

DIAPHRAGM INSTRUMENTS



Hirlekar Precision manufactures quality differential pressure instruments designed to measure the difference in pressure between two points in a system and show it on a single dial instrument. A magnetic movement senses the differential pressure. The instruments have separate pressure and indicating chambers.

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

Switching Facility : Instruments can be supplied with reed switches to initiate alarms, activate other equipment, or 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. Check condition of pumps, heat exchangers, and other processing equipment. Detect abnormal and reverse flow conditions. Measure flow rates with venturi, orifice, or pitot tube.

200 DGC

Large Convolute Diaphragm Instruments

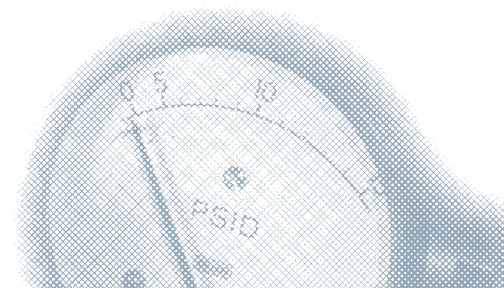
SALIENT FEATURES

- Cost effective and reliable.
- Uses diaphragm sensor.
- Easy to read dial instrument eliminates the accumulated errors of two instrument installations.
- **Working pressures 3 bar & 35 bar.**
- **Differential pressure instrument from 50 mm to 600 mm H₂O .**
- Adjustable reed contact switching.
- Indicating mechanism isolated from pressure chamber.
- Wide applications in air, gas and liquid media.
- Zero migration between high and low pressures.
- Only switch is also available.
- Manufactured in ISO 9002 certified plant.
- Exported worldwide.

HIRLEKAR PRECISION

Hirlekar Precision Engineering Private Limited
67 Industrial Town planning scheme II,
Ramtekadi, Pune 411 013 INDIA
Phone : +91 20 6823648 /9
Fax : +91 20 6871153
Email : hirlekar@vsnl.com
website : www.hirlekarprecision.com

MAGNETIC PRINCIPLE

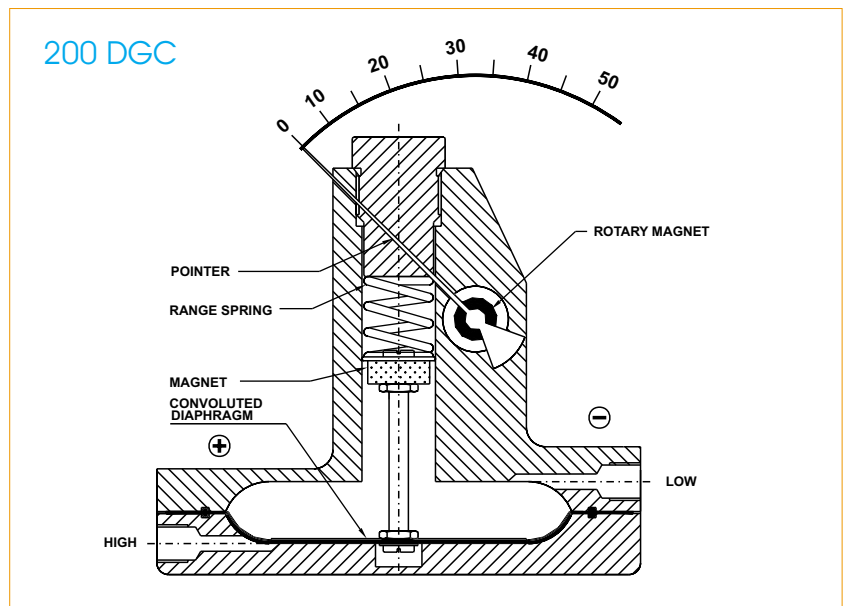


OPERATING PRINCIPLE

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

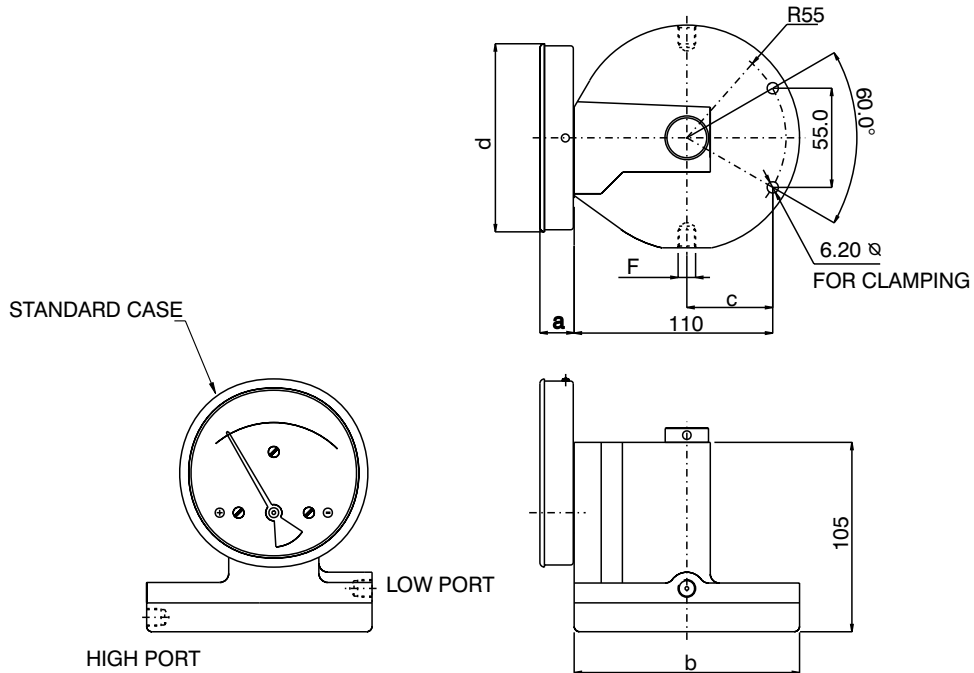
Switch : Reed switches are located adjacent to the pressure chamber and are activated by the magnetic field of the sensor assembly.



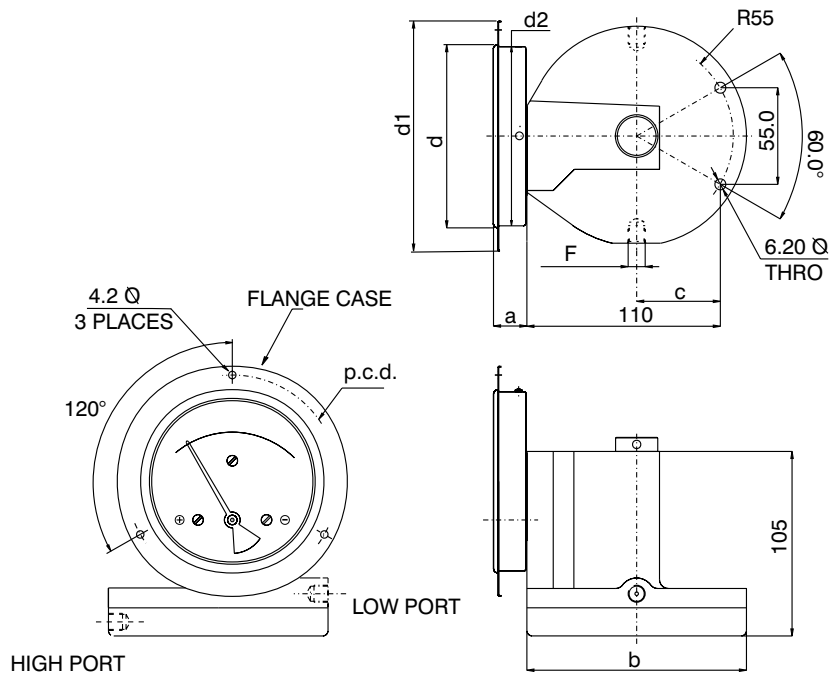
TECHNICAL DATA (MODEL 200 DGC)

Ranges	:	0-50 to 0-600 mm H ₂ O
Units of calibration	:	mbar, IN H ₂ O.
Operating principle	:	Magnetic coupling with a convoluted diaphragm sensor.
Working pressure	:	3 bar for ranges upto 125mm H ₂ O & 35 bar for further ranges.
Accuracy	:	± 2 % of FSD (Ascending)
Dial sizes	:	3.5" (80mm), 4" (100mm), 4.5" (115mm), & 6" (150mm)
Body Material	:	Aluminium cast.
Temperature.	:	80°C Max. for the media.
Protection	:	IP 65 for gauge
Migration of media	:	Zero migration between high and low pressures.
Connections	:	1/8" BSP or NPT Female.
Wetted parts	:	Diaphragm, ceramic magnet, SS 304 spring, Aluminium.
Seals	:	Buna-N (Standard), Viton
Porting	:	Available in in-line only .
Switch	:	SPST or SPDT, one or two.Factory set.
Dial case	:	Stainless steel case and flange.
Window	:	Glass (Standard), Acrylic, Toughened glass on request.
Other options	:	Dual scale, colour band.

STANDARD DIMENSIONS (MODEL 200 DGC)



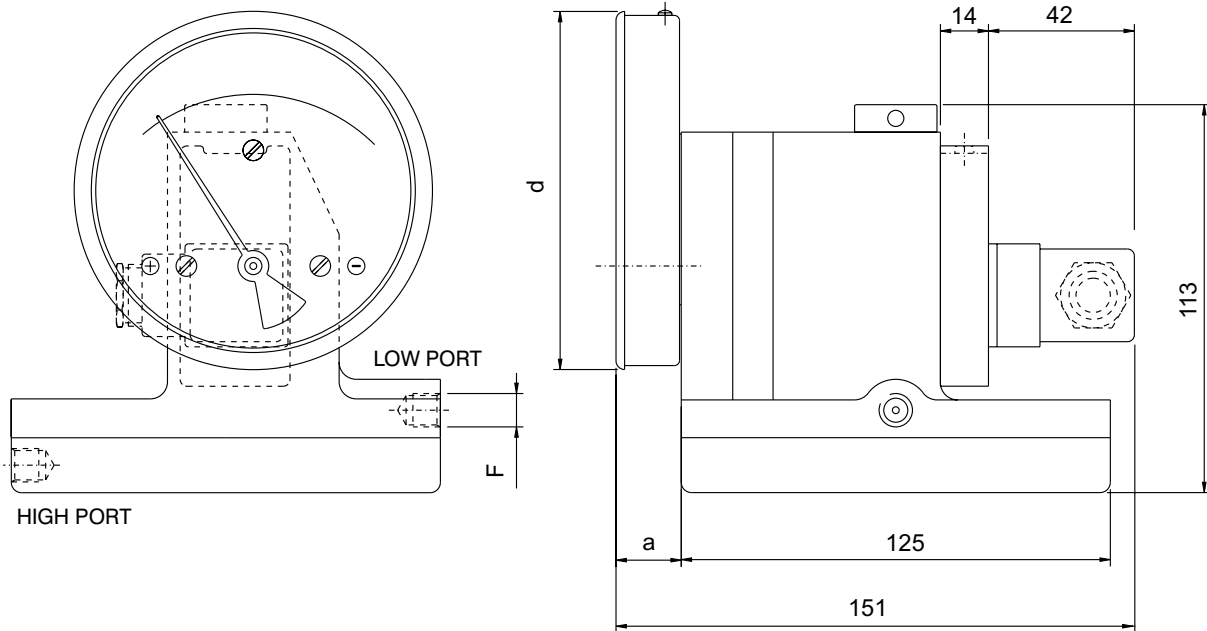
DIAL Ø	F	a	b	c	d
80 (3.5")	1/8"BSP - 1/8"NPT	19	125	47.6	83.0
100 (4.0")	1/8"BSP - 1/8"NPT	19	125	47.6	104.3
115 (4.5")	1/8"BSP - 1/8"NPT	19	125	47.6	119.7
150 (6.0")	1/8"BSP - 1/8"NPT	19	125	47.6	154.3



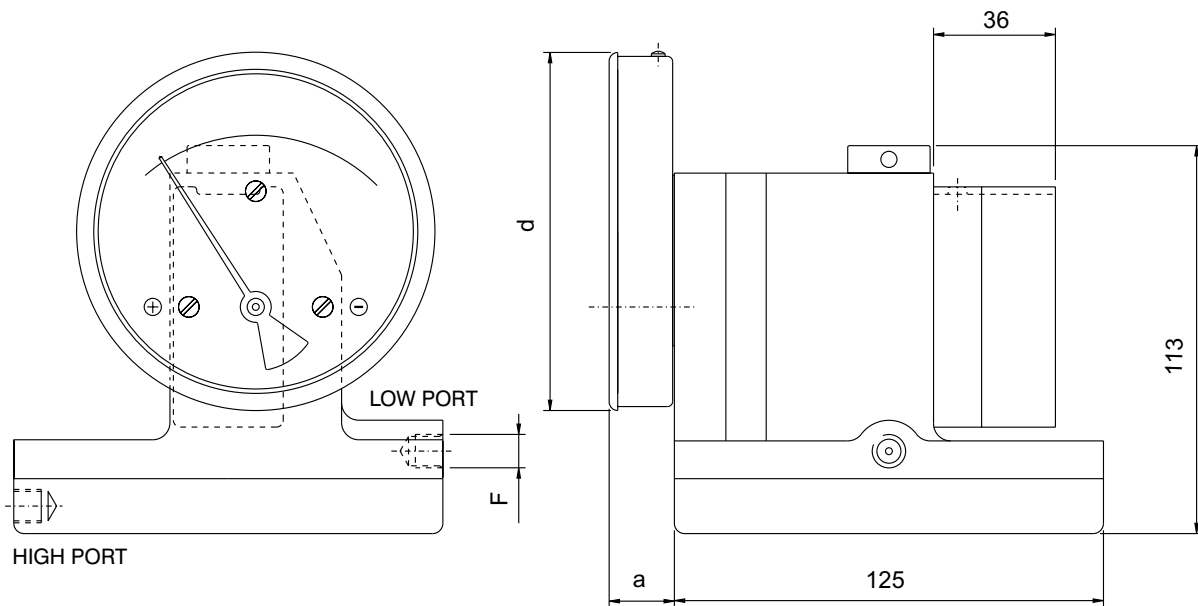
DIAL Ø	F	a	b	c	d *	d1	d2	p.c.d.
80 (3.5")	1/8"BSP - 1/8"NPT	19	125	47.6	83	109	82	99
100 (4.0")	1/8"BSP - 1/8"NPT	19	125	47.6	104.3	131	102	121
115 (4.5")	1/8"BSP - 1/8"NPT	19	125	47.6	119.7	146	117	136
150 (6.0")	1/8"BSP - 1/8"NPT	19	125	47.6	154.3	181	152.5	171

* PANEL CUTOUT = d + 1 mm.

GAUGE+SWITCH WITH REED CONTACTS WITH DIN PLUG AND TERMINAL STRIP (MODEL 200 DGC)



DIAL SIZE	a	d	F
80 (3.5")	19	83	1/8" BSP - 1/8" NPT
100 (4.0")	19	104.3	1/8" BSP - 1/8" NPT
115 (4.5")	19	119.7	1/8" BSP - 1/8" NPT
150 (6.0")	19	154.3	1/8" BSP - 1/8" NPT



HOW TO ORDER A DIFFERENTIAL PRESSURE INSTRUMENT, MODEL 200 DGC

Example		Code Descriptions	
Series	200 DGC		
Type	G	G	Gauge
		S	Switch
		GS	Gauge + Switch
Body material	A	A	Aluminium (cast painted in black)
Dial size	3.5	3.5	3.5" (80 mm)
		4.0	4.0" (100 mm)
		4.5	4.5" (115 mm)
		6.0	6.0" (150 mm)
Connection	8N	8B	1/8" BSP (Female)
		8N	1/8" NPT (Female)
		ZZ	Special connection sizes using adaptor
Porting	1	1	In-line (Standard)
Case type	SS	SS	SS 304 with a rubber ring (standard)
		SF	SS 304 flange with a rubber ring (standard flange)
Window	A	F	Glass (standard)
		A	Acrylic
		T	Toughened glass
Seal	B	B	Buna-N (standard)
		V	Viton
Switch	0	0	None
		1	One SPST, with a DIN plug*
		2	One SPST, with a terminal strip
		2A	One SPST, with built in relay
		3	Two SPSTs, with a DIN plug*
		4	Two SPSTs, with a terminal strip
		5	One SPDT, with a DIN plug*
		6	One SPDT, with a terminal strip
		8	Two SPDTs, with a terminal strip

SPST Specifications :

10 VA AC or DC (max)
150 V AC or DC (max)
0.5 Amp AC or DC (max)

SPDT Specifications :

5 VA AC or DC (max)
175 V AC or DC (max)
0.25 Amp AC or DC (max)

Built in relay :

230 V AC, 1 Amps.

* **DIN plug** : we mount it at the back, on the plastic switch cover. However we can give it at the side as a request.)

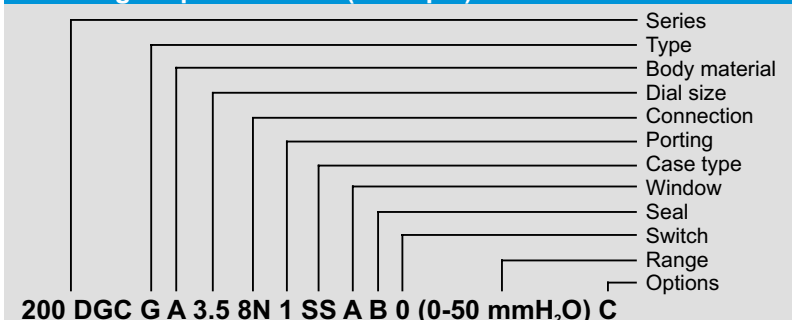
Switch applicable for "S" & "GS" types only. Switches operate from 40 to 80% of the range & mounted at the back. Switches are in a plastic enclosure, they are factory set, field adjustable.

Standard Ranges	0-50 mm H ₂ O	mm H ₂ O	50	125	250	600
		IN. H ₂ O	2	5	10	25

Other ranges on request.

Options	C	0	None
		C	Customer Logo
		D	Dual scale
		E	Colour band

Ordering Sequence Code (Example)



Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing, modifications may take place and materials specified may be replaced by others without prior notice.