

TYPE APPROVAL CERTIFICATE

This is to certify:

That the 5 ppm Bilge Water Separator

with type designation(s)

CS0250, CS0250 Non Magnetic, CS0500, CS0500 Non Magnetic, CS1000, CS2000, CS3000, CS4000, CS5000

Issued to

**Victor Marine Ltd.
 Chesterfield, United Kingdom**

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.

Type:	Capacity:
CS0250	0.25 m3/h
CS0250 Non Magnetic	0.25 m3/h
CS0500	0.5 m3/h
CS0500 Non Magnetic	0.5 m3/h
CS1000	1.0 m3/h
CS2000	2.0 m3/h
CS3000	3.0 m3/h
CS4000	4.0 m3/h
CS5000	5.0 m3/h

Issued at **Høvik** on **2020-12-22**

for **DNV GL**

This Certificate is valid until **2022-12-31**.

DNV GL local station: **Southampton**

Approval Engineer: **Marius Mørner**

Dalibor Bukarica
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Job Id: **262.1-015379-7**
Certificate No: **TAP00000GE**
Revision No: **2**

Product description

The CS series of 5 ppm Bilge Water Separators manufactured by Victor Marine Ltd. are intended for installation onboard ships and offshore units for oily bilge water separation – max.5 ppm at discharge overboard. The equipment is designed and tested to meet the requirements of the IMO Resolution MEPC.107(49), and DNVGL Type approval program DNVGL-CP-0208.

The product is fitted with an integral supply pump.

Application/Limitation

Capacities:

Maximum throughput capacity:

Type/Model:	Max. Flow:
CS0250	0.25 m ³ /h
CS0250 Non Magnetic	0.25 m ³ /h
CS0500	0.5 m ³ /h
CS0500 Non Magnetic	0.5 m ³ /h
CS1000	1.0 m ³ /h
CS2000	2.0 m ³ /h
CS3000	3.0 m ³ /h
CS4000	4.0 m ³ /h
CS5000	5.0 m ³ /h

Installation Requirements:

The capacity of the supply pump is not to exceed 110% of the rated maximum throughput capacity of the 5ppm Bilge Water Separator.

The following shall be verified during installation:

- The alarm is always activated whenever clean water is used for cleaning or zeroing purposes;
- The alarm is always activated whenever no flow of sample through the oil-content meter is detected by the flow sensor;
- Any alarm will activate the Automatic Stopping Device and lead to recirculation;
- The overall response time (including the response time of the alarm) between an effluent discharge exceeding 5 ppm oil and to the Automatic Stopping Device preventing the overboard discharge is less than 20 s;
- By-passing the alarm during normal operation shall by no means be possible;
- Every access of the alarm (beyond check on instrument drift, repeatability of the instrument reading, and the ability to re-zero the instrument) requires the breaking of a seal.

A copy of the Installation, Operating and Maintenance Manual shall be on board the vessel at all times.

Limitations:

The equipment is not permitted to be installed in spaces subject to explosion hazards.

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Type Approval documentation

Model/Type :	Dwg. No.:	Revision/date :	Title :
CS0250	CS0250-001	02-02-2016	General Arrangement OWS CS0250
CS0500	CS0500-001	15-12-2016	General Arrangement OWS CS0500
CS0250/0500 Non Magnetic	CS0250-001_AA	06-06-2016	General Arrangement OWS CS0250/0500 Non Magnetic
CS0250/0500 Non Magnetic	CS0250-010_AA	06-06-2016	Shell Fabrication MK3 CS0250/500 Non Magnetic
CS1000	CS1000-001	02-06-2017	General Arrangement OWS CS1000
CS2000	CS2000-001	24-05-2017	General Arrangement OWS CS2000
CS3000	CS3000-001	03-07-2017	General Arrangement OWS CS3000
CS4000	CS4000-001	30-05-2017	General Arrangement OWS CS4000
CS5000	CS5000-001	15-12-2016	General Arrangement OWS CS5000

Common drawings:			
-	Issue17		Installation, Operating and Maintenance Manual
CS1000-002/1	19-11-2012		CS Series Flow Diagram
CS1000-100-1	10-12-2014		CS Series Oil/Water Separator Automatic Controls – Wiring Diagram
CS1000-100-2	10-12-2014		CS Series Oil/Water Separator Circuit Diagram – External Connections
CS1000-100-3	10-12-2014		CS Series Oil/Water Separator D.O.L Starter Wiring Diagram 3 Phase – Low Voltage Control Circuit

Tests carried out

Tested in accordance with the requirements of the specification contained in Parts 1 and 3 of the Annex to the "Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships", IMO resolution MEPC.107(49), and DNVGL Type approval program DNVGL-CP-0208.

Type Test Protocols:

- Institut Fresenius, Dr. Ulrich Hilverkus:
 - Test results and test procedures for Type Victor CS1000 performed 12th July 2005 and stamped 12th August 2005
 - Test results and test procedures for Type Victor CS4000 performed 12th July 2005 and stamped 12th August 2005

Environmental Testing:

- Product Assessment & Reliability Centre Ltd.:
 - Test report no. 5155, Issue no. 1, 23. July 2013 – "Environmental Test"
- Sira instrument Test and Calibration:
 - Test report no. N 0525, August 2005 – "Environmental (Climatic) Tests on an Ashridge Engineering Capacitance Probe"
 - Test report no. N 0527, August 2005 – "Environmental (Climatic) Tests on a Moeller Isolator Switch"
 - Test report no. N 0530, August 2005 – "Environmental (Climatic) Tests on an Ashridge Engineering Capacitance Probe"
 - Test report no. N 0532, August 2005 – "Environmental (Climatic) Tests on a Moeller Isolator Switch"

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Marking of product

For traceability to this type approval, the final product shall be provided with visible marking, which completely identifies the product and its components according to drawing/equipment specification:

- Manufacturers name or trade mark
- Equipment type designation or Model identification
- Serial No.
- Maximum throughput and maximum influent pressure at which the separator is designed to operate
- Revision information for all firmware or software modules installed per hardware unit (as applicable)

Periodical assessment

A condition of the retention of the Type Approval certificate in its validity period is that periodical assessments are successfully carried out according to Section 4 of DNVGL-CP-0338.

The object of the periodical assessment is to verify that the conditions for the Type Approval have not been altered.

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