OMEW
Hydraulic Motor
Versions

VERSIONS

Mounting flange	Shaft	Port size	European version	US version	Clockwise shaft rotation (CW version)[1]	Counter clockwise shaft rotation (CCW version)[1]	Flange port version	Standard shaft seal	High pressure shaft seal	Drain connection	Check valve	Specials	Main type designation
Wheel	Tapered 35 mm	G 1/2	X		X		X		X	No	No		OMEW
	Tapered 35 mm	G 1/2	X			X	X		X	No	No		OMEW
	Tapered 1 1/4"	7/8 - 14 UNF		X	X		X		X	No	No		OMEW
	Tapered 1 1/4"	7/8 - 14 UNF		X		X	X		X	No	No		OMEW

Function diagram – see page : ⟶

1) *Direction of rotation*
In the application mainly involves operation in one direction, we therefore recommend a corresponding motor with either CW- or CCW-rotation.
High pressure seals
Since all OMEW motors are fited with a high-pressure shaft seal, there is no need for a drain line.

Features available (options) :
Painted

CODE NUMBERS

CODE NUMBERS	DISPLACEMENT [cm³]						Technical data – Page	Dimensions – Page
	100	125	160	200	250	315		
151H	2002	2003	2004	2005	2006	2007	86	95
151H	2011	2012	2013	2014	2015	2016	86	95
151H	3002	3003	3004	3005	3006	3007	86	96
151H	3011	3012	3013	3014	3015	3016	86	96
	90	90	91	91	92	92		

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

Example:
151H2015 for an OMEW 250 with 35 mm tapered shaft, port size G $^1/_2$ and counter clockwise rotation (CCW).

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

OMEW
Hydraulic Motor
Technical data

TECHNICAL DATA FOR OMEW WITH 35 MM AND 1 1/4 IN TAPERED SHAFT

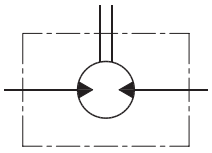
Type			OMEW	OMEW	OMEW	OMEW	OMEW	OMEW
Motor size			**100**	**125**	**160**	**200**	**250**	**315**
Geometric displacement	cm^3 (in^3)		99.8 (6.11)	124.1 (7.60)	155.4 (9.51)	198.2 (12.13)	248.1 (15.18)	310.1 (18.98)
Max. speed	min^{-1} (rpm)	cont.	600	475	375	300	240	190
		int.[1]	750	695	470	375	300	240
Max. torque	Nm (lbf·in)	cont.	250 (2210)	320 (2830)	410 (3630)	470 (4160)	510 (4510)	520 (4600)
		int.[1]	270 (2390)	340 (3010)	430 (3810)	510 (4510)	570 (5040)	640 (5660)
		peak[2]	290 (2570)	360 (3190)	460 (4070)	570 (5040)	640 (5660)	740 (6550)
Max. output	kW (hp)	cont.	12.0 (16.1)	12.0 (16.1)	12.0 (16.1)	11.0 (14.8)	10.0 (13.4)	8.0 (10.7)
		int.[1]	15.0 (20.1)	15.0 (20.1)	15.0 (20.1)	14.0 (18.8)	12.0 (16.1)	10.0 (13.4)
Max. pressure drop	bar (psi)	cont.	200 (2900)	200 (2900)	200 (2900)	185 (2680)	160 (2320)	130 (1890)
		int.[1]	210 (3050)	210 (3050)	210 (3050)	200 (2900)	180 (2610)	160 (2320)
		peak[2]	225 (3260)	225 (3260)	225 (3260)	225 (3260)	200 (2900)	185 (2680)
Max. oil flow	l/min (US gal/min)	cont.	60 (15.9)	60 (15.9)	60 (15.9)	60 (15.9)	60 (15.9)	60 (15.9)
		int.[1]	75 (19.8)	75 (19.8)	75 (19.8)	75 (19.8)	75 (19.8)	75 (19.8)
Max. starting pressure with unloaded shaft	bar (psi)		10 (145)	7 (100)	7 (100)	7 (100)	7 (100)	7 (100)
Min. starting torque	at max. press. drop cont. Nm (lbf·in)		230 (2040)	290 (2570)	360 (3190)	420 (3720)	460 (4070)	470 (4160)
	at max. press. drop int.[1] Nm (lbf·in)		240 (2120)	300 (2660)	380 (3360)	460 (4070)	520 (4600)	570 (5040)
Min. speed[3]	min^{-1} (rpm)		10	9	7	5	5	5

Type			Max. inlet pressure	Max. return pressure
OMEW 100 - 315	bar (psi)	cont.	200 (2900)	200 (2900)
	bar (psi)	int.[1]	210 (3050)	210 (3050)
	bar (psi)	peak[2]	225 (3260)	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.

MAX. PERMISSIBLE SHAFT SEAL PRESSURE

OMEW <u>with</u> high pressure shaft seal



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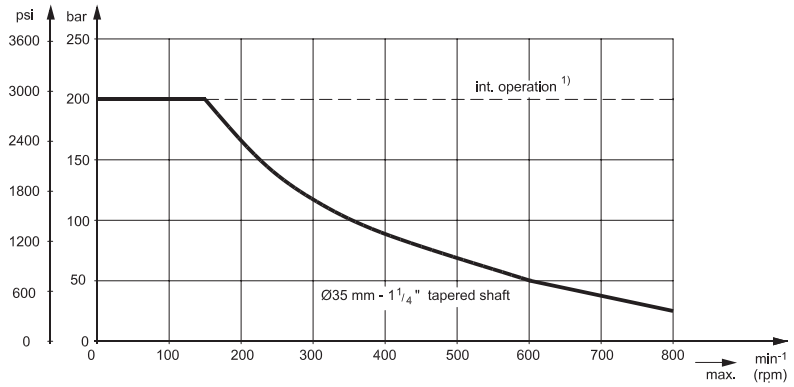
CW version (clockwise rotation)

1) By clockwise rotation:
   The shaft seal pressure equals the return pressure.
2) By counter clockwise rotation:
   The shaft seal prressure equals the input pressure

CCW version (counter clockwise rotation)

1) By counter clockwise rotation:
   The shaft seal pressure equals the return pressure.
2) By clockwise rotation:
   The shaft seal prressure equals the input pressure

Max. permissible shaft seal pressure



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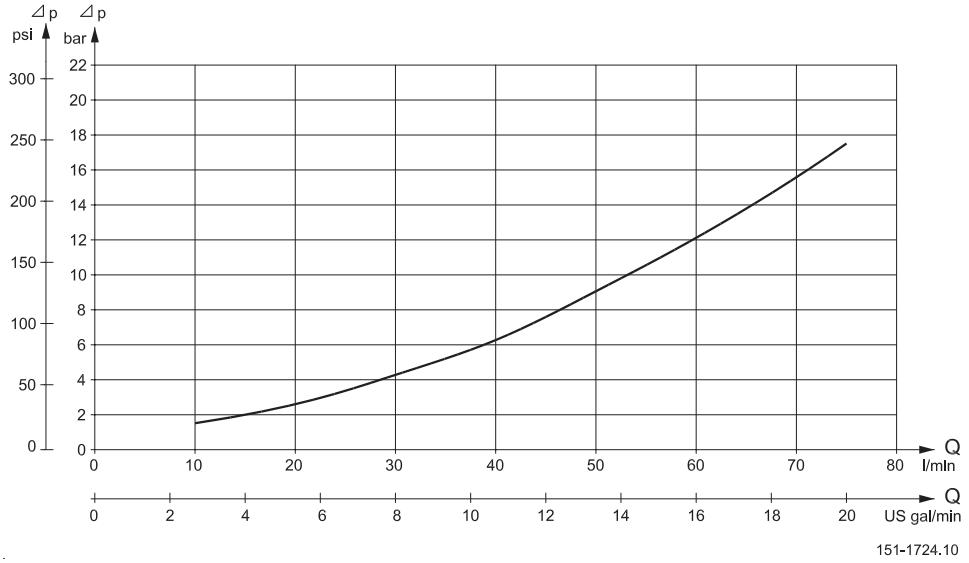
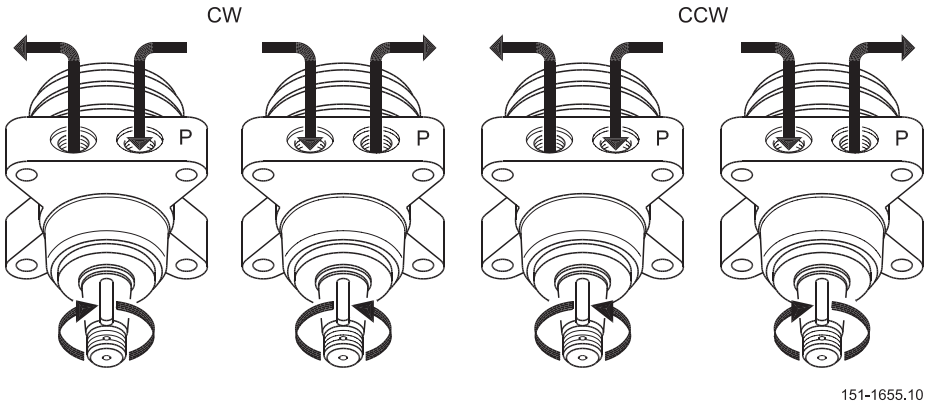
1) Intermittent operation: the permissible values may occur for max. 10% of every minute.

PRESSURE DROP IN MOTOR



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

DIRECTION OF SHAFT ROTATION



PERMISSIBLE SHAFT LOADS FOR OMEW

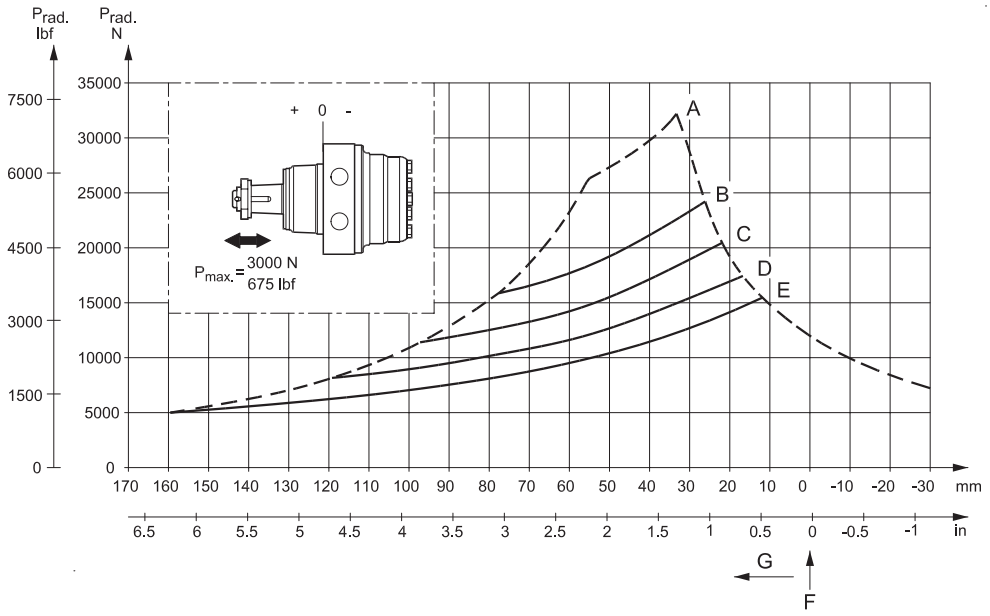
As the OMEW output shaft is embedded in needle bearings and the mounting flange is recessed it is possible to fit a wheel hub direct onto the shaft so that the radial load acts midway between the needle bearings.

Based upon the requested max. speed and the point of action of the radial load the permissible shaft load can be read from the curved shown below.

Curve A shows the max. radial load. If the radial load exceeds these values there is a potential risk of breaksown.

The other curves apply to a B10 bearing life of 2000 hours at the indicated speed when applying a hydraulic mineral oil with an adequate content of anti-wear additives.

The longevity can also be calculated by means of the "Bearing dimensions" instructions in the technical information »General« DKMH.PK.100.G2.02 520L0232.



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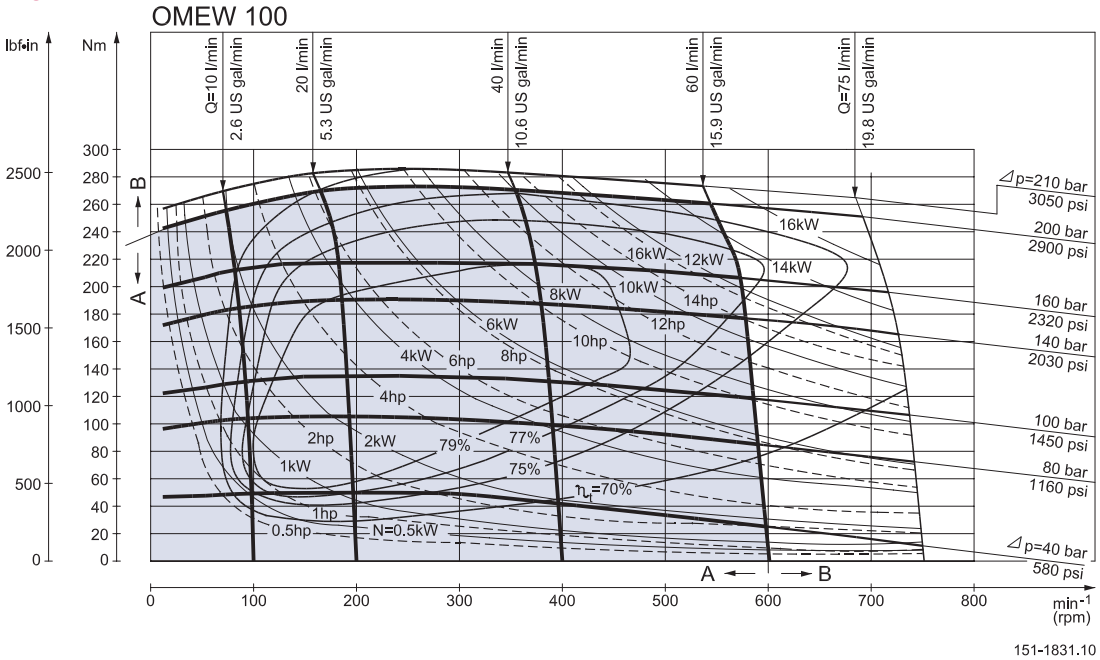
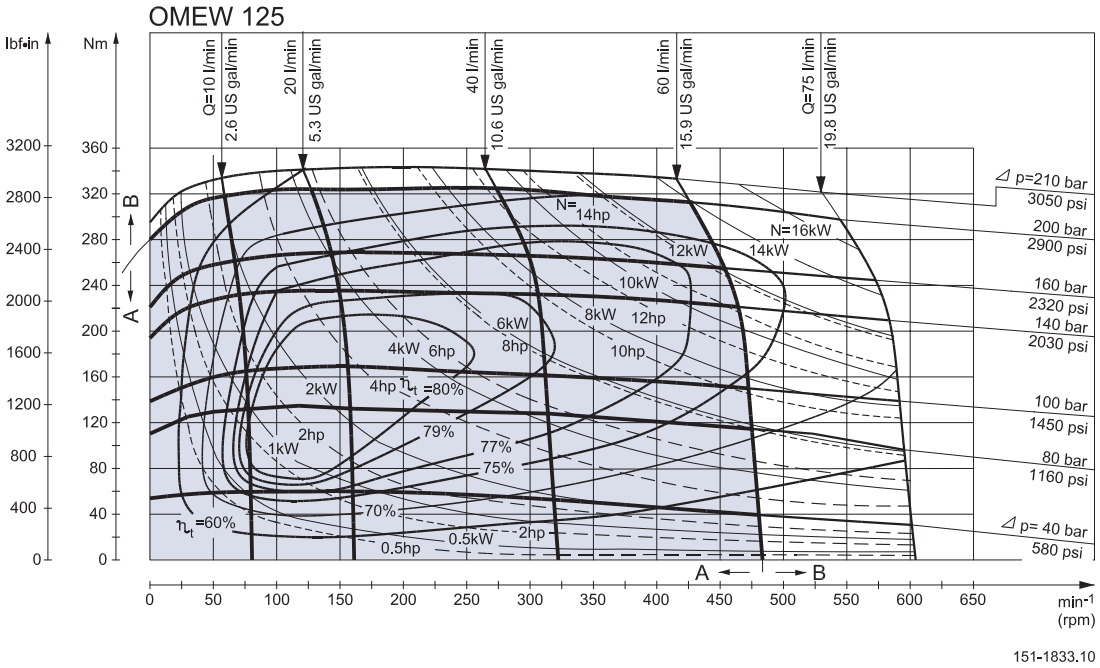
A: Max. radial load
B: n = 50 min^{-1} (rpm)
C: n = 100 min^{-1} (rpm)
D: n = 200 min^{-1} (rpm)
E: n = 400 min^{-1} (rpm)
F: Front flange
G: Direction toward shaft

FUNCTION DIAGRAMS





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

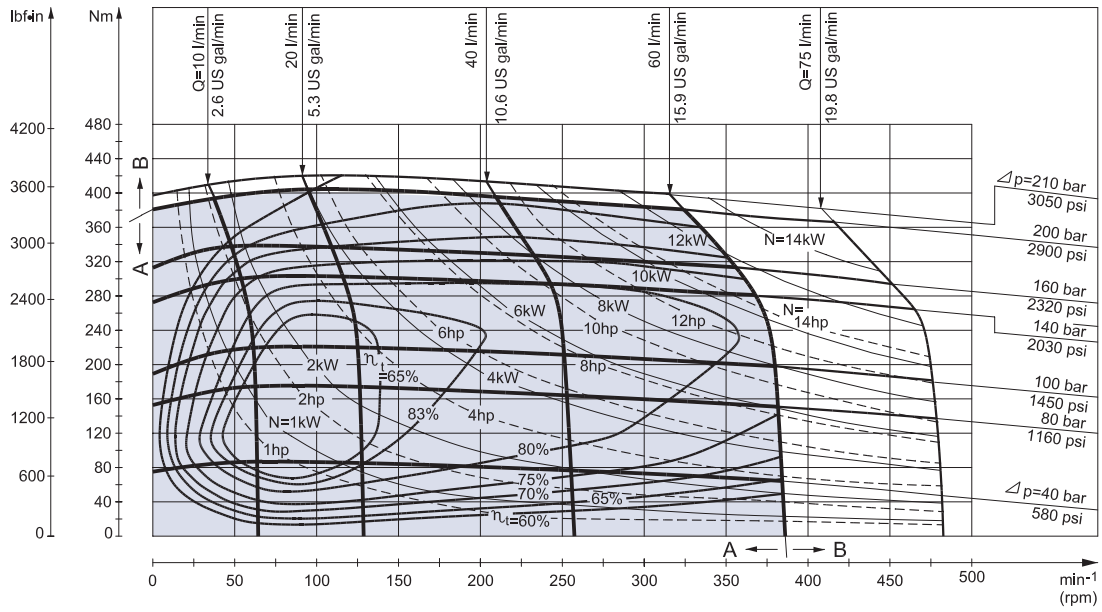
- A: Continuous range
- B: Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found on page 86.

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

FUNCTION DIAGRAMS

OMEW 160



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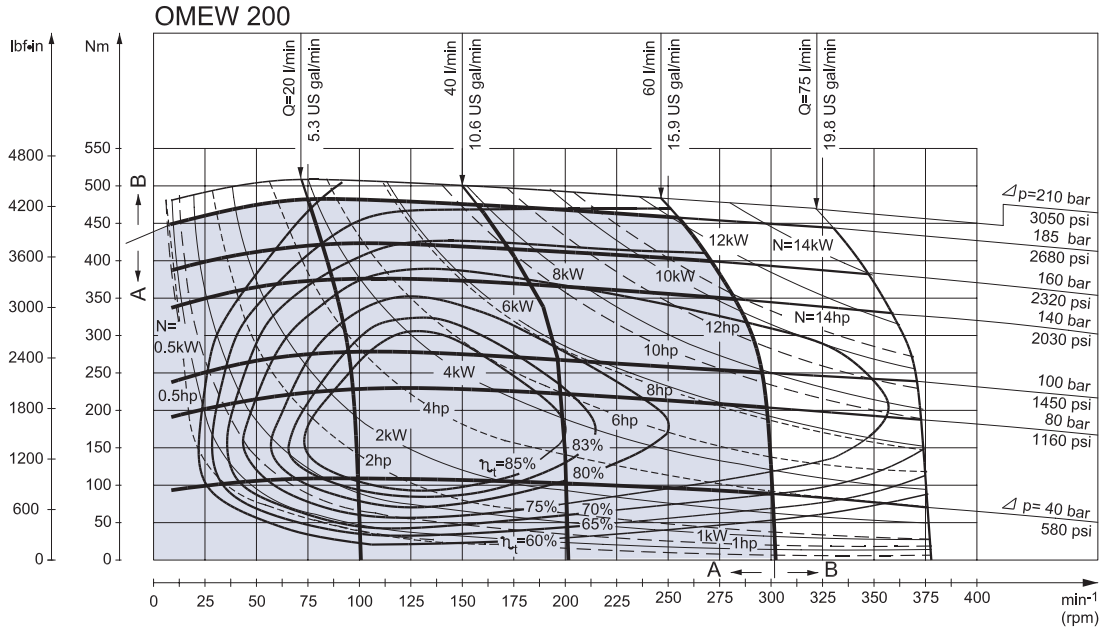
OMEW 200



151-1832.10

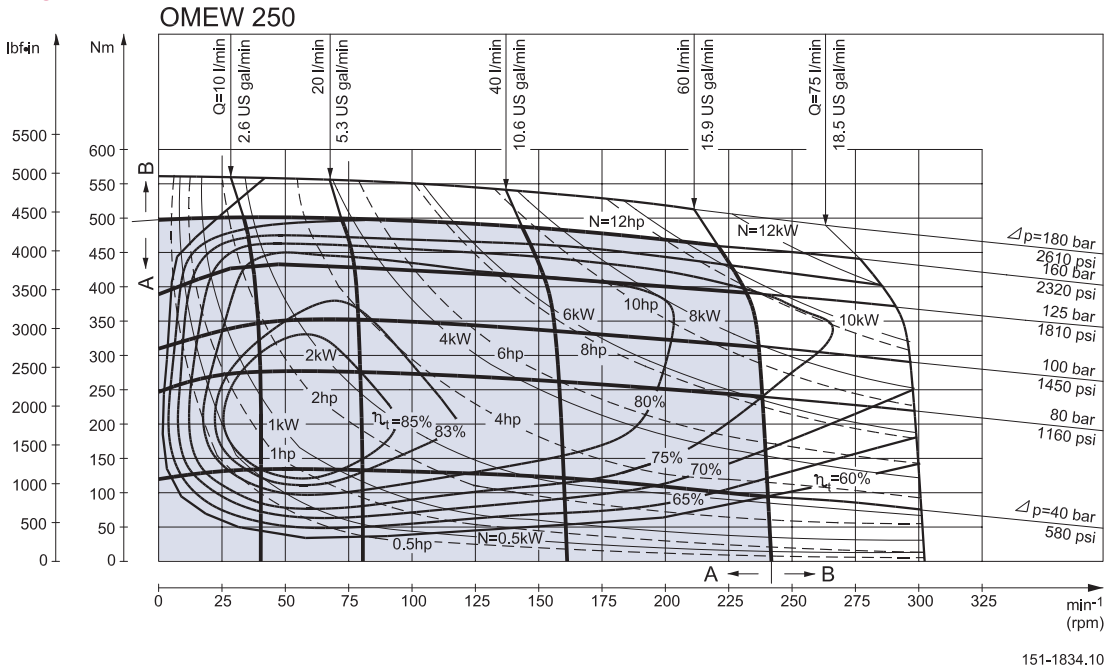
Explanation of function diagram use, basis and conditions can be found on page 7.

- 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 86.

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

FUNCTION DIAGRAMS



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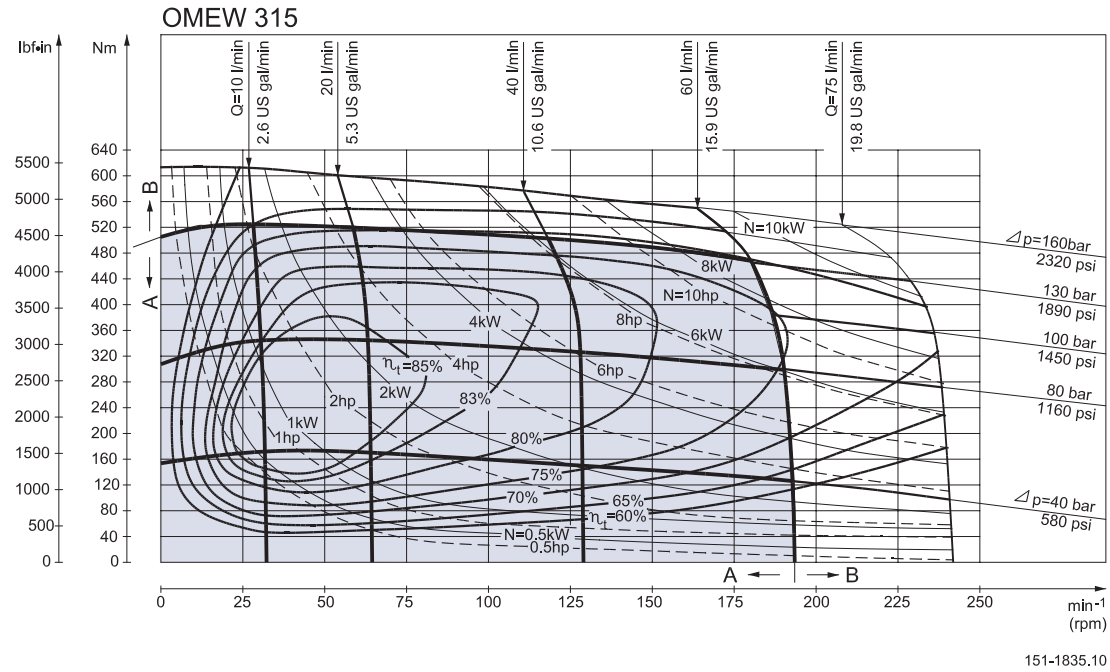


151-1835.10

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)

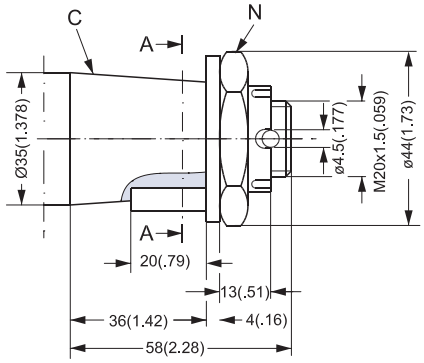
Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found on page 86.

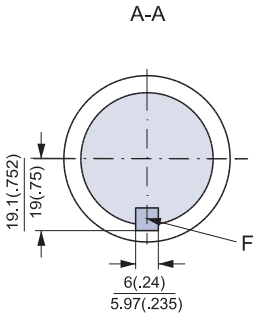
Note: Intermittent pressure drop and oil flow must not occur simultaneously.

SHAFT VERSION

A: Tapered shaft 35 mm
(ISO/R775)
N: DIN 937
NV 41
Tightening torque:
200 ± 10 Nm (1770 ±85 lbf·in)
C: Taper 1:10
F: Parallel key
B6 × 6 × 20
DIN 6885

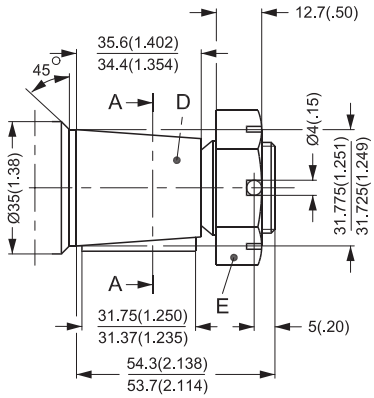
A

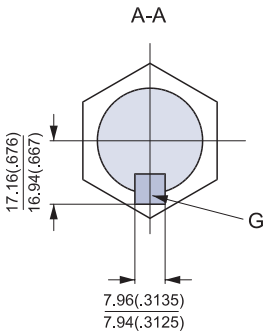


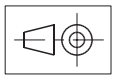


B: Tapered shaft 1 1/4 in
D: Cone 1:8
SAE J501
E: 1 - 20 UNEF
Across flats 1 7/16
Tightening torque:
200 ± 10 Nm (1770 ±85 lbf·in)
G: Parallel key
5/16 × 5/16 × 1 1/4
SAE J501

B







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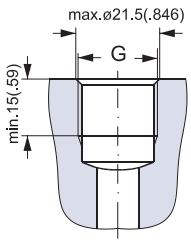
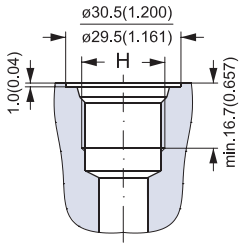
PORT THREAD VERSIONS

A



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

B



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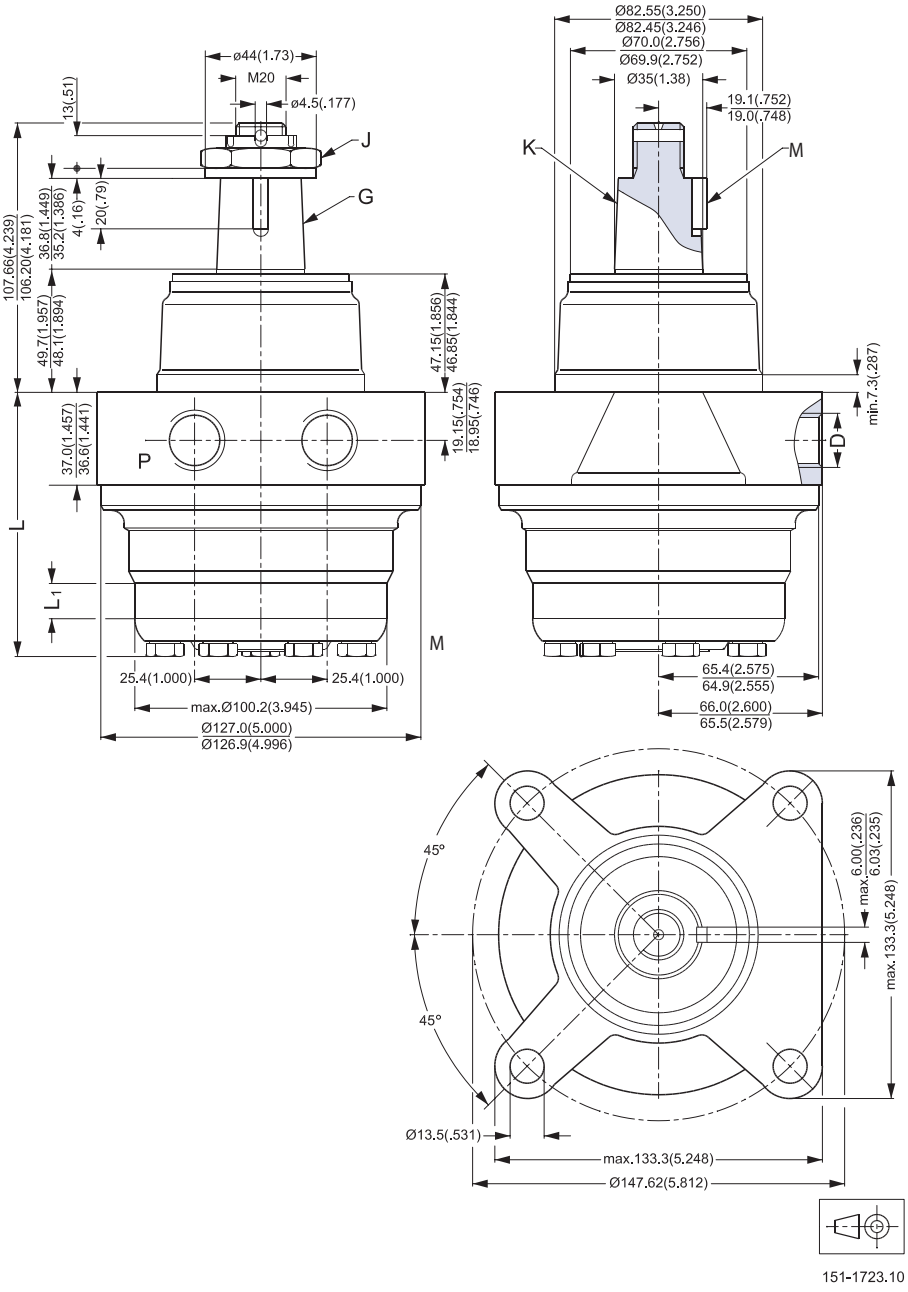
B: UNF main ports
H: 7/8 - 14 UNF
O-ring boss port

OMEW
Hydraulic Motor
Dimensions – European version

DIMENSIONS

Type	L mm (in)	L_1 mm (in)
OMEW 100	107.9 (4.25)	14.0 (0.55)
OMEW 125	111.3 (4.38)	17.4 (0.69)
OMEW 160	115.7 (4.56)	21.8 (0.86)
OMEW 200	121.7 (4.79)	27.8 (1.09)
OMEW 250	128.7 (5.07)	34.8 (1.37)
OMEW 315	137.4 (5.41)	43.5 (1.71)

D: G 1/2, 15 mm (0.59 in)
G: Tapered shaft 35 mm (ISO/R775)
J: DIN 937
NV 410
Tightening torque:
200 ± 10 Nm (1770 ±85 lbf·in)
K: Taper 1:10
M: Parallel key
B6 × 6 × 20
DIN 6885



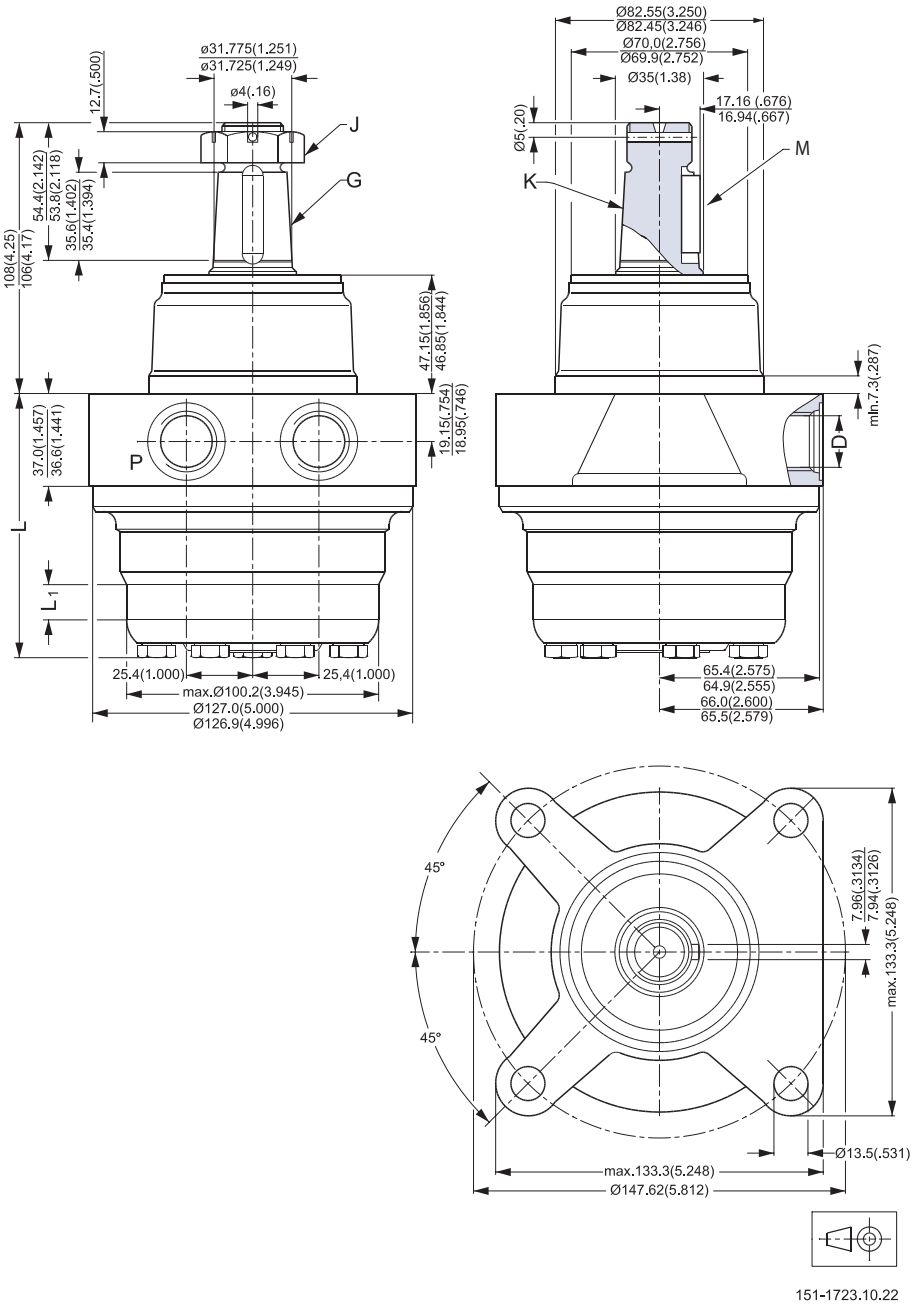
LEHENGOAK, S.A.

OMEW
Hydraulic Motor
Dimensions – US version

DIMENSIONS

Type	L mm (in)	L_1 mm (in)
OMEW 100	107.9 (4.25)	14.0 (0.55)
OMEW 125	111.3 (4.38)	17.4 (0.69)
OMEW 160	115.7 (4.56)	21.8 (0.86)
OMEW 200	121.7 (4.79)	27.8 (1.09)
OMEW 250	128.7 (5.07)	34.8 (1.37)
OMEW 315	137.4 (5.41)	43.5 (1.71)

D: $^{7}/_{8}$ - 14 UNF;
16.7 mm (0.66 in) deep
G: Tapered shaft 1 $^{1}/_{4}$ in
(ISO/R775)
J: Nut 1 - 20 UNEF
Across flats 1 $^{7}/_{16}$
Tightening torque:
200 ± 10 Nm (1770 ±85 lbf·in)
K: Taper 1:8
M: Parallel key
$^{5}/_{16} \times {}^{5}/_{16} \times 1\ {}^{1}/_{4}$
SAEJ 501



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