

**POTVRDA O TIPNOM ODOBRENJU**  
**TYPE APPROVAL CERTIFICATE****Br /No**      **02-001513/023149**

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 – tip ZF W650***Marine Reduction Gearboxes for Diesel Propulsion – type ZF W650***PROIZVOĐAČ:***MANUFACTURER:***ZF Padova S.r.l.**

Via Penghe 48

35030 Caselle di Selvazzano (PD)

Italia

**PROIZVOD UDOVOLJAVA SLIJEDEĆIM 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: 2015-08-30***APPROVAL IS VALID UNTIL:***Mjesto i datum: Split, 2011-08-30***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.*

**PODROBNJI OPIS PROIZVODA:**  
 DETAILED PRODUCT DESCRIPTION:

**Brodski reduktori ZF W650, sa ugrađenom hidrauličkom spojkom, direktni i prekretni, za trajno opterećenje i višestruku ugradnju.**

*Marine reduction gearboxes ZF W650, with built-in hydraulic clutch, direct and reverse drives, for continuous duty and multiple installation.*

**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.*

Duty Ratio	Continuous @ 1800 rpm		Continuous @ 2100 rpm		Medium @ 2300 rpm	
	MCR, kW	Torque, Nm	MCR, kW	Torque, Nm	MCR, kW	Torque, Nm
3.605	448	2376.8	522	2374	592	2458.1
4.057	448	2376.8	522	2374	592	2458.1
4.531	448	2376.8	522	2374	592	2458.1
5.138	448	2376.8	522	2374	592	2458.1
5.357	448	2376.8	522	2374	592	2458.1
5.593	448	2376.8	522	2374	592	2458.1
6.120	405	2148.7	473	2151	564	2341.8
6.417	379	2010.8	442	2010	539	2238.0

**DOKUMENTACIJA ZA TIPNO ODOBRENJE:**  
 TYPE APPROVAL DOCUMENTATION:

**Nacrti i proračuni odobreni od HRB dopisom:**

1631/023149 (2011-08-30)

*Drawings and calculations approved by CRS with letter:*

**OZNAČAVANJE PROIZVODA:**  
 MARKING OF PRODUCT:

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

**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

Zamjenjuje potvrdu

09.04.02

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