



# Hydraulic Motor OMT HD / OMV HD with Reinforced Components

Tech Note



**Revision View**

Date	Page	Changed	Revision
Sep 2008	All	New Layout	BA
Feb 2009	5 and 6	Displacements numbers and reference number	BB
May 2010	8	Japan location	BC
Sep 2010	8	New back cover	BD

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**Introduction**

Sauer-Danfoss is now introducing a series of motor types, OMT HD / OMV HD with reinforced components. The motors are built up as standard OMT and OMV units, i.e. compact and robust, very suitable for continuous operation at high torque, and reversing applications.

**Application**

Primarily this series of motors has been developed for use in forestry processors, but they can also be used to advantage in other applications where high torques and frequent reversing occur.

#### Code Numbers and Weight

#### Metric Version

Motor type		OMT	OMT	OMT	OMT	OMT	OMT
Motor size		160	200	250	315	400	500
Cylindrical shaft	∅ 40 mm	151B0300	151B0301	151B0302	151B0303	*	*
Splined shaft	1 ½ inch	151B0337	*	151B3096	151B3097	151B0341	*
Tapered shaft	∅ 45 mm	*	*	*	151B0327	151B0328	*
Weight (kg)		20	20.5	21	22	23	24

Motor type		OMTW	OMTW	OMTW	OMTW	OMTW	OMTW
Motor size		160	200	250	315	400	500
Tapered shaft	∅ 45 mm	*	151B0307	151B0308	151B0309	151B0310	151B0311
Weight (kg)		22	22.5	23	24	25	26

Motor type		OMTS	OMTS	OMTS	OMTS	OMTS	OMTS
Motor size		160	200	250	315	400	500
Without output shaft		151B0312	*	151B0314	151B0315	151B0316	*
Weight (kg)		15	15.5	16	17	18	19

Motor type		OMTU	OMTU	OMTU	OMTU	OMTU	OMTU
Motor size		160	200	250	315	400	500
Without output shaft		*	*	151B0320	151B0321	151B0322	151B0323
Without output shaft and drain port		*	*	1510335	151B0336	*	*
Weight (kg)		11	11.5	12	13	14	15

Motor type		OMV	OMV	OMV	OMV	OMV
Motor size		315	400	500	630	800
Tapered shaft	∅ 60 mm	*	*	*	151B3178	151B3179
Weight (kg)		31.8	32.6	33.5	34.9	36.5

Motor type		OMVW	OMVW	OMVW	OMVW	OMVW
Motor size		315	400	500	630	800
Tapered shaft	∅ 60 mm	151B3155	151B3156	151B3157	151B3158	151B3159
Weight (kg)		32.4	33.2	34.1	35.1	37.1

Motor type		OMVS	OMVS	OMVS	OMVS	OMVS
Motor size		315	400	500	630	800
Without output shaft		*	151B3161	151B3162	151B3163	*
Weight (kg)		22.7	23.5	24.4	25.6	27.7

Motor type		OMVU	OMVU	OMVU	OMVU	OMVU
Motor size		315	400	500	630	800
Without output shaft and drain port		*	151B3181	151B3182	151B3168**	151B3169**
Weight (kg)		16.9	17.7	18.6	20.0	21.6

\*\* Without M16 screws (can be ordered separately, Code no. 681X1884)

#### SAE Version

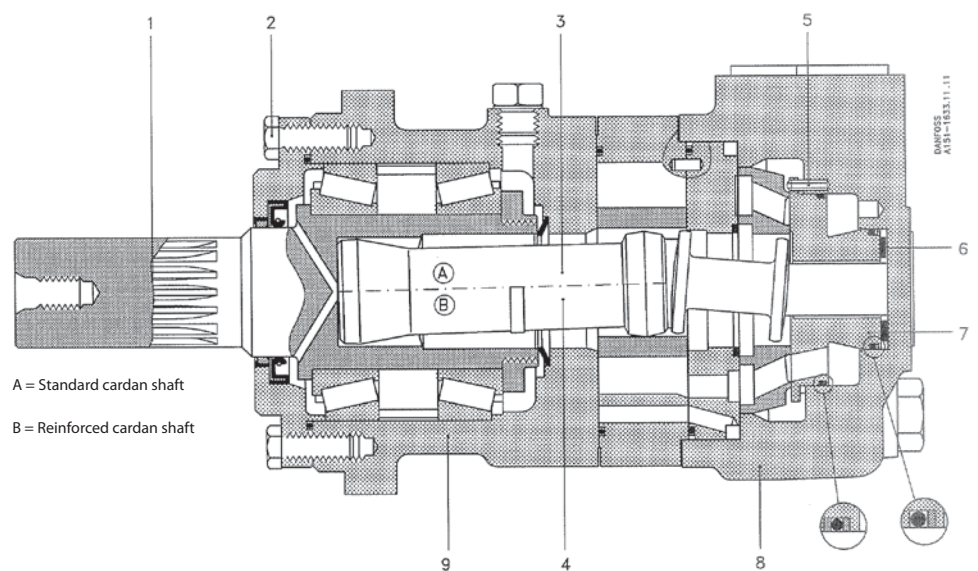
Motor type		OMVW	OMVW	OMVW	OMVW	OMVW
Motor size		315	400	500	630	800
Tapered shaft	2 ½ inch	*	*	*	151B2197	151B2198
Weight (kg)		32.4	33.2	34.1	35.1	37.1

\* Please contact the Sauer-Danfoss Sales Organisation for Hydraulics regarding code numbers for these motors.

#### Design

The reinforced OMT-HD and OMV-HD motors deviate from the standard range on the following points:

1. Because of the reinforced cardan shaft, the output shaft has a shorter internal spline. The output shaft is used in both OMT/OMV-HD motors with standard cardan shafts and those with reinforced cardan shafts.
2. The screws in the front cover on standard and wheel motors are fitted with an ES-lock to prevent the screws being loosened by vibration.
3. OMT motors with displacements 160, 200 and 250 cm<sup>3</sup>, OMV motors with displacements 315 and 400 cm<sup>3</sup> are supplied with standard cardan shafts.
4. OMT motors with displacements 315, 400 and 500 cm<sup>3</sup> and OMV motors with displacements 500, 630 and 800 cm<sup>3</sup> have a reinforced cardan shaft better able to withstand the high torques produced by frequent reversing.
5. To reduce load, the locking pin in the balance plate has been moved further away from the centre.
6. The diameter of the spring washer has been reduced.
7. The balance plate is fitted with a back-up ring to protect the O-rings during high pressure peaks.
8. The check valves have been omitted because a drain line is always used in applications where operating conditions are severe.
9. The OMTW bearing housing is now supplied in reinforced material.



Note: A drain line must always be used because the motors have no built-in check valves.

#### Spare Parts

The reinforced OMT-HD and OMV-HD motors are often customer-specific and therefore it is not possible to give a complete spare parts list for all reinforced motors

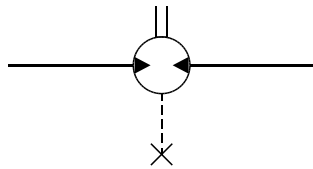
It is not possible to convert standard motors into reinforced motors

Please contact the Sauer-Danfoss Sales Organisation for Hydraulics:

1. If you would like a spare parts list for the motors to be repaired.
2. If you require information on which parts should be replaced to ensure correct conversion.

#### Technical Data

Please see technical data for this motor series in the catalogue for OMS, OMT and OMV motors, 520L0407



151-437.10

This motor variant has no check valves

NOTE! A drain line must always be used.



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