

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Gauge Glass Level Indicator**with type designation(s)
SI-FLG SERIES

Issued to

Sunil Instrument Co., Ltd.
Busan, 11, Republic of Korea

is found to comply with

DNV GL 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 GL.****Temperature range:** 100°C**Max. working press.:** 3 bar**Design:** Flat glassIssued at **Høvik** on **2020-08-03**This Certificate is valid until **2025-08-02**.for **DNV GL**DNV GL local station: **Gimhae Station**Approval Engineer: **Thomas Wilhelm Juell**

Zeinab Sharifi
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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

Flat type glass level gauge of type SI-FLG consisting of Borosilicate glass incorporated in a stainless steel (SUS 304) frame with bronze (BC 6).

Media:	Water & Oil
Design pressure:	3 kg/cm ² (3 bar)
Design temperature:	100°C
Measuring length range:	285 mm up to 5100 mm
Max. distance of supports:	1000 mm

Application/Limitation

The tank level gauge of type SI-FLG is approved as tank level indicator on tanks above the double bottom.

The design review has only covered the strength of pressurized parts. The functionality of the component has not been considered in the approval.

These level gauges can be installed as a means of level indication for tanks containing flammable fluids. They are to be fitted with a self-closing valve at each end, and are to be protected against mechanical damage. (Ref. DNV GL Ship rules Pt.4 Ch.6 Sec.4 [11.6.2])

These level gauges are not permitted to be used on fuel oil tanks on passenger ships, where a penetration is required below the top of the tank. (Ref. DNV GL Ship rules Pt.4 Ch.6 Sec.4 [11.6.4])

Type Approval documentation

Tests carried out

Vibration test & Inclination test

Production testing

Each level gauge shall be subjected to a hydrostatic pressure test at 1.5 times the allowable pressure at room temperature.

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
- Design pressure
- Year of manufacture

Periodical assessment

For retention of the Type Approval, a DNV GL 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 DNVGL-CP-0338.