

Approval Certificate



This is to certify, that the undernoted products have been approved in accordance with the relevant requirements of the GL Approval System.

Certificate No. 19 025 - 11 HH

Company Optimarin AS
Fabrikkveien 21
4033 Stavanger, NORWAY

Product Ballast Water Management System (BWMS)

Type Optimarin Ballast System (OBS)

Technical Data / Application
The OBS BWMS consist of the following main components:
Micro-Kill Filter (40 micron mesh), Micro-Kill UV Chamber, UV Intensity Meter, Flow Meter, Flow Pressure Valve and Control Equipment as specified in Manual for Optimarin Ballast System, Rev.D.
Treatment Rated Capacity (TRC) of one UV Chamber: 167m³/h
Operational range 20m³/h to 167m³/h
For bigger TRC the combination of UV chambers shall be carried out acc. to drawing 0334-GA-110-200-30307-01-01.

Treatment procedure
Ballast water uptake: Filtration plus UV Treatment
Ballast water discharge: UV Treatment

Filter types	Flow range(m ³ /h)	Max. pressure drop
BallastSafe Filter BSFc-H-04/10/16	20-90/75-230/100-500	0,5 bar
Bollfilter Selfclean type 6.18.2 BWT	14-5400	0,5 bar

Approval Standard Rules I-1-2 Machinery Installation, I-1-3 Electrical Installation, VI-7-2 Test Requirements for Electrical/Electronic Equipment and Systems

Documents GL Approval Reference No.: 11-16737/HMa dated 2011-06-03
Continuation on page 2

Remarks Filter are subject to final inspection by GL surveyor in the manufacturer work shop.
Commissioning of the OBS system is to be witnessed by GL surveyor.

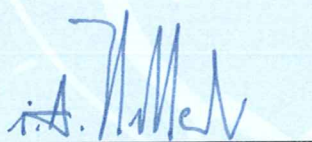
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Germanischer Lloyd

Hamburg, 2011-07-15


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