



Marine & Offshore
Division

Certificate number: 03650/J0 BV

File number: ACM 191/0009/000

Product code: 6913H

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 FOR REFRIGERATING PLANTS

Pressure Controls Type KP.

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

This certificate is issued to attest that BUREAU VERITAS 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: 07 Jan 2020

For BUREAU VERITAS,

At BV FREDERICIA, on 07 Jan 2015,

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. 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 Division 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 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 SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

KP Pressure Controls type:
 KP1 - KP2 - KP5 - KP15
 KP7 W - KP7 B - KP7 S - KP7 BS
 KP17 W - KP17 B - KP1 A - KP5 A - KP15 A.

Maximum working pressure: 17 bar (L.P.) - 35 bar (H.P.)
 Permissible ambient temperature: -40°C to +60°C.
 Enclosure: IP 33, IP 44 or IP 54.

2. DOCUMENTS AND DRAWINGS:

Data Sheet DKRCC.PD.CD0.A1.02-520H1891.

3. TEST REPORTS:

As filed in ACM 191/009/000.

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

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

4.3 - 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.

4.4 - Material in contact with the medium:

- Type KP1, 2, 5, 7, 15 and 17: Tin bronze, n° 2.1020 (DIN 17662); Free cutting steel, n° 1.0737 / 1.0718 (DIN 1651).

- Type 1A, 5A, 7A and 15A: S.S. 18/8, n° 1.0737 (DIN 17440); Free cutting steel, n° 1.0719 (DIN 1651), Steel, n° 1.0330 (DIN 1624), Aluminium, n° 3.0255 (DIN 1712).

4.5 - May be used on refrigerating plants:

- As Protection on compressors (low pressure or high pressure protection)

- Starting and stopping compressors or other equipment.

- The material must be appropriate to the refrigerating medium ; copper alloys are not to be used for plants using ammonia.

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.

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 :

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Ul. Chrzanowska 5
PL-05-825 Grodzisk Mazowiecki
POLAND

Danfoss Industries Pvt. Ltd
296, Rajiv Gandhi Salai (OMR)
600 119 - Sholinganallur
Chennai, Tamil Nadu
INDIA

6. MARKING OF PRODUCT:

- Trade name.

- Date of manufacture and serial number.

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

7. OTHERS:

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **DANFOSS A/S, Nordborg - Denmark** will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate No. 03650/I1 BV issued on 129 Sep 2011 by the Society.

*** END OF CERTIFICATE ***