

Absolute Pressure Gauges Stainless Steel Series, with Diaphragm Element Models 532.51 to 532.54, Class 0.6 ... 2.5

WIKA Data Sheet PM 05.02



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

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

Measuring accuracy ensured for ambient pressure fluctuations between 955 and 1065 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



Absolute Pressure Gauge, Model 532.51

Overpressure safety

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

Operating 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 60 529 / IEC 529

Standard version

Process connection (wetted)

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

Pressure element (wetted)

≤ 0.4 bar: stainless steel 1.4571
> 0.4 bar: (NiCrCo-alloy) Duratherm

Pressure chamber (wetted)

Stainless steel 1.4571

Movement

Stainless steel

Dial

Aluminium, with, black lettering

Pointer

Adjustable pointer, aluminium, black

Zero adjustment

By means of adjustable pointer (adjustment appliance with gauges with switch contacts and/or liquid filling)

Case

Stainless steel, with pressure relief,
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 tailpipes
- Mounting bracket for wall or pipe mounting (option)
- Panel or surface mounting flange (option)

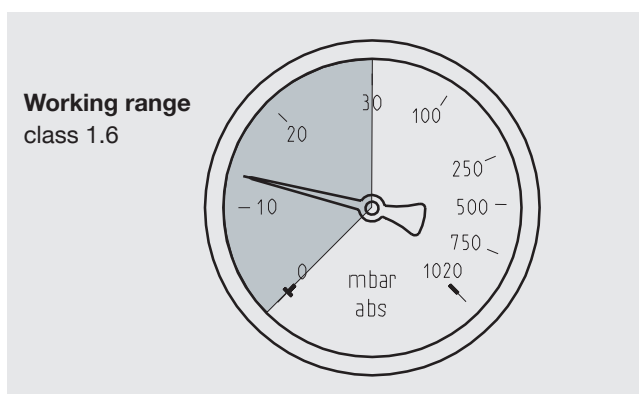
Options

- Other process connection
- Liquid filling (model 533.XX)
- Safety pattern version (model 53X.3X)
- Overpressure safety > 10 x full scale value
- Wetted parts of Monel (model 56X.XX)
- Medium temperature in excess of 100 °C
- Admissible ambient temperature -40 ... +60 °C (silicone oil filling)
- Open connecting flanges DN 15/50 PN 16/40 (wetted)
- Small flange for vacuum applications DN 10/32 DIN 28 403 (wetted)
- Panel or surface mounting flange (consider measuring cell!)
- Mounting bracket for wall or pipe mounting (data sheet AC 09.07)
- Switch contacts (data sheet AC 08.01)
- Pressure gauge with electrical output signal, see model APGT43.100/160, data sheet PV 15.02
- Version per ATEX Ex II 2 GD c TX

Special versions

Model 532.53 with expanded lower scale range

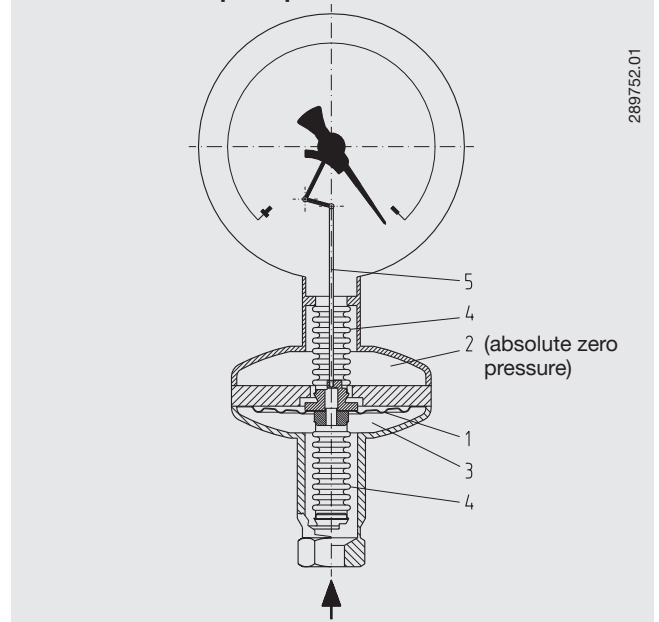
Scale range 0 ... 1020 mbar absolute pressure, working range 0 ... 30 mbar in class 1.6 expanded to 130 $\frac{1}{3}$ °



Design and operating principle

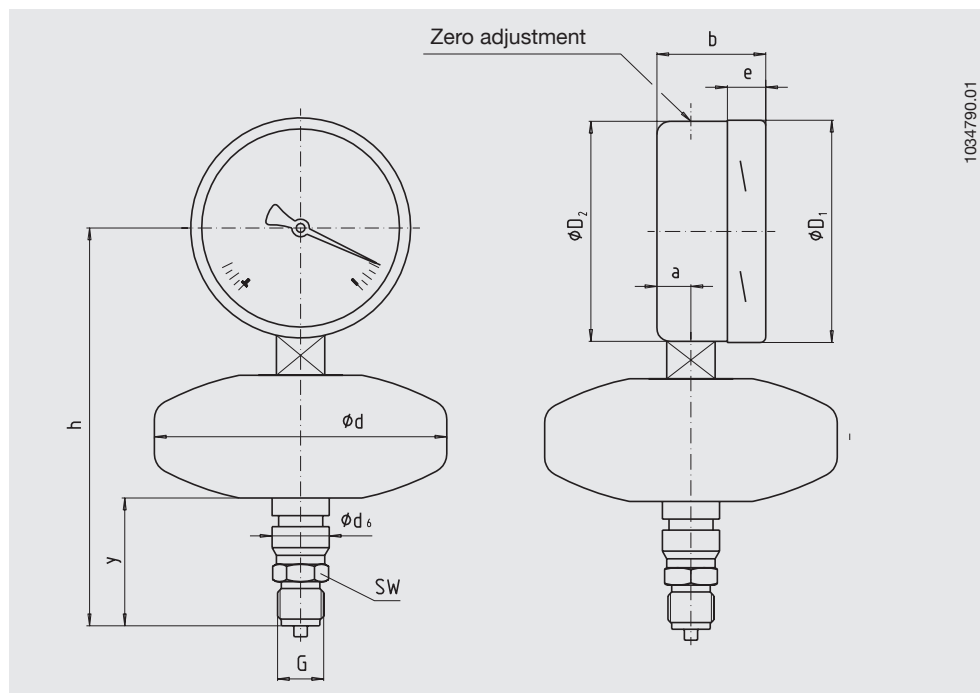
- The diaphragm (1) separates the media chamber (3) and the reference pressure chamber (2) with absolute pressure zero
- Pressure differential between media chamber (3) and reference pressure chamber (2) will deflect the diaphragm (1)
- In case of an overpressure overload the pressure element will be 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 connection rod (5) and indicated

Illustration of the principle



Dimensions in mm

Standard version



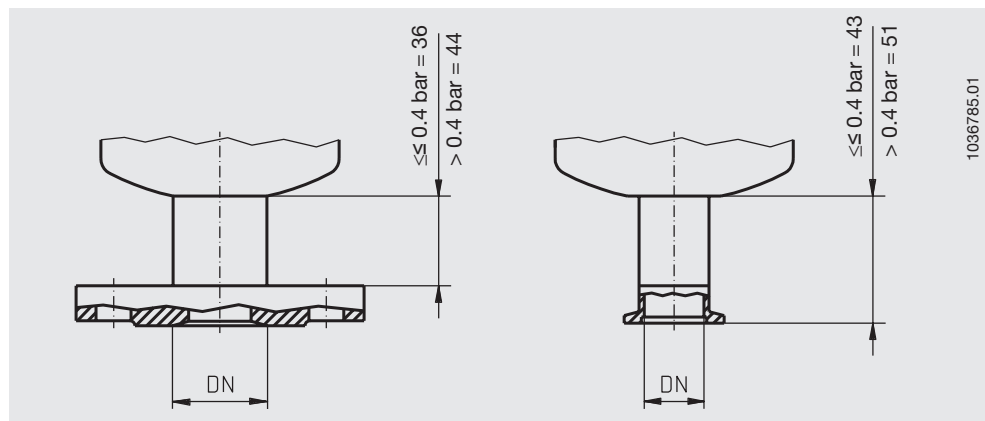
NS	Scale range in bar	Dimensions in mm							G	h ± 1	y	SW	Weight in kg
		a	b	D ₁	D ₂	d	d ₆	e					
100	≤ 0.4	15.5	49.5	101	99	133	26	17.5	G ½ B	185	58	22	1.80
100	> 0.4	15.5	49.5	101	99	76	26	17.5	G ½ B	177	66	22	1.20
160	≤ 0.4	15.5	49.5	161	159	133	26	17.5	G ½ B	215	58	22	2.30
160	> 0.4	15.5	49.5	161	159	76	26	17.5	G ½ B	207	66	22	1.60

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 28 403



Ordering information

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

Modifications may take place and materials specified may be replaced by others without prior notice.
Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.

