



Marine & Offshore

Certificate number: 33515/C1 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 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: 30 Jul 2028

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 04 Jul 2025,

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:

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 05614 – 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 05714 – Check valve:

Size range: DN10, DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100 and DN150

Pressure: PN50 (DN150=PN40)

Temperature range: -196 °C up to +120 °C

Type 05717 – Check valve:

Size range: DN10, DN15, DN20, DN25, DN40 and DN50

Pressure: PN50

Temperature range: -196 °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: -196 °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:

According following documents:

Document no.	Rev.	Designation
05414-DN200-ZULASSUNG	10.02.2020	Check Valve
05414-X-000X-WKSTLISTE	10.02.2020	Check Valve
05417-X-000X-WKSTLISTE	25.08.2015	Check Valve
05419-X-000X-WKSTLISTE	17.10.2016	Check Valve
05614-DN200-ZULASSUNG	29.04.2024	Check Valve
05614-DNXX-ZULASSUNG	30.09.2020	Check Valve
05714-X-000X-WKSTLISTE	02.04.2020	Check Valve
05717-X-000X-WKSTLISTE	01.10.2019	Check Valve
05719-DNXX-ZULASSUNG	29.04.2020	Check Valve

3. TEST REPORTS:

- 3.1 Cryogenic test including pressure test and leakage test according to BS6364, performed at Herose test lab, dd. 26.03.2015 and witnessed by an IACS member.

4. APPLICATION / LIMITATION:

- 4.1 Non-return valves intended to be used for air gases, vapors, ammonia 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. Valves intended to be fitted on the shipside below the load waterline are to be tested by hydraulic pressure not less than 0,5 MPa.

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° 33515/C0 BV issued on 30 Jul 2023 by the Society.

*** END OF CERTIFICATE ***