

## FEATURES

- Inert gas filled expansion
- Filled versions
- Bi-metal compensation

## APPLICATION

- Liquid & gaseous mediums
- Corrosive environments
- Oil & Gas applications
- Chemical & Petrochemical

### Inert gas filled system



### STANDARD PARAMETERS

Accuracy	: CL 1.0 (Class 1)
Permissible ambient temperature	: -40...+60°C with/without dampening liquid
Storage & Transport 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 & Process connection material	: AISI 316 SS
Dial	: Aluminum, black graduation on white background
Pointer	: Micrometer zero adjustable, aluminum, black powder coated
Gaskets	: NBR
Window	: Sheet glass

### STANDARD SPECIFICATIONS

Dial size	: DN100 / DN125 / DN150 / DN250
Range	: -200...0...+700°C / -330...0...+1290°F
Mounting pattern	: Direct Bottom connection
Stem size	: 6.0 mm
Ingress protection	: IP 65
Stem length	: 70 mm to 2,000 mm*
Assembly	: Direct
Process connection type	: Adjustable connection
Process connection	: ½" NPT (M) / ½" BSP (M)

### STANDARD SPECIFICATIONS : DAMPENING LIQUID FILLED, GLYCERIN

Gaskets & Filling plugs	: NBR
Dampening liquids	: Glycerin 99.7% (-20°C to 65°C) [Up to range 100°C]
Window	: Shatterproof safety glass

### STANDARD SPECIFICATIONS : DAMPENING LIQUID FILLED, SILICON

Gaskets & Filling plugs	: NBR
Dampening liquids	: Silicon oil [Up to range 200°C]
Window	: Shatterproof safety glass

\* Depending on range & stem diameter

## REFERENCE

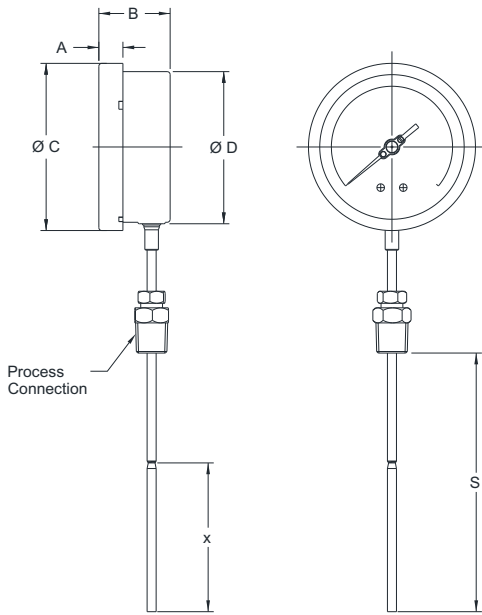


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## DIMENSIONAL DRAWING

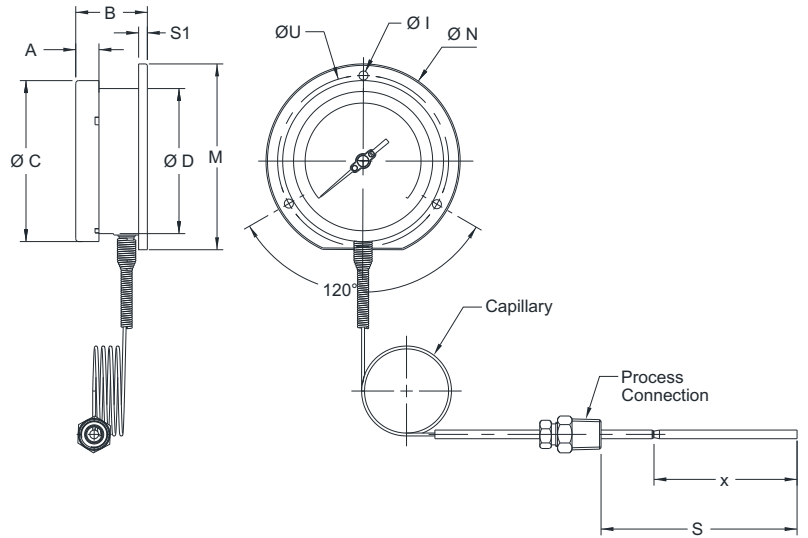
### Mounting Pattern: B0



DN	A	B	ØC	ØD	S	X
100	12	48	111	100	*	**
125	15	48	129	118.5	*	**
150	15	48	161	149	*	**
250	18.5	50	263	250	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

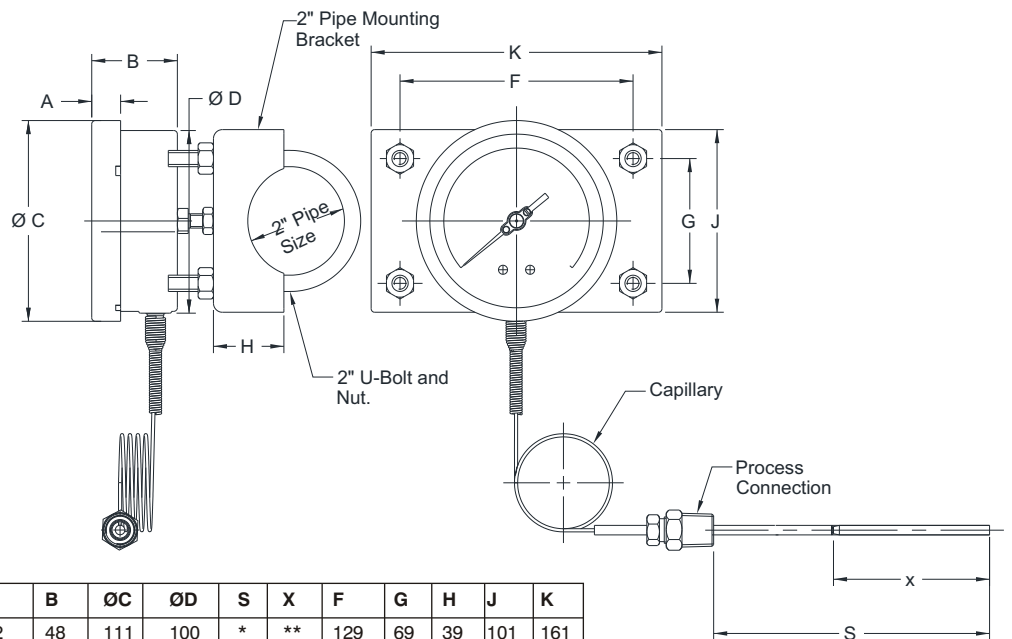
### Mounting Pattern: B1



DN	A	B	ØC	ØD	ØI	ØN	M	S1	ØU	S	X
100	12	52	111	100	6	134	128	6	118	*	**
125	15	50	129	118.5	6	150	143.5	4	137	*	**
150	15	52	161	149	6	186	172.4	6	168	*	**
250	18.5	51.5	263	250	7	290	286.5	1.5	276	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

### Mounting Pattern: B2

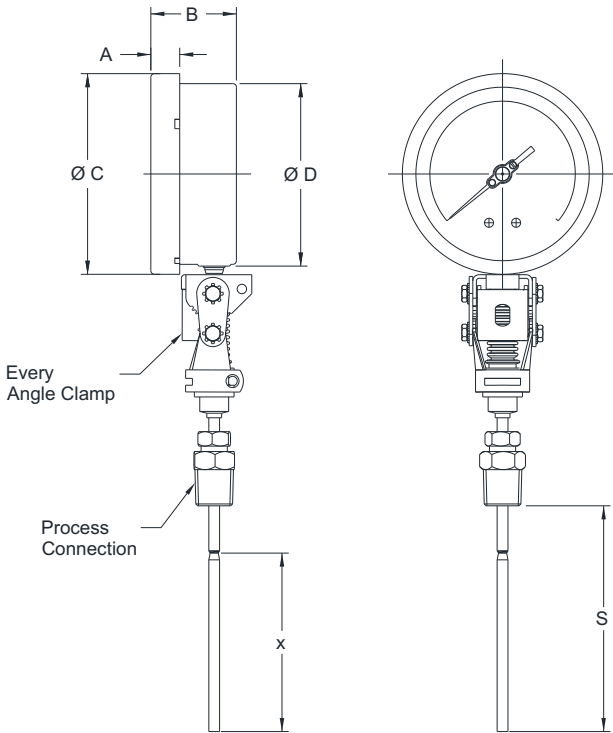


DN	A	B	ØC	ØD	S	X	F	G	H	J	K
100	12	48	111	100	*	**	129	69	39	101	161
125	15	48	129	118.5	*	**	129	69	39	101	161
150	15	48	161	149	*	**	129	69	39	101	161
250	18.5	50	263	250	*	**	129	69	39	101	161

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

## DIMENSIONAL DRAWING

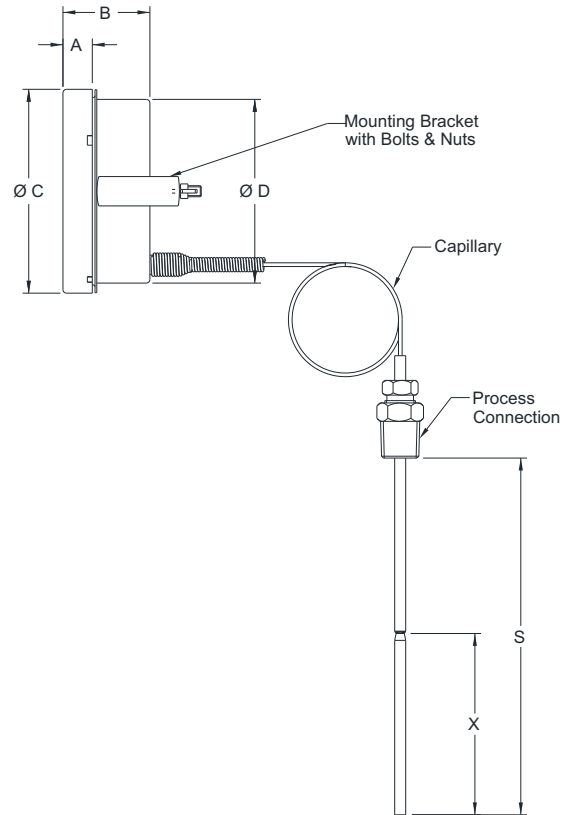
### Mounting Pattern: B9



DN	A	B	ØC	ØD	S	X
100	12	48	111	100	*	**
125	15	48	129	118.5	*	**
150	15	48	161	149	*	**
250	18.5	50	263	250	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

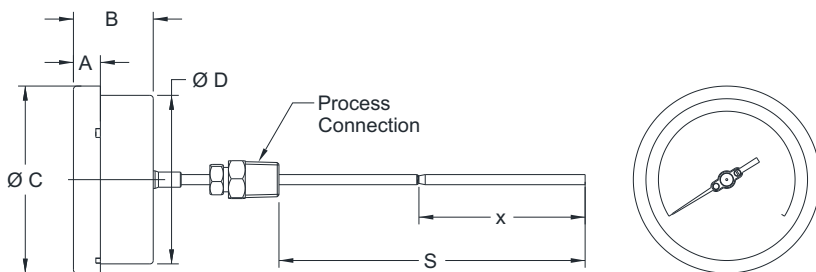
### Mounting Pattern: L2



DN	A	B	ØC	ØD	J	K	V	S	X
100	12	48	111	100	72	16	108	*	**
125	15	48	129	118.5	75	15	125	*	**
150	15	48	161	149	106.5	16	158.5	*	**
250	18.5	50	263	250	180	30	270	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

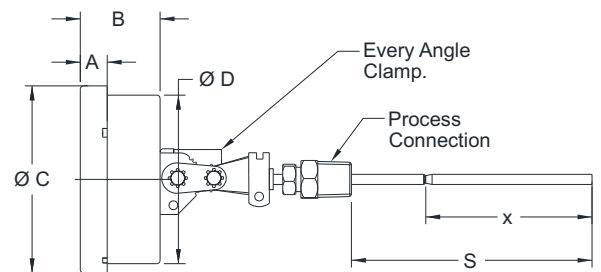
### Mounting Pattern: R0



DN	A	B	ØC	ØD	S	X
100	12	48	111	100	*	**
125	15	48	129	118.5	*	**
150	15	48	161	149	*	**
250	18.5	50	263	250	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

### Mounting Pattern: R1



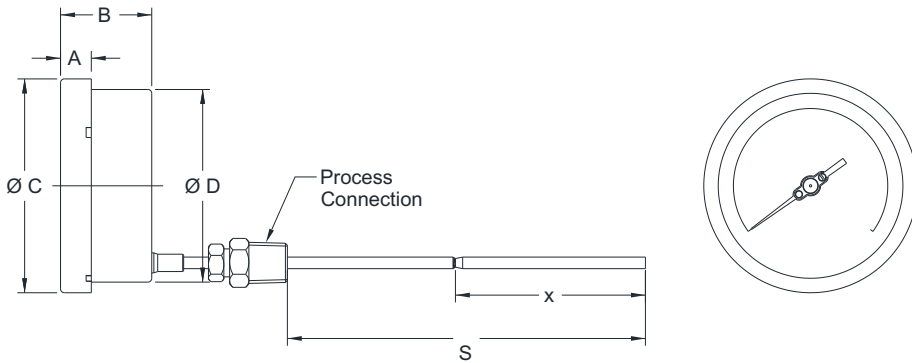
DN	A	B	ØC	ØD	S	X
100	12	48	111	100	*	**
125	15	48	129	118.5	*	**
150	15	48	161	149	*	**
250	18.5	50	263	250	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

All dimensions are in mm.

## DIMENSIONAL DRAWING

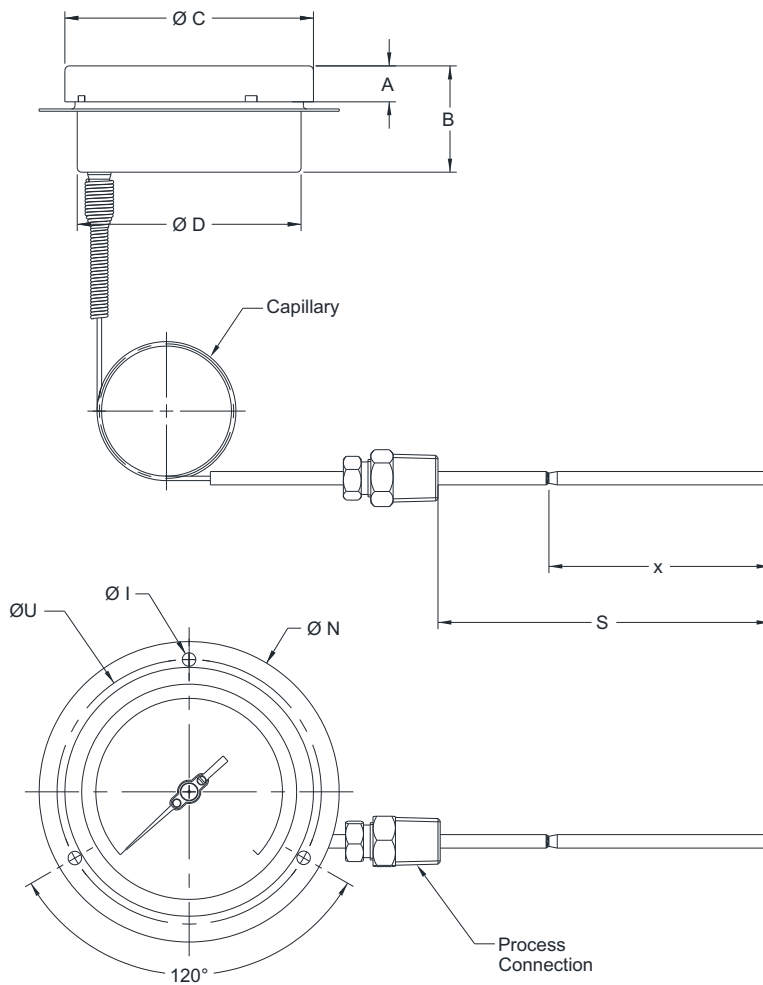
### Mounting Pattern: L0



DN	A	B	ØC	ØD	S	X
100	12	48	111	100	*	**
125	15	48	129	118.5	*	**
150	15	48	161	149	*	**
250	18.5	50	263	250	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

### Mounting Pattern: L1

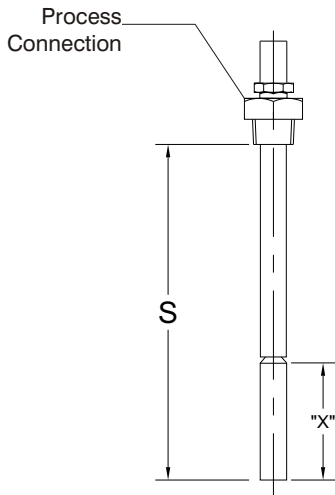


DN	A	B	ØC	ØD	ØI	ØN	ØU	S	X
100	12	48	111	100	6	134	118	*	**
125	15	48	129	118.5	6	150	137	*	**
150	15	48	161	149	6	186	168	*	**
250	18.5	50	263	250	7	290	276	*	**

\* As per customer requirement.  
 \*\* Refer technical sheet - Temperature Gauges.

All dimensions are in mm.

## STEM LENGTH CHART



Stem / Sensor Size (mm)	(x) Sensor Length (mm)	(S) Minimum Stem Length (mm)
<b>Rigid Stem type Inert Gas Thermometer</b>		
<b>Capillary type Inert Gas Thermometer (<math>\leq 10</math> Mtr.)</b>		
6 / 1/4"	200	240
8 / 9.5	120	160
10	90	130
12 / 14	70	110
<b>Capillary type Inert Gas Thermometer (&gt; 10 Mtr. up to 25 Mtr.)</b>		
8 / 9.5	170	210
10	140	180
12 / 14	90	130

1. Capillary compensation is preferred for all capillary inert gas thermometers, if capillary length is above 6 meter.
2. For other reduced length, contact factory before ordering.

## RANGE TABLE

RANGE	" °C "	RANGE	" °C "	RANGE	" °C "
-20...+40	C01	-50...+100	C11	0...250	C21
-20...+60	C02	-100...+60	C12	0...300	C22
-20...+80	C03	0...50	C13	0...400	C23
-20...+100	C04	0...60	C14	0...500	C24
-20...+120	C05	0...80	C15	0...600	C25
-20...+180	C06	0...100	C16	0...650	C26
-30...+50	C07	0...120	C17	50...650	C27
-30...+70	C08	0...150	C18	100...600	C28
-40...+40	C09	0...160	C19	100...700	C29
-40...+60	C10	0...200	C20		

## NOTES

1. For other ranges, please contact factory.
2. Equivalent scales available in °F, °C/°F, °F/°C.

## ORDERING CODES

## 1. DIAL SIZE

<b>04</b>	100 mm / 4"
<b>05</b>	125 mm / 4½"
<b>06</b>	150 mm / 6"
<b>10</b>	250 mm / 10"

04

## 2. RANGE

**XXX** Refer "Range Table"

C16

## 3. MOUNTING PATTERN

<b>B0</b>	Direct, Bottom connection
<b>B1</b>	Wall/Surface/Projection mounting, Bottom connection
<b>B2</b>	2" Pipe/Yoke mounting, Bottom connection
<b>B9</b>	Every Angle mounting, Direct Bottom connection
<b>R0</b>	Centre Back connection
<b>R1</b>	Every Angle mounting, Centre Back connection
<b>L0</b>	Lower, Back connection
<b>L1</b>	Panel/Front flange mounting, Lower Back connection
<b>L2</b>	Panel/bracket mounting, Lower Back connection

B0

## 4. STEM DIAMETER

<b>M60</b>	6.0 mm	<b>I14</b>	¼" (6.35 mm)
<b>M80</b>	8.0 mm	<b>M95</b>	9.5 mm
<b>M10</b>	10 mm	<b>M12</b>	12 mm

M60

## 5. INGRESS PROTECTION

<b>ER</b>	IP 65	<b>ES</b>	IP 66
<b>ET</b>	IP 67		

ER

## 6. STEM LENGTH

**XXXX** Up to 2000 mm  
(Confirm factory before ordering)

300

## 7. PROCESS CONNECTION TYPE

<b>KX</b>	Fixed connection
<b>KW</b>	Adjustable connection
<b>BW</b>	Swivel / Revolving connection

KW

## 8. PROCESS CONNECTION

<b>14N</b>	½" NPT (M)	<b>14B</b>	½" BSP (M)
<b>12N</b>	¼" NPT (M) <sup>5</sup>	<b>12B</b>	¼" BSP (M) <sup>5</sup>
<b>14M</b>	M20 X 1.5 mm (M)	<b>13B</b>	3/8" BSP (M) <sup>6</sup>
<b>15N</b>	¾" NPT (M)	<b>15B</b>	¾" BSP (M)
<b>04N</b>	½" NPT (F)	<b>05N</b>	¾" NPT (F)
<b>16M</b>	M27x2.0MM(M)		

14N

## 9. ASSEMBLY

<b>B8</b>	Direct (Stem type)
<b>B9</b>	Remote (Capillary type)

B8

## 10. CAPILLARY

<b>OU</b>	AISI 304SS	<b>OV</b>	AISI 316 SS
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## 11. ARMOUR

<b>OX</b>	AISI 304SS	<b>OY</b>	AISI 316 SS
<b>OZ</b>	PVC (Ambient max. 60°C)		

XX

## 12. REMOTE MOUNTING LENGTH

<b>XXXXX</b>	250 mm up to 10,000 mm
<b>XXXXX</b>	10,000 mm up to 25,000 mm

XXXXX

## 13. OTHER OPTIONS

<b>BA</b>	Case & Ring in AISI 316 SS (B0)
<b>BB</b>	Case & Ring in AISI 316 SS (B1)
<b>BC</b>	Case & Ring in AISI 316 SS (B2)
<b>BG</b>	Case & Ring in AISI 316 SS (R0)
<b>BH</b>	Case & Ring in AISI 316 SS (R1)
<b>BK</b>	Case & Ring in AISI 316 SS (L0)
<b>BL</b>	Case & Ring in AISI 316 SS (L1)
<b>BM</b>	Case & Ring in AISI 316 SS (L2)
<b>HV</b>	Case & Ring in AISI 316 SS (B9)
<b>E9</b>	Helium gas filled system
<b>GC</b>	Shatterproof safety glass
<b>GM</b>	Dampened movement
<b>GW</b>	Maximum reading pointer
<b>OA</b>	Dampening liquid, silicon oil
<b>RA</b>	Rubber parts, Viton
<b>TA</b>	5 - point factory calibration certificate
<b>TM</b>	Material test certificate 2.2
<b>XF</b>	SS tag plate, AISI 304 SS
<b>XG</b>	SS tag plate, AISI 316 SS
<b>XT</b>	Dial tag marking
<b>XR</b>	Custom designed dial
<b>EG</b>	Dampening liquid, glycerin

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## Ordering Example : T701-04-C16-B0-M60-ER-300-KW-14N-B8

## NOTES

- For other ranges, connections, please contact factory.
- Equivalent scales available in °F/°C/°F/°C.
- Option "Case & Ring in AISI 316 SS" is applicable for DN100 & DN150 only.
- While selecting capillary, Bottom connections are supplied with wall mounting flange & Back connection are with Panel / front flange.
- 1/4" connections are available up to 1/4" (6.35 mm) stem diameter only. 3/8" connections are available up to 10 mm stem diameter only.