Products and delivery program

Temperature measurement technology

- Bimetallic thermometer
- Gas pressure thermometer
- Resistance thermometers | Thermocouples
- Electronic temperature measuring devices
- Thermowells and fittings

HENSEL
MESS-, REGEL- UND PRÜFTECHNIK

Our product range is divided into the following product lines for the most diverse application areas in industry.

Electronic Pressure measurement technology

We offer a complete range of electronic pressure gauges:

Pressure sensors, pressure switches, pressure transducers, and pressure transmitters for measuring gauge, absolute, and differential pressure. Our pressure measuring devices are available in measuring ranges from 0…0.6 mbar to 0…2,000 bar. We supply these devices with standardized current or voltage output signals, as well as interfaces and protocols for various fieldbuses.

Electric Temperature measurement technology

Our product range includes thermocouples, resistance thermometers (also with on-site display), temperature switches, and analog and digital temperature transmitters for all industrial sectors. Measuring ranges from -200 to +1300 °C are covered.

All thermometers can be supplied with protective tubes according to DIN 43772 or customer-specific standards.

Mechanical Pressure measurement technology

Indicating pressure gauges for gauge, absolute and differential pressure with tube, plate or capsule spring measuring systems, as well as pressure media for many industrial processes, have proven their worth in many cases.

The devices have display ranges from 0…25mbar to 0…4000bar with display accuracies up to 0.25%.

Mechanical temperature measurement technology

Mechanical temperature measuring devices operate on the bimetallic, tension, or gas pressure principle with display ranges of -200 °C to +500 °C.

All mechanical thermometers are designed for operation in a separate protective tube, allowing for quick replacement during the operating phase.

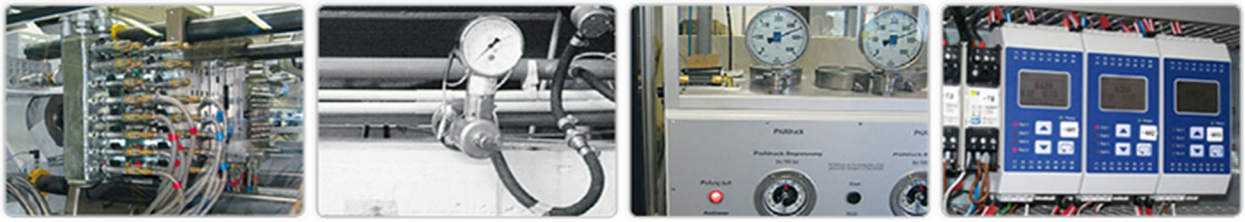
Control engineering

Manometer valves, manometer valves according to DIN 16270 and water trap pipes for the installation of various manometers and electrical pressure measuring devices have proven their worth in industry.
Furthermore, our sales department offers district heating ball valves from the company Högfors and various versions of manually operated ball valves and automatic ball valves with electric drive for automation.

Calibration laboratory / Calibration technology

For testing measuring instruments, we offer a wide range of calibration devices for the physical quantities pressure, temperature and for electrical quantities.

Furthermore, as a service, we calibrate all types of electronic and mechanical pressure and temperature measuring instruments in our DKD/DAkkS calibration laboratory or on-site.



CALIBRATION LABORATORY for mechanical measurements CALIBRATION TECHNOLOGY

Calibration technology

For testing measuring instruments, we offer a wide range of calibration devices for the physical quantities pressure, temperature and for electrical quantities.
In addition, we offer calibration services for all types of electronic and mechanical pressure and temperature measuring devices, either in our calibration laboratory or on-site.

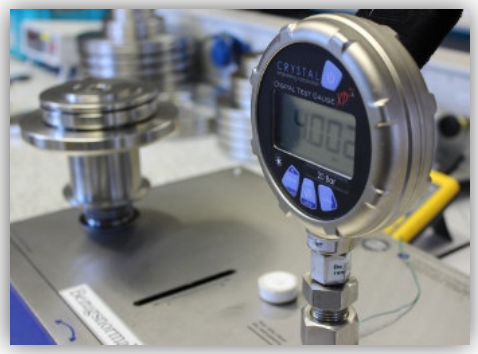
Your competent partner in testing and calibration technology

Product quality, operational reliability, and cost-effectiveness are directly linked to the accurate and reliable measurement of process variables. Therefore, entrust the calibration and maintenance of your measuring instruments to a competent partner.

Our calibration laboratory is accredited according to DIN EN ISO/IEC 17025 by the German Accreditation Body Berlin (DAkkS) and is a member of the PRINTING expert committee in the German Calibration Service (DKD).

Performing a calibration

Before calibration, the calibratability of the devices is assessed, and adjustments are made if necessary. The calibration results are documented in a calibration certificate according to applicable guidelines, and the item being calibrated receives a calibration mark. We calibrate measuring instruments of our own manufacture as well as those from other manufacturers.

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Deutsche Akkreditierungsstelle GmbH

Deutschen Kalibrierdienst DKD

Kalibrierschein
Calibration Certificate

Kalibrierzeichen
Calibration mark

Federmanometer

Hensel, Mess-, Regel- und Prüftechnik

Rohrfedermanometer in geräumiger Ausführung

Musterkalibrierschein

Our calibration service offers you an independent calibration service with a comprehensive range of services.

DAkkS Deutsche Akkreditierungsstelle D-K-15122-01-00

- **Calibration according to EN 17025 for the measured quantity pressure**

  In our calibration laboratory, DAkkS calibrations and factory calibrations are performed for the measured quantity pressure, covering a range from absolute pressure to positive and negative gauge pressure from one Pascal up to 6,000 bar.

- **Factory calibration ISO 9001 for measured quantities: pressure, temperature, torque, force, mass, length and electrical quantities**

  Accurate and reliable measurements are a prerequisite for any high-quality industrial production.
  Measuring and testing equipment is used, among other things, for the quantitative determination of properties as well as for control, regulation and automation in manufacturing.

HENSEL Measurement, Control and Testing Technology GmbH & Co KG
Wilhelm von Polenz Str. 7 • 02733 Cunewalde
www.hensel-cunewalde.de

PRODUCT RANGE TEMPERATURE MEASURING TECHNOLOGY

Mechanical temperature measurement technology

The mechanical temperature measuring devices operate according to the bimetallic, tension or gas pressure principle with display ranges from -60 °C to +500 °C.

- **Bimetallic thermometer**
- **Gas pressure thermometer**
- **Machine glass thermometer**
- **Thermal sleeves or protective tubes**

All thermometers are suitable for operation in a protective tube if required.

Electrical temperature measurement technology

Our product range includes electrical and electronic temperature measuring devices (also with on-site display), temperature switches, and analog and digital temperature transmitters for all industrial sectors.

- **Resistance thermometer**
- **Pt Compact**
- **Thermocouples**
- **Cable sensor**
- **Surface sensor**
- **Pipe-mounted sensor**
- **Temperature transmitter / head transmitter**

- **Electronic handheld temperature measuring devices**

Measuring ranges from -200 to +1300 °C are covered. All thermometers can be supplied with protective tubes according to DIN 43772 or customer-specific standards.

Thermowell - Protective tubes and fittings

Thermometer thermowells keep aggressive media, high pressures, and flow rates away from the actual temperature sensor and seal the process from the environment. Together with the temperature sensor, this enables temperature measurement in highly stressed processes or in aggressive environments.
Operating materials are enabled. The application possibilities and designs of protective tubes are virtually unlimited. We offer a wide variety of designs and materials up to a thermowell-length of 1000 mm. In addition to the standard range according to DIN 43772, we supply almost any customer-specific design.
Execution.

PRODUCT RANGE TEMPERATURE MEASURING TECHNOLOGY

Bimetal thermometer, standard/precision version

Classic bimetallic thermometers in steel housings are primarily used in heating and ventilation systems. They are available with a protective tube made of brass, steel, or stainless steel.

Display area
-30...50 °C to 0...160 °C
0...500 °C during exhaust gas measurements

Areas of application
Heating and air conditioning technology
District heating plant construction

Bimetallic thermometer, chemical version

High-quality temperature measuring devices for applications in plant engineering and the chemical industry. They are suitable for liquid and gaseous media.

Display area
-30°C…50°C to 0…500°C

Areas of application
Mechanical engineering, plant engineering
Process engineering
Tank and pipeline construction
Chemical industry

Gas pressure thermometer

Temperature measuring device for industrial applications, available in a variety of combinations as a hanging, standing or rotatable unit.
Versions with remote control and individually configured temperature sensor are also available.

Display area
-50°C…50°C to 0…650°C

Areas of application
Tank and pipeline construction
Chemical industry

Electric thermometers / resistance thermometers / thermocouples

Resistance thermometers and thermocouples that can be adapted to customer-specific requirements in accordance with the DIN standard.

Area of application
Pt100: -200°C to 850°C
Thermocouples:
-50°C to 1300°C (Type K/NiCr-Ni, Type J/Fe-CuNi), Type S/Pt10Rh-Pt etc.)

Application areas
Plant construction
Chemical industry
Process industry

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Resistance thermometer PT-Compact

These PT-Compact thermometers are adapted to the metrological requirements of virtually any application. The sensors are suitable for liquid or gaseous media and are either inserted or screwed into the process via a thread.

Measuring range
-50°C to 250°C

Areas of application
Apparatus and machine construction
Heating system installation

Cable sensor

Cable sensors are used as resistance thermometers or thermocouples. Mineral-insulated sheathed cables are used in temperature ranges above 400°C. In addition to the standard range, the following are particularly common:
Customized solutions were offered.

Areas of application
Universal in industry
Apparatus and heating system construction

Digital precision handheld thermometers

Electronic handheld thermometers are suitable for measuring temperatures in seconds on surfaces, in liquids, soft plastics, and on the smallest objects. A wide variety of interchangeable probes are available.

Measuring ranges
-50°C to 1150°C

Areas of application
Universal in industry and service
Apparatus and heating system construction

Accessories for temperature measurement technology

- Calibration baths or thermostats
- Temperature recorder/data logger
- Temperature displays and controls
- Fittings / Seals

- High-pressure welding sleeves
- compression fittings
  Compensating lines – thermal connectors

Thermowells according to DIN 43772 for temperature measurement technology

Thermally conductive protective tubes, designed for welding or screwing in, serve to separate temperature measuring instruments from the system medium. Particularly in the chemical and petroleum industries, as well as in process engineering, protective tubes conforming to DIN 43772 are used with pressurized measuring media.

Due to the specialization of our manufacturing area in the production of thermometer protective tubes of various designs, special solutions with different dimensions can also be manufactured according to customer requirements.

Screw-in and weld-in versions
Special versions for aggressive measuring materials
Machined in one piece from a solid block or welded in multiple parts
Standard materials: brass, steel, heat-resistant steel
(C22.8-P250GH / 16Mo3 / 13CrMo44 / 10CrMo910)
stainless steel
(1.4571, 1.4541, 1.4404, 1.4462, 1.4539, 1.4901, 1.4903, 1.4905, 1.4922)
Special steels – Alloy – Titanium
(1.4876, 1.4828, 2.4610, 2.4816, 2.4663)

Design types according to DIN 43772 or international standard
Deep hole drilling from ø 3.0 mm

Design variants:

- Protective tubes FORM 2/ FORM 3 for thermometers with M24x1.5 connection thread
- Weld-in protective tubes FORM 4 for thermometers with external thread M18x1.5, M14x1.5 and G1/2" or neck tube
- Screw-in protective tubes FORM 5/ FORM 6 and FORM 7 for thermometers with external thread
- Screw-in protective tubes FORM 8/ FORM 9 for thermometers with union nut
- Protective tubes with flange FORM 4F or international standard for thermometers with external thread or neck tube
- High-pressure welding nozzles for protective tubes according to DIN 43772 or customer design

SERVICES

Acceptance test certificates 3.1 according to DIN 10204:2004
TÜV acceptance test certificates 3.2
Re-stamping certificates
Hydrostatic pressure tests up to 1000 bar
Leakage test for flanged protection pipes
Surface treatment and coating (PTFE, ETFC, Stellite etc.)

Further customization according to customer requirements is possible!

The production of thermal insulation tubes, also known as thermowells, focuses on protective tubes according to DIN 43772 and special designs tailored to customer requirements. There are virtually no limits to the design possibilities.

The actual design of the thermal protection tube is determined by the different local conditions: immersion depth, medium, temperature, measuring principle, flow velocity, etc., and is then manufactured in-house completely, including all necessary manufacturing processes and approvals, according to customer drawings or our own design, up to lengths of 1,000 mm.

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Tradition for over 100 years

HENSEL Mess-, Regel- und Prüftechnik GmbH is a small, innovative company with a production facility in Germany.

Our product and sales program includes high-quality mechanical pressure gauges, digital manometers, mechanical temperature gauges, resistance thermometers, and electronic handheld measuring devices. as well as calibration devices for pressure and temperature measurement technology.

Solutions for pressure, temperature, and calibration technology are an integral part of our customers' business processes. Therefore, we see ourselves not merely as a supplier of measurement technology components, but rather as a competent partner who, in close cooperation with our customers, offers comprehensive solutions. These solutions are individually tailored and precisely aligned with the specific requirements.

Your partner for the following industries

- **Mechanical engineering and automation technology**
- **food industry**
- **Energy generation**
- **Pipeline construction**
- **Pharmaceutical and petrochemical industries**
- **Heating system installation**
- **Water and wastewater technology**

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