

Be sure. **testo**



Calibration – Flow meter for liquids and gases

Testo Industrial Services – More service, more security

Wide measuring range with minimal measurement uncertainties

Due to the requirements of a constant product quality, safety, process optimization and environmental protection, industrial flow rate measurement is becoming increasingly important. Because of the wide range of flow rate devices, measuring principles and fluids, a standard measuring technique is rarely suitable. Consequently, an individual solution is also required for the calibration.

In our calibration laboratory for flow meters, we perform manufacturer and media-independent calibrations. As one of the leading calibration service providers in Europe, we specialise in high-precision and customised calibration solutions. The calibration procedures are DAkkS-accredited according to DIN EN ISO/IEC 17025:2018, so your measuring instruments are calibrated with the highest accuracy.

The calibration of your flow sensors includes a visual inspection as well as a technical check of the device function and the creation of a calibration certificate with a statement of target and actual values as well as the measurement uncertainty. Optionally, we offer additional services: Programming, linearisation, adjustment and repair.

Your advantage: Our competence

- ▶ Manufacturer and media independent calibration
- ▶ The range of test stands allows very wide measuring ranges for your calibrations
- ▶ Countless adaptation possibilities



Liquid calibrators & calibration ranges at a glance

Piston calibrators (0.15 l/min 800 l/min)

Our piston calibrators allow a wide range of flow rates from 0.15 ml/min (approx. 59 drops per minute) up to 800 l/min. The choice of liquid is variable. The flow rate is controlled by a large number of valves, which allows a very wide measuring range to be achieved. It is also possible to perform mass flow calibration.

Example measuring devices: Gear counters, turbines, Coriolis



Water test bench (25 l/min 5,000 l/min)

Our water test bench enables ISO/factory calibration of flow meters for water from approx. 25 l/min up to 5,000 l/min with a measurement uncertainty of 0.1 % of the measured value. When calibrating according to the master meter comparison method, the water is pumped into the circulation section by means of several pumps connected in parallel and circulates in a circuit. The flow rate is determined simultaneously via precise flow measurement references and the flow meter to be calibrated.

Example measuring devices: Coriolis, magnetic inductive flowmeters, vortex, ultrasound (also clamp-on)



Individual calibration of your flow meter

We can calibrate your flow meters (for liquids up to 800 l/min) with different media.

For this purpose, we generate the viscosity from 0.8 mm²/s to 1,600 mm²/s according to your requirements.



Gas flow Calibrators & Calibration Ranges at a Glance

Test benches Laminar Flow (1 ml/min 1,000 /min)

The laminar flow test benches enable the calibration of air flow meters. The capillaries inside the individual elements ensure laminar flow of the otherwise turbulent flow.

Example measuring devices: Thermal mass, float.



Test benches critical nozzles (8 l/min 15,000 l/min, standard range)

A total of ten pneumatically actuated critical nozzles are installed in the test rig for gas flow meters. This enables the calibration of very small to very large flows at a pressure of up to 8 bar.

Example measuring devices: Thermal mass, Coriolis, Vortex



Piston test stands for real gases (10 ml/min 70 l/min, normal range)

With our piston test stand for gases, we can calibrate your flow sensors with the gases argon, helium and CO₂ with a measurement uncertainty of 0.5 %. After consultation with you, other calibration gases can also be used.

Example measuring devices: Thermal mass, float.



On-site calibration of your flow sensors

Testo Industrial Services' Flow Lab is specialised and accredited for on-site calibration of your equipment. Determining the flow of gases and liquids has a crucial role in many industrial sectors. We consider your individual requirements for the operating conditions (medium, temperature, pressure), for your flow control, the mechanical adaptation into a pipeline and much more.

When calibrating within your system under real operating conditions, we always pay attention to the interaction of individual sensors. With the help of our experts' years of experience, we check your equipment and processes on site to make the ideal decision for smooth calibration.

Flow rate of liquids

We can measure your liquid sensors at your site in a measuring range from 0.01 l/min to calibrate 250 l/min. The volumetric comparison measurement is used. Mass flow calibration with a measurement uncertainty of 0.2 % is also possible.



Gas flow rate

We can measure your gas sensors at your site in a measuring range from 0.001 l/min to calibrate 250 l/min with compressed air. Mass flow calibration is also possible. In addition, we are also able to calibrate your sensors with follow the real gases: Argon, helium, methane, nitrogen & carbon dioxide.



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