

**Lloyd's
Register**



Maritime and Coastguard Agency
An Executive Agency of the Department of Transport, Local
Government and the Regions

EC TYPE EXAMINATION (MODULE B) CERTIFICATE

This is to certify that :

LLOYD'S REGISTER VERIFICATION LIMITED (LRV), specified as a "notified body" under the terms of The Merchant Shipping (Marine Equipment) Regulations S.I. 1999 No. 1957, did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Marine-pollution prevention requirements of Marine Equipment Directive (MED) 96/98/EC as modified by Commission Directives 98/85/EC, 2001/53/EC, 2002/75/EC and 2002/84/EC subject to any conditions in the Design Appraisal Document attached hereto.

Manufacturer	Aalandia GmbH
Address	Baumstraße 62-66 28217 Bremen Germany
Annex A1 Item	OIL FILTERING EQUIPMENT (POLLUTION PREVENTION)
Product Type	Clearwater CW 4.0
Product Description	Oily Water Separator
Specified Standard	IMO Resolution MEPC.107(49)

The attached Design Appraisal Document (schedule) forms part of this certificate.
This certificate remains valid unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

Date of issue 11 November 2004

Expiry date ~~10 November 2009~~

Certificate No. MED 0450354

Signed

Lloyd's Register EMEA
Lloyd's Register Verification
Lloyd's Register
Bremen Office
S. James
Lloyd's Register

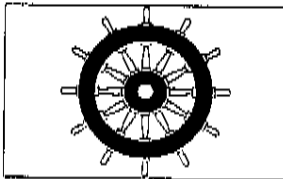
Sheet No 1 of 6

Name

For and on behalf of Lloyd's Register Verification
LRV EC Distinguishing No. 0038

Note:

This certificate is not valid for equipment; the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.



0038/yy

Subject to compliance with the conditions in the attached Design Appraisal Document (schedule), which forms part of this certificate, and those of Articles 10.1(i) and 11 of the Directive, the Manufacturer is allowed to affix the "Mark of Conformity" to the Product described herein.
yy Last two digits of year mark affixed.

This certificate is issued under the authority of the MCA.

"Lloyd's Register Verification is the business name of Lloyd's Register Verification Limited, a member of the Lloyd's Register Group.
Registration number 4929226.
Registered office 71 Fenchurch Street, London EC3M 4BS, England


Lloyd's Register Verification Limited

71 Fenchurch Street, London, EC3M 4BS

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 Email tgg-stat@lr.org

Page	2 of 6
Document number	MED 0450354
Issue number	1

DESIGN APPRAISAL DOCUMENT

Date	11 November 2004	Quote this reference on all future communications	LPA/SSS/MARPOL/SJ
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ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 0450354

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

APPROVAL DOCUMENTATION

15 ppm Bilge Separator supplied by:	Aalandia GmbH Baumstraße 62-66 28217 Bremen Germany	
Under type and model designation: and incorporating:	Clearwater CW 4.0	
15 ppm Bilge Separator manufactured by: to specification/assembly drawing No.:	Aalandia GmbH 99-01-24B	date: 29 January 2004
Coalescer manufactured by : to specification/assembly drawing No.:	Aalandia GmbH 04-25-07-I-4.0	
Filters manufactured by other means: to specification/assembly drawing No.:	Aalandia GmbH 04-25-07-I-4.0	
Other means to specification/assembly drawing No.:	12005/1-3	
Control equipment manufactured by: to specification/assembly drawing No.:	Aalandia/Fischer 12005/1-3	
Supply pump capacity:	4.0 m ³ /hr;	Motor rating: 1.82 kW
Maximum throughput of system:	4.0 m ³ /hr	

The type approval of the Aalandia GmbH "Clearwater CW 4.0" is based on the test results for Aalandia GmbH "Clearwater CW 3.0" in full compliance with the recommendations of Section 1.1.4, Annex 13, contained in IMO Resolution MEPC.107 (49).

LIMITING CONDITIONS IMPOSED

1. Production items of the subject equipment are to be manufactured in accordance with an approved Production Quality Assurance System (Module D), a Product-Quality Assurance System (Module E), a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place.
2. This equipment is suitable for installation only in non-hazardous areas. It is not explosion proof.
3. A copy of this certificate should be carried onboard a ship fitted with this equipment.


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Page	3 of 6
Document number	MED 0450354
Issue number	1

DESIGN APPRAISAL DOCUMENT

Date 11 November 2004	Quote this reference on all future communications LPA/SSS/MARPOL/SJ
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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: Aalandia GmbH
Baumstraße 62-66
28217 Bremen
Germany

Test location: Aalandia GmbH

Method of sample analysis: ISO 9377-2:2000 "Water quality - Determination of hydrocarbon oil index - Part 2: Method using solvent extraction and gas chromatography"

Sample analysed by: Dr. Wolfgang Melzer
Chemisch-Technologisches Laboratorium GmbH & Co. KG
Dortmunder Straße 20 - 28199 Bremen - Germany

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	987.7	kg/m ³ at 15° C
Viscosity	29.3	Centistokes at 100° C
Flashpoint	112	°C
Ash content	0.067	%
Water content at start of test	0.12	%

Test Fluid "B"

Density	857.6	kg/m ³ at 15° C
Viscosity	2.54	Centistokes at 40° C
Flashpoint	63	°C
Ash content	0.006	%
Water content at start of test	<0.05	%

Test Fluid "C"

Surfactant	0.324	Kg
Iron oxides	1.101	Kg

Test water

Density	1.000	g/ml at 20° C
Solid matter present	0	mg/l

Test temperatures

Ambient	21	°C
Test Fluid "A"	35	°C
Test Fluid "B"	19	°C
Test Fluid "C"	19	°C
Test water	32	°C



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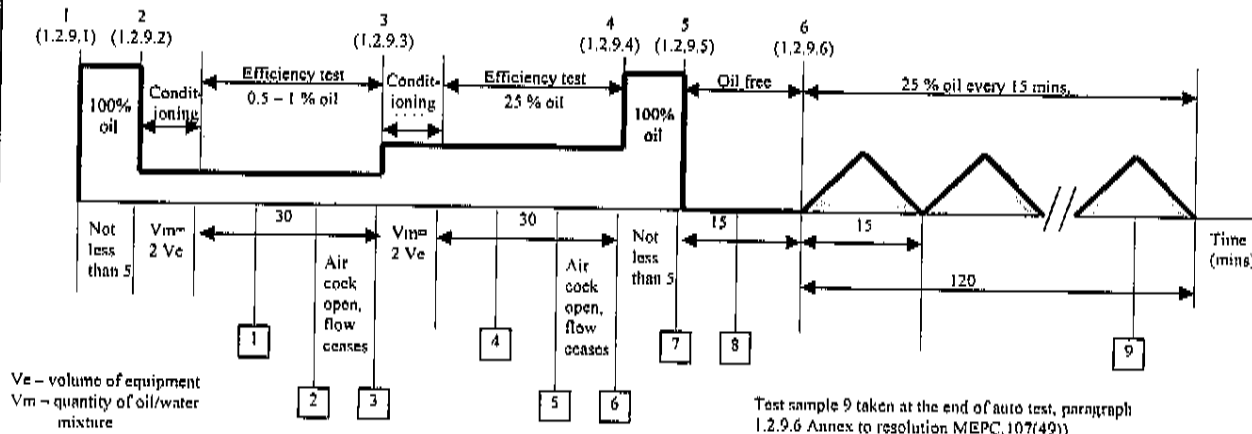
Page 4 of 6
Document number MED 0450354
Issue number 1

DESIGN APPRAISAL DOCUMENT

Date 11 November 2004	Quote this reference on all future communications LPA/SSS/MARPOL/SJ
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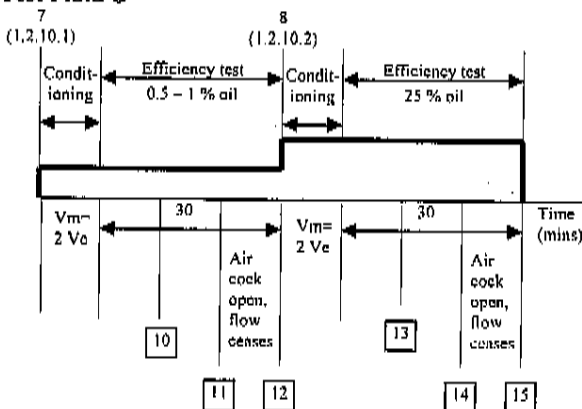
TEST RESULTS (IN PPM) AND TEST PROCEDURES

Test Fluid A



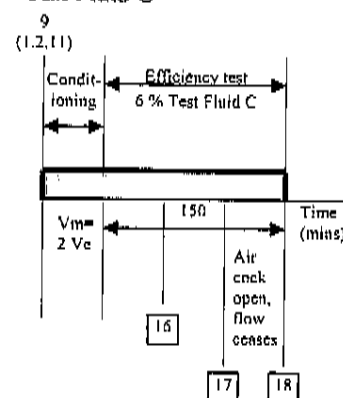
	1	2	3	4	5	6	7	8	9
Influent	1%	1%	1%	25%	25%	25%	0 - 25%	0 - 25%	0 - 25%
Effluent	0.21 ppm	<0.1 ppm	<0.1 ppm	0.13 ppm	0.17 ppm	0.12 ppm	0.26 ppm	0.17 ppm	0.18 ppm

Test Fluid B



	10	11	12	13	14	15
Influent	1%	1%	1%	25%	25%	25%
Effluent	0.10 ppm	0.26 ppm	0.35 ppm	<0.1 ppm	0.14 ppm	0.13 ppm

Test Fluid C



	16	17	18
Influent	6%	6%	6%
Effluent	0.15 ppm	0.42 ppm	0.10 ppm

1 - 9 steps refer to paragraph

1 - 18 points where samples to be taken



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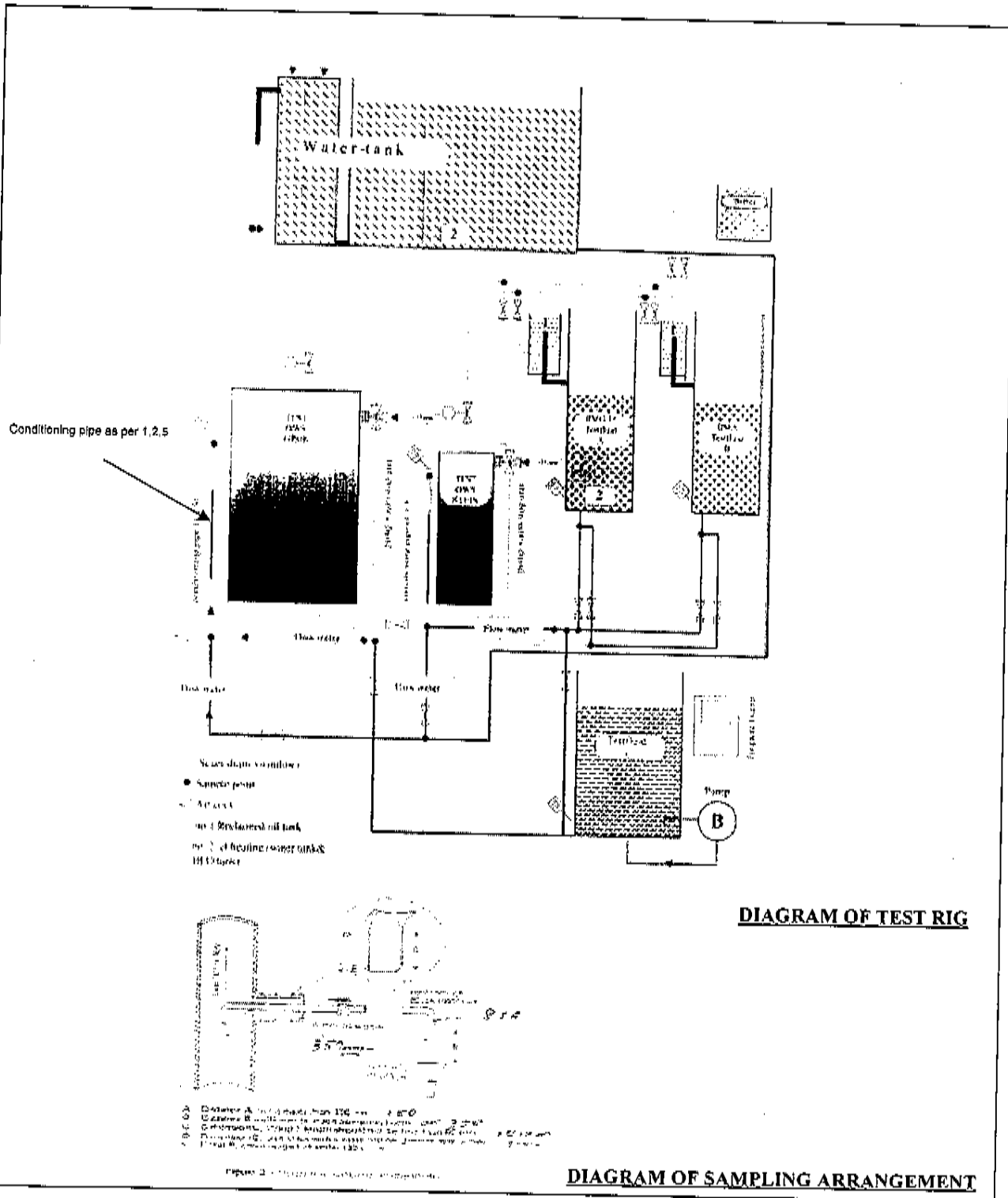
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Page	5 of 6
Document number	MED 0450354
Issue number	1

DESIGN APPRAISAL DOCUMENT

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Page 6 of 6
Document number MED 0450354
Issue number 1

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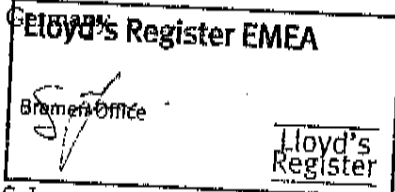
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INSTALLATION REQUIREMENTS

1. Installation of the equipment should be in accordance with the manufacturers instructions and IMO Resolution MEPC.107(49).
2. For future inspection purposes on board ship, a sampling point should be provided in a vertical section of the water effluent piping as close as is practicable to the 15 ppm Bilge Separator outlet. Re-circulating facilities should be provided, after and adjacent to the overboard outlet of the stopping device to enable the 15 ppm Bilge separator system, including the 15 ppm Bilge Alarm and the automatic stopping device, to be tested with the overboard discharge closed.
The re-circulating facility should be so configured as to prevent under all operating conditions any by-pass of the oily-water-separator.
3. The capacity of the supply pump should not exceed 110% of the rated capacity of the 15 ppm Bilge Separator with size of pump and motor as stated on this Certificate of Type Approval.
4. The 15 ppm Bilge Separator should be fitted with a permanently attached plate giving any operational or installation limits considered necessary by the manufacturer or the Administration.
5. A vessel fitted with this 15 ppm Bilge Separator should, at all times, have on board a copy of the Operating and Maintenance manuals.

PLACE OF PRODUCTION

Aalandia GmbH
Baumstraße 62-66
28217 Bremen



S. James
Principal Surveyor
For and on behalf of Lloyd's Register Verification
LRV EC Distinguishing No. 0038

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).