

400 DGC

Medium Convoluted Diaphragm Instruments

SALIENT FEATURES

- Cost effective and reliable.
- Uses diaphragm sensor.
- Easy to read dial instrument eliminates the accumulated errors of two instrument installations.
- **Differential pressure range from 25 mm to 600 mm H₂O.**
- **Working pressures 35 bar.**
- Indicating mechanism isolated from pressure chamber.
- Wide applications in air, gas and liquid media.
- Zero migration between high and low pressures.
- Manufactured in ISO certified plant.
- Exported worldwide.

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.



Differential Pressure Plus, Inc.

16 Carriage Hill Drive

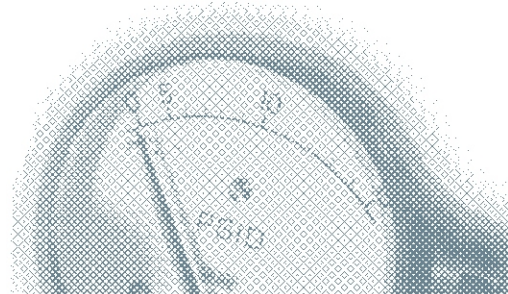
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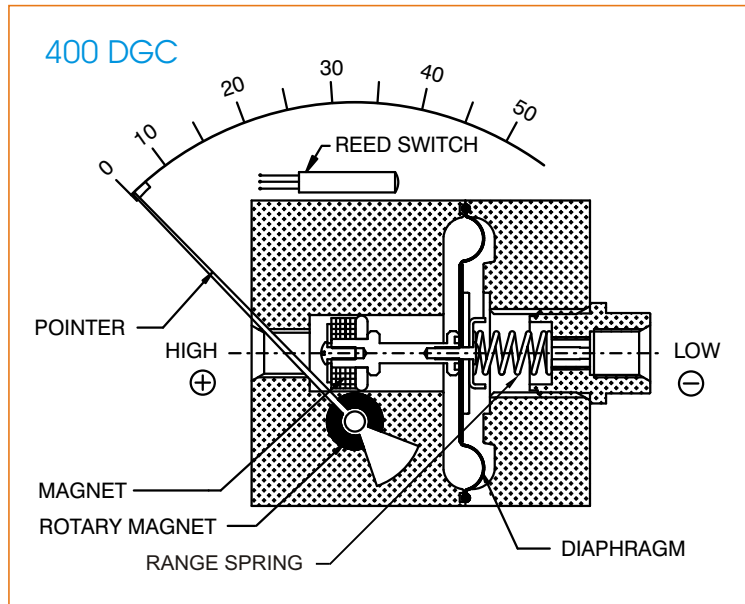


OPERATING PRINCIPLE

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

Specifications

Accuracy	: $\pm 2\%$ of the FSD (Ascending)
Migration	: No migration, Zero leakage from high to low port
Range	: 0-25 to 0-600 mm H ₂ O or similar ranges in other units
First marking on the scale	: 15% of the FSD
Sensing element	: Diaphragm
Wetted parts	: Diaphragm, Body material, SS 302 spring & ceramic magnet
Case material	: Stainless steel (SS 304)
Dial size in inch /mm	: 3.5", 4", 4.5", 6" / 80, 100, 115, 150
Mounting	: Direct, front flange & 2" pipe mounting
Max. working pressure	: 35 bar / 500 psi.
Max process temperature	: 80° C / 175° F
Body material	: Aluminum, SS 316
Seals	: Buna-N, Viton diaphragm & 'O' rings
Window	: Float glass (Std.), toughened glass, acrylic glass & safety glass on request.
Connection	: 1/4" NPT(F) Std. optional 1/4" BSP(F) with adaptor on high side.
Porting	: In-line, rear, bottom
Over range protection	: Up to the max. working pressure from high side.
Protection for gauge & switch	: IP 65 / NEMA-4.

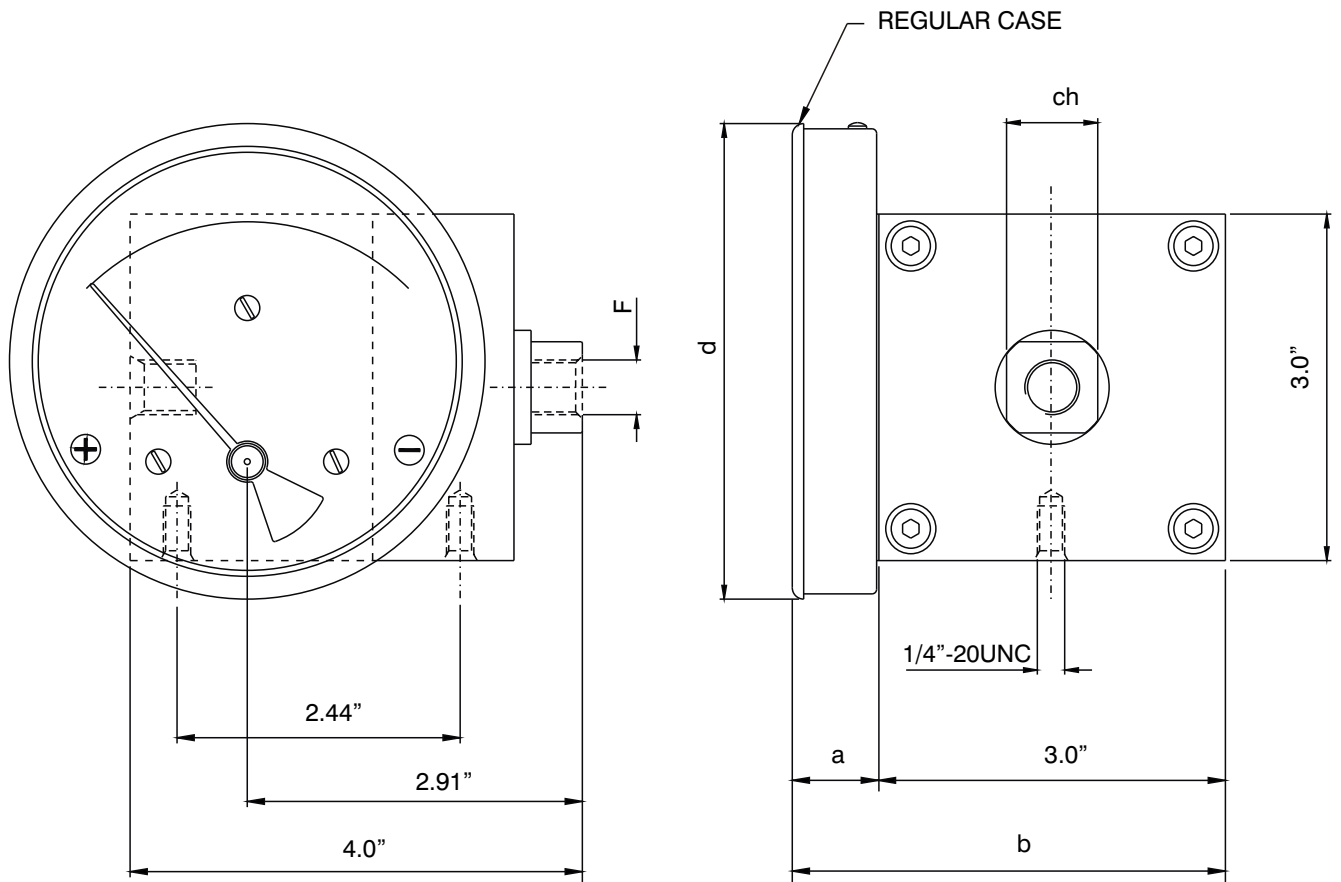
Options

Glycerine filling
 Red follower pointer
 Customer logo
 Dual scale
 Colour band

Switches (Adjustable in 40-100% of FSD)

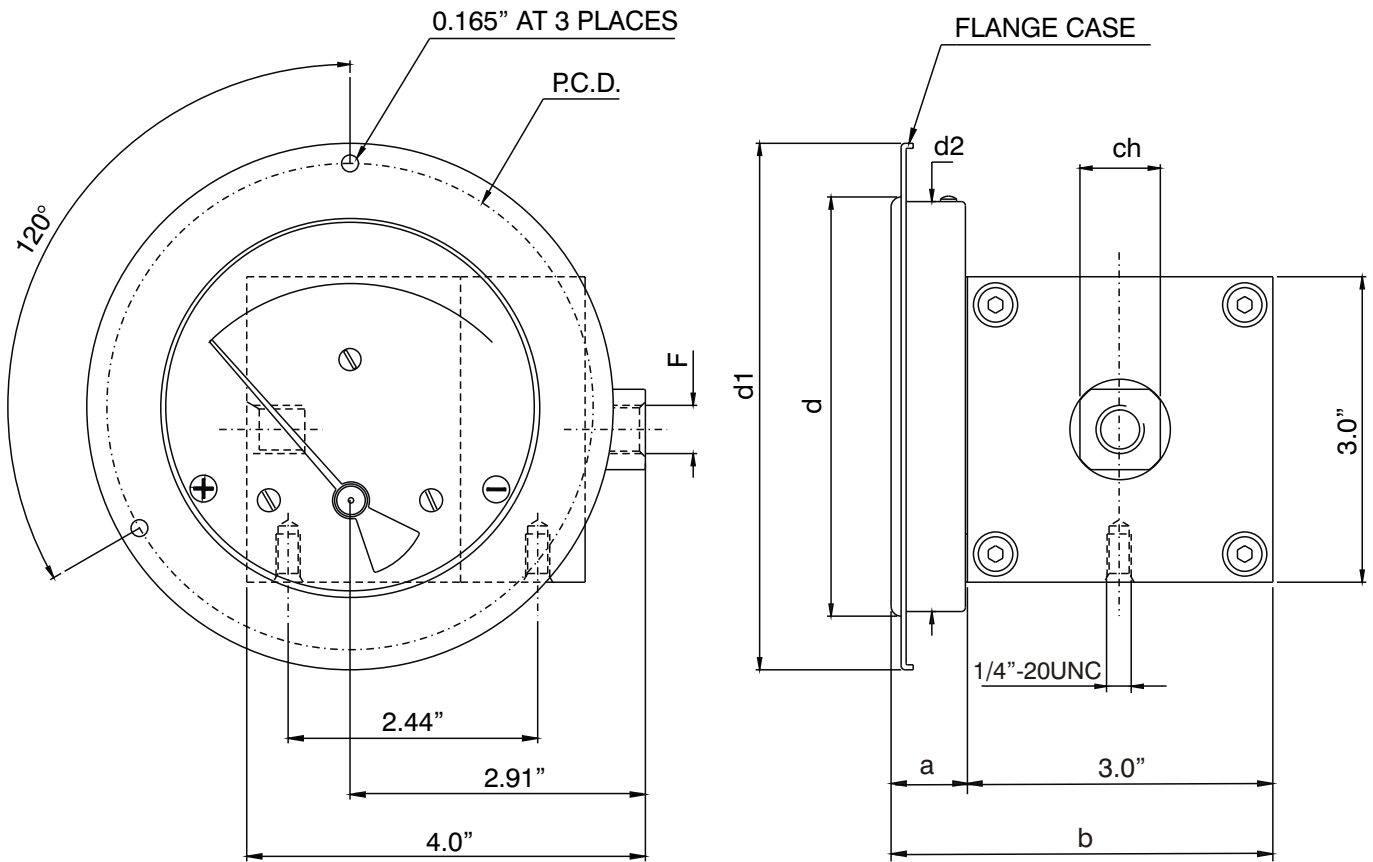
1 or 2 SPSTs with a DIN plug
 1 SPDT with a DIN plug.

STANDARD DIMENSIONS (MODEL 400 DGC)



DN	F	a	b	d	ch
3.5"	1/4" NPT	0.75"	3.75"	3.26"	0.75" SQ.
4.0"	1/4" NPT	0.75"	3.75"	4.10"	0.75" SQ.
4.5"	1/4" NPT	0.75"	3.75"	4.71"	0.75" SQ.
6.0"	1/4" NPT	0.75"	3.75"	6.07"	0.75" SQ.

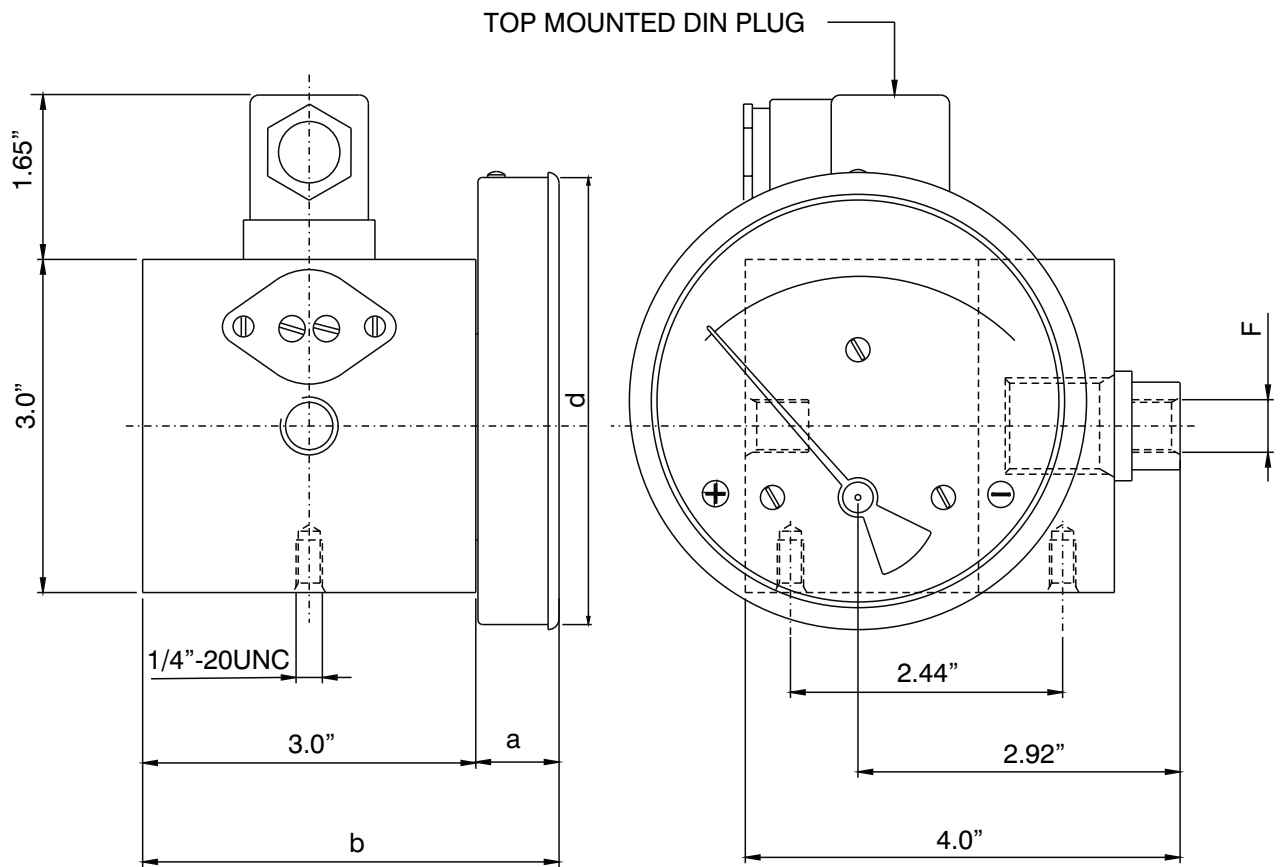
STANDARD DIMENSIONS FOR FLANGE TYPE (MODEL 400 DGC)



DN	F	a	b	d1	d2	ch	p. c. d	d *
3.5"	1/4" NPT	0.75"	3.75"	4.29"	3.22"	0.75" SQ.	3.89"	3.26"
4.0"	1/4" NPT	0.75"	3.75"	5.15"	4.01"	0.75" SQ.	4.76"	4.10"
4.5"	1/4" NPT	0.75"	3.75"	5.74"	4.60"	0.75" SQ.	5.35"	4.71"
6.0"	1/4" NPT	0.75"	3.75"	7.12"	6.0"	0.75" SQ.	6.11"	6.07"

* PANEL CUTOUT = d + 0.04"

GAUGE + SWITCH WITH REED CONTACTS & DIN PLUG (MODEL 400 DGC)



DN	F	a	b	d
3.5"	1/4" NPT	0.75"	3.75"	3.26"
4.0"	1/4" NPT	0.75"	3.75"	4.10"
4.5"	1/4" NPT	0.75"	3.75"	4.71"
6.0"	1/4" NPT	0.75"	3.75"	6.07"

HOW TO ORDER A DIFFERENTIAL PRESSURE INSTRUMENT, MODEL 400 DGC

Example	Code	Descriptions
Series	400 DGC	
Type	G	G S Gauge GS Switch Gauge + Switch
Body material	A	A Aluminium (Anodized) S SS-316
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	4N	4B 1/4" BSP (Female) 4N 1/4" NPT (Female) ZZ Special connection sizes using adaptor
Porting	1	1 In-line (Standard) 2 Rear / Back 3 Bottom
Case type	SS	SS SS 304 with a rubber ring (standard) SF SS 304 flange with a rubber ring (standard flange)
Window	F	F Glass (standard) A Acrylic T Toughened glass L Safety glass
Seal	B	B Buna-N (standard) V Viton
Switch	0	0 None 1 One SPST, with a DIN plug* 3 Two SPSTs, with a DIN plug* 5 One SPDT, with a DIN plug*

SPST Specifications :	SPDT Specifications :
10 VA AC or DC (max)	3 VA AC or DC (max)
100 V AC or DC (max)	30 V AC or DC (max)
0.5 Amp AC or DC (max)	0.30 Amp AC or DC (max)

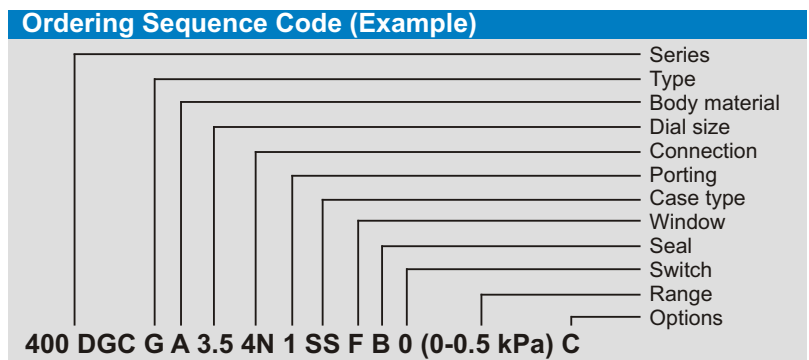
* **DIN plug** : we mount it on the top of gauge body. Switch applicable for "GS" types only. Switches operate from 40 to 100% of the range & situated in the body. Switches are factory set, field adjustable.

Standard Ranges	0-0.5 kPa	mm H ₂ O	25	50	125	250	600
IN. H ₂ O		1	2	5	10	25	
mbar		-	5	-	25	60	
kPa		0.25	0.5	1.25	2.5	6	

Other ranges on request.

Options	C	0	None
		A	Glycerine*
		B	Red follower pointer on acrylic window*
		C	Customer Logo
		D	Dual scale
		E	Colour band
		N	NACE
		S	Silicone oil*

* Affects accuracy



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.