



CERTIFICATE NUMBER

09-LD422304-PDA

DATE

09 February 2009

ABS TECHNICAL OFFICE

London Engineering Department

CERTIFICATE OF Design Assessment

This is to Certify that a representative of this Bureau did, at the request of
KLAY INSTRUMENTS B.V. - DWINGELOO

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. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Electronic Pressure and Level Transmitter

MODEL: 8000/8000-SAN/CER-8000, 2000/2000-SAN, HYDROBAR-FR/I

ABS RULE: 2009 Steel Vessel Rules 1-1-4/7.7, 4-8-3/13.3.2 and 13.3.3, 4-8-4/27.5, 4-9-7/13, 5C-1-7/31.9, 5C-8-13/2 and 4

OTHER STANDARD: EN61000-6-1 to 6, EN50081 and 82-1 and 2, EN55011 and 22; EMC-Directive 2004/108/EC;

AMERICAN BUREAU OF SHIPPING


Wing F. Cheung
Engineering Type Approval Co-ordinator

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MFC

Product: Electronic Pressure and Level Transmitter
Model: 8000/8000-SAN/CER-8000, 2000/2000-SAN, HYDROBAR-FR/I

Intended Service:
Use for pressure and level measurements on liquid, gases and vapours in oil or chemical tankers, LNG carriers and Other ABS classed vessels and offshore installations.

Description:
Solid state, stainless steel pressure and level transmitters based on either a ceramic pressure cell or piezo-resistive mono-crystalline silicon sensor with a stainless steel diaphragm. All transmitters are fully temperature compensated. The amplifier contained within the sensor housing is based on a single integrate circuit to provide a linear 4 to 20 mA output representing 0 to 100% process signal.

The series 8000, 8000-SAN and CER-8000 are Conventional pressure and level transmitters with internally adjustable for zero and span by 2 potential meters. The Series 2000, 2000-SAN and CER-2000 are Intelligent transmitters with display unit, which can be calibrated without test pressure by 3 push buttons. The Series HYDROBAR are submersible pressure and level transmitters consisting of HYDROBAR-FR cable, HYDROBAR-Cable range, HYDROBAR-EXTD and HYDROBAR-I cable.

Ratings:
Power Supplies: 13 to 40 V DC 24 Typical;
Output: 4 to 20 mA 2 wires;
Accuracy: 0.2%;
Pressure range: 0.1 to 80 Bar;
Process temperature range: -20 to 80 Degree C;
Enclosure Rating Submersible: IP66/68;
Certification: Intrinsically safe to CE 0344 KEMA 03ATEX1219X and 03ATEX1092X, II 1 G EEX ia IIC T4

Service Restrictions:
Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:
Not Applicable

Notes/Documentation:
This Product Design Assessment (PDA) is valid only 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.

Report No. 211828100 - IP Test;
Report No. 1999-CMC-R030 - Vibration test;
Report No. TQS-RAP-08-4722-GGE. Salt Mist Test;
EMI measurements;
Instruction Manual and brochures for Series 2000, 8000 and 2000/8000 HYDROBAR Pressure Transmitters;

Term of Validity:
This Design Assessment Certificate number 09-LD422302-PDA, dated 09/Feb/2009 will expire on 08/Feb/2014 or at an earlier date should there be alterations to the product's design or changes to the referenced ABS Rules and other specifications, which affect the product. Product use on or after 1 January 2010, will be subject to compliance with the ABS Rules or specifications in effect when the vessel, MODU or facility is contracted. The product's acceptability on board ABS classed vessels or facilities is defined in the service restrictions of this certificate.

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STANDARDS

ABS Rules:

2009 Steel Vessel Rules 1-1-4/7.7, 4-8-3/13.3.2 and 13.3.3, 4-8-4/27.5, 4-9-7/13, 5C-1-7/31.9, 5C-8-13/2 and 4

National:

EN61000-6-1 to 6, EN50081 and 82-1 and 2, EN55011 and 22

Others:

EMC-Directive 2004/108/EC



wfc