



Marine & Offshore

Certificate number: 57228/B0 BV

File number: ACM 135/507/3

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

EXMAR GmbH

Bad Nauheim - GERMANY

for the type of product

MECHANICAL JOINTS - COMPRESSION COUPLINGS - SCREW TYPE

24° COMPRESSION TYPE TUBE FITTINGS L & S Series

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships

BUREAU VERITAS Rules for the Classification of Offshore Units

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: 08 Nov 2029

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 08 Nov 2024,

Adama Diene

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

Stainless Steel Tube Fittings according to the following Types:

- Stud couplings: GEV, GEV-D, WEV, TEV, LEV, GAV, MAV, EMAS, VSA
- Tube to tube couplings: GV, WV, TV, KV, GSV, WSV
- Adjustable couplings: ESS, EGKO, EWV, EWKO, WEE, ETV, ETKO, ELV, ELKO, ESWV, GRKO, VKO, VKOR, EMAKO, GKO
- Welding couplings: GAS, GASK, WAS, ESV, SKO, SKR
- Reduction couplings: RS, RS-WD, GR, KR, TR

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:

Series	Tube OD [mm]	Nominal pressure [bar]
L	6 to 10	500
	12 to 18	400
	22 to 42	250
S	6 to 10	800
	12 to 14	630
	16 to 25	420
	30 to 38	320

1.3 Material Specifications:

Fittings and pipes	1.4571 (316Ti) according to DIN 17440
Seal rings	FKM / NBR/ NBR LT

1.4 Temperature range depending on the used material:

Material	Temperature range
Stainless steel (Components)	-55 °C to +400 °C
FKM (Sealing)	-20 °C to +200 °C
NBR (Sealing)	-35 °C to +100 °C
NBR LT (Low Temperature Sealing)	-50 °C to +100 °C
Metallic Sealing	-55 °C to +400 °C

2. DOCUMENTS AND DRAWINGS

According to the Manufacturer's catalogue: **Stainless steel connection technology V22 from 10/2023, Chapter 10 (Cutting ring fittings), 20 (Tapered seal fittings) and 50 (Adaptors).**

3. TEST REPORTS

3.1 Tests carried out at IMA (Dresden/GERMANY), Test Report No. C70/04:

- Combined Pressure pulsation and Vibration tests
- Repeated assembly tests
- Static gas pressure test
- Burst pressure test
- Pull-out test
- Vacuum test
- Fire endurance test

3.2 Tests carried out at IMA (Dresden/GERMANY), Test Report No. C080/11:

- Combined Pressure pulsation and Vibration tests
- Pull-out test
- Fire endurance test
- Vacuum test

3.3 Burst Pressure Tests performed on 28/05/2024 in the Manufacturer's premises.
Test report NPS: 262.1-003470-8 witnessed by an IACS-Member.

4. APPLICATION / LIMITATION

4.1 May be used for the following services on board:

- **Flammable fluids (flash point # 60°C)** - cargo oil (1), crude oil washing (1), vent lines (3)
- **Inert gas** - water seal/scrubber effluent lines, main lines (1+2), distributions lines (1)
- **Flammable fluids (flash point > 60°C)** - cargo oil (1), fuel oil (2), lubricating oil (2), hydraulic oil (2), thermal oil lines (2)
- **Sea water** – bilge lines (4), permanent water filled fire extinguishing systems, non-permanent water fire extinguishing systems (3), ballast system, cooling water, tank cleaning services, non-essential systems
- **Fresh water** - cooling water, condensate return, non-essential systems
- **Sanitary/Drains/Scuppers** - Deck drains (internal) (5), sanitary drains
- **Sounding and venting** - water tanks/dry spaces, oil tanks (flash point > 60°C) (2+3)
- **Miscellaneous** - service air (non-essential), brine, steam

(1)- *Not to be used in pump rooms and open decks.*

(2)- *Not inside machinery spaces of category A or accommodation spaces. May be accepted in other machinery space provided the joints are located in easily visible and accessible positions (refer to IMO Circular MSC/Circ.734).*

(3)- *May be used only in cases where such mechanical joints are installed on open decks, as defined in Ch 4, Sec5, [1.4.3] item b) 2) (10) and not used for fuel oil lines.*

(4)- *Not to be used inside machinery spaces of category A.*

(5)- *Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.*

4.2 Not to be used for:

- **Sanitary/Drains/Scuppers** - scuppers and discharge (overboard),
- **Miscellaneous** - starting/control air and CO2 systems.

4.3 In all cases, the associated pipes are to be suitably supported and anchored. The joints are to be at any time accessible, excepting inside tanks, where permitted by the Bureau Veritas rules.

4.4 Assembly instructions given by the manufacturer are to be complied with.

4.5 Tapered threaded end fittings are not to be used in engine rooms, nor in any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.

4.6 The use of stainless steel is to be restricted as per the requirements of the BUREAU VERITAS Rules.

4.7 The sealing/packing material is to be compatible with the fluid to be conveyed and the maximum working temperature.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The tube fittings are to be supplied by **EXMAR 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 BV product certificate is not required.

5.4 **EXMAR GmbH** has to make the necessary arrangements to have its works recognized by BUREAU VERITAS in compliance with the requirements of NR320 for HBV products.

5.4 For information, **EXMAR GmbH** has declared to Bureau Veritas the following production site:

SERTO AG
Langfeldstrasse 117
8500 Frauenfeld
SWITZERLAND

6. MARKING OF PRODUCT

Each tube fitting is to be clearly identified according to the manufacturer's instructions:

- Manufacturer's name or logo
- Type designation
- Maximum working pressure
- Size

7. OTHERS

- 7.1 It is **EXMAR GmbH**'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° 57228/A0 BV issued on 24 Jun 2019 by the Society.

*** END OF CERTIFICATE ***