DNV·GL

Certificate No:
TAP0000131

TYPE APPROVAL CERTIFICATE

This is to certify:

That the 5 ppm Bilge Water Separator

with type designation(s)
Bilge Master E-Series, cleandesign

Issued to
GEA Westfalia Separator Group GmbH
Oelde Nordrhein-Westfalen, Germany

is found to comply with
DNV GL class programme DNVGL-CP-0208 – Type approval – 5 ppm bilge water separators

Application :

Product approved by this certificate is accepted for installation on all vessels classed by DNV GL.
Capacity: E-500, E-1200, E-2500 and E-5000. Refer to certificate.

Issued at **Hamburg** on **2017-09-05**
This Certificate is valid until **2022-09-04**.
DNV GL local station: **Essen**

for **DNV GL**

Approval Engineer: **Hagen Markus**

Olaf Drews
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

The BilgeMaster E – series oily water separator system consist of the following main components:

Component	**E-500**	**E-1200**	**E-2500**	**E-5000**
Centrifugal separator	WSE 5	WSE 10	WSE 20	WSE 50
Switch board, Control and monitoring system	Wiring diagram and parts list - 8106-2011-010			
Programmable logic control	Type E40 or other type approved system			
Software version	8106-0E40-604			
Feed pump type[1]	Eccentric screw pump			
Metal edge filter[1] at inlet	AF 711	AF 7133		AF 7243
Adsorption filter[1] at outlet	AF220-7/30	AF300-12/30	AF410-20/30	AF500-30/30
Bilge water preheater[1] at inlet, heating media steam or thermal oil				
IMO and or MED type approved Oil Content Meter (OCM), alarm set point 5ppm (stop of discharge)				

Notes

[1] Other types are accepted provided that the same design parameter, e.g. speed-delivery characteristic curve (supply pump), flow capacity, mesh size (filter) or heat capacity (heat exchanger) are applied for selection.

Application/Limitation

The BilgeMaster-E cleandesign series is type approved for bilge water treatment with maximum oil content at discharge of 5ppm.

Treatment capacities

BilgeMaster system	Inlet temperature	Separator Type	Max. treatment capacity [m^3/hr]
BilgeMaster-E 5000 cleandesign	85°C	WSE 50	5.0
BilgeMaster-E 2500 cleandesign	85°C	WSE 20	2.5
BilgeMaster-E 1200 cleandesign	85°C	WSE 10	1.2
BilgeMaster-E 500 cleandesign	85°C	WSE 5	0.5

The following fail-safe arrangements and alarms shall be verified after installation:

1. The alarm is always activated whenever:
   - clean water is used for cleaning or zeroing purposes
   - no flow of sample through the oil-content meter is detected by the flow sensor
2. Any alarm will activate the automatic stopping device and lead to recirculation
3. The overall response time (including the response time of the alarm) between an effluent discharge exceeding 5 ppm and to the Automatic Stopping Device preventing the overboard discharge is less than 20 s
4. By-passing of the oil content meter (alarm) during normal operation shall by no means be possible.

Limitations

Installation of the equipment in spaces subject to explosion hazard is not permitted.

Type Approval documentation

Tests carried out

Type Approval Documentation

Marking of product

For traceability to this type approval, each unit to be marked by a name plate with at least the following data:

- Manufacturers name or trade mark
- Type designation
- Serial No.
- Maximum throughput
- Minimum inlet temperature: 85°C
- Maximum influent pressure

Periodical assessment

For retention of the type approval certificate periodical assessments shall be carried out at production places by DNVGL surveyor.
The objective of the periodical assessment is to verify that the design and production conditions for the type approval have not been altered.

Main scope of the assessment:
- verification of the production and quality control system
- review of quality control documentation of recent deliveries
- review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application
- verification of the product marking

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.