

CONTENT

Introduction

- Flow Measurement Principles Liquid
- Flow Measurement Principles
- Gas Calibration and traceability

Overview of the different measuring principles

- Types of flowmeters for liquid and gas
- Coriolis, PD, thermal flowmeters, MID, vortex, LFE, ultrasonic, turbine, VA, orifice, venturi....
- Selection procedure for the different flowmeters
- Applications for the different measuring technologies
- Flowmeter specification and analysis
- Uncertainty of measurement and variables influencing the measurement

Practical aspects of flow measurement

- Installation conditions, effects of flow profile and prior disturbances
- Viscosity, moisture and density effects
- Pressure, temperature, compressibility
- Consideration of the influence of the response time of flow meters

Practical aspects of flow calibration

- Calibration methodology
- Calibration methods for liquid and gas flowmeters Volumetric, gravimetric, master method, critical nozzles, high pressure gas calibration....
- Uncertainty of measurement, traceability to national Standard
- Calibration of gas flowmeters for hydrogen refueling stations

Uncertainty of measurement

- Statistical methods – GUM
- Traceability, certification, accreditation, ISO17025, calibration protocol

The technical speakers in this seminar are specialists from the R&D and application departments in the field of flow measurement technology.

ABOUT US

TrigasFI® GmbH

We were the first flow measurement laboratory in Europe to be accredited by the German Accreditation Authority DAkkS for both liquid and gas flow calibrations. Since then, we have been continuously expanding the scope of our **DAkkS DIN EN ISO/IEC 17025 Accreditation**, most recently into the area of mobile on-site calibration for Hydrogen and other gases.

Among a multitude of flow related activities, TrigasFI is also a pioneer and technology leader in the field of **custody transfer measurement of hydrogen and the calibration of hydrogen filling stations** and delivery systems.

The competence of our manufacturer-independent team of specialists is the result of nearly 40 years of experience in the flow measurement and calibration field.

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TrigasFI
Flow Measurement & Calibration

TrigasFI

Flow Measurement & Calibration



TrigasFI® Seminar

**Flow Measurement
and Calibration**

Liquids and Gases

SEMINAR

Flow How

Every year at TrigasFI we calibrate, adjust and program **thousands of flowmeters**. Through this experience we have gained a deep knowledge about the specifics of the various flow measurement principles. We know how they are best to **calibrate, install and operate** for the highest possible accuracy and reliability.

We love to share this knowledge with our customers through our training courses, seminars and on-site consultations.

This seminar is designed for those interested in purchasing, calibration, engineering, and all users of flowmeters.

It is designed to be an **objective, neutral, manufacturer-independent seminar**. The focus is on the physical fundamentals, the functionalities of modern flow measurement techniques, the theory and technology of calibration as well as metrological traceability.



GENERAL INFORMATION

Schedule

Day 1: morning and afternoon seminar

Day 2: morning seminar, afternoon Oktoberfest

Day 3: morning seminar, afternoon guided tour through the calibration laboratory, discussion

Number of Participants

The number of participants for each seminar is limited to a maximum of 15 participants. The minimum number of participants is five persons. Registrations will be considered in the order in which they are received (first-come, first-serve basis).

Confirmation of registration

You will receive a confirmation after your seminar registration. All further documents, such as the detailed seminar agenda and travelling information and hotel address will be sent to you in due time before the beginning of the seminar.

Certificate of attendance

At the end of the seminar each participant will receive a certificate of attendance indicating the topics covered.

Participation fee

1.750,- € + VAT(*) per participant for the seminar

The participation fee includes seminar documentation (on USB stick), lunch and drinks / snacks during the time of the seminar.

Please only transfer the seminar fees to our account after receipt of the invoice.

* According to EU tax law, VAT must also be charged to non-German EU citizens.

Cancellation

Free of charge until 30th of June 2024. In case of cancellation up to and including 31st of August 2024 we have to charge a handling fee of 50% of the seminar costs plus the hotel reservation costs. In case of an even later cancellation, we are unfortunately unable to credit costs and the full amount of the participation fee and hotel reservation will be charged. Alternatively, you can nominate a substitute participant of your company for the seminar.

If the minimum number of participants is not reached by August 2024, we reserve the right to cancel the seminar or to name an alternative date. In case of cancellation on our part, all costs for the booking will of course be refunded.

REGISTRATION FORM

TrigasFI® GmbH Seminar
Flow Measurement and Calibration
1.750 € (exc.I. VAT) per seminar and participant *

Deutsch 24.09.—26.09.2024

Englisch 09/30—10/02 2024

*Early Bird: for registration until 30th of June 2024 only
1.250 € (excl. VAT) per participant

Participant First & Last Name* (1 participant only)

Company*

Postal Code

City

Street

Country

Phone

Fax

E-Mail

* Information is required for the certificate
Please fill in in block letters

Date

Signature

For the period of the seminar we have reserved a contingent of hotel rooms for you. You will receive the details after your registration.

Please fill out completely and return to:

Per Fax: **+49 8165 6472-29**

Per E-Mail: **sales@trigasfi.com**

In case of any questions, please do not hesitate to contact us at
+49 8165 6472-0.