



Certificate No. 02-004666/026420

## 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 W340

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 reverse reduction gearboxes for propulsion with built-in hydraulic actuated clutches, with mechanical or electrical control type ZF W340 (parallel offset).*

**APPLICATION / LIMITATIONS:**

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

<b>Continuous Duty*, multiple propulsion</b>				
<b>Model</b>	<b>Max. input power [kW] at 2400 rpm</b>	<b>Max. input speed [rpm]</b>	<b>Power Factor [kW/rpm]</b>	<b>Ratios</b>
ZF W340	432	3000	0.1802	2.938:1, 3.233:1, 3.500:1, 4.080:1
	398	3000	0.1657	4.522:1, 4.957:1
	348	3000	0.1450	5.227:1

*\*Reference is made to Manufacturer marine service classification definitions*

<b>Medium Duty*, multiple propulsion</b>				
<b>Model</b>	<b>Max. input power [kW] at 2400 rpm</b>	<b>Max. input speed [rpm]</b>	<b>Power Factor [kW/rpm]</b>	<b>Ratios</b>
ZF W340	469	3000	0.1953	2.938:1, 3.233:1, 3.500:1, 4.080:1, 4.522:1
	430	3000	0.1793	4.957:1
	381	3000	0.1589	5.227:1

*\*Reference is made to Manufacturer marine service classification definitions*

**TYPE APPROVAL DOCUMENTATION:**

*Approved by the Croatian Register of Shipping with letter No.(dated): 3002/TSE/KF/026420 (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.*