

Diaphragm Pressure Gauges

Case and Bayonet Ring Stainless Steel
Standard (PCh) or Liquid Filled (PChOe)

Case Sizes 100 (4")
160 (6") Models

PCh
PChOe

with Limit-Switch Contact Assemblies

This data sheet contains ordering information, minimum pressure ranges, information about the electrical connections and dimensional drawings of diaphragm pressure gauges models PCh and PChOe with limit-switch contact assemblies.

Data sheet 3201 contains all important features of model PCh and PChG without electrical accessories. These technical details are also valid for gauges assembled with limit-switch contacts, as far as you don't find a deviating description below. The ordering code for the liquid-filled version with limit-switch contact assemblies is Oe instead of G. The filling liquid is a special oil.

For detailed information about use and operation of mechanical, inductive, electronic and pneumatic limit-switch contact assemblies please note our **general information leaflet 9000**, and for further information, especially about the available make/break operations, see the data sheets for the individual models of limit-switch contact assemblies:

Mechanical (standard- and magnetic contacts) Data sheet **9100**
Inductive Data sheet **9200**
Electronic Data sheet **9201**
Pneumatic Data sheet **9300**

Minimum Pressure Ranges

Every pressure gauge needs a sufficient amount of torque to operate the limit-switch contacts with minimized error. For this reason the following minimum pressure ranges are to consider¹⁾:

Limit-Switch-Type:	Minimum Pressure Range ¹⁾			
	Case Size 100 (4")		Case Size 160 (6")	
	Flange Ø 100mm (4") bar (psi)	Flange Ø 160mm (6") mbar ("WC)	Flange Ø 100mm (4") bar (psi)	Flange Ø 160mm (6") mbar ("WC)
1 x Standard	0.6 (10)	60 (25)	0.6 (10)	60 (25)
2 x Standard	0.6 (10)	100 (40)	0.6 (10)	100 (40)
3 x Standard	0.6 (10)	160 (60)	0.6 (10)	160 (60)
4 x Standard ²⁾	—	—	0.6 (10)	160 (60)
1 x Magnetic	0.6 (10)	100 (40)	0.6 (10)	100 (40)
2 x Magnetic	0.6 (10)	160 (60)	0.6 (10)	160 (60)
3 x Magnetic	2.5 (30)	250 (100)	2.5 (30)	250 (100)
4 x Magnetic ²⁾	—	—	2.5 (30)	250 (100)
1 x Inductive	0.6 (10)	60 (25)	0.6 (10)	60 (25)
2 x Inductive	0.6 (10)	60 (25)	0.6 (10)	60 (25)
3 x Inductive ³⁾	0.6 (10)	60 (25)	0.6 (10)	60 (25)
1 x Electronic	0.6 (10)	60 (25)	0.6 (10)	60 (25)
2 x Electronic	0.6 (10)	60 (25)	0.6 (10)	60 (25)
3 x Electronic ³⁾	0.6 (10)	60 (25)	0.6 (10)	60 (25)
1 x Pneumatic	0.6 (10)	60 (25)	0.6 (10)	60 (25)
2 x Pneumatic	—	—	0.6 (10)	60 (25)

¹⁾ lower pressure ranges upon request

²⁾ 4 contacts for pressure gauges nominal case size 100 (4") upon request

³⁾ 4 contacts upon request

Pneumatic limit-switches in nom. sizes 100 (4") are only available as single contacts.

For pressure gauges with 3 or 4 contacts it is not always possible to set all set pointers one above the other. You should therefore always state, for which contacts resp. set pointers the opportunity to set one above the other is required, or simply point out when ordering where your set points are.

Window

Version PCh 100-2 acrylic glass or polycarbonate, all the other versions laminated safety glass.



Electrical Connection

A universal plug connector is standard supply for pressure gauges model PCh and PChOe with standard or magnetic contacts, and a terminal box for those with inductive or electronic contacts.

The universal plug connector resp. the terminal box is mounted on the right side of the case ("right side" from viewer's perspective when looking on the dial).

Upon request pressure gauges model PCh with 1, 2 or 3 standard or magnetic contacts can be supplied with a connection cable about 1 m (3 ft) long, passing through the back side of the case.

Pressure gauges with pneumatic contacts are supplied with PP or PE converters (one for each limit) mounted on the back of the case.

When a universal plug connector resp. a terminal box or a PP/PE-converter is mounted on the back of a case nominal size 100 mm (4"), the gauge cannot be supplied with a 1" blow-out.

The precise locations of the electrical connections are shown in the dimensional drawings on the reverse side of this data sheet. Others than standard locations are only available upon request at additional charges.

The universal plug connector has 6 terminals and a ground terminal. The terminal box has 6 terminals only.

Dimensional drawings see reverse side.

Ordering Information

The ordering information of the individual gauge model (compare data sheet 3201) is extended by the

CODE LETTER for the contact type :

S, M, I, E or P

and the CODE NUMBER for the make/break operation:

e.g. **1, 11, 12, 2, 22, 21**

(Please compare the data sheet for the limit-switch contact assembly!)

Examples: PCh 160-3, 40 bar, **M 12**

PChOe 100-3, -1/+9 bar, ½" NPT, **11**



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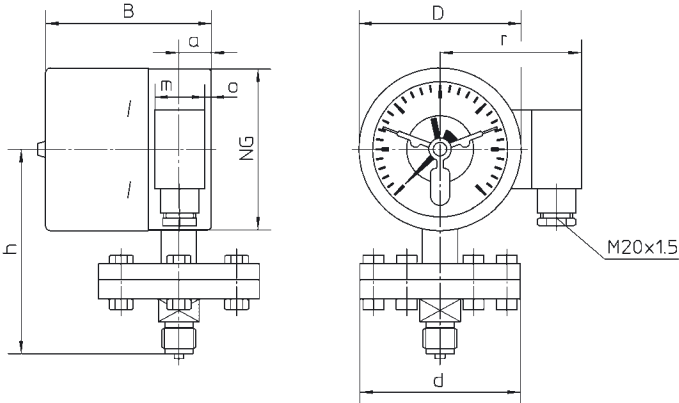
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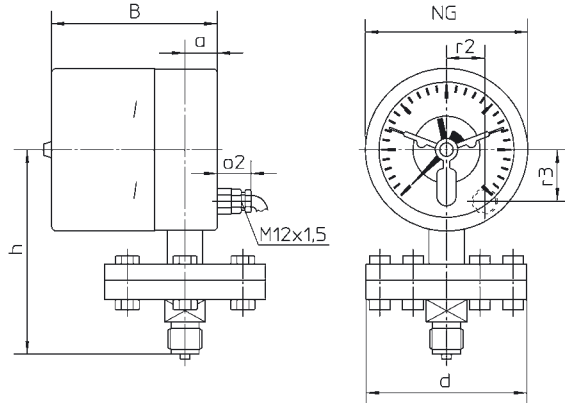
Case Configurations, Electrical Connections, Dimensional Data and Weights

The dimensions are the same as from the basic model, except the front-to-back sizes, see table below. For the other dimensions, please see data sheet 3201. Dimensional drawings for versions with PP/PE-converter are available upon request.

Universal plug connector or terminal box on the right side of the case



Connection cable passing through the back of the case



Dimensional Data (mm / inches) and Weight (kg / lb)

Nominal Case Size	Flange-Ø d	a	B	D	h ±1	m	o	o2	r	r2	r3	Weight (approx.) ²⁾	
												PCh	PChG
100 4"	100 4"	20 .79	103 4.06	101 3.98	127 5.00	31 1.22	4 .16	21 .83	88 3.46	23 .91	32 1.26	2.250 4.960	2.950 6.504
	160 6"		3.600 7.937	4.400 9.700									
160 6"	100 4"		108 ¹⁾ 4.25	161 6.34	156 6.14		2 .08		117 4.61	36 1.42	50 1.97	3.250 7.165	5.050 11.133
	160 6"		4.600 10.141	6.500 14.330									

¹⁾ For inductive and electronic limit switches with 2 similar make/break operations (i.e. I 11 or I 22, also as part of 3x inductive limit-switch assemblies) and for 3 and 4 x standard or magnetic contacts please add 12 mm (0,47") to length B.

²⁾ The weights of instruments with different pressure ranges are varying a lot, therefore the here stated data can be a vague outlining only.

The information in this leaflet is given in good faith, but we reserve the right to make changes without notice.