



Certificate No. 02-002833/024834

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 Engine Propulsion ZF W7610, ZF W7615, ZF 7661 and ZF 7666

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: **2023-11-27**

Place and date: Split, 2019-11-27

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 W7610, ZF W7615, ZF 7661 and ZF 7666 with parallel offset and built-in hydraulic clutches.

Versions: Reversing (3 shaft configuration, input above output), NR (non reversing, input above output).

APPLICATION / LIMITATIONS:

Approved ratings according to ZF selection guide:

Continuous Duty, Commercial Use				
Model	Max. input power [kW]	Max. input speed [rpm]	Max. Torque [Nm]	Ratios
ZF 7661	1847 kW	1800	9800 Nm	4.577:1, 4.760:1, 5.000:1, 5.435:1, 5.952:1
	1734 kW		9201 Nm	6.250:1
	2069 kW		10975 Nm	6.450:1
	1546 kW		8200 Nm	6.500:1
	1252 kW		6645 Nm	6.833:1
ZF W7610	1847 kW		9800 Nm	4.577:1, 5.000:1, 5.435:1, 5.952:1
	1734 kW		9201 Nm	6.250:1
	2069 kW		10975 Nm	6.450:1
	1546 kW		8200 Nm	6.500:1
	1252 kW		6645 Nm	6.833:1
ZF 7666	2073 kW		11000 Nm	4.577:1, 4.760:1, 5.000:1, 5.435:1, 5.952:1
	1925 kW		10214 Nm	6.250:1
	2069 kW		10975 Nm	6.450:1
	1546 kW		8200 Nm	6.500:1
	1252 kW		6645 Nm	6.833:1
ZF W7615	2073 kW	11000 Nm	4.577:1, 5.000:1, 5.435:1, 5.952:1	
	1925 kW	10214 Nm	6.250:1	
	2069 kW	10975 Nm	6.450:1	
	1546 kW	8200 Nm	6.500:1	
	1252 kW	6645 Nm	6.833:1	

Medium Duty, Commercial Use				
Model	Max. input power [kW]	Max. input speed [rpm]	Max. Torque [Nm]	Ratios
ZF 7661	2471 kW	2300	11800 Nm	4.577:1, 4.760:1, 5.000:1, 5.435:1, 5.952:1
	2222 kW		10610 Nm	6.250:1
	2643 kW		10975 Nm	6.450:1
	1951 kW		8100 Nm	6.500:1
	1576 kW		6545 Nm	6.833:1
ZF 7666	2626 kW		12540 Nm	4.577:1, 4.760:1, 5.000:1, 5.435:1
	2626 kW		12075 Nm	5.952:1
	2444 kW		11150 Nm	6.250:1
	2643 kW		10975 Nm	6.450:1
	1951 kW		8100 Nm	6.500:1
	1576 kW	6545 Nm	6.833:1	

Light Duty, Commercial Use				
Model	Max. input power [kW]	Max. input speed [rpm]	Max. Torque [Nm]	Ratios
ZF 7661	2814 kW	2300	12800 Nm	4.577:1, 4.760:1, 5.000:1, 5.435:1
	2814 kW		12075 Nm	5.952:1
	2573 kW		11150 Nm	6.250:1
	2643 kW		10975 Nm	6.450:1
	1951 kW		8100 Nm	6.500:1
	1576 kW		6545 Nm	6.833:1
ZF 7666	2946 kW		13400 Nm	4.577:1, 4.760:1, 5.000:1, 5.435:1
	2908 kW		12075 Nm	5.952:1
	2685 kW		11150 Nm	6.250:1
	2643 kW		10975 Nm	6.450:1
	1951 kW		8100 Nm	6.500:1
	1576 kW		6545 Nm	6.833:1

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

TYPE APPROVAL DOCUMENTATION:

Drawings and calculations approved by CRS with letters: 2798/TSEv/KF/024834; (2019-11-27)

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.