

BENDER^{GMBH}

MESS- UND REGELTECHNIK

seit 1964

Technical data sheet and functional description

THERMO-TAURUS immersion sensor

For measuring the temperature of molten steel and high-temperature-resistant metal

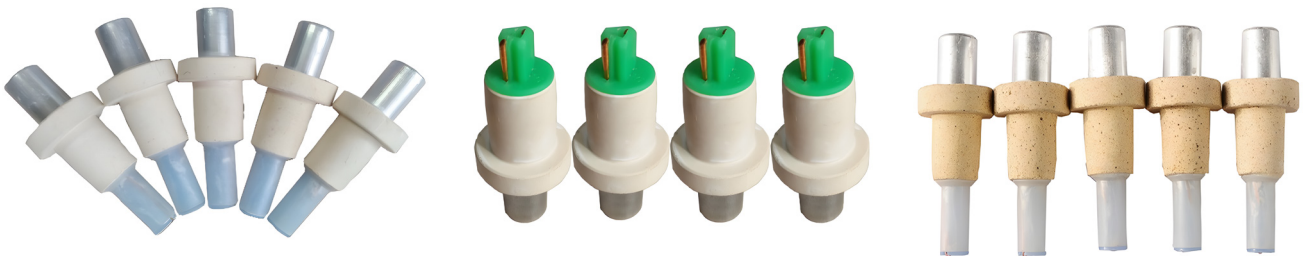


Management System
ISO 9001:2015

www.tuv.com
ID 900027502

1. Description and mode of operation

Disposable thermocouple tips are used for precise temperature measurement of molten steel and other high-temperature-resistant metals. They are disposable products based on the thermoelectric effect: the temperature is calculated from the electrical potential difference between two different metals.



2. Technical data

Name / Typ	Modell	Type	Permissible Recommended designation Deviation Temperature	Max. temperature	Reaction time	
Platinum-30% rhodium/platinum- 6% rhodium	602	B	±5 °C	1200-1700 °C	1760 °C	4~6s
	604	B	±3 °C	1200-1700 °C	1760 °C	4~6s
Platinum-10% rhodium/platinum	602	S	±5 °C	1200-1600 °C	1760 °C	4~6s
	604	S	±3 °C	1200-1600 °C	1760 °C	4~6s
Platinum-13% rhodium/platinum	602	R	±5 °C	1200-1600 °C	1760 °C	4~6s
	604	R	±3 °C	1200-1600 °C	1760 °C	4~6s
Tungsten-rhenium by 3%/ Tungsten- rhenium approx. 25%	WRe-602	W	±5 °C	1200-1700 °C	1820 °C	4~6s

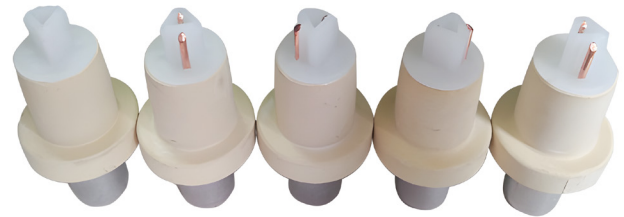
3. Product specifications

The thermocouple tips are divided into two types according to the shape of the contact:

Type 602 Round contact



Type 604 Triangular contact



A disposable thermocouple consists of a temperature measuring probe and a paper tube.

The thermocouple wires are welded to a compensation wire, which is embedded in a holder. This is protected by a small paper tube and supported by a quartz tube.

A protective cap prevents deposits during measurement.

All components are connected with fireproof filling material to form a stable unit – the thermocouple is intended for single use only.

4. Dimensions and variants



THERMO-TAURUS 1 incl. protective cover



THERMO-TAURUS 2



■ Inner diameter: 18mm

■ Outer diameter: 30mm

■ Packaging unit:

50 pieces / box, 2000 pieces / pallet

5. Application notes

1. Select the appropriate length of protective paper sleeve and temperature measuring gun according to the object to be measured and the measuring range.
2. Attach the thermocouple tip to the temperature measuring gun and set the measuring device to zero.
3. Immerse the tip approximately 300–400 mm deep into the molten steel.
 - **Do not** touch the furnace wall or the scum.
 - The measurement should take **no longer than 5 seconds**.
4. After the measurement, immediately remove the thermocouple and replace it with a new one.
5. Wait a few minutes before taking a new measurement.

6. Transport and storage

- Handle the components with care during transport and installation.
- Always **store** products in a **dry place** and protect them from moisture.
- Recommended **relative humidity**: < 80%.
- Store in well-ventilated rooms without harmful gases.
- Packaging units:
 - 1,000 pieces / carton
 - 20,000 pieces / pallet

7. Customised products

Further specifications and customised designs are available on request.

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Further customised products on request

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