



Marine & Offshore
Division

Certificate number: 06509/E0 BV

File number: AP 2902

Product code: 3812H

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

TEMPERATURE SENSORS / PROBES / TRANSDUCERS

Type: MBT 5116

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.
IEC 60068-2-6 (2007), IEC 60529 (2001), EN 60751 (2008)

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.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 2 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Exhaust Gas Temperature Sensors with Resistant Element and Interchangeable Measuring Insert.

1.1 - Common Specifications:

Measuring Range : -50 to +600°C
 Type : Pt100 - 2 or 3 wire connection
 Tolerance : EN 60751 Class B
 Process Connection : G1/2" & G3/4"
 Insertion Length : 80 to 300 mm
 Electrical Connection: : IP 65

1.2 - Products:

Type	Remark
MBT 5116 B-head	: Connection head, Type B - Cable entry PG16
MBT 5116 Slim-line	: Union (HEX 41) - Cable entry PG 9 / 13.5

2. DOCUMENTS AND DRAWINGS:

DANFOSS: Data Sheet Ref. IC.PD.P30.H4.02.
 Drawing specification filed in AP 2902.

3. TEST REPORTS:

Test report filed in AP 2902.

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.**

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 :
DANFOSS A/S
DK-6430 NORDBORG
DENMARK

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 temperature transmitters at any time and that: **DANFOSS A/S - DK-6430 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 temperature transmitters and the conditions of this approval.
 7.2 - This Certificate supersedes the Type Approval Certificate No. 06509/D0 BV issued on 20 Apr 2009 by the Society.

*** END OF CERTIFICATE ***