



## BMH SERIES HYDRAULIC MOTOR

BMH series motor adapt the advanced Gerolor gear set design with shaft distribution flow, which can automatically compensate in operating with high pressure, provide reliable and smooth operation, high efficiency and long life.

### Characteristic features:

- \*Advanced manufacturing devices for the Gerolor gear set, which use low pressure of start-up, provide smooth, reliable operation and high efficiency.
- \*Shaft seal can bear high pressure of back and the motor can be used in parallel or series.
- \*Special design in the driver-linker and prolong operating life.
- \*Special design for distribution system can meet the requirement of low noise of unit.
- \*Compact volume and easy installation.

## Main Specification

| Type                                           |       | BMH 200 | BMH 250 | BMH 315 | BMH 400 | BMH 500 |
|------------------------------------------------|-------|---------|---------|---------|---------|---------|
| Geometric displacement (cm <sup>3</sup> /rev.) |       | 203.2   | 255.9   | 316.1   | 406.4   | 489.2   |
| Max. speed (rpm)                               | cont. | 366     | 290     | 236     | 183     | 155     |
|                                                | int.  | 439     | 348     | 282     | 220     | 184     |
| Max. torque (N•m)                              | cont. | 510     | 621     | 740     | 850     | 830     |
|                                                | int.  | 579     | 702     | 827     | 990     | 1040    |
|                                                | peak  | 651     | 790     | 980     | 1092    | 1170    |
| Max. output (kW)                               | cont. | 16      | 16      | 14      | 12.5    | 11      |
|                                                | int.  | 18.5    | 18.5    | 15.5    | 15      | 14      |
| Max. pressure drop (MPa)                       | cont. | 17.5    | 17.5    | 17.5    | 15.5    | 12.5    |
|                                                | int.  | 20      | 20      | 20      | 19      | 16      |
|                                                | peak  | 22.5    | 22.5    | 22.5    | 21      | 18      |
| Max. flow (L/min)                              | cont. | 75      | 75      | 75      | 75      | 75      |
|                                                | int.  | 90      | 90      | 90      | 90      | 90      |
| Weight (kg)                                    |       | 10.5    | 11      | 11.5    | 12.3    | 13      |

| Type             |       | Max.inlet pressure | Max.return pressure with drain line |
|------------------|-------|--------------------|-------------------------------------|
| BMH200-500 (MPa) | cont. | 20                 | 17.5                                |
|                  | int.  | 22.5               | 20                                  |
|                  | peak  | 25                 | 22.5                                |

\* 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.

\* Technical data BMH with 35mm cylindrical, 1 1/4 in splined and 35mm tapered shaft.

## Performance Data

BMH 200 [203.2cm³/rev.]

|              |    | Pressure (MPa) |            |            |            |            |            | Max.cont. | Max.int. |
|--------------|----|----------------|------------|------------|------------|------------|------------|-----------|----------|
|              |    | 3.5            | 7          | 10.5       | 14         | 17.5       | 20         |           |          |
| Flow (L/min) | 5  | 98             | 194        | 284        |            |            |            |           |          |
|              |    | <b>25</b>      | <b>25</b>  | <b>22</b>  |            |            |            |           |          |
|              | 10 | 101            | 204        | 301        | 391        | 482        |            |           |          |
|              |    | <b>43</b>      | <b>41</b>  | <b>36</b>  | <b>29</b>  | <b>14</b>  |            |           |          |
|              | 20 | 99             | 201        | 304        | 402        | 509        | 576        |           |          |
|              |    | <b>100</b>     | <b>97</b>  | <b>93</b>  | <b>85</b>  | <b>69</b>  | <b>56</b>  |           |          |
|              | 30 | 97             | 197        | 300        | 402        | 510        | 579        |           |          |
|              |    | <b>145</b>     | <b>143</b> | <b>139</b> | <b>130</b> | <b>114</b> | <b>101</b> |           |          |
|              | 40 | 90             | 190        | 292        | 399        | 507        | 578        |           |          |
|              |    | <b>200</b>     | <b>200</b> | <b>200</b> | <b>188</b> | <b>168</b> | <b>153</b> |           |          |
| Max.cont.    | 50 | 82             | 183        | 284        | 392        | 500        | 571        |           |          |
|              |    | <b>248</b>     | <b>246</b> | <b>244</b> | <b>235</b> | <b>213</b> | <b>199</b> |           |          |
|              | 60 | 73             | 174        | 274        | 384        | 493        | 563        |           |          |
|              |    | <b>292</b>     | <b>290</b> | <b>287</b> | <b>279</b> | <b>260</b> | <b>244</b> |           |          |
|              | 70 | 63             | 163        | 264        | 374        | 481        | 554        |           |          |
|              |    | <b>352</b>     | <b>350</b> | <b>349</b> | <b>338</b> | <b>318</b> | <b>301</b> |           |          |
|              | 75 | 59             | 157        | 259        | 366        | 475        | 547        |           |          |
|              |    | <b>366</b>     | <b>365</b> | <b>363</b> | <b>355</b> | <b>335</b> | <b>319</b> |           |          |
|              | 80 | 53             | 150        | 253        | 358        | 466        | 538        |           |          |
|              |    | <b>381</b>     | <b>381</b> | <b>380</b> | <b>371</b> | <b>352</b> | <b>338</b> |           |          |
| Max.int.     | 90 | 39             | 140        | 241        | 348        | 456        | 526        |           |          |
|              |    | <b>439</b>     | <b>437</b> | <b>434</b> | <b>426</b> | <b>407</b> | <b>392</b> |           |          |

BMH 250 [255.9cm³/rev.]

|              |    | Pressure (MPa) |            |            |            |            |            |            | Max.cont. | Max.int. |
|--------------|----|----------------|------------|------------|------------|------------|------------|------------|-----------|----------|
|              |    | 3.5            | 7          | 9          | 12         | 14.5       | 17.5       | 20         |           |          |
| Flow (L/min) | 5  | 121            | 246        | 318        | 398        |            |            |            |           |          |
|              |    | <b>19</b>      | <b>19</b>  | <b>18</b>  | <b>14</b>  |            |            |            |           |          |
|              | 10 | 130            | 258        | 331        | 425        | 515        | 595        |            |           |          |
|              |    | <b>34</b>      | <b>33</b>  | <b>31</b>  | <b>29</b>  | <b>23</b>  | <b>12</b>  |            |           |          |
|              | 20 | 130            | 258        | 332        | 432        | 520        | 621        | 702        |           |          |
|              |    | <b>78</b>      | <b>77</b>  | <b>76</b>  | <b>73</b>  | <b>65</b>  | <b>53</b>  | <b>42</b>  |           |          |
|              | 30 | 122            | 251        | 327        | 429        | 520        | 621        | 700        |           |          |
|              |    | <b>115</b>     | <b>113</b> | <b>111</b> | <b>105</b> | <b>96</b>  | <b>84</b>  | <b>75</b>  |           |          |
|              | 40 | 115            | 240        | 323        | 422        | 513        | 616        | 698        |           |          |
|              |    | <b>157</b>     | <b>157</b> | <b>156</b> | <b>150</b> | <b>139</b> | <b>127</b> | <b>114</b> |           |          |
| Max.cont.    | 50 | 105            | 232        | 314        | 411        | 505        | 606        | 687        |           |          |
|              |    | <b>196</b>     | <b>195</b> | <b>192</b> | <b>185</b> | <b>173</b> | <b>159</b> | <b>147</b> |           |          |
|              | 60 | 94             | 220        | 302        | 401        | 496        | 596        | 676        |           |          |
|              |    | <b>232</b>     | <b>230</b> | <b>226</b> | <b>218</b> | <b>206</b> | <b>192</b> | <b>180</b> |           |          |
|              | 70 | 81.4           | 209        | 288        | 389        | 484        | 582        | 666        |           |          |
|              |    | <b>274</b>     | <b>274</b> | <b>274</b> | <b>266</b> | <b>252</b> | <b>238</b> | <b>222</b> |           |          |
|              | 75 | 72             | 203        | 280        | 381        | 475        | 574        | 659        |           |          |
|              |    | <b>290</b>     | <b>289</b> | <b>287</b> | <b>279</b> | <b>266</b> | <b>251</b> | <b>236</b> |           |          |
|              | 80 | 66             | 194        | 273        | 371        | 467        | 566        | 651        |           |          |
|              |    | <b>303</b>     | <b>302</b> | <b>298</b> | <b>290</b> | <b>279</b> | <b>264</b> | <b>249</b> |           |          |
| Max.int.     | 90 | 49             | 178        | 256        | 355        | 453        | 552        | 634        |           |          |
|              |    | <b>348</b>     | <b>347</b> | <b>345</b> | <b>337</b> | <b>325</b> | <b>309</b> | <b>292</b> |           |          |

BMH 315 [316.1cm³/rev.]

|              |    | Pressure (MPa) |            |            |            |            |            |            | Max.cont. | Max.int. |
|--------------|----|----------------|------------|------------|------------|------------|------------|------------|-----------|----------|
|              |    | 3.5            | 7.5        | 10         | 13.5       | 15.5       | 17.5       | 20         |           |          |
| Flow (L/min) | 5  | 155            | 325        |            |            |            |            |            |           |          |
|              |    | <b>16</b>      | <b>13</b>  |            |            |            |            |            |           |          |
|              | 10 | 163            | 342        | 454        | 556        |            |            |            |           |          |
|              |    | <b>27</b>      | <b>24</b>  | <b>18</b>  | <b>14</b>  |            |            |            |           |          |
|              | 20 | 169            | 349        | 469        | 582        | 664        | 733        | 809        |           |          |
|              |    | <b>63</b>      | <b>61</b>  | <b>55</b>  | <b>48</b>  | <b>40</b>  | <b>32</b>  | <b>19</b>  |           |          |
|              | 30 | 165            | 344        | 470        | 580        | 669        | 740        | 824        |           |          |
|              |    | <b>93</b>      | <b>89</b>  | <b>82</b>  | <b>77</b>  | <b>67</b>  | <b>59</b>  | <b>46</b>  |           |          |
|              | 40 | 154            | 337        | 465        | 577        | 663        | 737        | 827        |           |          |
|              |    | <b>126</b>     | <b>126</b> | <b>119</b> | <b>111</b> | <b>99</b>  | <b>88</b>  | <b>73</b>  |           |          |
| Max.cont.    | 50 | 141            | 325        | 455        | 568        | 656        | 728        | 824        |           |          |
|              |    | <b>159</b>     | <b>155</b> | <b>148</b> | <b>139</b> | <b>126</b> | <b>115</b> | <b>98</b>  |           |          |
|              | 60 | 121            | 312        | 440        | 555        | 643        | 715        | 812        |           |          |
|              |    | <b>187</b>     | <b>186</b> | <b>179</b> | <b>169</b> | <b>154</b> | <b>143</b> | <b>124</b> |           |          |
|              | 70 | 103            | 298        | 425        | 541        | 631        | 703        | 800        |           |          |
|              |    | <b>222</b>     | <b>222</b> | <b>215</b> | <b>205</b> | <b>187</b> | <b>176</b> | <b>157</b> |           |          |
|              | 75 | 94             | 287        | 417        | 529        | 623        | 696        | 792        |           |          |
|              |    | <b>236</b>     | <b>233</b> | <b>224</b> | <b>215</b> | <b>196</b> | <b>184</b> | <b>166</b> |           |          |
|              | 80 | 82             | 277        | 406        | 518        | 611        | 688        | 784        |           |          |
|              |    | <b>246</b>     | <b>244</b> | <b>236</b> | <b>228</b> | <b>210</b> | <b>197</b> | <b>174</b> |           |          |
| Max.int.     | 90 | 62             | 256        | 386        | 496        | 593        | 669        | 767        |           |          |
|              |    | <b>282</b>     | <b>280</b> | <b>275</b> | <b>266</b> | <b>248</b> | <b>234</b> | <b>209</b> |           |          |

BMH 400 [406.4cm³/rev.]

|              |    | Pressure (MPa) |            |            |            |            |            | Max.cont. | Max.int. |
|--------------|----|----------------|------------|------------|------------|------------|------------|-----------|----------|
|              |    | 3.5            | 6          | 10.5       | 12.5       | 15.5       | 19         |           |          |
| Flow (L/min) | 5  | 196            | 348        | 516        |            |            |            |           |          |
|              |    | <b>13</b>      | <b>13</b>  | <b>10</b>  |            |            |            |           |          |
|              | 10 | 205            | 363        | 546        | 702        | 859        |            |           |          |
|              |    | <b>22</b>      | <b>21</b>  | <b>21</b>  | <b>17</b>  | <b>11</b>  |            |           |          |
|              | 20 | 209            | 366        | 543        | 708        | 874        | 988        |           |          |
|              |    | <b>50</b>      | <b>49</b>  | <b>46</b>  | <b>41</b>  | <b>36</b>  | <b>31</b>  |           |          |
|              | 30 | 201            | 357        | 542        | 706        | 864        | 984        |           |          |
|              |    | <b>73</b>      | <b>72</b>  | <b>70</b>  | <b>63</b>  | <b>56</b>  | <b>51</b>  |           |          |
|              | 40 | 195            | 346        | 532        | 701        | 858        | 973        |           |          |
|              |    | <b>99</b>      | <b>98</b>  | <b>96</b>  | <b>86</b>  | <b>77</b>  | <b>71</b>  |           |          |
| Max.cont.    | 50 | 173            | 332        | 518        | 687        | 848        | 958        |           |          |
|              |    | <b>123</b>     | <b>122</b> | <b>118</b> | <b>107</b> | <b>97</b>  | <b>90</b>  |           |          |
|              | 60 | 154            | 319        | 501        | 668        | 833        | 944        |           |          |
|              |    | <b>146</b>     | <b>144</b> | <b>141</b> | <b>128</b> | <b>115</b> | <b>106</b> |           |          |
|              | 70 | 138            | 305        | 480        | 649        | 814        | 925        |           |          |
|              |    | <b>174</b>     | <b>173</b> | <b>169</b> | <b>156</b> | <b>141</b> | <b>130</b> |           |          |
|              | 75 | 128            | 294        | 466        | 637        | 802        | 911        |           |          |
|              |    | <b>183</b>     | <b>181</b> | <b>177</b> | <b>163</b> | <b>149</b> | <b>138</b> |           |          |
|              | 80 | 113            | 277        | 451        | 621        | 786        | 899        |           |          |
|              |    | <b>192</b>     | <b>191</b> | <b>188</b> | <b>174</b> | <b>158</b> | <b>144</b> |           |          |
| Max.int.     | 90 | 90             | 256        | 433        | 595        | 767        | 881        |           |          |
|              |    | <b>220</b>     | <b>220</b> | <b>215</b> | <b>202</b> | <b>183</b> | <b>165</b> |           |          |

Torque (N·m) 593  
Speed (rpm) 248

cont.  
int.

## Performance Data

BMH 500 [489.2cm³/rev.]

Pressure (MPa)

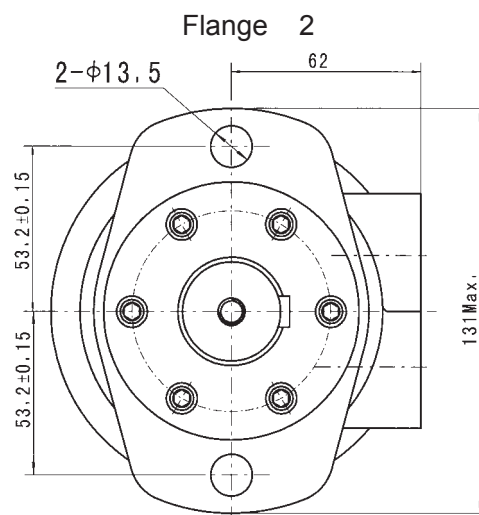
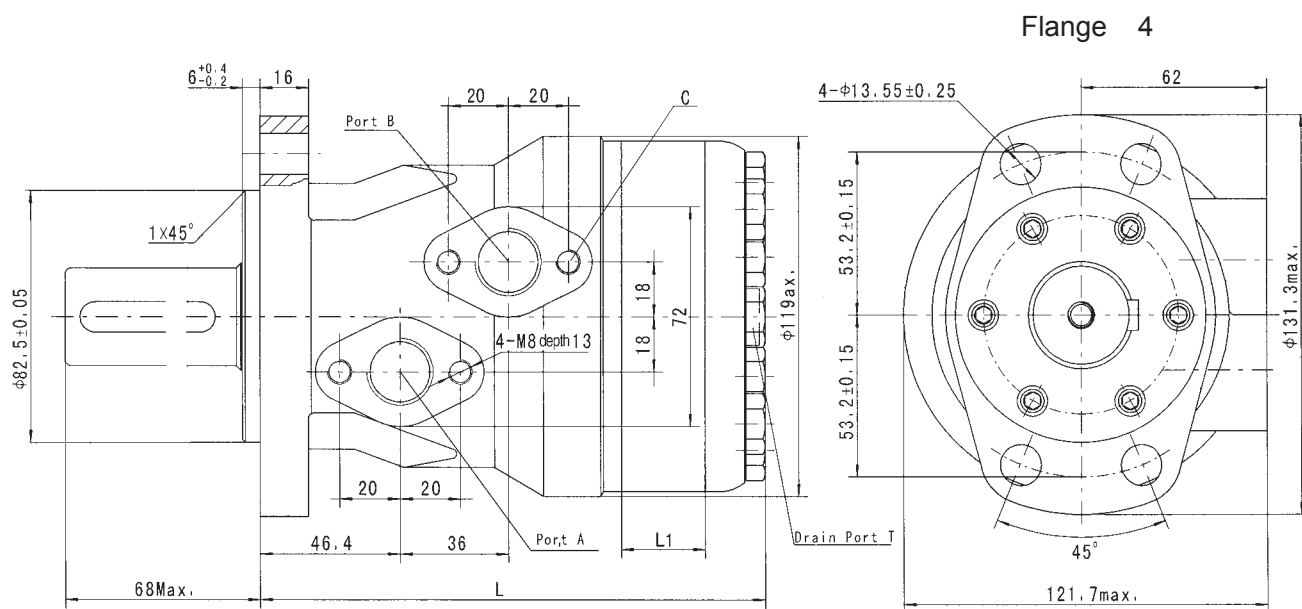
Max.cont. Max.int.

|              |    | 2.5               | 5                 | 8.5               | 10                | 12.5              | 16                |
|--------------|----|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Flow (L/min) | 5  | 165<br><b>11</b>  | 317<br><b>11</b>  | 516<br><b>8</b>   |                   |                   |                   |
|              | 10 | 178<br><b>20</b>  | 335<br><b>19</b>  | 555<br><b>17</b>  | 669<br><b>15</b>  | 791<br><b>13</b>  | 969<br><b>9</b>   |
|              | 20 | 177<br><b>42</b>  | 331<br><b>42</b>  | 559<br><b>41</b>  | 673<br><b>38</b>  | 799<br><b>36</b>  | 988<br><b>29</b>  |
|              | 30 | 172<br><b>64</b>  | 320<br><b>63</b>  | 553<br><b>61</b>  | 663<br><b>57</b>  | 792<br><b>53</b>  | 983<br><b>47</b>  |
|              | 40 | 163<br><b>85</b>  | 309<br><b>85</b>  | 541<br><b>83</b>  | 654<br><b>79</b>  | 783<br><b>75</b>  | 971<br><b>67</b>  |
|              | 50 | 146<br><b>103</b> | 296<br><b>103</b> | 523<br><b>103</b> | 635<br><b>97</b>  | 768<br><b>93</b>  | 954<br><b>85</b>  |
|              | 60 | 121<br><b>124</b> | 275<br><b>124</b> | 502<br><b>123</b> | 614<br><b>117</b> | 747<br><b>113</b> | 934<br><b>103</b> |
|              | 70 | 97<br><b>148</b>  | 256<br><b>148</b> | 482<br><b>148</b> | 597<br><b>140</b> | 729<br><b>134</b> | 917<br><b>122</b> |
|              | 75 | 79<br><b>155</b>  | 240<br><b>155</b> | 469<br><b>155</b> | 582<br><b>152</b> | 714<br><b>144</b> | 902<br><b>130</b> |
|              | 80 | 60<br><b>166</b>  | 226<br><b>166</b> | 453<br><b>166</b> | 570<br><b>159</b> | 701<br><b>153</b> | 884<br><b>139</b> |
|              |    | 34                | 201               | 421               | 550               | 673               | 869               |
| Max.int.     | 90 | <b>184</b>        | <b>183</b>        | <b>182</b>        | <b>177</b>        | <b>166</b>        | <b>155</b>        |

cont.  
int.

Torque (N·m) 673  
Speed (rpm) 166

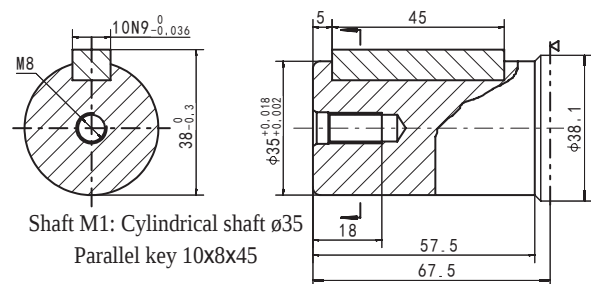
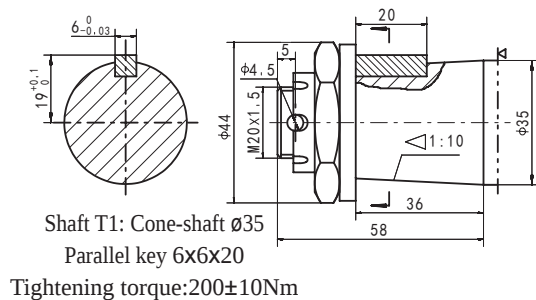
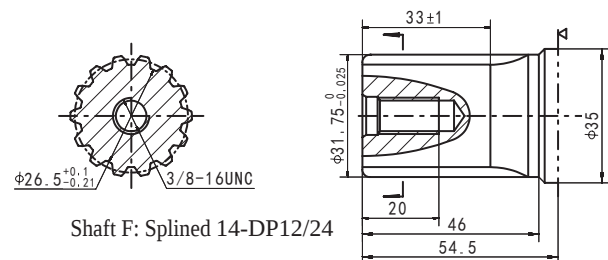
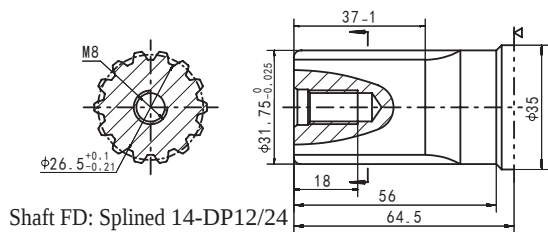
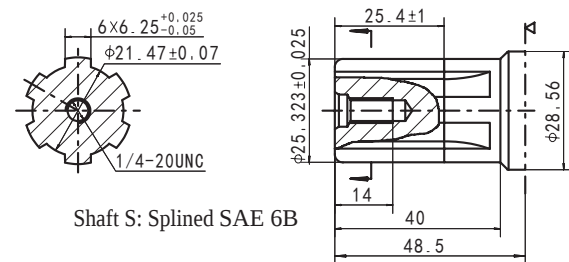
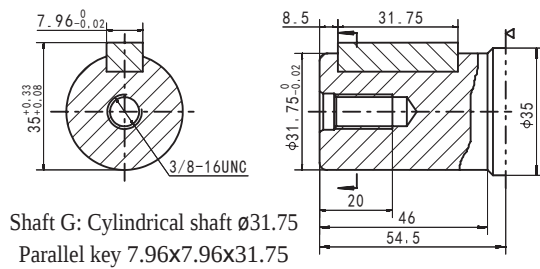
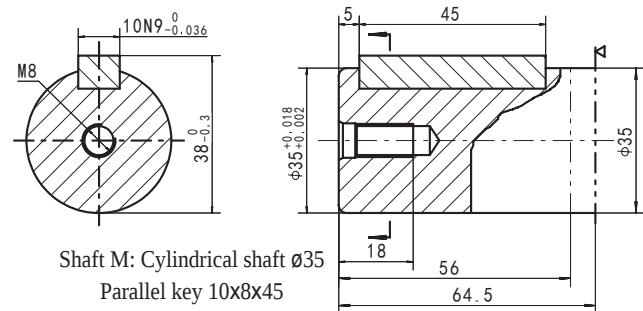
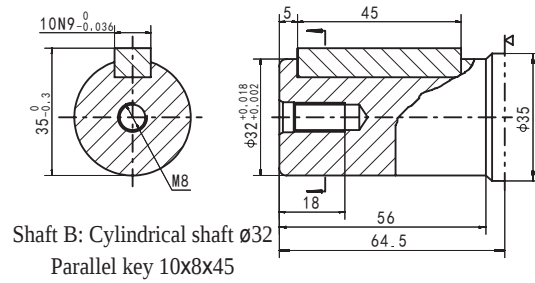
## BMH DIMENSIONS AND MOUNTING DATA



| Model   | L   | L1 |
|---------|-----|----|
| BMH-160 | 162 | 21 |
| BMH-200 | 168 | 27 |
| BMH-250 | 175 | 34 |
| BMH-315 | 183 | 42 |
| BMH-400 | 195 | 54 |
| BMH-500 | 206 | 65 |

| Code<br>Mounting | D (depth) | M (depth)      | S (depth)          | P (depth)        | R (depth)      |
|------------------|-----------|----------------|--------------------|------------------|----------------|
| P(A,B)           | G1/2 (15) | M22 x 1.5 (15) | 7/8-14 O-ring (15) | 1/2-14NPTF (15)  | PT(RC)1/2 (15) |
| C                | 4-M8 (13) | 4-M8 (13)      | 4-5/16-18UNC(13)   | 4-5/16-18UNC(13) | 4-M8 (13)      |
| T                | G1/4 (12) | M14 x 1.5 (12) | 7/16-20UNF(12)     | 7/16-20UNF (12)  | PT(RC)1/4 1/4  |

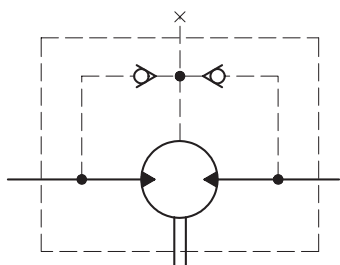
## BMH SHAFT EXTENSIONS DIMINSIONS DATA



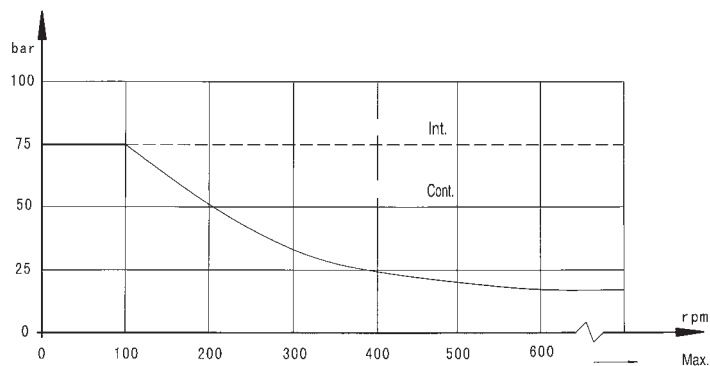
► Motor Mounting Surface

## BMH series Hydraulic Motor

### Permissible shaft seal pressure

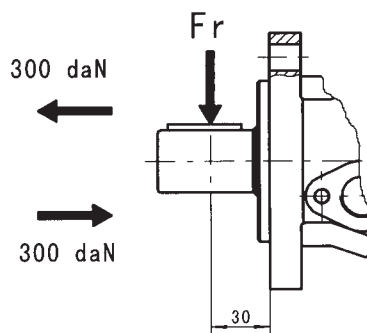
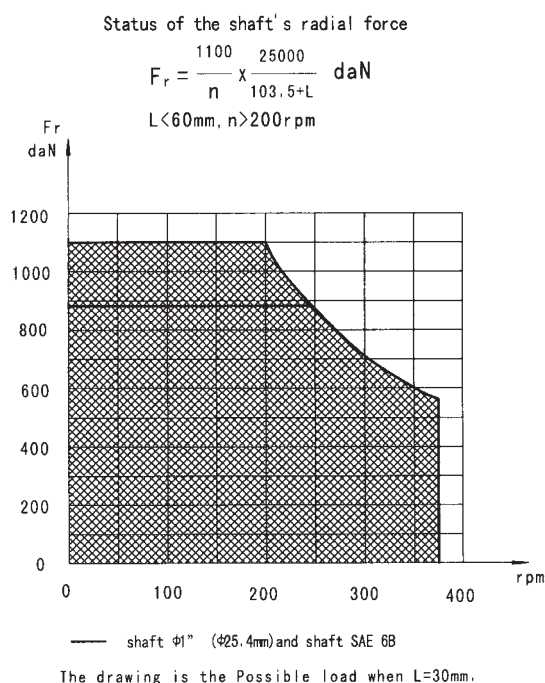
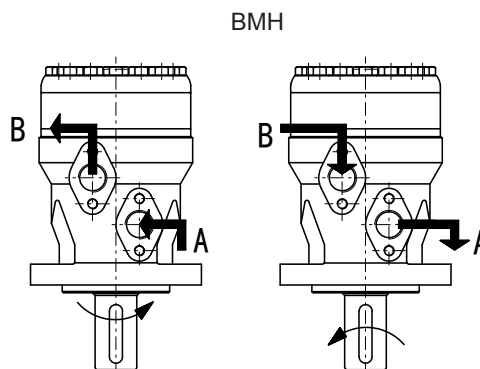


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.



### Direction of shaft rotation: Standard

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



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

### Oil flow in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

| Pressure drop (MPa) | Viscosity (mm <sup>2</sup> /s) | Oil flow in the drain line (L/min.) |
|---------------------|--------------------------------|-------------------------------------|
| 10                  | 20                             | 2.5                                 |
|                     | 35                             | 1.8                                 |
| 14                  | 20                             | 3.5                                 |
|                     | 35                             | 2.8                                 |

## Order Information

1  2  3  4  5  6  7  8

BMH

| Pos.1 | 2   | 3                                       | 4                                             | 5                                                       | 6                                 | 7                                              | 8                                                                                |
|-------|-----|-----------------------------------------|-----------------------------------------------|---------------------------------------------------------|-----------------------------------|------------------------------------------------|----------------------------------------------------------------------------------|
| Code  |     | Flange                                  | Output shaft                                  | Ports and drain port                                    | Rotation direction                | Paint                                          | Unusually function                                                               |
| Omit  | 160 | 4 4xØ13.5 Rhombxflange<br>Pilot Ø82.5x6 | B Shaft Ø32 , parallel key 10x8x45            | D G1/2 Manifold mount 4xM8, G1/4                        | Omit<br>Standard<br>R<br>Opposite | 00<br>No paint<br>Blue<br>Black<br>Silver grey | Omit<br>Standard<br>No drain<br>Free<br>Running<br>Low Speed<br>Big radial force |
|       | 200 |                                         | M1 Shaft Ø35, parallel key 10x8x45            | M M22x1.5 Manifold mount 4xM8, M14x1.5                  |                                   |                                                |                                                                                  |
|       | 250 |                                         | F Shaft Ø31.75, splined key 14-DP12/24        | S 7/8-14 O-ring Manifold mount 4x5/16-18UNC, 7/16-20UNF |                                   |                                                |                                                                                  |
|       | 315 |                                         | FD Long Shaft Ø31.75, splined key 14-DP12/24  | P 1/2-14 NPTF Manifold mount 4x5/16-18UNC, 7/16-20UNF   |                                   |                                                |                                                                                  |
|       | 400 | 2 2xØ13.5 Rhombxflange<br>Pilot Ø82.5x6 | G Shaft Ø31.75 , parallel key 7.96x7.96x31.75 | R PT(Rc) 1/2 Manifold mount 4xM8,PT(Rc)1/4              | LS<br>N1                          | LS<br>N1                                       | LS<br>N1                                                                         |
|       | 470 |                                         | T1 Cone shaft Ø35, parallel key B6x6x20       |                                                         |                                   |                                                |                                                                                  |
|       | 500 |                                         | S Shaft Ø25.4 , parallel key SAE 6B           |                                                         |                                   |                                                |                                                                                  |
|       |     |                                         | M Shaft Ø35, Parallel key 10x8x45             |                                                         |                                   |                                                |                                                                                  |

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.