



Marine & Offshore

Certificate number: 06095/G0 BV

File number: AP 2751

Product code: 3881H

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 CONTROLLERS

Pressure Switches

Types: MBC 5100, MBC 5100 Wärtsilä and MBC 5100 stainless steel.

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

EC Code: 33S

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: 28 Jan 2027

For Bureau Veritas Marine & Offshore,

At BV FREDERICIA, on 28 Jan 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. 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.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=lhybaod42t>

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: MBC 5100

- Product description:

MBC 5100 Pressure Switches are intended for alarm indication, shut-down, control and diagnostic in many applications.

Main Specifications:

Max. pressure : Up to 400 bar

Contact Switch : SPDT

Contact Load : 0.5A - 250 V (AC), 12W - 125V (DC)

Ingress Protection : IP 65

2. DOCUMENTS AND DRAWINGS:

filed in AP 2751:

- Industrial notes IK.21.C2.02.

- MBC - Design changes dated 13/Jun./2008

- Data Sheets IC.PD.P10.4A.02, dated Feb. 2019

- Installation guide IC.PI.P10.A3.52, dated Nov. 2013

- Drawings N°s: 061R9000 ver. 01, 061B0613 ver. 03, 061B0647 ver.04, 061B0672 ver.04 and 061B0673 ver. 03

3. TEST REPORTS:

- Test report N° 4-23160 dated February 1995. Classification Societies witnessing to test had been carried out.

- Danfoss test report N° J.no.: 20032124 dated 14/Mar./2003.

- Danfoss test report N° J.no.: 20042163E-6 dated 18/May/2004.

- Danfoss test report N° no.: 2007-2421 dated 26/Nov./2007.

- PCA Test report, N° BS-3/091/B/19, dated 25/Jul/2019.

- BOSMAL Test Report No. BOS/3384/BS/18, dated 13/Jul/2018.

- FORCE Test Report Corrosion check No. T214172-2, dated 9/Auh/2018.

- SGS Test Report No. G2L40003, dated 14/Jul/2014.

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS 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 - BUREAU VERITAS Environmental Category, **EC Code: 33S**

4.4 - The equipment, once installed on board ship, is to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.

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 - **DANFOSS A/S** has declared to Bureau Veritas the following production site(s):

Danfoss Poland Sp z.o.o

Ul. Chrzanowska 5

PL-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, Nordborg**'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. 06095/F1 BV issued on 06 Nov 2019 by the Society.

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