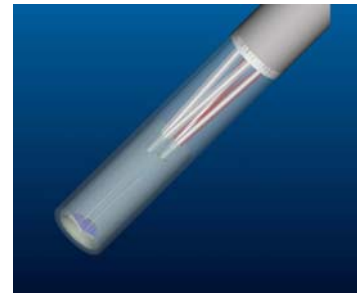


### Product

IST's RealProbe<sup>Temp</sup> is a pre-assembled stainless steel probe containing a 100 Ω platinum thin-film RTD temperature element with an operating range from -50°C to +200°C. The probe sheath is tip sensitive, providing superb response times ( $T_{90} < 1.5s$  in water at 0.4m/s) and the ability to measure liquids at a minimum immersion depth (< 10mm). The pre-assembled and inspected unit can also be applied as a stand-alone probe or a sub assembly, greatly reducing manufacturing costs and construction efforts.

### Advantages

- Drastically reduced immersion depth (< 10mm)
  - assembly in thinner pipes and constructions
- Cost saving through pre-assembled and inspected unit
- Fast response time ( $T_{90} < 1.5s$ , in water 0.4m/s)
- Great thermal decoupling to surroundings
- Proven solution: product is already successfully installed in customers' applications
- Resistant against vibrations (tested according to IEC 60751)

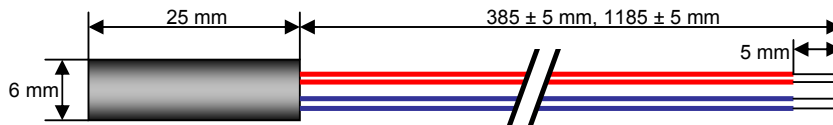


### Applications

- immersion probes
- contact- and surface probes
- bio-reactors
- CIP (cleaning in process)
- food industry
- process industry
- HVAC

### Technical data

Nominal resistance	100 Ohm at 0°C
Accuracy	DIN EN 60751 class A and B
Temperature range	-50°C to 200°C
Response time $t_{90}$	< 1.5s (in water, 0.4m/s)
Max. allowed pressure	100 bar
Electrical strength	1000 VDC, 1s
Connection	4x AWG 28/7 Cu/Ag stranded wire, PTFE insulated, 5mm stripped
Available lead lengths	385mm, 1185mm
Color coding	class A: 2x red, 2x white; class B: 2x red, 2x blue
Deep drawing sheath	material: 1.4404 / 316L, wall thickness: 0.4mm, length: 25mm, outer Ø: 6mm



### Recommended further processing

Welding with tube extension:

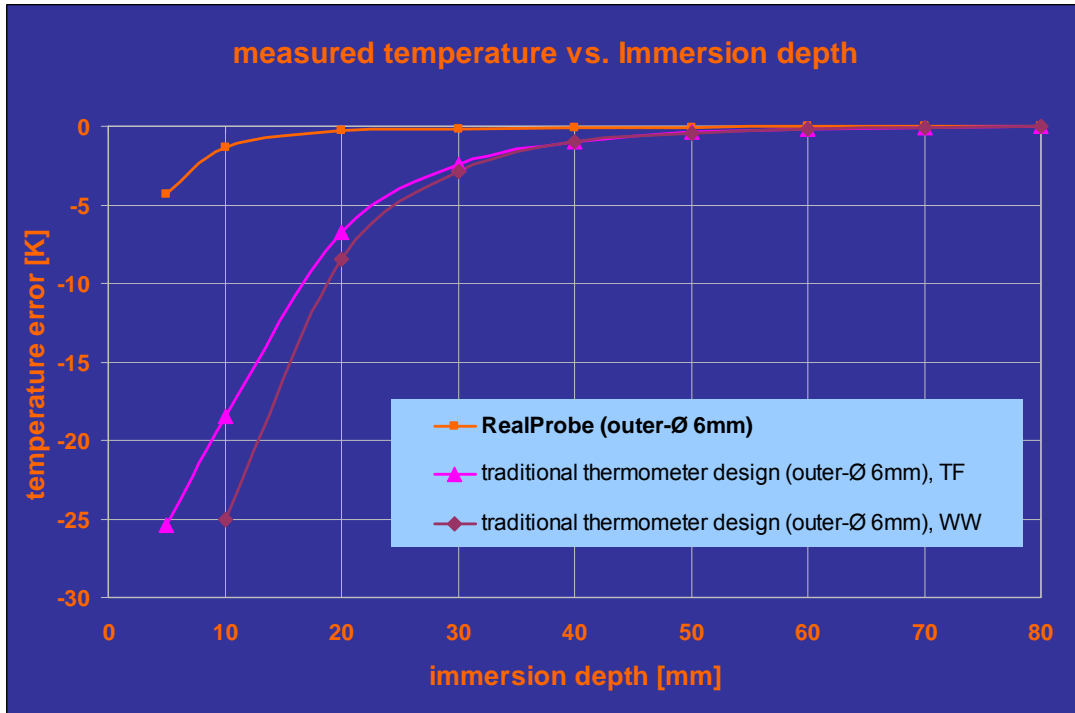
Material: stainless steel, 1.4404 / 316L, wall thickness: 0.5... 1.0mm, welding method: micro plasma



INNOVATIVE SENSOR TECHNOLOGY

### Minimized immersion depth...

Through its improved thermal coupling the RealProbe<sup>Temp</sup> can drastically reduce the immersion depth into the medium. With an immersion depth of only 10mm, you can achieve a measurement performance where conventional temperature probes need more than 25 mm immersion depth.



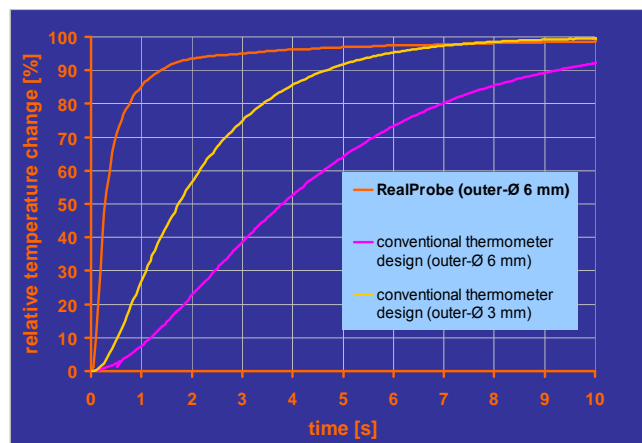
Especially for applications with reduced space and large temperature gradients between surroundings and measurement medium the RealProbe<sup>Temp</sup> is the ideal solution for you.

This graphic shows the measured temperature versus the immersion depth. The probes were tested in a circulated, 100°C silicon oil bath and immersed in different depths.

### Fast response time ...

After less than 1.5 seconds the RealProbe<sup>Temp</sup> has reached already 90% of the temperature change. The  $T_{63}$  value is below 0.5s. Compared with conventional temperature probes you can achieve a drastic improvement of the response time with the RealProbe<sup>Temp</sup> – even compared with the much thinner thermometers with 3 mm outer diameter.

Measured in water ( $v = 0.4$  m/s), temperature step: room temperature → 30°C.



V1.1.20100428 All mechanical dimensions are valid at 25°C ambient temperature, if not differently indicated. ■ All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics. ■ Technical changes without previous announcement as well as mistakes reserve. ■ The information on this data sheet was examined carefully and will be accepted as correct. No liability in case of mistakes. ■ Load with extreme values during a longer period can affect the reliability.