

# BMM Series

## Low Speed High Torque Hydraulic Motors



# TIMALCO

## HYDRAULICS

[www.timalco.com.au](http://www.timalco.com.au)

The BMM's are the smallest in our range of the Low Speed High Torque Motors with displacements from 8 ~ 50cc/rev.

They are very compact and efficient in design with high pressure seals.

The BMM's have a continuous speed range of 30 - 1950rpm and continuous torque up to 46Nm.

Various shaft and mounting options are available as well as rear or side ports and an optional case drain.

Applications commonly include:

- Fans
- Brushes
- Augers
- Machine Tools
- Conveyors
- Winches
- Sweepers and Floor Polishers



Replaces: OMM, MM, WM, BHM, MGX

Max. Inlet Pressure MPa		Max. Operating Pressure MPa	Speed Range rpm	Max. Output Power kW
cont.	17.5			
int.	22.5			

### Specifications

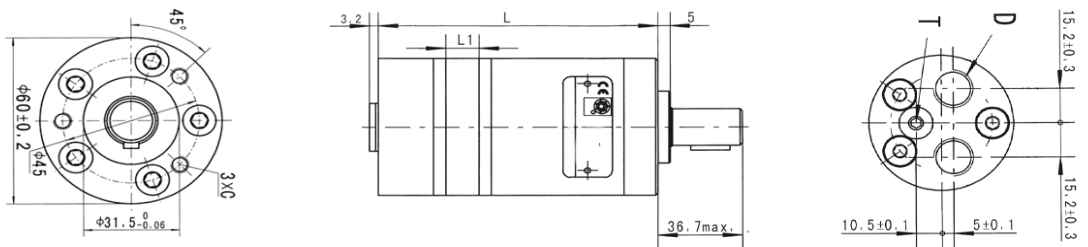
		BMM8	BMM12.5	BMM20	BMM32	BMM40	BMM50
Geometric Displacement (cm <sup>3</sup> /rev)		8.2	12.9	19.9	31.6	39.8	50.3
Max Speed (rpm)	Cont	1950	1550	1000	630	500	400
	Int	2450	1940	1250	800	630	500
Max Torque (Nm)	Cont	11	16	25	40	45	46
	Int	15	23	35	57	70	88
	Peak	21	33	51	64	82	100
Max Output (kW)	Cont	1.8	2.4	2.4	2.4	2.2	1.8
	Int	2.6	3.2	3.2	3.2	3.2	3.2
Max Pressure Drop (Mpa)	Cont	10	10	10	10	9	7
	Int	14	14	14	14	14	14
	Peak	20	20	20	16	16	16
Max Flow (L/min)	Cont	16	20	20	20	20	20
	Int	20	25	25	25	25	25
Weight (Kg)		1.9	2	2.1	2.2	2.3	2.4



Rear Ports, 3/8" BSPP					
Part Number	cc/rev	M Flange		F Flange	
		L	L1	L	L1
BMM8-M-A-IE-00	8cc	104	3.5	107.5	3.5
BMM12.5-M-A-IE-00	12.5cc	106	5.5	109.5	5.5
BMM20-M-A-IE-00	20cc	109	8.5	112.5	8.5
BMM32-M-A-IE-00	32cc	114	13.5	117.5	13.5
BMM40-M-A-IE-00	40cc	117.5	17	121	17
BMM50-M-A-IE-00	50cc	122	21.5	125.5	21.5

**Standard 'M' Flange**

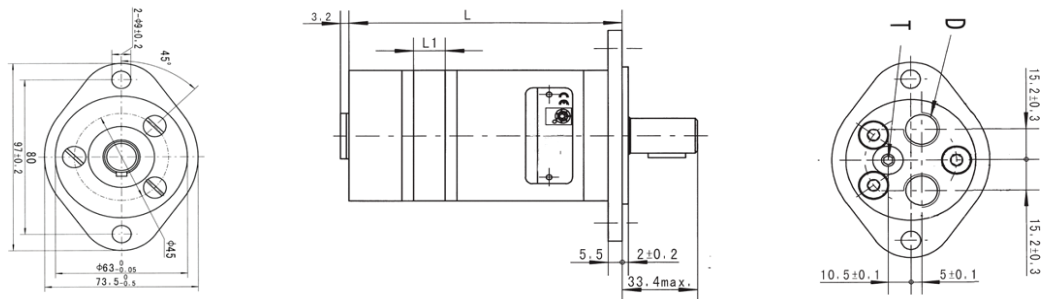
3 - M6 Circle Flange, pilot Ø31.5 x 5 Bolt



Code	M Flange - 1E (depth)
C	[M]3-M6 (10)
D	G3/8 (12)
T	G1/8 (8)

**'F' Flange**

2 - Ø9mm flange, pilot Ø63 x 2 Bolt



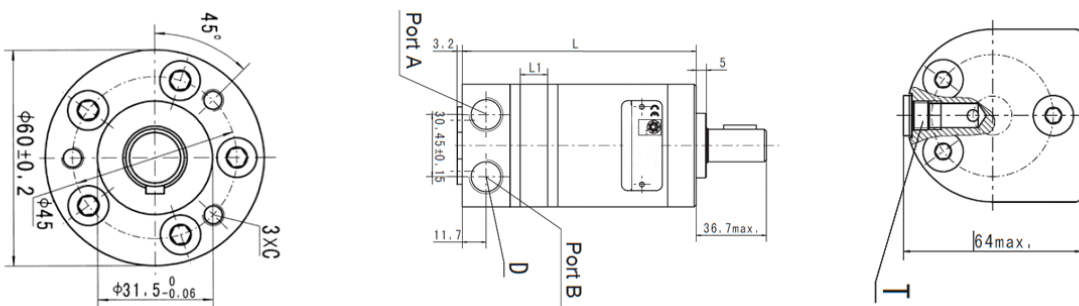
Code	F Flange - 1E (depth)
C	[M]--
D	G3/8 (12)
T	G1/8 (8)



Side Ports, 3/8" BSPP					
Part Number	cc/rev	M Flange		F Flange	
		L	L1	L	L1
BMM8-M-A-E-00	8cc	105	3.5	108.5	3.5
BMM12.5-M-A-E-00	12.5cc	107	5.5	110.5	5.5
BMM20-M-A-E-00	20cc	110	8.5	113.5	8.5
BMM32-M-A-E-00	32cc	115	13.5	118.5	13.5
BMM40-M-A-E-00	40cc	118.5	17	122	17
BMM50-M-A-E-00	50cc	123	21.5	126.5	21.5

**Standard 'M' Flange**

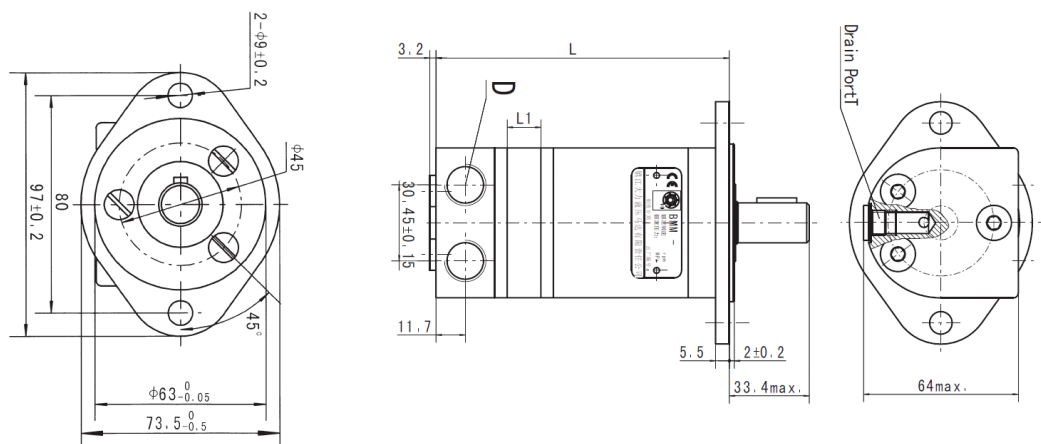
3 - M6 Circle Flange, pilot 31.5 x 5 Bolt



Code	M Flange - E (depth)
C	[M]3-M6 (10)
D	G3/8 (12)
T	G1/8 (8)

**'F' Flange**

2 - 9mm flange, pilot 63 x 2 Bolt



Code	F Flange - E (depth)
C	[M]--
D	G3/8 (12)
T	G1/8 (8)



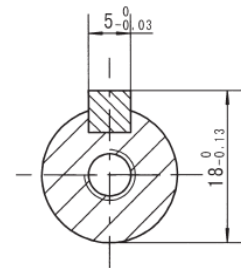
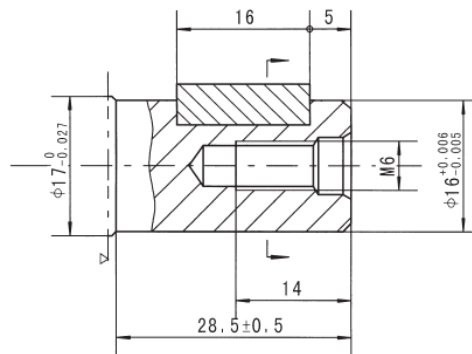
**BMM Ordering Code**

Series	cc/rev	-	Flange		-	Output Shaft		-	Ports		-	Paint	
BMM	8	-	M	3 - M6 Circle Flange, Pilot 31.5 x 5	-	A	ShaftØ16, Parallel Key 5 x 5 x 16	-	E	3/8" BSPP Side	-	00	No Paint
	12.5		F	2 - 9mm Flange, Pilot 63 x 2		B	ShaftØ15.875, Parallel Key, 4.8 x 4.8 x 19.05		IE	3/8" BSPP Rear			
	20					C	ShaftØ16.5, Involute B17 x 14, DIN5482						
	32												
	40												
	50												

**BMM Shaft Extensions**

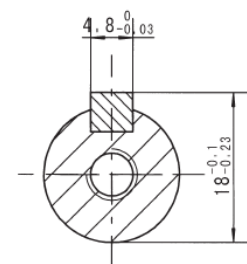
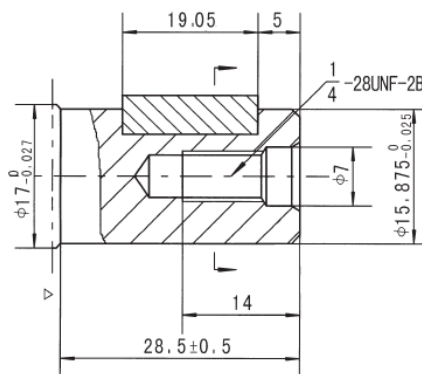
**Standard: 16mm Keyed**

Shaft A: Cylindrical shaft ø16  
 Parallel Key 5x5x16



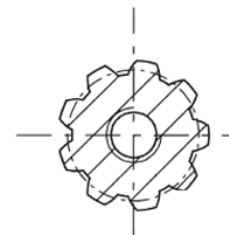
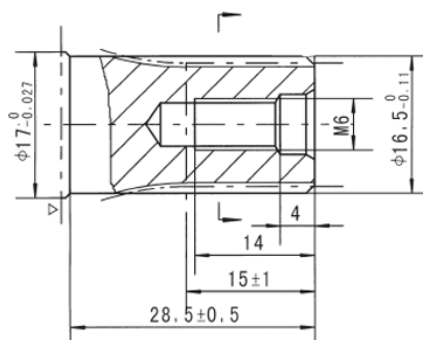
**5/8" Keyed**

Shaft B: Cylindrical shaft ø15.875  
 Parallel Key 4.8x4.8x19.05



**9 Tooth Din**

Shaft C: Involute spline shaft  
 B17x14 DIN5482





Performance Data

□ cont.  
 ■ int.

**BMM8 [8.2cm<sup>3</sup>/rev]**

Pressure MPa		Max. Cont					Max. Int	
		3.5	5	7	10	12	14	
Flow L/min	2	3 <b>228</b>	5 <b>218</b>	8 <b>206</b>	10 <b>156</b>	12 <b>111</b>	14 <b>58</b>	
	4	3 <b>474</b>	5 <b>471</b>	7 <b>463</b>	11 <b>426</b>	13 <b>391</b>	15 <b>331</b>	
	8	3 <b>953</b>	5 <b>946</b>	7 <b>926</b>	11 <b>884</b>	13 <b>855</b>	15 <b>816</b>	
	12	2 <b>1444</b>	5 <b>1426</b>	7 <b>1402</b>	10 <b>1360</b>	13 <b>1324</b>	15 <b>1288</b>	
Max. Cont	15	4 <b>1912</b>	7 <b>1900</b>	10 <b>1861</b>	12 <b>1833</b>	14 <b>1780</b>		
Max. Int	20		6 <b>2395</b>	10 <b>2350</b>	11 <b>2328</b>	14 <b>2281</b>		

**BMM12.5 [12.9cm<sup>3</sup>/rev]**

Pressure MPa		Max. Cont					Max. Int	
		3.5	5	7	10	12	14	
Flow L/min	2	6 <b>140</b>	8 <b>136</b>	11 <b>119</b>	16 <b>68</b>	19 <b>35</b>		
	4	6 <b>296</b>	8 <b>289</b>	12 <b>274</b>	17 <b>229</b>	19 <b>200</b>	23 <b>145</b>	
	8	5 <b>605</b>	8 <b>596</b>	12 <b>583</b>	17 <b>543</b>	20 <b>514</b>	24 <b>469</b>	
	12	5 <b>912</b>	8 <b>905</b>	11 <b>895</b>	16 <b>859</b>	20 <b>834</b>	24 <b>784</b>	
Max. Cont	15	5 <b>1152</b>	7 <b>1144</b>	11 <b>1136</b>	16 <b>1102</b>	19 <b>1078</b>	23 <b>1036</b>	
Max. Cont	20	3 <b>1542</b>	7 <b>1532</b>	10 <b>1521</b>	15 <b>1500</b>	19 <b>1482</b>	22 <b>1437</b>	
Max. Int	25	2 <b>1910</b>	6 <b>1891</b>	9 <b>1878</b>	14 <b>1848</b>	18 <b>1828</b>	22 <b>1788</b>	

**BMM20 [19.9cm<sup>3</sup>/rev]**

Pressure MPa		Max. Cont					Max. Int	
		1.7	3.5	5	7	10	12	14
Flow L/min	2	3 <b>99</b>	9 <b>96</b>	14 <b>89</b>	19 <b>74</b>	26 <b>42</b>	30 <b>21</b>	
	4	4 <b>197</b>	9 <b>191</b>	14 <b>182</b>	19 <b>178</b>	26 <b>134</b>	31 <b>112</b>	36 <b>74</b>
	8	4 <b>398</b>	9 <b>395</b>	13 <b>391</b>	19 <b>377</b>	27 <b>340</b>	31 <b>319</b>	36 <b>288</b>
	12	3 <b>596</b>	8 <b>594</b>	13 <b>588</b>	18 <b>579</b>	26 <b>545</b>	31 <b>523</b>	37 <b>493</b>
Max. Cont	15	3 <b>745</b>	8 <b>741</b>	12 <b>738</b>	17 <b>728</b>	25 <b>695</b>	30 <b>684</b>	36 <b>660</b>
Max. Cont	20	1 <b>998</b>	6 <b>995</b>	11 <b>991</b>	19 <b>985</b>	24 <b>962</b>	29 <b>916</b>	35 <b>885</b>
Max. Int	25		4 <b>1247</b>	9 <b>1245</b>	14 <b>1242</b>	23 <b>1189</b>	28 <b>1180</b>	33 <b>1176</b>

**BMM32 [31.6cm<sup>3</sup>/rev]**

Pressure MPa		Max. Cont					Max. Int	
		2	3.5	5	7	10	12	14
Flow L/min	2	7 <b>61</b>	15 <b>57</b>	21 <b>52</b>	28 <b>47</b>	40 <b>16</b>		
	4	7 <b>126</b>	15 <b>121</b>	21 <b>114</b>	29 <b>106</b>	41 <b>82</b>	48 <b>67</b>	57 <b>49</b>
	8	7 <b>250</b>	15 <b>244</b>	21 <b>239</b>	29 <b>231</b>	41 <b>207</b>	49 <b>194</b>	58 <b>167</b>
	12	6 <b>378</b>	13 <b>374</b>	20 <b>369</b>	28 <b>362</b>	40 <b>338</b>	48 <b>322</b>	58 <b>297</b>
Max. Cont	15	4 <b>476</b>	12 <b>472</b>	18 <b>468</b>	27 <b>462</b>	39 <b>441</b>	47 <b>429</b>	57 <b>406</b>
Max. Cont	20	3 <b>633</b>	10 <b>630</b>	17 <b>627</b>	25 <b>619</b>	37 <b>601</b>	46 <b>585</b>	55 <b>566</b>
Max. Int	25	1 <b>791</b>	8 <b>789</b>	15 <b>787</b>	23 <b>783</b>	35 <b>766</b>	43 <b>753</b>	52 <b>732</b>

**BMM40 [39.8cm<sup>3</sup>/rev]**

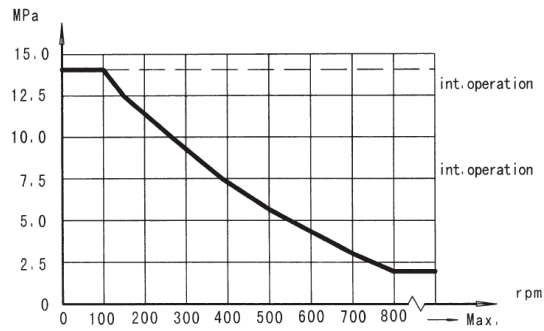
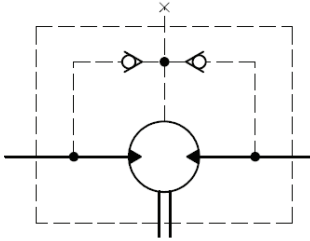
Pressure MPa		Max. Cont					Max. Int	
		3	5	7	8.5	10	12	
Flow L/min	2	16 <b>45</b>	27 <b>40</b>	36 <b>34</b>	44 <b>28</b>	51 <b>17</b>		
	4	16 <b>96</b>	27 <b>93</b>	37 <b>85</b>	44 <b>79</b>	52 <b>65</b>	62 <b>52</b>	
	8	15 <b>197</b>	26 <b>195</b>	36 <b>182</b>	44 <b>176</b>	52 <b>166</b>	63 <b>154</b>	
	12	14 <b>293</b>	25 <b>287</b>	35 <b>282</b>	43 <b>277</b>	51 <b>268</b>	62 <b>257</b>	
Max. Cont	15	13 <b>371</b>	24 <b>365</b>	34 <b>360</b>	42 <b>355</b>	50 <b>347</b>	62 <b>338</b>	
Max. Cont	20	10 <b>497</b>	21 <b>492</b>	31 <b>487</b>	39 <b>480</b>	48 <b>472</b>	59 <b>463</b>	
Max. Int	25	7 <b>622</b>	19 <b>617</b>	29 <b>612</b>	37 <b>607</b>	44 <b>600</b>	56 <b>591</b>	

**BMM50 [50.3cm<sup>3</sup>/rev]**

Pressure MPa		Max. Cont					Max. Int	
		1.5	3	5	7	10		
Flow L/min	2	11 <b>37</b>	23 <b>33</b>	36 <b>27</b>	50 <b>22</b>			
	4	11 <b>76</b>	22 <b>73</b>	36 <b>68</b>	50 <b>63</b>	70 <b>55</b>		
	8	11 <b>157</b>	21 <b>154</b>	35 <b>149</b>	50 <b>145</b>	71 <b>137</b>		
	12	11 <b>237</b>	20 <b>234</b>	33 <b>231</b>	49 <b>226</b>	71 <b>218</b>		
Max. Cont	15	10 <b>296</b>	18 <b>295</b>	32 <b>294</b>	47 <b>288</b>	69 <b>282</b>		
Max. Cont	20	8 <b>395</b>	14 <b>395</b>	29 <b>393</b>	44 <b>390</b>	64 <b>381</b>		
Max. Int	25	4 <b>498</b>	10 <b>496</b>	25 <b>494</b>	40 <b>490</b>	59 <b>484</b>		

Torque Nm  
 Speed rpm

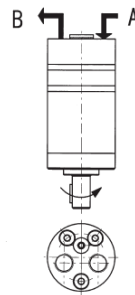
## Permissible Shaft Seal Pressure



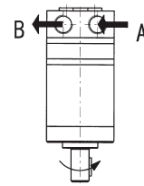
## Direction of Shaft Rotation: Standard

When facing shaft end of motor, shaft to rotate:

- Clockwise when port "A" is pressurised
- Counter-clockwise when port "B" is pressurised.

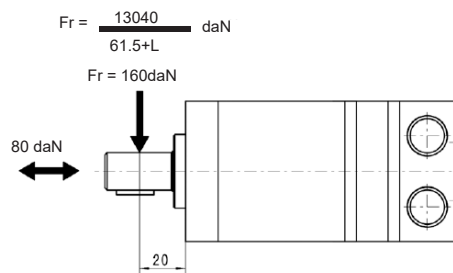


BMM End Port



BMM Side Port

## Permissible radial shaft load



Fr = Radial Force (daN)  
 L = Distance (mm)  
 n = Speed (RPM)  
 Max. force load  
 F Flange L = 15mm  
 M Flange L = 20mm