

## ZF W83100 NC

Vertical offset, remote mount marine transmission.

### Description

- Marine reduction transmission series for heavy duty, commercial application comprising:NC:Direct Drive Reduction (without 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/welded steel) .
- Case hardened and precisely ground gear teeth for long life and smooth running .
- Output shaft thrust bearing designed to take maximum propeller thrust .
- Free standing .
- Cast-on brackets .
- Oil cooler complete with fittings .

### Options

- Engine-matched torsional coupling .
- Standard monitoring system .
- Special monitoring (acc. Classification Society requirements) .
- Propeller shaft flange and coupling bolt sets .
- PTO (live or clutchable) .
- Standby oil pump .
- Classification by all major Classification Societies on request .

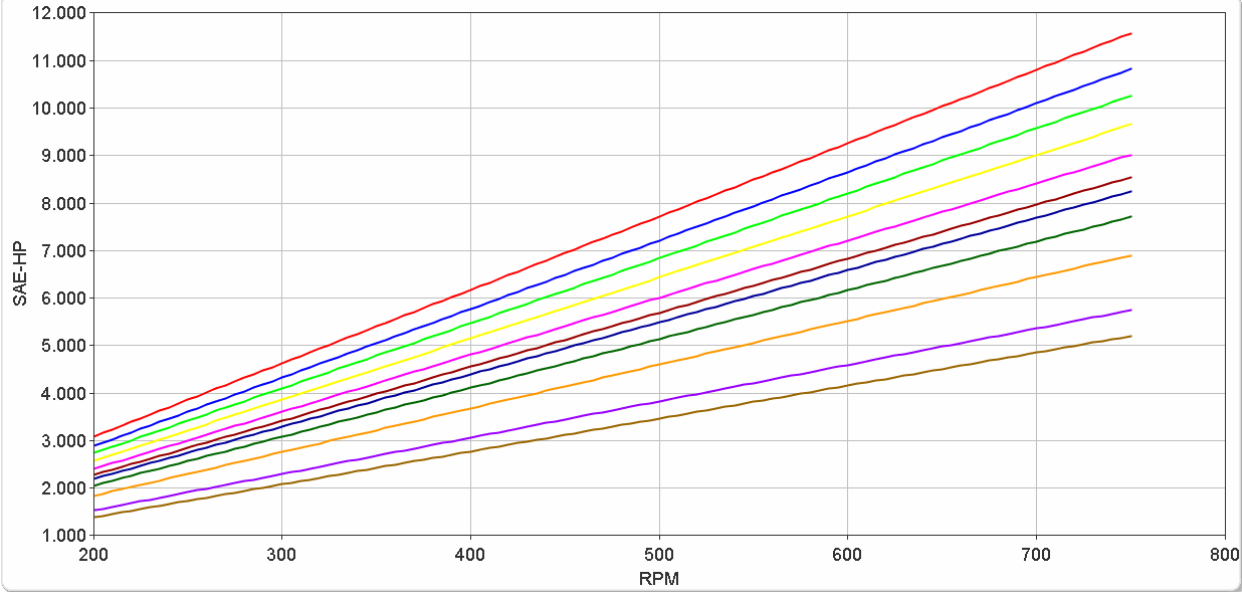
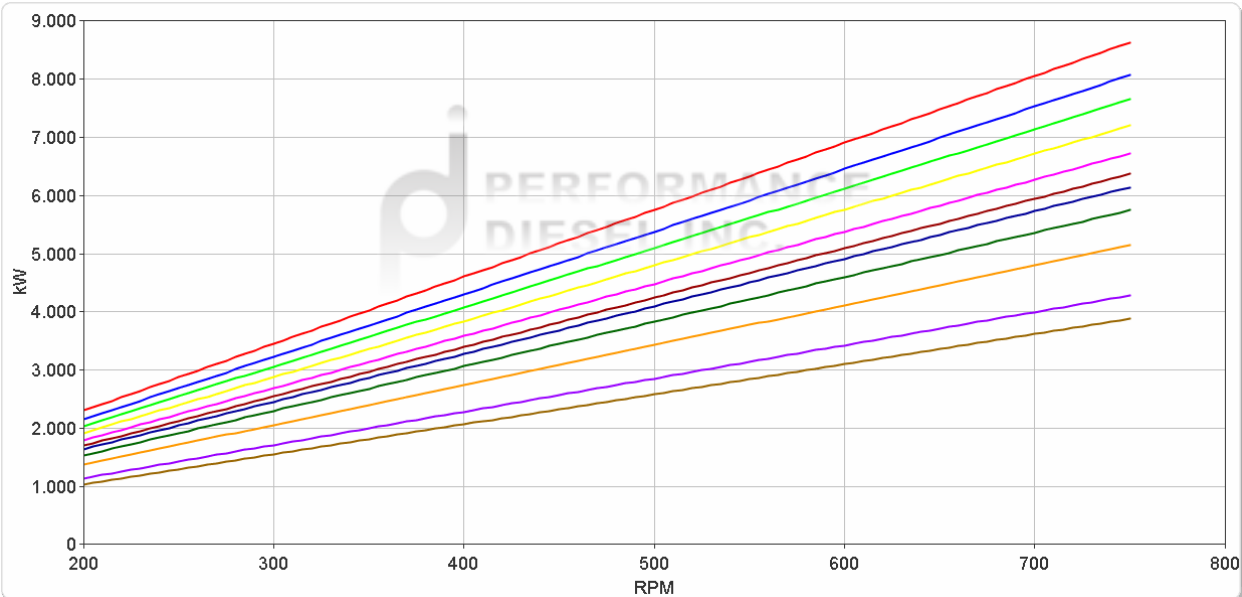
# ZF W83100 NC

## Ratings

### Continuous Duty

RATIOS	MAX. TORQUE		POWER/RPM		INPUT POWER CAPACITY						MAX. RPM
	Nm	ftlb	kW	hp	500 rpm		600 rpm		750 rpm		
					kW	hp	kW	hp	kW	hp	
2.486	109921	81074	11.5101	15.4352	5755	7718	6906	9261	8633	11576	750
3.031	102758	75790	10.7600	14.4294	5380	7215	6456	8658	8070	10822	750
3.300	97410	71846	10.2000	13.6784	5100	6839	6120	8207	7650	10259	750
3.962	91681	67620	9.6001	12.8740	4800	6437	5760	7724	7200	9655	750
4.333	85617	63148	8.9651	12.0224	4483	6011	5379	7213	6724	9017	750
4.609	81105	59820	8.4927	11.3889	4246	5694	5096	6833	6370	8542	750
4.818	78236	57704	8.1923	10.9860	4096	5493	4915	6592	6144	8239	750
5.095	73181	53976	7.6629	10.2762	3831	5138	4598	6166	5747	7707	750
5.450	65525	48329	6.8613	9.2011	3431	4601	4117	5521	5146	6901	750
5.950	54540	40227	5.7110	7.6586	2855	3829	3427	4595	4283	5744	750
6.364	49384	36424	5.1711	6.9346	2586	3467	3103	4161	3878	5201	750

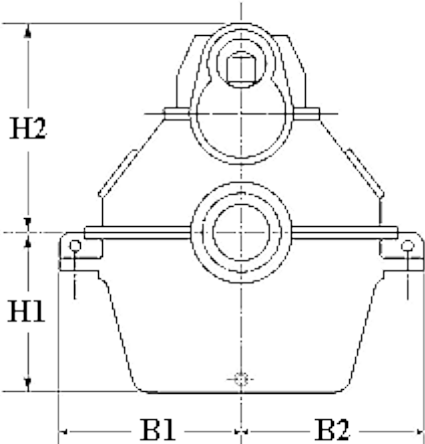
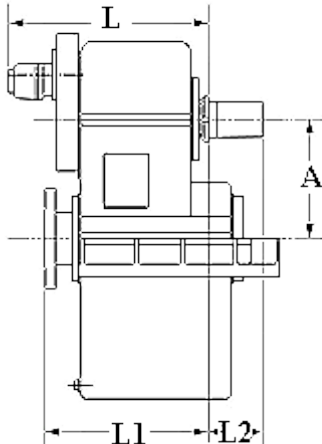
\* Special Order Ratio.  
 Ratings shown for the ZF W17000, and larger gearboxes, are valid for applications without ice classification and comply with BV (Bureau Veritas) rules.





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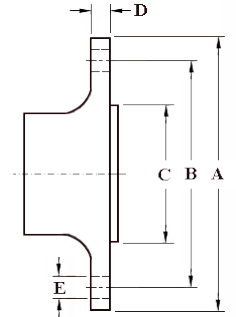
## Dimensions



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>
980 (38.6)	1,230 (48.4)	1,230 (48.4)	1,120 (44.1)	1,792 (70.6)	1,225 (48.2)	1,210 (47.6)	360 (14.2)
Weight kg (lb)				Oil Capacity Litre (US qt)			
14,800 ( 32,560)				720 ( 763)			

### Output Coupling Dimensions

A		B		C		D		Bolt Holes No.	Diameter (E)	
mm	in	mm	in	mm	in	mm	in		mm	in
800	31.5	710	28.0	450	17.7	80.0	3.15	22	37.0	1.46

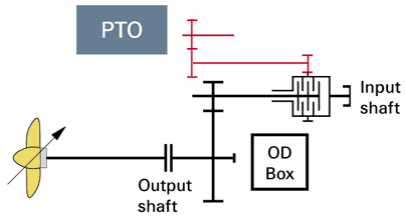


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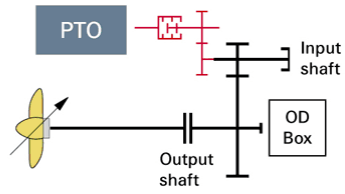
## PTO

### PTO Configurations

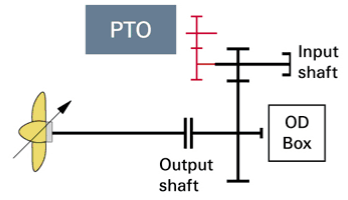
PTO3 (Live)



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.