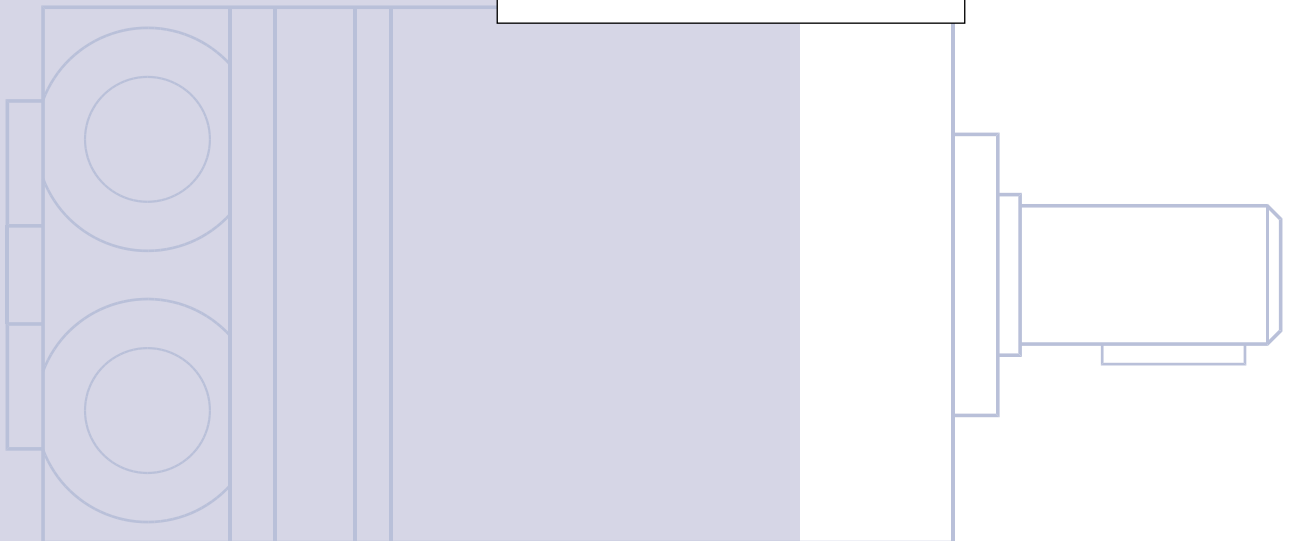


OMM
Orbital Motors

Technical
Information



Versions

Mounting	Shaft	Port size	European version	US version	Side port version	End port version	Standard shaft seal	Drain connection	Check valve	Specials	Main type designation
Front; 3 × M6	Cyl. 16 mm	G 3/8	X			X	X	Yes	Yes		OMM
		G 3/8	X		X		X	Yes	Yes		OMM
Front; 3 × 1/4 - 28 UNF	Cyl. 5/8 in	9/16-18 UNF		X		X	X	Yes	Yes		OMM
		9/16-18 UNF		X	X		X	Yes	Yes		OMM
Front; 3 × M6	Splined B17×14	G 3/8	X			X	X	Yes	Yes		OMM
		G 3/8	X		X		X	Yes	Yes		OMM

Function diagram - see page : →

Features available (options) :

- Speed sensor
- Reverse rotation
- Corrosion protected
- Painted
- 2 bolt flange kit (Code no 151G0211)

Code Numbers

Code Numbers	DISPLACEMENT (cm ³)						Technical data – Page	Dimensions – Page
	8	12.5	20	32	40	50		
151G	0040	0001	0002	0003	0277	0037	20	28
151G	0041	0004	0005	0006	0279	0013	20	30
151G	0048	0031	0032	0033	-	5032	20	29
151G	0049	0034	0035	0036	-	0094	20	31
151G	0046	0024	0025	0026	-	-	20	28
151G	0047	0027	0028	0029	0294	-	20	30
→	23	23	24	24	25	25		

Ordering

Add the four digit prefix “151G” to the four digit numbers from the chart for complete code number.

Example:

151G0035 for an OMM 20 with front mounting (3 × 1/4 - 28 UNF), cyl. 5/8 in shaft and port size 9/16 - 18 UNF.

Note: Orders will not be accepted without the four digit prefix.

Technical Data for OMM with 16 mm and 5/8 in Cylindrical Shaft

Type			OMM	OMM	OMM	OMM	OMM	OMM
Motor Size			8	12.5	20	32	40	50
Geometric displacement	cm ³ [in ³]		8.2 [0.50]	12.5 [0.77]	19.9 [1.22]	31.6 [1.93]	39.8 [2.43]	50 [3.08]
Max. speed	min ⁻¹ [rpm]	cont.	1950	1550	1000	630	500	400
		int. ¹⁾	2450	1940	1250	800	630	500
Max. torque	Nm [lbf·in]	cont.	11 [95]	16 [140]	25 [220]	40 [350]	45 [400]	46 [410]
		int. ¹⁾	15 [135]	23 [200]	35 [310]	57 [500]	70 [620]	88 [780]
Max. output	kW [hp]	cont.	1.8 [2.4]	2.4 [3.2]	2.4 [3.2]	2.4 [3.2]	2.2 [3.0]	1.8 [2.4]
		int. ¹⁾	2.6 [3.5]	3.2 [4.3]	3.2 [4.3]	3.2 [4.3]	3.2 [4.3]	3.2 [4.3]
Max. pressure drop	bar [psi]	cont.	100 [1450]	100 [1450]	100 [1450]	100 [1450]	90 [1310]	70 [1020]
		int. ¹⁾	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]	140 [2030]
		peak ²⁾	200 [2900]	200 [2900]	200 [2900]	160 [2320]	160 [2320]	160 [2320]
Max. oil flow	l/min [USgal/min]	cont.	16 [4.2]	20 [5.3]	20 [5.3]	20 [5.3]	20 [5.3]	20 [5.3]
		int. ¹⁾	20 [5.3]	25 [6.6]	25 [6.6]	25 [6.6]	25 [6.6]	25 [6.6]
Max. starting pressure with unloaded shaft	bar [psi]		4 [60]	4 [60]	4 [60]	4 [60]	4 [60]	4 [60]
Min. starting torque	at max. press. drop cont.		7 [60]	12 [105]	21 [185]	34 [300]	38 [335]	41 [365]
	at max. press. drop int. ¹⁾		10 [90]	17 [150]	29 [255]	48 [425]	62 [550]	79 [700]
Min. speed ³⁾	min ⁻¹ [rpm]		50	40	30	30	30	30

Type		Max. Inlet Pressure
OMM 8 - 50	bar [psi]	cont. 140 [2030]
	bar [psi]	int. ¹⁾ 175 [2538]
	bar [psi]	peak ²⁾ 225 [3260]

¹⁾ Intermittent operation: the permissible values may occur for max. 10% of every minute.

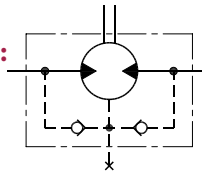
²⁾ Peak load: the permissible values may occur for max. 1% of every minute.

³⁾ Operation by lower speeds may be slightly less smooth.

Max. Permissible Shaft Seal Pressure

OMM with check valves and without use of drain connection:

The pressure on the shaft seal never exceeds the pressure in the return line.

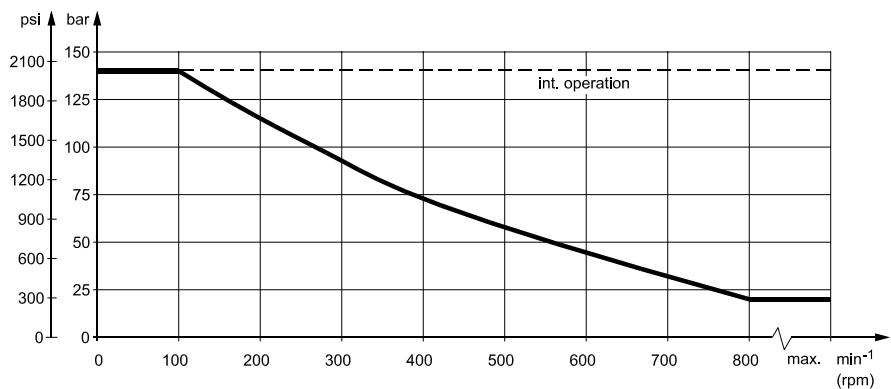


151-320.10

OMM with check valves and drain connection:

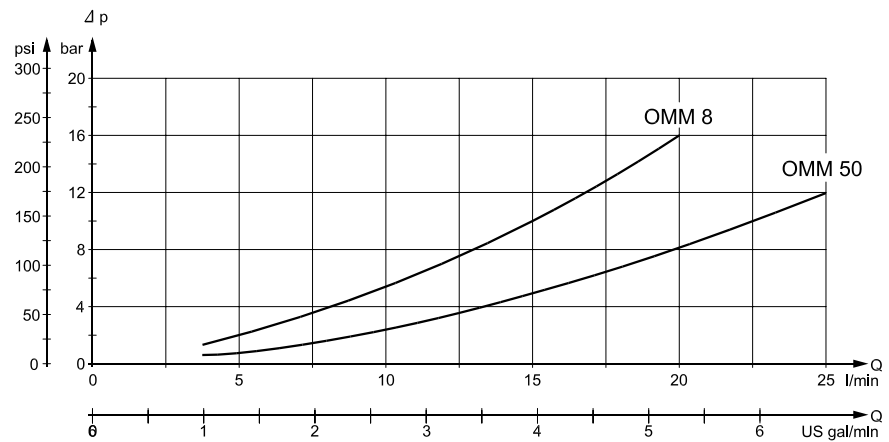
The shaft seal pressure equals the pressure on the drain line.

Max. return pressure without drain line or max. pressure in drain line



151-1671.10

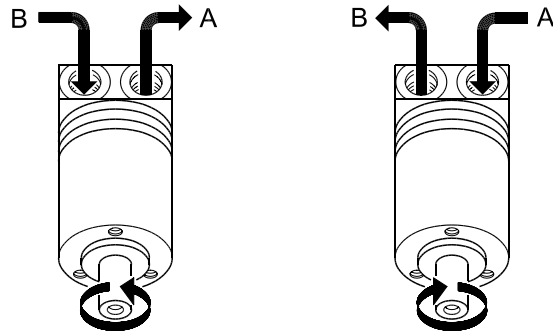
Pressure Drop in Motor



151-1367.10

The curve applies to an unloaded motor shaft and an oil viscosity of 35 mm²/s [165 SUS]

Direction of Shaft Rotation



P301 008

Permissible Shaft Loads for OMM

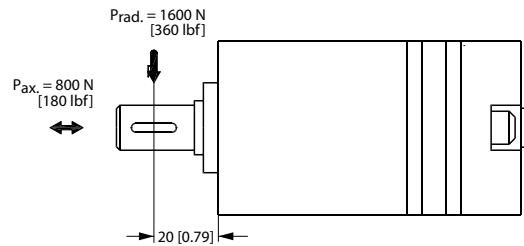
The permissible radial shaft load ($P_{rad.}$) is calculated from the distance (l) between the point of load and the mounting surface:

$$P_{rad.} = \frac{130400}{61.5 + l} \text{ N (l in mm; } l \leq 80 \text{ mm)}$$

$$P_{rad.} = \frac{748}{2.54 + l} \text{ lbf (l in inch; } l \leq 3.15 \text{ in)}$$

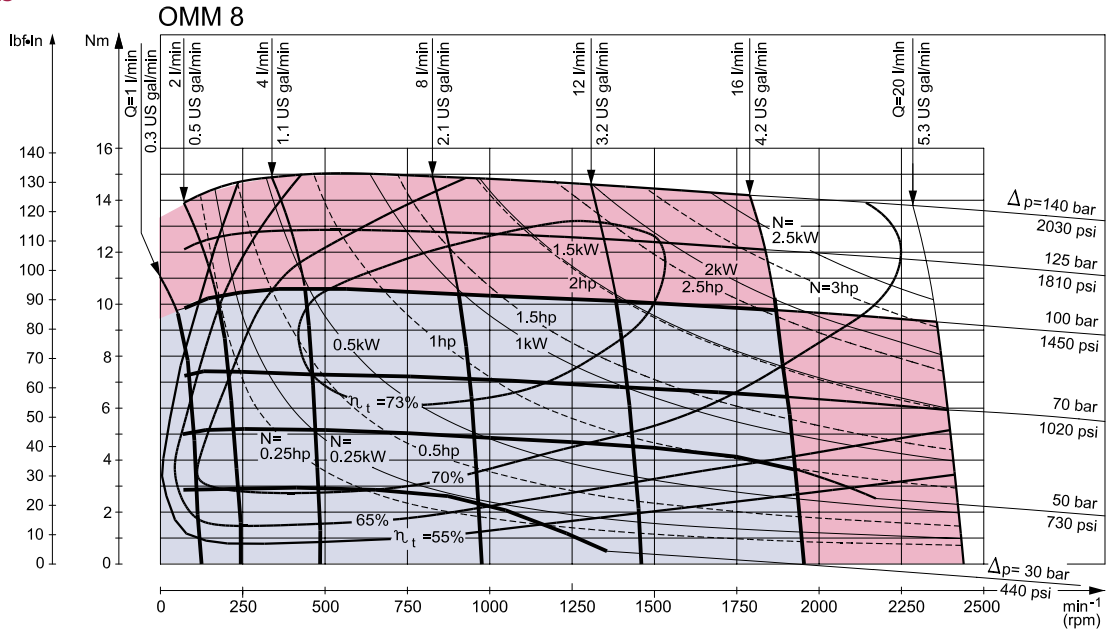
The drawing shows the permissible radial load when $l = 20 \text{ mm [0.79 in]}$.

The calculated shaft load should never exceed the permissible value.

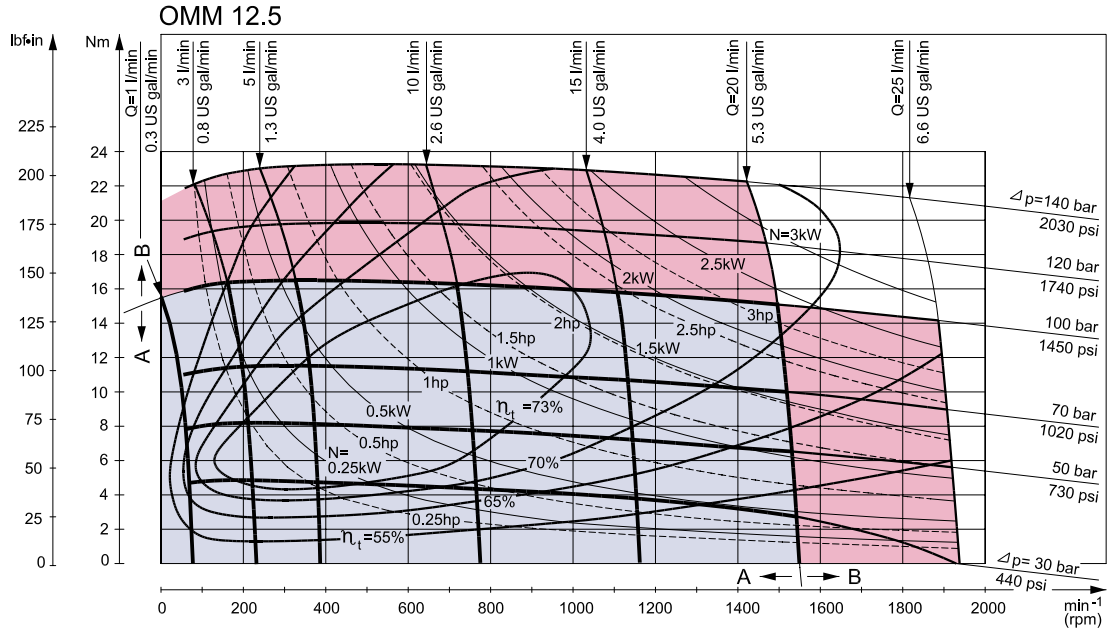


151-980.11

Function Diagrams



151-1117.11



151-994.10

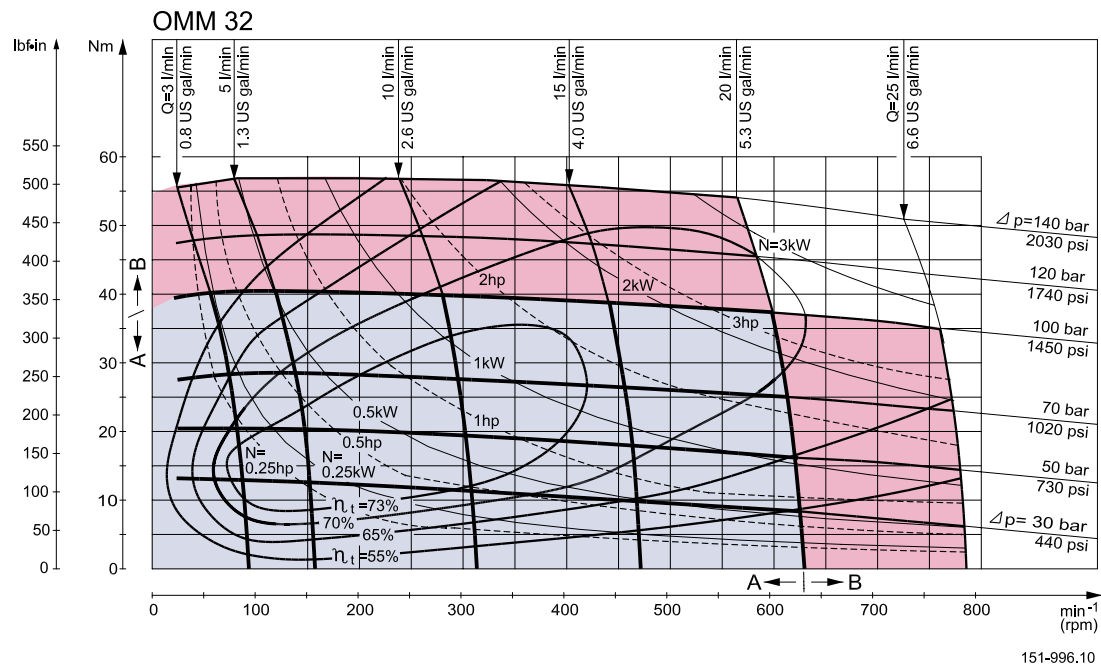
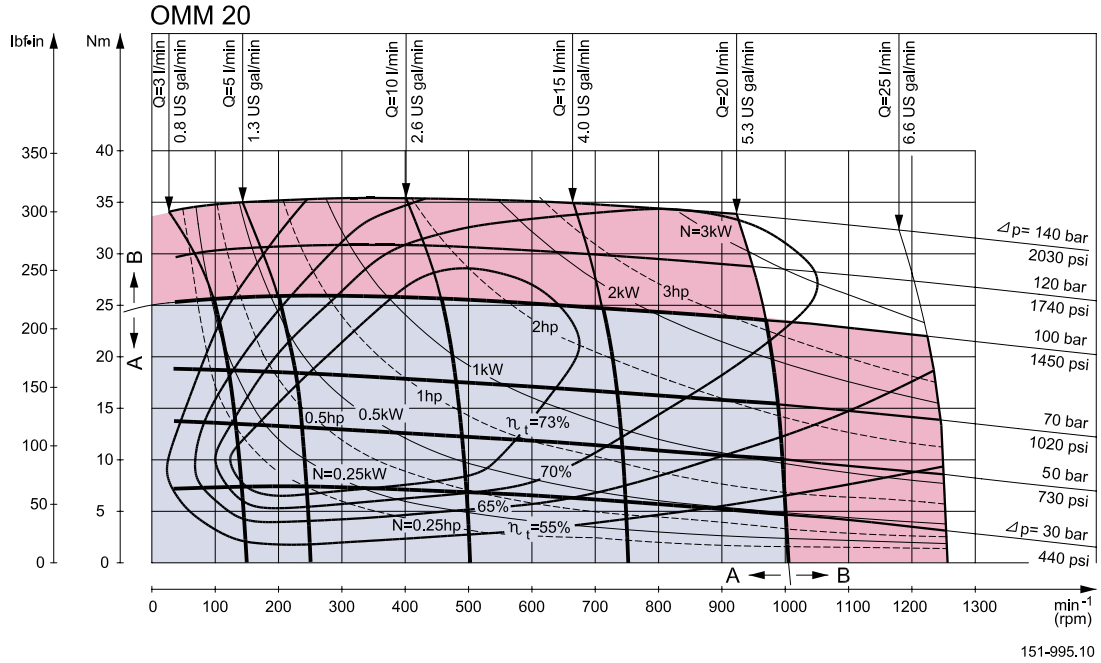
Explanation of function diagram use, basis and conditions can be found on page 4.

- A: Continuous range
- B: Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found on page 20.

Note: Intermittent pressure drop and oil flow must not occur simultaneously.

Function Diagrams



Explanation of function diagram use, basis and conditions can be found on page 4.

- A: Continuous range
- B: Intermittent range (max. 10% operation every minute)

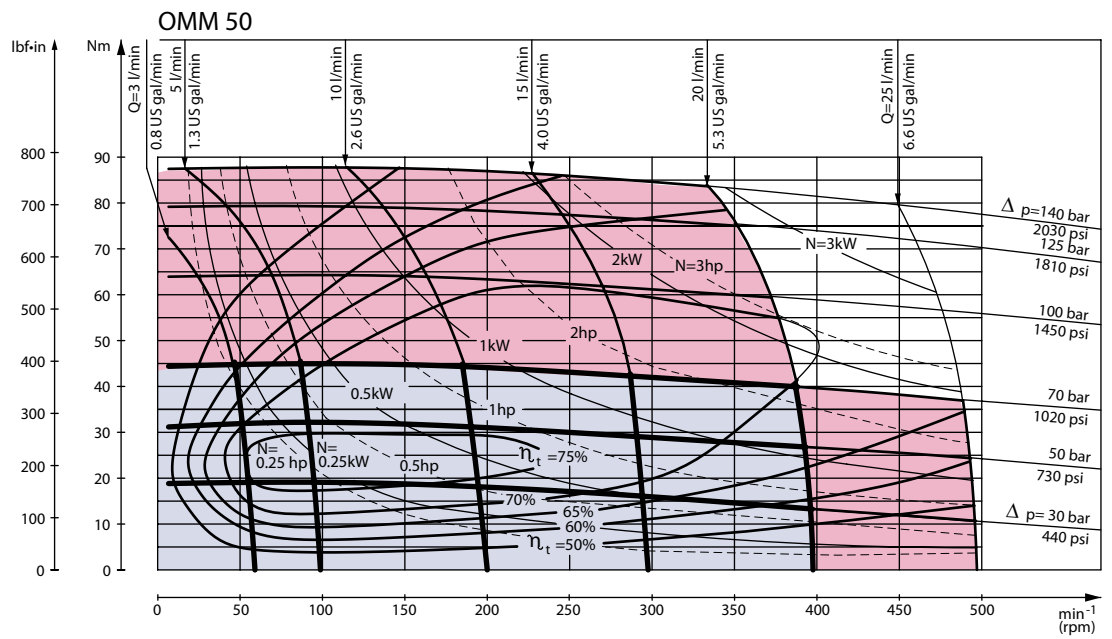
Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found on page 20.

Note: Intermittent pressure drop and oil flow must not occur simultaneously.

Function Diagrams

OMM 40

No function diagram available for OMM 40.



151-1660.11

Explanation of function diagram use, basis and conditions can be found on page 4.

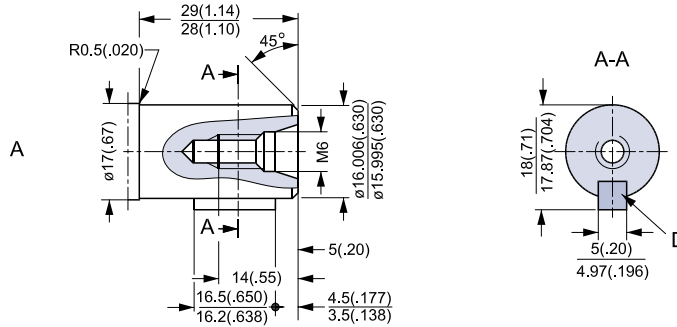
- A: Continuous range
- B: Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found on page 20.

Note: Intermittent pressure drop and oil flow must not occur simultaneously.

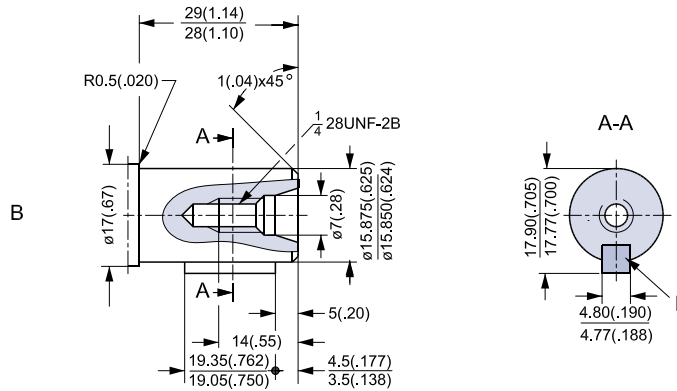
Shaft Version

- A: Cylindrical shaft
16 mm (xx in)
- D: Parallel key
A5 • 5 • 16
DIN 6885

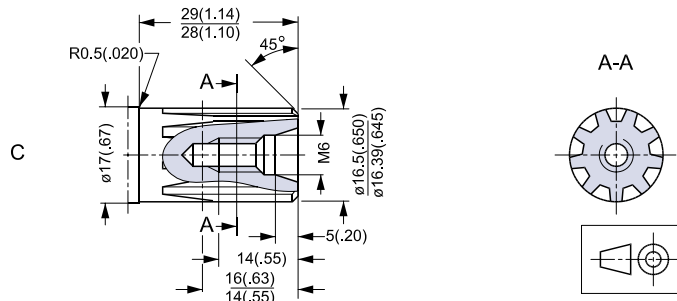


US version

- B: Cylindrical shaft
 $\frac{5}{8}$ in
- E: Parallel key
 $\frac{3}{16} \cdot \frac{3}{16} \cdot \frac{3}{4}$ in
B.S. 46

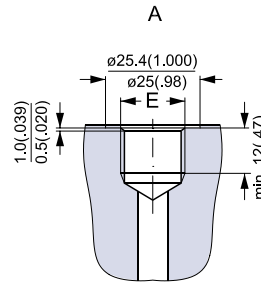


- C: Involute splined shaft
B17 • 14, DIN 5482
Measurement $19,641 \pm 0.04$ mm
over 3 mm pins deviates from
DIN 5482

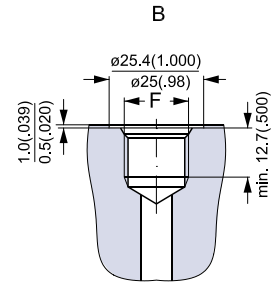


151-1866.10

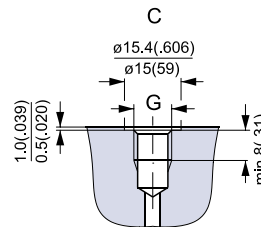
Port Thread Versions



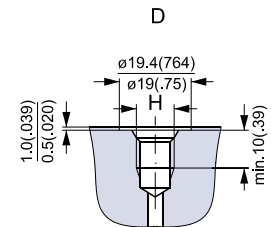
A: G main ports
E: ISO 228/1 - G³/₈



B: UNF main ports
F: ⁹/₁₆ - 18 UNF
O-ring boss port



C: G drain ports
G: ISO 228/1 - G¹/₈



D: UNF drain ports
H: ³/₈ - 24 UNF
O-ring port

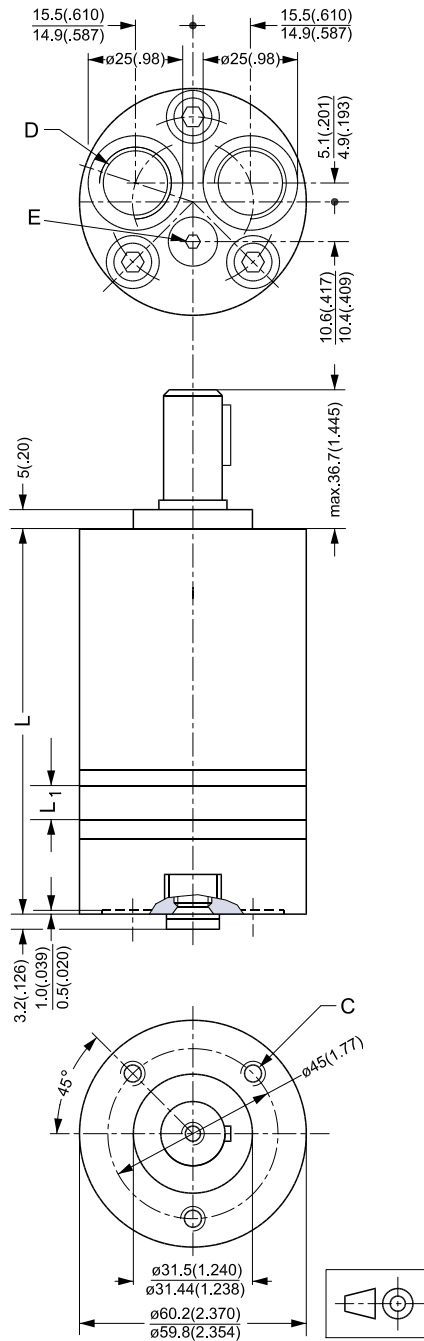
151-1869.10

Dimensions

OMM
 End port version.

Type	Length		Weight kg [lb]
	L _{max.}	L ₁ mm [in]	
OMM 8	104.0 [4.09]	3.5 [0.14]	1.9 [4.2]
OMM 12.5	106.0 [4.17]	5.5 [0.22]	2.0 [4.4]
OMM 20	109.0 [4.29]	8.5 [0.33]	2.1 [4.6]
OMM 32	114.0 [4.49]	13.5 [0.53]	2.2 [4.8]
OMM 40	118.0 [4.65]	17.0 [0.67]	2.3 [5.1]
OMM 50	122.0 [4.80]	21.5 [0.85]	2.4 [5.3]

C: M6; 10 mm [0.39 in] deep
 D: G 3/8; 12 mm [0.47 in] deep
 E: Drain connection G 1/8;
 8 mm [0.39 in] deep



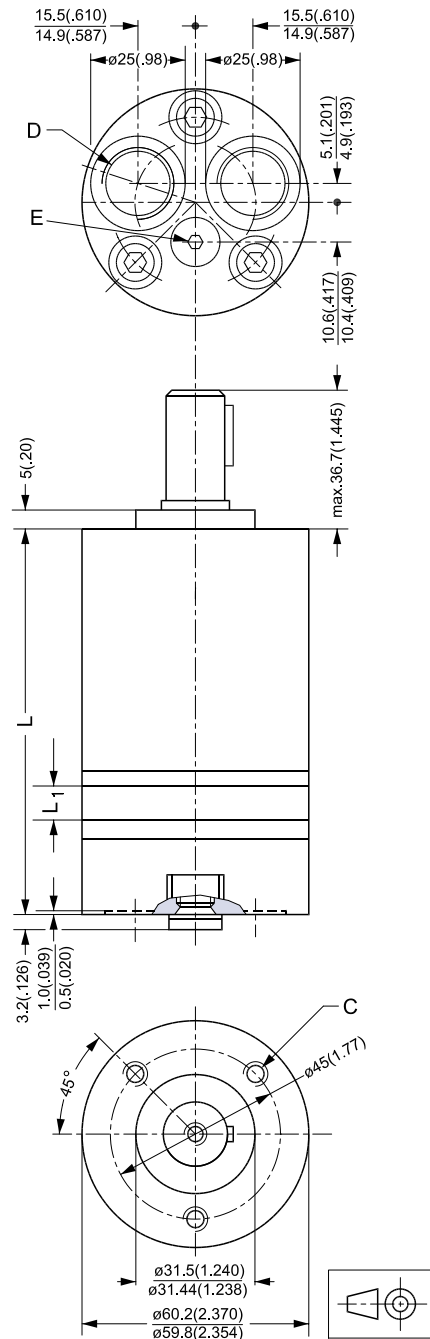
P301 008

Dimensions

OMM
 End port version.

Type	Length		Weight kg [lb]
	L _{max.}	L ₁ mm [in]	
OMM 8	104.0 [4.09]	3.5 [0.14]	1.9 [4.2]
OMM 12.5	106.0 [4.17]	5.5 [0.22]	2.0 [4.4]
OMM 20	109.0 [4.29]	8.5 [0.33]	2.1 [4.6]
OMM 32	114.0 [4.49]	13.5 [0.53]	2.2 [4.8]
OMM 50	122.0 [4.80]	21.5 [0.85]	2.4 [5.3]

- C: 1/4 - 28 UNF - 2B;
min. 10 mm [0.39 in] deep
- D: 9/16 - 18 UNF;
12 mm [0.47 in] deep
O-ring boss port
- E: 3/8 - 24 UNF;
8 mm [0.39 in] deep
O-ring port



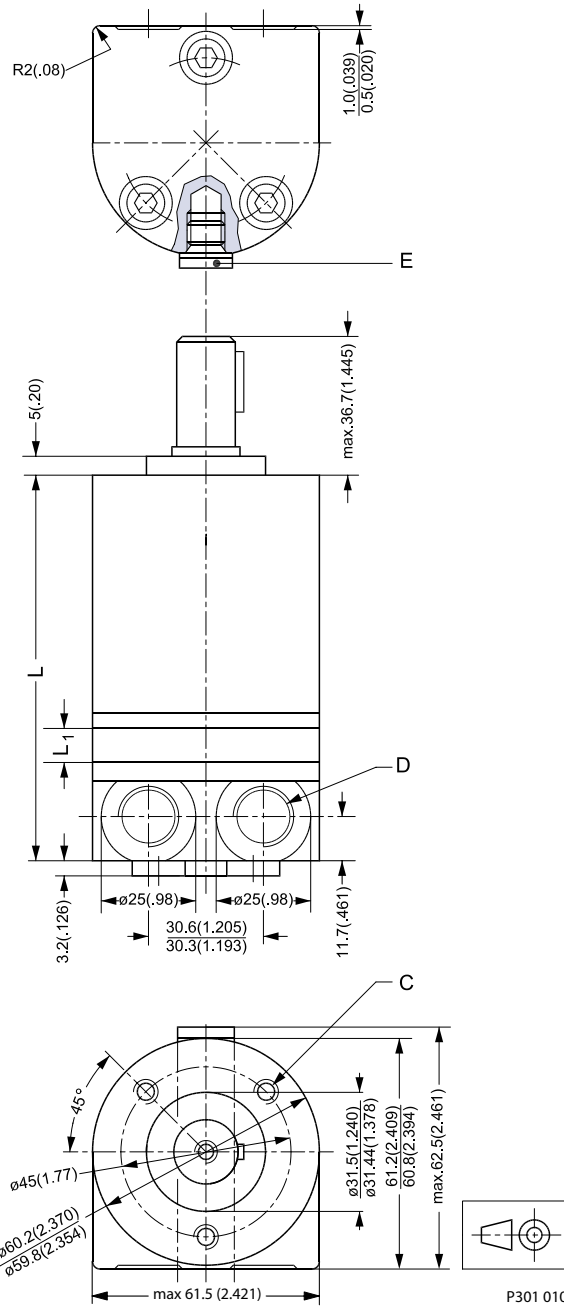
P301 008

Dimensions

OMM
 Side port version.

Type	Length		Weight kg [lb]
	L _{max.}	L ₁ mm [in]	
OMM 8	104.0 [4.09]	3.5 [0.14]	1.9 [4.2]
OMM 12.5	106.0 [4.17]	5.5 [0.22]	2.0 [4.4]
OMM 20	109.0 [4.29]	8.5 [0.33]	2.1 [4.6]
OMM 32	114.0 [4.49]	13.5 [0.53]	2.2 [4.8]
OMM 40	118.0 [4.65]	17.0 [0.67]	2.3 [5.1]
OMM 50	122.0 [4.80]	21.5 [0.85]	2.4 [5.3]

C: M6; 10 mm [0.39 in] deep
 D: G 3/8; 12 mm [0.47 in] deep
 E: Drain connection G 1/8;
 8 mm [0.39 in] deep

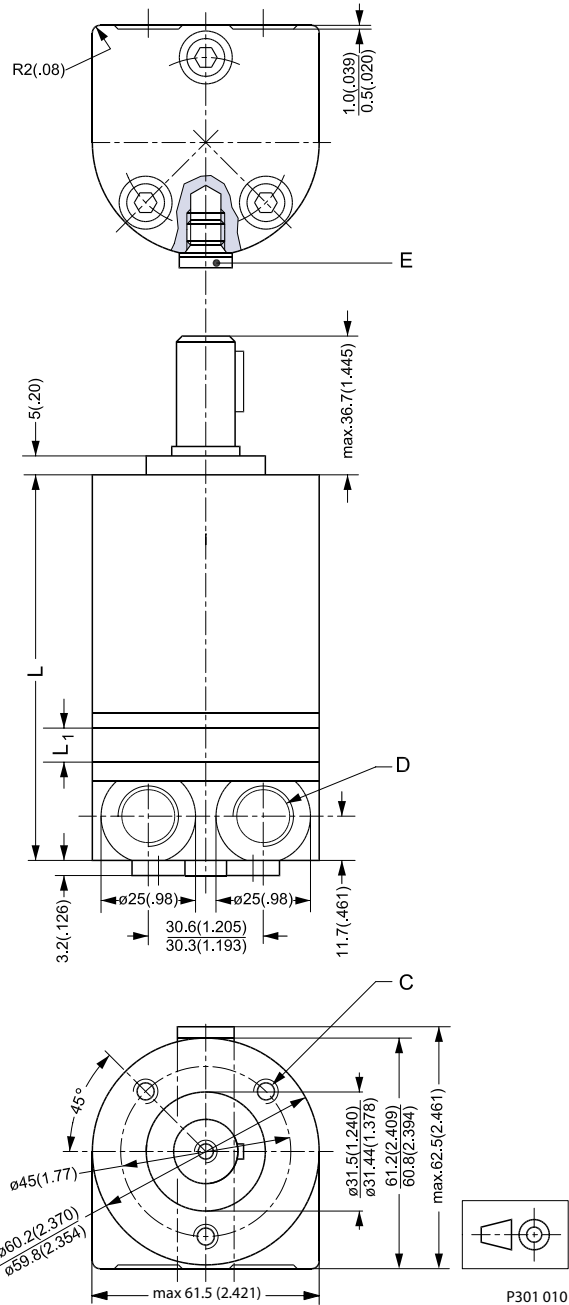


Dimensions

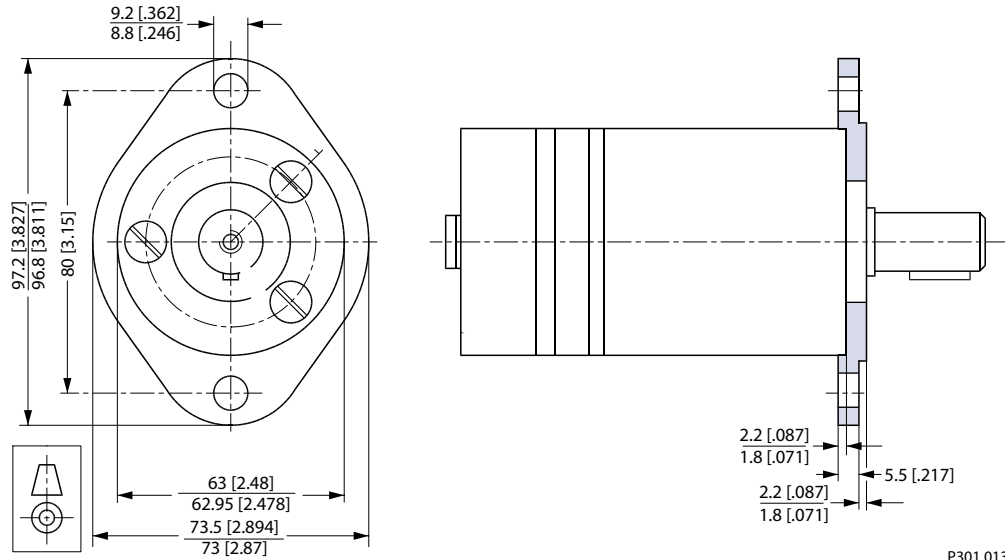
OMM
 Side port version.

Type	Length		Weight kg [lb]
	L _{max.}	L ₁ mm [in]	
OMM 8	104.0 [4.09]	3.5 [0.14]	1.9 [4.2]
OMM 12.5	106.0 [4.17]	5.5 [0.22]	2.0 [4.4]
OMM 20	109.0 [4.29]	8.5 [0.33]	2.1 [4.6]
OMM 32	114.0 [4.49]	13.5 [0.53]	2.2 [4.8]
OMM 50	122.0 [4.80]	21.5 [0.85]	2.4 [5.3]

- C: 1/4 - 28 UNF - 2B;
 min. 10 mm [0.39 in] deep
- D: 3/16 - 18 UNF;
 12 mm [0.47 in] deep
- E: 3/8 - 24 UNF;
 8 mm [0.39 in] deep



**2 Bolt Flange Kit, Code
No. 151G0211**



P301 013



Factory 19 / 5 Lyn Parade PRESTONS NSW 2170
Ph: (02) 9607 4100 Fax: (02) 9607 4200