

INDUSTRIAL THERMOMETER (NORMAL CASE)



FILLED SYSTEM - EXTERNAL ZERO ADJUSTMENT

IPS-TG-04

SPECIAL FEATURES

- EXTERNAL ZERO ADJUSTMENT
- STAINLESS STEEL CASE & MEASURING SYSTEM
- INERT GAS FILLED EXPANSION SYSTEM.
- SILICON OIL FILLED



APPLICATIONS

THIS NITROGEN FILLED THERMOMETER IS THE MOST WIDELY SPECIFIED INSTRUMENT FOR MEASURING EXHAUST GAS TEMPERATURES IN DIESEL ENGINES. THE NITROGEN FILLED SYSTEM IS BOTH RELIABLE & ACCURATE AS WELL AS ENVIRONMENT FRIENDLY. THE INSTRUMENTS ARE PROTECTED AGAINST VIBRATION USING SILICONE OIL TO ENSURE MAXIMUM LIFE UNDER THE MOST SEVERE CONDITIONS.

THE INSTRUMENT FIELD APPLICATIONS ARE REFINERY, DIESEL POWER GENERATION SETS, POWER, PULP & PAPER, SHIPPING, OFFSHORE, DG SETS, OIL ENGINES & ALLIED PROCESS INDUSTRIES.

SPECIFICATIONS

STANDARD VERSION : 100 mm & 150 mm

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	: 120 % of Full Scale
Stem Diameter	: 8 mm
Process Connection	: ½" BSP (M) Adjustable

Case & Bezel	: AISI 304 SS (Bayonet Type)
Movement	: Copper Alloy
Stem & Connection	: AISI 316 SS
Joints	: Tig argon arc welding

Protection	: IP 65
Dial	: Aluminium, black graduation on white background
Pointer	: Aluminium, black Coloured Micrometer Zero adjustable
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)
Gasket & Filling Plug*	: NBR
Other Features	: Refer Specification of Standard Version

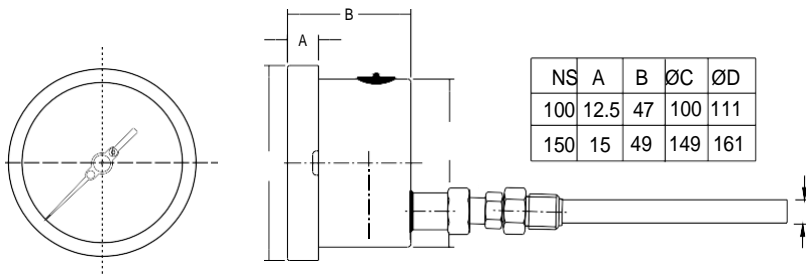
Nominal Range, Measuring Ranges & Limits of Error as per EN 13190

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

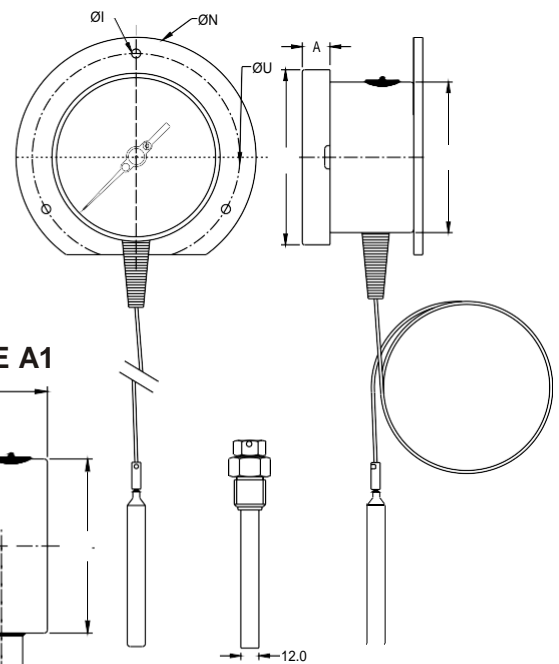
*Gasket & Filling plug of NBR. Consult factory for Viton.



MOUNTING 3 & TYPE A1

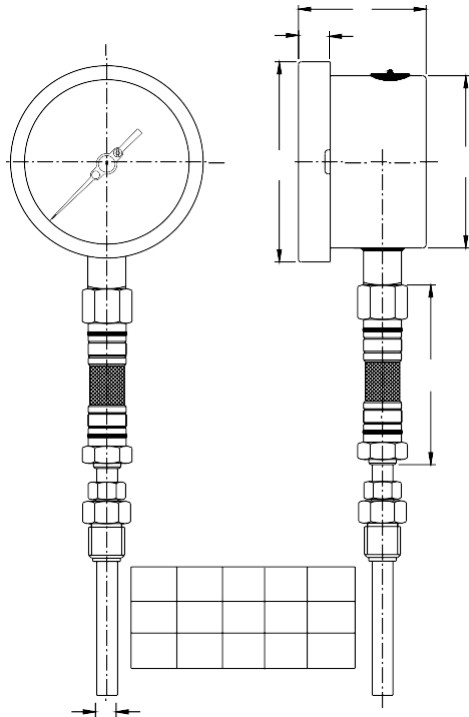


MOUNTING 1 & TYPE A2

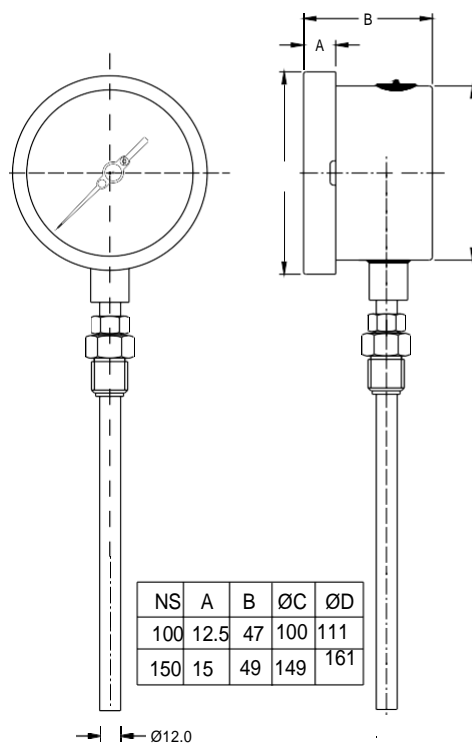


NS	A	B	ØC	ØD	ØI	ØN	ØU
100	12.5	45	100	111	6	134	118
150	15	46.5	149	161	6	186	168

MOUNTING 2 & TYPE A3

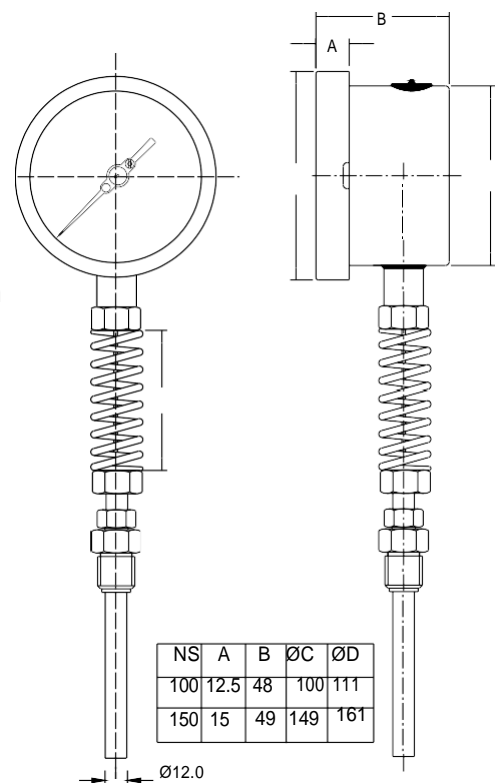


MOUNTING 2 & TYPE A1



NS	A	B	ØC	ØD
100	12.5	47	100	111
150	15	49	149	161

MOUNTING 2 & TYPE A4



NS	A	B	ØC	ØD
100	12.5	48	100	111
150	15	49	149	161

RANGE TABLE

Note : IPSPS offers 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 ° C

STANDARD RANGES

POSITIVE RANGE SINGLE SCALE IN °C			
RANGE	RANGE	RANGE	RANGE
0/60	0/120	0/250	0/500
0/80	0/160	0/300	0/600
0/100	0/200	0/400	50/650
COMPOUND RANGE SINGLE SCALE IN °C			
RANGE	RANGE	RANGE	RANGE
-80 / 60	-20 / 60	-40 / 60	-20 / 180
-60 / 40	-20 / 80	-30 / 50	-20 / 100

Note: Refer table for limits of error as per EN 13190 (On front page of CG)

ACCESSORIES (* Refer Datasheet for Thermowells)

* Thermowell

HOW TO ORDER

BASIC MODEL

CODE

NOMINAL SIZE

MOUNTING

F H
100 mm 150 mm

- 1 WALL / SURFACE / PROJECTION MOUNTING WITH BOTTOM ENTRY
- 2 DIRECT BOTTOM ENTRY
- 3 DIRECT LOWER BACK ENTRY

PROCESS CONNECTION (# Not recommended for Revolving/ Swivel connections.)

- | | |
|-----------------------------------|---------------------------|
| 4BM ½" BSP (M) (Standard)* | 5BM ¾" BSP (M) |
| 4NM ½" NPT (M)#* | 4MM M20 x 1.5 (M)* |
| 4TM ½" BSPT(M)#* | 3BM ¾" BSP (M)* |

* Suitable for stem diameter 6 to 10 mm

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

PROCESS CONNECTION TYPE

- ZI** ADJUSTABLE (Standard) **ZJ** FIXED **KJ** REVOLVING / SWIVEL

STEM DIAMETER

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

STEM LENGTH (Below thread Max. 600 mm)

PLEASE SPECIFY IN mm	Minimum stem Length (Below Thread)	130 mm	120 mm	120 mm	120 mm	110 mm
	Stem OD	6 / 6.35mm	8 mm	9.5 mm	10 mm	12 mm

RANGE

REFER RANGE TABLE

TYPE (* Suitable stem diameter 12 mm only)

- A1** WITH RIGID STEM
- A2** WITH CAPILLARY
- A3** WITH SS BREADED ANTI VIBRATION*
- A4** WITH SS ANTI VIBRATION SPRING*

CAPILLARY LENGTH (Max up to 15 Mtrs.)

IN METERS (e.g. 1.5 = 1.5 METERS 2.0 = 2 METERS)

CAPILLARY

- PE** AISI 304 SS **PG** AISI 316 SS

CAPILLARY COVERED WITH ARMOUR (Applicable with PE or PG if selected)

- PF** AISI 304 SS **PH** AISI 316 SS **PI** PVC (Ambient Temp. Max. 60°C)

OPTIONAL EXTRAS

- | | |
|--|-------------------------------------|
| PY DAMPENING LIQUID GLYCERIN FILLED (Ambient Temp. Max. 65°C) | RH CUSTOM DESIGNED DIAL |
| PW FIVE POINT CALIBRATION CERTIFICATE (FOR MEASURING RANGE) | RX SHATTERPROOF/SAFETY GLASS |
| QA DAMPENING LIQUID SILICON OIL (Ambient Temp. above 65°C)* | RZ TOUGHENED GLASS |
| GH MATERIAL TEST CERTIFICATES# | SW DIAL TAG MARKING |
| | SX SS TAG PLATE |

* Gasket & Filling plug of NBR. Refer Price List for Viton.

MATERIAL TEST CERTIFICATES WILL BE PROVIDED FOR WETTED PARTS ONLY WITH CHEMICAL COMPOSITION TESTING. FOR OTHERS, PLEASE CONSULT FACTORY.

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.

IPS-TG-04

X

X

XXX

XX

XX

100 mm

0/100 °C

XX

3Mtr.

XX

XX

XX

