



Process gas management | Facilities support equipment

Measurement solutions for semiconductor, solar, light



Smart in sensing



Alexander Wiegand,
Chairman and CEO WIKA

About us

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.

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WIKA – your partner for semiconductor, solar and light-emitting technologies

WIKA's UHP gauge and transducer product lines offer customers in the semiconductor, photovoltaic and flat panel display industries a comprehensive portfolio of pressure measurement solutions for gas delivery systems of the highest purity requirements.

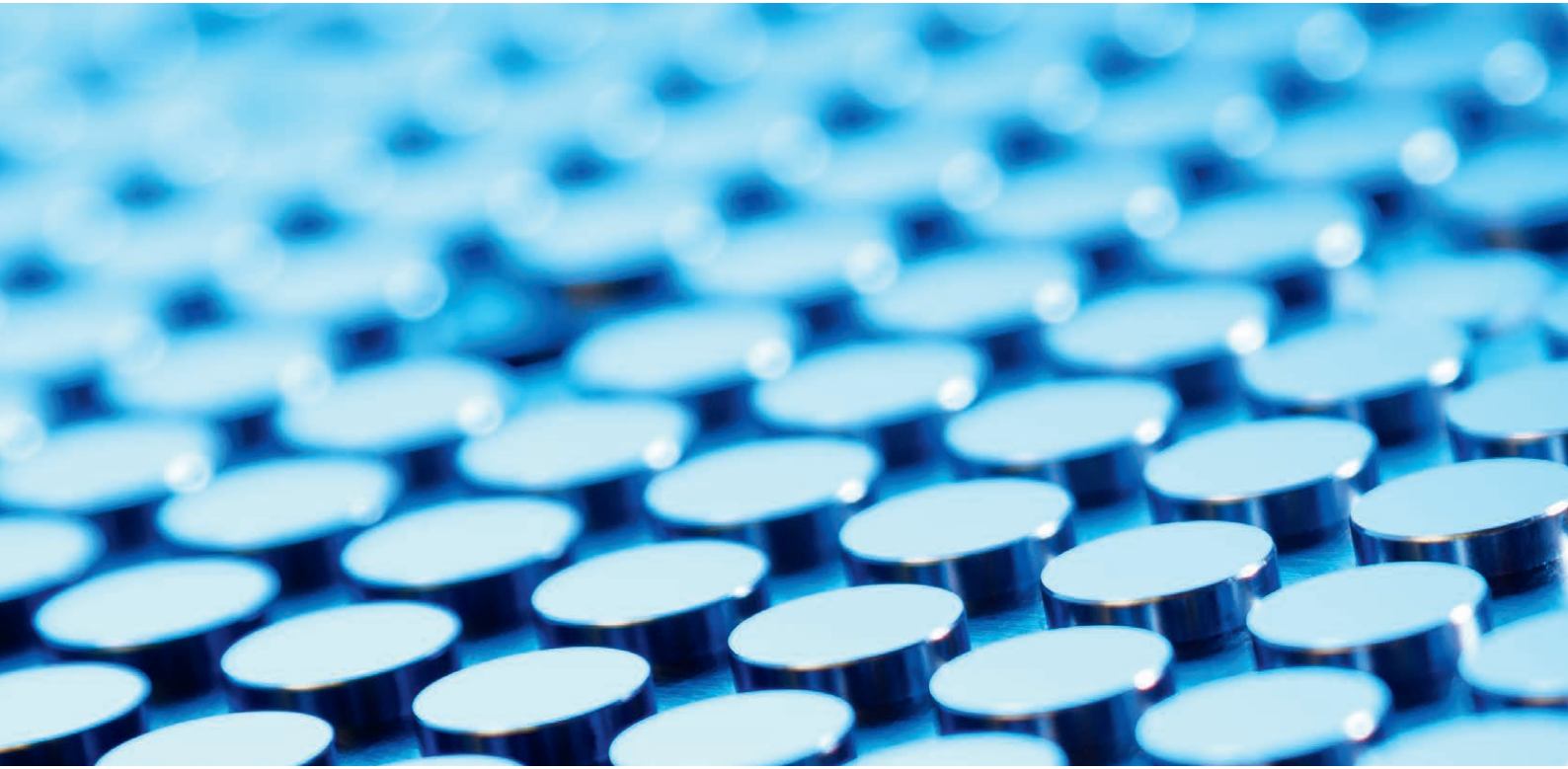
WIKA products are utilized in applications supporting gas tank farms, specialty gas cylinders, point of use panels to chip production tool chambers. With water-tight integrity to IP67 and NEMA4, products can be used in various application scenarios.

In keeping with the industry's most critical purity requirements, WIKA's UHP products are manufactured in certified clean room environments and are cleaned and packaged to SEMI standards – delivered ready for service in certified clean work floor areas.

A team of development engineers provide customized designs to meet customer-specific applications and requirements.

Comprehensive quality control and engineering efforts ensure that every WIKA instrument is built to last.

Design and materials

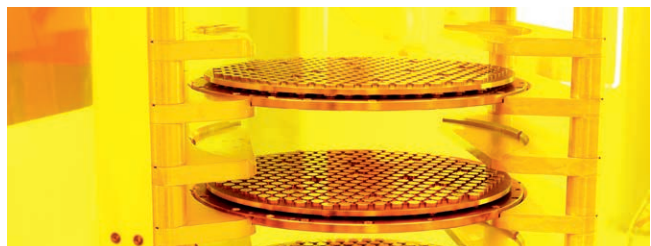


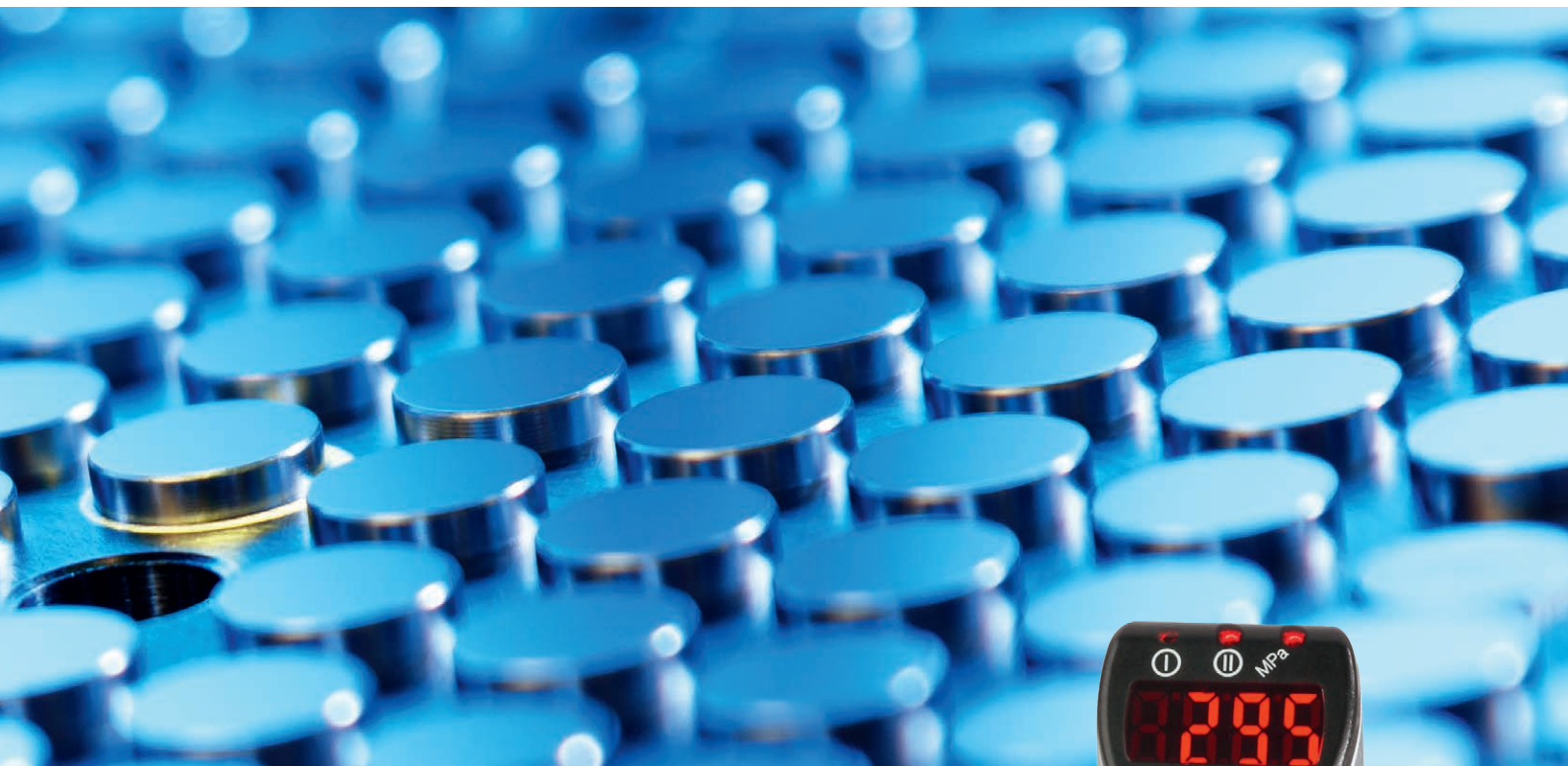
WIKA's High Purity and Ultra High Purity products are designed to the rigorous standards and recommendations relevant to the semiconductor market and its governing agencies. UHP Bourdon tube pressure gauges have electro-polished internal surfaces and are the standard gauge of gas distribution systems installed in semiconductor FABs.

The Bourdon tube UHP gauge series is complemented by a diaphragm-based UHP gauge offering the smallest possible dead space and shortest purge cycle times.

WIKA's UHP pressure transducers are electronic instruments of the smallest footprint meeting the most compact design of gas cabinets or valve manifold panels for installation in continuously shrinking space requirements found in modern chip FABs.

A patented design provides the semiconductor industry with the only true vacuum-referenced, non-capacitance based UHP pressure transducer in the market serving advanced pressure measurement requirements for gas distribution and point of use on chip tools based on WIKA's proven monolithic thin-film pressure sensor technology.





All media-wetted surfaces are designed to comply with SEMI standards and are compatible with semiconductor flammable, toxic and corrosive gases. While all reputable manufacturers comply with SEMI specifications, WIKA products go one step further incorporating technology with customer preference into every design. By allowing to elect wetted surface area materials comprised of 316L double-melt stainless steel or proprietary VIM/VAR materials, WIKA customers may select the products that are best for their projects.

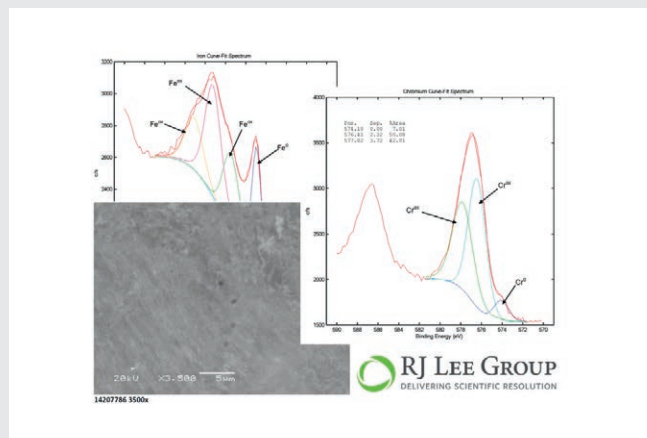
The accuracy of all WIKA products is reported in accordance with national ASME and international IEC standards to address industry expectations for non-linearity, hysteresis, non-repeatability and reproducibility.

Testing, packaging and preservation



In order to comply with the High Purity and Ultra High Purity (UHP) requirements of the semiconductor industry, WIKA UHP and HP products are cleaned, packaged and preserved in accordance with SEMI specifications. All UHP products are 100% helium leak tested to 1×10^{-9} scc/sec (inboard) in an ISO class 6 cleanroom or better.

Ensuring continued SEMI conforming quality of UHP products and manufacturing processes, WIKA assigns periodic analytical assessments carried out by RJ Lee Group, Inc. using analytical methods corresponding to SEMI F72 and SEMATECH 91060573B (AES), SEMATECH 90120403B (XPS) and SEMATECH 90120401B and SEMI F73 (SEM).



Certificates and approvals



Given the increasing demands in terms of quality and product safety, WIKA offers a wide range of approvals and certificates to best meet customer expectations and regulatory compliances. For non-incendiary applications, WIKA offers a host of US, European and international approvals.



Gauges and switches

Ultra High Purity Bourdon tube gauge

230.15, 230.25



The 230.15 is the right choice for specialty gas, Ultra High Purity, PV and SEMI applications in gas distribution systems using face-seal connections. The 230.25 is best suited for applications that insist on VIM/VAR wetted parts and face-seal connections. Both product types have electropolished media-wetted stainless steel surfaces, as well as electropolished stainless steel cases.

- Nominal size: 2" (53 mm), 1½" (40 mm)
- Scale range: Vacuum / compound and positive pressure ranges
- Accuracy class: 2": Grade A per ASME B40.1, 1½": Grade B per ASME B40.1 (other accuracy classes upon request)
- Data sheet: PM 02.20

Indicating UHP pressure switch gauge

230.15, 230.25 with 851.3(3)



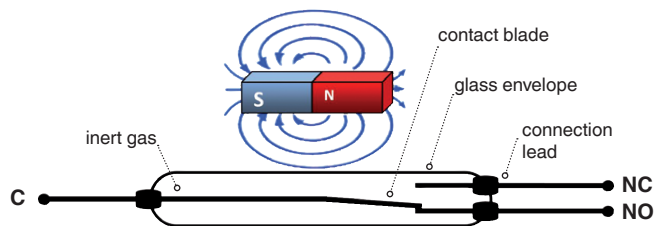
The 230.15 and 230.25 series are complemented by a reed switch option allowing for monitoring pressure levels by electrical alert output. The WIKA switch option offers normally open (NO) and normally closed (NC) functionality in one single instrument.

- Nominal size: 2" (53 mm), 1½" (40 mm)
- Scale range: Vacuum / compound and positive pressure ranges
- Accuracy class: 2": Grade A per ASME B40.1, 1½": Grade B per ASME B40.1 (other accuracy classes upon request)
- Data sheet: PV 22.05

Functional diagram

Reed contact SPDT (changeover) not actuated

C = common
NC = normally closed
NO = normally open



WIKA also offers a dual switch option for monitoring two pressure levels (e.g. upper and lower). This product addresses applications such as dual containment tubing installation.

High Purity Bourdon tube gauge

130.15



The 130.15 series is designed for specialty gas installations where High Purity gas distribution systems are assembled using NPT connections.

- Nominal size: 2" (53 mm), 1½" (40 mm)
- Scale range: Vacuum / compound and positive pressure ranges
- Accuracy class: 2": Grade A per ASME B40.1, 1½": Grade B per ASME B40.1 (other accuracy classes upon request)
- Data sheet: PM 02.19

Diaphragm gauges

Diaphragm gauges are the perfect mechanical pressure gauge for low-pressure, point-of-use applications. The gauge's design reduces particle generation and decreases dry-down times.

UHP Flow-Through-Gauge

432.25



Sensitive installations, such as hook-up in chip fabs, require a specific focus on particle prevention. Using a flow-through gauge in a GDS eliminates any dead space and shortens purge cycles after installation or maintenance.

- Nominal size: 2" (53 mm), 1½" (40 mm), 1 1/8" (28 mm)
- Scale range: -1 ... 4 bar / -30 inHg ... 60 psi,
-1 ... 9 bar / -30 inHg ... 130 psi
- Accuracy class: Grade B per ASME B40.1,
(other accuracy classes upon request)
- Data sheet: PM 04.12

UHP mini diaphragm gauge

432.15 1.3"



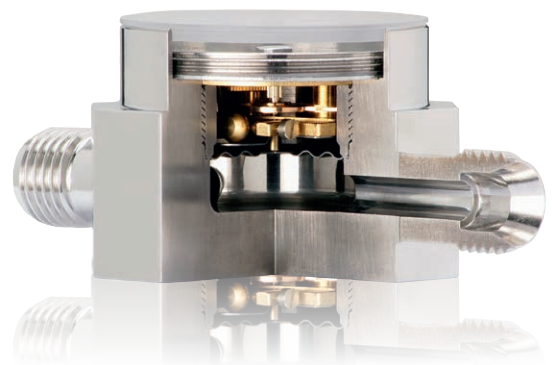
Gas distribution systems on chip production tools combine the need for excellent Ultra High Purity class, as well as smallest space requirement. These applications are addressed by the mini diaphragm gauges (MDG)

- Nominal size: 1.3" (33 mm)
- Scale range: -1 ... 4 bar / -30 inHg ... 60 psi,
-1 ... 9 bar / -30 inHg ... 130 psi,
-30 inHg ... 160 psi,
0 ... 160 psi
- Accuracy class: Grade B per ASME B40.1,
(other accuracy classes upon request)
- Data sheet: PM 04.18

432.10 1"



- Nominal size: 1" (25.4 mm)



Ultra High Purity pressure transducers

True vacuum reference

WU-20, WU-25, WU-26



The WU-2 series transducer combines state-of-the-art digital transducer concepts with analogue-like output signals to provide the safest and most accurate pressure measurements necessary for today's demanding market requirements.

- Accuracy class: $\leq 0.15\%$ RSS ($\leq 0.3\%$ FS per IEC 61298-2)
- Measuring range: 15 ... 5,000 psi / 1 ... 360 bar (further pressure units available), Vacuum, compound, absolute, gauge
- Special feature: 4 ... 20 mA, DC 0 ... 5 V, DC 0 ... 10 V, Vacuum reference, NEMA 4, IP67, Manual zero point setting
- Data sheet: PE 87.07



Compact

WUC-10, WUC-15, WUC-16



The most compact design of the WUC series transducer meets the smallest product footprint requirements. The space-saving design makes it the perfect fit for new, as well as retrofit projects.

- Accuracy class: $\leq 0.20\%$ FS RSS ($\leq 0.5\%$ FS per IEC 61298-2)
- Measuring range: 15 ... 5,000 psi / 1 ... 360 bar (further pressure units available), Vacuum, compound, absolute, gauge
- Special feature: 4 ... 20 mA, DC 0 ... 5 V, DC 0 ... 10 V, Vacuum reference, NEMA 4, IP67, Manual zero point setting
- Data sheet: PE 87.06



Integrated display & switch

WUD-20, WUD-25, WUD-26



The WUD-2x incorporates a local, rotatable, and programmable display with the state-of-the-art electronics of the WU-2x. The WUD-2x transducer with integrated display provides a local reading of the process pressure measurement as well as the associated analogue output signal (current or voltage) from the transducer.

- Nominal size: $\leq 0.20\%$ FS RSS ($\leq 0.5\%$ FS per IEC 61298-2)
- Scale range: 15 ... 5,000 psi / 1 ... 360 bar (further pressure units available), Vacuum, compound, absolute, gauge
- Accuracy class: 4 ... 20 mA, DC 0 ... 5 V, DC 0 ... 10 V, Vacuum reference, NEMA 4, IP67, Manual zero point setting, Optional 2 switching outputs (NPN)
- Data sheet: PE 87.08

Optional alarm contacts are available for programming up to two user-defined switch points



Displays and scales

Remote digital display

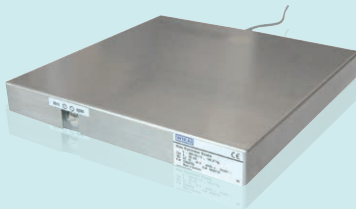
DI30



- Input: Standard signals
- Alarm output: 2 relays
- Special feature: Transmitter power supply, Wall mounting (optional)
- Power supply: AC 230 V oder AC 115 V
- Data sheet: AC 80.05

Gas cylinder scale Specialty gas filling level control

GCS-1



Cylinder scales are engineered and designed for liquid delivery sources used in both indoor and outdoor hazardous and non-hazardous applications

- Nominal size: $\leq 0.1\%$ FS
- Measuring range: 0 ... 60 lbs (0 ... 27.22 kg),
0 ... 100 lbs (0 ... 45.36 kg),
0 ... 300 lbs (0 ... 136.08 kg)
- Special feature: 4 ... 20 mA, DC 0 ... 5 V, DC 0 ... 10 V, IP65
- Data sheet: PE 87.19



For wet chemistry supply in semiconductor production systems, please refer to our specialised products Hydra-Dry, Hydra-Gauge and Hydra-Sensor



Exhaust and abatement monitoring

Differential pressure sensor

A2G-50



- Output signal: 0 ... 10 V (3-wire),
4 ... 20 mA (3-wire)
- Measuring range: 100 ... 2,500 Pa
- Accuracy class: $\pm 1.5\%$ +1 Pa of reading
- Ingress protection: IP54
- Data sheet: PE 88.02

ERC

Pressure sensor for general industrial applications

A-10



- Non-linearity (\pm % 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 certificate
- Data sheet: PE 81.60

UL ENEC GL

Superior pressure sensor for general industrial applications

S-20



- Non-linearity (\pm % of span): ≤ 0.125 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 certificate
- Data sheet: PE 81.61

UL ENEC GL

Installation and testing

UHP high-accuracy test gauge

332.54-UHP



The 332.54-UHP is a high-accuracy "Inspector's Test Gauge" used to qualify equipment installations serving UHP upstream source and point-of-use applications within semiconductor fabrication facilities.

- Nominal size: 4" (100 mm)
- Scale range: -1 ... 1 bar / -30 inHg ... 15 psi,
-1 ... 360 bar / -30 inHg ... 5,000 psi
- Accuracy class: -30 inHg ... 600 psi: $\pm 0.25\%$ FS (ASME B40.1 Grade 3A),
600 ... 2,000 psi: $\pm 0.5\%$ of span (ASME B40.1 Grade 2A),
2,000 ... 5,000 psi: $\pm 0.25\%$ of span (ASME B40.1 Grade 3A)
- Data sheet: 332.54-UHP

Pneumatic hand pump

CPP7-H



- Pressure range: -0,8 ... +7 bar
-11,6 ... 101,5 psi
- Medium: Ambient air
- Special feature: Pressure and vacuum generation switchable,
Low weight,
Compact dimensions
- Data sheet: CT 91.02



Process cooling water

Bimetal thermomanometer

100.02.063



- Nominal size: 63, 80 mm
- Scale range: Pressure: 0 ... 1 to 0 ... 16 bar,
Temperature: 0 ... 100 to 0 ... 150 °C
- Accuracy class: Pressure: 2.5 (EN 837-1),
Temperature: 2.5 °C
- Data sheet: PM 01.23

Process cooling water gauge

232.53



- Nominal size: 2" (53 mm), 2½" (63 mm), 4" (100 mm)
- Scale range: -1 ... 16 bar / -30 inHg ... 200 psi,
0 ... 1,000 bar / 0 ... 15,000 psi
- Accuracy class: 2" & 2½": Grade A per ASME B40.1,
4": Grade 1A per ASME B40.1
- Data sheet: 23X.53



CDA & pneumatics & general purity gas sticks

Welding gauge

111.11



- Nominal size: 1½" (40 mm), 2" (50 mm), 2½" (63 mm)
- Scale range: 0 ... 0.6 to 0 ... 400 bar
- Accuracy class: 2.5
- Data sheet: PM 01.03



Pressure gauge, stainless steel

131.11



- Nominal size: 1½" (40 mm), 2" (50 mm), 2½" (63 mm)
- Scale range: NS 40 and 50: 0 ... 1 to 0 ... 600 bar, NS 63: 0 ... 1 to 0 ... 1,000 bar
- Accuracy class: 2.5
- Data sheet: PM 01.05



Utility Gauge, lower mount and centre back mount

111.10, 111.12



- Nominal size: 1½" (40 mm), 2" (50 mm), 2½" (63 mm), 4" (100 mm)
- Scale range: 0 ... 400 bar
- Accuracy class: 2.5
- Data sheet: PM 01.01



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