

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

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 :

The couplings may be used for: Fire fighting and sprinkler systems, compressed air, sanitary, fresh water, steam and condensate. The piping system shall be of Class III.

Temperature range: 0°C to 200°C

Max. working press.: 16 bar

Sizes: 15, 18, 22, 28, 35, 42, 54, 76,1, 88,9 and 108 mm

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2014-09-01**

for **DNV GL**

DNV GL local station: **Barcelona**

Approval Engineer: **Tom Berg-Nielsen**

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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.

If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million.

In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

Certificate No: **P-15012**
File No: **792.24**
Job Id: **262.1-011188-2**

Product description

Press fittings: Bends, elbows, unions, tees

Material: Stainless steel AISI316

Application/Limitation

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

Temp.	-55 °C	-20 °C	20 °C	50 °C	100 °C	150 °C	200 °C
Stainless Steel	1	1	1	0,95	0,85	0,77	0,71

The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances as recommended by the manufacturer. Refer to manufacturers' datasheet regarding minimum requirements for pipes to be connected.

The wall thickness and material of the tubes to be in accordance with the current Rules of Det Norske Veritas.

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

Type Approval documentation

- Test report: MPA NRW No. 120001438 dated 2002-10-21, MPA NRW No. 120002244 dated 2004-11-30 and MPA NRW No. 120002569-1 dated 2006-04-28
- Catalogue and datasheet.
- Drawings:
 - 41.851.15.00, 41.851.16.00, 41.851.17.00, 41.851.18.00, 41.851.19.00.
 - 41.852.40.00, 41.852.41.00, 41.852.42.00, 41.852.43.00, 41.852.44.00, 41.852.45.00, 41.852.46.00, 41.852.47.00, 41.852.48.00, 41.852.49.00
 - 41.853.51.00, 41.853.52.00, 41.853.53.00, 41.853.54.00, 41.853.55.00, 41.853.57.00, 41.853.58.00, 41.853.59.00, 41.853.61.00, 41.853.63.00, 41.853.64.00, 41.853.65.00, 41.853.66.00, 41.853.67.00, 41.853.69.00, 41.853.70.00, 41.853.71.00, 41.853.72.00, 41.853.73.00
 - 41.855.16.00, 41.855.17.00, 41.855.18.00, 41.855.19.00
 - 41.853.28.00, 41.855.09.00, 41.851.09.00, 41.853.27.00, 41.855.08.00, 41.851.08.00, 41.853.29.00, 41.855.10.00.


Tests carried out

Fire test, Burst pressure test, Vibration and Pulsation Test

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



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Periodical assessment

A DNV Surveyor shall perform a survey - before the expiry date of this certificate - to verify that the conditions for the type approval are complied with. The Surveyor shall perform the following tasks on samples selected at random from stock or from the running production:

- Verify that the dimensions of the couplings comply with Type Approved documentation.
- Verify that the material composition complies with the Type Approved documentation.
- Witness burst testing.

END OF CERTIFICATE