

MAGNETIC COUPLING

HIRLEKAR
PRECISION

**DIFFERENTIAL PRESSURE
INSTRUMENTS**



- Differential pressure measurement
- Low differential pressure measurement
- Flow measurement
- Liquid level measurement

HIRLEKAR PRECISION ENGINEERING PVT. LTD.

Hirlekar Precision is a strategic & resourceful, yet cost effective vital link in the supply chain management of the customers from demanding industries of developed countries located throughout the world. Efficient communication and logistics management has ensured strong inter dependence with customers spread far and wide. UPS, FedEx and DHL are Hirlekar Precision's shipping partners.

Hirlekar Precision's products are available directly or through competent distributors in more than 45 countries with backing of trained engineers to maximize productivity of our valued customers.

We private label our instruments for many leading instrument manufacturers.



Hirlekar Precision operates from multiple locations in Pune, 2.5 hours from Mumbai by car, where more than 40 qualified employees design and produce differential pressure instruments. Close cooperation with customers from an early design stage, use of latest engineering design software & CNC production machines guarantees highest standards in technical design and exceptional manufacturing quality.

Hirlekar Precision beats competitors on quality, delivery, price, performance and service. We have a complete range of differential pressure instruments based on magnetic coupling.



Hirlekar Precision encourages employees to participate in the formation & implementation of corporate goals, to support the efforts in being a socially responsible organization, and to conduct business with the highest degree of integrity & consistency.



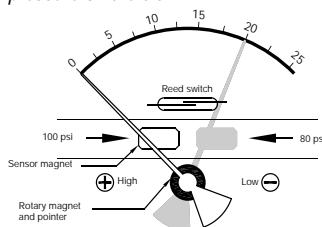
DIFFERENTIAL PRESSURE INSTRUMENTS :

These precision instruments are based on magnetic coupling principle. Indicating mechanism is isolated from the pressure chamber. They are used across filters to indicate clogging in air, gas or fluid lines.

They are compact, cost effective and are available in 6 dial sizes. Models with piston, convoluted diaphragms and rolling diaphragm, cover ranges from 25 mm water column to 70 Kg/cm² differential pressure. One or two SPST & SPDT switching, liquid filling, follower pointer, special porting, calibrations and mountings are available.

BASIC 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 assembly to move in proportion to the change against the range spring. A rotary magnet, located in a separate body compartment 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.

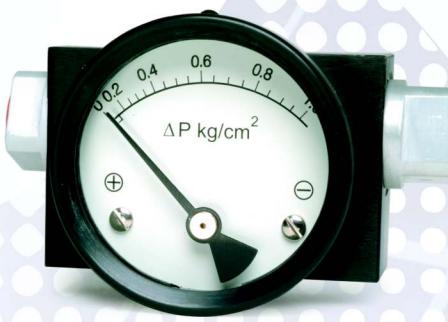
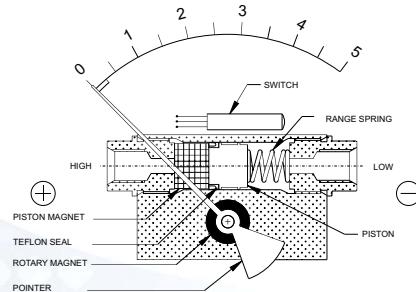
Mount the instrument at least 50 mm away from ferro magnetic surfaces, else calibration may be shifted.

Standard instruments are not suitable for oxygen service.

REED SWITCHES :

Reed switches used in our differential pressure instruments are hermetically sealed and housed in an IP 65 / NEMA 4 enclosure. Life expectancy of these switches is between 1 to 5 million cycles depending on working conditions.

PISTON INSTRUMENT



COMBINATIONS

Gauge



Switch



Gauge+switch (with a terminal strip inside)



Gauge+switch (with a DIN plug on top)



MOUNTING BRACKETS

Gauge



Gauge+switch (with a DIN plug)



200 DPG

DP Range : 0 to 0.25 upto 70 bar

0 to 5 upto 1050 psi

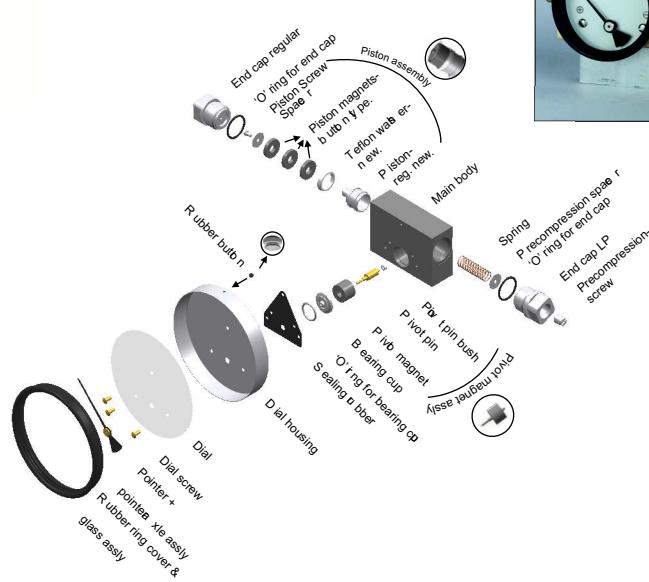
Specifications

Accuracy	$\pm 2\%$ 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	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

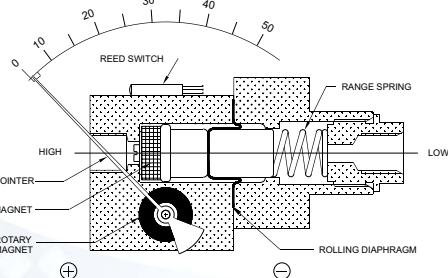
Options

Switches (Adjustable in 20-100% of FSD)

Liquid filling	1 or 2 SPSTs with a DIN plug
Red follower pointer (except 2" & 6")	1 or 2 SPSTs with a terminal strip
Customer logo	1 or 2 SPSTs with a built in relay
Dual scale	1 or 2 SPDTs with a DIN plug
Colour band	1 or 2 SPDTs with a terminal strip
Filter mesh in (+) connection	
Reverse port (pointer moves from right to left)	
Descending calibration	



ROLLING DIAPHRAGM



COMBINATIONS

Gauge



Switch



Gauge+switch

(with a terminal strip inside)



Gauge+switch

(with a DIN plug on top)



MOUNTING BRACKETS

Gauge



Gauge+switch

(with a DIN plug)



200 DGR

DP Range : 0 to 0.25 upto 7 bar

0 to 5 upto 100 psi

Specifications

Accuracy	$\pm 2\%$ of the FSD (Ascending)
Migration	No migration; Zero leakage from high to low port
Range	0-0.25 to 0-7 bar or equivalent 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	2.5", 3.5", 4", 4.5", 6"/63, 80, 100, 115, 150 mm
Mounting	Direct, front flange, 2" pipe & surface mounting
Maximum working pressure	200 bar / 3000 psi.
Maximum process temperature	80°C / 175°F
Body material	Aluminum, Brass & SS 316
Seals	Buna-N, Viton, EPDM diaphragm & 'O' rings
Window	Float glass(Std.), toughened glass, acrylic & safety glass
Connection	1/4" NPT(F) Std. Optional 1/4" BSP(F) with adaptor
Porting	In-line, rear, bottom, in-line & bottom
Protection for gauge & switch	IP 65 / NEMA-4
Over range protection	Up to the max. working pressure from high side only Never pressurize only LP side beyond 25 bar.

Options

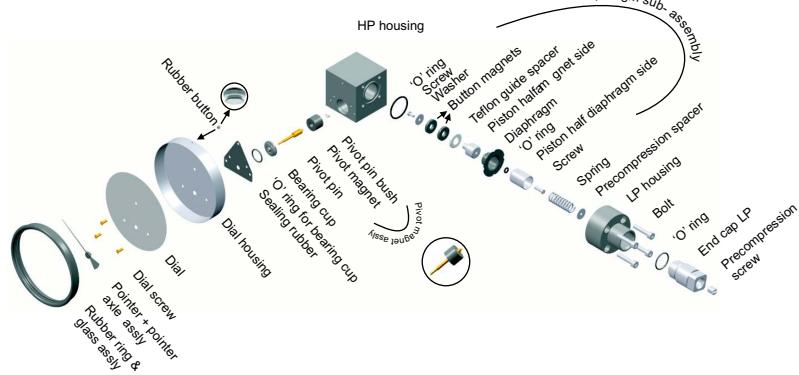
Liquid filling	1 or 2 SPSTs with a DIN plug
Red follower pointer (except 6")	1 or 2 SPSTs with a terminal strip
Customer logo	1 or 2 SPSTs with a built in relay
Dual scale	1 or 2 SPDTs with a terminal strip
Colour band	1 or 2 SPDTs with a DIN plug
Filter mesh in (+) connection	
Descending calibration	

Switches (Adjustable in 30-100% of FSD)

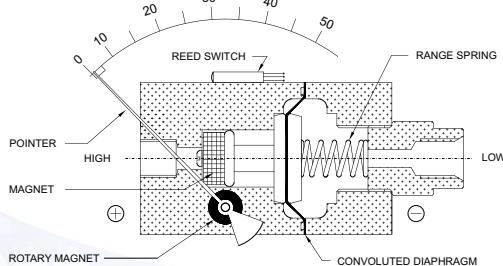
1 or 2 SPSTs with a DIN plug
1 or 2 SPSTs with a terminal strip
1 or 2 SPSTs with a built in relay
1 or 2 SPDTs with a terminal strip
1 or 2 SPDTs with a DIN plug



Diaphragm sub-assembly



SMALL CONVOLUTED DIAPHRAGM



COMBINATIONS

Gauge



Switch



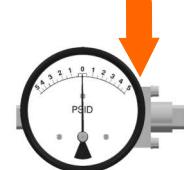
Gauge+switch



Gauge+switch

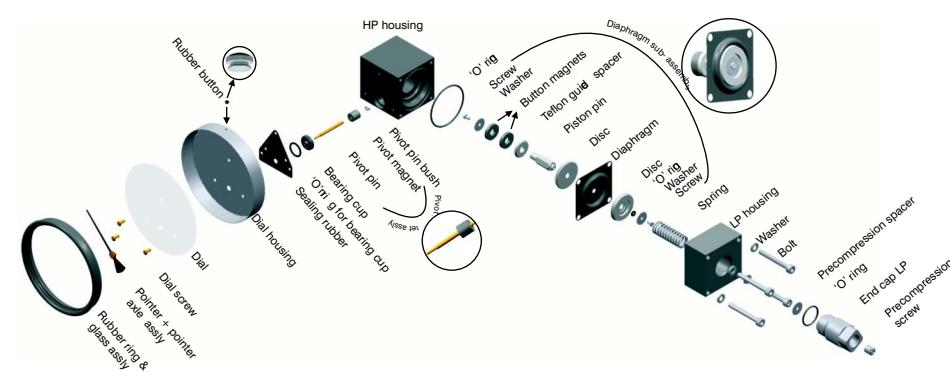


Compound Gauge (Centre Zero)



MOUNTING BRACKETS

Gauge



300 DGC

DP Range : 0 to 0 to 0.075 upto 4 bar
0 to 1 upto 60 psi

Specifications

Accuracy	$\pm 2\%$ of the FSD (Ascending)
Migration	No migration; Zero leakage from high to low port
Range	0-0.075 to 0-4 bar or equivalent 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	2.5", 3.5", 4", 4.5", 6"/63, 80, 100, 115, 150 mm
Mounting	Direct, front flange, 2" pipe & surface mounting
Maximum working pressure	100 bar / 1500 psi
Maximum process temperature	80°C / 175°F
Body material	Aluminum, Brass, SS 316 & Monel
Seals	Buna-N, Viton, EPDM diaphragm & 'O' rings
Window	Float glass(Std.), toughened glass, acrylic & safety glass
Connection	1/4" NPT(F) Std. Optional 1/4" BSP(F) with adaptor
Porting	In-line, rear, bottom, bottom & vent, in-line & vent, in-line & bottom.
Over range protection	Up to the max. working pressure from high side
Protection for gauge & switch	IP 65 / NEMA-4

Options

Liquid filling	1 or 2 SPSTs with a DIN plug
Red follower pointer (except 6")	1 or 2 SPSTs with a terminal strip
Customer logo	1 SPST with a built in relay
Dual scale	1 or 2 SPDTs with a terminal strip
Colour band	1 or 2 SPDTs with a DIN plug
Filter mesh in (+) connection	
Descending calibration	

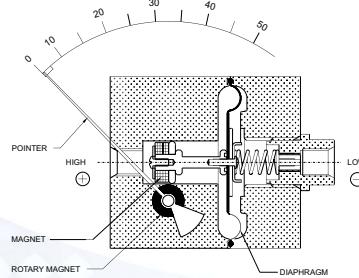
Switches (Adjustable in 30-100% of FSD)

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

Instrument can be calibrated with square root scale for flow measurement.



MEDIUM CONVOLUTED DIAPHRAGM



COMBINATIONS

Gauge



Switch

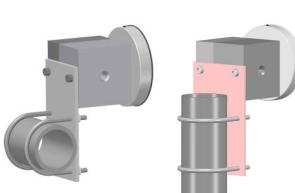


Gauge+switch (with a DIN plug)



MOUNTING BRACKETS

Gauge



Gauge+switch (with a DIN plug)



Gauge (Wall Mounting)



400 DGC

DP Range : 0 to 25 upto 600 mm H₂O

0 to 1 upto 25 inch H₂O

Specifications

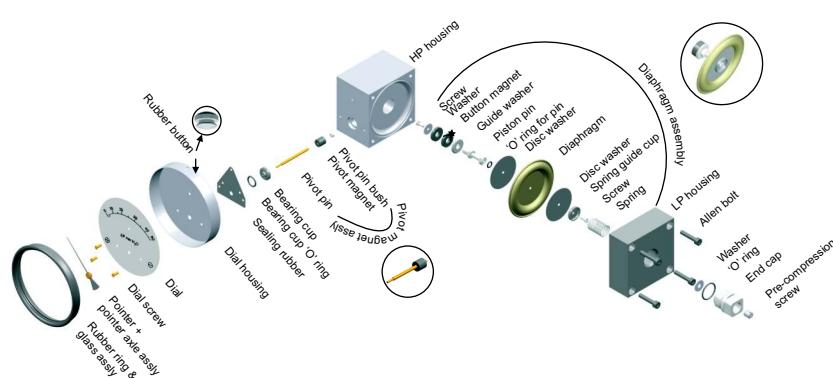
Accuracy	±2% of the FSD (Ascending)
Migration	No migration : Zero leakage from high to low port
Range	0-25 to 0-600 mm H ₂ O or similar ranges in other units
First marking on the scale	15% of the FSD
Sensing element	Diaphragm
Wetted parts	Diaphragm, body material, SS 302 spring & ceramic magnet
Case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

Options

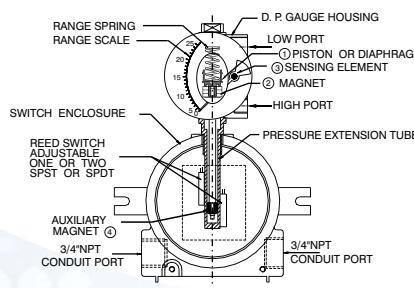
Liquid filling	1 or 2 SPSTs with a DIN plug
Red follower pointer (except 6")	1 SPDT with a DIN plug
Customer logo	
Dual scale	
Colour band	

Switches (Adjustable in 40-100% of FSD)

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



EXPLOSION PROOF



Akron Make



FCG Make



COMBINATIONS

Gauge+switch
(with a terminal strip inside)



Switch



Gauge+switch
(without Ex-proof enclosure)



Switch*
(without Ex-proof enclosure)



* Locally available Explosion proof enclosure can be used.

MOUNTING BRACKETS

Gauge+switch
(2" pipe mounting)



EX-200 DPG, EX-200 DGR, EX-300 DGC, EX-400 DGC,

ΔP Range : 0 to 20 mbar upto 10 bar
0 to 1 upto 150 psi

Specifications

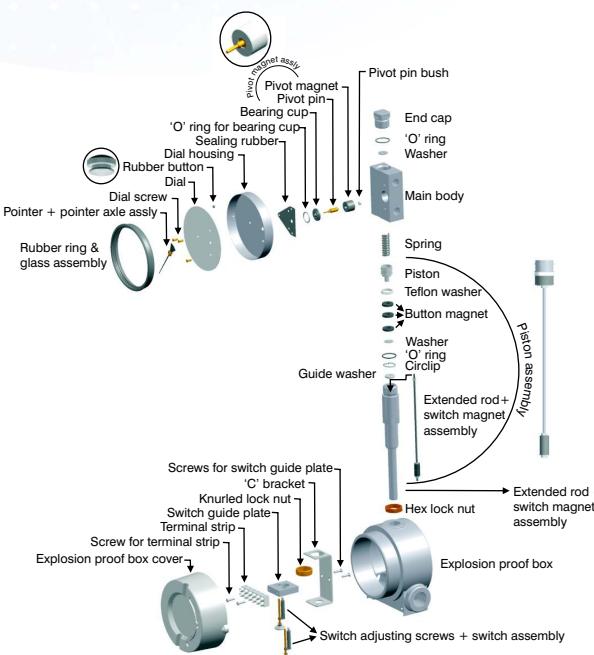
Accuracy	±2% of the FSD (Ascending)
Migration	As per the model selected
Range	As per the model selected
First marking on the scale	15 or 20% of the FSD, depending on the model selected
Sensing element	As per the model selected
Wetted parts	As per the model selected
Case material	Stainless steel (SS 304)
Dial size in inch/mm	3.5", 4", 4.5", 6" / 80, 100, 115, 150 mm
Mounting	As per the explosion proof box drawings
Maximum working pressure	As per the model selected
Maximum process temperature	80°C / 175°F
Body material	Aluminum, Brass & SS 316
Seals	Buna-N, Viton, EPDM diaphragm & 'O' rings
Window	Float glass(Std.), toughened glass, acrylic & safety glass.
Connection	As per the model selected
Porting	Bottom (right side) & back
Over range protection	As per the model selected
Protection for gauge & switch	IP 65 / NEMA-4

Options

Customer logo
Dual scale
Colour band

Switches (As per model selected)

1 or 2 SPSTs with a terminal strip
1 or 2 SPDTs with a terminal strip



Ex-proof enclosure make	Certification	Electrical connection	Mounting
Akron Electric USA	UL, CSA, FM, CENELEC, KEMA / ATEX approved. Compliance to EN 50 014:1971+A1...A5 and EN 50 018: 1977+A1...A3. Ref: UL:E139669 / CSA:LR86146-5 KEMA: 03ATEX2460 U 0539 Ex II 2G EEx d II C	2 X 3/4" NPTF conduit ports on either side as shown	Two slots provided suitable for M6 / 1/4" UNC screw.
FCG India	Compliance to EN 50014: 1977 + A1:1999+A2:1999 and EN 50281-1-1:1998 + A1:2002 Ref: DNV-2006-OSL-ATEX-0075 / Ex II 2 GD EEx d IIC T6	3 X 3/4" ET conduit ports as shown.	Two elliptical holes provided suitable for M6 / 1/4"UNC screw.

How to order 200 DPG, 200 DGR, 300 DGC, 400 DGC

SELECT MODEL

1 Series **200 DPG, 200 DGR, 300 DGC, 400 DGC**

2 Type G Gauge S Switch
GS Gauge + Switch

3 Body material A Aluminum B Brass
S SS-316 M Monel

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

5 Connection 4N 1/4" NPT(F) (Std.) 4B 1/4" BSP(F)
ZZ Special connection sizes using adaptor

6 Porting 1 In-line (Std.) 4 Bottom & Vent
2 Rear / Back 5 Inline & Vent
3 Bottom 6 Inline & Bottom

7 Case SS SS 304 (Std.) SF SS 304 flange

8 Window F Glass (Std.) A Acrylic
T Toughened glass L Safety glass

9 Seals/Diaphragm B Buna-N (Std.) E EPDM
V Viton

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
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

† DIN plug mounted on the top.

Advantages :

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

Model

200 DPG • No mounting bracket for back and bottom portings.
200 DGR • Switch not available for gauge with back porting. However, it can be offered in 32mm thick body with switch on top.

300 & 400 DGC • Top vent not available.

All Models • 1.6% accuracy on request.
• Top vent not available with switch option.

• Liquid filling will not have follower pointer.
• Toughened glass not available in 2" (50mm) dial.

• Safety glass not available in 2" and 2.5" dials.

Switch adjustment range

Model	% FSD	Model	% FSD
200 DPG	20 to 100	300 DGC	30 to 100
200 DGR	30 to 100	400 DGC	40 to 100
600 DGC	40 to 80	Ex	As per selected model

SPST Specifications (AC/DC max)

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

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

* Available in models 200DPG and 200DGR only.

11 Range

Standard ranges : (Other ranges on request)

200 DPG

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

200 DGR

Kg/cm ²	0.25	-	0.5	0.75	1	-	2	2.5	-	4	7
bar	0.25	-	0.5	0.75	1	-	2	2.5	-	4	7
mbar	250	-	-	750	-	-	-	-	-	-	-
psi	-	5	7	-	15	25	30	-	40	60	100
kPa	25	-	50	75	100	-	200	250	-	400	700

300 DGC

Kg/cm ²	0.075	0.25	-	0.5	0.75	1	-	1.6	2	2.5	3	-	4
bar	0.075	0.25	-	0.5	0.75	1	-	1.6	2	2.5	3	-	4
mbar	75	250	-	-	750	-	-	-	-	-	-	-	-
psi	1	-	5	8	-	15	20	25	30	-	40	50	60
kPa	-	25	-	50	75	100	-	160	200	250	300	-	400

400 DGC

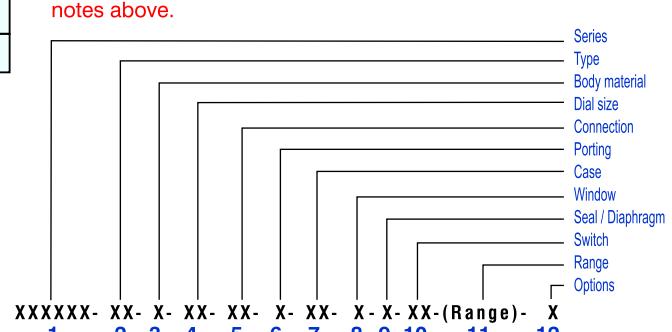
mm H ₂ O	25	50	125	250	600
In. H ₂ O	1	2	5	10	25
mbar	-	5	-	25	60
kPa	0.25	0.5	1.25	2.5	6

12 Options

- 0 None
- A Glycerine*
- B Red follower pointer on acrylic window *
- C Customer Logo
- D Dual scale
- E Colour 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
- P DIN plug at back on plastic switch cover
- M1 2" horizontal pipe mounting bracket
- M2 Surface mounting bracket
- M3 2" vertical pipe mounting bracket

Ordering code sequence

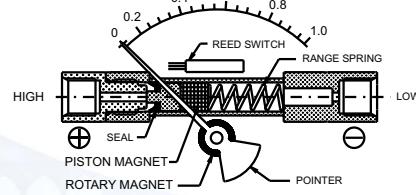
Before creating ordering code, please refer model wise notes above.



* Affects accuracy

** Pointer moves from right to left & available in 200 DPG only

PISTON INSTRUMENT



COMBINATIONS

Gauge



Gauge+switch
(with a DIN plug on top)



Gauge+switch
(with 2 DIN plugs)



MOUNTING BRACKETS

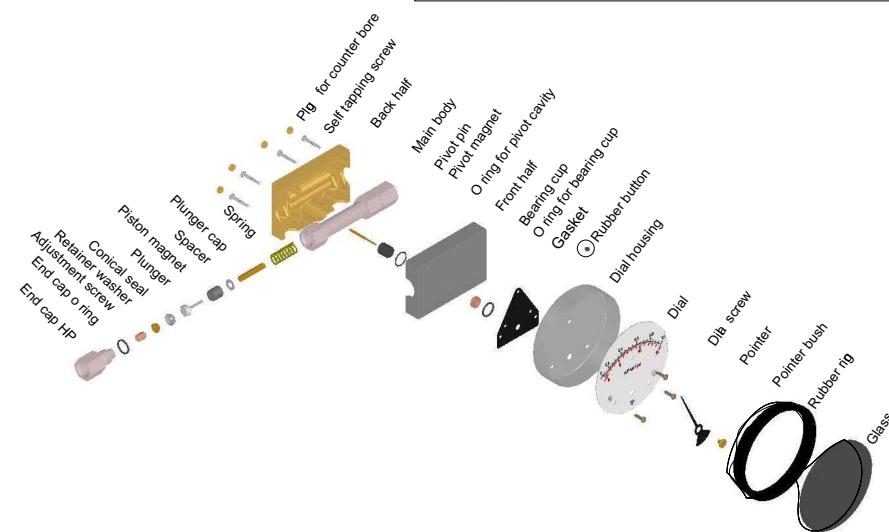
Gauge



Gauge+switch
(with a DIN plug)



Gauge
(Surface mounting)



DX 10

**DP Range : 0 to 0.25 upto 10 bar
0 to 3.5 upto 140 psi**

Specifications

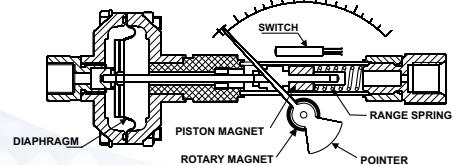
Accuracy	±3% of the FSD (Ascending)
Migration	Minor from high to low port
Range	0-0.25 to 0-10 bar/psi or psi/kPa dual scale
First marking on the scale	15% of the FSD
Sensing element	Magnetic piston with compression spring
Wetted parts	SS 316, SS 302 compression spring, seals & ceramic magnet
Case material	Stainless steel (SS 304)
Dial size in inch / mm	3.5", 4"/80, 100 mm
Mounting	Direct, front flange, 2" pipe & surface mounting
Maximum working pressure	100, 250 & 400 bar.
Maximum process temperature	80°C / 175°F
Enclosure	Engineering Polymer
Seals	Buna-N & Viton
Window	Float glass(Std.), toughened glass, acrylic & safety glass.
Connection	1/4" BSP(F) Std. Optional 1/4" NPT(F)
Porting	In-line, rear & bottom
Over range protection	Up to the max. working pressure from high & low side
Protection for gauge & switch	IP 65

Options

Switches ((Adjustable in 35-100% of FSD))	
Liquid filling	1 or 2 SPSTs with a DIN plug
Red follower pointer	1 or 2 SPDTs with a DIN plug
Customer logo	
Strainer in (+) connection	
Colour band	
<i>DP range can be changed easily at site by replacing range spring. (Available only in gauges with colour band or zones without any graduations)</i>	



DIAPHRAGM INSTRUMENT



COMBINATIONS

Gauge



Gauge+switch
(With a DIN plug on top)



Gauge+switch
(with a 2 DIN plugs)



MOUNTING BRACKETS

Gauge
(Surface mounting)



Gauge



Gauge+switch
(With a DIN plug)



DX 20

**DP Range : 0 to 0.16 upto 2 bar
0 to 2.4 upto 30 psi**

Specifications

Accuracy	±5% of FSD (Ascending)
Migration	No migration; Zero leakage from high to low port
Range	0-0.16 to 0-2 bar. bar/psi dual scale
First marking on the scale	15% of FSD
Sensing element	Diaphragm
Wetted parts	SS316 body, SS 302 spring, diaphragm & ceramic magnet
Case material	Stainless steel (SS 304)
Dial size in inch (mm)	3.5", 4" / 80, 100 mm
Mounting	Direct, 2" pipe & surface mounting
Maximum working pressure	100 bar.
Maximum process temperature	80°C / 175°F
Enclosure	Engineering Polymer
Seals	Buna-N, Viton diaphragm & 'O' rings
Window	Float glass(Std.), toughened glass, acrylic & safety glass.
Connection	1/4" BSP(F) Std. Optional 1/4"NPT(F)
Porting	In-line
Over range protection	Up to the max. working pressure from high side
Protection for gauge & switch	IP 65

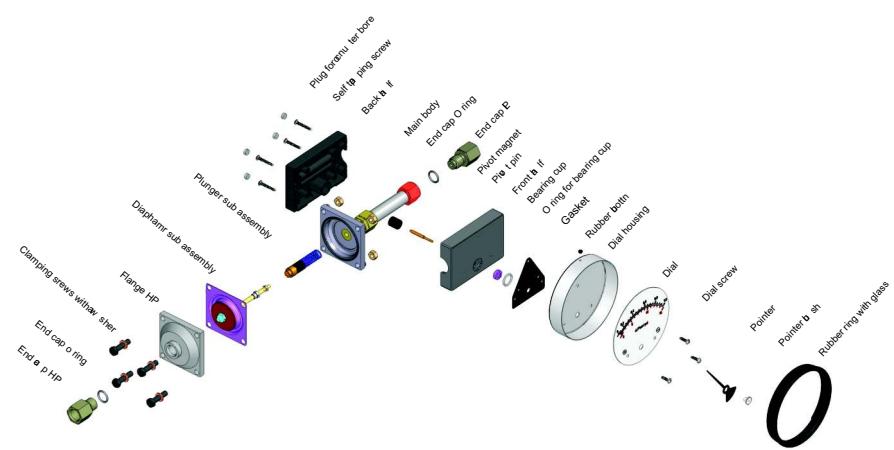
Options

Liquid filling	1 or 2 SPSTs with a DINplug
Red follower pointer	1 or 2 SPDTs with a DIN plug
Customer logo	
Strainer in (+) connection	
Colour band	

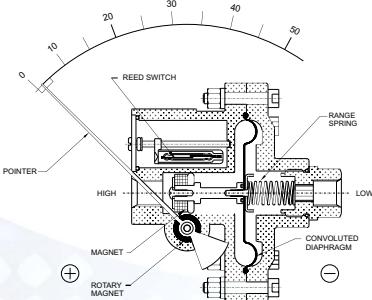
DP range can be changed easily at site by replacing range spring. (Available only in gauges with colour band or zones without any graduations)

Switches (Adjustable in 35 - 100% of FSD)

Plug former for bore	Self IP plug screw
Back flange	
Main body	
End cap O ring	
End cap E	
Pivot magnet	
Pivot pin	
Pipe fitting	
Frontal flange	
O ring for bearing cup	
Bearing cup	
O ring for bearing cup	
Gasket	
Rubber button	
Dial housing	
Dial	
Dial screw	
Pointer	
Pointer bush	
Rubber ring with glass	



MEDIUM CONVOLUTED DIAPHRAGM



COMBINATIONS

Gauge



Switch



Gauge+switch

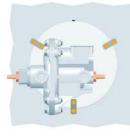
(With a DIN plug on top)



MOUNTING BRACKETS

Gauge

(Flush/Panel mounting)



Gauge

(Surface mounting)



Gauge

(2" Pipe mounting)



MAGNETIC



DP Range : 0 to 25 upto 1250 mm H₂O
0 to 1 upto 50 inch H₂O

Specifications

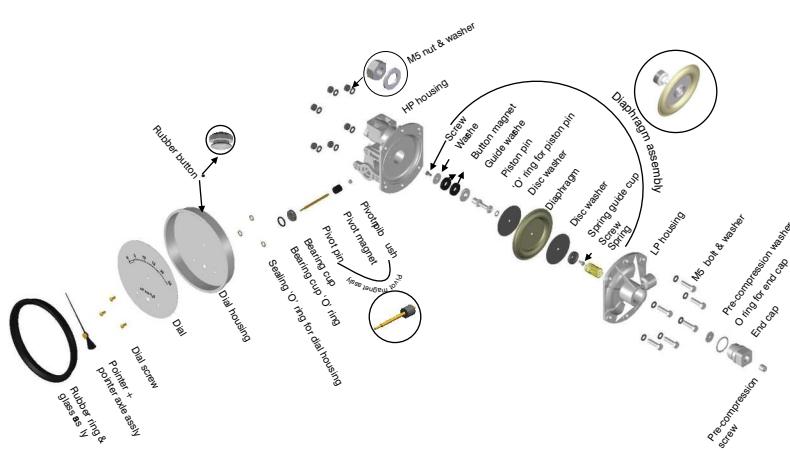
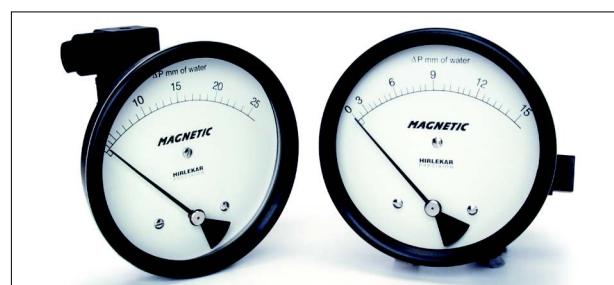
Accuracy	±3% of the FSD (Ascending)
Migration	No migration; Zero leakage from high to low port
Range	0-25 to 0-1250 mm of water
First marking on the scale	15% of the FSD
Sensing element	Diaphragm
Wetted parts	Diaphragm, body material, SS 302 spring & ceramic magnet
Case material	Stainless steel (SS 304)
Dial size in mm(inch)	112mm (4½") Std.
Mounting	Flush (Std.), 2" pipe & surface mounting on request
Maximum working pressure	2.4 bar / 35psi
Maximum process temperature	60°C / 130°F
Body material	Engineering polymer
Seals	Buna-N, Viton, EPDM diaphragm & 'O' rings
Window	Float glass(Std.), toughened glass & acrylic on request.
Connection	1/8" NPT(F) Std
Porting	Inline & back (user to select)
Over range protection	Up to the max. working pressure from high side
Protection for gauge & switch	IP 65 / NEMA-4

Options

Switches (Adjustable in 40-80% of FSD)	
Customer logo	1 or 2 SPSTs with a DIN plug
Dual scale	1 SPDT with a DIN plug
Colour band	

Switch can be added anytime on the field.

Accessories supplied with the instrument



Magnetic 600

How to order DX10, DX 20

SELECT MODEL

1 Series	DX 10, DX 20	
2 Basic options	F Float glass (std.)	A Acrylic
	H Hardened glass	
3 Liquid filling	G Glycerine *	S Silicone *
4 Dial size	3.5 3.5" (80mm)	4.0 4.0" (100 mm)
5 Case type	SS SS 304 (Std.)	SF SS 304 flange ***
6 Ranges	Standard ranges (Other ranges on request)	

DX 10	bar	0.25	0.4	0.6	1.0	1.6	2.0	2.5	3.0	4.0	6.0	10.0
	psi	3.5	6.0	9.0	15	24	30	36	45	60	90	140

DX 20	bar	0.16	0.2	0.25	0.4	0.6	1.0	1.6	2.0			
	psi	2.4	3.0	3.5	6.0	9.0	15	24	30			

7 Porting	1 In-line (Std.)	2 Rear / Back***
	3 Bottom***	

8 Port threading 2x	4B 1/4" BSP(F) (Std.)	4N 1/4" NPT(F)
	ZZ Special connection sizes using adaptor	

9 Seals	B Buna-N	V Viton
----------------	----------	---------

10 Pressure	100 100bar	250 250 bar***
	400 400 bar***	

11 Connection	0 + left / - right	R + right / - left *** **
----------------------	--------------------	---------------------------

12 Mounting	0 None	M1 2" horizontal pipe mounting bracket
	M2 Surface mounting	M3 2" vertical pipe mounting bracket
	M4 Engg. polymer mounting bracket	

13 Switch Select option and specifications

SPST Specifications (AC/DC max)

0	None
S1	One SPST, with a DIN plug
S4	Two SPSTs, with DIN plug

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

SPDT Specifications (AC/DC max)

S2	One SPDT, with a DIN plug
S3	Two SPDTs, with DIN plug

1 Standard	2	3
3 VA	5 VA	5 VA
30 V	125 V	175 V
0.3 Amp	0.25 Amp	0.25 Amp
Adjustable	Adjustable	Adjustable

14 Wiring options	W1 DIN plug at top	W2 DIN plug on LP side
	W3 DIN plug at back	W4 2 DIN plugs for 2 SPDTs (1 on LP side and other on top)

15 Other options	0 None
	F Follower pointer on acrylic window*
	S Filter mesh in (+) connection
	C Customer logo
	E Color band (Available in single scale only)

16 Certifications	0 None	C1 Certificate of conformance
	C2 Accuracy and class	C3 Material test certificate
	C4 Pressure test	

* Affects accuracy

** Pointer moves from right to left

*** Only in DX 10

Magnetic 600

1 Series	Magnetic 600			SPST Specifications :	SPDT Specifications :									
2 Type	G Gauge	GS Gauge + Switch		10 VA AC or DC (max)	3 VA AC or DC (max)									
3 Window	F Glass (standard)	A Acrylic		100 V AC or DC (max)	30 V AC or DC (max)									
4 Seals/Diaphragm	Toughened glass			0.5 Amp AC or DC (max)	0.3 Amp AC or DC (max)									
5 Switch	B Buna-N (standard)	V Viton		Other switches on request										
6 Range	Standard ranges : (Other ranges on request)													
	mmH ₂ O	25	50	75	100	125	150	200	250	375	500	750	1000	1250
	InH ₂ O	1	2	3		4	5	6	8	10	15	-	-	-
	mbar	-	2.5	5.0	7.5	10	12.5	15	20	25	37.5	50	75	100
	Pa	125	250	500	750	-	-	-	-	-	-	-	-	-
7 Options	O None	C Customer Logo												
	D Dual scale	E Colour band												
	M1 2" horizontal pipe mounting bracket													
	M2 Surface mounting bracket													
	M3 2" vertical pipe mounting bracket													

DIAPHRAGM INSTRUMENT



COMBINATIONS

Gauge



Gauge+switch



GX 100

DP Range : 0 to 0.75 upto 2 bar
0 to 10 upto 30 psi

Specifications

Accuracy	$\pm 5\%$ of FSD (Ascending)
Migration	No migration; Zero leakage from high to low port
Range	0-0.75 upto 2 bar/psi dual scale
First marking on the scale	15% of the FSD
Sensing element	Diaphragm
Wetted parts	Body material, SS 302 spring, diaphragm & ceramic magnet
Case material	Stainless steel (SS 304)
Dial size in inch / mm	2.5", 3.5", 4" / 63, 80, 100 mm
Mounting	Direct
Maximum working pressure	100 bar.
Maximum process temperature	80°C / 175°F
Body material	Aluminium
Seals	Buna-N, Viton diaphragm & "O" rings
Window	Acrylic
Connection	1/4" NPT(F) Std. Optional 1/4" BSP(F)
Porting	Bottom (54mm or 55mm C. D.), in-line
Protection for gauge & switch	IP 65
Over range protection	Up to the max. working pressure from high side only. Never pressurize only LP side beyond 25 bar.

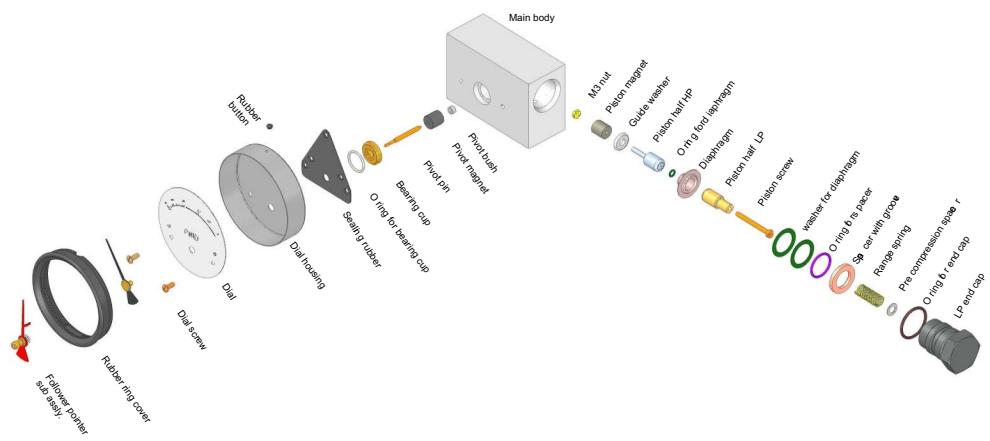
This instrument with 2.5" dial can be directly mounted on ferrous surface.

Options:

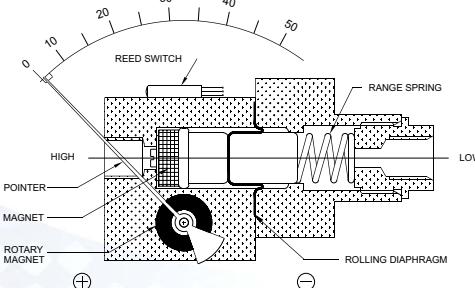
- Customer logo
- Color band
- Red follower pointer (Standard execution for 2.5" dial)

Switches

- 1 or 2 SPDT switches (Factory set)



ROLLING DIAPHRAGM



FOR VIBRATION
APPLICATION



COMBINATIONS

Gauge



Gauge+switch (with a DIN plug on top)



Gauge+2 switches (with 2 DIN plugs)



RD 20

DP Range : 0 to 0.5 up to 3 bar
0 to 7 up to 45 psi

Specifications

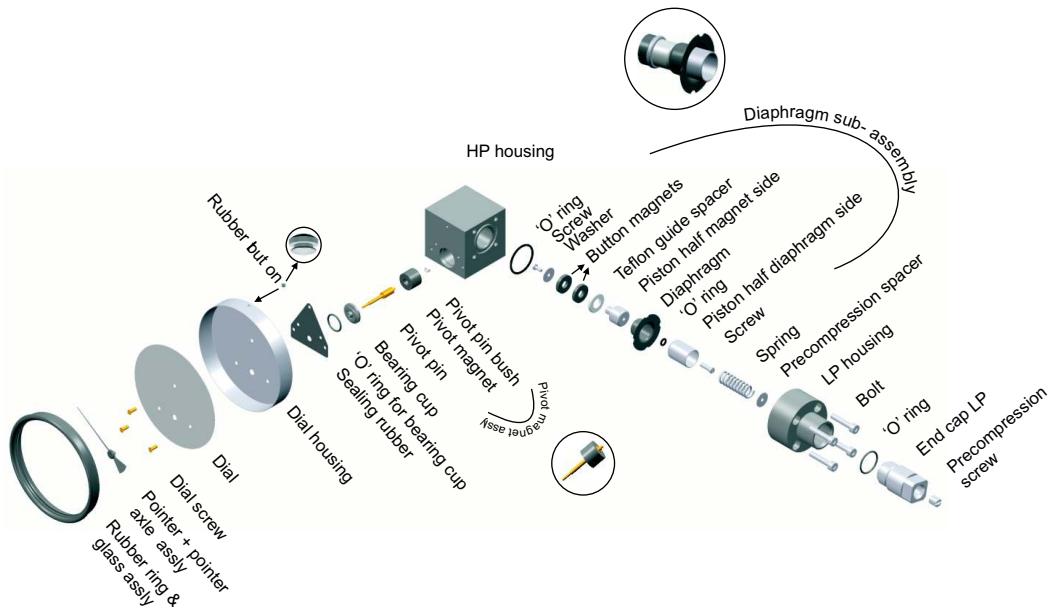
Accuracy	$\pm 5\%$ of the FSD (Ascending)
Migration	No migration; Zero leakage from high to low port
Range	0-0.5 to 0-3 bar or equivalent ranges in other units
First marking on the scale	15% of the FSD
Sensing element	Diaphragm
Wetted parts	Diaphragm, body material, SS 302 spring & ceramic magnet
Case material	Stainless steel SS 304
Dial size in inch /mm	2.5", 3.5" / 63mm, 80mm
Maximum working pressure	200 bar
Maximum process temperature	120°C with Viton seals & 80°C with Buna - N & EPDM seals
Body material	Aluminum, Brass & SS 316
Seals	Buna-N, Viton, EPDM diaphragm & 'O' rings
Window	Toughened glass
Connection	1/4" BSP(F) Std. Optional 1/4"NPT(F)
Porting	In-line
Protection for gauge & switch	IP 65
Over range protection	Up to the max. working pressure from high side <i>Never pressurize only LP side beyond 25 bar.</i>

Options

- Customer logo
- Colour band with graduations
- Colour zones without graduations
- Silicone filling

Switches

SPST & SPDT combinations.

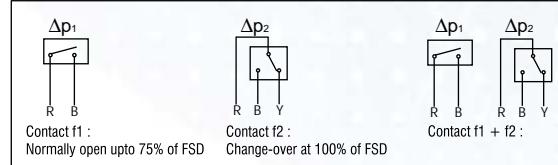


How to order RD 20

GX 100

1 Series	RD 20			
2 Type	G	Gauge	GS	Gauge + Switch
3 Body material	A	Aluminium	B	Brass
4 Dial size	2.5	2.5" (63 mm)	3.5	3.5" (80 mm)
5 Dial face	D1	With graduations (Std.)		
	D2	Color bands with graduations		
	D3	Color zones without graduations		
6 Connection	4B ZZ	1/4" BSP (Female) Special connection sizes using adaptor	4N	1/4" NPT (Female)
7 Porting	1	In-line		
8 Case	SS	SS 304 (Std.)		
9 Window	T	Toughened glass		
10 Seal	B E	Buna-N EPDM	V	Viton (Std.)
11 Switch	0 f1 f1+f1 f2 f2+f2 f1+f2	None One SPST with a DIN plug Two SPSTs with a DIN plug One SPDT with a DIN plug Two SPDTs with two DIN plugs One SPST & one SPDT with two DIN plugs		Terminal strip option is available on request.
12 Standard Ranges	bar	0.5 0.8 1.0 1.2 2.0 3.0 Other ranges on request.		
13 Options	0 C S	None Customer Logo Silicone oil filling * (For 3.5" dial only)		* Affects accuracy

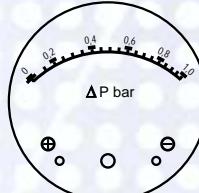
Circuit diagrams for electrical contacts :



SPST Specifications :
40 VA AC or DC (max)
250 V AC or DC (max)
2 Amp AC or DC (max)

SPDT Specifications :
60 VA AC or DC (max)
250 V AC or DC (max)
1 Amp AC or DC (max)

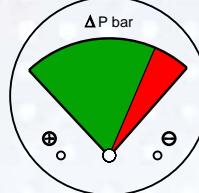
- First switch is always set at 75% of FSD & second at 100% of FSD. Switches are factory set.
- Adjustable switches are also available, however with different electrical ratings



D1 - Dial with graduations only



D2 - Color band with graduations



D3 - Color zones without graduations

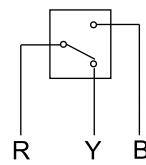
1 Series	GX 100			
2 Type	G	Gauge	GS	Gauge + Switch
3 Body material	A	Aluminium		
4 Dial Size	2.5 4.0	2.5" (Std.) 4.0" **	3.5	3.5" **
5 Window	A	Acrylic		
6 Case	SS	SS304 with a rubber ring(standard)		
7 Range	bar Psi	0.75 1.0 1.6 2.0 10 15 24 30		
8 Porting	1 3	Inline** Bottom (Std.) (Specify C.D. 54mm or 55mm)		
9 Connection	4N ZZ	1/4" NPT(F) Std. Special connection through adaptors	4B	1/4" BSP (F) on request
10 Seal	B	Buna-N (Std.)	V	Viton on request
11 Option	0 B C E	None Red follower pointer Customer logo Color band (Available in single scale only)		
12 Switch	0 S2 S3	None 1 SPDT 2 SPDTs		Note: Please specify switch set point/s while ordering. It can not be changed later.

**Longer delivery and switch option not available

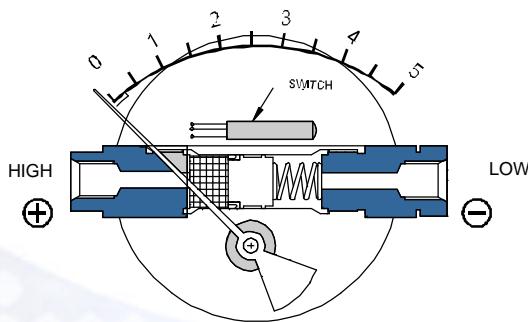
Switch specifications & connection diagram :

Contact Rating : 3 VA AC(rms) or DC(max.)
Switching current : 0.30 Amp AC(rms) or DC (max.)
Switch Voltage : 30 V AC (rms) or DC (max.)
Lead length : 1.0 meter

SPDT Switch



PISTON INSTRUMENT FOR HAZARDOUS AREA / HEAVY DUTY



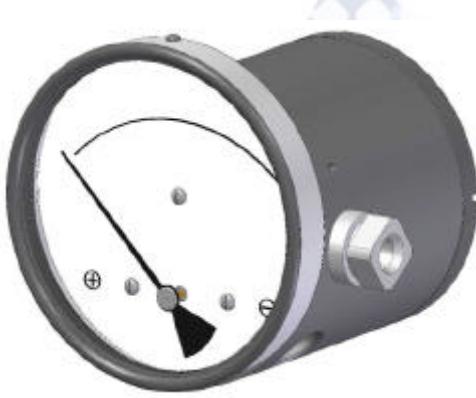
COMBINATIONS

Gauge+switch
(with a terminal strip inside)



COMMON MOUNTINGBRACKET

PR 10



DP Range : 0 to 0.25 upto 10 bar
0 to 5 upto 150 psi

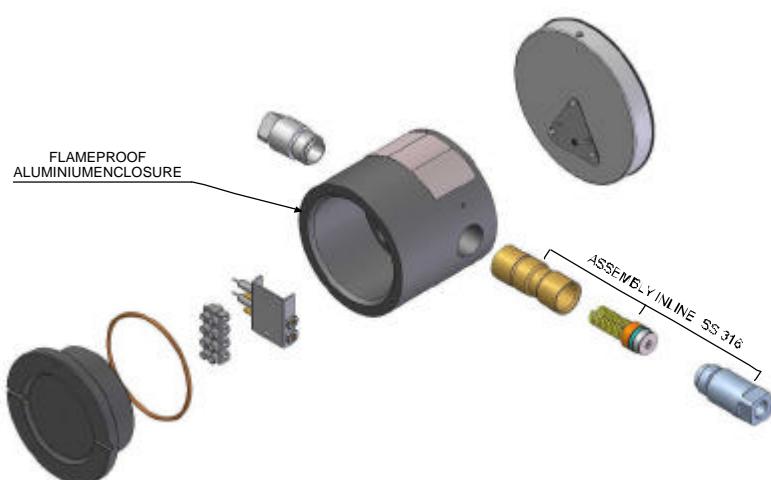
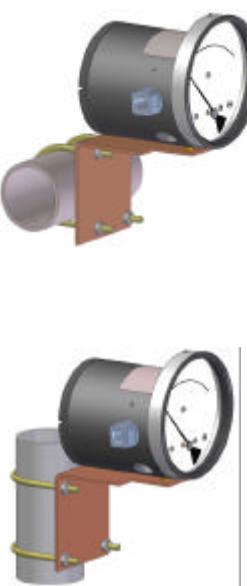
Specifications

Accuracy	$\pm 2\%$ of the FSD (Ascending)
Migration	Minor from high to low port
Range	0-0.25 to 0-10 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	Stainless steel (SS304)
Dial size in inch/mm	4.5", 6" / 115, 150mm
Mounting	Direct or 2" horizontal/vertical pipe mounting bracket
Maximum working pressure	400 bar / 6000 psi
Maximum process temperature	80°C / 175°F
Body material	SS316 attached to flameproof aluminium enclosure
Seals	Buna-N, Viton & EPDM O' rings
Window	Float glass (Std.), toughened glass, & safety glass.
Connection	1/4" NPT(F) Std. Optional 1/4" BSP(F)
Porting	In-line only
Over range protection	Up to the max. working pressure from high & low side
Protection for gauge & switch	IP66/NEMA-4X
Electrical connection	1/2" NPT(F) for 2 conduit ports at bottom, left and right 40° from center line
Net weight	Cable glands and plugs are not supplied with the instrument. Approximately 2.000 kgs.

Options

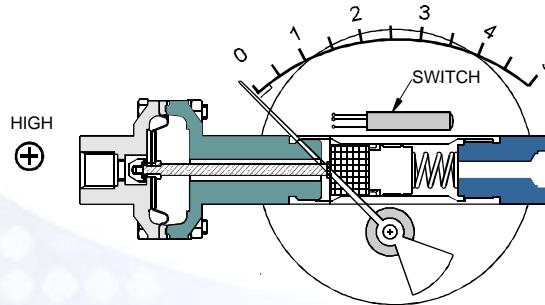
Customer logo	1 or 2 SPSTs with terminal strip
Dual scale	1 or 2 SPDTs with terminal strip
Colour band	
Filter mesh in (+) connection	

Switches (Adjustable in 30-100% of FSD)



"Ex d IIC T6 IP66" approved

DIAPHRAGM INSTRUMENT FOR HAZARDOUS AREA / HEAVY DUTY

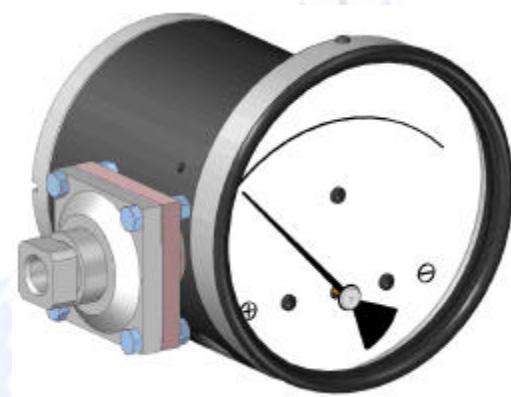


COMBINATIONS

Gauge+switch
(with a terminal strip inside)



PR 20



DP Range : 0 to 0.075 upto 4 bar
0 to 1 upto 60 psi

Specifications

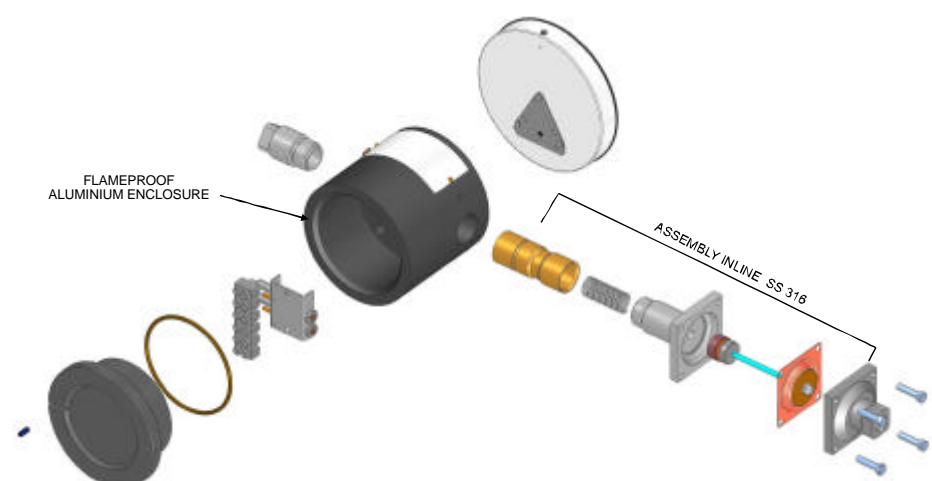
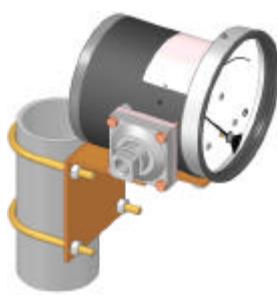
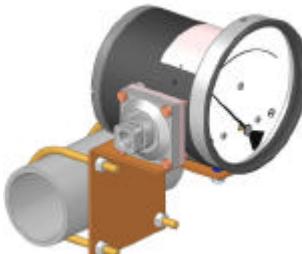
Accuracy	± 2% of the FSD(Ascending)
Migration	No migration : Zero leakage from high to low port
Range	0-0.075 to 0-4 bar or equivalent range in other units
First marking on the scale	20% of the FSD
Sensing element	Diaphragm
Wetted parts	Body material, SS 302 spring, ceramic magnet & seals
Case material	Stainless steel (SS 304)
Dial size in inch /mm	4.5", 6" / 115, 150 mm
Mounting	Direct or 2" horizontal / vertical pipe mounting bracket
Maximum working pressure	100 bar / 1500 psi
Maximum process temperature	80° C / 175° F
Body material	SS316 attached to flameproof aluminium enclosure
Diaphragm / Seals	Buna-N, Viton & EPDM 'O' rings
Window	Float glass(Std.), toughened glass, & safety glass.
Connection	1/4" NPT(F) Std. Optional 1/4" BSP(F)
Porting	In-line only
Over range protection	Up to the max. working pressure from high & low side
Protection for gauge & switch	IP 66 / NEMA-4X
Electrical connection	1/2"NPT(F) for 2 conduit ports at bottom, left and right 40° from center line.
Net weight	Cable glands and plugs are not supplied with the instrument. Approximately 2.500 kgs.

Options

Customer logo	1 or 2 SPSTs with a terminal strip
Dual scale	1 or 2 SPDTs with terminal strip
Colour band	
Filter mesh in (+) connection	

Switches (Adjustable in 40-100% of FSD)

COMMON MOUNTING BRACKET



"Ex d IIC T6 IP66" approved

How to order PR 10, PR 20

SELECT MODEL

1 Series	PR10, PR20	
2 Type	GS Gauge + Switch	
3 Wetted parts	S SS-316 (in aluminium enclosure)	
4 Dial size	4.5 4.5" (115 mm)	6.0 6.0" (150 mm)
5 Connection	4N 1/4" NPT(F) (Std.)	4B 1/4" BSP(F)
6 Porting	1 In-line only.	
7 Case	SS SS 304 (Std.)	
8 Window	T Toughened glass F Float glass	L Safety glass
9 Diaphragm/ Seals	B Buna-N (Std.) V Viton	E EPDM
10 Switch	Select option & Specifications	

Advantages :

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

Switch adjustment range

Model	% FSD
PR 10	30 to 100
PR 20	40 to 100

0	None
2	One SPST, with a terminal strip
4	Two SPSTs, with a terminal strip

SPST Specifications (AC/DC max)

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

6	One SPDT, with a terminal strip
8	Two SPDTs, with a terminal strip

SPDT Specifications (AC/DC max)

1 Standard	2	3
3 VA	5 VA	5 VA
30 V	125 V	175 V
0.3 Amp	0.25 Amp	0.25 Amp
Adjustable	Adjustable	Adjustable

11 Range

PR 10

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

PR 20

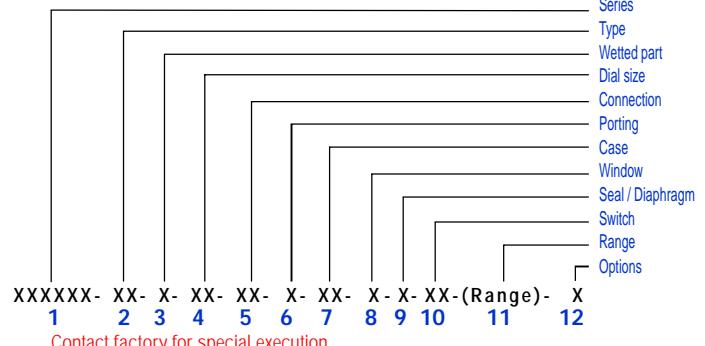
Kg/cm ²	0.075	0.25	-	0.5	0.75	1	-	1.6	2	2.5	3	-	4
bar	0.075	0.25	-	0.5	0.75	1	-	1.6	2	2.5	3	-	4
mbar	75	250	-	-	750	-	-	-	-	-	-	-	----
psi	1	-	5	8	-	15	20	25	30	-	40	50	60
kPa	-	25	-	50	75	100	-	160	200	250	300	-	400

Ordering code sequence

Before creating ordering code, please refer model wise notes above.

12 Options

- O None
- C Customer Logo
- D Dual scale
- E Colour band
- F Filter mesh in (+) connection
- H Descending calibration (long delivery time)
- N NACE
- I Oxygen service (Contact factory)
- M Common 2" pipe mounting bracket (horizontal / vertical) in Aluminium std.





HIRLEKAR PRECISION

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Represented by

