



Marine & Offshore

Certificate number: 36174/B0 BV

File number: ACM 145/2561/5 - 9

Product code: 73311

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

ARMATURE d.o.o.

Muta - SLOVENIA

for the type of product

GLOBE VALVES FOR LIQUEFIED GAS PIPING SYSTEMS

LOW TEMPERATURE AND CRYOGENIC GLOBE VALVES

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships
BUREAU VERITAS Rules for the Classification of Naval Ships
IGC 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: 23 Oct 2023

For Bureau Veritas Marine & Offshore,

At BV RIJEKA, on 23 Oct 2018,

Slaven Celic



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.

The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=kj04b0thpt>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Low temperature and Cryogenic Globe Valves

1.1 Design:

With flanged or welded connections, the globe valves are operated by means of a hand wheel.

1.2 Identification and Technical data:

File Number	Nominal Diameter [mm]	Design Pressure [bar]	Temperature range
ACM 145/2561/5	15	40	-196 °C to +100 °C
ACM 145/2561/6	25	40	-196 °C to +100 °C
ACM 145/2561/7	50	40	-196 °C to +100 °C
ACM 145/2561/8	80	40	-196 °C to +100 °C
ACM 145/2561/9	100	40	-196 °C to +100 °C

1.3 Material and Components:

Body	1.4408
Extended Bonnet	1.4408 / 1.4571
Gland	1.4571
Cone	1.4571
Stem	1.4571
Threaded Bush	1.4571
Stuffing box Packing	ALCHEM-6377
Sealing	GYLON / Steel
Guide Bush	PTFE / GRAPHITE
Bolt	A4-70
Hand wheel	Steel

2. DOCUMENTS AND DRAWINGS

According to the following documents:

- Technical Documentation: Globe valves and Globe valves with relief cone with CRYO extension.
- Calculation No. TD 261 06 126 dated 28/03/2013: Globe valves with CRYO extension – PN16/40 – 1.4308, 1.4408.
- Drawing No. TD 261 06 126 a, Revision date: 22/03/2013.

3. TEST REPORTS

- Cryogenic test according to BS 6364:1984 witnessed by BUREAU VERITAS.
- Pressure test and Leakage test according to EN 12266-1 witnessed by BUREAU VERITAS.

4. APPLICATION / LIMITATION

- 4.1 Low temperature and Cryogenic Globe Valves intended to be used in cargo handling systems of oil tankers and liquefied gas tankers and in piping systems onboard ships.
- 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 **ARMATURE d.o.o.** 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 **ARMATURE d.o.o.** 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 **ARMATURE d.o.o., Muta/SLOVENIA** 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° 36174/A0 BV issued on 02/10/2013 by the Society.

*** END OF CERTIFICATE ***