


Special Features

- CE & ATEX approved electrical contacts.
- Stainless steel case & stem
- Stem length available from 50 mm
- Bottom / back / every angle entry
- Silicon oil filled (optional)
- With or without thermowell
- External zero adjustment (optional)
- Standard followed EN 13190.

Application

- Chemicals
- Refinery
- Fertilizer
- Petrochemicals
- Pharmaceutical
- Power
- Cement
- Sugar
- Food
- Beverages
- Pulp
- Paper
- Allied process industries
Which are having corrosive media / environment

Specifications

Standard Version : 50 mm = Range up to 150 °C Max.,
 63 mm = Range up to 300 °C Max.,
 80 mm, 100 mm, 125 mm & 150 mm = Range up to 500 °C Max.
 (For compound ranges, refer range table)

Nominal range, measuring ranges & limits of error as per EN 13190

| | |
|---------------------|--|
| Accuracy | : Class 1 as per EN 13190 |
| Ambient temperature | : -25°C to 65 °C |
| Operating pressure | : 15 kg/cm ² (without thermowell) |
| Over range limit | : 110 % of full scale |
| Stem diameter | : 8 mm |
| Process connection | : ½" BSP (M) fixed |

| | |
|---------------------|---------------------------|
| Case, Bezel & Clamp | : AISI 304 SS |
| Stem & Connection | : AISI 316 SS |
| Joints | : TIG argon arc welding |
| Sensing Element | : Bi - metal strip coiled |

| | |
|-----------------|--|
| Protection | : IP 65 |
| Dial | : Aluminum, black graduation on white background |
| Pointer | : Aluminum, black coloured, Slotted zero adjustable & Fixed for NS 50 mm & 63 mm |
| Zero adjustment | : Externally for mounting type 8 & 14, (Except NS 50 mm & 63 mm) |
| Window | : Sheet Glass |
| Gasket | : Neoprene |

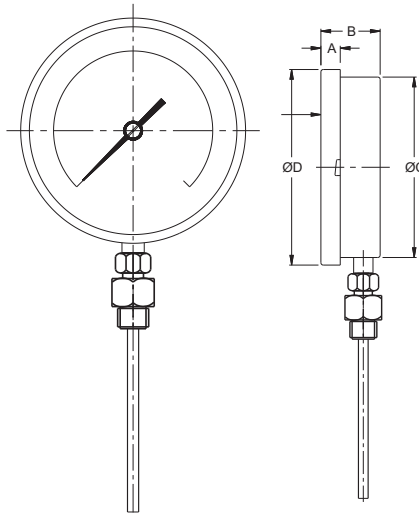
Standard version : Silicon oil filled

| | |
|------------------------|---|
| Accuracy | : Class 1 as per EN 13190 |
| Ambient temperature | : Maximum 65°C |
| Window | : Plexi Glass |
| Dampening liquids | : Silicon Oil (Option QA & QZ) |
| Gasket & filling Plug* | : Viton |
| Other features | : Refer Specification of Standard Version |

| Nominal Range (°C) | Measuring Range (°C) | Limits of Error (± °C) |
|--------------------|----------------------|------------------------|
| -20 to +40 | -10 to +30 | 1 |
| -20 to +60 | -10 to +50 | 1 |
| -20 to +120 | -10 to +110 | 2 |
| -30 to +30 | -20 to +20 | 1 |
| -30 to +50 | -20 to +40 | 1 |
| -30 to +70 | -20 to +60 | 1 |
| -40 to +40 | -30 to +30 | 1 |
| -40 to +60 | -30 to +50 | 1 |
| -100 to +60 | -80 to +40 | 2 |
| 0 to 60 | 10 to 50 | 1 |
| 0 to 80 | 10 to 70 | 1 |
| 0 to 100 | 10 to 90 | 1 |
| 0 to 120 | 10 to 110 | 2 |
| 0 to 160 | 20 to 140 | 2 |
| 0 to 200 | 20 to 180 | 2 |
| 0 to 250 | 30 to 220 | 2.5 |
| 0 to 300 | 30 to 270 | 5 |
| 0 to 400 | 50 to 350 | 5 |
| 0 to 500 | 50 to 450 | 5 |
| 0 to 600 | 100 to 500 | 10 |

*Gasket & Filling plug of Viton.

Dimensions - Standard Version

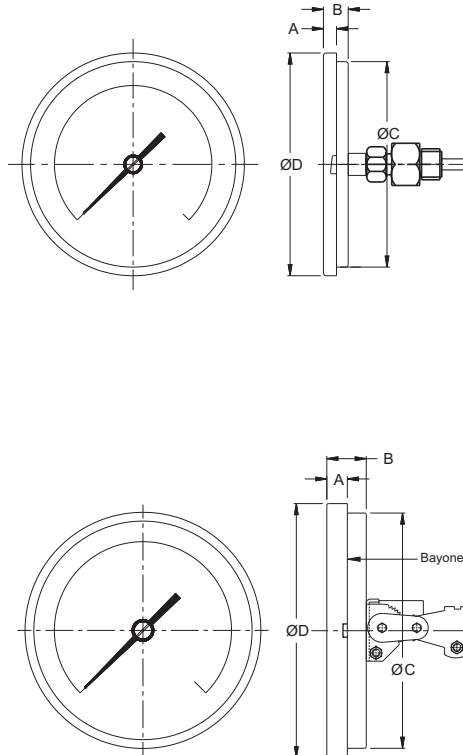


TYPE 2

| NS | A | B | ØC | ØD | Approx. Wt.# |
|-----|------|------|------|------|--------------|
| 63 | 12 | 46 | 66.5 | 77.5 | 200.0 |
| 80 | 11 | 46 | 80 | 89.5 | 250.0 |
| 100 | 12.5 | 48 | 100 | 111 | 500.0 |
| 125 | 15 | 48.5 | 119 | 129 | 750.0 |
| 150 | 15 | 49 | 149 | 161 | 1000.0 |

(# Weight in grams with box for 300 mm stem length.)

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



TYPE 4

| NS | A | B | ØC | ØD | Approx. Wt.# |
|-----|------|------|------|------|--------------|
| 50* | 6 | 17 | 51.5 | 57.5 | 115.0 |
| 63 | 10 | 16 | 60 | 69.5 | 150.0 |
| 80 | 11 | 17.5 | 80 | 89.5 | 250.0 |
| 100 | 12.5 | 20 | 100 | 111 | 350.0 |
| 125 | 15 | 24 | 119 | 129 | 500.0 |
| 150 | 15 | 25 | 149 | 161 | 750.0 |

(# Weight in grams with box for 300 mm stem length.)

* Rolling type case

TYPE 8

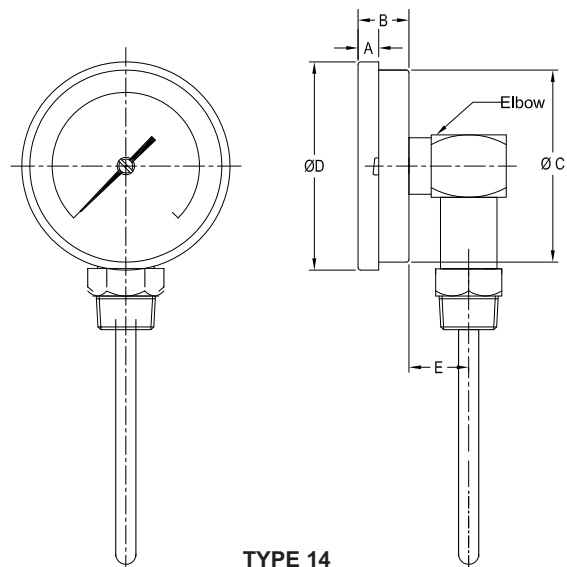
| NS | A | B | ØC | ØD | Approx. Wt.# |
|-----|------|------|-----|------|--------------|
| 80 | 11 | 17.5 | 80 | 89.5 | 500.0 |
| 100 | 12.5 | 20 | 100 | 111 | 750.0 |
| 125 | 15 | 23 | 119 | 129 | 900.0 |
| 150 | 15 | 25 | 149 | 161 | 1000.0 |

Range Table

Range, stem OD & stem length selection table

The following table indicates the minimum and maximum stem lengths in mm, per stem diameter per range. The lower values indicated are the minimum immersion length (below thread) for all type of threads. During stem length selection, please select between the limits mentioned below.

| (Range) °C | Ø 6 mm/ 6.34 mm. | Ø 8, 9.5 & 10 mm. | Ø 12 mm. |
|------------|------------------|-------------------|----------|
| -20 / 40 | 115 / 500 | 95 / 600 | 95 / 600 |
| -20 / 60 | 95 / 500 | 75 / 600 | 75 / 600 |
| -20 / 120 | 65 / 500 | 55 / 600 | 55 / 600 |
| -30 / 30 | 115 / 500 | 95 / 600 | 95 / 600 |
| -30 / 50 | 95 / 500 | 75 / 600 | 75 / 600 |
| -30 / 70 | 85 / 500 | 55 / 600 | 75 / 600 |
| -40 / 40 | 95 / 500 | 75 / 600 | 75 / 600 |
| -40 / 60 | 85 / 500 | 75 / 600 | 75 / 600 |
| -80 / 80 | 65 / 500 | 55 / 600 | 55 / 600 |
| 0 / 60 | 115 / 500 | 95 / 600 | 95 / 600 |
| 0 / 80 | 95 / 500 | 75 / 600 | 75 / 600 |
| 0 / 100 | 65 / 500 | 50 / 600 | 75 / 600 |
| 0 / 120 | 50 / 500 | 40 / 600 | 55 / 600 |
| 0 / 160 | 45 / 500 | 35 / 600 | 55 / 600 |
| 0 / 200 | 40 / 500 | 30 / 600 | 45 / 600 |
| 0 / 250 | 45 / 500 | 45 / 600 | 45 / 600 |
| 0 / 300 | 65 / 500 | 55 / 600 | 55 / 600 |
| 0 / 400 | 55 / 500 | 45 / 600 | 45 / 600 |
| 0 / 500 | 55 / 500 | 45 / 600 | 45 / 600 |



TYPE 14

| NS | A | B | ØC | ØD | E | Approx. Wt.# |
|-----|------|------|-----|------|----|--------------|
| 63 | 10 | 16 | 60 | 69.5 | 21 | 150.0 |
| 80 | 11 | 17.5 | 80 | 89.5 | 21 | 200.0 |
| 100 | 12.5 | 20 | 100 | 111 | 21 | 250.0 |
| 125 | 15 | 23 | 119 | 129 | 21 | 350.0 |
| 150 | 15 | 25 | 149 | 161 | 21 | 500.0 |

(# Weight in grams with box for 300 mm stem length.)

Dimensions - Standard Version

Note : We offer National / International Scales like °C, °F & Dual Scale in °C & °F & Scales as per the requirement can be provided on request. Following are the example tables for ranges in °C.

Standard Ranges

| Positive range single scale in °C | | | | | | | | | |
|-----------------------------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| 0/60 | 0/80 | 0/100 | 0/120 | 0/160 | 0/200 | 0/250 | 0/300 | 0/400 | 0/500 |
| Compound range single scale in °C | | | | | | | | | |
| - 20 / 40 | - 20 / 60 | - 20 / 120 | - 30 / 30 | - 30 / 50 | - 30 / 70 | - 40 / 40 | - 40 / 60 | - 80 / 80 | |

ACCESSORIES (* Refer datasheet for Thermowells)

Note : Other Scales are available on request.

* Thermowell

How To Order
Example
Basic Model

| Code | | C | D | E | F | G | H | CB |
|--------------------------|----------------------------|-------|-------|-------|--------|--------|--------|----|
| Nominal Size (mm) | | 50 mm | 63 mm | 80 mm | 100 mm | 125 mm | 150 mm | X |
| Type of Mounting | | | | | | | | |
| 2 | Direct bottom entry | X | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 4 | Direct center back entry | ✓ | ✓ | ✓* | ✓* | ✓* | ✓* | X |
| 8 | Every angle back entry | X | X | ✓* | ✓* | ✓* | ✓* | OR |
| 14 | Bottom entry through elbow | X | ✓ | ✓* | ✓* | ✓* | ✓* | XX |

* Available with external zero adjustment, Refer option RS.

| Pressure Connection | | C | D | E | F | G | H | |
|---------------------|--|---|---|---|---|---|---|-----|
| 1BM | 1/8" BSP(M) (Stem Dia. Max. 6.35 mm) | ✓ | ✓ | X | X | X | X | |
| 1NM | 1/8" NPT(M)* (Stem Dia. Max. 6.35 mm) | ✓ | ✓ | X | X | X | X | |
| 2BM | 1/4" BSP(M) (Stem Dia. Max. 6.35 mm) | ✓ | ✓ | X | X | X | X | |
| 2NM | 1/4" NPT(M)* (Stem Dia. Max. 6.35 mm) | ✓ | ✓ | X | X | X | X | |
| 3BM | 3/8" BSP(M) (Stem Dia. Max. 10 mm) | X | ✓ | ✓ | ✓ | ✓ | ✓ | XXX |
| 4BM | 1/2" BSP(M)(Standard) (Stem Dia. Max. 12 mm) | X | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 4NM | 1/2" NPT(M)* (Stem Dia. Max. 12 mm) | X | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 4MM | M 20 x 1.5 (Stem Dia. Max. 12 mm) | X | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 4YN | 1 1/2" TRICLOVER** (Stem Dia. Max. 12 mm) | X | ✓ | ✓ | ✓ | ✓ | ✓ | |
| 000 | Without process connection | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |

* Not recommended for Revolving/ Swivel connections. ** Without clamp, gasket & bottom mating part.

Note : Connections like Metric/ PT/ PF/ Flaired/ UNF/ G/ R etc can be provided on request.

Process Connection Type (* Welded with stem / case & not suitable for taper threaded connections)

| | | | | | | |
|-----------|------------|-----------|-------------------|-----------|--------------------|----|
| ZI | Adjustable | ZJ | Fixed (Standard)* | KJ | Revolving / Swivel | XX |
|-----------|------------|-----------|-------------------|-----------|--------------------|----|

Stem Diameter

| | | | | | | | | | | | | |
|-----------|------|-----------|---------|-----------|-----------------|-----------|--------|-----------|-------|-----------|-------|----|
| 1U | 6 mm | 2M | 6.35 mm | 2C | 8 mm (Standard) | 2I | 9.5 mm | 2J | 10 mm | 2K | 12 mm | XX |
|-----------|------|-----------|---------|-----------|-----------------|-----------|--------|-----------|-------|-----------|-------|----|

Stem Length (Below thread Max. 600 mm) Please specify in mm (refer scale for minimum & maximum stem lengths)

Range 100 mm

Refer range table 0/100°C

Optional extras (* Applicable for NS 100 mm & above)

| | | | | | | |
|-----------|--|-----------|---|-----------|------------------------------|----|
| PS | AISI 316 SS case & bezel (For NS 100 mm & above)*# | RS | External zero adjustment* | RH | Custom designed dial | XX |
| PW | Five point calibration certificate (for measuring range) | | [except NS 50 mm & 63 mm (mounting type 2)] | SW | Dial tag marking* | |
| QA | Dampening liquid silicon oil (up to 200°C)** | | | GH | Material test certificates## | |
| QZ | Dampening liquid silicon oil (up to 300°C)** | RX | Shatterproof / safety glass* | SX | SS tag plate | |
| | | RZ | Toughened glass* | ZG | ATEX & CE Approval | |

**Gasket & Filling plug of Viton. (# Consult factory for minimum order quantity & delivery.)

Material test certificates will be provided for wetted parts only with chemical composition testing. For others, please Consult factory.

Ordering Example: CB . X . X OR XX . XXX . XX . XX . 100 mm . 0/100°C . XX

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.