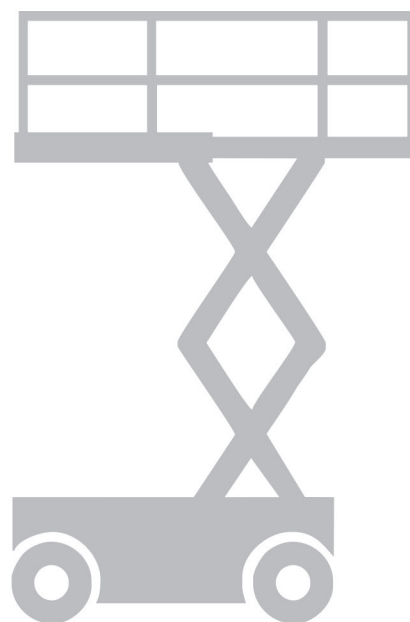




RNOMAC HYDRAULIC MOTOR



BMW系列

公司简介 COMPANY PROFILE

山东瑞诺液压机械有限公司投资创建于2004年（简称“瑞诺液压”），总部坐落在中国济南，是一家从事液压马达的研发、制造和销售的大型加工和出口的高新技术企业，车间占地面积15000多平方米，拥有标准化的加工车间及国内外先进的制造、检测设备。公司树立“品质铸造辉煌 创新赢得发展”的核心理念，旨在为国内外工程机械整机制造商提供高端产品和高端服务。

瑞诺液压自创建以来一直以技术研发作为全部的工作重心，每年投入近百万美元进行研发人员的培训及设备的更新。公司有博士、硕士及学士以上研发人员三十余人，组成了一支无坚不摧的研发队伍，每年承接海外数十项设计及加工订单。先后与北京航空航天大学、山东大学、山东交通学院等高校、科研机构共同设立研发中心，承担了十余项山东省及国家自然科学基金研发工作，其研究成果对科研及产业领域具有绝对的权威。

瑞诺液压全面实施全球化战略，海外业务迅猛发展，近几年时间先后先后参加了法国土木工程机械展、慕尼黑宝马展、上海宝马展、迪拜五大行业展等国际展会，旨在将“RNOMAC”打造成工程机械领域的国际知名品牌。目前公司在澳大利亚、利比亚、越南、俄罗斯、荷兰、香港等国家和地区成立了自己的分公司或代理合作机构，逐步建立起全球性的国际营销网络和服务网络。产品出口率达40%以上，远销欧洲、非洲、大洋洲及亚洲的部分地区的多个国家，瑞诺品牌及相关产品受到国外市场的广泛好评。

作为国内专业摆线液压马达生产者，RNOMAC在产品的设计、制造工艺、质量保证等方面有着丰富的经验和超前的产品改进意识，致力于成为世界一流的液压产品制造商。

公司主要产品：

- ◆ BM1系列摆线液压马达
- ◆ BM2系列摆线液压马达
- ◆ BM3系列摆线液压马达
- ◆ BM4系列摆线液压马达
- ◆ BM5系列摆线液压马达
- ◆ BM6系列摆线液压马达
- ◆ 8K系列摆线液压马达
- ◆ BMW系列摆线液压马达
- ◆ BK系列液压制动器

以上产品适用于工程机械、农业机械、塑料机械、渔业机械、矿山机械等领域。

SHANDONG RNOMAC HYDRAULIC MACHINERY CO., LTD. Hereinafter to be referred as RNOMAC, was found in 2004 and located in Jinan China. RNOMAC is a large-Scale export-oriented of high technology enterprise mainly engaged in Hydraulic Motor. That R&D, manufacturing and sales. The company has workshop meeting the international standards, the manufacture and test equipment that are leading technologically home and abroad, what we RNOMAC covers an area more than 15,000square meters. In order to provide highest quality products and the best service for construction machinery area between China and the world, with RNOMAC core concept " BRAND CASTING BRILLIANT INNOVATION TO WIN THE DEVELOPMENT" .

Since established, R&D was the centers of all the work and near USD1,000,000.00 are invested every year for the training of the technical people and the update of processing equipment. At present, RNOMAC has more than 40 technical talents respectively with Doctor, Master or Bachelor degree. This strong research team is full of vigor and vitality and completes tens of designing every year. Besides, RNOMAC has set up several R&D centers with universities, Beijing University of Aeronautics and Astronautics, Shandong University, Shandong Communication Institute etc., and take part om more than 10 projects that sponsored by Provincial or National Natural Science Funds. The related overcomes have absolutely authority not only in the academic area but also industrial area.

RNOMAC is fulfilling the globalization strategy into effect, international business grows rapidly. during these few years, RNOMAC has attended several world famous overseas exhibitions, e.g., PARCD in Paris, BAUMA in Munich, BAUMA in Shanghai, Five Industries Dubai Exhibition, in order to build RNOMAC as an internationally famous brand in construction machinery area. At present, RNOMAC has set up several branch company or agency in Australia, HongKong, Libya, Vietnam, Russia and Holland etc. The international sales and service net work has been set up gradually. Over 40% of RNOMAC products are sold to Europe, America, Oceania and some districts of Asia. Obtaining broad acceptance from the overseas markets.

As the most professional manufacturer of orbital hydraulic motor in China, RNOMAC has the most wealth of experience and product improvement awareness in product design, process technical, quality assurance. Committed to becoming the world-class manufacturer of hydraulic products.

Main products:

- ◆BM1 series hydraulic motor
- ◆BM2 series hydraulic motor
- ◆BM3 series hydraulic motor
- ◆BM4 series hydraulic motor
- ◆BM5 series hydraulic motor
- ◆BM6 series hydraulic motor
- ◆8K series hydraulic motor
- ◆BMW series hydraulic motor
- ◆BK series hydraulic brake

These products are used in Machinery of Engineering, Agriculture, Plastic, Fishery, mining etc

BMW系列摆线液压马达 BMW Series Orbit Hydraulic Motor

BMW系列摆线液压马达是一种先进的阀-转子配油结构液压马达，该系列液压马达具有工作压力高、低速稳定性好、工作效率高、工作寿命较长等优点。压力补偿平衡板可以使马达在低流量和高压力下保持较高的工作效率，且保持行较好。在启动过程中，压力使平衡板向转子弯曲，大大提高了体积效率，当达到工作压力时，平衡板放松，转子实现自由转动，从而转化为更高的机械效率。

BMW series orbit hydraulic motor is an advanced hydraulic motor with valve-rotor oil distribution structure. This series hydraulic motor has the advantages of high working pressure, good stability at low speed, high working efficiency and long working life. The pressure compensation balance plate can make the motor keep high working efficiency under low flow rate and high pressure, and keep running well. During startup, the pressure causes the balance plate to bend toward the rotor, greatly improving the volume efficiency. When the working pressure is reached, the balance plate relaxes and the rotor realizes free rotation, which translates into higher mechanical efficiency.

主要性能参数

Main Specification

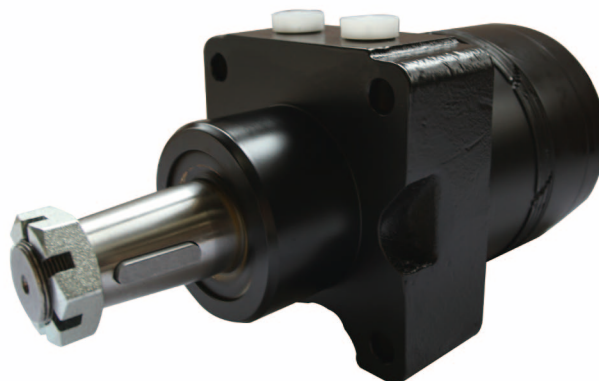
排量 cc/r		125	160	200	230	250	300	350	375	400	475	540	650	750
流量 LPM	连续	45	60	70	70	75	80	80	75	75	75	75	75	75
	间断	60	75	85	85	90	95	95	90	90	90	90	90	90
转速 RPM	连续	360	366	322	280	272	245	220	190	178	150	134	109	95
	间断	490	457	386	347	332	279	268	231	218	186	160	133	115
压力 Mpa	连续	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	17.5	14	12	10.5
	间断	24	24	24	24	26	24	24	24	24	19	17.5	15.5	12
扭矩		334	464	530	637	696	818	903	1002	1057	1086	982	1018	1046
Nm		391	538	600	711	786	932	1033	1146	1204	1173	1242	1283	1178

结构特点

1. 采用阀-转子配油设计，提供可靠、高效率的油液分配，减小马达的整体结构长度。
2. 压力补偿平衡板可以在低流量和高压力下提供较高的容积效率。
3. 采用四个轴承结构，承受轴向、径向负荷能力较强，可直接驱动工作机构。
4. 轴承采用油浴润滑设计，在重型负载下耐用性较好、使用寿命更长。
5. 高压油封提供卓越的密封性能和使用寿命，不需额外增加泄油管路。
6. 根据客户使用要求可提供多种法兰、输出轴、油口等变型设计。

Characteristic features:

- Valve-rotor oil distribution design provides reliable and efficient oil distribution and reduces the overall length of the motor.
- Pressure compensated balance plates provide high volumetric efficiency at low flow rates and high pressures.
- Adopt four bearing structure, bearing axial and radial load capacity is strong, can directly drive the working mechanism.
- Bearings are designed with oil bath lubrication for better durability and longer service life under heavy loads.
- High pressure oil seals provide superior seal performance and service life without the need for additional drain lines.
- According to the requirements of customers can provide a variety of flange, output shaft, oil port and other variant design.



BMW系列马达性能参数 Performance Data

□连续工作区 ■间断工作区

BMW-125 125ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	20 14	50 13	96 11	137 8				
	4	24 28	53 26	110 24	166 19	221 14			
	8		55 60	113 54	174 50	225 46	265 40	295 34	338 28
	15		53 115	114 110	180 101	233 97	274 91	326 85	346 77
	25		48 194	110 185	164 172	225 168	272 161	323 156	352 149
	34			108 276	166 262	221 245	278 233	316 224	372 216
	45			98 362	160 351	214 242	271 324	308 323	368 302
	53			90 423	152 419	209 405	266 400	305 374	
	60			82 488	141 473	206 456	260 444	302 424	

扭矩(N·m):206
转速(rpm):456

BMW-160 160ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	35 8	74 4	146 3	221 3	304 2			
	4	29 22	77 19	161 17	242 16	320 14	370 13	424 8	
	8	35 47	78 44	162 41	242 39	324 37	373 34	450 32	587 50
	15	37 92	74 90	158 85	253 84	312 82	368 79	440 75	619 122
	25		68 148	156 146	248 142	309 142	364 137	436 131	628 209
	34		68 214	156 213	246 210	308 204	364 198	436 191	629 287
	45		64 279	151 278	218 275	299 268	360 263	425 256	634 372
	53			142 324	216 327	296 322	357 315	422 306	628 473
	60			134 363	207 376	284 368	350 362	422 356	
	68			120 419	196 419	273 414	345 406	419 401	
	75			105 472	188 466	270 461	337 450	402 443	

BMW-200 200ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	39 7	88 4	134 4	288 4	372 3			
	4	42 16	85 14	192 13	274 11	365 10	431 8	509 6	
	8	43 34	90 32	196 28	295 27	369 26	454 24	532 22	604 18
	15	38 73	92 71	199 66	299 63	384 58	467 56	534 52	606 48
	25		84 122	192 118	289 115	381 111	460 105	530 101	611 89
	34		81 168	190 166	276 164	366 158	451 152	519 142	597 132
	45			166 221	263 215	358 210	444 204	516 196	599 186
	53			154 256	261 255	354 250	443 245	508 237	586 228
	60			134 295	255 290	339 281	436 271	501 266	579 259
	68			125 334	234 331	334 323	415 315	491 306	574 298
	75			111 373	212 369	315 361	408 352	484 345	
	85				186 421	283 416	386 409	465 382	

BMW-230 230ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	45 6	91 4	183 3	293 2	374 1			
	4	48 14	101 12	219 11	312 11	407 9	486 7	552 3	
	8	51 30	105 28	214 26	324 25	424 23	521 20	606 16	703 10
	15	44 62	107 60	210 57	322 55	429 52	535 47	626 41	715 34
	25		102 102	213 98	328 95	432 91	537 86	624 81	710 70
	34		89 144	208 142	320 138	425 132	527 125	628 120	708 108
	45			189 190	299 185	426 180	512 175	601 170	693 158
	53			178 223	295 217	397 313	500 207	589 202	683 192
	60			155 253	275 248	395 245	491 241	573 234	666 219
	68			144 289	270 283	356 280	488 276	569 272	646 263
	75			126 321	239 316	350 312	453 306	558 300	
	85				212 360	340 356	447 349	551 336	

□连续工作区 ■间断工作区

BMW-250 250ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	48 5	111 2						
	4	54 12	113 11	237 10	362 9	471 8	570 6	642 3	
	8	54 27	115 26	245 24	366 22	482 20	57 18	688 14	
	15	50 578	113 56	256 54	367 51	485 49	591 45	692 43	794 37
	25	44 95	114 94	241 90	360 87	488 82	593 77	699 72	782 64
	34		95 129	226 125	348 121	481 117	590 112	686 107	774 97
	45		77 174	215 173	346 171	468 166	572 161	674 156	779 145
	53		66 204	200 202	325 200	448 196	564 191	657 185	756 175
	60			180 232	296 229	438 226	550 221	642 216	741 202
	68			162 262	294 262	415 257	548 251	637 242	730 228
	75			137 291	274 289	388 389	520 281	618 274	726 261
	85			130 329	261 326	370 323	509 317	6045 308	
	90			85 348	224 348	358 345	490 336		

BMW-300 300ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	51 3	94 1						
	4	63 11	143 10	300 9	430 8	505 7	623 4		
	8	64 22	151 21	306 20	434 19	568 16	672 13	763 9	824 5
	15	66 48	145 47	311 45	429 43	572 38	677 32	815 28	901 20
	25	59 82	139 81	296 79	423 76	555 70	682 64	796 56	938 44
	34	48 113	132 111	304 108	397 106	566 101	696 95	811 85	932 72
	45		96 150	274 148	387 146	532 142	643 133	759 123	886 111
	53		77 176	248 175	385 173	529 170	637 162	764 151	905 136
	60		64 200	231 198	365 196	511 190	635 185	759 172	898 160
	68			205 224	335 223	470 218	636 212	757 200	889 193
	75			185 248	325 246	466 242	616 238	747 230	876 214
	85			145 282	318 280	457 275	576 269	734 255	
	95			108 312	264 310	433 306	555 302	706 290	

BMW-350 350ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	63 4	133 4	266 3					
	4	64 10	135 9	290 8	440 7				
	8	68 21	146 20	310 20	458 19	589 18	672 13	847 12	
	15	72 42	150 41	314 40	468 39	627 37	677 32	880 32	984 26
	25	63 70	148 69	313 68	470 66	628 70	682 63	892 55	1018 46
	34	52 97	133 96	304 95	455 93	566 101	619 89	905 78	1034 68
	45		100 129	261 128	442 127	532 142	583 125	887 112	1028 101
	53		85 152	247 150	418 148	529 170	566 145	881 132	1024 117
	60		65 171	233 170	410 169	511 190	550 167	842 155	997 143
	68			218 195	387 194	470 218	543 190	826 176	976 163
	75			206 215	373 214	466 242	515 515	822 198	966 183
	85			176 243	355 242	457 275	510 239	809 226	
	95				353 272	433 306	509 269		

BMW-375 375ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5	24
流量 Flow (LPM)	2	76 3							
	4	84 8	161 7	330 6	488 6	636 5	761 3		
	8	82 18	171 17	360 16	532 16	683 14	828 12	951 9	
	15	77 39	163 37	358 37	538 35	689 32	852 29	983 25	1111 20
	25	69 65	157 63	352 62	529 59	686 55	864 48	1004 43	1146 36
	34	59 89	150 88	342 87	511 83	696 76	848 70	1002 62	1152 55
	45		122 120	305 118	484 116	657 112	820 107	979 99	1142 89
	53		96 141	285 139	472 137	635 133	793 127	942 119	1113 104
	60		76 161	269 160	434 158	599 157	773 154	936 150	1078 140
	68			235 181	427 178	591 175	764 168	910 160	1073 147
	75			212 200	386 198	562 195	745 189	874 180	1021 164
	85			177 227	375 224	533 220	708 215	841 205	
	90			151 241	321 238	508 237	662 225		

□连续工作区 ■间断工作区

BMW-475 475ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5	20.5
流量 Flow (LPM)	2	93 2	186 1					
	4	97 7	203 5	406 5	609 5	808 4		
	8	98 15	207 14	431 13	654 13	849 12	1016 10	1185 8
	15	95 31	203 30	443 28	656 27	884 26	1061 23	1244 20
	25	94 52	203 51	440 48	658 45	880 43	1066 39	1248 35
	34	75 72	180 70	422 68	663 65	856 61	1095 55	1278 44
	45		145 96	382 94	631 93	841 90	1071 84	1274 73
	53		117 113	348 112	576 110	800 107	1012 102	1226 90
	60		83 128	321 127	542 125	796 123	986 118	1198 110
	68		57 145	275 144	523 142	746 140	966 135	1169 125
	75			232 160	483 158	708 156	930 152	1121 140
	85			202 182	457 178	668 176	887 168	
	90			152 194	382 192	621 188	654 181	

BMW-540 540ml/r

压力 ΔP (MPa)

		1.75	3.5	7	10.5	14	17.5
流量 Flow (LPM)	2	105 2	198 2				
	4	125 6	231 5	471 5	692 4	934 4	1138 3
	8	134 13	238 13	496 12	751 11	967 10	1181 9
	15	122 27	230 26	505 26	753 25	986 24	1222 21
	25	100 44	226 43	501 42	778 41	991 39	1228 35
	34	80 62	212 61	481 60	753 58	986 54	1250 48
	45		174 82	438 82	718 81	942 79	1198 75
	53		142 97	416 97	682 96	945 94	1178 89
	60		106 110	380 109	667 108	903 106	1164 103
	68		85 125	357 124	621 123	876 121	1114 118
	75			318 138	605 136	832 134	1109 130
	85			292 153	545 152	786 151	
	90			215 169	491 167	764 165	

BMW-650 650ml/r

压力 ΔP (MPa)

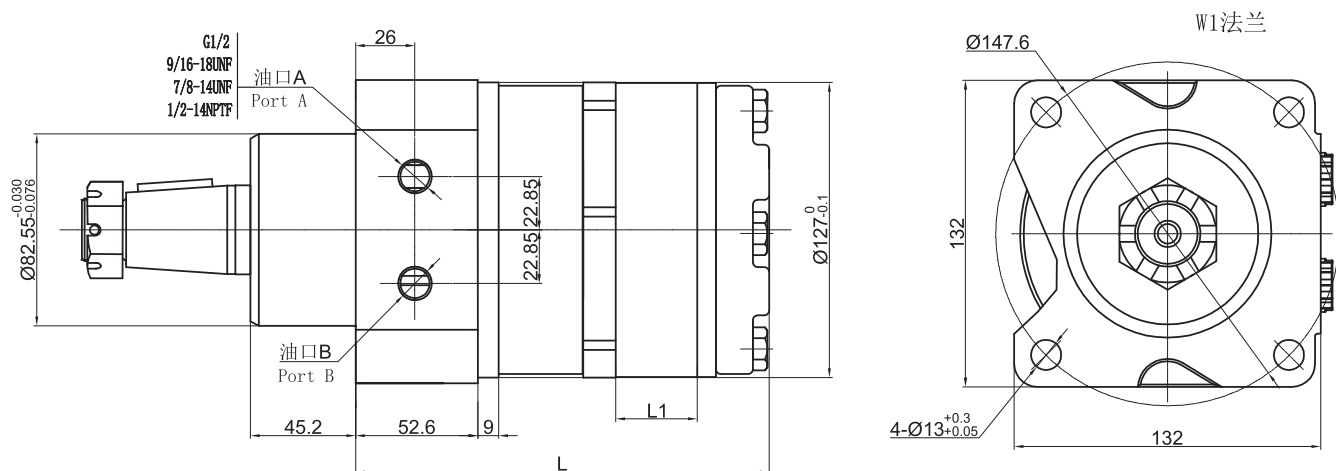
		1.75	3.5	7	10.5	12	15.5
流量 Flow (LPM)	2	120 2	228 1				
	4	136 5	264 5	535 5	796 4	934 3	
	8	142 11	276 11	571 11	853 10	985 9	1256 7
	15	131 23	269 23	581 23	870 22	1008 21	1279 17
	25	108 39	254 39	565 37	886 36	1026 34	1286 32
	34	86 53	237 52	544 51	847 51	986 49	1268 46
	45		203 71	504 70	815 70	953 69	1240 65
	53		160 83	476 81	778 80	930 79	1225 78
	60		124 94	439 93	754 92	896 91	1188 89
	68		91 107	407 107	703 106	852 105	1148 104
	75			362 118	684 117	819 115	1108 110
	85			322 133	612 133	755 131	
	90			249 142	558 141	709 140	

BMW-750 750ml/r

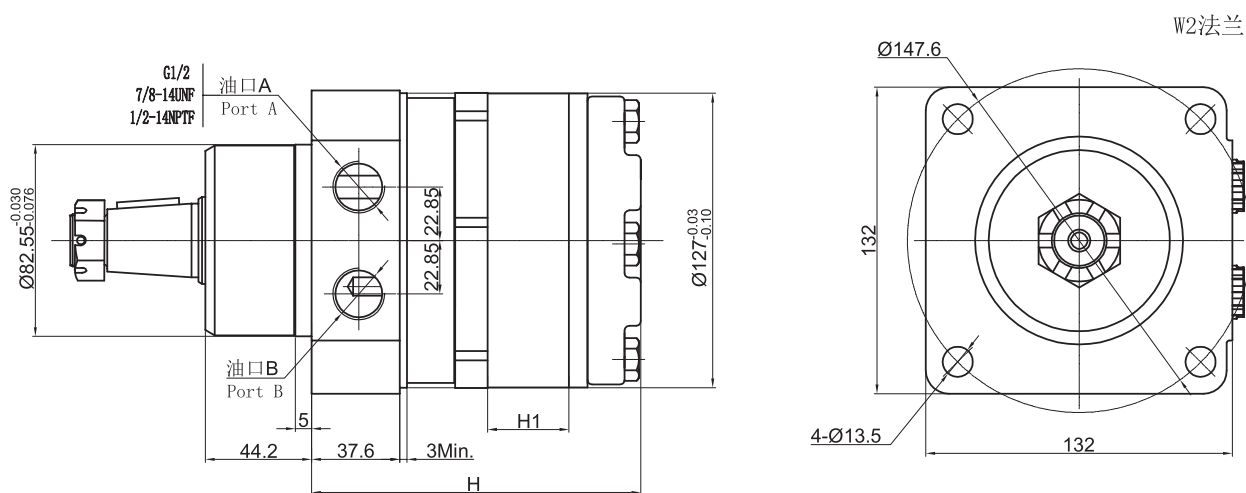
压力 ΔP (MPa)

		1.75	3.5	7	10.5	12	14
流量 Flow (LPM)	2	145 2	280 1				
	4	158 4	321 4	654 4	960 3	1116 3	1312 2
	8	160 9	335 9	688 9	1026 8	1159 8	1347 7
	15	154 19	330 19	694 18	1047 18	1184 17	1376 16
	25	142 32	320 31	688 30	1046 30	1179 29	1373 27
	34	110 44	288 44	658 42	1021 41	1169 40	1366 37
	45	71 60	242 59	620 59	982 58	1143 58	1345 55
	53		202 70	568 69	941 68	1105 67	1308 66
	60		140 79	527 78	898 77	1086 76	1286 74
	68		100 90	486 90	852 89	1034 88	1251 87
	75		65 99	425 99	812 98	980 97	1178 96
	83			395 110	745 109	906 108	
	90			298 120	660 119	800 117	

BMW系列外形尺寸



排量 Displacement	125	160	200	230	250	300	350	375	400	475	540	650	750
L1	11.5	14.5	17.5	20.5	22.5	27	30.5	33.5	35.5	44.5	49	56	67.5
L	154.5	157.5	160.5	163.5	165.5	170	173.5	176.5	178.5	187.5	192	199	210.5



排量 Displacement	125	160	200	230	250	300	350	375	400	475	540	650	750
L1	11.5	14.5	17.5	20.5	22.5	27	30.5	33.5	35.5	44.5	49	56	67.5
L	114.5	117.5	120.5	123.5	125.5	130	133.5	136.5	138.5	147.5	152	159	170.5

马达标准旋向:

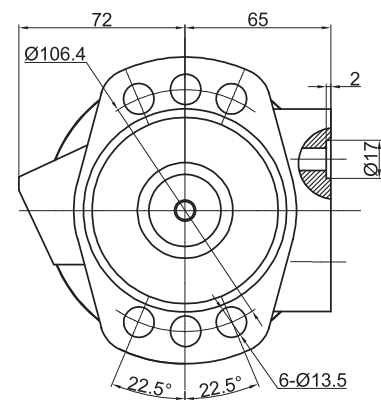
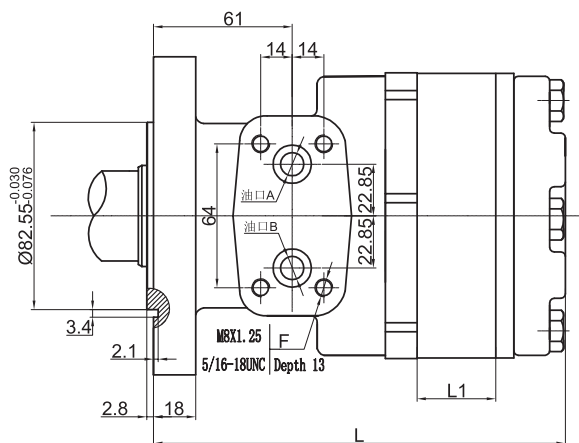
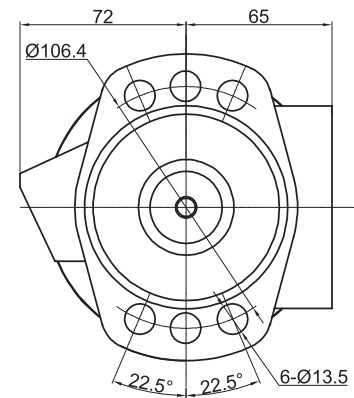
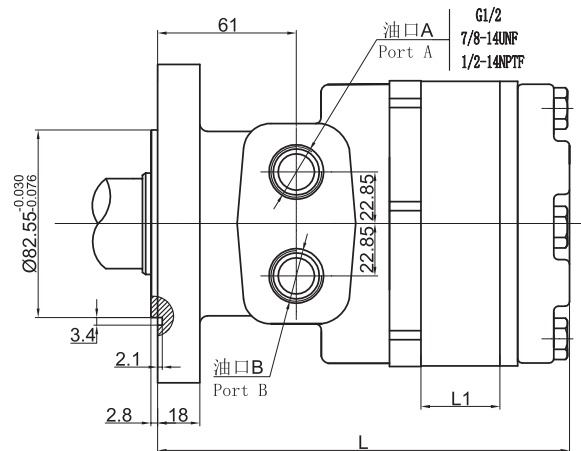
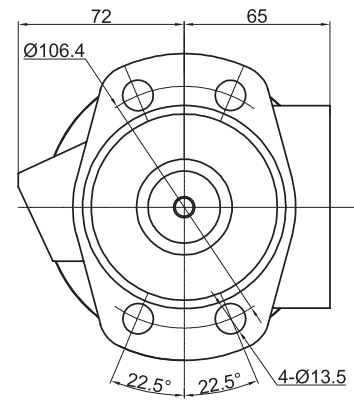
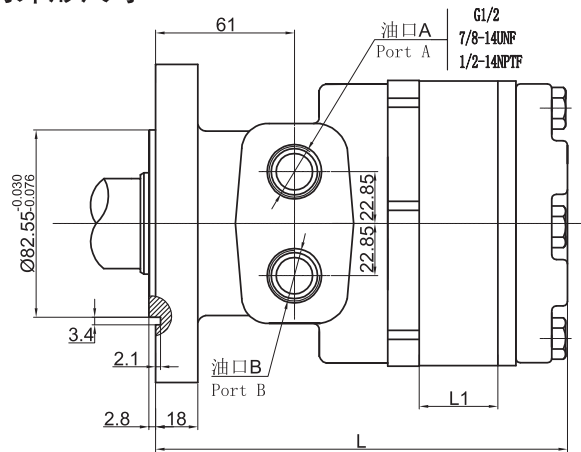
面对输出轴轴端, A油口进油, 马达顺时针旋转。

Standard Direction of The Motor Rotation:

CW——When A Port pressurized, Viewed From the Shaft End.

BMW系列外形尺寸

M法兰



排量 Displacement	125	160	200	230	250	300	350	375	400	475	540	650	750
L1	11.5	14.5	17.5	20.5	22.5	27	30.5	33.5	35.5	44.5	49	56	67.5
L	158	161	164	167	169	173.5	177	180	182	191	195.5	202.5	214

马达标准旋向:

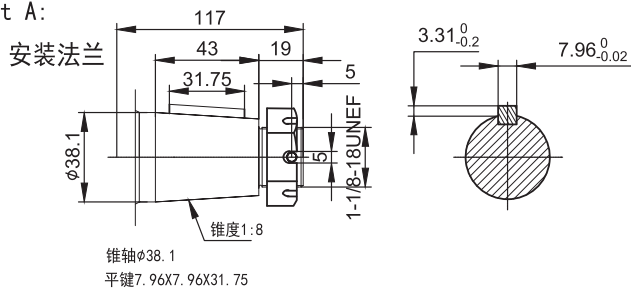
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Standard Direction of The Motor Rotation:

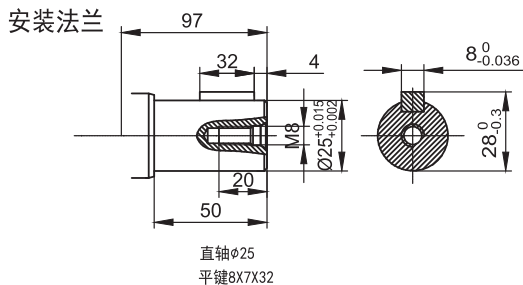
CW——When A Port pressurized, Viewed From the Shaft End.

BMW系列马达输出轴

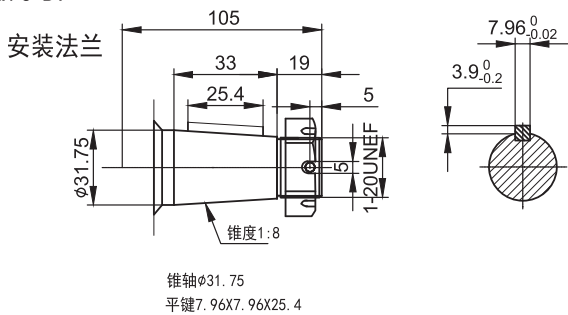
shaft A:



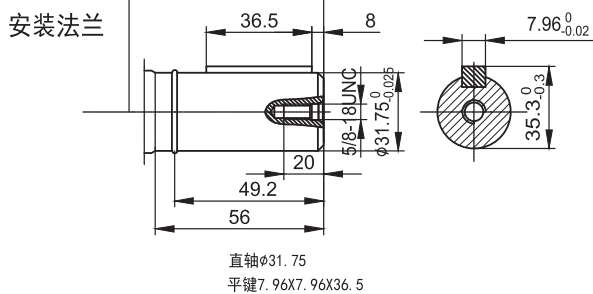
shaft E:



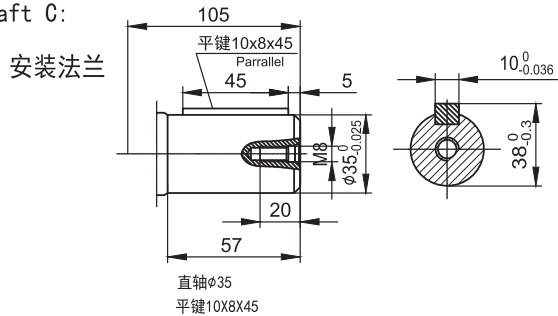
shaft B:



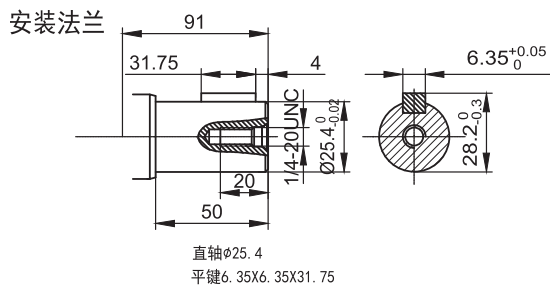
shaft F:



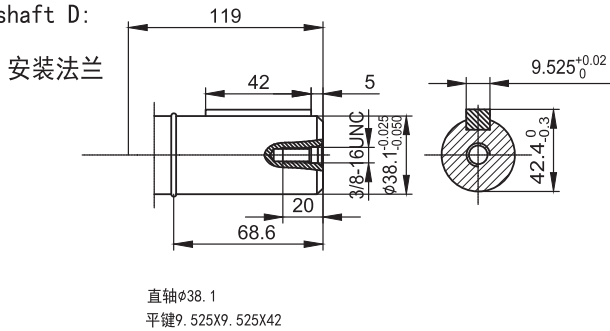
shaft C:



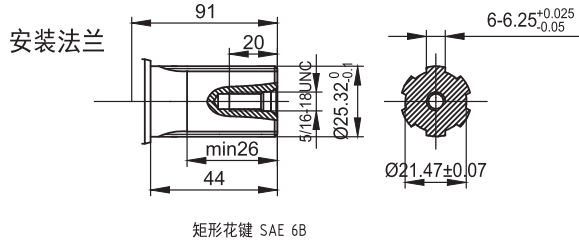
shaft G:



shaft D:



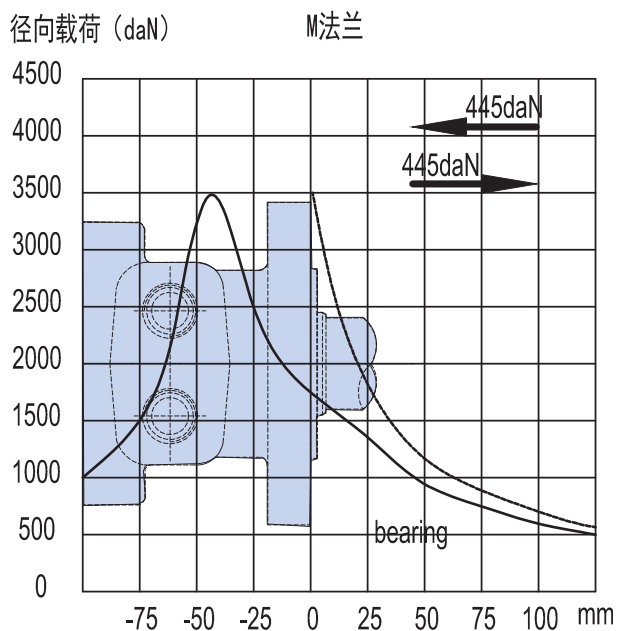
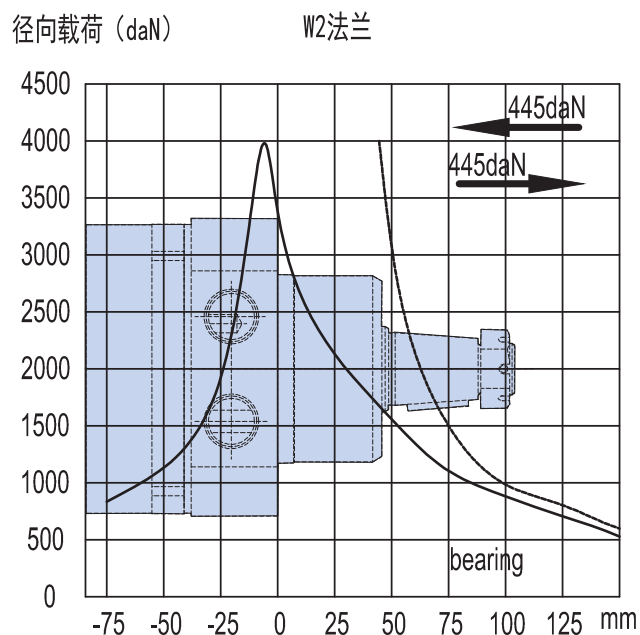
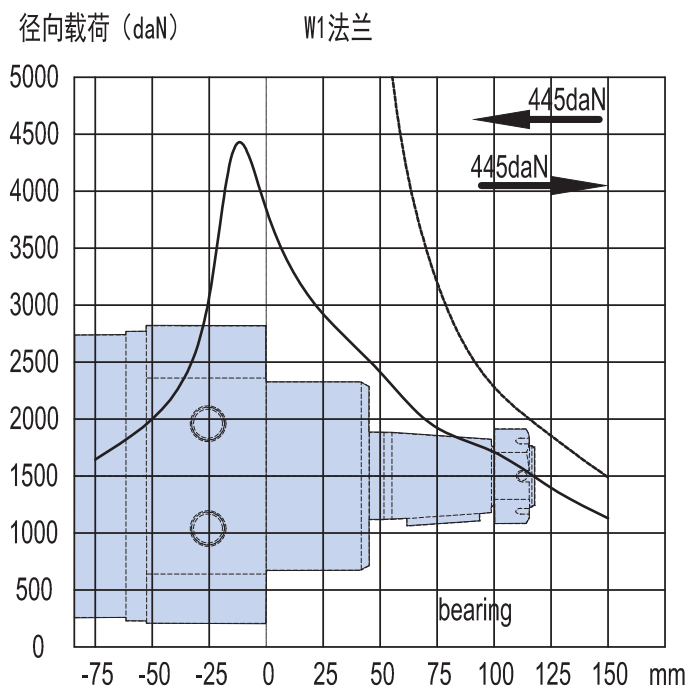
shaft H:



BMW系列允许轴载荷/轴承曲线

轴承曲线代表了基于GB/T 6391承载能力的允许轴承载荷，L10寿命为2000小时，转速为100 rpm。转速超过100转/分的径向载荷可以使用乘法因子表进行计算。曲线中实线表示轴承的最大径向载荷额定值，虚线表示输出轴允许的最大径向载荷额定值。

The bearing curve represents the allowable bearing load based on GB/T 6391 carrying capacity, L10 life of 2000 hours, and speed of 100 RPM. Radial loads above 100 RPM can be calculated using a multiplicative factor table. The solid line in the curve represents the maximum radial load rating of the bearing and the dotted line represents the maximum allowable radial load rating of the output shaft.



基本额定寿命 $L_{10} = (C/P)^p (n)$

C:基本额定动载荷

p :轴承寿命指数

P:当量动载荷

对于球轴承: $p=3$

n:每分钟转速rpm

对于滚针(圆柱滚子)轴承: $p=10/3$

轴承载荷乘法系数表

转速	系数	转速	系数
50	1.23	400	0.62
100	1.00	600	0.58
200	0.81	700	0.56
300	0.72	800	0.50
400	0.66		

型号编号BMW系列马达

1	2	3	4	5	6	7	8	9
B	M	W						

位置 1 2 3-----BMW系列马达
 Position BM7 Series motors

C---Ø35直轴, 平键10X8X45
 Ø35 Shaft ,Flat Key 10X8X45

位置 4----排量CC/R
 Position Displacement

D---Ø38.1直轴, 平键9.525X9.525X42
 Ø38.1 Shaft ,Flat Key 9.525X9.525X42

a----125
 0----160
 1----200
 e----230
 2----250
 3----300
 4----350
 5----375
 6----400
 7----475
 8----540
 9----650
 d----750

E---Ø25直轴, 平键8X7X32
 Ø25 Shaft ,Flat Key 8X7X32

F---Ø31.75直轴, 平键7.96X7.95X36.5
 Ø31.75 Shaft ,Flat Key 7.96X7.95X25.4

G---Ø25.4直轴, 平键6.35X6.35X31.75
 Ø25.4 Shaft ,Flat Key 6.35X6.35X31.75=

H---矩形花键轴6D-25.4X21.5X6.25
 Splined Shaft 6D-25.4X21.5X6.25

位置 5----法兰和止口
 Position Flange and Pilot

位置 7----油口
 Position Oil Port
 1---G1/2
 2---9/16-18UNF
 3---7/8-14UNF
 4---1/2-14NPTF

A----4-Ø13车轮法兰, 止口Ø82.55mm
 4-Ø13 Wheel flange, Pilot Ø82.55mm
 B----4-Ø13.5车轮法兰, 止口Ø82.55X5mm
 4-Ø13.5 Wheel flange, Pilot Ø82.55X5mm
 C----4-Ø13.5腰型法兰, 止口Ø82.55X2.8mm
 4-Ø13.5 Magneto flange, Pilot Ø82.55X2.8mm
 D----6-Ø13.5腰型法兰, 止口Ø82.55X2.8mm
 6-Ø13.5 Magneto flange, Pilot Ø82.55X2.8mm
 E----6-Ø13.5腰型法兰, 板连孔M8, 止口Ø82.55X2.8mm
 6-Ø13.5 Magneto flange, Bolt hole M8, Pilot Ø82.55X2.8mm
 F-----6-Ø13.5腰型法兰, 板连孔5/16-18UNC, 止口Ø82.55X2.8mm
 6-Ø13.5 Magneto flange, Bolt hole 5/16-18UNC, Pilot Ø82.55X2.8mm

位置 8-----旋向
 Position Rotation Direction
 A----标准 Standard
 B----反向 Opposite

位置 6----输出轴
 Position Shaft

位置 9----喷漆颜色
 Position Paint Color
 A----不喷漆 No Paint
 B----磷化漆
 C----亚光黑漆 Black
 D----蓝漆 Blue
 E----红漆 Red

A---Ø38.1锥度轴, 平键7.96X7.95X31.75
 Ø38.1 Taper shaft ,Flat Key 7.96X7.95X31.75

B---Ø31.75锥度轴, 平键7.96X7.95X25.4
 Ø31.75 Taper shaft ,Flat Key 7.96X7.95X25.4

BK系列液压制动器

BK series hydraulic brake

随着科技的发展，安全在设备的设计和制造中受到越来越多的重视，在许多关键的机器功能中添加刹车已经成为必要。为满足市场需求公司开发BK系列液压制动器，此款制动器是一种多盘湿式制动部件，结构简单、性能可靠、耐久性好。适用于各类机械转动系统中的制动，如剪叉式高空作业平台、农业机械等。

With the development of science and technology, safety has received more and more attention in the design and manufacture of equipment, and it has become necessary to add brakes to many key machine functions. In order to meet the market demand, company develops BK series hydraulic brake, which is a multi-disc wet brake component with simple structure, reliable performance and good durability. It is suitable for braking in all kinds of mechanical rotation system, such as scissor aerial work platform, agricultural machinery, etc.

主要性能参数

Main Specification

项目	BK-01	BK-02
最小静态制动扭矩 [Nm]	1150	1550
释放压力 [Mpa]	2.8	
最高释放压力 [Mpa]	21	
释放油量 [ml]	12	
最高转速 [rpm]	260	
最高工作温度 [°C]	80	
重量 [Kg]	16.5	18

特点

- 1.采用重型滚子轴承设计，径向承载能力更强、使用寿命更长。
- 2.采用双制动释放口设计，可简化安装管路、方便释放回路中的空气。
- 3.制动原件全部油浸式设计，制动过程在油浴中进行，工作安静，减少磨损。
- 4.采用先进的摩擦片和弹簧，制动灵活可靠，耐久性更好。
- 5.静态制动可靠，可满足静态制动扭矩1500Nm以上。

Features

Using heavy roller bearing design, radial bearing capacity is stronger, longer service life.

Double brake release port design, can simplify the installation of pipeline, convenient air release loop.

All the brake parts are oil-immersed design, the braking process is carried out in oil bath, the work is quiet, reduce wear and tear.

Adopt advanced friction plate and spring, brake flexible and reliable, better durability.

Static braking is reliable and can meet the static braking torque of more than 1500Nm

Technical drawing of a circular flange with a side view. The top view shows a circular flange with a central hole, four mounting holes, and a label. Dimensions include an outer diameter of 177.8, four mounting holes of 13 with a tolerance of +0.30/+0.05, and a 7/16-20UNF O-Ring. The side view shows a cross-section with a total height of 12.7±0.1, a central hole of 92, and a mounting hole of 101.6 with a tolerance of -0.025/-0.076. It also shows a 2-7/16-20UNF O-Ring and a 60.5 dimension.

Technical drawing of the mounting flange (安装法兰) showing side and cross-sectional views with dimensions.

Dimensions:

- Overall length: 175.5 (BK-01) / 185.5 (BK-02)
- Flange thickness: 43
- Internal thread length: 19
- Internal thread diameter: $\phi 38.1$
- Internal thread specification: 1-1/8-18 UNEF
- Internal thread pitch: 1.27
- Internal thread lead-in length: 31.75
- Internal thread lead-in diameter: $\phi 38.1$
- Internal thread lead-in taper: 锥度 1:8
- Internal thread diameter: $\phi 38.1$
- Internal thread specification: 1-1/8-18 UNEF
- Internal thread pitch: 1.27
- Internal thread lead-in length: 31.75
- Internal thread lead-in diameter: $\phi 38.1$
- Internal thread lead-in taper: 锥度 1:8



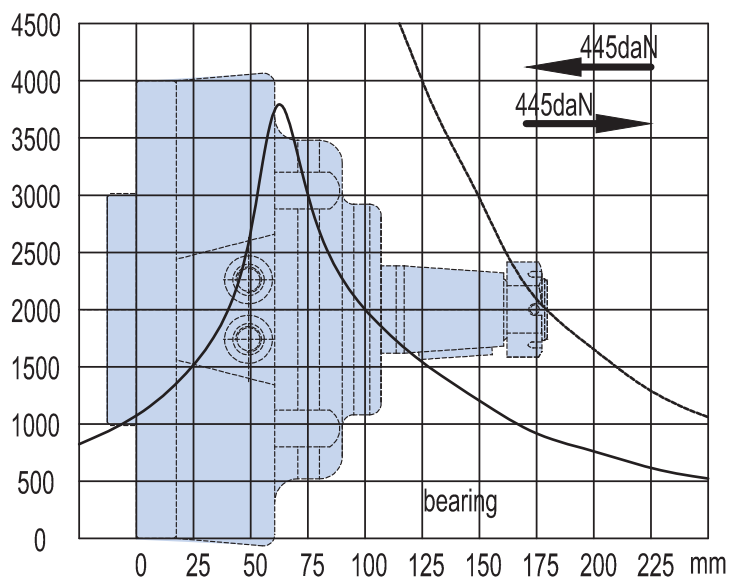
BK系列允许轴载荷/轴承曲线

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The bearing curve represents the allowable bearing load based on GB/T 6391 carrying capacity, L10 life of 2000 hours, and speed of 100 RPM. Radial loads above 100 RPM can be calculated using a multiplicative factor table. The solid line in the curve represents the maximum radial load rating of the bearing and the dotted line represents the maximum allowable radial load rating of the output shaft.

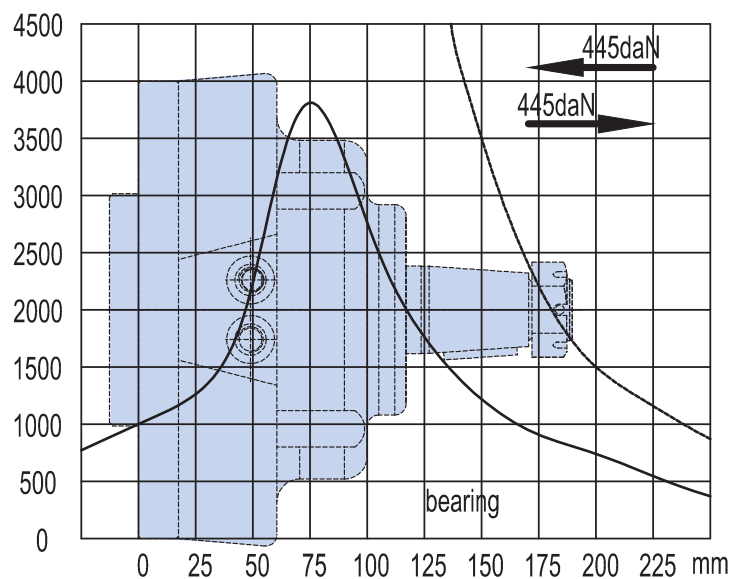
径向载荷 (daN)

BK-01 系列制动器径向载荷图



径向载荷 (daN)

BK-02 系列制动器径向载荷图



$$\text{基本额定寿命 } L_{10} = (C/P)^p (n)$$

C: 基本额定动载荷

p : 轴承寿命指数

P: 当量动载荷

对于球轴承: $p=3$

n: 每分钟转速rpm

对于滚针(圆柱滚子)轴承: $p=10/3$

轴承载荷乘法系数表

转速	系数	转速	系数
50	1.23	400	0.62
100	1.00	600	0.58
200	0.81	700	0.56
300	0.72	800	0.50
400	0.66		

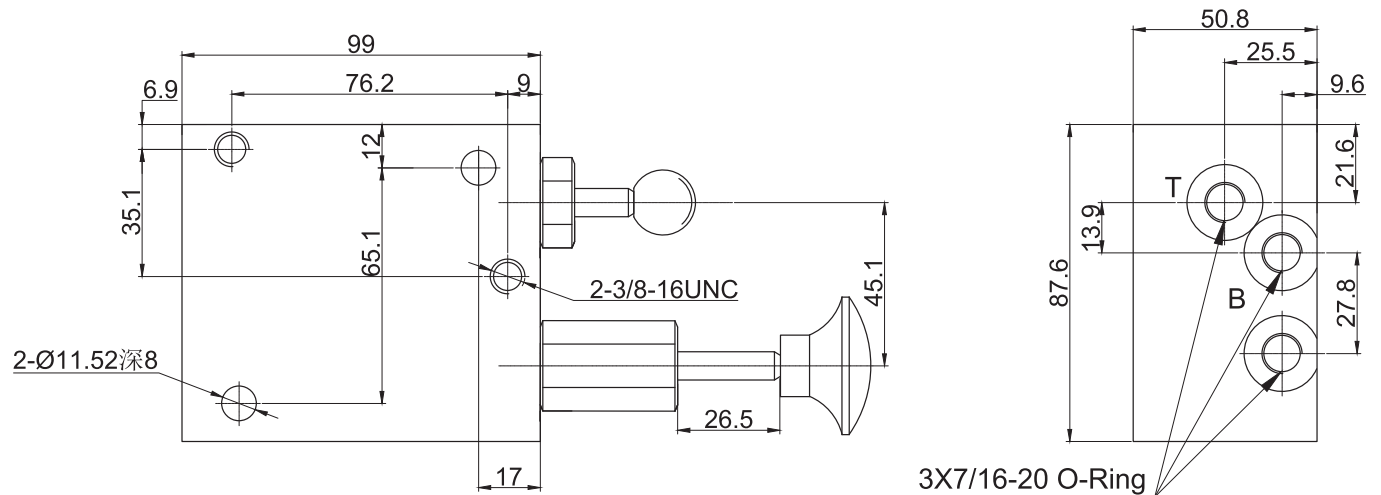
P201 液压手动释放泵泵

P201 Hydraulic manual release pump pump

此款手动释放泵是一种机械能转化为液压能的一种小型液压泵，可用于释放各种弹簧加载/液压释放形式的制动器，以便设备发生故障后移动至维修区等目的地。

This manual release pump is a small hydraulic pump that converts mechanical energy to hydraulic energy. It can be used to release brakes in various spring loaded/hydraulic release forms for moving equipment to a destination such as the maintenance area in case of failure.

连接尺寸



操作步骤:

Operation steps:

吸油（加压）：

Oil absorption (pressure) :

操作者按规定要求连接后，将锁止杆（短柄）按下，然后往复按压泵杆（长柄），实现吸油动作，直至制动器释放。

The operator according to the requirements of the connection, the locking rod (short handle) press, and then reciprocating press the pump rod (long handle), to achieve oil suction action, until the brake release.

放油（卸荷）：

Discharging oil (unloading) :

经吸油加压制动器释放，设备移至相应区域达到规定目的后，将压力卸荷，操作者只需将锁止杆（短柄）拉出，即可实现卸荷功能。

After the oil suction pressure brake is released, the equipment is moved to the corresponding area to achieve the specified purpose, and the pressure is unloaded. The operator only needs to pull out the locking rod (short handle) to realize the unloading function.



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