



MARINE DIVISION

Certificate number: 32368/A0 BV

File number: ACM 135/2718/01

Product code: 2130H

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

Volz Gruppe GmbH
Deilingen - GERMANY

for the type of product

SCREW COUPLINGS

24° COMPRESSION TYPE TUBE FITTINGS L & S Series

GV, WV, TV, KV, GEV, WEV, TEV, LEV, GEDV, REDV, EGDV, EWVD, ETVD, ELVD, EDKV, KORV, GSV, WSV, ESV, GAIV, GASV, WASV, EWHV, DGWESV, DGWSV and GEDVV

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships

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: 10 Dec 2017

For BUREAU VERITAS,

At BV HAMBURG, on 10 Dec 2012,

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

Stainless Steel Tube Fittings Type GV, WV, TV, KV, GEV, WEV, TEV, LEV, GEDV, REDV, EGVD, EWVD, ETVD, ELVD, EDKV, KORV, GSV, WSV, ESV, GAIV, GASV, WASV, EWHV, DGWESV, DGWSV, GEDVV, GRV, TRV, EGV, EWV, ETV, ELV, MAV, MAEV, MAVD, REDV, ETHW, EDKRV, RSV, RSVV, RSVZ and RSVI

1.1 Design:

Stainless Steel Tube Fittings based on screwed connections according to DIN 2353, ISO 8434 and DIN 3861 (24° cone).

1.2 Technical data:

According to the Manufacturer's Catalogue.

1.3 Material Specifications:

Fittings and Pipes	1.4571 (316Ti) according to DIN 17440
Seal rings	FPM / PTFE / NBR

2. DOCUMENTS AND DRAWINGS

According to the Manufacturer's Catalogue: **TUBE FITTINGS and Accessories, Edition 09/2012**

3. TEST REPORTS

3.1 Tests carried out at MPA NRW (Dortmund/GERMANY), Test Report No. 12 0016 0 95:

- Impulse Pressure test/Vibration test
- Leakage test
- Vacuum test
- Slug test

3.2 Tests carried out at SZMF (Duisburg/GERMANY), Test Report No. F608012:

- Impulse Pressure test/Vibration test
- Burst Pressure test
- Vacuum test

4. APPLICATION / LIMITATION

- 4.1 Tube fittings intended to be used on hydraulic systems on board ships.
- 4.2 Application and installation of the tube fittings are to be in accordance with the manufacturer's specifications and instructions, and the Society's rules requirements.
- 4.3 The tube fittings are to be at any time accessible.
- 4.4 Tube fittings with tapered threads end connections are not to be used for liquid fuel or oil circuits in neither engine rooms nor any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.
- 4.5 The nature of the used materials is to be suitable for the intended service.
- 4.6 For Bulkhead unions, the requirements given in BUREAU VERITAS Rules Part C, Ch. 1, Sec 10, [5.3] have to be complied with.
- 4.7 When soft seals are used for Bulkhead unions, it must be ensured that water, oil or fire cannot penetrate through the watertight bulkheads or decks.
- 4.8 Threaded type may not be used on watertight bulkheads.

5. PRODUCTION SURVEY REQUIREMENTS

- 5.1 The Tube Fittings are to be supplied by **Volz Gruppe GmbH** in compliance with the type described in this certificate.
- 5.2 This type of product is within the category HBV of BUREAU VERITAS Rule Note NR320.
- 5.3 **Volz Gruppe GmbH** has to make the necessary arrangements to have its works recognised by BUREAU VERITAS in compliance with the requirements of NR320 for HBV products:

Volz Gruppe GmbH
Deilingen, GERMANY

6. MARKING OF PRODUCT

Each Tube Fitting is to be clearly identified according to the manufacturer's instructions:

- Manufacturer's name or logo
- Model
- Size

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 products at any time and that **Volz Gruppe GmbH, Deilingen / 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 products and of the conditions of this approval.

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