



Certificate No. 02-004101/025852

TYPE APPROVAL CERTIFICATE

This is to certify that this product complies with the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products.

TYPE AND DESCRIPTION OF PRODUCT:

Marine Reduction Gearboxes for Diesel Propulsion ZF 30xx family

MANUFACTURER:

ZF Friedrichshafen AG
Marine & Special Driveline Technology
Ehlersstraße 50
88046 Friedrichshafen
Germany

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

Rules for the Classification of Ships, Part 9-Machines

FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.

APPROVAL IS VALID UNTIL: **2027-06-15**

Place and date: **Split, 2023-06-15**

Seal

Marinko Popović, dipl.ing.

NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

DETAILED PRODUCT DESCRIPTION:

Marine reduction gearboxes ZF 3000, ZF 3050, ZF 3055, ZF 3060 (NR, NR2, D) with built-in hydraulic clutches and with/without reversing stage.

APPLICATION / LIMITATIONS:

The approval status is based on application factor 1,30.

Continuous Duty, commercial application, single screw				
Model	MCR	RPM	Torque	Ratios
ZF 3000 (NR, NR2, D)	836 kW	2100	3801 Nm	1.093, 1.250, 1.343, 1.441, 1.500, 1.563, 1.645, 1.700, 1.733, 1.800, 1.828, 2.037, 2.154, 2.240, 2.375, 2.500, 2.609, 2.773, 2.952
ZF 3050 (NR, NR2, D)	979 kW		4454 Nm	

Medium Duty, commercial application, single screw				
Model	MCR	RPM	Torque	Ratios
ZF 3000 (NR, NR2, D)	1090 kW	2600	4005 Nm	1.093, 1.250, 1.343, 1.441, 1.500, 1.563, 1.645, 1.700, 1.733, 1.800, 1.828, 2.037, 2.154, 2.240, 2.375, 2.500, 2.609, 2.773, 2.952
ZF 3050 (NR, NR2, D)	1340 kW		4921 Nm	
ZF 3055 (NR, NR2, D)	1433 kW		5261 Nm	
	1350 kW		4958 Nm	2.952

Light Duty, commercial application, multiple screw				
Model	MCR	RPM	Torque	Ratios
ZF 3000 (NR, NR2, D)	1316 kW	2600	4834 Nm	1.093, 1.250, 1.343, 1.441, 1.500, 1.563, 1.645, 1.700, 1.733, 1.800, 1.828, 2.037, 2.154, 2.240, 2.375, 2.500, 2.609, 2.773, 2.952
ZF 3050 (NR, NR2, D)	1460 kW		5361 Nm	
ZF 3055 (NR, NR2, D)	1464 kW		5376 Nm	
ZF 3060 (NR, NR2, D)	1381 kW	2450	5382 Nm	

Pleasure Duty, yacht application, single screw				
Model	MCR	RPM	Torque	Ratios
ZF 3050 (NR, NR2, D)	1603 kW	2600	5887 Nm	1.093, 1.250, 1.343, 1.441, 1.500, 1.563, 1.645, 1.700, 1.733, 1.800, 1.828, 2.037, 2.154, 2.240, 2.375, 2.500, 2.609, 2.773, 2.952
ZF 3055 (NR, NR2, D)	1687 kW		6197 Nm	
ZF 3060 (NR, NR2, D)	1644 kW	2450	6408 Nm	

TYPE APPROVAL DOCUMENTATION:

Drawings and calculations approved by CRS with letters:

678/023093 (2011-04-11)
200/023859 (2016-02-04)
1452/024687 (2019-05-27)
1373/025852 (2023-06-15)

MARKING OF PRODUCT:

- *manufacturer's mark*
- *serial No.*
- *location and year of manufacturing*
- *CRS mark*

CONDITIONS FOR CERTIFICATION:

The manufacturer shall make arrangements for the CRS Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits in case an alternative survey scheme has been approved. Relevant CRS certificate for each particular reduction gearbox will be issued after satisfactory completion of the procedure.

Measuring devices, sensors and alarms shall be subject to CRS approval in each particular case and will depend on service applied and the degree of automation of the propulsion plant.