



CERTIFICATE NUMBER  
15-LD1339319-PDA

DATE  
20 Mar 2015

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  
**DANFOSS A/S**

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: **Pressure Switch**

Model: **CAS 133/136/137/139/143/145/147**

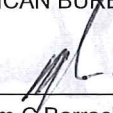
This Product Design Assessment (PDA) Certificate 15-LD1339319-PDA, dated 20/Mar/2015 remains valid until 19/Mar/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

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

  
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Malcolm C Barraclough  
Engineer

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).

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**Tier: 3 - Type Approved, unit certification not required**

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**Product:** Pressure Switch

**Model:** CAS 133/136/137/139/143/145/147

**Intended Service:**

ABS Classed Vessels and Offshore Facilities in accordance with the listed ABS Rules and International standards.

**Description:**

Pressure controlled switches for control and alarm functions; Medium: Water, Fuel Oil, Lube Oil, Gas, Refrigerants and Hydraulic fluids.

**Rating:**

Type: CAS 133; Operation Pressure (BAR): 0 to 3.5; Medium Temperature: -40 to 80 degrees C; Type: CAS 136; Operation Pressure (BAR): 0 to 10; Medium Temperature: -40 to 80 degrees C; Type: CAS: 137: Operation Pressure (BAR): 6 to 18; Medium Temperature: -40 to 80 degrees C; Type: CAS 139; Operation Pressure (BAR): 10 to 35; Medium Temperature: -40 to 80 degrees C Type: CAS: 143: Operation Pressure (BAR): 1 to 10; Medium Temperature: -25 to 80 degrees C; Type: CAS: 145: Operation Pressure (BAR): 4 to 40; Medium Temperature: -25 to 80 degrees C; Type: CAS: 147: Operation Pressure (BAR): 6 to 60; Medium Temperature: -25 to 80 degrees C; Maximum Contact Load: 125V, 12 W DC, 250 V, 0.1.A A

**Service Restriction:**

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:**

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

**Notes/Drawing/Documentation:**

Drawing No. 119202, Demko Test report, Revision: -, Pages: 1

Drawing No. 119202 PL, Demko Test report, Revision: -, Pages: 1

Drawing No. 119202A PL, Demko Test report, Revision: -, Pages: 1

Drawing No. IC. PD.P10.G6.02/ 520B5468, Data sheet - Pressure switch and Thermostat , Type CAS, Revision: -, Pages: 16

Drawing No. IC.PD.P10.G5.02 / 520B5114, Technical Brochure - Pressure and Temperature Controls, Type CAS, Revision: -, Pages: 1

Drawing No. TR 060,060L-1920, Test report, Revision: -, Pages: 1

Drawing No. TR 060,060L-1921, Test report, Revision: -, Pages: 1

**Terms of Validity:**

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## **STANDARDS**

### **ABS Rules:**

The Rules applicable to this assessment are:

- Steel Vessels (2015) 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-8-3/1.7, 4-8-3/ 1.11
- Steel Vessels Under 90 Meters (295 Feet) in Length (2015) 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-6-1/11, 4-6-1/15
- Mobile Offshore Drilling Units (2015) 1-1-4/9.7, 1-1-Appendix 3 & 4, 4-3-1/11, 4-3-1/15
- Offshore Support Vessels (2015) 1-1-4/7.7, 1-1-Appendix 3 & 4, 4-8-3/1.7, 4-8-3/1.11
- High-Speed Craft (2015) 1-1-4/11.9, 1-1-Appendix 2 & 3, 4-6-1/11, 4-6-1/15

### **National:**

NA

### **International:**

NA

### **Government:**

NA

### **EUMED:**

NA

### **OTHERS:**

NA

