



Certificate No. 02-004662/026414

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 Type ZF 305-3

MANUFACTURER:

ZF Padova S.r.l.
Via Penghe 48
35030 Caselle di Selvazzano (PD)
Italy

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: **2028-11-29**

Place and date: Split, 2024-11-29

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 for propulsion with built-in hydraulic clutches, with mechanical or electrical control, one step reduction and with reversing stage, type ZF 305-3 (parallel offset).

APPLICATION / LIMITATIONS:

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

Continuous Duty ratings*				
Reduction ratios	Max. input power [kW] at 2100 rpm	Max. input speed [rpm]	Max. input torque [Nm]	Power factor [kW/rpm]
0,884; 0,923; 1,0; 1,22; 1,297; 1,486; 1,758; 1,968	272	3000	1238	0,1296
2,25	242		1102	0,1154
2,5	239		1085	0,1136
2,917	212		966	0,1012

Medium Duty ratings*				
Reduction ratios	Max. input power [kW] at 2300 rpm	Max. input speed [rpm]	Max. input torque [Nm]	Power factor [kW/rpm]
0,884; 0,923; 1,0; 1,22; 1,297; 1,486; 1,758; 1,968	327	3000	1356	0,1423
2,25	300		1246	0,1305
2,5	281		1165	0,122
2,917	249		1035	0,1084

Light Duty ratings*				
Reduction ratios	Max. input power [kW] at 2500 rpm	Max. input speed [rpm]	Max. input torque [Nm]	Power factor [kW/rpm]
0,884; 0,923; 1,0; 1,22; 1,297; 1,486; 1,758; 1,968	466	3000	1780	0,1864
2,25	439		1676	0,1755
2,5	408		1559	0,1632
2,917	365		1395	0,1461

Pleasure Duty ratings*				
Reduction ratios	Max. input power [kW] at 2500 rpm	Max. input speed [rpm]	Max. input torque [Nm]	Power factor [kW/rpm]
0,884; 1,297; 1,486; 1,758; 1,968	548	3000	2093	0,2192
0,844; 0,923; 1,0	536		2047	0,2143
2,25	486		1858	0,1946
2,5	446		1703	0,1783
2,917	389		1486	0,1556

**Reference is made to Manufacturer's marine service classification definitions.*

TYPE APPROVAL DOCUMENTATION:

Approved by the Croatian Register of Shipping with letter No.(dated): 3001/TSE/KF/026414 (2024-11-29)

MARKING OF PRODUCT:

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

CONDITIONS FOR CERTIFICATION:

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.

The manufacturer shall deliver bearings with sufficient capacity for the intended application consistent with the definition of service classification. Periodical replacements shall be carried out following the manufacturer's maintenance program.