

Thermosense HP270

Product temperature sensor



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THERMOSENSE HP270

High-temperature measurement



Without exact knowledge of what's happening during a fixing, thermo-isolating, condensing or gelling process in the chambers, the drier has to be considered a black box. The user needs to solely rely on his experience and must determine settings for circulating air temperature and stenter speed empirically. To ensure repeatable processes, application of appropriate measuring techniques in the drier chambers is essential. High-temperature measurement with the Thermosense HP270 is a decisive factor at this.

Area of application

The Thermosense HP270 is used for non-contacting temperature measurement in driers and stenters and records the temperature of running product webs. The sensor is temperature-resistant up to 270 °C. It can therefore be mounted inside driers. With the measurement of the product temperature the textile manufacturer thus has an important indicator for a whole range of temperature-dependent processes at his disposal. Amongst others, he can derive the dwell time of the product.



Customer benefits

- ✓ Higher machine utilisation
- ✓ Increased quality
- ✓ Energy saving
- ✓ Process transparency

Principle of operation

The sensor (infrared pyrometer) utilises the heat radiated by the measuring object for the non-contacting determination of the current product temperature. This in turn impacts a thin metal film on the probe. The temperature of the film and the sensor head is measured. The temperature of the measuring object is determined from both values with ultimate accuracy.

Most frequent application

Dwell time measurement

To determine the dwell time for a desired product temperature, the surface temperature of the product is measured without contact at several locations in the dryer using the high-temperature-resistant HP270 sensors. The system thus determines reaching of the pre-selected target temperature with utmost precision. Depending on the product properties (material composition, product weight, initial moisture) the nominal temperature is reached at different points in the dryer, so that multiple sensors are required (normally 3 to 8, max. 64), to ensure adequate definition of the temperature trend. If the web speed is known, this can be used to determine and thereby regulate the time period during which the product is subjected to a given temperature.



Product highlights

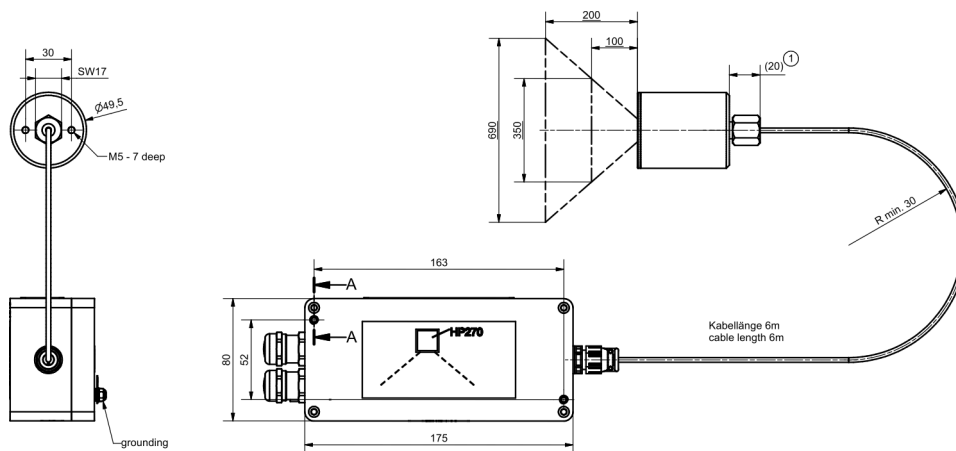
- ✓ *Non-contacting product temperature measurement*
- ✓ *High-temperature-resistant sensor up to 270 °C*
- ✓ *Maximum measuring accuracy*

Variants

Different types of the HP270 measuring probe are available for different installation situations. This allows adapting individually to the conditions and requirements on site.

HP270-0

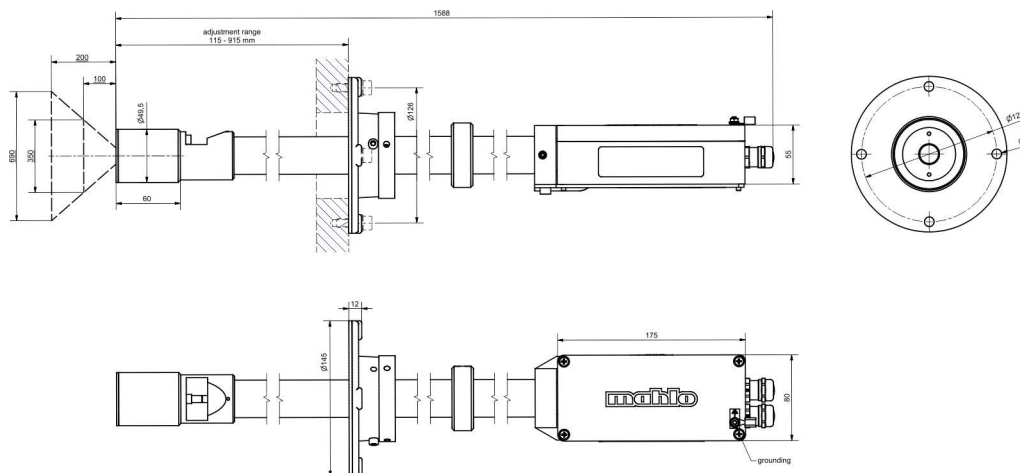
Standard design



HP270-0 Standard version (91-015449)

HP270-1

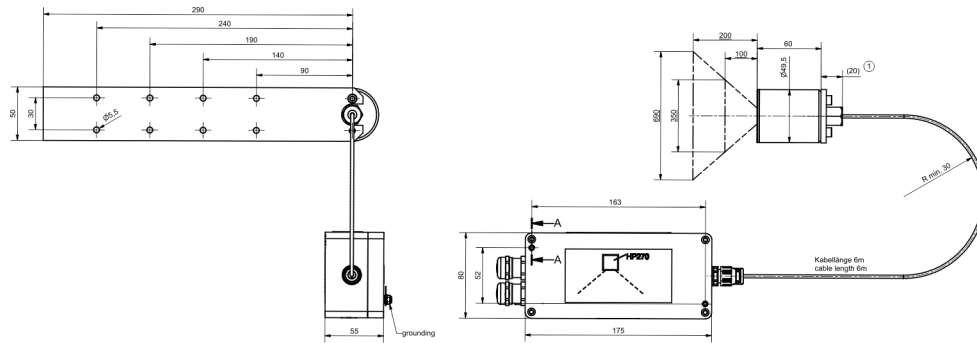
With probe extension and control box installed



HP270-1 with probe extension (91-016058)

HP270-2

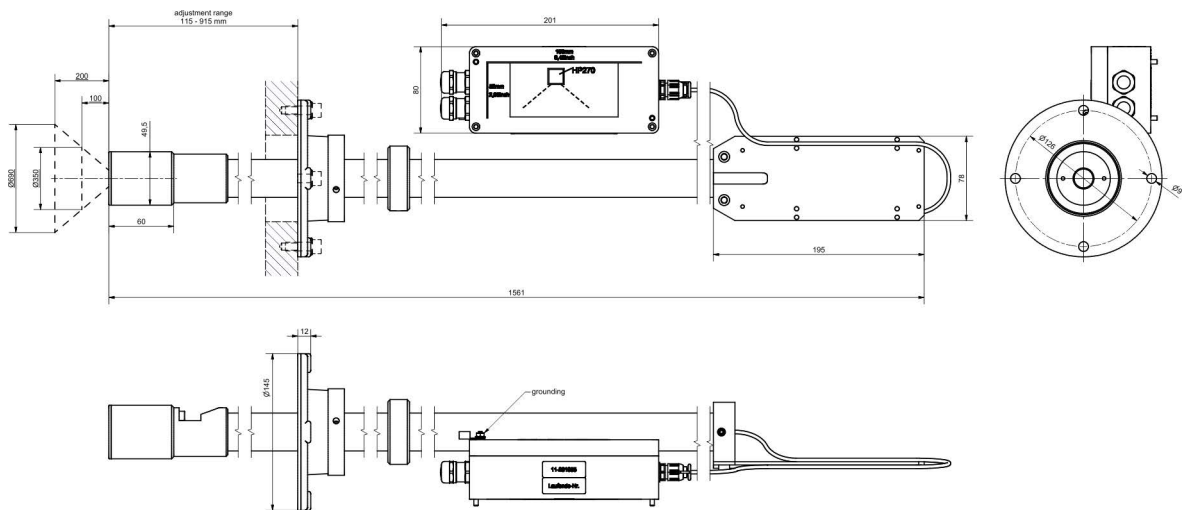
With mounting plate for the probe



HP270-2 with mounting plate (91-016059-01)

HP270-3

With probe extension and separate control box



HP270-3 with separate control box (91-017237-00)

TECHNICAL DATA

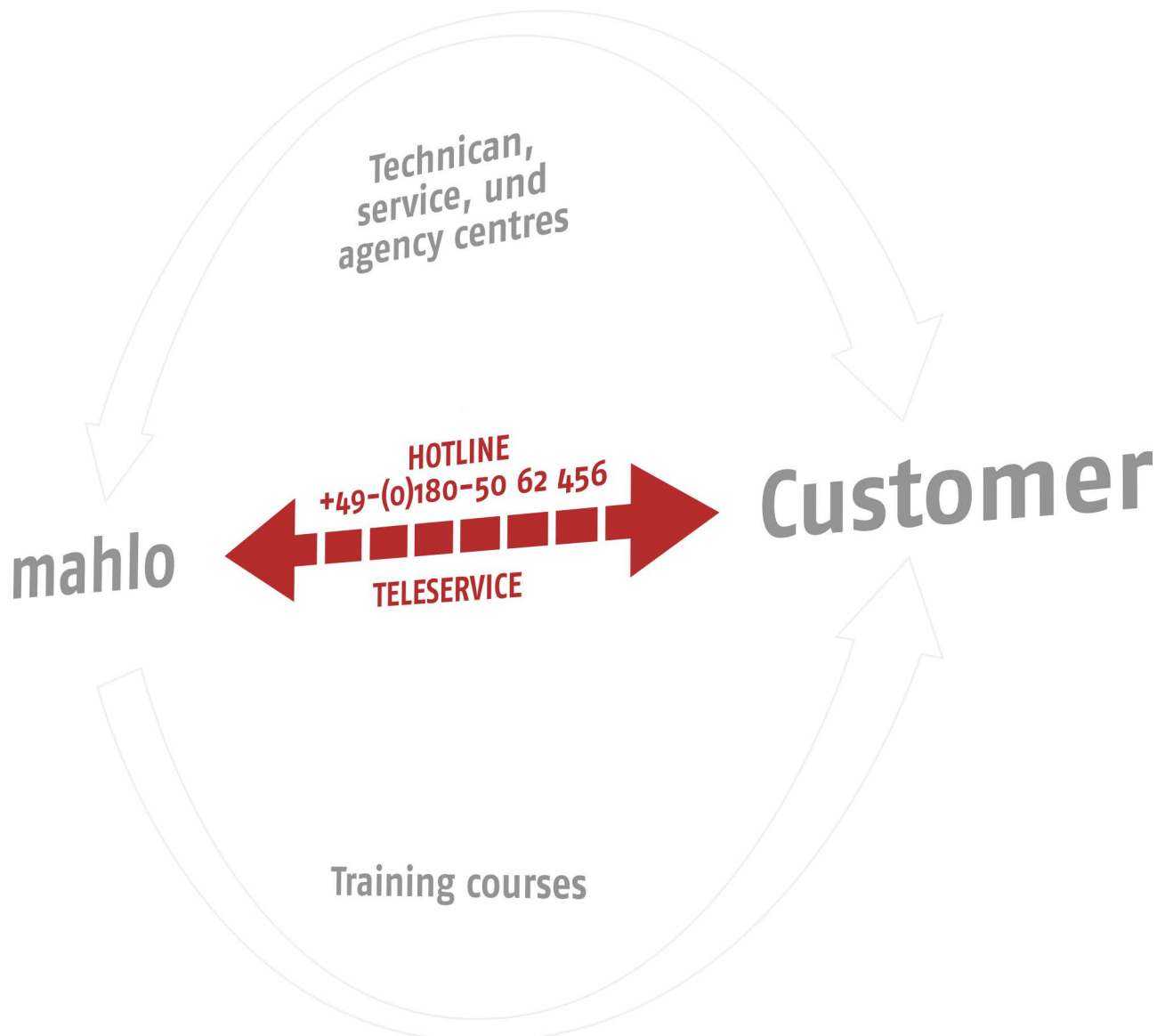
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Specification		Value	Unit
Measuring range		0 – 250	°C
Measuring field, Field of view		120	°
Measurement accuracy		≤ 1 ¹	%
Response time t _{0,9}		6	s
Output Signal, CAN, analogue		0 – 20	mA
Temperature range	Measuring amplifier	0 – +85	°C
	Sensor with cable	0 – +250	
Environmental grade, DIN 40040		KPA	

¹⁾ of the measuring range at 23°C

Mechanical Data	Sensor	Measuring amplifier
Version	Stainless steel housing, 6 m connecting cable in Teflon design	Aluminium die-cast housing
IP protection class	IP 65	IP 67

SERVICE AND SUPPORT



With innovative and trend-setting technology, Mahlo has been setting standards for decades in the field of measuring and control systems for the industry sectors of textiles, nonwovens and finishing, laminating, coating & converting, film and extrusion as well as cellulose, paper and calendering.

In addition to the technology, direct contact with our customers is especially important to us. This includes intensive assistance and customer care wherever the customer is located and a global service and representative network including 24-hour replacement part service.

Mahlo customers can safely count on the know-how of our experts in any situation, whether installation and startup, conversion of existing systems or maintenance of their machines.

MAHLO AT A GLANCE

Present everywhere throughout the world, at home in Bavaria

Mahlo GmbH + Co. KG belongs to the worldwide leading manufacturers of measuring, control and automation systems for the textile and finishing industry as well as the coating, film and paper sector.

This long-established company in Bavaria was founded in 1945 by Dr. Heinz Mahlo, and has remained a family-owned enterprise until today having steadfastly maintained its standing in the global marketplace. For decades we have been developing and producing our devices exclusively in Germany – employing highly motivated specialists trained by us.

Mahlo is located in Saal on the Danube in lower Bavaria but operates worldwide: Five branch offices in Italy, Belgium, Spain, Brazil, China and the U.S. serve as support stations for the key markets. Numerous international agencies and service stations offer customer support throughout the whole world.



Monitoring and control systems, automation

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