



CERTIFICATE NUMBER  
16-TA1474642-PDA

DATE  
16 Feb 2016

ABS TECHNICAL OFFICE  
Taipei ESD

# CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of

## **GOLDEN MOUNTAIN ENTERPRISE CO., LTD.**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Float Level Controller/Float Level Gauge/Flat Plate Glass Ga...**

Model: **Float Switch: FS20, FS25, FS30R and FS40R; Float Meter: BR250S, BF300 and JA series; Level Switch: LXT207; Level Gauge: R series, T series and B series; Level Sensor: ELT series.**

This Product Design Assessment (PDA) Certificate 16-TA1474642-PDA, dated 16/Feb/2016 remains valid until 15/Feb/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Shou-Hua Huang  
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).



## ***Confirmation of Product Type Approval***

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 29/AUG/2017. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 15/FEB/2021 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

**Product Name:** Float Level Controller/Float Level Gauge/Flat Plate Glass Gauge  
**Model Name(s):** Float Switch: FS20, FS25, FS30R and FS40R; Float Meter: BR250S, BF300 and JA series; Level Switch: LXT207; Level Gauge: R series, T series and B series; Level Sensor: ELT series.

**Presented to:**

GOLDEN MOUNTAIN ENTERPRISE CO., LTD.  
NO.9, LANE 133, XING-HUA ST.  
CHIEN-CHEN DISTRICT  
Taiwan, R.O.C.

**Intended Service:**

Control or alarm for liquid indication in tanks on Ships and Offshore Facilities.

**Description:**

Metal Tube Flow Meter, Roots Type Positive Displacement Flow Meter, Flow Switch, Horizontal Magnetic Level Switch Explosion Proof, Liquid Level Gauge and Electrode Level Switch.

**Ratings:**

Max. Pressure for Model BR250S and BF300: 40 kg/cm<sup>2</sup> (standard) option up to 100 kg/cm<sup>2</sup>; Model FS25: 1500 psi (st. steel); Maximum Working Pressure for Model JA series: 10 kg/cm<sup>2</sup>; Pressure Limit for Model FS20: 7.0 MPa (70 kg/cm<sup>2</sup>); Model FS30R and FS40R: 10 kg/cm<sup>2</sup> or 15 kg/cm<sup>2</sup> (material depend); Model LXT207: 3.0 MPa (30 kg/cm<sup>2</sup>) option up to 4.5 MPa; Working Pressure Limit for Model ELT series: 10 kg/cm<sup>2</sup>. Flow Meter Model BF300, BR250S and Level Switch Model LXT207 are having Explosion Proof Group and Class: EX d IIB+H2 T6 (Certificate issued by Industrial Technology Research Institute). Temperature for Model BR250S and BF300: -50 Deg. C to 200 Deg. C option up to 400 Deg. C on request; Maximum Working Temperature for JA series 100 Deg. C (usual model), only JAH type up to 200 Deg. C; Temperature Limit for Model FS20: -20 to 150 Deg. C; Model FS30R and FS40R: -30 to 120 Deg. C; Model LXT207: -20 to 150 Deg. C, -20 to 200 Deg. C or -20 to 350 Deg. C (suffix number depend); Operation Temperature for Model FS25: -30 to 120 Deg. C; Temperature Resistant for Model

R series, T series and B series: 2 Deg. C. to 280 Deg. C. (standard and jacket type); -10 Deg. C to 90 Deg. C (illuminator type); Working Temperature Limit for Model ELT series: -20 Deg. C~120 Deg. C or 0 Deg. C~60 Deg. C (insulation material depend). See more details via a click on ABS Type Approved Products for each model.

**Service Restrictions:**

Unit Certification is not required. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard; the specification or standard, including inspection standards and tolerances, must be clearly defined the conformity criteria.

**Comments:**

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. Level sensing devices installed on tanks at locations where they are subjected to a static head of liquid are to be fitted with valves or arranged such that they may be removed without emptying the tank. The level gauge is to be capable of withstanding the hydrostatic pressure at the location of installation, including that due to overfilling. Level switches, where fitted on fuel oil or lubricating oil tank installation, they are to be encased in steel, or equivalent, such that no release of fuel oil or lubricating oil is possible in the event of their damage due to fire.

**Notes / Documentation:**

This design assessment for the explosion proof models are on the basis of the certificate issued by Industrial Technology Research Institute qualified number ITRI-Ex (2015) 00091 dated 21 April 2015 and ITRI-Ex (2015) 00151 dated 02 July 2015 on the Standards of CNS 3376-0(2014) and CNS 3376-1(2008). Certificate No. 2015-00091, Explosion Proof Certificate for LXT207, Certificate No. 2015-00151, Explosion Proof Certificate for BF300, Drawing No. Catalogue for BR250S etc., Flow Switch and Level Switch etc., Correspondence, Declaration of the Absence of Asbestos in the Manufacture or Packaging of Materials, Components, Products or Systems included in and offered for the ABS Type Approval Program, Correspondence, Required for ABS Type Approval-Product Model, Correspondence, Type Approval Request.

**Term of Validity:**

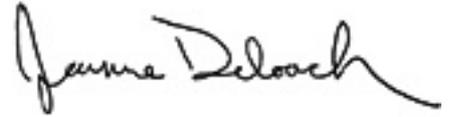
This Product Design Assessment (PDA) Certificate 16-TA1474642-PDA, dated 16/Feb/2016 remains valid until 15/Feb/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

**ABS Rules:**

The Rules applicable to this assessment are covered to the following only: - Steel Vessel Rules (2016): 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-1-1/Table 3, 4-6-2/9.11.3, 4-6-4/13.5.6(b), 4-6-4/13.5.6(d) 4-6-4/15.3.4(b), 4-6-4/15.3.4(d) and 4-8-3/Table 2, - Steel Vessels Under 90 Meters (295 Feet) in Length (2016): 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-4-3/13.7, 4-6-3/Table 1 and 4-6-4/10.7.5, - Offshore Support Vessels (2016): 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-1-1/Table 3, 4-6-2/9.11.3 and 4-8-3/Table 2, - Mobile Offshore Drilling Unit (2016): 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-3/3.7, 4-3-3/Table 1, - Rules for Condition of Classification - Offshore Units and Structures (2016): 1-1-4/7.7 (for ships), 1-1-4/9.7 (for offshore units and structures), 1-1-A2 and 1-1-A3.

- National Standards:**
- International Standards:**
- Government Authority:**
- EUMED:**
- Others:**

<b>Model Certificate</b>	<b>Model Certificate No</b>	<b>Issue Date</b>	<b>Expiry Date</b>
PDA	16-TA1474642-PDA	16/FEB/2016	15/FEB/2021



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.