

**HIRLEKAR**  
PRECISION

# Differential Pressure Instruments



- Filter Monitoring
- Flow Monitoring
- Level Measurement
- Pressure Monitoring

## Introduction

Hirlekar Precision is one of the largest manufacturers of differential pressure gauges and switches in the world. It 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.



## Global Reach

Hirlekar Precision exports around 80% of production to more than 50 countries around the world. 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.

## WHAT WOULD YOU GET FROM US?

Hirlekar Precision beats competitors on quality, delivery, price, performance and service. A few of our core strengths are:-

### Private labeling

We private label our instruments for many leading instrument manufacturers. You could sell the gauges with your logo and product sticker as your own product.

### Fast delivery

We understand the importance of fast shipping and 'Just in Time' delivery. Our standard gauges ship within one week\*.



### World Class shipping partners

Efficient communication and logistics management has ensured strong interdependence with customers spread far and wide. UPS, FedEx and DHL are Hirlekar Precision's shipping partners.

### Export oriented & trusted

Our products are sold in/ used in more than 50 countries around the world! Be assured of a world class experience with Hirlekar Precision - right from product enquiry to manufacturing to product packaging.

## Continuous employee participation

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.

### Independent, dedicated teams

Our factory in Pune has focused dedicated and independent teams in Engineering, Sales & Marketing, Purchase, Production, Quality control & Dispatch departments



### Efficient communications

We respond to your queries as quickly as possible, on an average within one day. You can communicate with us in Deutsch, English, Hindi, Marathi and Gujarathi.

### Highly customizable

Gauge body material, dial size, gauge glass, seals, process connections - these are some of the parameters that can be customized by you. More than 100million combinations available!

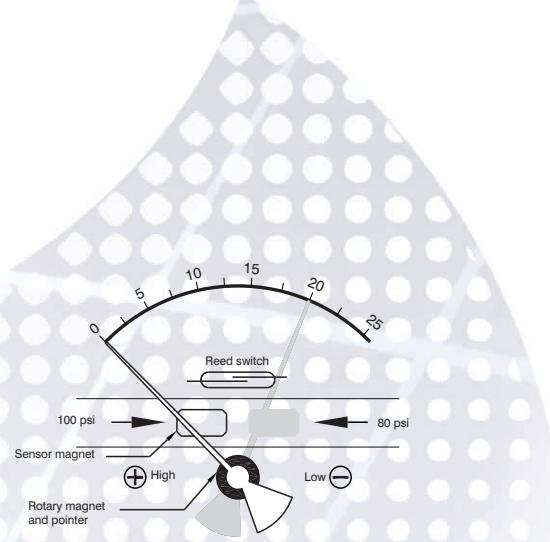


# Operating Principle

**What is the operating principle of our differential gauges?**  
Hirlekar Precision manufactures differential gauges based on magnetic coupling principle.

## What is the 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.



## What are the advantages of magnetically coupled gauges?

**Cost effective:** They are compact, cost effective and are available in 6 dial sizes.

**No threat of blow out:** Magnetic coupling isolates the indicating mechanism window from the pressure chamber so no threat of blow out. Blow out disk not required.

**Eliminates balancing:** Our gauges automatically reset after line surges and cold start. No adjustment pointer required.

**Over range protection:** The instrument is fully protected for over range of up to respective maximum working pressure from the high side.

## High line pressure, low differential pressure:

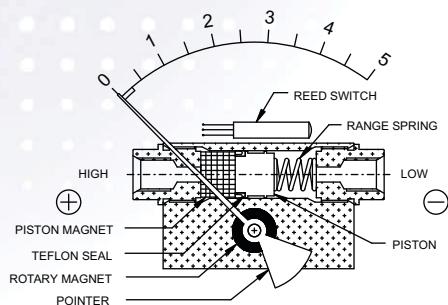
**Customizable:** Over 100 million combinations of our gauges available

## What are the two types of differential gauges we manufacture?

Depending upon the construction, Hirlekar Precision manufactures two types of differential pressure gauges based on the magnetic coupling principle:

**Piston type:** Used where migration of measuring media from HI to LO is allowed.

**Diaphragm type:** Used where migration of media from HI to LO is not allowed.



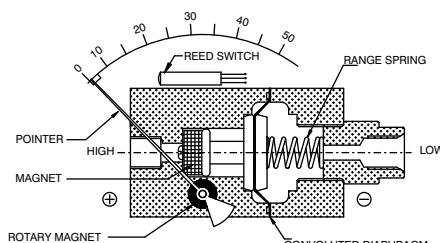
## What are piston gauges?

### Basic Operating Principle:

In the Hirlekar Precision piston gauges, the axial movement of the piston magnet is converted into appropriate calibrated rotary movement of the pointer through a magnetic connection.

### Minor Migration:

This type of differential pressure gauge is used in applications where minor migration of media from HP to LO is permitted.



## What are Diaphragm gauges?

### Basic Operating Principle:

In the Hirlekar Precision diaphragm gauges, the movement of the convoluted/ rolling diaphragm is converted into appropriate calibrated rotary movement of the pointer through a magnetic connection.

### Zero Migration:

This type of differential pressure gauge is used in applications where zero migration of media from HP to LP is permitted.

## Is one type of gauge better than the other?

No. Piston and diaphragm type differential gauges are unique. The selection of the appropriate type of gauge depends upon a host of factors. The primary factor is - Is migration of measuring media from HI to LO allowed in your application.

## Models in piston type & diaphragm type

Piston type: 200 DPG, D200 DPG, 150 DPG, 100 DPG, DX 10, PR 10, EX 200DPG

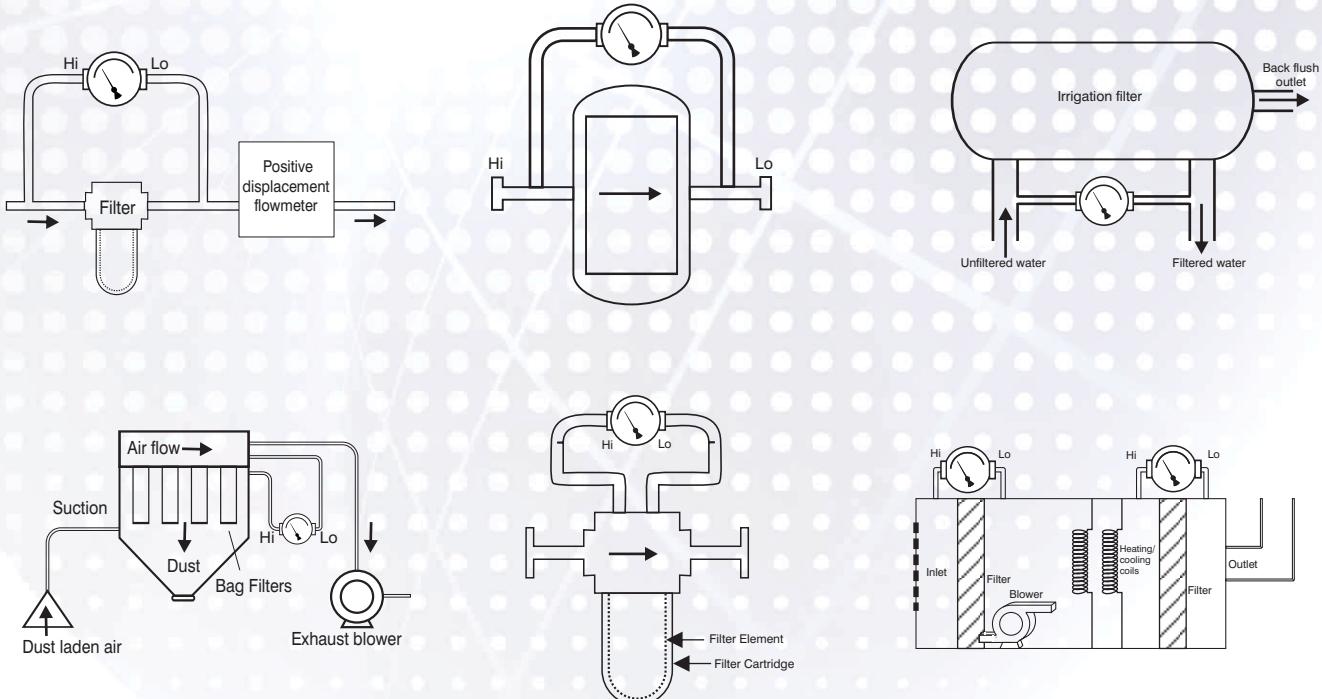
Diaphragm type: 200 DGR, 300 DGC, 320 DGC, 400 DGC, 600 DGC, 700 DGC, DX 20, PR 20, GX 100, EX 200DGR, EX 300DGC, EX 400 DGC

# Applications

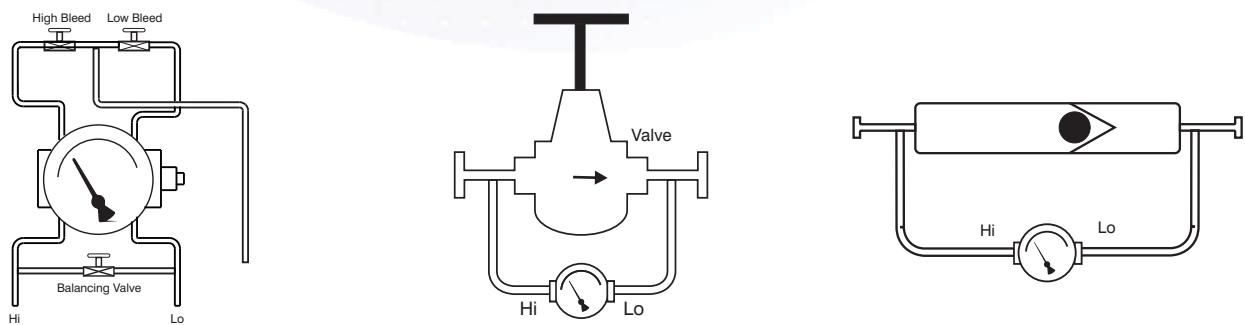
## Applications

A few of the applications of our differential pressure gauges are mentioned below. For additional detail, please log on to: [www.hirlekarprecision.com](http://www.hirlekarprecision.com)

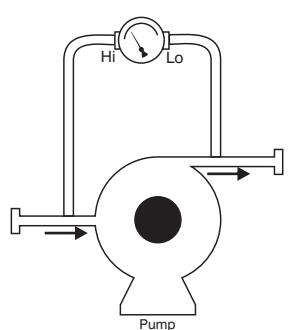
### Filter Monitoring



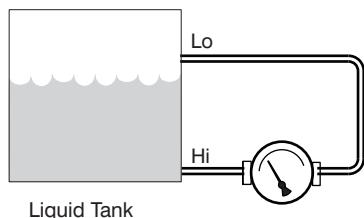
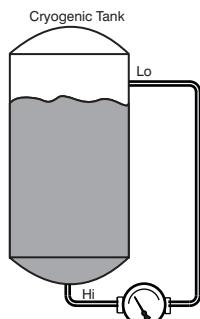
### Flow Monitoring



### Pressure Monitoring



### Level Measurement





## Standard

## 200 DPG

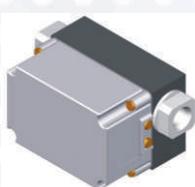
**ΔP Range:** 0 to 0.25 upto 70 bar  
0 to 5 upto 1050 psi

## 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



## 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 &amp; seals

## Case material &amp; 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 &amp; surface mounting

## Maximum working pressure

200 bar for Aluminum &amp; Brass, 400 bar for SS &amp; Monel

## Maximum process temperature

0 to 80°C (32 to 175°F)

## Body material

Aluminum, Brass, SS 316 &amp; Monel

## Seals

Buna-N, Viton, EPDM

## Window

Float glass(Std.), toughened glass, acrylic &amp; safety glass.

## Connection

1/4" NPT(F) (Std.), 1/4" BSP(F) and others through adaptor

## Porting

In-line, rear, bottom, in-line &amp; bottom, in-line &amp; back

## Over range protection

Up to the max. working pressure from high &amp; low side

## Protection for gauge &amp; switch

IP 65 / NEMA-4

## Options

## Liquid filling (glycerine/ silicone)

1 or 2 SPSTs with a DIN plug

## Red follower pointer

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

## Color band

1 or 2 SPDTs with a terminal strip

## 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



6.0"



4.5"



2.5"

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

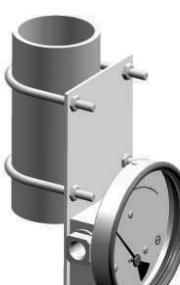
## Surface mounting



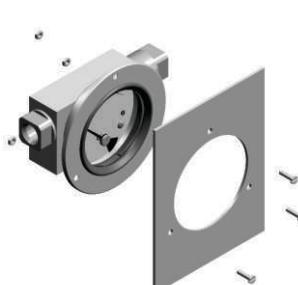
## Horizontal pipe mounting



## Vertical pipe mounting



## Panel / Flange mounting





MOQ applies

## DX 10

## COMBINATIONS

## Gauge



## Gauge+switch

(with a DIN plug on top)



## Gauge+switch

(with 2 DIN plugs)



## MOUNTING BRACKETS

## Surface mounting



## 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 & dial size** Stainless steel (SS 304): 2.5", 3.5", 4.0"  
 Engineering polymer: 2.5"

**Mounting** Direct, front flange, 2" pipe & surface mounting  
**Maximum working pressure** 100, 250 & 400 bar.  
**Maximum process temperature** 0 to 80°C (32 to 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  
**Over range protection** Up to the max. working pressure from high & low side  
**Protection for gauge & switch** IP 65

## Options

Liquid filling (glycerine/ silicone)  
 Red follower pointer  
 Customer logo  
 Dual scale  
 Color 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 20-100% of FSD)

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

## Available in engineering polymer (EP) Case



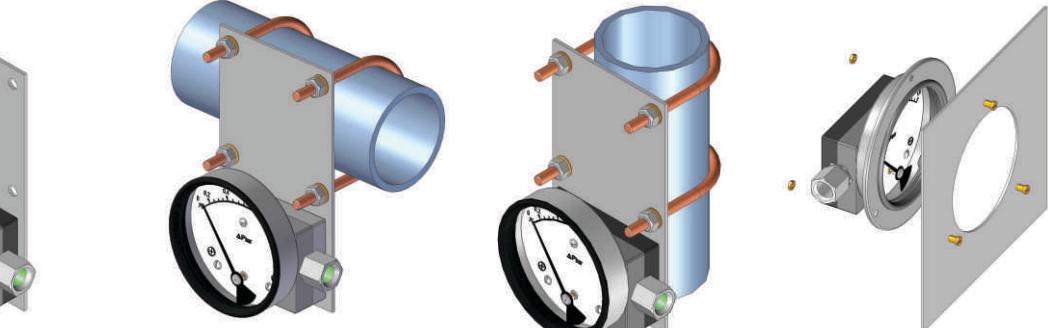
- Removable glass
- Strong and durable
- Panel mounting possible
- Condensation can be cleaned
- Light weight

## Surface mounting

## Horizontal pipe mounting

## Vertical pipe mounting

## Panel / Flange mounting



# DIAPHRAGM



**Max. pressure**

## 200 DGR

**ΔP Range:** 0 to 0.25 upto 7 bar  
0 to 5 upto 100 psi

### COMBINATIONS

#### Gauge



#### Switch



#### Gauge+switch

(with a terminal strip inside)



#### Gauge+switch

(with a DIN plug on top)



### MOUNTING BRACKETS

#### Surface mounting



### Specifications

Accuracy	±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, body material, SS 302 spring & ceramic magnet
Wetted parts	Stainless steel (SS 304): 2.5", 3.5", 4", 4.5", 6"
Case material & dial size	Engineering polymer: 2.5", 4.5", 6"
Mounting	Diaphragm, body material, SS 302 spring & ceramic magnet
Maximum working pressure	Stainless steel (SS 304): 2.5", 3.5", 4", 4.5", 6"
Maximum process temperature	Engineering polymer: 2.5", 4.5", 6"
Body material	0 to 80°C (32 to 175°F)
Diaphragm	Aluminum, Brass, SS 316, Monel
Window	Buna-N, Viton, EPDM
Connection	Float glass(Std.), toughened glass, acrylic & safety glass
Porting	1/4" NPT(F) (Std.), 1/4" BSP(F) and others through adaptor
Over range protection	In-line, rear, bottom, in-line & bottom.
Protection for gauge & switch	Up to the max. working pressure from high side. <i>Never pressurize only LP side beyond 25 bar</i>
	IP 65 / NEMA-4

### Options

Liquid filling (glycerine/ silicone)	Switches (Adjustable in 30-100% of FSD)
Red follower pointer	1 or 2 SPSTs with a DIN plug
Customer logo	1 or 2 SPSTs with a terminal strip
Dual scale	1 SPST with a built in relay
Color band	1 or 2 SPDTs with a terminal strip
Filter mesh in (+) connection	1 or 2 SPDTs with a DIN plug
Descending calibration	

### Available in engineering polymer (EP) Case



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

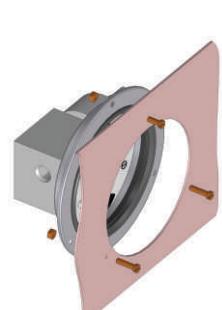
#### Horizontal pipe mounting



#### Vertical pipe mounting



#### Panel / Flange mounting



# DIAPHRAGM



## Standard

### 300 DGC

#### COMBINATIONS

##### Gauge



##### Switch



##### Gauge+switch

(with a terminal strip inside)



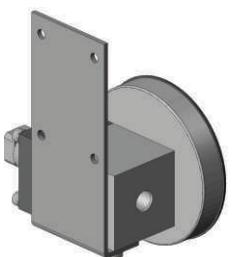
##### Gauge+switch

(with a DIN plug on top)



#### MOUNTING BRACKETS

##### Surface mounting



#### 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 & dial size

Stainless steel (SS 304): 2", 2.5", 3.5", 4", 4.5", 6"

##### Mounting

Engineering polymer: 2.5", 4.5", 6"

##### Maximum working pressure

Bayonet: 4"

##### Maximum process temperature

Direct, front flange, 2" pipe & surface mounting

##### Body material

100 bar / 1500 psi

##### Diaphragm

0 to 80°C (32 to 175°F)

##### Window

Aluminum, Brass, SS 316 & Monel

##### Connection

Buna-N, Viton, EPDM

##### Porting

Float glass(Std.), toughened glass, acrylic & safety glass

##### Over range protection

1/4" NPT(F) (Std.), 1/4" BSP(F) and others (through adaptor)

##### Protection for gauge & switch

In-line, rear, bottom, bottom & vent, in-line & vent, in-line & bottom, in-line & back, bottom vent & inline

Up to the max. working pressure from high side

IP 65 / NEMA-4

#### Options

#### Switches (Adjustable in 30-100% of FSD)

##### Liquid filling

1 or 2 SPSTs with a DIN plug

##### Red follower pointer

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

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

#### Available in engineering polymer (EP) Case



6.0"



4.5"



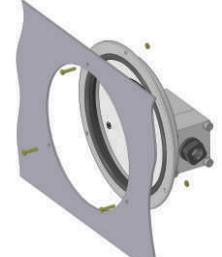
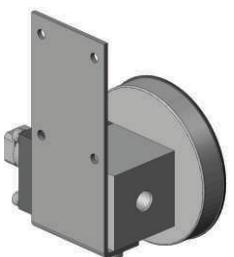
2.5"

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

##### Horizontal pipe mounting

##### Vertical pipe mounting

##### Panel / Flange mounting





## Low Range

### 400 DGC

**ΔP Range:** 0 to 25 upto 600 mm H<sub>2</sub>O  
0 to 1 upto 25 inch H<sub>2</sub>O

#### COMBINATIONS

##### Gauge



##### Switch



##### Gauge + switch (with a DIN plug on top)



#### 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 <sub>2</sub> 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 & dial size	Stainless steel (SS 304): 2.5", 3.5", 4", 4.5", 6.0" Engineering polymer: 2.5", 4.5", 6"
Mounting	Direct, front flange, 2" pipe & surface mounting
Maximum working pressure	35 bar / 500 psi.
Maximum process temperature	0 to 80°C (32 to 175°F)
Body material	Aluminum, SS 316
Diaphragm	Buna-N, Viton, EPDM
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	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 20-80% 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

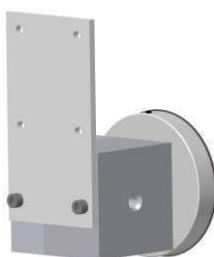
#### Available in engineering polymer (EP) Case



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

#### MOUNTING BRACKETS

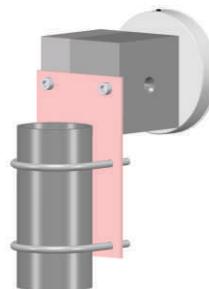
##### Surface mounting



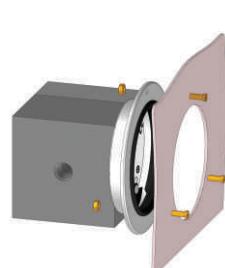
##### Horizontal pipe mounting



##### Vertical pipe mounting



##### Panel / Flange mounting





**Low Range**

## 600 DGC

**ΔP Range:** 0 to 25 upto 1250 mm H<sub>2</sub>O  
0 to 1 upto 50 inch H<sub>2</sub>O

### COMBINATIONS

#### Gauge



#### Switch



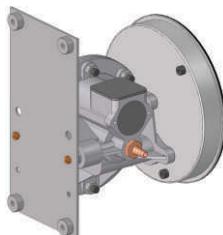
#### Gauge+switch

(With a DIN plug on top)



### MOUNTING BRACKETS

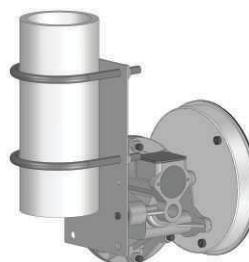
#### Surface mounting



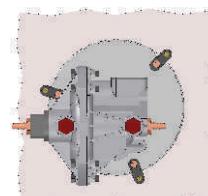
#### Horizontal pipe mounting



#### Vertical pipe mounting



#### Panel / Flange mounting



### 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 column
First marking on the scale	15% of the FSD
Sensing element	Diaphragm, body material, SS 302 spring & ceramic magnet
Wetted parts	Stainless steel (SS 304)
Case material	Engineering polymer
Dial size in mm(inch)	112mm. (4.4") (Other dial sizes on request)
Mounting	Flush (Std.), 2" pipe & surface mounting on request
Maximum working pressure	2.4 bar / 35psi
Maximum process temperature	0 to 60°C (32 to 140°F)
Body material	Buna-N, Viton, EPDM
Diaphragm	Float glass(Std.), toughened glass & acrylic on request.
Window	1/8" NPT(F)
Connection	In-line, back, In-line & back
Porting	Up to the max. working pressure from high side
Over range protection	IP 65 / NEMA-4
Protection for gauge & switch	

### Options

Liquid filling (glycerine/ silicone)	1 or 2 SPSTs with a DIN plug
Customer logo	1 SPDT with a DIN plug
Dual scale	
Color band	
Filter mesh in (+) connection	
Descending calibration	

### Switches (Adjustable in 20-80% of FSD)

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

*Switch can be added anytime on the field.*

### Accessories supplied with instrument





Cryogenic

## 700 DGC

$\Delta P$  Range: 0 to 750 upto 40000 mmH<sub>2</sub>O  
0 to 1 upto 60 psi

### COMBINATIONS

#### Gauge

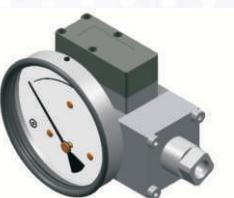


#### Switch



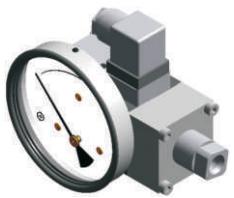
#### Gauge+switch

(with a terminal strip inside)



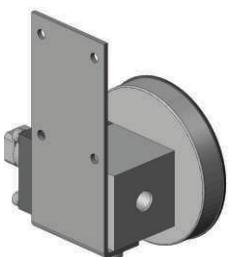
#### Gauge+switch

(with a DIN plug on top)



### MOUNTING BRACKETS

#### Surface mounting



### 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, body material, SS 302 spring & ceramic magnet
Wetted parts	Stainless steel (SS 304): 2.5", 3.5", 4", 4.5", 6"
Case material & dial size	Engineering polymer: 2.5", 4.5", 6"
Mounting	Direct, front flange, 2" pipe & surface mounting
Maximum working pressure	100 bar / 1500 psi
Maximum process temperature	0 to 80°C (32 to 175°F)
Body material	Aluminum, Brass, SS 316 & Monel
Diaphragm	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, 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 (glycerine/ silicone)	1 SPST with a DIN plug
Red follower pointer	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 SPST 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

### Available in engineering polymer (EP) Case

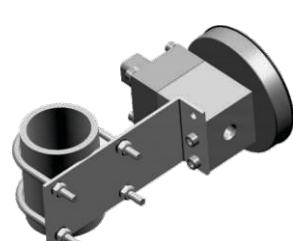


- Removable glass
- Strong and durable
- Panel mounting possible
- Condensation can be cleaned
- Light weight

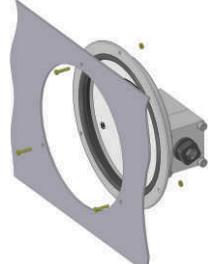
#### Horizontal pipe mounting



#### Vertical pipe mounting



#### Panel / Flange mounting





**MOQ applies**

## DX 20

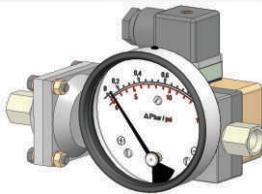
### COMBINATIONS

#### Gauge



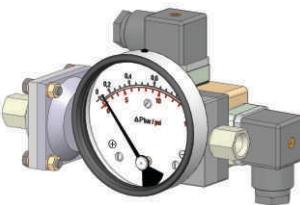
#### Gauge+switch

(With a DIN plug on top)



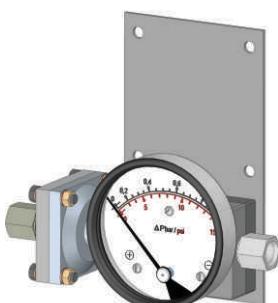
#### Gauge+switch

(with 2 DIN plugs)

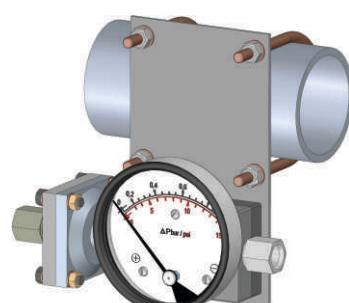


### MOUNTING BRACKETS

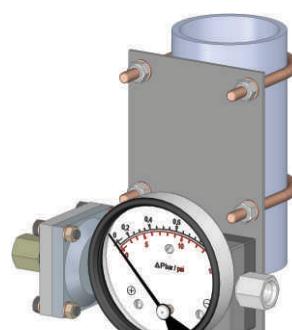
#### Surface mounting



#### Horizontal pipe mounting



#### Vertical pipe mounting



### Specifications

#### Accuracy

$\pm 5\%$  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 & dial size

Stainless steel (SS 304): 2.5", 3.5", 4"

#### Engineering polymer: 2.5"

Engineering polymer: 2.5"

#### Mounting

Direct, 2" pipe & surface mounting

#### Maximum working pressure

100 bar.

#### Maximum process temperature

0 to 80°C (32 to 175°F)

#### Enclosure

Engineering Polymer

#### Diaphragm

Buna-N, Viton, EPDM

#### 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

IP65

### Options

#### Liquid filling (glycerine/ silicone)

1 or 2 SPSTs with a DIN plug

#### Red follower pointer

1 or 2 SPDTs with a DIN plug

#### Customer logo

#### Dual scale

#### Color band

*DP range can be changed easily at site by replacing range spring.*

*(Available only in gauges with color band or zones without any graduations)*

### Switches (Adjustable in 35-100% of FSD)

#### Available in engineering polymer (EP) Case



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

# DIAPHRAGM



**Center Zero**

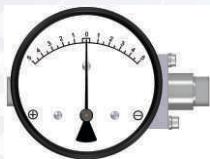
## CZ 300DGC

Low range CZ 400DGC also available. Visit [www.hirlekarprecision.com](http://www.hirlekarprecision.com)

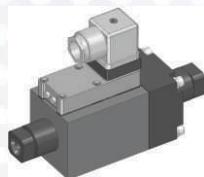
$\Delta P$  Range: 0.075 - 0 - 0.075 bar  
upto 4 - 0 - 4 bar

### COMBINATIONS

#### Gauge



#### Switch



#### Gauge+switch

(with a terminal strip inside)



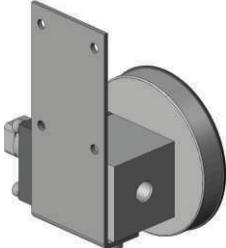
#### Gauge+switch

(with a DIN plug on top)



### MOUNTING BRACKETS

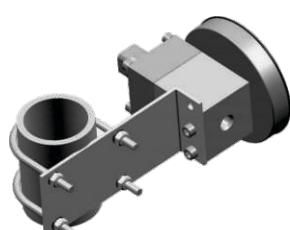
#### Surface mounting



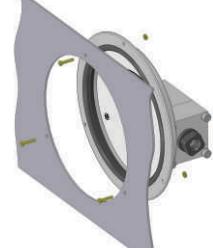
#### Horizontal pipe mounting



#### Vertical pipe mounting



#### Panel / Flange mounting



### Specifications

#### Accuracy

$\pm 2\%$  of the FSD (Ascending)

#### Migration

No migration; Zero leakage from high to low port

#### Range

0.075-0-0.075 to 4-0-4 bar or equivalent ranges in other units

#### First marking on the scale

20% of the FSD

#### Sensing element

#### Diaphragm

#### Wetted parts

Diaphragm, body material, SS 302 spring & ceramic magnet

#### Case material & dial size

Stainless steel (SS 304): 2.5", 3.5", 4", 4.5", 6"

#### Mounting

Engineering polymer: 2.5", 4.5", 6"

#### Maximum working pressure

Bayonet: 4"

#### Maximum process temperature

Direct, front flange, 2" pipe & surface mounting

#### Body material

100 bar / 1500 psi

#### Diaphragm

0 to 80°C (32 to 175°F)

#### Window

Aluminum, Brass, SS 316 & Monel

#### Connection

Buna-N, Viton, EPDM

#### Porting

Float glass(Std.), toughened glass, acrylic & safety glass

#### Over range protection

1/4" NPT(F) (Std.), 1/4" BSP(F) and others through adaptor

#### Protection for gauge & switch

In-line, rear, bottom, bottom & vent, in-line & vent, in-line & bottom

#### IP 65 / NEMA-4

### Options

#### Liquid filling

### Switches

1 or 2 SPDTs with a terminal strip

#### Customer logo

1 or 2 SPDTs with a DIN plug

#### Dual scale

#### Colour band

### Available in engineering polymer (EP) Case



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



Akron Electric (USA)

FCG (India)

**Hazardous Area****EX 200DPG**Other EX products also available. Visit [www.hirlekarprecision.com](http://www.hirlekarprecision.com)

$\Delta P$  Range: 0 to 0.25 upto 10 bar  
0 to 5 upto 150 psi

**COMBINATIONS**

**Gauge+switch**  
(with a terminal strip inside)

**Switch**

**Gauge+switch**  
(Without Ex-proof enclosure)



**Switch\***  
(Without Ex-proof enclosure)



\*Locally available explosion proof enclosures can be used

**Specifications**

Accuracy	$\pm 2\%$ of the FSD (Ascending)
<b>Migration</b>	<b>Minor from high to low port</b>
Range	0-0.25 to 0-10 bar or equivalent range in other units
First marking on the scale	20% of the FSD
<b>Sensing element</b>	<b>Piston</b>
Wetted parts	Body material, SS 302 spring, ceramic magnet & seals
Case material & dial size	Stainless steel (SS 304): 2.5", 3.5", 4", 4.5", 6.0" Engineering polymer: 2.5", 4.5", 6.0"
Mounting	Surface, 2" pipe mountings
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) (Opt.)
Porting	Bottom (right side), 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)	1 or 2 SPSTs with a terminal strip
Red follower pointer	1 or 2 SPDTs with a terminal strip
Customer logo	
Dual scale	
Color band	
Filter mesh in (+) connection	
Descending calibration	

**Switches (Adjustable in 20-100% of FSD)**

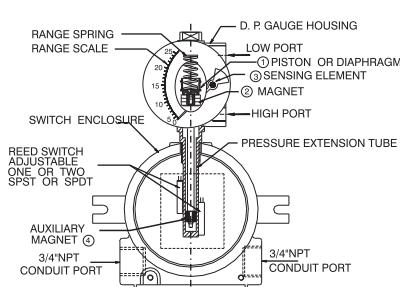
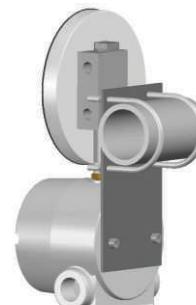
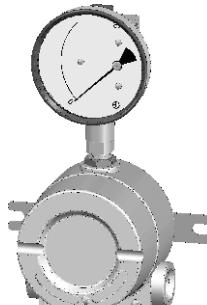
1 or 2 SPSTs with a terminal strip
1 or 2 SPDTs with a terminal strip

**Available in engineering polymer (EP) Case**

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

**Enclosure Approvals**

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.

**ASSEMBLY****MOUNTING BRACKETS****Horizontal pipe mounting****Vertical pipe mounting****Surface mounting**



**Flameproof**

## PR 10

### COMBINATIONS

**Gauge + switch**  
(with a terminal strip inside)



### COMMON MOUNTING BRACKET

### Specifications

Accuracy ±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 & dial size Stainless steel (SS 304): 4.5", 6.0"  
Mounting Direct or 2" horizontal / vertical pipe mounting bracket  
Maximum working pressure 400 bar / 6000 psi  
Maximum process temperature 0 to 80°C (32 to 175°F)  
Body material SS316 attached to flameproof aluminum enclosure  
Seals Buna-N, Viton & EPDM.  
Window Float glass(Std.), toughened glass, & safety glass.  
Connection 1/4" NPT(F) (Std.), 1/4" BSP(F) through adaptor  
Porting In-line only  
Over range protection Up to the max. working pressure from high & low side  
Protection for gauge & switch IP 66/ NEMA-4  
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 2kg (4.4lbs)

### Options

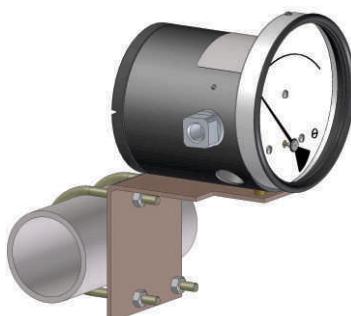
Customer logo 1 or 2 SPSTs with a terminal strip  
Dual scale 1 or 2 SPDTs with a terminal strip  
Color band  
Filter mesh in (+) connection

**△P Range:** 0 to 0.25 upto 10 bar  
0 to 5 upto 150 psi

### Switches (Adjustable in 30-100% of FSD)

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

### Horizontal pipe mounting



### Vertical pipe mounting



**Approval**

This gauge is  
**Ex d IIC T6 IP66**  
approved



**Flameproof**

## PR 20

**ΔP Range:** 0 to 0.075 upto 4 bar  
0 to 1 upto 60 psi

### COMBINATIONS

**Gauge + switch**  
(with a terminal strip inside)



### Specifications

Accuracy	±2% of the FSD (Ascending)
<b>Migration</b>	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
<b>Sensing element</b>	<b>Diaphragm</b>
Wetted parts	Body material, SS 302 spring, ceramic magnet & seals
Case material & dial size	Stainless steel (SS 304): 4.5", 6.0"
Mounting	Direct or 2" horizontal / vertical pipe mounting bracket
Maximum working pressure	100 bar / 1500 psi
Maximum process temperature	0 to 80°C (32 to 175°F)
Body material	SS316 attached to flameproof aluminium enclosure
Diaphragm	Buna-N, Viton, EPDM
Window	Float glass(Std.), toughened glass, & safety glass.
Connection	1/4" NPT(F) (Std.), 1/4" BSP(F) through adaptor
Porting	In-line only
Over range protection	Up to the max. working pressure from high & low side
Protection for gauge & switch	IP 66 / NEMA-4
Electrical connection	1/2"NPT(F) for 2 conduit ports at bottom, left and right 40° from center line. Cable glands and plugs are not supplied with the instrument. Approximately 2.5kg (5.5lbs)
Net weight	

### Options

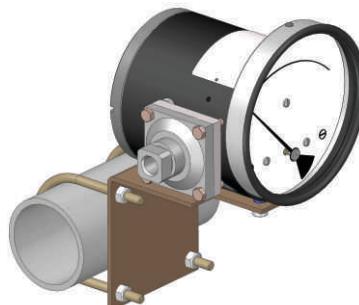
Customer logo	1 or 2 SPSTs with a terminal strip
Dual scale	1 or 2 SPDTs with a terminal strip
Color band	
Filter mesh in (+) connection	

### Switches (Adjustable in 40-100% of FSD)

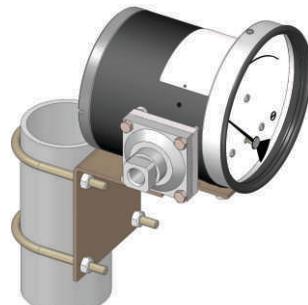
Customer logo	1 or 2 SPSTs with a terminal strip
Dual scale	1 or 2 SPDTs with a terminal strip
Color band	
Filter mesh in (+) connection	

### COMMON MOUNTING BRACKET

#### Horizontal pipe mounting



#### Vertical pipe mounting



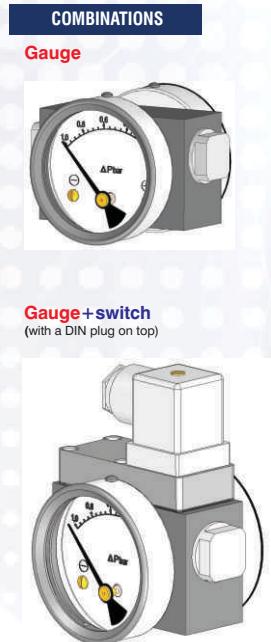
**Approval**

This gauge is  
**Ex d IIC T6 IP66**  
approved



## Double Dial

### D200 DPG



#### Specifications

Accuracy	±5% 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 (SS 304)
Dial size in inch /mm	2.5"
Mounting	Direct
Maximum working pressure	350 bar for Al, Br ; 450 bar for SS
Maximum process temperature	0 to 80°C (32 to 175°F)
Body material	Aluminum, SS 316, Brass
Seals	Buna-N, Viton & EPDM
Window	Float glass(Std.), toughened glass, acrylic & safety glass.
Connection	1/4" NPT(F) (Std.) Optional: 1/4" BSP(F)
Porting	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

Liquid filling (glycerine/ silicone)	1 or 2 SPSTs with a DIN plug on top
Red follower pointer	1 SPDT with a DIN plug on top
Customer logo	
Dual scale	
Color band	
Filter mesh in (+) connection	

#### Switches (Adjustable in 20-100% of FSD)

### Special products

Hirlekar Precision manufactures certain specialized differential pressure instruments for the OEM Industry. These products are manufactured at the Hirlekar Precision facility where the other products are produced. These products are categorized as special products as they require a longer lead time and/or a standard minimum order quantity.



**320 DGC**  
*Irrigation Industry*



**GX 100**  
*Natural Gas Filtration*



**DP Indicators**  
*Filter Monitoring*



**Float Gauge**  
*Cryogenic Industry*

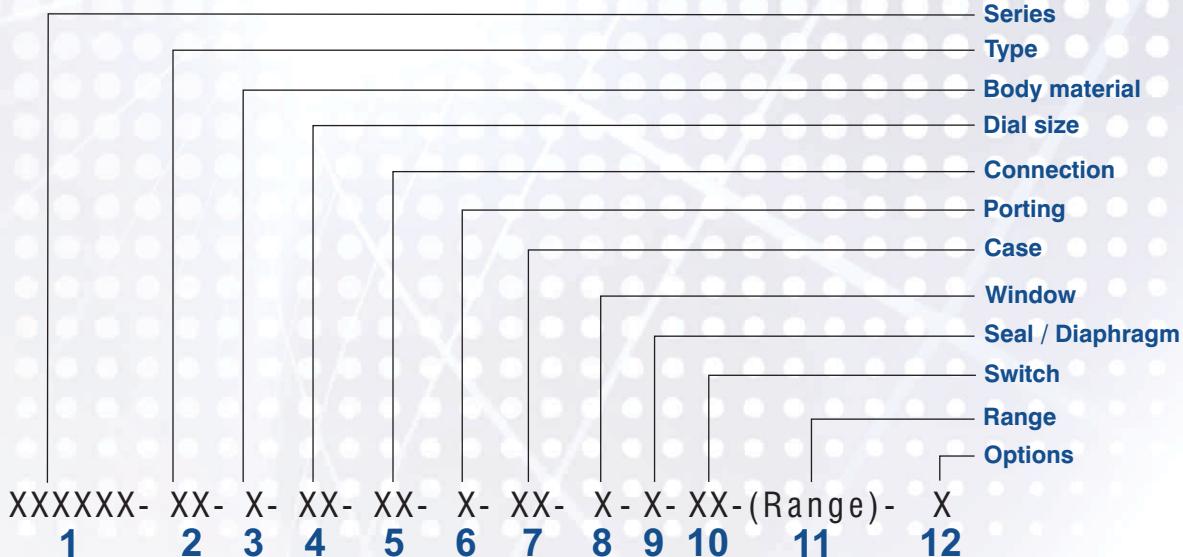
# NEW: Polymer Case

# How to order

## Unique Gauge Ordering Code

All of the Hirlekar Precision gauge models can be ordered through a unified 12 point ordering code shown below. Please mention the entire code at the time of ordering.

### Ordering code sequence



Example: 200DPG-G-S-2.5-4N-2-S4-F-B-21-(0-1bar)-C

## Engineering Polymer (EP) Case

The EP Case is a removable case made of high-strength glass reinforced engineering polymer nylon. The EP Case comes in three sizes: 2.5" (63mm), 4.5" (115mm) and 6.0" (150mm).



### Advantages

In case of condensation, fogging occurs inside the case which affects visibility. Remove the outer part of the EP Case, clean the glass and reattach the cover. No need to send the gauge for cleaning. Recommended in areas witnessing severe temperature fluctuations.

Removable Glass cover  
Panel Mounting possible  
Condensate can be cleaned  
Light weight  
Strong & durable

### Which gauges come with optional EP Case?

Piston Gauges: 200 DPG, DX 10, EX 200DPG

Diaphragm Gauges: 200 DGR, 300 DGC, 400 DGC, 700 DGC, GX 100, CZ Gauges, EX gauges

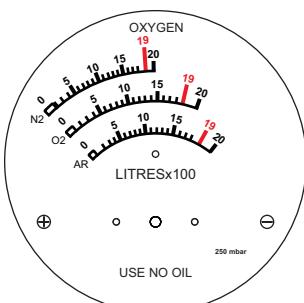
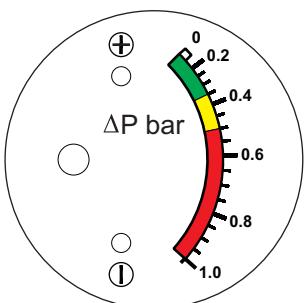
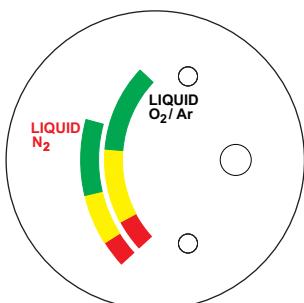
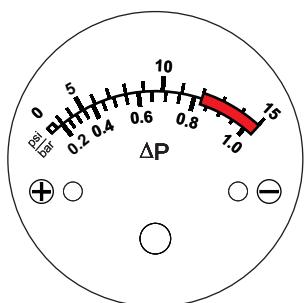
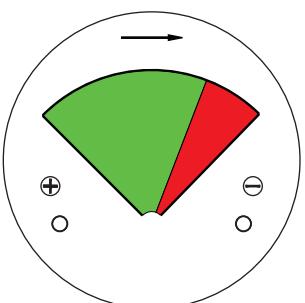
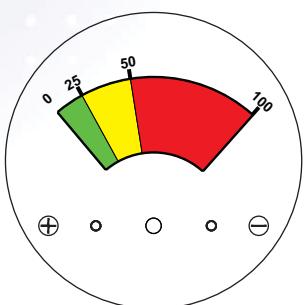
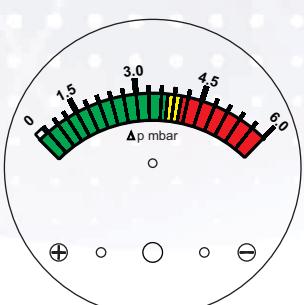
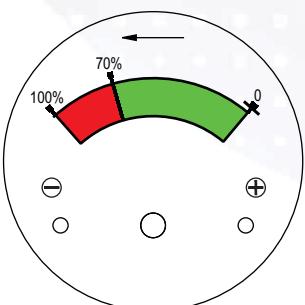
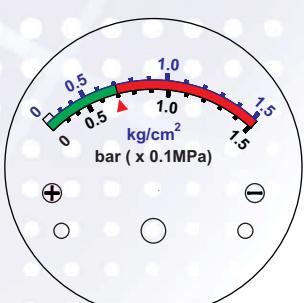
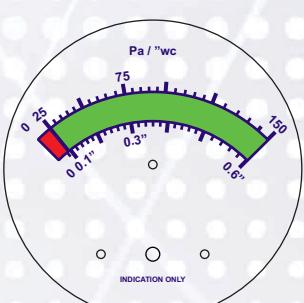
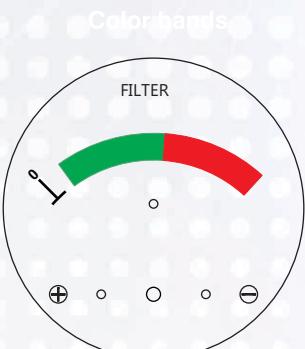
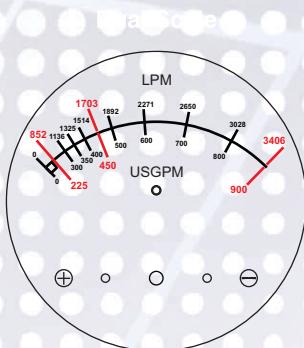
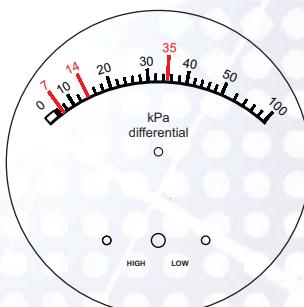
# Types of dials

## Types of dials we print

Hirlekar Precision prints a variety of dials.

Some of the dials we print are below. Please contact us for customized dials.

All our dial printing is done in our in-house printing department



# **HIRLEKAR**

P R E C I S I O N

## Hirlekar Precision

### Head Office:

18-19 Gultekadi Industrial Estate  
Pune 411 037, INDIA  
Tel. :+91 20 2426 5743 / +91 20 2427 4000

### Factory:

Plot No. 67, Hadapsar Industrial Estate  
T.P. Scheme II, Ramtekadi  
Pune 411 013, INDIA  
Tel. :+91 98 2304 3051  
E-mail: sales@hirlekarprecision.com



Represented by