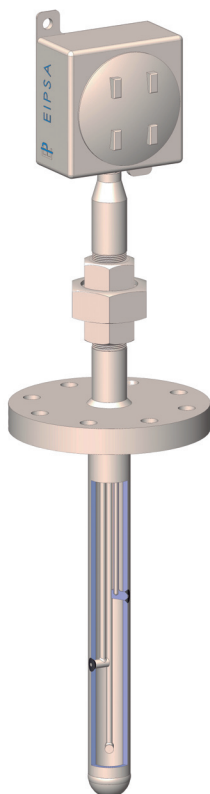# TEMPERATURE

Multiple Welded Contact Temperature Measurement Sets

DESCRIPTION: There are special applications where the temperature is required to be measured at different points using only a process connection.

The new industrial processes, mainly in the chemical and petrochemical industries, make these designs more sophisticated requiring from sensor elements with very small diameters (micro thermocouples) or constructions with thermowell and specific bending radius to adapt to new reactor designs.

DENOMINATION

Internal temperature measurement element in reactors and tanks.

CHARACTERISTICS

- Rules of design:	IEC 60584, ANSI MC96.1 or DIN-43710, ASTM E230, ASTM E235, IEC 60751, ASTM E780, ASTM E1137
- Materials:	Austenitic materials and special alloys.
- Sizes of manufacturing:	According to specification or application.

APPLICATIONS

- Temperature measurement in tanks and reactors.
- Nuclear industry.
  Chemical and petrochemical industry.
- Aeronautical and aerospace industry.
- Renewable energy industry.

NOTES

- **Maximum operating temperature:** According to the flanges rating, tube thickness and materials.
- **Maximum operating pressure:** According to the flanges rating, tube thickness and materials.

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ISO 9001
UKAS
Nº: ISO 9001 - 0037273
ISO 9001:2015

Thermocouple depending on the temperature range:

Type	Range (ºF)	Range (ºC)	Standard Tolerances (ºC)	Special Tolerances (ºC)
T	32 − 700	0 − 370	±1,0 o ±0,75%	±0,5 o ±0,4%
J	32 − 1400	0 − 760	±2,2 o ±0,75%	±1,1 o ±0,4%
E	32 − 1600	0 − 870	±1,7 o ±0,5%	±1,0 o ±0,4%
K o N	32 − 2300	0 − 1260	±2,2 o ±0,75%	±1,1 o ±0,4%

Thermocouple depending on the type of junction of the conductors:

Type	Description
A	Ungrounded
B	Grounded
C	Exposed

In the manufacturing process, solutions have been implemented to make these sensors resistant to high vibrations.

Accessories such as transmitter anchor rails and temperature transmitters are supplied upon request.

*Not including applicable notes to this tolerance table please refer to notes in applicable international standards.