



MARINE DIVISION

Certificate number: 22434/A0 EC

File number: ACM 217/2302/04

Annex A1 Item number: A.1/2.6

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

www.veristar.com

Notified Body 0062 - MARINE EQUIPMENT DIRECTIVE 96/98/EC

## EC TYPE EXAMINATION CERTIFICATE

as per Module B of European Union Council Directive 96/98/EC on marine equipment  
as amended by Commission Directive 2008/67/EC

*This certificate is issued to*

**Red Fox Environmental Services, Inc.**

Youngsville - UNITED STATES OF AMERICA

*for the type of product*

**SEWAGE TREATMENT PLANTS**

Red Fox Marine Style RF-100-M thru RF-9000-M

**Requirements:**

- MARPOL 73/78 as amended, Annex IV, Regulation 9
- IMO Resolution MEPC.2(VI) superseded by IMO Resolution MEPC.159(55)

*This certificate is issued under the French Maritime Authority to attest that BUREAU VERITAS did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Council Directive 96/98/EC of 20 December 1996 as amended.*


**This certificate will expire on: 02 Dec 2014**

For BUREAU VERITAS Notified Body 0062,

At BV PORT EVERGLADES CENTRE, on 02 Dec 2009,

Flavio Rosas



**This certificate does not allow to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark ) to the products corresponding to this type. To this end, the production-control phase module (D, E or F) of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.**

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. BUREAU VERITAS is designated by the French Maritime Authority as a "notified body" under the terms of the French Regulations Division 140 Chapter 140-2. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site [www.veristar.com](http://www.veristar.com). 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

**Red Fox Marine Style RF-100-M, RF-200-M, RF-350-M, RF-500-M, RF-750-M, RF-1000-M, RF-1500-M, RF-2000-M, RF-2500-M, RF-3000-M, RF-3500-M, RF-4000-M, RF-4500-M, RF-5000-M, RF-5500-M, RF-6000-M, RF-6500-M, RF-7000-M, RF-7500-M, RF-8000-M, RF-8500-M and RF-9000-M**

#### 1.1 Design of Red Fox Marine Style Sewage Treatment Plants

- Operates on a biological treatment process. The process consists of (2) mechanical components: 1) air blower and 2) chemical injection pump;
- Does not utilize any control, alarm or monitoring systems;
- Manufactured out of mid strength steel and consists of (4) compartments/chambers: 1) aeration 2) clarification 3) polishing media and 4) disinfection.

#### 1.2 Technical Data

Red Fox Marine Style	Designed hydraulic loading (m <sup>3</sup> /day)	Organic loading (kg/day)	Red Fox Marine Style	Designed hydraulic loading (m <sup>3</sup> /day)	Organic loading (kg/day)
RF-100-M	0.38	0.3	RF-200-M	0.76	0.6
RF-350-M	1.33	1.05	RF-500-M	1.9	2.0
RF-750-M	2.9	3.0	RF-1000-M	3.79	4.0
RF-1500-M	5.7	6.0	RF-2000-M	7.6	8.0
RF-2500-M	9.5	10.0	RF-3000-M	11.4	12.0
RF-3500-M	13.3	14.0	RF-4000-M	15.2	16.0
RF-4500-M	17.1	18.0	RF-5000-M	19.0	20.0
RF-5500-M	20.9	22.0	RF-6000-M	22.8	24.0
RF-6500-M	24.6	26.0	RF-7000-M	26.5	28.0
RF-7500-M	28.5	30.0	RF-8000-M	30.3	32.0
RF-8500-M	32.2	34.0	RF-9000-M	34.2	36.0

#### 1.3 Red Fox Marine Style Models were tested and produced an effluent which, on analysis, produce:

Thermotolerant Coliforms (geometric mean)	Less than 100 cells/100 ml
Total Suspended Solids (TSS) (geometric mean)	Less than 35 mg/l
5-day Biochemical Oxygen Demand (BOD5) (geometric mean)	Less than 25 mg/l
Chemical Oxygen Demand (COD) (geometric mean)	Less than 125 mg/l
pH value	Between 6.0 and 8.5
Residual chlorine demand	Less than 0.5 mg/l
Tilting	22.5 °

### 2. DOCUMENTS AND DRAWINGS

2.1 Manufacturer's CD including technical description, process principle and equipment list

2.2 Drawings Red Fox Marine RF-1500-M

- Drawing N° 09 034 GA 001 A General arrangement
- Drawing N° 09 034 GA 002 0 General arrangement - IMO testing tank addition to RF-1500-M
- Manufacturing Drawings N° 09 034 EP 001 0 Plate locations, 034 SS 001 0 Skid, Standard structural details rev. 0

2.3 Installation, operation and maintenance manual

*No departure from the above documents shall be made without the prior consent of the notified body named on this certificate. The manufacturer must inform the notified body of any modification or changes to these documents and drawings.*

### **3. TEST REPORTS**

3.1 The water quality analysis according to the requirements of IMO Resolution MEPC.159(55) were carried out ashore, conducted by the accredited hoh-PAK Laboratory's State of Louisiana Department of Environmental, US, and witnessed by the notified body. The tests were carried out on a type RF-1500-M representing all the range of sewage treatment plants and all samples were drawn by the laboratory. Type test reports rev. 0 dated 29/10/2009.

3.2 Inclination test at angle of at least 22.5°.

### **4. APPLICATION / LIMITATION**

4.1 The scope of the appraisal made by Bureau Veritas to issue this certificate is strictly restricted to the relevant requirements stated on the front page of this certificate. Other requirements like Ship's Flag Administration Regulations and/or Classification Societies Rules, typically for electrical equipment including control, safety devices and cables, are excluded from the scope of this certificate.

4.2 The installation on board is to be carried out in compliance with manufacturer's instructions and in accordance with the provisions of IMO Resolution in force.

4.3 A copy of this EC type-examination certificate shall be carried on board any ship equipped with the above described sewage treatment plant at all times.

4.4 The ship staff shall be familiarized with the operation and maintenance of the sewage treatment plant or properly trained by manufacturer's specialist.

4.5 Each sewage treatment plant is to be supplied with its manual for installation, use and maintenance in language accepted by the Ship's Flag Administration.

### **5. PRODUCTION SURVEY REQUIREMENTS**

5.1 This certificate does not allow the applicant to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark) to the products corresponding to this type. To this end, the production-control phase module D "Production Quality Assurance" or E "Product Quality Assurance" or F "Product Verification" of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.

5.2 The manufacturer shall institute quality control procedure in order to ensure that the sewage treatment plant is produced to the same standard as the prototype approved one, and to keep records of any production tests carried out in accordance with Requirements stated on the front page of this certificate.

5.3 The manufacturer has declared to the notified body that the product detailed in this certificate is manufactured at the production site stated on the front page of this certificate.

5.4 Each sewage treatment plant shall be delivered with a declaration of conformity to type issued by the manufacturer.

### **6. MARKING OF PRODUCT**

A plate or durable label shall be placed on the sewage treatment plant with at least:

- Manufacturer's name or logo
- Model and serial number
- Type designation
- Hydraulic loading

*Markings as per MED 96/98/EC when authorized by a Notified Body:*

☼ *YYYY/XX where YYYY is the number of the notified body undertaking surveillance module (when BV, 0062) and where XX are the last two digits of year mark affixed.*

### **7. OTHERS**

This approval is given on the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper method of fittings and general maintenance of the sewage treatment plant and of the conditions of this approval.

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