IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx TUR 19.0005X**

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Certificate history:

Issue 4 (2024-08-05)
Issue 3 (2024-01-23)
Issue 2 (2022-10-07)
Issue 1 (2020-10-05)
Issue 0 (2019-09-11)

Status: **Current**

Issue No: 5

Date of Issue: 2025-01-28

Applicant: **Rheonics GmbH**
Zuercherstrasse 39-41
Winterthur 8400
Switzerland

Equipment: **Fluid Properties Sensors; Type-SR, Type-DV, and Type-BT**

Optional accessory:

Type of Protection: **Ex ia**

Marking:

Ex ia IIC/IIB/IIA T6 ... T1 Ga

Ex ia IIIC T_{200} 85°C ... 435°C Da

Approved for issue on behalf of the IECEx Certification Body: **Christian Mehrhoff**

Position: **Assigned certifier**

Signature:
(for printed version)

Date:
(for printed version)

2025-01-28

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany

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Manufacturer: **Rheonics GmbH**
Zuercherstrasse 39-41
Winterthur 8400
Switzerland

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/TUR/ExTR19.0005/05

Quality Assessment Report:

DE/TUR/QAR19.0013/05

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

SRV: A sensor to measure viscosity of a liquid in which its active end is immersed

SRD: A sensor to measure simultaneous density and viscosity of a liquid in which its active end is immersed.

Rheonics DV (DVM, DVP and DVI) sensors measure fluid density and viscosity in higher temperature and pressure ranges.

Rheonics BT (BTC, BTS) are viscosity and density meters with unobstructed tubular flow channels meant for inline measurements in piping installations.

The sensors are made in type of protection Ex ia and can be installed in hazardous gas atmospheres of up to zone 0. The sensors are available in different housing variants.

Electrical data:

Please see the attachment.

Environmental data:

Please see the attachment.

SPECIFIC CONDITIONS OF USE: YES as shown below:
1. The max. ambient and fluid temperature Ta for gas group depends on the temperature class of the explosive atmosphere:

   See environmental data.

2. Equipment maximum surface temperatures vary according to different ambient temperature ranges in the dust group:

   See environmental data.

3. The sensor has to be included into the equipotential bonding system.

4. The DVM, DVP and DVI sensors contain titanium. These sensors must be protected from impact or mechanical friction during the installation and use that can chip or abrade their housings or active elements.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Company's location has changed.

Annex:

Attachment IECEx TUR 19.0005X_05.pdf

Attachment to Certificate
IECEx TUR 19.0005X
Issue 05

Device: Fluid Properties Sensors
Type: Type-SR, Type-DV, and Type-BT

Manufacturer: Rheonics GmbH

Address: Zuercherstrasse 39-41
8400 Winterthur
Switzerland

Electrical data:

	Transducer Coil + Pt1000 circuit	
IS Parameter	**Gas group IIC:**	**Gas group IIB:**
U_i	10V	10V
I_i	30mA	80mA
P_i	75mW	130mW
C_i	negligible	negligible
L_i	20mH	20mH

The sum of the output currents I_o of the supplying circuits shall not exceed the given I_i and the input circuits shall refer to the same ground.

Environmental data:

Ambient temperatures for gas ignition classes

	Ambient and fluid temperature range T_a
T class	**Gas group IIC / IIB:**
T6	-200°C….+70°C
T5	-200°C ….+85°C
T4	-200°C….+120°C
T3	-200°C ….+185°C
T2	-200°C ….+285°C
T1	-200°C ….+435°C

Ambient temperatures for dust ignition temperature ranges

Dust Group IIIC:	
Maximum Surface Temperature	**Ambient Temperature**
T85°C	-200°C….+70°C
T100°C	-200°C ….+85°C
T135°C	-200°C….+120°C
T200°C	-200°C ….+185°C
T285°C	-200°C ….+270°C
T435°C	-200°C ….+420°C