

Mechanical
pressure measurement

Bourdon tube pressure gauge, copper alloy
Standard version
Models 111.10, 111.12

WIKA data sheet PM 01.01



for further approvals
see page 3

Applications

- For gaseous and liquid media that are not highly viscous or crystallising and will not attack copper alloy parts
- Pneumatics
- Heating and air-conditioning technology
- Medical engineering

Special features

- Reliable and cost-effective
- Design per EN 837-1
- Nominal size 40, 50, 63, 80, 100 and 160
- Scale ranges up to 0 ... 400 bar



Fig. left: Model 111.12, back mount
Fig. right: Model 111.10, lower mount (radial)

Description

The model 111 pressure gauges are based on the proven Bourdon tube measuring system. On pressurisation, the deflection of the Bourdon tube, proportional to the incident pressure, is transmitted to the movement via a link and indicated.

The modular design enables a multitude of combinations of case materials, process connections, nominal sizes and scale ranges. Due to this high variance, the instrument is suitable for use in a wide range of applications within industry.

For mounting in control panels, the pressure gauges can, depending on the process connection, be fitted with a surface mounting flange or with a triangular bezel and mounting bracket.

The standard version of the model 111 is manufactured, cost-optimised on modern production lines, in volumes of several million instruments per year.

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Data sheets showing similar products:
Panel mounting series; models 111.16, 111.26; see data sheet PM 01.10
With VdS approval; model 111.12.040; see data sheet SP 01.23



Specifications

Design

EN 837-1

Nominal size in mm

40, 50, 63, 80, 100
 160 only with model 111.10

Accuracy class

1.6

2.5 (101663, 101687, 101701, 101702, 101707, 101778, 101785, 101805, 101950, 101953, 101961, 101963, 101977, 101744, 101759, 101761, 101830, 101831, 101835, 101847, 101911 to 101943, 101997 to 101999, 102005, 102011, 102012, 102015)

Scale ranges

0 ... 0.6 to 0 ... 400 bar (NS 160: max. 40 bar)
 or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation

Steady: 3/4 x full scale value
 Fluctuating: 2/3 x full scale value
 Short time: Full scale value

Permissible temperature

Ambient: -20 ... +60 °C
 Medium: +60 °C maximum

Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C): max. $\pm 0.4 \%$ /10 K of the span

Process connection

Copper alloy
 For process connections and spanner widths see page 4

Pressure element

Copper alloy
 C-type or helical type

Movement

Copper alloy

Dial

NS 40, 50, 63: Plastic, white, with pointer stop pin
 NS 80, 100, 160: Aluminium, white, with pointer stop pin
 Black lettering, red mark pointer with measuring ranges
 0 ... 0.6 to 0 ... 60 bar

Pointer

Plastic, black
 NS 160: Aluminium, black

Case

Plastic, black
 Model 111.12, NS 100: Steel, black
 Model 111.10, NS 160: Steel, black

Options

- Other process connection
- Accuracy class 1.6
- Steel case, black
- Model 111.10: Surface mounting flange (not with NS 40 and 50)
- Model 111.12: Triangular bezel with mounting bracket

Special versions

For closed heating systems

NS 63, 80
 with red mark pointer and adjustable green sector, scale ranges 0 ... 4 bar, red mark at 2.5 or 3 bar

For refrigeration plants

NS 63, 80
 with additional temperature scale in °C for refrigerants

For water-level indication (hydrometer) and heating systems

NS 80, 100, 160
 Scale ranges 0 ... 0.6 to 0 ... 25 bar, with second scale in mWS and red mark pointer







For drinking water installations

Material suitability of the wetted parts in accordance with the evaluation criteria for metallic substances of the German federal environmental agency and the "4MS Common Composition List".

Window

Plastic, crystal-clear, snap-fitted in case
 Model 111.10, NS 160: Instrument glass

Approvals

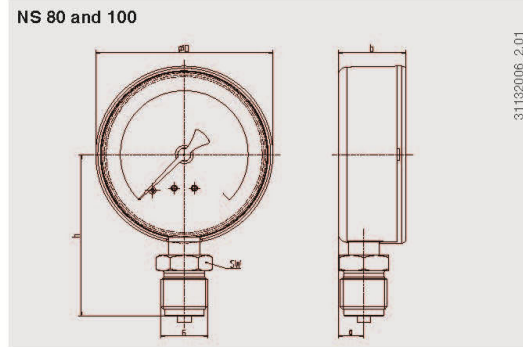
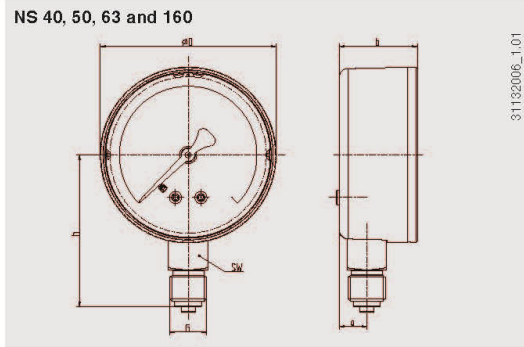
Logo	Description	Country
	EU declaration of conformity Pressure equipment directive	European Union
	EAC (option) Pressure equipment directive	Eurasian Economic Community
	GOST (option) Metrology, measurement technology	Russia
	KazInMetr (option) Metrology, measurement technology	Kazakhstan
-	MTSCHS (option) Permission for commissioning	Kazakhstan
	BelGIM (option) Metrology, measurement technology	Belarus
	UkrSEPRO (option) Metrology, measurement technology	Ukraine
-	CPA Metrology, measurement technology	China
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

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. indication accuracy)

Dimensions in mm

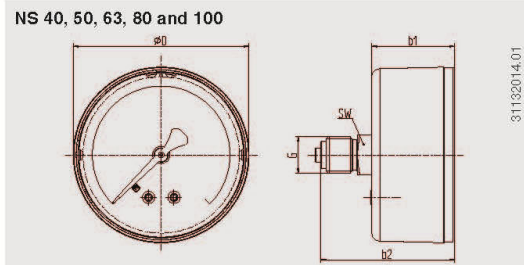
Model 111.10, lower mount (radial)



NS	Dimensions in mm						Weight in kg
	a	b ±0.5	D	G	h ±1	SW	
40	9.5	26	39	G 1/8 B	36	14	0.08
50	10	27.5	49	G 1/4 B	45	14	0.10
63	9.5	27.5	62	G 1/4 B	53.5	14	0.13
80	11.5	30	79	G 1/2 B	72	22	0.18
100	11.5	30.5	99	G 1/2 B	83.5	22	0.21
160	15.5	42	160	G 1/2 B	115.5	22	0.85

Process connection per EN 837-1 / 7.3

Model 111.12, back mount



NS	Dimensions in mm					Weight in kg
	b1 ±0.5	b2 ±1	D	G	SW	
40	26	42	39	G 1/8 B	14	0.06
50	29.5	47.5	49	G 1/4 B	14	0.07
63	29	47	62	G 1/4 B	14	0.08
80	32	49	79	G 1/4 B	14	0.11
100	31	49	99	G 1/4 B	14	0.26

Process connection per EN 837-1 / 7.3

Ordering information

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

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The specifications given in this document represent the state of engineering at the time of publishing.
We reserve the right to make modifications to the specifications and materials.

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Art. No.	Type No.
101652	110.32-KD
101653	110.33-KD
101654	110.34-KD
101655	110.35-KD
101656	110.36-KD
101657	110.37-KD
101658	103-KD
101659	104-KD
101660	105-KD
101661	106-KD
101662	107-KD
101663	108-KD
101664	114-KD
101665	115-KD
101666	116-KD
101667	117-KD
101668	118-KD
101669	119-KD
101680	110.30-K
101681	110.31-K
101682	110.32-K
101683	110.33-K
101684	110.34-K
101685	110.35-K
101686	110.36-K
101687	110.37-K
101688	110.38-K
101689	100-K
101690	101-K
101691	102-K
101692	103-K
101693	104-K
101694	105-K
101695	106-K
101696	107-K
101697	108-K
101698	109-K
101699	110-K
101700	110/1-K
101701	110/2-K
101702	6300-K
101703	6301-K
101704	6302-K
101705	6303-K
101706	6304-K
101707	6305-K

Art. No.	Type No.
101708	6306-K
101709	6307-K
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101711	112-K
101712	113-K
101713	114-K
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101723	124-K
101724	125-K
101725	126-K
101764	110.30
101765	110.31
101766	110.32
101767	110.33
101768	110.34
101769	110.35
101770	110.36
101771	110.37
101772	110.38
101773	100
101774	101
101775	102
101776	103
101777	104
101778	105
101408	106
101779	107
101780	108
101781	109
101782	110
101783	110/1
101784	110/2
101785	6300
101786	6301
101787	6302
101788	6303
101789	6304
101790	6305
101791	6306
101792	6307
101793	111

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101222	214-KD
101223	215-KD
101224	216-KD
101244	217-KD
101398	218-KD
101462	219-KD
101726	110.41-K
101811	110.41/1
101727	110.42-K
101728	110.43-K
101729	110.44-K

Art. No.	Type No.
101730	110.45-K
101731	110.46-K
101732	110.47-K
101733	110.48-K
101734	110.49-K
101735	200-K
101736	201-K
101737	202-K
101738	203-K
101739	204-K
101740	205-K
101741	206-K
101742	207-K
101743	208-K
101744	209-K
101745	210-K
101746	210/1-K
101747	211/1-K
101748	211-K
101749	212-K
101750	213-K
101751	214-K
101752	215-K
101753	216-K
101754	217-K
101755	218-K
101756	219-K
101757	220-K
101758	221-K
101759	222-K
101760	223-K
101761	224-K
101762	225-K
101763	226-K

Art. No.	Type No.
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Art. No.	Type No.
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Art. No.	Type No.
101889	319/50
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