



## BMV SERIES HYDRAULIC MOTOR

BMV 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 offer 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.

### Main Specification

Type		BMV 315	BMV 400	BMV 500	BMV 630	BMV 800	BMV 1000
Geometric displacement (cm <sup>3</sup> /rev.)		333	419	518	666	801	990
Max. speed (rpm)	cont.	510	500	400	320	250	200
	int.	630	600	480	380	300	240
Max. torque (N•m)	cont.	920	1180	1460	1660	1880	2015
	int.	1110	1410	1760	1940	2110	2280
	peak	1290	1640	2050	2210	2470	2400
Max. output (kW)	cont.	38.0	47.0	47.0	40.0	33.0	28.6
	int.	46.0	56.0	56.0	56.0	44.0	40.0
Max. pressure drop (MPa)	cont.	20	20	20	18	16	14
	int.	24	24	24	21	18	16
	peak	28	28	28	24	21	18
Max. flow (L/min)	cont.	160	200	200	200	200	200
	int.	200	240	240	240	240	240
Weight (kg)		31.8	32.6	33.5	34.9	36.5	38.6

\* 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

BMV 315 [333cm<sup>3</sup>/rev.]

Pressure (MPa) Max.cont. Max.int.

		3.5	7	10	14	18	20	24
Flow (L/min)	10	140	294	440	610	742	845	1000
		<b>26</b>	<b>24</b>	<b>23</b>	<b>22</b>	<b>20</b>	<b>17</b>	<b>14</b>
	20	153	314	466	636	787	895	1070
		<b>55</b>	<b>54</b>	<b>53</b>	<b>52</b>	<b>51</b>	<b>48</b>	<b>44</b>
	50	149	312	465	654	815	935	1112
	<b>145</b>	<b>144</b>	<b>142</b>	<b>140</b>	<b>137</b>	<b>133</b>	<b>127</b>	
	143	304	458	642	816	940	1119	
	<b>220</b>	<b>218</b>	<b>215</b>	<b>211</b>	<b>207</b>	<b>202</b>	<b>195</b>	
	136	297	452	636	810	936	1108	
	<b>294</b>	<b>292</b>	<b>290</b>	<b>287</b>	<b>283</b>	<b>278</b>	<b>270</b>	
	123	286	442	626	799	921	1093	
	<b>368</b>	<b>366</b>	<b>364</b>	<b>361</b>	<b>357</b>	<b>352</b>	<b>345</b>	
Max.cont.	150	114	275	435	615	788	906	1078
		<b>445</b>	<b>443</b>	<b>441</b>	<b>437</b>	<b>430</b>	<b>422</b>	<b>410</b>
	160	107	268	430	608	780	895	1070
		<b>475</b>	<b>473</b>	<b>470</b>	<b>466</b>	<b>460</b>	<b>452</b>	<b>439</b>
Max.int.	200	82	249	412	593	758	871	1047
		<b>596</b>	<b>594</b>	<b>590</b>	<b>584</b>	<b>576</b>	<b>565</b>	<b>544</b>

BMV 400 [419cm<sup>3</sup>/rev.]

Pressure (MPa) Max.cont. Max.int.

		3.5	7	10	14	18	20	24
Flow (L/min)	10	183	385	568	776	968	1101	1292
		<b>20</b>	<b>20</b>	<b>19</b>	<b>18</b>	<b>17</b>	<b>16</b>	<b>14</b>
	20	196	398	590	815	1010	1152	1346
		<b>44</b>	<b>44</b>	<b>43</b>	<b>42</b>	<b>40</b>	<b>39</b>	<b>37</b>
	50	200	402	603	842	1040	1186	1430
	<b>114</b>	<b>113</b>	<b>113</b>	<b>112</b>	<b>110</b>	<b>108</b>	<b>103</b>	
	195	394	596	838	1043	1188	1432	
	<b>175</b>	<b>173</b>	<b>170</b>	<b>166</b>	<b>163</b>	<b>1579</b>	<b>152</b>	
	172	385	593	827	1036	1184	1425	
	<b>236</b>	<b>235</b>	<b>233</b>	<b>231</b>	<b>227</b>	<b>223</b>	<b>215</b>	
	167	374	583	816	1021	1177	1413	
	<b>296</b>	<b>294</b>	<b>291</b>	<b>288</b>	<b>282</b>	<b>275</b>	<b>268</b>	
	158	361	559	801	1008	1165	1390	
	<b>355</b>	<b>354</b>	<b>352</b>	<b>349</b>	<b>344</b>	<b>335</b>	<b>324</b>	
	143	346	553	784	989	1145	1377	
	<b>416</b>	<b>414</b>	<b>411</b>	<b>407</b>	<b>403</b>	<b>396</b>	<b>388</b>	
Max.cont.	175	118	331	536	770	969	1128	1356
		<b>475</b>	<b>473</b>	<b>469</b>	<b>463</b>	<b>455</b>	<b>448</b>	<b>439</b>
Max.cont.	200	82	301	506	740	943	1104	1332
Max.int.	240	<b>571</b>	<b>569</b>	<b>565</b>	<b>548</b>	<b>539</b>	<b>530</b>	<b>520</b>

BMV 500 [518cm<sup>3</sup>/rev.]

Pressure (MPa) Max.cont. Max.int.

		3.5	7	10	14	18	20	24
Flow (L/min)	10	242	468	696	959	1190	1353	1607
		<b>17</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>15</b>	<b>13</b>	<b>11</b>
	20	245	501	738	1003	1232	1394	1658
		<b>36</b>	<b>35</b>	<b>35</b>	<b>34</b>	<b>33</b>	<b>32</b>	<b>29</b>
	50	240	500	758	1025	1270	1449	1743
	<b>93</b>	<b>92</b>	<b>91</b>	<b>90</b>	<b>88</b>	<b>85</b>	<b>80</b>	
	233	498	752	1030	1288	1475	1766	
	<b>140</b>	<b>139</b>	<b>137</b>	<b>135</b>	<b>132</b>	<b>127</b>	<b>120</b>	
	228	491	748	1026	1289	1472	1760	
	<b>189</b>	<b>187</b>	<b>185</b>	<b>182</b>	<b>178</b>	<b>173</b>	<b>166</b>	
	220	483	742	1014	1280	1460	1745	
	<b>237</b>	<b>236</b>	<b>234</b>	<b>231</b>	<b>227</b>	<b>223</b>	<b>216</b>	
	201	465	723	1008	1250	1429	1736	
	<b>287</b>	<b>286</b>	<b>284</b>	<b>281</b>	<b>276</b>	<b>270</b>	<b>260</b>	
	182	446	711	997	1238	1406	1715	
	<b>335</b>	<b>334</b>	<b>332</b>	<b>329</b>	<b>325</b>	<b>320</b>	<b>310</b>	
Max.cont.	200	161	423	676	974	1218	1385	1697
		<b>384</b>	<b>383</b>	<b>381</b>	<b>378</b>	<b>374</b>	<b>366</b>	<b>354</b>
Max.int.	240	120	378	622	921	1172	1340	1650
		<b>461</b>	<b>459</b>	<b>457</b>	<b>454</b>	<b>450</b>	<b>444</b>	<b>432</b>

BMV 630 [666cm<sup>3</sup>/rev.]

Pressure (MPa) Max.cont. Max.int.

		3.5	6	9	12	15	18	21
Flow (L/min)	10	280	522	812	1100	1268	1549	1784
		<b>14</b>	<b>13</b>	<b>13</b>	<b>12</b>	<b>12</b>	<b>11</b>	<b>10</b>
	20	288	552	839	1101	1315	1607	1864
		<b>28</b>	<b>28</b>	<b>27</b>	<b>27</b>	<b>26</b>	<b>24</b>	<b>22</b>
	50	289	555	868	1137	1364	1682	1956
	<b>72</b>	<b>72</b>	<b>71</b>	<b>69</b>	<b>68</b>	<b>66</b>	<b>62</b>	
	270	548	863	1120	1352	1680	1964	
	<b>109</b>	<b>108</b>	<b>106</b>	<b>104</b>	<b>102</b>	<b>99</b>	<b>94</b>	
	264	538	856	1093	1350	1674	1965	
	<b>146</b>	<b>145</b>	<b>143</b>	<b>141</b>	<b>138</b>	<b>135</b>	<b>130</b>	
	251	516	837	1071	1336	1659	1950	
	<b>184</b>	<b>183</b>	<b>181</b>	<b>179</b>	<b>177</b>	<b>173</b>	<b>168</b>	
	240	495	817	1063	1330	1650	1928	
	<b>221</b>	<b>220</b>	<b>219</b>	<b>217</b>	<b>215</b>	<b>212</b>	<b>205</b>	
	210	485	796	1052	1300	1636	1908	
	<b>259</b>	<b>258</b>	<b>257</b>	<b>254</b>	<b>250</b>	<b>246</b>	<b>241</b>	
Max.cont.	200	182	469	751	1018	1280	1611	1883
		<b>297</b>	<b>297</b>	<b>295</b>	<b>293</b>	<b>290</b>	<b>284</b>	<b>273</b>
Max.int.	240	130	416	712	978	1237	1563	1835
		<b>358</b>	<b>357</b>	<b>355</b>	<b>351</b>	<b>346</b>	<b>340</b>	<b>332</b>

Torque (N•m) 1340  
Speed (rpm) 444

□ cont.  
■ int.



## Performance Data

BMV 800 [801cm<sup>3</sup>/rev.]

Pressure (MPa) Max.cont. Max.int.

	2.5	5	8	10	13	16	18	
Flow (L/min)	10	278 <b>11</b>	565 <b>10</b>	830 <b>10</b>	1095 <b>9</b>	1405 <b>8</b>	1712 <b>8</b>	1915 <b>7</b>
	20	282 <b>23</b>	571 <b>22</b>	845 <b>22</b>	1150 <b>21</b>	1456 <b>20</b>	1783 <b>18</b>	1994 <b>16</b>
	50	288 <b>60</b>	582 <b>59</b>	856 <b>57</b>	1162 <b>56</b>	1463 <b>54</b>	1790 <b>52</b>	2001 <b>48</b>
	75	269 <b>91</b>	580 <b>90</b>	855 <b>89</b>	1165 <b>87</b>	1465 <b>84</b>	1786 <b>81</b>	1993 <b>77</b>
	100	251 <b>122</b>	566 <b>121</b>	840 <b>120</b>	1140 <b>118</b>	1448 <b>115</b>	1767 <b>111</b>	1985 <b>105</b>
	125	242 <b>153</b>	535 <b>152</b>	824 <b>150</b>	1118 <b>147</b>	1427 <b>143</b>	1739 <b>139</b>	1976 <b>133</b>
	150	236 <b>185</b>	526 <b>183</b>	808 <b>181</b>	1102 <b>178</b>	1401 <b>174</b>	1714 <b>169</b>	1959 <b>163</b>
	175	215 <b>216</b>	504 <b>214</b>	793 <b>212</b>	1079 <b>209</b>	1377 <b>206</b>	1698 <b>203</b>	1936 <b>196</b>
	Max.cont. 200	197 <b>247</b>	468 <b>245</b>	765 <b>243</b>	1063 <b>240</b>	1362 <b>237</b>	1681 <b>232</b>	1913 <b>225</b>
	Max.int. 240	118 <b>297</b>	388 <b>296</b>	713 <b>295</b>	1020 <b>293</b>	1318 <b>288</b>	1637 <b>283</b>	1838 <b>277</b>

□ cont.  
■ int.

BMV 1000 [990cm<sup>3</sup>/rev.]

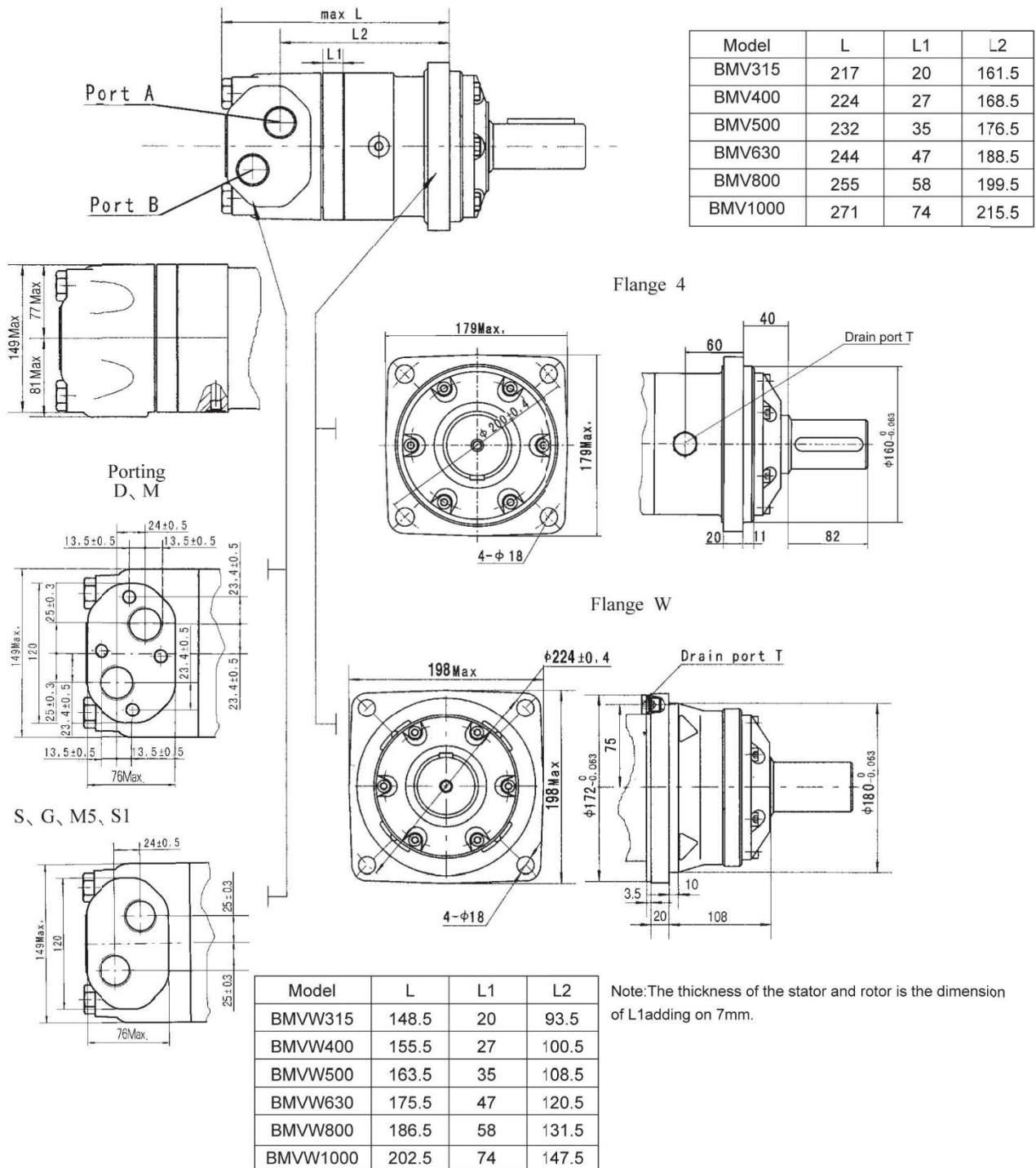
Pressure (MPa) Max.cont. Max.int.

	2.5	5	7	10	14	16	
Flow (L/min)	10	312 <b>9</b>	640 <b>9</b>	971 <b>9</b>	1400 <b>8</b>	1978 <b>7</b>	2259 <b>6</b>
	20	320 <b>28</b>	648 <b>27</b>	978 <b>26</b>	1410 <b>25</b>	1980 <b>23</b>	2270 <b>21</b>
	50	326 <b>47</b>	655 <b>46</b>	992 <b>45</b>	1422 <b>43</b>	2015 <b>41</b>	2280 <b>38</b>
	75	318 <b>72</b>	642 <b>71</b>	987 <b>70</b>	1425 <b>68</b>	2003 <b>66</b>	2276 <b>63</b>
	100	309 <b>98</b>	634 <b>97</b>	983 <b>95</b>	1418 <b>93</b>	1994 <b>90</b>	2243 <b>86</b>
	125	303 <b>123</b>	624 <b>122</b>	975 <b>120</b>	1409 <b>117</b>	1988 <b>114</b>	2224 <b>110</b>
	150	278 <b>149</b>	602 <b>148</b>	961 <b>146</b>	1368 <b>144</b>	1963 <b>140</b>	2208 <b>133</b>
	175	264 <b>174</b>	580 <b>172</b>	946 <b>170</b>	1338 <b>166</b>	1925 <b>162</b>	2159 <b>155</b>
	Max.cont. 200	230 <b>199</b>	556 <b>196</b>	912 <b>193</b>	1300 <b>190</b>	1891 <b>185</b>	2105 <b>178</b>
	Max.int. 240	166 <b>240</b>	513 <b>237</b>	867 <b>233</b>	1267 <b>229</b>	1825 <b>225</b>	2034 <b>218</b>

Torque (N•m) 1825  
Speed (rpm) 225



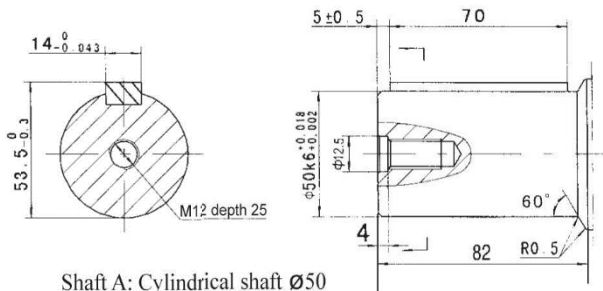
## BMV DIMENSIONS AND MOUNTING DATA



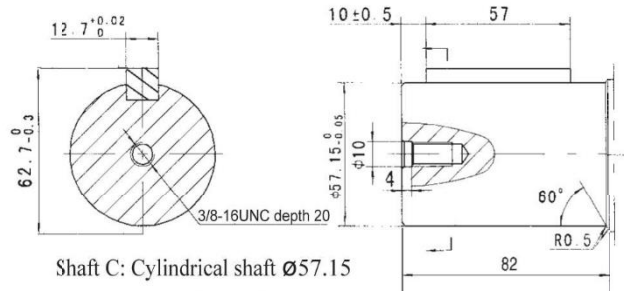
Content	Code					
	D (depth)	M (depth)	S (depth)	G (depth)	M5 (depth)	S1 (depth)
P(A,B)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF(12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)
C	4-M12 (10)	4-M12 (10)	--	--	--	--



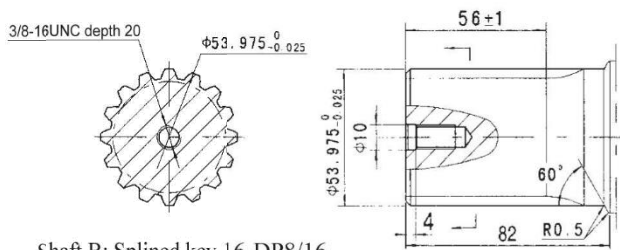
## BMV SHAFT EXTENSIONS DIMENSIONS DATA



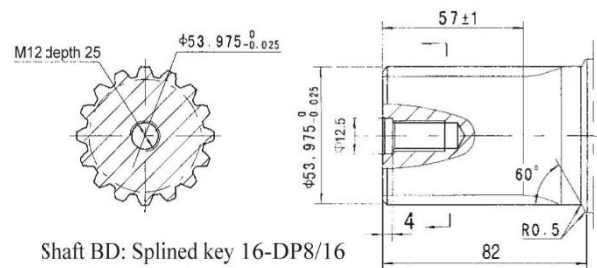
Shaft A: Cylindrical shaft Ø50  
Parallel key 14x9x70



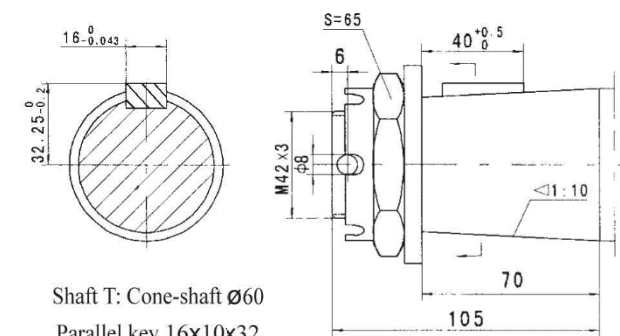
Shaft C: Cylindrical shaft Ø57.15  
Parallel key 12.7x12.7x57



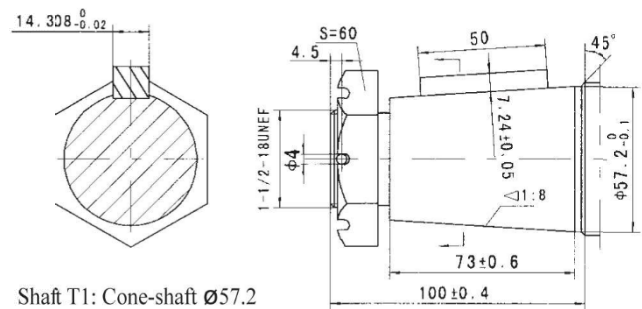
Shaft B: Splined key 16-DP8/16



Shaft BD: Splined key 16-DP8/16



Shaft T: Cone-shaft Ø60  
Parallel key 16x10x32  
Tightening torque: 750±50Nm

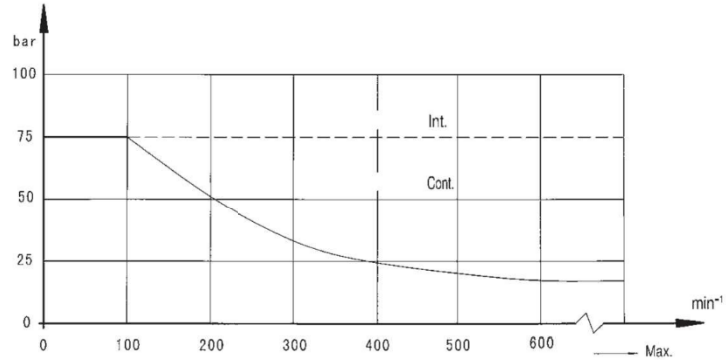
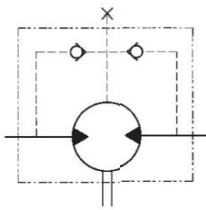


Shaft T1: Cone-shaft Ø57.2  
Parallel key 14.308x14.308x50  
Tightening torque: 750±50Nm



## BMV Series Hydraulic Motor

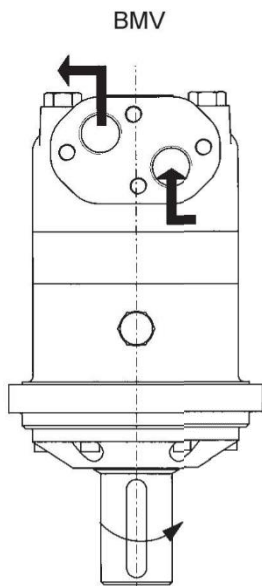
### Permissible shaft seal pressure



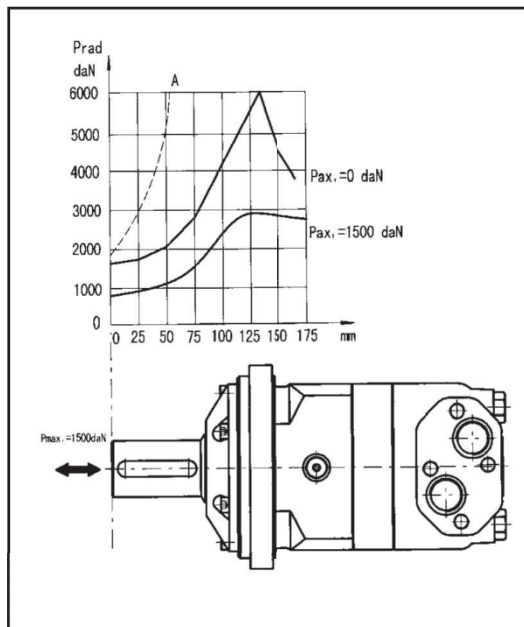
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

### Standard direction of shaft rotation: Standard

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

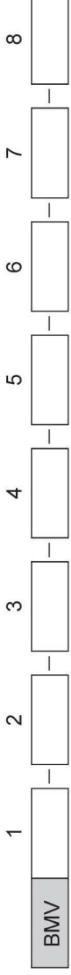


### Axial and Radial forces



The output shaft runs in 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 a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

## Order Information



Pos.1	2	3	4	5	6	7	8
Code	Displacement	Flange	Output shaft	Ports and drain port	Rotation direction	Paint	Unusually function
	315	4 4-Ø18 Square-flange Ø200, pilot Ø160x11 W 4-Ø18 Wheel-flange Ø224, pilot Ø180x10	A Shaft Ø50 , parallel key 14x9x70	D G1 Manifold 4xM12, G1/4	Omit Standard R Opposite	00 No paint Blue Black Silver grey	Standard
	400		BD Shaft Ø53.975, splined key 16-DP8/16	M M33x2 Manifold 4xM12, M14x1.5			
	500		B Shaft Ø53.975, splined key 16-DP8/16	S G1, G1/4			
Omit	630		C Shaft Ø57.15, parallel key 12.7x12.7x57.15	G M33x2, M14x1.5			
	800		T Cone shaft Ø60, parallel key 16x10x32	M5 1-5/16-12UN(18), S1 7/16-20UNF(12)			
	1000		T1 Cone shaft Ø57.2, parallel key 14.308x14.308x50.8				

Note: When the table is used, please fill the code of left rows in dash area 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.



**The Power of Orbital**