

200 DPG Piston Differential Pressure Gauges / Switches

Model 200DPG

Data sheet : 200DPG/2012

Specifications

Accuracy

±2% of the FSD (Ascending)

Migration

Minor from high to low port

Range

0-0.25 to 0-70 bar or equivalent range in other units

First marking on the scale

20% of the FSD

Wetted parts

Body material, SS 302 spring, ceramic magnet & seals

Case material

Stainless steel (SS 304)

Dial size in inch /mm

2", 2.5", 3.5", 4", 4.5", 6" / 50, 63, 80, 100, 115, 150 mm

Mounting

Direct, front flange, 2" pipe & surface mounting

Maximum working pressure

200 bar for Aluminium & Brass, 400 bar for SS & Monel

Maximum process temperature

80°C / 175° F

Body material

Aluminum, Brass, SS 316 & Monel



Seals

Buna-N, Viton & EPDM 'O' rings

Window

Float glass(Std.), toughened glass, acrylic & safety glass.

Connection

1/4" NPT(F) Std. Optional 1/4" BSP(F)

Porting

In-line, rear, bottom, in-line & bottom

Over range protection

Up to the max. working pressure from high & low side

Protection for gauge & switch

IP 65 / NEMA-4

Switching Options

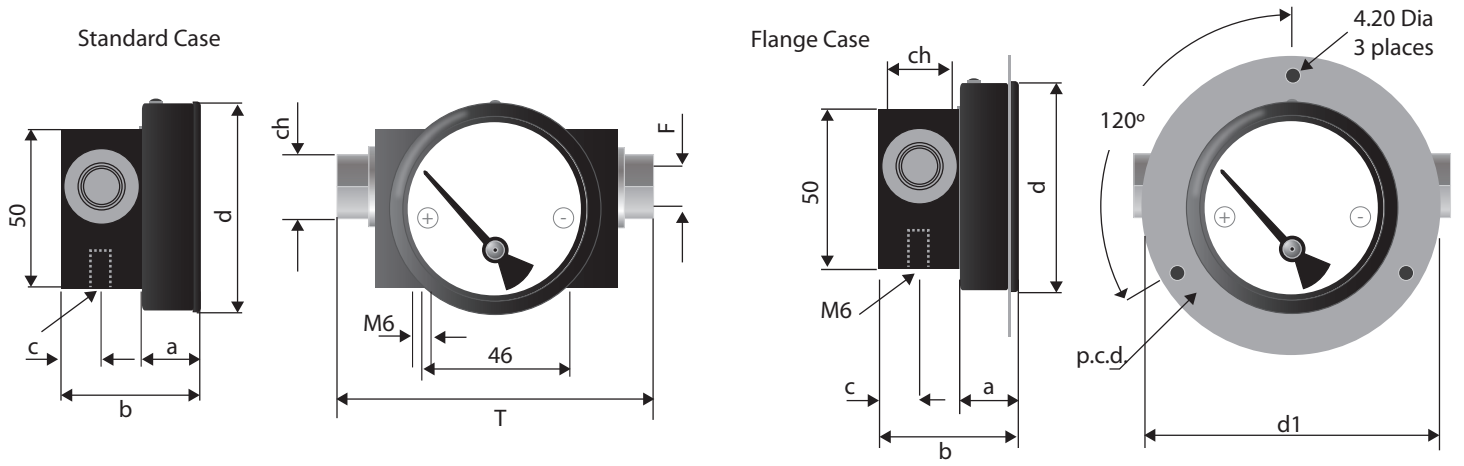
(Adjustable in 20-100% of FSD)

- 1 or 2 SPSTs with a DIN plug
- 1 or 2 SPSTs with a terminal strip
- 1 or 2 SPSTs with a built in relay
- 1 or 2 SPDTs with a DIN plug
- 1 or 2 SPDTs with a terminal strip

Standard Pressure Ranges

Kg/cm ²	bar	mbar	psi	kPa
0 to 0.25 kg/cm ²	0 to 0.25 bar	0 to 250 mbar	-	0 to 25 kPa
-	-	-	0 to 5 psi	-
0 to 0.5 kg/cm ²	0 to 0.5 bar	0 to 500 mbar	0 to 8 psi	0 to 50 kPa
0 to 0.75 kg/cm ²	0 to 0.75 bar	0 to 750 mbar	-	0 to 75 kPa
0 to 1 kg/cm ²	0 to 1 bar	0 to 1000 mbar	0 to 15 psi	0 to 100 kPa
-	-	-	0 to 20 psi	-
0 to 1.6 kg/cm ²	0 to 1.6 bar	-	0 to 25 psi	0 to 160 kPa
0 to 2 kg/cm ²	0 to 2 bar	-	0 to 30 psi	0 to 200 kPa
0 to 2.5 kg/cm ²	0 to 2.5 bar	-	-	0 to 250 kPa
0 to 3 kg/cm ²	0 to 3 bar	-	0 to 40 psi	0 to 300 kPa
0 to 3.5 kg/cm ²	0 to 3.5 bar	-	0 to 50 psi	0 to 350 kPa
0 to 4 kg/cm ²	0 to 4 bar	-	0 to 60 psi	0 to 400 kPa
0 to 5 kg/cm ²	0 to 5 bar	-	-	0 to 500 kPa
-	-	-	0 to 80 psi	-
0 to 6 kg/cm ²	0 to 6 bar	-	-	0 to 600 kPa
0 to 7 kg/cm ²	0 to 7 bar	-	0 to 100 psi	0 to 700 kPa
0 to 9 kg/cm ²	0 to 9 bar	-	-	0 to 900 kPa
0 to 10 kg/cm ²	0 to 10 bar	-	-	0 to 1000 kPa

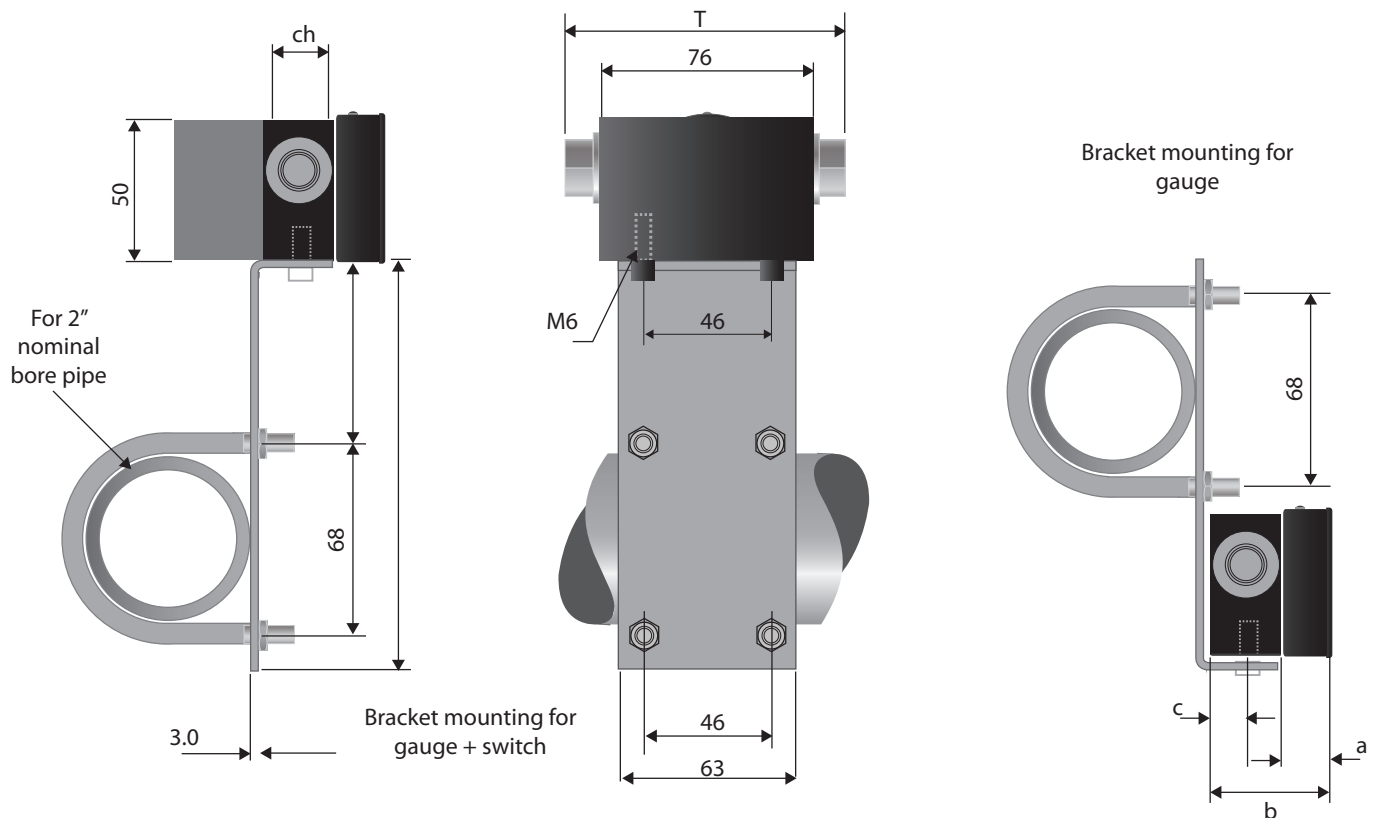
Standard Dimensions (Model 200DPG)



Dial	F	a	b	c	d	d1	T	ch	p.c.d
50mm (2")	1/4" BSP - 1/4" NPT	18	43	12.5	53	79	100	20	69
63mm (2.5")	1/4" BSP - 1/4" NPT	19	44	12.5	66	93	100	20	83
80mm (3.5")	1/4" BSP - 1/4" NPT	19	44	12.5	83	109	100	20	99
100mm (4")	1/4" BSP - 1/4" NPT	19	44	12.5	104.3	131	100	20	121
115mm (4.5")	1/4" BSP - 1/4" NPT	19	44	12.5	119.7	146	100	20	136
150mm (6")	1/4" BSP - 1/4" NPT	19	44	12.5	154.3	181	100	20	171

Panel Cut Out = d+1mm
All dimensions are in mm - drawings are not to scale and are for illustration purposes only

Mounting Brackets (Model 200DPG)



Dial	F	a	b	c	T	ch
50mm (2")	1/4" BSP - 1/4" NPT	18	43	12.5	100	20
63mm (2.5")	1/4" BSP - 1/4" NPT	19	44	12.5	100	20
80mm (3.5")	1/4" BSP - 1/4" NPT	19	44	12.5	100	20
100mm (4")	1/4" BSP - 1/4" NPT	19	44	12.5	100	20
115mm (4.5")	1/4" BSP - 1/4" NPT	19	44	12.5	100	20
150mm (6")	1/4" BSP - 1/4" NPT	19	44	12.5	100	20

Order Code - 200DPG Differential Pressure Gauge

Model 200DPG

Type

Gauge
Switch
Gauge + Switch

Body Material

Aluminium
Brass
316 Stainless Steel
Monel

Dial Size

50mm (2.0")
63mm (2.5")
80mm (3.5")
100mm (4.0")
115mm (4.5")
150mm (6.0")

Connection

1/4" NPT female (Standard)
1/4" BSP female
Other via adaptors

Porting

In-line (Standard)
Rear / back
Bottom
Bottom & Vent
In-line & Vent
In-line & Bottom

Case Type

304 Stainless Steel
304 Stainless Steel (with flange)

Window

Glass (Standard)
Acrylic
Toughened Glass

Seals

Buna-N
Viton®

Switch

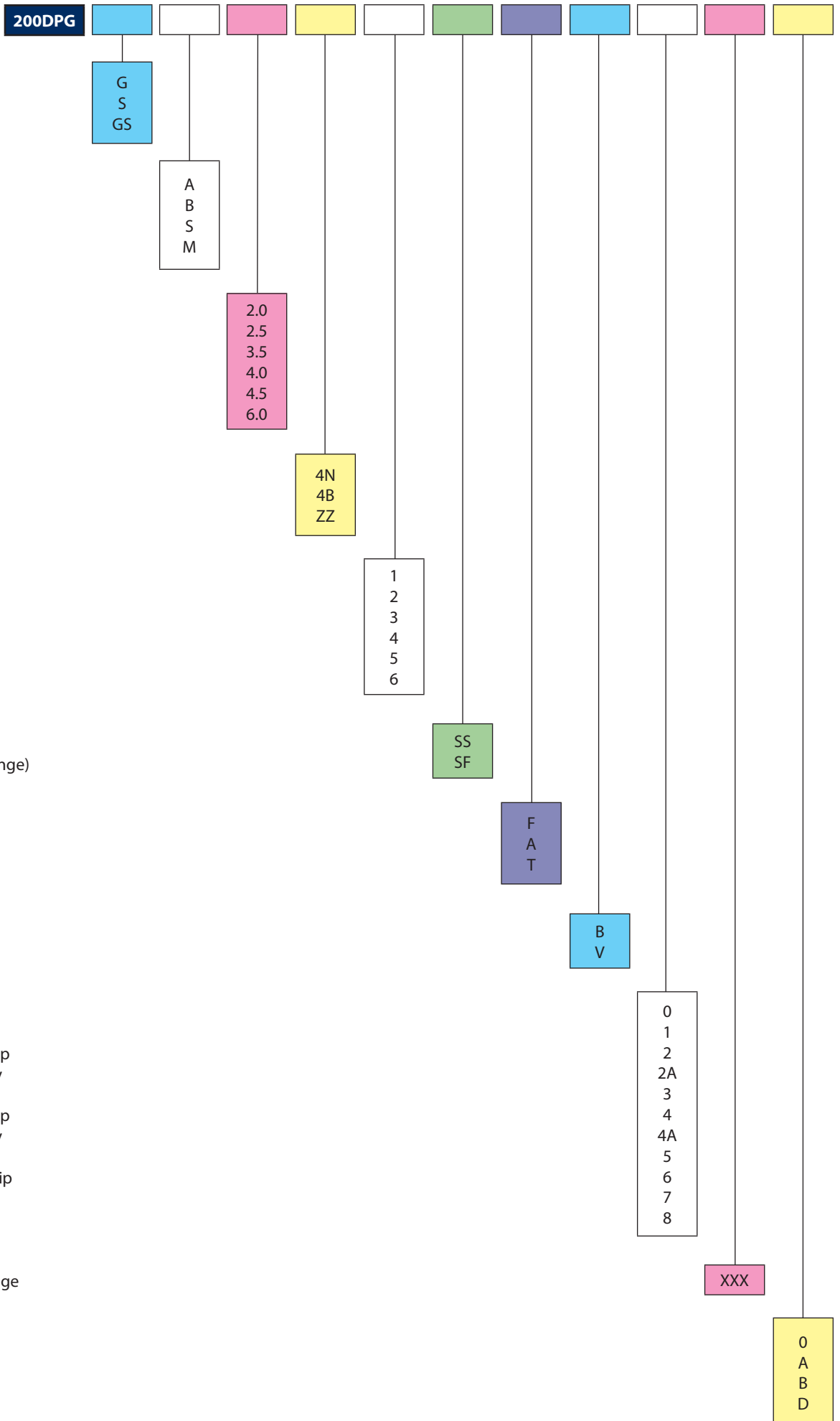
None
1 x SPST with a DIN plug
1 x SPST with a terminal strip
1 x SPST with a built in relay
2 x SPST with a DIN plug
2 x SPST with a terminal strip
2 x SPST with a built in relay
1 x SPDT with a DIN plug
1 x SPDT with a terminal strip
2 x SPDT (2 x DIN plug)
2 x SPDT (2 x terminal strip)

Pressure Range

Enter standard pressure range

Option

None
Glycerine filled
Red Follow Pointer
Dual scale



Light to Medium Duty Differential Pressure Gauges - Range Overview

Rototherm's quality differential pressure gauges are designed to measure the difference in pressure between two points in a system and show it on a single dial gauge. A magnetic movement senses the differential pressure. The gauge has separate pressure and indicating chambers.

These diaphragm instruments can indicate small values of differential pressure even when used at high line pressures. They provide instantaneous and continuous information regarding system conditions helping in eliminating premature servicing of equipment, avoid unscheduled down time of costly processes and can detect abnormal system conditions.

Gauges can be supplied with reed switches to initiate alarms, activate other equipment or to shut the system down. Two switches are used when high and low limits are desired. Gauge-switch models provide the user with both gauge readout and switch operation.

Applications

Monitor filter conditions, set filter by-pass, or initiate filter cleaning cycle. Determine obstructions in process lines. Check condition of pumps, heat exchangers and other processing equipment. Adjust flow rates in piping systems. Monitor liquid levels in storage tanks.






Operating Principle

High and low pressures are separated by a sensor assembly consisting of a magnet, piston or diaphragm and a range spring. The difference in pressure causes the sensor assembly to move in proportion to the change against a range spring.

A rotary magnet, located in a separate body cavity and isolated from the acting pressures, is rotated by magnetic coupling as per the linear movement of the sensor assembly. A pointer attached to the rotary magnet indicates differential pressure on the dial.



Clockwise from top: 300DGC, 200DGR flush mounted, 200DPG, 200DGR with optional switch.

Model	Case Material	Mounting	Nominal Dial Sizes (mm)	Body Material / Wetted Parts	Connections*	Standard Ranges**	Maximum Static Pressure	Switch Option
 200DPG	Stainless Steel	Direct Surface Panel 2" pipe	50, 63, 80, 100, 115, 150	Aluminium 316 St Steel Brass	1/4" BSP or NPT female*	0 - 0.25 to 0 - 10 bar	200 bar	SPST or SPDT - one or two
 200DGR	Stainless Steel	Direct Surface Panel 2" pipe	50, 63, 80, 100, 115, 150	Aluminium 316 St Steel Brass	1/4" BSP or NPT female*	0 - 0.25 to 0 - 7 bar	200 bar	SPST or SPDT - one or two
 300DGC	Stainless Steel	Direct Surface Panel 2" pipe	50, 63, 80, 100, 115, 150	Aluminium 316 St Steel Brass	1/4" BSP or NPT female*	0 - 0.075 to 0 - 4 bar	100 bar	SPST or SPDT - one or two
 400DGC	Stainless Steel	Direct Surface Panel 2" pipe	50, 80, 100, 115, 150	Aluminium 316 St Steel	1/4" BSP or NPT female*	0 - 25 to 0 - 600 mmH2O	35 bar	SPST or SPDT - one or two
 600DGC	Stainless Steel	Direct Surface Panel 2" pipe	112	Engineering Polymer	1/8" NPT female*	0 - 15 to 1000 mmH2O	2.4 bar	SPST or SPDT - one or two

