

Orbital Motors

Low Speed, High Torque Motors

BMK2

Series



ANFIELD Orbital Motor Catalog BMK2 Rev-



Strength in Products,
Strength in Service

BMK2 SERIES HYDRAULIC MOTOR

BMK2 new series motor adapt the advanced Geroler gear set designed with disc distribution flow and high pressure. The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.

Characteristic features:

- * Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
- * The output shaft adapts in tapered roller bearings that permit high axial and radial forces. The case can offers capacities of high pressure and high torque in the wide of applications.
- * Advanced design in disc distribution flow, which can automatically compensate in operating with high volume efficiency and long life , provide smooth and reliable operation.
- * The new series motor is suitable for vehicles with greater loads and pressure drop.

Main Specification

Type		BMK2 65	BMK2 80	BMK2 100	BMK2 125	BMK2 160	BMK2 200	BMK2 250	BMK2 315	BMK2 400	BMK2 475	
Geometric displacement	(cm ³ /rev.)	65	80	100.9	129.8	156.8	193.4	242.5	304.3	390.8	485	
Max.speed	(rpm)	cont.	835	800	742	576	477	385	308	246	191	153
		int.	990	980	924	720	713	577	462	365	287	230
Max.torque	(N•m)	cont.	185	235	295	385	455	540	660	765	775	845
		int.	245	345	445	560	570	665	820	885	925	930
Max.pressure drop	(MPa)	cont.	20.5	21	21	21	20.5	20.5	20.5	21	15.5	12
		int.	27.5	31	31	31	26	26	26	24	17	14
		peak.	31	31	31	31	31	31	31	31	20.5	17
Max.flow	(L/min)	cont.	55	65	75	75	75	75	75	75	75	75
		int.	65	80	95	95	115	115	115	115	115	115
Weight	(kg)	9.2	9.4	9.7	10	10.2	10.5	11	11.5	12	12.4	

- * Continuous pressure:Max.value of operating motor continuously.
- * Intermittent pressure:Max.value of operating motor in 6 seconds per minute .
- * Peak pressure:Max.value of operating motor in 0.6 second per minute.



Performance Data

BMK2 65 [65 cm³/rev.]
Pressure (MPa)

Flow (L/min)	Pressure (MPa)								
	3.5	7	10.5	14	17.5	20.5	24	27.5	31
2	28	54	80						
4	30	58	88	115	146	165	195		
8	31	60	92	120	150	170	200	225	
15	32	62	94	124	155	175	205	230	250
22	32	65	95	125	157	178	206	232	254
30	30	65	95	128	160	180	210	235	258
38	28	62	95	130	165	185	216	240	260
45	26	60	92	125	160	180	215	245	265
55	23	55	88	120	155	175	210	235	255
65	20	50	84	112	150	170	205	230	250
Max.cont.	835	825	810	790	770	745	720	690	640
Max.int.	990	980	965	945	935	910	880	860	800

BMK2 80 [80 cm³/rev.]
Pressure (MPa)

Flow (L/min)	Pressure (MPa)								
	3.5	7	10.5	14	17.5	20.5	24	27.5	31
2	29	54	86						
4	35	75	112	145	172	208	218	236	
8	35	75	114	148	175	212	230	260	280
15	38	78	116	152	184	215	245	275	300
22	36	75	114	150	185	220	250	285	315
30	35	75	115	150	185	225	260	295	325
38	34	72	112	155	190	230	265	300	335
45	32	70	110	150	190	230	265	305	340
55	30	68	110	150	190	230	270	305	335
65	25	65	105	145	180	225	260	295	325
75	22	63	102	145	180	225	260	290	
80	20	60	100	140	175	220	250		
Max.cont.	800	790	778	755	740	728	690	650	610
Max.int.	910	900	880	860	850	830	790	750	

BMK2 100 [100.9 cm³/rev.]
Pressure (MPa)

Flow (L/min)	Pressure (MPa)									
	1.75	3.5	7	10.5	14	17.5	20.5	24	27.5	31
2	15	32	68							
4	18	42	92	130	170	205	230			
8	20	45	90	135	180	210	240	280	310	
15	20	45	90	135	185	220	260	305	345	390
22	18	45	90	140	190	230	275	315	360	405
30	16	42	88	142	195	240	285	330	375	425
38	15	40	88	140	190	240	285	335	380	430
45	15	40	86	140	190	240	285	340	385	440
55	12	36	85	135	190	240	285	340	385	440
65	10	35	80	130	185	235	280	335	380	440
75	5	30	75	125	180	230	275	330	375	
85	3	25	75	125	175	225	270	320	370	
95		23	70	120	170	220	260	310		
Max.cont.	738	735	728	715	700	680	655	635	610	
Max.int.	838	835	830	820	805	785	760	730	690	

BMK2 125 [129.8 cm³/rev.]
Pressure (MPa)

Flow (L/min)	Pressure (MPa)									
	1.75	3.5	7	10.5	14	17.5	20.5	24	27.5	31
2	25	40								
4	28	55	110	175	220	280	325			
8	28	60	115	175	230	290	330	375	400	
15	28	60	120	180	240	295	340	390	440	485
22	28	55	120	180	245	305	360	415	470	530
30	25	52	120	185	245	310	365	425	480	545
38	25	50	120	180	245	315	370	430	495	550
45	22	50	120	180	245	315	370	430	490	550
55	20	46	115	175	245	330	375	430	490	
65	15	43	110	170	240	320	370	425	485	
75	12	42	108	170	235	310	365	425		
85	8	40	105	165	230	310	360	420		
95		40	100	160	225	290	355	415		
Max.cont.	575	574	568	560	550	548	525	502		
Max.int.	653	652	645	636	625	616	600	578		

□ cont.
■ int.

Torque (N•m) 225
Speed (rpm) 690

BMK2 160 [156.8 cm³/rev.]
Pressure (MPa)

		Max.cont.							Max.int.	
		1.75	3.5	7	10.5	14	17.5	20.5	24	26
Flow (L/min)	2	28 9	55 7	110 5	175 3					
	4	32 22	63 21	125 19	190 17	250 13	315 8	370 3		
	8	37 47	68 45	130 42	200 39	260 36	325 34	390 32	450 27	480 22
	15	35 93	68 92	135 89	210 85	275 80	370 76	420 70	500 60	530 45
	22	35 138	75 136	140 133	215 128	285 122	370 116	440 110	515 102	550 95
	30	35 190	75 187	145 184	220 178	290 172	370 167	440 164	520 154	560 142
	38	37 240	70 237	150 234	225 230	310 225	380 218	450 202	525 193	565 185
	45	32 285	70 283	150 280	225 275	310 268	380 259	450 247	525 236	565 225
	55	28 348	66 346	145 242	220 338	305 332	375 324	450 314	525 300	
	65	25 412	63 410	140 406	220 400	300 393	375 383	445 370		
Max.cont.	75	22 476	60 474	135 470	215 464	295 454	370 445	440 435		
	85	18 540	55 536	130 532	210 524	290 514	365 502	435 485		
Max.int.	95	15 600	50 595	125 590	205 580	285 565	360 555	430 545		
	115		40 715	115 705	200 695	280 685	350 670	425 655		

BMK2 200 [193.4 cm³/rev.]
Pressure (MPa)

		Max.cont.							Max.int.	
		1.75	3.5	7	10.5	14	17.5	20.5	24	26
Flow (L/min)	2	32 9	68 7	110 5	145 3					
	4	40 18	75 16	150 14	195 11	300 7	360 4			
	8	45 37	80 36	160 34	240 30	315 26	405 21	500 17	570 13	600 11
	15	48 75	90 74	170 72	255 68	335 64	425 60	510 56	590 50	620 42
	22	46 112	90 110	175 108	265 105	350 101	440 97	520 91	605 86	645 80
	30	45 153	90 151	180 148	270 145	360 141	450 135	530 128	615 122	655 116
	38	45 193	90 191	180 188	275 184	370 178	465 172	540 166	625 158	
	45	40 230	85 228	180 226	275 222	370 218	460 210	545 202		
	55	38 280	82 278	180 275	275 270	375 264	465 255	550 248		
	65	35 332	80 330	175 328	270 322	370 315	465 306	545 295		
Max.cont.	75	30 384	72 382	170 378	265 370	360 365	455 356	540 346		
	85	25 436	70 434	165 430	260 420	355 410	450 400	540 390		
Max.int.	95	20 488	60 485	155 478	255 470	350 458	445 448	530 438		
	115		50 580	140 572	240 562	330 550	440 538	520 520		

BMK2 250 [242.5 cm³/rev.]
Pressure (MPa)

		Max.cont.							Max.int.	
		1.75	3.5	7	10.5	14	17.5	20.5	24	26
Flow (L/min)	2	45 4	95 2							
	4	50 14	100 13	210 11	310 9	410 6	510 4	610 3		
	8	55 29	105 28	215 26	320 23	420 20	530 17	620 14	730 11	780 9
	15	55 59	110 58	220 56	330 53	440 50	550 47	650 45	755 43	810 40
	22	50 88	115 87	225 85	340 82	455 78	560 74	665 69	770 65	
	30	50 122	115 121	230 118	350 113	465 109	570 104	680 100	785 92	
	38	48 154	112 152	235 149	355 145	475 140	580 135	695 130	795 122	
	45	45 183	110 182	230 180	350 176	475 170	590 165	700 158		
	55	42 224	105 223	230 221	345 218	470 212	580 205			
	65	35 266	100 265	220 263	340 258	460 252	565 242			
Max.cont.	75	32 307	95 306	210 303	330 298	455 290	560 280			
	85	30 348	85 346	200 342	320 336	450 330	555 320			
Max.int.	95	25 386	70 384	190 378	315 372	440 365	540 355			
	115		65 465	180 458	300 450	430 442				

BMK2 315 [304.3 cm³/rev.]
Pressure (MPa)

		Max.cont.							Max.int.	
		1.75	3.5	7	10.5	14	17.5	20.5	24	
Flow (L/min)	2	45 4	95 2							
	4	65 12	130 11	250 10	380 8	490 6				
	8	70 24	135 23	260 22	390 20	510 18	630 15	760 10	875 6	
	15	75 48	140 48	275 47	410 45	535 42	670 38	800 34	920 30	
	22	70 71	140 70	285 69	425 66	555 62	685 56	810 50	940 42	
	30	70 97	145 97	290 96	430 93	565 88	695 80	820 70		
	38	66 123	140 122	290 120	435 117	570 112	715 102	835 90		
	45	62 147	135 146	290 144	435 142	575 135	720 125	840 118		
	55	58 180	130 179	285 176	430 172	575 165	720 155			
	65	52 213	120 212	275 210	425 205	570 200	715 190			
Max.cont.	75	40 246	110 245	260 242	415 236	560 225	710 212			
	85	30 278	100 277	250 274	405 270	540 260				
Max.int.	95	20 311	90 310	245 307	380 303	515 296				
	115		80 365	225 361	350 355					

□ cont.
■ int.

Torque (N•m) 225
Speed (rpm) 361

BMK2 400 [390.8 cm³/rev.]
Pressure (MPa)

	Max.cont. Max.int.								
	1.75	3.5	7	10.5	14	15.5	17.5	19	
Flow (L/min)	2	70 4	145 2						
	4	80 9	170 9	345 8	500 7	660 6	740 5		
	8	85 19	175 18	355 17	520 16	680 14	765 13	830 12	910 10
	15	90 37	185 37	370 36	550 35	720 32	810 30	880 28	
	22	95 55	190 55	380 54	565 52	750 48	830 46	900 44	
	30	92 76	188 75	385 73	570 71	760 68	835 65	905 62	
	38	90 96	185 94	385 92	575 90	765 86	840 84	930 80	
	45	85 114	180 113	380 111	570 108	760 102			
	55	80 140	175 139	380 137	570 133	760 127			
	65	75 165	170 164	370 163	560 160	750 155			
	Max.cont.	75	68 191	160 190	360 188	555 184	740 178		
	85	65 214	150 212	355 210	550 206	730 200			
	Max.int.	95	50 242	135 240	340 237	530 233	710 228		
115		125 286	310 282	510 275					

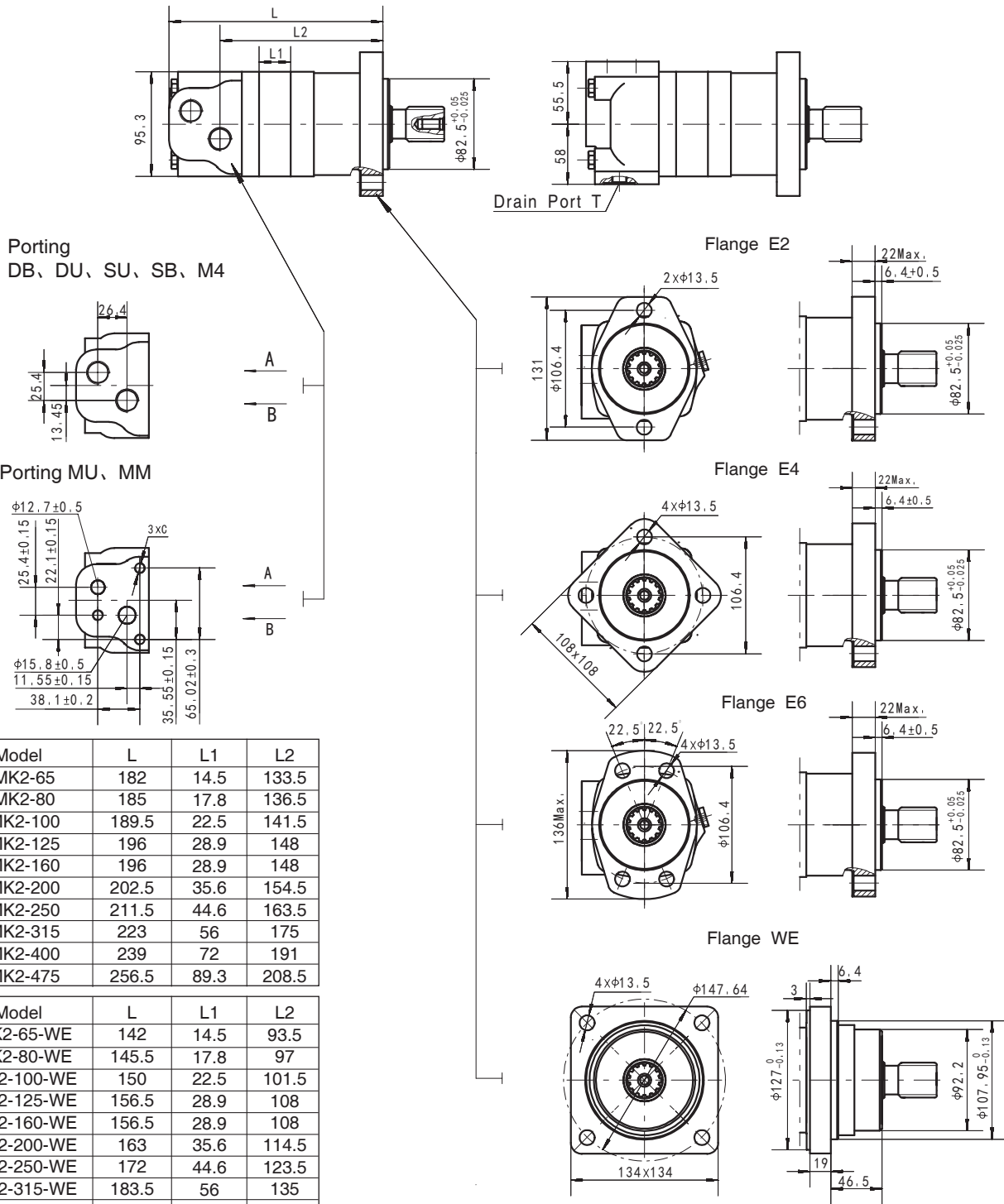
□ cont.
■ int.

BMK2 475 [485 cm³/rev.]
Pressure (MPa)

	Max.cont. Max.int.						
	1.75	3.5	7	10.5	12	14	
Flow (L/min)	2	75 2	175 1				
	4	110 7	220 6	430 4	540 1		
	8	110 14	225 13	450 11	700 7		
	15	105 29	235 28	470 26	710 24	825 22	895 19
	22	105 44	240 43	480 42	720 40	835 37	915 34
	30	110 61	240 60	485 58	725 55	840 52	935 48
	38	110 77	235 75	480 73	720 70	840 68	930 65
	45	100 91	220 91	470 89	715 85	825 83	
	55	95 112	210 110	460 108	710 104	820 100	
	65	85 132	200 131	445 128	700 125	810 120	
	Max.cont.	75	70 153	185 152	440 149	690 145	800 140
	85	60 173	175 172	430 169	680 165	785 160	
	Max.int.	95	40 195	150 193	405 190	655 185	
115		130 230	380 226	625 220			

Torque (N•m) 130
Speed (rpm) 230

BMK2 DIMENSIONS AND MOUNTING DATA

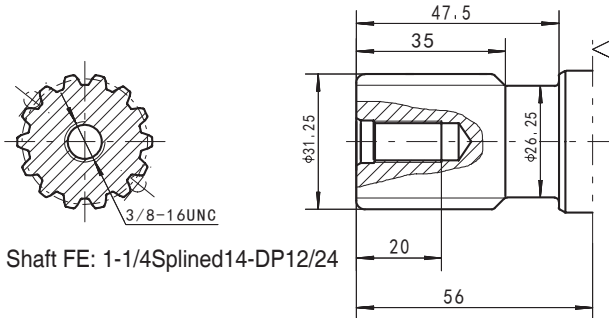


Model	L	L1	L2
BMK2-65	182	14.5	133.5
BMK2-80	185	17.8	136.5
BMK2-100	189.5	22.5	141.5
BMK2-125	196	28.9	148
BMK2-160	196	28.9	148
BMK2-200	202.5	35.6	154.5
BMK2-250	211.5	44.6	163.5
BMK2-315	223	56	175
BMK2-400	239	72	191
BMK2-475	256.5	89.3	208.5

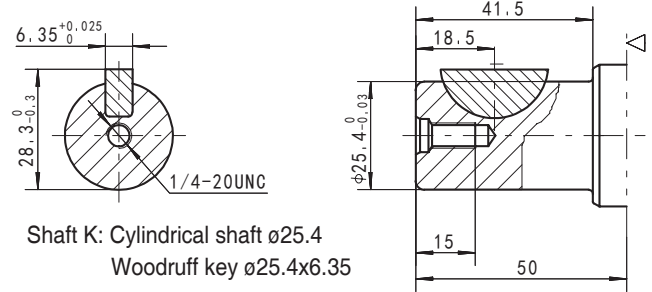
Model	L	L1	L2
BMK2-65-WE	142	14.5	93.5
BMK2-80-WE	145.5	17.8	97
BMK2-100-WE	150	22.5	101.5
BMK2-125-WE	156.5	28.9	108
BMK2-160-WE	156.5	28.9	108
BMK2-200-WE	163	35.6	114.5
BMK2-250-WE	172	44.6	123.5
BMK2-315-WE	183.5	56	135
BMK2-400-WE	199.5	72	151
BMK2-475-WE	217	89.3	168.5

Code	DB (Depth)	DU (Depth)	SU (Depth)	SB (Depth)	M4 (Depth)	MU	MM
P(A,B)	G1/2 (15)	G1/2 (15)	7/8-14 O-ring (17)	7/8-14 O-ring (17)	M22 x 1.5 (15)	φ12.7, φ15.8	φ12.7, φ15.8
T	G1/4 (12)	7/16-20UNF(12)	7/16-20UNF(12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)	G1/4 (12)
C			--			3/8-16UNC(15)	M10(15)

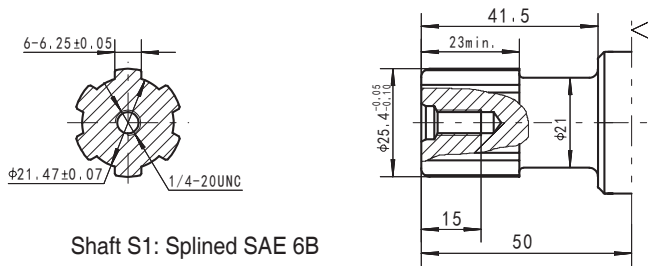
SHAFT EXTENSIONS FOR BMK2 MOTORS



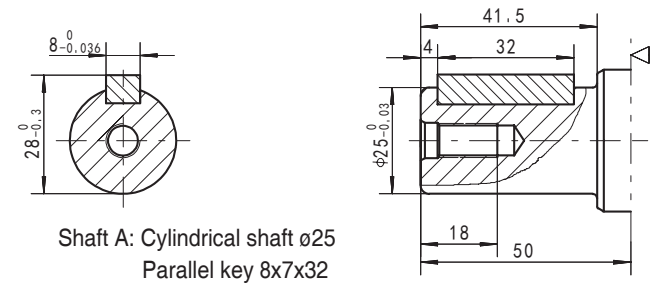
Shaft FE: 1-1/4 Splined 14-DP12/24



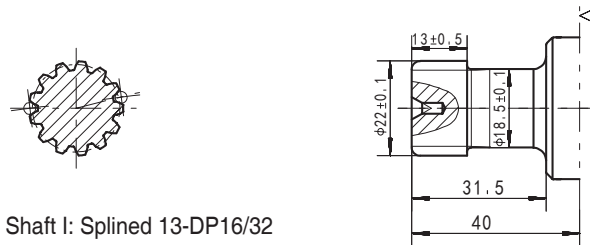
Shaft K: Cylindrical shaft $\phi 25.4$
Woodruff key $\phi 25.4 \times 6.35$



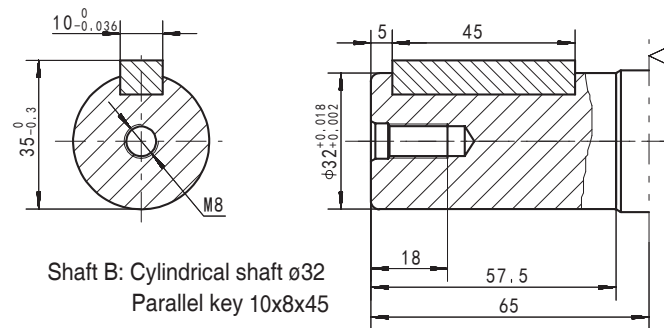
Shaft S1: Splined SAE 6B



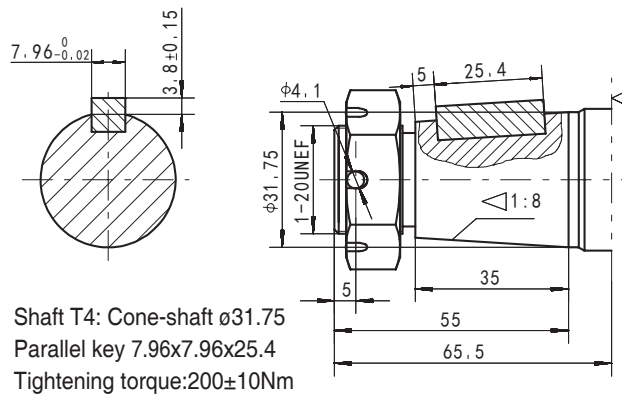
Shaft A: Cylindrical shaft $\phi 25$
Parallel key 8x7x32



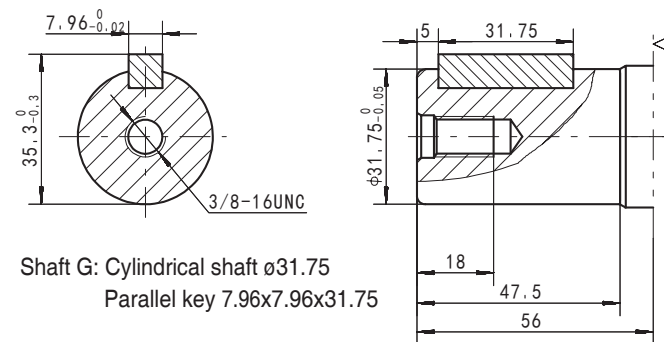
Shaft I: Splined 13-DP16/32



Shaft B: Cylindrical shaft $\phi 32$
Parallel key 10x8x45



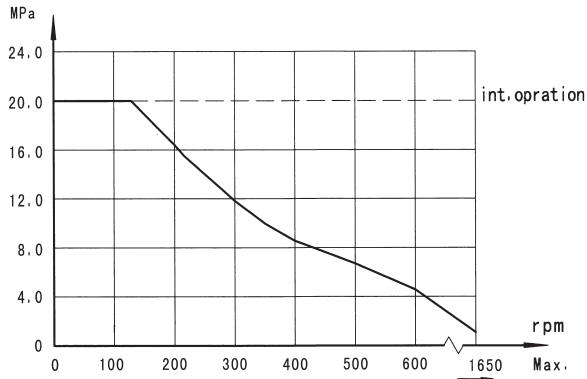
Shaft T4: Cone-shaft $\phi 31.75$
Parallel key 7.96x7.96x25.4
Tightening torque: 200±10Nm



Shaft G: Cylindrical shaft $\phi 31.75$
Parallel key 7.96x7.96x31.75

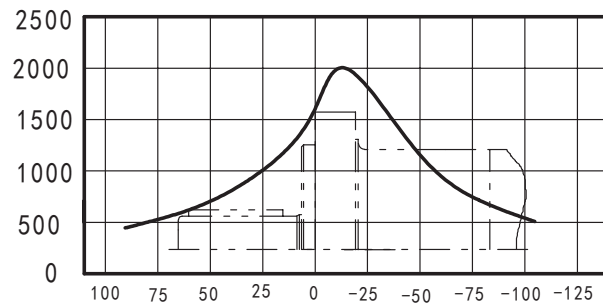
◁ Motor Mounting Surface E2 Flange

Permissible shaft seal pressure



BMK2 Standard Mounting Flange[E2]Radial Forces

Side Load-(daN)

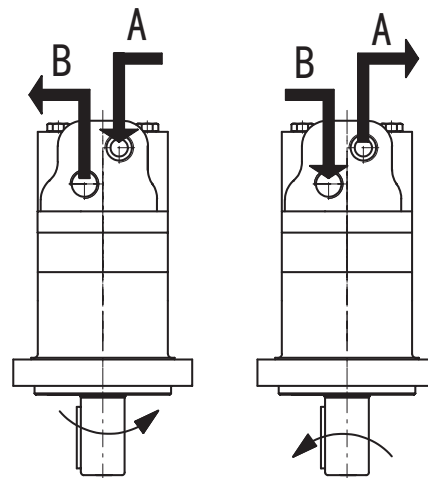
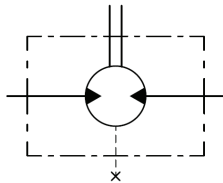


Distance from Mounting Face--(mm)

The bearing curve represents allowable bearing loads for an B_{10} bearing life (2000 hours or 12×10^6 revolutions at 100rpm) at rated output torque.

Direction of shaft rotation: Standard

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



Order Information



Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Port and Drain Port	Rotation Direction	Paint	Unusually Function
65	E2	2- ϕ 13.5 Rhomb-flange ϕ 106.4, pilot ϕ 82.5 \times 6.4	A Shaft ϕ 25, parallel key 8 \times 7 \times 32	DB G1/2,G1/4	OMit Standard	No paint	
80	E4	4- ϕ 13.5 Rhomb-flange ϕ 106.4, pilot ϕ 82.5 \times 6.4	B Shaft ϕ 32, parallel key 10 \times 8 \times 45	DU G1/2,7/16-20 UNF	R Opposite	Blue	
100	E6	4- ϕ 13.5 Rhomb-flange ϕ 106.4, pilot ϕ 82.5 \times 6.4	K Shaft ϕ 25.4, Woodruff key ϕ 25.4 \times 6.35	SB 7/8-14UNF O-ring,G1/4		Black	F Free Running
125	WE	4- ϕ 13.6 Wheel-flange ϕ 147.6, pilot ϕ 107.95 \times 6.4	G Shaft ϕ 31.75, parallel key 7.96 \times 7.96 \times 31.75	SU 7/8-14UNF O-ring,7/16-20 UNF		Silver	
160			FE Shaft ϕ 31.75, splined 14-DP12/24	M4 M22 \times 1.5,M14 \times 1.5		grey	
200			S1 Shaft ϕ 25.4, splined SAE 6B	MU 1/2",5/8"Crosshole Manifold 3 \times 3/8-16UNC,7/16-20UNF			
250			I Sub-shaft ϕ 22, splined 13-DP16/32	MM 1/2",5/8"Crosshole Manifold 3 \times M10,G1/4			
315			T4 Cone-shaft ϕ 31.75, parallel key 7.96 \times 7.96 \times 25.4				
400							
475							

Note: When the table is used, please fill the code of right rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.

NOTES

Strength in Products, Strength in Service

- Pressure Switches
- Temperature Switches
- Differential Switches
- Level Switches
- Vacuum Switches
- Transducers
- Gear Pumps
- Vane Pumps
- Dump Pumps
- Variable Piston Pumps
- Orbital Motors
- Vane Motors
- Gear Motors
- Monoblock Valves
- High Pressure Ball Valves
- Flow Controls & Needle Valves
- Drive Couplings
- Flanges
- Gauges
- Test Points

ANFIELD Orbital Motor Catalog BMK2 Rev.-



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