

### DP1 Differential Pressure Gauge Piston Operated



#### **Special Features**

- Simple and compact design.
- High operating pressure up to 400 bar. (700 bar On Request)
- Over pressure safe from either side to maximum working pressure.
- Indicating mechanism isolated from pressure chamber.
- Suitable for Air / Gas media.

#### Application

#### Filters

- Hydraulic systems
- Water treatment plants
- Chemical plants
- Natural gas processing
- Heat exchanger
- Gasoline / diesel engine filters
- Pumps
- Valves
- Compressors

## CE

#### CE

#### Specifications

Standard Version : 63 mm, 100 mm & 150 mm ± 2.5% of F.S. (For ascending order) Accuracy Ambient temperature Max. 65°C Process temperature Max. 80°C Static pressure (on request) 400 kg/cm<sup>2</sup> for ranges 1 bar & Above same as Static Pressure Over pressure range Connection 1/4" NPT (F) x 2 Nos. Case AISI 304 SS Wetted parts Teflon, Ceramic Magnet & SS Spring Body AISI 316 SS Protection IP 65 Aluminum, black Colored, Fixed Dial Window Plain Glass Glycerine filled version (option py) ±4.0% of F. S. (For ascending order) Accuracy Ambient temperature Maximum 65°C Process temperature Maximum 65°C Window Plexi Glass

#### Temperature effect :

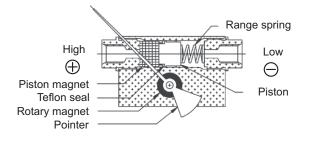
Dampening liquids

Other features

The variation of indication caused by effects of temperature is to be calculated by below formula; which is to be added in the specified accuracy while measurement :- Formula :  $\pm 0.04 \times (t2 - t1) \%$  of F. S. where t1 = reference temperature ( $\pm 20^{\circ}$ C) and t2 = ambient temperature in °C.

Glycerin 99.7% (others available as option) Refer Specification of Standard Version

#### **Operating Principle**



High and Low pressures are separated by **s**ensor 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.

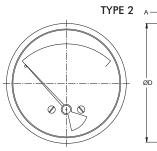
A rotary magnet, located in a separate body cavity and isolated from the acting pressures, is rotated by magnetic coupling as per the linear movement of the sensor assembly. A pointer attached to the rotary magnet indicates differential pressure on the dial.

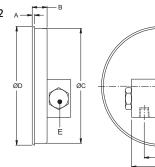


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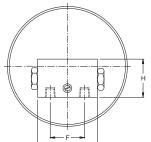
#### **Dimensions - standard version**



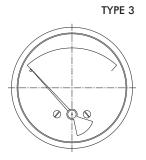


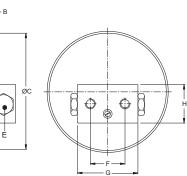
A –

ØD

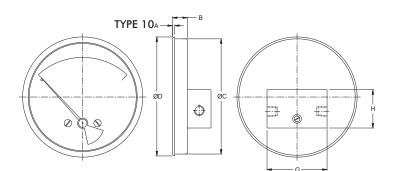


| NS  | A  | в    | ØC    | ØD   | Е  | F  | G    | Н  | Weight in gram<br>(With Box) |
|-----|----|------|-------|------|----|----|------|----|------------------------------|
| 63  | 12 | 17.0 | 62.5  | 70.0 | 25 | 54 | 77.5 | 50 | 430                          |
| 100 | 12 | 22.0 | 100   | 111  | 25 | 54 | 77.5 | 50 | 460                          |
| 150 | 15 | 22.0 | 148.5 | 161  | 25 | 54 | 77.5 | 50 | 560                          |





| NS  | A  | В    | ØC    | ØD   | Е  | F  | G    | н  | Weight in gram<br>(With Box) |
|-----|----|------|-------|------|----|----|------|----|------------------------------|
| 63  | 12 | 17.0 | 62.5  | 70.0 | 25 | 54 | 77.5 | 50 | 400                          |
| 100 | 12 | 22.0 | 100.0 | 111  | 25 | 54 | 77.5 | 50 | 450                          |
| 150 | 15 | 22.0 | 148.5 | 161  | 25 | 54 | 77.5 | 50 | 540                          |



| NS  | A  | в    | øc    | ØD   | Е  | G    | Н  | Weight in gram<br>(With Box) |
|-----|----|------|-------|------|----|------|----|------------------------------|
| 63  | 12 | 17.0 | 62.5  | 70.0 | 25 | 77.5 | 50 | 400                          |
| 100 | 12 | 22.0 | 100.0 | 111  | 25 | 77.5 | 50 | 450                          |
| 150 | 15 | 22.0 | 148.5 | 161  | 25 | 77.5 | 50 | 540                          |

Notes : • Drawings are not to scale. • All Dimensions are in mm. • NS = Nominal Size.

#### Range Table

Note : We offer National / International Scales like kPa, bar, psi, kg/cm<sup>2</sup>, mbar, mmWC, inWC or Equivalent scales as per the requirement can be provided on request. Following are the example tables for kPa & kg/cm<sup>2</sup>

| Single scale |         |          |          |          |           |
|--------------|---------|----------|----------|----------|-----------|
| kPa          | kPa     | kPa      | kg/cm²   | kg/cm²   | kg/cm²    |
| 0 / 100      | 0 / 350 | 0 / 900  | 0 / 1.00 | 0 / 3.50 | 0 / 9.00  |
| 0 / 160      | 0 / 400 | 0 / 1000 | 0 / 1.60 | 0 / 4.00 | 0 / 10.00 |
| 0 / 200      | 0 / 500 |          | 0 / 2.00 | 0 / 5.00 |           |
| 0 / 250      | 0 / 600 |          | 0 / 2.50 | 0 / 6.00 |           |
| 0 / 300      | 0 / 700 |          | 0 / 3.00 | 0 / 7.00 |           |

Note : Other Scale are available on customer request.



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#### Differential Pressure Gauge Piston Operated

| How T    | o Order                                   |            |                 |                |       |            |        |        | Exampl             | le |
|----------|---|------------|-----------------|----------------|-------|------------|--------|--------|--------------------|----|
| Basic I  | Iodel                                     |            |                 |                |       |            |        |        | DP1                |    |
| Code     |   |            |                 |                |       |            |        |        |                    |    |
| Nomina   | al Size                                   |            |                 |                |       | 25         | 40     | 60     |                    |    |
|          |   |            |                 |                | (     | 63 mm      | 100 mm | 150 mm | XX                 |    |
| Case T   | уре                                       |            |                 | I              |       |            |        |        |                    |    |
| DM       | Case without front flange                 | PM         | Case with from  | t flange       |       |            |        |        | XX                 |    |
| Mounti   | ng  |            |                 |                |       |            |        |        |                    |    |
| 2        | Direct bottom entry                       | 3          | Direct back en  | try            | 10    | In line er | ntry   |        | X<br>OR            |    |
| Body I   | Material                                  |            |                 |                |       |            |        |        | XX                 |    |
| AL       | Aluminium                                 | <b>S</b> 6 | AISI 316 SS     |                | мо    | Monel      |        |        | XX                 |    |
| Gauge    | Connection                                |            |                 |                |       |            |        |        |                    |    |
| 2NF      | 1/4" NPT (F) X 2 Nos. (Star               | idard)     | 2BF             | 1⁄4" BSP (F) X | X 2 N | OS.        |        |        | XXX                |    |
| if Re    | quired Other Process Conn                 | ection     | Possible Throug | h Adaptor      |       |            |        |        |                    |    |
| Range    |   |            |                 |                |       |            |        |        | 0/2                |    |
| Refer ra | ange table                                |            |                 |                |       |            |        |        | kg/cm <sup>2</sup> | 2  |
| Option   | S   |            |                 |                |       |            |        |        |                    |    |
| CDE      | Custom designed dial                      |            |                 |                |       |            |        |        |                    |    |
| TND      | -   |            |                 |                |       |            |        |        |                    |    |
| STP      | SS tag plate                              |            |                 |                |       |            |        |        | XXX                |    |
| CLC      | Calibration certificate                   |            |                 |                |       |            |        |        |                    |    |
| DLG      | Dampening liquid glyceri                  | ne fille   | Ł               |                |       |            |        |        |                    |    |
| PY4      | 2" pipe/yoke mounting br                  | acket (    | AISI 304 SS)    |                |       |            |        |        |                    |    |
| MRF      | <ul> <li>Maximum Reading Point</li> </ul> | er With    | Plexi Glass     |                |       |            |        |        |                    |    |
| MRF      | Maximum Reading Point                     | er With    | Plexi Glass     |                |       |            |        |        |                    |    |

#### Ordering Example: DP1 - XX - XX - X OR XX - XX - XXX - 0/2 kg/cm<sup>2</sup> - XXX

For other optional items, please contact factory for delivery and minimum quantity of order.

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.