



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAP00001UK
Revision No:
1

This is to certify:

that the **Gauge Glass Level Indicator**

with type designation(s)
Seetru Seeflex Liquid Level Gauge (G31)

issued to

SEETRU LTD.
BRISTOL, United Kingdom

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems

Application:

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

Temperature range: -35°C to +80°C
Max. working press.: 38.7 psi (2.67 bar)
Design: See Certificate

Issued at **Høvik** on **2024-02-29**

for **DNV**

This Certificate is valid until **2028-12-31**.
DNV local unit: **UK & Ireland CMC & VMC**

Approval Engineer: **Mohsen Mohebbi**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Seeflex G31 type flat glass level gage indicators of maximum 9 meter length with self closing valves fitted at bottom connection operated by push button or hydraulic actuator with alternative fittings at top connection.

Materials:

Back channel:	Stainless steel
Front bezel:	Black coated, rust protected mild steel. or stainless steel.
Reflex glass:	Hardened borosilicate
Seal for glass:	Nitrile
Valve bodies:	Brass or stainless steel
Valve body seals:	Elastomer

Application/Limitation

Mentioned gauges may be used in tanks containing flammable fluids while fitted with a self-closing valve at each end, and protected against mechanical damage.

When gauges are used for tanks containing inflammable liquids the glasses are to be of heat resistant material. When self closing valves are not provided at top end, the top end shall reach to a level above maximum fluid level in the tank.

In passenger ships, no oil level indicating devices requiring penetrations below the top of the tank are permitted.

Stainless steel grade 316 is not seawater resistant and products covered by this certificate shall not be used in seawater applications.

Product certificate is not required for the DNV classed vessels.

Type Approval documentation

The approval is based on the following documentation:

Drawings:

- G 313185 rev.2, G 313187 rev.1, GSA 146110 rev.6, G 313184 rev.1, GSA 115110 rev.5, G 313183 rev.1, G 211940 sh.1/2, G 211944 sh. 1/2, G 211941 sh. 1/2, SG-A-1056,
- G 211942 sh. 1/2, GSA 170110, G 211943 sh.1/2, GSA 170200, SGB 1924/GSA920100.
- Pressure test report dated Bristol 30th May 1984.
- Telefaxes from DNV, London dated 5th March 1987 and 17th July 1987.

Production test

Hydraulic/Leakage test to 1.5 times the maximum allowable pressure to be performed under the supervision by a Surveyor of DNV for each level indicator.

Marking of product

For traceability to this type approval the products are to be marked with:

- Manufacturer's name
- Type designation
- Test pressure

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.