

Pressure Gauge

Art. No. 102561 to 102577

PM 03.01_e

Test gauge, copper alloy Class 0.6, NS 160 Model 312.20







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
- Precision measurement in laboratories
- High-accuracy pressure measurement
- Testing of industrial type pressure gauges

Special features

- Knife edge pointer for optimal accuracy of reading
- Precise movement with wear parts of argentan
- Scale ranges from 0 ... 0.6 to 0 ... 600 bar



Test gauge, model 312.20

Description

The model 312.20 mechanical test gauge has been specifically designed for the measurement of pressures with high accuracy. With its accuracy class of 0.6, the Bourdon tube pressure gauge is suitable for testing industrial type pressure gauges or for precision measurement in laboratories.

For the respective measuring requirement, a scale range between 0 ... 0.6 and 0 ... 600 bar can be selected.

The model 312.20 is constructed with a case from stainless steel and wetted parts from copper alloy. The instrument meets the requirements of the international industry standard EN 837-1 for Bourdon tube pressure gauges.

The optimal readability of the instrument, with a nominal size of 160 mm, is achieved via a knife edge pointer and a dial with fine divisions. Supported through the optional mirror band scale, the parallax error can be eliminated.

For this instrument, an optional DKD/DAkkS calibration certificate can be generated. Safe storage and transport is ensured by a transport case (accessory).



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Specifications

Model 312.20	
Design	EN 837-1
Nominal size in mm	160
Accuracy class	0.6 Option: ■ 0.25 (scale ranges ≤ 400 bar) ■ Grade 3A per ASME B40.100 (scale ranges ≤ 400 bar)
Scale ranges	0 0.6 bar [0 8.7 psi] to 0 600 bar [0 8,702.3 psi] other units (e.g. psi, kPa) available or all other equivalent vacuum or combined pressure and vacuum ranges
Scale	Single scale Option: Mirror band scale
Pressure limitation	
Steady	Full scale value
Fluctuating	0.9 x full scale value
Short time	1.3 x full scale value
Connection location	Lower mount (radial)Lower back mount
Process connection	G ½ B Others on request
Permissible temperature	
Medium	+80 °C [+176 °F] Option: ■ +100 °C [+212 °F] with special soft solder ■ +200 °C [+392 °F] (model 332.50, see data sheet PM 03.06)
Ambient	-20 +60 °C [-4 +140 °F]
Temperature effect	When the temperature at the measuring system deviates from the reference temperature +20 °C [+68 °F]: $\leq \pm 0.4 \%/10 $ °C [$\leq \pm 0.4 \%/18 $ °F] of full scale value
Case filling	Without Option: With case filling (model 333.50, see data sheet PM 03.06)
Wetted materials	
Process connection	Copper alloy
Pressure element	< 100 bar: Copper alloy, C-type ≥ 100 bar: Stainless steel 316L, helical type
Non-wetted materials	
Case, bayonet ring	Stainless steel Option: Triangular bezel, polished stainless steel, with clamp
Movement	Copper alloy, wear parts argentan
Dial	Aluminium, white, black lettering
Pointer	Knife edge pointer, aluminium, black
Window	Instrument glass Option: Zero point setting from outside through adjustable dial
Ingress protection per IEC/EN 60529	IP54
Adjustment medium	\leq 25 bar: Gas > 25 bar: Liquid Option: Gas from scale range \geq 25 bar



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Approvals

Logo	Description	Country
CE	EU declaration of conformity Pressure equipment directive, PS > 200 bar; module A, pressure accessory	European Union
EAC	EAC (option) Pressure equipment directive	Eurasian Economic Community
C	GOST (option) Metrology, measurement technology	Russia
-	MTSCHS (option) Permission for commissioning	Kazakhstan
Ğ	BelGIM (option) Metrology, measurement technology	Belarus
©	UkrSEPRO (option) Metrology, measurement technology	Ukraine
Ø	Uzstandard (option) Metrology, measurement technology	Uzbekistan
-	CPA (option) 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)
- DKD/DAkkS certified accuracy

Approvals and certificates, see website

Accessories

- Sealings (model 910.17, see data sheet AC 09.08)
- Panel or surface mounting flange, stainless steel
- Transport case



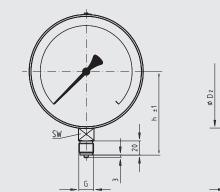
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Dimensions in mm [in]

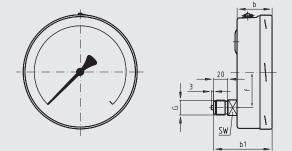
Standard version

Lower mount (radial)





Lower back mount



NS	Dimensions in mm [in]									Weight in
	а	b	b ₁	D ₁	D ₂	f	G	h ±1	SW	kg [lbs]
160	15.5 [0.61]	49.5 [1.949] ¹⁾	83 [3.268] ¹⁾	161 [6.339]	159 [6.26]	50 [1.969]	G ½ B	118 [4.646]	22	1.10 [2.947]

1) Plus 16 mm with scale ranges \geq 100 bar

Process connection per EN 837-1 / 7.3