

# Pitot tube S type



## 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<sup>3</sup>/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.

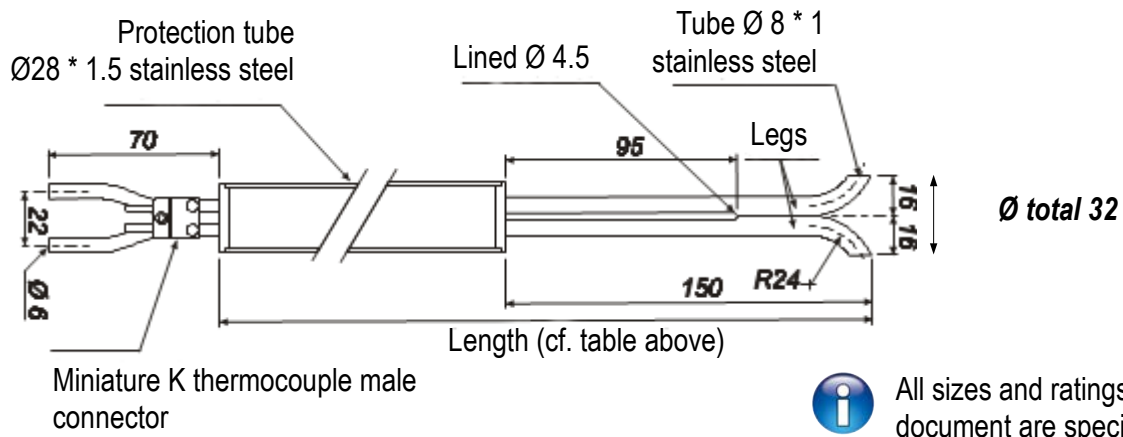


## FEATURES

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



## SIZES



## 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

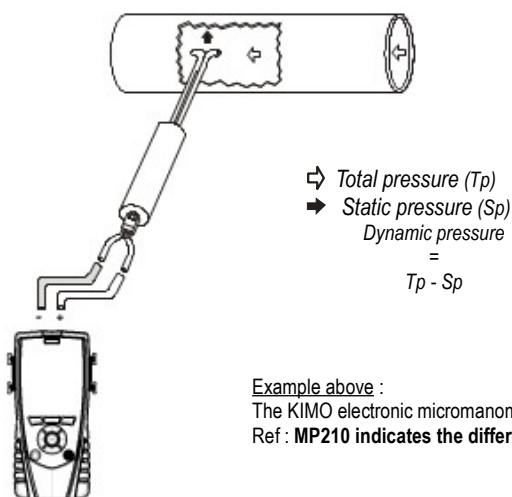
## WORKING PRINCIPLE

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

## APPLICATION





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 $S_A$

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

### • Flow measurement

#### Flow calculating :

Flow = Speed<sub>A</sub> x surface x 3600

Surface : surface of the circular sheath or rectangular in m<sup>2</sup>

*N.B : in the electronic devices, the surface is automatically adjustable.*

#### With

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

$\Theta$  : given temperature (°C)

$P_o$  : given atmospheric pressure (Pa)


#### With

Flow : in m<sup>3</sup>/h  
Surface : in m<sup>2</sup>  
 $S_A$  : 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.

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