

Differential Pressure Gauges With 2 Bourdon Tubes and 1 Pointer

Bayonet ring case stainless steel

DiRZCh
DiRZChG

Application

Differential pressure gauges with 2 Bourdon tubes are economic solutions for the measurement of two different pressures, with direct indication of the differential pressure. The pressure gauges have to be selected so that the static pressure does not exceed the next higher indication range according to DIN EN 837-1.

Pressure gauge models DiRZCh / DiRZChG are used, for example, in heating systems (flow and return) or filter systems.

Construction

The instruments are equipped with two independently operating Bourdon tube measuring systems, each system with its own pressure connection. The connections are marked with "+" (for the higher pressure and the one to be connected first) and with "-" (for the lower pressure).

Both measuring systems are connected to a pointer via a subtracting movement. Thus, the differential pressure can be read directly.

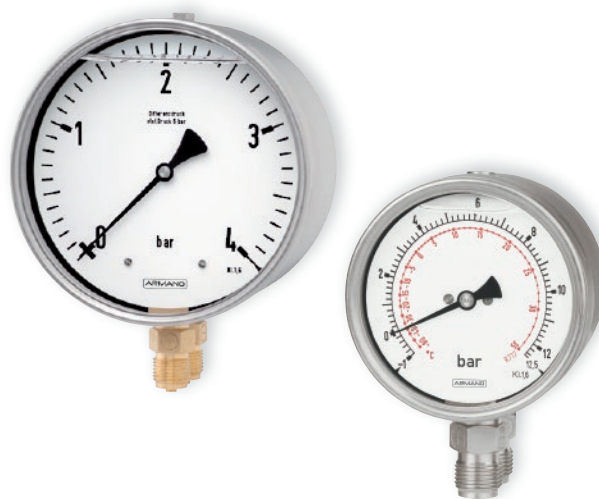


figure with special scale

Standard Versions

Accuracy (DIN EN 837-1)
Class 1.6

Case
With bayonet ring stainless steel 304 (1.4301)

Degree of Protection (DIN EN 60529 / IEC 60529)
IP54
IP65 for model DiRZChG

Case Ventilation
Model DiRZCh blow-out plug in the back of the case, 1" (Ø 25 mm)
Model DiRZChG blow-out device at the top of the case coverage

Case Filling
Model DiRZChG glycerin

Nominal Case Size
100, 160 mm (4, 6")

Wetted Parts

Type - 3	connections	stainless steel 316Ti (1.4571)
	Bourdon tubes	stainless steel 316L (1.4404) gas-shielded arc welding ≤ 40 bar (600 psi) c-form ≥ 60 bar (800 psi) helical form
	sealings	Viton
Type - 1	connections	brass
	Bourdon tubes	≤ 40 bar (600 psi) bronze, c-form soft soldered ≥ 60 bar (800 psi) stainless steel 316L (1.4404) helical form silver brazed
	sealings	NBR

Case Configuration

Connection	screwed
Position of the connection	bottom connection, parallel one behind the other
Mounting device	- without - back flange for surface mounting (Rh) - front flange for panel mounting (Fr)

Pressure Range (DIN EN 837-1)

0 - 1 bar to 0 - 600 bar (0 - 15 psi to 0 - 10000 psi)
Static pressure = one range higher than full scale value
Dial inscription "stat. Druck ... bar" (static pressure ... bar)

Process Connection

2 x G 1/2 B
Marked with "+" (higher pressure) and "-" (lower pressure)

Window

Laminated safety glass	for type - 3
Instrument glass	for type - 1

Movement

Brass / German silver

Dial

Aluminum white, scale black

Pointer

Aluminum black

Safety Category According to DIN EN 837-1

NCS 100	S1 pressure measuring instruments with blow-out device
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General Information, Options, Special Versions

General Information

Pressure Limitation

At steady load	full scale value
At dynamic load	0.9 x full scale value
Max. static pressure	one range higher than full scale value

Storage Temperature

-40 °C / +70 °C (-40 °F / +158 °F)	
-20 °C / +70 °C (-4 °F / +158 °F)	with glycerin filling

Ambient Temperature

-20 °C / +60 °C (-4 °F / +140 °F)	
-20 °C / +60 °C (-4 °F / +140 °F)	with glycerin filling

Medium Temperature

Type - 3	+100 °C (+212 °F)	
Type - 1	+60 °C (+140 °F)	soft soldered
	+100 °C (+212 °F)	silver brazed

Temperature Caused Error

In accordance with DIN EN 837-1, the additional error per 10 °C (18 °F) temperature deviation from the reference temperature +20 °C (+68 °F) (based on the measuring system) can be up to 0.4 %.

Ordering Information, Standard Pressure Ranges, Options

See page 4

Further Options

- Connections ½" NPT, M 20x1.5
- Type - 3 for higher medium temperatures, max. +130 °C (+266 °F)
- Type - 3 for ambient temperatures down to -40 °C (-40 °F)

Special Versions Upon Request

- Other process connections
- Other pressure ranges and / or special scales, e.g. dual scale bar / psi, coloured fields or ranges, dial inscriptions, negative scale
- Other static pressures
- Certificates and approvals, e.g. GOST (see also website)

Accessories

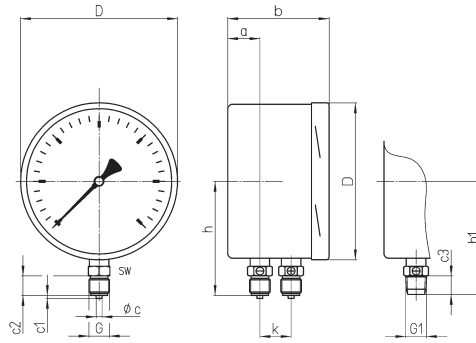
Electrical	limit switch contact assemblies data sheet 5111.90 and catalogue heading 9.1
Other accessory	see catalogue heading 11

Case Configurations, Code Letters, Dimensional Data and Weight

Bottom Connection, Parallel One Behind the Other

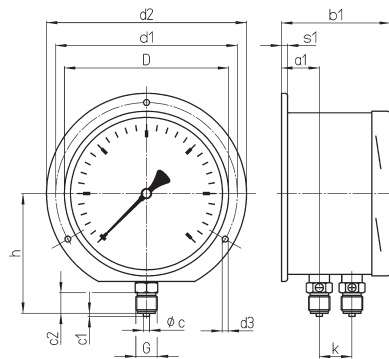
without mounting device

without code letters



with back flange for surface mounting

code letters Rh

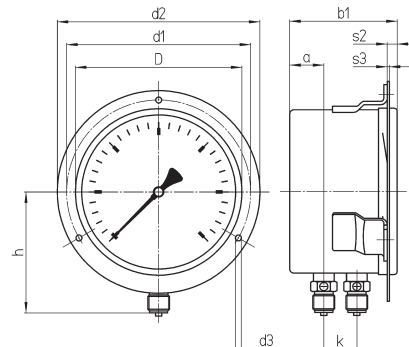
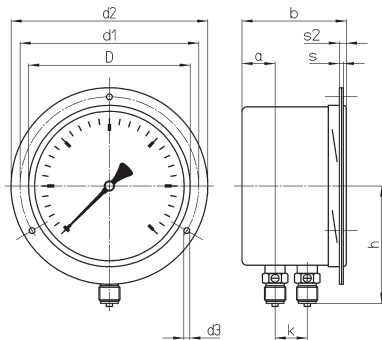


with front flange for panel mounting

code letters Fr

unfilled version

filled version



for dry (unfilled) version, model DiRZCh:
attached front flange with slotted holes and removable cover ring

for version with case filling, model DiRZChG:
brackets welded to the case and removable front flange

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

NCS	a	a1	b	b1	c	c1	c2	c3	D	d1	d2	d3	G	G1	h ^{±1}	h1 ^{±1}
100 4"	15 0.59	19 0.75	85 3.35	89 3.5	6	3	20	19	101 3.98	116 4.57	132 5.2	4.8 0.19	G 1/2 B 1/2" BSP M20x1.5	1/2" NPT	87	86
160 6"	33 1.3	37 1.46	104 4.09	106.5 4.19	0.24	0.12	0.79	0.75	161 6.34	178 7.01	196 7.72	5.8 0.23			117	116

k	SW	s	s1	s2	s3	weight ¹⁾	
						DiRZCh	DiRZChG
32	22	2	6	6	1.5	0.90	1.50
1.26	0.87	0.08	0.24	0.24	0.06	1.98	3.31
						1.50	3.50
						3.31	7.72

¹⁾ data for version without mounting device

Ordering Information, Options

Basic Model	Differential Pressure Gauge		DiRZCh
Case filling	without glycerin fillable version		without code letters G (G)
Nominal case size	case Ø 100, 160 mm (4, 6")		100, 160
Wetted material	copper alloy stainless steel		- 1 - 3
Case configuration	case / connection	screwed	without code letters
	position of the connection	bottom connection, parallel one behind the other	without code letters
	mounting device	without	without code letters
		back flange for surface mounting	Rh
		front flange for panel mounting	Fr
Pressure ranges	0 - 1 bar	0 - 15 psi	
	0 - 1.6 bar		
	0 - 2.5 bar	0 - 30 psi	
	0 - 4 bar	0 - 60 psi	
	0 - 6 bar	0 - 100 psi	e.g. 0 - 6 bar
	0 - 10 bar	0 - 160 psi	
	0 - 16 bar	0 - 200 psi	
		0 - 300 psi	
	0 - 25 bar	0 - 400 psi	
	0 - 40 bar	0 - 600 psi	
	0 - 60 bar	0 - 800 psi	
		0 - 1000 psi	
	0 - 100 bar	0 - 1500 psi	
	0 - 160 bar	0 - 2000 psi	
		0 - 3000 psi	
	0 - 250 bar	0 - 4000 psi	
		0 - 5000 psi	
	0 - 400 bar	0 - 6000 psi	
	0 - 600 bar	0 - 10000 psi	
Process connection	standard thread	G ½ B	G ½ B
	options	½" NPT	½" NPT
		M20x1.5	M20x1.5

These options are to be ordered in written form. Please contact us to ensure compatibility when combining options.

Red mark	on the dial
Plastic clip	red or green
Window	laminated safety glass for type - 1
Case ventilation	no. 22 for outdoor installations
Restrictor screw in the pressure inlet port, material brass or stainless steel	orifice Ø 0.8 mm (0.03") orifice Ø 0.6 mm (0.02") orifice Ø 0.3 mm (0.01")
Instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17"), wire mounting sticker on the case

Example **DiRZChG 100 - 3 Rh, 0 - 6 bar, G ½ B**

Special Versions: Please describe your requirements in cleartext!