

Diaphragm pressure gauge For pumps and compressors Model PG41PC

WIKA data sheet PM 04.19

Applications

- For measuring locations with high dynamic pressure loads and vibrations
- Highly resistant to sudden pressure drops or vacuum
- Stationary or mobile pumps

Special features

- Robust stainless steel case, nominal size Ø 80 mm [3"]
- High reliability and long service life
- Stable measuring results, even under harsh measuring conditions (e.g. pressure spikes and overloads)
- Design per DIN 14421 for fire pumps

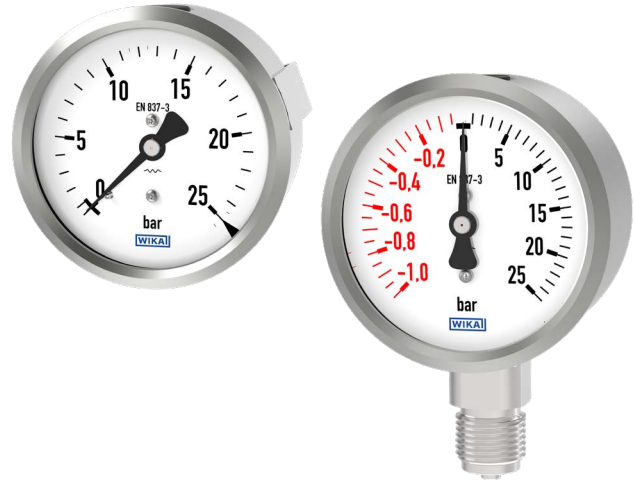


Fig. left: model PG41PC with centre back mount connection

Fig. right: model PG41PC with lower mount (radial) connection

Description

The model PG41PC is particularly suitable for measuring locations in harsh conditions with high dynamic alternating loads combined with strong vibrations and pulsations.

The instrument complies with the DIN 14421 standard for fire pump pressure gauges.

The built-in diaphragm element of this rugged pressure gauge is much less sensitive to pressure pulsations, vibrations and shocks than other measuring elements. Diaphragm elements have a relatively high actuating force, even at low pressures, in order to ensure the measuring capability of the pressure gauge.

Individual customer versions

Based on many years of experience in manufacturing and development, WIKA is happy to offer support in the construction and production of customised solutions. WIKA's specialists are able to provide best practices for developing instrumentation solutions for firefighting equipment for local markets.

Specifications

Basic information	
Standard	
Pressure gauges (manometer) for fire pumps	DIN 14421
Diaphragm and capsule pressure gauges	EN 837-3
→ For information on the “Selection, installation, handling and operation of pressure gauges”, see technical information IN 00.05.	
Nominal size (NS)	■ Ø 80 mm [3"] ■ Ø 60 mm [2.4"] ■ Ø 100 mm [4"]
Connection location	■ Lower mount (radial) ■ Centre back mount
Window	■ Polyamide (PA) ■ Acrylic glass (PMMA)
Case	
Design	Safety level “S1” per EN 837-3: With blow-out device
Material	Stainless steel 1.4301 (304)
Illumination	■ Without ■ LED light bulb, 3 W, DC 24 V, BA9s lamp holder ¹⁾
Mounting	■ Triangular profile ring, polished stainless steel ■ Triangular profile ring, aluminium, black painted ■ Panel mounting flange, polished stainless steel
Case filling ²⁾	■ Without ■ Silicone oil ■ Glycerine
Movement	Copper alloy

1) Only available for NS 80 [3"] with centre back mount connection

2) Ingress protection IP65 for instruments with case filling

Measuring element	
Type of measuring element	Diaphragm element
Materials (wetted)	
Diaphragm element	CuZn alloy
Process connection	■ Copper alloy, natural finish ■ Copper alloy, nickel-plated
Sealing	NBR

Accuracy specifications	
Accuracy class	■ 2.5 ■ 4 ¹⁾
Temperature error	On deviation from the reference conditions at the measuring system: $\leq \pm 0.5 \%$ per 10 °C [$\leq \pm 0.5 \%$ per 18 °F] of full scale value
Reference conditions	
Ambient temperature	+20 °C [+68 °F]

1) For filled gauges with span ≥ 16 bar

Available scale ranges of model PG41PC per DIN 14421, NS 80 [3"], centre back mount

bar	
0 ... 25	-1 ... +25

Scale ranges per EN 837-3

bar	
0 ... 16	0 ... 40
0 ... 25	-

kPa	
0 ... 1,600	0 ... 40,000
0 ... 2,500	-

psi	
0 ... 300	0 ... 600
0 ... 400	-

kg/cm ²	
0 ... 16	0 ... 40
0 ... 25	-

MPa	
0 ... 1.6	0 ... 4
0 ... 2.5	-

Vacuum and compound scale ranges

bar	
-1 ... +25	

kPa	
-100 ... +2,500	

psi	
-30 inHg ... +400	

kg/cm ²	
-1 ... +25	

MPa	
-0.1 ... +2.5	

Further details on: scale ranges	
Unit	■ bar ■ psi ■ mbar ■ kg/cm² ■ MPa ■ kPa Other units on request
Vacuum resistance	Vacuum-resistant to -1 bar
Dial	
Scale layout	■ Single scale ■ Dual scale
Scale colour	Single scale ■ Black dial with white lettering ■ White dial with black lettering
	Dual scale ■ Black/red
Material	Aluminium
Customer-specific version	Other scales, e.g. with red mark, circular arcs or circular sectors, on request
Instrument pointer	■ Aluminium, black ■ Aluminium, red ■ Aluminium, white ■ Aluminium, orange

Process connection	
Standard	■ EN 837 ■ ANSI / ASME B1.20.1
Size	
EN 837	■ G ½ B ■ M20 x 1.5
ANSI / ASME B1.20.1	■ ½ NPT
Restrictor	■ Without ■ Ø 0.8 x 32.5 mm [Ø 0.031 x 1.28"], copper alloy ■ Ø 0.8 x 26.5 mm [Ø 0.031 x 1.04"], copper alloy ■ Ø 0.6 x 26.5 mm [Ø 0.024 x 1.04"], copper alloy
Materials (wetted)	
Diaphragm element	CuZn alloy
Process connection	■ Copper alloy, natural finish ■ Copper alloy, nickel plated
Sealing	NBR

→ Other process connections on request

Operating conditions	
Medium temperature range	-20 ... +80 °C [-4 ... 176 °F]
Ambient temperature range	-25 ... +60 °C [-13 ... +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	■ IP54 ■ IP65 ¹⁾

1) Ingress protection IP65 for instruments with case filling

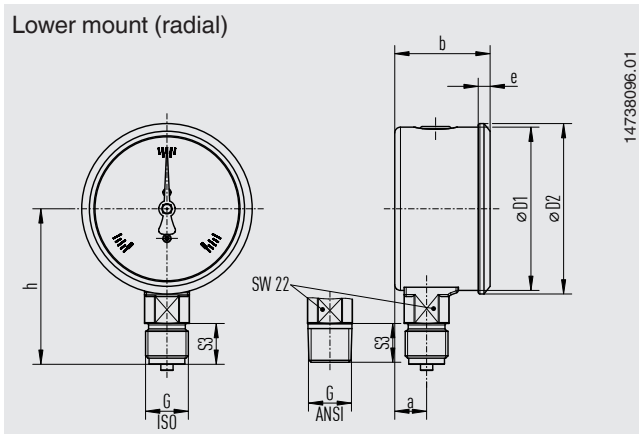
Certificates

Certificates	
Certificates	■ 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)
Recommended calibration interval	1 year (dependent on conditions of use)

→ For approvals and certificates, see website

Dimensions in mm [in]

Lower mount (radial)



NS	Weight in kg [lb]	
	Unfilled	Filled
80 [3"]	Approx. 0.54 [1.19]	Approx. 0.59 [1.3]

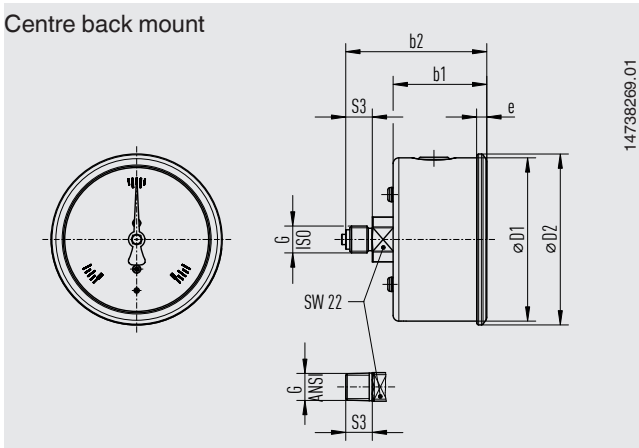
Process connection with thread per EN 837-1

NS	G	Dimensions in mm [in]						
		$h \pm 1$ [0.04]	a	$b \pm 0.5$ [0.02]	D1	D2	e	S3
80 [3"]	G ¼ B	69 [2.72]	15.5 [0.61]	47 [1.85]	80 [3.15]	83.5 [3.29]	6 [0.24]	13 [0.51]
	G ½ B	76 [2.99]	15.5 [0.61]	47 [1.85]	80 [3.15]	83.5 [3.29]	6 [0.24]	20 [0.79]
	M20 x 1.5	76 [2.99]	15.5 [0.61]	47 [1.85]	80 [3.15]	83.5 [3.29]	6 [0.24]	20 [0.79]

Process connection with thread per ANSI/B1.20.1

NS	G	Dimensions in mm [in]						
		$h \pm 1$	a	$b \pm 0.5$ [0.02]	D1	D2	e	S3
80 [3"]	½ NPT	75 [2.95]	15.5 [0.61]	47 [1.85]	80 [3.15]	83.5 [3.29]	6 [0.24]	19 [0.75]

Centre back mount



Process connection with thread per EN 837-1

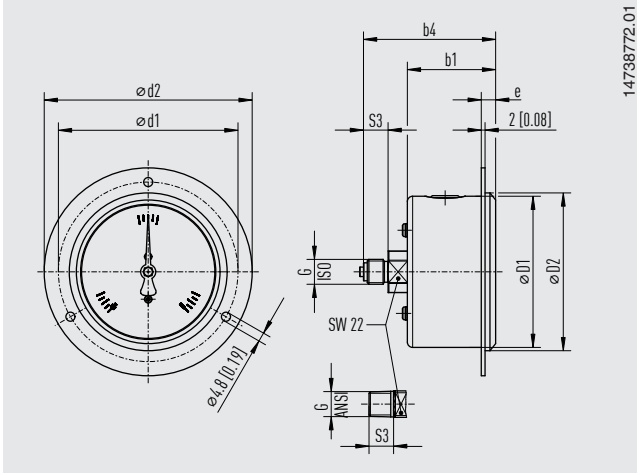
NS	G	Dimensions in mm [in]					
		$b1 \pm 0.5$ [0.02]	$b2 \pm 1$ [0.04]	D1	D2	e	S3
80 [3"]	G ¼ B	46 [1.81]	69 [2.72]	80 [3.15]	84 [3.31]	5 [0.2]	13 [0.51]
	G ½ B	46 [1.81]	76 [2.99]	80 [3.15]	84 [3.31]	5 [0.2]	20 [0.79]
	M20 x 1.5	46 [1.81]	76 [2.99]	80 [3.15]	84 [3.31]	5 [0.2]	20 [0.79]

Process connection with thread per ANSI/B1.20.1

NS	G	Dimensions in mm [in]					
		$b1 \pm 0.5$ [0.02]	$b2 \pm 1$ [0.04]	D1	D2	e	S3
80 [3"]	¼ NPT	46 [1.81]	69 [2.72]	80 [3.15]	84 [3.31]	5 [0.2]	13 [0.51]

Model PG41PC with triangular profile ring

Centre back mount



NS	Weight in kg [lb]	
	Unfilled	Filled
80 [3"]	Approx. 0.51 [1.12]	Approx. 0.57 [1.26]
100 [4"]	Approx. 0.53 [1.17]	Approx. 0.61 kg [1.34 lbs]

Process connection with thread per EN 837-1

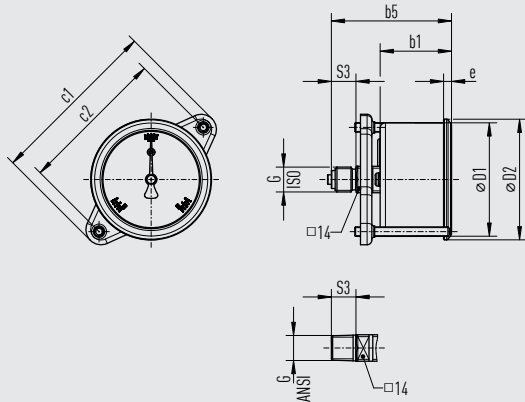
NS	G	Dimensions in mm [in]							
		$b1 \pm 0.5 [0.02]$	$b4 \pm 1 [0.04]$	D1	D2	d1	d2	e	S3
80 [3"]	G ¼ B	47 [1.85]	70 [2.76]	80 [3.15]	83,5 [3.29]	95 [3.74]	110 [4.33]	7,5 [0.30]	13 [0.51]
	G ½ B	47 [1.85]	77 [3.03]	80 [3.15]	83,5 [3.29]	95 [3.74]	110 [4.33]	7,5 [0.30]	20 [0.79]
	M20 x 1.5	47 [1.85]	77 [3.03]	80 [3.15]	83,5 [3.29]	95 [3.74]	110 [4.33]	7,5 [0.30]	20 [0.79]
100 [4"]	G ¼ B	49 [1.93]	72 [2.83]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6,5 [0.26]	13 [0.51]
	G ½ B	49 [1.93]	79 [3.11]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6,5 [0.26]	20 [0.79]
	M20 x 1.5	49 [1.93]	79 [3.11]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6,5 [0.26]	20 [0.79]

Process connection with thread per ANSI/B1.20.1

NS	G	Dimensions in mm [in]							
		$b1 \pm 0.5 [0.02]$	$b4 \pm 1 [0.04]$	D1	D2	d1	d2	e	S3
80 [3"]	¼ NPT	47 [1.85]	70 [2.76]	80 [3.15]	83,5 [3.29]	95 [3.74]	110 [4.33]	7,5 [0.30]	13 [0.51]
100 [4"]	¼ NPT	49 [1.93]	72 [2.83]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6,5 [0.26]	13 [0.51]

Model PG41PC with panel mounting flange, NS 60 [2.4"]

Centre back mount



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NS	Weight in kg [lb]	
	Unfilled	Filled
60 [2.4"]	Approx. 0.37 [0.82]	Approx. 0.39 [0.86]

Process connection with thread per EN 837-1

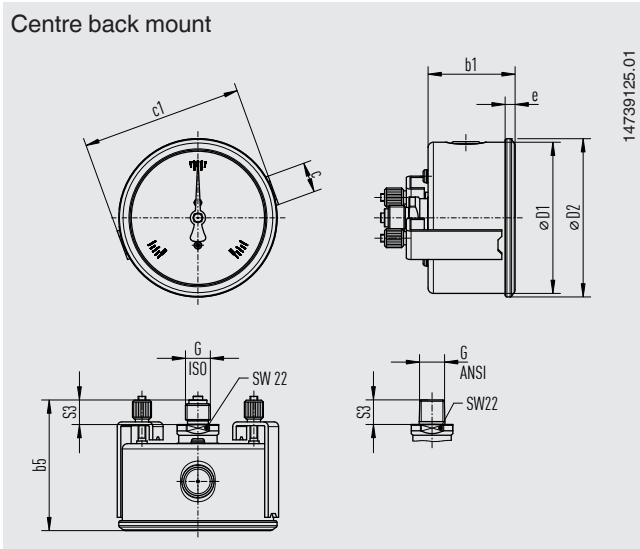
NS	G	Dimensions in mm [in]							
		b1 ±0.5 [0.02]	b5 ±1 [0.04]	D1	D2	c1	c2	e	S3
60 [2.4"]	G ¼ B	38 [1.5]	63.5 [2.5]	60 [2.36]	64 [2.52]	91 [3.58]	78 [3.07]	4 [0.16]	13 [0.51]
	G ½ B	38 [1.5]	70.5 [2.76]	60 [2.36]	64 [2.52]	91 [3.58]	78 [3.07]	4 [0.16]	20 [0.79]
	M12 x 1.5	38 [1.5]	72 [2.83]	60 [2.36]	64 [2.52]	91 [3.58]	78 [3.07]	4 [0.16]	21.5 [0.85]
	M13 x 1	38 [1.5]	72 [2.83]	60 [2.36]	64 [2.52]	91 [3.58]	78 [3.07]	4 [0.16]	21.5 [0.85]
	M20 x 1.5	38 [1.5]	70.5 [2.76]	60 [2.36]	64 [2.52]	91 [3.58]	78 [3.07]	4 [0.16]	20 [0.79]

Process connection with thread per ANSI/B1.20.1

NS	G	Dimensions in mm [in]							
		b1 ±0.5 [0.02]	b5 ±1 [0.04]	D1	D2	c1	c2	e	S3
60 [2.4"]	¼ NPT	38 [1.5]	63.5 [2.5]	60 [2.36]	64 [2.52]	91 [3.58]	78 [3.07]	4 [0.16]	13 [0.51]

Model PG41PC with panel mounting flange, NS 80 [3"] and 100 [4"]

Centre back mount



NS	Weight in kg [lb]	
	Unfilled	Filled
80 [3"]	Approx. 0.59 [1.3]	Approx. 0.63 kg [1.39]
100 [4"]	Approx. 0.93 kg [2.05]	Approx. 0.97 kg [2.14]

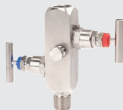
Process connection with thread per EN 837-1

NS	G	Dimensions in mm [in]							
		b1 ±0.5 [0.02]	b5 ±1 [0.04]	D1	D2	c	c1	e	S3
80 [3"]	G ¼ B	47 [1.85]	70 [2.76]	80 [3.15]	83.5 [3.29]	95 [3.74]	110 [4.33]	7.5 [0.30]	13 [0.51]
	G ½ B	47 [1.85]	77 [3.03]	80 [3.15]	83.5 [3.29]	95 [3.74]	110 [4.33]	7.5 [0.30]	20 [0.79]
	M20 x 1.5	47 [1.85]	77 [3.03]	80 [3.15]	83.5 [3.29]	95 [3.74]	110 [4.33]	7.5 [0.30]	20 [0.79]
100 [4"]	G ¼ B	49 [1.93]	72 [2.83]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6.5 [0.26]	13 [0.51]
	G ½ B	49 [1.93]	79 [3.11]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6.5 [0.26]	20 [0.79]
	M20 x 1.5	49 [1.93]	79 [3.11]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6.5 [0.26]	20 [0.79]

Process connection with thread per ANSI/B1.20.1

NS	G	Dimensions in mm [in]							
		b1 ±0.5 [0.02]	b5 ±1 [0.04]	D1	D2	c	c1	e	S3
80 [3"]	¼ NPT	47 [1.85]	70 [2.76]	80 [3.15]	83.5 [3.29]	95 [3.74]	110 [4.33]	7.5 [0.30]	13 [0.51]
100 [4"]	¼ NPT	49 [1.93]	72 [2.83]	99 [3.90]	101 [3.98]	116 [4.57]	132 [5.20]	6.5 [0.26]	13 [0.51]

Accessories and spare parts

Model	Description	
	910.17	Seals → 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
	IV1	Needle valve and multiport needle valve → See data sheet AC 09.22
	IV2	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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