



Marine & Offshore

Certificate number: 33355/C0 BV

File number: ACM 145/2573/8

Product code: 73511

*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*

**HEROSE GMBH ARMATUREN UND METALLE**

Bad Oldesloe - GERMANY

*for the type of product*

**PRESSURE RELIEF VALVES FOR LIQUEFIED GAS PIPING SYSTEMS**

**BELLOW SEALED SAFETY VALVES**

### Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships

BUREAU VERITAS Rules for the Classification of Offshore Units

BUREAU VERITAS Rules for Gas Fuelled Ships

IGC Code as amended by IMO Res. MSC.447(99)

IGF Code as amended by IMO Res. MSC.422(98)

*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: 26 Jul 2028**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 26 Jul 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. 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 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

#### **Bellow sealed safety valves**

##### **1.1 Design:**

Spring loaded, metal to metal seated, closed bonnet with or without lifting.

Inlet: female thread or male thread according to ISO 228/1, ISO 7/1 or ANSI B 1.20.1

Outlet: female thread according to ISO 228/1 or ANSI B 1.20.1

##### **1.2 Identification and technical data:**

###### **Type 06800 – Bellow sealed safety valve:**

Size range: DN15, DN20 and DN25

Pressure: PN40

Temperature range: -196 °C up to +225 °C

###### **Type 06801 – Bellow sealed safety valve:**

Size range: DN15, DN20 and DN25

Pressure: PN40

Temperature range: -196 °C up to +225 °C

###### **Type 06805 – Bellow sealed safety valve:**

Size range: DN15, DN20 and DN25

Pressure: PN40

Temperature range: -196 °C up to +225 °C

###### **Type 06806 – Bellow sealed safety valve:**

Size range: DN15, DN20 and DN25

Pressure: PN40

Temperature range: -196 °C up to +225 °C

##### **1.3 Material and components:**

Standard	DIN EN	ASTM
<b>Inlet body</b>	1.4571	A 276 Grade 316Ti
<b>Outlet body</b>	1.4308	A 251 CF 8
<b>Disc</b>	1.4541	A 276 Grade 321
<b>Bellow</b>	1.4571	A 276 Grade 316Ti
<b>Bellow stem</b>	1.4571	A 276 Grade 316Ti
<b>Stem</b>	CW453K	B 103 UNS C52100
<b>Bonnet</b>	1.4308 / 1.4305	A 251 CF 8 / A 314 Grade 303
<b>Spring</b>	1.4571	A 276 Grade 316Ti
<b>(Lifting) Cap</b>	1.4301	A 276 Grade 304
<b>Lever</b>	1.4408	A 351 CF8M

### 2. DOCUMENTS AND DRAWINGS:

According following documents:

Document no.	Rev.	Designation
06800-X-0000-WKSTLISTE	17.10.2019	Safety Valve
06801-X-0000-WKSTLISTE	17.10.2019	Safety Valve
06805-X-0000-WKSTLISTE	17.10.2019	Safety Valve
06806-X-0000-WKSTLISTE	17.10.2019	Safety Valve

### 3. TEST REPORTS:

3.1 Cryogenic test including pressure test, function and leakage tests according to ISO 4126 API 527 performed on 25/06/2015 and 09/07/2015 and witnessed by an IACS member.

3.2 Pressure tests according to DIN EN 12516, DIN EN ISO 4126-1, test report no. 1423 P 0131/ 14 / D / 0109, dd. 28.11.2014.

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

- 4.1 Bellow sealed safety valves intended to be used for air gases, vapors and cryogenic liquefied gases including LNG; in cargo handling systems of oil tankers and liquefied gas tankers and in piping systems onboard ships and offshore units.
- 4.2 The valves intended to be used for handling of Propylene Oxide or Ethylene Oxide/ Propylene Oxide mixtures shall be of a fire safe design.
- 4.3 The valves belong to class I according to BUREAU VERITAS Rules.
- 4.4 For liquefied gas application, the valve intended to be installed on BUREAU VERITAS classed ship have to comply with applicable BUREAU VERITAS Rules, IGC Code and IGF Code and type tests reports witnessed by BUREAU VERITAS are to be available for each type and size of valve.
- 4.5 The materials for valves housing, disc and sealing should be of a suitable type at the temperature and pressure for use with fluids intended to be carried. In particular the nature of materials, joints included, is to be selected according to the fluid to be conveyed and the temperature.
- 4.6 The valves are to be installed according to the manufacturer's instructions and BUREAU VERITAS Rules requirements.

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

- 5.1 The valves are to be supplied by **HEROSE GmbH Armaturen und Metalle** 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, **HEROSE GmbH Armaturen und Metalle** has declared to BUREAU VERITAS the following production site:  
**HEROSE GmbH Armaturen und Metalle, Bad Oldesloe / GERMANY**
- 5.5 BUREAU VERITAS Certificate is required for materials of valve housings of class I (DN $\geq$ 50) or class II (DN $\geq$ 100). Materials of valve housings of class I (DN $<$ 50) or class II (DN $<$ 100) and for other parts are to be with Work's certificates.
- 5.6 For liquefied gas applications, materials are to comply with the approved drawings and the applicable requirements in BUREAU VERITAS Rules. Charpy impact test is to be as per the Society's Rules on materials, and where relevant, in accordance with requirements of IGC Code and IGF Code.
- 5.7 For liquefied gas applications, each valve is to be tested according to BUREAU VERITAS Rules. For other applications, each valve housing for class I and class II is to be hydraulically pressure tested to 1.5 times the design pressure.

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

Each valve is at least to be marked with:

- Manufacturer's name or logo
- Type designation
- Size
- Design pressure
- Temperature range
- BUREAU VERITAS' marks

**7. OTHERS:**

- 7.1 It is **HEROSE GmbH Armaturen und Metalle**'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.
- 7.2 This certificate supersedes the Type Approval Certificate N° 33355/B0 BV issued on 28 Jan 2019 by the Society.

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