

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Safety Valve for Boiler and Pressure Vessel

with type designation(s)
JSV-FF41

Issued to

Jokwang I.L.I. Co., Ltd.
Yangsang-gi Gyeongsangnam-do, Republic of Korea

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL rules for classification – Ships Pt.4 Ch.7 Pressure equipment
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

K. factor: 0.864 (Steam & Gas (air)) - 0.6 (Liquid)

This Certificate is valid until **2020-05-27**.

Issued at **Høvik** on **2016-10-04**

DNV GL local station: **Gimhae MC & FIS**

for **DNV GL**

Approval Engineer: **Adel Samiei**

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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.

Product description

Full life type & full bore type safety valves – designation JSV-FF41

Body material : SC480 (Carbon Steel Castings) / GS-52 (Steel castings) / ASTM A27 Grade 70-36 (Cast Carbon Steel) / A216 WCB (Carbon Steel Castings)
Stem : ASTM A276 304/ A276 410/ A582 303
Gasket: PTFE, non asbestos, Graphite
Seat: SCS13,14,16 / A351 CF8,C8M,CF3M
Disc: A276 304, 316, 316L
O-ring

Application

The safety valves may be used in the following systems: Steam, gas (air) & liquid in below design conditions:

Set pressure range 22.1 ~ 33 kgf/cm²
Temperature range 0°C to 400 °C

Limitation

On boilers or steam-heated steam generators the following limitations applies:

- Safety-valves of ordinary type with seats of less than 38 mm inside diameter shall not be used. (Reference is made to DNV GL ship rules Pt.4 Ch.7 Sec.5 [2.1.8])
- For full lift safety valves the inside seat diameter shall not be less than 20 mm. (Reference is made to DNV GL ship rules Pt.4 Ch.7 Sec.5 [2.1.8])
- The discharge from safety valves shall be to a point where hazard is not created. (Reference is made to DNV GL ship rules Pt.4 Ch.6 Sec.5 [7.4.1])

Production test

All valve bodies shall be subject by the manufacturer to a hydrostatic test at a pressure equal to 1.5 times the set pressure (maximum working pressure at room temperature).

Each valve shall be subject to leakage test (at 90% of set pressure) after reset and have set pressure sealed and verified.

Certification

Bodies of valves made of bronze (outlet size greater than 50 mm) shall be delivered with work material certificate. Otherwise, test report may be accepted.

Valves covered by this type approval certificate may be delivered with manufacturer's certificate. (Reference is made to DNV GL ship rules Pt.4 Ch.6 Sec.9 [3.3.1])

Type Approval documentation

Test reports JK-QATV-2010-0322-4&-5&-6, JK-QATH-2010-0322-4&-5&-6, JK-QATF-2010-0322-1 (Hydrostatic test report, Functionality & capacity test reports) dated April 2010.
JKS-S1381001 Rev.1, JKS-S1381002 Rev.1, JKS-S1381003 Rev.1
Calculation sheet of safety valve capacity dated 2010-02-02
Capacity certification number JOK-M89007

Tests carried out

Hydrostatic test report, Functionality & capacity test reports

Marking of product

For traceability to this Type Approval the products are at least to be marked with:

- Manufacturer's name or trade mark
- Type designation
- Pressure rating



Job Id:
Certificate No: **TAP00000FW**

- Size

Periodical assessment

For retention of the Type Approval a DNV GL Surveyor shall perform a periodical assessment every second Year. The objective of the periodical assessment is to verify that the conditions for the TA are not altered since the TAC was issued.

The main scope of the periodical assessment will normally include:

- Verification of the TA applicant's production and quality system w.r.t. ensuring continued consistent production of the type approved products at the TA applicant's own premises
- Review of the TA documentation and that this is still used as basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking.