

Diaphragm Pressure Gauges

With horizontal diaphragm,
stainless steel case with bayonet ring

PCh
PChG

Information on advantages, application ranges, temperature resistance, metrological features and pressure ranges of all available diaphragm pressure gauges with horizontal diaphragm can be found in our model overview 3000.

Application

Pressure gauges with horizontal diaphragm provide the possibility to find a suitable version even for difficult media, such as aggressive, contaminated or viscous liquids. The high-quality bayonet ring case made of stainless steel 304 (1.4301) is particularly suitable for applications in which a case sealing (outdoor installations, wet operation) and/or the chemical resistance is essential.

Standard Versions

Accuracy (DIN EN 837-3)

Class 1.6

Class 2.5 for version with protection foil

Case

Bayonet ring case made of stainless steel 304 (1.4301) (ventilated)

Case Filling

For model PChG: glycerin

Degree of Protection (DIN EN 60 529/IEC 529)

PCh IP54

PChG IP65

Nominal Case Size

100, 160 mm (4, 6")

Wetted Parts

Ordering code	Lower measuring flange	Sealing	Diaphragm	
- 2	galvanised steel	NBR	0–10 mbar to 0–40 bar	stainless steel 316L (1.4404), Duratherm (not for NACE conformity) or Inconel
- 3	stainless steel 316L	FPM	0–10 mbar to 0–40 bar	
- 5 ¹⁾	stainless steel 316L, PTFE lining	PTFE	0–40 mbar to 0–40 bar	

Pressure Ranges (DIN EN 837-3)

0–10 mbar to 0–40 bar

0–40 mbar to 0–40 bar for version PTFE foil, PChG also corresponding vacuum and compound ranges

Upper Measuring Flange (Stainless Steel 1.4301)

Pressure ranges ≤ 250 mbar = measuring flange Ø 160 mm

Pressure ranges ≥ 400 mbar = measuring flange Ø 100 mm

Overpressure

Up to 5 times overrange protected, max. 40 bar

Process Connection

G ½B bottom connection

Window

Laminated safety glass

For version - 2 instrument glass



Movement

Stainless steel

For version - 2: brass/German silver

Dial

Aluminum white, scale black

Pointer

Aluminum black

Safety Features

PCh: 1" blow-out plug (Ø 25 mm) in the back of the case

PChG: blow-out device at the top of the case coverage

Special Versions and Options

- Increased orifice Ø 10 mm for version - 2 or - 3
- Other process connections upon request
- Special position of installation or connection upon request
- Various protection foils, e.g. tantalum or fine silver, from 160 mbar onwards, vacuum-proof upon request
- Other materials for lower measuring flange upon request
- Measuring flange Ø 160 mm from 0–10 mbar to 0–250 mbar overrange protected up to 4 bar due to metallic inserts
- Measuring flange Ø 100 mm from 0–0.4 bar to 0–40 bar overrange protected up to 100 bar due to metallic inserts
- Diaphragm gauges with even higher overrange protection upon request
- Accuracy class 1.0 or 0.6 upon request
- Versions for higher or lower temperatures upon request

Ordering Information

Please specify in your order:

Basic model

PCh (unfilled) or PChG (filled)

Nominal case size

100 or 160 mm

Wetted parts

- 2, - 3, - 5

Pressure range

according to DIN EN 837-3

Process connection

G ½B

Specifics

see above

Example:

PCh 100 - 3, 0 - 10 bar, G ½B

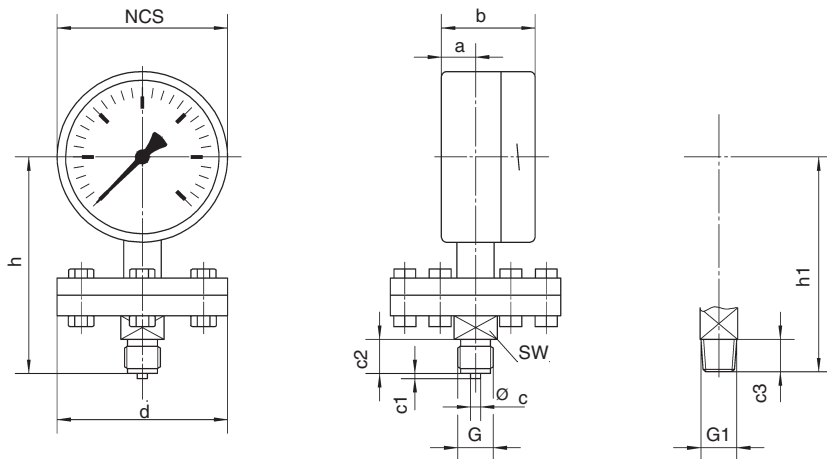
PChG 100 - 2, -1 / +9 bar, ½" NPT

¹⁾ orifice Ø 7 mm

Case Configuration, Dimensional Data and Weight

Bottom Process Connection

(no additional code letters)



Dimensional Data (mm/inch) and Weights (kg/lb)

case NCS	measuring flange Ø d	a	b	c	c1	c2	c3	G	G1	h ^{±2}	h1±2	SW	(approx.) weight ¹⁾		
													PCh	PChG	
100 4	100	20	55	6	3	20	19	G ½ B ½" BSP	½" NPT	127	126	22	1.85	2.25	
	4												5	4.96	4.08
160 6	160	0.79	2.17	0.24	0.12	0.79	0.75	G ½ B ½" BSP	½" NPT	157	156	0.87	3.45	3.65	
	4												6	7.61	8.05
	100												6	2.20	3.20
	160												6	6.18	6.14
													3.80	4.80	
													8.38	10.58	

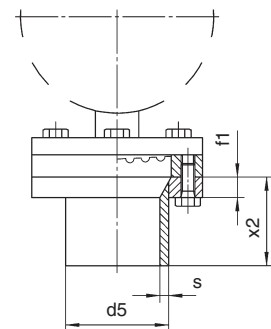
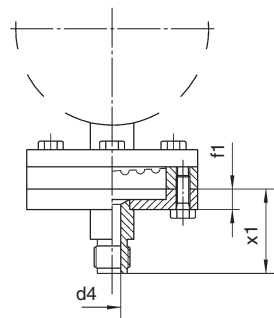
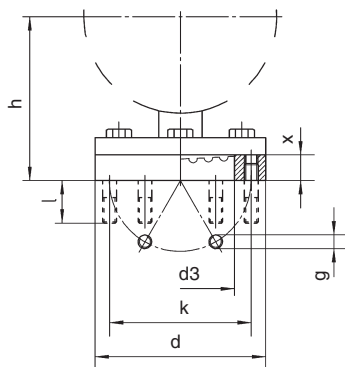
Open Flange 2707a

upon request including stud screws

optionally available, suitable for flange 2707a:

connection flange with thread connection G ½ B or ½" NPT with increased orifice

connection flange with welding piece (only in stainless steel 304 (1.4301), for measuring flange Ø 100 mm)



Dimensional Data (mm/inch) and Weights (kg/lb)

measuring flange Ø d	d3	d4	d5 ²⁾	f1	g	h ^{±2}		k	l	x	x1	x2	s	(approx.) weight ¹⁾			
						NCS 100								NCS 160			
						PCh	PChG							PCh	PChG		
100 4	63.5 2.5	10	60.3 2.37	12 0.47	6 x M8	96 3.78	126 4.96	83 3.27	25 0.98	15 0.59	46 1.81	50 1.97	5 0.2	1.85	2.25	1.85	2.25
														4.08	4.96	4.08	4.96
160 6	123 4.84	0.39	-	-	8 x M8	3.78	4.96	140 5.51	0.98	0.59	1.81	-	-	3.45	3.65	3.45	3.65
														7.61	8.05	7.61	8.05
														2.20	3.20	2.20	3.20
														4.85	7.05	4.85	7.05
														3.80	4.80	3.80	4.80
														8.38	10.58	8.38	10.58

¹⁾ The weights of the devices deviate considerably for different pressure ranges and materials, therefore only vague values can be given.

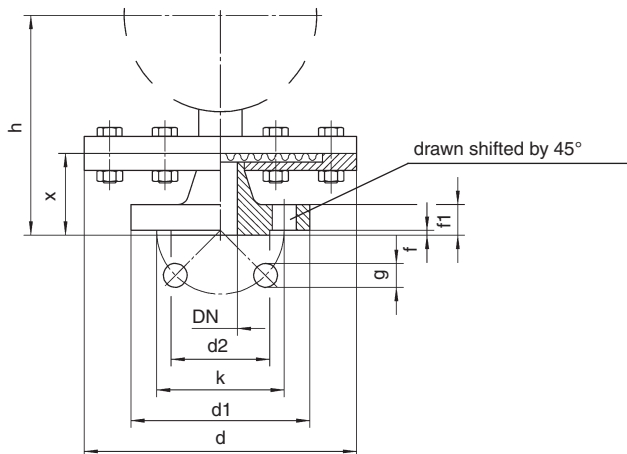
²⁾ other tube diameters upon request

Case Configuration, Dimensional Data and Weight

Open Flanges According to DIN EN 1092-1, PN 10 to PN 40

measuring flange $\varnothing d = 160$ mm

suitable for mounting to counter flanges according to DIN EN 1092-1 type 11 (complies with the version according to former DIN 2633, 2635)



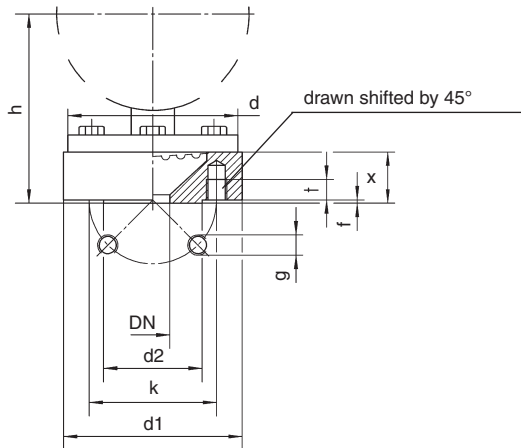
Dimensional Data (mm/inch) and Weights (kg/lb)

measuring flange $\varnothing d$	DN	d1	d2	f	f1	g	h ^{±2}		k	x	(approx.) weight ¹⁾					
							NCS 100				NCS 160		NCS 100		NCS 160	
							PCh	PChG			PCh	PChG				
160 6	15 0.59	95 3.74	45 1.77	2 0.08	16 0.63	4 x 14 4 x 0.55	127 5	157 6.18	65 2.56	46 1.81	1.85 4.08	2.25 4.96	1.85 4.08	2.25 4.96		
	20 0.79	105 4.13	58 2.28		18 0.71		129 5.08	159 6.26	75 2.95	48 1.89	3.45 7.61	3.65 8.05	3.45 7.61	3.65 8.05		
	25 0.98	115 4.53	68 2.68		20 0.79	4 x 18 4 x 0.71	125 5.39	167 6.57	85 3.35	56 2.2	2.20 8.38	3.20 10.58	2.20 8.38	3.20 10.58		
	50 1.97	165 6.5	102 4.02				137 5.39	167 6.57	125 4.92	56 2.2	3.80 8.38	4.80 10.58	3.80 8.38	4.80 10.58		

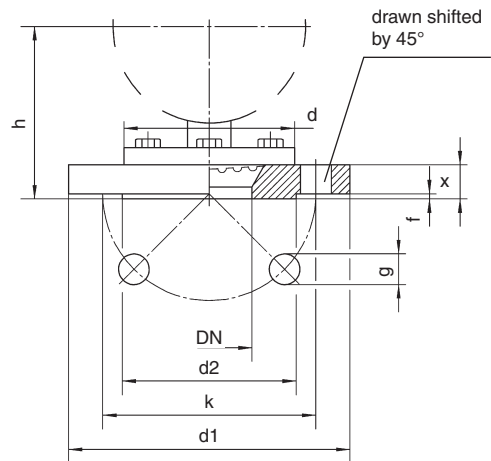
Open Flanges DN 15, 20, 25 and 50, PN 10 to PN 40

measuring flange $\varnothing d = 100$ mm

DN 15, 20 and 25



DN 50



Dimensional Data (mm/inch) and Weights (kg/lb)

measuring flange $\varnothing d$	DN	d1	d2	f	g	h ^{±2}		k	t	x	(approx.) weight ¹⁾					
						NCS 100					NCS 160		NCS 100		NCS 160	
						PCh	PChG				PCh	PChG				
100 4	15 0.59	99 3.4	45 1.77	2 0.08	4 x M12 ²⁾	106 4.17	136 5.35	65 2.56	12 0.47	25 0.98	2.30 5.07	2.70 5.95	2.65 5.84	3.65 8.05		
	20 0.79	105 4.13	58 2.28			103 4.06	133 5.24	75 2.95		22 0.87	2.40 5.29	2.80 6.17	2.75 6.06	3.75 8.27		
	25 0.98	115 4.53	68 2.68		4 x \varnothing 18 4 x \varnothing 0.71	101 3.98	131 5.16	85 3.35		20 0.79	2.50 7.94	2.90 8.82	2.85 8.71	3.85 10.91		
	50 1.97	165 6.5	102 4.02			101 3.98	131 5.16	125 4.92		20 0.79	3.60 7.94	4.00 8.82	3.95 8.71	4.95 10.91		

¹⁾ The weights of the devices deviate considerably for different pressure ranges and materials, therefore only vague values can be given.

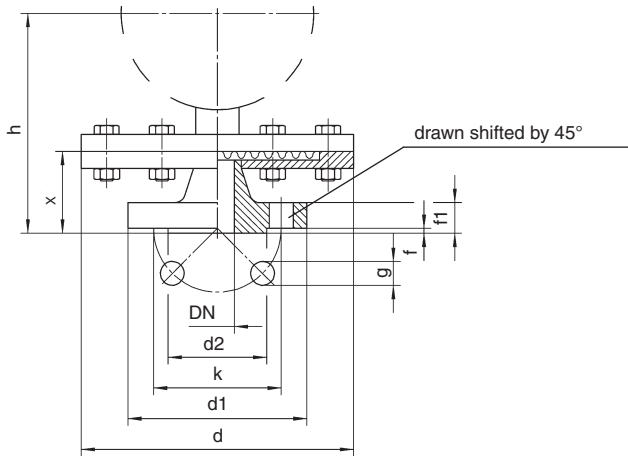
²⁾ upon request with stud screws M 12x35

Case Configuration, Dimensional Data and Weight

Open Flanges According to ASME, 1/2", 1" and 2", PN 150 lb/sq.in.

measuring flange Ø d = 160 mm

ASME B 16.5 RF



Dimensional Data (mm/inch) and Weights (kg/lb)

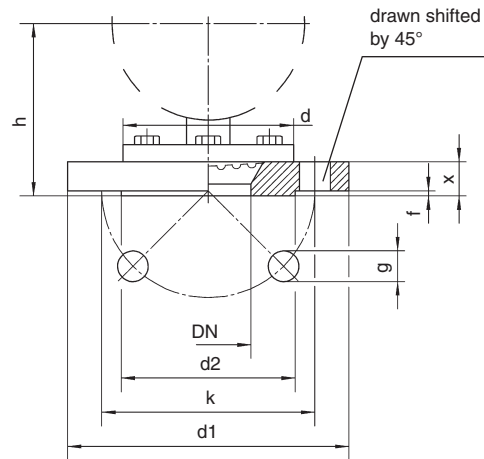
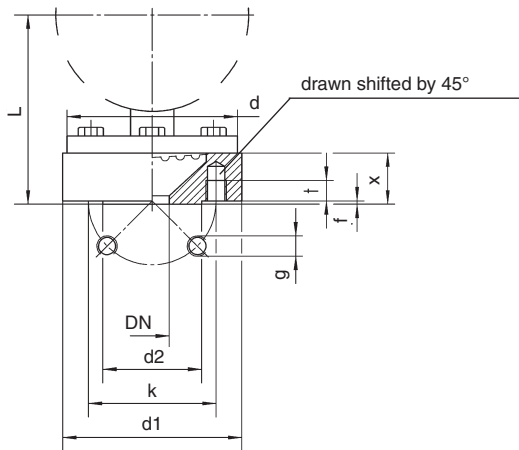
measuring flange Ø d	DN	d1	d2	f	f1	g	h ^{±2}		k	l	(approx.) weight ¹⁾					
							NCS 100				NCS 160		NCS 100		NCS 160	
							PCh	PChG			PCh	PChG	PCh	PChG		
160 6	1/2"	88.9 3.5	34.9 1.37	1.6 0.06	11.1 0.44	16 0.63	137 5.39	167 6.57	60.3 2.37	56 2.2	3.85 8.49	4.25 9.37	4.20 9.26	5.20 11.46		
	1"	108 4.25	50.8 2		14.3 0.56		145 5.71	175 6.89	79.4 3.13	64 2.52	4.45 9.81	4.85 10.69	4.80 10.58	5.80 12.79		
	2"	152 5.98	92.1 3.63		19 0.75		19 0.75	153 6.02	183 7.2	121 4.76	72 2.83	6.10 13.45	6.50 14.33	6.45 14.22	7.45 16.42	

Open Flanges According to ASME, 1/2", 1" and 2", PN 150, 300 or 600 lb/sq.in.

measuring flange Ø d = 100 mm

DN 1/2" and 1"

DN 2"



Dimensional Data (mm/inch) and Weights (kg/lb)

measuring flange Ø d	DN	d1 (lb/sq.in.)		f (lb/sq.in.)		g 4 x UNF-2B	h ^{±2 4)} at 300 lb/sq.in.		k (lb/sq.in.)		t	x (lb/sq.in.)			(approx.) weight ¹⁾			
		150	300 600	150 300	600		NCS 100	NCS 160	150	300 600		150	300	600	NCS 100		NCS 160	
		PCh	PChG	PCh	PChG		PCh	PChG	PCh	PChG								
100 4	1/2"	99 3.9	34.9 1.37	1.6 0.06	6.4 0.25	1/2" - 20	111 4.37	141 5.55	60.3 2.37	66.7 2.63	15	30	35	3.85 8.49	4.25 9.37	4.20 9.26	5.20 11.46	
	1"	108 4.25	124 4.88			50.8 2	0.06	0.25	5/8" - 18 ²⁾	79.4 3.13	88.9 3.5	0.59	1.18	1.38	4.45 9.81	4.85 10.69	4.80 10.58	5.80 12.79
	2"	152 5.98	165 6.5			92.1 3.63	5/8" - 18 ³⁾	103 4.06	133 5.24	121 4.76	127 5	-	19.1 0.75	22.2 0.87	32 1.26	6.10 13.45	6.50 14.33	6.45 14.22

Several other connection flanges are available upon request, e.g. male or female thread G 1, groove union nut DIN 11 851.

¹⁾ The weights of the devices deviate considerably for different pressure ranges and materials, therefore only vague values can be given.

²⁾ 150 lb/sq.in.: 1/2" - 20 UNF-2B

³⁾ 300 and 600 lb/sq.in.: 8 x Ø 19

⁴⁾ 150 and 600 lb/sq.in.: difference as of dimension "x"