

# Diaphragm pressure gauge for the process industry

## Model 432.56, high overload safety up to 100 bar

## Model 432.36, safety version, high overload safety up to 400 bar

WIKA data sheet PM 04.07



for further approvals  
see page 3

### Applications

- For measuring locations with increased overload
- For gaseous, liquid and aggressive media, also in aggressive environments
- With open connecting flange also suitable for contaminated and viscous media
- Process industry: Chemical industry, petrochemical industry, power plants, mining, on-/offshore, environmental technology, machine building and general plant construction

### Special features

- High overload safety, optionally 40, 100 or 400 bar due to the metallic pressure element limit stop, without liquid-filled measuring cell
- Wide choice of special materials
- Compatible with switch contacts
- Case and wetted parts from stainless steel
- Scale ranges from 0 ... 16 mbar

### Description

Diaphragm pressure gauges are preferably used for low pressure ranges. Through the large working surface of the circular, corrugated diaphragm element, small pressure ranges can be measured reliably.

Depending on the version, the models 432.56 and 432.36 are able, already from the smallest scale range of 0 ... 16 mbar, to withstand an overload of 40, 100 or 400 bar without any subsequent impairment of their measurement characteristics.

The diaphragm pressure gauge models 432.56 and 432.36 are manufactured in accordance with EN 837-3. The high-quality design is particularly suitable for applications in the chemical and petrochemical industry, oil and gas industry and power engineering.



Diaphragm pressure gauge model 432.56

The case and wetted parts from stainless steel fulfil high requirements for resistance against aggressive media. For especially high resistance requirements, the pressure chamber can be designed with a wide variety of special materials such as PTFE, tantalum or Hastelloy.

For the measurement of highly viscous, crystallising or contaminated media, the use of an open connecting flange is recommended. The open connecting flange has the advantage over a threaded connection that the pressure port cannot become blocked. With an additional flushing bore on the open connecting flange, the pressure chamber can be easily cleaned.

## Specifications

### Design

EN 837-3

### Nominal size in mm

100, 160

### Accuracy class

1.6

### Scale ranges

0 ... 16 mbar to 0 ... 250 mbar

0 ... 400 mbar to 0 ... 40 bar

or all other equivalent vacuum or combined pressure and vacuum ranges

### Pressure limitation

Steady: Full scale value

Fluctuating: 0.9 x full scale value

### Overload safety <sup>1)</sup>

■ 40 bar

■ 100 bar

■ 400 bar (only for scale ranges  $\geq 0 \dots 400$  mbar <sup>2)</sup>)

### Permissible temperature

Ambient: -20 ... +60 °C

Medium: +100 °C maximum

Storage: -40 ... +70 °C

### Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C): max.  $\pm 0.8 \%$ /10 K of the span

### Ingress protection per IEC/EN 60529

■ IP54

■ IP65 for models with liquid filling

### Process connection with lower measuring flange

Stainless steel, G ½ B (male)

### Pressure element

$\leq 0.25$  bar: Stainless steel

$> 0.25$  bar: NiCr alloy (Inconel)

### Pressure chamber sealing

FPM/FKM

### Movement

Stainless steel

### Dial

Aluminium, white, black lettering

### Pointer

■ Adjustable pointer, aluminium, black

■ Standard pointer, aluminium, black (for models with liquid filling)

### Case

Stainless steel, instruments with liquid filling with compensating valve to vent case

Model 432.56

Safety level "S1" per EN 837: With blow-out device

Model 432.36

Safety level "S3" per EN 837: With solid baffle wall and blow-out back

### Upper measuring flange and flange connecting screws

Stainless steel

### Window

Laminated safety glass

### Ring

Bayonet ring, stainless steel

### Fill fluid (for models 433.56 and 433.36)

Glycerine-water mixture

## Other versions

- Other process connection
- Vacuum-resistant to -1 bar
- Max. medium temperature +200 °C
- Permissible ambient temperature -40 ... +60 °C (silicone oil filling)
- Higher indication accuracy, class 1.0
- Open connecting flanges per DIN/ASME from DN 15 to DN 80 (preferred nominal widths DN 25 and 50 or DN 1" and 2" per data sheet IN 00.10)
- Wetted parts made of special materials, high overload safety up to 10 bar (flange  $\varnothing$  160 mm) or 40 bar (flange  $\varnothing$  100 mm): PTFE (models 452.56, 452.36), Hastelloy, Monel, nickel, tantalum, titanium (accuracy class 2.5)
- With flushing bore on the open connecting flange
- Diaphragm pressure gauge with switch contacts, see data sheet PV 24.07
- Diaphragm pressure gauge with electrical output signal, model PGT43HP; see data sheet PV 14.07

## Accessories









- Sealings, model 910.17; see data sheet AC 09.08
- Additional wall bracket for model 432.36, high overload safety up to 400 bar <sup>3)</sup>

1) Depending on scale range and overload safety, different flange  $\varnothing$  apply. Dimensions, see page 4.

2) 400 bar overload safety for scale ranges  $< 400$  mbar on request

3) Recommendation with vibration load  $> 0.5$  g

## Approvals

Logo	Description	Country
	<b>EU declaration of conformity</b> ATEX directive (option) Hazardous areas - Ex c Gas II 2 G c IIC TX X <sup>1)</sup> Dust II 2 D c TX X	European Union
	<b>EAC (option)</b> Hazardous areas	Eurasian Economic Community
	<b>GOST (option)</b> Metrology, measurement technology	Russia
	<b>KazInMetr (option)</b> Metrology, measurement technology	Kazakhstan
-	<b>MTSCHS (option)</b> Permission for commissioning	Kazakhstan
	<b>BelGIM (option)</b> Metrology, measurement technology	Belarus
	<b>UkrSEPRO (option)</b> Metrology, measurement technology	Ukraine
	<b>Ex Ukraine (option)</b> Hazardous areas	Ukraine
	<b>Uzstandard (option)</b> Metrology, measurement technology	Uzbekistan
-	<b>CPA (option)</b> Metrology, measurement technology	China
-	<b>CRN</b> Safety (e.g. electr. safety, overpressure, ...)	Canada

1) For instruments with PTFE lining, measures must be taken in the lining area, if necessary, in order to exclude electrostatic charging.

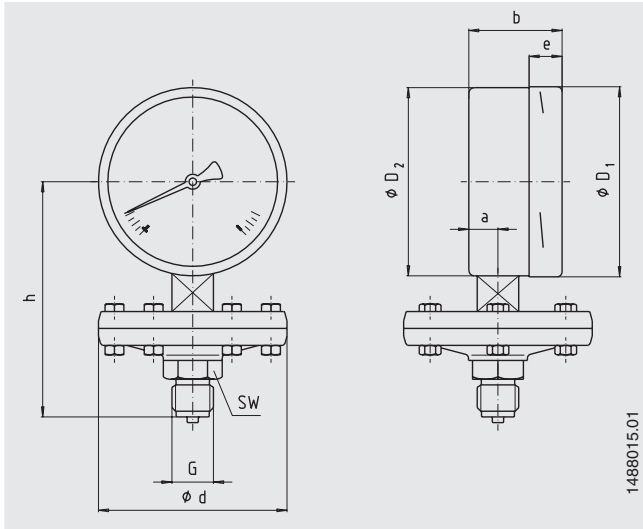
## Certificates (option)

- 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 for wetted metal parts, indication accuracy)
- Others on request

Approvals and certificates, see website

# Dimensions in mm

## Standard version



NS	Scale ranges	Overload safety	Dimensions in mm									Weight in kg
	in bar		up to ... bar	d	a	b	D <sub>1</sub>	D <sub>2</sub>	e	G	h ±2	
100	≤ 0.25	40	160	15.5	49.5	101	99	17.5	G ½ B	135	27	3.4
		100	160	15.5	49.5	101	99	17.5	G ½ B	143	22	6.3
	> 0.25	40	100	15.5	49.5	101	99	17.5	G ½ B	135	27	1.7
		100	100	15.5	49.5	101	99	17.5	G ½ B	135	27	1.8
160	≤ 0.25	40	160	15.5	49.5	161	159	17.5	G ½ B	165	27	4.0
		100	160	15.5	49.5	161	159	17.5	G ½ B	173	22	6.9
	> 0.25	40	100	15.5	49.5	161	159	17.5	G ½ B	165	27	2.2
		100	100	15.5	49.5	161	159	17.5	G ½ B	165	27	2.3
		400	128	23.5	65	161	160	17.5	G ½ B	199	22	6.9

Process connection per EN 837-3 / 7.3

## Ordering information

Model / Nominal size / Scale range / Process connection / Overload safety / Options

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