

## ZF 7666

Vertical offset, direct or remote mount marine transmission.

### Description

- Fully works tested, reliable and simple to install .
- Reverse reduction marine transmission with hydraulically actuated multi-disc clutches .
- Design, manufacture and quality control standards comply with ISO 9001 and AQAP .
- Compatible with all types of engines and propulsion systems .
- Also suitable for large displacement yachts and passenger ferries.
- Free standing design with cast on mounting bracket .
- Remote mounted version available with aluminium casing .

### Features

- Case hardened and precisely ground gear teeth for long life and smooth running .
- Output shaft thrust bearing designed to take maximum propeller thrust astern and ahead .
- Smooth and reliable hydraulic shifting with control lever for attachment of push-pull cable or other operating system .
- Emergency "get home" capability .
- Suitable for twin engine installation (same ratio and torque capacity engine wise or counter-engine wise) .
- Durable cast iron construction .
- Compact, space saving design with increased bearing and clutch capacity for heavy duty, and matching oil cooler. .

### Options

- Engine-matched torsional coupling .
- Propeller shaft flange and coupling bolt sets .
- Classification by all major Classification Societies on request .
- Trolling valve for slow-speed drive .
- PTO (live) .
- Electric clutch control (24 VDC) .
- Monitoring system .
- Machined surfaces for custom designed mounting brackets .
- SAE 00 bell housing for centering only .
- "AUTOTROLL" .

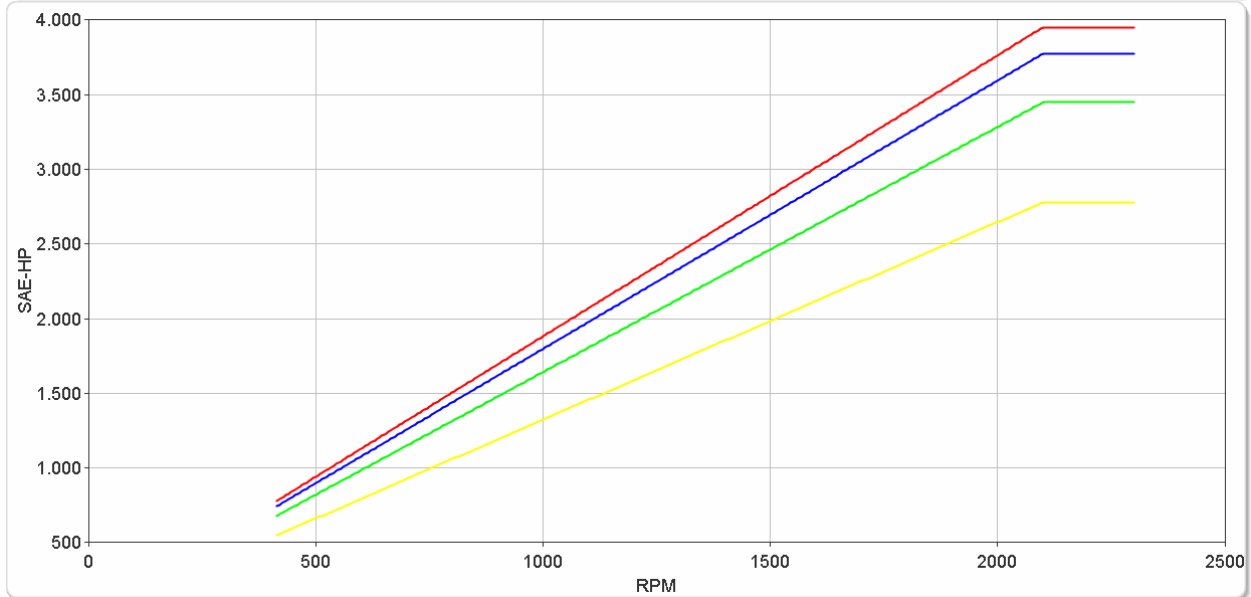
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## Ratings

### Light Duty

RATIOS	MAX. TORQUE		POWER/RPM		INPUT POWER CAPACITY						MAX. RPM
	Nm	ftlb	kW	hp	1800 rpm		2000 rpm		2100 rpm		
					kW	hp	kW	hp	kW	hp	
4.577*, 4.760*, 5.000, 5.435, 5.952	13400	9883	1.4031	1.8816	2526	3387	2806	3763	2947	3951	2300
6.250	12800	9441	1.3403	1.7974	2413	3235	2681	3595	2815	3775	2300
6.500*	11694	8625	1.2245	1.6421	2204	2956	2449	3284	2571	3448	2300
6.833*	9426	6952	0.9870	1.3236	1777	2382	1974	2647	2073	2780	2300

\* Special Order Ratio.



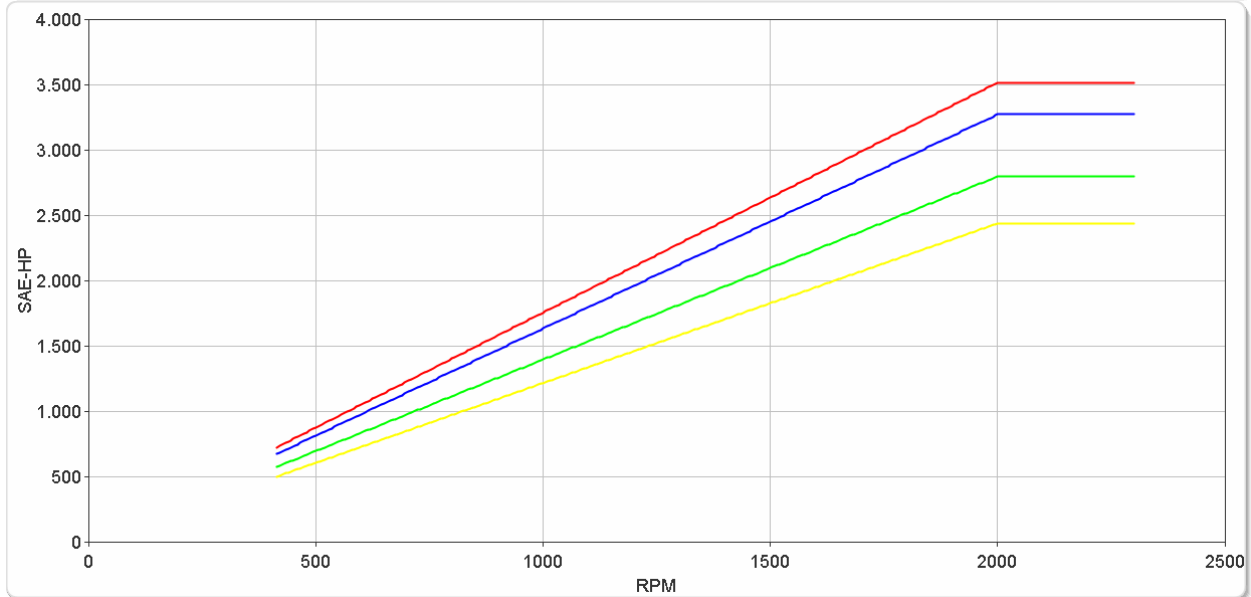
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## Ratings

### Medium Duty

RATIOS	MAX. TORQUE		POWER/RPM		INPUT POWER CAPACITY						MAX. RPM
	Nm	ftlb	kW	hp	1600 rpm		1800 rpm		2000 rpm		
					kW	hp	kW	hp	kW	hp	
4.577*, 4.760*, 5.000, 5.435, 5.952	12540	9249	1.3131	1.7609	2101	2817	2364	3170	2626	3522	2300
6.250	11670	8607	1.2220	1.6387	1955	2622	2200	2950	2444	3277	2300
6.500*	9980	7361	1.0450	1.4014	1672	2242	1881	2523	2090	2803	2300
6.833*	8700	6417	0.9110	1.2217	1458	1955	1640	2199	1822	2443	2300

\* Special Order Ratio.



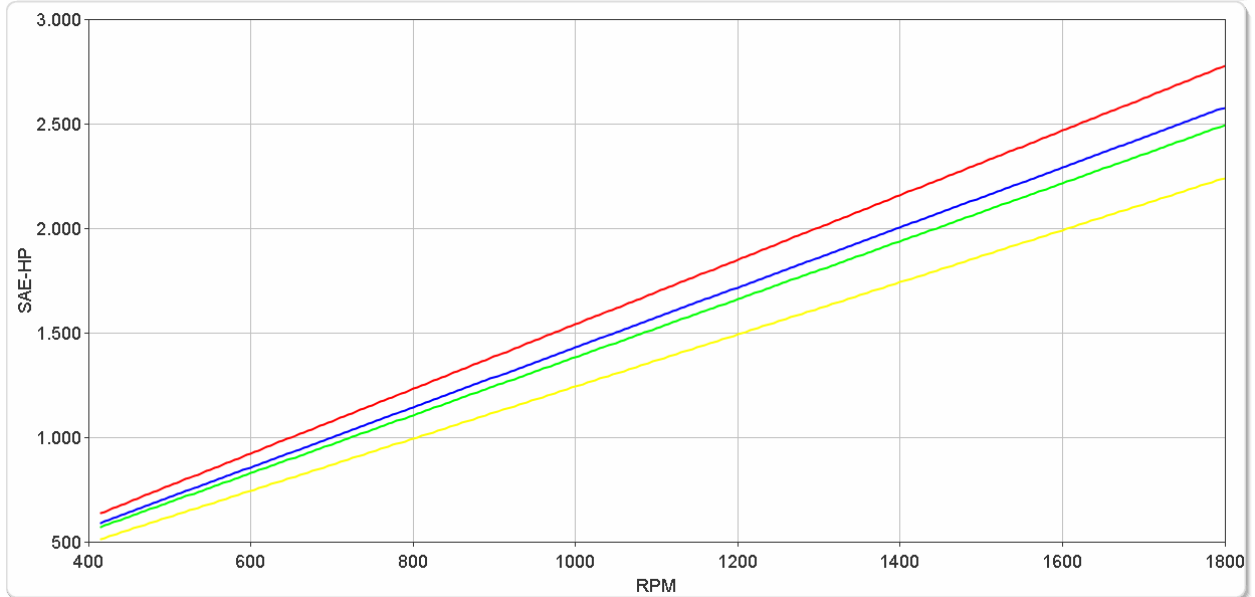
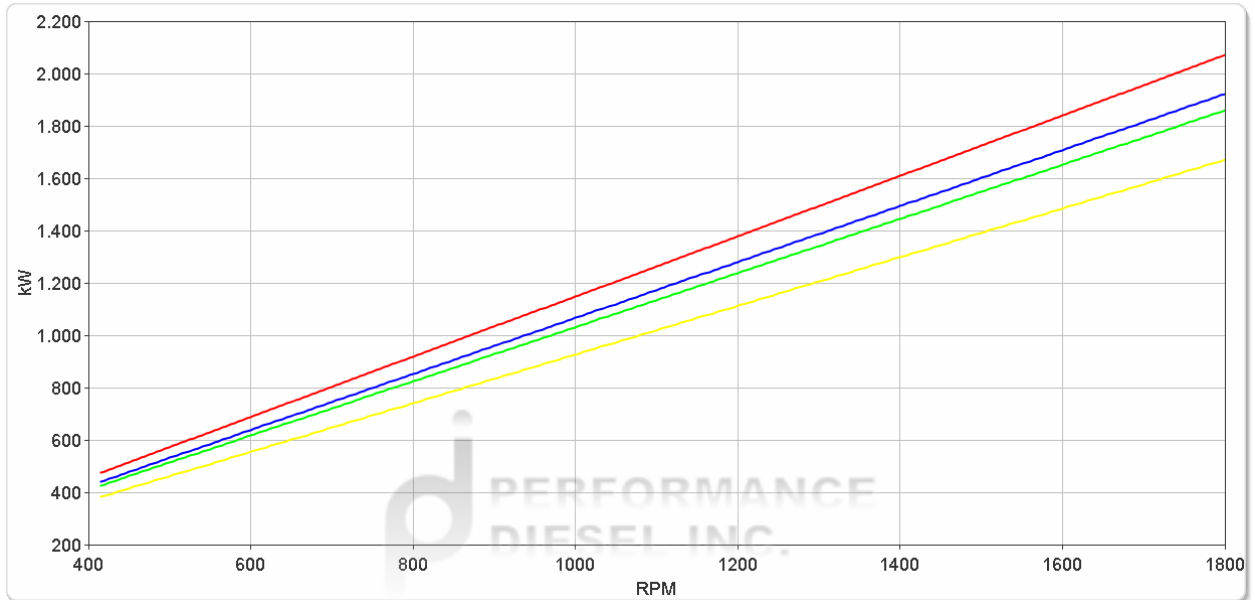
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## Ratings

### Continuous Duty

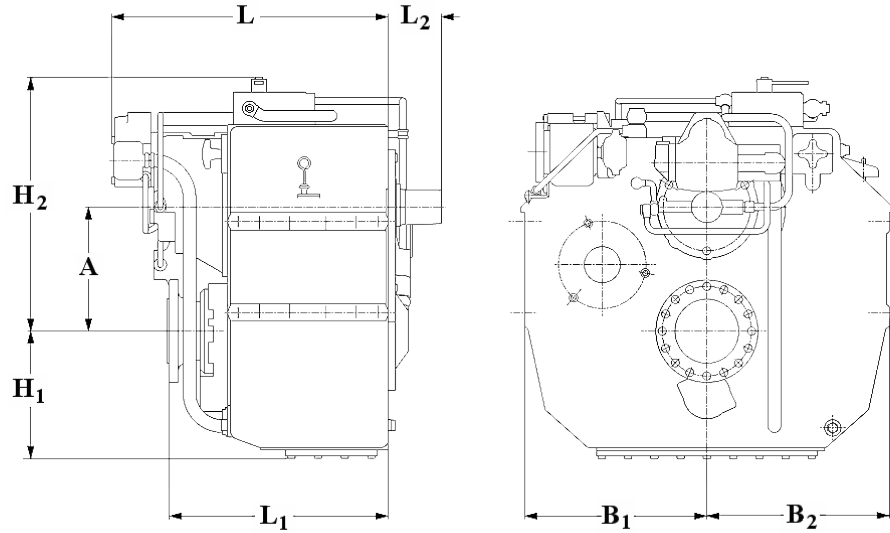
RATIOS	MAX. TORQUE		POWER/RPM		INPUT POWER CAPACITY						MAX. RPM
	Nm	ftlb	kW	hp	1200 rpm		1600 rpm		1800 rpm		
					kW	hp	kW	hp	kW	hp	
4.577*, 4.760*, 5.000, 5.435, 5.952	11000	8113	1.1518	1.5446	1382	1854	1843	2471	2073	2780	1800
6.250	10214	7533	1.0695	1.4343	1283	1721	1711	2295	1925	2582	1800
6.500*	9879	7286	1.0345	1.3872	1241	1665	1655	2220	1862	2497	1800
6.833*	8880	6550	0.9298	1.2469	1116	1496	1488	1995	1674	2244	1800

\* Special Order Ratio.



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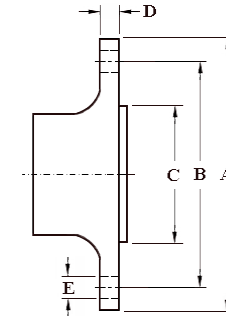
## Dimensions



mm (inches)									
A	B <sub>1</sub>	B <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	Bell Hsg.
600 (23.6)	630 (24.8)	630 (24.8)	560 (22.1)	960 (37.8)	761 (30.0)	773 (30.4)	146 (5.75)	250 (9.84)	
Weight kg (lb)					Oil Capacity Litre (US qt)				
2,520 ( 5,544)					120 ( 128)				

### Output Coupling Dimensions

A		B		C		D		Bolt Holes		
mm	in	mm	in	mm	in	mm	in	No.	Diameter (E)	
									mm	in
544	21.4	492	19.4	437	17.2	45.0	1.77	12	30.4	1.20



## Duty Definitions

<b>LIGHT DUTY DEFINITION</b>	Intermittent operation with large variations in engine speed and power
Average engine operating hours limit:	2500 hours/year (for hydraulic gearboxes smaller than the ZF 650 series, 2000 hours/year).
Typical hull forms:	Planing and semi-displacement.
Typical applications:	Private and charter, sport/leisure activities, naval and police activities.
<b>MEDIUM DUTY DEFINITION</b>	Intermittent operation with some variations in engine speed and power
Average engine operating hours limit:	4000 hours/year. 3500 hours/year for gearboxes smaller than ZF 2000 series and workboat ZF W2700 series.
Typical hull forms:	Semi-displacement and displacement
Typical applications:	Charter and commercial craft (example: crew boats and fast ferries), and naval and police activities.
<b>CONTINUOUS DUTY DEFINITION</b>	Continuous operation with little or no variations in engine speed and power
Average engine operating hours limit:	Unlimited
Typical hull forms:	Displacement.
Typical applications:	Heavy duty commercial vessels, tugs, fishing boats.

## Duty Ratings

Ratings apply to marine diesel engines at the indicated speeds. At other engine speeds, the respective power capacity (kW) of the transmission can be obtained by multiplying the Power/Speed ratio by the speed.

Approximate conversion factors:

1 kW = 1.36 metric hp

1 kW = 1.34 U.S. hp (SAE)

1 U.S. hp = 1.014 metric hp

1 Nm = 0.74 lb.ft.

Ratings apply to right hand turning engines, i.e. engines having counterclockwise rotating flywheels when viewing the flywheel end of the engine.

These ratings allow full power through forward and reverse gear trains, unless otherwise stated.

Contact your nearest ZF Sales and Service office for ratings applicable to gas turbines, gasoline (petrol) engines, as well as left hand turning engines, and marine transmissions for large horsepower capacity engines.

Ratings apply to marine transmissions currently in production or in development and are subject to change without prior notice.

**NOTE: THE MAXIMUM RATED INPUT POWER MUST NOT BE EXCEEDED (SEE RESPECTIVE RATINGS IN THE TECHNICAL DATA SHEETS)**

## Safe Operating Notice

The safe operation of ZF products depends upon adherence to technical data presented in our brochures. Safe operation also depends upon proper installation, operation and routine maintenance and inspection under prevailing conditions and recommendations set forth by ZF. Damage to transmission caused by repeated or continuous emergency manoeuvres or abnormal operation is not covered under warranty. It is the responsibility of users and not ZF to provide and install guards and safety devices, which may be required by recognized safety standards of the respective country (e.g. for U.S.A. the Occupational Safety Act of 1970 and its subsequent provisions).

## Monitoring Notice

The safe operation of ZF products depends upon adherence to ZF monitoring recommendations presented in our operating manuals, etc. It is the responsibility of users and not ZF to provide and install monitoring devices and safety interlock systems as may be deemed prudent by ZF. Consult ZF for details and recommendations.

## Torsional Responsibility and Torsional Couplings

The responsibility for ensuring torsional compatibility rests with the assembler of the drive and driven equipment. ZF can accept no liability for gearbox noise caused by vibrations or for damage to the gearbox, the flexible coupling or to other parts of the drive unit caused by this kind of vibration. Contact ZF for further information and assistance. ZF recommends the use of a torsional limit stop for single engine powered boats, wherein loss of propulsion power can result in loss of control. It is the buyer's responsibility to specify this option, which can result in additional cost and a possible increase in installation length.

ZF can accept no liability for personal injury, loss of life, or damage or loss of property due to the failure of the buyer to specify a torsional limit stop. ZF selects torsional couplings on the basis of nominal input torque ratings and commonly accepted rated engine governed speeds. Consult ZF for details concerning speed limits of standard offering torsional couplings, which can be less than the transmission limit. Special torsional couplings may be required for Survey Society Ice Classification requirements.