



**European Union Recognised Organisation (EU RO) Mutual
Recognition Type Approval Certificate in accordance with
Article 10.1 of EU Regulation 391/2009.
No. EMR030823CS/001**

This is to certify to the Manufacturer named below, 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.

<i>Description</i>	Sensors
<i>Product</i>	Thermocouple K (NiCr-Ni) K2, K3
<i>Manufacturer</i>	ELSI SRL con socio unico
<i>Address</i>	VIA MILANO, 11 20045 Lainate (MI) ITALY
<i>Reference standards</i>	EU RO MR TR - Temperature Gauges and Transmitters

Issued in **Genoa** *on* **October 10, 2023. *This Certificate is valid until* **October 9, 2028****

**RINA Services S.p.A.
Luigi Benedetti**

This certificate consists of this page and 1 enclosure



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Product:

Thermocouple K (NiCr-Ni); K2, K3

Manufacturer

ELSI SRL con socio unico

Place of Manufacturer

Via Milano 11, Lainate (MI)
ITALY

Technical documentation

Intended Service	It is intended for a direct or indirect measurement of temperature (of fluid or solid as applicable) in piping system. See product description listed in Manufacturer documentation, cargo holds, enclosed or open spaces, or machinery components
Ratings	As per Technical Data characteristics Doc. No. ed. 1 - rev.a - 6/98
Restrictions	When used for fluid temperature for measurement of fluid temperature in piping system or pressure vessels , thermometers, temperature transmitters or other temperture sensing devices shall be installed within termowell so that devices can be removed without impairing the integrity of pressurized equipment

Notes	The TEMPERATURE GAUGES and TRANSMITTERS have been verified for compliance with EU Mutual Recognition Technical Requirements for TEMPERATURE GAUGES/TRANSMITTERS version 0.2
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Product Information

Product

Temperature Sensors - Thermocouple K (Ni - Cr-CrNi)

Model	Description
K2	Thermocouple K (NiCr-Ni) IEC (800°C max)

Ratings	K2
	90° bended/reinforced
	Mgo thermocouple, 6mm and 8mm diam., with extension cable.

Sheat material: Inconel 600

Type of thread: None

Model	Description
K3	Thermocouple K (NiCr-Ni) IEC (800°C max)

Ratings	K3
	Straight thermocouple with MgO replaceable insertion, 10 and 13.5 mm diam., with connection head

Sheat material: AISI 316

Type of thread: 1/2" Gas - L15 / 1/2" NPT - L15 or none

Test reports with identification number and date

Certificate of calibration LAT 070-23/0006 (16/01/2023) & LAT 070-23/0007 (16/01/2023)

Data characteristics Doc. No. ed. 1 - rev.a - 6/98 (en) & ed. 6 - rev.a - 02/13

Manufacturer's documentation/identification number for product or series with date

Certificate N.706 UNI EN ISO 9001 (Issued on 25/06/2021)



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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).*



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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)).

Notes:

- 1) Refer to the agreed MR Technical Requirements for additional MR TAC information that may be specifically applicable to certain products - <https://www.euomr.org/technical-requirements> ;
- 2) List of MR TACs issued by the EU ROs can be found by <https://www.euomr.org/links-to-mrcertificates> .
- 3) As per clause 9 of the Terms & Conditions for Mutual Recognition of Type Approval, the manufacturer will be required to agree that it will fulfil the obligations arising out of its quality assurance scheme as approved during production. The manufacturer certifies it has kept the accredited certification body and the EU RO that issued the MR TAC duly informed of any intended design changes or updating of the production quality assurance scheme for its consideration with regard to the validity of the MR TAC. The manufacturer will apply annually for periodical assessment by the EU RO to show that the production under the MR TAC and the quality assurance scheme are being satisfactory maintained;
- 4) The manufacturer should notify the RO issued the EU RO MR Certificate of any modification or changes to the equipment/ Firmware/ Operational System Software Version in order to obtain a valid Certificate.
- 5) MR TACs are valid for a maximum of 5 years as per clause 10 of the Terms & Conditions for Mutual Recognition of Type Approval;
- 6) For more information on the factors affecting the validity of MR TACs, see clause 11, 12 and 13 of the Terms & Conditions of Mutual Recognition of Type Approval.
- 7) For implementation of the amendments to Appendix I of Version 10.0 of the Framework Document by the EU ROs into their internal procedures and MR TAC templates, an application period of 6 months as from 1 July 2019 applies

Genoa October 10, 2023