



Marine & Offshore

Certificate number: 74862/A0 BV

File number: RSP 930/5

Product code: 1215I

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

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**ELWA Elektro-Wärme GmbH & Co. KG**

Maisach - GERMANY

*for the type of product*

**UNFIRED PRESSURE VESSELS**

type: 4600

### Requirements:

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 Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 15 Jun 2028**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 15 Jun 2023,

Heiko Lange

***This certificate was created electronically and is valid without signature***



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. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore 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 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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**Pressure vessels, type: 4600**

Identification and technical data:

Drawing no.	Capacity [L]	Shell outer diameter [mm]	Shell thickness [mm]	Max. working pressure [bar]	Medium	Max. Temperature [°C]
36692_4600 BV_HII_6bar_Oil	8 – 355	114.3 – 600	3.6 – 5	6	Oil	150
36694_4600 BV_HII_10bar_Oil	8 – 355	114.3 – 600	3.6 – 5	10	Oil	150
36695_4600 BV_HII_16bar_Oil	8 – 355	114.3 – 600	3.6 – 6	16	Oil	150
36789_4600 BV_CNS_6bar_H2O	8 – 355	114.3 – 600	3.6 – 4.5	6	Water	95
36696_4600 BV_CNS_10bar_H2O	8 – 355	114.3 – 600	3.6 – 5	10	Water	95
36697_4600 BV_CNS_16bar_H2O	8 – 355	114.3 – 600	3.6 – 5	16	Water	95
36842_4600 BV_CNS_6bar_Bilge	8 – 355	114.3 – 600	3.6 – 4.5	6	Bilgewater	95
36844_4600 BV_CNS_10bar_Bilge	8 – 355	114.3 – 600	3.6 – 4.5	10	Bilgewater	95
36845_4600 BV_CNS_16bar_Bilge	8 – 355	114.3 – 600	3.6 – 6	16	Bilgewater	95

### 2. DOCUMENTS AND DRAWINGS:

According to following drawing:

Drawing no.	Rev.	Designation
36692_4600 BV_HII_6bar_Oil (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36694_4600 BV_HII_10bar_Oil (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36695_4600 BV_HII_16bar_Oil (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36789_4600 BV_CNS_6bar_H2O (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36696_4600 BV_CNS_10bar_H2O (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36697_4600 BV_CNS_16bar_H2O (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36842_4600 BV_CNS_6bar_Bilge (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36844_4600 BV_CNS_10bar_Bilge (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter
36845_4600 BV_CNS_16bar_Bilge (sheet 1 – 3)	-	TYPE 4600 Standard-Druckbehälter

### 3. TEST REPORTS:

Not applicable.

### 4. APPLICATION / LIMITATION:

- 4.1 Pressure vessels are intended as part of an electric heater. Only the pressure vessels are covered by this Type Approval Certificate.
- 4.2 The pressure vessels are classed as per BUREAU VERITAS Rules.
- 4.3 On board installation and maintenance requirements have to be in accordance with the BUREAU VERITAS Rules requirements and the manufacturer's recommendations.

### 5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 The pressure vessels are to be supplied by **ELWA Elektro-Wärme GmbH & Co. KG** in compliance with the type and the requirements described in this certificate.
- 5.2 This type of product is within the category IBV of BUREAU VERITAS Rule Note NR320.
- 5.3 BUREAU VERITAS product certificate is required.

- 5.4 For information, **ELWA Elektro-Wärme GmbH & Co. KG** has declared to BUREAU VERITAS the following production site:  
**ELWA Elektro-Wärme GmbH & Co. KG, Maisach / GERMANY**
- 5.5 Materials certificate as per BUREAU VERITAS Rules.
- 5.6 Each pressure vessel is to be hydraulic pressure tested to 1.5 times the maximum design pressure under witnessing of a Society's Surveyor.

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

Each pressure vessel should be marked with:

- Manufacturer's name or logo
- Type designation
- Capacity
- Maximum working pressure
- Test pressure
- Maximum operating temperature
- BUREAU VERITAS' marks

#### **7. OTHERS:**

- 7.1 It is **ELWA Elektro-Wärme GmbH & Co. KG**'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.

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