Certificate No:
TAP00002S4

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gauge Glass Level Indicator

with type designation(s)
ULB-3A-C, ULB-3B-C

Issued to
Taixing Thermal Instrument Factory Co., Ltd.
Taixing City, **China**

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Type:	Temperature range:	Max. working press.:
ULB-3A-C	0°C up to 80°C	0.2 MPa
ULB-3B-C	0°C up to 80°C	0.2 MPa

Issued at **Hamburg** on **2023-07-14**
This Certificate is valid until **2028-07-13**.
DNV local unit: **Jiangyin NB & CMC**

Approval Engineer: **Christian Kaemmer**

for **DNV**

Sven Klinger
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 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

Type ULB-3A-C flat glass gauge is fitted with self-closing valves, which are actuated manually.
Nominal length is up to 1.2 m.

Type ULB-3B-C flat glass gauge is fitted with self-closing valves, which are actuated manually and hydraulically.

Flat glass gauges consist of the following main components:

Component	Material
Self-closing valves	SUS304 (body)
Flanges	SUS304
Body	SUS304
Flat glass	Borosilicate

Application/Limitation

Flat glass gauges are type approved for level indication for tanks containing flammable liquids:

- as per DNV-RU-SHIP Part.4 Chapter 6 Section 4 Item 10.6.2 &
  DNV-OS-D101 Chapter.2 Section 3 Item 5.7.2

Flat glass gauges are not permitted for tanks containing flammable liquids on passenger ships:
(DNV-RU-SHIP Part.4 Chapter 6 Section 4 Item 10.6.4)

Flat glass gauges shall be fitted with a self-closing valve at each connection to a tank
and protected against mechanical damage.

Type Approval documentation

Tests carried out

Marking of product

For traceability to this Type Approval each gauge shall marked on the body or on a type plate as follows:

Marking	Example
Manufacturer's mark	Taixing Thermal Instrument Factory
Type designation	ULB-3A-C or ULB-3B-C
Nominal diameter (DN)	25
Nominal pressure (PN)	0.2 MPa
Length	1200 mm
Date	2018/05/02
No.	1805003

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com