

**OMS**
**Versions**
*OMS versions*

Mounting flange	Shaft	Port size	European version	US version	Drain connection	Check valve	Main type designation
Standard flange	Cyl. 32 mm	G 1/2	X		Yes	Yes	OMS
	Cyl. 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
	Splined 1.25 in	G 1/2	X		Yes	Yes	OMS
		7/8-14 UNF		X	Yes	Yes	OMS
	Tapered 35 mm	G 1/2	X		Yes	Yes	OMS
	Tapered 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
	P.t.o.	G 1/2	X		Yes	Yes	OMS
Special flange	Splined 1.25 in	G 1/2	X		Yes	Yes	OMS
A-2 flange	Cyl. 1 in	7/8-14 UNF		X	Yes	Yes	OMS
	Cyl. 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
	Splined 1 in	7/8-14 UNF		X	Yes	Yes	OMS
	Splined 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
	Tapered 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
Magneto flange	Cyl. 1 in	7/8-14 UNF		X	Yes	Yes	OMS
	Cyl. 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
	Splined 1 in	7/8-14 UNF		X	Yes	Yes	OMS
	Splined 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
SAE B flange	Splined 1.25 in	7/8-14 UNF		X	Yes	Yes	OMS
	Splined 0.875 in	7/8-14 UNF		X	Yes	Yes	OMS
Wheel	Cyl. 32 mm	G 1/2	X		Yes	Yes	OMSW
	Cyl. 1.25 in	7/8-14 UNF		X	Yes	Yes	OMSW
	Tapered 35 mm	G 1/2	X		Yes	Yes	OMSW
	Tapered 1.25 in	7/8-14 UNF		X	Yes	Yes	OMSW
Short	No output shaft	G 1/2	X		Yes	Yes	OMSW

**Features**

Features available (options):

- Speed sensor
- Motor with tacho connection
- High pressure shaft seal
- Viton shaft seal
- Painted
- Ultra short
- Motor with drum brake

**OMS**
**Code numbers**
*OMS code numbers*

Code Numbers	Displacement [cm <sup>3</sup> ]								
	80	100	125	160	200	250	315	400	500
151F	0500	0501	0502	0503	0504	0505	0506	0605	-
151F	2200	2201	2202	2203	2204	2205	2206	2261	2268
151F	0507	0508	0509	0510	0511	0512	0513	-	-
151F	2207	2208	2209	2210	2211	2212	2213	2262	2269
151F	0514	0515	0516	0517	0518	0519	0520	-	-
151F	2214	2215	2216	2217	2218	2219	2220	2264	2270
151F	0560	0561	0562	0563	0564	0565	0566	-	-
151F	0542	0543	0544	0545	0546	0547	0548	-	-
151F	2300	2301	2302	2303	2304	2305	2306	2307	2345
151F	2316	2317	2318	2319	2320	2321	2322	2323	2347
151F	2308	2309	2310	2311	2312	2313	2314	2315	2346
151F	2324	2325	2326	2327	2328	2329	2330	2331	2348
151F	2332	2333	2334	2335	2336	2337	2338	2339	2349
151F	2377	2378	2379	2380	2381	2382	2383	2384	2385
151F	2368	2369	2370	2371	2372	2373	2374	2375	2376
151F	2359	2360	2361	2362	2363	2364	2365	2366	2367
151F	2350	2351	2352	2353	2354	2355	2356	2357	2358
151F	2395	2396	2397	2398	2399	2400	2401	2402	2403
151F	2413	2414	2415	2416	2417	-	-	-	-
151F	0521	0522	0523	0524	0525	0526	0527	0610	-
151F	2235	2236	2237	2238	2239	2240	2241	2265	2266
151F	0528	0529	0530	0531	0532	0533	0534	0609	-
151F	2242	2243	2244	2245	2246	2247	2248	2263	2267
151F	0535	0536	0537	0538	0539	0540	0541	0608	-

**Ordering**

Add the four digit prefix "151F" to the four digit numbers from the chart for complete code number.

Example:

151F0504 for an OMS 200 with standard flange, cyl. 32 mm shaft and port size G 1/2.

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Orders will not be accepted without the four digit prefix.

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**OMS**
**Technical data**

Type		OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	
Motor size		80	100	125	160	200	250	315	400	500	
Geometric displacement	cm <sup>3</sup> [in <sup>3</sup> ]	80.5 [4.91]	100.0 [6.10]	125.7 [7.67]	159.7 [9.75]	200.0 [12.20]	250.0 [15.26]	314.9 [19.22]	393.0 [23.98]	488.0 [29.78]	
Max. speed	min <sup>-1</sup> [rpm]	cont.	810	750	600	470	375	300	240	190	155
		int. <sup>1)</sup>	1000	900	720	560	450	360	285	230	185
Max. torque	Nm [lbf-in]	cont.	240 [2120]	305 [2700]	375 [3320]	490 [4340]	610 [5400]	720 [6370]	825 [7300]	865 [7660]	850 [7520]
		int. <sup>1)</sup>	310 [2740]	390 [3450]	490 [4340]	600 [5310]	720 [6370]	870 [7700]	1000 [8850]	990 [8760]	990 [8760]
Max. output	kW [hp]	cont.	15.5 [20.8]	18.0 [24.1]	18.0 [24.1]	16.5 [22.1]	16.5 [22.1]	14.5 [19.4]	15.0 [20.1]	11.0 [14.8]	9.0 [12.1]
		int. <sup>1)</sup>	19.5 [26.2]	22.5 [30.2]	22.5 [30.2]	23.0 [30.8]	22.0 [29.5]	18.0 [24.1]	17.0 [22.8]	12.5 [16.8]	10.5 [14.1]
Max. pressure drop	bar [psi]	cont.	210 [3050]	210 [3050]	210 [3050]	210 [3050]	210 [3050]	200 [2900]	200 [2900]	160 [2320]	120 [1740]
		int. <sup>1)</sup>	275 [3990]	275 [3990]	275 [3990]	260 [3770]	250 [3630]	250 [3630]	240 [3480]	190 [2760]	140 [2030]
		peak <sup>2)</sup>	295 [4280]	295 [4280]	295 [4280]	280 [4060]	270 [3920]	270 [3920]	260 [3770]	210 [3050]	160 [2320]
Max. oil flow	l/min [USgal/min]	cont.	65 [17.2]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]
		int. <sup>1)</sup>	80 [21.1]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]
Max. starting pressure with unloaded shaft	bar [psi]	12 [175]	10 [145]	10 [145]	8 [115]	8 [115]	8 [115]	8 [115]	8 [115]	8 [115]	
Min. starting torque	at max. press. drop cont. Nm [lbf-in]	180 [1590]	230 [2040]	290 [2570]	370 [3270]	470 [4160]	560 [4960]	710 [6280]	710 [6280]	660 [5840]	
	at max. press. drop int. <sup>1)</sup> Nm [lbf-in]	235 [2080]	300 [2660]	380 [3360]	460 [4070]	560 [4960]	700 [6200]	850 [7520]	840 [7430]	770 [6820]	

Type			Max. inlet pressure	Max. return pressure with drain line
OMS OMSW OMSS	bar [psi]	cont.	230 [3340]	140 [2030]
	bar [psi]	int. <sup>1)</sup>	295 [4280]	175 [2540]
	bar [psi]	peak <sup>2)</sup>	300 [4350]	210 [3050]

			Splined 1 in	Cyl. 1 in	Splined 0.875 in
*Max torque for shaft type	Nm [lbf-in]	cont.	360 [3190]	300 [2660]	200 [1770]
		int. <sup>1)</sup>	450 [3980]	410 [3630]	200 [1770]

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

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

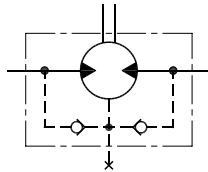
[For max. permissible combination of flow and pressure, see function diagram for actual motor.](#)

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**Maximum permissible shaft seal pressure**

**Motor with check valves and without use of drain connection**

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

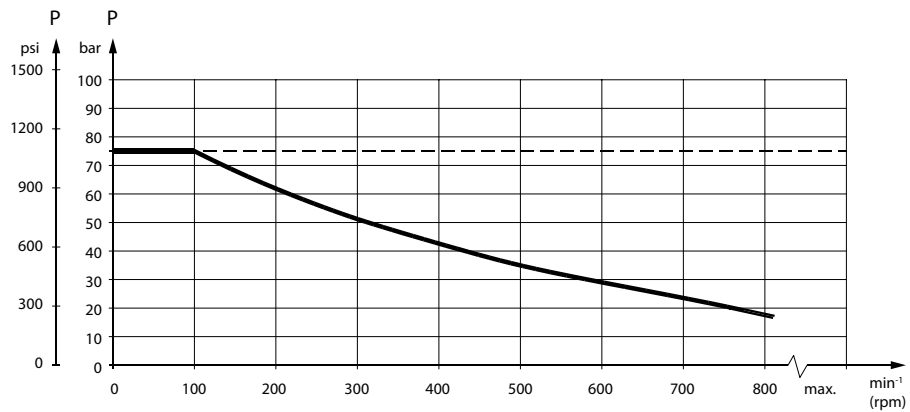


151-320.10

**Maximum return pressure**

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

Maximum return pressure without drain line or maximum pressure in the drain line



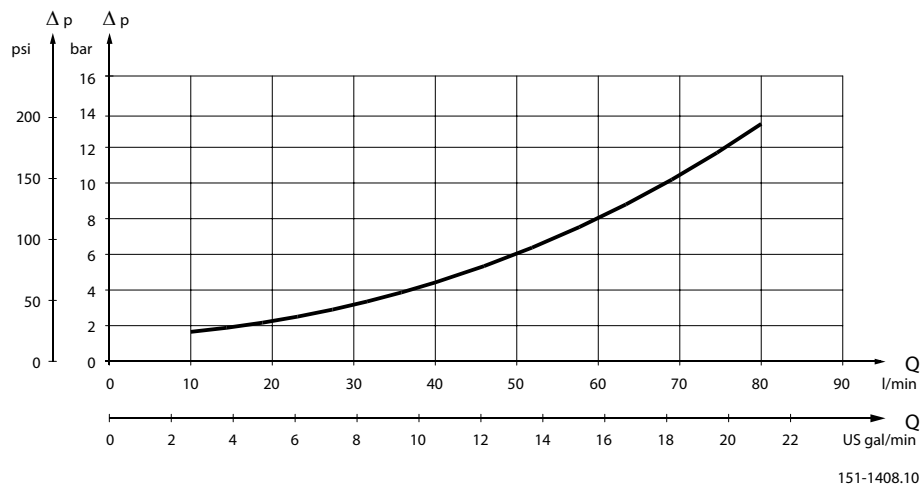
151-1674.10

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

———— Continuous operation

OMS

**Pressure drop in motor**



151-1408.10

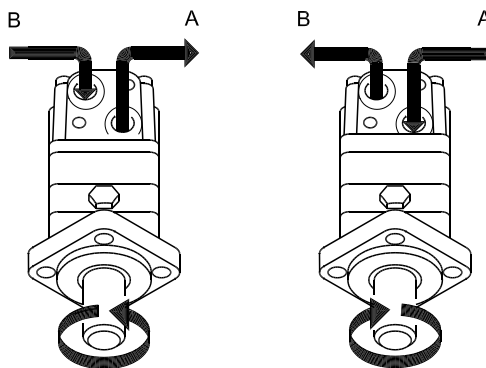
The curve applies to an unloaded motor shaft and an oil viscosity of 35 mm<sup>2</sup>/s [165 SUS]

**Oil flow in drain line**

Maximum oil flow in the drain line at a return pressure less than 5-10 bar [75-150 psi]

Pressure drop bar [psi]	Viscosity mm <sup>2</sup> /s [SUS]	Oil flow in drain line l/min [US gal/min]
140 [2030]	20 [100]	1.5 [0.40]
	35 [165]	1.0 [0.26]
210 [3050]	20 [100]	3.0 [0.79]
	35 [165]	2.0 [0.53]

**Direction of shaft rotation**



151-843.10

**Permissible shaft loads for OMS**

**Mounting flange:**

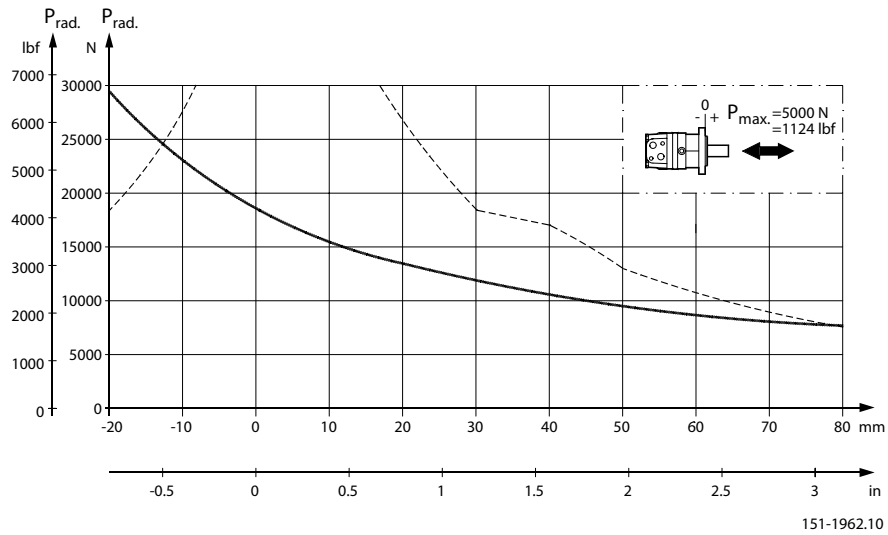
Standard – A-2 – Magneto – SAE B

OMS

**Shaft:**

Cyl. 32 mm – Cyl. 1.25 in – Splined 1.25 in.

Tapered 35 mm – Tapered 1.25 in – P.t.o.

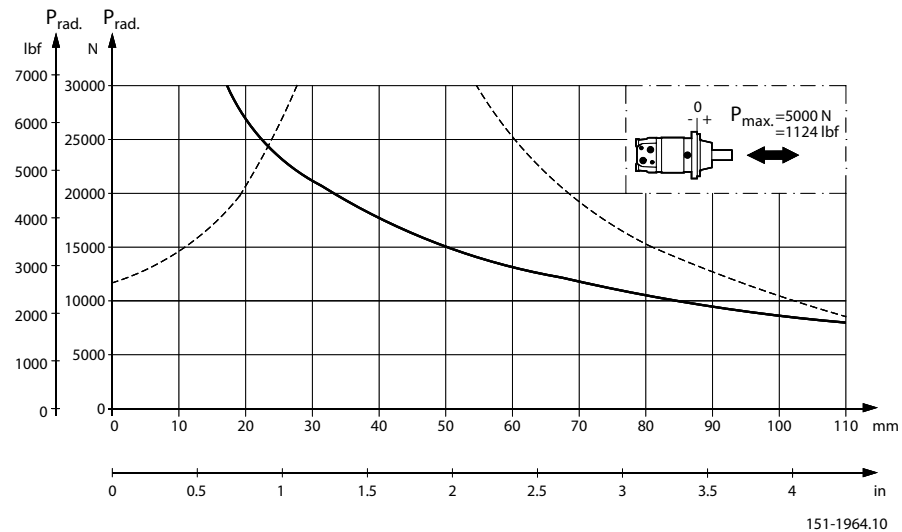


**Mounting flange:**

Wheel

**Shaft:**

All shaft types



The output shaft runs in tapered roller bearings that permit high axial and radial forces.

The permissible radial load on the shaft is shown for an axial load of 0 N as a function of the distance from the mounting flange to the point of load application.

**OMS**

The curve is based on B10 bearing life (2000 hours or 12,000,000 shaft revolutions at 100 min<sup>-1</sup>) at rated output torque, when mineral-based hydraulic oil with a sufficient content of anti-wear additives, is used.

For 3,000,000 shaft revolutions or 500 hours – increase these shaft loads with 52%.

The dash curve shows maximum radial shaft load. Any shaft load exceeding the values shown in the curve will involve a risk of breakage.

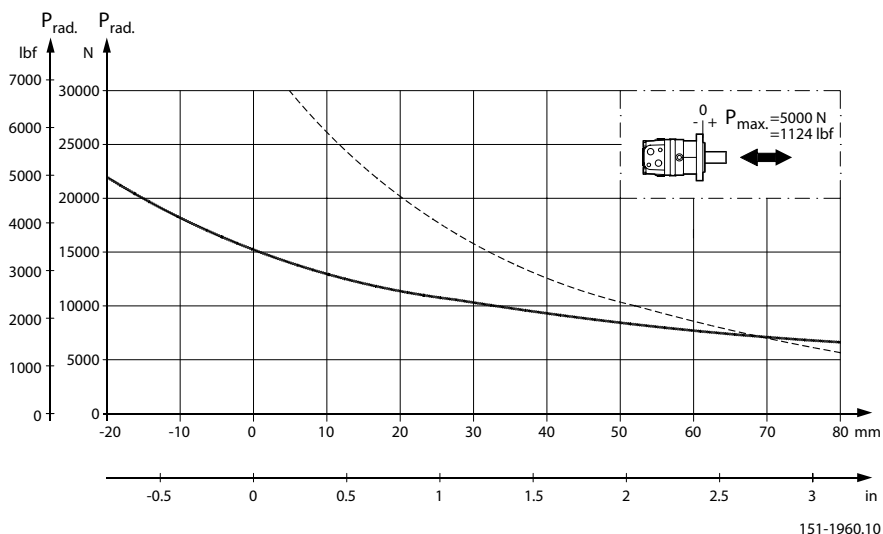
Bearing life calculations can be made using the explanation and formula provided in the chapter "Bearing dimensioning" in the technical information "General Orbital motors" 520L0232.

**Mounting flange:**

Special

**Shaft:**

Splined 1.25 in



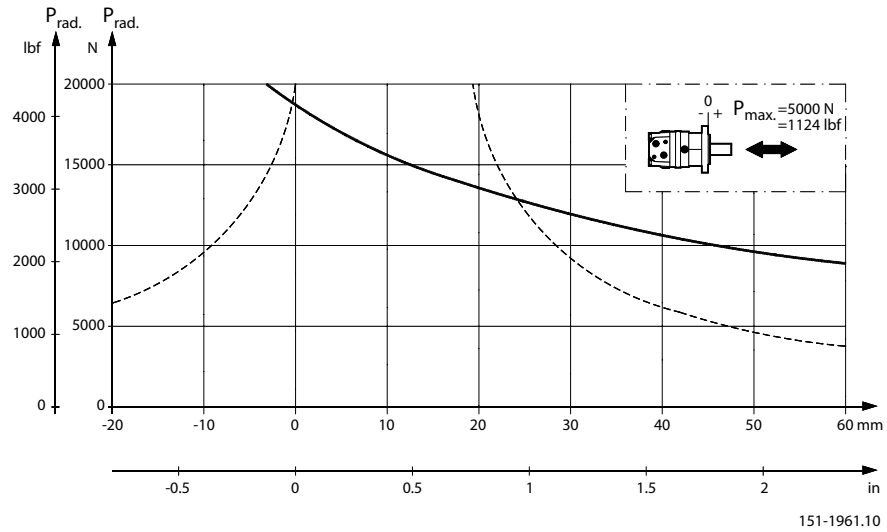
**Mounting flange:**

A-2 – Magneto

**Shaft:**

Cyl. 1 in – Splined 1 in

OMS



The output shaft runs in tapered roller bearings that permit high axial and radial forces.

The permissible radial load on the shaft is shown for an axial load of 0 N as a function of the distance from the mounting flange to the point of load application.

The curve is based on B10 bearing life (2000 hours or 12,000,000 shaft revolutions at 100 min<sup>-1</sup>) at rated output torque, when mineral-based hydraulic oil with a sufficient content of anti-wear additives, is used.

For 3,000,000 shaft revolutions or 500 hours – increase these shaft loads with 52%.

The dash curve shows max. radial shaft load. Any shaft load exceeding the values shown in the curve will involve a risk of breakage.

Bearing life calculations can be made using the explanation and formula provided in the chapter "Bearing dimensioning" in the technical information "General Orbital motors" 520L0232.

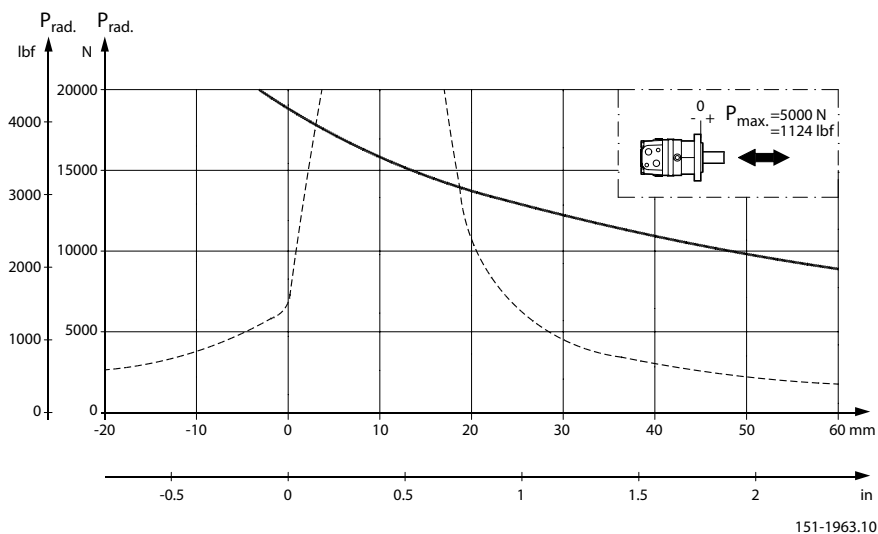
**Mounting flange:**

SAE B

**Shaft:**

Splined 0.875 in



**OMS**


The output shaft runs in tapered roller bearings that permit high axial and radial forces.

The permissible radial load on the shaft is shown for an axial load of 0 N as a function of the distance from the mounting flange to the point of load application.

The curve is based on B10 bearing life (2000 hours or 12,000,000 shaft revolutions at  $100 \text{ min}^{-1}$ ) at rated output torque, when mineral-based hydraulic oil with a sufficient content of anti-wear additives, is used.

For 3,000,000 shaft revolutions or 500 hours – increase these shaft loads with 52%.

The dash curve shows max. radial shaft load. Any shaft load exceeding the values shown in the curve will involve a risk of breakage.

Bearing life calculations can be made using the explanation and formula provided in the chapter "Bearing dimensioning" in the technical information "General Orbital motors" 520L0232.

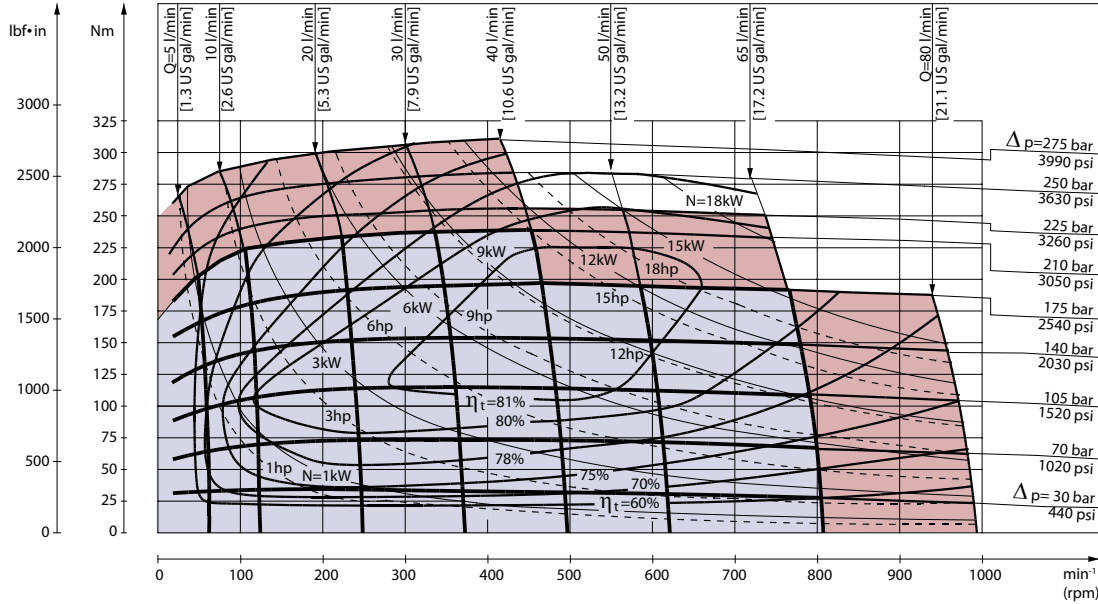
OMS

Function diagrams

Continuous range

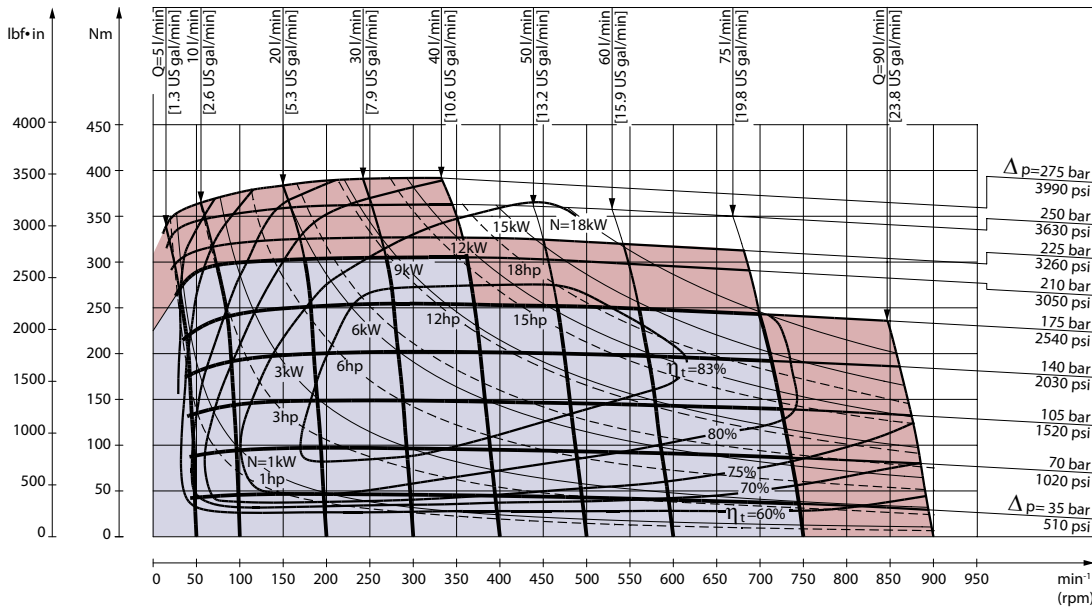
Intermittent range (maximum 10% operation every minute)

OMS 80



151-901.10

OMS 100

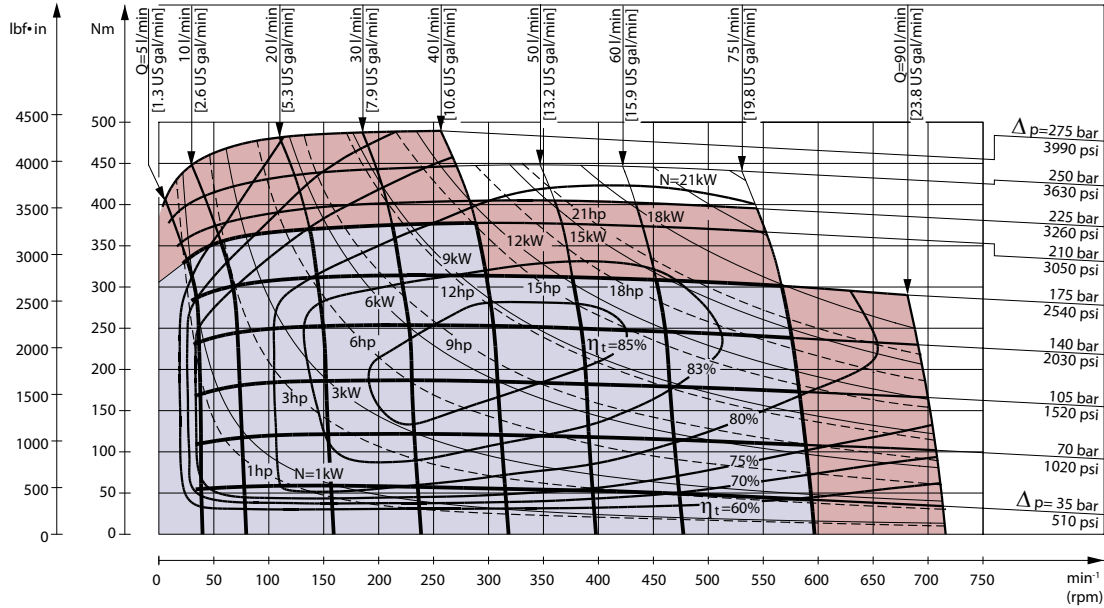


151-902.10

9hp

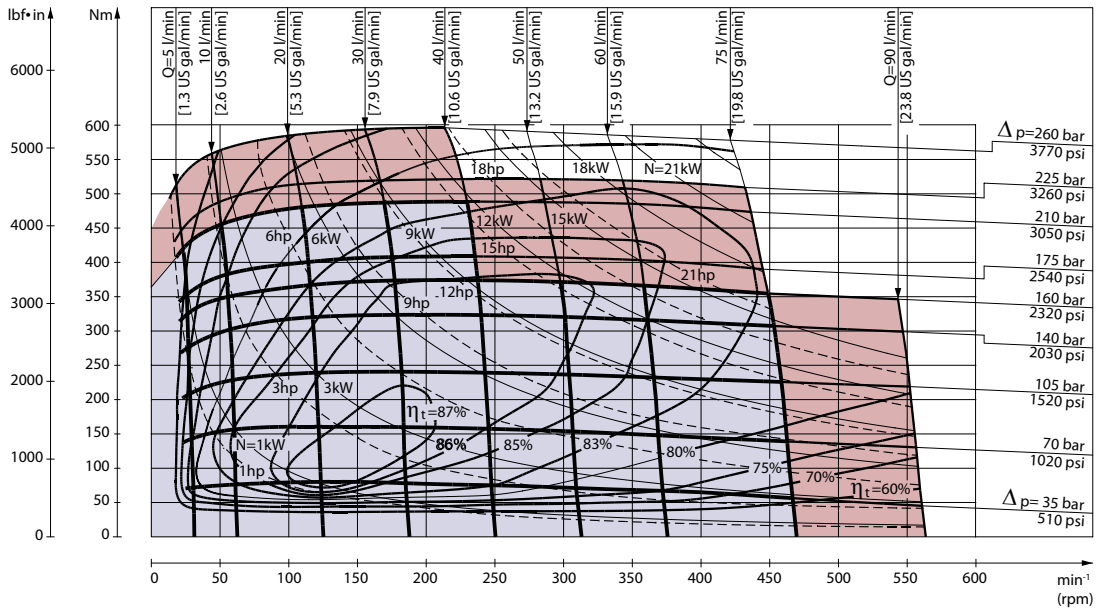
OMS

OMS 125



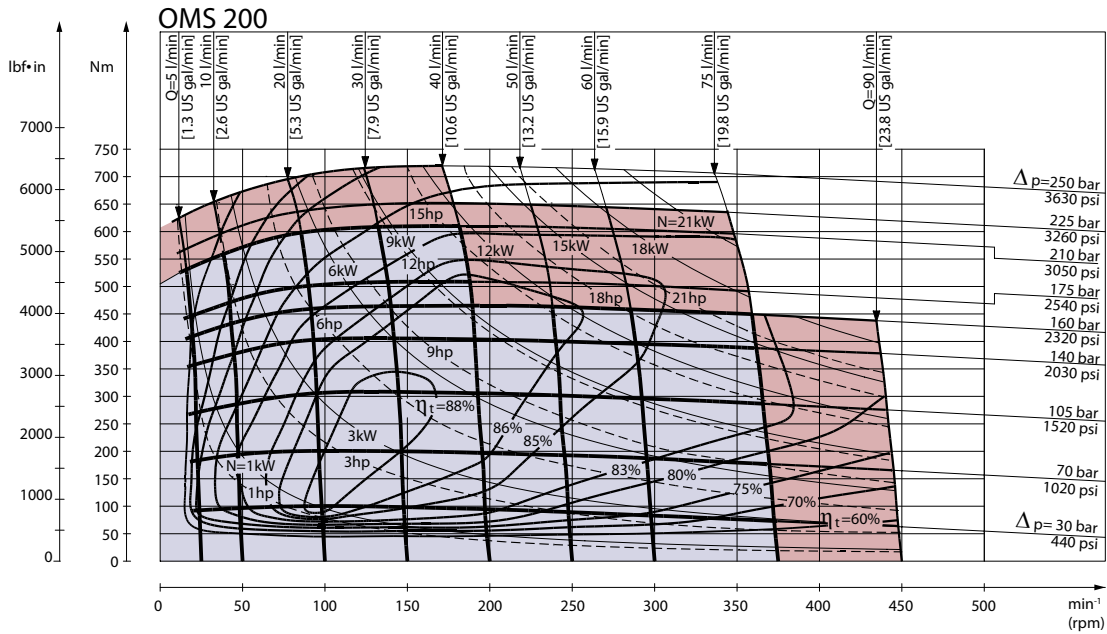
151-903.10

OMS 160

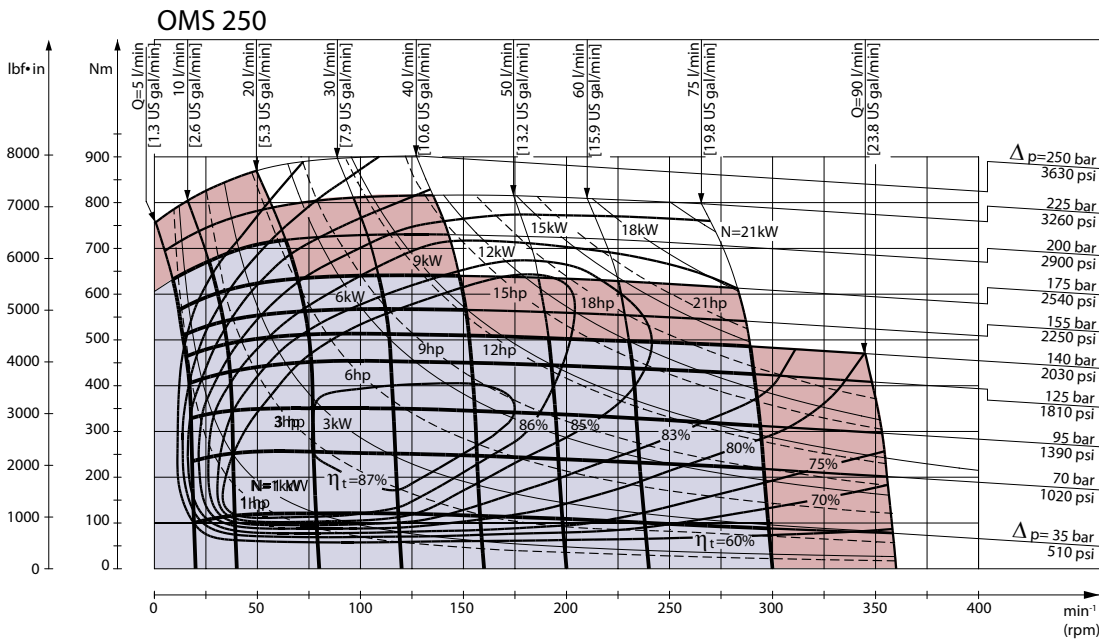


151-904.11

OMS



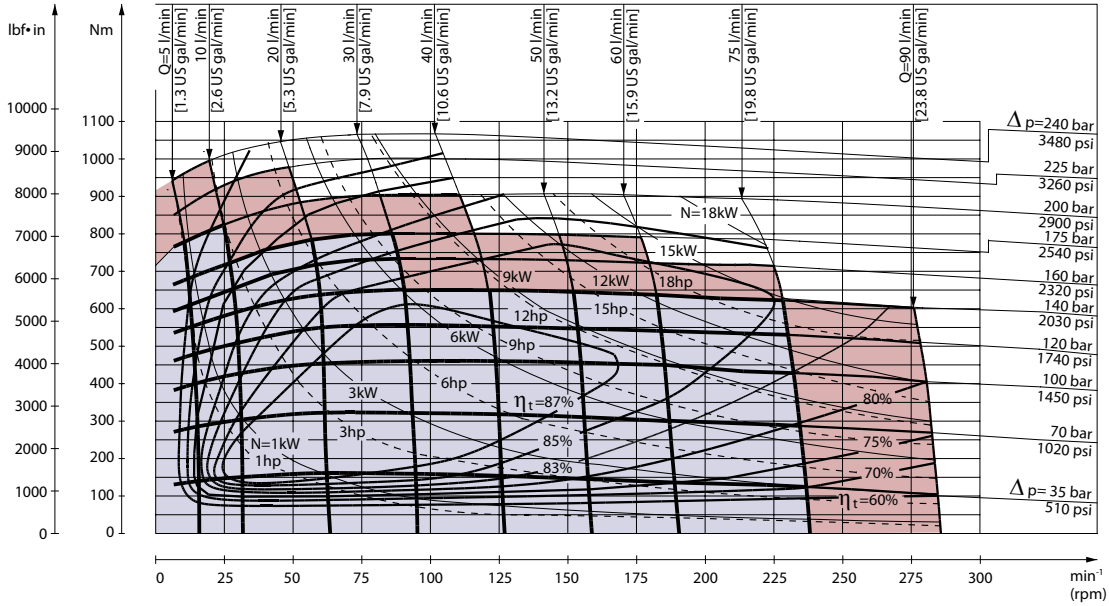
151-905.10



151-1039.10

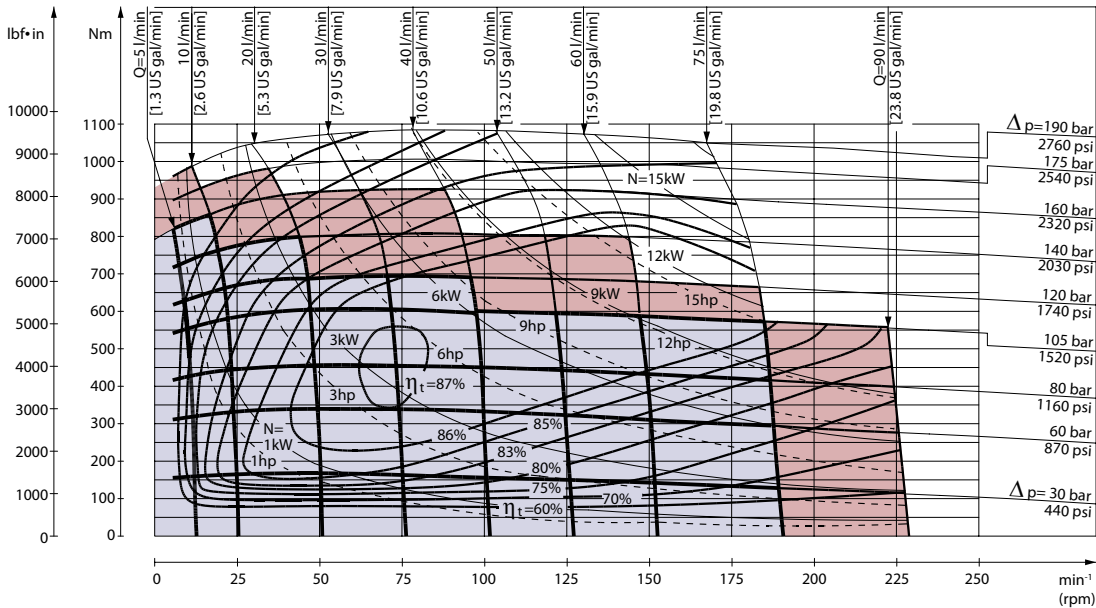
OMS

OMS 315



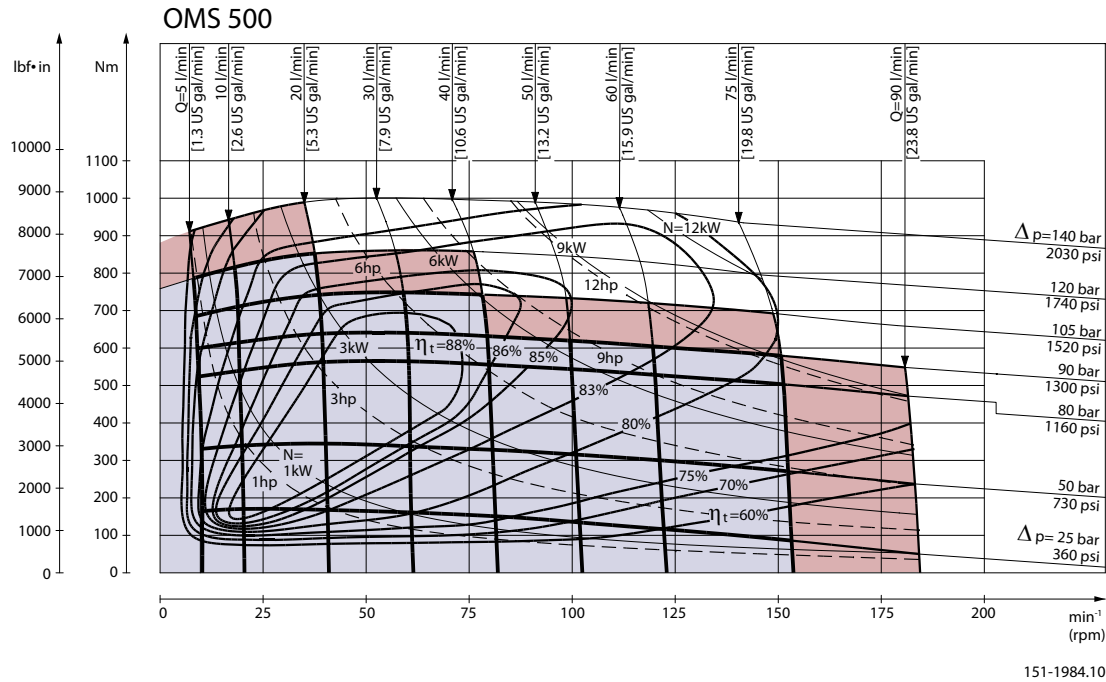
151-906.10

OMS 400



151-1491.10

OMS



**Function diagram use**

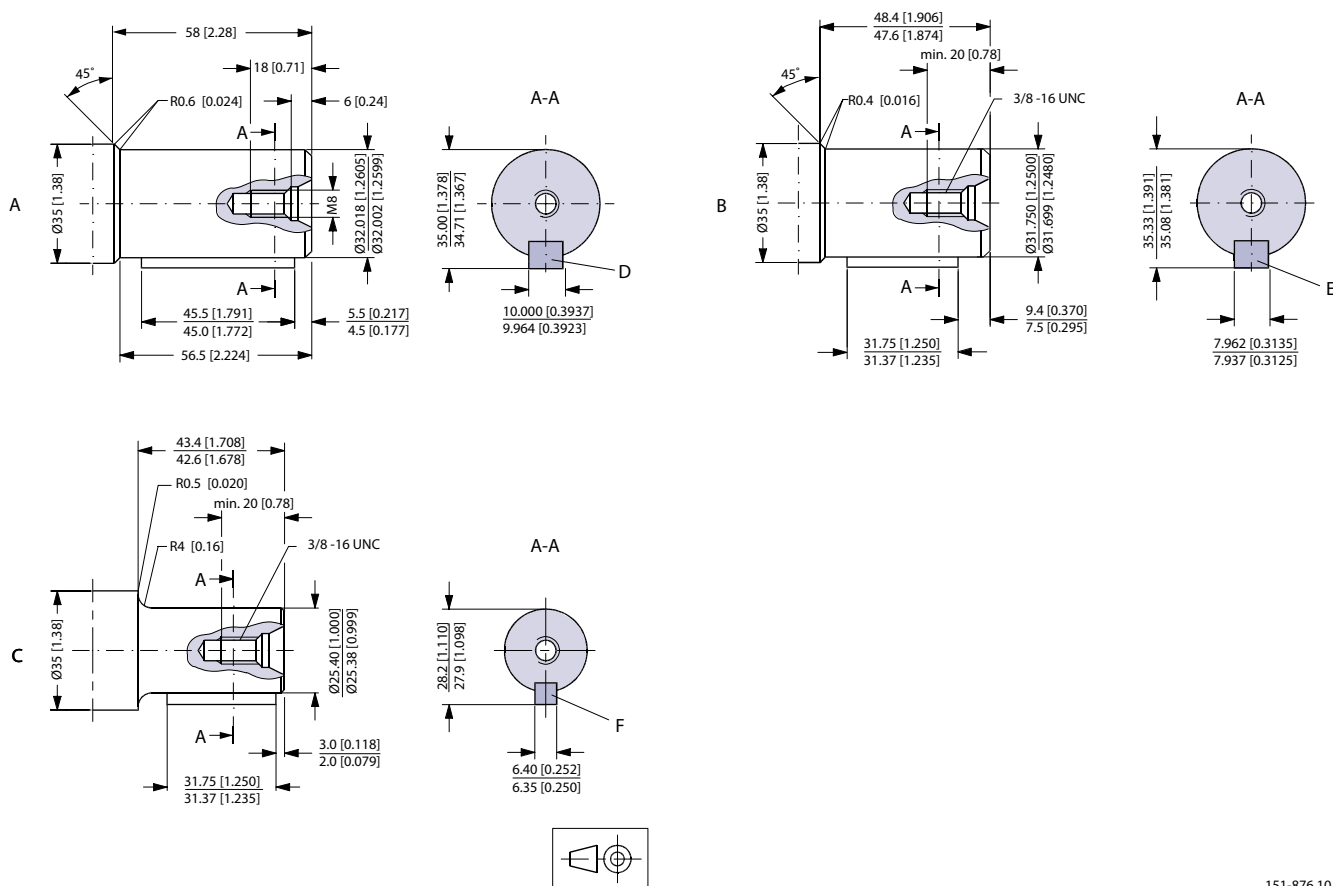
Explanation of function diagram use, basis and conditions, see [Speed, torque and output](#) on page 7.

Maximum permissible continuous/intermittent torque for the actual shaft version, see [Technical data](#) on page 11.

Intermittent pressure drop and oil flow must not occur simultaneously.

OMS

Shaft version



151-876.10

**A** Cylindrical 32 mm shaft

**D** Parallel key  
A10 × 8 × 45  
DIN 6885  
Keyway deviates from standard

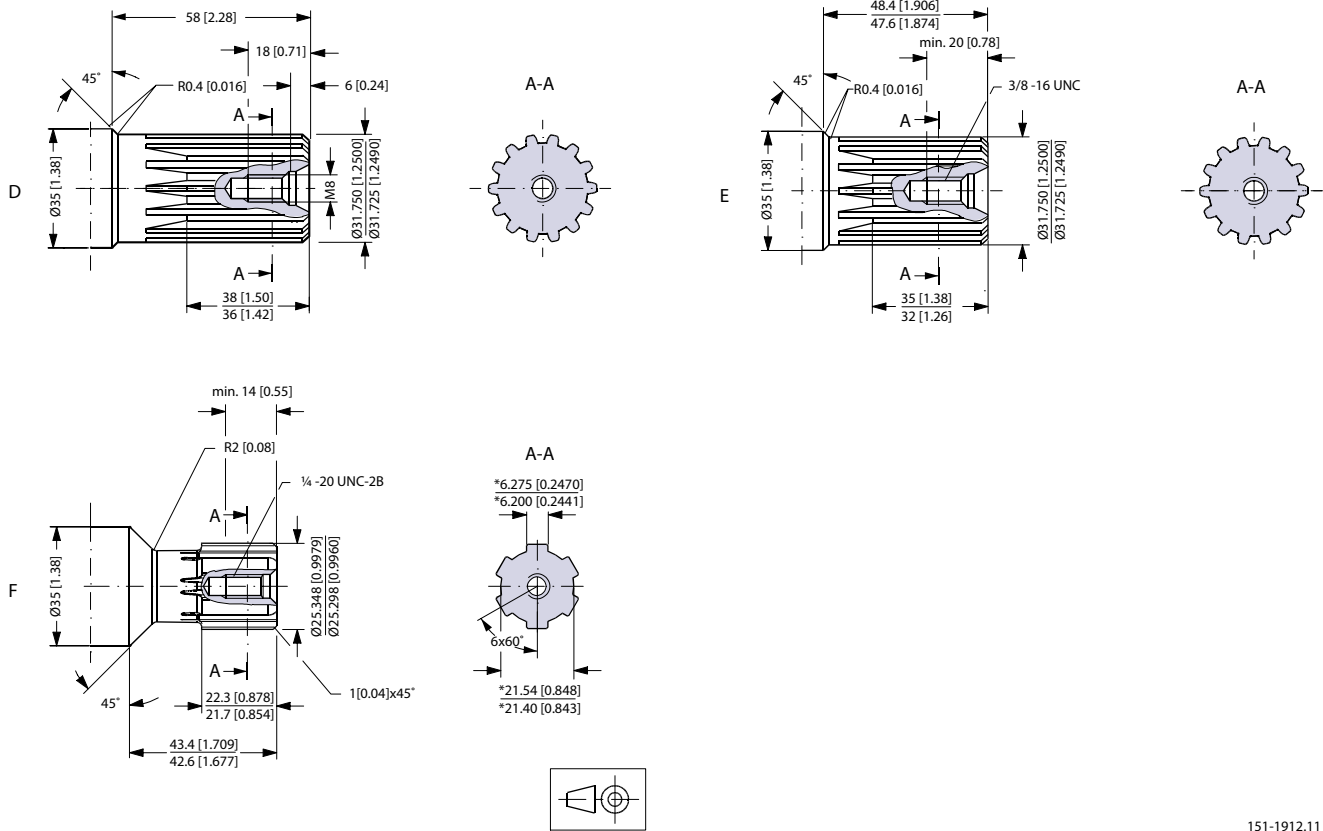
**B** Cylindrical 1.25 in shaft

**E** Parallel key  
5/16 × 5/16 × 11/4 in  
SAE J744  
Keyway deviates from standard

**C** Cylindrical 1 in shaft

**F** Parallel key  
1/4 × 1/4 × 11/4 in  
B.S. 46  
Keyway deviates from standard

**OMS**



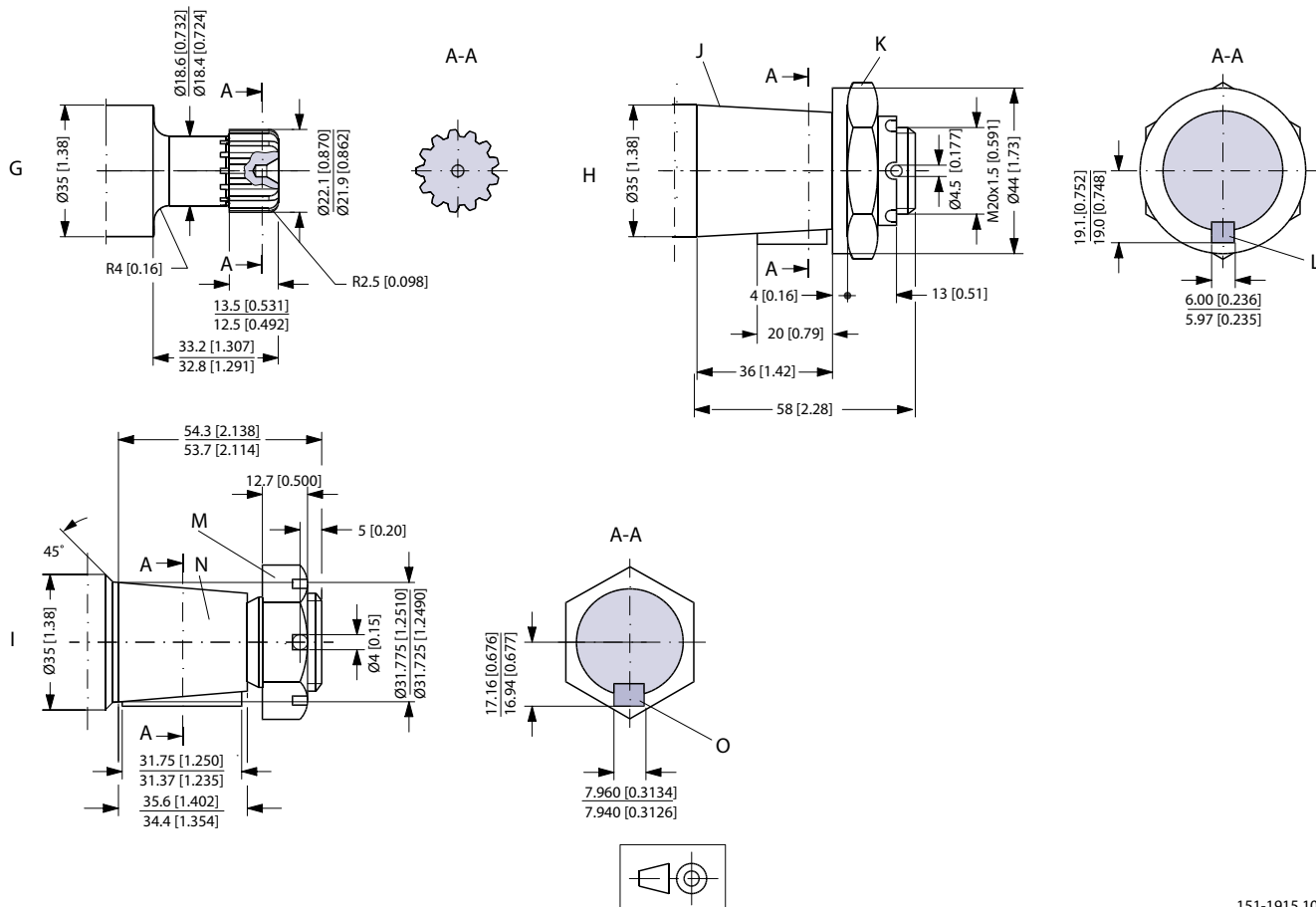
151-1912.11

**D** Involute splined shaft  
ANS B92.1 - 1970 standard  
Flat root side fit  
Pitch 12/24  
Teeth 14  
Major diameter 1.25 in  
Pressure angle 30°

**E US version**  
Involute splined shaft  
ANS B92.1 - 1970 standard  
Flat root side fit  
Pitch 12/24  
Teeth 14  
Major diameter 1.25 in  
Pressure angle 30°

**F** Splined shaft  
SAE 6 B (B.S. 2059)  
Straight-sided, bottom fitting, deep  
Fit 2  
Nominal size 1 in  
\*Deviates from SAE 6 B (B.S. 2059)



**OMS**


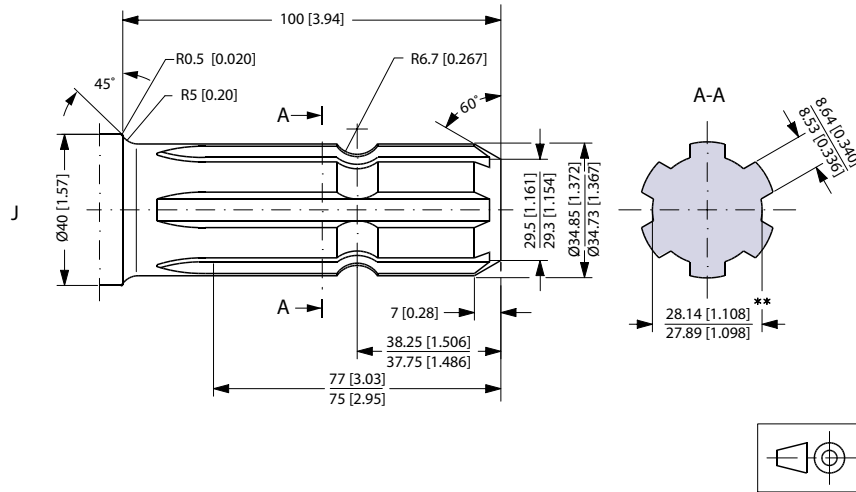
151-1915.10

- G** Involute splined shaft  
ANS B92.1 - 1970 standard  
Flat root side fit  
Pitch 16/32  
Teeth 13  
Major dia. 0.875 in  
Pressure angle 30°
- I** Tapered 1 1/4 in shaft

- H** Tapered 35 mm shaft  
(ISO/R775)
- K** DIN 937  
Across flats: 41 mm  
Tightening torque: 200 ± 10 Nm [1770 ± 85 lbf-in]
- J** Taper 1:10
- L** Parallel key  
B6 × 6 × 20  
DIN 6885  
Keyway deviates from standard

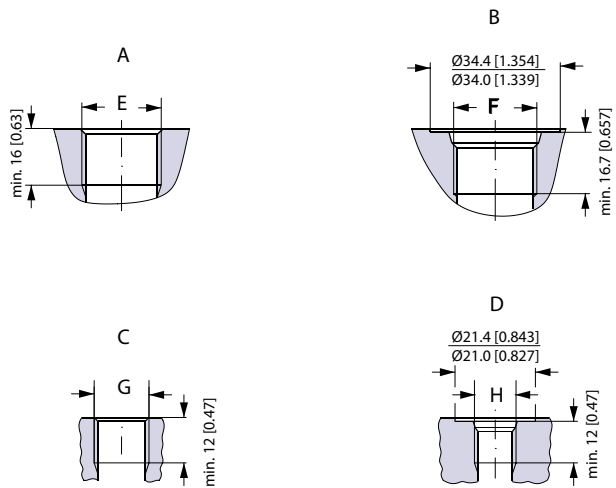
- I** Tapered 1 1/4 in shaft
- M** 1 - 20 UNEF  
Across flats 1 7/16 in  
Tightening torque: 200 ± 10 Nm (1770 ± 85 lbf-in)
- N** Cone 1:8  
SAE J501
- O** Parallel key  
5/16 × 5/16 × 1 1/4  
SAE J501  
Keyway deviates from standard

OMS



- J P.t.o. shaft
- DIN 9611 Form 1
- (ISO/R500 without pin hole)
- \*\* Deviates from DIN 9611

Port thread versions



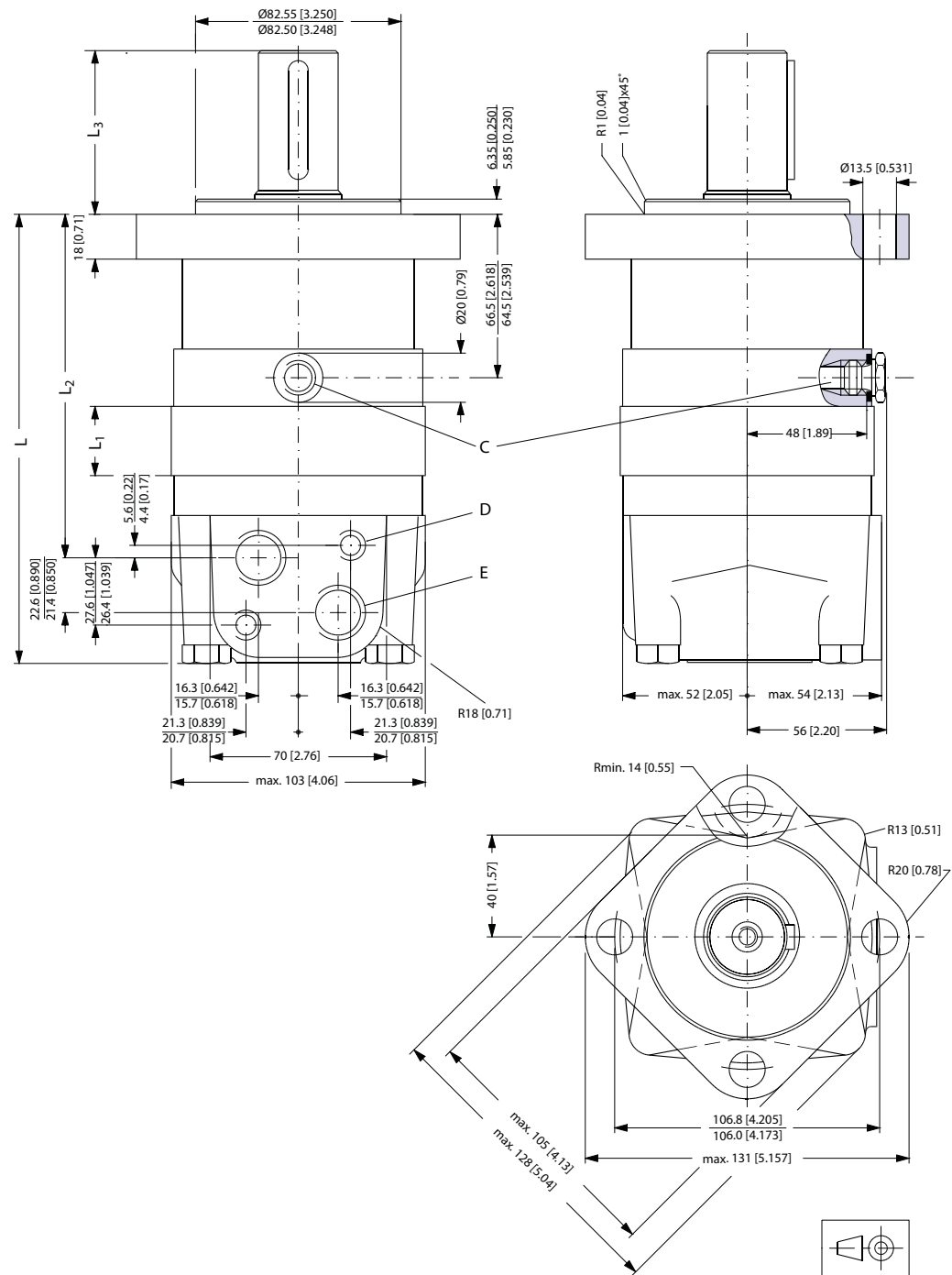
151-1971.11

- |  |                         |
|--|-------------------------|
| <b>A</b> G main ports                      | <b>B</b> UNF main ports |
| <b>E</b> ISO 228/1 - G1/2 O-ring boss port | <b>F</b> 7/8 - 14 UNF   |
| <b>C</b> G drain port                      | <b>D</b> UNF drain port |
| <b>G</b> ISO 228/1 - G1/4 O-ring boss port | <b>H</b> 7/16 - 20 UNF  |

Dimensions

OMS

Standard flange—European version



C: Drain connection  
G 1/4; 12 mm [0.47 in] deep  
E: G 1/2; 15 mm [0.59 in] deep

D: M10; 13 mm [0.51 in] deep

151-1809.10

**OMS**

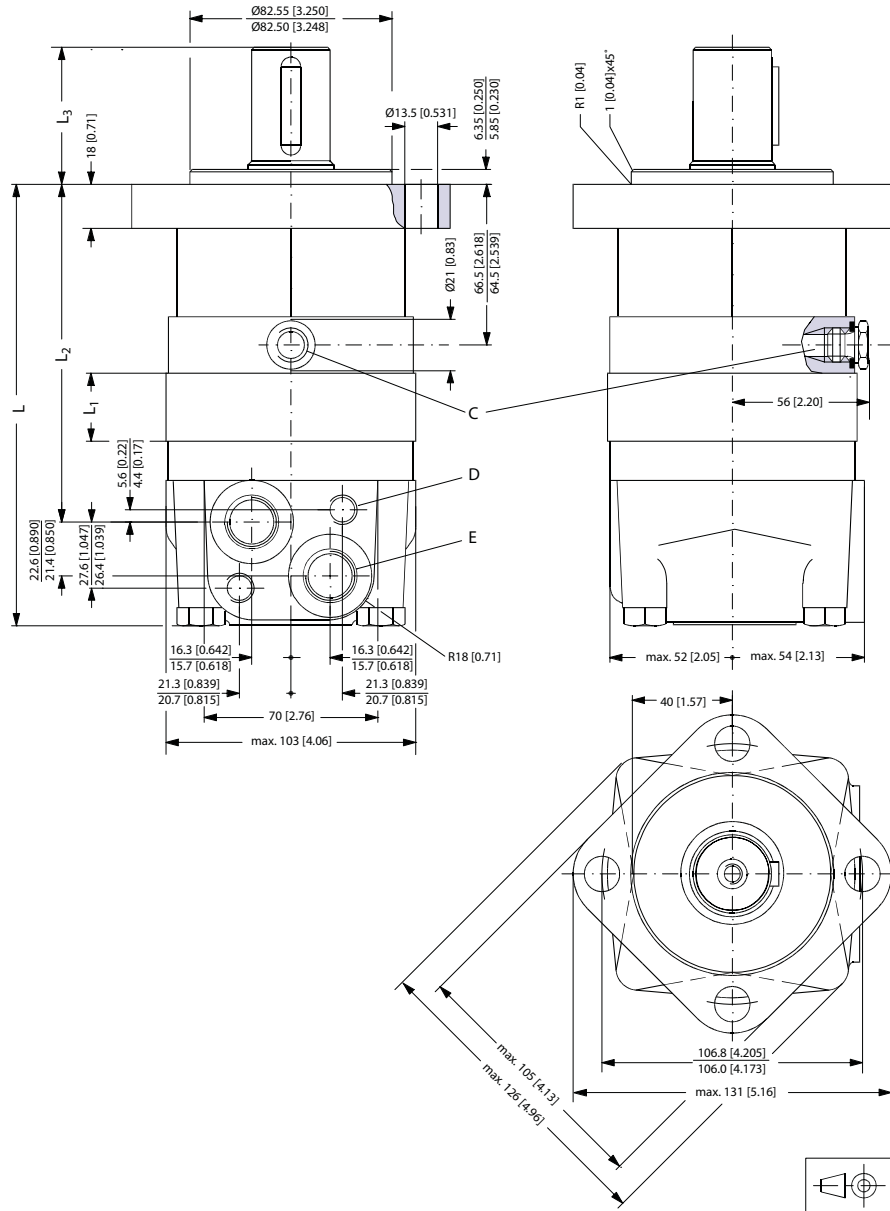
Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
OMS 315	208 [8.19]	54.8 [2.157]	165 [6.50]
OMS 400	221 [8.70]	68.4 [2.693]	178 [7.01]

Output shaft		L <sub>3</sub> mm [in]
All shafts except P.t.o. shaft	max	67 [2.64]
	min	65 [2.56]
P.t.o. shaft	max	109 [4.29]
	min	107 [4.21]

OMS

Standard flange—US version

Standard flange



151-1972.10

**C:** Drain connection  
7/16 - 20 UNF;  
12 mm [0.47 in] deep  
O-ring boss port

**D:** M10; 13 mm [0.51 in] deep

**E:** 7/8 - 14 UNF;  
16.7 mm [0.657 in] deep  
O-ring boss port

Type	$L_{\max}$ mm [in]	$L_1$ mm [in]	$L_2$ mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]

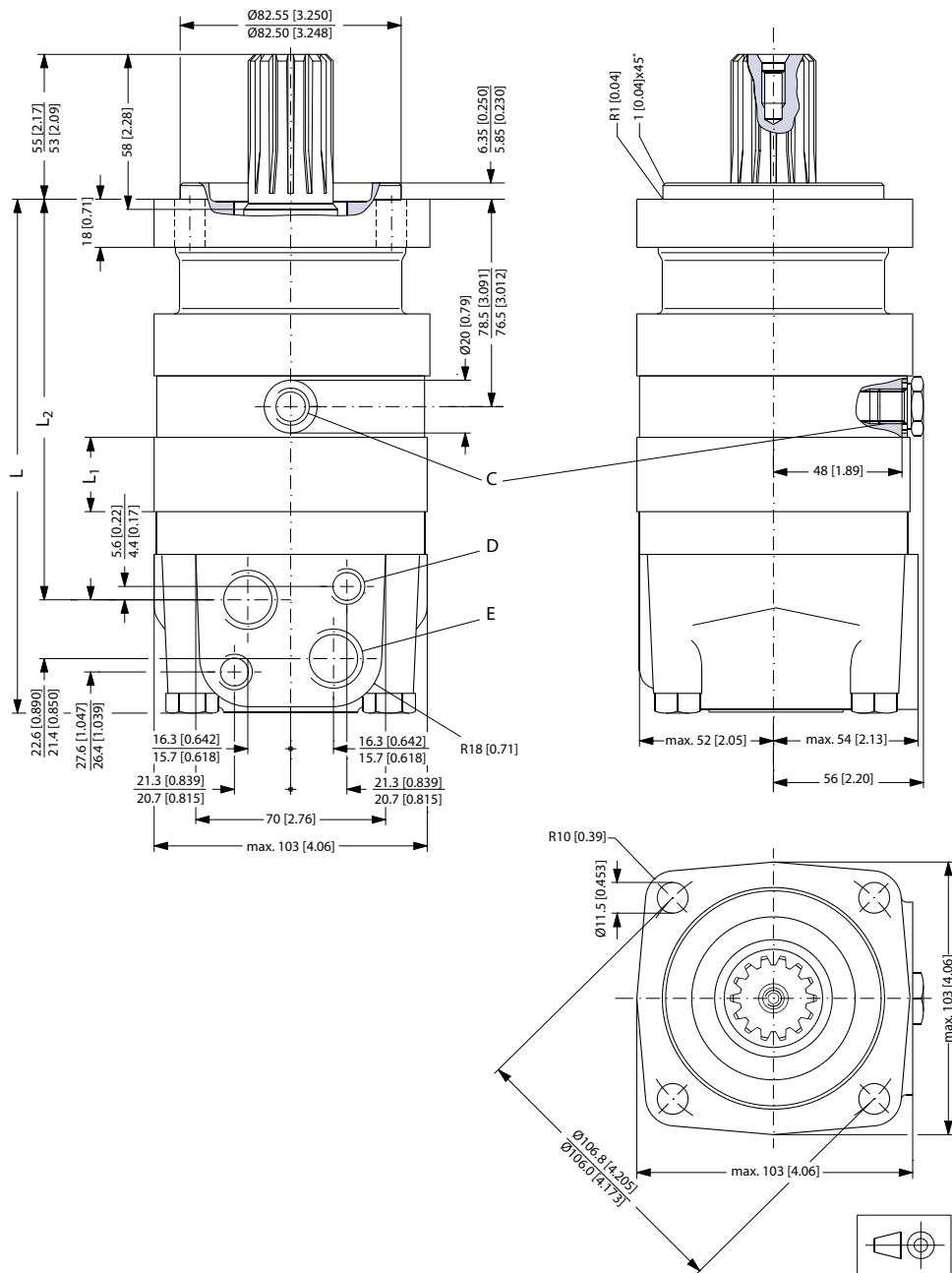
**OMS**

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
OMS 315	208 [8.19]	54.8 [2.157]	165 [6.50]
OMS 400	221 [8.70]	68.4 [2.693]	178 [7.01]
OMS 500	221 [8.70]	68.4 [2.693]	178 [7.01]

Output shaft		L <sub>3</sub> mm [in]
Cyl.1.25 in Splined 1.25 in	max	57 [2.24]
	min	55 [2.17]
Tapered 1.25 in	max	67 [2.64]
	min	65 [2.56]

OMS

Special flange—European version



151-1810.10

**C:** Drain connection  
G 1/4; 12 mm [0.47 in] deep

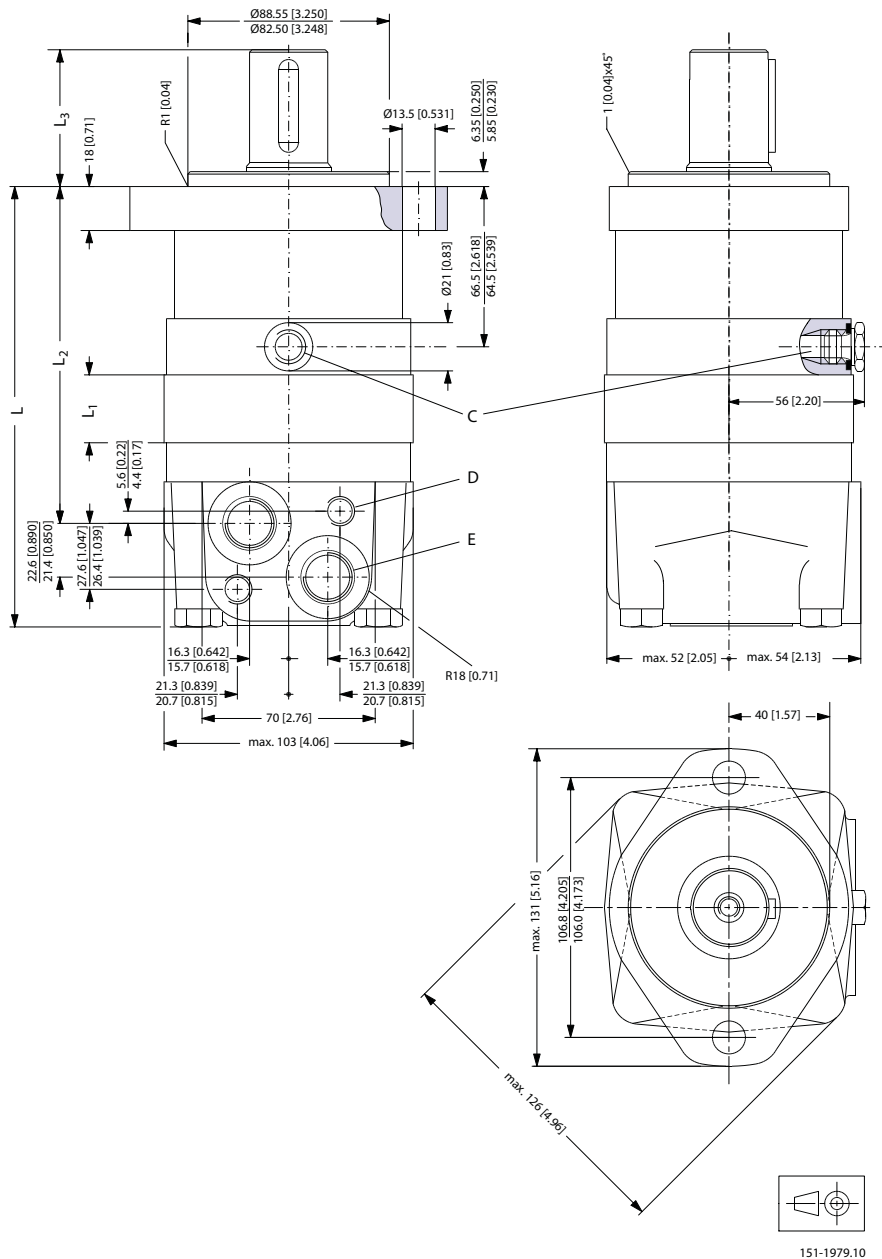
**D:** M10; 13 mm [0.51 in] deep

**E:** G 1/2; 15 mm [0.59 in] deep

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMS 80	178 [7.01]	14.0 [0.551]	136 [5.35]
OMS 100	182 [7.17]	17.4 [0.685]	140 [5.51]

**OMS**

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMS 125	186 [7.32]	21.8 [0.858]	144 [5.67]
OMS 160	192 [7.56]	27.8 [1.094]	150 [5.91]
OMS 200	199 [7.83]	34.8 [1.370]	157 [6.18]
OMS 250	208 [8.19]	43.5 [1.713]	166 [6.54]
OMS 315	219 [8.62]	54.8 [2.157]	177 [6.97]
OMS 400	232 [9.13]	68.4 [2.693]	190 [7.48]

**A-2 flange—US version**




**OMS**

12 mm [0.47 in] deep  
O-ring boss port

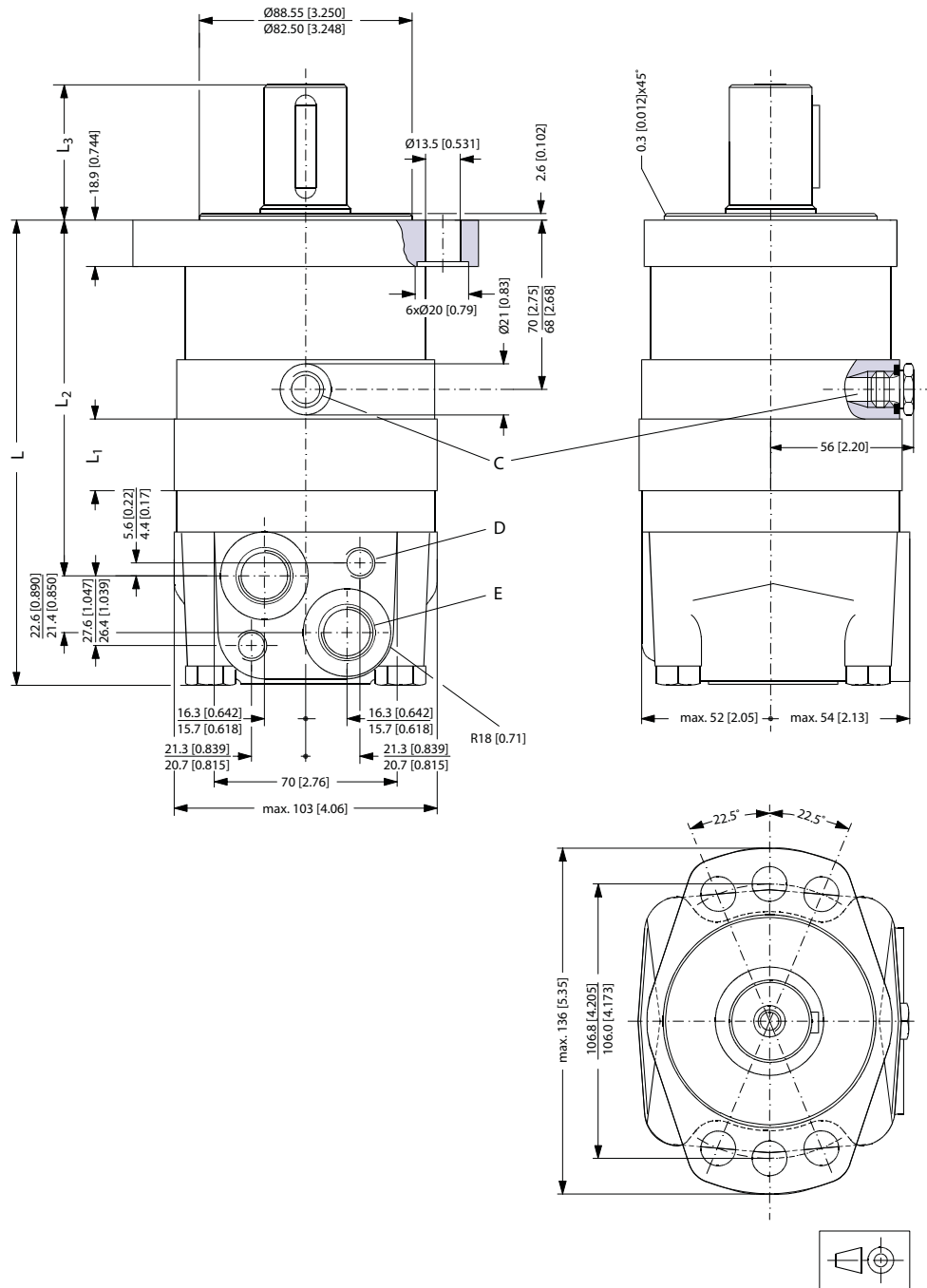
**E:** 7/8 - 14 UNF;  
16.7 mm [0.657 in] deep  
O-ring boss port

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
OMS 315	208 [8.19]	54.8 [2.157]	165 [6.50]
OMS 400	221 [8.70]	68.4 [2.693]	178 [7.01]
OMS 500	221 [8.70]	68.4 [2.693]	178 [7.01]

Output shaft		L <sub>3</sub> mm [in]
Cyl.1 in Splined 1 in	max	52 [2.05]
	min	50 [1.97]
Cyl.1.25 in Splined 1.25 in	max	57 [2.24]
	min	55 [2.17]
Tapered 1.25 in	max	67 [2.64]
	min	65 [2.56]

**OMS**

**Magneto flange—US version**



151-1980.10

**C:** Drain connection  
7/16 - 20 UNF;  
12 mm [0.47 in] deep  
O-ring boss port

**D:** M10; 13 mm [0.51 in] deep

**E:** 7/8 - 14 UNF;  
16.7 mm [0.657 in] deep  
O-ring boss port

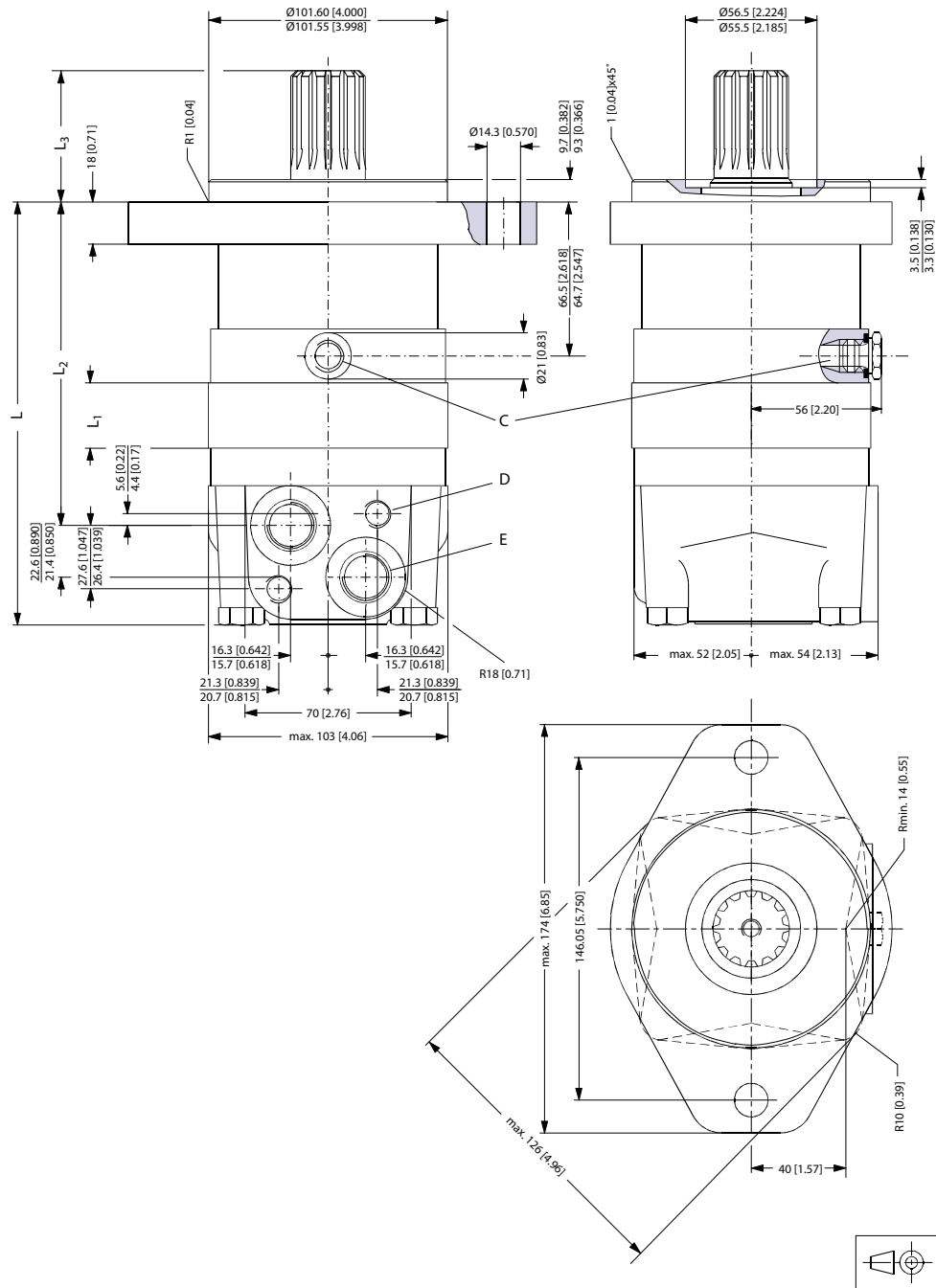
**OMS**

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMS 80	171 [6.73]	14.0 [0.551]	128 [5.04]
OMS 100	174 [6.85]	17.4 [0.685]	131 [5.16]
OMS 125	179 [7.05]	21.8 [0.858]	136 [5.35]
OMS 160	185 [7.28]	27.8 [1.094]	142 [5.59]
OMS 200	192 [7.56]	34.8 [1.370]	149 [5.87]
OMS 250	200 [7.87]	43.5 [1.713]	157 [6.18]
OMS 315	212 [8.35]	54.8 [2.157]	169 [6.65]
OMS 400	225 [8.86]	68.4 [2.693]	182 [7.17]
OMS 500	225 [8.86]	68.4 [2.693]	182 [7.17]

Output shaft		L <sub>3</sub> mm [in]
Cyl.1 in Splined 1 in	max	49 [1.93]
	min	47 [1.85]
Cyl.1.25 in Splined 1.25 in	max	54 [2.13]
	min	52 [2.05]

OMS

SAE-B flange—US version



**C:** Drain connection  
7/16 - 20 UNF;  
12 mm [0.47 in] deep  
O-ring boss port

**E:** 7/8 - 14 UNF;  
16.7 mm [0.657 in] deep  
O-ring boss port

**D:** M10; 13 mm [0.51 in] deep

151-1981.10

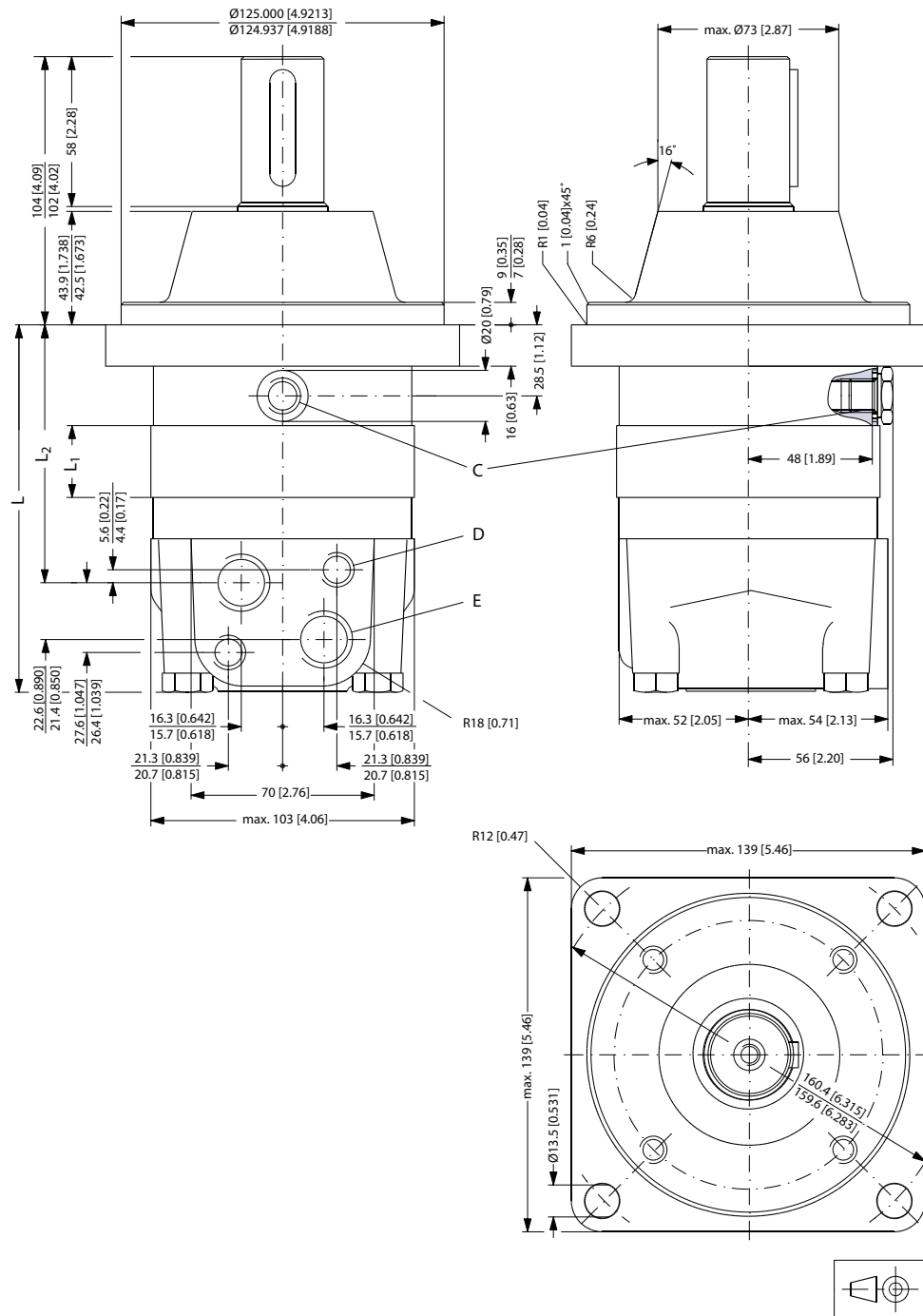
**OMS**

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
OMS 315	208 [8.19]	54.8 [2.157]	165 [6.50]
OMS 400	221 [8.70]	68.4 [2.693]	178 [7.01]
OMS 500	221 [8.70]	68.4 [2.693]	178 [7.01]

Output shaft		L <sub>3</sub> mm [in]
Splined 1.25 in	max	57 [2.24]
	min	55 [2.17]
Splined 0.875 in	max	42 [1.65]
	min	40 [1.57]

OMS

Wheel—European version



151-1812.10

**C:** Drain connection  
G 1/4; 12 mm [0.47 in] deep  
**E:** G 1/2; 15 mm [0.59 in] deep

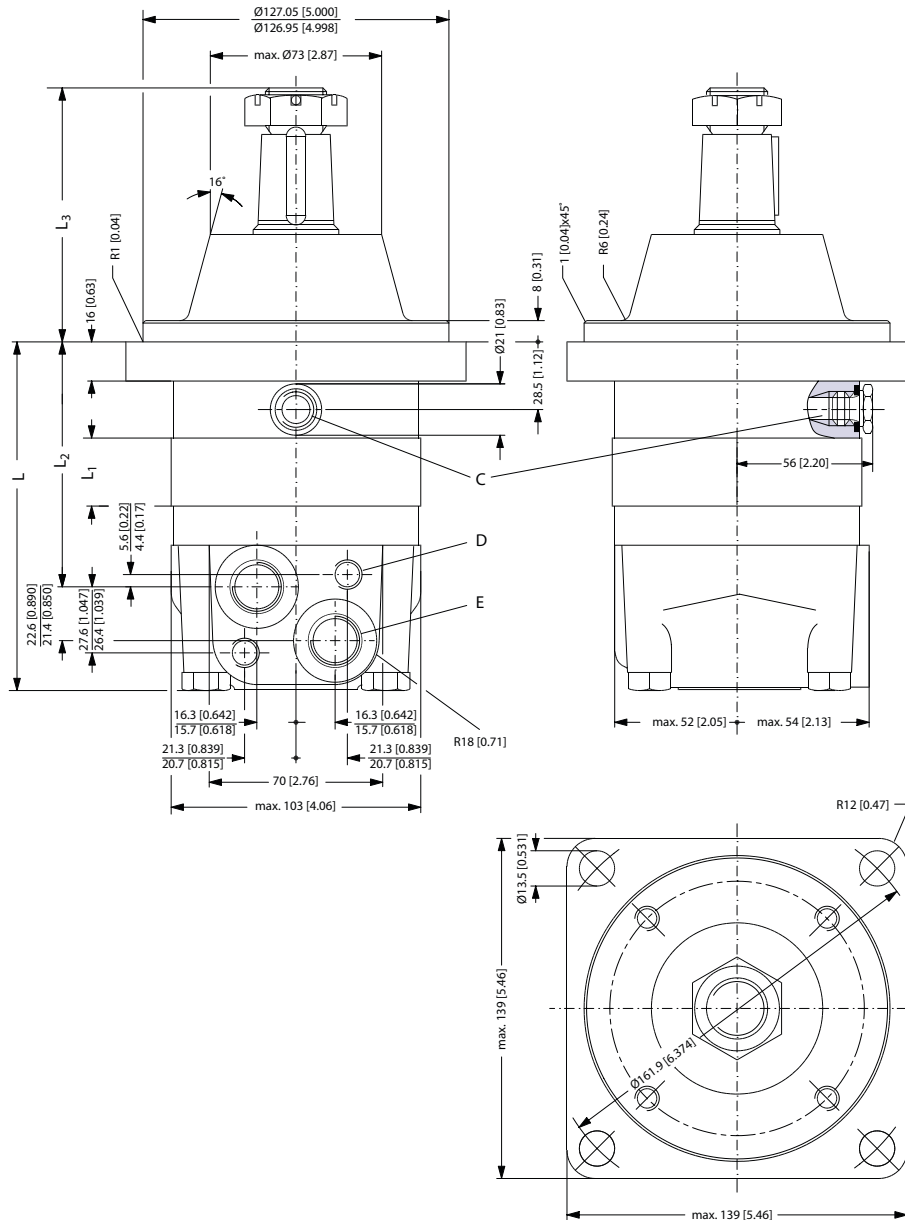
**D:** M10; 13 mm [0.51 in] deep

**OMS**

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMSW 80	129 [5.08]	14.0 [0.551]	87 [3.43]
OMSW 100	132 [5.20]	17.4 [0.685]	90 [3.54]
OMSW 125	137 [5.39]	21.8 [0.858]	95 [3.74]
OMSW 160	143 [5.63]	27.8 [1.094]	101 [3.98]
OMSW 200	150 [5.91]	34.8 [1.370]	108 [4.25]
OMSW 250	158 [6.22]	43.5 [1.713]	116 [4.57]
OMSW 315	170 [6.69]	54.8 [2.157]	128 [5.04]
OMSW 400	183 [7.20]	68.4 [2.693]	142 [5.59]

**OMS**

**Wheel—US version**



151-1982.10

**C:** Drain connection  
7/16 - 20 UNF;  
12 mm [0.47 in] deep  
O-ring boss port

**D:** M10; 13 mm [0.51 in] deep

**E:** 7/8 - 14 UNF;  
16.7 mm [0.657 in] deep  
O-ring boss port

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMSW 80	130 [5.12]	14.0 [0.551]	88 [3.46]
OMSW 100	133 [5.24]	17.4 [0.685]	91 [3.58]



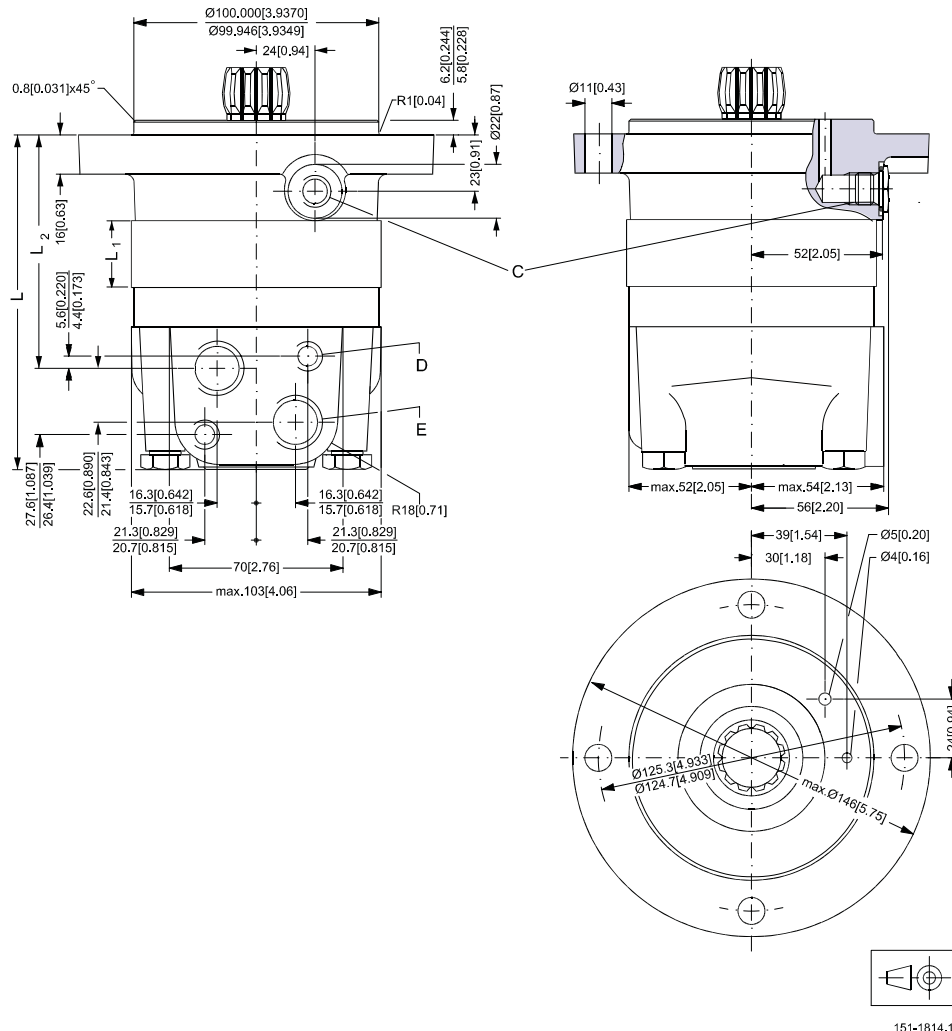
**OMS**

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMSW 125	138 [5.43]	21.8 [0.858]	96 [3.78]
OMSW 160	144 [5.67]	27.8 [1.094]	102 [4.02]
OMSW 200	151 [5.94]	34.8 [1.370]	109 [4.29]
OMSW 250	159 [6.26]	43.5 [1.713]	117 [4.61]
OMSW 315	171 [6.73]	54.8 [2.157]	129 [5.08]
OMSW 400	184 [7.24]	68.4 [2.693]	142 [5.59]
OMSW 500	184 [7.24]	68.4 [2.693]	142 [5.59]

Output shaft		L <sub>3</sub> mm [in]
Cyl.1.25 in	max	94 [3.70]
	min	92 [3.62]
Tapered 1.25 in	max	104 [4.09]
	min	102 [4.02]

OMS

Short—European version



**C:** Drain connection  
G 1/4; 12 mm [0.47 in] deep

**D:** M10; 13 mm [0.51 in] deep

**E:** G 1/2; 15 mm [0.59 in] deep

Type	L <sub>max</sub> mm [in]	L <sub>1</sub> mm [in]	L <sub>2</sub> mm [in]
OMSS 80	124 [4.88]	14.0 [0.551]	83 [3.27]
OMSS 100	128 [5.04]	17.4 [0.685]	86 [3.39]
OMSS 125	132 [5.20]	21.8 [0.858]	90 [3.54]
OMSS 160	138 [5.43]	27.8 [1.094]	96 [3.78]
OMSS 200	145 [5.71]	34.8 [1.370]	103 [4.06]
OMSS 250	154 [6.06]	43.5 [1.713]	112 [4.41]
OMSS 315	165 [6.50]	54.8 [2.157]	123 [4.84]
OMSS 400	179 [7.05]	68.4 [2.693]	137 [5.39]

**OMS**
**OMSS**
**Installing the OMSS**

The cardan shaft of the OMSS motor acts as an “output shaft”. Because of the movement of the shaft, no seal can be fitted at the shaft output.

Internal oil leakage from the motor will therefore flow into the attached component.

During start and operation it is important that the spline connection and the bearings in the attached component receive oil and are adequately lubricated. To ensure that the spline connection receives sufficient oil, a conical sealing ring between the shaft of the attached component and the motor intermediate plate is recommended. This method is used in the OMS.

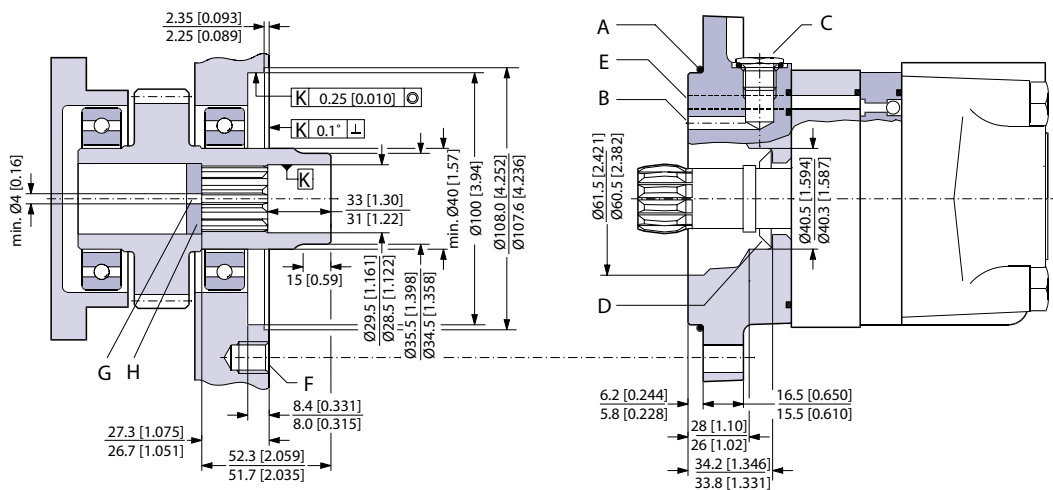
The conical sealing ring (code. no. 633B9023) is supplied with the motor.

To ensure that oil runs to the bearings and other parts of the attached component, the stop plate must have a hole in it (see fig. below).

We recommend an O-ring between motor and attached component. The O-ring (code no. 151F1033) is supplied with the motor. If motor and attached component have been separated, remember to refill before starting up. Fill the oil through the drain connection.

**Attached component dimensions**

OMSS dimensions of the attached component in millimeter [inches]



151-873.10

- |                               |                                 |   |
|-------------------------------|---------------------------------|---|
| <b>A</b> O-ring: 100 × 3 mm   | <b>B</b> External drain channel | <b>C</b> Drain connection G 1/4; 12 mm [0.47 in] deep |
| <b>D</b> Conical seal ring    | <b>E</b> Internal drain channel | <b>F</b> M10; min. 15 mm [0.59 in] deep               |
| <b>G</b> Oil circulation hole | <b>H</b> Hardened stop plate    |   |

**Internal spline data for the component to be attached**

The attached component must have internal splines corresponding to the external splines on the motor cardan shaft (see drawing below).

**OMS**
**Material:**

Case hardening steel with a tensile strength corresponding at least to 20 MoCr4 (900 N/mm<sup>2</sup>) or SAE 8620.

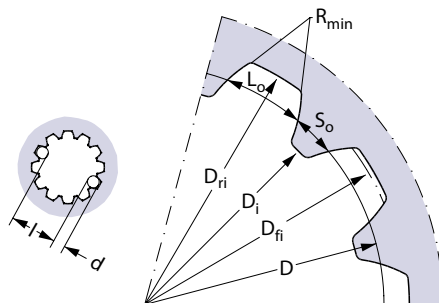
**Hardening specification:**

- On the surface: HV = 750 ± 50
- 0.7 ± 0.2 mm under the surface: HV = 560

Internal involute spline data; Standard ANS B92.1-1970, class 5 (corrected  $m \cdot X = 0.8$ ;  $m = 2.1166$ )

Flat root side fit		mm	in
Number of teeth	z	12	12
Pitch	DP	12/24	12/24
Pressure angle		30°	30°
Pitch dia.	D	25.4	1.0
Major dia.	D <sub>ri</sub>	28.0 <sup>0</sup> <sub>-0.1</sub>	1.10 0-0.004
Form dia. (min.)	D <sub>fi</sub>	27.6	1.09
Minor dia.	D <sub>i</sub>	23.0 <sup>0</sup> <sub>+0.033</sub>	0.9055 <sup>0</sup> <sub>+0.0013</sub>
Space width (circular)	L <sub>o</sub>	4.308 <sup>±0.020</sup>	0.1696 <sup>±0.0008</sup>
Tooth thickness (circular)	S <sub>o</sub>	2.341	0.09217
Fillet radius	R <sub>min.</sub>	0.2	0.008
Max. measurement between pins*	l	17.62 <sup>0</sup> <sub>+0.15</sub>	0.700 <sup>0</sup> <sub>-0.006</sub>
Pin dia.	d	4.835 <sup>±0.001</sup>	0.1903 <sup>±0.00004</sup>

\* Finished dimensions (when hardened).



151-874.10

**Motor or attached component drain connection**

Use the drain line when pressure in the return line exceeds the permissible pressure on the shaft seal of the attached component.

**Connect the drain line either at the:**

- Motor drain connection
- Drain connection of the attached component

If a drain line is fitted to the attached component, it must be possible for oil to flow freely between motor and attached component.