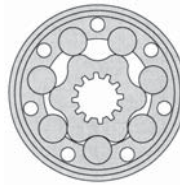


# Hydraulic Motor

## Model BMK6

Crossover to Char-Lynn® 6000 Series



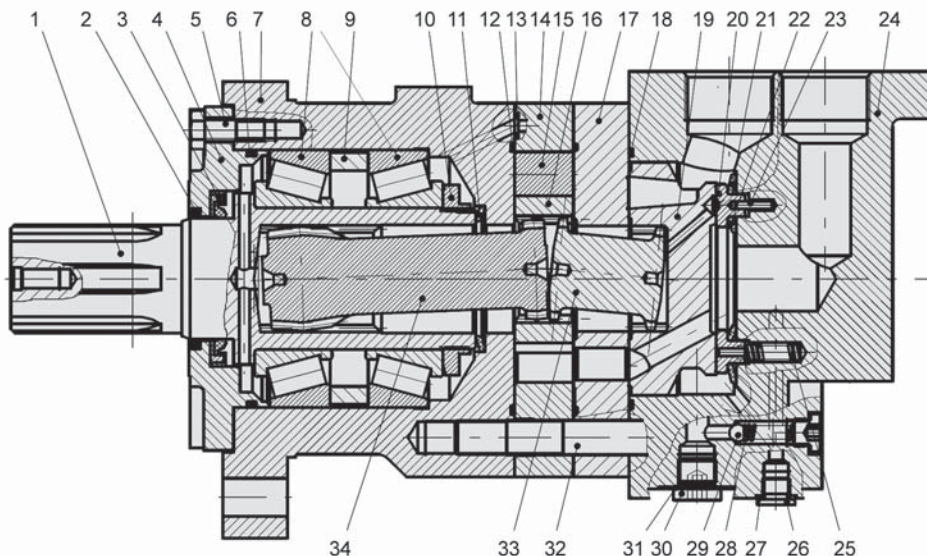
The BMK6 series motor adapts the advanced **ROLORTORC™** gear set design with **DISC** distribution flow and high pressure. These motors can be supplied with various options for multifunctional operations in accordance with the application requirements. The output shaft tapered roller bearings permit high axial and radial forces offering a smooth operation during low pressure start up and high pressure operation.

These low weight advanced construction design motors are manufactured in accordance with the requirements of the ISO 9000-2000 quality system.

### Technical Specifications

MODEL		BMK6 200	BMK6 250	BMK6 315	BMK6 400	BMK6 500	BMK6 630	BMK6 800	BMK6 1000
<b>Displacement</b> <i>in<sup>3</sup>/rev (cm<sup>3</sup>/rev)</i>		11.93 (195.6)	15.01 (246.1)	19.01 (311.6)	23.87 (391.3)	29.95 (490.8)	38.01 (623)	48.96 (802.4)	59.90 (981.6)
<b>Max Speed</b> <i>rpm</i>	Cont	765	610	480	382	304	240	186	152
	Int.	865	830	690	570	455	360	280	230
<b>Max Torque</b> <i>in•lbf</i>	Cont	5000	6284	8142	10266	12789	13099	13984	14824
	Int.	7434	9558	11727	14382	16639	16726	16639	16462
<b>Max Differential</b> <i>psi</i>	Cont	2900	2900	2900	2900	2900	2538	2030	2030
	Int.	4351	4351	4351	4351	3988	3263	2248	2030
<b>Max Flow</b> <i>gpm</i>	Cont	39.62	39.62	39.62	39.62	39.62	39.62	39.62	39.62
	Int.	44.90	54.15	59.43	59.43	59.43	59.43	59.43	59.43
<b>Weight</b>		56 lbs	57 lbs	59 lbs	60 lbs	63 lbs	66 lbs	70 lbs	74 lbs

Continuous (Cont.) = maximum of continuous operation. Intermittent (Int.) = maximum operating range for 6 seconds per minute



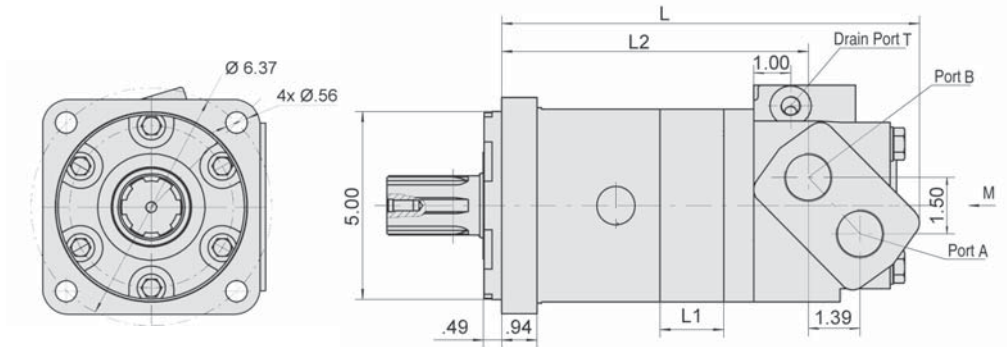
#### Diagram Key

- |                     |                      |
|---------------------|----------------------|
| 1 Output Shaft      | 18 "O" Ring          |
| 2 Dust Seal         | 19 Distributor Plate |
| 3 Shaft Seal        | 20 "O" Ring          |
| 4 Front Cover       | 21 Channel Plate     |
| 5 Bolt              | 22 Seal              |
| 6 "O" Ring          | 23 Seal              |
| 7 Housing           | 24 Pin               |
| 8 Needle Bearing    | 25 Spring            |
| 9 Spacer Bushing    | 26 Drain Plug        |
| 10 Lock Nut         | 27 "O" Ring          |
| 11 Butterfly Washer | 28 Spring            |
| 12 "O" Ring         | 29 Ball              |
| 13 Pin              | 30 Drain Plug        |
| 14 Stator           | 31 Seal              |
| 15 Roller           | 32 Bolt              |
| 16 Rotor            | 33 Coupling          |
| 17 Balance Plate    | 34 Drive Link        |

# BMK6 Installation Data

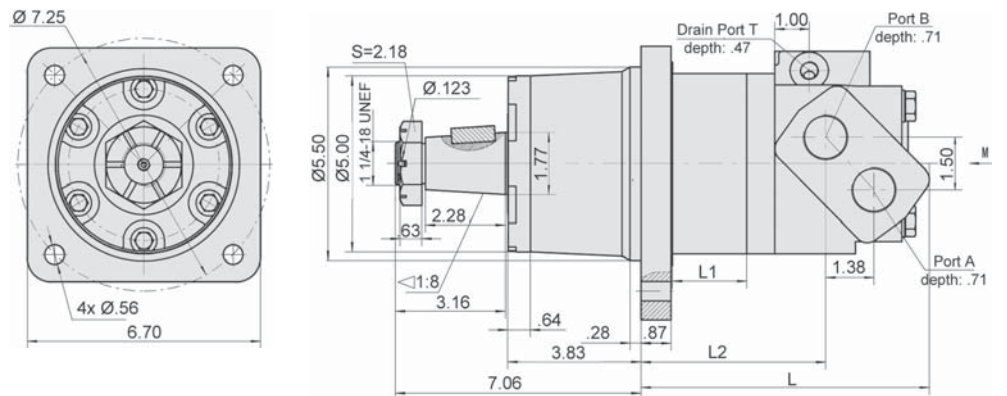
## CC - SAE "CC" Mount

Motor Size	L	L1	L2
200	10.43"	.85"	7.38"
250	10.67"	1.07"	7.60"
315	10.94"	1.36"	7.87"
400	11.30"	1.71"	8.23"
500	11.73"	2.14"	8.70"
630	12.32"	2.72"	9.25"
800	13.11"	3.50"	10.03"
1000	13.89"	4.29"	10.81"



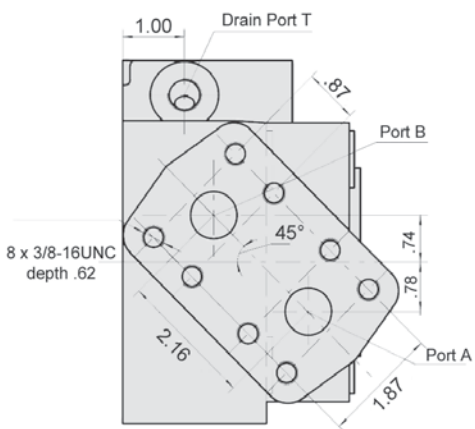
## W - Wheel Mount

Motor Size	L	L1	L2
200	7.04"	0.85"	4.03"
250	7.28"	1.07"	4.25"
315	7.56"	1.36"	4.55"
400	7.91"	1.71"	4.90"
500	8.34"	2.14"	5.33"
630	8.92"	2.72"	5.91"
800	9.70"	3.50"	6.69"
1000	10.49"	4.29"	7.48"

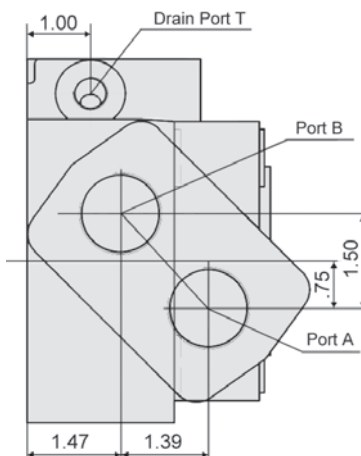


# BMK6 Port Data

## SF



## SF5 & SF7

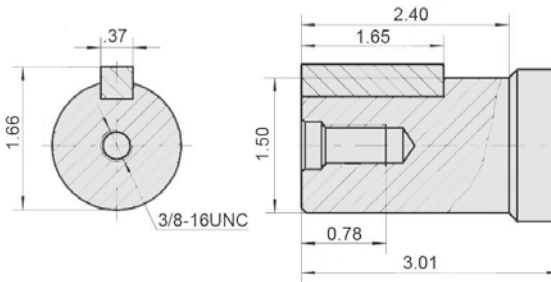


## Port Sizes

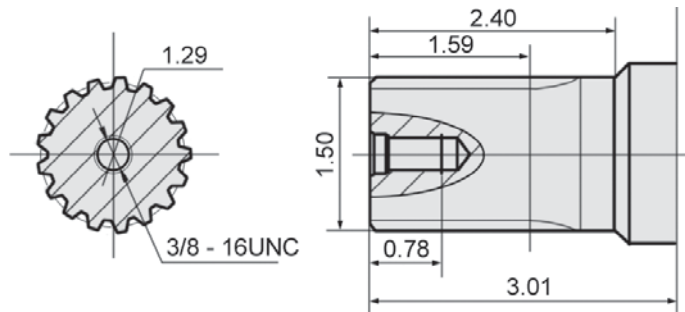
Model	P (A, B)	T
SF	3/4" Split	7/16-20 SAE
SF5	1 5/16-12 SAE	7/16-20 SAE
SF7	G1 (BSP)	G 1/4

# BMK6 Drive Shaft Data

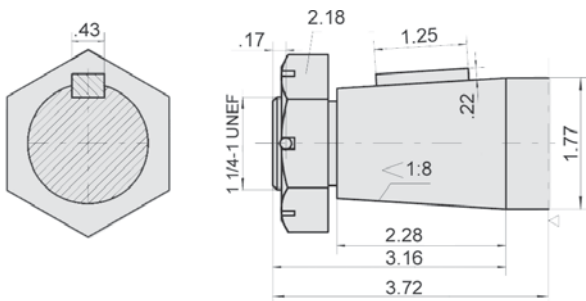
**G2 - 1 1/2" Parallel Key**



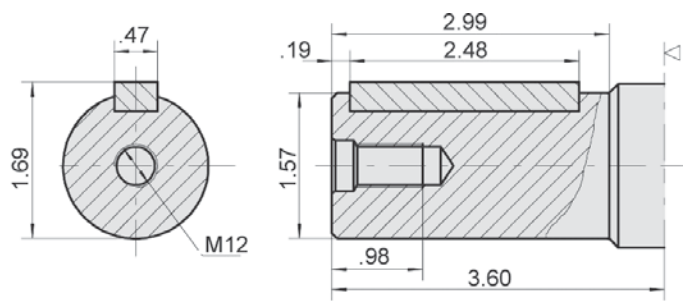
**FE - 17 Tooth DP 12/24 Spline**



**T1 - 1 3/4" Tapered**



**Y1 - 40 mm Parallel Key**



**Ordering Example:**

Model	Frame Size	Flange	Drive Shaft	Ports	Rotation
<b>BMK6</b>	<b>250</b>	<b>CC</b>	<b>G2</b>	<b>SF5</b>	

Model	Frame Size	Mounting Flange	Drive Shaft**	Port Size	Rotation
BMK6	200 (11.93) 250 (15.01) 315 (19.01) 400 (23.87) 500 (29.95) 630 (38.01) 800 (48.96) 1000 (59.90)	W = Wheel CC = SAE "CC"	G2 = 1 1/2" Parallel Key T1 = 1 3/4" Tapered FE = 17-Tooth Spline Y1 = 40mm Parallel Key	SF5 = 1 5/16-12 SAE SF* = 3/4" Split Flange SF7* = G1 (BSP) Staggered	Omit = Clockwise R = Counter-Clockwise <i>Note: Direction of rotation is indicated when "A" port is pressurized</i>

\*Special Order

\*\*Additional shaft options available. Please consult factory.

Seal kits for BMK6 motors are available for purchase. Order seal kit using item description: "BMK6 Seal Kit".

<b>BMK6 200</b>		<b>11.93 in<sup>3</sup>/rev (195.6 cm<sup>3</sup>/rev)</b>						<i>Max Cont.</i>	<i>Max Int.</i>	<i>Peak</i>	
<b>Pressure (psi →)</b>	<b>254</b>	<b>508</b>	<b>1015</b>	<b>1523</b>	<b>2031</b>	<b>2538</b>	<b>2901</b>	<b>3481</b>	<b>3989</b>	<b>4351</b>	
<b>F L O W</b>	<b>(gpm ↓)</b>	<b>Torque (in•lbf) Speed Specification</b>									
	<b>0.52</b>	265	646	1416							
		9 rpm	7 rpm	5 rpm							
	<b>2.11</b>	318	672	1486	2318	3053	3876	4115			
		39 rpm	38 rpm	35 rpm	34 rpm	31 rpm	27 rpm	16 rpm			
	<b>3.96</b>	318	716	1540	2389	3230	4027	4513	5133	5664	
		75 rpm	75 rpm	74 rpm	71 rpm	65 rpm	60 rpm	45 rpm	32 rpm	16 rpm	
	<b>7.92</b>	327	752	1548	2433	3274	4115	4779	5443	6195	6770
		152 rpm	151 rpm	147 rpm	142 rpm	132 rpm	121 rpm	109 rpm	96 rpm	80 rpm	60 rpm
	<b>11.88</b>	327	752	1593	2478	3319	4159	4735	5752	6549	7124
		228 rpm	227 rpm	223 rpm	218 rpm	210 rpm	200 rpm	185 rpm	165 rpm	146 rpm	110 rpm
	<b>15.85</b>	336	708	1575	2495	3365	4204	5000	5841	6638	7301
		305 rpm	304 rpm	302 rpm	297 rpm	288 rpm	280 rpm	255 rpm	235 rpm	210 rpm	170 rpm
	<b>19.81</b>	283	690	1548	2433	3345	4248	5000	5929	6726	7434
		382 rpm	380 rpm	376 rpm	370 rpm	362 rpm	350 rpm	328 rpm	300 rpm	270 rpm	230 rpm
	<b>23.77</b>	230	663	1522	2389	3319	4204	5000	5841	6770	
		459 rpm	456 rpm	452 rpm	445 rpm	436 rpm	420 rpm	405 rpm	383 rpm	355 rpm	
	<b>27.73</b>	194	619	1504	2389	3274	4159	4956	5841	6726	
536 rpm		534 rpm	530 rpm	523 rpm	510 rpm	496 rpm	470 rpm	435 rpm	400 rpm		
<b>31.70</b>	177	592	1469	2345	3230	4115	4956	5841	6682		
	612 rpm	610 rpm	605 rpm	598 rpm	585 rpm	570 rpm	536 rpm	502 rpm	485 rpm		
<b>35.66</b>	123	575	1416	2301	3186	4115	4956	5797	6638		
	690 rpm	687 rpm	680 rpm	672 rpm	650 rpm	638 rpm	595 rpm	550 rpm	485 rpm		
<b>39.62</b> <i>Max Cont.</i>	88	531	1371	2285	3150	3982	4867	5752			
	765 rpm	765 rpm	755 rpm	740 rpm	725 rpm	700 rpm	640 rpm	580 rpm			
<b>44.90</b> <i>Max Int.</i>		531	1371	2256	3097	3982	4825	5664			
		865 rpm	850 rpm	840 rpm	820 rpm	800 rpm	745 rpm	700 rpm			

<b>BMK6 250</b>		<b>15.01 in<sup>3</sup>/rev (246.1 cm<sup>3</sup>/rev)</b>						<i>Max Cont.</i>	<i>Max Int.</i>	<i>Peak</i>	
<b>Pressure (psi →)</b>	<b>254</b>	<b>508</b>	<b>1015</b>	<b>1523</b>	<b>2031</b>	<b>2538</b>	<b>2901</b>	<b>3481</b>	<b>3989</b>	<b>4351</b>	
<b>F L O W</b>	<b>(gpm ↓)</b>	<b>Torque (in•lbf) Speed Specification</b>									
	<b>0.52</b>	407	814								
		7 rpm	4 rpm								
	<b>2.11</b>	451	911	1902	2964	3894	4867	4956			
		31 rpm	30 rpm	27 rpm	24 rpm	21 rpm	15 rpm	10 rpm			
	<b>3.96</b>	460	929	1947	3009	4027	5044	5664	6593	7523	8496
		58 rpm	57 rpm	55 rpm	52 rpm	46 rpm	40 rpm	37 rpm	28 rpm	10 rpm	5 rpm
	<b>7.92</b>	486	973	2053	3115	4159	5310	6062	6992	7965	9027
		118 rpm	116 rpm	113 rpm	110 rpm	105 rpm	96 rpm	80 rpm	64 rpm	48 rpm	35 rpm
	<b>11.88</b>	513	973	2079	3142	4204	5398	6239	7434	8319	9293
		180 rpm	177 rpm	174 rpm	170 rpm	164 rpm	155 rpm	140 rpm	126 rpm	106 rpm	88 rpm
	<b>15.85</b>	469	973	2035	3097	4248	5443	6239	7478	8452	9558
		242 rpm	240 rpm	237 rpm	233 rpm	224 rpm	212 rpm	198 rpm	180 rpm	162 rpm	140 rpm
	<b>19.81</b>	398	929	2035	3142	4292	5487	6284	7525	8496	9558
		302 rpm	298 rpm	292 rpm	285 rpm	278 rpm	268 rpm	254 rpm	230 rpm	206 rpm	182 rpm
	<b>23.77</b>	398	929	1991	3097	4248	5443	6284	7478	8452	
		364 rpm	360 rpm	352 rpm	342 rpm	338 rpm	322 rpm	305 rpm	288 rpm	265 rpm	
	<b>27.73</b>	354	885	1947	3009	4204	5398	6239	7434	8408	
		424 rpm	420 rpm	414 rpm	408 rpm	394 rpm	372 rpm	352 rpm	334 rpm	315 rpm	
	<b>31.70</b>	336	840	1858	3009	4159	5221	6195	7346	8319	
		485 rpm	479 rpm	471 rpm	463 rpm	454 rpm	442 rpm	420 rpm	385 rpm	365 rpm	
	<b>35.66</b>	309	752	1814	2876	4071	5133	6107	7257		
		546 rpm	540 rpm	532 rpm	525 rpm	516 rpm	504 rpm	478 rpm	445 rpm		
	<b>39.62</b> <i>Max Cont.</i>	265	708	1770	2832	3982	5044	6018	7213		
608 rpm		605 rpm	600 rpm	592 rpm	580 rpm	566 rpm	532 rpm	496 rpm			
<b>44.90</b>		575	1681	2787	3894	4956	5974	6638			
		686 rpm	678 rpm	665 rpm	652 rpm	635 rpm	600 rpm	565 rpm			
<b>48.87</b>		1631	2743	3805	4823	5929					
		750 rpm	746 rpm	730 rpm	708 rpm	658 rpm					
<b>54.15</b> <i>Max Int.</i>		1548	2655	3699	4743	4974					
		830 rpm	820 rpm	800 rpm	776 rpm	735 rpm					





<b>BMK6 500</b>		<b>29.95 in<sup>3</sup>/rev (490.8 cm<sup>3</sup>/rev)</b>					<i>Max Cont.</i>	<i>Max Int.</i>	<i>Peak</i>
<b>Pressure (psi →)</b>	<b>254</b>	<b>508</b>	<b>1015</b>	<b>1523</b>	<b>2031</b>	<b>2538</b>	<b>2901</b>	<b>3480</b>	<b>3988</b>
<b>FLOW</b>	<b>(gpm ↓)</b>	<b>Torque (in·lbf) Speed Specification</b>							
	<b>1.05</b>	1062	2035	4159	6062				
		7 rpm	6 rpm	5 rpm	3 rpm				
	<b>2.11</b>	1106	2124	4204	6239	8319	10311	12169	
		15 rpm	14 rpm	13 rpm	12 rpm	11 rpm	8 rpm	3 rpm	
	<b>3.96</b>	1106	2079	4248	6372	8496	10532	12391	14382
		30 rpm	29 rpm	29 rpm	28 rpm	27 rpm	25 rpm	21 rpm	17 rpm
	<b>7.92</b>	1106	2079	4292	6505	8629	10753	12789	14913
		60 rpm	59 rpm	58 rpm	57 rpm	54 rpm	50 rpm	45 rpm	35 rpm
	<b>11.88</b>	1106	2079	4292	6505	8629	10753	12835	
		91 rpm	90 rpm	89 rpm	87 rpm	84 rpm	78 rpm	70 rpm	
	<b>15.85</b>	1062	2079	4248	6461	8629	10797	12922	
		121 rpm	121 rpm	120 rpm	118 rpm	114 rpm	108 rpm	98 rpm	
	<b>19.81</b>	973	1991	4159	6416	8585	10797		
		152 rpm	151 rpm	149 rpm	146 rpm	142 rpm	135 rpm		
	<b>23.77</b>	885	1947	4115	6372	8540	10753		
		182 rpm	182 rpm	180 rpm	178 rpm	175 rpm	168 rpm		
	<b>27.73</b>	840	1814	4071	6284	8496	10709		
		213 rpm	212 rpm	210 rpm	206 rpm	201 rpm	195 rpm		
	<b>31.70</b>	796	1725	3982	6195	8408	10665		
	244 rpm	243 rpm	240 rpm	235 rpm	228 rpm	221 rpm			
<b>35.66</b>	752	1548	3850	6018	8275	10355			
	274 rpm	273 rpm	270 rpm	265 rpm	258 rpm	250 rpm			
<b>39.62</b> <i>Max Cont.</i>	619	1371	3717	5885	8142	10178			
	304 rpm	303 rpm	301 rpm	292 rpm	287 rpm	280 rpm			
<b>50.19</b>		1150	3186	5133	7655				
		385 rpm	382 rpm	373 rpm	365 rpm				
<b>59.43</b> <i>Max Int.</i>			2832	4912	7080				
			455 rpm	440 rpm	432 rpm				

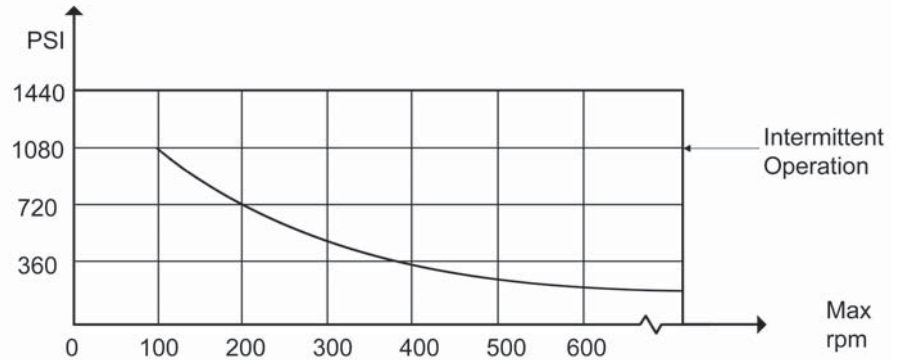
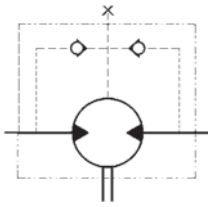
<b>BMK6 630</b>		<b>38.01 in<sup>3</sup>/rev (623.0 cm<sup>3</sup>/rev)</b>					<i>Max Cont.</i>	<i>Peak</i>
<b>Pressure (psi →)</b>	<b>254</b>	<b>508</b>	<b>1015</b>	<b>1523</b>	<b>2031</b>	<b>2538</b>	<b>2901</b>	<b>3263</b>
<b>FLOW</b>	<b>(gpm ↓)</b>	<b>Torque (in·lbf) Speed Specification</b>						
	<b>1.05</b>	1150	2168	4425	6638			
		6 rpm	5 rpm	4 rpm	2 rpm			
	<b>2.11</b>	1194	2345	4779	7124	9243		
		12 rpm	12 rpm	11 rpm	10 rpm	8 rpm		
	<b>3.96</b>	1239	2478	5177	7655	9603	12612	
		24 rpm	23 rpm	22 rpm	21 rpm	16 rpm	13 rpm	
	<b>7.92</b>	1283	2610	5354	8186	11240	13099	15754
		48 rpm	47 rpm	45 rpm	42 rpm	38 rpm	34 rpm	30 rpm
	<b>11.88</b>	1283	2610	5398	8142	11771	12966	15665
		72 rpm	71 rpm	70 rpm	68 rpm	65 rpm	58 rpm	50 rpm
	<b>15.85</b>	1194	2522	5354	8098	11771	12966	
		95 rpm	94 rpm	91 rpm	87 rpm	83 rpm	78 rpm	
	<b>19.81</b>	1150	2453	5266	8098	11722		
		120 rpm	119 rpm	116 rpm	112 rpm	106 rpm		
	<b>23.77</b>	1017	2301	5177	8009	11594		
		145 rpm	144 rpm	141 rpm	137 rpm	130 rpm		
	<b>27.73</b>	885	2256	5089	7921	11550		
		168 rpm	167 rpm	164 rpm	160 rpm	152 rpm		
	<b>31.70</b>	752	2079	4956	7788	11328		
	192 rpm	191 rpm	186 rpm	182 rpm	175 rpm			
<b>35.66</b>	663	1947	4779	7567				
	216 rpm	215 rpm	212 rpm	207 rpm				
<b>39.62</b> <i>Max Cont.</i>	442	1770	4646	7434				
	240 rpm	239 rpm	236 rpm	233 rpm				
<b>50.19</b>			4115	7036				
			300 rpm	293 rpm				
<b>59.43</b> <i>Max Int.</i>			3805	6549				
			360 rpm	348 rpm				

<b>BMK6 800</b>		<b>48.96 in<sup>3</sup>/rev (802.4 cm<sup>3</sup>/rev)</b>						<i>Max Cont.</i>	<i>Max Int.</i>	<i>Peak</i>	
<b>Pressure (psi →)</b>	<b>254</b>	<b>508</b>	<b>725</b>	<b>1015</b>	<b>1233</b>	<b>1523</b>	<b>1740</b>	<b>2031</b>	<b>2248</b>	<b>2538</b>	
<b>F L O W</b>	<b>(gpm ↓)</b>	<b>Torque (in·lbf) Speed Specification</b>									
	<b>1.05</b>	1522 4 rpm	3053 4 rpm	4690 2 rpm	6107 2 rpm	7611 1 rpm					
	<b>2.11</b>	1593 9 rpm	3142 9 rpm	4779 8 rpm	6416 8 rpm	8452 7 rpm	9558 6 rpm	11284 5 rpm	12037 4 rpm		
	<b>3.96</b>	1637 18 rpm	3274 18 rpm	5000 17 rpm	6708 17 rpm	8673 16 rpm	10001 15 rpm	11196 14 rpm	12568 12 rpm	14647 10 rpm	16639 9 rpm
	<b>7.92</b>	1681 36 rpm	3407 35 rpm	5221 34 rpm	7036 33 rpm	8894 32 rpm	10620 31 rpm	11771 29 rpm	13904 28 rpm	15400 26 rpm	
	<b>11.88</b>	1681 55 rpm	3407 55 rpm	5221 54 rpm	7880 53 rpm	8983 52 rpm	10620 52 rpm	12214 50 rpm	13718 48 rpm		
	<b>15.85</b>	1637 74 rpm	3363 73 rpm	5133 72 rpm	6992 70 rpm	8983 69 rpm	10620 67 rpm	11904 65 rpm			
	<b>19.81</b>	1557 92 rpm	3274 92 rpm	5089 91 rpm	6921 88 rpm	8850 87 rpm	10488 85 rpm	12081 82 rpm			
	<b>23.77</b>	1460 112 rpm	3186 111 rpm	4956 110 rpm	6770 108 rpm	8762 106 rpm	10355 102 rpm				
	<b>27.73</b>	1327 130 rpm	3009 129 rpm	4912 128 rpm	6638 127 rpm	8662 125 rpm	10222 120 rpm				
	<b>31.70</b>	1168 149 rpm	2816 148 rpm	4823 146 rpm	6505 143 rpm	8363 140 rpm	10001 135 rpm				
	<b>35.66</b>	929 168 rpm	2672 167 rpm	4646 165 rpm	6254 162 rpm	8063 158 rpm					
	<b>39.62</b> <i>Max Cont.</i>	788 186 rpm	2389 185 rpm	4425 183 rpm	6018 180 rpm	7788 176 rpm					
	<b>50.19</b>		2655 235 rpm	4204 233 rpm	5841 230 rpm	7567 226 rpm					
	<b>59.43</b> <i>Max Int.</i>			3743 280 rpm	5416 276 rpm	7346 272 rpm					

<b>BMK6 1000</b>		<b>59.90 in<sup>3</sup>/rev (981.6 cm<sup>3</sup>/rev)</b>						<i>Max Cont.</i>			
<b>Pressure (psi →)</b>	<b>254</b>	<b>508</b>	<b>725</b>	<b>1015</b>	<b>1233</b>	<b>1523</b>	<b>1740</b>	<b>2031</b>			
<b>F L O W</b>	<b>(gpm ↓)</b>	<b>Torque (in·lbf) Speed Specification</b>									
	<b>1.05</b>	1991 3 rpm	4071 3 rpm	5664 2 rpm	7744 2 rpm	9603 1 rpm					
	<b>2.11</b>	2035 7 rpm	4159 7 rpm	6151 6 rpm	8363 6 rpm	10355 5 rpm	12523 4 rpm	13807 3 rpm	14824 2 rpm		
	<b>3.96</b>	2124 15 rpm	4292 15 rpm	6328 15 rpm	8540 14 rpm	10620 14 rpm	12789 13 rpm	13984 13 rpm	15754 12 rpm		
	<b>7.92</b>	2124 30 rpm	4381 30 rpm	6372 30 rpm	8806 29 rpm	10930 28 rpm	13099 27 rpm	14515 25 rpm	16462 23 rpm		
	<b>11.88</b>	2124 45 rpm	4381 45 rpm	6372 44 rpm	8850 44 rpm	11063 43 rpm	13187 42 rpm	15046 40 rpm			
	<b>15.85</b>	2079 60 rpm	4336 60 rpm	6328 60 rpm	8762 59 rpm	11019 57 rpm	13276 55 rpm				
	<b>19.81</b>	1991 76 rpm	4204 76 rpm	6284 76 rpm	8673 75 rpm	10886 73 rpm	13143 70 rpm				
	<b>23.77</b>	1902 91 rpm	4071 91 rpm	6234 91 rpm	8496 90 rpm	10753 88 rpm	12966 85 rpm				
	<b>27.73</b>	1770 106 rpm	3938 106 rpm	6107 105 rpm	8319 105 rpm	10576 103 rpm	12745 100 rpm				
	<b>31.70</b>	1637 122 rpm	3717 122 rpm	5885 121 rpm	8142 119 rpm	10222 116 rpm					
	<b>35.66</b>	1327 137 rpm	3451 137 rpm	5620 136 rpm	7877 136 rpm	9912 134 rpm					
	<b>39.62</b> <i>Max Cont.</i>	973 152 rpm	3186 151 rpm	5354 150 rpm	7611 148 rpm	9558 145 rpm					
	<b>50.19</b>		2832 192 rpm	5089 190 rpm	7257 188 rpm	9249 185 rpm					
	<b>59.43</b> <i>Max Int.</i>			4558 230 rpm	7080 228 rpm	9027 224 rpm					

# BMK6 Technical Data

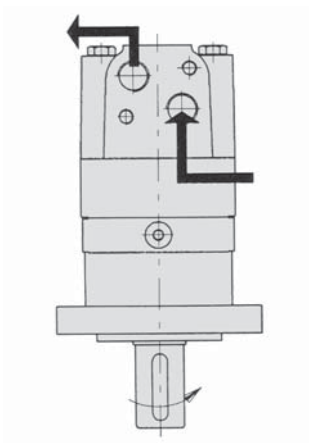
## Seal Shaft Rated Pressure



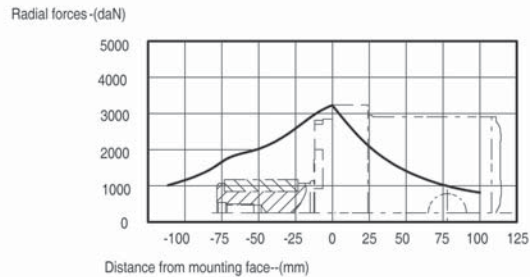
## Case Drain

In applications without a motor drain line, the pressure exerted on the shaft seal is marginally in excess of the return line pressure. When the drain line is used the pressure exerted on the shaft seal is equal to the return line pressure.

## Shaft Rotation Direction



BMK6 for CC Mounting Radial forces



The bearing curve represents allowable bearing loads for an B10 bearing life (2000 hours or 12x10<sup>6</sup> revolutions at 100rpm) at rated output torque. Other speed load multiply a load values.

The maximum load curve is defined by bearing static load capacity.

This curve should not be exceeded at any time including shock loads.