DNV·GL

Certificate No:
TAP000003E

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pipe Couplings, Flared or Welded Nipple Type

with type designation(s)
37° flare couplings acc. to ISO8434-2 and SAE J514. JIC fittings. With or without O-ring.

Issued to
Volz Gruppe GmbH
Deilingen, Germany

is found to comply with
Det Norske Veritas' Rules for Classification of Ships Pt.4, Ch.6 "Piping Systems"
Det Norske Veritas' Standards for Certification 2.9 No. 5-792.20

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature range:	**See cert.**
Max. working press.:	**250 to 600 bar (See cert.)**
Sizes:	**6 to 38 mm (1/4 to 1 ½ inch)**

This Certificate is valid until **2019-09-09**.

Issued at **Høvik** on **2015-09-10**

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Mehdi Rowshan**

Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

- 37° flared tube (JIC) couplings made of stainless steel according to manufacturer's catalogue.
- Type: ISO 8434-2, SAE J514
- Material:
  - Fitting bodies – Stainless steel: ANSI 316 TI, 1.4571
  - Elastomeric seals - FPM, PTFE

Application/Limitation

- Maximum working pressures:

Tube OD [mm]	Tube OD [inch]	Without O-ring [bar]	With O-ring [bar]
6	1/4	600	600
8	5/16	600	600
10	3/8	600	600
12	1/2	490	490
16	5/8	350	490
20	3/4	350	490
25	1	250	430
30	1 1/4	250	430
38	1 1/2	250	430

- Temperature range:
  - Metallic sealing: -60°C to 400°C
  - FPM: -25°C to 200°C
  - PTFE: -60°C to 250°C

- The working pressure is equal to the max. Nominal static pressure for working temperatures below 100°C. For higher temperature, pressure reduction factor according to DNV type approval 5-792.20 table 3-1 shall be considered.

- The uses of mentioned flared compression joints are acceptable only for the following services:

I. Flammable fluids (flash point ≤ 60°C)
- Cargo oil lines
- Crude oil washing lines
- Vent lines

II. Inert gas
- Water seal effluent lines
- Scrubber effluent lines
- Main lines
- Distributions lines

III. Flammable fluids (flash point > 60°C)
- Cargo oil lines
- Fuel oil lines
- Lubricating oil lines
- Hydraulic oil
- Thermal oil

IV. Fresh water
- Cooling water system
- Condensate return
- Non-essential system

V. Sanitary/drains/scuppers
- Deck drains (internal)
- Sanitary drains
- Scuppers and discharge (overboard)

VI. Sounding/vent
- Water tanks/Dry spaces
- Oil tanks (f.p.> 60°C)

VII. Miscellaneous
- Starting/Control air)
- Service air (non-essential)

- The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances in accordance with ASTM A269 or EN 10305-1

- These couplings should not be used on tubes in cold fabricated (hard temper) conditions.

Type Approval documentation

- Manufacturer's catalogue
- Burst and tightness test reports dated 2009-12-30
- Pressure impulse and vibration test reports dated 2009-07-22, 2009-10-24 and 2010-01-04
- Pull-out test report dated 2010-01-05
- Repeated assembly test reports dated 2009-12-30
- Vacuum test reports dated 2009-12-01
- Fire endurance test reports dated 2010-01-(25-26)

Tests carried out

Pressure pulsation test, Vibration test, Leakage test, Burst test, Fire test, repeated assembly test, Pull-out test, and Vacuum test

Marking of product

For traceability to this type approval the products are to be marked with

- Manufacturer's name or trade mark

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a survey every second year and before the expiry date of this certificate to verify that the conditions for the type approval are complied with. The Surveyor shall witness burst testing of samples (both fractional (imperial) and metric sizes) of couplings selected at random from stock or from the running production as a part of this survey.

END OF CERTIFICATE