

200DPG Differential Pressure Gauge

Features

- Cost effective and reliable.
- Simple and compact design.
- Easy to read dial gauge eliminates accumulated errors of two gauge installations.
- High operating pressure up to 200 bar.
- Differential pressure range up to 10 bar.
- Over pressure safe from either side to maximum working pressure
- Adjustable reed contact switching.
- Indicating mechanism isolated from pressure chamber.
- Only switch is also available.
- Wide applications in air, gas and liquid media.

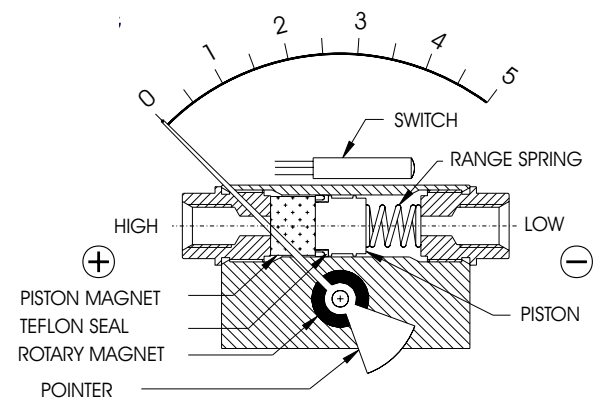


Operating Principal

High and Low pressures are separated by a sensor assembly consisting of a magnet, piston, Teflon seal 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.

Reed switches are located adjacent to the pressure chamber and are activated by the magnetic field of the sensor assembly



Technical Specification

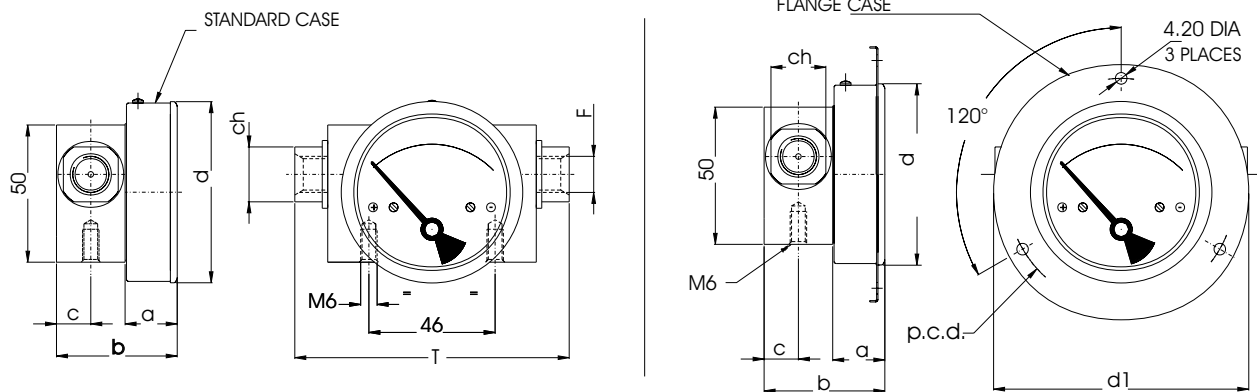
| | |
|------------------------|---|
| Ranges : | 0.....0.25 to 0....10 bar |
| Units of calibration : | Kg/cm ² , kPa, bar, mbar, psi. |
| Operating principle : | Magnetic coupling using piston & a spring. |
| Working pressure : | 200 bar / 3000 psi |
| Accuracy : | ± 2 % of FSD (Ascending) |
| Dial sizes : | 2"(50mm), 2.5" (63mm), 3.5"(80mm), 4"(100mm), 4.5"(115mm), & 6" (150mm) |
| Body Material : | Aluminium, SS-316, & Brass |
| Temperature : | 80°C Max. for the media. |
| Protection : | IP 65 for gauge. |
| Migration of media : | Marginal |
| Connections : | 1/4" BSP or NPT female. |
| Wetted parts : | Body material, PTFE, SS 304 spring, screw, and ceramic magnet. |
| Seals : | Buna N (Standard), Viton |
| Porting : | In-line, Bottom, or Back |

| | |
|-----------------|---|
| Switch : | SPST or SPDT, one or two. Switches are field adjustable. The set points can be increased or decreased externally with simple screwdriver adjustments. When two switches are used, either switch can be adjusted independently. Switch unit can also be installed later on gauges with in-line and bottom porting. |
| Dial case : | Stainless steel case and flange (Standard) |
| Window : | Glass (Standard) Acrylic, Toughened glass on request. |
| Mounting : | Direct, front panel flange, 2" pipe. |
| Other options : | Glycerine filling, red resettable follower pointer, dual scale, DIN plug, strainer in (+) connection. |

Standard Pressure Ranges 200DPG

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

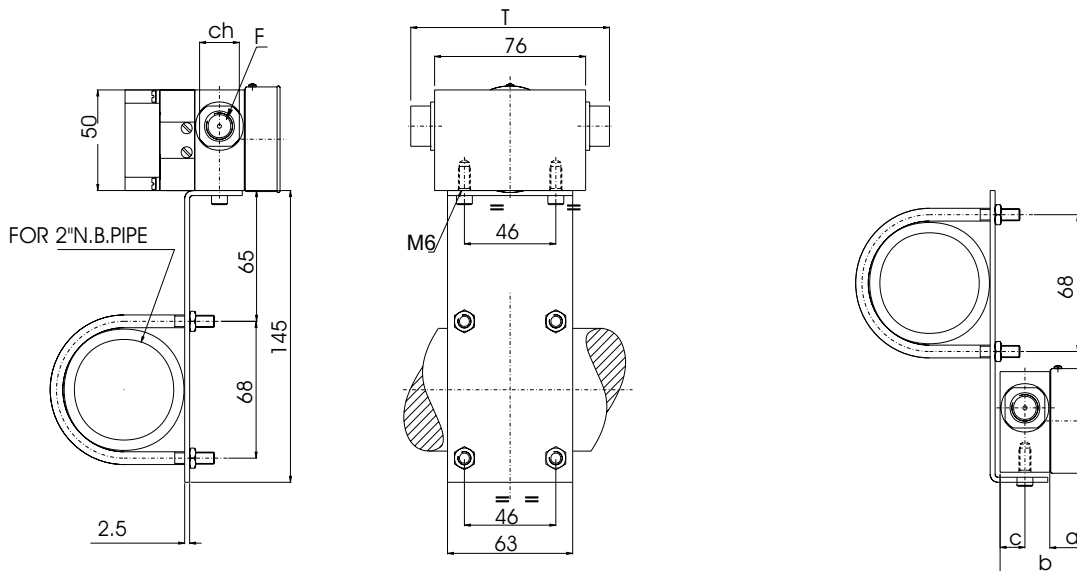
Standard Dimensions for Model 200DPG



| DIAL Ø | F | a | b | c | d | d1 | T | ch | p.c.d. |
|------------|-------------------|----|----|------|-------|-----|-----|----|--------|
| 50 (2") | 1/4"BSP - 1/4"NPT | 18 | 43 | 12.5 | 53 | 79 | 100 | 20 | 69 |
| 63 (2.5") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 66 | 93 | 100 | 20 | 83 |
| 80 (3") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 83 | 109 | 100 | 20 | 99 |
| 100 (4") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 104.3 | 131 | 100 | 20 | 121 |
| 115 (4.5") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 119.7 | 146 | 100 | 20 | 136 |
| 150 (6") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 154.3 | 181 | 100 | 20 | 171 |

* PANEL CUT OUT = d + 1

MOUNTING BRACKETS FOR MODEL 200 DPG

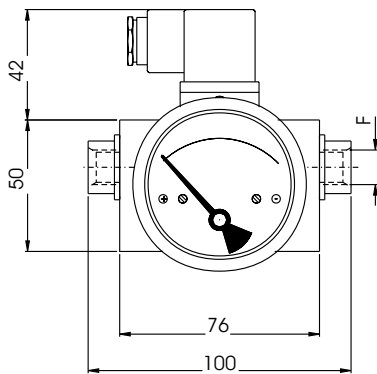


BRACKET MOUNTING FOR GAUGE+ SWITCH

BRACKET MOUNTING FOR GAUGE

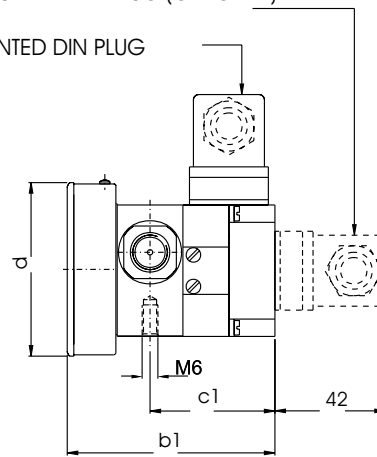
| DIAL Ø | F | a | b | c | T | ch |
|------------|-------------------|----|----|------|-----|----|
| 50 (2") | 1/4"BSP - 1/4"NPT | 18 | 43 | 12.5 | 100 | 20 |
| 63 (2.5") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 100 | 20 |
| 80 (3") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 100 | 20 |
| 100 (4") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 100 | 20 |
| 115 (4.5") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 100 | 20 |
| 150 (6") | 1/4"BSP - 1/4"NPT | 19 | 44 | 12.5 | 100 | 20 |

GAUGE + SWITCH WITH REED CONTACTS & DIN PLUG (Model 200 DPG)



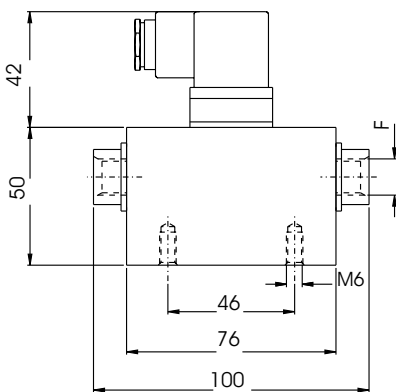
BACK MOUNTED DIN PLUG (OPTIONAL)

TOP MOUNTED DIN PLUG



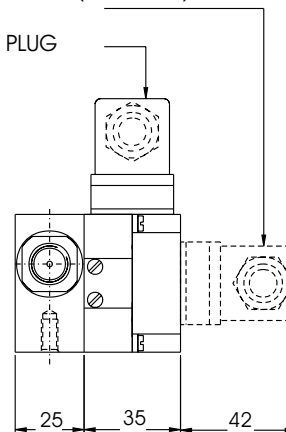
| DIAL Ø | F | b1 | c1 | d |
|------------|-------------------|----|------|-------|
| 50 (2") | 1/4"BSP - 1/4"NPT | 78 | 47.5 | 53 |
| 63 (2.5") | 1/4"BSP - 1/4"NPT | 79 | 47.5 | 66 |
| 80 (3.5") | 1/4"BSP - 1/4"NPT | 79 | 47.5 | 83 |
| 100 (4") | 1/4"BSP - 1/4"NPT | 79 | 47.5 | 104.3 |
| 115 (4.5") | 1/4"BSP - 1/4"NPT | 79 | 47.5 | 119.7 |
| 150 (6") | 1/4"BSP - 1/4"NPT | 79 | 47.5 | 154.3 |

SWITCH (Model 200 DPG)



BACK MOUNTED DIN PLUG (OPTIONAL)

TOP MOUNTED DIN PLUG



Differential Pressure Gauges

(medium to heavy duty - 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.

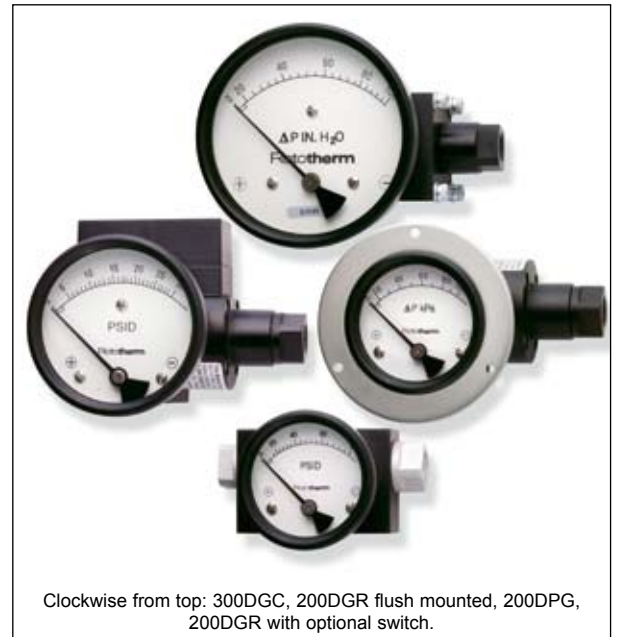
Operating Principle

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.

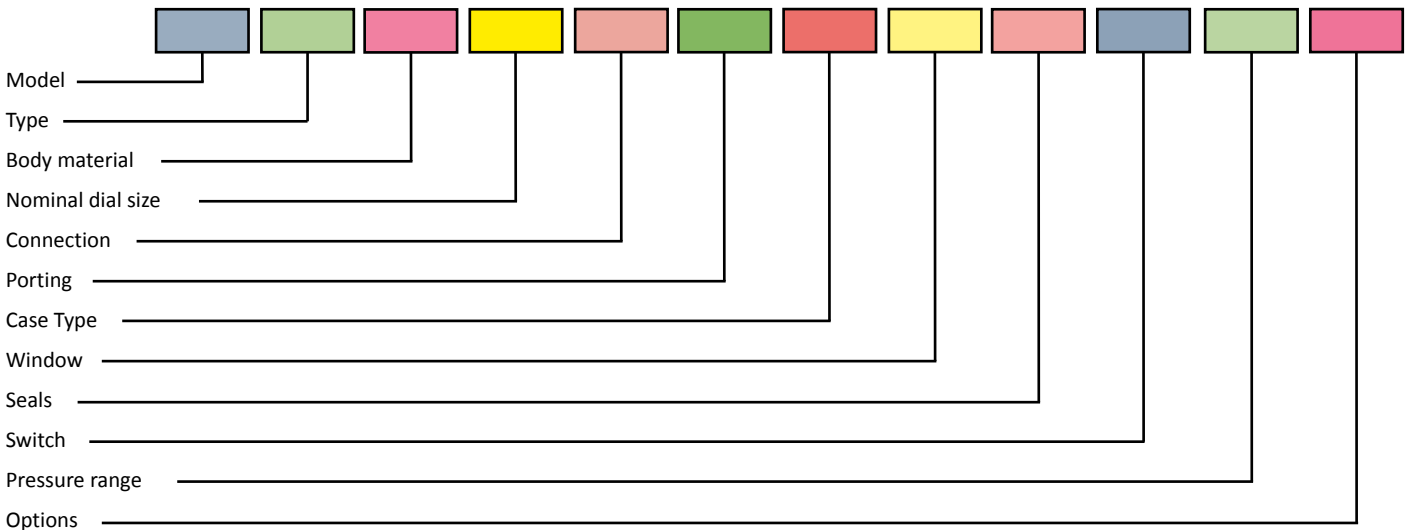
A rotary magnet, located in a separate body cavity and isolated from the acting pressures, is rotated by magnetic coupling as per the linear movement of the sensor assembly. A pointer attached to the rotary magnet indicates differential pressure on the dial.

Light to Medium Duty Differential Pressure Gauges - Range Overview

| 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 |



Differential Pressure Gauge Ordering Information



1. Model

| | | |
|---------|---------|---------|
| 200 DPG | 200 DGR | 300 DGC |
| 400 DGC | 600 DGC | |

2. Type

| | | |
|----------------|-----------------|--------------------------|
| G Gauge | S Switch | GS Gauge + Switch |
|----------------|-----------------|--------------------------|

3. Body Material

| | |
|---|----------------|
| A Aluminium | B Brass |
| S 316 stainless steel | M Monel |
| EP Engineering Polymer (600DGC only) | |

4. Dial Size

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

5. Connection

| | |
|-----------------------------------|---------------------------------|
| 4N 1/4" NPT (F) (standard) | 4B 1/4" BSP (F) |
| ZZ Other via adaptors | 8N 1/8" NPT (F) (600DGC) |

6. Porting

| | |
|-----------------------------|---------------------------|
| 1 In-line (standard) | 4 Bottom & vent |
| 2 Rear / back | 5 In-line & vent |
| 3 Bottom | 6 In-line & bottom |

7. Case Type

| | |
|--|---|
| SS 304 stainless steel (standard) | SF 304 stainless steel (with flange) |
|--|---|

8. Window

| | |
|---------------------------|------------------|
| F Glass (standard) | A Acrylic |
| T Toughened glass | |

9. Seals

| | |
|----------------------------|-----------------|
| B Buna-N (standard) | V Viton® |
|----------------------------|-----------------|

10. Switch

| | | | |
|-------------------------------------|-------------------------------------|--|--|
| 0 | | | |
| 1 1 x SPST (DIN plug) | 4A 2 x SPST (built in relay) | | |
| 2 1 x SPST (terminal strip) | 5 1 x SPDT (DIN plug) | | |
| 2A 1 x SPST (built in relay) | 6 1 x SPDT (terminal strip) | | |
| 3 2 x SPST (DIN plug) | 7 2 x SPDT (2 x DIN plug) | | |
| 4 2 x SPST (terminal strip) | 8 2 x SPDT (terminal strip) | | |

11. Pressure Range

Enter standard pressure range - see specific model data sheets

12. Options

| | |
|---------------------------|-----------------------------|
| 0 None | B Red follow pointer |
| A Glycerine filled | D Dual scale |



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