

# DOUBLE DIAPHRAGM DIFFERENTIAL PRESSURE GAUGE

## MODEL M2.02



### PRODUCT DESCRIPTION

Double Diaphragm Pressure Gauge are based on the proven Bourdon tube measuring system. On pressurization, the deflection of the Bourdon tube, proportional to the incident pressure, is transmitted to the movement via a link and indicated. These instruments are used to check filter obstructions, pressure drops, flow rate differences, level, measurements and generally the difference between two pressures of equal of different circuits.



# DOUBLE DIAPHRAGM DIFFERENTIAL PRESSURE GAUGE

## MODEL M2.02

### KEY FEATURES

- Case & measuring system in SS
- Static pressure up to 100 kg/cm<sup>2</sup>
- Dry & liquid filled
- Accuracy up to 1.6 % F.S
- CE & ATEX approved electrical contacts

### SPECIFICATIONS

|                           |                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------|
| Design Standard           | : According to EN 837-3                                                                              |
| Sensing Element           | : Double Diaphragm                                                                                   |
| Accuracy                  | : ± 1.6% of Span (Standard)                                                                          |
| Dial Size                 | : 100mm (4"), 160mm (6")                                                                             |
| Process Conn. Size & Type | : 1/4" NPT (F) x 2 Nos<br>(Other sizes on request)                                                   |
| Mounting                  | : Direct bottom Connection                                                                           |
| Ambient Temperature       | : -25°C to 65°C                                                                                      |
| Process Temperature       | : Max. 100 °C                                                                                        |
| Static Pressure           | : 40 kg/cm <sup>2</sup> up to ranges 0.6 kg/cm <sup>2</sup><br>& 100 kg/cm <sup>2</sup> above ranges |
| Ingress Protection        | : IP68                                                                                               |

### PRESSURE LIMITS

|                      |             |
|----------------------|-------------|
| Steady Pressure      | : Up to FSD |
| Fluctuating Pressure | : 90% x FSD |
| Over Range Pressure  | : 130% FSD  |

### SPECIFICATIONS

|                         |                                                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Calibration Certificate | : Gauges are factory calibrated to full range by default<br>5 Point Calibration Cert.                                      |
| Material Certification  | : Available as per EN10204 3.1 for wetted parts (Optional)<br>Available as per EN10204 2.1 for non-wetted parts (Optional) |
| NACE Compliance         | : Available as per MR 01 75/ MR 01 03 (ISO 15156) for wetted parts (Optional)                                              |
| Approvals               | : ATEX: Conformity acc. to RL 2014/34/EU II 2 GD Ex h T6 (Optional)                                                        |

### APPLICATION

- Chemical & Petrochemical
- Food & Beverages
- Pulp and paper
- Nuclear power plants & Refinery
- Fertilizer, cement, sugar

### MATERIAL OF CONSTRUCTION

|                              |                                                         |
|------------------------------|---------------------------------------------------------|
| Case & Bezel Ring            | : SS 304 SS (Bayonet type)                              |
| Process Connection           | : Wetted: SS 316                                        |
| Diaphragm                    | : SS 316L                                               |
| Movement                     | : SS 304                                                |
| Pointer                      | : Aluminum, Black colored<br>Micrometer zero adjustable |
| Dial                         | : Aluminum, Black graduation<br>on white background     |
| Window                       | : Shatter proof safety                                  |
| Window gasket & Blowout disk | : Neoprene                                              |
| Element Chamber filling      | : Silicon Oil (other on request)                        |
| Nut & Bolts                  | : SS 304                                                |

### CASE FILLING (OPTIONAL)

The gauges can be filled with different kind of fill fluids. Available fill fluids are:

- Glycerin fluid (99.7%)
- Silicon fluid
- Other fill fluids can be offered on request

### TEMPERATURE LIMITS

| Version         | Ambient      | Process     |
|-----------------|--------------|-------------|
| Dry             | -40 to 65 °C | Max. 200 °C |
| Glycerin filled | Max. 65 °C   | Max. 65 °C  |
| Silicon filled  | Max. 165 °C  | Max. 165 °C |

Note: The variation of indication caused by the effect of temperature shall not exceed: ± 0.4% / 10K FSV

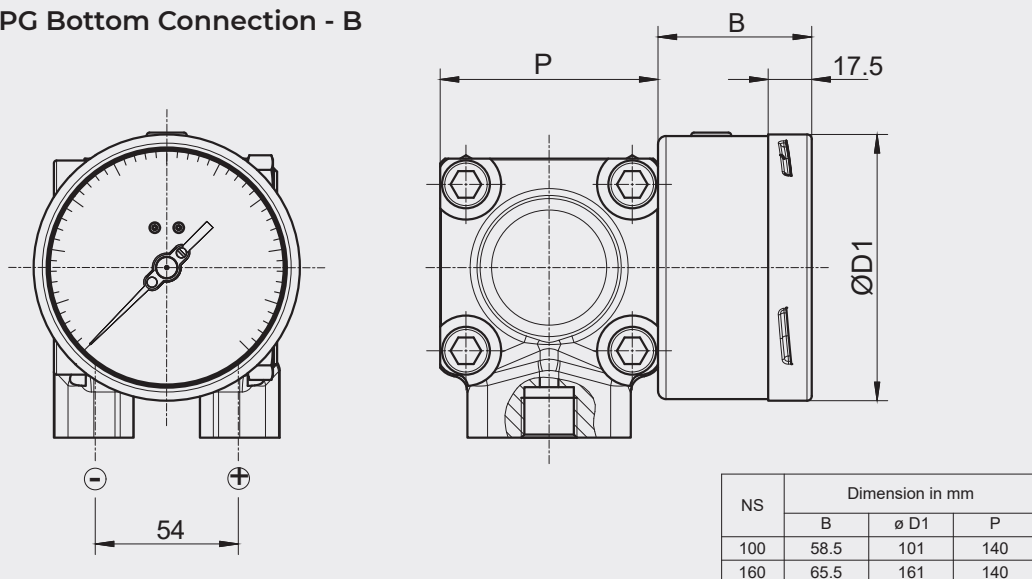


# DOUBLE DIAPHRAGM DIFFERENTIAL PRESSURE GAUGE

MODEL  
M2.02

## DIMENSIONAL DRAWINGS

Diaphragm DPG Bottom Connection - B



Important Notes: Above drawings are not to scale. All Dimension are in mm

## TABLE-1 PRESSURE RANGE

| Code  | mmWC   | Code  | kPa  | Code  | mbar  | Code  | bar     |
|-------|--------|-------|------|-------|-------|-------|---------|
| WB060 | 0-600  | KP060 | 0-6  | MB060 | 0-60  | BR01  | 0...1   |
| WB100 | 0-1000 | KP100 | 0-10 | MB100 | 0-100 | BR015 | 0...1.6 |
| WB160 | 0-1600 | KP160 | 0-16 | MB160 | 0-160 | BR024 | 0...2.5 |
| WB250 | 0-2500 | KP250 | 0-25 | MB250 | 0-250 |       |         |
| WB400 | 0-4000 | KP400 | 0-40 | MB400 | 0-400 |       |         |
| WB600 | 0-6000 | KP600 | 0-60 | MB600 | 0-600 |       |         |

# DOUBLE DIAPHRAGM DIFFERENTIAL PRESSURE GAUGE

## MODEL M2.02

### MODEL CODING & ORDERING INFORMATION

| DESCRIPTION                                          | CODE  | M2.02 | 04 | 2 | B | 14BF | S4 | S4 | MB060 | X20 |
|------------------------------------------------------|-------|-------|----|---|---|------|----|----|-------|-----|
| <b>Model</b>                                         |       |       |    |   |   |      |    |    |       |     |
| Double Diaphragm Differential Pressure Gauge         | M2.02 | M2.02 |    |   |   |      |    |    |       |     |
| <b>Dial Size</b>                                     |       |       |    |   |   |      |    |    |       |     |
| 100 mm (4")                                          | 04    |       | 04 |   |   |      |    |    |       |     |
| 160 mm (6")                                          | 06    |       |    |   |   |      |    |    |       |     |
| <b>Version</b>                                       |       |       |    |   |   |      |    |    |       |     |
| Dry (But Fillable)                                   | 1     |       |    |   |   |      |    |    |       |     |
| Glycerin Filled                                      | 2     |       |    | 2 |   |      |    |    |       |     |
| Silicon Oil Filled                                   | 3     |       |    |   |   |      |    |    |       |     |
| <b>Type of Mounting / Connection Orientation</b>     |       |       |    |   |   |      |    |    |       |     |
| Direct Bottom Connection                             | B     |       |    |   | B |      |    |    |       |     |
| <b>Process Connection (Size and Type)</b>            |       |       |    |   |   |      |    |    |       |     |
| 1/4" BSP (F)                                         | 14BF  |       |    |   |   | 14BF |    |    |       |     |
| 1/4" NPT (F)                                         | 14NF  |       |    |   |   |      |    |    |       |     |
| 3/8" BSP (F)                                         | 38BF  |       |    |   |   |      |    |    |       |     |
| 3/8" NPT (F)                                         | 38NF  |       |    |   |   |      |    |    |       |     |
| (Note: For 1/2" connections possible in tubing only) |       |       |    |   |   |      |    |    |       |     |
| <b>Chamber Material</b>                              |       |       |    |   |   |      |    |    |       |     |
| SS 304                                               | S4    |       |    |   |   |      | S4 |    |       |     |
| SS 316                                               | S6    |       |    |   |   |      |    |    |       |     |
| SS 316L                                              | SL    |       |    |   |   |      |    |    |       |     |
| SS 316 / SS 316L                                     | DC    |       |    |   |   |      |    |    |       |     |
| Monel 400                                            | M4    |       |    |   |   |      |    |    |       |     |
| Hast C-276                                           | HC    |       |    |   |   |      |    |    |       |     |
| <b>Diaphragm Material</b>                            |       |       |    |   |   |      |    |    |       |     |
| SS 304                                               | S4    |       |    |   |   |      |    | S4 |       |     |
| SS 316                                               | S6    |       |    |   |   |      |    |    |       |     |
| SS 316L                                              | SL    |       |    |   |   |      |    |    |       |     |
| Monel 400                                            | M4    |       |    |   |   |      |    |    |       |     |
| Hast C-276                                           | HC    |       |    |   |   |      |    |    |       |     |
| <b>Range</b>                                         |       |       |    |   |   |      |    |    |       |     |
| To be selected from Table 1                          | XXXXX |       |    |   |   |      |    |    | MB060 |     |
| (Other Custom Ranges available on request)           |       |       |    |   |   |      |    |    |       |     |
| <b>Other Options</b>                                 |       |       |    |   |   |      |    |    |       |     |
| Tag no Marking on Dial                               | XTM   |       |    |   |   |      |    |    |       |     |
| Wetted Parts Complied To NACE                        | X20   |       |    |   |   |      |    |    |       | X20 |
| Custom Dial Design / Private Labeling                | X29   |       |    |   |   |      |    |    |       |     |
| Accuracy Requirement -1.2%                           | XX5   |       |    |   |   |      |    |    |       |     |
| <b>Quality Specific Requirement</b>                  |       |       |    |   |   |      |    |    |       |     |
| ATEX Conformity acc.to RL 2014/34/EU II 2 GD Ex h T6 | XAT   |       |    |   |   |      |    |    |       |     |
| IBR Certification                                    | X18   |       |    |   |   |      |    |    |       |     |
| Certificate for Oxygen Service                       | X21   |       |    |   |   |      |    |    |       |     |
| IGC Certificate                                      | X79   |       |    |   |   |      |    |    |       |     |
| Leak Test Certificates                               | XLC   |       |    |   |   |      |    |    |       |     |
| DP Test for Socket and Case Welding                  | XDP   |       |    |   |   |      |    |    |       |     |
| <b>Default Certification</b>                         | S6    |       |    |   |   |      |    |    |       |     |
| Calibration Certificates                             |       |       |    |   |   |      |    |    |       |     |
| MTC for Wetted Parts                                 |       |       |    |   |   |      |    |    |       |     |

### SAMPLE ORDERING CODE:

**M2.02-04-2-B-14BF-S4-S4-MB060-X20**

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

