Product Review

Surface Temperature Measuring Instruments

WIKA

Smart in sensing

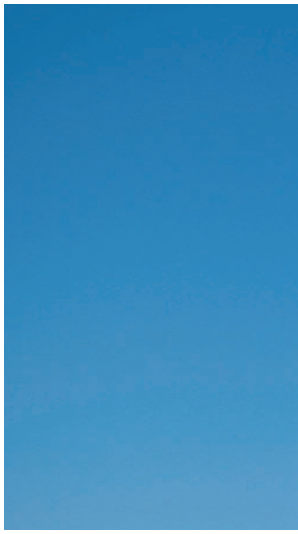
“More information means improved performance”

Surface sensors are a convenient and safe way to non-intrusively measure temperature. WIKA designs exterior surface, or “skin,” sensors that maintain high performance under the harshest process conditions. Our solutions excel in challenging applications where most other sensors would fail.

Provides vessel **trending information**

Identify **excursions** or **hot spot conditions**

Use with control systems for **freeze protection**



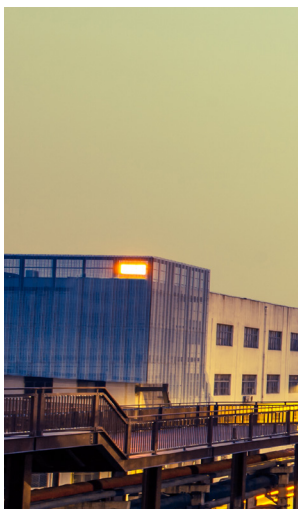
WIKA advantages

Improves safety and efficiency - monitor temperature in extreme and unusual conditions, without compromising the integrity of the process

Lowers installation cost - non-intrusive installation is faster and easier

Simplifies maintenance - individual sensors can be easily replaced

Greater installation flexibility - design considerations include both surface materials and your attachment preference.



Process piping and pipelines

Surface sensors placed on the piping allow for constant temperature monitoring to ensure freeze protection. These surface senors are integrated to the heat trace lines so they can be turned on or off.

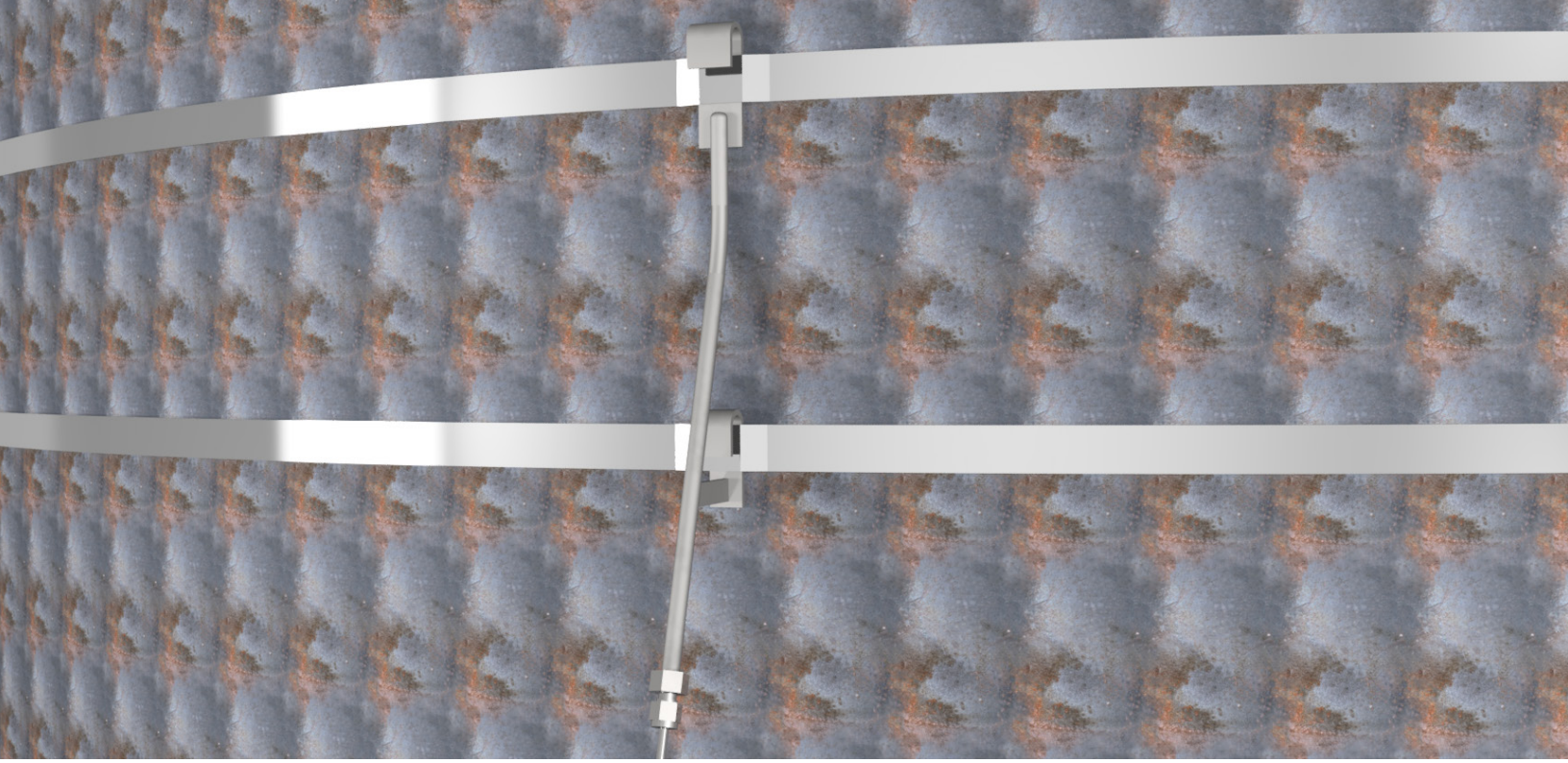
Furnaces

Determine hot spot locations on exterior of the furnace where insulation integrity may be compromised.

Tanks

Utilizing thermometry on the external of the vessel skin can provide information to show trending, Excursions / Rupture of the vessel, Coking or Stratification of the process.

Chemical plants
Reactors
Power engineering



Replacement of RTDs and thermocouples under the insulation covering reactors is a challenge; can often require multiple skilled workers to do the replacement, and resuts in a high cost of ownership for the end user. The WIKA Ski Slope and Magnet thermocouple designs were created to eliminate these ongoing obstacles for normal skin temperature monitoring without the need for removal of insulation or cladding for servicing.

“Easily replace without removing insulation or welding”

Ski Slope Tx54-S

By design, the WIKA Ski Slope holder provides accurate, parallel contact with the surface being measured as well as minimizing any heat transfer that can occur. This is done by maximizing direct surface contact with the pipewell or reactor skin for a minimum length of 10x sensor diameter.

The RTD or thermocouple in the Ski Slope holder can be easily replaced by simply loosening the compression fitting and sliding the existing sensor out. Additionally, the attachment style can be tailored to be welded or non-welded based on installation requirements without interfering with the replaceability of the sensor.

Features:

- Easy Replacability, Welded or Strapped Mounting
- Direct parallel surface contact sensor

Magnet thermocouple Tx52-M
for high temperature applications

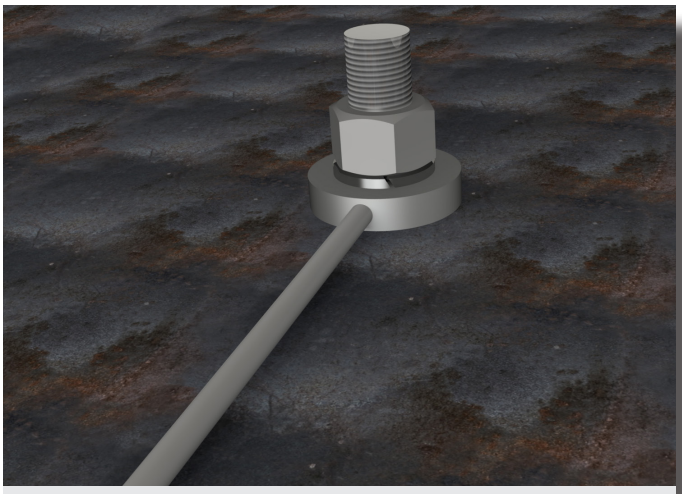
Utilizing an engineered insulating mounting assembly, the WIKA magnet thermocouple is designed to maximize surface contact for accurate temperature measurement. The high strength magnet ensures spring-loaded contact with the surface for temperatures up to 540°C [1000°F]. The magnetic thermocouple assembly is designed as a non-welded option for surface temperature measurement.

Should the sensor require maintenance the neck extension is supplied with an industry standard connection which allows for removal of the sensor without the need for tools.

Features:

- No welding required; High strength 150lb pull
- High temperature material

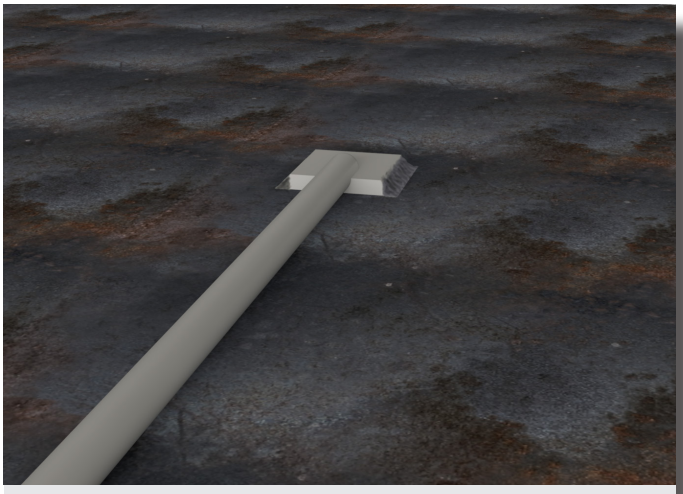
Standard solutions
for surface temperature measurement



Washer and stud Tx50-T

Ideal for: The washer style thermocouple is designed to be mounted over a threaded stud that has been welded to the measuring surface. It is held in place with a nut to facilitate a positive surface contact. If replacement is necessary, the washer can be unbolted and replaced with a new washer style sensor.

Features:
- Non-welded installation
- Easy sensor replacement
- Utilizes existing stud on surface mounting



Traditional weld pad Tx50-P

Ideal for: The weld pad is a cost-effective method of surface measurement that is ideal when replaceability is not a concern and welding to the surface wall is allowed. In this design, the sensor is welded to the pad which is welded to a flat measuring surface. When welded in place, the simple, rigid construction of this sensor offers durable, reliable temperature measurement.

Features:
- Economic solution
- Permanent welded design

Contact WIKA today for your specialized surface temperature measurement solution

The surface temperature measurement solution will depend on your specific application. WIKA understands the different designs and can provide the best one to fit your needs. Below are a few of the traditional surface temperature measurement designs.

Heat trace assembly

Ideal for: The heat trace RTD or thermocouple assembly is used on pipelines that utilize heat tracing for freeze protection and process monitoring. The light-weight assembly is designed to keep the RTD in contact with the pipeline with a steel band attachment. The installation can be used for insulated or non-insulated pipelines.

Features:

- Larger MI cable (5/16” / 8mm OD) for increased mechanical strength.
- All joints & clip attachment points welded for increased strength.
- Custom designed pipe mounting clip for more secure mounting using strapping.
- Push style / spring retention terminal block for ease of field wiring.

Pipe clamp assembly Tx57-P

Ideal for: The pipe clamp assembly is ideal for use in non-welded applications that require pipeline monitoring. It uses a pipe clamp to secure proper sensor alignment to the surface. The simple threaded clamp design allows for quick installation and replacement on pipeline applications.

Features:

- High strength steel clamps customized for various pipe sizes
- Easy sensor replacement
- Local termination head mounting
- Spring loaded sensor surface contact

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You can find further information here!

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