KIMO INSTRUMENTS

Technical Data Sheet

Pressure / Temperature / Humidity / Air Velocity / Airflow / Sound level

Pitot tube
S type

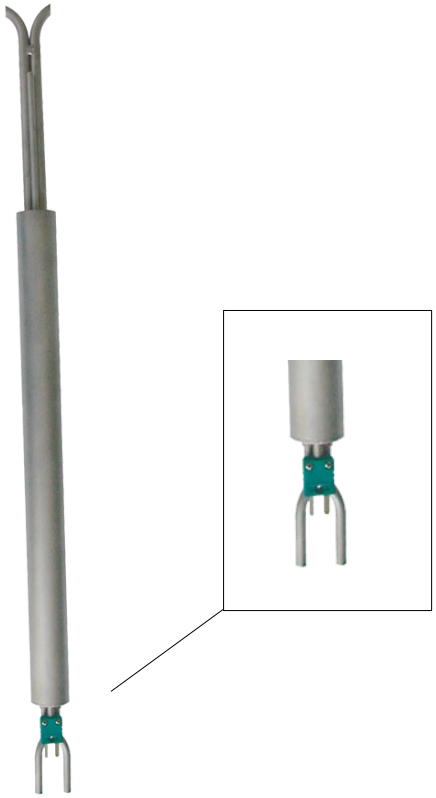
CE

PRESENTATION

KIMO offers a large range of **Pitot tubes** of great quality and accuracy realised according to the ISO 10 780 norm.

The KIMO **Pitot tubes**, connected to a differential column of liquid manometer, with needle or electronic, enable to measure the dynamic pression of a fluid in movement in a pipe and determine its speed in m/s and its flow in m^3/h.

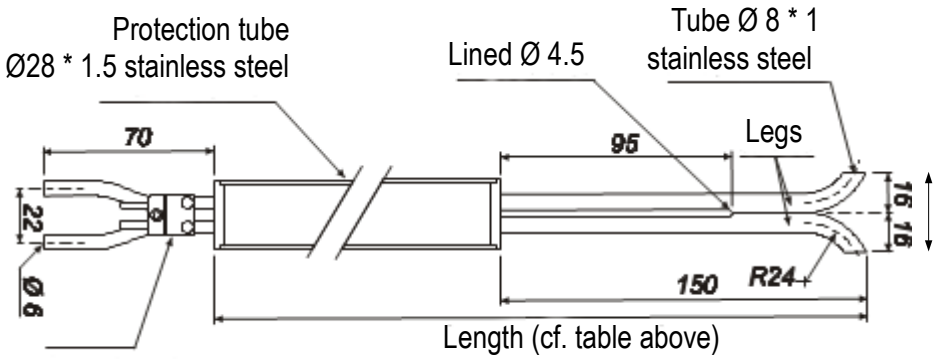
The **Pitot tubes** are used in climatic engineering, ventilation, dust-removal and pneumatic transport. They are particularly adapted for measurement in warm air, charged with particles and for high speed.



FEATURES

Model	Tube de Pitot type S
Coefficient	0,84±0,01
Matierial	Stainless steel 316 L
Measurement range	0 to 100 m/s
Temperature of use	from 0 to 1000 °C
Static pressure	Atmospheric
Global accuracy of the measurement system	1 % of measurement + accuracy of the pressure sensor
Norms	ISO 10 780

SIZES



Ø total 32

All sizes and ratings of this document are specified in mm.

PRESENTATION OF THE RANGE

Commercial reference	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

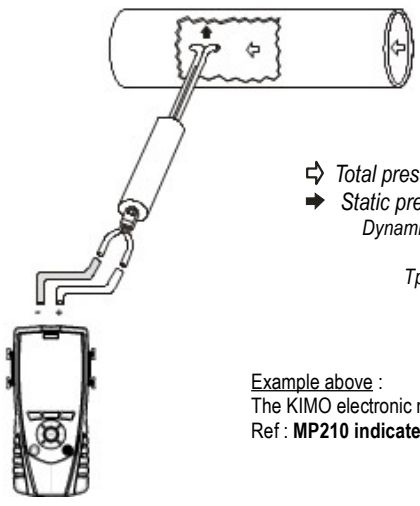
WORKING PRINCIPLE

The Pitot tube is introduced perpendicularly in the pipe by pre-determined points.
The holes must be perfectly aligned with the air or gas flow direction.
The **Pitot tube S** is more sensitive to alignment errors thas the **Pitot tube L**.

Knowing that the Pitot tube is symmetrical, it is not necessary to identify the two legs, however the connecting to the measurement device must be carried out like following :

- The leg in front of the air flow is connected to the + signe of the micromanometer.
- The leg at the opposite of the air flow is connected to the – sign of the micromanometer.

APPLICATION



⇨ *Total pressure (Tp)*
➡ *Static pressure (Sp)*
Dynamic pressure
=
Tp - Sp

Example above :
The KIMO electronic micromanometer
Ref : **MP210 indicates the differential pressure.**

GTC Record
GTC Analyze

Transmitter sensor low differential pressure
CP210 and SQR/3

Alarm
Visualize
Operate
GTC Record
GTC Analyze
Trace in direct

Transmitter sensor low differential pressure with digital display
C310 or CA 310 with SPI 2 – 100,500,1000, 10000 and SQR/3

Alarm
Visualize
Record
Analyze
Trace in direct

Multifunction intelligent portable
AMI 310

MEASUREMENT

- **Measurement of punctual speed S_A**

$$S_A = C_F \sqrt{\frac{2\Delta P}{\rho}} \qquad \rho = \frac{P_O}{287.1 \times (\Theta + 273.15)}$$

With

C_F : coefficient of the flow device element
Pitot tube S : C_F = 0.84

Θ : given temperature (°C)
P_o : given atmospheric pressure (Pa)

- **Flow measurement**

Flow calculating :
Flow = $Speed_A$ x surface x 3600

Surface : surface of the circular sheath or rectangular in m²
N.B : in the electronic devices, the surface is automatically adjustable.

With

Flow : in m^3/h
Surface : in m^2
S_A : in m/s

OPTIONS

- **Graduation** (mm) with red mark on the shaft, on request

ACCESSORIES

- **Extension cable** for K thermocouple class 1
- **Mounting flange** in cast iron 
- **Tubes** :
  - → Black silicone (4 x 7 mm) REF SN-47-1
  - → Transparent silicone (4 x 7mm) REF SB-47-1
  - → Cristal tube (5 x 8 mm) REF C-58-1

- **Transport case VTP type for Pitot tubes :**
  - → 1210 X 320 mm, length 1000mm, max. Ø8
  - → 810 X 100mm, length 500mm, max. Ø6

- **555 F/F** : spherical ball valve female / female
- **J.Y.C** : junctions in Y for a tube Ø 5 x 8 mm (bag of 10)
- **J.T.C** : junctions in T for a tube Ø 5 x 8 mm (bag of 10)

For every other cases, KIMO offers special realisations. Consult us, we intervene on plans study, machining.

FTang – Pitot-tube-S – 03/02/2015 – RCS (24) Périgueux B349 282 095 Non-contractual document – We reserve the right to modify the characteristics of our products without prior notice.

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