

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

Model PChG glycerin

Degree of Protection (DIN EN 60529 / IEC 60529)

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),
- 3	stainless steel 316L	FKM	0–10 mbar to 0–40 bar	Duratherm (not for NACE conformity) or Inconel
- 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 ½ B 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

Options

- 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

Special Versions Upon Request

- Increased orifice Ø 10 mm for version - 2 or - 3
- Other process connections
- Special position of installation or connection
- Various protection foils, e.g. tantalum or fine silver, from 160 mbar onwards, vacuum-proof
- Other materials for lower measuring flange
- Diaphragm gauges with even higher overrange protection
- Accuracy class 1.0 or 0.6
- Versions for higher or lower temperatures

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 e.g. 0–4 bar or 0–250 mbar
Process connection	G ½ B
Specifics	see above

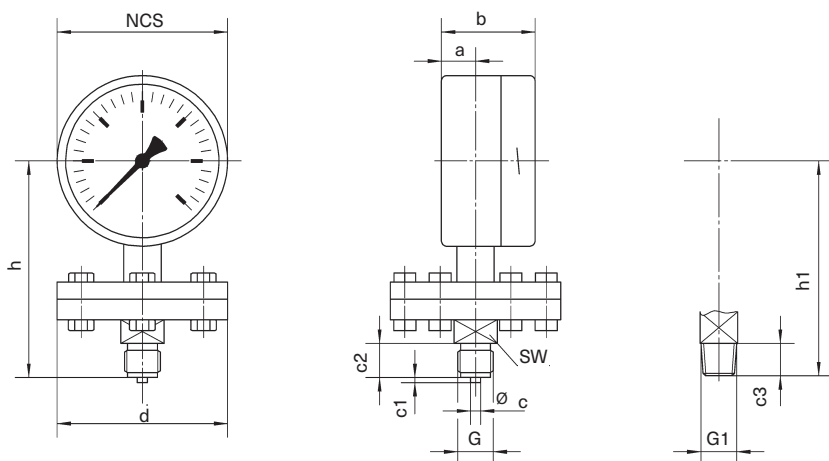
Example	PCh 100 - 3, 0 - 10 bar, G ½ B PChG 100 - 2, - 1 / +9 bar, ½" NPT
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¹⁾ orifice Ø 7 mm

Case Configuration, Dimensional Data and Weight

Bottom Process Connection

without code letters



Dimensional Data (mm / inch) and Weight (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 4	20 0.79	55 2.17	6 0.24	3 0.12	20 0.79	19 0.75	G ½ B ½" BSP	½" NPT	127 5	126 4.96	22 0.87	1.85	2.25
	4.08												4.96	
160 6	160 6	20 0.79	55 2.17	6 0.24	3 0.12	20 0.79	19 0.75	G ½ B ½" BSP	½" NPT	157 6.18	156 6.14	22 0.87	2.20	3.20
	4.85												7.05	
													3.80	4.80
													8.38	10.58

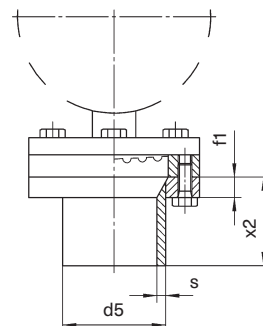
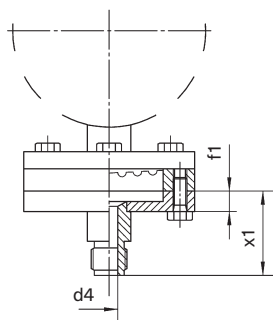
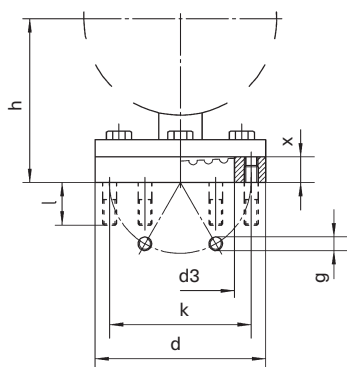
Open Flange 2707a

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 with stainless steel 304 (1.4301), for measuring flange Ø 100 mm)



Dimensional Data (mm / inch) and Weight (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 0.39	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	-	-	-	8 x M8	96 3.78	126 4.96	140 5.51	25 0.98	15 0.59	46 1.81	50 1.97	5 0.2	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.

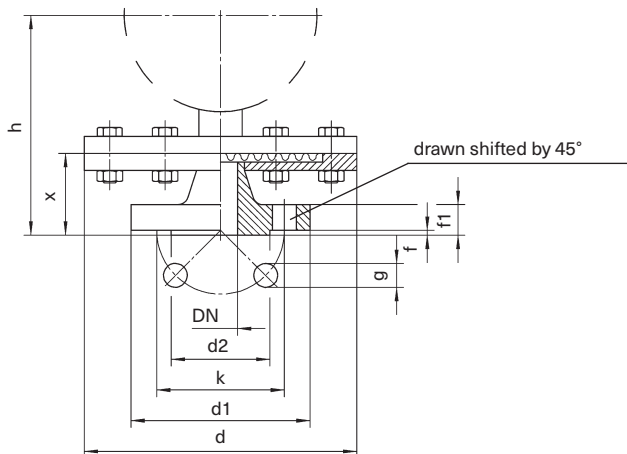
²⁾ other tube diameters upon request

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 acc. to DIN EN 1092-1 type 11 (complies with the version acc. to former DIN 2633, 2635)



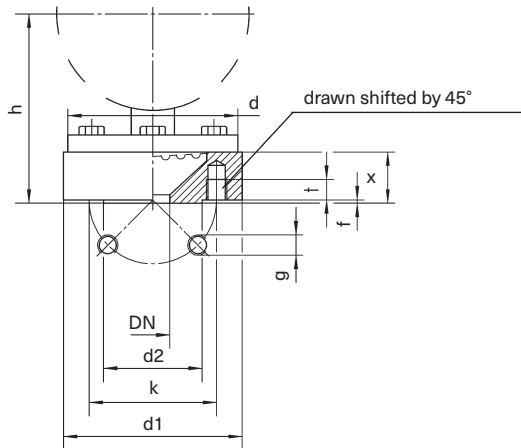
Dimensional Data (mm / inch) and Weight (kg / lb)

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	PCh	PChG		
160 6	15	95	45	2	16	4 x 14 4 x 0.55	127	157	65	46	1.85	2.25	1.85	2.25		
	0.59	3.74	1.77		0.63		5	6.18	2.56	1.81	4.08	4.96	4.08	4.96		
	20	105	58		18		129	159	75	48	3.45	3.65	3.45	3.65		
	0.79	4.13	2.28		0.71		5.08	6.26	2.95	1.89	7.61	8.05	7.61	8.05		
	25	115	68		20		85	85	85	85	2.20	3.20	2.20	3.20		
0.98	4.53	2.68	0.71	3.35		3.35	3.35	4.85	7.05	4.85	7.05					
50	165	102	125	56	137	167	125	56	3.80	4.80	3.80	4.80				
	1.97	6.5			4.02	0.79	5.39	6.57	4.92	2.2	8.38	10.58	8.38	10.58		

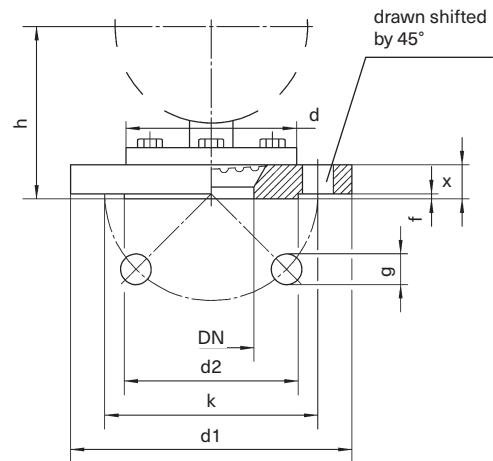
Open Flanges DN 15, 20, 25 and 50, PN 10 to PN 40

measuring flange $\varnothing d = 100$ mm

DN 15, 20 and 25



DN 50



Dimensional Data (mm / inch) and Weight (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	PCh	PChG		
100 4	15	99	45	2	4 x M12 ²⁾	106	136	65	12	25	2.30	2.70	2.65	3.65		
	0.59	3.4	1.77			4.17	5.35	2.56			5.07	5.95	5.84	8.05		
	20	105	58			103	133	75			2.40	2.80	2.75	3.75		
	0.79	4.13	2.28			4.06	5.24	2.95			5.29	6.17	6.06	8.27		
	25	115	68			85	85	85			2.50	2.90	2.85	3.85		
0.98	4.53	2.68	0.87	5.51	6.39	6.28	8.49									
50	165	102	125	20	101	131	125	-	20	3.60	4.00	3.95	4.95			
	1.97	6.5			4.02	0.71	3.98	5.16	4.92	0.79	7.94	8.82	8.71	10.91		

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

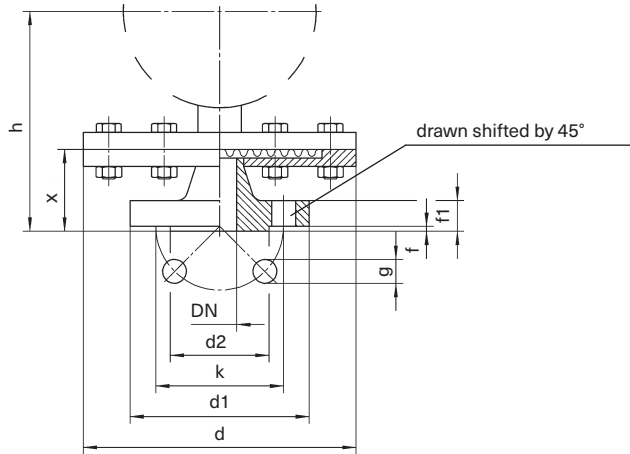
²⁾ upon request with stud screws M 12x35

Case Configuration, Dimensional Data and Weight

Open Flanges According to ASME, 1/2", 1" and 2", PN Class 150

measuring flange Ø d = 160 mm

ASME B 16.5 RF



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

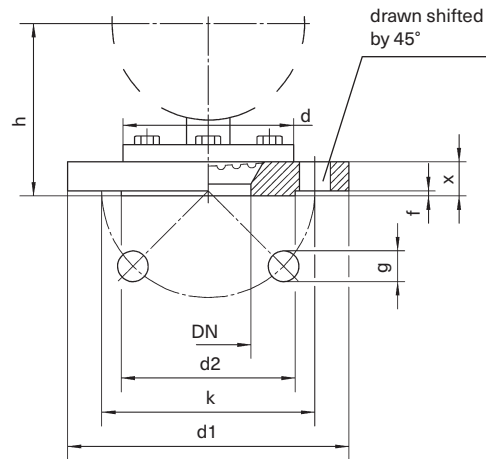
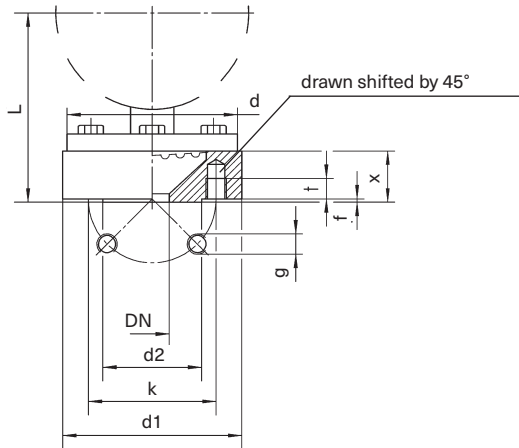
measuring flange Ø d	DN	d1	d2	f	f1	g	h ^{±2}		k	l	approx. weight ¹⁾					
							NCS 100				NCS 160		NCS 100		NCS 160	
							PCh	PChG			PCh	PChG	PCh	PChG		
160 6	1/2"	88.9 3.5	34.9 1.37	1.6 0.06	11.1 0.44	16	137 5.39	167 6.57	60.3 2.37	56 2.2	3.85 8.49	4.25 9.37	4.20 9.26	5.20 11.46		
	1"	108 4.25	50.8 2		14.3 0.56	19 0.75	19 0.75	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 Class 150, 300 or 600

measuring flange Ø d = 100 mm

DN 1/2" and 1"

DN 2"



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

measuring flange Ø d	DN	d1		d2	f		g	h ^{±2 4)}		k		t	x			approx. weight ¹⁾				
		Class	Class		for Class 300			Class		Class			NCS 100		NCS 160					
		150	300 600		150 300	600		NCS 100	NCS 160	150	300 600		150	300	600	PCh	PChG	PCh	PChG	
100 4	1/2"	99 3.9	34.9 1.37	1.6 0.06	6.4 0.25	5/8" - 18 ²⁾	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	50.8 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	92.1 3.63						103 4.06	133 5.24				121 4.76	127 5	-	19.1 0.75	22.2 0.87	32	6.10 13.45

Several other connection flanges are available upon request, e.g. male or female thread G 1, groove union nut DIN 11851.

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

²⁾ Class 150: 1/2" - 20 UNF-2B

³⁾ Class 300 and 600: 8 x Ø 19

⁴⁾ Class 150 and 600: deviations equal to differences in dimensions "x"