

Orbital Motors

Low Speed, High Torque Motors

BMK6

Series



ANFIELD Orbital Motor Catalog BMK6 Rev. A (02/23/2024)



Strength in Products,
Strength in Service

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DESCRIPTION

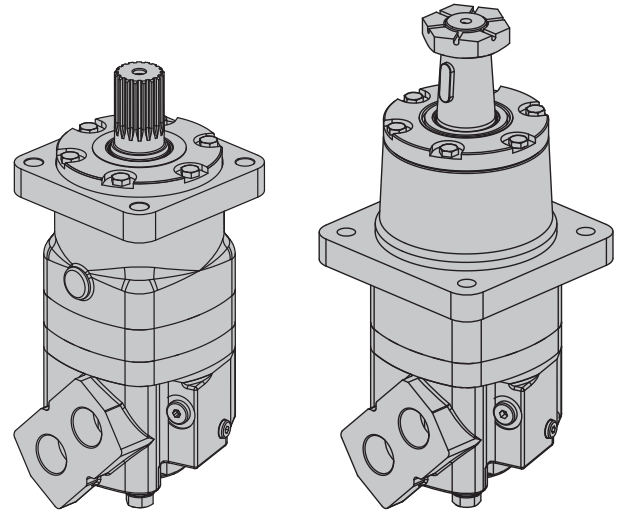
Anfield BMK6 series motors use a two-piece rotor design. Seven precision rollers (fig. 3c) added to the lobes of the outer ring (fig.3a) of the gear set provide sliding contact points which act as roller bearings and reduce friction. This increases mechanical efficiency and reduces wear in systems specially with low fluid viscosity, requiring lower pressure at start-up and providing superior drive life and smoother performance at all speeds.

The disc distributor valve (fig. 6) has been separated from the output shaft (fig. 1) and is driven synchronously by a dedicated short valve drive (fig. 5) ensuring that the individual chambers of the motor are filled and emptied precisely. This allows for higher permissible pressure and torque. The output shaft supported by tapered roller bearings (fig.1a) permit high axial and radial forces offering a smooth operation during low pressure start up and high pressure operation. The BMK6 motors are offered in 8 displacements with torque up to 1230 lbf-ft. and 40 gpm continuous. These motors are packed with power and operate very smoothly.

Anfield BMK6 motors can be supplied with two mounting options:

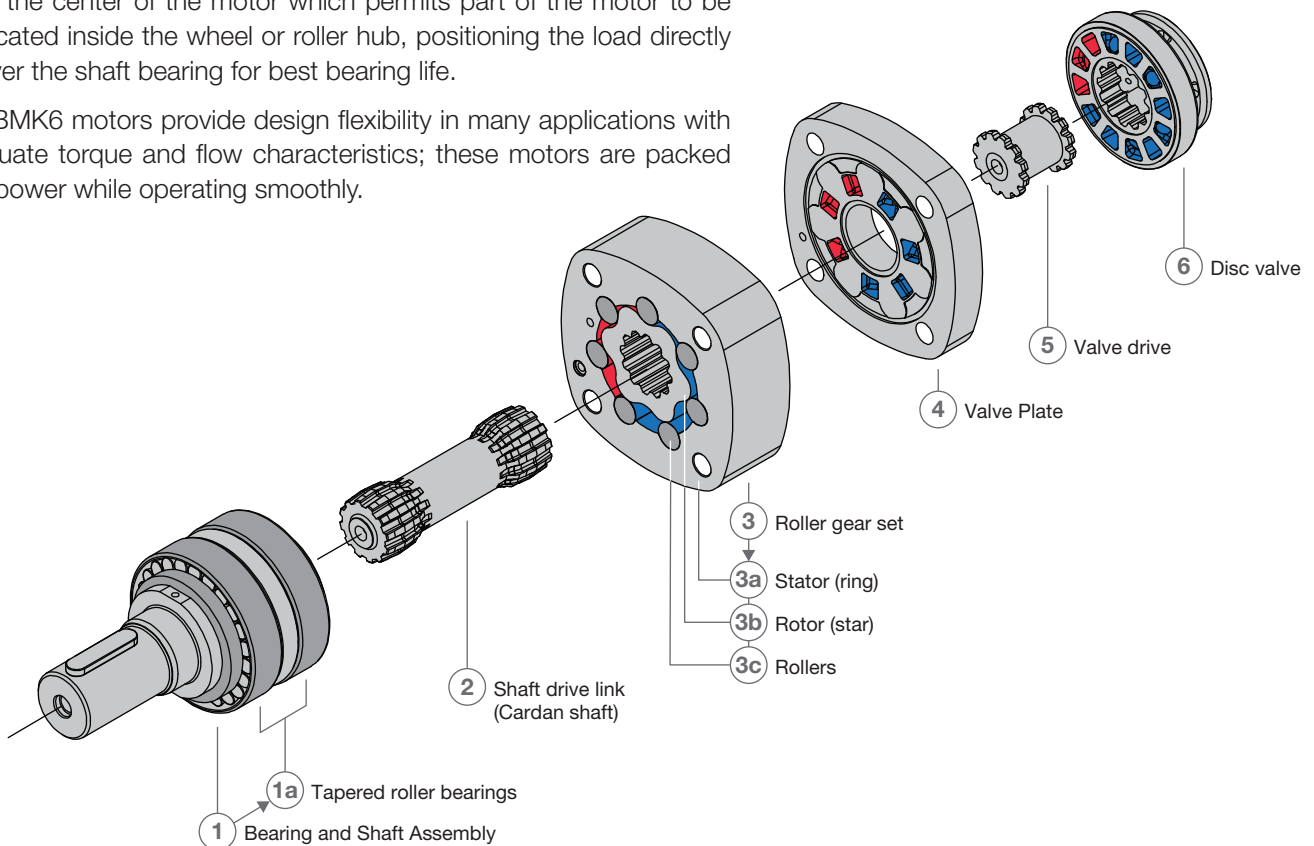
1. The standard motor mount where the mounting flange is located as close to the output shaft as possible, supporting the motor close to the shaft load.
2. The wheel motor commonly used in traction drive applications. In the BMK6 wheel motor (W) the mounting flange is located closer to the center of the motor which permits part of the motor to be located inside the wheel or roller hub, positioning the load directly over the shaft bearing for best bearing life.

The BMK6 motors provide design flexibility in many applications with adequate torque and flow characteristics; these motors are packed with power while operating smoothly.



BMK6
Standard

BMK6
Wheel Mount



FEATURES

- The BMK6 series motors deliver power for medium to heavy-duty applications
- Disc valve and roller gear set design increases mechanical efficiency and reduces wear in the system
- Output shaft supported in tapered roller bearings for high axial and radial forces.
- Available in 8 displacement sizes. A choice of standard and wheel mounting and straight, splined and tapered shafts provide flexibility in application design.
- Choice of SAE, BSPP, Metric and split flange ports.
- Standard case drain with integral internal drain for extended shaft seal life.

TYPICAL APPLICATIONS

- Mobile equipment
- Snow removal
- Brush cutters and mowing
- Sprayer
- Trencher
- Wood processing
- Skid steer attachments
- Swing motor
- Harvesting & agricultural equipment
- Turf equipment
- Conveyors
- Metal working machines
- Road building machines
- Mining machinery
- Food industries
- Special vehicles

BMK6 MOTOR CROSS REFERENCE GUIDE

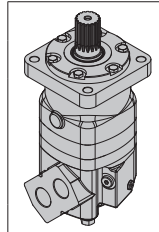
<i>Brand</i>	<i>Series</i>
Eaton Char-Lynn®	6000 (112-, 113-) ¹
Danfoss®	OMT ²
White®	-
Parker®	-
M+S®	MLHT, MT ³
ROSS-TRW®	-
BREVINI - SAM®	-

¹ Anfield BMK6 motors are the crossover for Eaton Char-Lynn 6000 series 112- (standard motor) and 113- (wheel motor)

² Danfoss OMT crossover is the Anfield BMT series and should be considered first. The BMK6 can be an alternative choice.

³ M+S MLHT and MT crossover is the Anfield BMT series and should be considered first. The BMK6 can be an alternative choice.

TECHNICAL SPECIFICATIONS - BMK6 SERIES



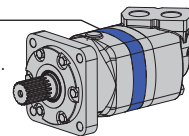
			1	2	3	4	5	6	7	8
		BMK6	200	250	315	400	500	630	800	1000
Geometric Displacement	in ³ /r		11.94	15.02	19.01	23.88	29.95	38.02	48.97	59.9
	cm ³ /r		195.6	246.1	311.6	391.3	490.8	623.0	802.4	981.6
Max. Speed	rpm	Cont.	765	610	480	382	304	240	186	152
		Inter.	865	830	690	570	455	360	280	230
Max. Flow	gpm	Cont.	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
			l/min	150	150	150	150	150	150	150
		Inter.	45.0	54.2	59.5	59.5	59.5	59.5	59.5	59.5
			170	205	225	225	225	225	225	225
Max. Torque	lbf-ft	Cont.	417.0	524.0	679.0	856.1	1066.4	1092.2	1166.0	1236.2
			Nm	565	710	920	1160	1445	1480	1580
		Inter.	619.9	797.0	977.9	1199.3	1387.4	1394.8	1387.4	1372.7
			840	1080	1325	1625	1880	1890	1880	1860
Max. Pressure Drop	Δ psi	Cont.	2901	2901	2901	2901	2901	2538	2031	2031
			Δ bar	200	200	200	200	200	175	140
		Inter.	4351	4351	4351	4351	3989	3263	2248	2031
			300	300	300	300	275	225	155	140
	Peak	4350	4351	4351	4351	4351	3481	2538	2466	
		300	300	300	300	300	240	175	170	
Weight	lbs		57.9	59.0	60.1	61.6	63.4	65.1	67.1	70.4
	kg		26.3	26.8	27.3	28.0	28.8	29.6	30.5	32.0

Notes:

1. Continuous rating (Cont.): motor may be run continuously at these ratings.
2. Intermittent operation (Inter.): 10% of every minute. (6 sec.)
3. Peak: 1% of every minute. (0.6 sec.)
4. Δ Pressure: Δ psi [Δ bar] True pressure difference between inlet port and outlet port.
5. Motor Power (HP) = (Torque Output (In. lbs.) x RPM) / 63025
6. Simultaneous maximum torque & maximum speed NOT recommended and may damage the motor.

PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 200 11.9 in³/rev. (195.6 cm³/rev.)

Torque Speed	lbf.ft (Nm) rpm	Δ Pressure psi (bar) →						Max. Cont.		Max. Inter.		Peak
		254 (17.5)	508 (35)	1015 (70)	1523 (105)	2031 (140)	2538 (175)	2901 (200)	3481 (240)	3989 (275)	4351 (300)	
Flow gpm (l/min) ↓	0.5 (2)	22.1 (30) 9	53.8 (73) 7	118.0 (160) 5								
	2.1 (8)	26.6 (36) 39	56.1 (76) 38	123.9 (168) 35	193.2 (262) 34	254.5 (345) 31	323.1 (438) 27	343.0 (465) 16				
	4.0 (15)	26.6 (36) 75	59.7 (81) 75	128.3 (174) 74	199.1 (270) 71	269.2 (365) 65	335.6 (455) 60	376.2 (510) 45	427.8 (580) 32	472.0 (640) 16		
	7.9 (30)	27.3 (37) 152	62.7 (85) 151	129.1 (175) 147	202.8 (275) 142	272.9 (370) 132	343.0 (465) 121	398.3 (540) 109	453.6 (615) 96	516.3 (700) 80	564.2 (765) 60	
	11.9 (45)	27.3 (37) 228	62.7 (85) 227	132.8 (180) 223	206.5 (280) 218	276.6 (375) 210	346.7 (470) 200	394.6 (535) 185	479.4 (650) 165	545.8 (740) 146	593.7 (805) 110	
	15.9 (60)	28.0 (38) 305	59.0 (80) 304	131.3 (178) 302	208.0 (282) 297	280.3 (380) 288	350.3 (475) 280	416.7 (565) 255	486.8 (660) 235	553.2 (750) 210	608.5 (825) 170	
	19.8 (75)	23.6 (32) 382	57.5 (78) 380	129.1 (175) 376	202.8 (275) 370	278.8 (378) 362	354.0 (480) 350	416.7 (565) 328	494.2 (670) 300	560.5 (760) 270	619.6 (840) 230	
	23.8 (90)	19.2 (26) 459	55.3 (75) 456	126.9 (172) 452	199.1 (270) 445	276.6 (375) 436	350.3 (475) 420	416.7 (565) 405	486.8 (660) 383	564.2 (765) 355		
	27.7 (105)	16.2 (22) 536	51.6 (70) 534	125.4 (170) 530	199.1 (270) 523	272.9 (370) 510	346.7 (470) 496	413.0 (560) 470	486.8 (660) 435	560.5 (760) 400		
	31.7 (120)	14.8 (20) 612	49.4 (67) 610	122.4 (166) 605	195.5 (265) 598	269.2 (365) 585	343.0 (465) 570	413.0 (560) 536	486.8 (660) 502	556.9 (755) 450		
	35.7 (135)	10.3 (14) 690	47.9 (65) 687	118.0 (160) 680	191.8 (260) 672	265.5 (360) 650	343.0 (465) 638	413.0 (560) 595	483.1 (655) 550	553.2 (750) 485		
Max. Cont.	39.6 (150) 765	44.3 (60) 765	114.3 (155) 755	190.3 (258) 740	262.6 (356) 725	331.9 (450) 700	405.7 (550) 640	479.4 (650) 580				
Max. Inter.	44.9 (170)	44.3 (60) 865	114.3 (155) 850	188.1 (255) 840	258.1 (350) 820	331.9 (450) 800	402.0 (545) 745	472.0 (640) 700				

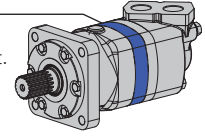
Continuous values
 Intermittent values (max. 10% operation every minute)
 Peak operation (max. 1% operation every minute)
 No operation

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Performance data is typical of randomly selected motors at back pressure of 5 to 10 bar [72.5 to 145 psi] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F]. Actual data may vary slightly from one production motor to another.

PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 250 15.0 in³/rev. (246.1 cm³/rev.)

Torque Speed	lbf.ft (Nm) rpm	Δ Pressure psi (bar) →						Max. Cont.		Max. Inter.		Peak
		254 (17.5)	508 (35)	1015 (70)	1523 (105)	2031 (140)	2538 (175)	2901 (200)	3481 (240)	3989 (275)	4351 (300)	
Flow gpm (l/min) ↓	0.5 (2)	33.9 (46) 7	67.9 (92) 4									
	2.1 (8)	37.6 (51) 31	76.0 (103) 30	158.6 (215) 27	247.1 (335) 24	324.5 (440) 21	405.7 (550) 15	413.0 (560) 10				
	4.0 (15)	38.4 (52) 58	77.4 (105) 57	162.3 (220) 55	250.8 (340) 52	335.6 (455) 46	420.4 (570) 40	472.0 (640) 37	549.5 (745) 28	626.9 (850) 10	708.1 (960) 5	
	7.9 (30)	40.6 (55) 118	81.1 (110) 116	171.1 (232) 113	259.6 (352) 110	346.7 (470) 105	442.5 (600) 96	505.2 (685) 80	582.7 (790) 64	663.8 (900) 48	752.3 (1020) 35	
	11.9 (45)	42.8 (58) 180	81.1 (110) 177	173.3 (235) 174	261.8 (355) 170	350.3 (475) 164	449.9 (610) 155	520.0 (705) 140	619.6 (840) 126	693.3 (940) 106	774.4 (1050) 88	
	15.9 (60)	39.1 (53) 242	81.1 (110) 240	169.6 (230) 237	258.1 (350) 233	354.0 (480) 224	453.6 (615) 212	520.0 (705) 198	623.2 (845) 180	704.4 (955) 162	796.6 (1080) 140	
	19.8 (75)	33.2 (45) 302	77.4 (105) 298	169.6 (230) 292	261.8 (355) 285	357.7 (485) 278	457.3 (620) 268	523.7 (710) 254	626.9 (850) 230	708.1 (960) 206	796.6 (1080) 182	
	23.8 (90)	33.2 (45) 364	77.4 (105) 360	166.0 (225) 352	258.1 (350) 342	354.0 (480) 338	453.6 (615) 322	523.7 (710) 305	623.2 (845) 288	704.4 (955) 265		
	27.7 (105)	29.5 (40) 424	73.8 (100) 420	162.3 (220) 414	250.8 (340) 408	350.3 (475) 394	449.9 (610) 372	520.0 (705) 352	619.6 (840) 334	700.7 (950) 315		
	31.7 (120)	28.0 (38) 485	70.1 (95) 479	154.9 (210) 471	250.8 (340) 463	346.7 (470) 454	435.2 (590) 442	516.3 (700) 420	612.2 (830) 385	693.3 (940) 362		
	35.7 (135)	25.8 (35) 546	62.7 (85) 540	151.2 (205) 532	239.7 (325) 525	339.3 (460) 516	427.8 (580) 504	508.9 (690) 478	604.8 (820) 445			
	39.6 (150)	22.1 (30) 608	59.0 (80) 605	147.5 (200) 600	236.0 (320) 592	331.9 (450) 580	420.4 (570) 566	501.5 (680) 532	601.1 (815) 496			
	Max. Cont.	44.9 (170)	47.9 (65) 686	140.1 (190) 678	232.3 (315) 665	324.5 (440) 652	413.0 (560) 635	497.9 (675) 600	553.2 (750) 565			
	Max. Inter.	48.9 (185)		136.4 (185) 750	228.6 (310) 746	317.2 (430) 730	402.0 (545) 708	494.2 (670) 658				
	54.2 (205)		129.1 (175) 830	221.3 (300) 820	308.3 (418) 800	395.3 (536) 776	414.5 (562) 735					

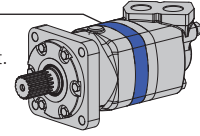
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 Peak operation (max. 1% operation every minute)
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PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 315 19.0 in³/rev. (311.6 cm³/rev.)

Torque Speed	lbf.ft (Nm) rpm	Δ Pressure psi (bar) →						Max. Cont.		Max. Inter.	Peak
		254 (17.5)	508 (35)	1015 (70)	1523 (105)	2031 (140)	2538 (175)	2901 (200)	3481 (240)	3989 (275)	4351 (300)
Flow gpm (l/min) ↓	0.5 (2)	47.9 (65) 5	92.9 (126) 4								
	2.1 (8)	50.2 (68) 24	99.6 (135) 23	206.5 (280) 22	302.4 (410) 20	398.3 (540) 16	479.4 (650) 13	553.2 (750) 9	649.1 (880) 3		
	4.0 (15)	51.6 (70) 46	99.6 (135) 45	210.2 (285) 44	320.8 (435) 41	416.7 (565) 36	508.9 (690) 30	597.4 (810) 22	693.3 (940) 16	744.9 (1010) 9	763.4 (1035) 3
	7.9 (30)	51.6 (70) 93	99.6 (135) 92	217.6 (295) 90	324.5 (440) 86	442.5 (600) 80	545.8 (740) 71	649.1 (880) 62	730.2 (990) 52	811.3 (1100) 43	870.3 (1180) 31
	11.9 (45)	51.6 (70) 142	103.3 (140) 140	221.3 (300) 138	339.3 (460) 132	449.9 (610) 127	553.2 (750) 120	663.8 (900) 118	763.4 (1035) 96	859.3 (1165) 85	958.8 (1300) 72
	15.9 (60)	51.6 (70) 190	103.3 (140) 189	221.3 (300) 186	339.3 (460) 182	453.6 (615) 176	571.6 (775) 167	678.6 (920) 154	778.1 (1055) 138	885.1 (1200) 124	977.3 (1325) 105
	19.8 (75)	47.9 (65) 238	99.6 (135) 237	217.6 (295) 235	335.6 (455) 231	453.6 (615) 225	575.3 (780) 214	678.6 (920) 200	785.5 (1065) 180	896.1 (1215) 160	
	23.8 (90)	44.3 (60) 285	95.9 (130) 284	213.9 (290) 280	331.9 (450) 276	453.6 (615) 270	575.3 (780) 260	678.6 (920) 245	789.2 (1070) 226	899.8 (1220) 210	
	27.7 (105)	36.9 (50) 335	92.2 (125) 333	206.5 (280) 330	328.2 (445) 324	446.2 (605) 316	567.9 (770) 302	674.9 (915) 290	789.2 (1070) 271	888.8 (1205) 248	
	31.7 (120)	33.2 (45) 384	88.5 (120) 382	206.5 (280) 380	324.5 (440) 372	442.5 (600) 364	564.2 (765) 350	671.2 (910) 338	778.1 (1055) 312		
35.7 (135)	29.5 (40) 432	84.8 (115) 428	202.8 (275) 420	320.8 (435) 412	431.5 (585) 408	560.5 (760) 391	663.8 (900) 380	774.4 (1055) 350			
Max. Cont.	39.6 (150) 480	25.8 (35) 475	81.1 (110) 462	199.1 (270) 458	309.8 (420) 450	420.4 (570) 435	556.9 (755) 420	649.1 (880) 395	759.7 (1030)		
Max. Inter.	50.2 (190)	73.8 (100) 595	180.7 (245) 580	276.6 (375) 574	383.5 (520) 560	505.2 (685) 548	604.8 (820) 530				
	59.4 (225)		162.3 (220) 690	258.1 (350) 683	368.8 (500) 674	472.0 (640) 652	567.9 (770) 634				

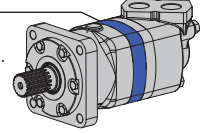
Continuous values
 Intermittent values (max. 10% operation every minute)
 Peak operation (max. 1% operation every minute)
 No operation

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PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 400 23.9 in³/rev. (391.3 cm³/rev.)

Torque Speed	lb.ft (Nm) rpm	Δ Pressure psi (bar) →						Max. Cont.		Max. Inter.		Peak
		254 (17.5)	508 (35)	1015 (70)	1523 (105)	2031 (140)	2538 (175)	2901 (200)	3481 (240)	3989 (275)	4351 (300)	
Flow gpm (l/min) ↓	0.5 (2)	66.4 (90) 4	126.9 (172) 2	265.5 (360) 1								
	2.1 (8)	70.1 (95) 19	132.8 (180) 18	272.9 (370) 17	409.3 (555) 16	538.4 (730) 14	652.7 (885) 12	756.0 (1025) 9	881.4 (1195) 4			
	4.0 (15)	70.1 (95) 37	136.4 (185) 37	276.6 (375) 36	413.0 (560) 35	545.8 (740) 33	685.9 (930) 28	789.2 (1070) 22	933.0 (1265) 14	1017.8 (1380) 5	1198.5 (1625) 1	
	7.9 (30)	72.3 (98) 75	136.4 (185) 74	280.3 (380) 73	424.1 (575) 71	560.5 (760) 68	708.1 (960) 65	837.1 (1135) 55	969.9 (1315) 45	1073.2 (1455) 31	1198.5 (1625) 20	
	11.9 (45)	70.1 (95) 114	136.4 (185) 113	284.0 (385) 111	427.8 (580) 108	564.2 (765) 105	715.4 (970) 100	844.5 (1145) 90	984.6 (1335) 80	1128.5 (1530) 72		
	15.9 (60)	66.4 (90) 152	132.8 (180) 152	280.3 (380) 150	427.8 (580) 147	567.9 (770) 142	719.1 (975) 134	851.9 (1155) 126	992.0 (1345) 112			
	19.8 (75)	62.7 (85) 191	132.8 (180) 191	280.3 (380) 188	427.8 (580) 186	571.6 (775) 181	722.8 (980) 172	855.6 (1160) 160	999.4 (1355) 148			
	23.8 (90)	59.0 (80) 230	129.1 (175) 229	276.6 (375) 227	420.4 (570) 224	564.2 (765) 220	719.1 (975) 212	851.9 (1155) 200				
	27.7 (105)	51.6 (70) 268	121.7 (165) 267	265.5 (360) 265	413.0 (560) 260	560.5 (760) 254	564.2 (765) 246	848.2 (1150) 232				
	31.7 (120)	47.9 (65) 306	118.0 (160) 305	261.8 (355) 303	405.7 (550) 298	549.5 (745) 290	700.7 (950) 278	840.8 (1140) 262				
35.7 (135)	40.6 (55) 345	114.3 (155) 343	250.8 (340) 337	402.0 (545) 330	542.1 (735) 322	693.3 (940) 310	826.1 (1120) 295					
Max. Cont.	39.6 (150) 382	106.9 (145) 380	236.0 (320) 376	390.9 (530) 370	538.4 (730) 362	682.2 (925) 352						
Max. Inter.	50.2 (190)	95.9 (130) 483	221.3 (300) 476	379.8 (515) 470	538.4 (730) 458	674.9 (915) 445						
	59.4 (225)		210.2 (285) 570	368.8 (500) 560	523.7 (710) 550	660.1 (895) 535						

Continuous values
 Intermittent values (max. 10% operation every minute)
 Peak operation (max. 1% operation every minute)
 No operation

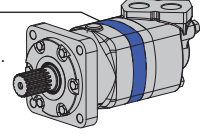
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Actual data may vary slightly from one production motor to another.

PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 500 30.0 in³/rev. (490.8 cm³/rev.)

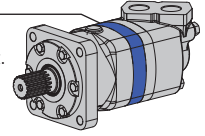
Torque Speed	lbf.ft (Nm) rpm	Δ Pressure psi (bar) →						Max. Cont.	Max. Inter.	Peak	
		254 (17.5)	508 (35)	1015 (70)	1523 (105)	2031 (140)	2538 (175)	2901 (200)	3481 (240)	3989 (275)	
Flow gpm (l/min) ↓	1.1 (4)	88.5 (120) 7	169.6 (230) 6	346.7 (470) 5	505.2 (685) 3						
	2.1 (8)	92.2 (125) 15	177.0 (240) 14	350.3 (475) 13	520.0 (705) 12	693.3 (940) 11	859.3 (1165) 8	1014.1 (1375) 3			
	4.0 (15)	92.2 (125) 30	173.3 (235) 29	354.0 (480) 29	531.0 (720) 28	708.1 (960) 27	877.7 (1190) 25	1032.6 (1400) 21	1198.5 (1625) 17	1386.6 (1880) 12	
	7.9 (30)	92.2 (125) 60	173.3 (235) 59	357.7 (485) 58	542.1 (735) 57	719.1 (975) 54	896.1 (1215) 50	1065.8 (1445) 45	1242.8 (1685) 35		
	11.9 (45)	92.2 (125) 91	173.3 (235) 90	357.7 (485) 89	542.1 (735) 87	719.1 (975) 84	896.1 (1215) 78	1069.5 (1450) 70			
	15.9 (60)	88.5 (120) 121	173.3 (235) 121	354.0 (480) 120	538.4 (730) 118	719.1 (975) 114	899.8 (1220) 108	1076.8 (1460) 98			
	19.8 (75)	81.1 (110) 152	166.0 (225) 151	346.7 (470) 149	534.7 (725) 146	715.4 (970) 142	899.8 (1220) 135				
	23.8 (90)	73.8 (100) 182	162.3 (220) 182	343.0 (465) 180	531.0 (720) 178	711.7 (965) 175	896.1 (1215) 168				
	27.7 (105)	70.1 (95) 213	151.2 (205) 212	339.3 (460) 210	523.7 (710) 206	708.1 (960) 201	892.4 (1210) 195				
	31.7 (120)	66.4 (90) 244	143.8 (195) 243	331.9 (450) 240	516.3 (700) 235	700.7 (950) 228	888.8 (1205) 221				
	35.7 (135)	62.7 (85) 274	129.1 (175) 273	320.8 (435) 270	501.5 (680) 265	689.6 (935) 258	862.9 (1170) 250				
	Max. Cont.	39.6 (150)	51.6 (70) 304	114.3 (155) 303	309.8 (420) 301	490.5 (665) 292	678.6 (920) 287	848.2 (1150) 280			
	Max. Inter.	50.2 (190)		95.9 (130) 385	265.5 (360) 382	427.8 (580) 373	638.0 (865) 365				
		59.4 (225)			236.0 (320) 455	409.3 (555) 440	590.0 (800) 432				

Continuous values
 Intermittent values (max. 10% operation every minute)
 Peak operation (max. 1% operation every minute)
 No operation

Motors run with high efficiency in all areas until maximum continuous values are exceeded. For best service life of the motor select a motor to run with a torque and speed range printed in the light shaded area.
 Performance data is typical of randomly selected motors at back pressure of 5 to 10 bar [72.5 to 145 psi] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].
 Actual data may vary slightly from one production motor to another.

PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 630 38.0 in³/rev. (623.0 cm³/rev.)

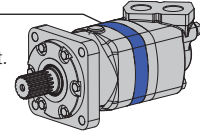
Torque Speed	lbf.ft (Nm) rpm	Δ Pressure psi (bar) →					Max. Cont.	Max. Inter.	
		254 (17.5)	508 (35)	1015 (70)	1523 (105)	2031 (140)	2538 (175)	2901 (200)	3263 (225)
Flow	1.1 (4)	95.9 (130)	180.7 (245)	368.8 (500)	553.2 (750)				
		6	5	4	2				
	2.1 (8)	99.6 (135)	195.5 (265)	398.3 (540)	593.7 (805)	774.4 (1050)			
		12	12	11	10	6			
	4.0 (15)	103.3 (140)	206.5 (280)	431.5 (585)	638.0 (865)	800.3 (1085)	1051.0 (1425)		
		24	23	22	21	16	13		
	7.9 (30)	106.9 (145)	217.6 (295)	446.2 (605)	682.2 (925)	936.7 (1270)	1091.6 (1480)	1312.9 (1780)	1394.0 (1890)
		48	47	45	42	38	34	30	27
	11.9 (45)	106.9 (145)	217.6 (295)	449.9 (610)	678.6 (920)	981.0 (1330)	1080.5 (1465)	1305.5 (1770)	
		72	71	70	68	65	58	50	
15.9 (60)	99.6 (135)	210.2 (285)	446.2 (605)	674.9 (915)	981.0 (1330)	1080.5 (1465)			
	95	94	91	87	83	78			
19.8 (75)	95.9 (130)	202.8 (275)	438.8 (595)	674.9 (915)	977.3 (1325)				
	120	119	116	112	106				
23.8 (90)	84.8 (115)	191.8 (260)	431.5 (585)	667.5 (905)	966.2 (1310)				
	145	144	141	137	130				
27.7 (105)	73.8 (100)	188.1 (255)	424.1 (575)	660.1 (895)	962.5 (1305)				
	168	167	164	160	152				
31.7 (120)	62.7 (85)	173.3 (235)	413.0 (560)	649.1 (880)	944.1 (1280)				
	192	191	186	182	175				
35.7 (135)	55.3 (75)	162.3 (220)	398.3 (540)	630.6 (855)					
	216	215	212	207					
Max. Cont.	39.6 (150)	36.9 (50)	147.5 (200)	387.2 (525)	619.6 (840)				
	240	239	236	233					
Max. Inter.	50.2 (190)		343.0 (465)	586.4 (795)					
			300	293					
	59.4 (225)		317.2 (430)	545.8 (740)					
			360	348					

Continuous values
 Intermittent values (max. 10% operation every minute)
 Peak operation (max. 1% operation every minute)
 No operation

Motors run with high efficiency in all areas until maximum continuous values are exceeded. For best service life of the motor select a motor to run with a torque and speed range printed in the light shaded area.
 Performance data is typical of randomly selected motors at back pressure of 5 to 10 bar [72.5 to 145 psi] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].
 Actual data may vary slightly from one production motor to another.

PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 800 49.0 in³/rev. (802.4 cm³/rev.)

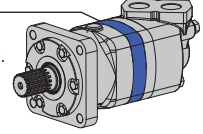
Torque Speed	lbf.ft (Nm) rpm	Δ Pressure psi (bar) →						Max. Cont.	Max. Inter.		
		254 (17.5)	508 (35)	725 (50)	1015 (70)	1233 (85)	1523 (105)	1740 (120)	2031 (140)	2248 (155)	2538 (175)
Flow gpm (l/min) ↓	1.1 (4)	126.9 (172) 4	254.5 (345) 4	390.9 (530) 2	508.9 (690) 2	634.3 (860) 1					
	2.1 (8)	132.8 (180) 9	261.8 (355) 9	398.3 (540) 8	534.7 (725) 8	704.4 (955) 7	796.6 (1080) 6	940.4 (1275) 5	1003.1 (1360) 4		
	4.0 (15)	136.4 (185) 18	272.9 (370) 18	416.7 (565) 17	559.1 (758) 17	722.8 (980) 16	833.4 (1130) 15	933.0 (1265) 14	1047.3 (1420) 12	1220.7 (1655) 10	1386.6 (1880) 9
	7.9 (30)	140.1 (190) 36	284.0 (385) 35	435.2 (590) 34	586.4 (795) 33	741.2 (1005) 32	855.1 (1200) 31	981.0 (1330) 29	1165.3 (1580) 28	1283.4 (1740) 26	
	11.9 (45)	140.1 (190) 55	284.0 (385) 55	435.2 (590) 54	590.0 (800) 53	748.6 (1015) 52	855.1 (1200) 52	1017.8 (1380) 50	1143.2 (1550) 48		
	15.9 (60)	136.4 (185) 74	280.3 (380) 73	427.8 (580) 72	582.7 (790) 70	748.6 (1015) 69	855.1 (1200) 67	992.0 (1345) 65			
	19.8 (75)	129.8 (176) 92	272.9 (370) 92	424.1 (575) 91	576.8 (782) 88	737.6 (1000) 87	874.0 (1185) 85	1006.8 (1365) 82			
	23.8 (90)	121.7 (165) 112	265.5 (360) 111	413.0 (560) 110	564.2 (765) 108	730.2 (990) 106	862.9 (1170) 102				
	27.7 (105)	110.6 (150) 130	250.8 (340) 129	409.3 (555) 128	553.2 (750) 127	716.9 (972) 125	851.9 (1155) 120				
	31.7 (120)	97.4 (132) 179	239.7 (325) 148	402.0 (545) 146	542.1 (735) 143	697.0 (945) 140	833.4 (1130) 135				
Max. Cont.	35.7 (135)	77.4 (105) 168	222.7 (302) 167	387.2 (525) 165	523.7 (710) 162	671.9 (911) 158					
	39.6 (150)	59.0 (80) 186	199.1 (270) 185	368.8 (500) 183	501.5 (680) 180	649.1 (880) 176					
	Max. Inter.	50.2 (190)		221.3 (300) 235	350.3 (475) 233	486.8 (660) 230	630.6 (855) 226				
59.4 (225)				312.0 (423) 280	451.4 (612) 276	612.2 (830) 272					

Continuous values
 Intermittent values (max. 10% operation every minute)
 Peak operation (max. 1% operation every minute)
 No operation

Motors run with high efficiency in all areas until maximum continuous values are exceeded. For best service life of the motor select a motor to run with a torque and speed range printed in the light shaded area.
 Performance data is typical of randomly selected motors at back pressure of 5 to 10 bar [72.5 to 145 psi] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].
 Actual data may vary slightly from one production motor to another.

PERFORMANCE DATA - BMK6 SERIES

Performance data is based on the motor displacement.



BMK6 1000 59.9 in³/rev. (981.6 cm³/rev.)

Torque Speed	lbf.ft (Nm) rpm	Δ Pressure psi (bar) →					Max. Cont.	Max. Inter.
		254 (17.5)	508 (35)	725 (50)	1015 (70)	1233 (85)		
Flow gpm (l/min) ↓	1.1 (4)	166.0 (225) 3	339.3 (460) 3	472.0 (640) 2	645.4 (875) 2	800.3 (1085) 1		
	2.1 (8)	169.6 (230) 7	346.7 (470) 7	512.6 (695) 6	697.0 (945) 6	862.9 (1170) 5	1043.6 (1415) 4	1235.4 (1675) 2
	4.0 (15)	177.0 (240) 15	357.7 (485) 15	527.4 (715) 15	711.7 (965) 14	885.1 (1200) 14	1065.8 (1445) 13	1312.9 (1780) 12
	7.9 (30)	177.0 (240) 30	365.1 (495) 30	531.0 (720) 30	733.9 (995) 29	910.9 (1235) 28	1091.6 (1480) 27	1371.9 (1860) 23
	11.9 (45)	177.0 (240) 45	365.1 (495) 45	531.0 (720) 44	737.6 (1000) 44	922.0 (1250) 43	1099.0 (1490) 42	1253.9 (1700) 40
	15.9 (60)	173.3 (235) 60	361.4 (490) 60	527.4 (715) 60	730.2 (990) 59	918.3 (1245) 57	1106.3 (1500) 55	
	19.8 (75)	166.0 (225) 76	350.3 (475) 76	523.7 (710) 76	722.8 (980) 75	907.2 (1230) 73	1095.3 (1485) 70	
	23.8 (90)	158.6 (215) 91	339.3 (460) 91	520.0 (705) 91	708.1 (960) 90	896.1 (1215) 88	1080.5 (1465) 85	
	27.7 (105)	147.5 (200) 106	328.2 (445) 106	508.9 (690) 105	693.3 (940) 105	881.4 (1195) 103	1062.1 (1440) 100	
	31.7 (120)	136.4 (185) 122	309.8 (420) 122	490.5 (665) 121	678.6 (920) 119	851.9 (1155) 116		
	35.7 (135)	110.6 (150) 137	287.6 (390) 137	468.4 (635) 136	656.4 (890) 136	826.1 (1120) 134		
Max. Cont.	39.6 (150) 152	81.1 (110) 151	265.5 (360) 150	446.2 (605) 148	634.3 (860) 145	796.6 (1080) 145		
Max. Inter.	50.2 (190)	236.0 (320) 192	424.1 (575) 190	604.8 (820) 188	770.8 (1045) 185			
	59.4 (225)		379.8 (515) 230	590.0 (800) 228	752.3 (1020) 224			

Continuous values
 Intermittent values (max. 10% operation every minute)
 Peak operation (max. 1% operation every minute)
 No operation

Motors run with high efficiency in all areas until maximum continuous values are exceeded. For best service life of the motor select a motor to run with a torque and speed range printed in the light shaded area.
 Performance data is typical of randomly selected motors at back pressure of 5 to 10 bar [72.5 to 145 psi] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].
 Actual data may vary slightly from one production motor to another.

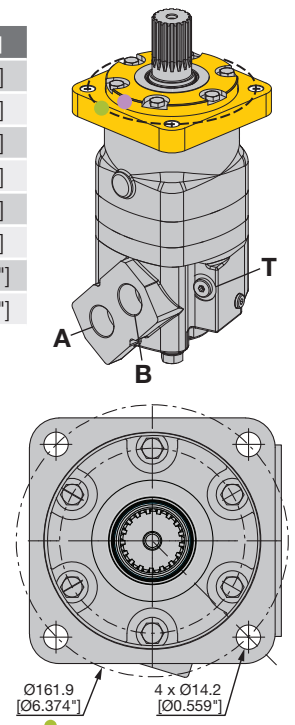
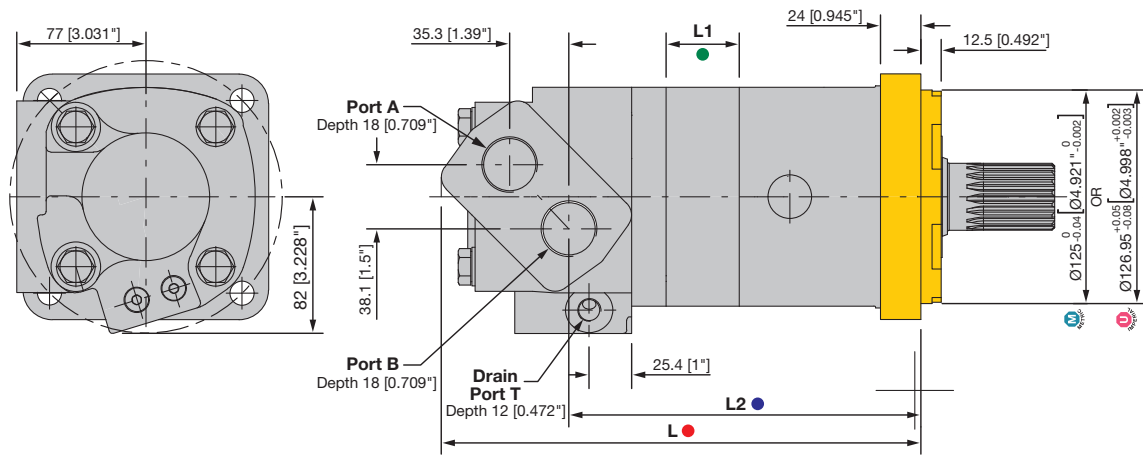
BMK6 OVERALL DIMENSIONS & MOUNTING DETAILS

BMK6 MOUNTING FLANGE

4-Bolt, Square Mount

- CC** U.S. Version
- Pilot Diameter: 5"
 - Bolt Circle Diameter: 6.37"
- CC1** European Version
- Pilot Diameter: 125 mm
 - Bolt Circle Diameter: 161.9 mm

Model	GEROLER WIDTH		
	L mm [in]	L1 mm [in]	L2 mm [in]
BMK6 200	265.0 [10.43"]	21.7 [0.85"]	187.5 [7.38"]
BMK6 250	271.0 [10.67"]	27.3 [1.08"]	193.1 [7.60"]
BMK6 315	278.0 [10.95"]	34.5 [1.36"]	200.3 [7.89"]
BMK6 400	287.0 [11.30"]	43.4 [1.71"]	209.2 [8.24"]
BMK6 500	298.0 [11.73"]	54.4 [2.14"]	220.2 [8.67"]
BMK6 630	313.0 [12.32"]	69.1 [2.72"]	234.9 [9.25"]
BMK6 800	333.0 [13.11"]	89.0 [3.50"]	254.8 [10.03"]
BMK6 1000	353.0 [13.90"]	108.9 [4.29"]	274.7 [10.82"]

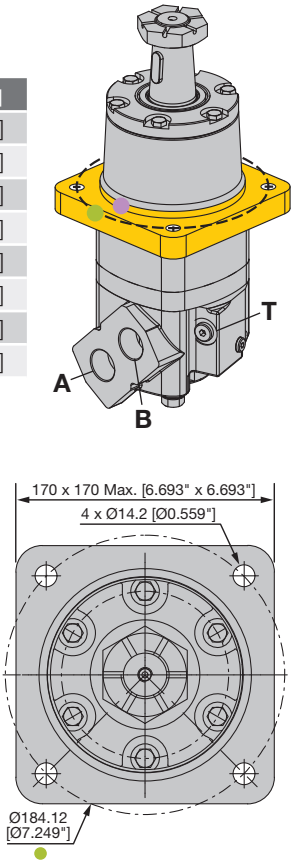
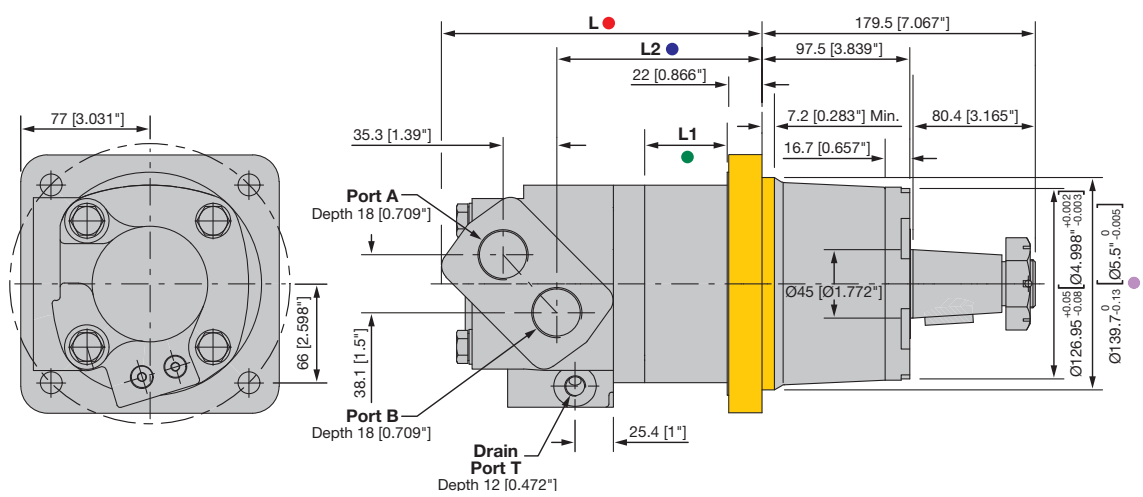


BMK6 MOUNTING FLANGE

4-Bolt, Wheel Mount

- Pilot Diameter: 5.5"
- Bolt Circle Diameter: 7.25"

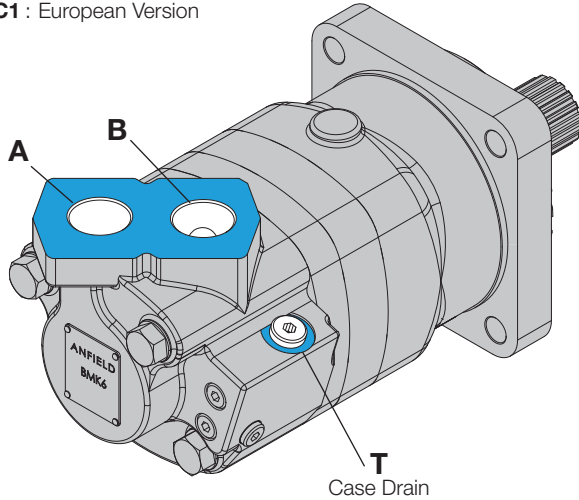
Model	GEROLER WIDTH		
	L mm [in]	L1 mm [in]	L2 mm [in]
BMK6 200	179.0 [7.05"]	21.7 [0.85"]	102.5 [4.04"]
BMK6 250	185.0 [7.28"]	27.3 [1.08"]	108.0 [4.25"]
BMK6 315	192.0 [7.56"]	34.5 [1.36"]	115.5 [4.55"]
BMK6 400	201.0 [7.91"]	43.4 [1.71"]	124.5 [4.90"]
BMK6 500	212.0 [8.35"]	54.4 [2.14"]	135.5 [5.34"]
BMK6 630	226.7 [8.93"]	69.1 [2.72"]	150.2 [5.91"]
BMK6 800	246.5 [9.71"]	89.0 [3.50"]	170.0 [6.69"]
BMK6 1000	266.5 [10.49"]	108.9 [4.29"]	190.0 [7.48"]



BMK6 PORT OPTIONS

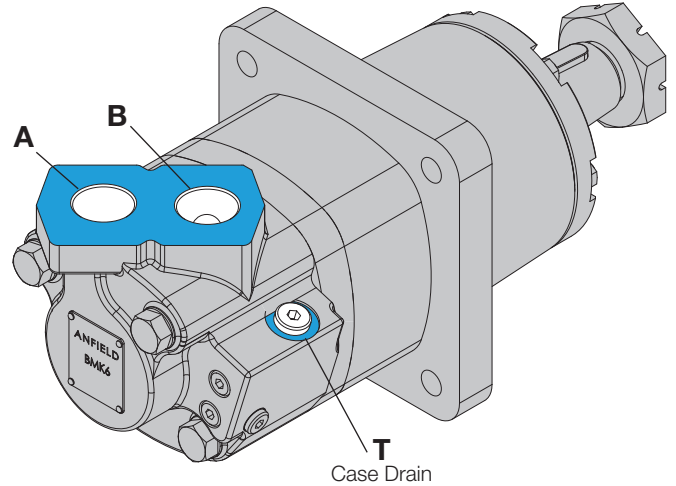
4-Bolt, Square Mount

CC : U.S. Version
CC1 : European Version

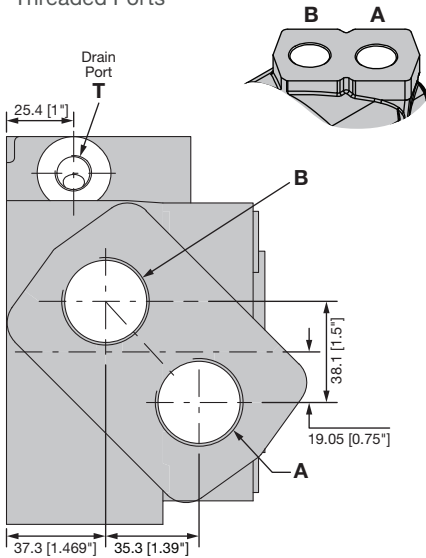


4-Bolt, Wheel Mount

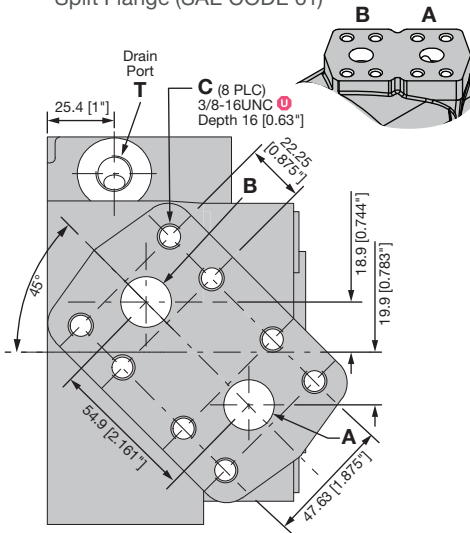
W : U.S. Version



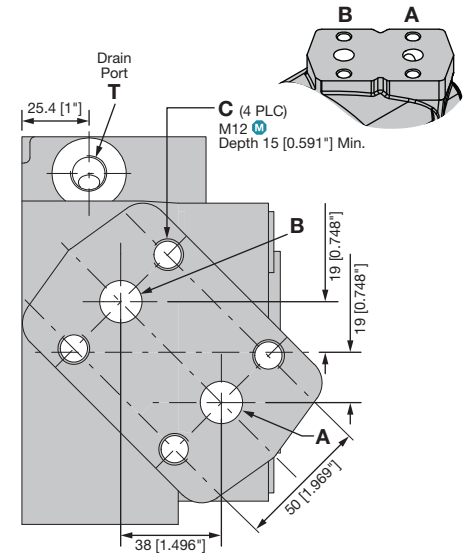
BMK6 PORTS SF5 SF6 SF7 SF8
Line Mount
Threaded Ports



BMK6 PORTS SF U
Line Mount
Split Flange (SAE CODE 61)



BMK6 PORTS SF0 M
Manifold Mount



BMK6 PORT CODE						
	SF5	SF6	SF7	SF8	SF	SF0
Connection	SAE ports	Metric ports	BSP ports	BSP ports	Split Flange ports	Manifold Mount
P (A,B)	1-5/16-12UN (18)	M33 x 2 (18)	G 1" (15)	G 3/4" (18)	3/4"CD61 (Ø19.05)	Ø16
T	7/16-20 UNF (12)	M14 x 1.5 (12)	G 1/4" (12))	G 1/4" (12)	7/16-20UNF (12)	M14x1.5 (12) M
C	--	--	--	--	8x 3/8-16UNC U	4x M12 M

- SF5 : SAE-16 O-ring Staggered Ports (2), SAE-4 Case Drain Port (1)
- SF6 : M33x2 (Metric) Staggered Ports (2), M14x1.4 (Metric) Case Drain Port (1)
- SF7 : G1 (BSP) Staggered Ports (2), G1/4 (BSP) Case Drain Port (1)
- SF8 : G3/4 (BSP) Staggered Ports (2), G1/4 (BSP) Case Drain Port (1)
- SF : 4 Bolt 3/4 Inch Split Flange (Code 61) (2), SAE-4 Case Drain Port (1)
- SF0 : 4 Bolt (Metric) Manifold Mount Ø16 (2), M14x1.4 (Metric) Case Drain Port (1)

(Depth in mm)

mm [Inch]
U Imperial M Metric

BMK6 SHAFT EXTENSIONS

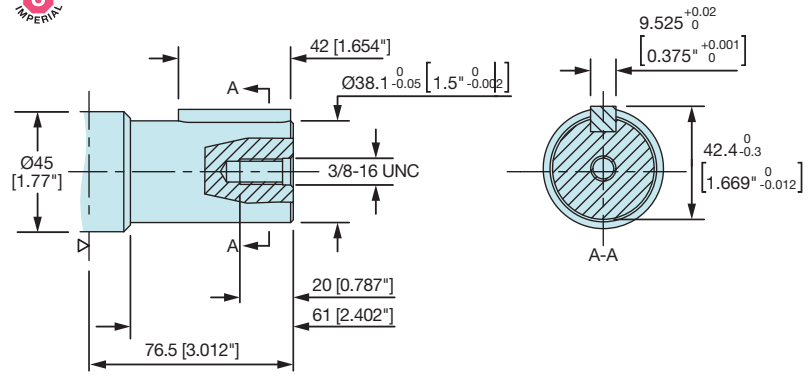
IMPORTANT:

Ensure that the torque rating of your motor does not exceed shaft torque limitations stated below. Please refer to performance data charts.

BMK6 SHAFT EXTENSION **CODE G2**

1 1/2" Straight Keyed
Parallel key 3/8"x3/8"x1.65"

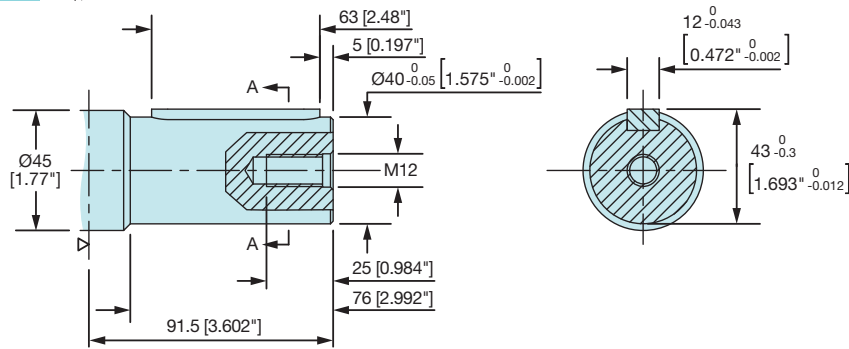
Max. Torque
980 lbf.ft [1328 Nm]



BMK6 SHAFT EXTENSION **CODE Y1**

40 mm Straight Keyed
Parallel key 12x8x63

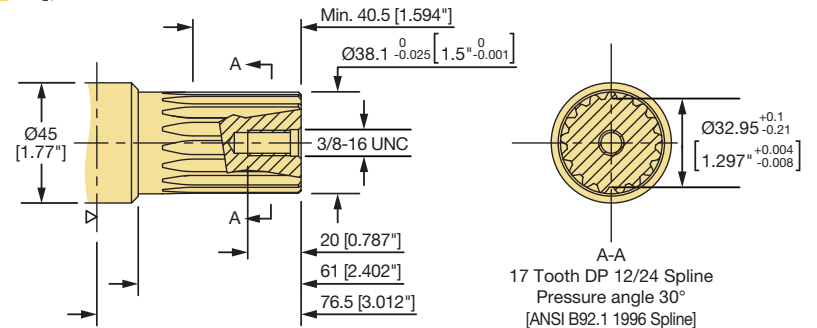
Max. Torque
980 lbf.ft [1328 Nm]



BMK6 SHAFT EXTENSION **CODE FE**

1 1/2" 17 Tooth Splined

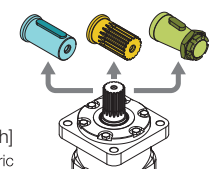
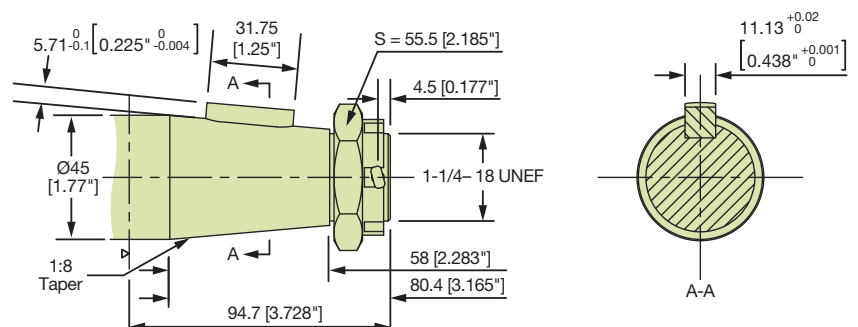
Max. Torque
980 lbf.ft [1328 Nm]



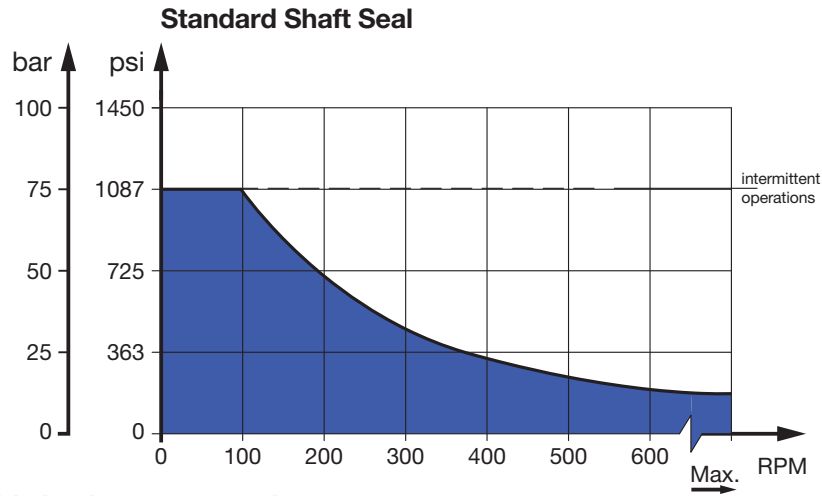
BMK6 SHAFT EXTENSION **CODE T1**

45 mm Tapered (1:8) w/ Nut
Parallel Key 11.3x11.3x31.75

Max. Torque
1549 lbf.ft [2100 Nm]

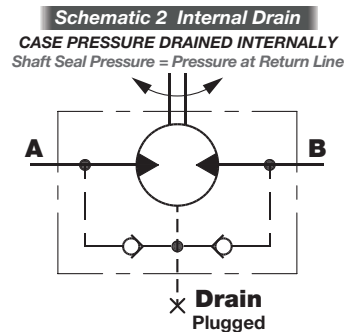
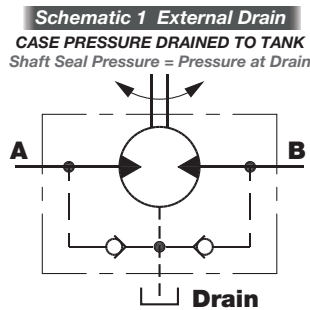


PERMISSIBLE SHAFT SEAL PRESSURES - BMK6 SERIES



Internal Drain, Permissible back pressure and case pressure:

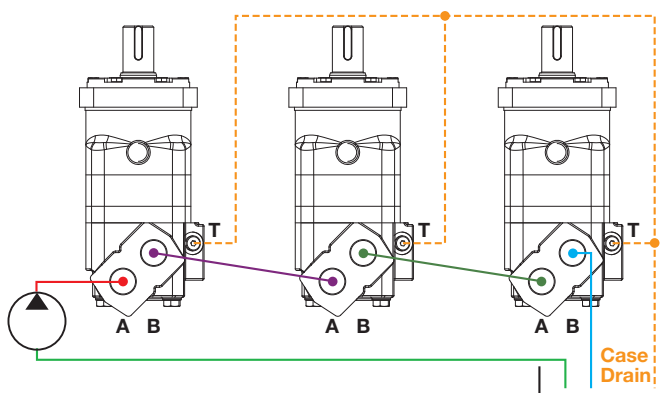
The internal drain option is standard on all BMK6 series motors. There are Built-In Check Valves integrated in the housing of the motor that connect the case area of the motor to each of the work ports (A and B). During normal operation, pressure in the input and return lines of the motor close the corresponding check valves. However, when the pressure in the motor case becomes greater than that of the return line, the check valve between the case and low pressure return line opens, allowing the case leakage to flow into the return line. Since the operation of the check valves is dependent upon a pressure differential, the internal drain option operates in either direction of motor rotation and whichever work port (A or B) has the lower pressure. This offers versatility and increased seal life as the drain line relieves the pressure on the shaft seal to tank.¹⁾



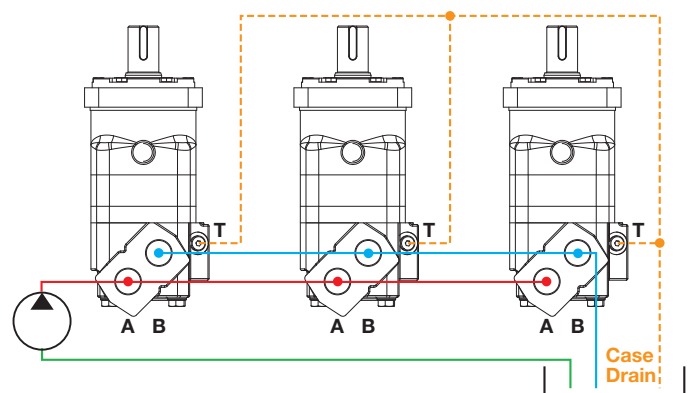
Important:

1) Installing motors with "internal drainage" in series or when the motor operates in a meter-out circuit is not recommended unless overall pressure drop over all motors is below the maximum allowable backpressure.

Series Connection



Parallel Connection



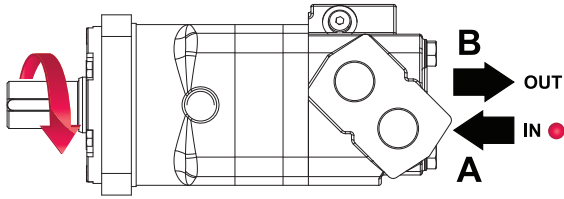
DIRECTION OF SHAFT ROTATION - BMK6 SERIES

Standard Rotation

(Viewed from Shaft End)

Port **A** Pressurized - **CW**

Port **B** Pressurized - **CCW**

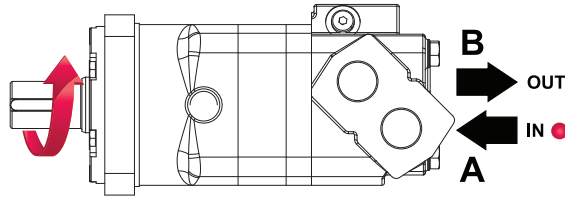


Reverse Rotation

(Viewed from Shaft End)

Port **A** Pressurized - **CCW**

Port **B** Pressurized - **CW**



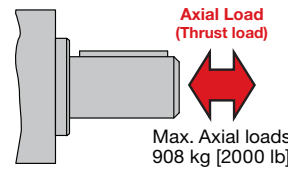
PERMISSIBLE SHAFT LOADS FOR BMK6 MOTORS

These curves indicate the radial load capacity on the motor shaft(s) at various locations with an external thrust load of 454 kg [1000 lb]. The maximum allowable thrust load is 908 kg [2000 lb].

Note: Case pressure will increase the allowable inward thrust load and decrease the allowable outward thrust load. Case pressure will push outward on the shaft at 109 kg/7 Bar [241 lb/100 PSI].

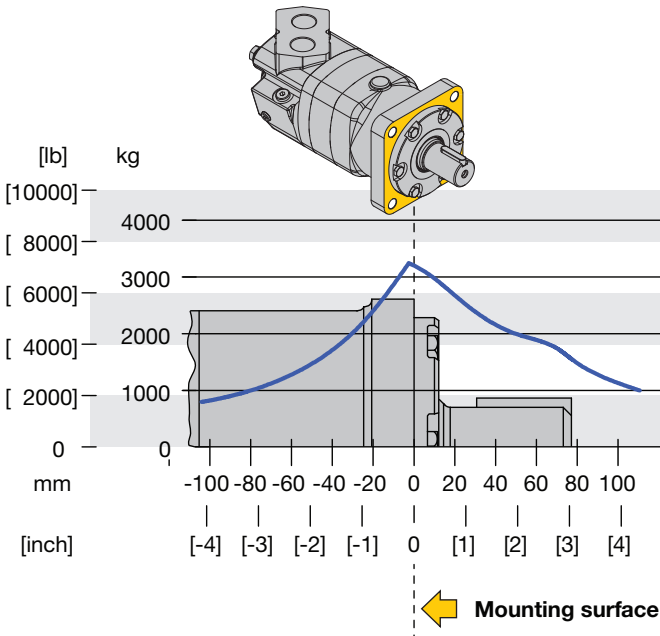
Each curve is based on B10 bearing life (2000 hours of 12,000,000 shaft revolutions at 100 RPM) at rated output torque.

To determine radial load at speeds other than 100 RPM, multiply the load values given on the bearing curve by the factors in the chart on the right.

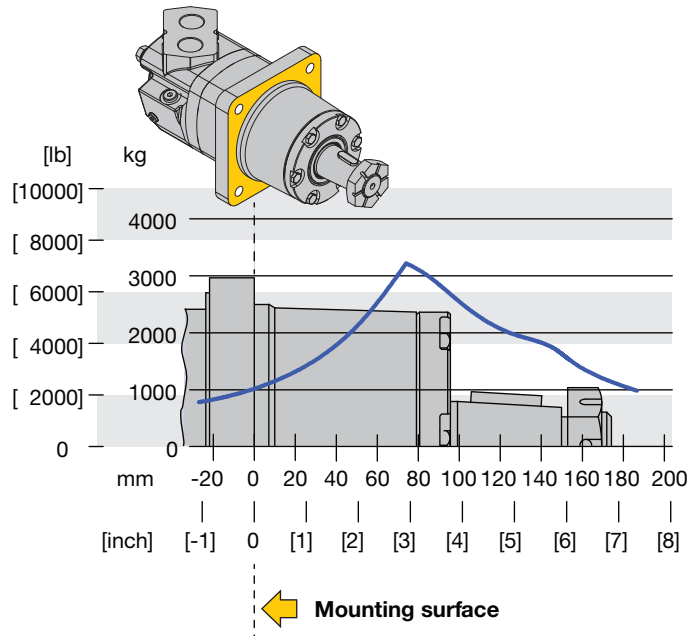


RPM	Multiplication Factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.54

Standard motor (CC, CC1) straight and splined shafts (G2, Y1, FE)



Wheel motor (W) tapered shafts (T1)



BMK6 DESIGNATION & ORDERING CODE

BMK6 - 400 - CC - G2 - SF5 - ... - ...

1 **Series**

BMK6

2 **Displacement**

	cm ³ /rev	in ³ /rev
200	195.6	11.94
250	246.1	15.02
315	311.6	19.01
400	391.3	23.88
500	490.8	29.95
630	623.0	38.02
800	802.4	48.97
1000	981.6	59.90

**Pages 5-12 for performance details.*

3 **Mounting Type**

CC	4-Bolt, Square Mount		
CC1	4-Bolt, Square Mount		
W	Wheel Mount		

**Page 13 for mounting details.*

4 **Output Shaft**

G2	1½" Straight Keyed (3/8"x3/8"x1.65" key)		
Y1	40 mm Straight Keyed (12x8x63 key)		
FE	1½" 17 Tooth Splined		
T1	45 mm Tapered (1:8)		

**Page 15 for shaft details.*

5 **Ports (A&B,T)**

SF5	SAE Staggered Ports (-16,-4)	
SF6	Metric Staggered Ports (M33,M14)	
SF7	BSPP Staggered Ports (G1,G1/4)	
SF8	BSPP StaggeredPorts (G3/4,G1/4)	
SF	Staggered Split Flange Ports (3/4" CD61,-4)	
SF0	Manifold Ports (Ø16,M14)	

**Page 14 for port details.*

6 **Rotation**

Omit	Standard Rotation
R	Reverse Rotation

**Page 17 for rotation details.*

7 **Options**

Omit	None
0	No Case Drain

**Contact Anfield if option required is not listed.*

Anfield BMK6 series motors are painted black and the JBMK6 series motors are painted industrial gray. For information on the JBMK6 motors contact Anfield.

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

Drain

ANFIELD Orbital Motor Catalog BMK6 Rev. A (02/23/2024)



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