



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. P-11152
This Certificate consists of 3 pages

This is to certify that the
Pipe Couplings, Bite and Compression Type
with type designation(s)
SERTO

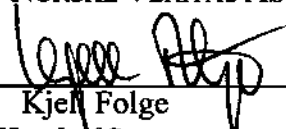
Manufactured by
SERTO AG
Aadorf, Switzerland

is found to comply with
Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended
Det Norske Veritas' Standards for Certification 2.9 No. 102

Application
The couplings may be used in the following systems: Hydraulic, Fuel and lube oil (not high-pressure fuel oil injection systems), Compressed air, Steam and condensate lines, Fresh water, sea water and sanitary systems.

Temperature range: -110°C to 300°C
Max. working press.: 40, 160 and 250 bar, depend. on size and temp.
Sizes: O.D. 2mm to 28mm

Place and date
Høvik, 2002-02-26
for DET NORSKE VERITAS AS


Kjell Folge
Head of Section



Local Office
DNV Essen, Business unit
CMC

This Certificate is valid until
2003-12-31


Kristian Lindelof
Surveyor

Notice: 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 proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision 'Det Norske Veritas' shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: P-11152
File No.: 792.21

Product description

Type : Compression type pipe coupling.
Design : The couplings consist of male adapter unions and straight unions.
Materials : Stainless steel DIN 1.4571
Sizes : 2 mm to 28 mm OD.

Application/Limitation

Pipe OD	Maximum working pressure:
2 to 5 mm	250 bar
9,25 to 12 mm	160 bar
28 mm	40 bar

Maximum working temperature according to manufacturer's recommendations.

No product certificate is required.

For other purposes than listed, an approval has to be obtained in each case.

The working pressure is equal to the max. nominal static pressure for working temperatures below 120°C. For higher temperature approval has to be considered in each case.

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

The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances as recommended by the manufacturer.

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

Type Approval documentation

- Manufacturer's catalogue
- Test report no. CR 6011 dated May 1991
- Test report no. CR 6069 dated February 1992
- Report no ESN 01624 from DNV Essen dated 24th February 2000.

Tests carried out

Leakage test, Repeated assembly test, Burst test, Vacuum test, Impulse/Vibration test.



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Marking of product

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

- Manufacturer's trade mark
- Type designation
- Size

Certificate retention survey

For retention of the Type Approval, 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, and to witness burst testing of samples of couplings selected at random from stock or from the running production.

END OF CERTIFICATE