



Marine & Offshore

Certificate number: 21434/C0 BV

File number: ACM141/2511/01

Product code: 3718I

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

HADRO TECHNIEK B.V.
MOORDRECHT - NETHERLANDS

for the type of product

LEVEL GAUGE - MAGNETIC TYPE

Magnetic Level Gauges series Pointer D, Pointer F, Pointer L, Pointer M and Pointer R

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

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: 08 Oct 2024

For Bureau Veritas Marine & Offshore,
At BV GRONINGEN, on 08 Oct 2019,
John Mondt



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 SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Magnetic Level Gauges series Pointer D, Pointer L, Pointer F and Pointer R

1.1 Design

Pointer D: With two process connections for mounting on the side of a vessel. This design is suitable for many different applications, for example condensate tanks, etc.

Pointer L: With one process connection for mounting on the side of a vessel. This model is often used for day tanks for ships.

Pointer M: With 2 process connections for mounting on the side of a vessel. The design is suitable for many different applications, also suitable with a radar chamber

Pointer F (mounting on top of a vessel): With one process connection on the bottom, this type is suitable for mounting above a tank. This design is mostly used for storage tank below the surface.

Pointer R (mounting between two pipes): With two process connections at the end of the level gauge, this type is suitable for mounting between two pipe lines.

1.2 Technical Data depending on type

Type	Pointer D and L	Pointer F	Pointer R
Series	D- ** and L- **	F-01 / F-02 / F-03 / F-04	R-40 / R-150 / R-300
Working Pressure (bar)	up to 100	Max. 40	Max. 40
Working Temperature (°C)	Max. 400	Max. 160	Max. 400
Maximum Length (mm)	5960	5500	5500
End connections	Welded, threaded or flanged	Flanged	Threaded or flanged

Type	Pointer M
Series	M-**
Working Pressure (bar)	up to 100
Working Temperature (°C)	Max. 350
Length (mm)	6000
End connections	Welded, threaded or flanged

1.3 Material specification

Part	Material
Measuring tube	Stainless steel 316L (1.4404)
Indication rail	Polycarbonate / aluminium / Perspex / stainless steel
Flanges, stop	Stainless steel 316L (1.4404)
Gasket	NBR, EPDM, FPM, PTFE, graphite, Stainelss Steel Spiral wound, Aramide

When other choices of materials are used per manufacturers recommendations, the BV agreement is to be obtained.

2. DOCUMENTS AND DRAWINGS

- Drawings N° 1303-01 (Pointer D-10), N° 1303-02 (Pointer D-16) and N° 1303-03 (Pointer D-40) dated 06/07/1998
- Drawing N° 2011C dated 20/11/2015
- Document "Magnetic Level Gauge" Version 1.0 dated 04/09/2019
- Installation Instructions Version 1.0 dated 04/09/2019

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

3.1 Test report N° 12 0419 2 98 of MPA NRW, Dortmund, Germany.

3.2 Tests carried out: visual inspection, vibration test, hydraulic pressure test

4. APPLICATION / LIMITATION

- 4.1 - May be used as tank level indicator for fresh water, fuel oil, lubricating oil and other media which have a flash point above 60 °C according to requirements Pt C, Ch 1, Sec 10 [2.9.2] of BUREAU VERITAS Rules.
- 4.2 - Switches (for marine applications or for hazardous areas) are not part of this approval.
- 4.3 - In passenger ships, the level gauges are not admitted for fuel oil and other flammable oils where penetration below tank top would be necessary and their failure or overfilling of the tanks is not to permit release of fuel into the space.
- 4.4 - The fitting of the level gauges is to be in accordance with the manufacturer's instructions as well as the Rules and Regulations applicable to the ship.
- 4.5 - The level gauges are to be installed and tested to the Surveyor's satisfaction.
- 4.6 - Each level gauge is to be supplied with its manual for installation, use and maintenance.

5. PRODUCTION SURVEY REQUIREMENTS

- 5.1 - The products are to be supplied by **HADRO TECHNIEK B.V.** in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of BUREAU VERITAS Rule Note NR320.
- 5.3 - BV product certificate is required.
- 5.4 - For information, **HADRO TECHNIEK B.V.** has declared to Bureau Veritas the following production site:

HADRO TECHNIEK B.V.
WESTBAAN 270
2841 MC MOORDRECHT
NETHERLANDS

6. MARKING OF PRODUCT

The product shall be marked with at least:

- Manufacturer's name or logo
- Type designation
- Operational data
- Society's brand as relevant

7. OTHERS

It is **HADRO TECHNIEK B.V.**'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.

This certificate supersedes the Type Approval Certificate N° 21434/B0 BV issued by the Society.

*** END OF CERTIFICATE ***