

## HWP10/xx

### Hot-Wire Probe

- Dynamic measurements of flow velocities or temperatures
- Velocity range: 0.1 – 50 m/s in air, higher velocities and other gases possible
- Measurement accuracy:  
0.1 m/s + 0.5% FS ( $v < 20$  m/s) / 1% FS ( $20 < v < 50$  m/s)
- Temperature range:  
10...50° C (-10...70° C possible)
- Plug & play  
in combination with CTA-bridge of type eCTA or aCTA



## General Description

The hot-wire probes of the series *HWP10/xx* are especially suited for the dynamic measurement of flow velocities or temperatures in air or non-aggressive gases.

As classical hot-wire anemometer the probes are run on a CTA-bridge (*aCTA* or *eCTA*). With this combination it is possible to perform high temporal resolution measurements of flow velocities. The calibrated velocity range reaches 50 m/s, higher velocities are possible. Fluctuations in flow velocities can be captured up to a value of 10 kHz.

Due to the measurement principle the probes are especially suited for small flow velocities. The application with different, non-aggressive gases is in general possible but requires a special calibration.

The probes measure the velocity component in the plane perpendicular to the wire. Directional detection is not possible with a single probe.

If the probes are run with an *eCCT*-measurement bridge the sensor functions as an extremely fast resistance thermometer.

It must be considered that particles in the flow field can result in the destruction of the wire or, in case of PIV and LDA measurements, in a falsification of the signal. Due to the pre-set adjustment of the bridges, an extension of the probe cable is not possible.

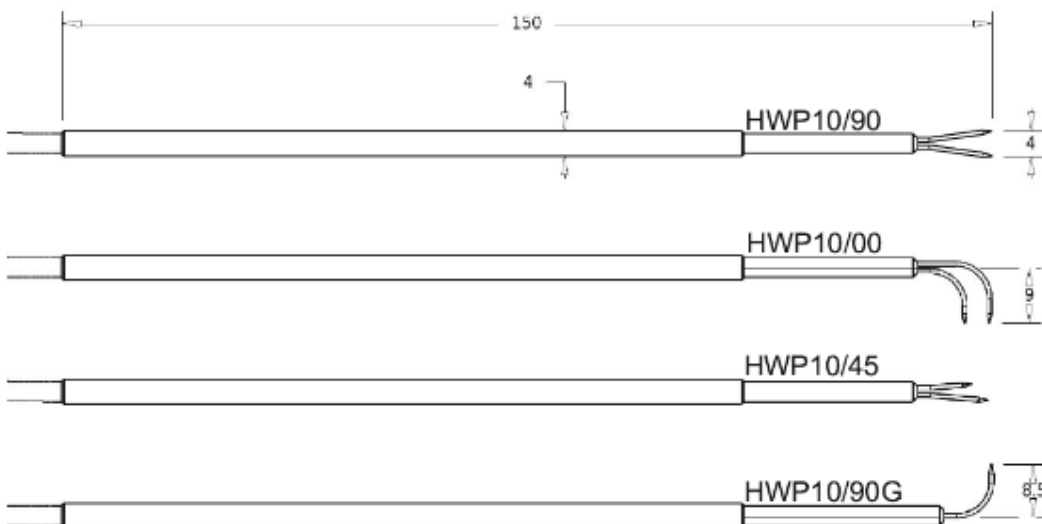
## Technical Specifications

Ambient conditions	
Fluid	Air different non-corrosive gases are possible but must be calibrated separately, no explosive gases no particles, no air pollution
Humidity	Non-condensing
Connections	
Plug	Binder 711, 2 pin
Cable	Ø 3.2 mm, length 80 cm (without shank)

	The cable length is non-varying and may not be shortened or extended
<b>Wire</b>	
Dimension	D = 10 µm, l = 4mm
Material	Tungsten, gilded
<b>Application as velocity sensor (eCTA/aCTA)</b>	
Velocity range	0...50 m/s >50 m/s requires special calibration and adjustment of CTA-bridge
Temperature range	10...50° C factory calibration, -10...70° C possible
Velocity 0...20 m/s	0.1 m/s + 0.5 % FS (typ.)
Velocity 20...50 m/s	1% FS (typ.)
<b>Application as temperature sensor (eCCT)</b>	
Temperature range	-10...70° C (complete probe) Ceramic tip up to 250° C
Measurement accuracy	±0.5° C

## Ordering Options

HWP10/xx, xx = angle wire-shank



Upon consultation special lengths possible.