



Ambit Instruments 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.

These piston 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 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 :

Filters, Hydraulic systems, Water treatment plants, Chemical plants, Natural gas processing, Heat exchangers, Gasoline / Diesel engine filters, Pumps and Valves, Compressors.

200 DPG

Piston Instruments

SALIENT FEATURES

- Cost effective and reliable.
- Simple and compact design.
- Easy to read dial instrument eliminates accumulated errors of two instrument 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.
- Manufactured in ISO certified plant.
- Exported worldwide.



Ambit Instruments Pty Ltd.

42 Titan Drive, Carrum Downs

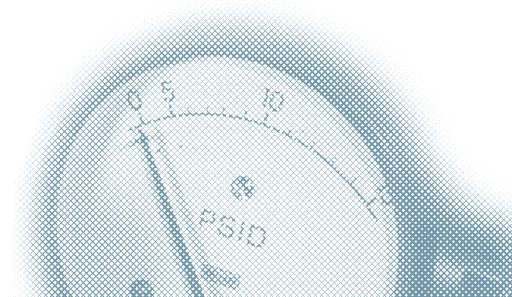
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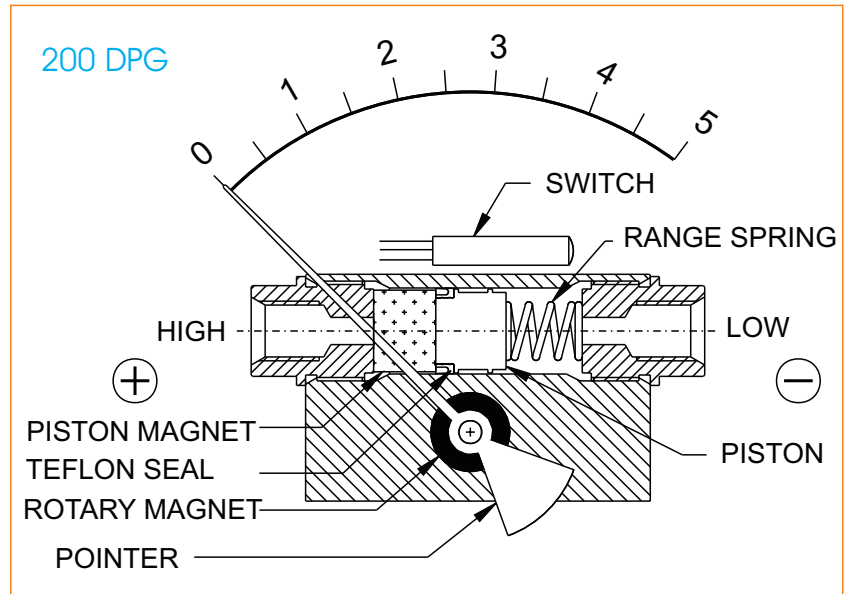


OPERATING PRINCIPLE

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.

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 DPG)

Ranges	:	0-0.25 to 0-10 bar
Units of calibration	:	Kg/cm ² , kPa, bar, mbar, psi.
Operating principle	:	Magnetic coupling using piston & spring.
Working pressure	:	200 bar / 3000 psi for Aluminium & 400 bar / 6000 psi for SS-316
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	:	¼" NPT(F) or ¼" BSP(F) (on request, longer lead time)
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. These switches are CE certified.
		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, strainer in (+) connection, dual scale.



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200 DPG

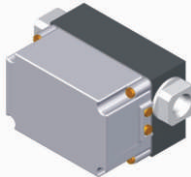
ΔP Range: 0 to 0.25 upto 70 bar
 0 to 5 upto 1050 psi

COMBINATIONS

Gauge



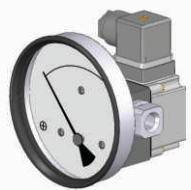
Switch



Gauge + switch (with a terminal strip inside)



Gauge + switch (with a DIN plug on top)



MOUNTING BRACKETS

Surface mounting



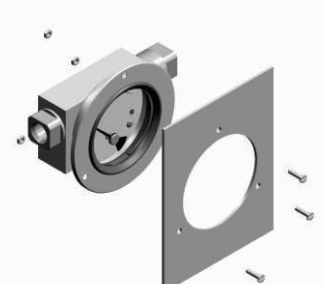
Horizontal pipe mounting



Vertical pipe mounting



Panel / Flange mounting



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
Sensing element	Piston
Wetted parts	Body material, SS 302 spring, ceramic magnet & seals
Case material & dial size	Stainless steel (SS 304): 2", 2.5", 3.5", 4", 4.5", 6.0" Engineering polymer: 2.5", 4.5", 6" Bayonet: 4.0"
Mounting	Direct, front flange, 2" pipe & surface mounting
Maximum working pressure	200 bar for Aluminum & Brass, 400 bar for SS & Monel
Maximum process temperature	0 to 80°C (32 to 175°F)
Body material	Aluminum, Brass, SS 316 & Monel
Seals	Buna-N, Viton, EPDM
Window	Float glass(Std.), toughened glass, acrylic & safety glass.
Connection	1/4" NPT(F) (Std.), 1/4" BSP(F) and others through adaptor
Porting	In-line, rear, bottom, in-line & bottom, in-line & back
Over range protection	Up to the max. working pressure from high & low side
Protection for gauge & switch	IP 65 / NEMA-4

Options

- Liquid filling (glycerine/ silicone)
- Red follower pointer
- Customer logo
- Dual scale
- Color band
- Filter mesh in (+) connection
- Reverse port (*pointer moves from right to left*)
- Descending calibration
- Thick body for 450bar application

Switches (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

Available in engineering polymer (EP) Case



- Removable glass
- Strong and durable
- Panel mounting possible
- Condensation can be cleaned
- Light weight

6.0"

4.5"

2.5"



SELECT MODEL

1 Series	200 DPG	
2 Type	G Gauge GS Gauge + Switch	S Switch
3 Body material	A Aluminum B Brass	S SS-316 M Monel
4 Dial size	2.0 2.0" (50mm) 2.5 2.5" (63 mm) 3.5 3.5" (80 mm)	4.0 4.0" (100mm) 4.5 4.5" (115 mm) 6.0 6.0" (150 mm)
5 Connection	4N 1/4" NPT (F) (Std.) ZZ Special connection sizes using adaptor	4B 1/4" BSP (F)
6 Porting	1 In-line (Std.) 2 Rear / Back 3 Bottom	6 In-line & bottom 8 In-line & back
7 Case	S4 SS 304 (Std.) F4 SS 304 flange EP Engineering polymer (available in 2.5", 4.5", 6.0" only) BF Bayonet (available in 4.0" safety glass only)	S6 SS 316
8 Window	F Glass (Std.) T Toughened glass	A Acrylic L Safety glass
9 Seals/Diaphragm	B Buna-N (Std.) V Viton	E EPDM

Advantages :
Instrument automatically resets after line surges and cold start.
This eliminates balancing of differential pressure instrument after such events.

Notes

- No mounting bracket for back porting.
- Bracket on request for bottom porting.
- Switch not available for gauge with back porting. However, it can be offered in 32mm thick body (option K) with switch on top.
- For SS 316 case, please contact factory (MOQ applies).
- Liquid filling + Follower pointer available.
- Switch adjustment range between 20-100% of full scale deflection (FSD). For specific details, please contact factory.
- Mounting bracket: Aluminum (Standard) ; SS (Optional)

10 Switch

Select option & Specifications

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
4A	Two SPSTs. with built in relay

+

SPST Specifications (AC/DC max)

1 Standard	2	3	4
10 VA	40 VA	100 VA	60 VA
100 V	230 V	300 V	240 V
0.5 Amp	1 Amp	1 Amp	3 Amp
Adjustable	Adjustable	Adjustable	Adjustable

5	One SPDT, with a DIN plug †
6	One SPDT, with a terminal strip
7	Two SPDTs, with two DIN plugs
8	Two SPDTs, with a terminal strip

+

SPDT Specifications (AC/DC max)

1 Standard	2	3	4
3 VA	5 VA	5 VA	60 VA
30 V	125 V	175 V	400 V
0.3 Amp	0.25 Amp	0.25 Amp	1 Amp
Adjustable	Adjustable	Adjustable	Factory Set

Example: Switch selection 21 is 1 SPST with terminal strip with switch specifications 10VA, 100V, 0.5Amp
† DIN plug mounted on the top.

11 Range

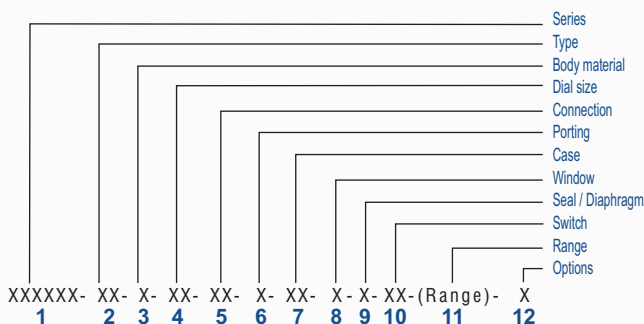
Standard ranges : (Other ranges & units on request)

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

12 Options

- 0 None
- A Glycerine*
- B Red follower pointer on acrylic window *
- C Customer Logo
- D Dual scale
- E Color band
- F Filter mesh in (+) connection
- G Reverse Port**
- H Descending calibration (long delivery time)
- N NACE
- S Silicone oil*
- I Oxygen service (Contact factory)
- K 32mm thick body for high pressure application (350bar for Al, 450bar for SS)
- P DIN plug at back on plastic switch cover
- Q Metallic switch cover with tamper proof plastic plugs ***
- M1 2" horizontal pipe mounting bracket
- M2 Surface mounting bracket
- M3 2" vertical pipe mounting bracket

Ordering code sequence

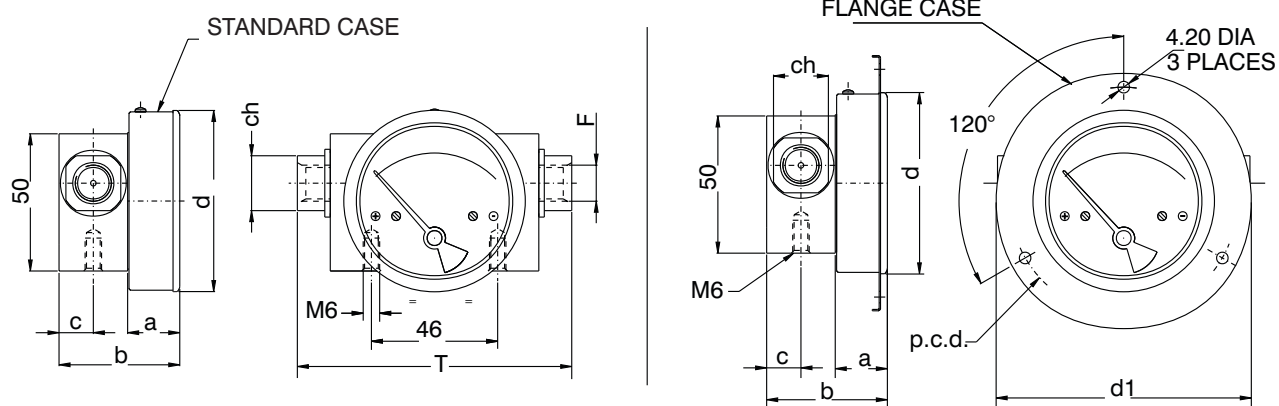


Contact factory for special execution.

* Affects accuracy
** Pointer moves from right to left
*** Minimum Order Quantity applies



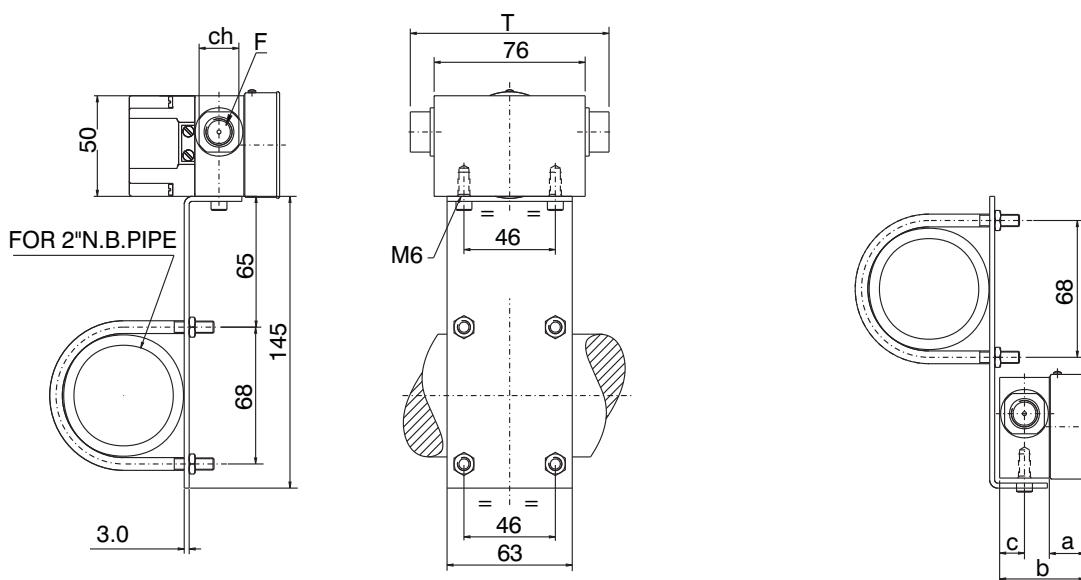
STANDARD DIMENSIONS



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 (3.5")	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



BRACKET MOUNTING FOR GAUGE+ SWITCH

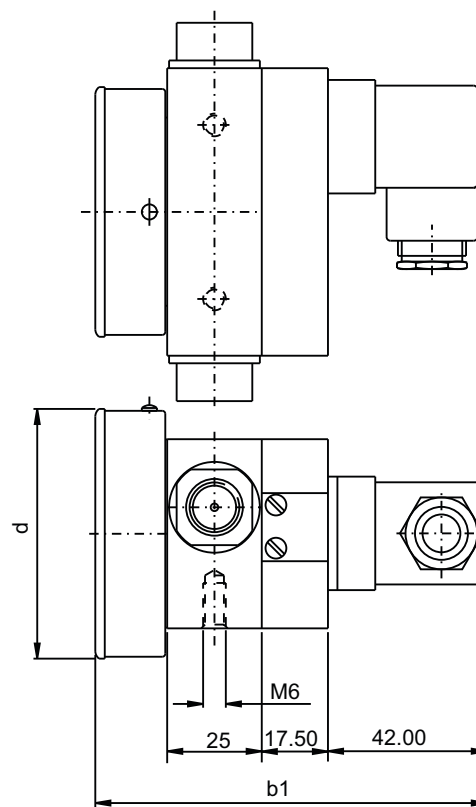
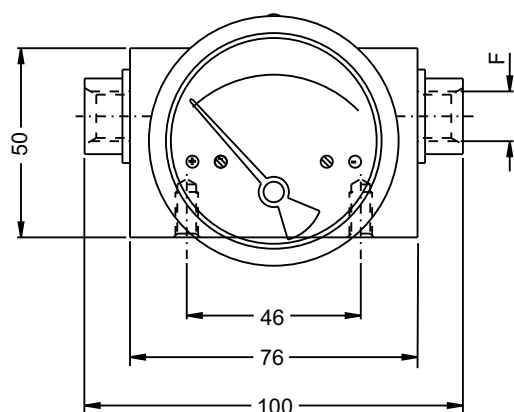
BRACKET MOUNTING FOR GAUGE

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 (3.5")	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

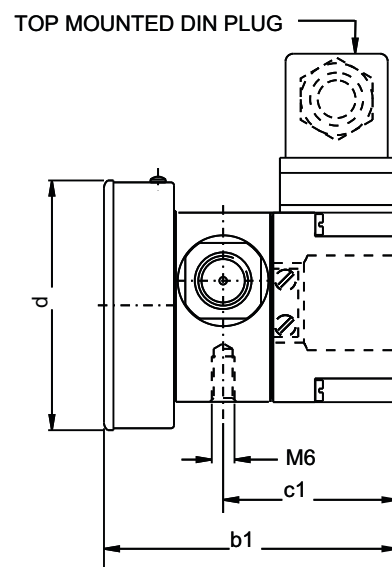
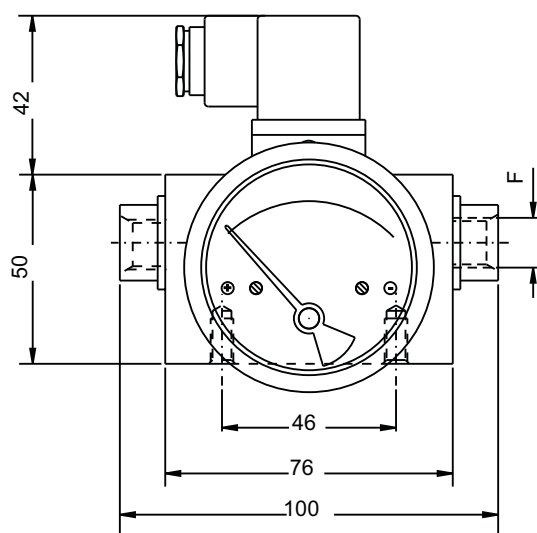


GAUGE + SWITCH WITH REED CONTACTS WITH DIN PLUG AT BACK

DIAL \varnothing	F	d	b1
50 (2")	1/4"BSP - 1/4"NPT	53	102.5
63 (2.5")	1/4"BSP - 1/4"NPT	66	103.5
80 (3.5")	1/4"BSP - 1/4"NPT	83	103.5
100 (4")	1/4"BSP - 1/4"NPT	104.3	103.5
115 (4.5")	1/4"BSP - 1/4"NPT	119.7	103.5
150 (6")	1/4"BSP - 1/4"NPT	154.3	103.5



GAUGE + SWITCH WITH REED CONTACTS WITH DIN PLUG ON TOP

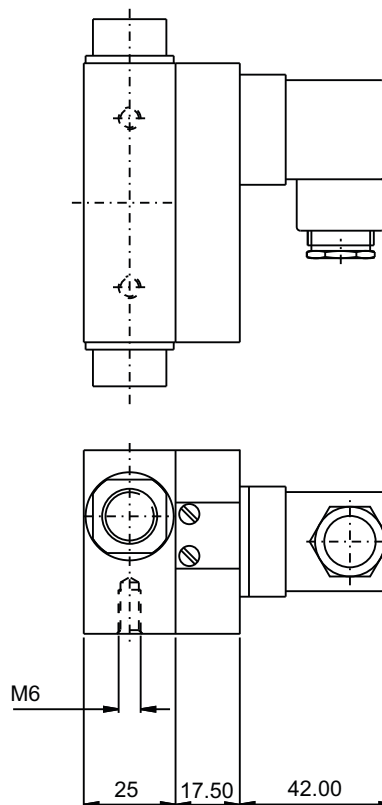
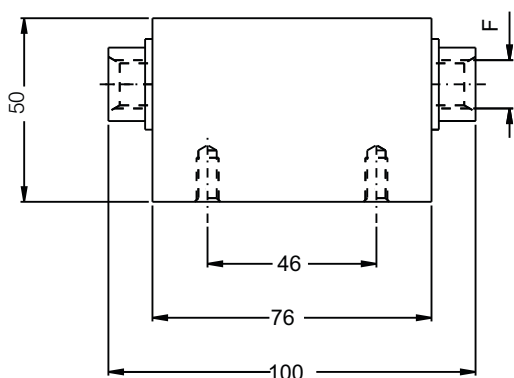


DIAL \varnothing	F	b1	c1	d
50 (2")	1/4"BSP - 1/4"NPT	78	47.5	53
63 (2.5")	1/4"BSP - 1/4"NPT	79	47.5	66
80 (3.5")	1/4"BSP - 1/4"NPT	79	47.5	83
100 (4")	1/4"BSP - 1/4"NPT	79	47.5	104.3
115 (4.5")	1/4"BSP - 1/4"NPT	79	47.5	119.7
150 (6")	1/4"BSP - 1/4"NPT	79	47.5	154.3

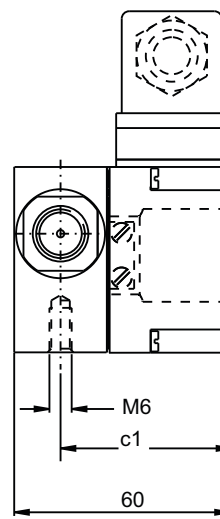
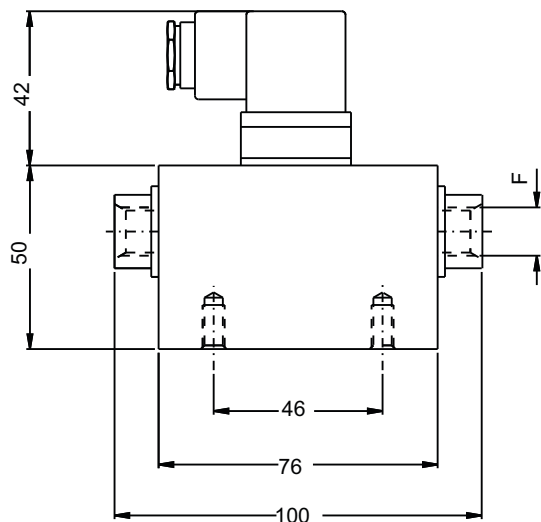


SWITCH WITH DIN PLUG AT BACK

DIAL \varnothing	F
50 (2")	1/4"BSP - 1/4"NPT
63 (2.5")	1/4"BSP - 1/4"NPT
80 (3.5")	1/4"BSP - 1/4"NPT
100 (4")	1/4"BSP - 1/4"NPT
115 (4.5")	1/4"BSP - 1/4"NPT
150 (6")	1/4"BSP - 1/4"NPT



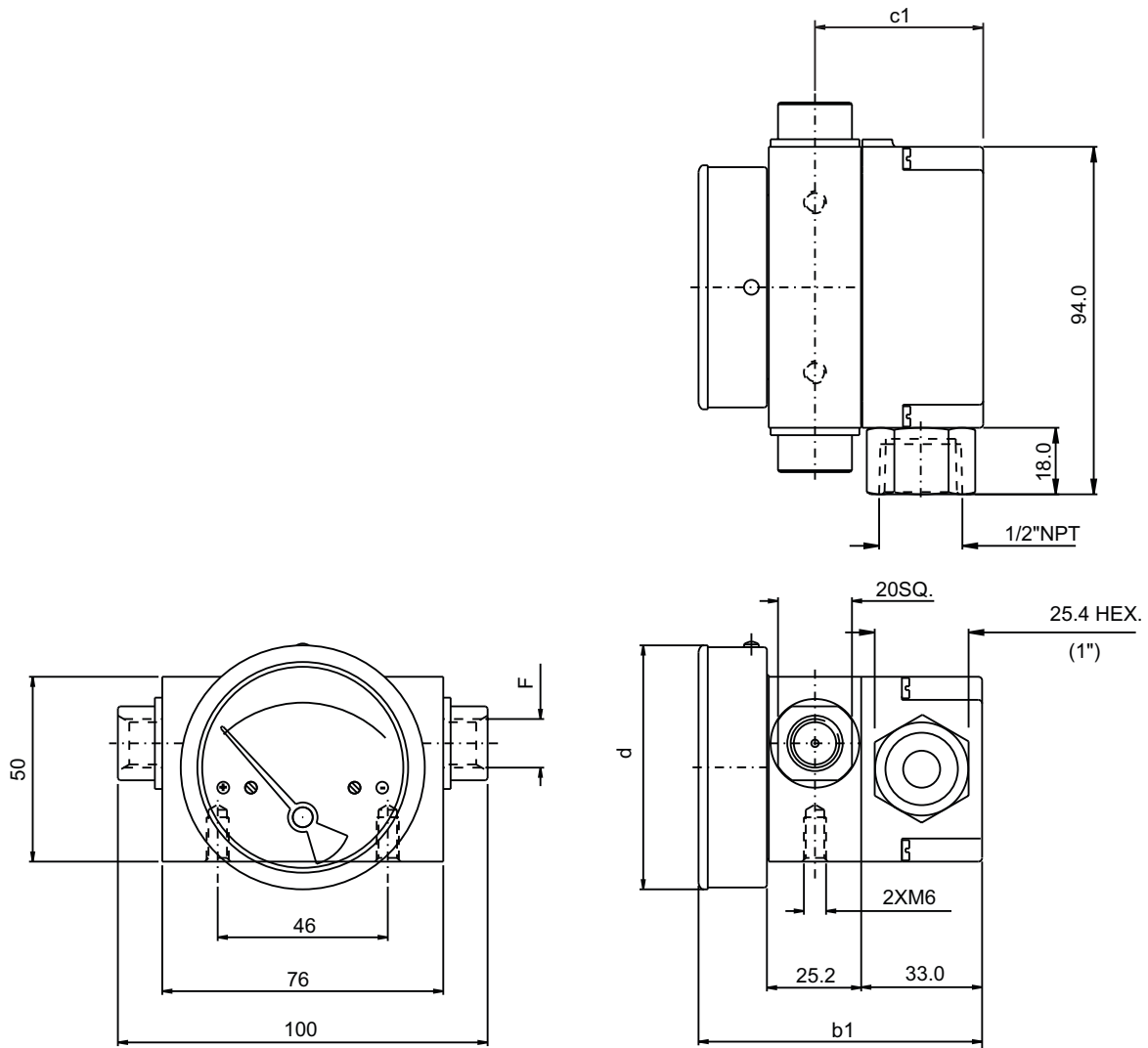
SWITCH WITH DIN PLUG ON TOP



DIAL \varnothing	F	c1
50 (2")	1/4"BSP - 1/4"NPT	47.5
63 (2.5")	1/4"BSP - 1/4"NPT	47.5
80 (3.5")	1/4"BSP - 1/4"NPT	47.5
100 (4")	1/4"BSP - 1/4"NPT	47.5
115 (4.5")	1/4"BSP - 1/4"NPT	47.5
150 (6")	1/4"BSP - 1/4"NPT	47.5



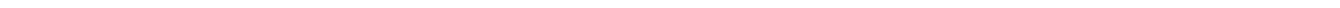
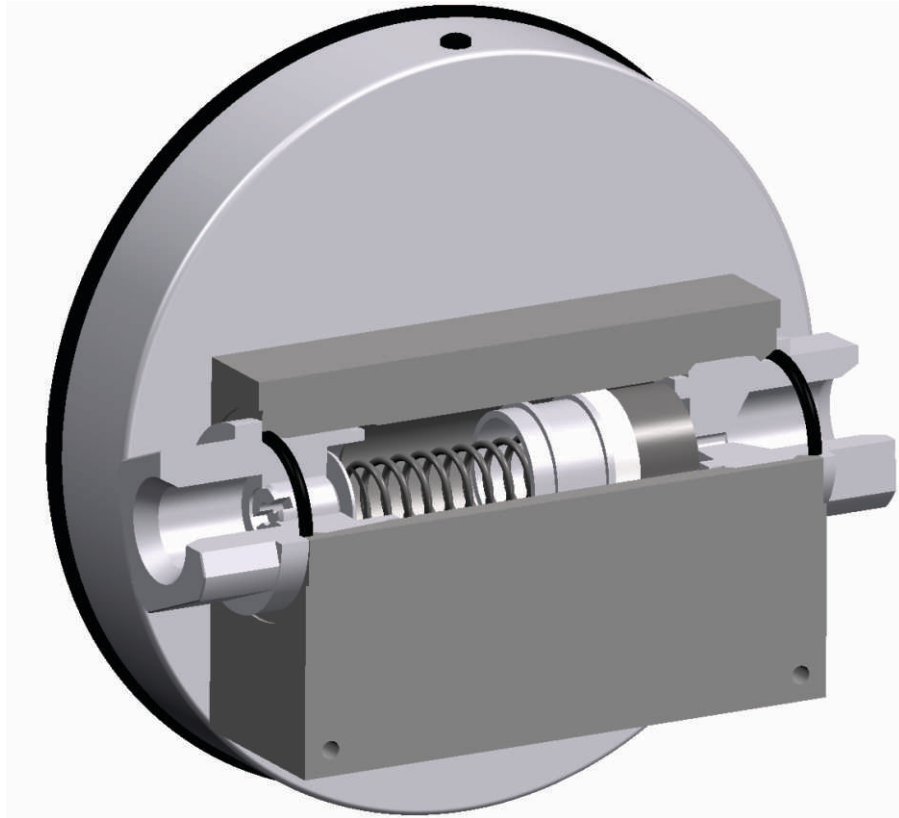
GAUGE + SWITCH WITH REED CONTACTS WITH TERMINAL STRIP & 1/2" NPT CONDUIT CONNECTION



DIAL \varnothing	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



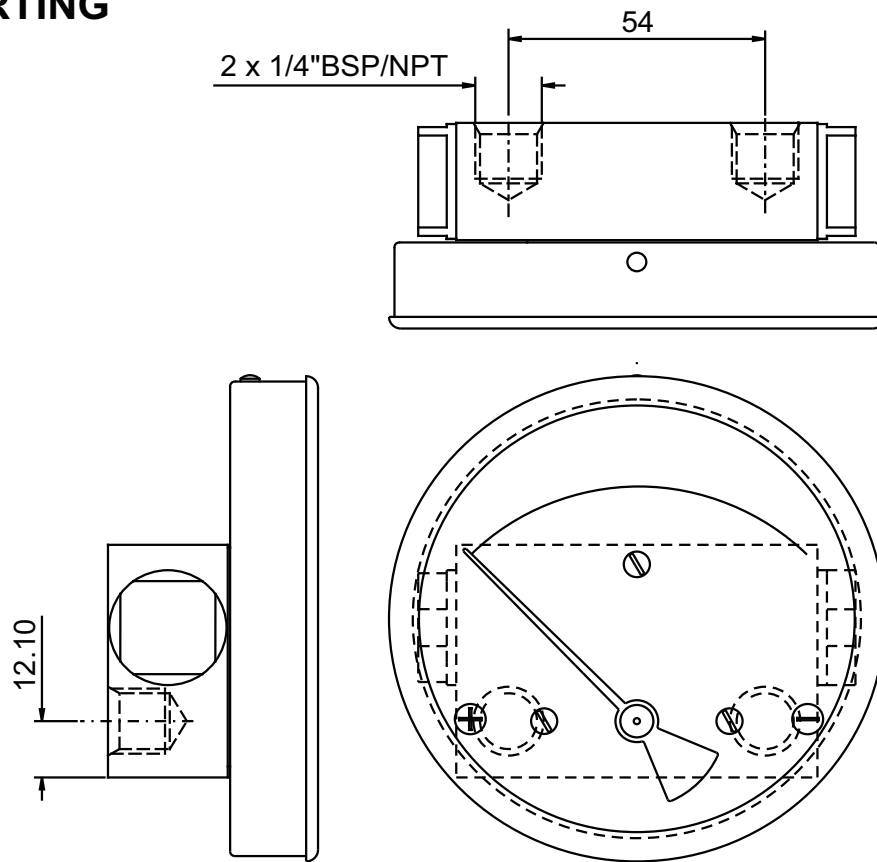
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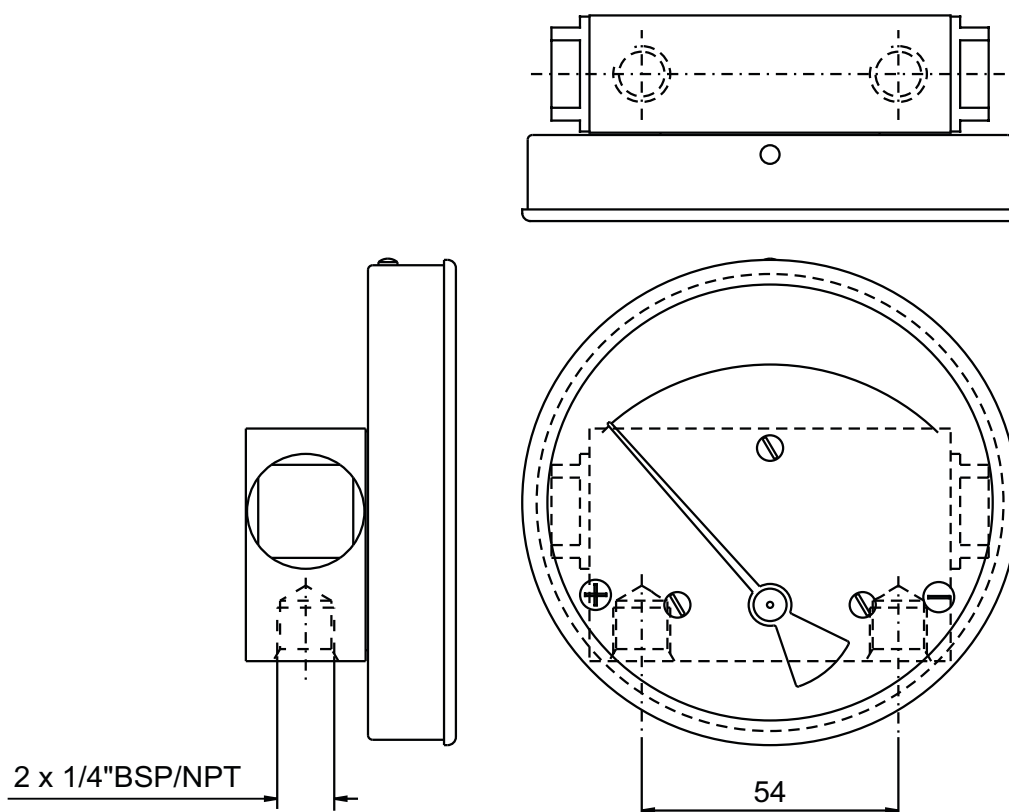


PORTING DETAILS

BACK PORTING



BOTTOM PORTING



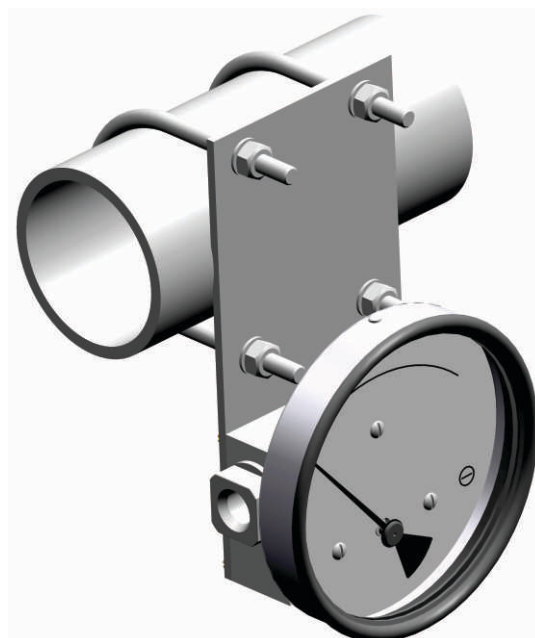


MOUNTING COMBINATIONS

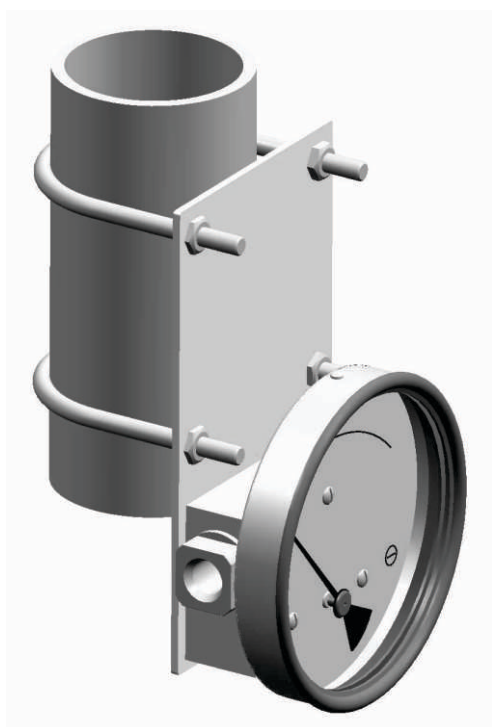
SURFACE MOUNTING



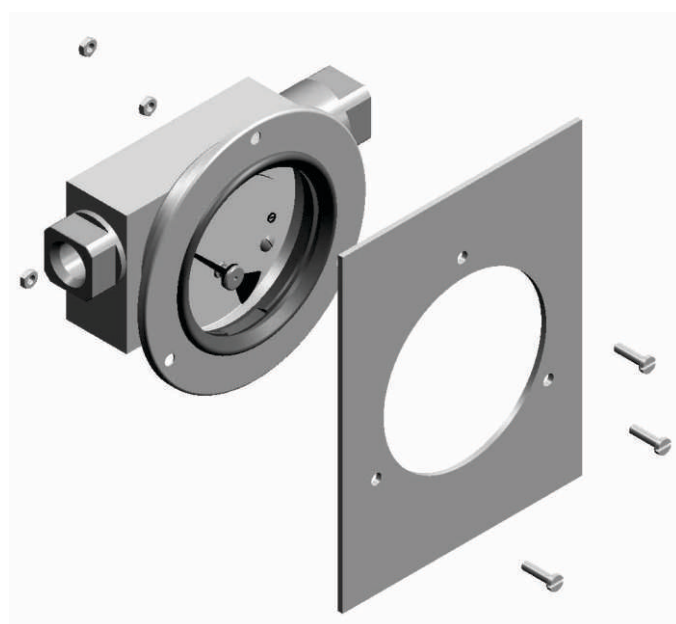
HORIZONTAL PIPE MOUNTING



VERTICAL PIPE MOUNTING

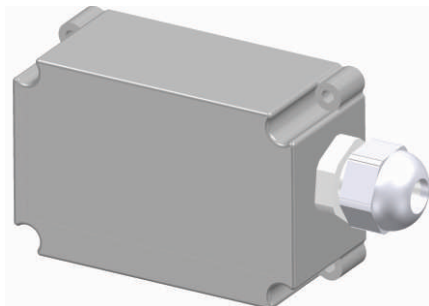


PANEL MOUNTING

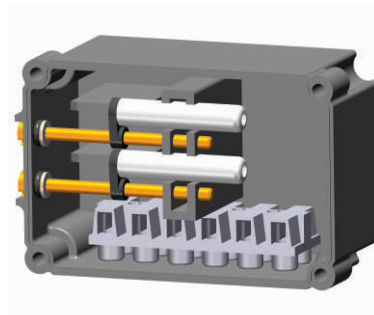


SWITCH COVER COMBINATIONS

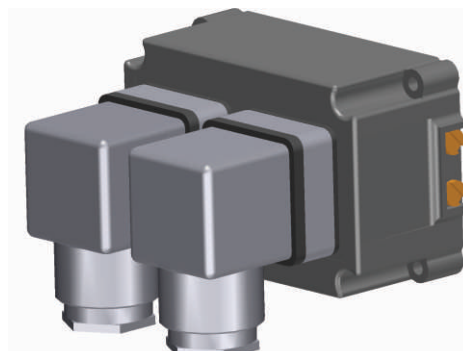
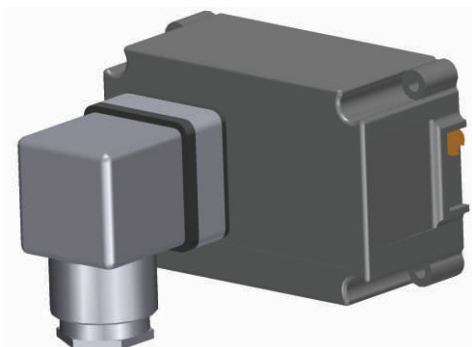
Terminal strip and cable gland (IP65)



Switch cover inside view



DIN plug at back



DIN plug at top

