

INTRODUCTION

一、FEATURES AND APPLICATIONS

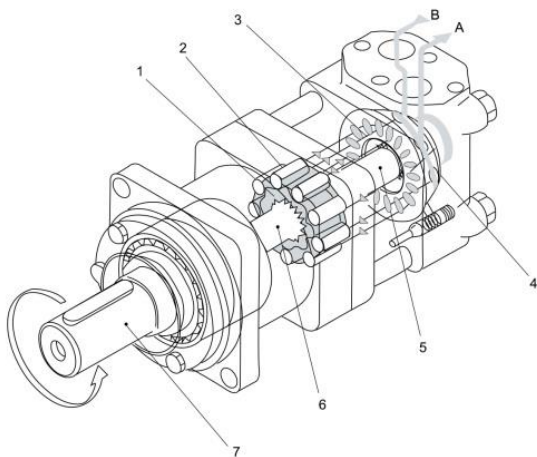


BM hydraulic motor is one type of high torque low speed hydraulic motors, with high efficiency and long life. BM motor has a wide Speed range, high starting torque and rotating stable at high speed Compact and light, it can be connected to working machine directly, adapted to all kinds of low speed heavy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

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

二、WORKING PRINCIPLE

1. orbit cam
2. roll
3. distributor
4. auxiliary plate
5. distributor shaft
6. transmission shaft
7. output shaft



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.

BM3 TECHNICAL DATA

TYPE	BM3-80	BM3-100	BM3-125	BM3-160	BM3-200	BM3-250	BM3-315	BM3-400	
	BM3S-80 BM3W-80	BM3S-100 BM3W-100	BM3S-125 BM3W-125	BM3S-160 BM3W-160	BM3S-200 BM3W-200	BM3S-250 BM3W-250	BM3S-315 BM3W-315	BM3S-400 BM3W-400	
Displacement(ml/r)	80.5	100.5	126.3	160.8	200.9	252.6	321.5	401.9	
Max.Pressure. Drop (Mpa)	cont.	17.5	17.5	17.5	16	16	12.5	12.5	10
	int.	20	20	20	20	20	16	16	14
	peak.	22.5	22.5	22.5	22.5	22.5	20	20	17.5
Max.torque (N.m)	cont.	194	242	303	358	438	440	551	560
	int.	218	283	345	429	540	580	625	687
	peak.	271	318	373	459	576	700	831	865
Speed.Range(cont.)(r/min)	10-810	10-750	9-600	7-470	6-375	6-300	5-240	5-180	
Max.Flow(cont.)(L/min)	65	75	75	75	75	75	75	75	
Max.Output.Power(cont.)(Kw)	14	16	16	14	14	11	10	8	
Weight (kg)	9.8	10.0	10.3	10.7	11.1	11.6	12.3	13.1	

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

BM3 PERFORMANCE DATA

BM3 80[80.5cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	10.5	14	17.5	21	22.5
Flow(L/min)	15	35 180	80 174	120 168	158 164	195 158	235 151	249 143
	30	35 362	80 352	120 346	158 338	195 330	235 322	260 310
Max.cont.	40	35 482	79 473	119 464	155 453	193 444	234 434	250 415
	50	30 602	77 594	117 587	153 569	192 560	232 551	248 522
Max.int.	60	28 724	77 713	117 707	153 683	192 673	232 664	247 629
	65	25 790	75 785	114 770	152 760	190 742	230 720	245 704
	80	22 980	70 965	110 950	140 920	170 891	200 860	220 830

BM3 100[100.5cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	10.5	14	17.5	21	22.5
Flow(L/min)	15	48 146	95 144	150 139	200 135	250 130	289 120	310 105
	30	45 291	94 289	146 278	198 274	250 269	295 258	317 242
Max.cont.	40	43 387	89 384	142 374	196 359	248 350	293 335	316 320
	50	40 486	88 483	135 473	194 462	247 450	292 430	315 420
Max.int.	60	37 588	88 584	132 574	185 562	244 550	289 538	312 520
	75	35 740	80 735	130 720	180 705	240 696	286 676	310 653
	90	30 850	75 840	124 810	170 787	236 770	277 750	303 747

BM3 PERFORMANCE DATA

BM3 200[200.9cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	10.5	14	17.5	22.5	
Flow(L/min)	15	89 73	190 71	295 68	400 64	484 60	608 52	
	30	87 148	190 146	294 143	399 140	485 135	600 127	
Max.cont.	40	86 193	188 191	292 189	397 186	483 181	594 172	
	50	80 247	184 245	290 243	395 240	480 235	590 226	
Max.int.	60	74 298	178 295	286 293	390 290	475 284	582 273	
	75	58 372	160 369	275 365	375 362	460 358	570 346	
	90	49 440	148 435	260 430	355 422	445 411	555 401	

BM3 250[252.6cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	10.5	14	17.5	22.5	
Flow(L/min)	15	117 58	230 55	355 52	450 51	554 47	652 46	
	30	117 118	225 117	350 112	446 109	560 107	657 106	
Max.cont.	40	115 160	225 156	348 152	442 150	552 146	650 142	
	50	110 202	220 200	345 198	438 196	546 195	645 192	
Max.int.	60	105 242	220 239	340 237	435 234	542 231	642 229	
	75	95 300	215 296	338 293	430 286	537 282	638 278	
	90	90 360	205 354	332 348	420 340	530 332	632 326	

BM3 125[126.3cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	10.5	14	17.5	21	22.5
Flow(L/min)	15	55 112	120 110	176 103	245 96	309 93	349 90	375 84
	30	55 222	120 220	175 217	250 208	324 200	375 199	408 190
Max.cont.	40	55 302	120 298	175 292	250 284	324 276	370 268	408 260
	50	50 379	115 373	176 368	248 363	320 350	370 339	406 328
Max.int.	60	45 456	113 448	171 443	245 439	324 425	368 406	406 393
	75	45 570	110 563	167 555	240 546	314 533	370 515	401 503
	90	40 685	105 676	162 670	237 659	309 644	365 625	398 610

Torque: 309Nm
Speed: 644r/min

BM3 160[160.8cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	10.5	14	17.5	21	22.5
Flow(L/min)	15	70 91	140 88	205 84	305 78	371 76	430 74	473 58
	30	75 185	150 182	214 176	321 168	380 164	427 162	490 152
Max.cont.	40	70 248	150 244	215 239	320 229	378 224	425 217	488 204
	50	65 312	145 308	215 304	316 294	378 288	425 280	482 270
Max.int.	60	65 375	145 371	214 365	315 357	375 346	424 336	482 323
	75	60 470	138 465	208 458	311 447	375 436	420 426	
	90	56 564	130 559	200 551	308 541	370 526	414 517	

Cont.
Int.

BM3 315[321.5cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	10.5	12	14	18.5	
Flow(L/min)	15	160 48	320 47	465 45	555 43	650 40	748 38	
	30	165 94	322 92	468 90	560 89	658 86	752 85	
Max.cont.	40	160 125	310 123	457 120	546 118	642 116	741 115	
	50	155 158	305 156	450 153	538 150	637 147	736 145	
Max.int.	60	152 175	302 174	442 170	532 164	632 162	732 159	
	75	145 236	295 234	436 230	525 227	628 225	726 222	
	90	132 285	280 282	430 280	520 276	622 273	723 270	

Torque: 520Nm
Speed: 276r/min

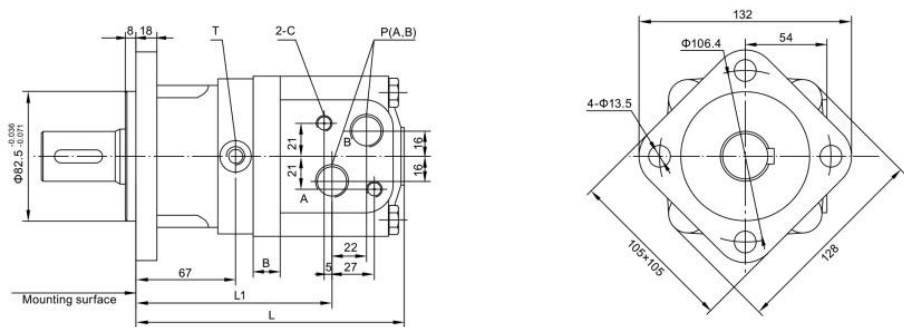
BM3 400[401.9cm³/rev]
Pressure (Mpa)

		Max.cont.					Max.int.	
		3.5	7	9	10	12	14	
Flow(L/min)	15	192 38	376 37	492 36	532 35	611 33	686 31	
	30	191 77	378 75	494 74	534 73	613 71	686 69	
Max.cont.	40	187 102	376 100	491 99	533 98	611 96	685 93	
	50	166 128	374 126	490 125	531 124	609 123	684 120	
Max.int.	60	156 151	373 150	489 149	530 148	608 146	683 144	
	75	135 192	367 190	483 188	544 187	607 186	677 185	
	90	109 228	364 225	480 224	520 222	603 220	672 218	

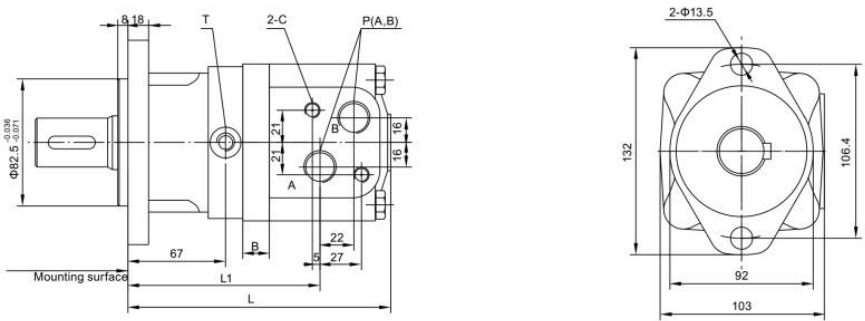
Cont.
Int.

■ BM3 Installation

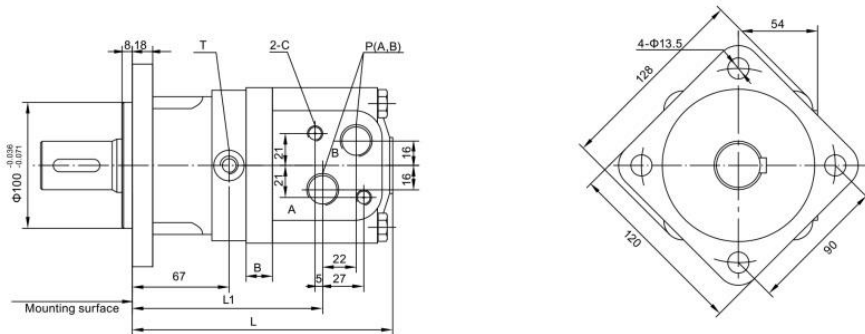
Square flange A



2-hole oval flange A II

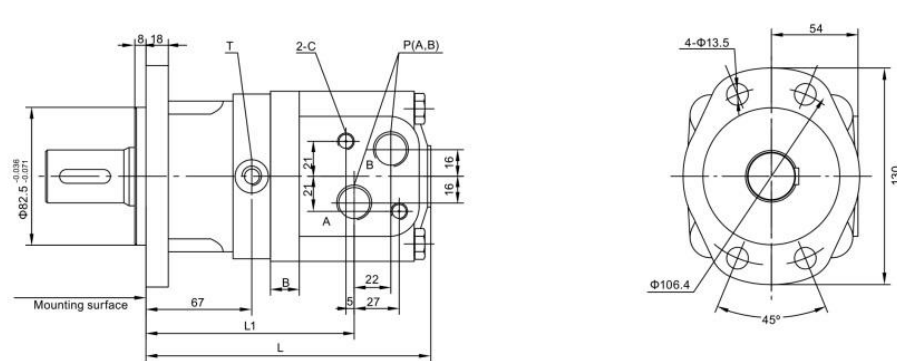


Square flange A2 III

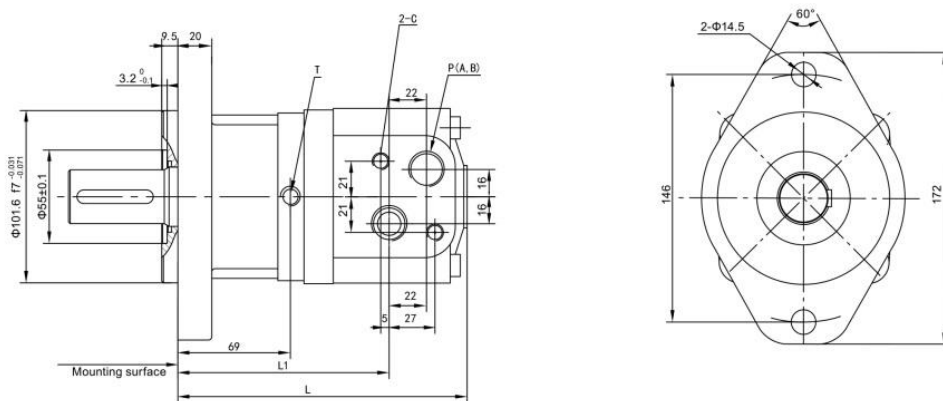


■ BM3 Installation

4-hole oval flange A IV



2-hole oval flange A4 VI



Type	BM3-80	BM3-100	BM3-125	BM3-160	BM3-200	BM3-250	BM3-315	BM3-400
L	167	170.5	175	181	188	197	209	223
L1	124	127.5	132	138	145	154	166	180
B	11	14.5	19	25	32	41	53	67

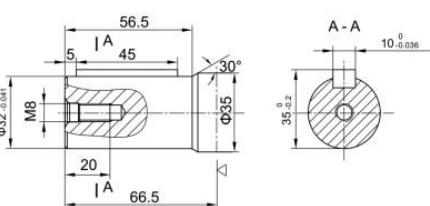
■ BM3 PORTS CODE

Code	Ports	P(A, B)(deep)	C (deep)	T (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)

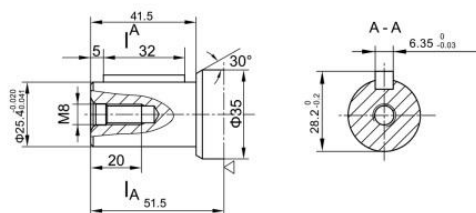
Note:P(A, B)—Ports, C—Mounting Thread (—Indicates no this thread), T—Drain connettion

■ BM3 SHAFT VERSION

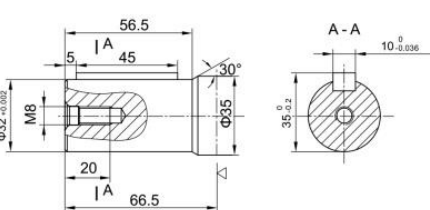
P: Φ32 Cylindrical shaft, parallel key10 × 8 × 45



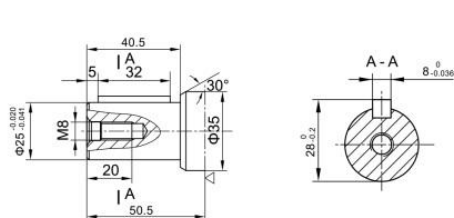
P3: Φ25.4 Cylindrical shaft, parallel key6.35 × 6.35 × 32



P10: Φ32 Cylindrical shaft, parallel key10 × 8 × 45



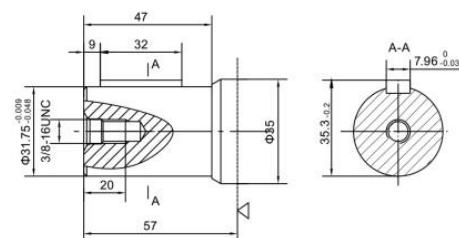
P1: Φ25 Cylindrical shaft, parallel key8 × 7 × 32



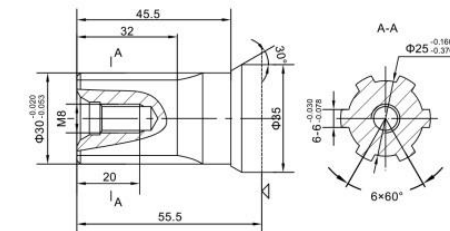
◁ : Motor mounting surface

■ BM3 SHAFT VERSION

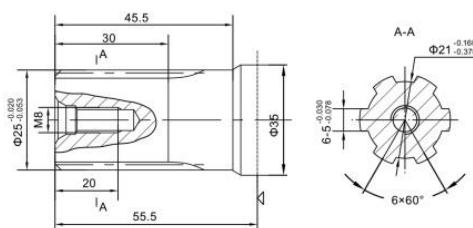
P5: Φ31.75 Cylindrical shaft, parallel key7.96 × 7.96 × 32



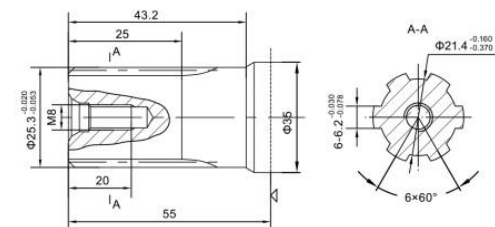
H1: Φ30 Splined shaft, 6-30 × 25 × 6



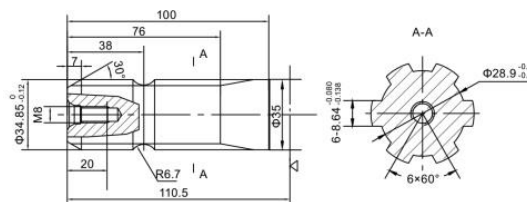
H2: Φ25 Splined shaft, 6-25 × 21 × 5



H5: Φ25.3 Splined shaft, 6-25.3 × 21.4 × 6.2



H3: Φ34.85 Splined shaft, 6-34.85 × 28.9 × 8.64



◁ : Motor mounting surface