DNV·GL

Certificate No:
TAP000001F

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Ball Valve

with type designation(s)
ISIS

Issued to
EFFEBI SPA
Bovezzo BRESCIA, Italy

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. 5-794.40

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.
Valves may be used in the following systems: Fresh water, Sanitary,sea water Compr. air and Saturated steam (see cert.)

Temperature range:	**-15 °C to 120 °C**
Max. working press.:	**20 bar (at elevated temp. see cert.)**
Sizes:	**DN 10-50 (DN 1/4 '' - 2'')**

This Certificate is valid until **2019-07-05**.

Issued at **Høvik** on **2015-07-06**

for **DNV GL**

DNV GL local station: **Milan**

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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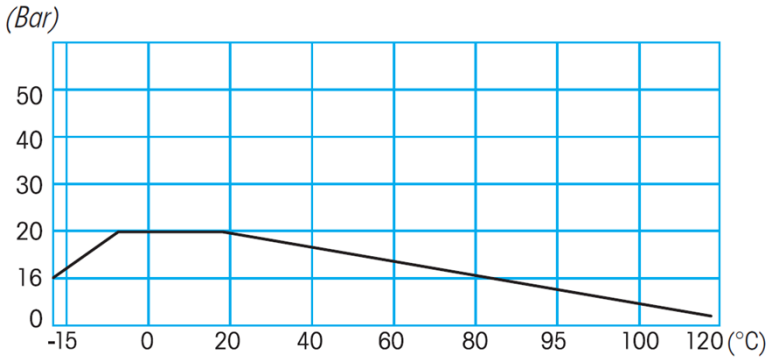
Product description

Design:
Full way ball valves, female threaded end couplings, two piece body of hot pressed brass

Material:
Body, Ball and Stem: Brass, UNI EN 12165 CW602N
Seat: PTFE

Application/Limitation

For use in Class I and II piping systems, the approval only includes valves with end couplings of tapered threads (for steam valves DN < 32 mm) or parallel threads with O-ring sealing.
For temperatures below 0 °C and above 20 °C the pressure rating is to be reduced according the table below:



Each valve is to be accompanied by Test report for the materials used in the body, ball and stem, indicating mechanical and chemical properties and heat treatment.

Type Approval documentation

DWG No: 2411V209, Rev. B
DWG No: 2411V207, Rev. B
DWG No: 2411V206, Rev. B
DWG No: 2411V205, Rev. B
DWG No: 2411V204, Rev. B
DWG No: 2411V203, Rev. B
DWG No: 2411V202, Rev. B
Burst Test Reports dated 29.04.2009
Salt Spray Test Report No: 1101825/C, date 19.12.2011

Tests carried out

Hydrostatic test, burst pressure test, Leakage test, salt spray test

Production testing

The valve housing of each valve shall be subjected to a hydrostatic pressure test at minimum 1.5 times the design pressure.
Holding time: 2 min
No leakage is permitted.

The valve assembly shall be subjected to a hydrostatic seat leakage test. The test pressure shall at least be equal to the design pressure. The test shall be performed with closed valve with the other end open to atmosphere. The pressure shall be applied independently on each side of the closed disc.
For valves intended for ship's side or bottom the test pressure is not to be less than 5 bar.
Holding time: 5 min for all sizes
Acceptable leakage range: Drop tight

Marking of product

For traceability to this type approval, each valve is at least to be marked with:
- Manufacturer's name or trade mark
- Type designation
- Size
- Pressure class

Periodical assessment

Application for renewal shall be submitted to DNVGL not later than 3 months before expiry date of the certificate. Upon receipt of the application a periodical assessment will be carried out to verify the conditions for the type approval is still complied with. Any changes to the design are to be handled as for initial Type Approval, with regards to additional documentation and testing requirements.

END OF CERTIFICATE