EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA000004N

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

Kistler Instrumente AG

Winterthur, **Switzerland**

for
Pressure Gauges/Transmitters

with type designation(s)
Cylinder Pressure Sensor 6636ADQ01/-C and 6636ADQ10/-C

The product is found to comply with
EU RO Mutual Recognition Technical Requirements for Pressure Gauges – Transmitters

Intended service
Pressure transmitters for use in control, alarm, monitoring and instrumentation systems subject to classification.

See product description on page 2 for further details.

Temperature [°C]:	**-25°C to 85°C**
Vibration:	**±1.6 mm / 4.0 g**
EMC:	**General power distribution zone**
IP Code:	**IP65/67**

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2029-04-09**.

Issued at **Høvik** on **2024-04-10**

DNV local unit: **Augsburg**

for **DNV**

Approval Engineer: **Martin Skårerverket**

Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.
LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

Cylinder pressure sensor with digital interface for use with the MAN two-stroke engines with Triton control system.

Type	Range	Sensitivity	Operation temp. ranges	Degrees of protection (IP code)	Output	Supply voltage
6636ADQ01/-C 6636ADQ10/-C	0-300 bar	70000 mlsb/bar	Sensor -25°C to 350°C Cable -25°C to 200°C Amplifier -25°C to 70°C	Mated condition: IP65 Sensor: IP67	4-20 mA	48 VDC

Manufactured by

Kistler Instrumente AG
Eulachstrasse 22,
CH-8408 Winterthur, Switzerland

Application/Limitation.

Pressure Gauges/Transmitters for use in control, alarm, monitoring and instrumentation systems subject to classification.

Type Approval documentation

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

Other Conditions

The unit have been verified for compliance with EU Mutual Recognition Technical Requirements Pressure Gauges – Transmitters version 0.2, dated 2023-01-01.

Applicable tests according to IACS Unified Requirements E10 rev. 8. have been verified.

Environmental test parameters:		DNV location classes
Temperature	-25°C to 85°C	D
Humidity:	93% RH @ 55°C, damp heat cyclic	B
Vibration:	± 1,6mm / 4.0 g	B
EMC:	General power distribution zone	A
Enclosure:	IP65/67	

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed annually and at renewal of this certificate.

END OF CERTIFICATE

Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA);
- Russian Maritime Register of Shipping (RS).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).