TECHNICAL DATA FOR OMS

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^3 [in^3]		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^{-1} [rpm]	cont.	810	750	600	470	375	300	240	190	155
		int.[1]	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.[1]	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.[1]	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.[1]	275 [3990]	275 [3990]	275 [3990]	260 [3770]	250 [3630]	250 [3630]	240 [3480]	190 [2760]	140 [2030]
		peak[2]	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.[1]	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.[1] 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.[1]	295 [4280]	175 [2540]
	bar [psi]	peak[2]	300 [4350]	210 [3050]

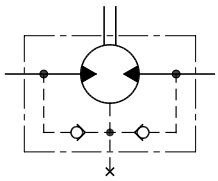
			Splined 1 in	Cyl. 1 in	Splined 0.875 in
*Max torque for shaft type	Nm [lbf·in]	cont.	360 [3190]	300 [2660]	200 [1770]
		int.[1]	450 [3980]	410 [3630]	200 [1770]

[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.

For max. permissible combination of flow and pressure, see function diagram for actual motor.

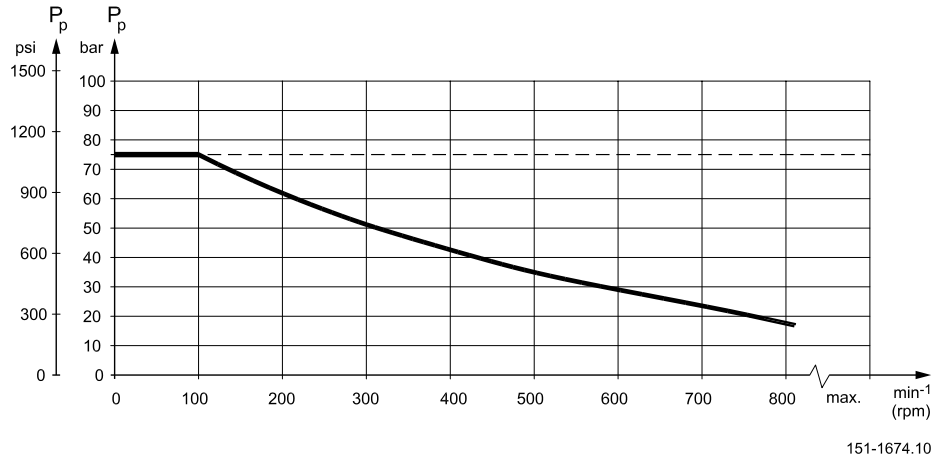
MAX. PERMISSIBLE SHAFT SEAL PRESSURE

OMS with standard shaft seal, check valves and <u>without</u> use of drain connection:
The pressure on the shaft seal never exceeds the pressure in the return line



OMS with standard shaft seal, check valves and <u>with</u> drain connection:
The shaft seal pressure equals the pressure on the drain line.

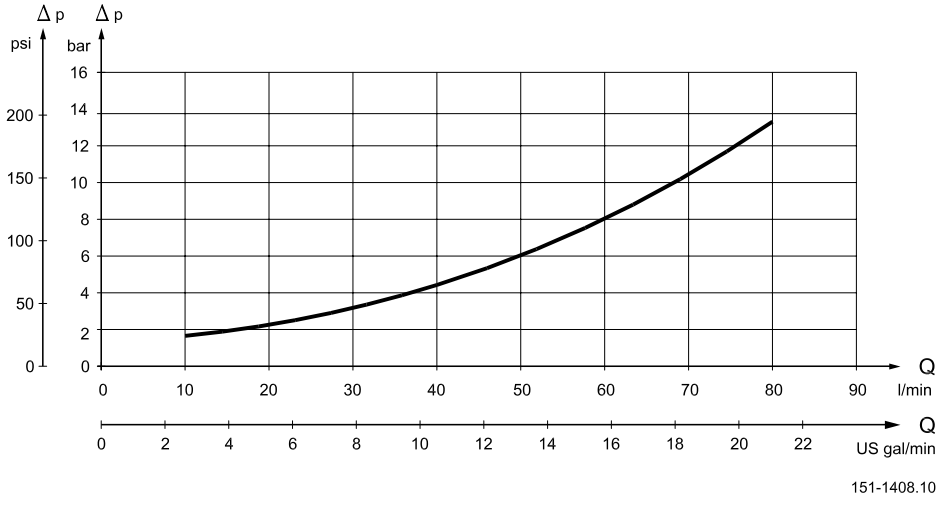
Max. return pressure without drain line or max. pressure in the drain line



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

——— Continuous operation

PRESSURE DROP IN MOTOR



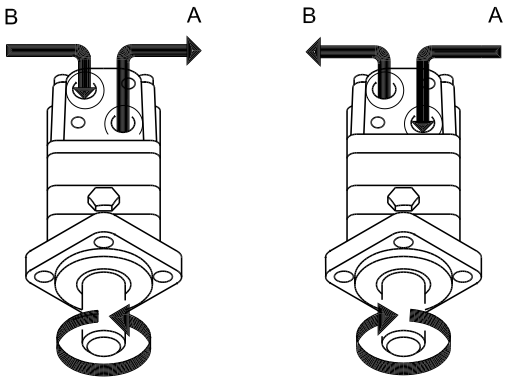
The curve applies to an unloaded motor shaft and an oil viscosity of 35 mm^2/s [165 SUS]

OIL FLOW IN DRAIN LINE

The table shows the max. oil flow in the drain line at a return pressure less than 5-10 bar [75-150 psi].

Pressure drop bar [psi]	Viscosity mm²/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

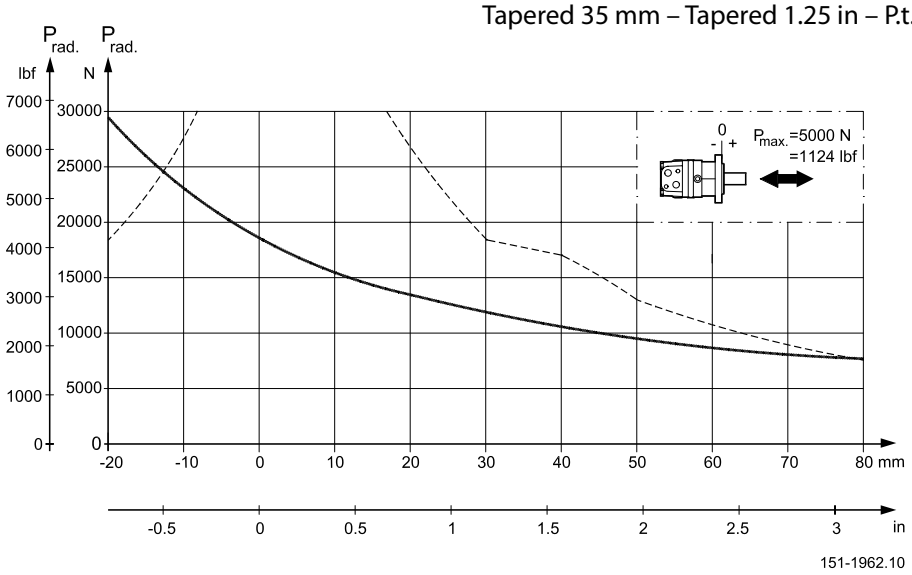


151-843.10

PERMISSIBLE SHAFT LOADS FOR OMS

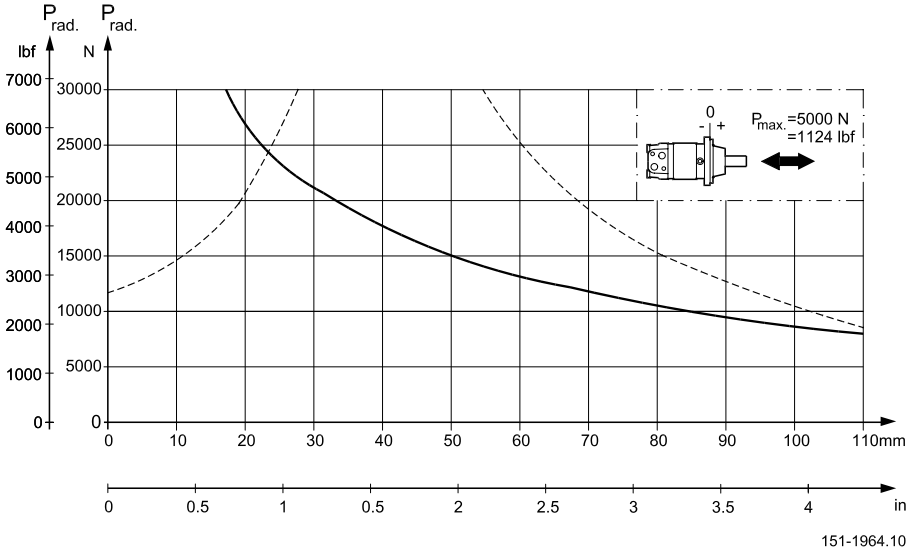
Mounting flange:
Standard – A-2 – Magneto – SAE B

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

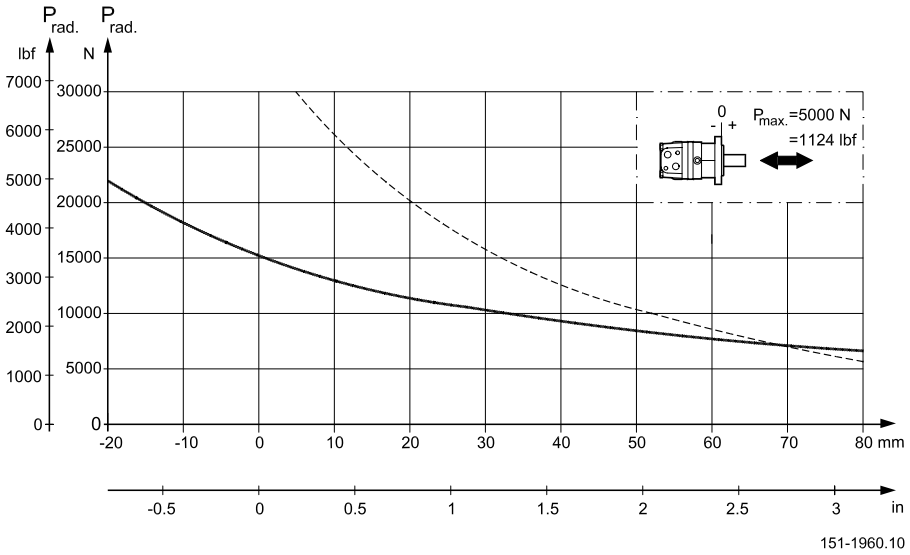


The output shaft runs in tapered roller bearings that permit high axial and radial forces. The permissible radial load on the shaft is shown for an axial load of 0 N as a function of the distance from the mounting flange to the point of load application.
The curve is based on B10 bearing life (2000 hours or 12,000,000 shaft revolutions at 100 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" DHMH.PK.100.G2.02 520L0232.

PERMISSIBLE SHAFT LOADS FOR OMS

Mounting flange:
Special

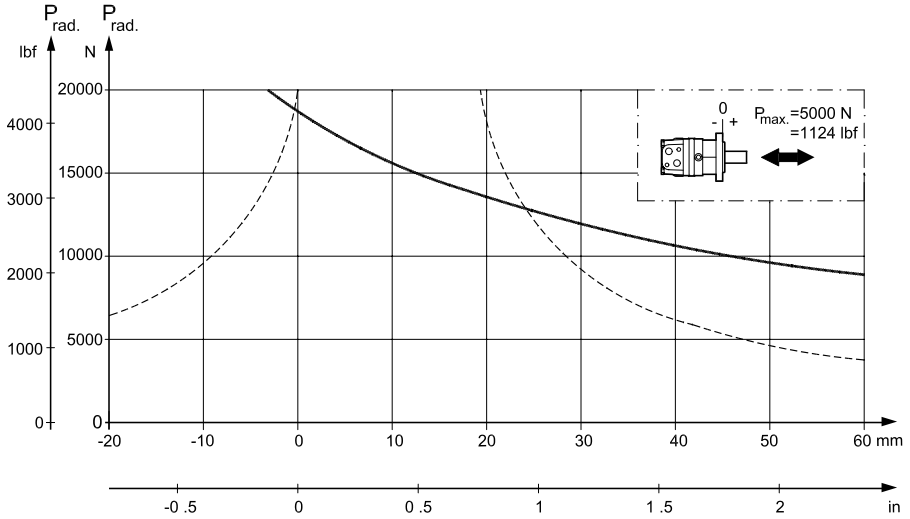
Shaft:
Splined 1.25 in



151-1960.10

Mounting flange:
A-2 – Magneto

Shaft:
Cyl. 1 in – Splined 1 in



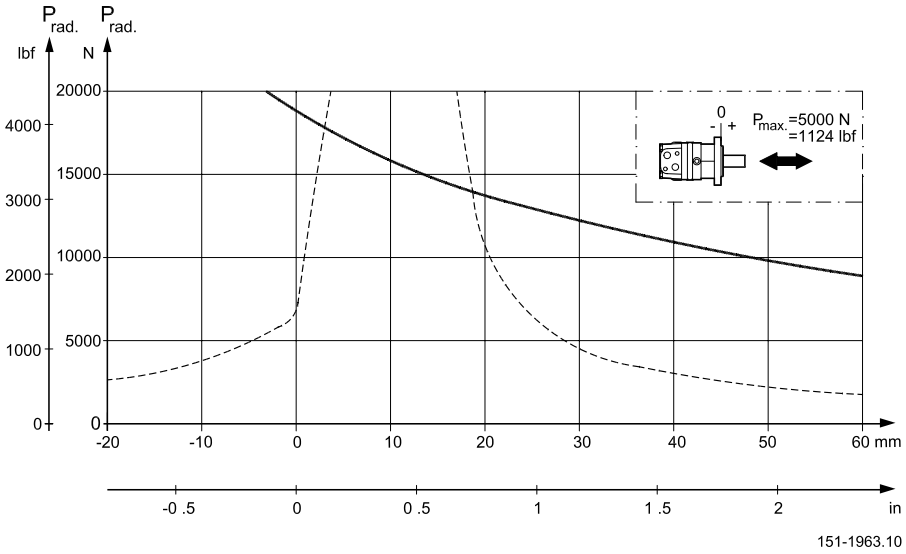
151-1961.10

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^{-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" DHMH.PK.100.G2.02 520L0232.

PERMISSIBLE SHAFT LOADS FOR OMS

Mounting flange:
SAE B

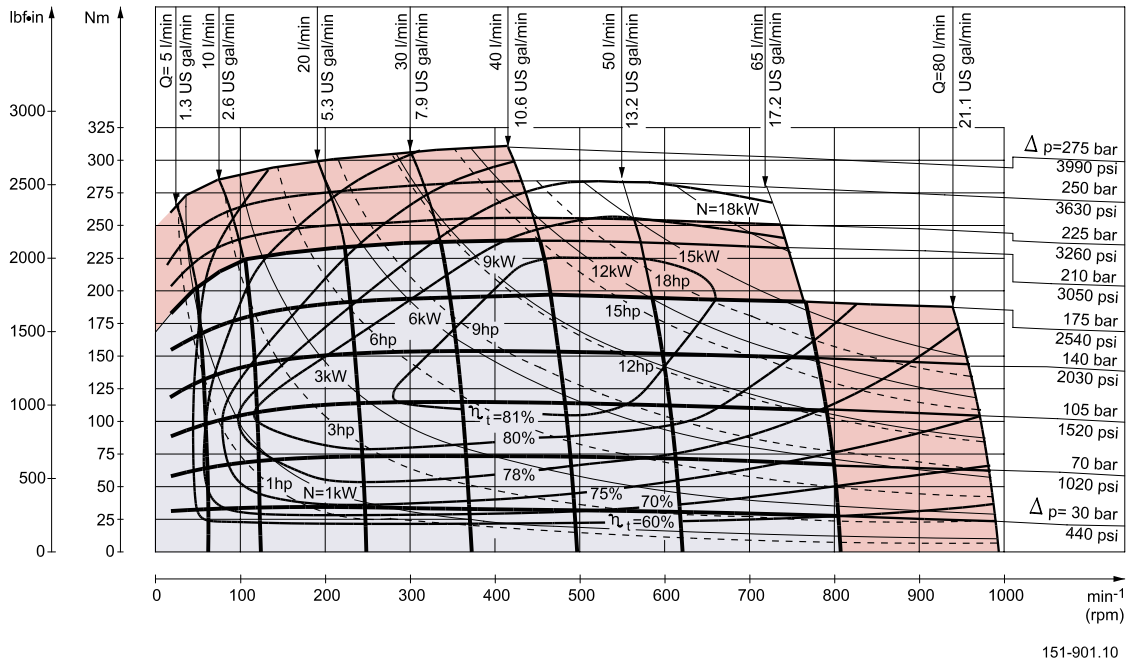
Shaft:
Splined 0.875 in



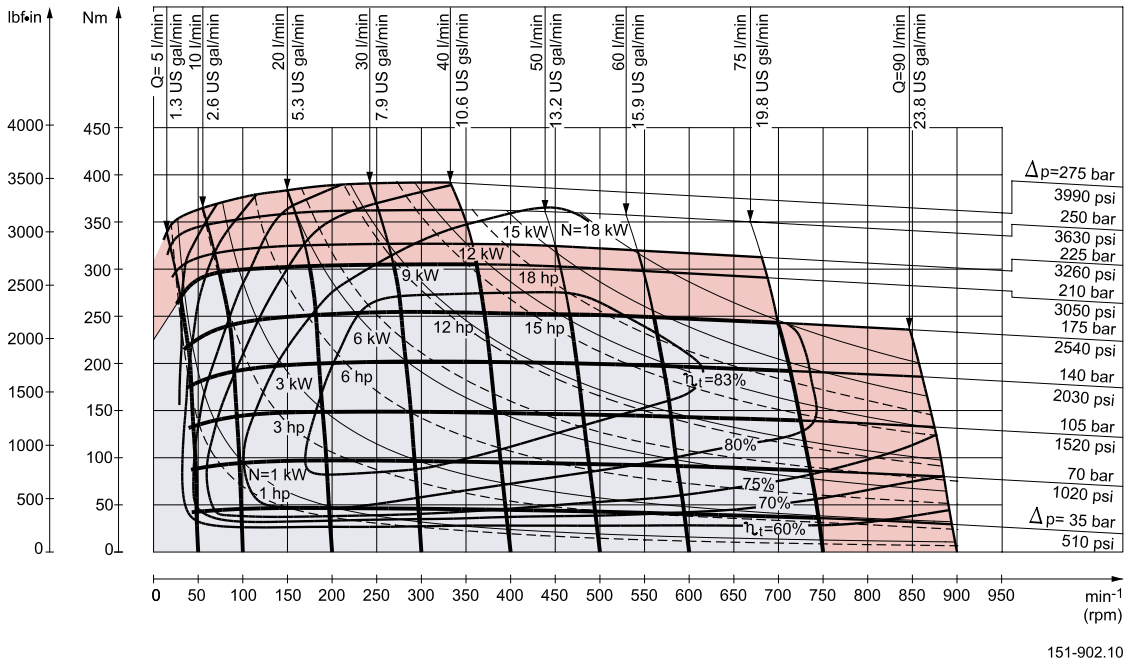
The output shaft runs in tapered roller bearings that permit high axial and radial forces. The permissible radial load on the shaft is shown for an axial load of 0 N as a function of the distance from the mounting flange to the point of load application.
The curve is based on B10 bearing life (2000 hours or 12,000,000 shaft revolutions at 100 min^{-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" DHMH.PK.100.G2.02 520L0232.

FUNCTION DIAGRAMS

OMS 80



OMS 100



Explanation of function diagram use, basis and conditions can be found on page 5.

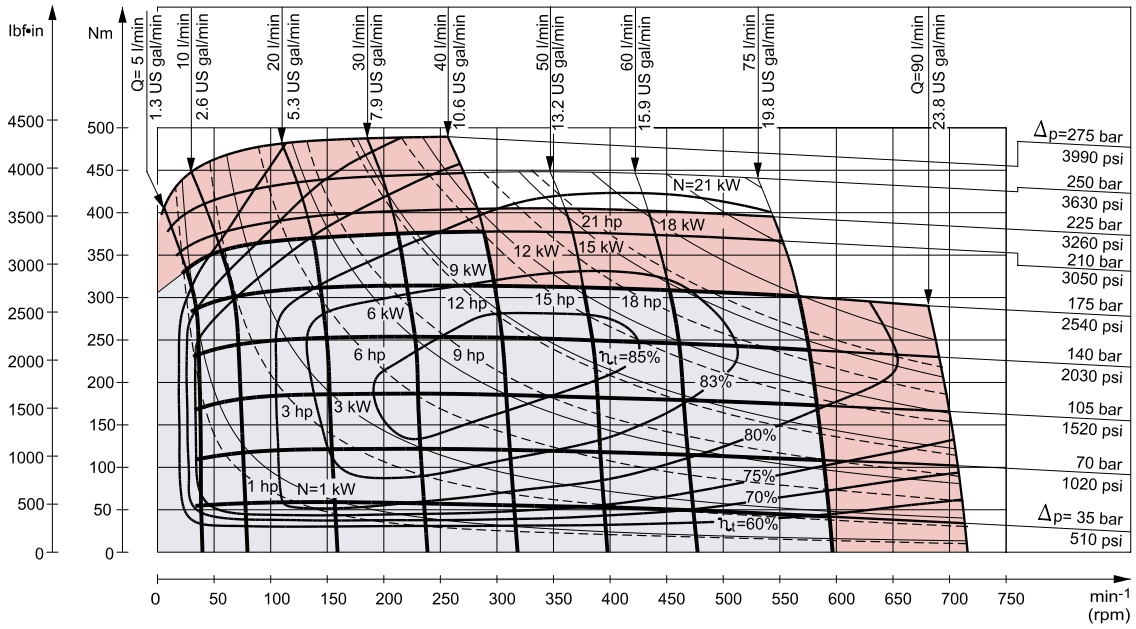
- Continuous range
- Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent torque for the actual shaft version can be found on page 8.

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

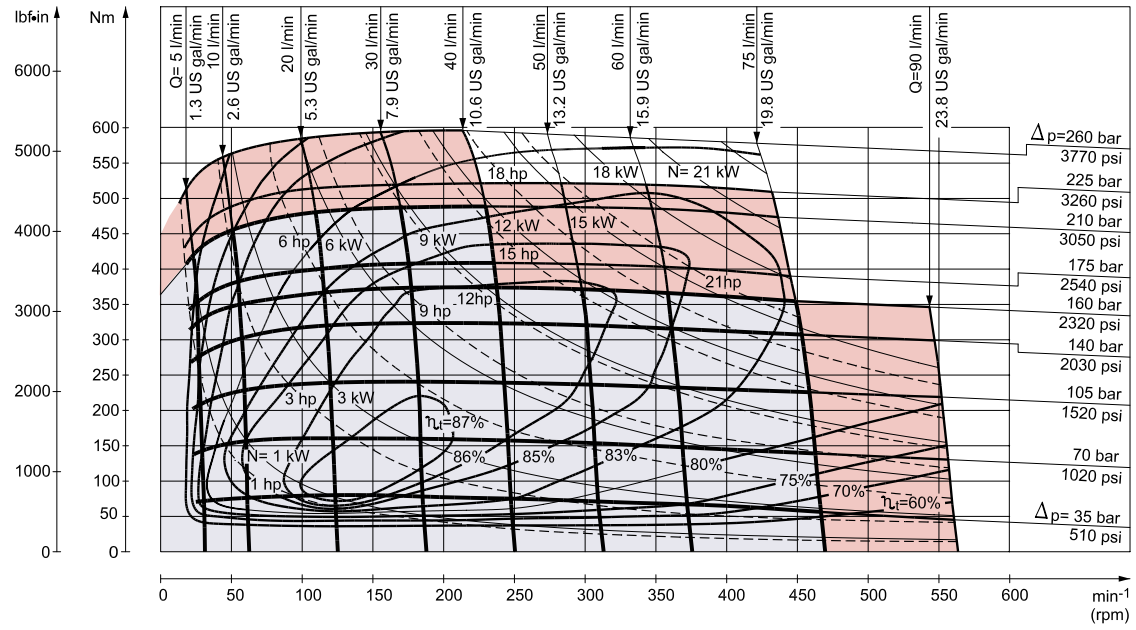
FUNCTION DIAGRAMS

OMS 125



151-903.10

OMS 160



151-904.10

Explanation of function diagram use, basis and conditions can be found on page 5.

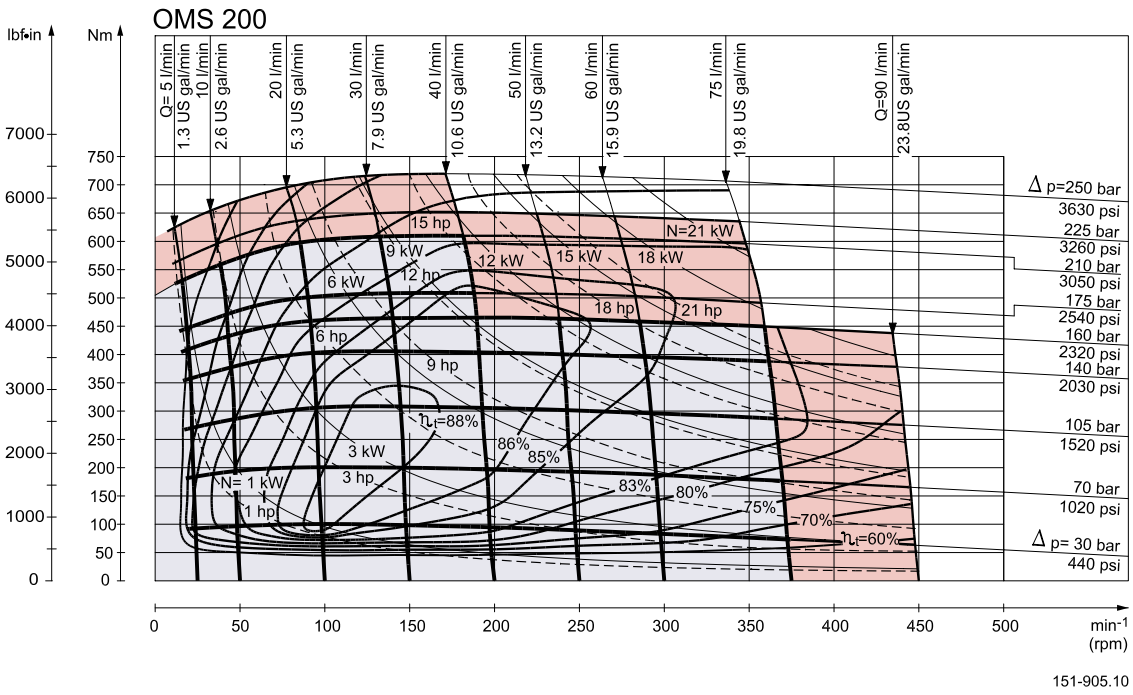
Continuous range

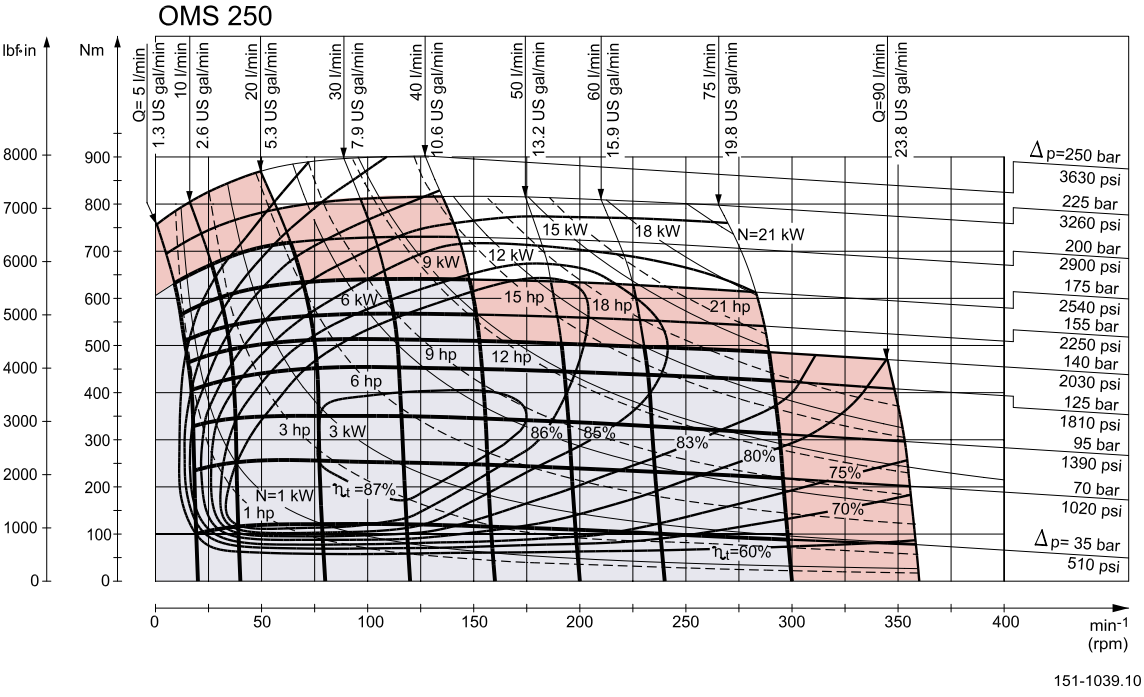
Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent torque for the actual shaft version can be found on page 8.

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 5.

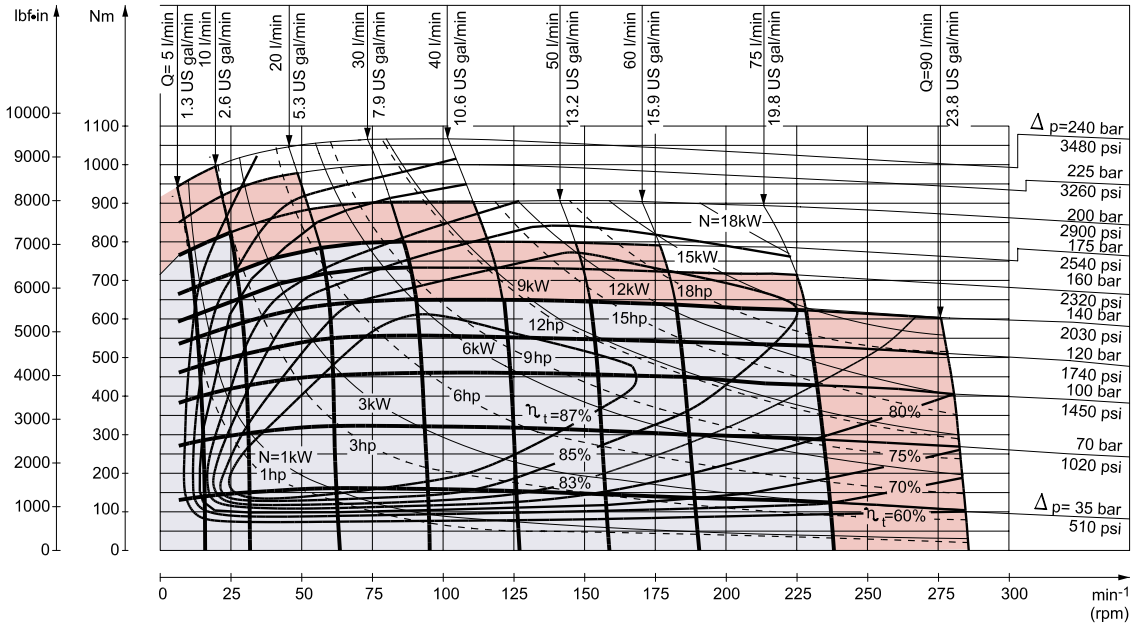
- Continuous range
- Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent torque for the actual shaft version can be found on page 8.

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

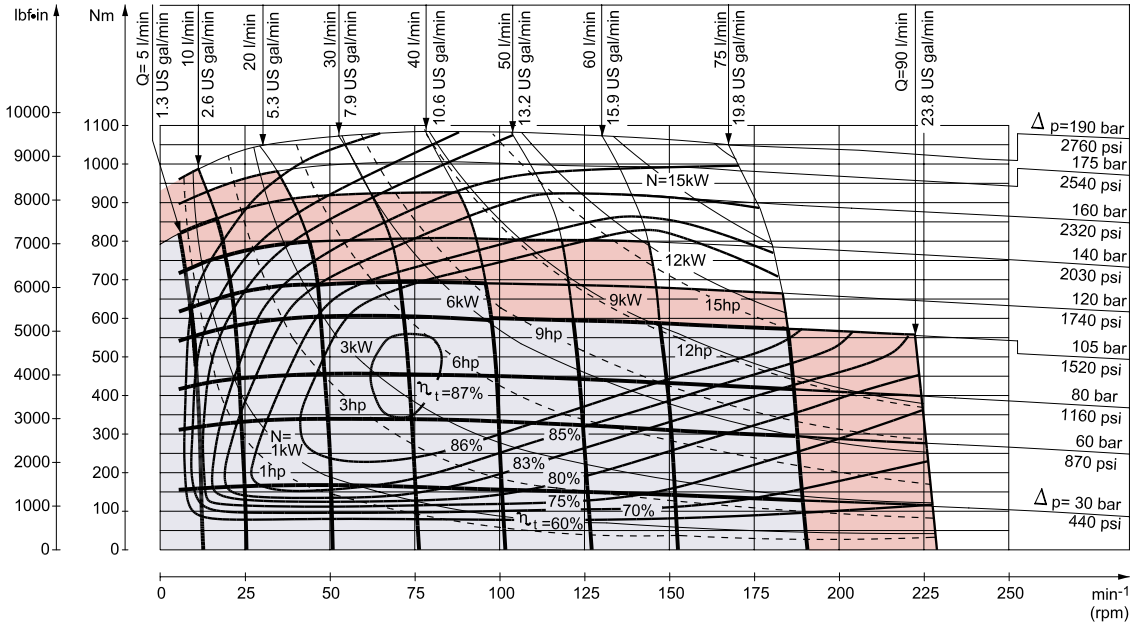
FUNCTION DIAGRAMS

OMS 315



151-906.10

OMS 400



151-1491.10

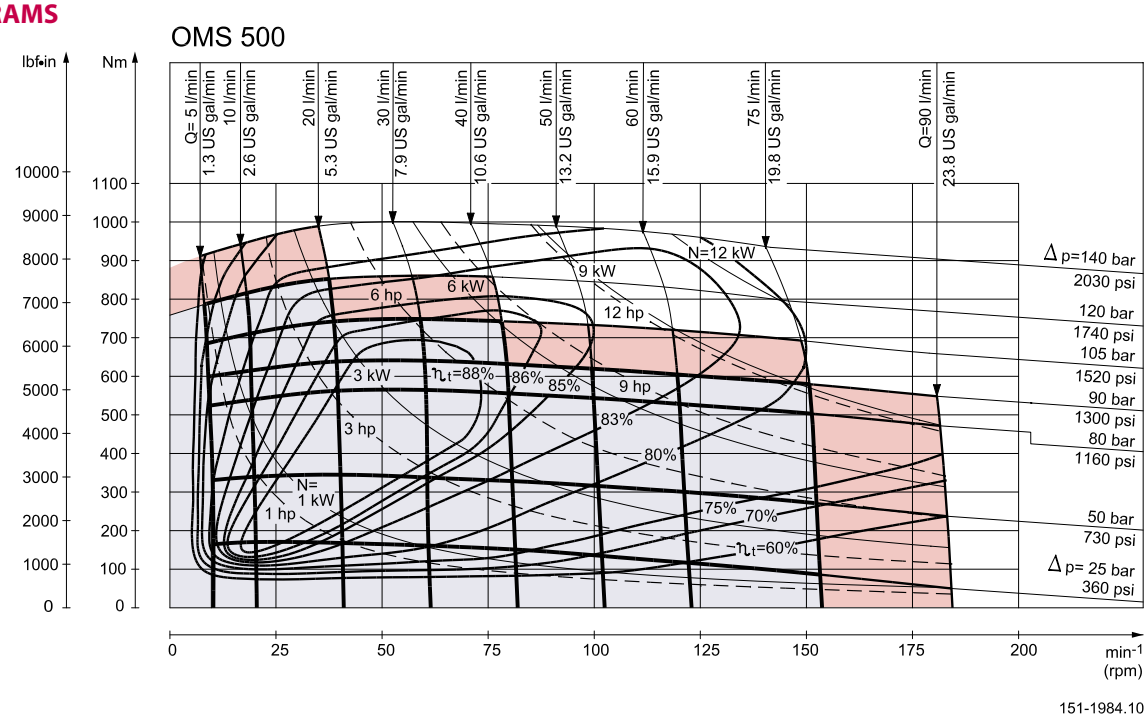
Explanation of function diagram use, basis and conditions can be found on page 5.

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

Max. permissible continuous/intermittent torque for the actual shaft version can be found on page 8.

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 5.

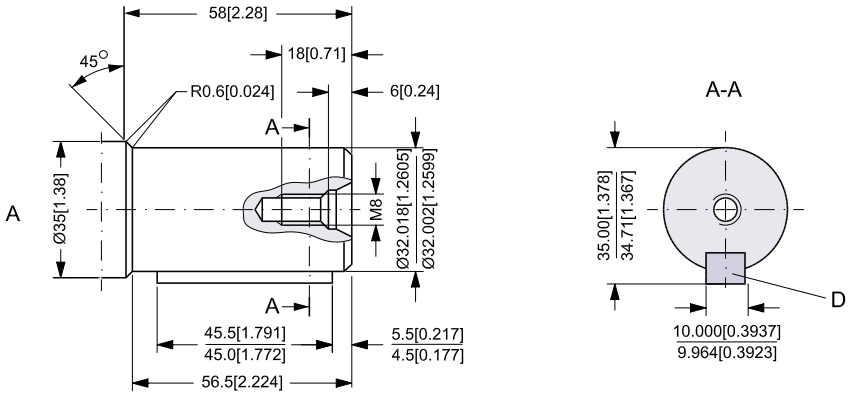
- Continuous range
- Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent torque for the actual shaft version can be found on page 8.

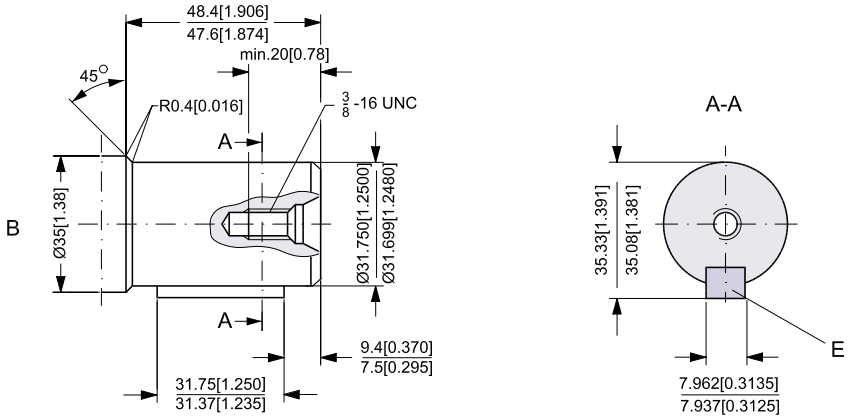
Note: Intermittent pressure drop and oil flow must not occur simultaneously.

SHAFT VERSION

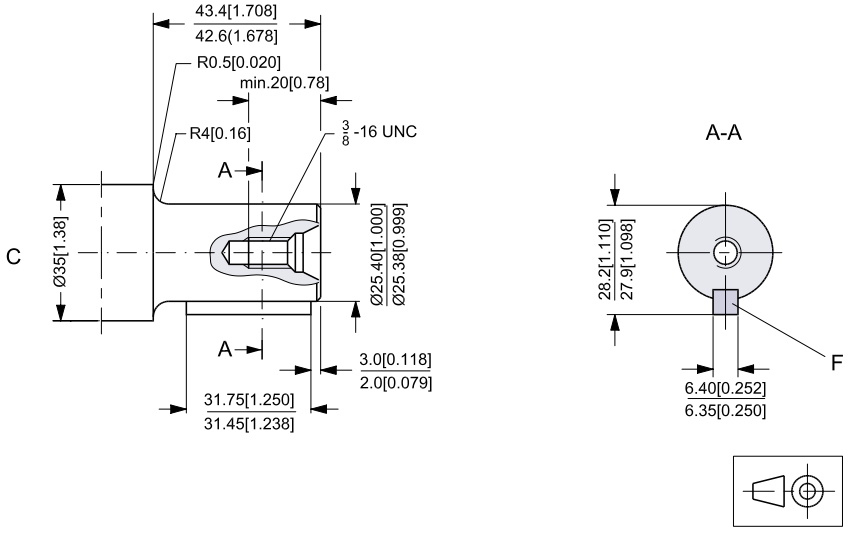
A: Cylindrical 32 mm shaft
D: Parallel key
A10 × 8 × 45
DIN 6885



B: Cylindrical 1.25 in shaft
E: Parallel key
$^{5}/_{16} \times {}^{5}/_{16} \times 1\,{}^{1}/_{4}$ in
SAE J744



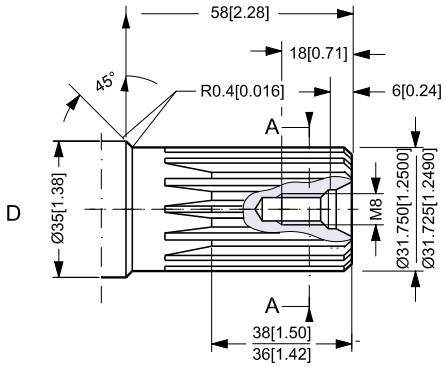
C: Cylindrical 1 in shaft
F: Parallel key
$^{1}/_{4} \times {}^{1}/_{4} \times 1\,{}^{1}/_{4}$ in
B.S. 46

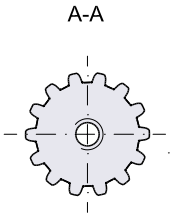


151-876.10

SHAFT VERSION

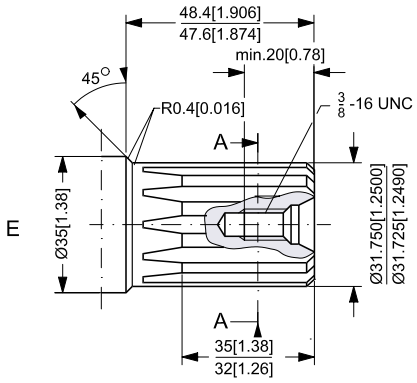
D. Involute splined shaft
ANS B92.1 - 1970 standard
Flat root side fit
Pitch 12/24
Teeth 14
Major dia. 1.25 in
Pressure angle 30°

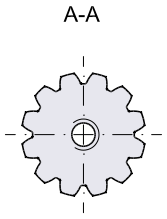




US version

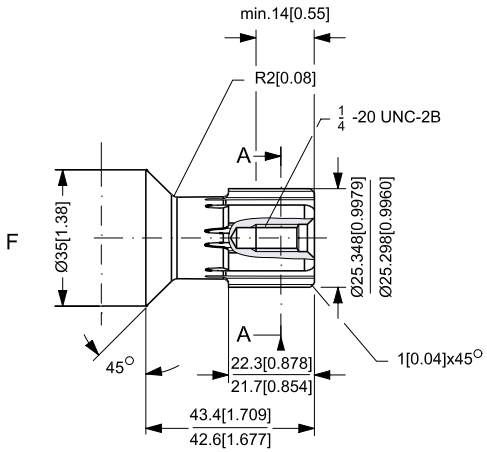
E: Involute splined shaft
ANS B92.1 - 1970 standard
Flat root side fit
Pitch 12/24
Teeth 14
Major dia. 1.25 in
Pressure angle 30°

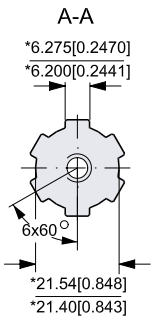


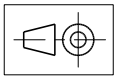


F: Splined shaft
SAE 6 B (B.S. 2059)
Straight-sided,
bottom fitting, deep.
Fit 2
Nom. size 1 in

*Deviates from
SAE 6 B (B.S. 2059)



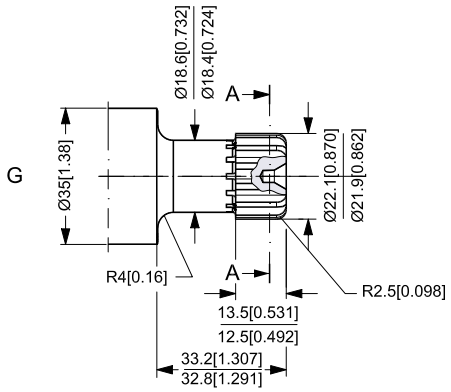


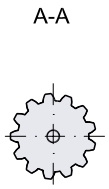


151-1912.10

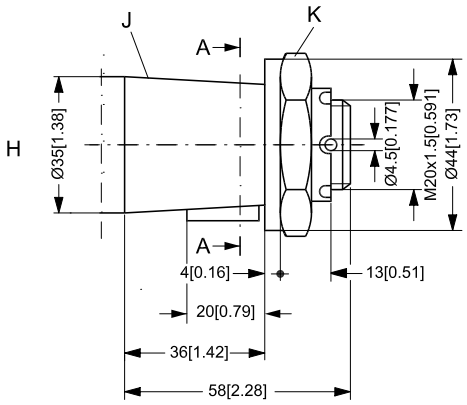
SHAFT VERSION

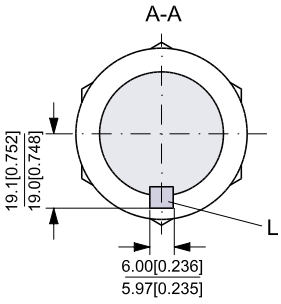
G. Involute splined shaft
ANS B92.1 - 1970 standard
Flat root side fit
Pitch 16/32
Teeth 13
Major dia. 0.875 in
Pressure angle 30°



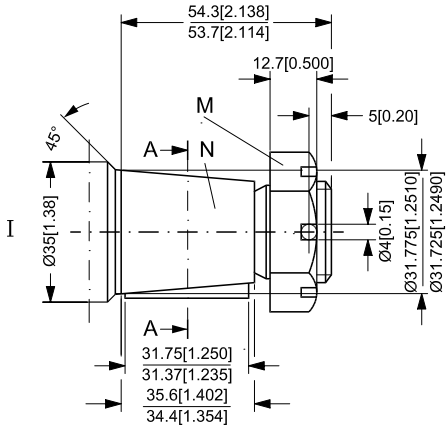


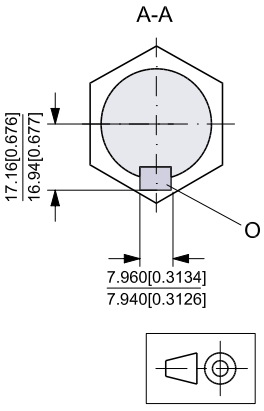
H: Tapered 35 mm shaft
(ISO/R775)
K: DIN 937
Across flats: 41 mm
Tightening torque:
200 ± 10 Nm [1770 ±85 lbf·in]
J: Taper 1:10
L: Parallel key
B6 × 6 × 20
DIN 6885





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



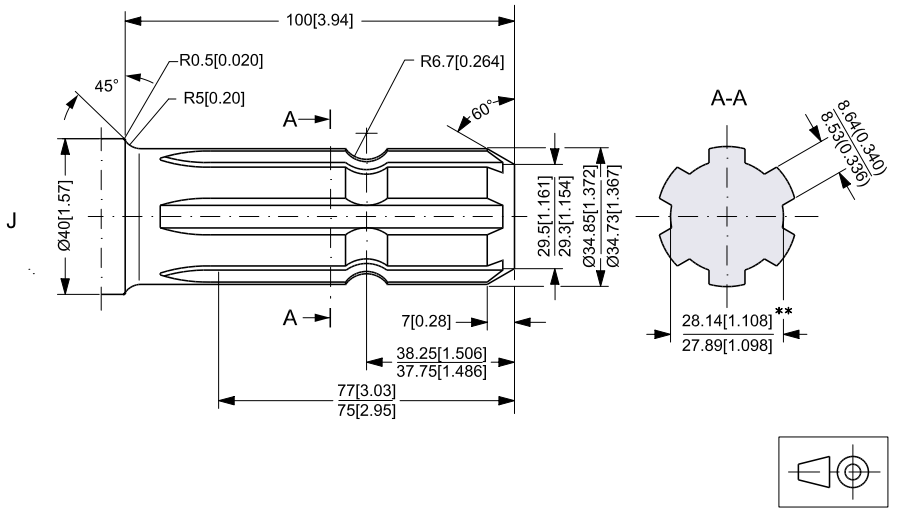


151-1915.10

SHAFT VERSION

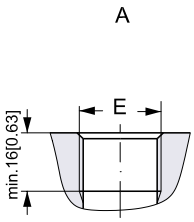
J. P.t.o. shaft
DIN 9611 Form 1
(ISO/R500 without pin hole)

** Deviates from DIN 9611

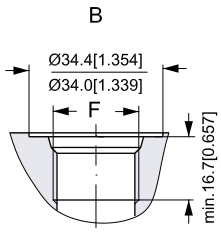


151-1948.10

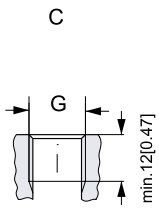
PORT THREAD VERSIONS



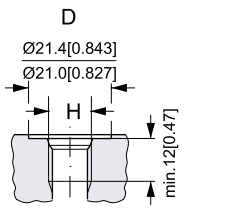
A: G main ports
E: ISO 228/1 - G1/2



B: UNF main ports
F: 7/8 - 14 UNF
O-ring boss port



C: G drain port
G: ISO 228/1 - G1/4

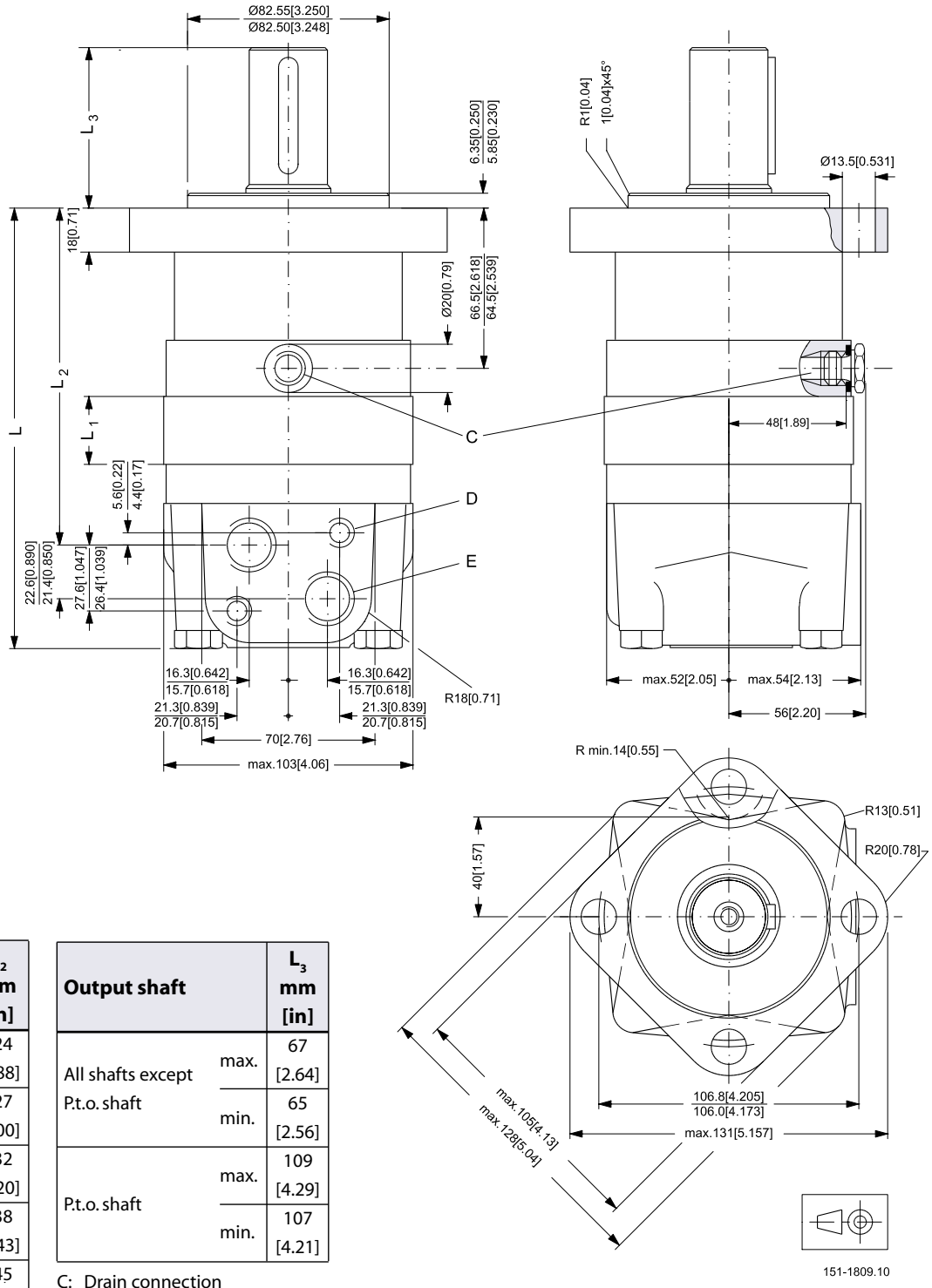


151-1971.10

D: UNF drain port
H: 7/16 - 20 UNF
O-ring boss port

Dimensions – European version

STANDARD FLANGE

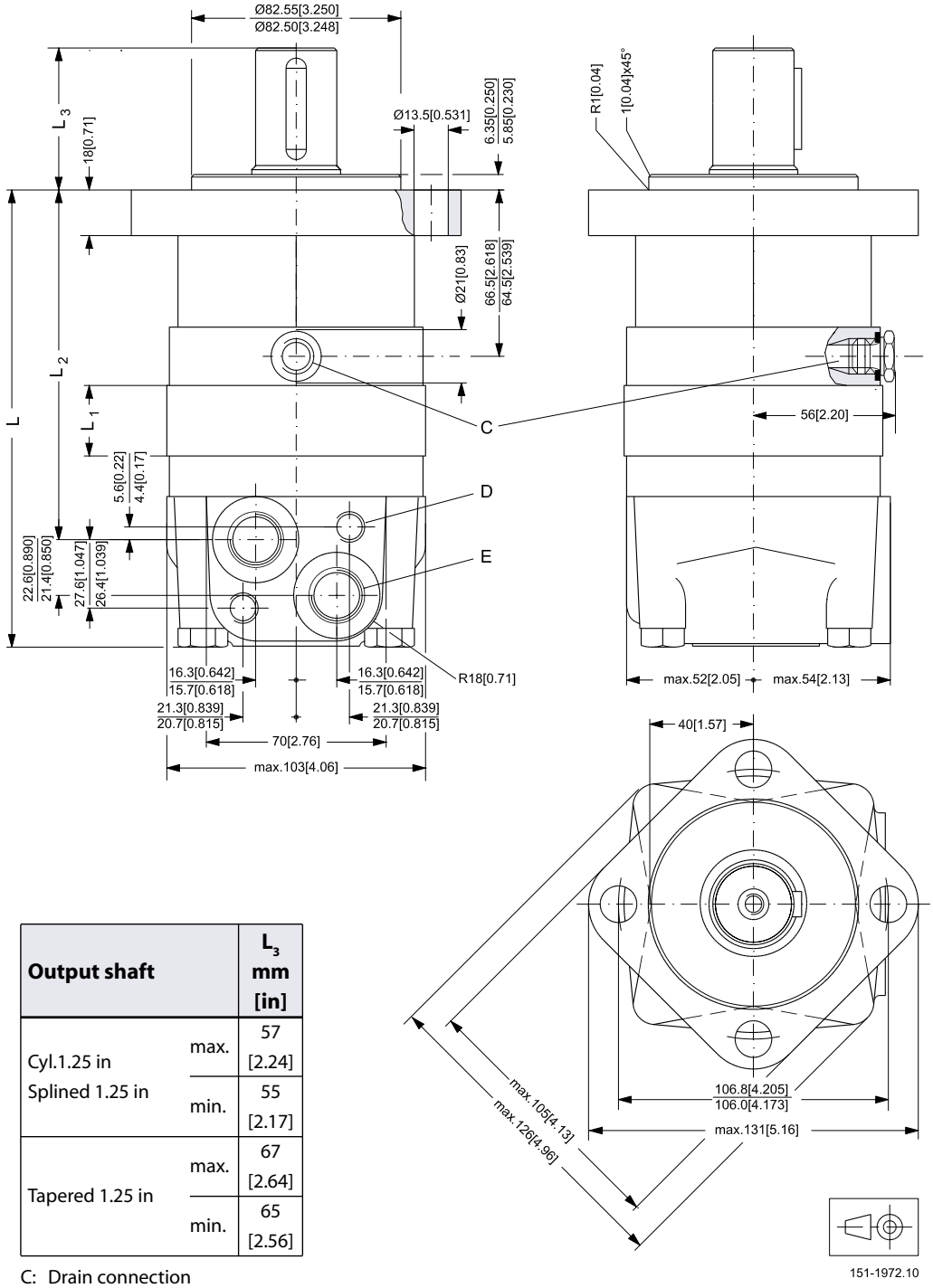


Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
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_3 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]

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

STANDARD FLANGE



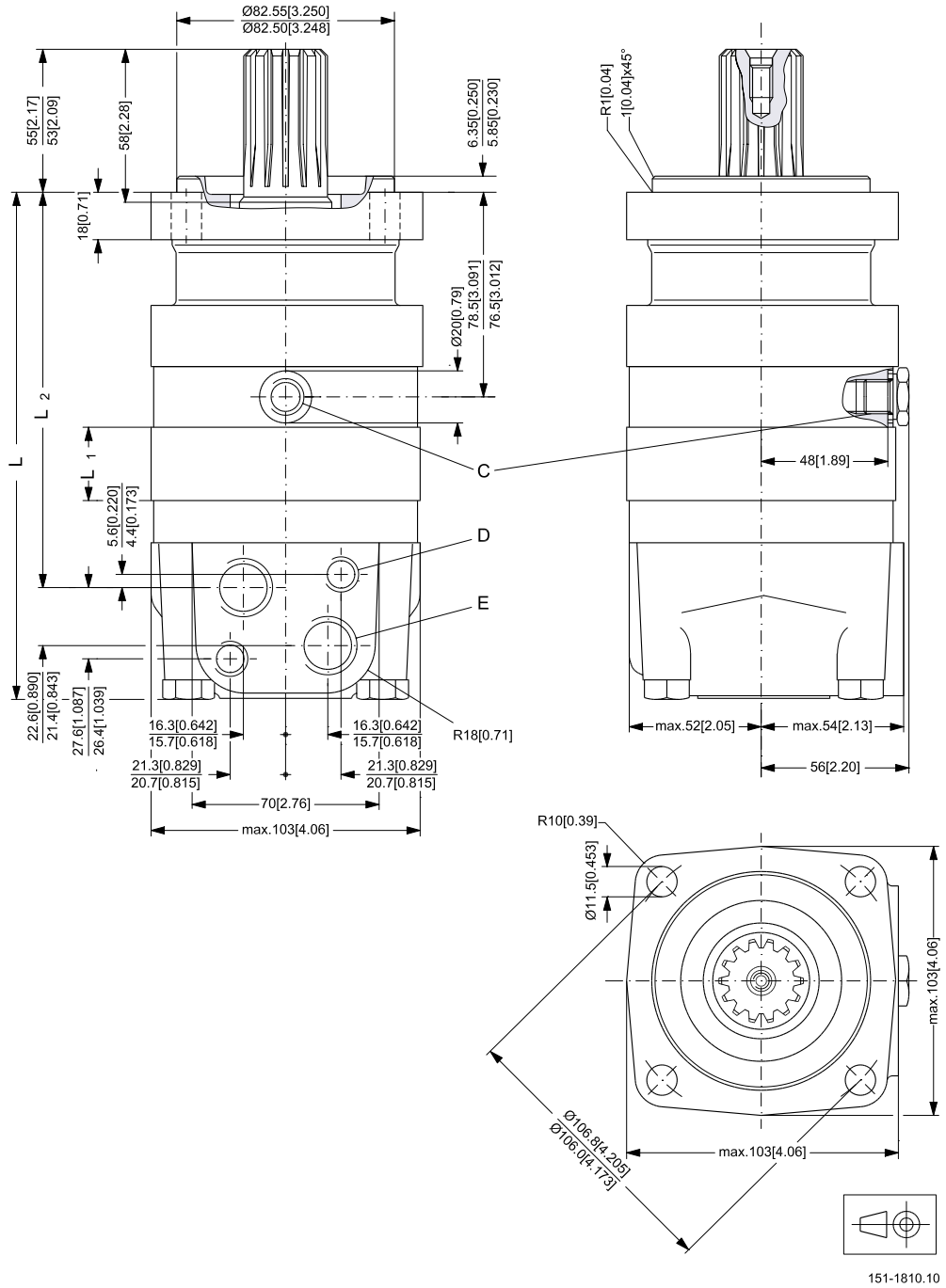
Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
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_3 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]

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

Dimensions – European version

SPECIAL FLANGE

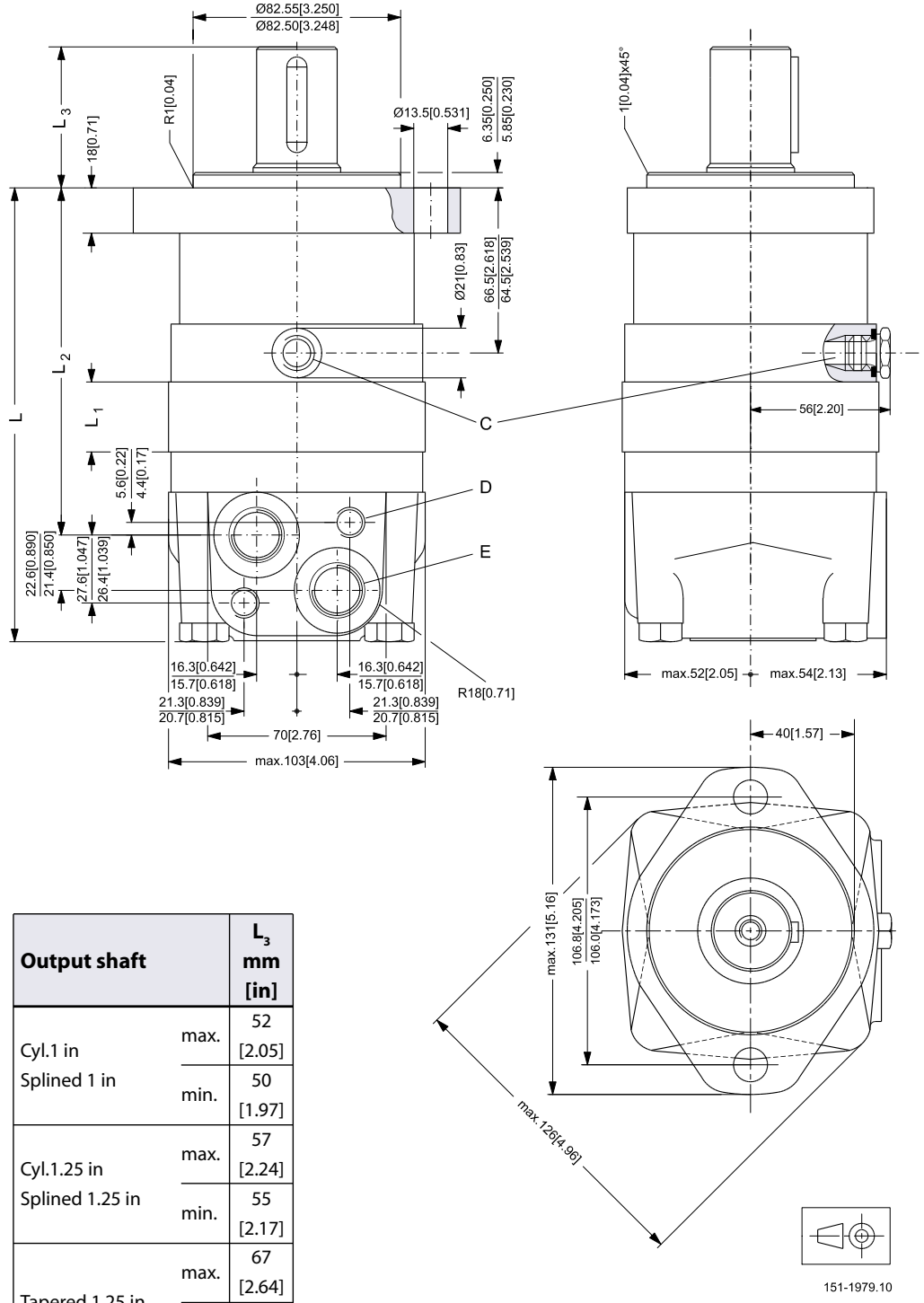


Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMS 80	178 [7.01]	14.0 [0.551]	136 [5.35]
OMS 100	182 [7.17]	17.4 [0.685]	140 [5.51]
OMS 125	186 [7.32]	21.8 [0.858]	144 [5.67]
OMS 160	192 [7.56]	27.8 [1.094]	150 [5.91]
OMS 200	199 [7.83]	34.8 [1.370]	157 [6.18]
OMS 250	208 [8.19]	43.5 [1.713]	166 [6.54]
OMS 315	219 [8.62]	54.8 [2.157]	177 [6.97]
OMS 400	232 [9.13]	68.4 [2.693]	190 [7.48]

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

Dimensions – US version

A-2 FLANGE



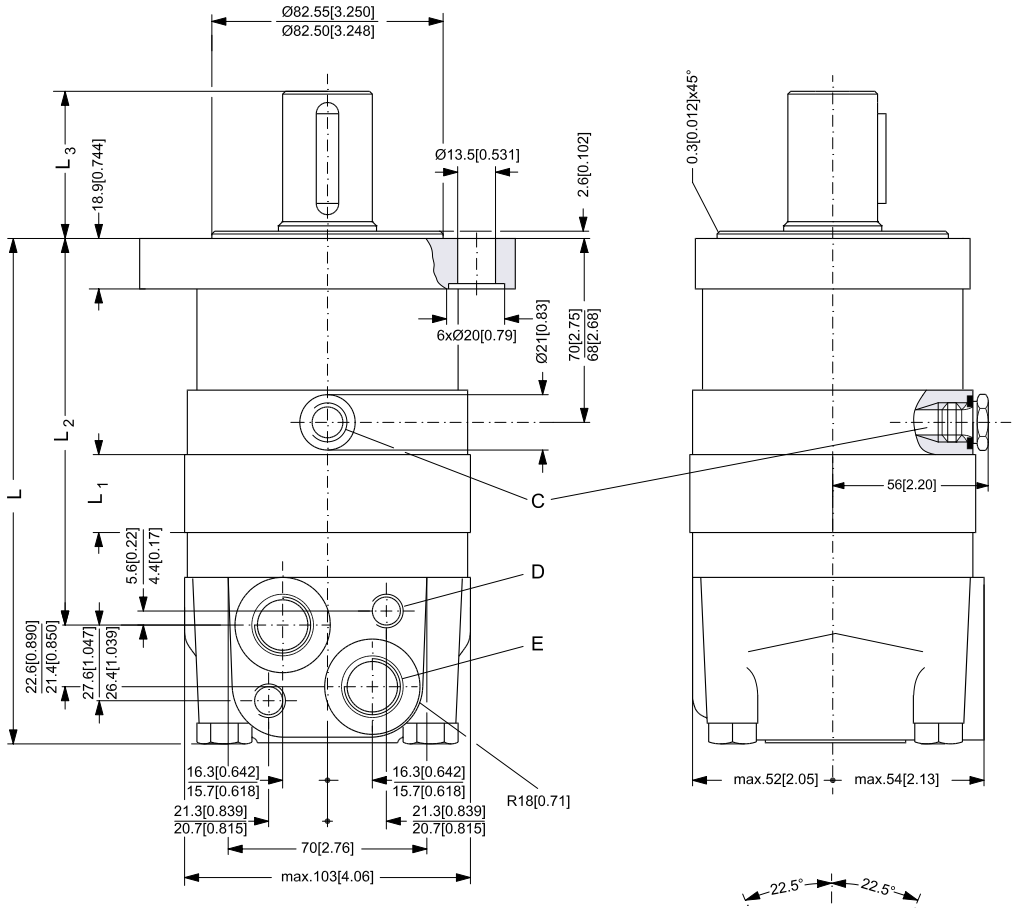
Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
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]

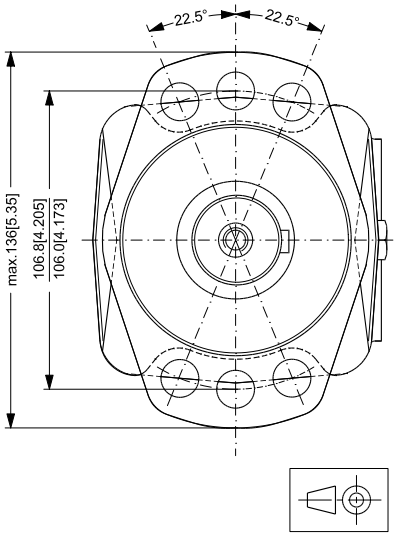
Output shaft		L_3 mm [in]
Cyl.1 in Splined 1 in	max.	52 [2.05]
	min.	50 [1.97]
Cyl.1.25 in Splined 1.25 in	max.	57 [2.24]
	min.	55 [2.17]
Tapered 1.25 in	max.	67 [2.64]
	min.	65 [2.56]

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

Dimensions – US version

MAGNETO FLANGE





151-1980.10

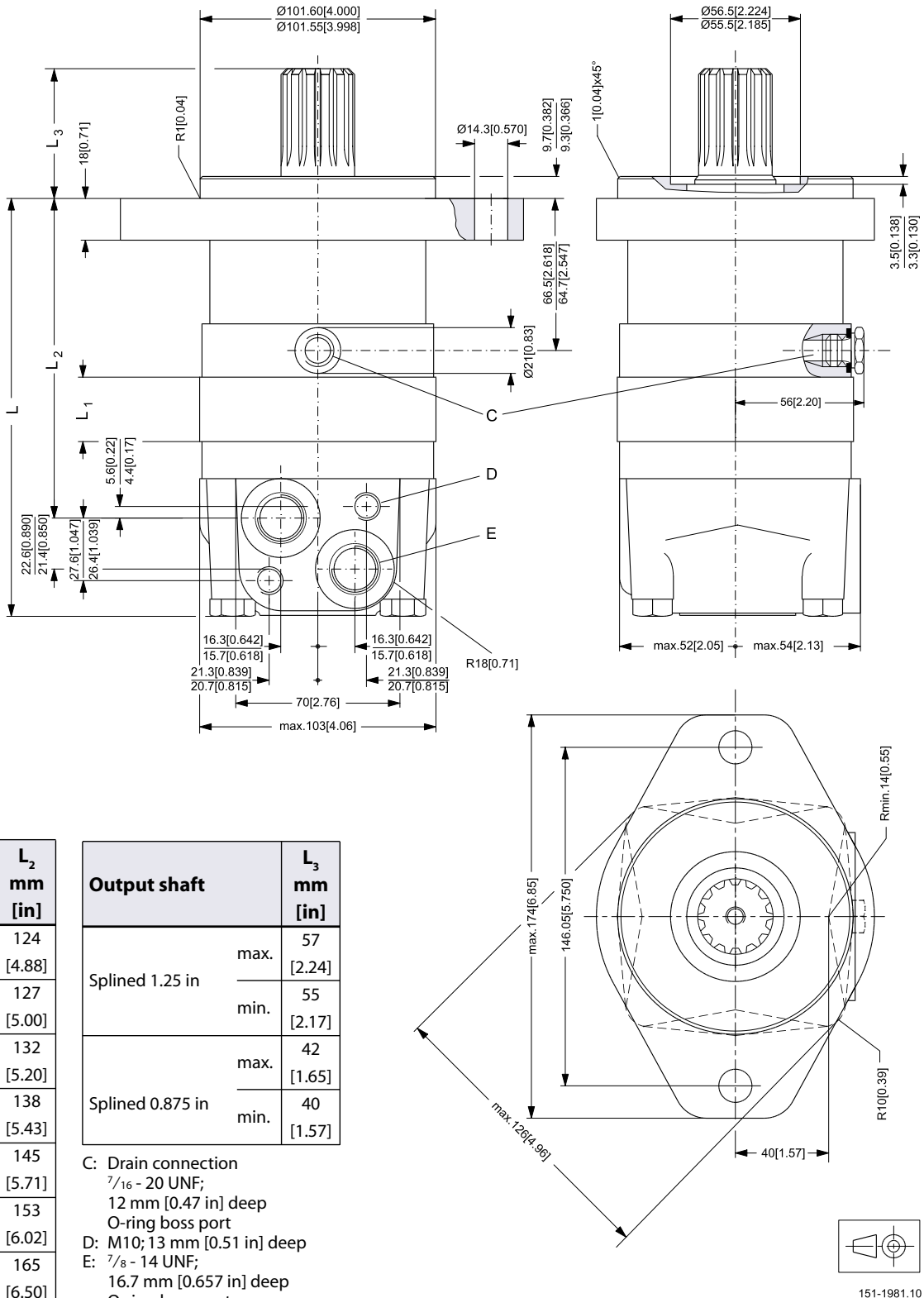
Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMS 80	171 [6.73]	14.0 [0.551]	128 [5.04]
OMS 100	174 [6.85]	17.4 [0.685]	131 [5.16]
OMS 125	179 [7.05]	21.8 [0.858]	136 [5.35]
OMS 160	185 [7.28]	27.8 [1.094]	142 [5.59]
OMS 200	192 [7.56]	34.8 [1.370]	149 [5.87]
OMS 250	200 [7.87]	43.5 [1.713]	157 [6.18]
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_3 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]

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

Dimensions – US version

SAE-B FLANGE



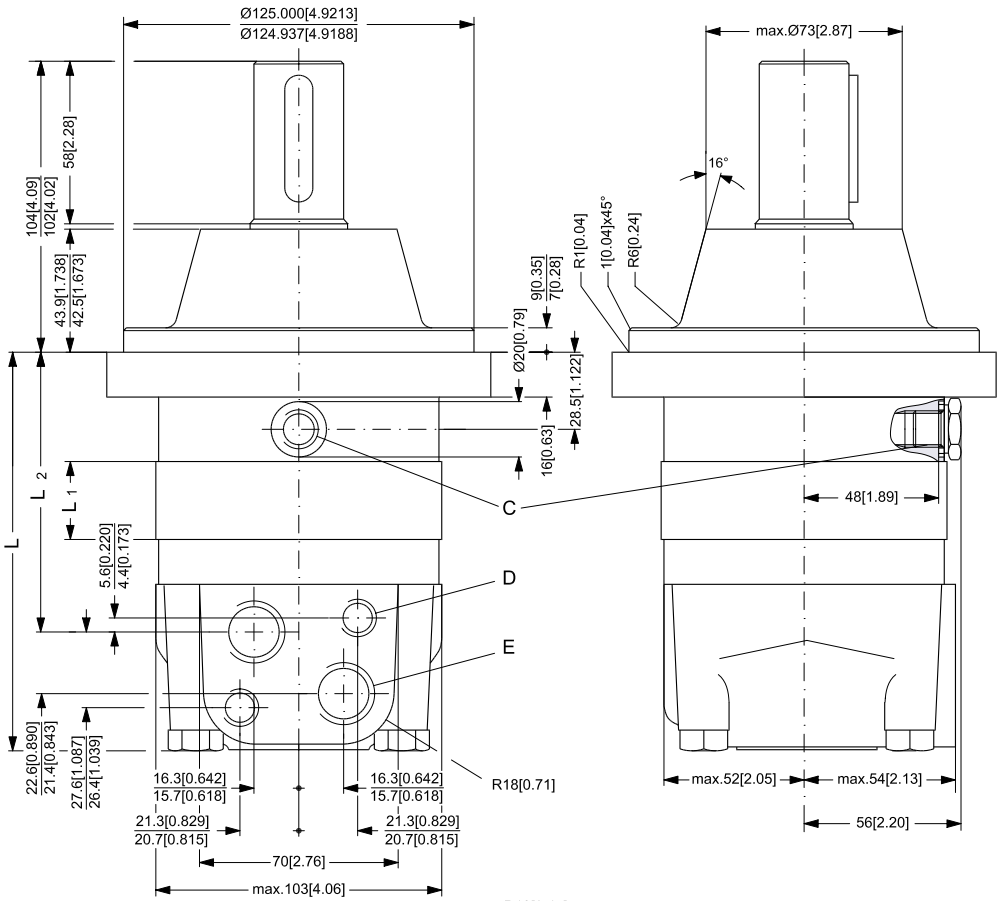
Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMS 80	167 [6.57]	14.0 [0.551]	124 [4.88]
OMS 100	170 [6.69]	17.4 [0.685]	127 [5.00]
OMS 125	175 [6.89]	21.8 [0.858]	132 [5.20]
OMS 160	181 [7.13]	27.8 [1.094]	138 [5.43]
OMS 200	188 [7.40]	34.8 [1.370]	145 [5.71]
OMS 250	196 [7.72]	43.5 [1.713]	153 [6.02]
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]

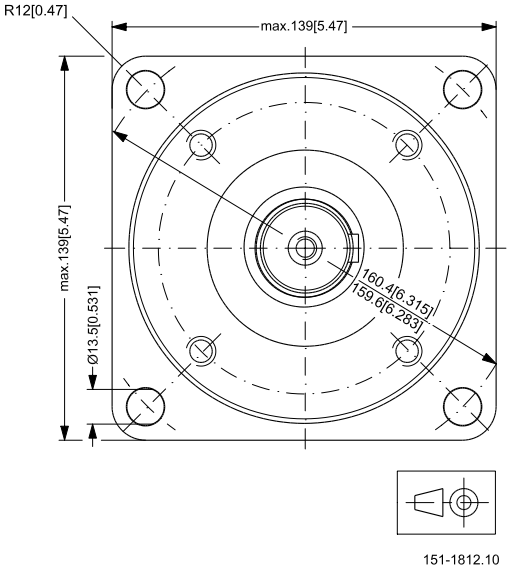
Output shaft		L_3 mm [in]
Splined 1.25 in	max.	57 [2.24]
	min.	55 [2.17]
Splined 0.875 in	max.	42 [1.65]
	min.	40 [1.57]

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

Dimensions – European version

WHEEL



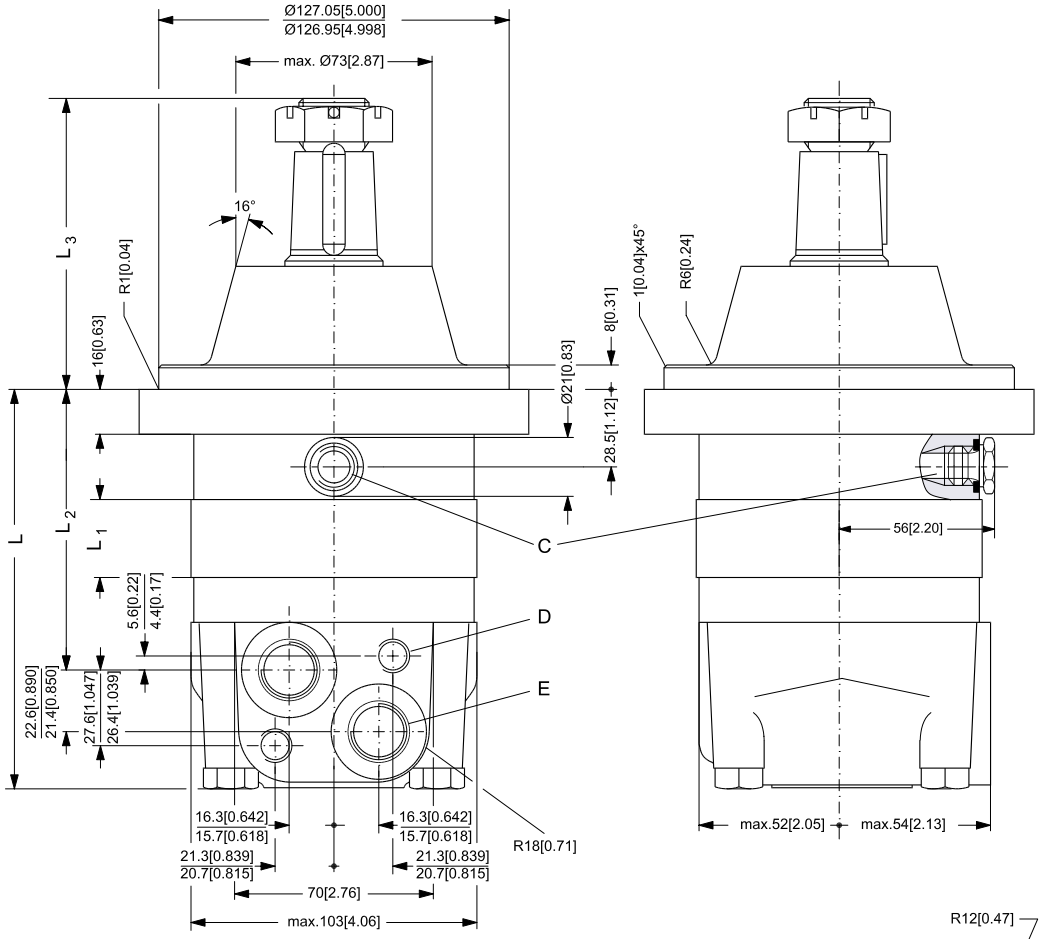


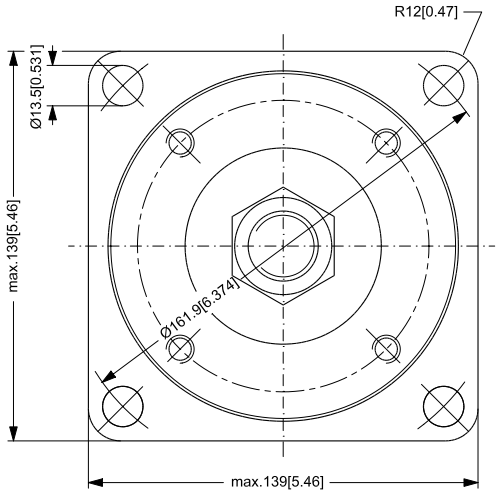
151-1812.10

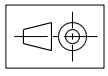
Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMSW 80	129 [5.08]	14.0 [0.551]	87 [3.43]
OMSW 100	132 [5.20]	17.4 [0.685]	90 [3.54]
OMSW 125	137 [5.39]	21.8 [0.858]	95 [3.74]
OMSW 160	143 [5.63]	27.8 [1.094]	101 [3.98]
OMSW 200	150 [5.91]	34.8 [1.370]	108 [4.25]
OMSW 250	158 [6.22]	43.5 [1.713]	116 [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]

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

WHEEL







151-1982.10

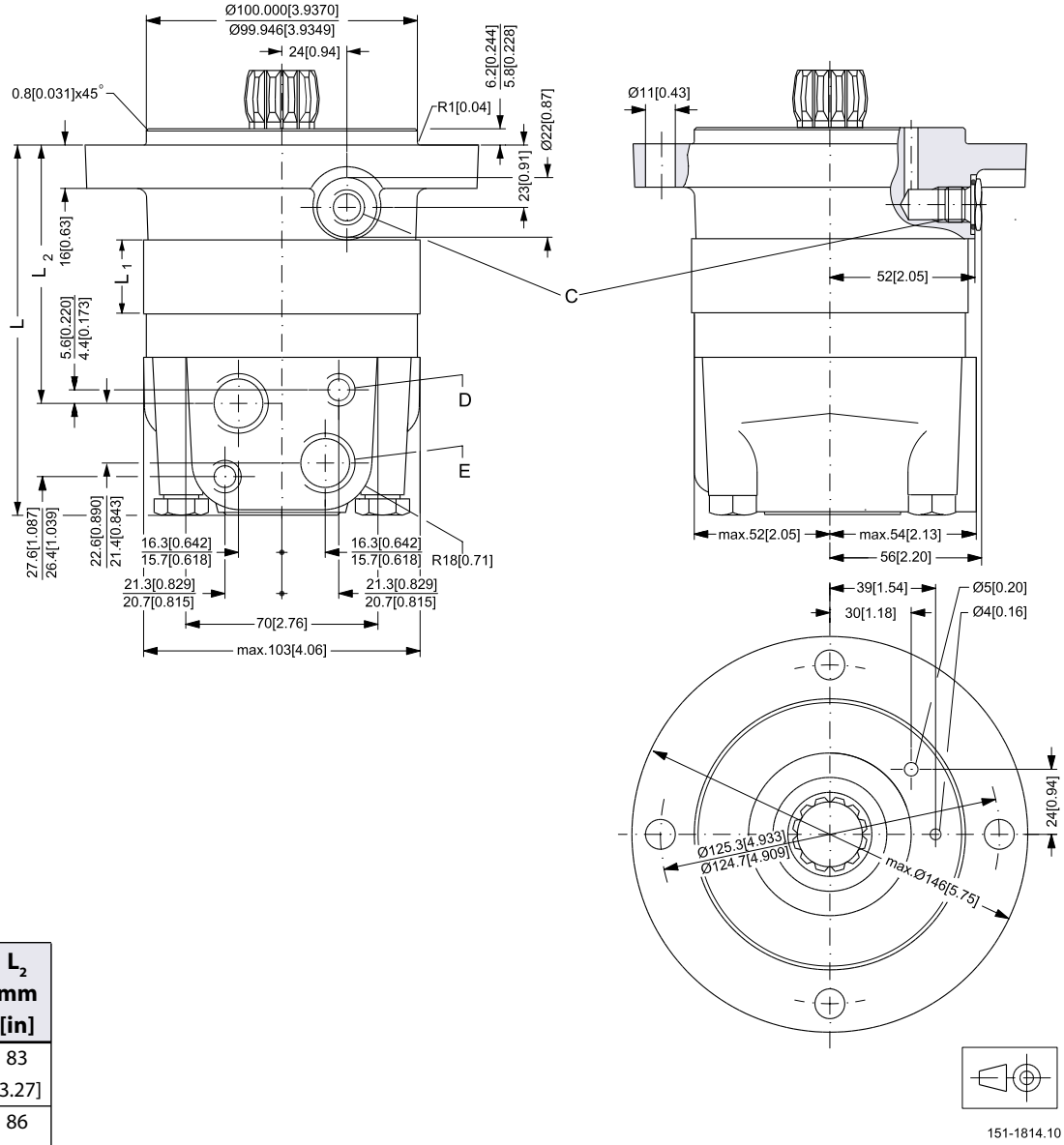
Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 mm [in]
OMSW 80	130 [5.12]	14.0 [0.551]	88 [3.46]
OMSW 100	133 [5.24]	17.4 [0.685]	91 [3.58]
OMSW 125	138 [5.43]	21.8 [0.858]	96 [3.78]
OMSW 160	144 [5.67]	27.8 [1.094]	102 [4.02]
OMSW 200	151 [5.94]	34.8 [1.370]	109 [4.29]
OMSW 250	159 [6.26]	43.5 [1.713]	117 [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_3 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]

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

Dimensions – European version

SHORT



Type	$L_{max.}$ mm [in]	L_1 mm [in]	L_2 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]

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

151-1814.10

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.

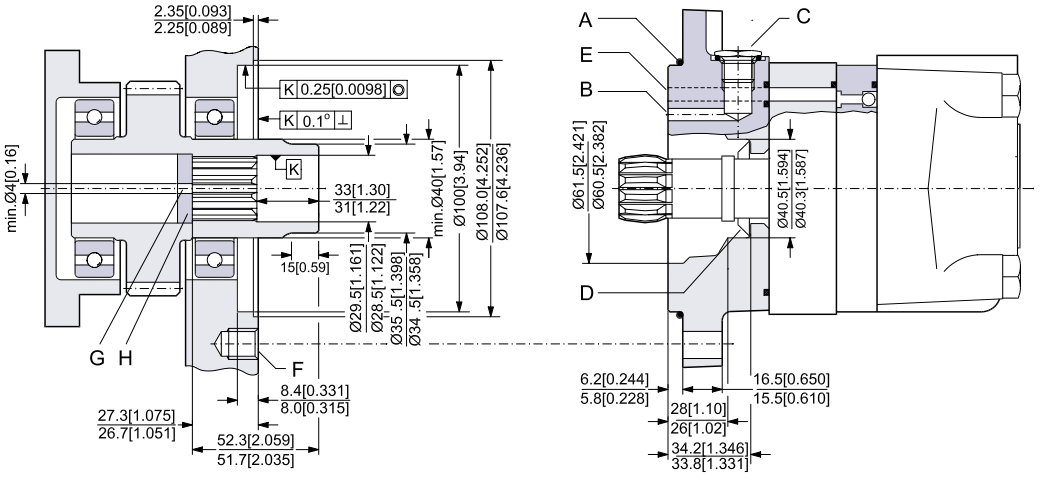
During start and operation it is important that the spline connection and the bearings in the attached component receive oil and are adequately lubricated. To ensure that the spline connection receives sufficient oil, a conical sealing ring between the shaft of the attached component and the motor intermediate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

OMSS DIMENSIONS OF THE ATTACHED COMPONENT



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

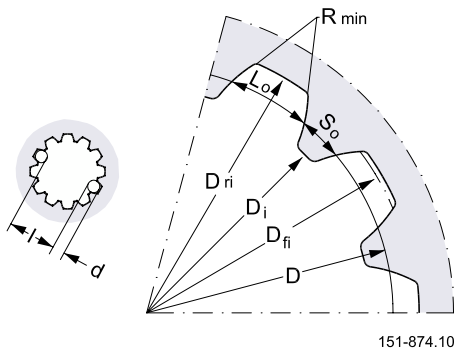
Material:
Case hardening steel with a tensile strength corresponding at least to 20 MoCr4 (900 N/mm^2) or SAE 8620.

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 · X = 0.8; m = 2.1166)

Fillet 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_{ri}	$28.0\ ^{0}_{-0.1}$	$1.10\ ^{0}_{-0.004}$
Form dia. (min.)	D_{fi}	27.6	1.09
Minor dia.	D_i	$23.0\ ^{+0.033}_{0}$	$0.9055\ ^{+0.0013}_{0}$
Space width (circular)	L_o	$4.308\ ^{\pm 0.020}$	$0.1696\ ^{\pm 0.0008}$
Tooth thickness (circular)	S_o	2.341	0.09217
Fillet radius	$R_{min.}$	0.2	0.008
Max. measurement between pins*	l	$17.62\ ^{+0.15}_{0}$	$0.700\ ^{0}_{-0.006}$
Pin dia.	d	$4.835\ ^{\pm 0.001}$	$0.1903\ ^{\pm 0.00004}$

* Finished dimensions (when hardened)



151-874.10

DRAIN CONNECTION ON OMSS OR ATTACHED COMPONENT

A drain line ought to be used when pressure in the return line can exceed the permissible pressure on the shaft seal of the attached component.

The drain line can be connected at two different points:
1) at the motor drain connection
2) at the 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.

The drain line must be led to the tank in such a way that there is no risk of the motor and attached component being drained of oil when at rest.
The maximum pressure in the drain line is limited by the attached component and its shaft seal.