



Marine &amp; Offshore

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This certificate is not valid when presented without the full attached schedule  
composed of 7 sections  
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Notified Body 2690 - MARINE EQUIPMENT DIRECTIVE 2014/90/EU

**EC TYPE EXAMINATION CERTIFICATE**

as per Module B of Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations and Commission Implementing Regulation (EU) 2019/1397 of 06 Aug. 2019

This certificate is issued to:

**SUNFLAME CO., LTD.**

Uji - JAPAN

for the type of product

**SHIPBOARD INCINERATORS (up to 4 000 kW)**

Types OSG-360SDA, OSG-600SDA, OSG-900SDA, OSG-1200SDA &amp; OSG-1500SDA

**Requirements:**

MARPOL 73/78 as amended, Annex VI, Regulation 16  
IMO Res. MEPC.244(66)


This certificate is issued on behalf of the French Maritime Authorities to attest that Bureau Veritas Marine & Offshore did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 as transposed in the French Regulations.

**This certificate will expire on: 02 Aug 2025****For Bureau Veritas Marine & Offshore Notified Body 2690,**

At BV KOBE, on 02 Aug 2020,

Shinichi Takemoto



**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 II 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 Marine & Offshore. 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 Marine & Offshore 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 & Offshore available on the internet site 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 Marine & Offshore 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

#### Shipboard Incinerators Type OSG-360SDA, OSG-600SDA, OSG-900SDA, OSG-1200SDA & OSG-1500SDA

##### 1.1 Performance Data

Type	OSG-360SDA	OSG-600SDA	OSG-900SDA	OSG-1200SDA	OSG-1500SDA
Capacity kW	360	600	900	1200	1500
Solid waste (kg/h)	48	80	120	160	200
Liquid waste (kg/h)	38	64	97	129	161
Burner combustion capacity (kg/h)	45	75	97	150	200

##### 1.2 Incinerator shall operate within the following limits:

O2 average in combustion chamber (%)	6-12 %
CO average in flue gas (mg/MJ)	200
Soot number average	Bacharach 3 or Ringelman 1
Combustion chamber flue gas outlet temperature average (°C)	850-1200
Amount of unburned components in ashes (Max % by weight)	10

### 2. DOCUMENTS AND DRAWINGS

#### - Drawings

Description	Type OSG - 360SDA		Type OSG - 600SDA		Type OSG - 900SDA	
	Drawing N°	Date	Drawing N°	Date	Drawing N°	Date
Specification	SP-4680	/	SP-4528	/	SP-4460	-
Flow Sheet	EF-4680	29/06/2000	EF-4528	09/12/1999	EF-4460	21/07/1999
Assembly of Incinerator	EI-4680	30/06/2000	EI-4528	09/12/1999	EI-4460	19/07/1999
Incinerator Control Panel	EE-4680-1 to -5	27/06/2000	EE-4528-1 to -5	13/12/1999	EE-4460	21/07/1999
Main Burner	GB-1051	26/11/1998	GB-1052	12/10/1998	GB-1052	12/10/1998
Ignition Burner	G-1435	06/04/1999	G-1435	06/04/1999	G-1435	06/04/1999
Exhaust Fan	Mf-2219	22/07/1999	Mf-2211	03/06/1999	Mf-2209	17/05/1999
List of Spares and Tools	SL-4680	/	SL-4528	/	G-1434	06/04/1999
Standard of Electric Device & Wire	OSG-360SDA	/	OSG-600SDA	/	SL-4460	-
Time Chart	IDT-10000	29/06/2000	IGT-10000	13/12/1999	IGC-10000	21/07/1999
Incinerator Control Flow Chart	IDC-10000	29/06/2000	IGC-10000	13/12/1999	IGT-10000	21/07/1999

Description	Type OSG-1200SDA		Type OSG-1500SDA	
	Drawing N°	Date	Drawing N°	Date
Specification	SP-4711	/	SP-5805	/
Flow Sheet	EF-4711	28/07/2000	EF-150GA-001AF	15/11/2004
Assembly of Incinerator	EI-4711	28/07/2000	EI-5805	27/12/2004
Incinerator Control Panel	EE-4711-1 to -6	02/08/2000	EE-150GA001A	27/09/2004
Main Burner	GB-1053	19/03/1999	GB-1053	19/03/1999
Ignition Burner	G-1435	22/01/2000	G-1435	22/01/2001
Exhaust Fan	Mf-2190	11/03/1999	Mf-2481AF	16/12/2003
List of Spares and Tools	SL-4711	/	SL-150GA-001	/
Standard of Electric Device & Wire	OSG-1200SDA	/	OSG-1500SDA	/
Time Chart	IGT-10001	02/08/2000	IGT-10001	27/09/2004
Incinerator Control Flow Chart	IGC-10002	02/08/2000	IGC-10002	27/09/2004

- Instruction Manual for each type N° 4680, 4528, 4711, 5805 & 4460
- Software quality plan Rev. 0 including software versions dated 15/06/2011 and updated on 22/07/2020

*No departure from the above documents and drawings 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**

- Test report N° MED-B-20141127.1 for Incinerator Type OSG-360SDA dated 27/11/2014
- Test report N° MED-B-20141128.1 for Incinerator Type OSG-600SDA dated 28/11/2014
- Test report N° MED-B-20141117.1 for Incinerator Type OSG-900SDA dated 17/11/2014
- Test report N° MED-B-20150630.1 for Incinerator Type OSG-1200SDA dated 30/06/2015
- Test report N° MED-B-20160425.1 for Incinerator Type OSG-1500SDA dated 21/04/2016
- Test record (measured value during burning sludge oil)

<b>Type OSG-</b>	<b>360SDA</b>	<b>600SDA</b>	<b>900SDA</b>	<b>1200SDA</b>	<b>1500SDA</b>
O2 in combustion chamber, average	7.5 %	7.9 %	7.7 %	8.0 %	8.2 %
CO in flue gas, average	24 mg/MJ	20 mg/MJ	23 mg/MJ	22 mg/MJ	20 mg/MJ
Soot number average, Bacharach	0	0	0	0	0
Temperature in combustion chamber flue gas	1045 °C	1032 °C	1040 °C	1029 °C	1039 °C
Amount of unburned components in ashe residues (% by weight)	1.6	1.2	1.5	2.1	2.1

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

4.1 Shipboard incinerators are designed to incinerate non-explosive solid waste or sludge generated during the ship's normal service, without being a nuisance for the surroundings.

4.2 Shipboard incinerators are not designed to systems on special incinerator ships, e.g. for burning industrial wastes such as chemicals, manufacturing residues, etc. They are also not designed to burn waste with Flash Point below than 60 °C.

4.3 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.

4.4 An operating test after installation is to be conducted to ensure that all of the control components have been properly installed and that all parts of the incinerator, including controls and safety devices, are in satisfactory operating condition.

4.5 Only Hardware and software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.

4.6 Any modification of the hardware, firmware or software having an impact on the product performance or functionality has to be validated with type testing.

4.7 The installation on board is to be carried out in compliance with manufacturer's instruction and relevant requirements stated on the front page of this certificate. After installation onboard the ship's staff in charge of incinerator has to be properly trained by manufacturer's specialist.

4.8 A copy of this EC type-examination certificate should be carried aboard a ship fitted with this equipment at all times.

4.9 Each incinerator 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 alone 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 II 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 incinerator 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 For each unit, if preassembled, an operating test is to be conducted to ensure that all control components have been properly installed and that all parts of the incinerator, including control and safety devices, are in satisfactory condition.

5.5 Each incinerator shall be delivered with a declaration of conformity to type issued by the manufacturer.

For information concerning the production phase modules, **SUNFLAME CO., LTD.** has declared the following manufacturing site:

**SUNFLAME CO., LTD.: 1-30, Nishinoha, Okubo-cho, Uji, JAPAN**

## **6. MARKING OF PRODUCT**

Each incinerator shall be permanently marked including:

- Manufacturer's name or logo
- Designation and type
- Capacity

Reference is made to MED 2014/90/EU chapter 2.

In particular Article 10.3 specifies that the wheelmark shall be followed by the identification number of the Notified Body involved in the production control phase (module D, E or F) and by the year in which the mark is affixed (4 digits or last 2 digits).

## **7. OTHERS**

It is **SUNFLAME CO., LTD.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*This certificate supersedes the MED Type Examination Certificates N° 27685/C0 MED & 40041/A0 EC.*

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