

Bourdon tube pressure gauge

For the process industry, safety version

Models 232.30 and 233.30

WIKA data sheet PM 02.04



for further approvals,
see page 6

Applications

- Increased safety requirements for personal protection
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive environments
- Oil and gas industry, chemical and petrochemical industries, power engineering and also water and wastewater technology

Special features

- Safety level "S3" with solid baffle wall designed in compliance with the requirements and test conditions of EN 837-1
- Excellent load-cycle stability and shock resistance
- With case filling (model 233.30) for applications with high dynamic pressure loads and vibrations
- EMICOGauge version, to avoid fugitive emissions
- Scale ranges from 0 ... 0.6 to 0 ... 1,600 bar [0 ... 10 to 0 ... 20,000 psi]



Bourdon tube pressure gauge, model 232.30, NS 100 [4"]

Description

This high-quality Bourdon tube pressure gauge has been designed especially for increased safety requirements within the process industry.

The use of high-quality stainless steel materials and the robust design are geared to applications in the chemical and process engineering industries. Thus the instrument is suitable for liquid and gaseous media, also in aggressive environments.

Scale ranges of 0 ... 0.6 to 0 ... 1,600 bar [0 ... 10 to 0 ... 20,000 psi] ensure the measuring ranges required for a wide variety of applications.

WIKA manufactures and qualifies the pressure gauge with safety level "S3" in accordance with the requirements of the EN 837-1 European standard. This safety level is made up of a non-splintering window, a solid baffle wall between measuring system and dial and a blow-out back. In the event of a failure, the operator is protected at the front side, as media or components can only be ejected via the back of the case.

For harsh operating conditions (e.g. vibrations), all instruments are also available with an optional liquid filling.

Specifications

| Basic information | |
|------------------------------------|--|
| Standard | <ul style="list-style-type: none"> ■ EN 837-1 ■ ASME B40.100 <p>For information on the "Selection, installation, handling and operation of pressure gauges", see Technical information IN 00.05.</p> |
| Further version | <ul style="list-style-type: none"> ■ For oxygen, oil- and grease-free ■ Per NACE ¹⁾ MR0175 / ISO 15156, use in H₂S-containing environments in oil and gas production ■ Per NACE ¹⁾ MR0103 / ISO 17945, metals resistant to sulphide stress cracking ■ With pre-volume deflagration flame arrester ²⁾ for connection to zone 0 (EPL Ga); model 910.21; see data sheet AC 91.02 ■ Monel version; models 262 and 263; see data sheet PM 02.33 ■ EMICO gauge, to avoid fugitive emissions; instrument hook-up with instrumentation valves. → See page 10 |
| Nominal size (NS) | <ul style="list-style-type: none"> ■ Ø 63 mm [2 ½"] ■ Ø 100 mm [4"] ■ Ø 160 mm [6"] |
| Connection location | <ul style="list-style-type: none"> ■ Lower mount (radial) ■ Lower back mount ³⁾ |
| Window | Laminated safety glass (NS 63 [2 ½"]: Polycarbonate) |
| Case | |
| Design | <p>Safety level "S3" per EN 837-1 With solid baffle wall and blow-out back Scale ranges ≤ 0 ... 16 bar [≤ 0 ... 300 psi] with compensating valve to vent and reseal case</p> |
| Material | <ul style="list-style-type: none"> ■ Stainless steel 1.4301 (304) ■ Stainless steel 1.4571 (316 Ti) |
| Ring | Bayonet ring, stainless steel |
| Mounting | <ul style="list-style-type: none"> ■ Without ■ Panel mounting flange, stainless steel ■ Panel mounting flange, polished stainless steel ■ Surface mounting lugs on the back, stainless steel |
| Case filling (model 233.30) | <ul style="list-style-type: none"> ■ Without ■ Glycerine ■ Glycerine-water mixture for NS 100 [4"] and 160 [6"] with scale range ≤ 0 ... 2.5 bar [≤ 0 ... 40 psi] or for NS 63 [2 ½"] with scale range ≤ 0 ... 4 bar [≤ 0 ... 60 psi] ■ Silicone oil |
| Movement | <ul style="list-style-type: none"> ■ Stainless steel ■ everlast[®] version |

1) General information about NACE standards; see data sheet IN 00.21

2) Only for instruments with Ex approval

3) Not available for NS 160 [6"]

| Measuring element | |
|----------------------------------|--|
| Type of measuring element | Bourdon tube, C-type or helical type |
| Material | Stainless steel 1.4404 (316L) |
| Leak tightness | <ul style="list-style-type: none"> ■ Helium tested, leakage rate: < 5 · 10⁻³ mbar l/s ■ Helium tested, leakage rate: < 1 · 10⁻⁶ mbar l/s |

| Accuracy specifications | | |
|-----------------------------|--|-----------------------------------|
| Accuracy class | | |
| NS 63 [2 ½"] | EN 837-1 | Class 1.6 |
| | ASME B40.100 | ±2 % of measuring span (grade A) |
| NS 100 [4"], 160 [6"] | EN 837-1 | Class 1.0 |
| | ASME B40.100 | ±1 % of measuring span (grade 1A) |
| Temperature error | On deviation from the reference conditions at the measuring system: ≤ ±0.4 % per 10 °C [≤ ±0.4 % per 18 °F] of full scale value | |
| Reference conditions | | |
| Ambient temperature | +20 °C [68 °F] | |

Scale ranges

| bar | |
|-------------------------|---------------------------|
| 0 ... 0.6 ¹⁾ | 0 ... 40 |
| 0 ... 1 | 0 ... 60 |
| 0 ... 1.6 | 0 ... 100 |
| 0 ... 2.5 | 0 ... 160 |
| 0 ... 4 | 0 ... 250 |
| 0 ... 6 | 0 ... 400 |
| 0 ... 10 | 0 ... 600 |
| 0 ... 16 | 0 ... 1,000 |
| 0 ... 25 | 0 ... 1,600 ¹⁾ |

| kg/cm ² | |
|-------------------------|---------------------------|
| 0 ... 0.6 ¹⁾ | 0 ... 40 |
| 0 ... 1 | 0 ... 60 |
| 0 ... 1.6 | 0 ... 100 |
| 0 ... 2.5 | 0 ... 160 |
| 0 ... 4 | 0 ... 250 |
| 0 ... 6 | 0 ... 400 |
| 0 ... 10 | 0 ... 600 |
| 0 ... 16 | 0 ... 1,000 |
| 0 ... 25 | 0 ... 1,600 ¹⁾ |

| kPa | |
|------------------------|-----------------------------|
| 0 ... 60 ¹⁾ | 0 ... 4,000 |
| 0 ... 100 | 0 ... 6,000 |
| 0 ... 160 | 0 ... 10,000 |
| 0 ... 250 | 0 ... 16,000 |
| 0 ... 400 | 0 ... 25,000 |
| 0 ... 600 | 0 ... 40,000 |
| 0 ... 1,000 | 0 ... 60,000 |
| 0 ... 1,600 | 0 ... 100,000 |
| 0 ... 2,500 | 0 ... 160,000 ¹⁾ |

| MPa | |
|--------------------------|-------------------------|
| 0 ... 0.06 ¹⁾ | 0 ... 4 |
| 0 ... 0.1 | 0 ... 6 |
| 0 ... 0.16 | 0 ... 10 |
| 0 ... 0.25 | 0 ... 16 |
| 0 ... 0.4 | 0 ... 25 |
| 0 ... 0.6 | 0 ... 40 |
| 0 ... 1 | 0 ... 60 |
| 0 ... 1.6 | 0 ... 100 |
| 0 ... 2.5 | 0 ... 160 ¹⁾ |

| psi | |
|------------------------|----------------------------|
| 0 ... 10 ¹⁾ | 0 ... 1,000 |
| 0 ... 15 | 0 ... 1,500 |
| 0 ... 30 | 0 ... 2,000 |
| 0 ... 60 | 0 ... 3,000 |
| 0 ... 100 | 0 ... 4,000 |
| 0 ... 160 | 0 ... 5,000 |
| 0 ... 200 | 0 ... 6,000 |
| 0 ... 300 | 0 ... 7,500 |
| 0 ... 400 | 0 ... 10,000 |
| 0 ... 600 | 0 ... 15,000 |
| 0 ... 800 | 0 ... 20,000 ¹⁾ |

1) Not available for NS 63 [2 ½"]

Vacuum and +/- scale ranges

| bar | |
|--------------------------|------------|
| -0.6 ... 0 ¹⁾ | -1 ... +5 |
| -1 ... 0 | -1 ... +9 |
| -1 ... +0.6 | -1 ... +15 |
| -1 ... +1.5 | -1 ... +24 |
| -1 ... +3 | |

| MPa | |
|---------------------------|---------------|
| -0.06 ... 0 ¹⁾ | -0.1 ... +0.5 |
| -0.1 ... 0 | -0.1 ... +0.9 |
| -0.1 ... +0.06 | -0.1 ... +1.5 |
| -0.1 ... +0.15 | -0.1 ... +2.4 |
| -0.1 ... +0.3 | |

| kPa | |
|-------------------------|-----------------|
| -60 ... 0 ¹⁾ | -100 ... +500 |
| -100 ... 0 | -100 ... +900 |
| -100 ... +60 | -100 ... +1,500 |
| -100 ... +150 | -100 ... +2,400 |
| -100 ... +300 | |

| psi | |
|------------------|-------------------|
| -30 inHg ... 0 | -30 inHg ... +100 |
| -30 inHg ... +15 | -30 inHg ... +160 |
| -30 inHg ... +30 | -30 inHg ... +200 |
| -30 inHg ... +60 | -30 inHg ... +300 |

1) Not available for NS 63 [2 ½"]

Further details on: Scale ranges

| | |
|----------------------------------|--|
| Unit | <ul style="list-style-type: none"> ■ bar ■ psi ■ kg/cm² ■ kPa ■ MPa |
| Increased overload safety | <ul style="list-style-type: none"> ■ Without ■ 2-fold ■ 3-fold ■ 4-fold ■ 5-fold <p>The possibility of selection depends on scale range and nominal size</p> |
| Vacuum resistance | <ul style="list-style-type: none"> ■ Without ■ Vacuum-resistant to -1 bar |
| Dial | |
| Scale colour | Black |
| Material | Aluminium |
| Customer-specific version | <ul style="list-style-type: none"> ■ Without ■ With temperature scale for refrigerant, e.g. for NH3: R 717 <p>Other scales or customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request</p> |
| Pointer | |
| Instrument pointer | Aluminium, black |
| Mark pointer/drag pointer | <ul style="list-style-type: none"> ■ Without ■ Red mark pointer on dial, fixed ■ Red mark pointer on window, adjustable ■ Mark pointer on bayonet ring, adjustable ■ Red drag pointer on window, adjustable |
| Pointer stop pin | <ul style="list-style-type: none"> ■ Without ■ At zero point (only for NS 63 [2 ½"]) ■ At 6 o'clock (only for NS 100 [4"], 160 [6"]) |


Other scale ranges on request

| Process connection | |
|--------------------------|--|
| Standard | <ul style="list-style-type: none"> ■ EN 837-1 ■ ISO 7 ■ ANSI/B1.20.1 |
| Size | |
| EN 837-1 | <ul style="list-style-type: none"> ■ G 1/8 B, male thread ■ G 1/4 B, male thread ■ G 1/2 B, male thread ■ M12 x 1.5, male thread ■ M20 x 1.5, male thread |
| ISO 7 | <ul style="list-style-type: none"> ■ R 1/4, male thread ■ R 1/2, male thread |
| ANSI/B1.20.1 | <ul style="list-style-type: none"> ■ 1/4 NPT, male thread ■ 1/2 NPT, male thread |
| Restrictor | <ul style="list-style-type: none"> ■ Without ■ Ø 0.6 mm [0.024"], stainless steel ■ Ø 0.3 mm [0.012"], stainless steel |
| Material (wetted) | |
| Process connection | <ul style="list-style-type: none"> ■ NS 100 [4"], 160 [6"]: Stainless steel 1.4404 (316L) ■ NS 63 [2 1/2"]: Stainless steel 1.4571 (316 Ti) |
| Bourdon tube | <ul style="list-style-type: none"> ■ Stainless steel 1.4404 (316L) |

Other process connections on request

| Operating conditions | | |
|---|---|------------------------|
| Medium temperature | | |
| Unfilled instruments | -40 ... +200 °C [-40 ... +392 °F] | |
| Instruments with glycerine filling | -20 ... +100 °C [-4 ... +212 °F] | |
| Instruments with silicone oil filling | -40 ... +100 °C [-40 ... +212 °F] | |
| Ambient temperature | | |
| Unfilled instruments or with silicone oil filling | -40 ... +60 °C [-40 ... +140 °F] | |
| Instruments with glycerine filling | -20 ... +60 °C [-4 ... +140 °F] | |
| Pressure limitation | | |
| NS 63 [2 1/2"] | Steady | 3/4 x full scale value |
| | Fluctuating | 2/3 x full scale value |
| | Short time | Full scale value |
| NS 100 [4"], 160 [6"] | Steady | Full scale value |
| | Fluctuating | 0.9 x full scale value |
| | Short time | 1.3 x full scale value |
| Ingress protection per IEC/EN 60529 | <ul style="list-style-type: none"> ■ IP65 ■ IP66 ■ IP54 (for lower back mount) | |

Approvals

| Logo | Description | Country |
|---|---|----------------|
|  | EU declaration of conformity Pressure equipment directive PS > 200 bar, module A, pressure accessory | European Union |
| - | CRN Safety (e.g. electr. safety, overpressure, ...) For scale ranges ≤ 1,000 bar | Canada |

Optional approvals

| Logo | Description | Country |
|--|---|-----------------------------|
|   | EU declaration of conformity ATEX directive Hazardous areas - Ex h Gas II 2G Ex h IIC T6 ... T1 Gb X Dust II 2D Ex h IIC T85°C ... T450°C Db X | European Union |
|  | EAC Hazardous areas | Eurasian Economic Community |
|  | GOST Metrology, measurement technology | Russia |
|  | KazInMetr Metrology, measurement technology | Kazakhstan |
| - | MTSCHS Permission for commissioning | Kazakhstan |
|  | BelGIM Metrology, measurement technology | Belarus |
| - | UkrSEPRO Metrology, measurement technology | Ukraine |
|  | Uzstandard Metrology, measurement technology | Uzbekistan |
| - | CPA Metrology, measurement technology | China |
|  | DNV GL Ships, shipbuilding (e.g. offshore) | International |

Manufacturer's information and certificates

| Logo | Description |
|------|---|
| - | Emission protection in accordance with TA-Luft (VDI 2440) ¹⁾ |

1) only for EMICOGauge → See page 10

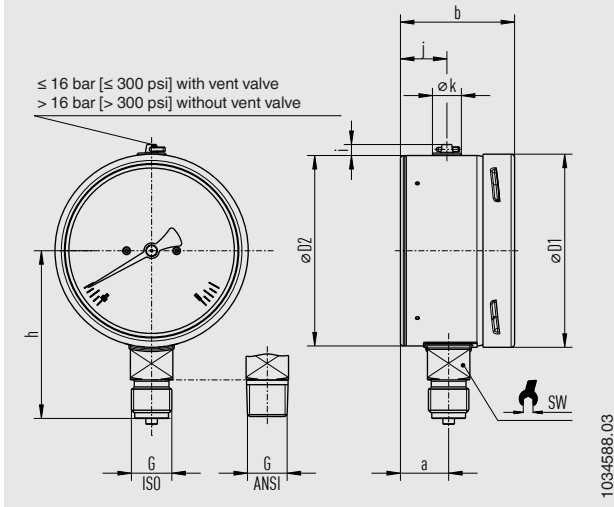
Certificates (option)

| Certificates | |
|---|--|
| Certificates | <ul style="list-style-type: none"> ■ 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy) ■ 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metal parts, indication accuracy) ■ PCA calibration certificate, traceable and accredited in accordance with ISO/IEC 17025 ■ Calibration certificate by a national accreditation body, traceable and accredited in accordance with ISO/IEC 17025 on request |
| Recommended recalibration interval | 1 year (dependent on conditions of use) |

→ For approvals and certificates, see website

Dimensions in mm [in]

Lower mount (radial)



| NS | Weight | |
|-----------|---------------------------|---------------------------|
| | Model 232.30 | Model 233.30 |
| 63 [2 ½"] | approx. 0.20 kg [0.44 lb] | approx. 0.26 kg [0.57 lb] |
| 100 [4"] | approx. 0.65 kg [1.43 lb] | approx. 1.08 kg [2.38 lb] |
| 160 [6"] | approx. 1.30 kg [2.87 lb] | approx. 2.34 kg [4.94 lb] |

Process connection with thread per EN 837-1

| NS | G | Dimensions in mm [in] | | | | | | | | |
|-----------|-----------|-----------------------|-------------------------|-------------------------|------------|------------|----------|-------------|-----------|-----------|
| | | h ±1 [0.04] | a | b | D1 | D2 | i | y | k | SW |
| 63 [2 ½"] | G ¼ B | 54 [2.13] | 17.5 [0.69] | 42 [1.65] | 63 [2.48] | 62 [2.44] | 6 [0.24] | 18 [0.71] | 15 [0.59] | 14 [0.55] |
| | G ⅝ B | 51 [2.01] | | | | | | | | |
| | M12 x 1.5 | 54 [2.13] | | | | | | | | |
| 100 [4"] | G ¼ B | 87 [3.43] | 25 [0.98] | 59.5 [2.34] | 100 [3.94] | 100 [3.94] | 6 [0.24] | 24 [0.94] | 15 [0.59] | 22 [0.87] |
| | G ½ B | 87 [3.43] | | | | | | | | |
| | M12 x 1.5 | 80 [3.15] | | | | | | | | |
| | M20 x 1.5 | 87 [3.43] | | | | | | | | |
| 160 [6"] | G ¼ B | 111 [4.37] | 27 [1.06] ¹⁾ | 65 [2.56] ²⁾ | 159 [6.26] | 159 [6.26] | 6 [0.24] | 18.5 [0.73] | 15 [0.59] | 22 [0.87] |
| | G ½ B | 118 [4.65] | | | | | | | | |
| | M12 x 1.5 | 111 [4.37] | | | | | | | | |
| | M20 x 1.5 | 118 [4.65] | | | | | | | | |

Process connection with thread per ISO 7

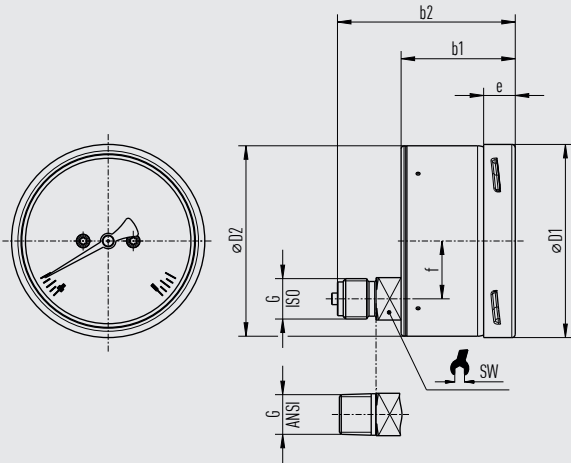
| NS | G | Dimensions in mm [in] | | | | | | | | |
|-----------|-----|-----------------------|-------------------------|-------------------------|------------|------------|----------|-------------|-----------|-----------|
| | | h ±1 [0.04] | a | b | D1 | D2 | i | y | k | SW |
| 63 [2 ½"] | R ¼ | 54 [2.13] | 17.5 [0.69] | 42 [1.65] | 63 [2.48] | 62 [2.44] | 6 [0.24] | 18 [0.71] | 15 [0.59] | 14 [0.55] |
| 100 [4"] | R ¼ | 80 [3.15] | 25 [0.98] | 59.5 [2.34] | 100 [3.94] | 100 [3.94] | 6 [0.24] | 24 [0.94] | 15 [0.59] | 22 [0.87] |
| | R ½ | 86 [3.39] | | | | | | | | |
| 160 [6"] | R ¼ | 111 [4.37] | 27 [1.06] ¹⁾ | 65 [2.56] ²⁾ | 159 [6.26] | 159 [6.26] | 6 [0.24] | 18.5 [0.73] | 15 [0.59] | 22 [0.87] |
| | R ½ | 117 [4.61] | | | | | | | | |

Process connection with thread per ANSI/B1.20.1

| NS | G | Dimensions in mm [in] | | | | | | | | |
|-----------|-------|-----------------------|-------------------------|-------------------------|------------|------------|----------|-------------|-----------|-----------|
| | | h ±1 [0.04] | a | b | D1 | D2 | i | y | k | SW |
| 63 [2 ½"] | ¼ NPT | 54 [2.13] | 17.5 [0.69] | 42 [1.65] | 63 [2.48] | 62 [2.44] | 6 [0.24] | 18 [0.71] | 15 [0.59] | 14 [0.55] |
| | ⅝ NPT | 51 [2.01] | | | | | | | | |
| 100 [4"] | ¼ NPT | 80 [3.15] | 25 [0.98] | 59.5 [2.34] | 100 [3.94] | 100 [3.94] | 6 [0.24] | 24 [0.94] | 15 [0.59] | 22 [0.87] |
| | ½ NPT | 86 [3.39] | | | | | | | | |
| 160 [6"] | ¼ NPT | 111 [4.37] | 27 [1.06] ¹⁾ | 65 [2.56] ²⁾ | 159 [6.26] | 159 [6.26] | 6 [0.24] | 18.5 [0.73] | 15 [0.59] | 22 [0.87] |
| | ½ NPT | 117 [4.61] | | | | | | | | |

1) With scale range ≥ 0 ... 100 bar [1,500 psi] a = 41.5 [1.63]
 2) With scale range ≥ 0 ... 100 bar [1,500 psi] b = 79 [3.11]

Model 232.30, lower back mount



1034596.03

| NS | Weight |
|-------------|----------------------------|
| 63 [2 1/2"] | approx. 0.20 kg [0.44 lbs] |
| 100 [4"] | approx. 0.65 kg [1.43 lbs] |

Process connection with thread per EN 837-1

| NS | G | Dimensions in mm [in] | | | | | | |
|-------------|-----------|-----------------------|-----------|------------|------------|-------------|-------------|-----------|
| | | b1 | b2 | D1 | D2 | e | f | SW |
| 63 [2 1/2"] | G 1/4 B | 42 [1.65] | 61 [2.4] | 63 [2.48] | 62 [2.44] | 14.5 [0.57] | 18.5 [0.73] | 14 [0.55] |
| | G 1/8 B | | | | | | | |
| | M12 x 1.5 | | | | | | | |
| 100 [4"] | G 1/4 B | 59.5 [2.34] | 93 [3.66] | 101 [3.98] | 100 [3.94] | 17 [0.67] | 30 [1.18] | 22 [0.87] |
| | G 1/2 B | | | | | | | |
| | M12 x 1.5 | | | | | | | |
| | M20 x 1.5 | | | | | | | |

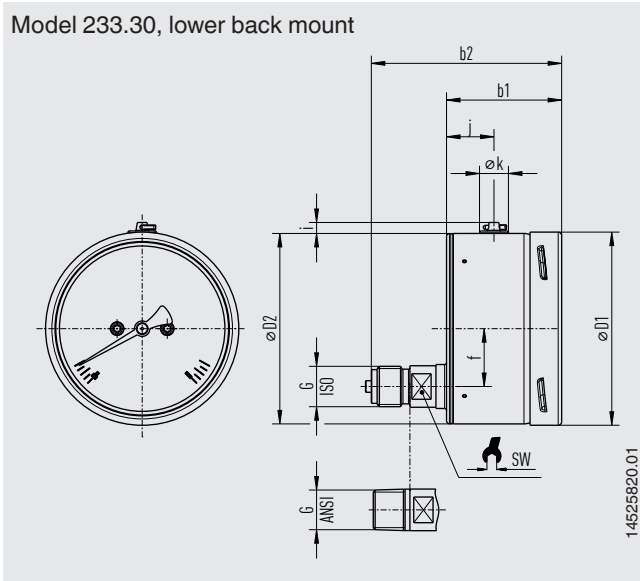
Process connection with thread per ISO 7

| NS | G | Dimensions in mm [in] | | | | | | |
|-------------|-------|-----------------------|-----------|------------|------------|-------------|-------------|-----------|
| | | b1 | b2 | D1 | D2 | e | f | SW |
| 63 [2 1/2"] | R 1/4 | 42 [1.65] | 61 [2.4] | 63 [2.48] | 62 [2.44] | 14.5 [0.57] | 18.5 [0.73] | 14 [0.55] |
| 100 [4"] | R 1/4 | 59.5 [2.34] | 93 [3.66] | 101 [3.98] | 100 [3.94] | 17 [0.67] | 30 [1.18] | 22 [0.87] |
| | R 1/2 | | | | | | | |

Process connection with thread per ANSI/B1.20.1

| NS | G | Dimensions in mm [in] | | | | | | |
|-------------|---------|-----------------------|-----------|------------|------------|-------------|-------------|-----------|
| | | b1 | b2 | D1 | D2 | e | f | SW |
| 63 [2 1/2"] | 1/4 NPT | 42 [1.65] | 61 [2.4] | 63 [2.48] | 62 [2.44] | 14.5 [0.57] | 18.5 [0.73] | 14 [0.55] |
| | 1/8 NPT | | | | | | | |
| 100 [4"] | 1/4 NPT | 59.5 [2.34] | 93 [3.66] | 101 [3.98] | 100 [3.94] | 17 [0.67] | 30 [1.18] | 22 [0.87] |
| | 1/2 NPT | | | | | | | |

Model 233.30, lower back mount



| NS | Weight |
|-------------|----------------------------|
| 63 [2 1/2"] | approx. 0.28 kg [0.62 lbs] |
| 100 [4"] | approx. 1.08 kg [2.38 lbs] |

Process connection with thread per EN 837-1

| NS | G | Dimensions in mm [in] | | | | | | | | |
|-------------|-----------|-----------------------|------------|------------|------------|-------------|----------|-----------|-----------|-----------|
| | | b1 | b2 | D1 | D2 | f | i | y | k | SW |
| 63 [2 1/2"] | G 1/4 B | 42 [1.65] | 68 [2.68] | 63 [2.48] | 62 [2.44] | 18.5 [0.73] | 6 [0.24] | 18 [0.71] | 15 [0.59] | 14 [0.55] |
| | G 1/8 B | | | | | | | | | |
| | M12 x 1.5 | | | | | | | | | |
| 100 [4"] | G 1/4 B | 59.5 [2.34] | 100 [3.94] | 101 [3.98] | 100 [3.94] | 30 [1.18] | 6 [0.24] | 24 [0.94] | 15 [0.59] | 22 [0.87] |
| | G 1/2 B | | | | | | | | | |
| | M12 x 1.5 | | | | | | | | | |
| | M20 x 1.5 | | | | | | | | | |

Process connection with thread per ISO 7

| NS | G | Dimensions in mm [in] | | | | | | | | |
|-------------|-------|-----------------------|------------|------------|------------|-------------|----------|-----------|-----------|-----------|
| | | b1 | b2 | D1 | D2 | f | i | y | k | SW |
| 63 [2 1/2"] | R 1/4 | 42 [1.65] | 68 [2.68] | 63 [2.48] | 62 [2.44] | 18.5 [0.73] | 6 [0.24] | 18 [0.71] | 15 [0.59] | 14 [0.55] |
| 100 [4"] | R 1/4 | 59.5 [2.34] | 100 [3.94] | 101 [3.98] | 100 [3.94] | 30 [1.18] | 6 [0.24] | 24 [0.94] | 15 [0.59] | 22 [0.87] |
| | R 1/2 | | | | | | | | | |

Process connection with thread per ANSI/B1.20.1

| NS | G | Dimensions in mm [in] | | | | | | | | |
|-------------|---------|-----------------------|------------|------------|------------|-------------|----------|-----------|-----------|-----------|
| | | b1 | b2 | D1 | D2 | f | i | y | k | SW |
| 63 [2 1/2"] | 1/4 NPT | 42 [1.65] | 68 [2.68] | 63 [2.48] | 62 [2.44] | 18.5 [0.73] | 6 [0.24] | 18 [0.71] | 15 [0.59] | 14 [0.55] |
| | 1/8 NPT | | | | | | | | | |
| 100 [4"] | 1/4 NPT | 59.5 [2.34] | 100 [3.94] | 101 [3.98] | 100 [3.94] | 30 [1.18] | 6 [0.24] | 24 [0.94] | 15 [0.59] | 22 [0.87] |
| | 1/2 NPT | | | | | | | | | |

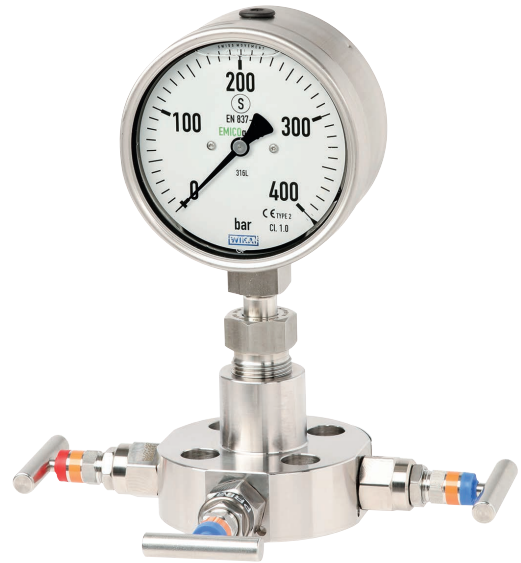
EMICOgauge

Instrument hook-up with instrumentation valves

The EMICOgauge instrument hook-up, consisting of pressure gauge and instrumentation valve, minimises the number of leakage points and thus reduces the risk of media escaping into the environment. In order to guarantee the system's leak tightness, an additional leak test is carried out in advance, for each individual component.

During mounting, the 360° swivel adapter connection of the EMICOgauge enables quick alignment of the pressure gauge with simultaneous pressure sealing. With this design, maintenance and dismantling of the pressure gauge and valve are also easy. WIKA can guarantee the leak tightness of the assembly for up to 20 mounting and dismantling operations.

The possible combinations of pressure gauges and the attachable valve models IV1x, IV2x and IVM are very large. Since special pressure connections are often required for specific applications, a large number of variants have been defined for the EMICOgauge in order to avoid adapters, which would otherwise be needed, with their 2 additional sealing points.



EMICOgauge consisting of model 232.30, NS 100 [4"] and mounted instrumentation valve

Advantages

- Significantly reduced risk of fugitive emissions, since the version for "fugitive emissions" complies with TA-Luft (VDI 2440)
- Fully tested and ready-to-install solution of an instrument-valve assembly
- Reduction of leakage paths in pressurised systems
- 360° swivel connection (swivel adapter) enables easy replacement and positioning of pressure gauges
- For various applications in chemical and petrochemical plants such as gas processing and production

Specifications

Basic information for pressure gauges

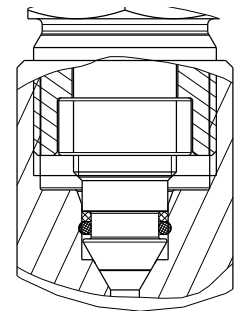
| | |
|---------------------|--|
| Nominal size (NS) | Ø 100 mm [4"] |
| Scale range | Between 0 ... 0.6 bar and 0 ... 420 bar As well as corresponding measuring spans for other units and +/- scale ranges |
| Connection location | Lower mount (radial) |

Assembly

| | |
|-----------------------|--|
| Mounting type | EMICOgauge connection: 360° swivel connection (swivel adapter) with special pressure sealing Spare part: 5 x sealing set consisting of O-ring and backup sealing ring; article no. 14525042 |
| Instrumentation valve | <ul style="list-style-type: none"> ■ For instrument version of IVM → See data sheet AC 09.17 ■ Model IV10, IV11 or IV20 → See data sheets AC 09.22 and AC 09.19 |

Special pressure sealing

The redundant sealing, with metal/metal seat and O-ring plus backup sealing ring, ensures the required leak tightness of the measuring assembly in addition to a long service life.



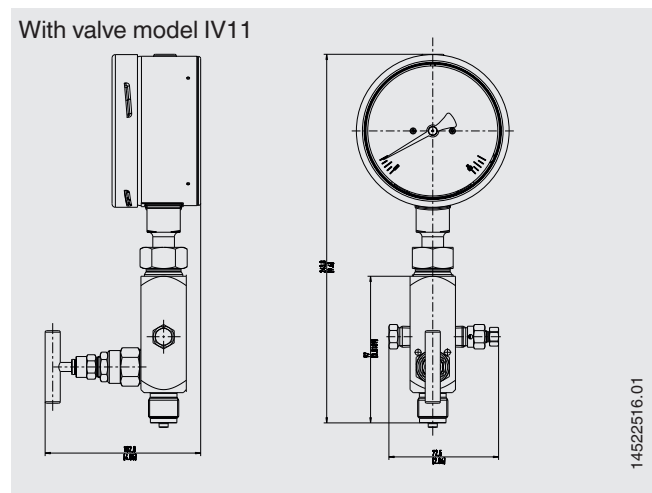
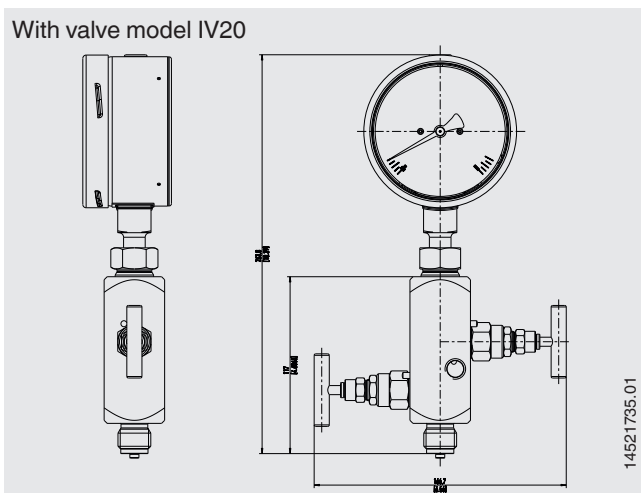
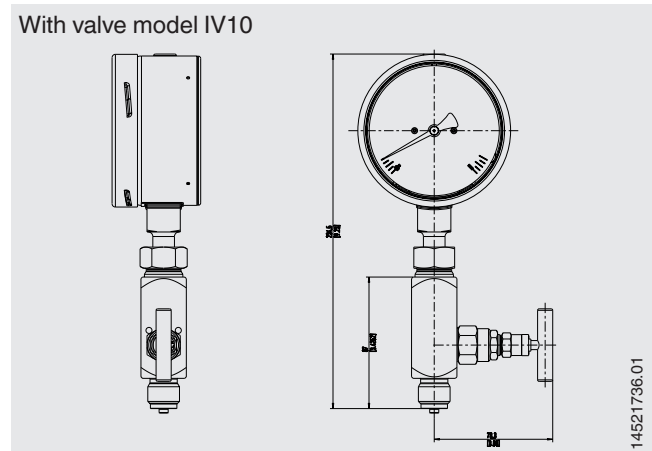
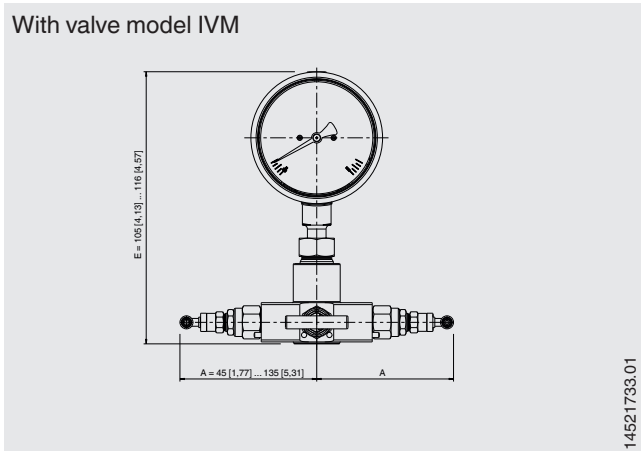
Process connection

| Standard | |
|---------------------------------------|--|
| Model IVM | <ul style="list-style-type: none"> ■ In line with ASME B16.5, RF or RJ ■ In line with EN 1092-1, form B1 or B2 |
| Model IV10, IV11 or IV20 | <ul style="list-style-type: none"> ■ ANSI/B1.20.1 ■ EN 837-1 |
| Size | |
| In line with ASME B16.5, RF or RJ | Flange ½" ... 2" / class 150 ... class 2500 |
| In line with EN 1092-1, form B1 or B2 | Flange DN 15 ... DN 25 / PN 16 ... PN 100 |
| ANSI/B1.20.1 | ½ NPT, male thread or ½ NPT, female thread |
| EN 837-1 | G ½ B male |
| Material (wetted) | |
| Process connection | Stainless steel 1.4404 (316L) |
| Sealing | O-ring: FKM; backup sealing ring: PEEK |





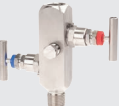



Operating conditions

| Medium temperature | |
|--------------------------------------|---|
| With unfilled pressure gauge | -20 ... +150 °C [-4 ... +302 °F] |
| With filled pressure gauge | -20 ... +100 °C [-4 ... +212 °F] |
| Ambient temperature | |
| | -20 ... +60 °C [-4 ... +140 °F] |
| Leak tightness of the overall system | |
| | Fulfills the fugitive emission requirements per TA Luft (VDI 2440), helium tested, leakage rate: $< 1 \cdot 10^{-4}$ mbar l/s |

Examples of EMICOgauge, model 232.30, NS 100 [4"] and mounted instrumentation valve



Accessories and spare parts for models 232.30 and 232.30

| Model | Description |
|---|--|
|  | 910.17 Sealings → see data sheet AC 09.08 |
|  | 910.15 Syphons → See data sheet AC 09.06 |
|  | 910.13 Overpressure protector → See data sheet AC 09.04 |
|  | IV10, IV11 Needle valve and multipoint valve → See data sheet AC 09.22 |
|  | IV20, IV21 Block-and-bleed valve → See data sheet AC 09.19 |
|  | IVM Monoflange, process and instrument version → See data sheet AC 09.17 |
|  | BV Ball valve, process and instrument version → See data sheet AC 09.28 |
|  | IBF2, IBF3 Monoblock with flange connection → See data sheet AC 09.25 |

Ordering information

Model / Nominal size / Scale range / Process connection / Connection location / Options

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