



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. P-13952
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' Rules for Classification of Ships
Offshore Standard DNV-OS-D101, Marine and Machinery Systems and Equipment
Det Norske Veritas' Standards for Certification 2.9 No. 5-792.20

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 - 250 bar, depend. on size and temp.
Sizes: O.D. 2mm to 28mm

Place and date
Høvik, 2011-11-04

for DET NORSKE VERITAS AS

Marianne Spæren
Head of Section



Local Office
Essen

This Certificate is valid until
2016-06-30

Zeinab Sharifi
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-13952
File No.: 792.21
Job No.: 262.1-000805-2

Product description

Type : Compression type pipe coupling.
Materials: Stainless steel No: 1.4571, DIN 17440 / (EN-10088-3)
Sizes : 2 mm to 28 mm OD.

Application/Limitation

The maximum working pressure is specified in following table:

Drawing number	Type description in Catalogue	Nominal working pressure (Bar)
SZ_056_0010_030 E	SO 50001-3	250
SZ_056_0010_040 E	SO 50001-4	250
SZ_056_0010_050 D	SO 50001-5	250
SZ_076_0010_060 B	SO 50021-6	200
SZ_076_0010_080 B	SO 50001-8	200
SZ_076_0010_100 B	SO 50001-10	160
SZ_076_0010_120 D	SO 50001-12	160
SZ_076_0010_150 B	SO 50001-15	100
SZ_076_0010_160 C	SO 50001-16	100
SZ_076_0010_180 B	SO 50001-18	100
SZ_056_0010_220 D	SO 50001-22	64
SZ_056_0010_280 D	SO 50001-28	40

The working pressure is equal to the maximum nominal static pressure at 20 °C and for couplings at elevated temperatures; the maximum working pressure has to be reduced with the following factors:

Temperature	-110 °C to 20 °C	50 °C	100 °C	150 °C	200 °C	250 °C	300 °C
Stainless Steel	1	0,95	0,85	0,77	0,71	0,67	0,63

Maximum working temperature is accordance to manufacturer's recommendations.

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

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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.
- SERTO test report XDB.BE450.052 Burst Test, 04.02.2004
- SERTO burst report 18.12.2007 Witnessed by DNV surveyor

Tests carried out

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

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 every second year and 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

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