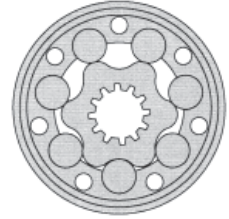
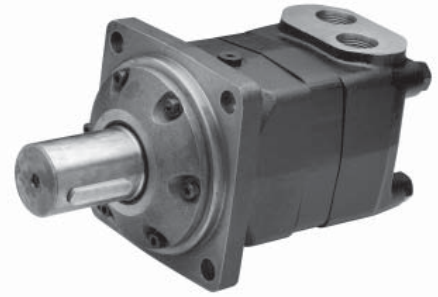


## Hydraulic Motor Model BMV



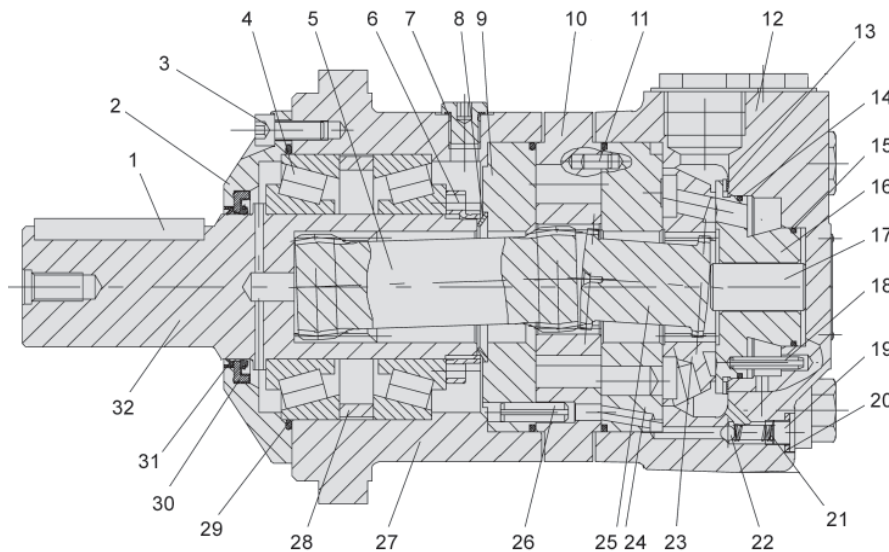
The BMV series motor adapts the advanced **ROLORTORC™** gear set design with **DISC** distribution flow and high pressure. These motors can be supplied with various options for multifunctional operations in accordance with the application requirements. The output shaft tapered roller bearings permit 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		BMV 315	BMV 400	BMV 500	BMV 630	BMV 800	BMV 1000
<b>Displacement</b>	<i>in<sup>3</sup>/rev (cm<sup>3</sup>/rev)</i>	20.32 (333)	25.56 (419)	31.61 (518)	40.64 (666)	48.93 (802)	60.41 (990)
<b>Max Speed</b>	Cont	510	500	400	320	250	200
	Int.	630	600	480	380	300	240
<b>Max Torque</b>	Cont	8142	10443	12922	14692	16639	17834
	Int.	9736	12479	15577	17170	18675	20179
<b>Max Differential</b>	Cont	2900	2900	2900	2610	2320	2030
	Int.	3481	3481	3481	3045	2610	2320
<b>Max Flow</b>	Cont	42.3	52.8	52.8	52.8	52.8	52.8
	Int.	52.8	63.2	63.2	63.2	63.2	63.2
<b>Weight</b>		70 lbs	72 lbs	74 lbs	77 lbs	81 lbs	85 lbs

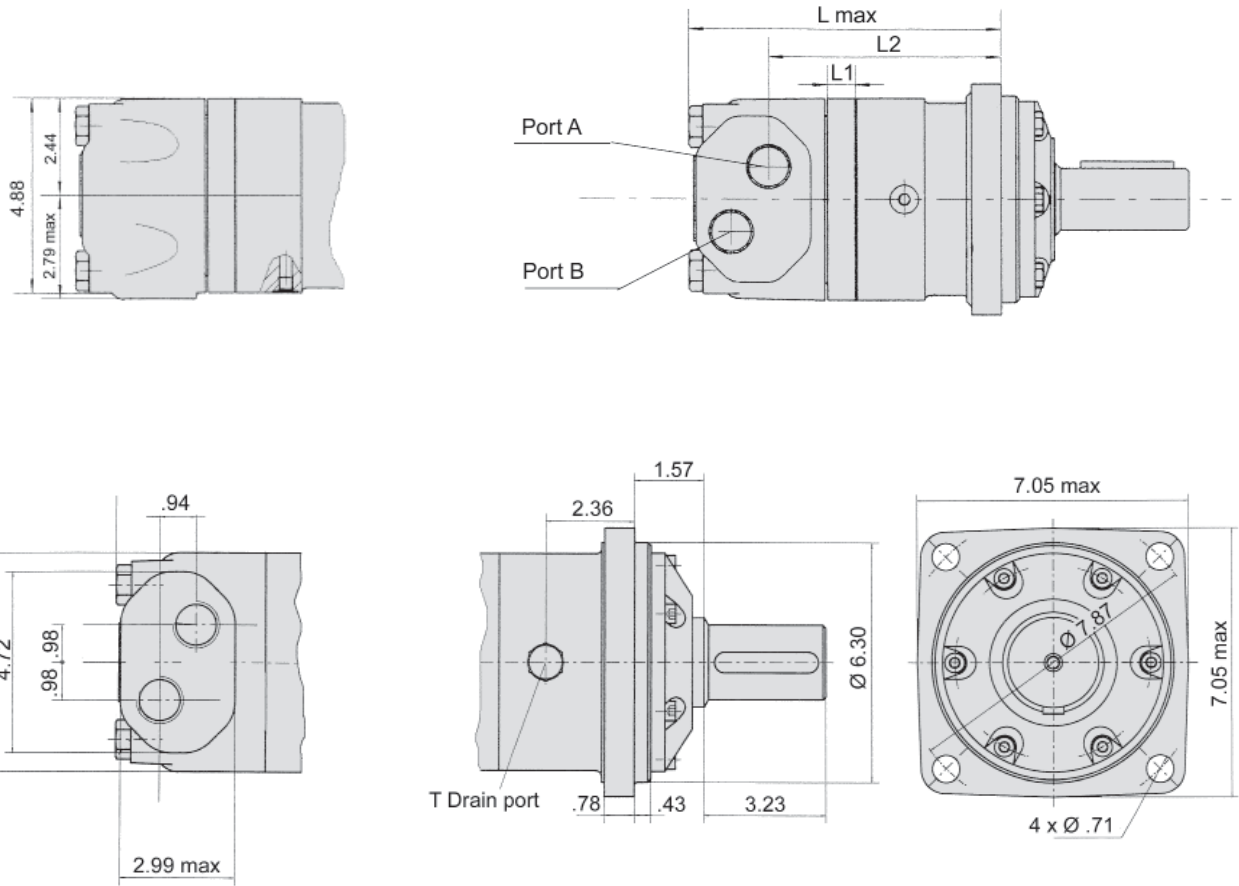
*Continuous = maximum of continuous operation. Intermittent = maximum operating range for 6 seconds per minute*



#### Diagram Key

- |                                 |                   |
|---------------------------------|-------------------|
| 1 Parallel Key                  | 16 Balance Plate  |
| 2 Flange                        | 17 Spacer         |
| 3 Screw                         | 18 Pin            |
| 4 Radial Tapered Roller Bearing | 19 Screw          |
| 5 Drive                         | 20 Washer         |
| 6 Lock Nut                      | 21 Spring         |
| 7 Case Drain                    | 22 Ball           |
| 8 Seal                          | 23 Valve Plate    |
| 9 Intermediate Plate            | 24 Channel Plate  |
| 10 Rolortorc Set                | 25 Valve Drive    |
| 11 Pin                          | 26 Pin            |
| 12 End Cover                    | 27 Housing        |
| 13 Spring Washer                | 28 Spacer Bushing |
| 14 "O" Ring                     | 29 "O" Ring       |
| 15 "O" Ring                     | 30 Shaft Seal     |
|                                 | 31 Dust Seal      |
|                                 | 32 Shaft          |

# BMV Installation Data

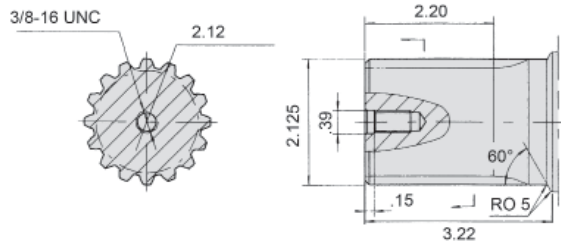


MODEL	L	L1	L2
BMV 315	8.54"	1.06"	6.36"
BMV 400	8.82"	1.33"	6.63"
BMV 500	9.13"	1.65"	6.95"
BMV 630	9.60"	2.12"	7.42"
BMV 800	10.04"	2.56"	7.85"
BMV 1000	10.67"	2.91"	8.48"

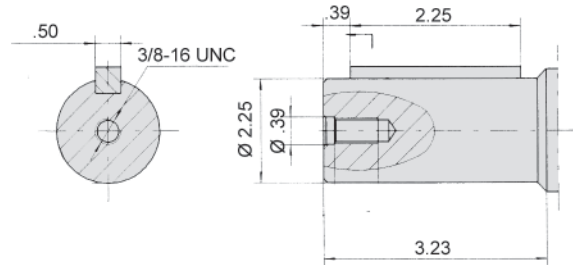
Port	Port Size
P (A, B)	SAE 16
T	SAE 6

# BMV Drive Shaft Data

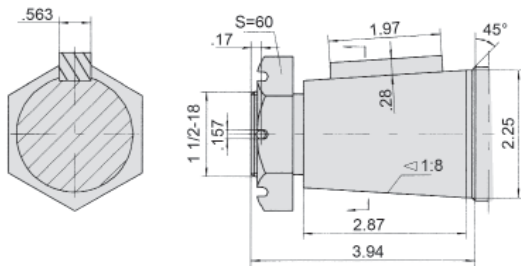
## B - 2 1/8" 16 DP Spline



## C - 2 1/4" Parallel Key



## T1 - 2 1/4" Tapered



### Ordering Example:

Model **BMV** - Frame Size **400** - Flange **4** - Drive Shaft **B** - Ports **S1** - Options

Model	Frame Size	Mounting Flange**	Drive Shaft	Port Size	Options
BMV	315 (20.32) 400 (25.56) 500 (31.61) 630 (40.64) 800 (48.93) 1000 (60.41)	4 = 4-Bolt	B = 2 1/8" 16 DP Spline C = 2 1/4" Parallel Key T1 = 2 1/4" Tapered	S1 = 1 5/16" - 12 SAE	F* = Free Running

\*Special Order

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

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

## BMV Flow Data

BMV 315		20.32 in <sup>3</sup> /rev (333 cm <sup>3</sup> /rev)					Max Cont.	Max Int.
Pressure (psi →)		507	1015	1450	2030	2610	2900	3480
<b>F L O W</b>	(gpm ↓)	<b>Torque (in•lbf) Speed Specification</b>						
	<b>2.64</b>	1239	2602	3894	5398	6467	7478	8850
		26 rpm	24 rpm	23 rpm	22 rpm	20 rpm	17 rpm	14 rpm
	<b>5.28</b>	1354	2779	4124	5629	6965	7921	9470
		55 rpm	54 rpm	53 rpm	52 rpm	51 rpm	48 rpm	44 rpm
	<b>13.21</b>	1318	2761	4115	5788	7213	8275	9842
		145 rpm	144 rpm	142 rpm	140 rpm	137 rpm	133 rpm	127 rpm
	<b>19.81</b>	1265	2690	4058	5682	7222	8319	9903
		220 rpm	218 rpm	215 rpm	211 rpm	207 rpm	202 rpm	195 rpm
	<b>26.42</b>	1203	2628	4000	5629	7169	8284	9806
		294 rpm	292 rpm	290 rpm	287 rpm	283 rpm	278 rpm	270 rpm
	<b>33.02</b>	1088	2531	3912	5540	7071	8151	9673
		368 rpm	366 rpm	364 rpm	361 rpm	357 rpm	352 rpm	345 rpm
	<b>39.63</b> <i>Max Cont.</i>	1008	2433	3850	5443	6974	8018	9541
445 rpm		443 rpm	441 rpm	437 rpm	430 rpm	422 rpm	410 rpm	
<b>42.27</b>	947	2371	3805	5381	6903	7921	9470	
	475 rpm	473 rpm	470 rpm	466 rpm	460 rpm	452 rpm	439 rpm	
<b>52.83</b> <i>Max Int.</i>	725	2203	3646	5248	6708	7708	9266	
	596 rpm	594 rpm	590 rpm	584 rpm	576 rpm	565 rpm	544 rpm	

BMV 400		25.56 in <sup>3</sup> /rev (419 cm <sup>3</sup> /rev)					Max Cont.	Max Int.
Pressure (psi →)		507	1015	1450	2030	2610	2900	3480
<b>F L O W</b>	(gpm ↓)	<b>Torque (in•lbf) Speed Specification</b>						
	<b>2.64</b>	1619	3407	5027	6868	8567	9744	11435
		20 rpm	20 rpm	19 rpm	18 rpm	17 rpm	16 rpm	14 rpm
	<b>5.28</b>	1734	3522	5221	7213	8939	10196	11913
		44 rpm	44 rpm	43 rpm	42 rpm	40 rpm	39 rpm	37 rpm
	<b>13.21</b>	1770	3557	5336	7452	9204	10496	12656
		114 rpm	113 rpm	113 rpm	112 rpm	110 rpm	108 rpm	103 rpm
	<b>19.81</b>	1725	3487	5275	7416	9231	10514	12674
		175 rpm	173 rpm	170 rpm	166 rpm	163 rpm	1579 rpm	152 rpm
	<b>26.42</b>	1522	3407	5248	7319	9169	10479	12612
		236 rpm	235 rpm	233 rpm	231 rpm	227 rpm	223 rpm	215 rpm
	<b>33.02</b>	1478	3310	5159	7222	9036	10417	12506
		296 rpm	294 rpm	291 rpm	288 rpm	282 rpm	275 rpm	268 rpm
	<b>39.63</b>	1398	3195	4947	7089	8921	10311	12302
355 rpm		354 rpm	352 rpm	349 rpm	344 rpm	335 rpm	324 rpm	
<b>46.23</b>	1265	3062	4894	6938	8753	10134	12187	
	416 rpm	414 rpm	411 rpm	407 rpm	403 rpm	396 rpm	388 rpm	
<b>52.83</b> <i>Max Cont.</i>	1044	2929	4743	6815	8576	9983	12001	
	475 rpm	473 rpm	469 rpm	463 rpm	455 rpm	448 rpm	439 rpm	
<b>63.40</b> <i>Max Int.</i>	725	2664	4478	6549	8346	9771	11789	
	571 rpm	569 rpm	565 rpm	548 rpm	539 rpm	530 rpm	520 rpm	

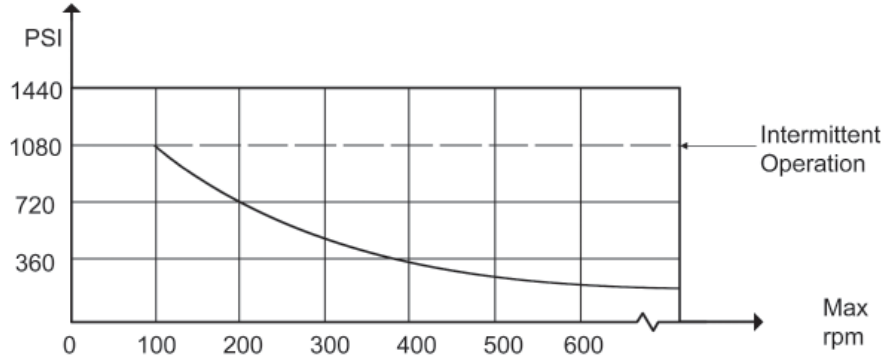
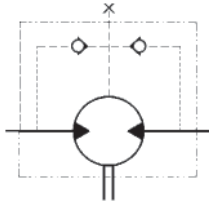
BMV 500		31.61 in <sup>3</sup> /rev (518 cm <sup>3</sup> /rev)					Max Cont.	Max Int.
Pressure (psi →)		507	1015	1450	2030	2610	2900	3480
F L O W	(gpm ↓)	Torque (in•lbf) Speed Specification						
	2.64	2141	4142	6160	8487	10532	11975	14223
		17 rpm	17 rpm	16 rpm	16 rpm	15 rpm	13 rpm	11 rpm
	5.28	2169	4434	6531	8877	10904	12337	14674
		36 rpm	35 rpm	35 rpm	34 rpm	33 rpm	32 rpm	29 rpm
	13.21	2124	4425	6708	9072	11240	12824	15426
		93 rpm	92 rpm	91 rpm	90 rpm	88 rpm	85 rpm	80 rpm
	19.81	2062	4407	6655	9116	11399	13054	15630
		140 rpm	139 rpm	137 rpm	135 rpm	132 rpm	127 rpm	120 rpm
	26.42	2017	4345	6620	9080	11408	13028	15577
		189 rpm	187 rpm	185 rpm	182 rpm	178 rpm	173 rpm	166 rpm
	33.02	1947	4274	6567	8974	11328	12922	15444
		237 rpm	236 rpm	234 rpm	231 rpm	227 rpm	223 rpm	216 rpm
	39.63	1778	4115	6399	8921	11063	12647	15364
287 rpm		286 rpm	284 rpm	281 rpm	276 rpm	270 rpm	260 rpm	
46.23	1610	3947	6292	8824	10957	12444	15179	
	335 rpm	334 rpm	332 rpm	329 rpm	325 rpm	320 rpm	310 rpm	
52.83 Max Cont.	1424	3743	6868	8620	10780	12258	15019	
	384 rpm	383 rpm	381 rpm	378 rpm	374 rpm	366 rpm	354 rpm	
63.40 Max Int.	1062	3345	6390	8151	10373	11859	14603	
	461 rpm	459 rpm	457 rpm	454 rpm	450 rpm	444 rpm	432 rpm	

BMV 630		40.64 in <sup>3</sup> /rev (666 cm <sup>3</sup> /rev)					Max Cont.	Max Int.
Pressure (psi →)		507	870	1305	1740	2175	2610	3045
F L O W	(gpm ↓)	Torque (in•lbf) Speed Specification						
	2.64	2478	4620	7186	9735	11222	13709	15789
		14 rpm	13 rpm	13 rpm	12 rpm	12 rpm	11 rpm	10 rpm
	5.28	2549	4885	7425	9744	11638	14223	16497
		28 rpm	28 rpm	27 rpm	27 rpm	26 rpm	24 rpm	22 rpm
	13.21	2557	4912	7682	10063	12072	14886	17312
		72 rpm	72 rpm	71 rpm	69 rpm	68 rpm	66 rpm	62 rpm
	19.81	2389	4850	7638	9912	11966	14869	17382
		109 rpm	108 rpm	106 rpm	104 rpm	102 rpm	99 rpm	94 rpm
	26.42	2336	4761	7576	9585	11948	14816	17391
		146 rpm	145 rpm	143 rpm	141 rpm	138 rpm	135 rpm	130 rpm
	33.02	2221	4566	7408	9479	11824	14683	17258
		184 rpm	183 rpm	181 rpm	179 rpm	177 rpm	173 rpm	168 rpm
	39.63	2124	4381	7231	9408	11771	14603	17064
221 rpm		220 rpm	219 rpm	217 rpm	215 rpm	212 rpm	205 rpm	
46.23	1858	4292	7045	9310	11505	14479	16887	
	259 rpm	258 rpm	257 rpm	254 rpm	250 rpm	246 rpm	241 rpm	
52.83 Max Cont.	1610	4150	6646	9010	11328	14258	16665	
	297 rpm	297 rpm	295 rpm	293 rpm	290 rpm	284 rpm	273 rpm	
63.40 Max Int.	1150	3681	6301	8656	10948	13833	16241	
	358 rpm	357 rpm	355 rpm	351 rpm	346 rpm	340 rpm	332 rpm	

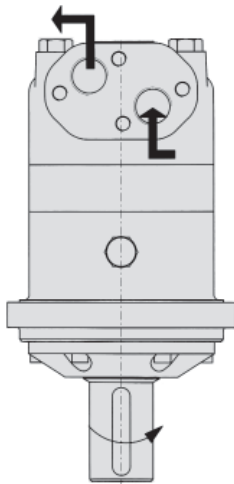
BMV 800		48.93 in <sup>3</sup> /rev (801 cm <sup>3</sup> /rev)					Max Cont.	Max Int.
Pressure (psi →)		262	725	1160	1450	1885	2320	2610
FLOW	(gpm ↓)	Torque (in•lbf) Speed Specification						
	2.64	2460	5000	7346	9691	12435	15152	16949
		11 rpm	10 rpm	10 rpm	9 rpm	8 rpm	8 rpm	7 rpm
	5.28	2495	5053	7478	10178	12886	15780	17648
		23 rpm	22 rpm	22 rpm	21 rpm	20 rpm	18 rpm	16 rpm
	13.21	2549	5151	7576	10284	12948	15842	17710
		60 rpm	59 rpm	57 rpm	56 rpm	54 rpm	52 rpm	48 rpm
	19.81	2380	5133	7567	10331	12966	15807	17639
		91 rpm	90 rpm	89 rpm	87 rpm	84 rpm	81 rpm	77 rpm
	26.42	2221	5009	7434	10089	12815	15639	17568
		122 rpm	121 rpm	120 rpm	118 rpm	115 rpm	111 rpm	105 rpm
	33.02	2141	4735	7293	9895	12630	15391	17489
		153 rpm	152 rpm	150 rpm	147 rpm	143 rpm	139 rpm	133 rpm
	39.63	2088	4655	7151	9753	12399	15170	17338
		185 rpm	183 rpm	181 rpm	178 rpm	174 rpm	169 rpm	163 rpm
46.23	1902	4460	7018	9549	12187	15028	17135	
	216 rpm	214 rpm	212 rpm	209 rpm	206 rpm	203 rpm	196 rpm	
52.83 <i>Max Cont.</i>	1743	4142	6770	9408	12054	14878	16931	
	247 rpm	245 rpm	243 rpm	240 rpm	237 rpm	232 rpm	225 rpm	
63.40 <i>Max Int.</i>	1044	3434	6310	9027	11665	14488	16267	
	297 rpm	296 rpm	295 rpm	293 rpm	288 rpm	283 rpm	277 rpm	

BMV 1000		60.41 in <sup>3</sup> /rev (990 cm <sup>3</sup> /rev)					Max Cont.	Max Int.
Pressure (psi →)		262	725	1015	1450	2030	2320	
FLOW	(gpm ↓)	Torque (in•lbf) Speed Specification						
	2.64	2761	5664	8594	12391	17506	19993	
		9 rpm	9 rpm	9 rpm	8 rpm	7 rpm	6 rpm	
	5.28	2832	5735	8656	12479	17524	20091	
		28 rpm	27 rpm	26 rpm	25 rpm	23 rpm	21 rpm	
	13.21	2885	5797	8779	12585	17834	20179	
		47 rpm	46 rpm	45 rpm	43 rpm	41 rpm	38 rpm	
	19.81	2814	5682	8735	12612	17728	20144	
		72 rpm	71 rpm	70 rpm	68 rpm	66 rpm	63 rpm	
	26.42	2734	5611	8700	12550	17648	19852	
		98 rpm	97 rpm	95 rpm	93 rpm	90 rpm	86 rpm	
	33.02	2726	5522	8629	12470	17595	19684	
		123 rpm	122 rpm	120 rpm	117 rpm	114 rpm	110 rpm	
	39.63	2460	5328	8505	12107	17374	19542	
		149 rpm	148 rpm	146 rpm	144 rpm	140 rpm	133 rpm	
46.23	2336	5133	8372	11842	17037	19108		
	174 rpm	172 rpm	170 rpm	166 rpm	162 rpm	155 rpm		
52.83 <i>Max Cont.</i>	2035	4921	8071	11505	16789	18603		
	199 rpm	196 rpm	193 rpm	190 rpm	185 rpm	178 rpm		
63.40 <i>Max Int.</i>	1469	4540	7673	11470	16152	18002		
	240 rpm	237 rpm	233 rpm	229 rpm	225 rpm	218 rpm		

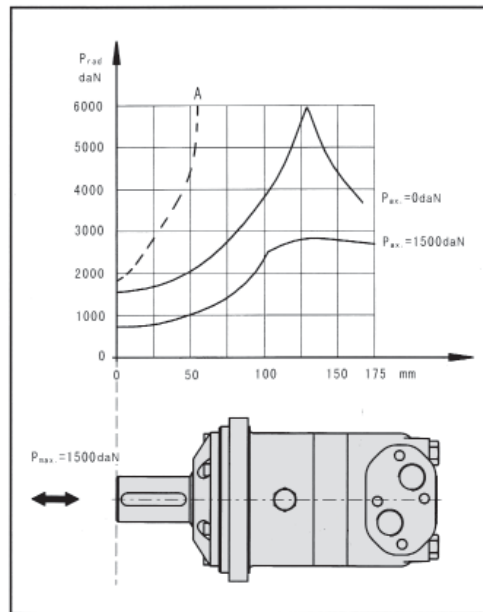
**Shaft Seal Rated Pressure**



**Shaft Rotation Direction**



Axial and Radial forces



The output shaft runs tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve risk of breakage. The two other curves apply to a B10 bearing life of 3000 hours at 200 rpm.