



MARINE DIVISION

Certificate number: 33678/A0 BV

File number: ACM 145/2573/5

Product code: 73331

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

BALL VALVES FOR LIQUEFIED GASES

DIVERTOR VALVES

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships
BUREAU VERITAS Rules for the Classification of Offshore Units
IGC Code

This certificate is issued to attest that BUREAU VERITAS 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 Oct 2018

For BUREAU VERITAS,

At BV HAMBURG, on 15 Oct 2013,

Udo Storm



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. 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 Division 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 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

Divertor Valves

1.1 Design:

Inlet: Union type braze fitting, Union type butt weld fitting or Female thread connection according to ISO 228/1 or ANSI B 1.20.1.

Outlet: Female thread connection according to ISO 228/1 or ANSI B 1.20.1.

1.2 Identification and Technical data:

Type 06510 – Divertor Valves:

Size range: DN20 / DN32

Pressure: PN50

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

Type 06511 – Divertor Valve:

Size range: DN20 / DN32

Pressure: PN50

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

1.3 Material and Components:

Standard	DIN EN	ASTM
Body	CC491K	B 62 UNS C83600
Seal rings	PTCFE	
Ball	1.4571	A2 76 Grade 316Ti
Bush	CW614N	B 283 UNS C38500
Spring plates	1.4571	A 276 Grade 316Ti
Spring clamp	CW614N	B 283 UNS C38500
Thread ring	CW614N	B 283 UNS C38500
Top ring	1.4571	A 276 Grade 316Ti
Stern	1.4301	A 276 Grade 304
Gland packing	Graphite / PTFE	
Plug	CW614N	B 283 UNS C38500
Lever	CC491K	B 62 UNS C 83600

2. DOCUMENTS AND DRAWINGS

HEROSE Catalogue: Divertor and Changeover Valves, Edition 04/2009

3. TEST REPORTS

- Cryogenic test including Pressure test and Leakage test according DIN EN 12567 / DIN EN 1626, witnessed by TÜV Nord.

4. APPLICATION / LIMITATION

4.1 Divertor Valves intended to be used for the installation of two Safety Valves, provided for bursting disc connection, 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

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.

*** END OF CERTIFICATE ***