



PRM1500 Gearbox

Full hydraulic operation drop centre output shaft with two stage reduction gearing.

PRM1500 series marine transmissions are the ideal choice for pleasure and commercial craft applications with engines rated at up to 520 hp (390 kW).

They are available in both shallow and deep case form - corresponding to reduction ratios ranging from 1.22:1 to 3.0:1 and 3.12:1 to 4.9:1 respectively - and are supplied with integral SAE housings as standard.

All PRM1500 series transmissions feature a twin countershaft design compatible with left or right hand propeller rotations - making them equally suitable for both single or twin engine installations. In addition, the PRM1500's two-stage reduction gearing enables maximum input torque of 1500 Nm to be transmitted continuously in either direction at engine speeds of up to 2500 rev/min.



Simple Operation

Operation is by a single lever compatible with proprietary remote control operating systems.

The need for special purpose automatic transmission fluid is eliminated by the use of engine oil specification lubricant. Smooth drive engagement in both ahead and astern is achieved by a pressure modulated selection valve - ensuring outstanding boat handling and manoeuvrability.

Durable and Reliable

PRM1500 units utilise maintenance-free oil-operated, self-adjusting multi-disc clutches for consistent reliability and in-service performance.

The gearcase is manufactured from high grade cast iron and is internally ribbed for extra rigidity and strength. The oil pump, oil filter and hydraulic control valve on all PRM1500 models are mounted externally for easy access and servicing.

Lloyd's Register Type Approval

Is available on request for our range of PRM1500 gearboxes. Please request this at time of order. There will be a supplementary charge for this service.

Optional equipment

An optional clutched power take-off - compatible with SAE classification hydraulic pumps - is available to drive on-board machinery. Further ancillary equipment for PRM1500 gearboxes includes an oil pressure gauge and oil cooler kit.

Nominal Power Ratings - PRM1500D Deep Case Marine Gearbox

Model	Ahead Ratio	Pleasure		Light Commercial		Heavy Commercial	
		kW	BHP	kW	BHP	kW	BHP
1500D31SAE1 1500D31SAE2	3.12:1	15.70	21.06	14.65	19.65	13.63	18.28
1500D39SAE1 1500D39SAE2	3.88:1	15.70	21.06	14.65	19.65	13.63	18.28
1500D45SAE1 1500D45SAE2	4.50:1	15.70	21.06	14.65	19.65	13.63	18.28
1500D49SAE1 1500D49SAE2	4.90:1	13.63	18.28	12.58	16.87	11.53	15.46

Maximum operating speeds: 3000 rev/min intermittent, 2500 rev/min continuous

"D" denotes Deep Case: manufactured only with integral SAE1 or SAE2 adaptor housings. If there is a need to convert from SAE1 to SAE3, then additional adaptor ring MT8239 will also be required.

Nominal Power Ratings - PRM1500S Shallow Case Marine Gearbox

Model	Ahead Ratio	Pleasure		Light Commercial		Heavy Commercial	
		kW	BHP	kW	BHP	kW	BHP
1500S12SAE3	1.22:1	15.70	21.06	14.65	19.65	13.63	18.28
1500S15SAE3	1.56:1	15.70	21.06	14.65	19.65	13.63	18.28
1500S19SAE3	1.94:1	15.70	21.06	14.65	19.65	13.63	18.28
1500S22SAE3	2.25:1	15.70	21.06	14.65	19.65	13.63	18.28
1500S24SAE3	2.45:1	15.70	21.06	14.65	19.65	13.63	18.28
1500S30SAE3	3.00:1	14.12	18.93	13.07	17.52	11.76	15.77

Maximum operating speeds: 3000 rev/min intermittent, 2500 rev/min continuous

“S” denotes Shallow Case: manufactured only with integral SAE3 adaptor housings.

Note: These powers are expressed in BHP and kW per 100 rev/min engine speeds, and are measured at the engine flywheel. Ratings have been established to ensure the long, trouble-free life of the gearbox and should not therefore, be exceeded.

Operating Pressure

Minimum – 28.27 bar (410 lb/in²), maximum 31.03 bar (450 lb/in²). Two tapped holes, 1 hole 1/8" BSP on the top and 1 hole M18 on the side of the valve block are provided so that a pressure gauge can be fitted if required. Gear selector is designed with modulated engagement for soft shift.

Oil Cooling

The normal operating temperature of the oil should be in the 50°C - 80°C range, and should not be permitted to exceed 90°C. An oil cooler is necessary to ensure that correct operating temperatures are maintained, and two 1/2" BSP connections are provided on the valve block to allow it to be fitted. The size of the cooler required depends on a number of factors including the transmitted horsepower, operating speed, duty cycle, inlet water temperature and ambient temperature.

Propeller Thrust

Both ahead and astern thrust is carried by the output shaft taper roller bearings which are of ample capacity for all factory approved ratings.

Approximate Weight & Oil Capacity

Gearbox	Approximate dry weight	Oil capacity
PRM1500D	300kg (663lb)	10 litres (17.6 pints)
PRM1500S	260kg (570lb)	8 litres (14 pints)
		plus the amount required to fill the cooling circuit

Flexible Input Couplings for PRM1500

	Flywheel Size	Part No.
Centa Transmissions Ltd.	SAE 11.5 in	CF-DS-40-011-61230
	SAE 14 in	CF-DS-40-014-61229
Vulkan Industries Ltd.	SAE 11.5 in	Vulkardan-E3410 4000 series
	SAE 14 in	Vulkardan-E3410 4000 series
R & D Marine Ltd.	SAE 10 in	750lbf.ft (1020Nm) 54S107
	SAE 11.5 in	1200lbf.ft (1630Nm) 55Z78
	SAE 14 in	1200lbf.ft (1630Nm) 55Z79

Note: When ordering it is necessary to specify the flywheel size.

The choice of coupling must be made by the engine manufacturer/boat builder to ensure vibratory torque levels within the driveline are kept to a minimum within the engine operating speed range. This is particularly important as PRM1500 uses two stage gear reduction.