

**MARINE DIVISION**

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**Certificate number:** 21437/A0 BV

**File number:** ACM 149/603/1

**Product code:** 1515H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

### PUREFUEL TECHNOLOGIES LTD.

Sudbury - UNITED KINGDOM

*for the type of product*

### GAS OIL / OIL MICRO-ORGANISM DECONTAMINATION UNITS

Types FM08/10/12 - FM ISO 10/15/20/25/40/30/081 - Types FM NPT 08/10/15/20/25/40/50  
Types FM 32/40/50/65/80/100/125/150/200/250/300 FS - Types FM 20/25/32/40/50/65 TS

**Regulations and standards:**

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

*This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of the Regulations and standards mentioned above.*

**This certificate is valid until: 18 Mar 2014**

At Neuilly, on: 18 Mar 2009

**For BUREAU VERITAS,**  
*By order of the Secretary*

L. COURREGELONGUE

Approval office



Local office: BV LONDON  
Surveyor: S. Yule



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

Units for the micro-organism decontamination of gas-oil and lubricating oil.

Types FM08/10/12 - FM ISO 10/15/20/25/40/30/081 - Types FM NPT 08/10/15/20/25/40/50

Types FM 32/40/50/65/80/100/125/150/200/250/300 FS - Types FM 20/25/32/40/50/65 TS

Units are available as per Manufacturer's documentation.

Fuel Mag Port Size	8mm	10mm	12mm	1/4"	3/8"	1/2"	3/4"
Model number	FM 08	FM 10	FM 12	FM ISO 081 FM NPT 08	FM ISO 10 FM NPT 10	FM ISO 20 FM NPT 20 FM 20 TS	FM ISO 20 FM NPT 20 FM 20 TS
Test Pressure (psi) (bar)	110 7.7	110 7.7	110 7.7	110 7.7	110 7.7	110 7.7	150 10.35

5"Fuel Mag Port Size	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Model number	FM ISO 25 FM NPT 25 FM 25 TS	FM 32 TS FM 32 FS	FM ISO 40 FM NPT 40 FM 40 TS FM 40 FS	FM ISO 50 FM NPT 50 FM 50 TS FM 50 FS	FM 65 TS FM 65 FS	FM 80 FS	FM 100 FS
Test Pressure (psi) (bar)	150 10.35	150 10.35	150 10.35	150 10.35	150 10.35	150 10.35	150 10.35

Fuel Mag port Size	5"	6"	8"	10"	12"
Model number	FM 125 FS	FM 150 FS	FM 200 FS	FM 250 FS	FM 300 FS
Test Pressure (psi) (bar)	150 10.35	150 10.35	150 10.35	150 10.35	150 10.35

#### Service pressure

Models Standart Units (BSP Tread) FM 08 - 12	80 psi (5.5 bar)
Models Standart Units (BSP Tread) FM ISO 25 - 50	100 psi (6.9 bar)
Models Standart Units (NPT Tread) FM NPT 08 - 20	80 psi (5.5 bar)
Models Standart Units (NPT Tread) FM NPT 25 - 50	100 psi (6.9 bar)
Models Flanged Range FM 32 FS - FM 300 FS	100 psi (6.9 bar)
Models Threaded Units (Steel) FM 20 TS - FM 65 TS	100 psi (6.9 bar)

#### Specification :

Welded Steel Construction

Material : ASTM A 106-9A Gr. B

Welding specification : ASME 1X

Flange type : Standard 150lb. table

NSI - Class ISO

Unit are available with NPT or BSP treaded Ends

### 2. DOCUMENTS AND DRAWINGS :

- Purefuel documentattion about manufacturing specification
- FuelMag TM Product Range
- Drawings of Fuel Mag 1.25 / 1.5 / 2 / 2.5 / 3 Inch Unit
- Drawings of Fuel Mag 4 / 5 / 6 / 8 / 10 / 11 Inch Unit

**3. TEST REPORTS :**

- Bangor Report (University of Wales) and CABI's Report N°EIB/2812 : effectiveness of the FUEL MAG
- IM Test report (Pressure test)

**4. APPLICATION / LIMITATION :**

- 4.1 Media : gas oil and lubricating oil.
- 4.2 Fuel Mag Unit belong to class 3 depending on media according to the table 2 - Pressure Vessel Classification in Part C, Chapter 1, Sec 3 of the Bureau Veritas Rules.
- 4.3 Fuel Mag Unit with threaded end connections are not to be used on flammable oil circuits. Flange connections or other approved pipe connections are to comply with Pt C, Ch 1, Sec 10 [2.4] of the Bureau Veritas Rules.
- 4.4 The assembly instructions given by the Manufacturer are to be complied with.

**5. PRODUCTION SURVEY REQUIREMENTS :**

- 5.1 The products are to be manufactured, examined and tested by the manufacturer in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
- 5.2 Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end the manufacturer has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
- 5.3 The manufacturer has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production sites.
- 5.4 Bureau Veritas certificate is not required for the product to be fitted on board units to be classed with Bureau Veritas.

**6. MARKING OF PRODUCT :**

Each product is at least to be marked with:

- Manufacturer's name or logo
- Type designation
- Year and serial number
- Society's brand as relevant

**7. OTHERS :**

- 7.1 This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that the manufacturer will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the products and of the conditions of this approval.

\*\*\* END OF CERTIFICATE \*\*\*