

Capsule pressure gauge, copper alloy or stainless steel Process Gauge, safety version per ASME B40.100 Models 612.34, 613.34, 632.34 and 633.34, NS 4 1/2"

WIKA data sheet PM 06.07

Applications

- Process industry: plant construction, chemical industry, petrochemical industry, power plants, mining, on-/offshore and environmental technology
- For gaseous, dry and aggressive media, also in aggressive environments

Special features

- Safety version with solid baffle wall designed in compliance with the requirements and test conditions of ASME B 40.100
- Low scale ranges from 0 ... 25 mbar to 0 ... 600 mbar or 0 ... 6 inH₂O to 0 ... 150 inH₂O
- Nominal size 4 1/2" [115 mm]
- Robust, glass-fibre reinforced plastic case
- QR code on dial links to instrument-specific information (only with models 632.34 and 633.34)



Capsule pressure gauge model 632.34

Description

The models 612.34, 613.34, 632.34 and 633.34 are high-quality capsule pressure gauges and have been designed especially for increased safety requirements within the process industry.

The robust, glass-fibre reinforced plastic case offers the necessary stability for reproducible measurements, even under aggressive ambient conditions.

The capsule element measurement principle is suitable for very low pressures. On pressurisation, the expansion of the capsule element, proportional to the incident pressure, is transmitted to the movement and indicated.

With the models 613.34 and 633.34, a case filling with silicone oil enables use in applications with highly dynamic pressure loads and vibrations.

The available scale ranges of 0 ... 25 mbar to 0 ... 600 mbar or 0 ... 6 inH₂O to 0 ... 150 inH₂O, as well as all other equivalent ranges for vacuum and +/- scale ranges, ensure the measuring ranges required for a wide variety of applications.

The QR code on the dial allows instrument-specific information such as the serial number, the order number, certificates and other product data to be retrieved from the internet easily and in the long term.

Specifications

Basic information	
Standard	ASME B40.100 → For information on the “Selection, installation, handling and operation of pressure gauges”, see technical information IN 00.05.
Further version	<ul style="list-style-type: none"> ■ Oil- and grease-free for oxygen ■ Per NACE¹⁾²⁾ MR0175 / ISO 15156, use in H₂S-containing environments in oil and gas production ■ For oxygen, cleanliness per ASME B40.1 level IV
Nominal size (NS)	Ø 4 ½" [115 mm]
Connection location	Lower mount (radial)
Window	<ul style="list-style-type: none"> ■ Acrylic glass ■ Instrument glass ■ Laminated safety glass
Case	
Design	With solid baffle wall (Solidfront) and blow-out back, surface mounting flange (integrated into case)
Material	PBT thermoplastic, glass-fibre reinforced, black
Ring	Threaded bezel, PBT thermoplastic, glass-fibre reinforced, black
Mounting	<ul style="list-style-type: none"> ■ Surface mounting flange (integrated into case) ■ Adapter kit for panel mounting incl. front bezel from polished stainless steel
Case filling (models 613.34, 633.34)	<ul style="list-style-type: none"> ■ Without ■ Silicone oil M50, only for scale range $\geq 0 \dots 100$ mbar [0 ... 40 inH₂O]
Movement	<ul style="list-style-type: none"> ■ Copper alloy ■ Stainless steel

1) For general information about NACE standards, see technical information IN 00.21

2) Only available for models 632.34 and 633.34

Measuring element		
Type of measuring element	Capsule element	
Material (wetted)		
Capsule element	Models 612.34, 613.34	Copper alloy
	Models 632.34, 633.34	Stainless steel 316L
Sealing	Models 612.34, 613.34	NBR
	Models 632.34, 633.34	FPM/FKM
Process connection	Models 612.34, 613.34	Copper alloy
	Models 632.34, 633.34	Stainless steel 316L
Leak tightness	<ul style="list-style-type: none"> ■ Leakage rate: $< 1 \cdot 10^{-3}$ mbar l/s ■ Helium tested, leakage rate: $< 1 \cdot 10^{-5}$ mbar l/s 	

Accuracy specifications	
Accuracy class	
ASME B40.100	$\pm 2\%$ $\pm 1\%$ $\pm 2\%$ of measuring span (grade A)
EN 837-3	Class 1.6
Zero point setting with adjustable pointer	In front, after opening the threaded bezel
Temperature error	On deviation from the reference conditions at the measuring system: $\leq \pm 0.6\%$ per 10 °C [$\leq \pm 0.6\%$ per 18 °F] of full scale value
Reference conditions	
Ambient temperature	+20 °C [+68 °F]

Scale ranges

mbar	
0 ... 25	0 ... 160
0 ... 40	0 ... 250
0 ... 60	0 ... 400
0 ... 100	0 ... 600

kg/cm ²	
0 ... 0.025	0 ... 0.16
0 ... 0.04	0 ... 0.25
0 ... 0.06	0 ... 0.4
0 ... 0.1	0 ... 0.6

kPa	
0 ... 2.5	0 ... 16
0 ... 4	0 ... 25
0 ... 6	0 ... 40
0 ... 10	0 ... 60

Pa	
0 ... 2,500	0 ... 16,000
0 ... 4,000	0 ... 25,000
0 ... 6,000	0 ... 40,000
0 ... 10,000	0 ... 60,000

psi	
0 ... 0.36	0 ... 2.5
0 ... 0.6	0 ... 3.6
0 ... 1.0	0 ... 6.0
0 ... 1.5	0 ... 10

mmH ₂ O	
0 ... 250	0 ... 1,600
0 ... 400	0 ... 2,500
0 ... 600	0 ... 4,000
0 ... 1,000	0 ... 6,000

inH ₂ O	
0 ... 10	0 ... 60
0 ... 16	0 ... 100
0 ... 24	0 ... 160
0 ... 40	0 ... 240

oz/in ²	
0 ... 6	0 ... 40
0 ... 10	0 ... 60
0 ... 15	0 ... 100
0 ... 25	0 ... 150

Vacuum and compound scale ranges

mbar	
-25 ... 0	-12.5 ... +12.5
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30
-100 ... 0	-50 ... +50
-160 ... 0	-80 ... +80
-250 ... 0	-125 ... +125
-400 ... 0	-200 ... +200
-600 ... 0	-300 ... +300

kg/cm ²	
-0.025 ... 0	-0.0125 ... +0.0125
-0.04 ... 0	-0.02 ... +0.02
-0.06 ... 0	-0.03 ... +0.03
-0.1 ... 0	-0.05 ... +0.05
-0.16 ... 0	-0.08 ... +0.08
-0.25 ... 0	-0.125 ... +0.125
-0.4 ... 0	-0.2 ... +0.2
-0.6 ... 0	-0.3 ... +0.3

kPa	
-2.5 ... 0	-1.25 ... +1.25
-4 ... 0	-2 ... +2
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5
-16 ... 0	-8 ... +8
-25 ... 0	-12.5 ... +12.5
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30

Pa	
-2,500 ... 0	-1,250 ... +1,250
-4,000 ... 0	-2,000 ... +2,000
-6,000 ... 0	-3,000 ... +3,000
-10,000 ... 0	-5,000 ... +5,000
-16,000 ... 0	-8,000 ... +8,000
-25,000 ... 0	-12,500 ... +12,500
-40,000 ... 0	-20,000 ... +20,000
-60,000 ... 0	-30,000 ... +30,000

psi	
-0.36 ... 0	-0.18 ... +0.18
-0.6 ... 0	-0.3 ... +0.3
-1 ... 0	-0.5 ... +0.5
-1.5 ... 0	-0.75 ... +0.75
-2.5 ... 0	-1.25 ... +1.25
-3.6 ... 0	-1.8 ... +1.8
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5

mmH ₂ O	
-250 ... 0	-125 ... +125
-400 ... 0	-200 ... +200
-600 ... 0	-300 ... +300
-1,000 ... 0	-500 ... +500
-1,600 ... 0	-800 ... +800
-2,500 ... 0	-1,250 ... +1,250
-4,000 ... 0	-2,000 ... +2,000
-6,000 ... 0	-3,000 ... +3000

inH ₂ O	
-10 ... 0	-5 ... +5
-16 ... 0	-8 ... +8
-24 ... 0	-12 ... +12
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30
-100 ... 0	-50 ... +50
-160 ... 0	-80 ... +80
-240 ... 0	-120 ... +120

oz/in ²	
-6 ... 0	-3 ... +3
-10 ... 0	-5 ... +5
-15 ... 0	-7.5 ... +7.5
-25 ... 0	-12.5 ... +12.5
-40 ... 0	-20 ... +20
-60 ... 0	-30 ... +30
-100 ... 0	-50 ... +50
-150 ... 0	-75 ... +75

Further details on: scale ranges		
Unit	<input type="checkbox"/> mbar <input type="checkbox"/> kg/cm ² <input type="checkbox"/> kPa <input type="checkbox"/> Pa Other units on request	<input type="checkbox"/> psi <input type="checkbox"/> mmH ₂ O <input type="checkbox"/> inH ₂ O <input type="checkbox"/> oz/in ²
Overpressure safety		
Scale range < 0 ... 40 mbar [0 ... 16 inH ₂ O]	<input type="checkbox"/> Without <input type="checkbox"/> 3 x full scale value	
Scale range ≥ 0 ... 40 mbar [0 ... 16 inH ₂ O]	<input type="checkbox"/> Without <input type="checkbox"/> 10 x full scale value	
Vacuum safety		
Scale range < 0 ... 40 mbar [0 ... 16 inH ₂ O]	<input type="checkbox"/> Without <input type="checkbox"/> 3 x full scale value	
Scale range ≥ 0 ... 40 mbar [0 ... 16 inH ₂ O]	<input type="checkbox"/> Without <input type="checkbox"/> 10 x full scale value	
Dial		
Scale layout	<input type="checkbox"/> Single scale <input type="checkbox"/> Dual scale	
Scale colour	Single scale	Black
	Dual scale	Black/red
Serial number	Consecutive number * ... *	
Material	Aluminium	
Special scale	→ Other scales or customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request	
Pointer		
Instrument pointer	Adjustable pointer, aluminium, black	
Pointer stop pin	At 6 o'clock	

Process connection		
Standard	<ul style="list-style-type: none"> ■ EN 837-3 ■ ANSI/B1.20.1 	
Size		
ANSI/B1.20.1	<ul style="list-style-type: none"> ■ ¼ NPT, male thread ■ ½ NPT, male thread 	
EN 837-3	<ul style="list-style-type: none"> ■ G ¼ B, male thread ■ G ½ B, male thread 	
Restrictor	<ul style="list-style-type: none"> ■ Without ■ Ø 0.3 mm [0.012"], copper alloy ■ Ø 0.5 mm [0.024"], copper alloy ■ Ø 0.3 mm [0.012"], stainless steel ■ Ø 0.6 mm [0.024"], stainless steel 	
Material (wetted)		
Capsule element	Models 612.34, 613.34	Copper alloy
	Models 632.34, 633.34	Stainless steel 316L
Seal	Models 612.34, 613.34	NBR
	Models 632.34, 633.34	FPM/FKM
Process connection	Models 612.34, 613.34	Copper alloy
	Models 632.34, 633.34	Stainless steel 316L

→ Other process connections on request

Operating conditions	
Medium temperature	-20 ... +100 °C [-4 ... +212 °F]
Ambient temperature	-20 ... +60 °C [-4 ... +140 °F]
Pressure limitation	
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"> ■ IP54 ■ IP65 ¹⁾

1) For models 613.34, 633.34 (with case filling)

Approvals

Logo	Description	Region
CE	EU declaration of conformity	European Union
	Pressure Equipment Directive PS > 200 bar, module A, pressure accessory	
	RoHS directive	

Optional approvals

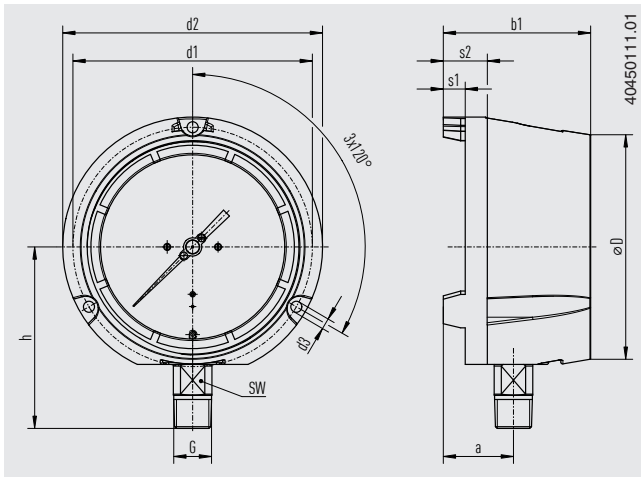
Logo	Description	Region
-	MChS Permission for commissioning	Kazakhstan
-	PAC Ukraine Metrology, measurement technology	Ukraine
-	PAC China Metrology, measurement technology	China

Certificates

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)
Calibration	<ul style="list-style-type: none"> ■ Factory calibration certificate ■ SCS calibration certificate (traceable and accredited in accordance with ISO/IEC 17025) ■ Calibration certificate by a national accreditation body, traceable and accredited per ISO/IEC 17025 on request
Recommended calibration interval	1 year (dependent on conditions of use)

→ For approvals and certificates, see website

Dimensions in mm [in]



Weight

Models 612.34, 632.34

approx. 0.9 kg [1.98 lb]

Models 613.34, 633.34

approx. 1.2 kg [2.65 lb]

Process connection with thread per EN 837-3

G	Dimensions in mm [in]									
	h ±1 [0.04]	a	b1	D	d1	d2	d3	s1	s2	SW
G ¼ B	97.5 [3.84]	40 [1.57]	84 [3.31]	128 [5]	136.5 [5.37]	148 [5.83]	6.3 [0.248]	12.5 [0.49]	25 [0.99]	22 [0.87]
G ½ B	104.5 [4.11]	40 [1.57]	84 [3.31]	128 [5]	136.5 [5.37]	148 [5.83]	6.3 [0.248]	12.5 [0.49]	25 [0.99]	22 [0.87]

Process connection with thread per ANSI/B1.20.1

G	Dimensions in mm [in]									
	h ±1 [0.04]	a	b1	D	d1	d2	d3	s1	s2	SW
¼ NPT	97.5 [3.84]	40 [1.57]	84 [3.31]	128 [5]	136.5 [5.37]	148 [5.83]	6.3 [0.248]	12.5 [0.49]	25 [0.99]	22 [0.87]
½ NPT	103.5 [4.07]	40 [1.57]	84 [3.31]	128 [5]	136.5 [5.37]	148 [5.83]	6.3 [0.248]	12.5 [0.49]	25 [0.99]	22 [0.87]

Ordering information

Model / Scale range / Process connection / Options

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