

TECHNICAL DATA SHEET

New

**PITOT TUBES
type S**

CE

KIMO offers a wide range of high-quality and accurate Pitot tubes, as per the ISO 10780 norm.

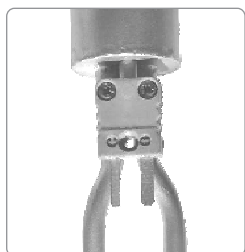
These Pitot tubes when being connected to a differential column / or needle / or electronical manometer, can measure the dynamic pressure of a moving fluid in a duct, and then, can deduct its air velocity in m/s and its airflow in m³/h.

These Pitot tubes are used in HVAC field, vacuum cleaning and pneumatical transport. They are mainly dedicated to measure hot and particle-charged air, and also high air velocity.



• **Pitot tubes type S with TC K**

Pitot tubes with TIG welding and protective tube made of stainless steel. Sheathed thermocouple K probe integrated, with connection cable length 1,5 m. Body made of stainless steel.

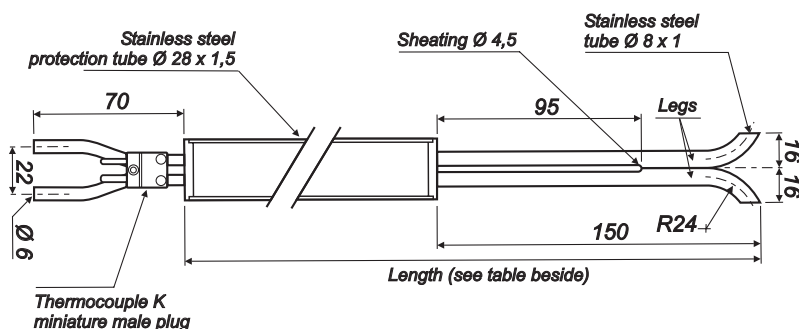


Integrated Temperature probe

Norm	ISO 10 780.
Coefficient	0,84 ± 0,01
Accuracy	More than 4 %, for a ± 15 ° alignment to the fluid flow.
Quality	Hard stainless steel 4/, as per AFNOR / Z2.CDN.17.12.
Operating Temperature	From 0 to 1000 °C
⚠	The extent error of an air velocity or airflow measurement with a KIMO Pitot tube remains inferior to 3%, when being carried out as per the ISO 10 780 norm.
	To meet ISO 10 780 norm's requirements, it is recommended to carry out a calibration of the Pitot tube, in order to determine its exact coefficient.

TECHNICAL CHARACTERISTICS

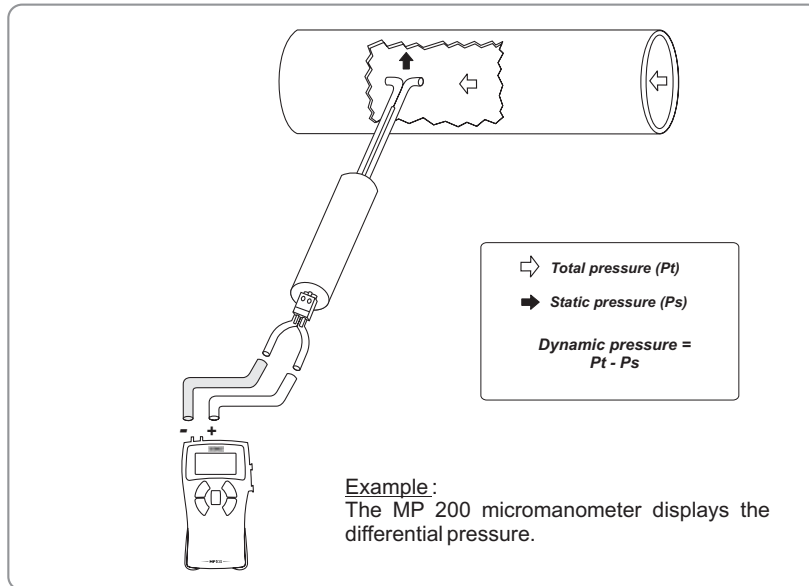
Ref.	Length
TPS-08-500-T	500 mm
TPS-08-1000-T	1000 mm
TPS-08-1500-T	1500 mm
TPS-08-2000-T	2000 mm
TPS-08-2500-T	2500 mm
TPS-08-3000-T	3000 mm



The Pitot tube must be introduced perpendicularly into the duct, in several points pre-determined. The holes must be made in proper alignment to the line of the air or gas flow. Compared to the Pitot tube L, the Pitot tube S is much more sensitive to wrong alignments.

Taking into account that the Pitot tube is symmetrical, it is no use to identify the 2 legs. However, it is important to connect the instrument as follows :

- the leg facing the air flow must be connected to the + sign of the micromanometer
- the leg opposite to the air flow must be connected to the - sign of the micromanometer.



With the dynamic pressure in mm H₂O or in Pa, we can calculate the air velocity in m/s, with the simplified BERNOULLI formula :

$$V \text{ in m/s at } 20 \text{ }^\circ\text{C} : K \times \sqrt{2 \times \Delta P \text{ in Pa}}$$

Formula to get the velocity, with temperature balancing of the airflow :

$$V \text{ in m/s} = K \times \frac{\sqrt{574,2 \theta + 156842,77}}{P_0} \times \sqrt{\Delta P \text{ in Pa}}$$

With :

P_0 = barometric pressure in Pa
 θ = temperature in $^\circ\text{C}$

δ = volumic mass
 K = coefficient of the Pitot tube

ACCESSORIES

• Extension cable for thermocouple K class 1 :

- Ref : **CEK150** Length 1,50 m for temperature probe with compensated miniature male/female plug.
CEK300 Length 3 m for temperature probe with compensated miniature male/female plug.
CEK500 Length 5 m for temperature probe with compensated miniature male/female plug.

• Tubes :

- Ref : **TC 5 X 8**
 Cristal tube $\varnothing 5 \times 8$ mm for fixed Pitot tubes.

TS 4 X 7

Flexible or silicone tube $\varnothing 4 \times 7$ mm black or white for Pitot tubes



• Clamping blocks made of cast iron:

- Ref : **KI-BF-28-F** Clamping blocks made of cast iron for Pitot tube type S $\varnothing 28$ mm.



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