

## ZF 83700 NR2H

Horizontal offset, remote mount marine transmission.

### Description

- Marine transmission with reduction drive gearing and hydraulically actuated multi-disc clutch for engagement .
- Output shaft rotating in the opposite direction to that of the input shaft.
- Easy installation and fully works tested for guaranteed reliability .
- Design, manufacture and quality control standards comply with ISO 9001 .

### Features

- Case hardened and precisely ground gear teeth for long life and smooth running .
- Robust, torsion - resistant housing (cast iron/welded steel) .
- Output shaft thrust bearing designed to take maximum propeller thrust astern and ahead .
- Free standing .
- Compact, space-saving design, complete with integral oil cooler, pump and full-flow filter .
- Integrated brackets .
- Modular component design for fast and easy service and repair. .
- Smooth and reliable clutch operation with hydraulically controlled clutch engagement and electrical actuation .
- Trailing pump to guarantee adequate transmission lubrication when the output shaft is rotated with the input shaft stationary. .
- Suitable for twin engine installations. The reversible oil pump permits the use of right hand or left hand rotation engine .

### Options

- Propeller shaft flange and coupling bolt sets .
- PTO (live or clutchable) .
- Standby oil pump .
- Classification by all major Classification Societies on request .
- Monitoring devices fitted and connected to a terminal box as required .

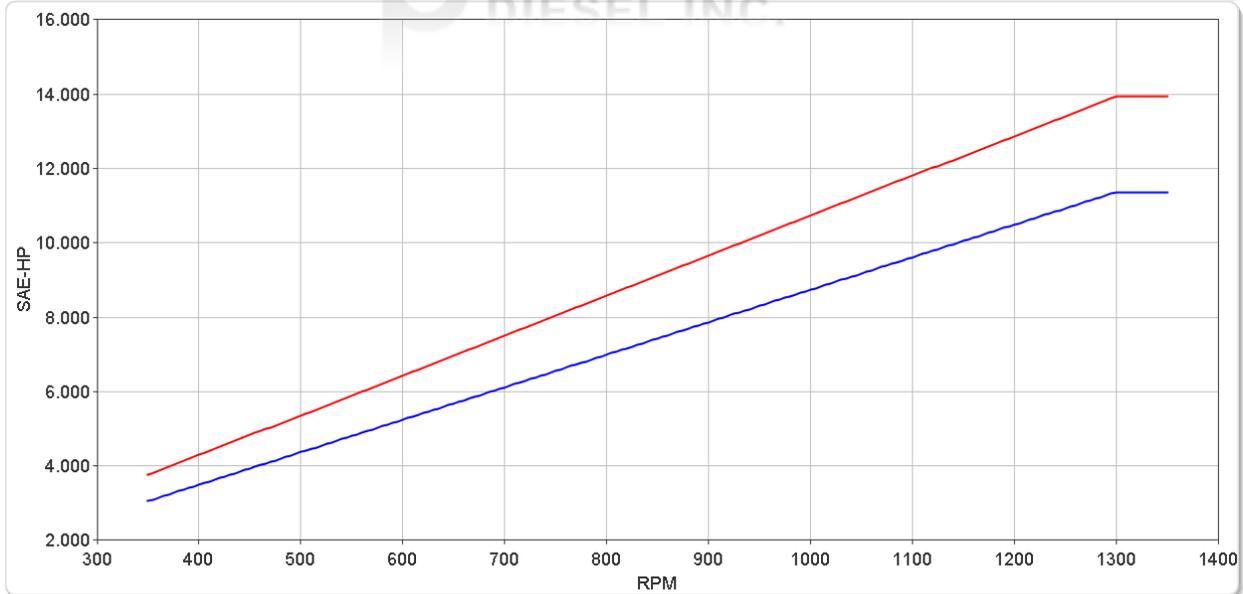
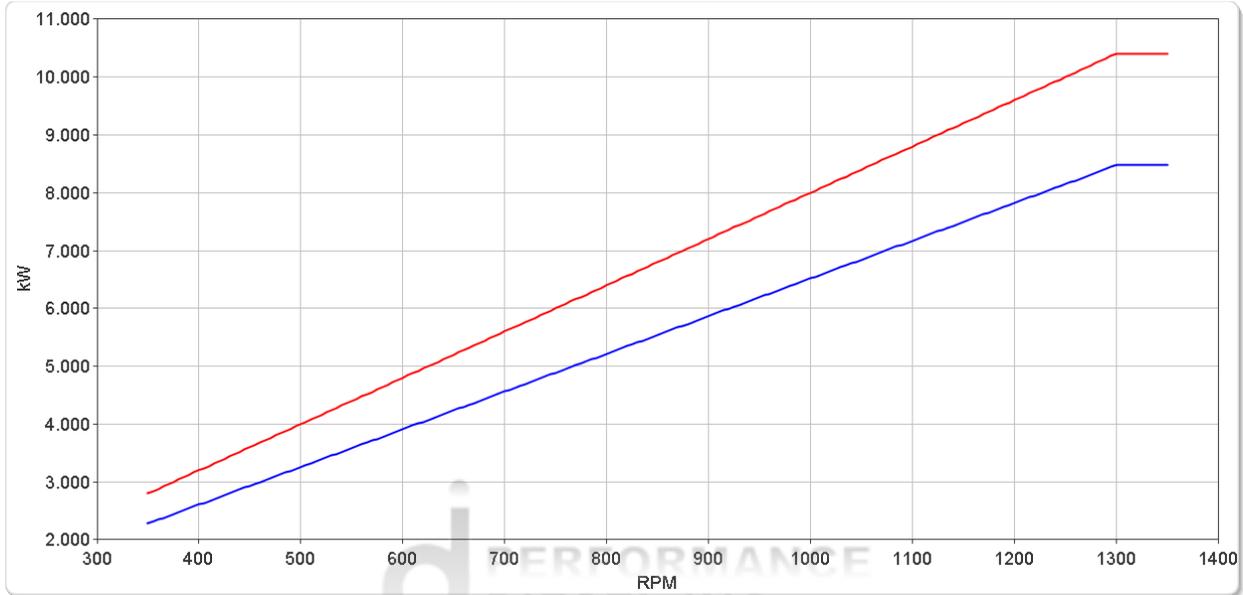
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## Ratings

### Medium Duty

RATIOS	MAX. TORQUE		POWER/RPM		INPUT POWER CAPACITY						MAX. RPM
	Nm	ftlb	kW	hp	1000 rpm		1150 rpm		1300 rpm		
3.031, 3.962, 4.818, 5.450	76400	56350	8.0000	10.7282	8000	10728	9200	12337	10400	13947	1350
5.950, 6.364	62247	45911	6.5180	8.7408	6518	8741	7496	10052	8473	11363	1350

\* Special Order Ratio.



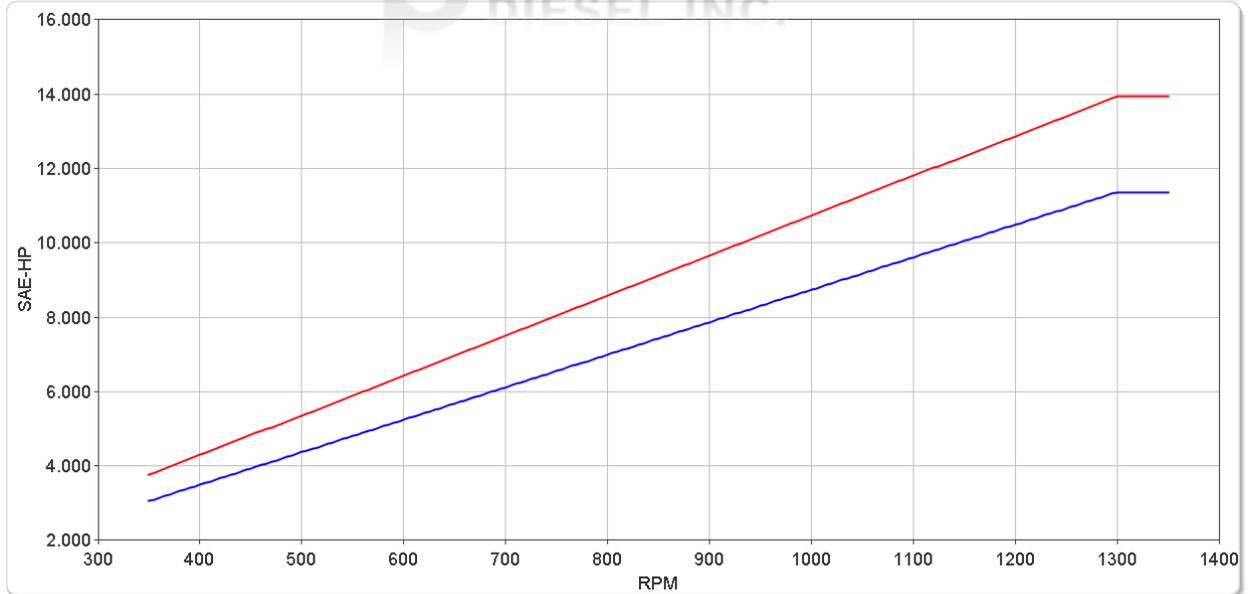
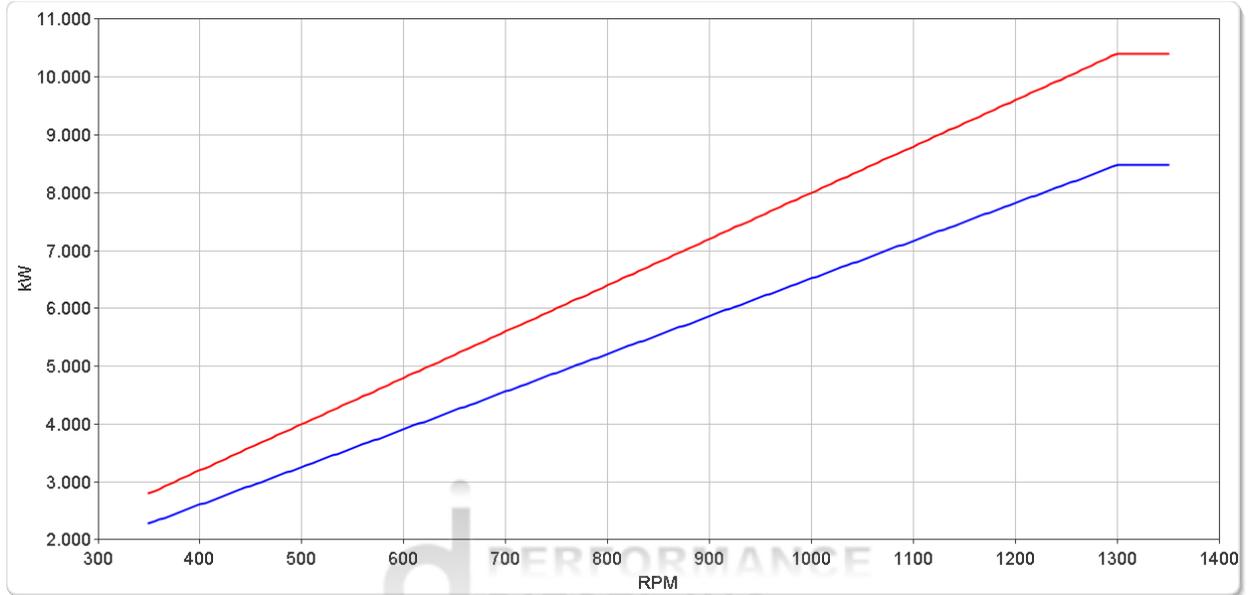
# ZF 83700 NR2H

## Ratings

### Continuous Duty

RATIOS	MAX. TORQUE		POWER/RPM		INPUT POWER CAPACITY						MAX. RPM
	Nm	ftlb	kW	hp	1000 rpm		1150 rpm		1300 rpm		
3.031, 3.962, 4.818, 5.450	76400	56350	8.0000	10.7282	8000	10728	9200	12337	10400	13947	1350
5.950, 6.364	62247	45911	6.5180	8.7408	6518	8741	7496	10052	8473	11363	1350

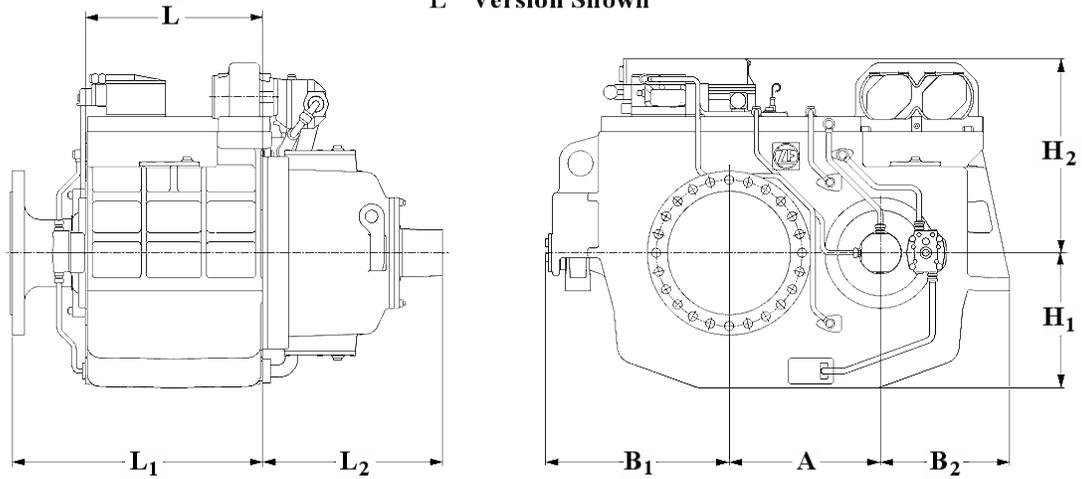
\* Special Order Ratio.



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## Dimensions

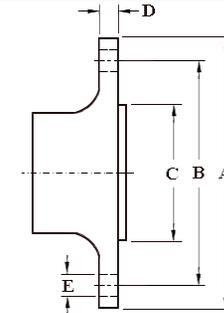
"L" Version Shown



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)	1,235 (48.6)	945 (37.2)	1,140 (44.9)	1,354 (53.3)	800 (31.5)	1,130 (44.5)	1,315 (51.8)	
Weight kg (lb)					Oil Capacity Litre (US qt)			
16,500 ( 36,376)					700 ( 742)			

### Output Coupling Dimensions

A		B		C		D		Bolt Holes		
mm	in	mm	in	mm	in	mm	in	No.	Diameter (E)	
750	29.5	680	26.8	410	16.1	80.0	3.15	16	37.0	1.46



## Duty Definitions

<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.