Niehues
Hydraulik · Automation

ENGINEERING TOMORROW

Danfoss

Technical Information

Orbital Motors
Type OMP, OMR and OMH

powersolutions.danfoss.com

Archivierung: 05/2020

Revision history

Table of revisions

Date	Changed	Rev
March 2016	Engineering Tomorrow	0401
August 2015	Dimensions updated	0400
November 2014	Converted to Danfoss layout - DITA CMS	DA
November 2012	Planetary Gears deleted	CF
September 2011	Typo	CE
September 2010	New back cover	CD
March 2010	Japan location	CC
June 2007	Major revision with new lit-number (minus OMEW, will be prepared separately	CA
March 2006	Small updates	B

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A wide range of Orbital Motors

Characteristic, features and application areas of Orbital Motors

Danfoss is a world leader within production of low speed orbital motors with high torque. We can offer more than 3,000 different orbital motors, categorised in types, variants and sizes (including different shaft versions).

The motors vary in size (rated displacement) from 8 cm^3 [0.50 in^3] to 800 cm^3 [48.9 in^3] per revolution.

Speeds range up to approximate 2,500 min^{-1} (rpm) for the smallest type and up to approximate 600 min^{-1} (rpm) for the largest type.

Maximum operating torques vary from 13 N•m [115 lbf•in] to 2,700 N•m [24,000 lbf•in] (peak) and maximum outputs are from 2.0 kW [2.7 hp] to 70 kW [95 hp].

Characteristic features of Danfoss Orbital Motors

- Smooth running over the entire speed range
- Constant operating torque over a wide speed range
- High starting torque
- High return pressure without the use of drain line (High pressure shaft seal)
- High efficiency
- Long life under extreme operating conditions
- Robust and compact design
- High radial and axial bearing capacity
- For applications in both open and closed loop hydraulic systems
- Suitable for a wide variety of hydraulics fluids

Technical features of Danfoss Orbital Motor

The programme is characterised by technical features appealing to a large number of applications and a part of the programme is characterised by motors that can be adapted to a given application. Adaptions comprise the following variants among others:

- Motors with corrosion resistant parts
- Wheel motors with recessed mounting flange

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A wide range of Orbital Motors

- OMP, OMR- motors with needle bearing
- OMR motor in low leakage version
- OMR motors in a super low leakage version
- Short motors without bearings
- Ultra short motors
- Motors with integrated positive holding brake
- Motors with integrated negative holding brake
- Motors with integrated flushing valve
- Motors with speed sensor
- Motors with tacho connection
- All motors are available with black finish paint

The Danfoss Orbital Motors are used in the following application areas:

- Construction equipment
- Agricultural equipment
- Material handling & Lifting equipment
- Forestry equipment
- Lawn and turf equipment
- Special purpose
- Machine tools and stationary equipment
- Marine equipment

Survey of literature with technical data on Danfoss Orbital Motors

Detailed data on all Danfoss Orbital Motors can be found in our motor catalogue, which is divided into more individual subcatalogues:

- General information on Danfoss Orbital Motors: function, use, selection of orbital motor, hydraulic systems, etc.
- Technical data on small motors: OML and OMM
- Technical data on medium sized motors: OMP, OMR, OMH
- Technical data on medium sized motors: DH and DS
- Technical data on medium sized motors: OMEW
- Technical data on medium sized motors: VMP
- Technical data on medium sized motors: VMR
- Technical data on large motors: OMS, OMT and OMV
- Technical data on large motors: TMK
- Technical data on large motors: TMT
- Technical data on large motors: TMTHW
- Technical data on large motors: TMVW

A general survey brochure on Danfoss Orbital Motors gives a quick motor reference based on power, torque, speed and capabilities.

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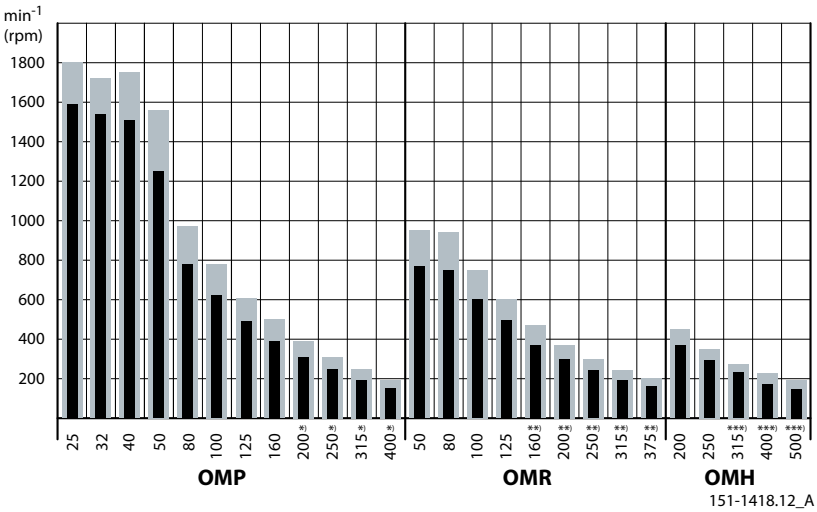
A wide range of Orbital Motors

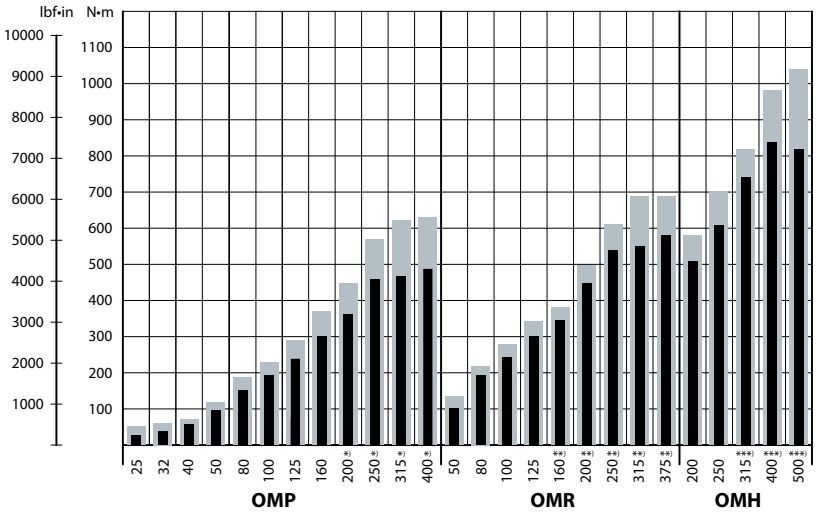
Speed, torque and output

Maximum speed



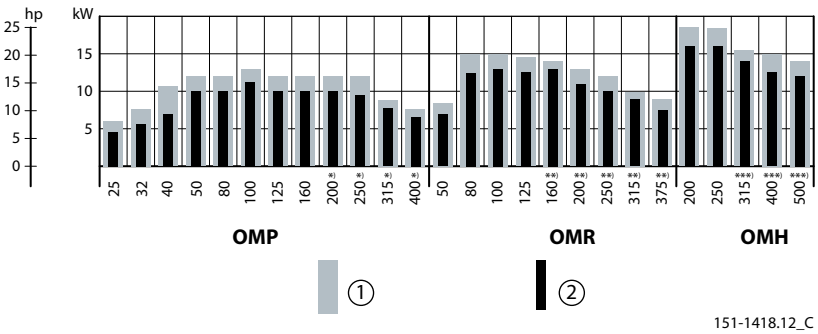
151-1418.12_A

Maximum torque



151-1418.12_B

Maximum output



151-1418.12_C

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A wide range of Orbital Motors

1. Intermittend values

2. Continuous values

* Cylindrical 32 mm or 1 1/4 in shaft

** Cylindrical 32 mm, 35 mm, 1 1/4 in or 1 1/4 in tapered shaft

*** Cylindrical 35 mm, 1 1/4 in splined or 35 mm tapered shaft

The bar diagrams above are useful for a quick selection of relevant motor size for the application. The final motor size can be determined by using the function diagram for each motor size.

- OMP and OMPW: see *OMP function diagrams*
- OMR and OMRW: see *OMR function diagrams* on page 55
- OMH: see *OMH function diagrams* on page 85

The function diagrams are based on actual tests on a representative number of motors from our production. The diagrams apply to a return pressure between 5 and 10 bar. [75 and 150 psi] when using mineral based hydraulic oil with a viscosity of 35 mm^2/s [165 SUS] and a temperature of 50°C [120°F]. For further explanation concerning how to read and use the function diagrams, please consult the paragraph "Selection of motor size" in the technical information *General Orbital Motors* 520L0232.

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OMH versions and code numbers

OMH versions and code numbers

OMH standard motors

Mounting flange: 4 hole oval flange (A4))

Spigot diamer	**Ø82.5 mm [3.25 in]**							
Bolt circle diameter	**Ø106.4 mm [4.20 in]**							
Shaft	**Main port size**	**Port style**	**Drain port size**	**Standard shaft seal**	**High pressure shaft seal**	**Check valve**	**Main type designation**	**Conf. code**
Cyl. Ø32 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMH	***A1***
Cyl. Ø35 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMH	***A2***
Cyl. 1 1/4 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMH	***A3***
Splined 1 in (SAE 6B)	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMH	***A4***
Splined 1 1/4 in	G 1/2	Side port	G 1/4	Yes	-	Yes	OMH	***A5***
Splined 1 1/4 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMH	***A6***
Tap. Ø35 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMH	***A7***

Code numbers

Conf. code	**Displacement**				
	200	**250**	**315**	**400**	**500**
A1	151H1002	151H1003	151H1004	151H1005	151H1006
A2	151H1012	151H1013	151H1014	151H1015	151H1016
A3	151H1042	151H1043	151H1044	151H1045	151H1046
A4	151H1080	151H1082	151H1083	151H1084	151H1081
A5	151H1022	151H1023	151H1024	151H1025	151H1026
A6	151H1052	151H1053	151H1054	151H1055	151H1056
A7	-	-	151H1034	151H1035	151H1036

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OMH technical data

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 [inch]		201.3 [12.32]	252.0 [15.42]	314.9 [19.27]	396.8 [24.28]	470.6 [28.80]
Max. speed	min^{-1}	cont.	370	295	235	185	155
	[rpm]	int.[1]	445	350	285	225	190
Max. torque	N•m [lbf•in]	cont.	340 [3000]	340 [3000]	340 [3000]	340 [3000]	340 [3000]
		int.[1]	510 [4500]	510 [4500]	540 [4800]	540 [4800]	520 [4600]
		peak[2]	610 [5400]	610 [5400]	610 [5400]	610 [5400]	610 [5400]
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]	215 [3120]	175 [2540]	145 [2100]	110 [1600]	90 [1300]
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. N•m [lbf•in]		255 [2250]	270 [2400]	280 [2500]	290 [2550]	300 [2650]
	at max. press.drop int.[1] N•m [lbf•in]		390 [3450]	435 [3850]	450 [4000]	450 [4000]	450 [4000]

[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.

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 [inch]		201.3 [12.32]	252.0 [15.42]	314.9 [19.27]	396.8 [24.28]	470.6 [28.80]
Max. speed	min^{-1}	cont.	370	295	235	185	155
	[rpm]	int.[1]	445	350	285	225	190

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OMH technical data

Type			OMH	OMH	OMH	OMH	OMH
Motor size			**200**	**250**	**315**	**400**	**500**
Max. torque	N•m [lbf•in]	cont.	510 [4500]	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]		7 [100]	7 [100]	7 [100]	7 [100]	7 [100]
Min starting torque	at max. press drop cont. N•m [lbf•in]		390 [3450]	520 [4600]	510 [4510]	490 [4340]	490 [4340]
	at max. press.drop int.[1] N•m [lbf•in]		450 [3980]	590 [5220]	590 [5220]	600 [5310]	600 [5310]

[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.

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 [inch]		201.3 [12.32]	252.0 [15.42]	314.9 [19.27]	396.8 [24.28]	470.6 [28.80]
Max. speed	min^{-1}	cont.	370	295	235	185	155
	[rpm]	int.fn	445	350	285	225	190
Max. torque	N•m [lbf•in]	cont.	510 [4500]	610 [5400}	740 [6550]	840 [7440]	820 [7260]
		int.fn	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.fn	18.5 [24.8]	18.5 [24.8]	15.5 [20.8	15.0 [20.1]	14.0 [18.8]

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OMH technical data

Type			OMH	OMH	OMH	OMH	OMH
Motor size			**200**	**250**	**315**	**400**	**500**
Max. pressure drop	bar [psi]	cont.	175 [2540]	175 [2540]	175 [2540]	155 [2250]	125 [1810]
		int.[fn]	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.[fn]	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. N•m [lbf•in]		390 [3450]	520 [4600]	660 [5840]	720 [6370]	720 [6370]
	at max. press.drop int.[fn] N•m [lbf•in]		450 [3980]	590 [5220]	730 [6460]	880 [7790]	880 [7790]

[fn] 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.

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

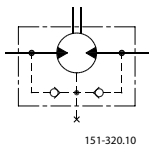
[1)] Intermittent operation: the permissible values may occur for max. 10% of every minute.

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

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.

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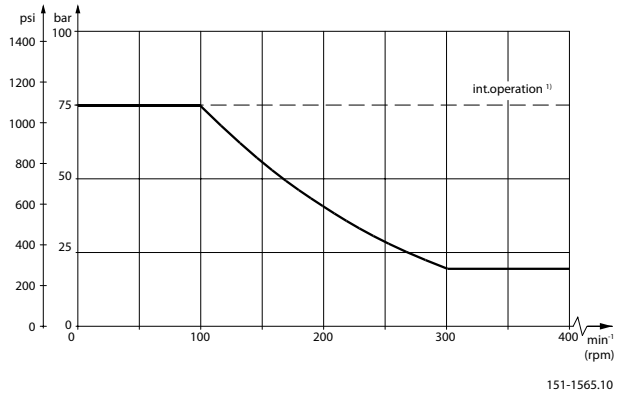
OMH technical data

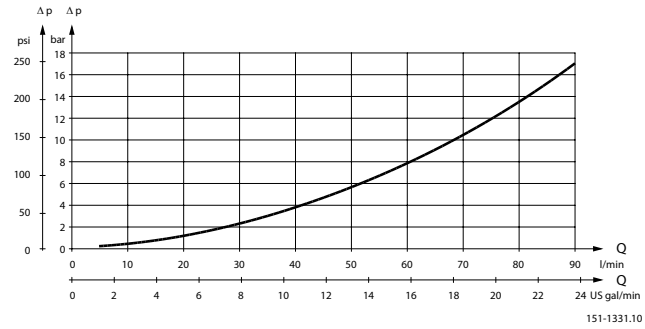
Max. return pressure without drain line or max. pressure in the drain line



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 mm²/s [165 SUS]

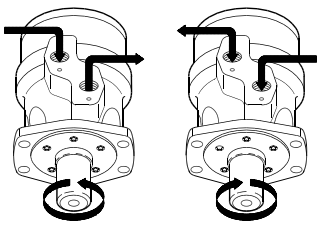


Oil Flow in Drain Line

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		Oil flow in drain line	
	mm²/s	[SUS]	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



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OMH technical data

Permissible Shaft Loads for OMH

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

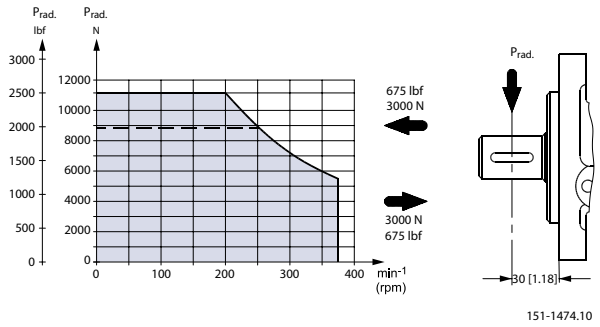
$$P_{rad} = \frac{1100}{n} \cdot \frac{250000}{103.5 + l} \quad \text{N*; l in mm}$$

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

*n > 200 min^{-1} (rpm); l < 60 mm [2.36 in]

n < 200 min^{-1} (rpm); => PRmax = 11000 N [2475 lbf]

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



The drawing shows the permissible radial load when l = 30 mm [1.18 in].

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OMH function diagrams

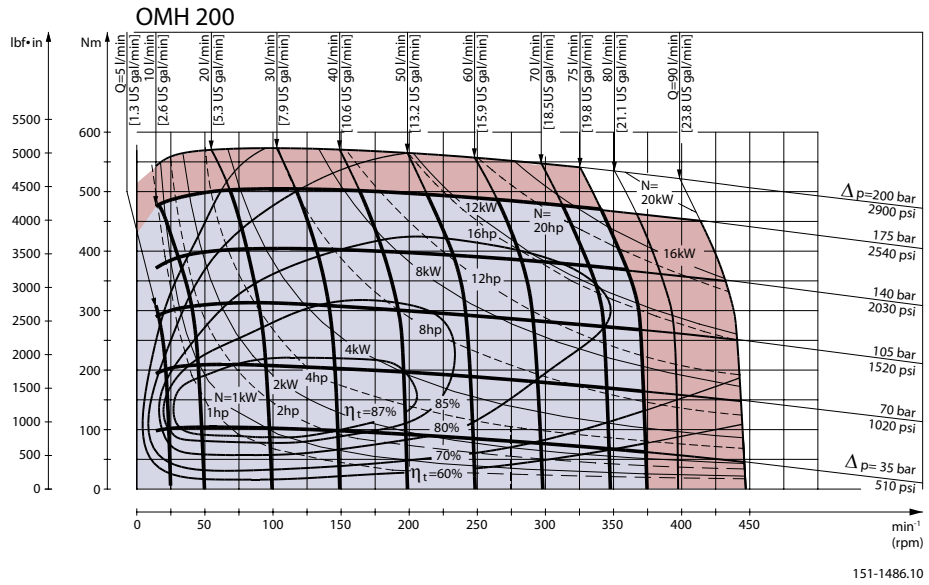
Explanation of function diagram use, basis and conditions can be found in *Speed, torque and output* on page 8.

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

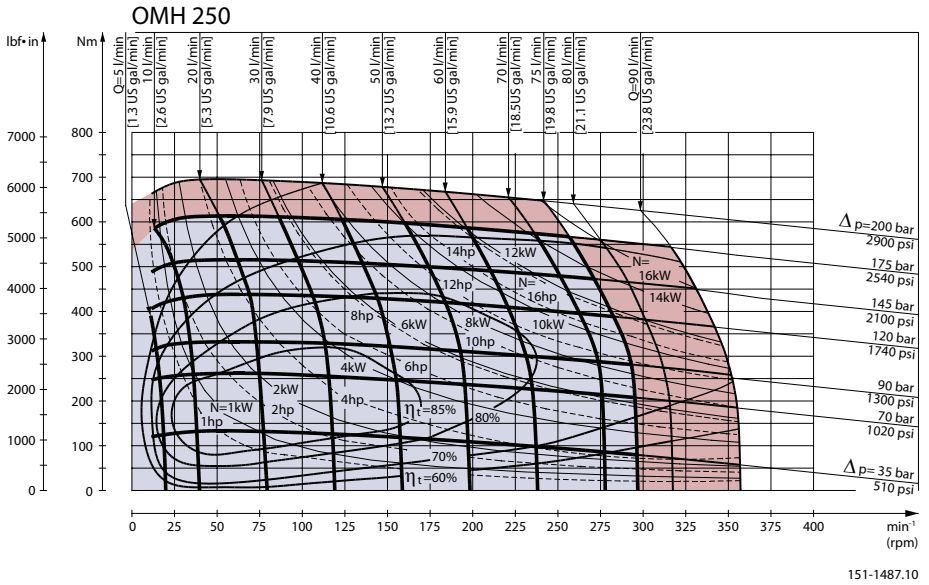
Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found in *OMH technical data* on page 80.

Intermittent pressure drop and oil flow must not occur simultaneously.

OMH 200 function diagram



OMH 250 function diagram



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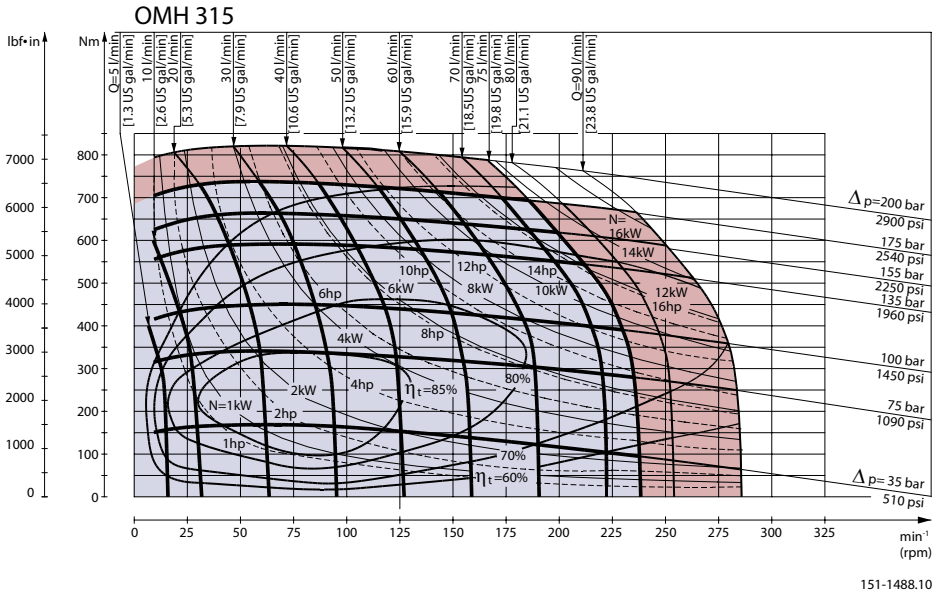
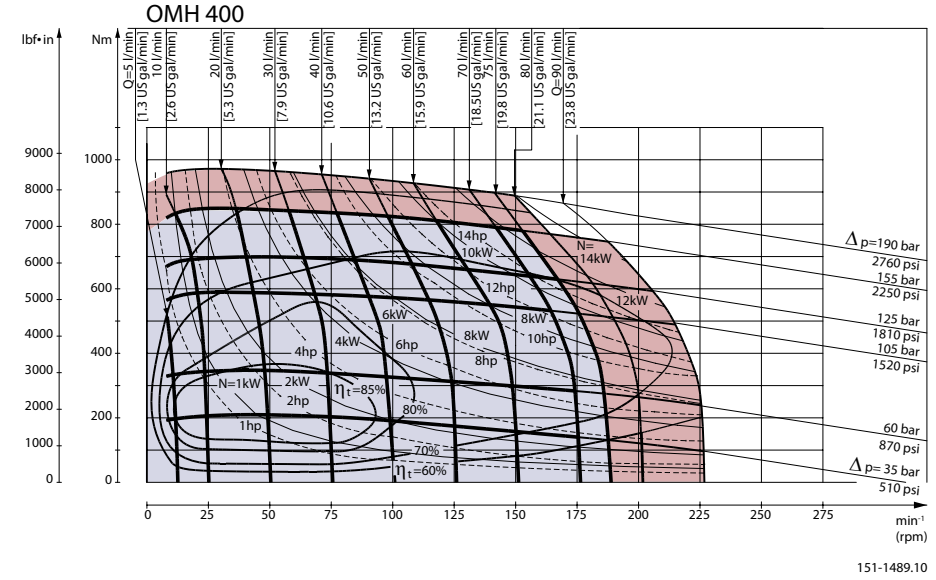
OMH function diagrams

OMH 315 function diagram



OMH 400 function diagram



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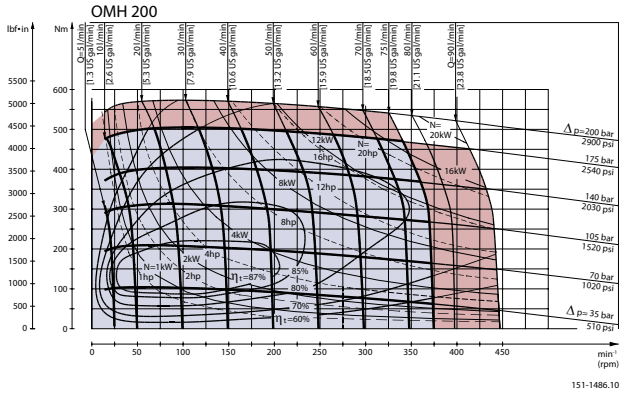
OMH function diagrams

OMH 500 function diagram



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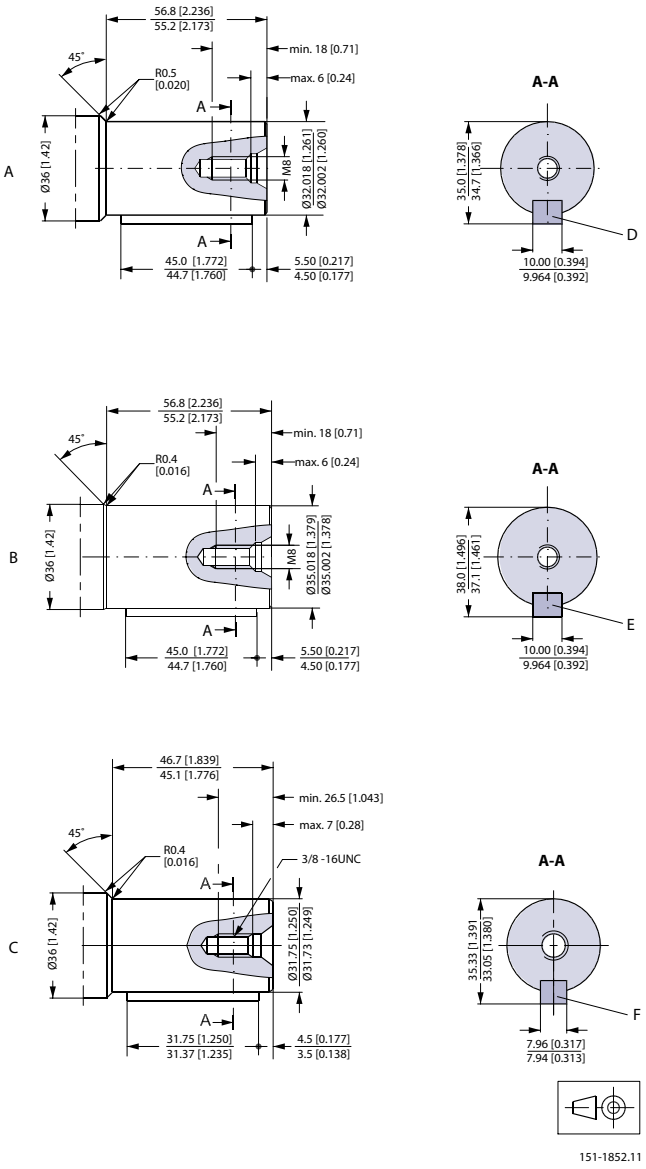
Shaft Version

Shaft Version



A: Cylindrical shaft 32 mm

B: Cylindrical shaft 35 mm

US version
C: Cylindrical shaft 1 1/4 in

D: Parallel key
A10 × 8 × 45
DIN 6885

E: Parallel key
A10 × 8 × 45
DIN 6885

F: Parallel key
5/16 × 5/16 × 11/4 in
SAE J 744

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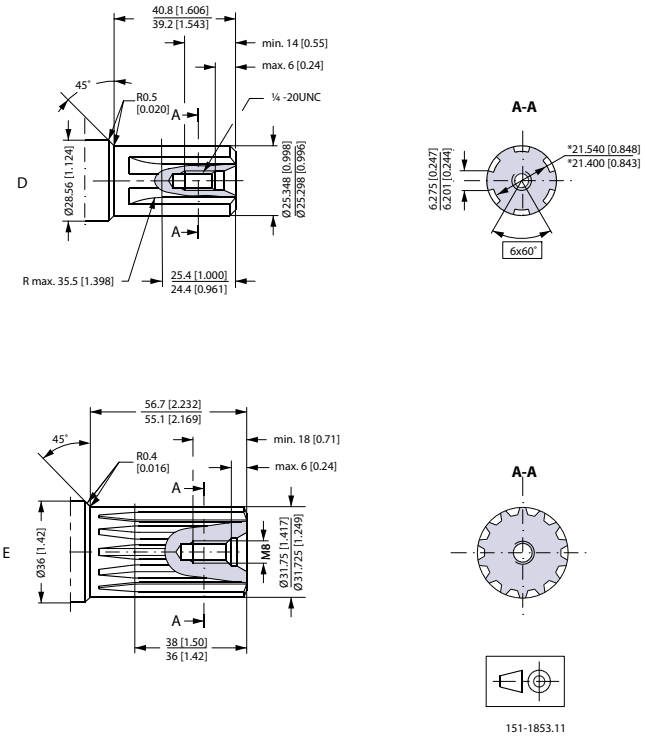
Shaft Version



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°

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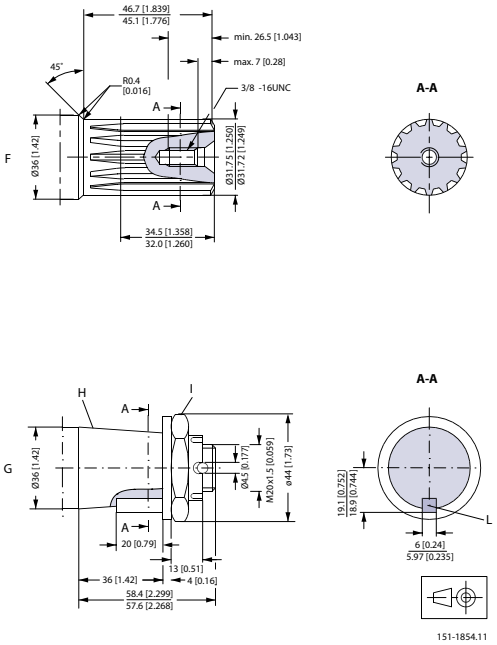
Shaft Version



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°

L: Parallel key
B6 • 6 • 20
DIN 6885

G: Tapered shaft 35 mm

H: Taper 1:10

I: DIN 937
NV 41
Tightening torque:
200 ± 10 Nm [1770 ±85 lbf·in]

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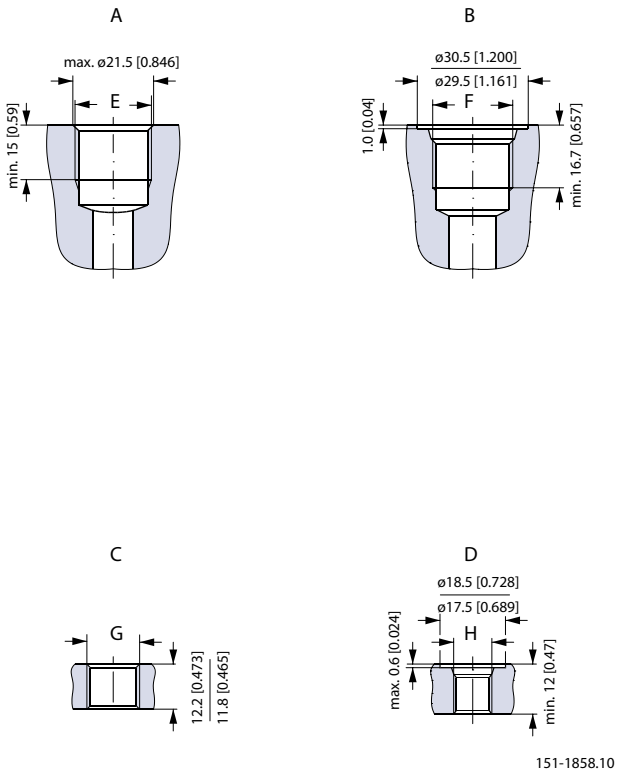
Technical Data

Port Thread Versions



A: G main ports

E: ISO 228/1 - G1/2

C: G drain port

G: ISO 228/1 - G1/4

B: UNF main ports

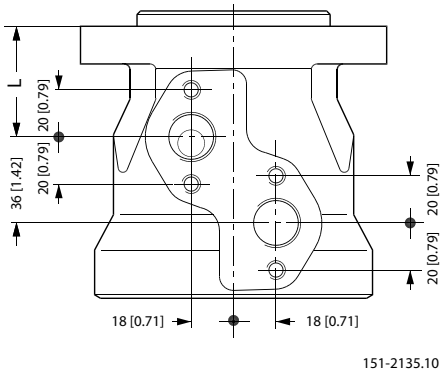
F: 7/8 - 14 UNF
O-ring boss port

D: UNF drain port

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

Manifold Mount

European version



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Technical Data

L: see dimensional drawing for given OMH motor: *Dimensions-European Version* on page 93 and *Dimensions-US Version* on page 94

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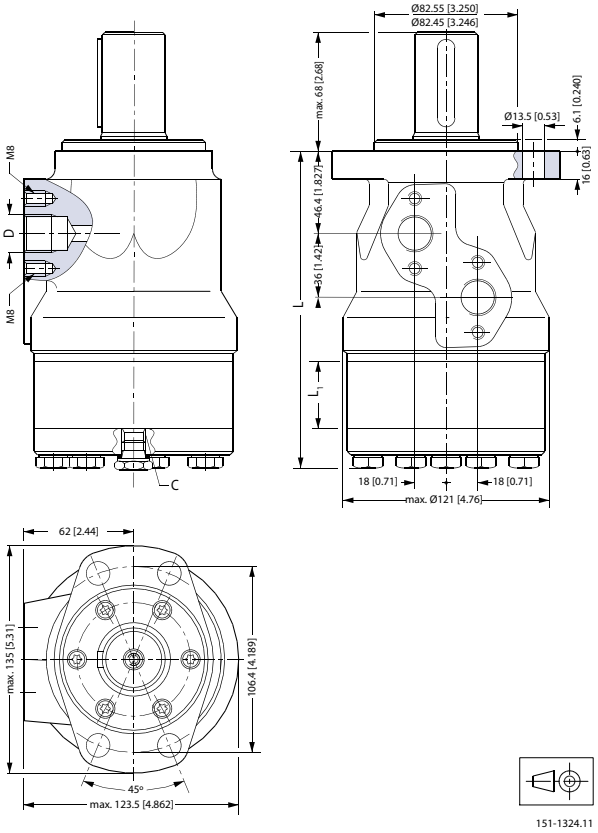
OMH dimensions

Dimensions-European Version

Dimensions

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



C: Drain connection
G ¼; 12 mm [0.47 in] deep

D: G ½; 15 mm [0.59 in] deep

Type	Max. L		L1	
	mm	[in]	mm	[in]
OMH 200	171.1	[6.74]	27.8	[1.09]
OMH 250	178.1	[7.01]	34.8	[1.37]
OMH 315	186.8	[7.35]	43.5	[1.71]
OMH 400	198.1	[7.80]	54.8	[2.16]
OMH 500	208.3	[8.20]	65.0	[2.56]

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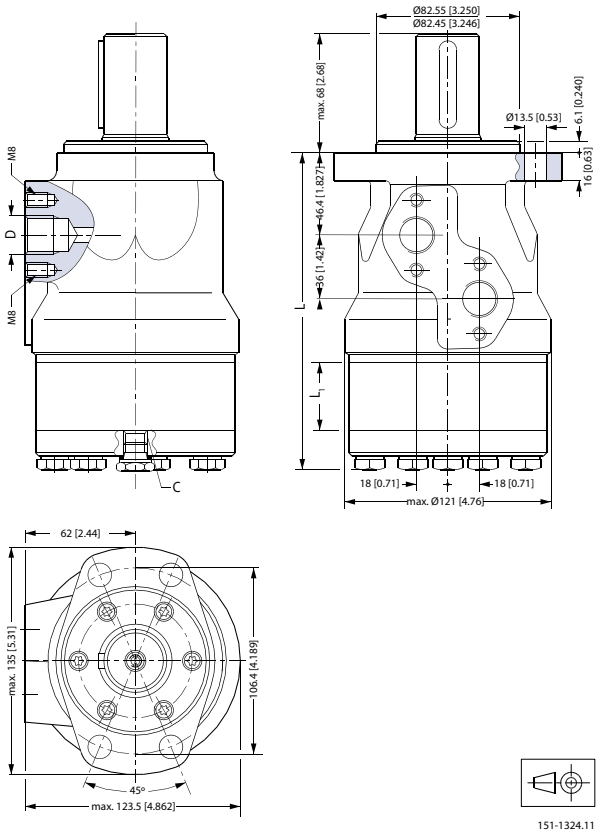
OMH dimensions

Dimensions-US Version

Dimensions

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



C: Drain connection
7/16 - 20 UNF;
12 mm [0.47 in] deep

D: 7/8 - 14 UNF;
15 mm [0.59 in] deep

Output shaft.max.	**L2**	
	mm	**[in]**
Splined shaft 1 in	50.5	[1.99]
Other shaft versions	58.0	[2.28]

Type	**Max. L**		**L1**	
	mm	**[in]**	**mm**	**[in]**
OMH 200	171.1	[6.74]	27.8	[1.09]
OMH 250	178.1	[7.01]	34.8	[1.37]
OMH 315	186.8	[7.35]	43.5	[1.71]
OMH 400	198.1	[7.80]	54.8	[2.16]
OMH 500	208.3	[8.20]	65.0	[2.56]

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Weight of motors

Weight of OMP, OMR and OMH motors

Weight of OMP, OMR and OMH motors

Code no	Weight	
	kg	[lb]
151-0208	7.2	[15.9]
151-0242	6.9	[15.2]
151-0243	7.0	[15.4]
151-0244	7.5	[16.5]
151-0245	8.0	[17.6]
151-0246	9.0	[19.8]
151-0247	8.5	[18.7]
151-0248	6.7	[14.8]
151-0265	6.7	[14.8]
151-0266	6.9	[15.2]
151-0267	7.0	[15.4]
151-0268	7.5	[16.5]
151-0269	8.0	[17.6]
151-0270	9.0	[19.8]
151-0271	8.5	[18.7]
151-0300	5.6	[12.3]
151-0301	5.7	[12.6]
151-0302	5.9	[13.0]
151-0303	6.0	[13.2]
151-0304	6.2	[13.7]
151-0305	6.4	[14.1]
151-0306	6.6	[14.6]
151-0307	6.9	[15.2]
151-0308	7.4	[16.3]
151-0310	5.6	[12.3]
151-0311	5.7	[12.6]
151-0312	5.9	[13.0]
151-0313	6.0	[13.2]
151-0314	6.2	[13.7]
151-0315	6.4	[14.1]
151-0316	6.6	[14.6]
151-0317	6.9	[15.2]
151-0318	7.4	[16.3]
151-0319	5.6	[12.3]
151-0330	5.6	[12.3]
151-0331	5.7	[12.6]
151-0332	5.9	[13.0]
151-0333	6.0	[13.2]
151-0334	6.2	[13.7]
151-0335	6.4	[14.1]
151-0336	6.6	[14.6]
151-0337	6.9	[15.2]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-0338	7.4	[16.3]
151-0340	5.5	[12.1]
151-0341	5.5	[12.1]
151-0342	5.6	[12.3]
151-0400	6.7	[14.8]
151-0401	6.9	[15.2]
151-0402	7.0	[15.4]
151-0403	7.2	[15.9]
151-0404	7.5	[16.5]
151-0405	8.0	[17.6]
151-0406	8.5	[18.7]
151-0407	9.0	[19.8]
151-0408	9.5	[20.9]
151-0410	6.7	[14.8]
151-0411	6.9	[15.2]
151-0412	7.0	[15.4]
151-0413	7.2	[15.9]
151-0414	7.5	[16.5]
151-0415	8.0	[17.6]
151-0416	8.5	[18.7]
151-0417	9.0	[19.8]
151-0418	9.5	[20.9]
151-0420	6.7	[14.8]
151-0421	6.9	[15.2]
151-0422	7.0	[15.4]
151-0423	7.2	[15.9]
151-0424	7.5	[16.5]
151-0425	8.0	[17.6]
151-0426	8.5	[18.7]
151-0427	9.0	[19.8]
151-0428	9.5	[20.9]
151-0600	5.6	[12.3]
151-0601	5.7	[12.6]
151-0602	5.9	[13.0]
151-0603	6.0	[13.2]
151-0604	6.2	[13.7]
151-0605	6.4	[14.1]
151-0606	6.6	[14.6]
151-0607	6.9	[15.2]
151-0608	7.4	[16.3]
151-0610	5.6	[12.3]
151-0611	5.7	[12.6]
151-0612	5.9	[13.0]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-0613	6.0	[13.2]
151-0614	6.2	[13.7]
151-0615	6.4	[14.1]
151-0616	6.6	[14.6]
151-0617	6.9	[15.2]
151-0618	7.4	[16.3]
151-0622	5.9	[13.0]
151-0624	6.2	[13.7]
151-0625	6.4	[14.1]
151-0627	6.9	[15.2]
151-0630	5.6	[12.3]
151-0631	5.7	[12.6]
151-0632	5.9	[13.0]
151-0633	6.0	[13.2]
151-0634	6.2	[13.7]
151-0635	6.4	[14.1]
151-0636	6.6	[14.6]
151-0637	6.9	[15.2]
151-0638	7.4	[16.3]
151-0640	5.5	[12.1]
151-0641	5.5	[12.1]
151-0642	5.6	[12.3]
151-0646	5.9	[13.0]
151-0700	6.7	[14.8]
151-0701	6.9	[15.2]
151-0702	7.0	[15.4]
151-0703	7.2	[15.9]
151-0704	7.5	[16.5]
151-0705	8.0	[17.6]
151-0706	8.5	[18.7]
151-0707	9.0	[19.8]
151-0708	9.5	[20.9]
151-0710	6.7	[14.8]
151-0711	6.9	[15.2]
151-0712	7.0	[15.4]
151-0713	7.2	[15.9]
151-0714	7.5	[16.5]
151-0715	8.0	[17.6]
151-0716	8.5	[18.7]
151-0717	9.0	[19.8]
151-0718	9.5	[20.9]
151-0720	6.7	[14.8]
151-0721	6.9	[15.2]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-0722	7.0	[15.4]
151-0723	7.2	[15.9]
151-0724	7.5	[16.5]
151-0725	8.0	[17.6]
151-0726	8.5	[18.7]
151-0727	9.0	[19.8]
151-0728	9.5	[20.9]
151-1208	5.6	[12.3]
151-1209	5.7	[12.6]
151-1210	5.9	[13.0]
151-1211	6.2	[13.7]
151-1212	6.4	[14.1]
151-1213	6.6	[14.6]
151-1214	6.9	[15.2]
151-1215	7.4	[16.3]
151-1217	6.0	[13.2]
151-1231	6.7	[14.8]
151-1232	6.9	[15.2]
151-1233	7.0	[15.4]
151-1234	7.5	[16.5]
151-1235	8.0	[17.6]
151-1236	8.5	[18.7]
151-1237	9.0	[19.8]
151-1238	7.2	[15.9]
151-1243	9.5	[20.9]
151-5001	5.6	[12.3]
151-5002	5.7	[12.6]
151-5003	5.9	[13.0]
151-5004	6.0	[13.2]
151-5005	6.2	[13.7]
151-5006	6.4	[14.1]
151-5007	6.6	[14.6]
151-5008	6.9	[15.2]
151-5009	7.4	[16.3]
151-5010	5.4	[11.9]
151-5174	5.4	[11.9]
151-5191	6.1	[13.4]
151-5192	6.2	[13.7]
151-5193	6.4	[14.1]
151-5194	6.5	[14.3]
151-5195	6.7	[14.8]
151-5196	6.9	[15.2]
151-5197	7.1	[15.7]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-5198	7.4	[16.3]
151-5199	7.9	[17.4]
151-5211	5.5	[12.1]
151-5212	5.6	[12.3]
151-5213	5.8	[12.8]
151-5214	5.9	[13.0]
151-5215	6.1	[13.4]
151-5216	6.3	[13.9]
151-5217	6.5	[14.3]
151-5218	6.8	[15.0]
151-5219	7.3	[16.1]
151-5301	5.5	[12.1]
151-5302	5.6	[12.3]
151-5303	5.8	[12.8]
151-5304	5.9	[13.0]
151-5305	6.1	[13.4]
151-5306	6.3	[13.9]
151-5307	6.5	[14.3]
151-5308	6.8	[15.0]
151-5309	7.3	[16.1]
151-5311	5.6	[12.3]
151-5312	5.7	[12.6]
151-5313	5.9	[13.0]
151-5315	6.2	[13.7]
151-5316	6.4	[14.1]
151-5318	6.9	[15.2]
151-6000	6.7	[14.8]
151-6001	6.9	[15.2]
151-6002	7.0	[15.4]
151-6003	7.2	[15.9]
151-6004	7.5	[16.5]
151-6005	8.0	[17.6]
151-6006	8.5	[18.7]
151-6007	9.0	[19.8]
151-6008	9.5	[20.9]
151-6010	6.7	[14.8]
151-6011	6.9	[15.2]
151-6012	7.0	[15.4]
151-6013	7.2	[15.9]
151-6014	7.5	[16.5]
151-6015	8.0	[17.6]
151-6016	8.5	[18.7]
151-6017	9.0	[19.8]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-6018	9.5	[20.9]
151-6110	6.7	[14.8]
151-6111	6.9	[15.2]
151-6112	7.0	[15.4]
151-6113	7.2	[15.9]
151-6114	7.5	[16.5]
151-6115	8.0	[17.6]
151-6116	8.5	[18.7]
151-6117	9.0	[19.8]
151-6118	9.5	[20.9]
151-6190	7.3	[16.1]
151-6191	7.5	[16.5]
151-6192	7.6	[16.8]
151-6193	7.8	[17.2]
151-6194	8.1	[17.9]
151-6195	8.6	[19.0]
151-6196	9.1	[20.1]
151-6197	9.6	[21.2]
151-6198	10.1	[22.3]
151-6210	6.7	[14.8]
151-6211	6.9	[15.2]
151-6212	7.0	[15.4]
151-6213	7.2	[15.9]
151-6214	7.5	[16.5]
151-6215	8.0	[17.6]
151-6216	8.5	[18.7]
151-6217	9.0	[19.8]
151-6218	9.5	[20.9]
151-6294	9.5	[20.9]
151-6295	7.2	[15.9]
151-6296	9.5	[20.9]
151-6300	9.0	[19.8]
151-6301	9.4	[20.7]
151-6302	9.5	[20.9]
151-6303	9.7	[21.4]
151-6304	10.0	[22.1]
151-6305	10.5	[23.1]
151-6306	11.0	[24.3]
151-6307	11.5	[25.4]
151-6308	12.0	[26.5]
151-6380	6.7	[14.8]
151-6381	6.9	[15.2]
151-6383	7.2	[15.9]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-6384	7.5	[16.5]
151-6385	8.0	[17.6]
151-6386	8.5	[18.7]
151-6387	9.0	[19.8]
151-6388	9.5	[20.9]
151-6430	9.0	[19.8]
151-6431	9.4	[20.7]
151-6432	9.5	[20.9]
151-6433	9.7	[21.4]
151-6434	10.0	[22.1]
151-6435	10.5	[23.1]
151-6436	11.0	[24.3]
151-6437	11.5	[25.4]
151-6438	12.0	[26.5]
151-6442	14.5	[32.0]
151-6443	14.7	[32.4]
151-6444	15.0	[33.1]
151-6445	15.5	[34.2]
151-6461	11.5	[25.4]
151-6462	12.0	[26.5]
151-6463	12.0	[26.5]
151-6464	12.5	[27.6]
151-6465	12.5	[27.6]
151-6466	13.0	[28.7]
151-6467	13.5	[29.8]
151-6468	14.0	[30.9]
151-6471	11.5	[25.4]
151-6472	12.0	[26.5]
151-6473	12.0	[26.5]
151-6474	12.5	[27.6]
151-6475	12.5	[27.6]
151-6476	13.0	[28.7]
151-6477	13.5	[29.8]
151-6478	14.0	[30.9]
151-7021	5.0	[11.0]
151-7022	5.1	[11.2]
151-7023	5.3	[11.7]
151-7024	5.4	[11.9]
151-7025	5.6	[12.3]
151-7026	5.8	[12.8]
151-7027	6.0	[13.2]
151-7028	6.3	[13.9]
151-7029	6.8	[15.0]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-7041	5.6	[12.3]
151-7042	5.7	[12.6]
151-7043	5.9	[13.0]
151-7044	5.4	[11.9]
151-7045	6.2	[13.7]
151-7046	6.4	[14.1]
151-7047	6.6	[14.6]
151-7048	6.9	[15.2]
151-7049	7.4	[16.3]
151-7061	5.0	[11.0]
151-7062	5.1	[11.2]
151-7063	5.3	[11.7]
151-7065	5.6	[12.3]
151-7066	5.8	[12.8]
151-7067	6.0	[13.2]
151-7068	6.3	[13.9]
151-7069	6.8	[15.0]
151-7080	5.4	[12.0]
151-7081	5.4	[12.0]
151-7082	5.6	[12.3]
151-7101	5.5	[12.1]
151-7102	5.6	[12.3]
151-7103	5.8	[12.8]
151-7104	5.9	[13.0]
151-7105	6.1	[13.4]
151-7106	6.3	[13.9]
151-7107	6.5	[14.3]
151-7108	6.8	[15.0]
151-7109	7.3	[16.1]
151-7240	6.7	[14.8]
151-7241	6.9	[15.2]
151-7242	7.0	[15.4]
151-7243	7.2	[15.9]
151-7244	7.5	[16.5]
151-7245	8.0	[17.6]
151-7246	8.5	[18.7]
151-7247	9.0	[19.8]
151-7248	9.5	[20.9]
151-7250	6.7	[14.8]
151-7251	6.9	[15.2]
151-7252	7.0	[15.4]
151-7253	7.2	[15.9]
151-7254	7.5	[16.5]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151-7255	8.0	[17.6]
151-7256	8.5	[18.7]
151-7257	9.0	[19.8]
151-7258	9.5	[20.9]
151-7260	6.1	[13.4]
151-7261	6.3	[13.9]
151-7262	6.4	[14.1]
151-7263	6.6	[14.6]
151-7264	6.9	[15.2]
151-7265	7.4	[16.3]
151-7266	7.9	[17.4]
151-7267	8.4	[18.5]
151-7269	8.9	[19.6]
151H1002	10.5	[23.1]
151H1003	11.0	[24.3]
151H1004	11.5	[25.4]
151H1005	12.3	[27.1]
151H1006	13.0	[28.7]
151H1012	10.5	[23.1]
151H1013	11.0	[24.3]
151H1014	11.5	[25.4]
151H1015	12.3	[27.1]
151H1016	13.0	[28.7]
151H1022	10.5	[23.1]
151H1023	11.0	[24.3]
151H1024	11.5	[25.4]
151H1025	12.3	[27.1]
151H1026	13.0	[28.7]
151H1034	11.5	[25.4]
151H1035	12.3	[27.1]
151H1036	13.0	[28.7]
151H1042	10.5	[23.1]
151H1043	11.0	[24.3]
151H1044	11.5	[25.4]
151H1045	12.3	[27.1]
151H1046	13.0	[28.7]
151H1052	10.5	[23.1]
151H1053	11.0	[24.3]
151H1054	11.5	[25.4]
151H1055	12.3	[27.1]
151H1056	13.0	[28.7]
151H1080	10.5	[23.1]
151H1081	13.0	[28.7]

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Weight of motors

Weight of OMP, OMR and OMH motors (continued)

Code no	Weight	
	kg	[lb]
151H1082	11.0	[24.3]
151H1083	11.5	[25.4]
151H1084	12.3	[27.1]

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