

**MARINE DIVISION**  
17 Bis Place des Reflets - La Défense 2  
92400 Courbevoie - France  
Tel. 33 1 42 91 53 48  
Fax 33 1 42 91 28 94



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Certificate N°:  
13808/A0 BV

The attached Schedule forms part of the certificate

File Number : AP 3588  
Product Code : 3741H



## CERTIFICATE OF TYPE APPROVAL

*This is to certify that the product identified below was found to be in compliance with the relevant hereunder stated Regulations & standards*

### LEVEL SENSORS / TRANSMITTERS

Level-Radar BM 70M/MP

**MANUFACTURED BY:**

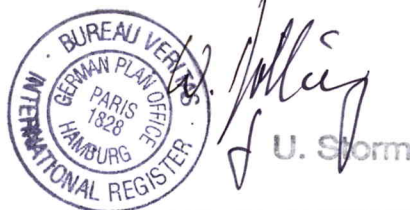
**KROHNE Messtechnik GmbH & Co. KG**  
Duisburg - GERMANY

**SPECIFIED REGULATIONS & STANDARDS :**  
BV Rules for the Classification of Steel Ships.

**The Approval is valid until : 01.07.2009**

BUREAU VERITAS HAMBURG

At Paris la Défense, on : 01.07.2004



**J. BENOIT**  
For the Secretary

This Certificate remains valid until the date stated on, hereunder, unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory into service.

This Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested.

This Certificate is not valid without the stamp of the above mentioned BUREAU VERITAS Inspection Center.

The manufacturer should notify BUREAU VERITAS of any modification or changes to the equipment in order to obtain a valid Certificate.

The latest published Regulations or Standards referred to, above, and the Marine Division General Conditions are applicable.



# THE SCHEDULE OF APPROVAL

## 1. PRODUCT DESCRIPTION :

### Level-Radar BM 70M/MP

#### Main Specifications:

- Antenna: Horn or solid antenna
- Frequency range: 8.5-9.9 GHz (X-band radar)
- Local 2-line LCD display
- Measuring range: 0 - 0.5 ..... 35 m
- Degree of protection: IP 67
- Power supply: 24V DC/AC , 115/230 VDC
- Output:
  - Ex-e or Ex-i current output HART (4-20 mA)
  - RS 485 serial interface (4-20 mA)
  - Profibus-PA (Ex-i) or Foundation Fieldbus
- Accuracy: +/- 2 mm (d < 20 m) and +/- 0.01% (d > 20 m)
- Ex-Protection: EEx de [ia] IIC T6 to T1 (Zone 0)
- Firmware versions: 4.04 & 4.06

## 2. DESIGN DRAWINGS and/or SPECIFICATIONS

- 2.1 - KROHNE specifications dated 08/2002.
- 2.2 - Manual for installation and use ref. N° 7.10027.21.00 - 08/2002.

## 3. TYPE TEST REPORTS / LABORATORY RECOGNITION STATUS

- 3.1- Ex certificate PTB 02 ATEX 1078.
- 3.2 - KROHNE test reports N° 12/02, 13/02, 14/02, 15/02, 27/02, 11/02 + declaration of conformity dated 11.07.02.
- 3.3 - DMT Test reports N°s: 2112-VKB-2002-114.
- 3.4 - ROSE test report N° 11a.

## 4. MATERIALS and/or COMPONENTS REQUIRED TO BE TYPE APPROVED

Nil.

## 5. OTHER MATERIALS and/or COMPONENTS

Nil.

## **6. APPLICATION / LIMITATION OF USE**

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

The electrical safety type equipment may be used in areas considered as dangerous due to presence of flammable gases or vapours corresponding to the group IIC and to the temperature class [T1, T2, T3, T4, T5, T6], as defined in IEC Classification.

## **7. PRODUCTION SURVEY REQUIREMENTS**

7.1 - Arrangements shall be made for a Society's Surveyor to carry out, on a periodic basis, visits of the Manufacturer's premises and product audits.

7.2 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

## **8. ON BOARD INSTALLATION & MAINTENANCE REQUIREMENTS**

BV Rules for the Classification of Steel Ships.

The fitting aboard to be the same as used for the test.

## **9. MARKING FOR IDENTIFICATION**

- Maker's name or trade mark.
- Serial number of the units.
- Equipment type number or model identification under which it was type-tested.
- Ex-Protection.

## **10. OTHERS**

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 **KROHNE Messtechnik GmbH & Co. KG, Duisburg - GERMANY**, 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.

**\*\*\* Last page (End of Document) \*\*\***

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