Applications and subsystems for machine building
As a family-run business acting globally, with over 9,300 highly qualified employees, the WIKA group of companies is a worldwide leader in pressure and temperature measurement. The company also sets the standard in the measurement of level and flow, and in calibration technology.

Founded in 1946, WIKA is today a strong and reliable partner for all the requirements of industrial measurement technology, thanks to a broad portfolio of high-precision instruments and comprehensive services.

With manufacturing locations around the globe, WIKA ensures flexibility and the highest delivery performance. Every year, over 50 million quality products, both standard and customer-specific solutions, are delivered in batches of 1 to over 10,000 units.

With numerous wholly owned subsidiaries and partners, WIKA competently and reliably supports its customers worldwide. Our experienced engineers and sales experts are your competent and dependable contacts locally.
WIKA – Your partner in all areas of machine building

WIKA supports companies in general machine building with instrumentation solutions and services for pressure, temperature, level and flow measurement. Through long-standing and close cooperation with machine-building companies for a wide range of industrial sectors, the day-to-day, industry-specific challenges are well known to us.

As a strong partner, we provide versatile support in the calibration, maintenance and repair of your measuring instruments – in our globally accredited DKD/DAkkS calibration laboratories as well as via a mobile service that can also calibrate your instruments on site. Furthermore, in 43 countries our experienced engineers provide you with fast and reliable support for demanding large-scale projects, from planning through implementation to after-sales support.

In the breadth and depth of its range, WIKA offers an outstanding selection of measurement solutions. Thus component manufacturers and also machine and plant builders always find the optimum solution for their specific demands within the following segments:

- Hydraulics
- Lubrication systems
- Compressors
- Pumps and systems
- Tank level measurement
- Pneumatics
- Machine tools
- Plastics machinery
- High-pressure applications
- Textile machinery
- Filling/packing machinery
- Filter systems
- Test benches

Technological know-how and unique level of in-house production

WIKA assures its renowned high level of product quality right from the outset through its highly motivated development team, a unique level of in-house production as well as specific production processes, all based on many years of experience.

Our extensive competence in methodology is reflected in comprehensive process management plans as well as clearly defined operating procedures and work instructions. For example, we subject all product and process developments to a comprehensive series of tests in our dedicated test laboratories before integrating them in our production facilities. For these tests, many of our internal standards are formulated in a much more stringent way than specified in the basic standards.

Excellent quality, outstanding employees

Quality made by WIKA – this message is our commitment and our promise for the highest possible quality. In order to meet this every day, we continuously improve our production operations through Lean Management, the KAIZEN philosophy and the Six Sigma method.

We secure the sustainability of these improvements with in-house Black Belts as well as with globally valid matrix certification with audits – conducted by an independent and globally renowned certification body.

Continuous optimisation, market and customer orientation, an uncompromising approach to quality, comprehensive employee development, employee satisfaction and environmental protection are firmly entrenched elements of our management system. All this together makes us your reliable partner for measurement technology – today and in the future.
The minimisation of downtimes requires components of exceptional quality. They are a precondition for highly efficient processes, and avoid danger to people, environment and property.

WIKA therefore only supplies instruments which meet the guidelines and standards of the machine-building industry. In addition, rigorous testing of the instruments used, by national and international authorised bodies, guarantees their reliability. WIKA holds approvals from different industrial nations and test authorities.

The following approvals and declarations of conformity are examples. Please use the specifications of the respective products from their data sheet.

**EU declaration of conformity**
Pressure equipment directive, EMC directive, RoHS conformity

**UL and CSA**
for North America and Canada

**EAC**
For the Eurasian Economic Union
→country-specific certificates GOST, KazinMetr, MtschS, BelGIM, GPN and Uzstandard

**ATEX, IECEX, CSA, KOSHA, FM, CRN**
and INMETRO
for operation in hazardous areas

**GL, DNV, BV**
for use in shipbuilding and offshore technology
Hydraulic power packs

From fun-fair rides to workshop lifting platforms and also machine tools or plastics machinery – their operation always requires a hydraulic power pack. Only the high energy density of hydraulic machinery offers the highest forces at the lowest possible size.

The system pressure is read from a pressure gauge. Liquid-filled models are easily readable and unaffected by vibration.

The continuous recording and maintenance of the system and control pressures is monitored by pressure switches or sensors. The PSD-30 electronic pressure switch offers a combination of switching output, analogue output and an LED display which also offers good readability in dark mounting sites. Mechanical damping of the pressure port protects the sensor element from pressure spikes.

The monitoring of the fill level in the hydraulic oil tank can signal oil deficiencies before the pump starts to suck in air.

With our temperature monitoring of the hydraulic oil, critical conditions can be identified early and the operational time for the oil can be extended.

Special requirements at the point of usage have been considered with our product development. For example, WIKA instruments work reliably in the gondola of a wind turbine and offer approvals for specific operating conditions or installation locations (e. g. ATEX).

Legend – Hydraulic power packs:

1. System pressure – Pressure
2. Oil level in the tank – Level
3. Temperature of the hydraulic oil – Temperature
Pressure

Pressure sensors
- A-10
- O-10
- S-20

Pressure gauges
- 111.10
- 111.12
- 113.53
- 131.11
- 213.53

Pressure switches
- PSD-30
- PSM01
- PSM02
- PSM03

Temperature

Resistance thermometers
- TR10-B
- TR10-D
- TR30
- TR31
- TR33

Dial thermometers
- 52
- 53
- 54

Temperature switches
- TSD-30

Level

Level switches
- LSD-30
- OLS-C05
- RLS-1000
- RLS-2000
- RLS-3000

Calibration
- Hand-helds

Accessories
- Repeater power supplies
Lubrication systems

Lubrication systems with lubricating grease or oil minimise friction and wear. They improve the machine reliability and service life of all moving parts and bearings, reducing corrosion and lowering downtime.

WIKA measurement technology enables lubrication with the right quantity at exactly the right point. For this, recording the system pressure is a basic prerequisite. To ensure that the desired quantity of the lubricant is actually provided – and that no outlets are blocked – it is advisable to install a flow measuring instrument.

Your advantage: The consumption is optimised and thus also lubricant costs and environmental compatibility.

The level monitoring in the reservoir ensures uninterrupted lubrication. This can be carried out through visual inspection or automatically – for example, if the reservoir is mounted out-of-sight – with a level sensor or switch.

If the lubrication system is exposed to wind and weather, low ambient temperatures can lead to a lubricant viscosity that is too high. Here, there should be heating of the reservoir. Its control uses the measuring signal of a temperature switch (monitoring of limit values) or a temperature probe (continuous temperature measurement). Our RLS-3000 float switch offers the special feature of level and temperature measurement combined into a single instrument.

Legend – Lubrication systems:

1. Connection of the lubrication system – Pressure
2. Monitoring of the supply of the lubrication points – Flow
3. Level of the reservoir – Level
4. Temperature of the lubricant – Temperature
### Pressure

#### Pressure sensors

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-10</td>
</tr>
<tr>
<td>O-10</td>
</tr>
<tr>
<td>S-11</td>
</tr>
<tr>
<td>S-20</td>
</tr>
</tbody>
</table>

#### Pressure gauges

<table>
<thead>
<tr>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>111.10</td>
</tr>
<tr>
<td>111.12</td>
</tr>
<tr>
<td>113.53</td>
</tr>
<tr>
<td>131.11</td>
</tr>
<tr>
<td>213.53</td>
</tr>
</tbody>
</table>

#### Pressure switches

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSM01</td>
</tr>
<tr>
<td>PSM02</td>
</tr>
<tr>
<td>PSM03</td>
</tr>
</tbody>
</table>

### Temperature

#### Resistance thermometers

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR10-B</td>
</tr>
<tr>
<td>TR10-C</td>
</tr>
<tr>
<td>TR10-H</td>
</tr>
<tr>
<td>TR30</td>
</tr>
<tr>
<td>TR31</td>
</tr>
<tr>
<td>TR33</td>
</tr>
</tbody>
</table>

#### Dial thermometers

<table>
<thead>
<tr>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
</tr>
</tbody>
</table>

#### Temperature switches

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFS35</td>
</tr>
<tr>
<td>TSD-30</td>
</tr>
</tbody>
</table>

### Level

#### Submersible pressure sensors

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS-10</td>
</tr>
<tr>
<td>LW-1</td>
</tr>
</tbody>
</table>

#### Level switches

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSD-30</td>
</tr>
<tr>
<td>OLS-C01</td>
</tr>
<tr>
<td>OLS-C05</td>
</tr>
</tbody>
</table>

### Flow

#### Flow switches

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSD-3</td>
</tr>
<tr>
<td>FWS</td>
</tr>
</tbody>
</table>

### Calibration

- Hydraulic hand test pump

### Accessories

- Valve manifolds
Screw compressors

Screw compressors are the most widely used compressor design in the industry. They supply compressed air continuously, are very well controllable, extremely efficient and quiet (occupational safety, environmental protection, noise emission). There are versions with different numbers of stages, various cooling and lubricating processes or drive types.

The most common model is the single-stage, oil-lubricated rotating screw compressor. Wherever even the lowest quantities of oil in the compressed air would contaminate the product or the process, oil-free compressors are used.

At the air inlet and the compressed air outlet, pressure and temperature are measured. For this, both pressure gauges/thermometers for direct display, and also pressure sensors/resistance thermometers with Pt100 or PTC sensors are standard instrumentation. In addition, pressures and differential pressures at the suction filter and at the oil reservoir/filter are monitored.

Further temperature measuring points are found at the oil cooler or in the area of compressed air preparation (e.g. filter drier). Furthermore, our measuring instruments also reliably monitor the pressure and the level in the compressed air tank.

Legend – Screw compressors:

1. Air inlet – Pressure
2. Air inlet – Temperature
3. Outlet of the compressor stage – Pressure
4. Outlet of the compressor stage – Temperature
5. Compressed air tank – Pressure
6. Condensate in compressed air tank – Level
7. Compressed air outlet – Pressure
8. Compressed air outlet – Temperature
### Pressure

<table>
<thead>
<tr>
<th>Pressure sensors</th>
<th>1</th>
<th>3</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure gauges</th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>111.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure switches</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSD-30</td>
<td></td>
</tr>
</tbody>
</table>

### Temperature

<table>
<thead>
<tr>
<th>Resistance thermometers</th>
<th>2</th>
<th>4</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TF37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TF45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TF58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TF59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TR33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thermometers with switch contacts</th>
<th>2</th>
<th>4</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>SB15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature switches</th>
<th>2</th>
<th>4</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFS35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Level

<table>
<thead>
<tr>
<th>Optoelectronic switches</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLS-C01</td>
<td></td>
</tr>
<tr>
<td>OLS-C05</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Magnetic float switches</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLS-M</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Float switches</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLS-1000</td>
<td></td>
</tr>
<tr>
<td>RLS-2000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Continuous measurement with float</th>
<th>RLT-1000</th>
<th>RLT-2000</th>
</tr>
</thead>
</table>

### Calibration

<table>
<thead>
<tr>
<th>Calibration</th>
<th>Accessory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand-holds</td>
<td>Adapters and sealings</td>
</tr>
</tbody>
</table>

### Accessories
Piston compressors

Piston compressors are 1-, 2-, 3- or 4-cylinder versions, corresponding to the compressed air demand or the level of pressure required of them. With a 2-cylinder compressor as “parallel switching”, the generated air volume is doubled. In “series switching”, where the output of the first cylinder is connected to the input of the second cylinder, higher system pressures are achieved.

A piston compressor consists of a crankshaft, a connecting rod, a cylinder and piston and a valve head. The crankshaft is driven via a V-belt, usually by an electric motor.

There are small models which only consist of a motor with cylinder/piston. However, most compressors have a compressed air tank, in order to maintain a stable system pressure to the compressed air consumer.

The operation of compressed air tools leads to dropping pressure in the tank. When the pressure drops below the lower limit, the motor starts; when the upper limit is exceeded, the motor automatically switches off. Pressure switches ensure a stable system pressure within the set limits (switch points).

The pressure in the tank, so the available working pressure, and thus also the function of the on/off switch, is reliably indicated by the WIKA pressure gauge.

Legend – Piston compressors:

1. Compressed air tank – Pressure
2. Working air – Pressure
3. Compressed air input in the tank – Pressure
### Pressure

<table>
<thead>
<tr>
<th>Pressure sensors</th>
<th>Pressure gauges</th>
<th>Pressure switches</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-2 O-10</td>
<td>111.10 111.12</td>
<td>PSM01 PSM02</td>
</tr>
</tbody>
</table>

#### Calibration

- Pneumatic hand test pump

#### Accessories

- Mating connector
Pumps and systems

The first pumps ensured the supply of drinking water to people, thus increasing the quality of life. Today, pumps supply the widest range of media in many processes and designs. The safe monitoring and automatic control of output pressures and delivery volumes is important. Specially for these measuring tasks, WIKA offers the right portfolio for each application and each pump.

Our pressure switches protect centrifugal pumps with insufficient input pressure against dry running.

Pressure sensors measure the pressure at the output and allow a constant system pressure through energy-efficient speed control. They detect pressure rises when running against a closed valve or gate, thus protecting the pump.

Diaphragm pumps are frequently used with aggressive or toxic media. Here, reliable diaphragm monitoring by pressure switches or process transmitters ensures the protection of people and the environment.

Legend – Pumps and systems:

1 Input pressure – Pressure
2a Dry run protection – Pressure
2b Dry run protection – Level
3 Output pressure – Pressure
**Product selection**

**Pumps and systems**

### Pressure

**Pressure sensors**
- A-10
- IS-3
- O-10
- S-11
- S-20

**Pressure gauges**
- 111.10
- 111.12
- 113.53
- 131.11
- 213.53

### Pressure switches

- PSD-30
- PSM01
- PSM02

### Level

**Submersible pressure sensors**
- IL-10
- LS-10
- LW-1

**Level switches**
- OLS-C01
- RLT-1000
- RLT-2000
- RLT-3000

### Temperature

**Resistance thermometers**

**Dial thermometers**

**Temperature switches**

### Calibration

**Hand-holds**

### Accessories

**Cooling elements**
Whenever liquid media circulate from and into a storage tank in the circuit, for example the cooling lubricant of a machine tool or when liquids are conveyed from a tank or delivered into a tank, the filling height in the tank is a relevant control variable.

This can be designed as a simple on/off control of the pump using a float switch or an optoelectronic level switch. Frequently, a continuously measuring submersible pressure sensor (hydrostatic pressure of the liquid column in the tank) is also used to operate an energy-efficient speed-controlled pump.

For all installations, the customer requires a “fit and forget” solution. The plant must function 100 % reliably, resistant against the widest variety of media and insensitive to solids. Of course this also applies to float switches and submersible pressure sensors.

The pictured example of a sewage lifting system shows the challenging task of maintenance-free level measurement with an extremely solids-laden medium. Here WIKA, in close cooperation with our customers, has developed a solution with unique reliability.

Legend – Tank level measurement:

1 Level
### Level

<table>
<thead>
<tr>
<th>Submersible pressure sensors</th>
<th>Optoelectronic switches</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS-10</td>
<td>OLS-C01</td>
</tr>
<tr>
<td>LW-1</td>
<td>OLS-C02</td>
</tr>
</tbody>
</table>

### Float switches

<table>
<thead>
<tr>
<th>RLS-6000</th>
<th>HLS-P</th>
<th>HLS-M2</th>
</tr>
</thead>
</table>

### Pressure

<table>
<thead>
<tr>
<th>Pressure sensors</th>
<th>Pressure gauges</th>
<th>Pressure switches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Calibration

- Hand-helds

### Accessories

- Stopcocks
General machine building

The close cooperation with our customers enables instruments that meet individual requirements in a very special way and reliably ensure machine functionality. This increases the performance of equipment and strengthens the competitiveness and market position of companies.

Our developments with more than 20,000 customers in the machine-building sector have led to a globally unique product programme covering the entire range of instrumentation requirements. The picture shows a selection of the application areas for which we have already implemented specific measurement technology.
Pressure gauges

**Panel mounting series, with/without spring clips**

| Nominal size: | 40, 50, 63 mm |
| Scale range:  | -1 ... 0 to 0 ... 400 bar |
| Accuracy class: | 1.6/2.5 |
| Data sheet:   | PM 01.10, PM 01.15 |

**Plastic case, with liquid filling**

| Nominal size: | 40, 50, 63 mm |
| Scale range:  | -1 ... 0 to 0 ... 400 bar |
| Accuracy class: | 2.5 |
| Ingress protection: | IP65 |
| Data sheet:   | PM 01.04 |

**Stainless steel case, with liquid filling**

| Nominal size: | 50, 63, 100 mm |
| Scale range:  | NS 50: -1 ... 0 to 0 ... 400 bar |
| Accuracy class: | 1.0 (NS 100), 1.6 (NS 50, 63) |
| Ingress protection: | IP65 |
| Data sheet:   | PM 02.12 |

Digital pressure gauges

**Stainless steel version**

| Nominal size: | 63, 100, 160 mm |
| Scale range:  | NS 63: 0 to 1 to 0 ... 1,000 bar |
| NS 100: 0.6 to 0 ... 1,000 bar |
| NS 160: 0.6 to 0 ... 1,600 bar |
| Accuracy class: | 1.0 (NS 100, 160), 1.6 (NS 63) |
| Ingress protection: | IP65 |
| Data sheet:   | PM 02.02 |

**Digital pressure gauges**

| Accuracy (% of span): | 0.25 ±1 digit |
| Measuring range:      | 0 ... 60 to 0 ... 1,000 bar |
| -1 ... +20 to -1 ... + 40 bar |
| Special feature:      | Robust case with protective rubber cap |
| Simple operation using four buttons |
| Data sheet:           | CT 09.01 |

**Precision digital pressure gauge**

| Accuracy (% of span): | down to 0.05 FS |
| Measuring range:      | -1 ... 1,000 bar |
| Special feature:      | Integrated data logger |
| WKA-Cal compatible |
| Data transfer via WIKA-Wireless |
| Robust case IP65 |
| Data sheet:           | CT 10.51 |

Further products and services at www.wika.us
# Pressure sensors

**S-20**  
For superior demands  
Non-linearity (± % of span): ≤ 0.125, 0.25 or 0.5 BFSL  
Measuring range:  
- 0 ... 0.4 to 0 ... 1,600 bar  
- 0 ... 0.4 to 0 ... 40 bar abs.  
- -1 ... 0 to -1 ... +59 bar  
Special feature:  
- Extreme operating conditions  
- Customer-specific variants  
- Free test report  
Data sheet: PE 81.61

**S-11**  
For viscous and particle-laden media  
Non-linearity (± % of span): ≤ 0.2 BFSL  
Measuring range:  
- 0 ... 0.1 to 0 ... 600 bar  
- 0 ... 0.25 to 0 ... 16 bar abs.  
- -1 ... 0 to -1 ... +24 bar  
Special feature:  
- Flush process connection  
- Medium temperature up to 150 °C  
- Comprehensive stocks  
Data sheet: PE 81.02

**IS-3**  
Ex ia, Ex nA, Ex tc  
Accuracy (% of span): ≤ 0.5  
Measuring range:  
- 0 ... 0.1 to 0 ... 6,000 bar  
- 0 ... 0.25 to 0 ... 25 bar abs.  
- -1 ... 0 to -1 ... +24 bar  
Special feature:  
- Further worldwide Ex approvals  
- High-pressure version (optional)  
- Flush process connection (optional)  
- Suitable for SIL 2 per IEC 61508/IEC 61511  
Data sheet: PE 81.58

**A-10**  
For common demands  
Non-linearity (± % of span): ≤ 0.25 or 0.5 BFSL  
Measuring range:  
- 0 ... 0.05 to 0 ... 1,000 bar  
- 0 ... 0.1 to 0 ... 25 bar abs.  
- -0.025 ... +0.025 to -1 ... +24 bar  
Special feature:  
- Compact design  
- Free test report  
- 2 million possible variants  
Data sheet: PE 81.60

**O-10**  
OEM version  
Non-linearity (± % of span): ≤ 0.5 BFSL  
Measuring range:  
- 0 ... 6 to 0 ... 600 bar  
- -1 ... +5 to -1 ... +59 bar  
Special feature:  
- For OEM quantities  
- Customer-specific variants  
- Special version for applications with water as medium  
Data sheet: PE 81.65

**C-2**  
For air compressors  
Accuracy (± % of span): ≤ 2 or 1  
Measuring range:  
- 0 ... 6 to 0 ... 60 bar  
- -1 ... +10 to -1 ... +45 bar  
Special feature:  
- Robust design  
- Compact design  
- Long service life and high reliability  
Data sheet: PE 81.47

---

Accuracy (% of span): ≤ 0.5  
Measuring range:  
- 0 ... 0.1 to 0 ... 6,000 bar  
- 0 ... 0.25 to 0 ... 25 bar abs.  
- -1 ... 0 to -1 ... +24 bar  
Special feature:  
- Further worldwide Ex approvals  
- High-pressure version (optional)  
- Flush process connection (optional)  
- Suitable for SIL 2 per IEC 61508/IEC 61511  
Data sheet: PE 81.58
For highest pressure applications

HP-2

Accuracy (± % of span): ≤ 0.25 or 0.5
Measuring range: 0 ... 1,600 to 0 ... 15,000 bar
Special feature:
- Very high long-term stability
- Excellent load cycle stability
- Cavitation protection (optional)
Data sheet: PE 81.53

With high precision

P-30, P-31

Accuracy (± % of span): ≤ 0.1 or 0.05
Measuring range:
- 0 ... 0.25 to 0 ... 1,000 bar
- 0 ... 0.25 to 0 ... 25 bar abs.
- -1 ... 0 to -1 ... +15 bar
Special feature:
- No additional temperature error in the range 10 ... 60 °C
- Flush process connection (optional)
- Analogue, CANopen® or USB
Data sheet: PE 81.54

Further products and services at www.wika.us
Contact pressure gauges

PGS23.063
Bourdon tube, stainless steel, safety version
- Nominal size: 63 mm
- Scale range: 0 … 4 to 0 … 400 bar
- Accuracy class: 1.6
- Ingress protection: IP54
- Data sheet: PV 22.03

PGS23.100, PGS23.160
Bourdon tube, stainless steel version
- Nominal size: 100, 160 mm
- Scale range: 0 … 0.6 to 0 … 1,600 bar
- Accuracy class: 1.0
- Ingress protection: IP54
- Data sheet: PV 22.02

Pressure gauges with output signal

PGT23.063
Bourdon tube, stainless steel version
- Nominal size: 63 mm
- Scale range: 0 … 1 to 0 … 1,000 bar
- Accuracy class: 1.6
- Ingress protection: IP54, filled IP65
- Data sheet: PV 12.03

PGT23.100, PGT23.160
Bourdon tube, stainless steel version
- Nominal size: 100, 160 mm
- Scale range: 0 … 0.6 to 0 … 1,600 bar
- Accuracy class: 1.0
- Ingress protection: IP54, filled IP65
- Data sheet: PV 12.04
Pressure switches

**PSM01**
For socket wrench mounting
- Setting range: 0.2 ... 2 to 40 ... 400 bar
- Material: Galvanised steel, stainless steel
- Switching power: 1A/4A, AC 48 V, 0.5A/2A, DC 24 V
- Switching cycles: 1 x 10⁶
- Data sheet: PV 34.81

**PSM02**
With settable hysteresis
- Setting range: 0.2 ... 2 to 40 ... 400 bar
- Material: Galvanised steel, stainless steel
- Switching power: 1A/4A, AC 250 V, 0.5A/2A, DC 24 V
- Switching cycles: 2 x 10⁶
- Data sheet: PV 34.82

**PSM03**
With adjustment knob
- Setting range: 0.2 ... 2 to 40 ... 400 bar
- Material: Zinc diecast, aluminium
- Switching power: 1A/4A, AC 250 V, 0.5A/2A, DC 24 V
- Switching cycles: 5 x 10⁶
- Data sheet: PV 34.83

**PSD-30**
Electronic pressure switch with display
- Accuracy (% of span): ≤ 1
- Measuring range:
  - 0 ... 1 to 0 ... 1.000 bar
  - 0 ... 1 to 0 ... 25 bar abs.
  - -1 ... 0 to -1 ... +24 bar
- Special feature:
  - Easily readable, robust display
  - Intuitive and fast setup
  - Easy and flexible mounting configurations
  - Flush process connection (optional)
  - For temperature and level switches see www.wika.de/hattrick
- Data sheet: PE 81.67

Further products and services at www.wika.us
Dial thermometers

Heating technology, standard version

Nominal size: 63, 80, 100 mm
Scale range: 0 ... 120 °C
Permissible operating pressure at thermowell/stem: Max. 6 bar
Wetted parts: Brass
Data sheet: TM 43.01

Industrial series, axial and radial

Nominal size: 25, 33, 40, 50, 63, 80, 100, 160 mm
Scale range: -30 ... +50 to 0 ... +500 °C
Permissible operating pressure at thermowell/stem: Max. 25 bar
Wetted parts: Stainless steel
Data sheet: TM 52.01

Stainless steel version, axial and radial, adjustable stem and dial

Nominal size: 63, 100, 160 mm
Scale range: -70 ... +70 to 0 ... +600 °C
Wetted parts: Stainless steel
Option: Liquid damping to max. 250 °C (case and probe)
Data sheet: TM 55.01

Industrial series, axial, adjustable stem and dial

Nominal size: 3", 5"
Scale range: -70 ... +70 to 0 ... +600 °C
Wetted parts: Stainless steel
Option: Liquid damping to max. 250 °C (case and probe)
Data sheet: TM 53.01

Industrial series, axial, adjustable stem and dial

Nominal size: 63, 80, 100, 160 mm
Scale range: -70 ... +70 to 0 ... +600 °C
Wetted parts: Stainless steel
Option: Liquid damping to max. 250 °C (case and probe)
Data sheet: TM 54.01

Standard version

Nominal size: 52, 60, 80, 100 mm
Scale range: -100 ... +400 °C
Wetted parts: Copper alloy
Option: ■ Square case version
        ■ Other case materials
        ■ with micro switch
Data sheet: TM 80.01
Thermometers with switch contacts

**SB15**

Expansion thermometer with micro switch, safety temperature limiter

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal size</td>
<td>60, 80, 100 mm</td>
</tr>
<tr>
<td>Nominal size</td>
<td>72 x 72, 96 x 96 mm</td>
</tr>
<tr>
<td>Scale range</td>
<td>0 … 400 °C</td>
</tr>
<tr>
<td>Wetted parts</td>
<td>Copper alloy</td>
</tr>
<tr>
<td>Option</td>
<td>Sheet steel version</td>
</tr>
<tr>
<td>Data sheet</td>
<td>TV 28.03</td>
</tr>
</tbody>
</table>

**SC15**

Expansion thermometer with micro switch, indicating temperature controller

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal size</td>
<td>60, 80, 100 mm</td>
</tr>
<tr>
<td>Nominal size</td>
<td>45 x 45, 72 x 72, 96 x 96 mm</td>
</tr>
<tr>
<td>Scale range</td>
<td>-100 … +400 °C</td>
</tr>
<tr>
<td>Wetted parts</td>
<td>Copper alloy</td>
</tr>
<tr>
<td>Option</td>
<td>Sheet steel version</td>
</tr>
<tr>
<td>Data sheet</td>
<td>TV 28.02</td>
</tr>
</tbody>
</table>
Thermocouples

TC10-D
Threaded, miniature design

- Sensor element: Type K, J, E, N or T
- Measuring range: -200 ... +600 °C
- Measuring point: Ungrounded or grounded
- Process connection: Mounting thread
- Data sheet: TE 65.04

TC46
Hot runner thermocouple

- Sensor element: Type J or K
- Measuring range: -25 ... +400 °C
- Measuring point: Ungrounded or grounded
- Feature: ■ Probe diameter 0.5 ... 3.0 mm
  ■ Plastic-moulded transition
- Data sheet: TE 65.46

TC47-AB
Thermocouple for plastics machinery

- Measuring range: -25 ... +400 °C
- Measuring element: Type J or K
- Measuring point: Ungrounded or grounded
- Feature: ■ Various process connections
  ■ Connection lead glass fibre with stainless steel braid
- Data sheet: TE 67.20

TC53
Bayonet thermocouple

- Measuring element: Model K, J, N, E or T
- Measuring range: -200 ... +1,200 °C
- Measuring point: Ungrounded or grounded
- Feature: ■ Single and dual thermocouple
  ■ Explosion-protected versions

Temperature transmitter

T32.xS
Standard version

- Input: Resistance thermometers, thermocouples, potentiometers
- Accuracy: < 0.1 %
- Output: 4 ... 20 mA, HART® protocol
- Special feature: TÜV certified SIL version (full assessment)
- Data sheet: TE 32.04
Temperature probes with display

**TF58, TF59**

**Standard version**

- Nominal size: 58 x 25 mm, 62 x 11 mm
- Scale range: -50 ... 250 °C
- Wetted parts: Copper alloy
- Option:
  - Vertical arrangement
  - Special scales
  - Other case materials
- Data sheet: TM 80.02

**TF-LCD**

**Longlife digital thermometer**

- Measuring range: -40 ... +120 °C
- Feature:
  - Dust and waterproof case, IP68
  - Battery or solar powered
  - Extremely long service life
- Data sheet: TE 85.01

**32**

**Machine glass thermometer, V-form**

- Nominal size: 110, 150, 200 mm
- Scale range: -30 ... +200 °C
- Wetted parts: Copper alloy
- Option:
  - Dual scale °F/°C
  - 3 variants: straight, 90° and 135°
- Data sheet: TM 32.02

Temperature switches

**TSD-30**

**Electronic temperature switch with display**

- Measuring range: -20 ... +80 °C
- Output:
  - Switching outputs PNP or NPN
  - 4 ... 20 mA
  - 0 ... 10 V
  - IO-Link 1.1
- Data sheet: TE 67.16

**TFS35**

**Bimetal temperature switch**

- Switching temperature: 50 ... 200 °C, fixed
- Feature:
  - Compact design
  - Automatic reset
  - No capillary needed
- Data sheet: TV 35.01

Further products and services at www.wika.us
# Resistance thermometers

## OEM screw-in thermometer with plug connection

<table>
<thead>
<tr>
<th>TF35</th>
<th>Screw-in thermometer with connection lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range:</td>
<td>-50 ... +250 °C</td>
</tr>
<tr>
<td>Measuring element:</td>
<td>Pt100, Pt1000, NTC, KTY, Ni1000</td>
</tr>
<tr>
<td>Feature:</td>
<td>Compact design</td>
</tr>
<tr>
<td>Feature:</td>
<td>Very high vibration resistance</td>
</tr>
<tr>
<td>Feature:</td>
<td>Ingress protection of IP54 to IP69K, depending on the connector</td>
</tr>
<tr>
<td>Data sheet:</td>
<td>TE 67.10</td>
</tr>
</tbody>
</table>

## Screw-in thermometer with connection lead

<table>
<thead>
<tr>
<th>TF37</th>
<th>OEM insertion thermometer with connection lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range:</td>
<td>-50 ... +260 °C</td>
</tr>
<tr>
<td>Measuring element:</td>
<td>Pt100, Pt1000, NTC, KTY, Ni1000</td>
</tr>
<tr>
<td>Feature:</td>
<td>Connection lead from PVC, silicone, PTFE</td>
</tr>
<tr>
<td>Feature:</td>
<td>Very high vibration resistance</td>
</tr>
<tr>
<td>Data sheet:</td>
<td>TE 67.12</td>
</tr>
</tbody>
</table>

## OEM insertion thermometer with connection lead

<table>
<thead>
<tr>
<th>TF45</th>
<th>OEM insertion thermometer with connection lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range:</td>
<td>-50 ... +250 °C</td>
</tr>
<tr>
<td>Measuring element:</td>
<td>Pt100, Pt1000, NTC, KTY, Ni1000</td>
</tr>
<tr>
<td>Feature:</td>
<td>Connection lead from PVC, silicone, PTFE</td>
</tr>
<tr>
<td>Feature:</td>
<td>Very high vibration resistance</td>
</tr>
<tr>
<td>Feature:</td>
<td>Protected against dust and water jets, IP65</td>
</tr>
<tr>
<td>Data sheet:</td>
<td>TE 67.15</td>
</tr>
</tbody>
</table>

## TF35
- **OEM screw-in thermometer with plug connection**
- **Measuring range:** -50 ... +250 °C
- **Measuring element:** Pt100, Pt1000, NTC, KTY, Ni1000
- **Feature:** Compact design, Very high vibration resistance, Ingress protection of IP54 to IP69K, depending on the connector
- **Data sheet:** TE 67.10

## TF37
- **Screw-in thermometer with connection lead**
- **Measuring range:** -50 ... +260 °C
- **Measuring element:** Pt100, Pt1000, NTC, KTY, Ni1000
- **Feature:** Connection lead from PVC, silicone, PTFE, Very high vibration resistance
- **Data sheet:** TE 67.12

## TF45
- **OEM insertion thermometer with connection lead**
- **Measuring range:** -50 ... +250 °C
- **Measuring element:** Pt100, Pt1000, NTC, KTY, Ni1000
- **Feature:** Connection lead from PVC, silicone, PTFE, Very high vibration resistance, Protected against dust and water jets, IP65
- **Data sheet:** TE 67.15

## TR10-B
- **For additional thermowell**
- **Sensor element:** 1 x Pt100, 2 x Pt100
- **Measuring range:** -200 ... +600 °C
- **Connection method:** 2-, 3- and 4-wire
- **Measuring insert:** M1 cable
- **Data sheet:** TE 60.02

## TR10-C
- **Threaded, with fabricated thermowell**
- **Sensor element:** 1 x Pt100, 2 x Pt100
- **Measuring range:** -200 ... +600 °C
- **Connection method:** 2-, 3- and 4-wire
- **Process connection:** Mounting thread
- **Data sheet:** TE 60.03

## TR10-D
- **Threaded, miniature design**
- **Sensor element:** 1 x Pt100, 2 x Pt100
- **Measuring range:** -200 ... +500 °C
- **Connection method:** 2-, 3- and 4-wire
- **Process connection:** Mounting thread
- **Data sheet:** TE 60.04
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Sensor element</th>
<th>Measuring range</th>
<th>Output</th>
<th>CSA</th>
<th>Data Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR10-H</td>
<td>Without thermowell</td>
<td>1 x Pt100, 2 x Pt100</td>
<td>-200 ... +600 °C</td>
<td></td>
<td></td>
<td>TE 60.08</td>
</tr>
<tr>
<td>TR30</td>
<td>Compact version</td>
<td>1 x Pt100</td>
<td>-50 ... +250 °C</td>
<td>Pt100, 4 ... 20 mA</td>
<td></td>
<td>TE 60.30</td>
</tr>
<tr>
<td>TR31</td>
<td>OEM miniature design</td>
<td>1 x Pt100, 1 x Pt1000</td>
<td>-50 ... +250 °C</td>
<td>Pt100, Pt1000, 4 ... 20 mA</td>
<td>Ordinary and hazardous locations</td>
<td>TE 60.31</td>
</tr>
<tr>
<td>TR33</td>
<td>Miniature design</td>
<td>1 x Pt100, 1 x Pt1000</td>
<td>-50 ... +250 °C</td>
<td>Pt100, Pt1000, 4 ... 20 mA</td>
<td>Ordinary locations</td>
<td>TE 60.33</td>
</tr>
<tr>
<td>TR40</td>
<td>Cable resistance thermometer</td>
<td>1 x Pt100, 2 x Pt100</td>
<td>-200 ... +600 °C</td>
<td>Pt100, Pt1000, 4 ... 20 mA</td>
<td>PVC, silicone, PTFE</td>
<td>TE 60.40</td>
</tr>
</tbody>
</table>
## Float switches

<table>
<thead>
<tr>
<th>Model</th>
<th>Type Description</th>
<th>Process Connection</th>
<th>Pressure</th>
<th>Temperature</th>
<th>Material</th>
<th>Electrical Connection</th>
<th>Data Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLS-M1</td>
<td>Plastic version, with cable outlet</td>
<td>• ½” NPT (installation in the tank from outside) • G ¼” (installation in the tank from inside)</td>
<td>1 bar</td>
<td>-10 … +80 °C</td>
<td>PP</td>
<td>Cable</td>
<td>LM 30.06</td>
</tr>
<tr>
<td>HLS-M2</td>
<td>Stainless steel version, with cable outlet</td>
<td>• ½” NPT (installation in the tank from outside) • G ¼” (installation in the tank from inside)</td>
<td>5 bar</td>
<td>-40 … +120 °C</td>
<td>Stainless steel 1.4301</td>
<td>Cable or connector</td>
<td>LM 30.06</td>
</tr>
<tr>
<td>RLS-1000</td>
<td>Stainless steel version</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RLS-2000</td>
<td>Plastic version</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RLS-3000</td>
<td>Stainless steel version, with temperature output signal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RLS-6000</td>
<td>For water and wastewater technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Submersible pressure sensors

**LSD-30**

Electronic level switch, with display

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>Probe length 250, 370, 410, 520, 730 mm</td>
</tr>
<tr>
<td>Density</td>
<td>≥ 0.7 g/cm³ (NBR float)</td>
</tr>
<tr>
<td>Switching output</td>
<td>1 or 2 (PNP or NPN)</td>
</tr>
<tr>
<td>Special feature</td>
<td>Explosion protection in accordance with ATEX, FM, CSA and EAC</td>
</tr>
<tr>
<td></td>
<td>Hastelloy design (optional)</td>
</tr>
<tr>
<td>Process connection</td>
<td>G ¾ A, ¾ NPT</td>
</tr>
<tr>
<td>Data sheet</td>
<td>LM 40.01</td>
</tr>
</tbody>
</table>

**IL-10**

Intrinsically safe

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy (± % of span)</td>
<td>≤ 0.25 or 0.5</td>
</tr>
<tr>
<td>Measuring range</td>
<td>0 … 0.1 to 0 … 25 bar</td>
</tr>
<tr>
<td>Special feature</td>
<td>Explosion protection in accordance with ATEX, FM, CSA and EAC</td>
</tr>
<tr>
<td></td>
<td>Hastelloy design (optional)</td>
</tr>
<tr>
<td></td>
<td>Highly resistive FEP cable (optional)</td>
</tr>
<tr>
<td>Data sheet</td>
<td>PE 81.23</td>
</tr>
</tbody>
</table>

**LS-10**

Standard version

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy (± % of span)</td>
<td>≤ 0.5</td>
</tr>
<tr>
<td>Measuring range</td>
<td>0 … 0.25 to 0 … 10 bar</td>
</tr>
<tr>
<td>Data sheet</td>
<td>PE 81.55</td>
</tr>
</tbody>
</table>

**LW-1**

For water and wastewater

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy (± % of span)</td>
<td>≤ 0.5 or ≤ 1</td>
</tr>
<tr>
<td>Measuring range</td>
<td>0 … 0.1 to 0 … 6 bar</td>
</tr>
<tr>
<td>Output signal</td>
<td>4 … 20 mA (2-wire)</td>
</tr>
<tr>
<td></td>
<td>4 … 20 mA + HART® (2-wire)</td>
</tr>
<tr>
<td></td>
<td>DC 0.1 … 2.5 V (3-wire)</td>
</tr>
<tr>
<td>Special feature</td>
<td>Temperature output 10 … 50 °C (optional)</td>
</tr>
<tr>
<td></td>
<td>Explosion protection per ATEX (optional)</td>
</tr>
<tr>
<td>Data sheet</td>
<td>LM 40.03</td>
</tr>
</tbody>
</table>

Further products and services at [www.wika.us](http://www.wika.us)
Optoelectronic switches

**OLS-C01**
OEM switch, compact design, standard version

- **Material**: Stainless steel, borosilicate glass
- **Process connection**: G ¾", G ½" or M12 x 1
- **Pressure**: Max. 25 bar
- **Temperature**: -30 ... +100 °C
- **Switching output**: 1 x PNP
- **Data sheet**: LM 31.31

**OLS-C02**
OEM switch, compact design, with selectable switch length

- **Material**: Stainless steel, borosilicate glass
- **Process connection**: G ¾"
- **Pressure**: Max. 25 bar
- **Temperature**: -30 ... +100 °C
- **Switch length**: 65 ... 3,000 mm
- **Switching output**: 1 x PNP
- **Data sheet**: LM 31.32

**OLS-C04**
OEM switch, compact design, refrigerant version, with transistor output

- **Material**: Steel, nickel-plated; glass
- **Process connection**: G ½", ½" NPT
- **Pressure**: Max. 40 bar
- **Temperature**: -40 ... +100 °C
- **Switching output**: 1 x PNP
- **Data sheet**: LM 31.34

**OLS-C05**
OEM switch, compact design, high-temperature version

- **Material**: Stainless steel, borosilicate glass
- **Process connection**: G ¾"
- **Pressure**: Max. 25 bar
- **Temperature**: -40 ... +150 °C
- **Switching output**: 1 x PNP
- **Data sheet**: LM 31.33

**OLS-C20**
Compact design, high-pressure version

- **Material**: Stainless steel, quartz glass
- **Process connection**: M16 x 1.5
  - G ½ A
  - ½ NPT
- **Insertion length**: 24 mm
- **Pressure**: 0 ... 50 bar
- **Temperature**: -30 ... +135 °C
- **Data sheet**: LM 31.02
Continuous measurement with float

RLT-1000
Stainless steel version

Accuracy: 12, 10, 6 or 3 mm
Output signal: Resistance signal or 4 … 20 mA
Temperature: -30 … +80 °C (+120 °C optional)
Guide tube length: 150 … 1,500 mm
Data sheet: LM 50.02

RLT-2000
Plastic version

Accuracy: 12, 10, 6 or 3 mm
Output signal: Resistance signal or 4 … 20 mA
Temperature: -10 … +60 °C (-30 … +120 °C optional)
Guide tube length: 150 … 1,500 mm
Data sheet: LM 50.01

RLT-3000
Stainless steel version with temperature output signal

Accuracy: 12, 10, 6 or 3 mm
Output signal: Level: 4 … 20 mA
Temperature: -30 … +100 °C
Guide tube length: 150 … 1,500 mm
Data sheet: LM 50.05

Flow switches

FSD-3
Calorimetric flow switch

Output signal: Flow: 4 … 20 mA, PNP, NPN
Temperature: 4 … 20 mA, PNP, NPN
Process connection: G ¼ A, G ½ A, ¼ NPT, ½ NPT or M18 x 1.5
Measuring range: Water: 5 … 150 cm/s
Oil: 3 … 300 cm/s
Data sheet: FL 80.01

FWS
Flow monitor

Material: Stainless steel, brass
Process connection: G ¼ … G ½
Flow range: 0.005 … 250 L/min (water), 0.2 … 1,450 NL/min (air)
Media: Liquids and gases
Output: Optionally pointer, sight glass, reed contact
Data sheet: FL 30.01

Further products and services at www.wika.us
Calibration instruments

CPP30

Pneumatic hand test pump

- Measuring range: -950 mbar ... +35 bar
- Medium: Ambient air
- Special feature: Pressure and vacuum generation switchable
- Special feature: Compact dimensions
- Data sheet: CT 91.06

CPP700-H

Hydraulic hand test pump

- Measuring range: 0 ... 700 or 0 ... 1,000 bar
- Medium: Oil or water
- Special feature: Integrated medium reservoir
- Special feature: Ergonomic handling
- Data sheet: CT 91.07

CPH6300

Hand-held pressure indicator

- Measuring range: 0 ... 0.025 to 0 ... 1,000 bar
- Accuracy: 0.2 %, 0.1 % (optional)
- Special feature: Robust and waterproof case with IP65, IP67
- Special feature: Integrated data logger
- Special feature: Differential pressure measurement (optional)
- Data sheet: CT 12.01

CPG-KITH, CPG-KITP

Hydraulic or pneumatic service kit

- Simple testing and adjustment of pressure measuring instruments
- Kit consists of a CPG1500 reference instrument and a CPP-700H hand pump (hydraulic Pmax. 700 bar) or CPP-30 (pneumatic Pmax. 30 bar)
Accessories

- **910.25**
  - Valve manifold for differential pressure measuring instruments

- **910.10, 910.11, 910.81**
  - Stopcocks and shut-off valves

- **910.14, 910.17**
  - Adapters and sealings

- **910.10, 910.11, 910.81**
  - Mating connector

- **910.10, 910.11, 910.81**
  - Repeater power supplies

- **910.10, 910.11, 910.81**
  - Cooling elements

Further products and services at www.wika.us