

Absolute pressure gauge

Stainless steel version, with diaphragm element

Models 532.51 to 532.54, class 0.6 ... 2.5

WIKA data sheet PM 05.02



for further approvals
see page 4

Applications

- Pressure measurement independent of fluctuations in the atmospheric pressure
- For gaseous, liquid and aggressive media, also in aggressive ambience
- Monitoring of vacuum pumps
- Control of vacuum packing machines
- Monitoring of condensation pressures and determination of the vapour pressure of liquids

Special features

- High overpressure safety
- Long service life due to metallic media chamber sealing
- Media chamber protected against unauthorised intervention DT-GM 86 08 176
- Gauges compatible with switch contacts
- Scale ranges from 0 ... 25 mbar absolute pressure



Absolute pressure gauge, model 532.51

Description

Nominal size in mm

100, 160

Accuracy class

Model 532.51 NS 160: 0.6

Model 532.52: 1.0

Model 532.53: 1.6

Model 532.54: 2.5

The measuring accuracy is ensured for fluctuations in atmospheric pressure between 955 and 1,065 mbar (min. and max. of atmospheric pressure).

Scale ranges

0 ... 25 mbar to 0 ... 25 bar absolute pressure

Pressure limitation

Steady: Full scale value

Fluctuating: 0.9 x full scale value

Overpressure safety

Minimum 1 bar absolute pressure (atmospheric pressure), in addition 10 x full scale value, max. 25 bar absolute pressure

Permissible temperature

Ambient: -20 ... +60 °C

Medium: +100 °C maximum

Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C):
max. ±0.8 %/10 K of full scale value

Ingress protection

IP 54 per EN 60529 / IEC 529

Standard version

Process connection (wetted)

Stainless steel 1.4571, lower mount (LM)
G ½ B (male), 22 mm flats

Pressure element (wetted)

≤ 0.25 bar: Stainless steel 1.4571
> 0.25 bar: NiCr-alloy (Inconel)

Measuring chamber (wetted)

Stainless steel 1.4571

Movement

Stainless steel

Dial

Aluminium, white, black lettering

Pointer

Adjustable pointer, aluminium, black

Case

Stainless steel, with blow-out device
Gauges with liquid filling with compensating valve to vent case

Window

Laminated safety glass

Bezel ring

Cam ring (bayonet type), stainless steel

Mounting by means of:

- Rigid measuring lines
- Mounting bracket for wall or pipe mounting (option)
- Panel or surface mounting flange (option)

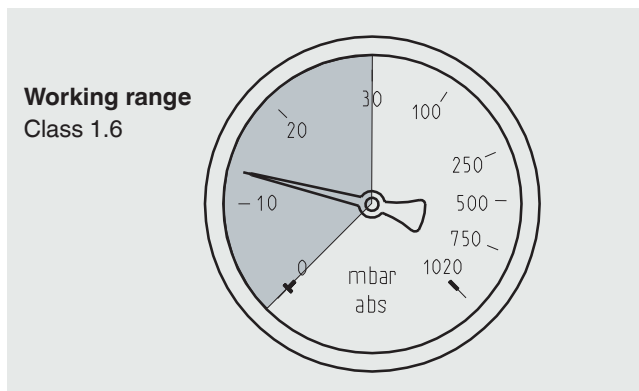
Options

- Other process connection
- Sealings (model 910.17, see data sheet AC 09.08)
- Liquid filling (models 533.52, 533.53, 533.54)
- Safety version (models 532.3x, 533.32, 533.33, 533.34)
- Overpressure safety > 10 x full scale value
- Wetted parts from Monel (models 56x.3x, 56x.5x, application test required)
- Medium temperature stability > 100 °C
- Permissible ambient temperature -40 ... +60 °C (silicone oil filling, application test required)
- Open connecting flanges DN 15/50 PN 16/40 (wetted)
- Small flange for vacuum applications DN 10/32 DIN 28403 (wetted)
- Panel or surface mounting flange (consider measuring cell!)
- Mounting bracket for wall or pipe mounting (data sheet AC 09.07)
- Pressure gauge with switch contacts, see data sheet PV 25.02
- Pressure gauge with electrical output signal, see model APGT43, data sheet PV 15.02

Special versions

Model 532.53 with expanded lower scale range

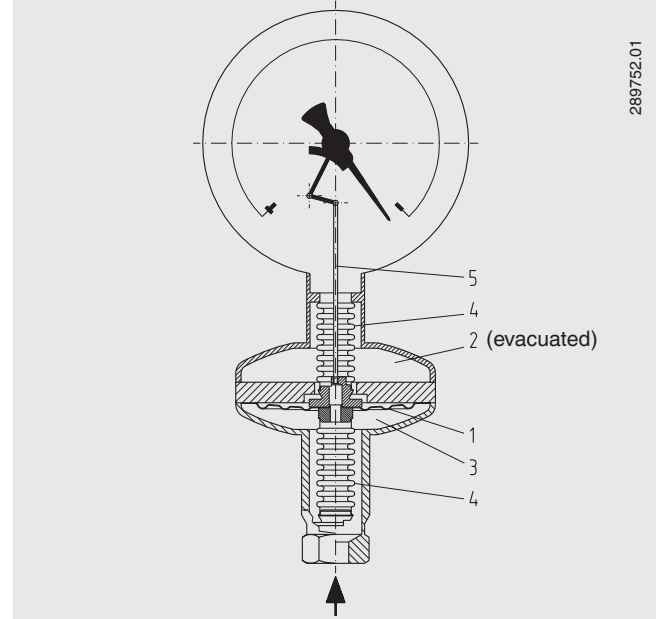
Scale range 0 ... 1,020 mbar absolute pressure, working range 0 ... 30 mbar in class 1.6 expanded to approx. 130 °



Design and operating principle

- The diaphragm (1) separates the media chamber (3) and the reference pressure chamber (2) with absolute pressure zero
- Pressure differential between media chamber (3) and reference pressure chamber (2) will deflect the diaphragm (1)
- In case of an overpressure overload the pressure element will be protected by a contoured metal bolster
- The deflection is transferred from the pressure chambers through bellows or corrugated tubes (4), transmitted to the movement via the link (5) and indicated

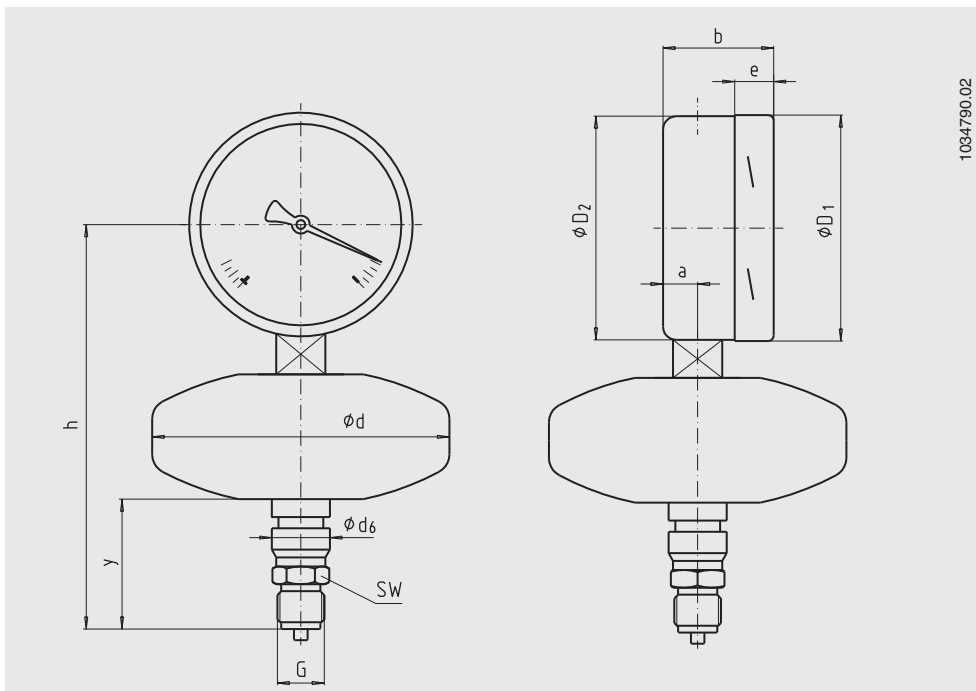
Illustration of the principle



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Dimensions in mm

Standard version



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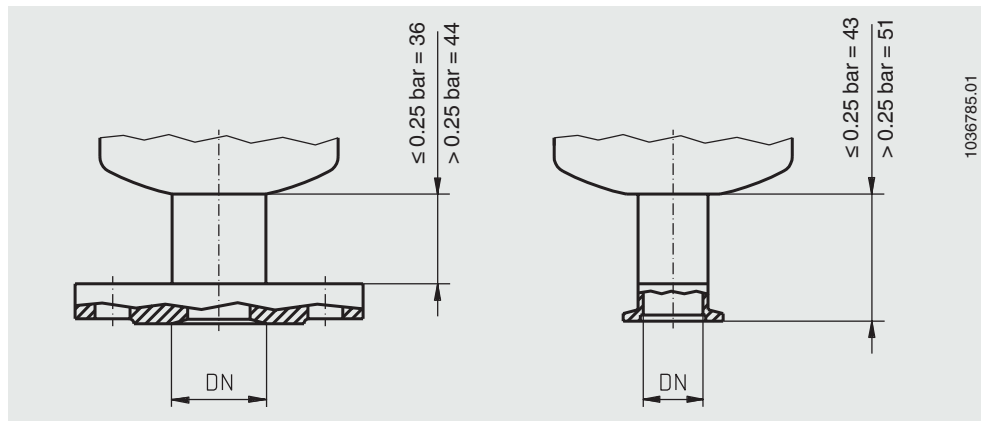
NS	Scale range in bar	Dimensions in mm							G	h ±1	y	SW	Weight in kg
		a	b	D ₁	D ₂	d	d ₆	e					
100	≤ 0.25	15.5	49.5	101	99	133	26	17.5	G ½ B	185	58	22	1.8
100	> 0.25	15.5	49.5	101	99	76	26	17.5	G ½ B	177	66	22	1.2
160	≤ 0.25	15.5	49.5	161	159	133	26	17.5	G ½ B	215	58	22	2.3
160	> 0.25	15.5	49.5	161	159	76	26	17.5	G ½ B	207	66	22	1.6

Process connection per EN 837-3/7.3

Option connecting flange

Open connecting flange,
DN 15 ... 50, PN 6 / 40
Connection dimensions per DIN 2501

Small flange for vacuum applications,
DN 10 ... 32
Connection dimensions per DIN 28403



CE conformity

ATEX directive 1)
94/9/EC, II 2 GD c TX

Approvals

- **GOST**, metrology/measurement technology, Russia
- **GOST-R**, import certificate, Russia
- **CRN**, safety (e.g. electr. safety, overpressure, ...), Canada

Certificates 1)

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof wetted parts metal component, indication accuracy)

1) Option

Approvals and certificates, see website

Ordering information

Model / Nominal size / Scale range / Connection size / Options

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We reserve the right to make modifications to the specifications and materials.



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