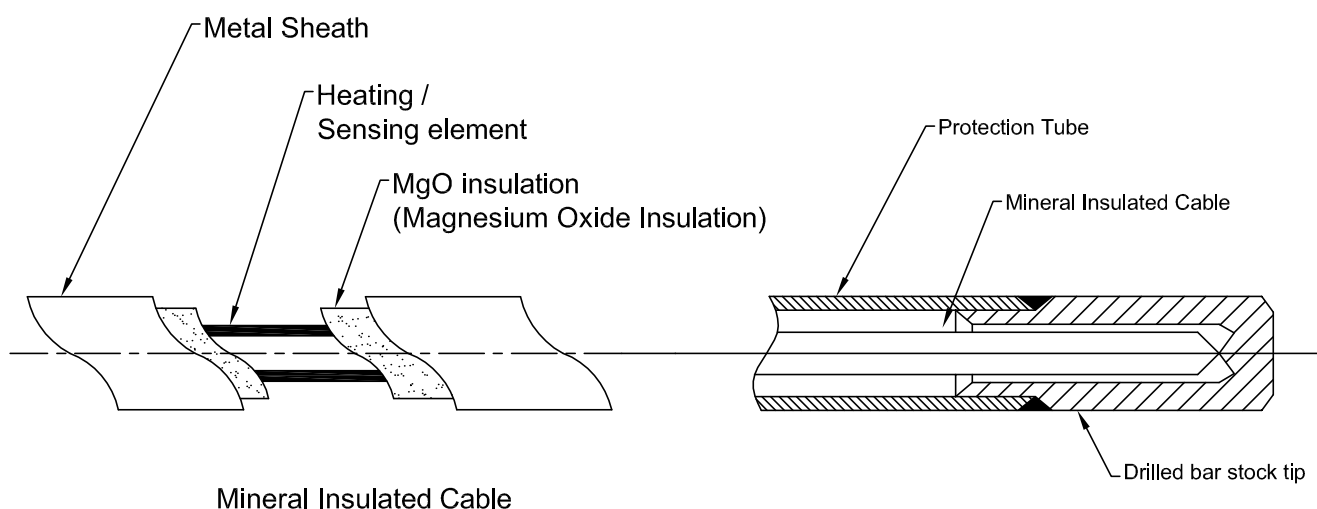


## TE.30 Sensor Assembly With Protection Pipe/Tube Thermowell



- Ideal for application where pressure and flow are not major concern.
- Economy installation..
- Cost is generally lower than drilled bar stock thermowell and longer length is applicable.

Sensing elements are produced MgO sheath elements with diameter 6.0 mm and base plate spring loaded for all assembly. The thermocouple element can be changed through removal of the terminal block while the assembly is still in service. And it has been covered by protection tube.



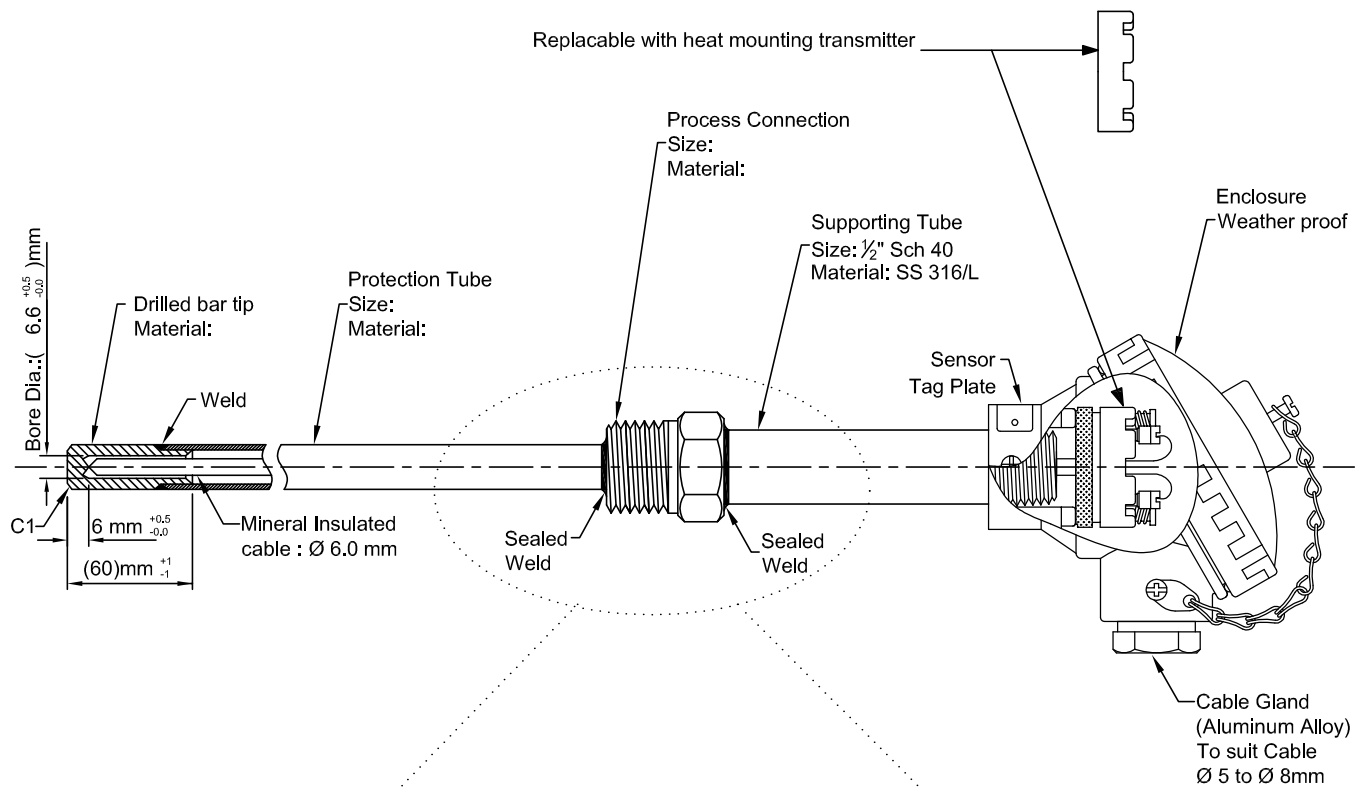
The protection tube can be made of various stainless steels or nickel alloys depending on the specific application service requirements and typical wall thickness about schedule 40 or schedule 80 which end at drilled bar stock tip to hold the MgO sheath. The protection tube is usually mounted in the application with a fixed bushing or flange mounted to the tube. Metal alloy protection tubes are replacement tubes for thermocouple assemblies. These tubes are for general purpose industrial applications.

Termination of the protection tube assembly is typically polypropylene or cast aluminum screw cover head for enclosure of the thermocouple connections. Polypropylene head type is more preferable type than cast aluminum head because polypropylene will prevent heat lost which will occurs when it is passing through to housing.

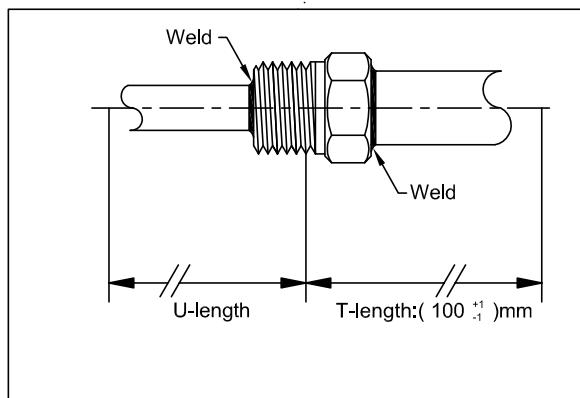
Metal protection tube style assemblies are most common utilized in medium to high temperature industrial applications. Roof sensors, boiler temperatures, heat treatment and other industrial applications are typical.

## TE.30 Sensor Assembly With Protection Pipe/Tube Thermowell

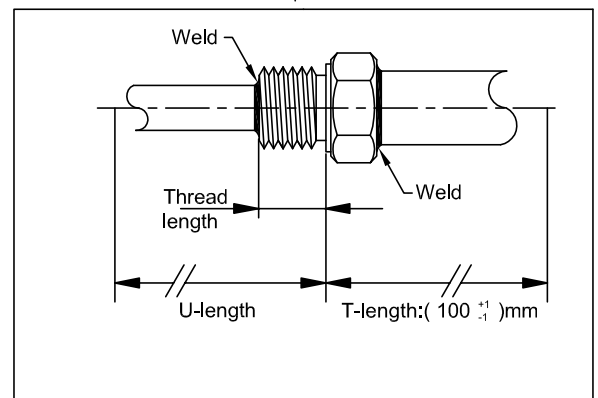
Dimensional drawing c/w thread connection



NPT thread form



BSP thread form



Protection Tube

Protection tube *	Outside Diameter	Material*
Tube , wall thickness 1 mm	Ø 9.5 mm	SS 316/L
Tube , wall thickness 1 mm	Ø 12.7 mm	SS 316/L
Pipe: 1/4" Sch 40/80	Ø 13.7 mm	SS 316/L
Pipe: 3/8" Sch 40/80	Ø 17.1 mm	SS 316/L
Pipe: 1/2" Sch 40/80	Ø 21.3 mm	SS 316/L

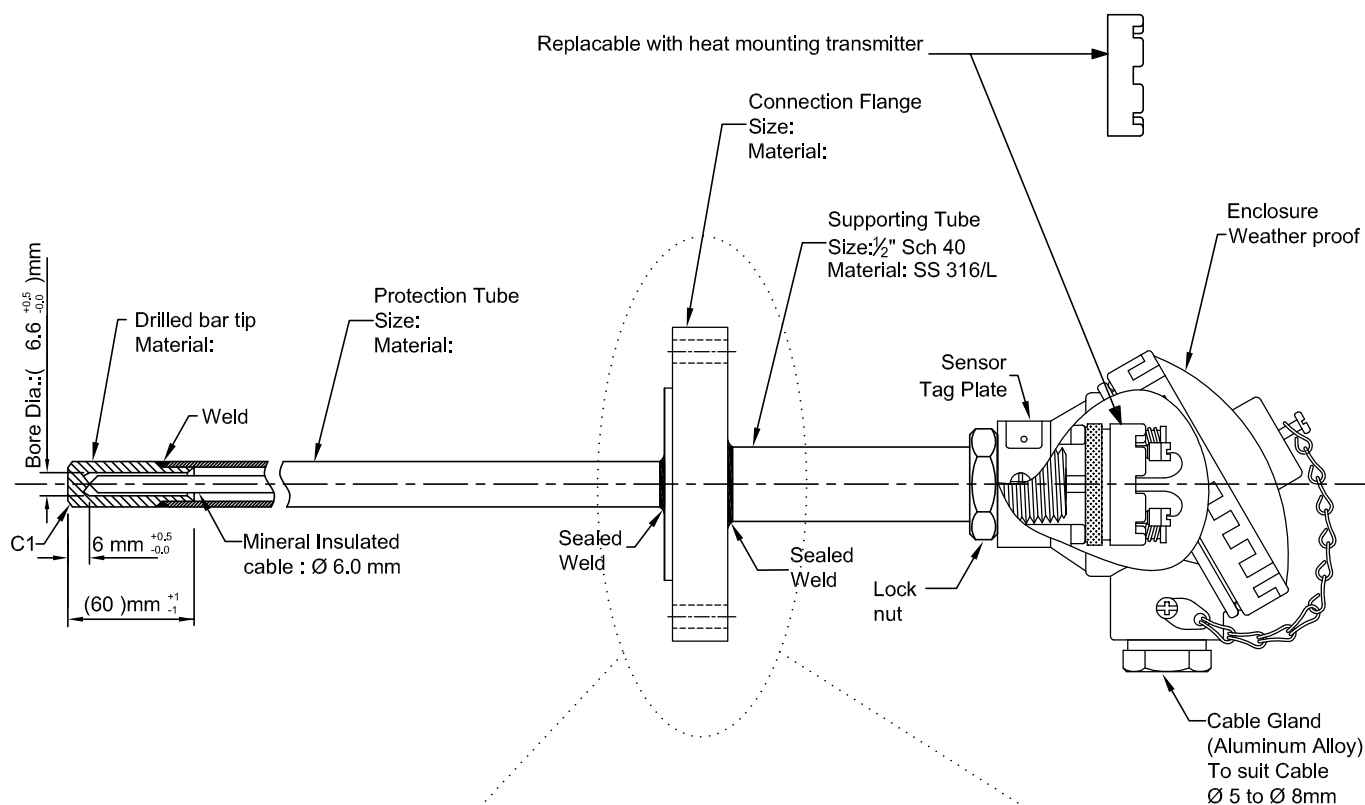
\*Note : Other protection tube size and material will be available upon request.

Process Connection ( Threaded Type)

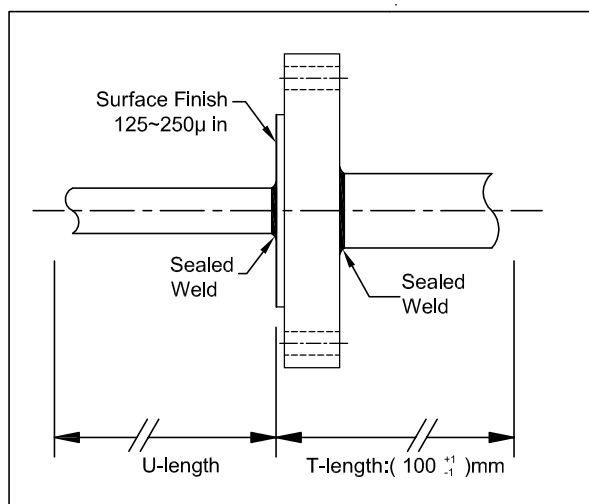
Process Connection	Hexagonal F/F	Protection tube size (Recommended)
1/2" NPT	F/F 28.5 mm	Ø 9.5 mm ~ Ø 13.7 mm
1/2" BSP	F/F 28.5 mm	
3/4" NPT	F/F 28.5 mm	Ø 9.5 mm ~ Ø 17.1 mm
3/4" BSP	F/F 31.75 mm	
1" NPT	F/F 35 mm	Ø 9.5 mm ~ Ø 21.3 mm
1" BSP	F/F 35 mm	

## TE.30 Sensor Assembly With Protection Pipe/Tube Thermowell

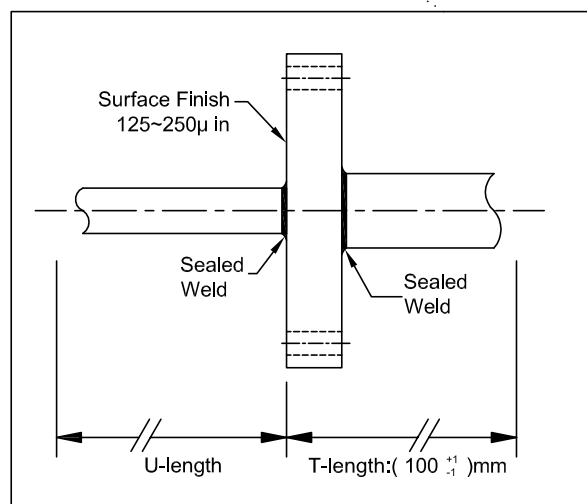
Dimensional drawing c/w flange connection



Raise Face (RF) flanged form



Flat Face (FF) flanged form



Process Connection (Flanged Type)

Flange size and pressure rating *	Material*
1" 150# , 300# and 600#	SS 316/L
1-1/2" 150# , 300# and 600#	SS 316/L
2" 150# , 300# and 600#	SS 316/L

Enclosure / Housing Type	Material	Colour
Weather Proof	Polypropylene	White
	Die Cast Aluminum	Blue
		Silver

\*Note : Other flange size and material will be available upon request.

## TE.30 Sensor Assembly With Protection Pipe/Tube Thermowell

### Modelling data sheet

<b>Sensor Type</b>												
K	Type K Thermocouple	Standard Temperature Range: -200 to 1250 °C										
J	Type J Thermocouple	Standard Temperature Range: -200 to 750 °C										
T	Type T Thermocouple	Standard Temperature Range: -200 to 350 °C										
E	Type E Thermocouple	Standard Temperature Range: -200 to 900 °C										
R	RTD ( Resistance Temperature Detector )	Standard Temperature Range: -200 to 850 °C										
<b>Tolerance Type</b>												
1	Thermocouple , Class 1 , IEC 60584 ( Note : the data for reference only , it may varies based on sensor type )											
<b>Sensor Sheath</b>												
M15	MI-Type K-Ø 6 mm-Single-2 Wires-SS 316 ( Note : the data for reference only , it may varies based on sensor type )											
<b>Wire junction</b>												
U	Ungrounded ( Std for RTD )											
G	Grounded											
E	Exposed											
<b>Process Connection Size</b>												
PC1	1/2" NPT ( Threaded Type ) , SS 316/L											
PC7	1" 150# ( Flanged Type ) , SS 316/L ( Note : the data for reference only , it may varies based on sensor type )											
<b>Material</b>												
S316	SS 316/L											
<b>Protection tube size and material</b>												
P2	Tubing Ø 12.7mm (OD) x Ø 10.2 mm (ID) , SS 316/L ( Note : the data for reference only , it may varies based on sensor type )											
<b>Protection tube length</b>												
XXXX	( e.g 500 mm = 500 )											
<b>Extension tube size</b>												
ST	Seamless pipe : 1/2" Sch 40 , SS 316/L ( Note : the data for reference only , it may varies based on sensor type )											
<b>Extension tube length</b>												
100	100 mm (STD) ( Note : the data for reference only , it may varies based on sensor type )											
<b>Connection head</b>												
KN1	Weather Proof , Material : Die Cast Aluminum , Colour: Blue											
KPP	Weather Proof , Material : Polypropylene , Colour: White											
T	Transmitters ( Note : Mounting thread to be specified by customer)											
Z	None											
<b>Documents ( optional )</b>												
In-house Calibration Certificate												
RTD, PT100 ( @ Class A , Class B )												
Thermocouple ( Type K , J , T , E )												
1	One Point (-25 to 500°C)											
2	Two Points (-25 to 500°C)											
3	Three Points (-25 to 500°C)											
-	(Note : Non-Singlas / Singlas Calibration report is available upon request )											
TE 30												Order Code
	1	2	3	4	5	6	7	8	9	10	11	12