



Marine & Offshore

Certificate number: 33515/B0 BV

File number: ACM 145/2573/6

Product code: 7332I

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

CHECK VALVES FOR LIQUEFIED GAS PIPING SYSTEMS

NON-RETURN 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

IGF Code

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: 24 Jan 2024

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 24 Jan 2019,

Adama Diene



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 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Non-Return Valves

1.1 Design:

But weld or Socket weld connection for stainless steel pipes according to DIN EN ISO 1127 or ASTM A312.
Stainless steel body and cap with spring opening pressure: approx. 0.1 bar.
Flange connection according to ANSI B 16.5
Female thread connection according to ISO 228/1, ISO 7-Rc or ANSI B 1.20.1

1.2 Identification and Technical data:

Type 05414 – Check Valve:

Size range: DN10, DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN150 and DN200
Pressure: PN50 (DN150=PN40, DN200=PN25)
Temperature range: -196 °C up to +120 °C

Type 05417 – Check Valve:

Size range: DN10, DN15, DN20, DN25, DN40 and DN50
Pressure: PN50
Temperature range: -196 °C up to +120 °C

Type 05419 – Check Valves, DIN EN Flanges / ANSI Flanges:

Size range: DN15, DN20, DN25, DN40, DN50, DN65, DN80, DN100 and DN150
Pressure: PN25 / PN40 / PN50
Temperature range: -196 °C up to +120 °C

Type 05714 – Check Valve:

Size range: DN10, DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100 and DN150
Pressure: PN50 (DN150=PN40)
Temperature range: -255 °C up to +120 °C

Type 05717 – Check Valve:

Size range: DN10, DN15, DN20, DN25, DN40 and DN50
Pressure: PN50
Temperature range: -255 °C up to +120 °C

Type 05719– Check Valve, DIN EN Flanges / ANSI Flanges:

Size range: DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100 and DN150
Pressure: PN50 / PN40 / PN25
Temperature range: -255 °C up to +120 °C

1.3 Material and Components:

Standard	DIN EN	ASTM
Body	1.4308 / 1.4409	A 351 CF8 / A 351 CFM3
Valve seal	(25% Carbon filled) PTFE / PCTFE	
Disc	1.4301 / 1.4401	A 276 Grade 304 / A 276 Grade 316
Bonnet gasket	PTFE / Graphite	
Spring	1.4571	A 276 Grade 316Ti
Bolts	1.4301/A2 / 1.4571/A4	A 194 B8 / A 194 B8T
Cap	1.4404	A 276 Grade 304 / A 276 Grade 316L
Bush from DN65	PTFE	

2. DOCUMENTS AND DRAWINGS

- HEROSE Catalogue: Valves for Cryogenic Service, Edition 04/2009 (Types 05417 & 05717)
- HEROSE Catalogue, Edition 10/2018 (Types 05414, 05419 & 05719)

3. TEST REPORTS

- Cryogenic test including Pressure test and Leakage test according DIN EN 12567 / DIN EN 1626, witnessed by TÜV Nord.
- Leakage Tests according to BS6364 performed on 26/03/2015 and witnessed by an IACS Member.

4. APPLICATION / LIMITATION

- 4.1 Non-Return Valves intended to be used for air gases, vapours 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 belong to class I according to BUREAU VERITAS Rules Part D, Ch 9, Sec 5 and Part C, Ch 1, Sec 10.
- 4.3 Valves intended to be used for handling of Propylene oxide or Ethylene oxide mixtures shall be of a fire safe type.
- 4.4 The used material should be suitable for the conveyed media.
- 4.5 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 Arrangements shall be made for a Society's Surveyor to attend the tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme, BV Mode I, has been arranged, in order to issue the BUREAU VERITAS certificate for the units to be fitted on board ships classed with BUREAU VERITAS.
- 5.5 **HEROSE GmbH Armaturen und Metalle** has declared to BUREAU VERITAS that the products detailed in this certificate are manufactured at the production site stated on the front page of this certificate.
- 5.6 Material Requirements according BUREAU VERITAS Rules Part C, Ch 1, Sec 10 and IGC CODE Ch 6.
- 5.7 Each valve 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 and Temperature range
- 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 **HEROSE GmbH Armaturen und Metalle , Bad Oldesloe/GERMANY** will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the units and of the conditions of this approval.
- 7.2 This Certificate supersedes the Type Approval Certificate N° 33515/A0 BV issued on 15/10/2013 by the Society.

*** END OF CERTIFICATE ***