



EU RO MR Production Quality Assurance Certificate
No. EMR306523CS

This is to certify that RINA did undertake the examination of the equipment identified below with the criteria for the Production Quality Assurance set-up in the "Rules for Testing and Certification of Marine Materials and Equipment" and the "EU RO Framework Document for the Mutual Recognition of Type Approval"

<i>Description</i>	Sensors
<i>Product</i>	Pressostat type: 900, 904, 912, 920, 924, 932, 944, 947
<i>Manufacturer</i>	TRAFAG AG - Trafag spol. s.r.o.
<i>Address</i>	Vilemovska 2129 CZ-34701 Tachov CZECH REPUBLIC
<i>Reference standards</i>	EU RO MR TR - Pressure Switches

Issued in **Genoa** on **January 30, 2024**. *This Certificate is valid until* **January 29, 2029**

RINA Services S.p.A.
Luigi Benedetti

This certificate consists of this page and 1 enclosure



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Product:

Pressostat type:; 900, 904, 912, 920, 924, 932, 944, 947

Manufacturer

TRAFAG AG - Trafag spol. s.r.o.

Place of Manufacturer

TRAFAG AG - Tragag spool s.r.o.

Vilemovska 2129 - CZ 34701 Tachov - Czech Republic

Technical documentation

Intended Service	It is intended to be used in all control, alarm device of plant or system on board with rated voltage in electric circuit not exceeding 1000V a.c. or 1500V d.c.
Ratings	As per Technical Data characteristics Doc. No. ed. 1 - rev.a - 6/98
Restrictions	'Ex' certification is not within the scope of these Technical Requirements; Not applicable for a mobile offshore drilling unit (MODU); Not applicable for fishing vessels.

Notes	The PRESSURE SWITCHES have been verified for compliance with EU Mutual Recognition Technical Requirements for PRESSURE SWITCHES version 0.1
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Product Information

Product

Pressure Switches

Model

900, 904, 912, 920, 924, 932, 944, 947

Description

Switching differential typ. @25°C



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Ratings

Model 900, 904, 912

Technical Data	
Measuring principle	Bellows
Output Signal	1 Floating change over contact (SPDT)
Switching differential	Not adjustable
Repeatability	± 1.0 % FS typ.
Media temperature	-40°C ... +150 °C
Ambient temperature	-25 °C ... +70°C

Measuring range of bellow sensor	[bar]	-0.9...1.5	0 ... 4	1 ... 10	2 ... 25	6 ... 60
		0.2...1.6	0 ... 6	1 ... 16	4 ... 40	10 ... 100
		0.2...2.5				
Measuring range of bellow sensor	[psi]	5 ... 50	10 ... 100 25 ... 200	50 ... 500	125 ... 1500	

Associated with **Microswitch 10, Microswitches 11/21/23, Microswitch 26**

Model 920, 924, 932

Technical Data	
Measuring principle	Bellows
Output Signal	1 Floating change over contact (SPDT)
Switching differential	Not adjustable
Repeatability	± 1.0 % FS typ.
Media temperature	-40°C ... +150 °C
Ambient temperature	-25 °C ... +70°C

Range of piston sensor	[bar]	-1...6	-1...12
		-1...8	-1...18

Associated with **Microswitch 10, Microswitches 11/21/23, Microswitch 26**



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Model 944, 947

Technical Data	
Measuring principle	Piston
Output Signal	1 Floating change over contact (SPDT)
Switching differential	Not adjustable
Repeatability	± 1.0 % FS typ.
Media temperature	O-Ring NBR: -30°C ... +100 °C O-Ring NBR: -15°C ... +150 °C
Ambient temperature	-25 °C ... +70°C

Measuring range of piston sensor	[bar]	1...10	4 ... 40	6...60	10...100	16...160	25...250	40...400	60...600
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Associated with **Microswitch 10, Microswitches 11/21/23, Microswitch 26**

Restrictions (limitations as outlined by the Technical requirements)

Ex' certification is not within the scope of these Technical Requirements; Not applicable for a mobile offshore drilling unit (MODU); Not applicable for fishing vessels.

Test reports with identification number and date

Test Report n° V-23020 (2023-04-06) - Visual inspection & Visual Test

Test Report n° V-23048 (2023-07-01)

TUV Certificate - ISO 9001 (ex. date 02-4-2024)

SQS Certificate - ISO 9001:2015/ISO 14001:2015 (08.07.2021)

Test Report n° UB16255 (2023-05-22) - Environmental Tests

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

Data sheet H72252t 05/2019 - Model 900

Data sheet H72253r 06/2020 - Model 920

Data sheet H72259s 05/2019 - Model 944

Drawing n° D93208 (26/08/1998);

Drawing n° D93210 (26/08/1998);

Drawing n° D93301 (26/08/1998);



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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).

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)).



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Notes:

- 1) Refer to the agreed MR Technical Requirements for additional MR TAC information that may be specifically applicable to certain products - <https://www.euromr.org/technical-requirements> ;
- 2) List of MR TACs issued by the EU ROs can be found by <https://www.euromr.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 January 30, 2024