

VERSIONS

| Mounting flange | Shaft | Port size | European version | US version | Side port version | End port version | Flange port version | Standard shaft seal | High pressure shaft seal | Drain connection | Check valve | Specials | Main type designation |
|---------------------------------|-------------------|--------------|------------------|------------|-------------------|------------------|---------------------|---------------------|--------------------------|------------------|-------------|----------|-----------------------|
| 4 hole oval flange (A4-flange) | Cyl. 32 mm | G 1/2 | X | | X | | | X | | Yes | Yes | | OMH |
| | Cyl. 35 mm | G 1/2 | X | | X | | | X | | Yes | Yes | | OMH |
| | Cyl. 1 1/4 in | 7/8 - 14 UNF | | X | X | | | X | | Yes | Yes | | OMH |
| | Splined 1" SAE 6B | 7/8 - 14 UNF | | X | X | | | X | | Yes | Yes | | OMH |
| | Splined 1 1/4 in | G 1/2 | X | | X | | | X | | Yes | Yes | | OMH |
| | Splined 1 1/4 in | 7/8 - 14 UNF | | X | X | | | X | | Yes | Yes | | OMH |
| | Tapered 35 mm | G 1/2 | X | | X | | | X | | Yes | Yes | | OMH |
| Function diagram – see page : → | | | | | | | | | | | | | |

Features available (options) :
Painted

CODE NUMBERS

| CODE NUMBERS | DISPLACEMENT [cm ³] | | | | | Technical data – Page | Dimensions – Page |
|--------------|---------------------------------|------|------|------|------|-----------------------|-------------------|
| | 200 | 250 | 315 | 400 | 500 | | |
| 151H | 1002 | 1003 | 1004 | 1005 | 1006 | 69 | 81 |
| 151H | 1012 | 1013 | 1014 | 1015 | 1016 | 70 | 81 |
| 151H | 1042 | 1043 | 1044 | 1045 | 1046 | 69 | 82 |
| 151H | 1080 | 1082 | 1083 | 1084 | 1081 | 68 | 82 |
| 151H | 1022 | 1023 | 1024 | 1025 | 1026 | 70 | 81 |
| 151H | 1052 | 1053 | 1054 | 1055 | 1056 | 70 | 82 |
| 151H | - | - | 1034 | 1035 | 1036 | 70 | 81 |
| | 74 | 74 | 75 | 75 | 76 | | |

Ordering

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

Example:

151H1044 for an OMH 315 with A4 flange, cyl. 1 1/4 in shaft, port size 7/8 - 14 UNF.

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

TECHNICAL DATA FOR OMH WITH 1 IN SAE 6 B SPLINED SHAFT

| Type | | | OMH | OMH | OMH | OMH | OMH | |
|--|--|--|------------------|------------------|------------------|------------------|------------------|---------------|
| Motor size | | | 200 | 250 | 315 | 400 | 500 | |
| Geometric displacement | cm ³ (in ³) | | 201.3 (12.32) | 252.0 (15.42) | 314.9 (19.27) | 396.8 (24.28) | 470.6 (28.80) | |
| Max. speed | min ⁻¹ (rpm) | cont. | 370 | 295 | 235 | 185 | 155 | |
| | | int. ¹⁾ | 445 | 350 | 285 | 225 | 190 | |
| Max. torque | Nm (lbf-in) | cont. | 340 (3000) | 340 (3000) | 340 (3000) | 340 (3000) | 340 (3000) | |
| | | int. ¹⁾ | 510 (4500) | 510 (4500) | 540 (4800) | 540 (4800) | 540 (4600) | |
| | | peak ²⁾ | 640 (5650) | 785 (6950) | 835 (7400) | 835 (7400) | 835 (7400) | |
| Max. output | kW (hp) | cont. | 11.2 (15.0) | 7.5 (10.0) | 5.2 (7.0) | 4.8 (6.5) | 3.7 (5.0) | |
| | | int. ¹⁾ | 17.2 (23.0) | 11.9 (16.0) | 9.7 (13.0) | 8.2 (11.0) | 6.0 (8.0) | |
| Max. pressure drop | bar (psi) | cont. | 115 (1650) | 90 (1300) | 75 (1100) | 60 (900) | 50 (725) | |
| | | int. ¹⁾ | 170 (2500) | 145 (2100) | 120 (1750) | 95 (1400) | 75 (1100) | |
| | | peak ²⁾ | 225 (3300) | 225 (3300) | 185 (2700) | 155 (2250) | 160 (2300) | |
| Max. oil flow | l/min (US gal/min) | cont. | 75 (19.8) | 75 (19.8) | 75 (19.8) | 75 (19.8) | 75 (19.8) | |
| | | int. ¹⁾ | 90 (23.8) | 90 (23.8) | 90 (23.8) | 90 (23.8) | 90 (23.8) | |
| Max. starting pressure with unloaded shaft | bar (psi) | | 7 (100) | 7 (100) | 7 (100) | 7 (100) | 7 (100) | |
| Min. starting torque | at max. press. drop cont. Nm (lbf-in) | | 255 (2250) | 270 (2400) | 280 (2500) | 290 (2550) | 300 (2650) | |
| | | at max. press. drop int. ¹⁾ | Nm (lbf-in) | 390 (3450) | 435 (3850) | 450 (4000) | 450 (4000) | 450 (4000) |
| | | | | | | | | |
| Min. speed ³⁾ | min ⁻¹ (rpm) | | 10 | 10 | 8 | 5 | 5 | |

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 at lower speeds may be slightly less smooth.

TECHNICAL DATA FOR OMH WITH 32 MM AND 1 1/4 IN CYLINDRICAL SHAFT

| Type | | | OMH | OMH | OMH | OMH | OMH |
|--|---------------------------------------|--------------------|------------------|------------------|------------------|------------------|------------------|
| Motor size | | | 200 | 250 | 315 | 400 | 500 |
| Geometric displacement | cm ³ (in ³) | | 201.3 (12.32) | 252.0 (15.42) | 314.9 (19.27) | 396.8 (24.28) | 470.6 (28.80) |
| Max. speed | min ⁻¹ (rpm) | cont. | 370 | 295 | 235 | 185 | 155 |
| | | int. ¹⁾ | 445 | 350 | 285 | 225 | 190 |
| Max. torque | Nm (lbf-in) | cont. | 510 (4510) | 610 (5400) | 590 (5220) | 590 (5220) | 580 (5130) |
| | | int. ¹⁾ | 580 (5130) | 700 (6200) | 670 (5930) | 700 (6200) | 680 (6020) |
| | | peak ²⁾ | 640 (5660) | 790 (6990) | 840 (7440) | 840 (7440) | 840 (7440) |
| Max. output | kW (hp) | cont. | 16.0 (21.5) | 16.0 (21.5) | 12.5 (16.8) | 10.0 (13.4) | 8.5 (11.4) |
| | | int. ¹⁾ | 18.5 (24.8) | 18.5 (24.8) | 14.0 (18.8) | 12.0 (16.1) | 10.0 (13.4) |
| Max. pressure drop | bar (psi) | cont. | 175 (2540) | 175 (2540) | 135 (1960) | 105 (1520) | 85 (1230) |
| | | int. ¹⁾ | 200 (2900) | 200 (2900) | 155 (2250) | 125 (1810) | 100 (1450) |
| | | peak ²⁾ | 225 (3260) | 225 (3260) | 190 (2760) | 155 (2250) | 130 (1890) |
| Max. oil flow | l/min (US gal/min) | cont. | 75 (19.8) | 75 (19.8) | 75 (19.8) | 75 (19.8) | 75 (19.8) |
| | | int. ¹⁾ | 90 (23.8) | 90 (23.8) | 90 (23.8) | 90 (23.8) | 90 (23.8) |
| Max. starting pressure with unloaded shaft | bar (psi) | | 5 (75) | 5 (75) | 5 (75) | 5 (75) | 5 (75) |
| Min. starting torque | at max. press. drop | cont. | 390 (3450) | 520 (4600) | 510 (4510) | 490 (4340) | 490 (4340) |
| | at max. press. drop | int. ¹⁾ | 450 (3980) | 590 (5220) | 590 (5220) | 600 (5310) | 600 (5310) |
| Min. speed ³⁾ | min ⁻¹ (rpm) | | 10 | 10 | 8 | 5 | 5 |

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 at lower speeds may be slightly less smooth.

TECHNICAL DATA FOR OMH WITH 35 MM CYLINDRICAL, 1 1/4 IN SPLINED AND 35 MM TAPERED SHAFT

| Type | | | OMH | OMH | OMH | OMH | OMH |
|--|---------------------------------------|--------------------|-----------------|------------------|------------------|------------------|------------------|
| Motor size | | | 200 | 250 | 315 | 400 | 500 |
| Geometric displacement | cm ³ (in ³) | | 201.3 (2.32) | 252.0 (15.42) | 314.9 (19.27) | 396.8 (24.28) | 470.6 (28.80) |
| Max. speed | min ⁻¹ (rpm) | cont. | 370 | 295 | 235 | 185 | 155 |
| | | int. ¹⁾ | 445 | 350 | 285 | 225 | 190 |
| Max. torque | Nm (lbf-in) | cont. | 510 (4510) | 610 (5400) | 740 (6550) | 840 (7440) | 820 (7260) |
| | | int. ¹⁾ | 580 (5130) | 700 (6200) | 820 (7260) | 980 (8670) | 1040 (9210) |
| | | peak ²⁾ | 640 (5660) | 790 (6990) | 980 (8670) | 1090 (9650) | 1170 (10360) |
| Max. output | kW (hp) | cont. | 16.0 (21.5) | 16.0 (21.5) | 14.0 (18.8) | 12.5 (16.8) | 11.0 (14.8) |
| | | int. ¹⁾ | 18.5 (24.8) | 18.5 (24.8) | 15.5 (20.8) | 15.0 (20.1) | 14.0 (18.8) |
| Max. pressure drop | bar (psi) | cont. | 175 (2540) | 175 (2540) | 175 (2540) | 155 (2250) | 125 (1810) |
| | | int. ¹⁾ | 200 (2900) | 200 (2900) | 200 (2900) | 190 (2760) | 160 (2320) |
| | | peak ²⁾ | 225 (3260) | 225 (3260) | 225 (3260) | 210 (3050) | 180 (2610) |
| Max. oil flow | l/min (US gal/min) | cont. | 75 (19.8) | 75 (19.8) | 75 (19.8) | 75 (19.8) | 75 (19.8) |
| | | int. ¹⁾ | 90 (23.8) | 90 (23.8) | 90 (23.8) | 90 (23.8) | 90 (23.8) |
| Max. starting pressure with unloaded shaft | bar (psi) | | 5 (75) | 5 (75) | 5 (75) | 5 (75) | 5 (75) |
| Min. starting torque | at max. press. drop | cont. | 390 (3450) | 520 (4600) | 660 (5840) | 720 (6370) | 720 (6370) |
| | at max. press. drop | int. ¹⁾ | 450 (3980) | 590 (5220) | 730 (6460) | 880 (7790) | 880 (7790) |
| | | | | | | | |
| Min. speed ³⁾ | min ⁻¹ (rpm) | | 10 | 10 | 8 | 5 | 5 |

| Type | | | Max. inlet pressure | Max. return pressure with drain line |
|---------------|--------------|--------------------|---------------------|--------------------------------------|
| OMH 200 - 500 | bar (psi) | cont. | 200 (2900) | 175 (2540) |
| | bar (psi) | int. ¹⁾ | 225 (3260) | 200 (2900) |
| | bar (psi) | peak ²⁾ | 250 (3630) | 225 (3260) |

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

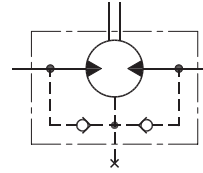
²⁾ Peak load: the permissible values may occur for max. 1% of every minute.

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

OMH
Hydraulic Motor
Technical data

**MAX. PERMISSIBLE
 SHAFT SEAL PRESSURE**

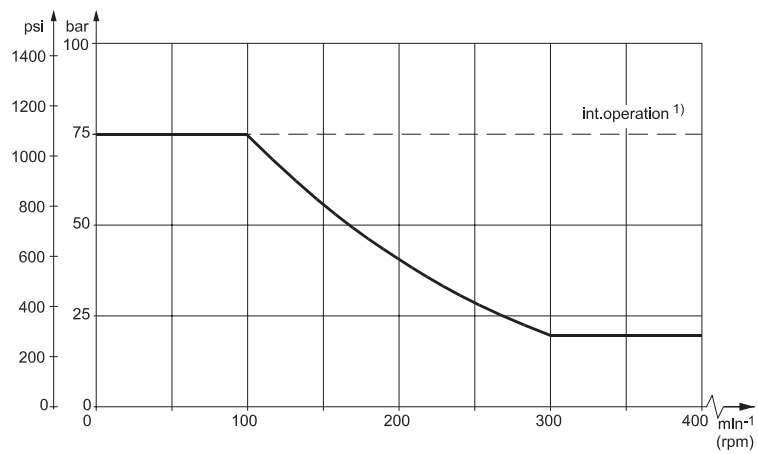
OMH with standard shaft seal, check valves and without use of drain connection:
 The pressure on the shaft seal never exceeds the pressure in the return line



OMH with standard shaft seal, check valves and with drain connection:
 The shaft seal pressure equals the pressure on the drain line.

151-320.10

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

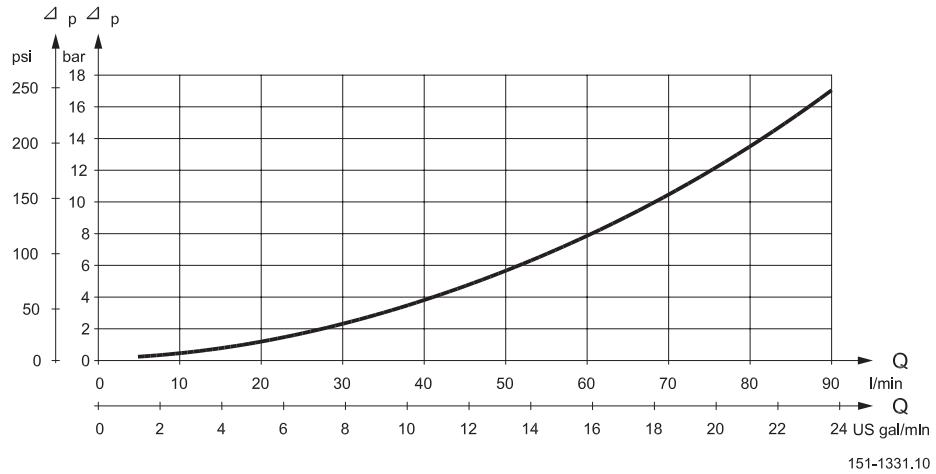


151-1565.10

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

OMH
Hydraulic Motor
Technical data

PRESSURE DROP IN MOTOR



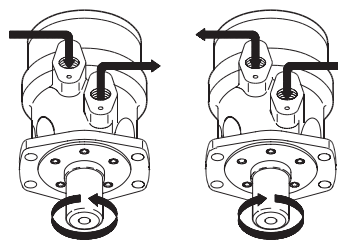
The curve applies to an unloaded motor shaft and an oil viscosity of 35 mm²/s (165 SUS)

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 mm ² /s (SUS) | Oil flow in drain line l/min (US gal/min) |
|-------------------------------|--|--|
| 100 (1450) | 20 (100) | 2.5 (0.66) |
| | 35 (165) | 1.8 (0.78) |
| 140 (2030) | 20 (100) | 3.5 (0.93) |
| | 35 (165) | 2.8 (0.74) |

DIRECTION OF SHAFT ROTATION



151-1839.10

OMH

Hydraulic Motor

Technical data

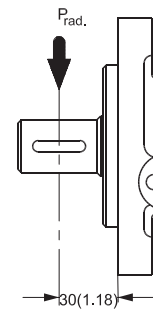
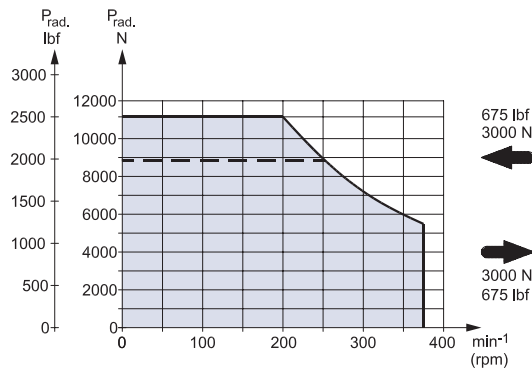
PERMISSIBLE SHAFT LOADS FOR OMH

The permissible shaft load (P_{rad}) is calculated from the speed (n) and the distance (l) between the point of load application and the mounting flange.

$$P_{rad} = \frac{1100}{n} \times \frac{250000}{103.5 + l} \text{ N}^*; l \text{ in mm}$$

$$P_{rad} = \frac{1100}{n} \times \frac{2215}{4.07 + l} \text{ lbf}^*; l \text{ in inch}$$

* $n > 200 \text{ min}^{-1} \text{ (rpm)}$; $l < 60 \text{ mm (2.36 in)}$
 $n < 200 \text{ min}^{-1} \text{ (rpm)}$; $\Rightarrow P_{rmax} = 11000 \text{ N (2475 lbf)}$

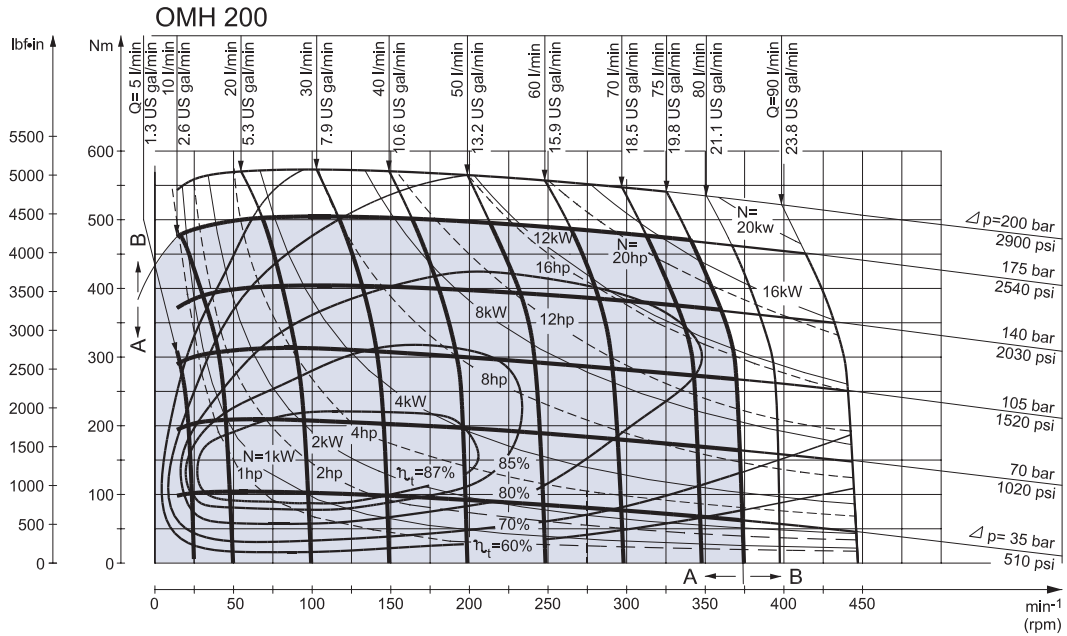


151-1474.10

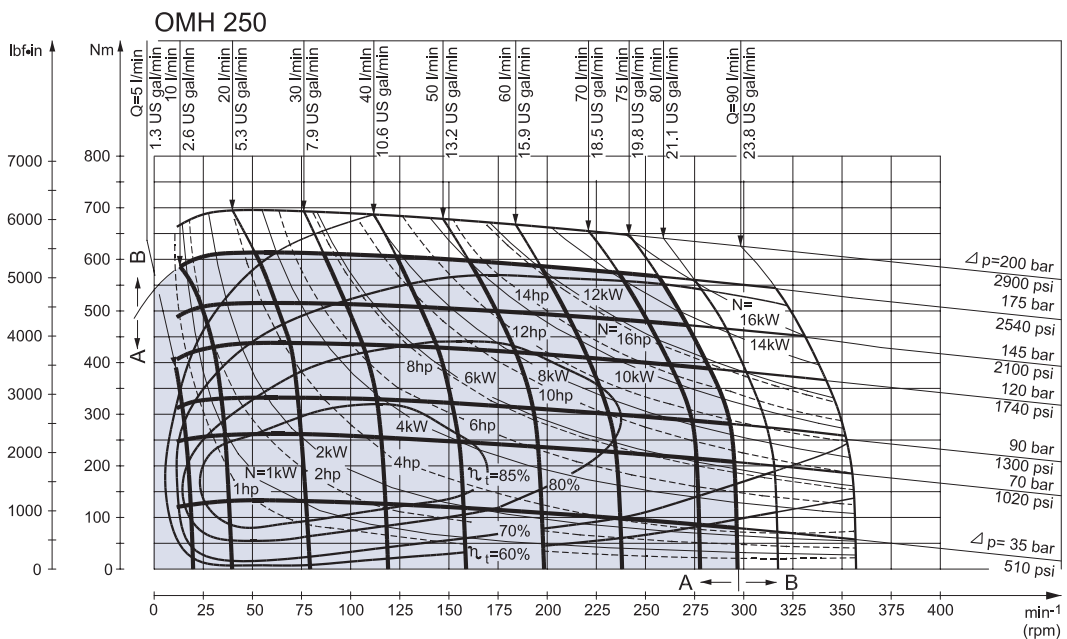
----- 1 in SAE 6B splined shaft

The drawing shows the permissible radial load when $l = 30 \text{ mm (1.18 in)}$.

FUNCTION DIAGRAMS



151-1486.10



151-1487.10

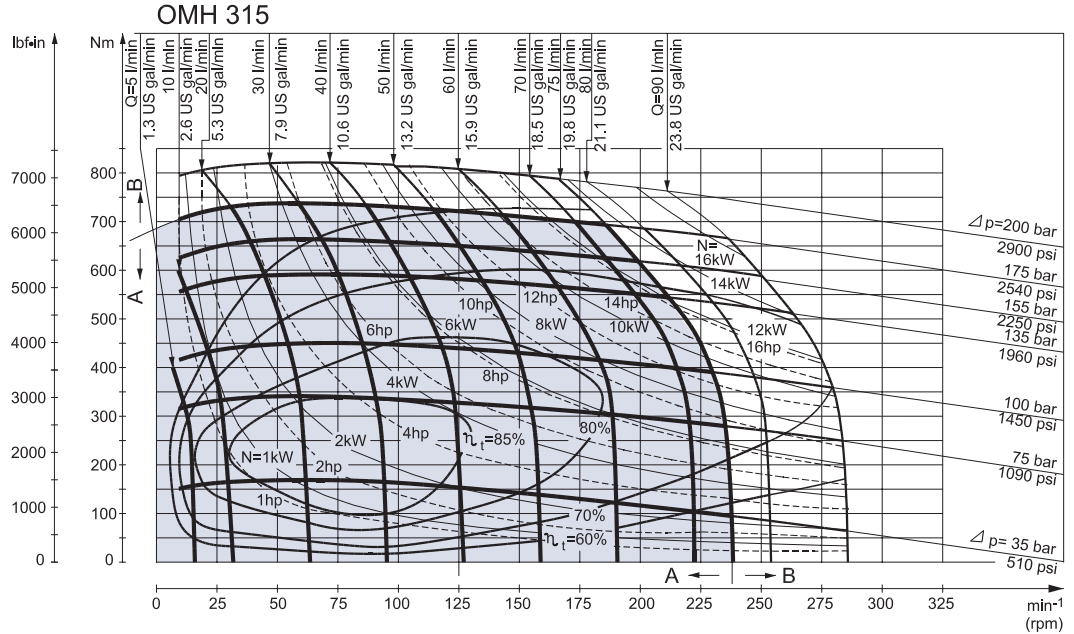
Explanation of function diagram use, basis and conditions can be found on page 7.

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

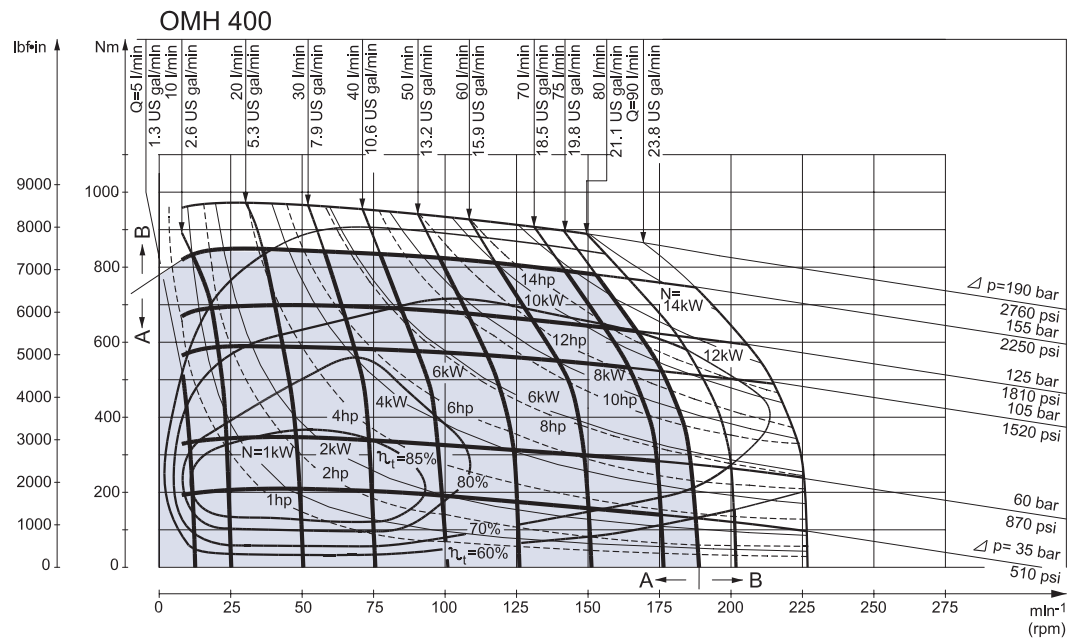
Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found on page 68-70.

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

FUNCTION DIAGRAMS



151-1488.10



151-1489.10

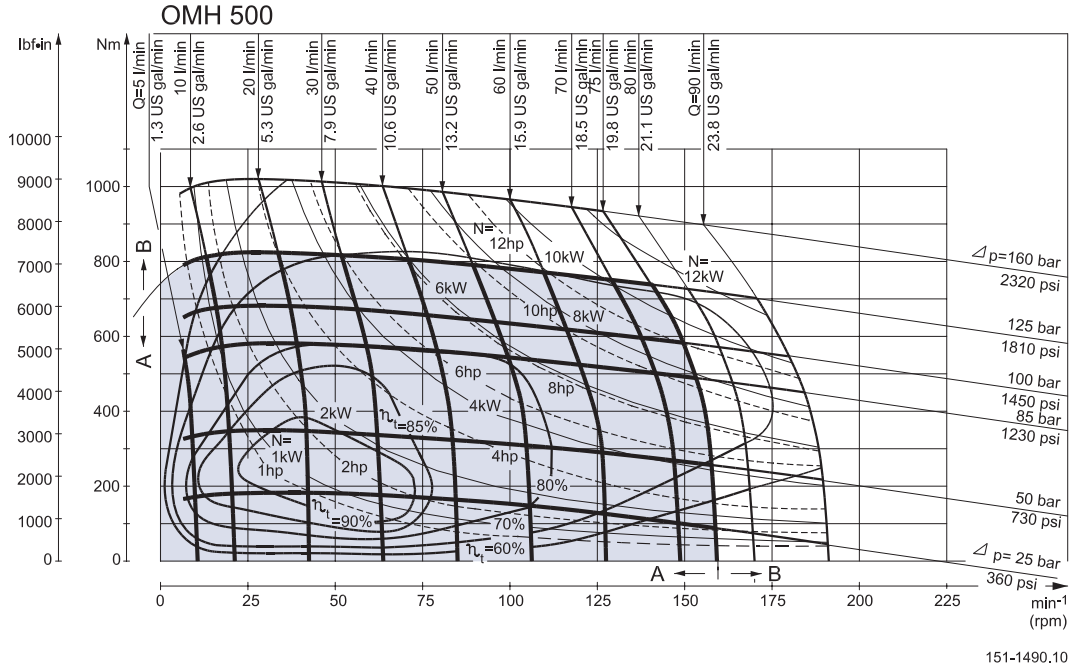
Explanation of function diagram use, basis and conditions can be found on page 7.

- 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 68-70.

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 7.

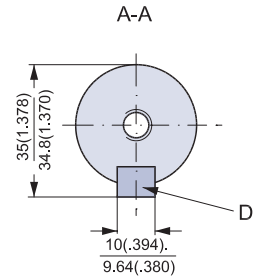
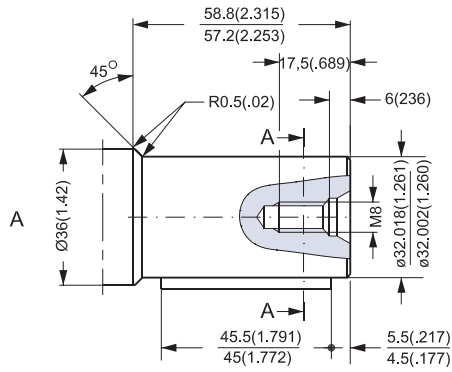
- A: Continuous range
- B: Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found on page 68-70.

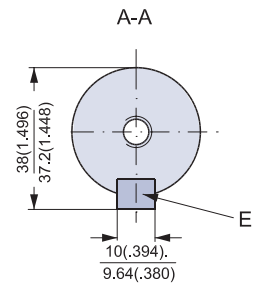
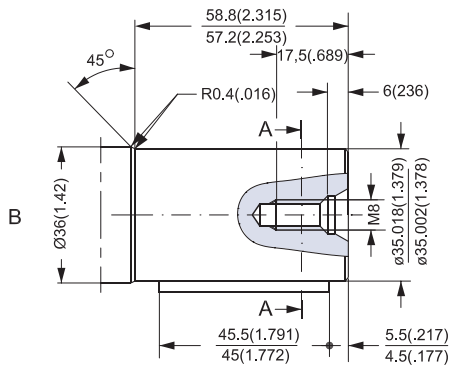
Note: Intermittent pressure drop and oil flow must not occur simultaneously.

SHAFT VERSION

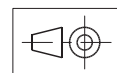
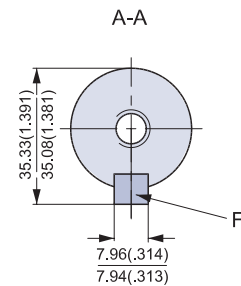
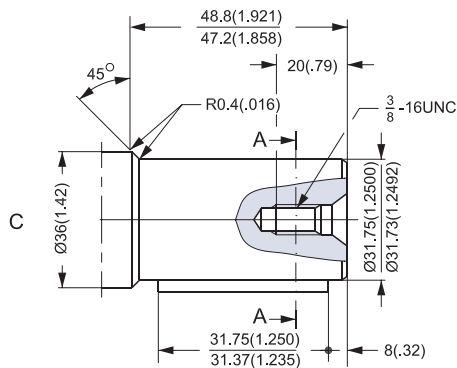
- A: Cylindrical shaft
32 mm
- D: Parallel key
A10 × 8 × 45
DIN 6885



- B: Cylindrical shaft
35 mm
- E: Parallel key
A10 × 8 × 45
DIN 6885



- US version**
- C: Cylindrical shaft
1 1/4 in
- F: Parallel key
5/16 × 5/16 × 1 1/4 in
SAE J 744

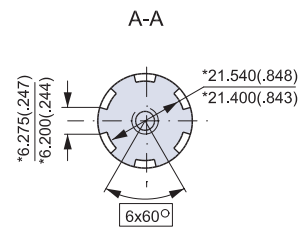
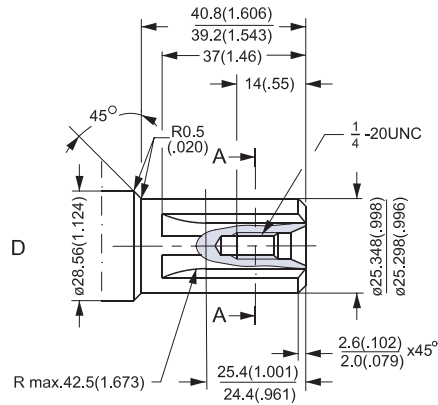


151-1852.10

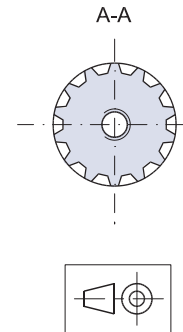
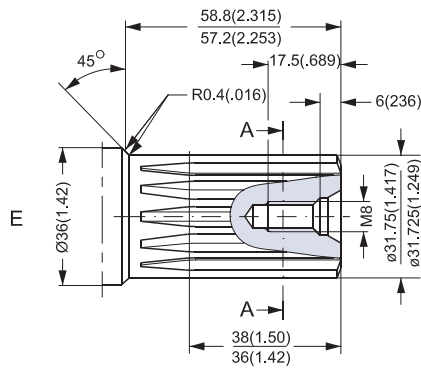
SHAFT VERSION

D: 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)



E: Involute splined shaft
 ANS B92.1 - 1980 standard
 Flat root side fit
 Pitch 12/24
 Teeth 14
 Major dia. 1.25 in
 Pressure angle 30°

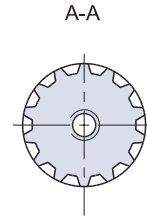
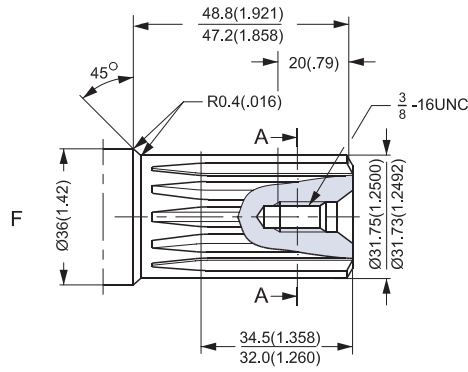


151-1853.10

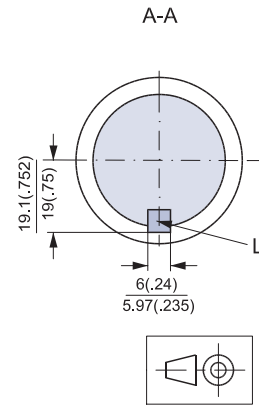
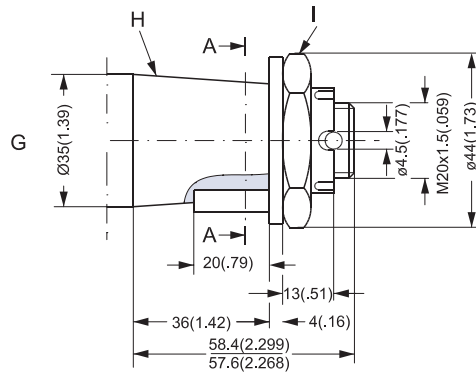
SHAFT VERSION

US version

- F. 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°

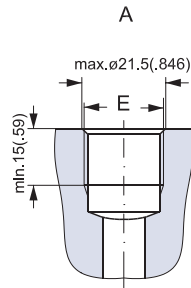


- G: Tapered shaft 35 mm (ISO/R775)
- I: DIN 937 NV 410
- Tightening torque: 200 ± 10 Nm (1770 ± 85 lbf.in)
- H: Taper 1:10
- L: Parallel key $B6 \times 6 \times 20$ DIN 6885

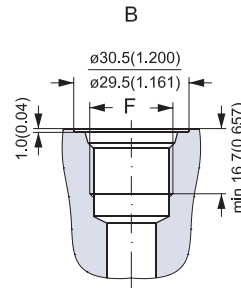


151-1854.10

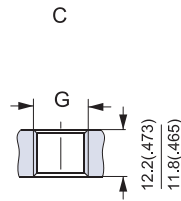
PORT THREAD VERSIONS



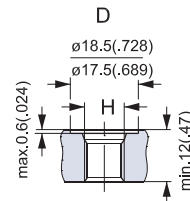
A: G main ports
E: ISO 228/1 - G^{1/2}



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



C: G drain port
G: ISO 228/1 - G^{1/4}



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

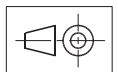
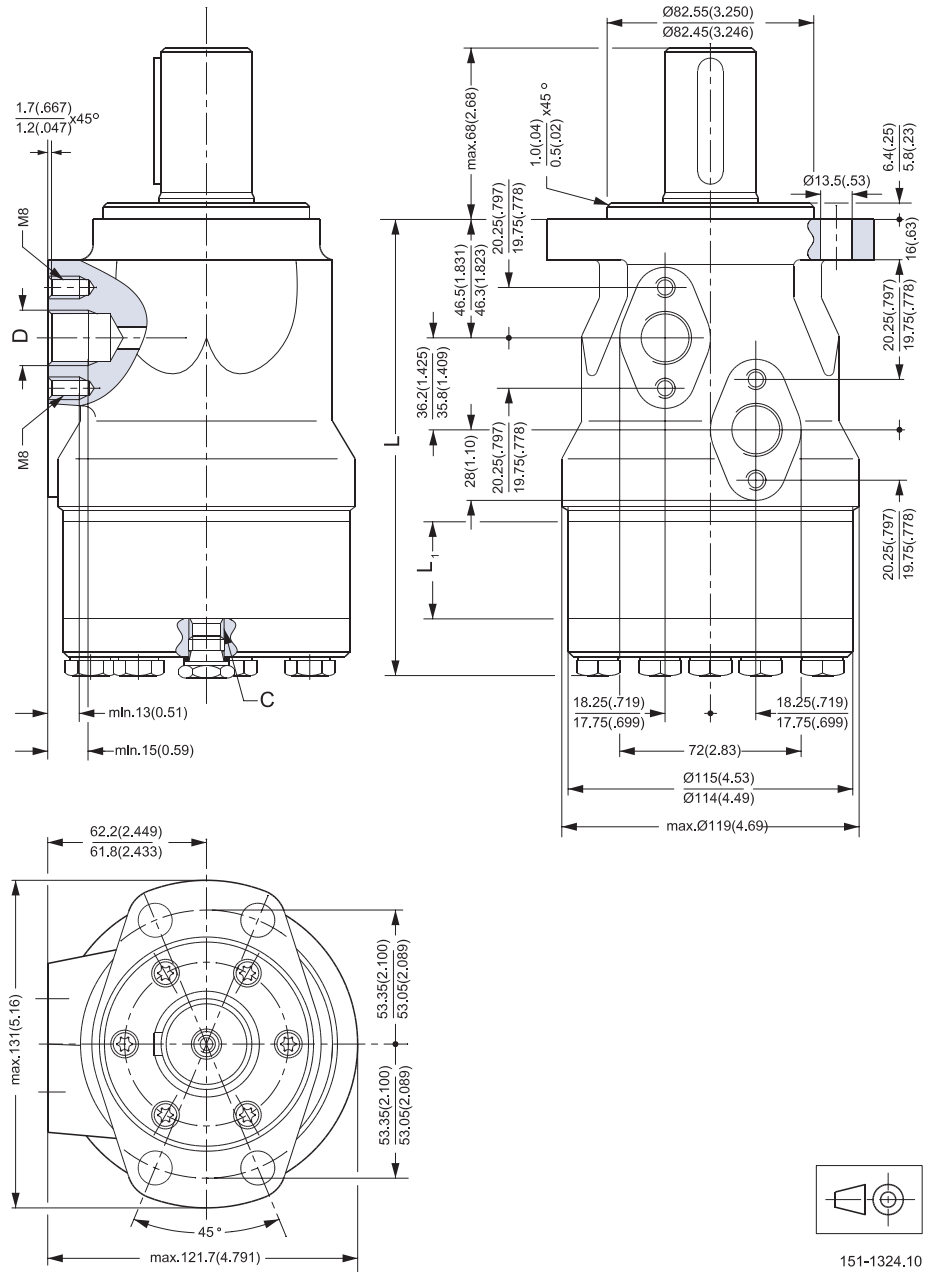
151-1858.10

DIMENSIONS

Side port version with 4 hole oval mounting flange (A4-flange).

| Type | L mm (in) | L ₁ mm (in) |
|---------|--------------|------------------------|
| OMH 200 | 170.1 (6.70) | 27.8 (1.09) |
| OMH 250 | 177.1 (6.97) | 34.8 (1.37) |
| OMH 315 | 185.8 (7.31) | 43.5 (1.71) |
| OMH 400 | 197.1 (7.76) | 54.8 (2.16) |
| OMH 500 | 207.3 (8.16) | 65.0 (2.56) |

C: Drain connection
G 1/4; 12 mm (0.47 in) deep
D: G 1/2; 15 mm (0.59 in) deep



151-1324.10

OMH Hydraulic Motor Dimensions – US version

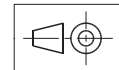
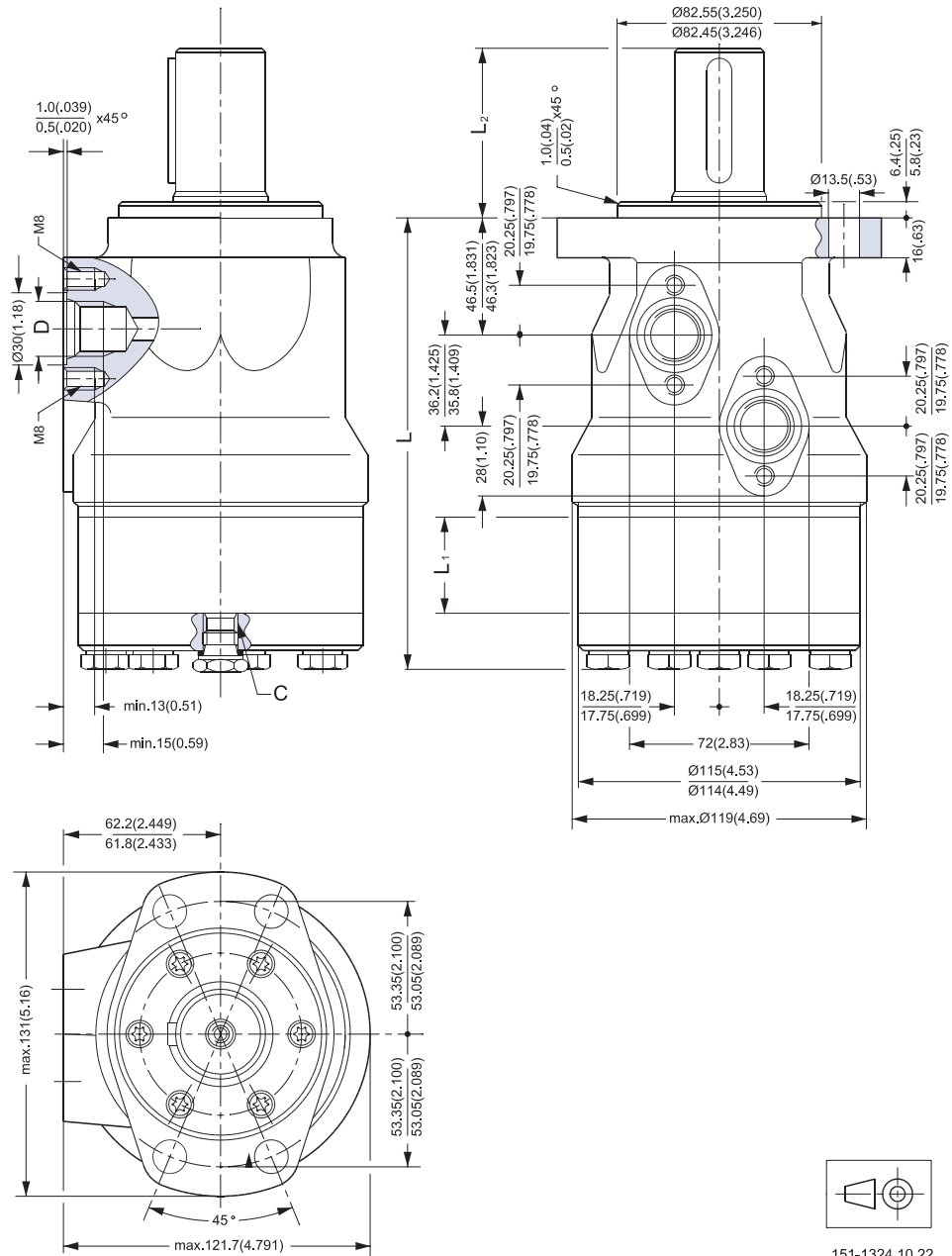
DIMENSIONS

Side port version with 4 hole oval mounting flange (A4 flange).

| Output shaft max. | L ₂ mm (in) |
|-------------------------|---------------------------|
| Splined shaft 1 in | 50.5 (1.99) |
| Other shaft versions | 58.0 (2.28) |

| Type | L mm (in) | L ₁ mm (in) |
|---------|-----------------|---------------------------|
| OMH 200 | 170.1 (6.70) | 27.8 (1.09) |
| OMH 250 | 177.1 (6.97) | 34.8 (1.37) |
| OMH 315 | 185.8 (7.31) | 43.5 (1.71) |
| OMH 400 | 197.1 (7.76) | 54.8 (2.16) |
| OMH 500 | 207.3 (8.16) | 65.0 (2.56) |

- C: Drain connection
 $\frac{7}{16}$ - 20 UNF;
 12 mm (0.47 in) deep
- D: $\frac{7}{8}$ - 14 UNF;
 15 mm (0.59 in) deep



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