

High-temperature thermocouple with additional protection from sapphire glass

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The new TC84 high-temperature thermocouple from WIKA features the highest safety and a long service life. Its resilience is based on a sapphire protection tube in combination with a two-stage safety chamber. The measuring instrument is also available in an ATEX and also an IECEx certified version.

Typical applications for the TC84 are gasification reactors with process temperatures up to 1700 °C and pressure loads up to 65 bar or sulphur recovery units. In the patented design of the measuring instrument, the precious-metal thermocouple is shielded from damaging process influences through two protection tubes - through an external tube from ceramic and an internal tube from monocrystalline sapphire glass, which effectively delays the poisoning of the thermocouple. In the event of any failure, the dual sealing system of the safety chamber prevents the escape of toxic media.

The construction of the thermocouple also follows economical principles. A TC84, damaged following extreme loading, can be repaired through the exchange of the wetted parts; a completely new purchase is therefore not required. The sapphire protection tube also eliminates the need for expensive purging with inert gas, for example, to protect the thermocouple.

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WIKA company photograph:

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press release

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