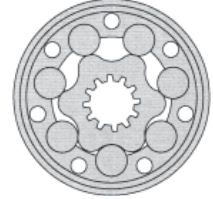


Hydraulic Motor Model BMH



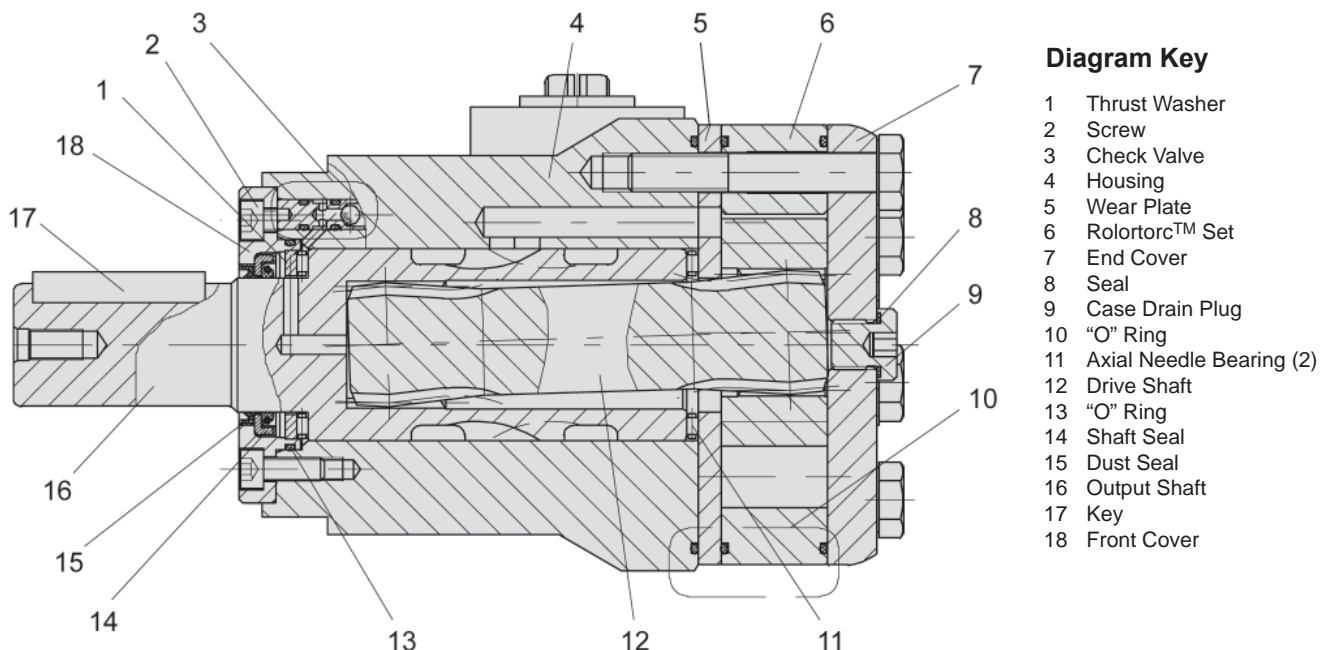
The BMH series advanced **ROLORTORC™** gear set, shaft distribution flow, hydraulic motor is a compact, low noise, high efficient high torque low speed design. The **ROLORTORC™** gear set also affords a reliable smooth start up at low pressure. The special design of the valve linkage and high pressure capability of the shaft seal provides a long operating life and these motors can be used in either series or parallel operation.

The low-weight, advanced-construction design is manufactured in accordance with the requirements of ISO 9000-2000 quality system.

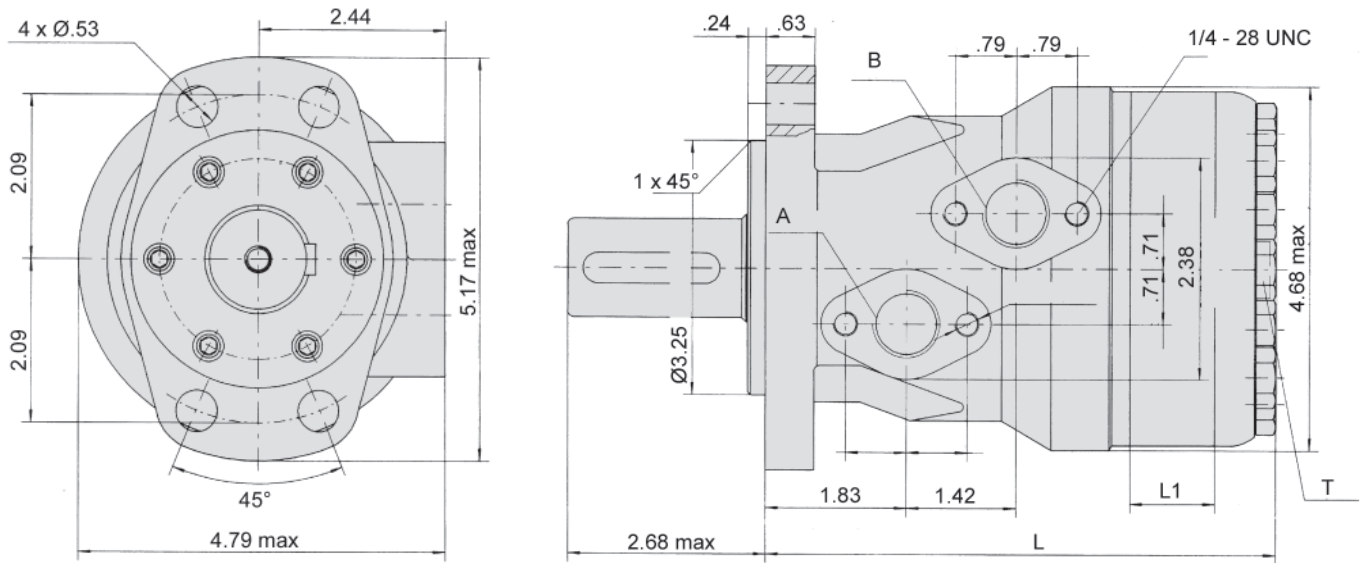
Technical Specifications

MODEL		BMH 200	BMH 250	BMH 315	BMH 400	BMH 500
Displacement <i>in³/rev (cm³/rev)</i>		12.40 (203.20)	15.62 (255.90)	19.30 (316.10)	24.80 (406.40)	29.90 (489.20)
Max Speed <i>rpm</i>	Cont	366	290	236	183	155
	Int.	439	348	282	220	166
Max Torque <i>in•lbf</i>	Cont	4513	5496	6549	7646	7071
	Int.	5125	6213	7319	8744	8593
Max Differential <i>psi</i>	Cont	2580	2580	2580	2285	1845
	Int.	2950	2950	2950	2805	2360
Max Flow <i>gpm</i>	Cont	19.75	19.75	19.75	19.75	19.75
	Int.	23.7	23.7	23.7	23.7	23.7
Weight		23.25 lbs	24.20 lbs	25.80 lbs	27.40 lbs	28.50 lbs

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



BMH Installation Data

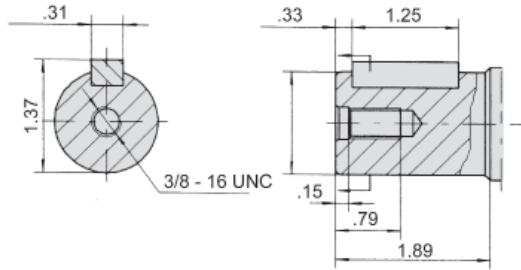


MODEL	L	L1
BMH 200	6.61"	1.06"
BMH 250	6.89"	1.34"
BMH 315	7.24"	1.65"
BMH 400	7.68"	2.12"
BMH 500	8.11"	2.56"

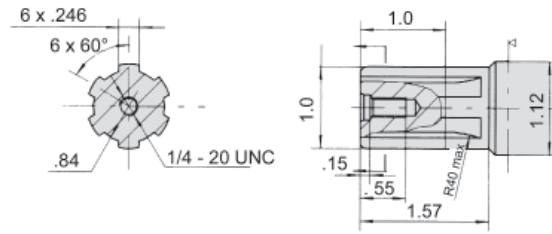
Port	SAE Size	NPT Size
P (A, B)	7/8 - 14 SAE	1/2 - 14 NPTF
T	7/16 - 20 SAE	7/16 - 20 SAE

BMH Drive Shaft Data

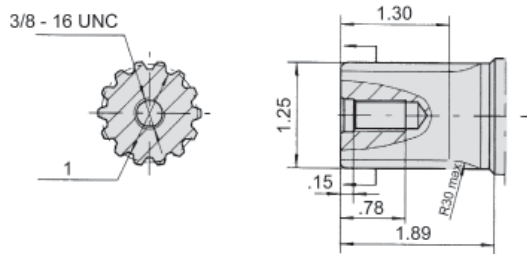
G - 1 1/4" Parallel Key



S - SAE 6B Spline



F - 1 1/4" - 14 DP Spline



Ordering Example: **BMH** - **315** - **2** - **G** - **P** - **□**

Model	Frame Size	Mounting Flange**	Drive Shaft**	Port Size	Options
BMH	200 (12.40)	4 = Magneto	G = 1 1/4" Parallel Key	P = 1/2" NPTF	F* = Free Running
	250 (15.62)	2* = SAE "A" 2-Bolt	S = SAE 6B Spline	S = 7/8-14 SAE	
	315 (19.29)		F = 1 1/4"-14 DP Spline		
	400 (24.80)				
	500 (30.51)				

*Special Order

**Additional flange and drive shaft options available please consult factory.

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

BMH Flow Data

BMH 200		12.40 in ³ /rev (203.2 cm ³ /rev)					Max Cont.	Max Int.	
Pressure (psi →)		515	1030	1546	2060	2576	2950		
F L O W	(gpm ↓)	Torque (in•lbf) Speed Specification							
	1.32	867	1717	2513					
		25 rpm	25 rpm	22 rpm					
	2.65	894	1805	2664	3460	4266			
		43 rpm	41 rpm	36 rpm	29 rpm	14 rpm			
	5.26	876	1779	2690	3558	4505	5098		
		100 rpm	97 rpm	93 rpm	85 rpm	69 rpm	56 rpm		
	7.90	858	1743	2655	3558	4513	5124		
		145 rpm	143 rpm	139 rpm	130 rpm	114 rpm	101 rpm		
	10.50	797	1681	2584	3531	4487	5115		
		200 rpm	200 rpm	200 rpm	188 rpm	168 rpm	153 rpm		
	13.15	726	1619	2513	3469	4425	5053		
		248 rpm	246 rpm	244 rpm	235 rpm	213 rpm	199 rpm		
	15.80	646	1540	2425	3398	4363	4982		
292 rpm		290 rpm	287 rpm	279 rpm	260 rpm	244 rpm			
18.40	557	1442	2336	3309	4256	4903			
	352 rpm	350 rpm	349 rpm	338 rpm	318 rpm	301 rpm			
19.75	522	1389	2292	3239	4204	4841			
	366 rpm	365 rpm	363 rpm	355 rpm	335 rpm	319 rpm			
21.05 Max Cont.	469	1328	2239	3168	4124	4761			
	381 rpm	381 rpm	380 rpm	371 rpm	352 rpm	338 rpm			
23.68 Max Int.	345	1239	2133	3080	4036	4655			
	443 rpm	437 rpm	434 rpm	426 rpm	407 rpm	392 rpm			

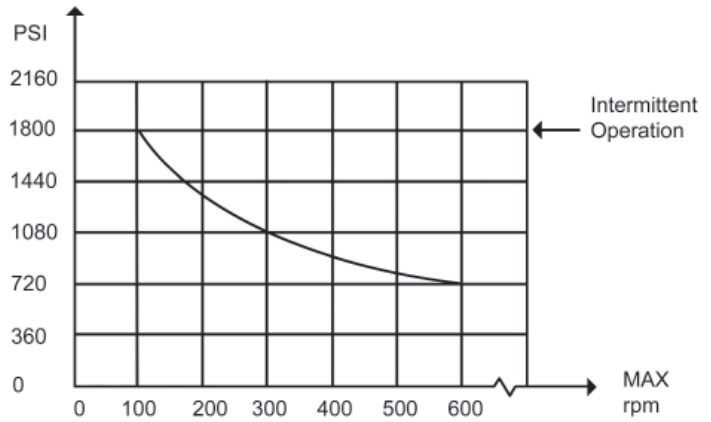
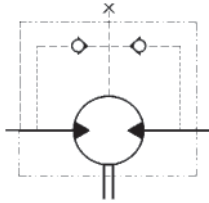
BMH 250		15.62 in ³ /rev (255.9 cm ³ /rev)					Max Cont.	Max Int.	
Pressure (psi →)		515	1030	1328	1766	2139	2576	2950	
F L O W	(gpm ↓)	Torque (in•lbf) Speed Specification							
	1.32	1071	2177	2814	3522				
		19 rpm	19 rpm	18 rpm	14 rpm				
	2.65	1150	2283	2929	3761	4558	5266		
		34 rpm	33 rpm	31 rpm	29 rpm	23 rpm	12 rpm		
	5.26	1150	2283	2938	3823	4602	5496	6213	
		78 rpm	77 rpm	76 rpm	73 rpm	65 rpm	53 rpm	42 rpm	
	7.90	1080	2221	2894	3797	4602	5496	6195	
		115 rpm	113 rpm	111 rpm	105 rpm	96 rpm	84 rpm	75 rpm	
	10.50	1017	2124	2858	3735	4540	5452	6177	
		157 rpm	157 rpm	156 rpm	150 rpm	139 rpm	127 rpm	114 rpm	
	13.15	929	2053	2779	3637	4469	5363	6080	
		196 rpm	195 rpm	192 rpm	185 rpm	173 rpm	159 rpm	147 rpm	
	15.80	831	1947	2673	3549	4390	5275	5983	
232 rpm		230 rpm	226 rpm	218 rpm	206 rpm	192 rpm	180 rpm		
18.40	720	1850	2550	3442	4283	5150	5894		
	274 rpm	274 rpm	274 rpm	266 rpm	252 rpm	238 rpm	222 rpm		
19.75	637	1796	2478	3372	4204	5080	5832		
	290 rpm	289 rpm	287 rpm	279 rpm	266 rpm	251 rpm	236 rpm		
21.05 Max Cont.	584	1717	2416	3283	4133	5009	5761		
	303 rpm	302 rpm	298 rpm	290 rpm	279 rpm	264 rpm	249 rpm		
23.68 Max Int.	433	1575	2266	3142	4009	4885	5611		
	348 rpm	347 rpm	345 rpm	337 rpm	325 rpm	309 rpm	292 rpm		

BMH 315		19.29 in³/rev (316.1 cm³/rev)						<i>Max Cont.</i>	<i>Max Int.</i>
Pressure (psi →)		515	1105	1470	1987	2286	2576	2950	
F L O W	(gpm ↓)	Torque (in·lbf) Speed Specification							
	1.32	1372	2876						
		16 rpm	13 rpm						
	2.65	1442	3026	4018	4921				
		27 rpm	24 rpm	18 rpm	14 rpm				
	5.26	1496	3089	4151	5150	5876	6487	7160	
		63 rpm	61 rpm	55 rpm	48 rpm	40 rpm	32 rpm	19 rpm	
	7.90	1460	3044	4159	5133	5921	6549	7292	
		93 rpm	89 rpm	82 rpm	77 rpm	67 rpm	59 rpm	46 rpm	
	10.50	1363	2982	4115	5106	5867	6522	7319	
		126 rpm	126 rpm	119 rpm	111 rpm	99 rpm	88 rpm	73 rpm	
	13.15	1248	2876	4027	5027	5806	6443	7292	
		159 rpm	155 rpm	148 rpm	139 rpm	126 rpm	115 rpm	98 rpm	
	15.80	1071	2761	3894	4912	5690	6328	7186	
		187 rpm	186 rpm	179 rpm	169 rpm	154 rpm	143 rpm	124 rpm	
	18.40	911	2637	3761	4788	5584	6221	7080	
222 rpm		222 rpm	215 rpm	205 rpm	187 rpm	176 rpm	157 rpm		
19.75	831	2540	3690	4682	5514	6160	7009		
	236 rpm	233 rpm	224 rpm	215 rpm	196 rpm	184 rpm	166 rpm		
21.05 <i>Max Cont.</i>	726	2451	3593	4584	5407	6089	6938		
	246 rpm	244 rpm	236 rpm	228 rpm	210 rpm	197 rpm	174 rpm		
23.68 <i>Max Int.</i>	549	2266	3416	4390	5248	5921	6788		
	282 rpm	280 rpm	275 rpm	266 rpm	248 rpm	234 rpm	209 rpm		

BMH 400		24.80 in³/rev (406.4 cm³/rev)					<i>Max Cont.</i>
Pressure (psi →)		515	1105	1470	1987	2286	2802
F L O W	(gpm ↓)	Torque (in·lbf) Speed Specification					
	1.32	1735	3080	4566			
		13 rpm	13 rpm	10 rpm			
	2.65	1814	3212	4832	6213	7602	
		22 rpm	21 rpm	21 rpm	17 rpm	11 rpm	
	5.26	1850	3239	4805	6266	7735	8744
		50 rpm	49 rpm	46 rpm	41 rpm	36 rpm	31 rpm
	7.90	1779	3159	4797	6248	7646	8708
		73 rpm	72 rpm	70 rpm	63 rpm	56 rpm	51 rpm
	10.50	1726	3062	4708	6204	7593	8611
		99 rpm	98 rpm	96 rpm	86 rpm	77 rpm	71 rpm
	13.15	1531	2938	4584	6080	7504	8478
		123 rpm	122 rpm	118 rpm	107 rpm	97 rpm	90 rpm
	15.80	1363	2823	4434	5912	7372	8354
		146 rpm	144 rpm	141 rpm	128 rpm	115 rpm	106 rpm
	18.40	1221	2699	4248	5744	7204	8186
174 rpm		173 rpm	169 rpm	156 rpm	141 rpm	130 rpm	
19.75	1133	2602	4124	5637	7098	8062	
	183 rpm	181 rpm	177 rpm	163 rpm	149 rpm	138 rpm	
21.05 <i>Max Cont.</i>	1000	2451	3991	5496	6956	7956	
	192 rpm	191 rpm	188 rpm	174 rpm	158 rpm	144 rpm	
23.68 <i>Max Int.</i>	796	2266	3832	5266	6788	7797	
	220 rpm	220 rpm	215 rpm	202 rpm	183 rpm	165 rpm	

BMH 500		30.51 in ³ /rev (500 cm ³ /rev)					<i>Max Cont.</i>	<i>Max Int.</i>
Pressure (psi →)		368	738	1254	1470	1840	2355	
F L O W	(gpm ↓)	Torque (in•lbf) Speed Specification						
	1.32	1460	2805	4567				
		11 rpm	11 rpm	8 rpm				
	2.65	1575	2965	4912	5921	7000	8576	
		20 rpm	19 rpm	17 rpm	15 rpm	13 rpm	9 rpm	
	5.26	1566	2929	4947	5956	6894	8744	
		42 rpm	42 rpm	41 rpm	38 rpm	36 rpm	29 rpm	
	7.90	1522	2832	4894	5867	7009	8699	
		64 rpm	63 rpm	61 rpm	57 rpm	53 rpm	47 rpm	
	10.50	1443	2735	4788	5788	6930	8593	
		85 rpm	85 rpm	83 rpm	79 rpm	75 rpm	67 rpm	
	13.15	1292	2120	4628	5620	6797	8443	
		103 rpm	103 rpm	103 rpm	97 rpm	93 rpm	85 rpm	
	15.80	1071	2434	4443	5434	6611	8266	
		124 rpm	124 rpm	123 rpm	117 rpm	113 rpm	103 rpm	
	18.40	858	2266	4266	5283	6452	8115	
		148 rpm	148 rpm	148 rpm	140 rpm	134 rpm	122 rpm	
	19.75	699	2124	4151	5151	6319	7983	
155 rpm		155 rpm	155 rpm	152 rpm	144 rpm	130 rpm		
21.05 <i>Max Cont.</i>	531	2000	4009	5044	6204	7823		
	166 rpm	166 rpm	166 rpm	159 rpm	153 rpm	139 rpm		
23.68 <i>Max Int.</i>	301	1779	3726	4868	5956	7691		
	166 rpm	165 rpm	164 rpm	157 rpm	156 rpm	155 rpm		

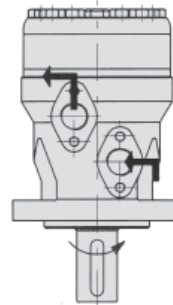
Shaft Seal Rated Pressure



Case Drain

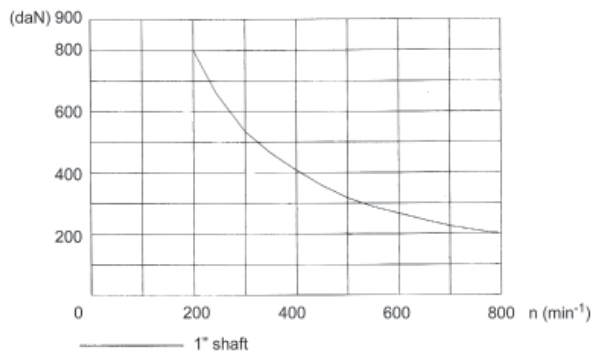
In applications without a motor drain line, the pressure exerted on the shaft seal is marginally in excess of the return line pressure. When the drain line is used, the pressure exerted on the shaft seal is equal to the return line pressure.

Shaft Rotation Direction

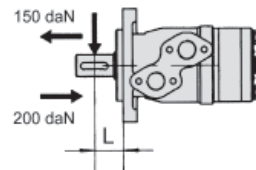


Radial Forces

Status of the Shaft's Radial Force



$$F_r = \frac{800}{n} * \frac{2500}{95 + L}$$



F_r = Radial Force (daN)
 L = Distance (mm)
 n = Speed (rpm)

Rhomb Flange $L=30\text{mm}$
 Square Flange $L=24\text{mm}$