



Marine &amp; Offshore

Certificate number: 04957/H0 BV

File number: AP 1235

Product code: 3891H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**DANFOSS A/S**

NORDBORG - DENMARK

*for the type of product*

**PRESSURE TRANSMITTERS / TRANSDUCERS**

Differential Pressure and Pressure Controllers

Type: CAS 155, CAS133, CAS136, CAS137, CAS139, CAS143, CAS145, CAS147.

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

EN 60947-1 (2014)

EN 60947-5-1 (2017)

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 10 Feb 2027**

**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 10 Feb 2022,

Jesper JENSEN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarp.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=bavqwnbvpc>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

- Product model or type designation :  
Type: **CAS**

- Product description:  
Differential Pressure and Pressure Controllers

1.1.1 - Differential Pressure Controller type CAS:

With 1 microswitch	Range
CAS155	0.2-2.5

1.1.2 - Pressure Controller type CAS:

With 1 microswitch	Range
CAS133	0-3.5 bar
CAS136	0-10 bar
CAS137	6-18 bar
CAS139	10-36 bar
CAS143	1-10 bar
CAS145	4-40 bar
CAS147	6-60 bar

### 2. DOCUMENTS AND DRAWINGS:

2.1 - According to documents filed in AP 1235 and AP 1234.

2.2 - Drawings: 060.R.0251 eng., 060.R.0254, 060.R.0253 eng., list 027.M.0024 - 2 pages 060R0251/01, 060R033 eng., 060R036/01 eng., 060R044/01, 060R0252 eng.

2.3 - Data Sheet ref.: 520B0616 dated Aug. 2000.

2.4 - Pressostats and Thermostats CAS Danfoss Ref: IC.PD.P10.G3.02-52OB4174 dated July 2010.

2.5 - Data sheet ref. AI226486438268en-001001, dated Jun 2020.

### 3. TEST REPORTS:

3.1 - According to documents filed in AP 1235 and AP 1234.

- Test report N° TR 60-763, dated 23 Mar 1984.

#### **BOSMAL:**

- Test report N° BOS/1597/BE/17, dated 13 Apr 2017.

### 4. APPLICATION / LIMITATION:

4.1 - BV Rules for the Classification of Steel Ships.

4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7

### 5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **DANFOSS A/S** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **DANFOSS A/S** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **DANFOSS A/S** has declared to Bureau Veritas the following production site:

**Danfoss Poland Sp. z o.o.**  
**ul. Chrzanowska 5**  
**05-825 GRODZISK MAZOWIECKI**  
**POLAND**

### 6. MARKING OF PRODUCT:

- Maker's name or trade mark.

- Serial number of the units.

- Equipment type number or model identification under which it was type-tested.

**7. OTHERS:**

7.1 - It is **DANFOSS A/S**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate No. 04957/G0 BV issued on 23 Jun 2016 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*