



EC Type Examination Certificate

Notified Body 2843

This is to certify that ABS ITALY S.R.L. did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU, subject to any conditions in the schedule attached hereto.

ITEM NUMBER: MED/2.1

IMPLEMENTING REGULATIONS (EU) 2022-1157

CERTIFICATE NUMBER: 06-197869-7-EC

MANUFACTURER: H2O LLC

MANUFACTURER'S LOCATION: Lafayette, LA, USA

AUTHORIZED REPRESENTATIVE: H2O Marine GmbH

PRODUCT DESIGNATION: Oil-filtering equipment (for an oil content of the effluent not exceeding 15 p.p.m.)
Models: Boss 2.2T/107, Boss 2.2T/107-Y, Boss 5T/107, Boss 11T/107 (With DP Option), Boss 25T/107 (With DP Option), Boss 45T/107 (with DP Option), MiniBoss, MiniBoss-5P

STANDARDS AND REGULATIONS: European Union Marine Equipment Directive 2014/90/EU referencing testing requirement of implementing regulations (EU) 2022-1157.
MARPOL 73/78 Annex I, Reg. 14
IMO MEPC.1/Circ. 643
IMO Res.MEPC.107(49), as amended

THIS CERTIFICATE IS ISSUED IN COMPLIANCE WITH CONFORMITY ASSESSMENT **MODULE B** OF THE REGULATIONS AND DIRECTIVES LISTED

ISSUE DATE: 12-oct-2022

EXPIRATION DATE: 11-oct-2027

ELECTRONICALLY
SIGNED BY: E. Brina

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the notified body named on this certificate.

Should the specified regulations or standards be amended during the period of validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on the market and on board vessels to which the amended regulations or standards apply.

The "Mark of Conformity" may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX B of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

The attached document schedule forms part of this Certificate.

This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with.

Entry Date: 12-oct-2022

Name of Equipment

Manufacturer: H2O LLC
841 Vincent Rd, Lafayette
LA 70508, USA

Tel: 001 337-857-7203
Email: madams@h2oinc.com
Website: www.h2oinc.com

Manufacturer site: N/A

Authorized representative: H2O Marine GmbH
Monbijouplatz 3b
10178 Berlin, Germany
Tel: +49 1785056872

Equipment/Component: Oil-filtering equipment (for an oil content of the effluent not exceeding 15 p.p.m.)
MiniBOSS-5P Oily Water Separation System – Oil Filtering (5ppm) equipment

Model: Boss 2.2T/107, Boss 2.2T/107-Y, Boss 5T/107,
Boss 11T/107 (with DP Option), Boss 25T/107 (with DP Option), Boss 45T/107 (with DP Option), MiniBoss,
MiniBoss-5P

Description: Oily Water Separation System - Oil Filtering (15 PPM) Equipment.
MiniBOSS-5P Oily Water Separation System – Oil Filtering (5ppm) equipment

Intended Service: Bilge water separator for shipboard machinery space bilges.

Ratings: Capacity gpm (m³/h):
Boss 2.2T/107 & Boss 2.2T/107-Y at 2.2gpm (0.5 m³/h);
Boss 5T/107 at 5gpm (1.2 m³/h);
Boss 11T/107 at 11gpm (2.5 m³/h);
Boss 25T/107 at 25gpm (5.7 m³/h);
Boss 45T/107 at 45 gpm (10.2 m³/h);
MiniBoss at 2gpm (0.45 m³/h);
MiniBoss-5P at 2gpm (0.45 m³/h);
Operating Pressure: 30 psig
Operating Temperature: 5 degC to 55 degC
Hazardous area installation:
- Model number with suffix "X1": Class I Div I
- Model number with suffix "X2": Class I Div II or Zone 2

Standards: European Union Marine Equipment Directive 2014/90/EU referencing testing requirement of implementing regulations (EU) 2022-1157
 MARPOL 73/78 Annex I, Reg. 14,
 IMO MEPC.1/Circ. 643,
 IMO Res.MEPC.107(49), as amended

Service Restrictions/Limitations: To be used with approved Oil Content monitor (OCM) only. Approved OCM's include Monitors provided by suppliers which have been tested by an approved laboratory and found to conform to IMO MEPC.60(33), Annex I & 107(49).

If fitted on vessels of 10,000 tons gross and over, the equipment is to be fitted with an alarm and an arrangement to automatically stop the discharge when 15PPM cannot be maintained.

Hazardous area certificates are to be verified for each unit based on their installed location.

The equipment to comply with installation requirements stated in 6.1 of the MEPC Res. 107(49)

Comments: Should the specified regulations or standards be amended during the validity of this certificate, the products are to be re-approved prior to being placed on board vessels to which the amended regulations or standards apply.

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with the Notified Body named on this certificate.

A Manufacturer's Declaration of Conformity shall be compiled and distributed in line with the requirements of Directive 2014/90/EU Article 16.

The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

Revisions: **Certificate N°.** 06-197869-7-EC, **replaces Certificate N°.** 06-197869-6-EC **Dated:** 02-FEB-2022

Drawing Schedule:

Drawing No	Description
22-2266673-PDA	Product Design Assessment

APPENDIX

TEST DATA AND RESULTS OF TESTS CONDUCTED ON A 15 PPM BILGE SEPARATOR IN ACCORDANCE WITH PART 1 OF THE ANNEX TO THE GUIDELINES AND SPECIFICATIONS CONTAINED IN IMO RESOLUTION MEPC.107(49)

15 ppm Bilge Separator submitted by RECOVERED ENERGY, INC.....

Test location SALT LAKE CITY, UT, USA.....

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Method of sample analysis ANALYSIS OF CONTENT AS PER BELOW.....

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Samples analysed by TEI-Testing Services - Plumbing Laboratory.....

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Environmental testing of the electrical and electronic sections of the 15 ppm Bilge Separator has been carried out in accordance with part 3 of the annex to the guidelines and specifications contained in IMO resolution MEPC.107(49). The equipment functioned satisfactorily on completion of each test specified on the environmental test protocol.

Test fluid "A"

Density	989 kg/m ³ at 15°C
Viscosity	35 Centistokes at 100°C
Flashpoint	60°C
Ash content	0.12%
Water content at start of test	0.5%

Test fluid "B"

Density	845 kg/m ³ at 15°C
Viscosity	5.50 Centistokes at 40°C
Flashpoint	62°C
Ash content	<0.01%
Water content at start of test	0.2%

Test fluid "C"

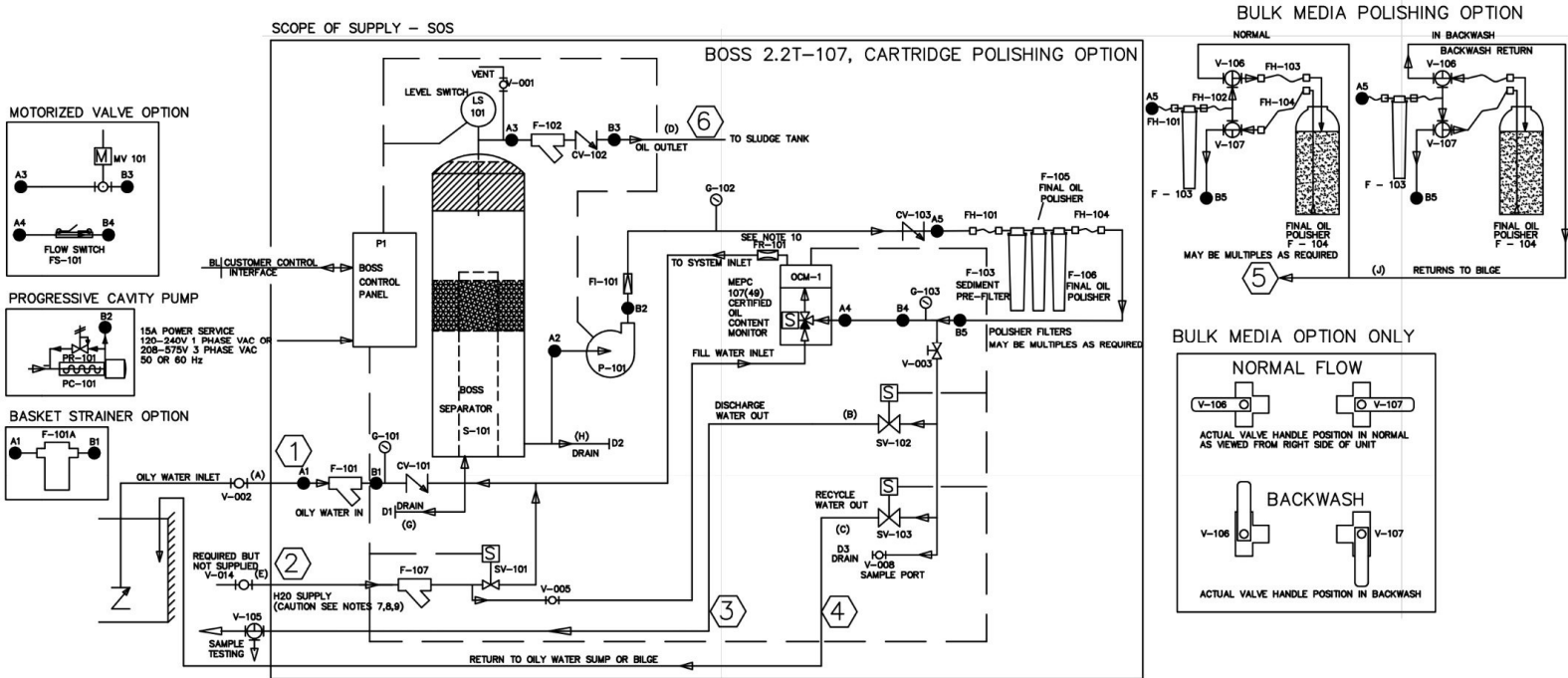
Surfactant - documentary evidence*

Iron oxides - documentary evidence*

Test water

Density	1.012 kg/m ³ at 20°C
Solid matter present	0.05% solids by weight

Diagram of test rig and sampling arrangement:



Test temperatures

Ambient	22-25°C
Test fluid "A"	32-37°C
Test fluid "B"	22-25°C
Test fluid "C"	22-23°C
Test water	18-22°C

* Certificate or laboratory analysis.

Boss 2 model:

Test fluid A - results in test points No.:

	1	2	3	4	5	6	7	8	9
Influent	1.0%	1.0%	1.0%	25.0%	25.0%	25.0%	100.0%	0%	25.0%
Effluent	8.2 ppm	9.1 ppm	10.3 ppm	9.7 ppm	9.9 ppm	10.6 ppm	9.5 ppm	9.1 ppm	11.7 ppm

Test fluid B - results in test points No.:

	10	11	12	13	14	15
Influent	1.0%	1.0%	1.0%	25.0%	25.0%	25.0%
Effluent	5.4 ppm	4.2 ppm	5.3 ppm	4.5 ppm	6.1 ppm	4.8 ppm

Test fluid C - results in test points No.:

	16	17	18
Influent	6.0%	6.0%	6.0%
Effluent	6.1 ppm	7.8 ppm	6.2 ppm

Boss 45 model:

Test fluid A - results in test points No.:

	1	2	3	4	5	6	7	8	9
Influent	1.0%	1.0%	1.0%	25.0%	25.0%	25.0%	100.0%	0%	25.0%
Effluent	9.5 ppm	8.4 ppm	7.6 ppm	8.0 ppm	6.7 ppm	7.4 ppm	9.3 ppm	5.9 ppm	8.5 ppm

Test fluid B - results in test points No.:

	10	11	12	13	14	15
Influent	1.0%	1.0%	1.0%	25.0%	25.0%	25.0%
Effluent	8.8 ppm	7.1 ppm	6.9 ppm	6.2 ppm	7.0 ppm	4.5 ppm

Test fluid C - results in test points No.:

	16	17	18
Influent	6.0%	6.0%	6.0%
Effluent	5.5 ppm	6.5 ppm	4.0 ppm