

**POTVRDA O TIPNOM ODOBRENJU**
TYPE APPROVAL CERTIFICATEBr /No **02-001527/023196**

Potvrđuje se da je ovaj proizvod, u skladu s Pravilima za klasifikaciju brodova, Dio 1. - Opći propisi, Odjeljak 3. - Tipno odobrenje proizvoda, odobren za ugradnju na brodove i postrojenja pod nadzorom Hrvatskog registra brodova.

This is to certify that this product, on the basis of the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products, is approved for use on board ships and installations under supervision of the Croatian Register of Shipping.

TIP I OPIS PROIZVODA:

TYPE AND DESCRIPTION OF PRODUCT:

Brodski reduktori za dizelski poriv – serija ZF(W) 33xx*Marine Reduction Gearboxes for Diesel Propulsion – ZF(W) 33xx family*PROIZVOĐAČ:
MANUFACTURER:**ZF Friedrichshafen AG**

Marine Propulsion Systems

Ehlersstraße 50

88046 Friedrichshafen

Germany

PROIZVOD UDOVOLJAVA SLJEDEĆIM PRAVILIMA/PROPISIMA:

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

HRB: Pravila za klasifikaciju brodova, Dio 9. - Strojevi.*CRS: Rules for the classification of ships, Part 9. - Machines.***DETALJI O PROIZVODU I UVJETIMA CERTIFIKACIJE DANI SU NA POLEĐINI.**

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

ODOBRENJE VRIJEDI DO: 2015-11-29
APPROVAL IS VALID UNTIL:Mjesto i datum: Split, 2011-11-29
Place and date:M.P.
(Seal)

Goran Begović, dipl.ing.

NAPOMENA: Ova potvrda nije valjana ako se proizvod ili način njegove proizvodnje promijenio u odnosu na tipno ispitani proizvod. Proizvođač treba obavijestiti Hrvatski registar brodova o bilo kojoj izmjeni na proizvodu kako bi ishodio valjanu potvrdu.

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.

PODROBNIJI OPIS PROIZVODA:
DETAILED PRODUCT DESCRIPTION:

Brodski reduktori ZF 3310, ZF W3310, ZF 3311, ZF 3350, ZF W3350, ZF 3351, ZF 3355, ZF W3355, ZF 3356, ZF 3360, ZF 3361 (NR, NR2) sa ugrađenom hidrauličkom spojkom sa ili bez prekreta.
Marine reduction gearboxes ZF 3310, ZF W3310, ZF 3311, ZF 3350, ZF W3350, ZF 3351, ZF 3355, ZF W3355, ZF 3356, ZF 3360, ZF 3361 (NR, NR2) with built-in hydraulic clutches and with/without reversing stage.

PODRUČJE PRIMJENE / POSEBNI GRANIČNI UVJETI:
APPLICATION / LIMITATIONS:

Odobreno za pogonski faktor $K_A = 1,30$.
The approval status is based on application factor 1,30.

CRS Ratings

Continuous Duty				
Commercial Use, Multiple Propulsion				
Model	MCR	RPM	Torque	Ratios
ZF 3310 (NR, NR2) ZF W3310 (NR, NR2)	637kW	1600	3801Nm	3.519:1; 4.000:1; 4.478:1; 4.727:1; 5.000:1
ZF 3350 (NR, NR2) ZF W3350 (NR, NR2)	760kW		4536Nm	
ZF W3355 (NR, NR2)	889kW		5306Nm	3.519:1; 4.000:1;
	848kW		5060Nm	4.478
	814kW		4860Nm	4.727
	774kW	4620Nm	5.000	
Medium Duty				
Commercial Use, Multiple Propulsion				
Model	MCR	RPM	Torque	Ratios
ZF 3310 (NR, NR2) ZF 3311 (NR, NR2)	881kW	2100	4005Nm	3.519:1; 4.000:1; 4.478:1; 4.727:1; 5.000:1
ZF 3350 (NR, NR2) ZF 3351 (NR, NR2)	1082kW		4921Nm	
ZF 3355 (NR, NR2) ZF 3356 (NR, NR2)	1157kW		5260Nm	3.519:1; 4.000:1; 4.478:1; 4.727:1
	1120kW		5091Nm	5.000:1
Light Duty				
Commercial Use, Multiple Propulsion				
Model	MCR	RPM	Torque	Ratios
ZF 3310 (NR, NR2) ZF 3311 (NR, NR2)	1061kW	2100	4825Nm	3.519:1; 4.000:1; 4.478:1; 4.727:1; 5.000:1
ZF 3350 (NR, NR2) ZF 3351 (NR, NR2)	1179kW		5361Nm	
ZF 3355 (NR, NR2) ZF 3356 (NR, NR2)	1228kW		5584Nm	
ZF 3360 (NR, NR2) ZF 3361 (NR, NR2)	1402kW		6374Nm	
Pleasure Duty				
Private Use, Single / Multiple Propulsion				
Model	MCR	RPM	Torque	Ratios
ZF 3350 (NR, NR2)	1295kW	2100	5888Nm	3.519:1; 4.000:1; 4.478:1; 4.727:1; 5.000:1
ZF 3355 (NR, NR2)	1363kW		6197Nm	
ZF 3360 (NR, NR2)	1536kW		6984Nm	

DOKUMENTACIJA ZA TIPNO ODOBRENJE:
TYPE APPROVAL DOCUMENTATION:

Nacrti i proračuni odobreni od HRB dopisom: 2200/023196 (2011-11-29)
Drawings and calculations approved by CRS with letter:

OZNAČAVANJE PROIZVODA:
MARKING OF PRODUCT:

- | | |
|--------------------------|---|
| - oznaka proizvođača | - <i>manufacturer's mark</i> |
| - serijski broj | - <i>serial No.</i> |
| - mjesto i godina izrade | - <i>location and year of manufacturing</i> |
| - oznaka HRB | - <i>CRS mark</i> |

UVJETI ZA CERTIFIKACIJU:
CONDITIONS FOR CERTIFICATION:

Proizvođač mora organizirati prisustvo inspektora Registra pregledu i ispitivanju u tvornici ili se mora obaviti odgovarajući pregled ako se odobri alternativni način prihvata. HRB Potvrda za svaki pojedini reduktor izdat će se nakon zadovoljavajućeg završetka postupka.

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.

Račlana

09.04.02

Zamjenjuje potvrdu

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