



Smart in sensing

**A strong group.  
For your success.**

Megatrends guide our corporate strategy

# Serving markets that find answers to the challenges of global megatrends

## Digitalisation

- 2025: 181 zettabytes of data, 2020: 64 zettabytes
- 80 % of data worldwide since 2019
- 2022: 50 billion IoT-connected sensors and devices
- 2021: 3.9 billion smartphone users worldwide

## Decarbonisation

- Climate change omnipresent
- Target of the Paris Agreement: By 2050, reduction of CO<sub>2</sub> emissions to “ZERO”
- Increasing demand for energy, renewable, safe and nationwide

## Demographic change

- Growth of world population from today's 8 billion to 10 billion in 2060
- Growing number of elderly people
- Increased demand for infrastructure, energy, water, food due to urbanisation

Smart in sensing

**OUR UNIQUE EXPERIENCE  
AND KNOW-HOW MAKE  
SENSING TECHNOLOGY  
SMARTER, ADD MORE VALUE  
AND PREPARE IT FOR A  
SUSTAINABLE  
FUTURE.**

## Presence in over 45 countries with more than 11,200 employees

### Our local services

- Sales / stock
- Consulting, service, customised solutions
- Calibration for pressure and temperature measurement
- Diaphragm seal assembly
- Temperature probe assembly
- Development and manufacture in our own highly modern production sites worldwide




Headquarters in Klingenberg

# German quality, made worldwide

## High-tech technologies for optimised processes


- State-of-the-art production facilities
- In-house test laboratories
- DAkkS-accredited calibration laboratories
- ISO 5 (class 100) clean room for thin-film sensor production
- Lean management
- Quality management: DIN ISO 9001
- Environmental management: DIN ISO 14001


### Headquarters

 2,000 employees

 50,000 m<sup>2</sup> area

### Innovation Center

 > 50 M total investment

 > 100 development engineers



“WE FOCUS OUR  
**INVESTMENTS** ON  
MARKETS IN WHICH WE  
WANT TO PLAY A  
**LEADING ROLE** IN THE  
LONG TERM.”

## A family business

# In the best hands for over 75 years

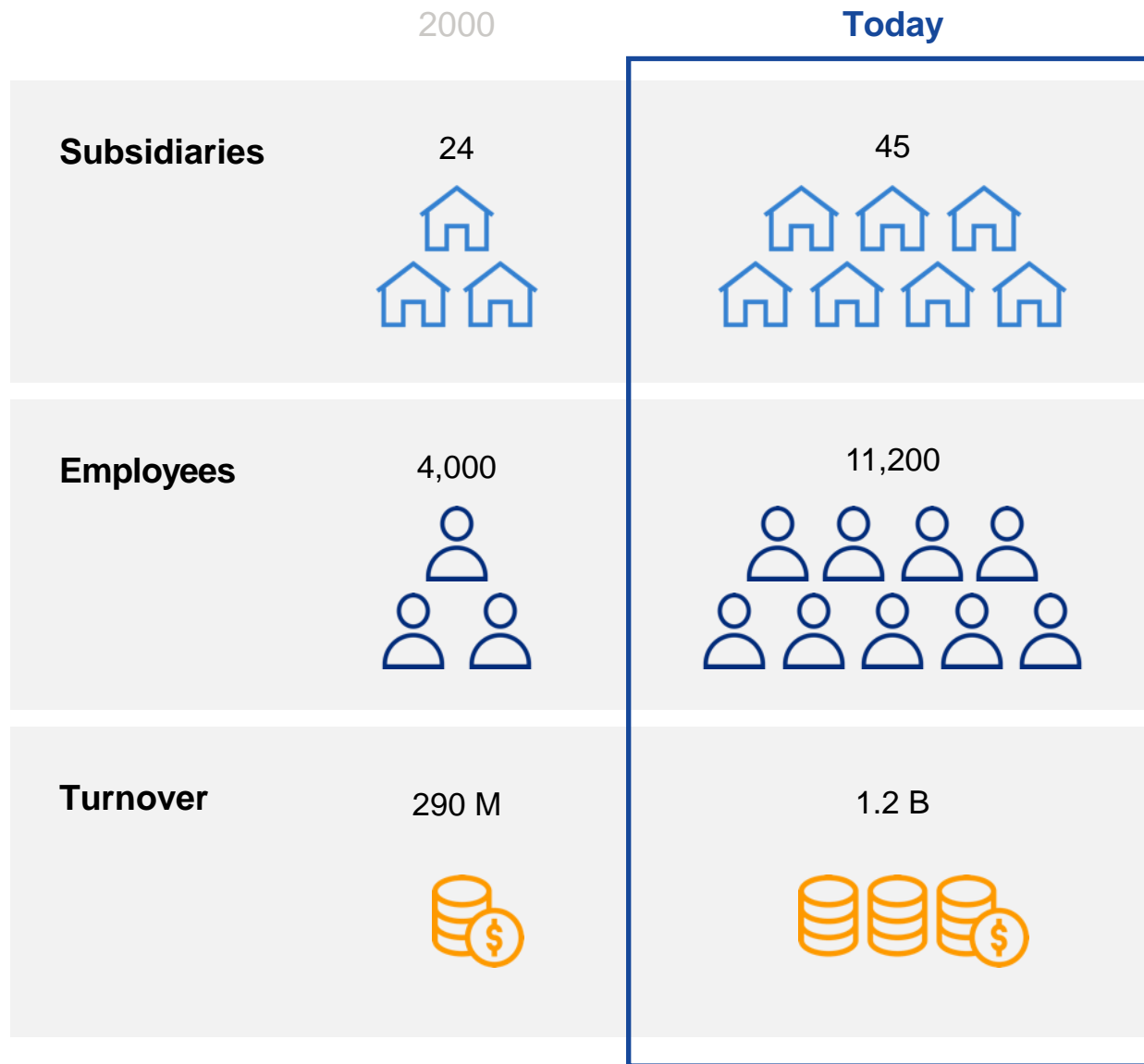
- 1946** Dipl.-Ing. Alexander Wiegand founds the company WIKAL together with Philipp Kachel
- 1951** Dr. Konrad Wiegand takes his father's place
- 1967** Ursula Wiegand takes over the company
- 1984** Ursula Wiegand is the first woman to become Business Owner of the Year
- 1996** Alexander Wiegand leads the family business into the 21st century



## Milestones

# Continuous growth through innovation from tradition

- 1979** Premiere: Introduction of the first electronic pressure measuring instrument
- 1986** WIKA takes over the Kachel thermometer factory
- 1996** WIKA becomes the number 1 worldwide for mechanical pressure and temperature measuring instruments
- 1999** New sensor centre: 10,000 m<sup>2</sup> production area featuring the latest in technology
- 2008** Majority holding in KSR KUEBLER Niveau-Messtechnik AG
- 2017** Introduction of the measurand force in the WIKA portfolio
- 2022** The new Innovation Center with an area of 24,000 m<sup>2</sup> is inaugurated
- 2023** WIKA develops new company strategy and gets “Smart in sensing”



# Thinking in decades, not in quarters



## Sustainable corporate leadership

- A family-run business for 75 years
- Alignment of the sustainability strategy with the Sustainable Development Goals (SDGs) of the UN
- The aim of the company management is to find answers to the challenges of global megatrends with our products



## Environmental

- Material compliance, i.e. protection of people and environment from harmful substances
- Certifications eg. ISO 14001
- Promotion of the circular economy



## Social

- Commitment at the social level, regionally and internationally
- Focus on employees
- Support in the field of education



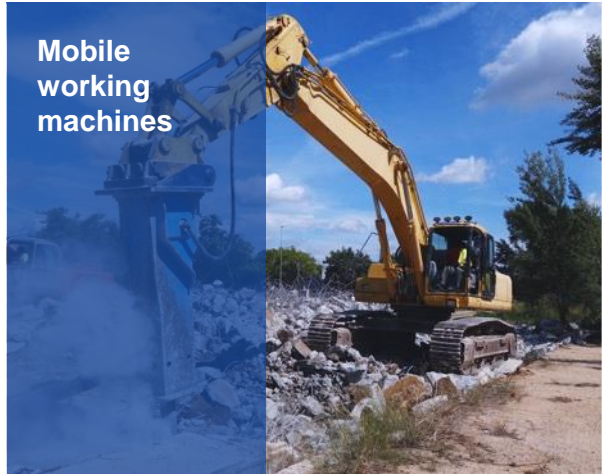
## Governance

- Increased cooperation with regional suppliers
- High vertical range of production down to the manufacture of the individual parts
- Economic stability as the basis for sustainable business

Competence

# Solutions for each application

Industrial



# Mobile Working Machines

CANopen® SAEJ1939

## Typical Applications

- Tractors
- Harvesters
- Sprayers
- Planters
- Excavators
- Pavers
- Wheel loaders
- Dozers
- Mining Trucks
- Forklifts
- Scissor Lifts
- Telehandlers
- Boom Lifts
- Cranes



MH-4



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# Machine Building and Automation



## Typical Applications

- Hydraulic Systems
- Pneumatic Systems
- Compressors
- Pump Systems
- Lubrication Systems
- Filter Systems
- Machine Automation
- Packaging Machines
- Plastics Machinery
- CNC Machines
- Weighing Systems
- Water Jet Cutting
- Cooling Systems
- Reservoirs and Tanks



A-10



TFT35



Industrial

# Power Transmission and Distribution

## Typical Applications

- Transmission and Distribution
- Radiological Instruments
- Particle Accelerators
- Radar Systems
- Semiconductor Production
- Gas-Insulated Switchgear
- Breakers



GPU-3000



GA-11

# Industrial HVAC/R



## Typical Applications

- Heating Systems
- Solar Thermal Systems
- Combined Heat and Power Plants
- Heat Pumps
- Wall-hung Boilers
- Industrial Boiler Systems
- Air Handling Units
- Chillers
- Vehicle Refrigeration
- Refrigeration and Freezing Solutions



A2G-540



A2G-10

# Industrial Gases

## Typical Applications

- Cryogenic Tanks
- Welding and Other Industrial Equipment
- Valves with Integrated Pressure Regulators
- Gas Cabinets
- Medical Gases
- Hydrogen
- LNG and CNG Accessories
- Protective Breathing Apparatus
- Gas Supply and Control Systems



MG-1



MH-4

# Semiconductor Industry



## Typical Applications

- Gas Distribution Systems (Gas Sticks, Gas Panels, Bulk-gas Supply)
- Ultrapure Water Supply
- Liquid Chemical Supply
- Level Measurement of Liquid Gases and Solvents



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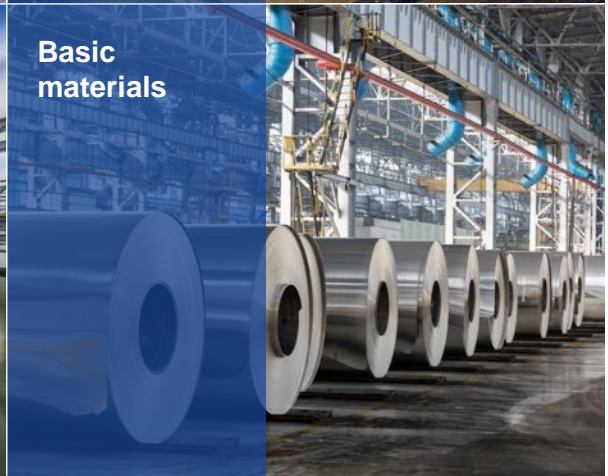
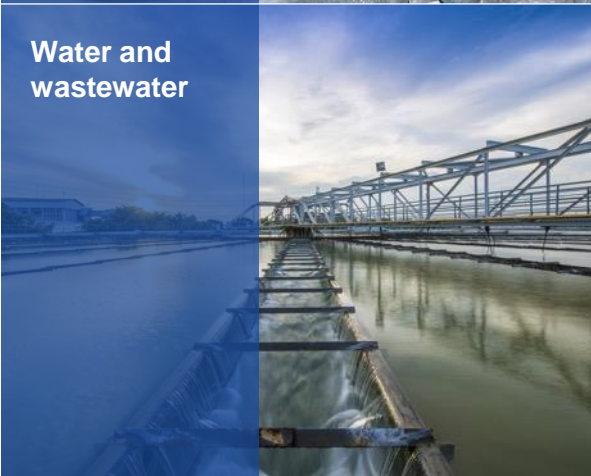


WUC-10

Competence

# Solutions for each application

Process



# Downstream Oil and Gas - Refining

## Typical Applications

- Coker units
- Fluid catalytic cracking (FCC) units
- Hydrocrackers and hydrotreaters
- Alkylation units
- Reformer Furnaces
- Amine units
- Sulfur recovery units
- Storage tanks
- Flare stacks



TC-59



232.34

Process

# Oil & Gas (Upstream)



## Typical Applications

- Drilling Rigs
- Coil Tubing Units
- Mud Pumps
- Blowout Preventers
- Hydraulic Power Units
- Cementing Units
- Fracking Trucks
- Plunger Lift Systems
- Sucker-Rod Pumps
- Gas Lift Systems
- 3- Phase Separators
- Production Tanks
- Chemical Tanks
- Flare Systems



E-10



TR10



# Food and Pharmaceutical

## Typical Applications

- Control Cooking, Baking and Frying Processes
- Brewing and Cooling
- Regulate Pasteurization of Dairy Products
- Cell Growth Units
- Bioreactors
- Cleaning Processes
- SIP Steam Boilers
- Fermenters
- Tablet Pressing Machines
- Filling/Packing Equipment



SA-11



TR-21-A



# Chemical/Petrochemical



## Typical Applications

- Steam Crackers
- Ammonia Reactors and Separators
- Compressors
- Urea Reactors
- Gas Scrubbers
- Fractionating columns and splitters
- Boilers
- Condensers
- Heat Exchangers and Cooling Units
- Buffer, Storage, and Transportation Tanks



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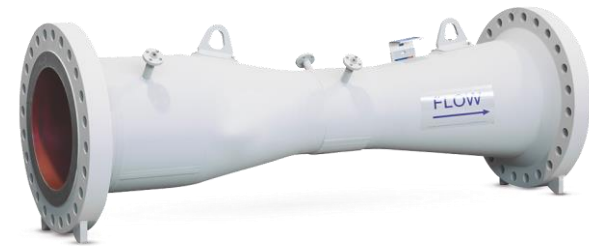
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# Power Generation

## Typical Applications

- Fossil Fuels
- Hydroelectricity
- Nuclear
- CHP
- Gas turbine
- Geothermal
- Biomass/Biogas
- Wind
- Solar Thermal

Venturi Tube



TR-33

# Water and Wastewater

## Typical Applications

- Municipal Treatment Plants
- Filtration Systems
- Pumping and Booster Stations
- Wastewater Facilities
- Sewage and Slurry lines
- Digester Towers
- Blower and Injection Systems



LevelGuard



AWS

# Basic Materials



## Typical Applications

- Iron and Steel Production
- Aluminum Production
- Mining and Mineral Industries
- Pulp and Paper Industry
- Glass Production
- Plastics Synthesis
- Cement Production



TR10



Venturi Tube

Range of products

# Smart in sensing

<p><b>Pressure</b> Display, transmit, switch</p>		<p><b>Temperature</b> Display, transmit &amp; record, switch</p>		<p><b>Force</b> Force transducers, load cells</p>	
<p><b>Flow</b> Flow elements, flow switches, air flow sensors</p>		<p><b>Level</b> Display, transmit, switch</p>		<p><b>SF<sub>6</sub> gas solutions</b> Measure, analysis &amp; detection, maintenance</p>	
<p><b>Calibration</b> Pressure, temperature, current, voltage, resistance</p>		<p><b>Engineered solutions</b> For all measurands</p>		<p><b>Accessories</b> For all measurands</p>	

# Pressure Measurement

WIKA USA offers pressure measurement technologies to help you monitor the absolute, gauge, vacuum, and differential pressure of your operations. Our solutions are designed to ensure durability and reliability even in the most aggressive conditions.

## Mechanical

- Absolute pressure gauges
- Calibration equipment
- Differential pressure gauges
- Industrial pressure gauges
- Low pressure gauges
- Precision test gauges
- Process pressure gauges
- Diaphragm gauges
- Sealgauge™
- Ultra high purity pressure gauges
- Cryogenic level gauges
- General purpose gauges
- Industrial pressure gauges
- Utility/specialty pressure gauges

## Electronic

- 3A sanitary transmitters
- Digital pressure gauges
- Hazardous area transmitters
- Industrial pressure transmitters
- Meters and displays
- OEM pressure transmitters
- Precision pressure transmitters
- Pressure switches
- Submersible liquid level transmitters
- Ultra high purity transducers



# Pressure Measurement

## Mechatronic

- Bourdon tube pressure gauges with signal output & switch contact
- Capsule gauges with output signal & switch contact
- Sealgauges with output signal & switch contact
- Differential pressure gauges with output signal & switch contact
- Mechanical pressure switches (relative, absolute & differential pressure)
- OEM pressure switches

## Direct Drive Technology

- Custom OEM solutions
- Military and aviation gauges
- SCBA gauges

## Diaphragm Seals

- All-welded systems
- Diaphragm monitoring system
- Flanged seals
- Inline seals
- Plastic seals
- Sanitary seals
- Threaded seals
- High temperature
- High corrosion
- Special designs

## Valves and protective devices

- Shut-off valves
- Valve manifolds
- Monoflanges
- Monoblocks and piping valves
- Siphons
- Overpressure protectors
- Snubbers



# Temperature Measurement

WIKA USA's temperature product portfolio includes electrical, mechatronic, and mechanical temperature measuring instruments. A comprehensive range of standard products and special instrument designs ensure your individual requirements will be met.

## Electrical

- Thermocouples
- Resistance thermometers detectors
- Thermowells
- Temperature transmitters
- Digital indicators
- Multipoint thermocouple assembly
- Pipewell multipoint assembly
- Tubeskin thermocouple
- Temperature controllers

## Mechatronic

- Bimetal thermometer with switch contact
- Expansion thermometers with output signal & switch contact
- Gas actuated thermometers with output signal & switch contact
- Mechanical temperature switches
- Twin-temp bimetal thermometers with electrical output

## Mechanical

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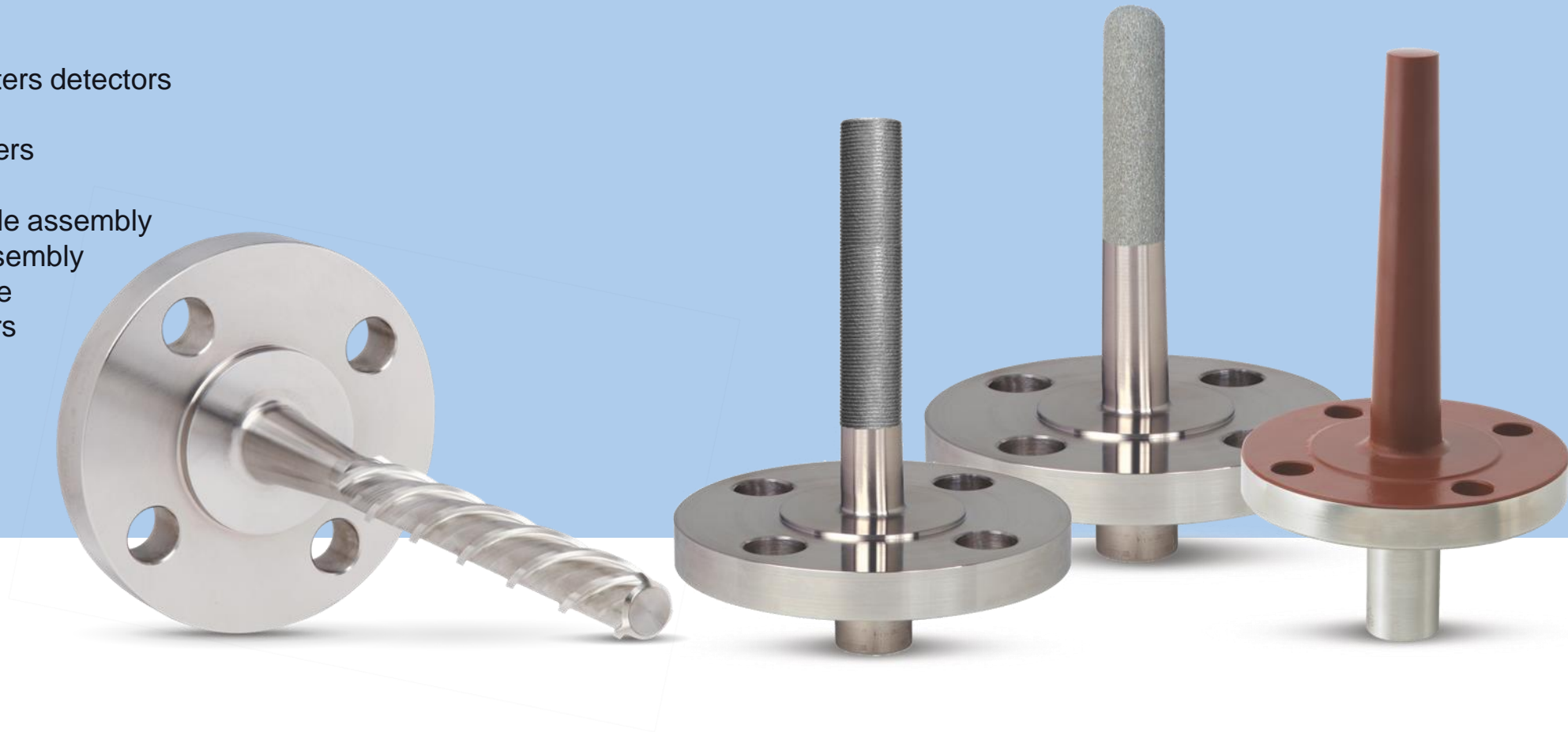


# Electrical Temperature Measurement

WIKA USA's Electrical Temperature Measurement product line includes thermocouples and resistance thermometers (RTDs), temperature switches, as well as analog and digital temperature transmitters for all industrial applications.

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- Thermowells
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- Digital indicators
- Multipoint thermocouple assembly
- Pipewell multipoint assembly
- Tubeskin thermocouple
- Temperature controllers



# Level Measurement

WIKA has a comprehensive range of level measuring instruments available for temperatures up to 540 °C / 1000 °F, specific gravity from .35, and pressure ranges up to 5000 PSI. This includes standard instruments and customer-specific special designs.

## Magnetic Level Indicators

WIKA USA's magnetic level indicators are designed specifically for each application, taking process variables like temperature, pressure, and specific gravity into account. These level indicators are designed using corrosion-resistant materials, ensuring they are reliable for high temperature, high pressure, corrosive, and cryogenic applications.

## Dual Gauge Series

Our dual gauge series combines the tried-and-true bypass with further independent measuring principles. These gauges come with a wide range of options, including guided wave radar (GWR), reed chain, and magnetostrictive level transmitters, to name a few. Level alarm switching capabilities include reed and dry contact SPDT type with a range of global approvals. Application options are vast, given the range of customization options.

## Level Measuring Instruments

- Submersible pressure transmitters
- Magnetic float switches
- Direct insertion float level transmitters
- Optical level switches
- Sight glass indicators
- Suspended level switches



# Flow Measurement

WIKI USA's flow portfolio includes orifice plates, meter runs, flow nozzles, Venturi tubes, pitot tubes, and restriction orifices. Customized solutions can also be developed to meet specific application needs.

## Venturi Tubes

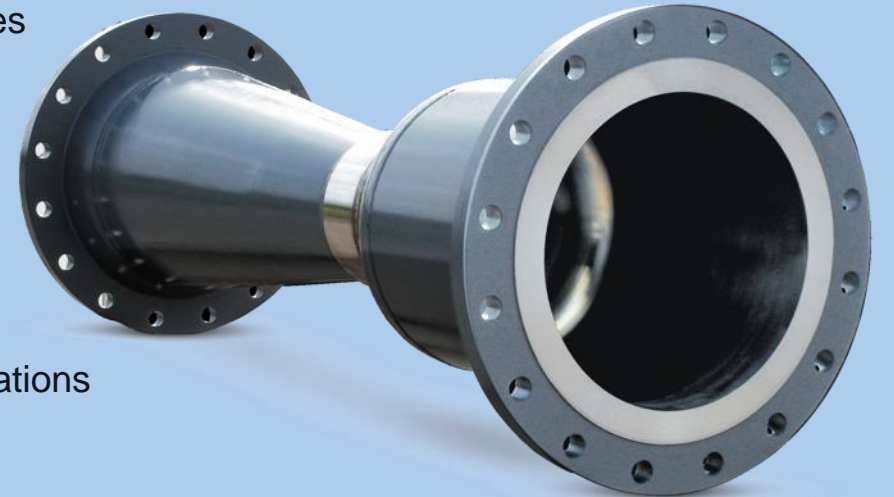
A venturi tube is a reliable easily-managed and maintained differential pressure flow instrument that can measure a wide range of clean liquids and gases. It offers line sizes ranging from 2" to 48" with an accuracy of +/- 0.75% of actual flow rate or higher.

## Meter Runs

To ensure high accuracy of primary flow orifice plate, it can be supplied as an assembly incorporating the upstream and downstream pipe sections. A honed orifice meter run is normally selected when the pipe size is 1 1/2" or smaller and the fluid is clean. Without a calibration, an accuracy of +/- 1% can be expected.

## Flow Measuring Instruments

- Orifice plates
- Annular orifice plates
- Orifice flange unions
- Restriction orifice plates
- HHR flow tube
- HHR flow pak
- HHR ProPak
- Flow nozzles
- PTC-6
- Wedge meters
- Pitot tubes
- Lab calibration certifications



# Force Measurement

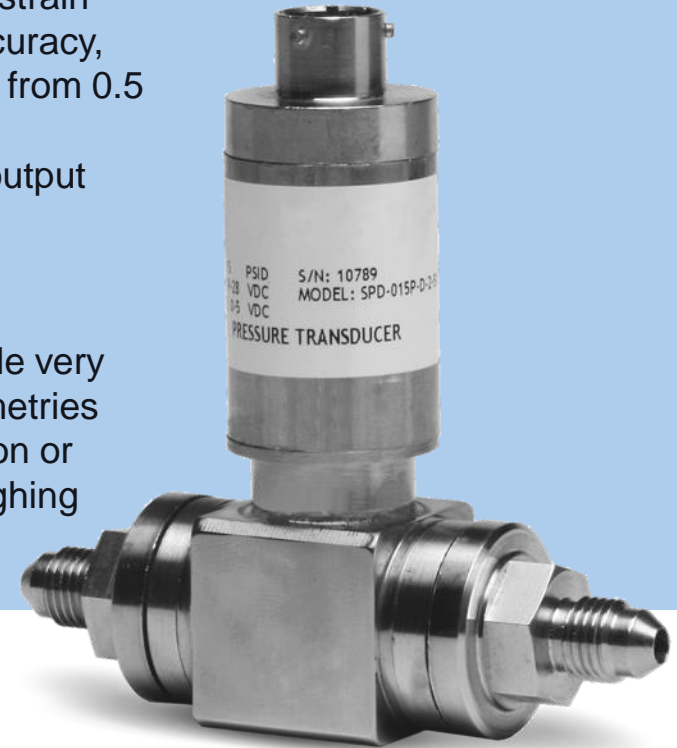
WIKA USA offers all key force measurement technologies from a single source: hydraulic force measurement, strain gauges, and innovative force measurement using thin-film technology.

## Force Transducers

Force transducers (also called force sensors or load cells) are used for the reliable measurement of tension and compression forces. The force transducers from WIKAI USA are manufactured using either bonded foil strain gauge or thin-film technology. Strain gauge force sensors offer a large geometrical variety and high accuracy, and are well suited for detecting even the smallest forces. The span of the measuring ranges stretches from 0.5 N to over 10,000 kN. Force transducers using thin-film technology are very cost-effective for special manufacture or OEM applications, and are ideal for safety-related applications due to their redundant output signals.

## Load Cells

Load cells are designed as a special form of force sensors for use in weighing applications. They enable very high measurement accuracies between 0.01 % and 0.05 % FS. Typical and widely used load cell geometries are platform weighing cells, bending and shear beam load cells, S-type load cells, load pins, and tension or compression force load cells. In addition, there are corresponding mounting assemblies, complete weighing modules, and miniature units available for integration into a range of industrial applications.



Mechanical Pressure

1 Product name goes here



## Mechanical Pressure

# 2 Products Add product names here

Model Numbers

**232.50, 233.50**

### Applications

- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive environments
- Chemical and petrochemical industries, oil and gas industry, power engineering and also water and wastewater technology
- Machine building and general plant construction

### Special Features

- Excellent load-cycle stability and shock resistance
- With case filling (model 233.50) for applications with high dynamic pressure loads and vibrations
- Completely from stainless steel
- Scale ranges from 0 ... 0.6 to 0 ... 1,600 bar [0 ... 10 to 0 ... 20,000 psi]



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# From measured value to added value

With our innovative complete solutions, we support our customers to become future-proof by offering new added value through the combination and use of digital measured data across the entire value chain.



Status monitoring & alarming



Plant monitoring



Predictive maintenance



Process optimisation



Production output

# Precision from XS to XXL

## Annual production

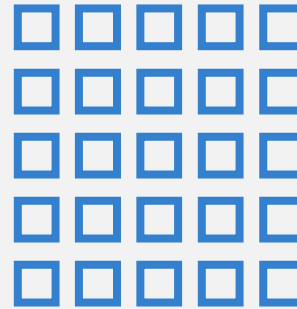
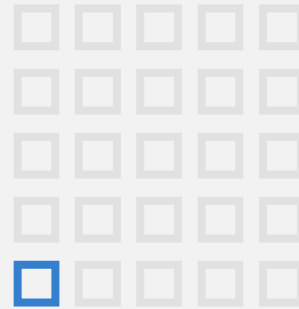
approx. 50,000,000 units worldwide



## Lot sizes

1 unit

10,000 units  
and more



## Measuring ranges

- 482 °F

3,272 °F



0 ... 0.5 mbar

0 ... 15,000 bar



## Prices per unit

\$2

over  
\$50,000



Global sales and distribution network

# Always there for you

## Calibration

Calibration service in our accredited calibration laboratories, or directly on-site at your location

## Repair

Fast solutions in the event of malfunctions and repairs

## Installation

Installation of your measuring units and support for the commissioning of your instrumentation

## Consulting

Engineering and seminars, expanding your know-how about calibration and SF<sub>6</sub> with our experts

## E-commerce

Direct data exchange, VMI, Customer Portal etc., electronic order processing (EDI)

**WIKAI**



# WIKA – Your reliable partner

## Quality – Made by WIKA



Worldwide sales and service network with more than 1,500 sales professionals



Global manufacturing through worldwide production network



Measuring instruments for pressure, temperature, level, force, flow and calibration technology



Innovative partner for OEM applications



IIoT solutions



Subsidiaries and sales agencies in over 75 countries



Long-term security of supply



# WIKA – Your reliable partner

## Quality – Made in Lawrenceville



210,000 sq. ft.  
state-of-the-art  
manufacturing facility



Mechanical pressure  
manufacturing hub for  
the Americas



Certified to ISO 9001



# WIKAI – Your reliable partner

## Quality – Made in Houston



Formerly Gayesco International,  
acquired by the WIKAI Group in 2012



Products produced: radial & pipewell  
multipoint thermocouple systems,  
furnace tubeskins, diaphragm seals,  
mechanical level, flow (orifice plates)



Services provided: diaphragm seal  
repair, temperature installation, &  
furnace condition monitoring



Certified to ISO 9001



# WIKAI – Your reliable partner

Quality – Made in San Marcos



Acquired by the WIKAI Group  
in 2006



Designs & manufactures:  
pressure measuring,  
calibration, controlling  
instruments, & test systems



Certified to ISO 9001



# WIKAL – Your reliable partner

## Quality – Made in Chambersburg



Formerly Hirschmann  
Automation and Control,  
acquired by the WIKAL Group  
in 2018



Develops innovative  
controls, sensors, and  
system solutions for mobile  
machines operated in rough  
environmental conditions



Certified to ISO 9001



# WIKAI – Your reliable partner

Quality – Made in Lewis Center



Formerly tecsis, LP. Fully integrated into the WIKAI Group in January of 2018.



Renamed WIKAI Sensor Technology in 2021



Produces custom and standard force and pressure measuring instruments



# WIKA – Your reliable partner

Quality – Made in Boulder



12,000 sq ft facility



Manufacturing of wireless nodes and gateways



RFID sensor design



IIoT Hub for the Americas





Smart in sensing

More about “Smart in sensing” on:

 LinkedIn

 YouTube

 Instagram

[www.wika.com](http://www.wika.com)

[www.wika.com/smartinsensing](http://www.wika.com/smartinsensing)