

### APPLICATIONS

- Liquid & gaseous mediums
- Corrosive environments
- Oil & Gas applications
- Chemical & Petrochemical
- Food & Beverages
- Nuclear power plants

### FEATURES

- All stainless steel welded construction
- Follows EN 13190 / ASME B40.200
- Accuracy as per Class 1
- Dry / Fillable / Liquid filled



### DESCRIPTION

#### General

**Design :** EN 13190

**Accuracy :**  $\pm 1.0\%$  of full scale

**Ambient temperature :** -20...+60°C

**Storage temperature :** -50...+70°C without liquid dampening

-20...+60°C with liquid dampening

**Over range limits :** 110% full scale

**Stem pressure rating :** 25 bar

(Without thermowell)

**Weld joints :** TIG argon arc welding

#### Material of construction

**Sensing element :** Inert Gas Filled sensor bulb

**Case & Ring material :** AISI 304 SS

**Stem material :** AISI 316 SS

**Process connection material :** AISI 316 SS

**Dial :** Aluminum, black graduation on white background

**Pointer :** Micro-zero adjustable, aluminum, black powder coated

**Gaskets :** Neoprene / NBR

**Window :** Sheet glass

### GAS FILLED TEMPERATURE GAUGE WITH EZA, TMC51-2

#### Standard version

**Dial size :** 100 mm / 150 mm / 250 mm

**Range :** -50 up to 800°C

**Mounting pattern :** Direct Bottom connection

**Stem size :** 6.0 mm / 8.0 mm / 9.5 mm / 12 mm

**Ingress protection :** IP 65

**Stem length :** 150 mm standard up to 3000 mm

**Process connection type :** Adjustable connection

**Process connection :** ½" NPT (M) / ½" BSP (M)

#### Filled version

**Glycerin**

**Window :** Shatterproof safety glass

**Dampening liquid :** Glycerin 99.7% / 80% / 60%  
[Max temperature range limit 100°C]

**Silicon Oil**

**Window :** Shatterproof safety glass

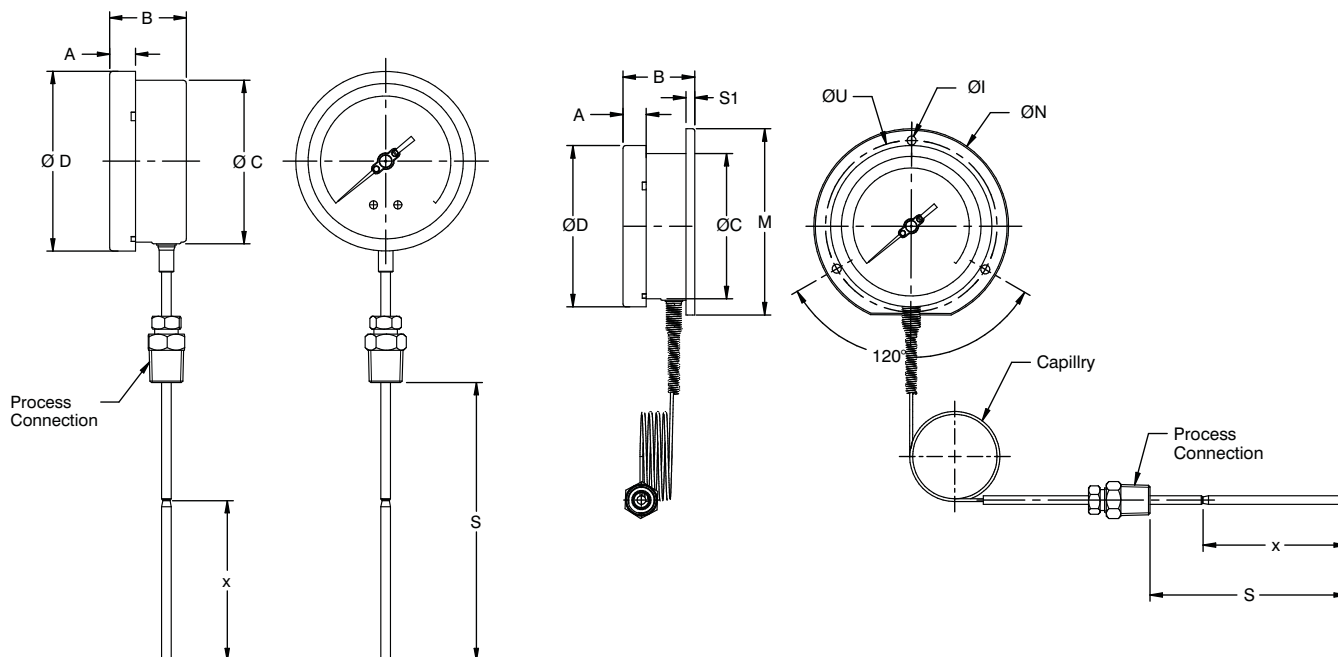
**Gasket, Blow off disc & filling plug :** NBR / Viton

**Dampening liquid :** Silicon oil DC 200  
[Max temperature range limit 200°C]

#### Temperature Effect

When temperature of the measuring system deviates from reference temperature (+20):  
max  $\pm 0.4\%$  / 10K of full scale value.

## DIMENSIONAL DRAWING



### NOTES

1. Drawing not to scale. All dimensions are in mm.
2. For other mounting details, Panel cut-out dimensions, kindly contact factory.

| NS  | A    | B  | ØC  | ØD  | ØI | ØN  | M     | S1  | ØU  |
|-----|------|----|-----|-----|----|-----|-------|-----|-----|
| 100 | 12   | 48 | 100 | 111 | 6  | 134 | 128   | 6   | 118 |
| 150 | 15   | 48 | 149 | 161 | 6  | 186 | 172.4 | 6   | 168 |
| 250 | 18.5 | 52 | 250 | 263 | 7  | 290 | 286.5 | 1.5 | 276 |

## ORDERING CODES

### MODEL

**TMC51-2** Gas filled temperature gauge with External Zero Adjustment

**TMC51-2**

### DIAL SIZE

**D4** 4" / 100 mm **D6** 6" / 150 mm **D10** 10" / 250 mm

**D4**

### MOUNTING

#### Direct type (Rigid stem)

**M1** Direct bottom **M5** Direct center back **M12** Every angle center back entry  
**M6** Direct lower back **M16** Bottom with Anti-vibration spring

**M1**

#### Remote type (Capillary extension)

**M2** Direct bottom with Back flange **MF** Direct lower back with front flange  
**M8** Direct lower back with panel mounting clamp

### CONNECTION

**P4** ¼" NPT (M) **P6** 3/8" NPT (M) **P8** ½" NPT (M)  
**P3** ¼" BSP (M) **P5** 3/8" BSP (M) **P7** ½" BSP (M)

**P8**

### CASE FILLING

**F1** Dry **F2** Dry but fillable **F3** Glycerin filled  
**F4** Silicon oil filled

**F1**

### INGRESS PROTECTION

**I1** IP 65 **I6** IP 68

**I1**

## ORDERING CODES

## EXECUTION

|           |        |           |        |
|-----------|--------|-----------|--------|
| <b>R1</b> | Direct | <b>R2</b> | Remote |
|-----------|--------|-----------|--------|

**R1**

## STEM SIZE

|            |       |           |        |            |                |
|------------|-------|-----------|--------|------------|----------------|
| <b>B6</b>  | 6 mm  | <b>B8</b> | 8 mm   | <b>B10</b> | 10 mm          |
| <b>B12</b> | 12 mm | <b>B9</b> | 9.5 mm | <b>B7</b>  | 6.35 mm (1/4") |

**B6**

## STEM LENGTH

|             |                                    |
|-------------|------------------------------------|
| <b>XXXX</b> | Please mention stem length in 'mm' |
|-------------|------------------------------------|

**100 mm**

## RANGE

|                |                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>0-100°C</b> | Please mention range required with the measurement unit<br>[TMC offer in all types of National & International measurement units, e.g. °C, °F, etc. with single or dual scales] |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**0-100°C**

## CAPILLARY

|            |             |            |             |
|------------|-------------|------------|-------------|
| <b>S01</b> | AISI 304 SS | <b>S02</b> | AISI 316 SS |
|------------|-------------|------------|-------------|

**XXX**

## CAPILLARY

|            |             |            |             |            |                          |
|------------|-------------|------------|-------------|------------|--------------------------|
| <b>S01</b> | AISI 304 SS | <b>S02</b> | AISI 316 SS | <b>S16</b> | PVC [Ambient up to 65°C] |
|------------|-------------|------------|-------------|------------|--------------------------|

**XXX**

## STEM LENGTH

|             |                                    |
|-------------|------------------------------------|
| <b>XXXX</b> | Please mention stem length in 'mm' |
|-------------|------------------------------------|

**XXXX**

## OPTIONAL EXTRAS

|            |                         |            |                                   |            |                      |
|------------|-------------------------|------------|-----------------------------------|------------|----------------------|
| <b>E33</b> | AISI 316 SS case & ring | <b>E01</b> | Shatterproof safety glass         | <b>E31</b> | Custom designed dial |
| <b>E27</b> | AISI 304 SS tag plate   | <b>E28</b> | AISI 316 SS tag plate             |            |                      |
| <b>E32</b> | Dial tag marking        | <b>E16</b> | 5 - point calibration certificate |            |                      |

**E16/E27**

Ordering Example : TMC51-1-D4.M1.P8.F1.I1.R1.B6/100 mm/0-100°C/E16/E27