Certificate No:
TAP00001DR

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Tube Fittings

with type designation(s)
Instalpress by Filinox

Issued to
FILINOX, S.A.
Barcelona, **Spain**

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme DNVGL-CP-0185 – Type approval – Mechanical joints

Application :

Products approved by this certificate are accepted for installation on vessels classed by DNV.

Temperature range:	**0°C to 130°C**
Max. working press.:	**16 bar**
Sizes:	**see page 2**

Issued at **Høvik** on **2021-03-26**

This Certificate is valid until **2023-06-30**.

for **DNV**

DNV local station: **Barcelona**

Approval Engineer: **Maheshraja Venkatesan**

Zeinab Sharifi
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

Compression pipe couplings of press type made of austenitic stainless-steel grade AISI 316 with EPDM O-ring sealing.

Type of fitting	Sizes (Nominal Diameter, mm)
Tee, uniform	15, 18, 22, 28, 35, 76.1, 88.9
Tee, reducing:	18x15, 22x15, 22x18, 28x15, 28x18, 28x22, 35x15, 35x18, 35x22, 35x28
Union:	18, 22, 28, 35, 76.1, 88.9, 108
Bend, 90:	15, 18, 22, 28, 35, 76.1, 88.9, 108
Bend, 45:	15, 18, 22, 28, 35

Application/Limitation

Couplings covered by this certificate are only to be used in piping class III in below applications [1]:

1) Flammable fluids (flash point ≤ 60°C)
- Cargo oil lines [2]
- Crude oil washing lines [2]
- Vent lines

2) Inert gas
- Water seal effluent lines
- Scrubber effluent lines
- Main lines [2]
- Distributions lines [2]

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

4) Fresh water
- Cooling water system
- Condensate return
- Non-essential system

5) Sanitary/drains/scuppers
- Deck drains (internal) [3]
- Sanitary drains

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

7) Miscellaneous
- Starting/control air
- Service air (non-essential)
- Brine
- CO_2 system
- Steam

1) Couplings covered by this certificate (except sizes 15 and 54mm) are not to be used in systems where pressure impulse and/or high level of vibrations are expected.
2) Only in pump rooms and open decks.
3) Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

For couplings at elevated temperatures, the maximum working pressure has to be reduced with the following factors:

Temperature	20 °C	50 °C	100 °C	130 °C
Stainless Steel	1	0.95	0.85	0.8

Approval does not cover threaded connector ends, i.e. male threads, female threads, and 2-piece connector. Reference is made to DNVGL Pt.4 Ch.6 Sec. 9 [5.2.6].

EPDM shall not be used for applications involving hydrocarbon services.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions. Pipe couplings covered by this certificate are not allowed to be used in sea water applications.

The approval is only valid when the couplings are assembled according to manufacturer's instructions and with tubing of correct temper and tolerances as specified by the manufacturer.

The minimum wall thickness and material of the tubes shall be in accordance with the latest Rules of DNV Pt.4 Ch.6 Sec.9.

Type Approval documentation

Tests carried out

Tightness, Burst pressure, Pull-out, Fire, Vibration and pressure impulse tests

Marking of product

For traceability to this type approval, each coupling is at least to be marked with:

- Manufacturer's trade mark:
- Type designation
- Size

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.