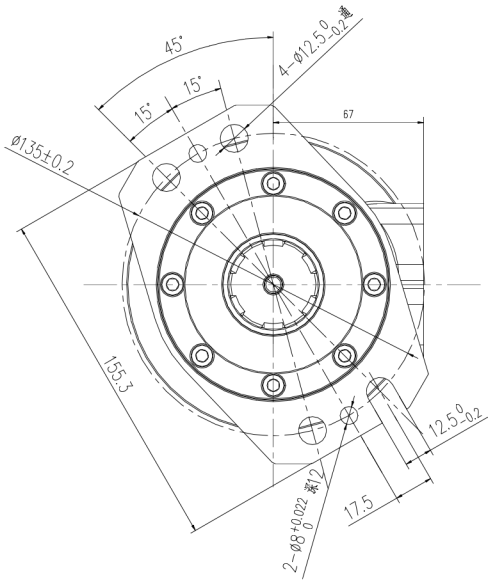
排量		630ml/r
最大流量(LPM)	连续	100
	间断	125
最高转速(RPM)	连续	150
	间断	196
最高压力(MPa)	连续	14
	间断	17
最大扭矩(N.m)	连续	1193
	间断	1500



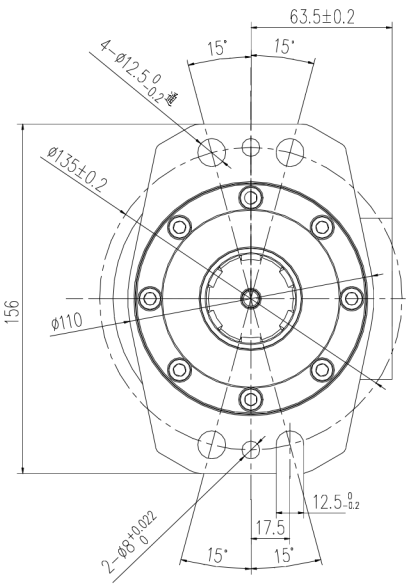
A轴:矩形花键轴 6-40X35X10

输出轴的旋转方向:标准
当面对马达轴伸方向, A 油口为高压油时,输出轴顺时针方向旋转;反之,则逆时针方向旋转。

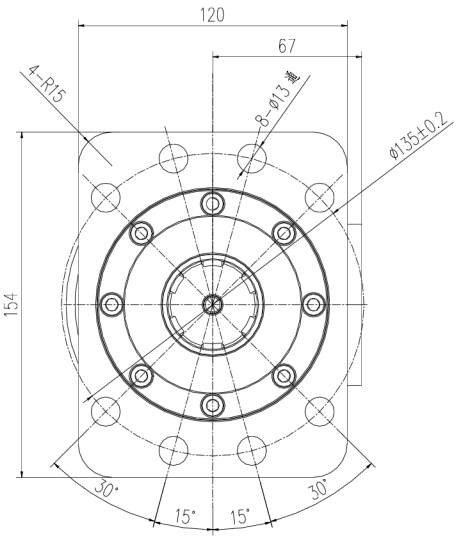
A法兰



B法兰



C法兰



Ordering Information

1	2	3	4	5	6	7	8
BMHD	–	–	–	–	–	–	–	–

POS.1	2	3		4		5		6		7		8	
Structure Code	Displacement	Flange / Pilot		Shaft Extension		Oil Port / Drain Port		Rotation Direction		Paint Option		Special Function	
BMHD	630	A	4-φ12 .5&2-φ8Oblique Diamond Flange, Pilotφ80	A	Straight-sided Spline Shaft6-40X35X10, Length61, M12	D2	G1/2,Subplate4-M8,M14X1 .5	None	Standard	00	Unpainted	None	Standard
		B	4-φ12 .5&2-φ8Straight Diamond Flange, Pilotφ80 8-					R	Reverse	None	Blue Paint		
		C	φ13Rectangular Flange, Pilotφ80							B	Black Paint		
										S	Silver		
											Gray Paint		

CONTACT
YUNLINK HYDRAULICS

For product selection, quotation and OEM/ODM inquiries, please contact us.

COMPANY

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Location:

No. 5 Yucai Street, North Industrial Zone
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WHEN SENDING AN INQUIRY, PLEASE INCLUDE:

1. Product model
2. Thread size / connection type
3. Required pressure and flow rate
4. Quantity
5. Application or equipment model