



830F# Series "Replaceable" Skin Thermocouples

- Almost accurate temperature measurements of :-
 - Fired heater tubes
 - Boiler tubes
 - Reformer tubes
- Provided with a Shield & densely packed insulation
- Replaceable in existing guide tube & welded pad, eliminating another weld joint
- Flameproof or weatherproof execution

Measurement of surface temperature of Refinery fired heater tubes is difficult because of high temperature gases and fumes which surrounds these tubes. These gases are 300°C to 400°C hotter than the heater tube at that point of measurement. This aspect and the heat transfer along the length of Thermocouple sheath to its point of attachment on the heater tube tends to cause the Thermocouple to show relatively higher temperature than the desired wall temperature. This problem can get aggravated if there is direct flame impingement at the point of attachment of Thermocouple to the heater tube.

Best results can be obtained by providing a shield over the hot junction which would prevent effect of higher temperature of surrounding gases.

In the event the Thermocouple needs to be replaced during shut down, another welding for weld pad need not be carried out. The new Thermocouple can be installed in the existing weld pad, through its guide tube. This is the distinct advantage of this design of Thermocouple.

830F# Series

Code	No of Elements
1	Simplex(S)
2	Duplex(D)

Code	Type of Element
K	Chromel-Alumel
N	Nicrosil-Nisil

Code	Sheath dia	Nominal wire gauge (S)
6.35	6.35	16 AWG
9.50	9.50	14 AWG

Code	Sheath Material
446	446 SS
310	310 SS
Inc 6	Inconel 600
Alloy TD	Alloy TD

Code	Head Type
D	Weatherproof
F	Flameproof IIA/IIB
C	Flameproof IIC

Code	No of Entries
1	One entry
2	Two entries

Code	Options
0	None
1	Head in SS304
2	Head in SS316
10	Special requirement
15	Grounded junction

Code	Tube 'OD'
D	Define 'D'

Code	Overall Length
OL	Define

Code	Expansion loop
Y	2 times the dia 'D'

Code	Installation Type
11	Perpendicular to tube axis with left loop and wrap around angle A=90°.
12	Perpendicular to tube axis with right loop and wrap around angle A=90°.

ORDERING EXAMPLE

830F# SERIES 2-K-9.5-446-D-2-11-Y-OL-D-OPTION 10, 15