



NIPPON KAIJI KYOKAI

CERTIFICATE

No.KC14ES170

This is to certify that the ballast water treatment system listed below has been examined and tested in accordance with the requirements of the specifications contained in the Guidelines contained in IMO Resolution MEPC. 174(58). This certificate is valid only for the ballast water treatment system referred to below.



Item : Ballast Water Treatment System
Product name : Desmi Ocean Guard A/S
Specification : See Annex.
Applicant : DESMI Ocean Guard A/S
Lufthavnsvej 12 DK-9400 Nørresundby Denmark
Documentation : See Annex.

A copy of this Type Approval Certificate, should be carried on board a vessel fitted with this ballast water treatment system at all times. A reference to the test protocol and a copy of the test results should be available for inspection on board the vessel. If the Type Approval Certificate is issued based on approval by another Administration, reference to that Type Approval Certificate shall be made.

This certificate remains valid until 15 June 2019, the item, the design or manufacture is changed or modified, or the instruction by the Society, whichever is earliest.

This certificate is issued at Tokyo on 16 June 2014.

NIPPON KAIJI KYOKAI

T. Imamura
General Manager
Material and Equipment Department

Initial approval date : 16 June 2014



Specification

- Treatment Rated Capacity (TRC)

Model	TRC (m ³ /h)
Oxyclean-100	100
Oxyclean-200	200
Oxyclean-300	300
Oxyclean-400	400
Oxyclean-500	500
Oxyclean-600	600
Oxyclean-700	700
Oxyclean-800	800
Oxyclean-900	900
Oxyclean-1000	1000
Oxyclean-1100	1100
Oxyclean-1200	1200
Oxyclean-1300	1300
Oxyclean-1400	1400
Oxyclean-1500	1500

Model	TRC (m ³ /h)
Oxyclean-1600	1600
Oxyclean-1700	1700
Oxyclean-1800	1800
Oxyclean-1900	1900
Oxyclean-2000	2000
Oxyclean-2100	2100
Oxyclean-2200	2200
Oxyclean-2300	2300
Oxyclean-2400	2400
Oxyclean-2500	2500
Oxyclean-2600	2600
Oxyclean-2700	2700
Oxyclean-2800	2800
Oxyclean-2900	2900
Oxyclean-3000	3000

-Treatment sequence;

Filtration & UV Irradiation & Ozone Treatment (Ballast Water Uptake & Discharge)

- Manufacturers of components

Component	Manufacturer
Filter	Boll & Kirch Filterbau GmbH
UV Unit	Metafix A/S WILA A/S A.K.S. Gruppen A/S HST A/S
Main Control Panel	CS Electric ApS
UV Control Panel	Elektromarine A/S

(Continued)



Documentation

- OXYCLEAN – Operation and technical manual
- Confidential information DESMI Ocean Guard ballast water treatment system

Test Reports

- Final Report – Immersion testing on coated and uncoated panels in ozone treated water
- Summary – Immersion testing on coated and uncoated panels in ozone treated water
- Preliminary chemical characterization, whole effluent toxicity and risk evaluation of treated ballast water for basic approval by DHI
- Performance evaluation in land-based test and risk assessment of emissions of the DESMI Ocean Guard ballast water management system DOGP40-300 by DHI
- Revised quality assurance project plan shipboard test of DOG P40-300 Ballast water management system by DHI
- Quality management plan performance evaluation of ballast water management system – DHI, Denmark
- Land based test review of DESMI Ocean Guard ballast water treatment system as per IMO Resolution MEPC 174(58) by LR
- Visit report of land based test by LR
- Performance evaluation in shipboard of the DESMI Ocean Guard ballast water management system DOG P40-300 by DHI
- Certificate of Compliance “DHI ballast water centre, Denmark” by LR
- BW treatment systems approval checklist (shipboard test) by LR
- Shipboard test review of DESMI Ocean Guard ballast water treatment system as per IMO Resolution MEPC 174(58) by LR
- DELTA test report -- Test for marine type approval of ballast water management system
- Performance evaluation in land-based and ship-board test of the DESMI Ocean Guard ballast water management system DOG P40-300 by DHI

Restriction/Condition

The documentation related to Arrangement of the BWMS and Piping and Diagram including the BWMS must be approved by our Society in each case.

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