

## ZF W23100 NR

Vertical offset, remote mount marine transmission.

### Description

- Non-reversing reduction marine transmission with hydraulically actuated multi-disc clutches .
- Marine reduction transmission series for heavy duty, commercial application comprising:NR:Non-Reversing Reduction (with hydraulic actuated clutch) .
- Robust design also withstands continuous duty in workboat applications .
- Fully works tested, reliable and simple to install .
- Compatible with all types of engines and propulsion systems .
- Design, manufacture and quality control standards comply with ISO 9001 .
- Easy onboard maintenance .

### Features

- Robust, torsion - resistant housing (cast iron) .
- 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 .
- Free standing .
- Smooth and reliable hydraulic shifting (electrically activated with mechanical override) with pressure modulation for controlled engagement .
- Suitable for twin engine installations .
- Emergency "get home" capability .
- Oil cooler complete with fittings .
- Cast-on brackets .

### Options

- Engine-matched torsional coupling .
- Pneumatic clutch actuation .
- Standard monitoring system .
- Special monitoring (acc. Classification Society requirements) .
- Propeller shaft flange and coupling bolt sets .
- PTO (live or clutchable) .
- Standby oil pump .
- Classification certification from all major Classification Societies available on request . .
- Trailing pump .
- Other speed on request .

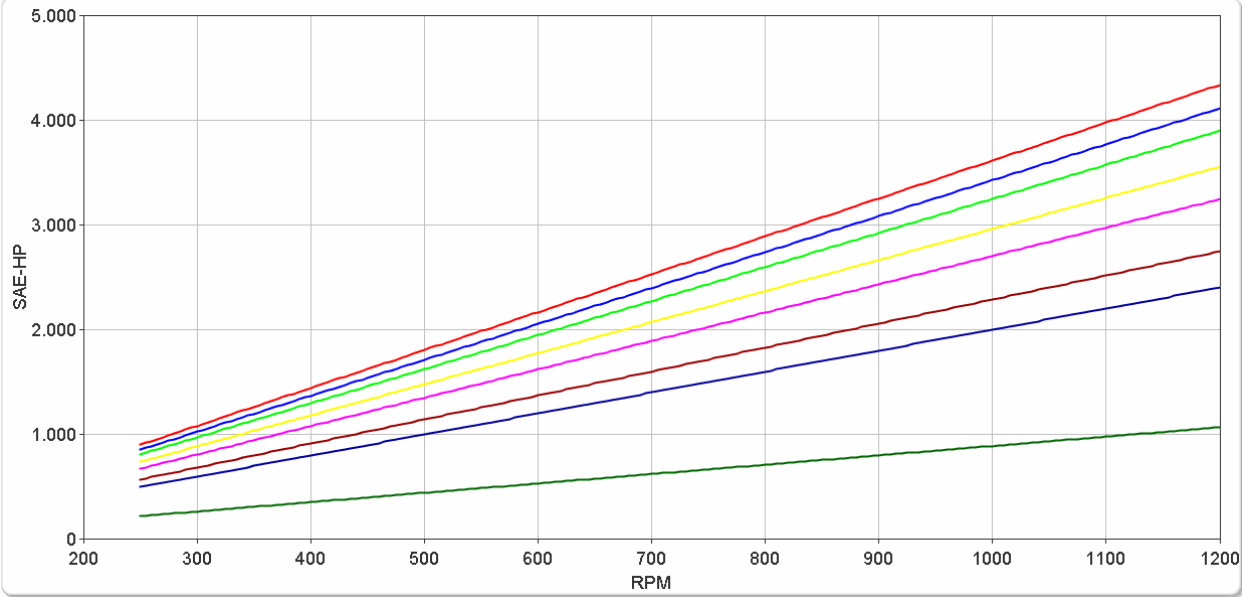
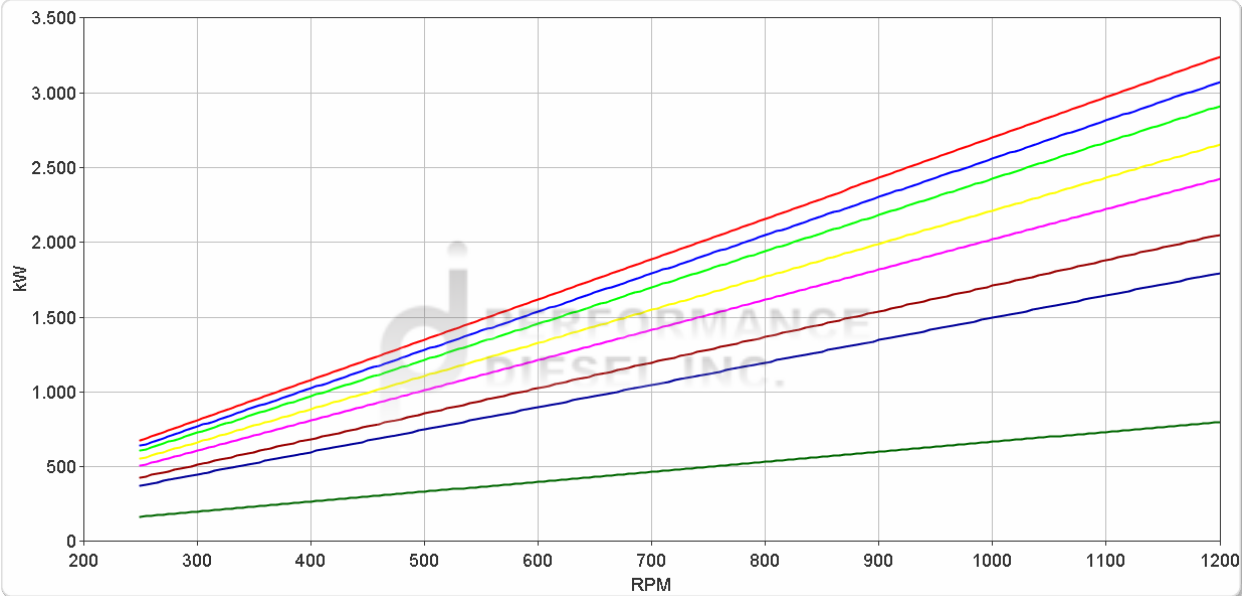
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## Ratings

### Continuous Duty

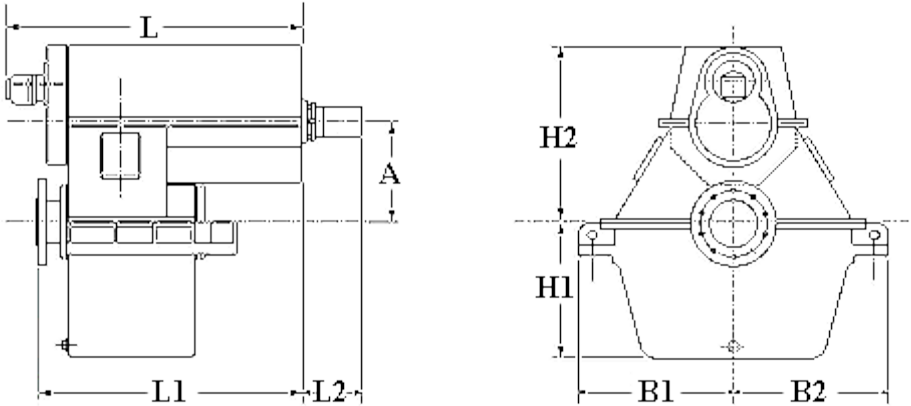
RATIOS	MAX. TORQUE		POWER/RPM		INPUT POWER CAPACITY						MAX. RPM
	Nm	ftlb	kW	hp	750 rpm		1000 rpm		1200 rpm		
					kW	hp	kW	hp	kW	hp	
2.472, 3.032, 3.310	25785	19018	2.7000	3.6208	2025	2716	2700	3621	3240	4345	1200
3.478	24448	18032	2.5600	3.4330	1920	2575	2560	3433	3072	4120	1200
4.074	23178	17095	2.4270	3.2547	1820	2441	2427	3255	2912	3906	1200
4.478	21132	15586	2.2128	2.9674	1660	2226	2213	2967	2655	3561	1200
4.952	19297	14233	2.0206	2.7097	1515	2032	2021	2710	2425	3252	1200
5.619	16331	12045	1.7101	2.2932	1283	1720	1710	2293	2052	2752	1200
5.950	14287	10538	1.4960	2.0062	1122	1505	1496	2006	1795	2407	1200
7.091	6367	4696	0.6667	0.8941	500	671	667	894	800	1073	1200

\* Special Order Ratio.  
 Ratings shown for the ZF W17000, and larger gearboxes, are valid for applications without ice classification and comply with BV (Bureau Veritas) rules.



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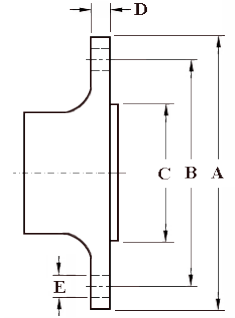
## Dimensions



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>
630 (24.8)	810 (31.9)	810 (31.9)	710 (28.0)	1,010 (39.8)	1,448 (57.0)	1,301 (51.2)	288 (11.3)
Weight kg (lb)				Oil Capacity Litre (US qt)			
4,700 ( 10,340)				210 ( 223)			

### Output Coupling Dimensions

A		B		C		D		No.	Bolt Holes Diameter (E)	
mm	in	mm	in	mm	in	mm	in		mm	in
550	21.7	480	18.9	290	11.4	60.0	2.36	10	38.0	1.50

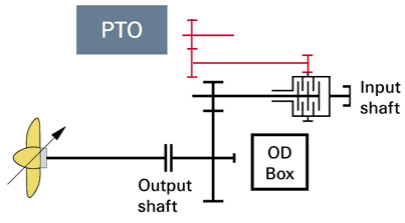


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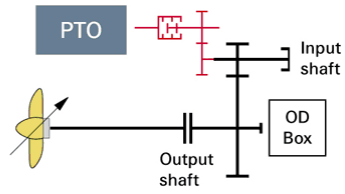
## PTO

### PTO Configurations

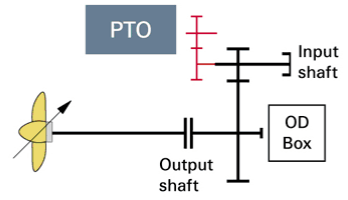
PTO3 (Live)



PTO4 (Clutchable)



PTO5 (Live)



## Duty Definitions

**CONTINUOUS DUTY DEFINITION** 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.