

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Float Level Isolation Valve

with type designation(s)

FLIV (Float Level Isolation Valve) and DGIV (Density Gauge Isolation Valve)

Issued to

President Engineering Group Ltd
SHEFFIELD, United Kingdom

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems

DNV GL rules for classification – Ships Pt.5 Ch.5 Oil tankers

Application :

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

The valves can be used as cryogenic float level isolation valve on cargo tanks for LPG.

Temperature range: -55°C to 80°C

Max. working press.: 10 bar

Sizes: DN200 and DN300

This Certificate is valid until **2019-12-31**.

Issued at **Høvik** on **2016-02-08**

DNV GL local station: **Manchester**

for **DNV GL**

Approval Engineer: **Tom Berg-Nielsen**

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.

Job Id:
Certificate No: **TAP000003Y**

Product description

Stainless steel float level isolation valve (FLIV) and density gauge isolation valve (DGIV). The valve has an integral inspection chamber for inspection and or replacement of the float/gauge. Any device for operation of the valve disc is not included in the type approval.

Materials:

Body and bonnet:	Stainless steel ASTM A351 CF8M
Inspection cover:	Stainless steel ASTM A351 CF3M
Seat and retaining ring:	Stainless steel ASTM A351 CF8M
Hinge and disc:	Stainless steel ASTM A351 CF8M
Seat sealing ring:	PTFE
Seat sealing:	Graphite

Application/Limitation

Each product/delivery is to be accompanied by the following documents:

- DNV GL product certificate for all valves
- Work's Certificate for materials used in valve body indicating mechanical and chemical properties.
- Instruction manual/specification sheet.

For materials delivered with Works certificate the foundry has to be a DNV GL approved manufacturer.

All valves shall be tested at the plant of manufacturer in the presence of the Society's representative. Testing shall include hydrostatic test of the valve body at a pressure equal to 1.5 times the design pressure for all valves and seat and stem leakage test at a pressure equal to 1.1 times the design pressure.

Type Approval documentation

Tests carried out

Shell tightness, seat leakage and operation tests

Marking of product

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

- Manufacturer's name or trademark
- Type designation

Periodical assessment

For retention of the Type Approval, a DNV GL 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.

END OF CERTIFICATE