



# Fiable Hydraulics Pvt Ltd.

Hydraulic Professionals

Technical Information  
**Orbital Motors**  
**OMS & OMT Series**



## Orbital motors

### Characteristic, features and application areas of Orbital Motors



The motors vary in size (rated displacement) from 8 cm<sup>3</sup> [0.50 in<sup>3</sup>] to 800 cm<sup>3</sup> [48.9 in<sup>3</sup>] per revolution. Speeds range up to approximate 2,500 min<sup>-1</sup> (rpm) for the smallest type and up to approximate 600 min<sup>-1</sup> (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 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 Information OMS Orbital Motors**

**OMS**

**Versions**

*OMS versions*

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

**Features**

Features available (options):

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



**Technical Information OMS Orbital Motors**

**OMS**

**Technical data**

Type		OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	OMS OMSW OMSS	
Motor size		80	100	125	160	200	250	315	400	500	
Geometric displacement	cm <sup>3</sup> [in <sup>3</sup> ]	80.5 [4.91]	100.0 [6.10]	125.7 [7.67]	159.7 [9.75]	200.0 [12.20]	250.0 [15.26]	314.9 [19.22]	393.0 [23.98]	488.0 [29.78]	
Max. speed	min <sup>-1</sup> [rpm]	cont.	810	750	600	470	375	300	240	190	155
		int. <sup>1)</sup>	1000	900	720	560	450	360	285	230	185
Max. torque	Nm [lbf·in]	cont.	240 [2120]	305 [2700]	375 [3320]	490 [4340]	610 [5400]	720 [6370]	825 [7300]	865 [7660]	850 [7520]
		int. <sup>1)</sup>	310 [2740]	390 [3450]	490 [4340]	600 [5310]	720 [6370]	870 [7700]	1000 [8850]	990 [8760]	990 [8760]
Max. output	kW [hp]	cont.	15.5 [20.8]	18.0 [24.1]	18.0 [24.1]	16.5 [22.1]	16.5 [22.1]	14.5 [19.4]	15.0 [20.1]	11.0 [14.8]	9.0 [12.1]
		int. <sup>1)</sup>	19.5 [26.2]	22.5 [30.2]	22.5 [30.2]	23.0 [30.8]	22.0 [29.5]	18.0 [24.1]	17.0 [22.8]	12.5 [16.8]	10.5 [14.1]
Max. pressure drop	bar [psi]	cont.	210 [3050]	210 [3050]	210 [3050]	210 [3050]	210 [3050]	200 [2900]	200 [2900]	160 [2320]	120 [1740]
		int. <sup>1)</sup>	275 [3990]	275 [3990]	275 [3990]	260 [3770]	250 [3630]	250 [3630]	240 [3480]	190 [2760]	140 [2030]
		peak <sup>2)</sup>	295 [4280]	295 [4280]	295 [4280]	280 [4060]	270 [3920]	270 [3920]	260 [3770]	210 [3050]	160 [2320]
Max. oil flow	l/min [USgal/min]	cont.	65 [17.2]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]
		int. <sup>1)</sup>	80 [21.1]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]	90 [23.8]
Max. starting pressure with unloaded shaft	bar [psi]	12 [175]	10 [145]	10 [145]	8 [115]	8 [115]	8 [115]	8 [115]	8 [115]	8 [115]	
Min. starting torque	at max. press. drop cont.	180 [1590]	230 [2040]	290 [2570]	370 [3270]	470 [4160]	560 [4960]	710 [6280]	710 [6280]	660 [5840]	
	at max. press. drop int. <sup>1)</sup>	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]
	bar [psi]	int. <sup>1)</sup>	295 [4280]
	bar [psi]	peak <sup>2)</sup>	300 [4350]
			140 [2030]
			175 [2540]
			210 [3050]

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

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

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

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

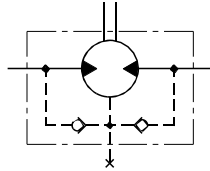


OMS

**Maximum permissible shaft seal pressure**

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

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

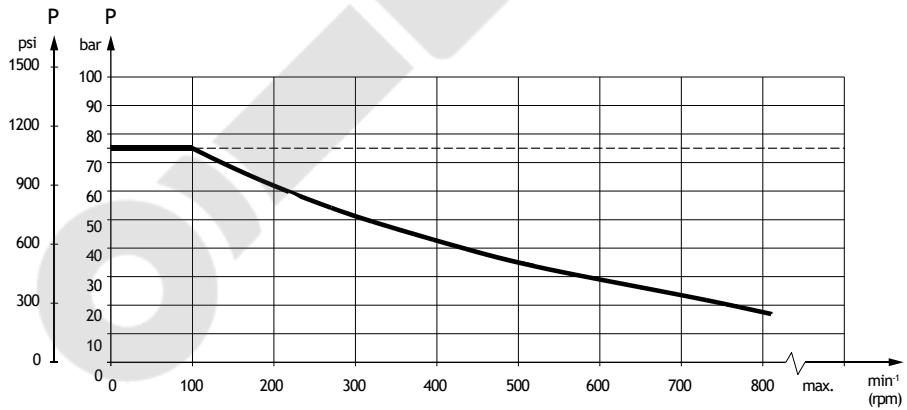


151-320.10

**Maximum return pressure**

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

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



151-1674.10

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

\_\_\_\_\_ Continuous operation



**Technical Information    OMS Orbital Motors**

OMS

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

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

Fiable Hydraulics

**OMS**

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.



# Fiable Hydraulics



**Technical Information OMT Orbital Motors**

**OMT**

**Versions**

OMT versions

Mounting flange	Shaft	Port size	European version	US version	Drain connection	Check valve	Low pressure release	High pressure release	Main type designation
Standard flange	Cyl. 40 mm	G 3/4	X		Yes	Yes			OMT
	Cyl. 1.5 in	1 1/16-12 UN		X	Yes	Yes			OMT
	Splined 1.5 in	G 3/4	X		Yes	Yes			OMT
		1 1/16-12 UN		X	Yes	Yes			OMT
	Tapered 45 mm	G 3/4	X		Yes	Yes			OMT
	Tapered 1.75 in	1 1/16-12 UN		X	Yes	Yes			OMT
P.t.o.	G 3/4	X		Yes	Yes			OMT	
Wheel	Cyl. 40 mm	G 3/4	X		Yes	Yes			OMTW
	Tapered 45 mm	G 3/4	X		Yes	Yes			OMTW
	Tapered 1.75 in	1 1/16-12 UN		X	Yes	Yes			OMTW
Brake-wheel	Wheel bolt flange	G 3/4	X		Yes	No	X		OMT FX
	Thread hole flange	G 3/4	X		Yes	No	X		OMT FX
Brake-standard	Cyl. 40 mm	G 3/4	X		Yes	No	X		OMT FL
	Splined 1.5 in	G 3/4	X		Yes	No	X		OMT FL
	Cyl. 40 mm	G 3/4	X		Yes	No		X	OMT FH
	Splined 1.5 in	G 3/4	X		Yes	No		X	OMT FH
Short	No output shaft	G 3/4	X		Yes	Yes			OMTS

**Features**

Features available (options):

- Speed sensor
- Motor with tacho connection
- Viton shaft seal
- Painted
- Ultra short





OMT

OMT code numbers (continued)

Code Numbers	Displacement [cm <sup>3</sup> ]					
	160	200	250	315	400	500
<b>151B</b>	3018	3019	3020	3021	3022	3023
<b>151B</b>	3024	3025	3026	3027	3028	3029
<b>151B</b>	3030	3031	3032	3033	3034	3035
<b>151B</b>	2080	2081	2082	2083	2084	2085
<b>151B</b>	3207	3208	3209	3210	3211	3212
<b>151B</b>	3200	3201	3202	3203	3204	3205
<b>151B</b>	4000	4001	4002	4003	4004	4005
<b>151B</b>	4007	4008	4009	4010	4011	4012
<b>151B</b>	4021	4022	4023	4024	4025	4026
<b>151B</b>	4028	4029	4030	4031	4032	4033
<b>151B</b>	3036	3037	3038	3039	3040	3041

**Ordering**

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

Example:

151B3002 for an OMT 250 with standard flange, cyl. 40 mm shaft and port size G 3/4.

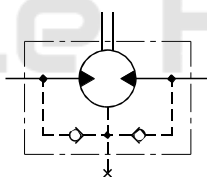
Orders will not be accepted without the four digit prefix.

**Technical data**

**Maximum permissible shaft seal pressure**

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

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



151-320.10

**Motor with check valves and with drain connection**

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

OMT FX, OMT FL and OMT FH must always be fitted with drain line.

Maximum pressure in drain line is 5 bar [75 psi]



**Technical Information OMT Orbital Motors**

**OMT**

Technical data for OMT, OMTW, OMTS, OMT FX OMT FL and OMT FH (continued)

Type			OMT OMTW OMTS OMT FX OMT FL OMT FH	OMT OMTW OMTS OMT FX OMT FL OMT FH	OMT OMTW OMTS OMT FX OMT FL OMT FH	OMT OMTW OMTS OMT FX OMT FL OMT FH	OMT OMTW OMTS OMT FX OMT FL OMT FH	OMT OMTW OMTS OMT FX OMT FL OMT FH
Motor size			160	200	250	315	400	500
Maximum torque	Nm [lbf·in]	cont.	470 [4160]	590 [5220]	730 [6460]	950 [8410]	1080 [9560]	1220 [10800]
		int. <sup>1)</sup>	560 [4960]	710 [6280]	880 [7790]	1140 [10090]	1260 [11150]	1370 [12130]
Maximum output	kW [hp]	cont.	26.5 [35.5]	33.5 [44.9]	33.5 [44.9]	33.5 [44.9]	30.0 [40.2]	26.5 [35.5]
		int. <sup>1)</sup>	32.0 [42.9]	40.0 [53.6]	40.0 [53.6]	40.0 [53.6]	35.0 [46.9]	30.0 [40.2]
Maximum pressure drop	bar [psi]	cont.	200 [2900]	200 [2900]	200 [2900]	200 [2900]	180 [2610]	160 [2320]
		int. <sup>1)</sup>	240 [3480]	240 [3480]	240 [3480]	240 [3480]	210 [3050]	180 [2610]
		peak <sup>2)</sup>	280 [4060]	280 [4060]	280 [4060]	280 [4060]	240 [3480]	210 [3050]
Maximum oil flow	l/min [USgal/min]	cont.	100 [26.4]	125 [33.0]	125 [33.0]	125 [33.0]	125 [33.0]	125 [33.0]
		int. <sup>1)</sup>	125 [33.0]	150 [39.6]	150 [39.6]	150 [39.6]	150 [39.6]	150 [39.6]
Maximum starting pressure with unloaded shaft	bar [psi]		10 [145]	10 [145]	10 [145]	10 [145]	10 [145]	10 [145]
Minimum starting torque	at maximum pressure drop cont. Nm [lbf·in]		340 [3010]	430 [3810]	530 [4690]	740 [6550]	840 [7430]	950 [8410]
	at maximum pressure drop int. <sup>1)</sup> Nm [lbf·in]		410 [3630]	520 [4600]	630 [5580]	890 [7880]	970 [8590]	1060 [9380]

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

Type			Maximum inlet pressure	Maximum return pressure with drain line
OMT, OMTW, OMTS, OMT FX, OMT FL, OMT FH	bar [psi]	cont.	210 [3050]	140 [2030]
	bar [psi]	int. <sup>1)</sup>	250 [3630]	175 [2540]
	bar [psi]	peak <sup>2)</sup>	300 [4350]	210 [3050]



**Technical Information    OMT Orbital Motors**

**OMT**

Type	L <sub>max</sub> mm[in]	L <sub>1</sub> * mm[in]	L <sub>2</sub> mm[in]
OMT 160	190 [7.48]	16.5 [0.650]	140 [5.51]
OMT 200	195 [7.68]	21.5 [0.846]	145 [5.71]
OMT 250	201 [7.91]	27.8 [1.094]	151 [5.94]
OMT 315	211 [8.31]	37.0 [1.457]	161 [6.34]
OMT 400	221 [8.70]	47.5 [1.870]	171 [6.73]
OMT 500	235 [9.25]	61.5 [2.421]	185 [7.28]

\* The gearwheel set is 3.5 mm [0.138 in] wider across the rollers than the L1 dimensions

Output shaft		L <sub>3</sub> mm[in]
All shafts except P.t.o. shaft	max.	82 [3.23]
P.t.o. shaft	max.	102 [4.02]

Fiable Hydraulics

## Products we offer:

- Hydraulic Power Pack
- Hydraulic Cylinders
- Hydraulic Valves
- Hydraulic Pumps
- Hydraulic Motors
- Hydraulic Fittings



**Fiable Hydraulics**

## About Us :

FIABLE HYDRAULICS PVT LTD - Top Hydraulic Power Packs & Hydraulic Cylinders Manufacturer

Looking for reliable hydraulic power packs manufacturers? Fiable Hydraulics Pvt Ltd offers high-quality hydraulic power packs and hydraulic cylinders for various industrial applications.

FIABLE HYDRAULICS PVT. LTD is a Pune's well known company in the field of hydraulics. We are backed by a decade of experience in field of hydraulics, We have a state of art manufacturing facility of hydraulic fittings, hydraulic power units & hydraulic cylinders situated in BHOSARI, PUNE.

We have also developed compact AC & DC hydraulic power units and hydraulic cylinders widely used in garbage tippers.

We provide a one stop solutions for all hydraulic components needs of our customers.

## Fiable Hydraulics Pvt Ltd

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