DNV·GL

Certificate No:
TAP00001J5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the 5 ppm Bilge Water Separator

with type designation(s)
HCS-20, HCS-50, HCS-100, HCS-200, HSC-300, HCS-500, HCS-1000

Issued to
Heishin Pump Works Co., Ltd.
Kago-gun, Hyogo Pref., Japan

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

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL with optional notation Clean (Design).

Type:	Capacity:
HCS-20	0.2
HCS-50	0.5
HCS-100	1.0
HCS-200	2.0
HSC-300	3.0
HCS-500	5.0
HCS-1000	10.0

Issued at **Høvik** on **2018-09-03**
This Certificate is valid until **2020-11-09**.
DNV GL local station: **Kobe**

for **DNV GL**

Approval Engineer: **Thomas Grafton**

Dag Sæle-Nilsen
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.

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Product description

The equipment is intended for installation in machinery spaces on board ships for oily bilge water separation: Maximum 5 ppm at discharge overboard. The 5 ppm bilge separators are designed and tested to meet the requirements of DNVGL-CP-0208.

The design is made up of a first treatment phase where rough gravity separation is achieved by using baffle plates, a second stage with an emulsion breaker that also filters out solids, a third stage with a coalescer and a fourth stage with another coalescer.

This product may also be manufactured at Heishin Pump Works Shanghai Factory.
Address; 1-3 Building 1, No. 496, Futedongyi Road, Waigaoqiao, Free Trade Zone, Shanghai, China.

Application/Limitation

Application:

Type:	**Capacity (m^3/h):**	**Max. pump capacity (m^3/h):**
HCS-20	0.2	0.22
HCS-50	0.5	0.55
HCS-100	1.0	1.1
HCS-200	2.0	2.2
HCS-300	3.0	3.3
HCS-500	5.0	5.5
HCS-1000	10.0	11.0

Installation:

The supplied unit includes an integrated feed pump with make and model as described in the piping diagrams listed in the Type Examination Documentation.

The unit shall be integrated with a 5ppm Oil Content Monitor complying with DNVGL-CP-0485. This Oil Content Monitor shall be provided with a separate DNVGL Type Approval Certificate.

The 5ppm Oil Content Monitor shall be installed as described in the piping diagrams listed in the Type Examination Documentation. The "Sampling Valve" shown on the piping diagrams shall be kept open in normal operation.

A Flow (Pressure) Sensor shall be installed between the "Sampling Valve" and the 5ppm Oil Content Monitor, as shown in the piping diagrams listed in the Type Examination Documentation.

The following items shall be verified on the final installation (5ppm Bilge Separator and 5ppm Oil Content Monitor): -

1. An alarm signal in the Oil Content Monitor is activated whenever clean water is used for cleaning or zeroing purposes
2. An alarm signal in the Oil Content Monitor is activated whenever no flow of sample through the Oil Content Monitor is detected by the flow sensor
3. Any alarm signal will activate the Automatic Stopping Device preventing overboard discharge and lead to recirculation
4. The overall response time (including the response of time of the 5ppm Oil Content Monitor) between an effluent discharge from the 5ppm Bilge Separator exceeding 5ppm, and the operation of the Automatic Stopping Device preventing overboard discharge, shall be not more than 20 seconds
5. By-passing the 5ppm Oil Content Monitor during normal operation shall by no means be possible
6. Every access of the Oil Content Monitor (beyond check on instrument drift, repeatability of the instrument reading, and the ability to re-zero the instrument) requires breaking of a seal.

Note: Depending on the make/model of 5ppm Oil Content Monitor, the no flow situation described in item 2 may activate the Automatic Stopping Device preventing overboard discharge without an "alarm signal". This is acceptable and is normally occurring when the flow sensor is connected to the input signal that detects when the 5ppm Oil Content Monitor is de-energized.

Limitations:

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

A copy of the Operation, installation and maintenance manual shall be on board vessel at all times.

Type Approval documentation

Listed drawings/ documents refer to all capacities, except as indicated.

Tests carried out

Marking of product

The final product shall be provided with visible marking, which completely identifies the product and its components according to drawings/equipment specifications.

The marking shall give at least the following information:
- Identification of manufacturer
- Equipment type designation or model identification
- Maximum throughput and maximum influent pressure at which the separator is designed to operate
- Serial number
- Revision information, as applicable, for all firmware or software modules installed per hardware unit, necessary to identify the equipment.

Periodical assessment

Retention survey to be performed according to Type approval program DNVGL-CP-0338:

- This certificate is valid for five years and periodical assessments will be required after 2 years (+/- 90 days) and 3.5 years (+/- 90 days). The initial certification date defining the beginning of the validity period was 2015-11-10.

----------This certificate replaces previous certificate TAP0000067 Rev.1 which is now withdrawn---------