

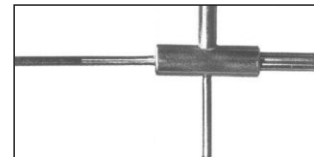
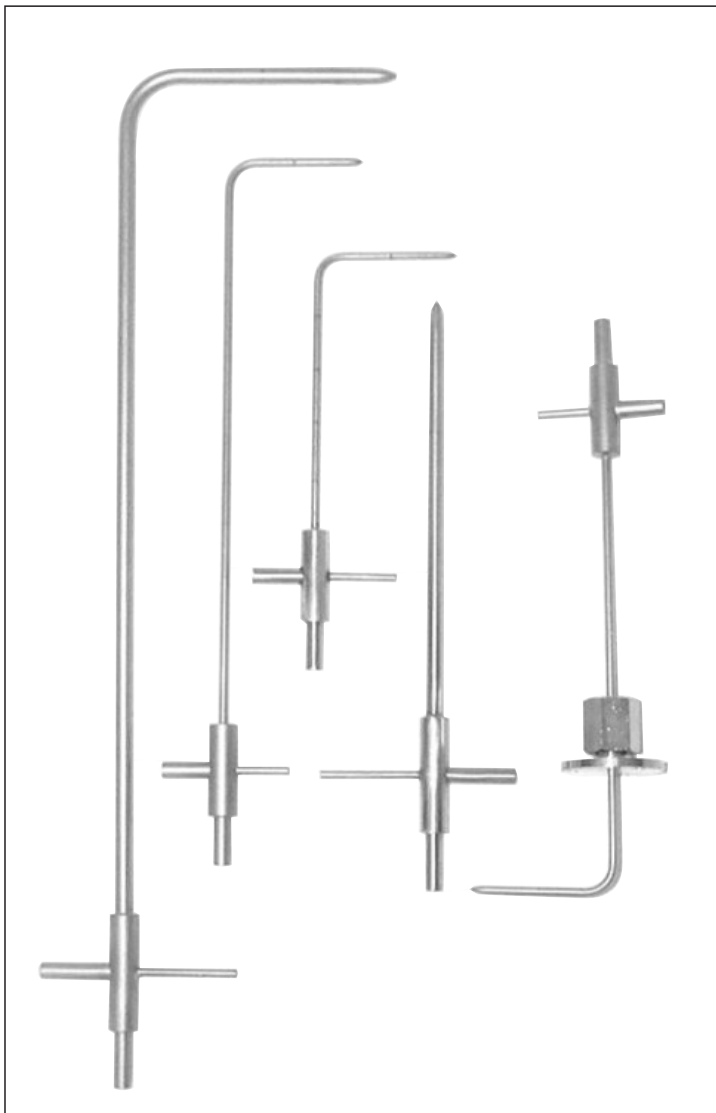
TECHNICAL DATA SHEET



PITOT TUBES

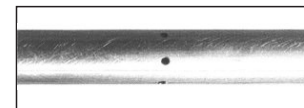
KIMO offers you a complete range of high quality, accurate Pitot tubes complying with AFNOR standards.

A KIMO Pitot tube connected to a liquid column or electronic manometer will measure the ram or velocity pressure of a fluid flowing in a duct and from this the velocity in m/s or flow in m³/h can be determined. Pitot tubes are widely used in air-conditioning, heating and ventilating, vacuum cleaning and many other industries.



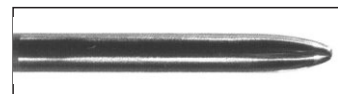
Control - Quality

Silver solder joints for static pressures up to 6 bar.
Max. temperature : 650 to 800°C.
Can be TIG welded for temperatures up to 1100°C.



Accuracy

Accurate, equally spaced fine piercing of the static pressure intakes.



Reliability

Pitot tube nose profile is accurate to ± 5 μ m.

FEATURES AVAILABLE

Diameter 3 mm

(Probe length : 48 mm)

Réf.	Length
TP03.0100	100 mm
TP03.0150	150 mm
TP03.0200	200 mm
TP03.0250	250 mm

Diameter 6 mm

(Probe length : 96 mm)

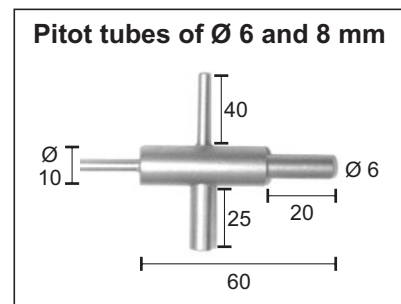
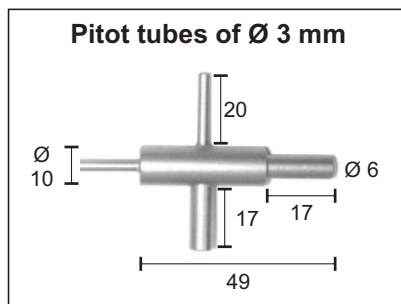
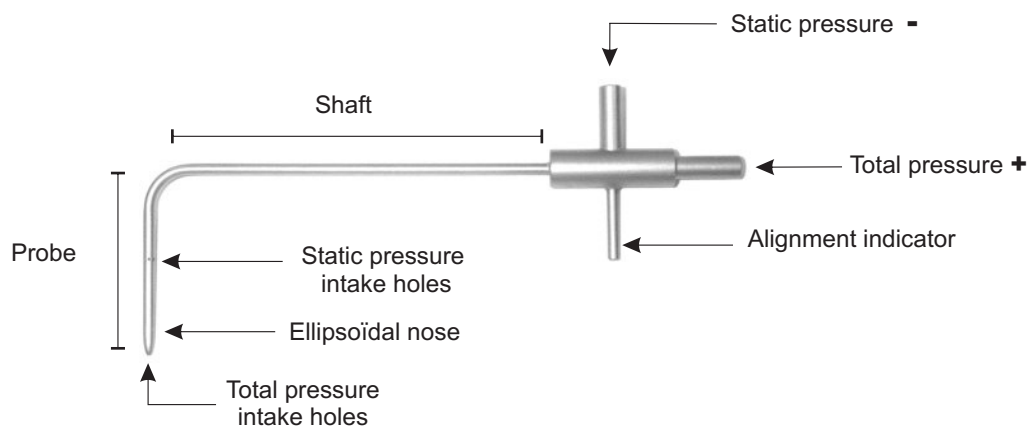
Réf.	Length
TP06.0300	300 mm
TP06.0400	400 mm
TP06.0500	500 mm
TP06.0700	700 mm
TP06.0850	850 mm
TP06.1000	1000 mm

Diameter 8 mm

(Probe length : 128 mm)

Réf.	Length
TP08.1250	1250 mm
TP08.1500	1500 mm
TP08.1750	1750 mm
TP08.2000	2000 mm

SPECIFICATION



CHARACTERISTICS

- Pitot tubes conform to AFNOR.NF.X10.112.norm. Appendix 4 dated 14.9.77. The norm is in technical agreement with the International Norm ISO 3966.
- Type : ellipsoidal head curved NPL
- Coefficient : 1,0015.
- Accuracy : more than 0,5 % for an alignment with to the fluid axis flow within 12°.
- Quality : Hard stainless steel; 4/4 to AFNOR / Z2.CND.17.12.
- Operating temperature : 650°C continuous, - 800°C in intermittent measurement.
- IMPORTANT : The accuracy of a velocity or flow measurement is better than 2% (if the measurement is made according to the NF.X10.112 norm, with a KIMO Pitot tube type NPL).

OPERATING

The Pitot tube shaft is introduced perpendicularly into the duct, by holes made in the surface, at selected positions.

The probe with the ellipsoidal nose is held parallel to and against the flow.

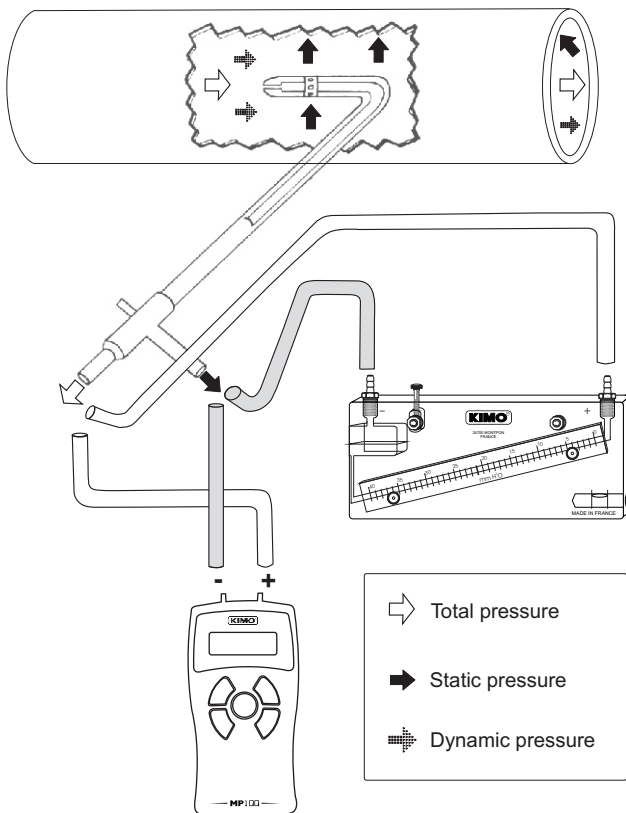
The total pressure (+) collected by the nose is connected to the + connection on the manometer.

The static pressure (-) collected by the static pressure intakes in the probe is connected to the - connection on the manometer.

The manometer will then indicate the dynamic pressure often called the velocity pressure.

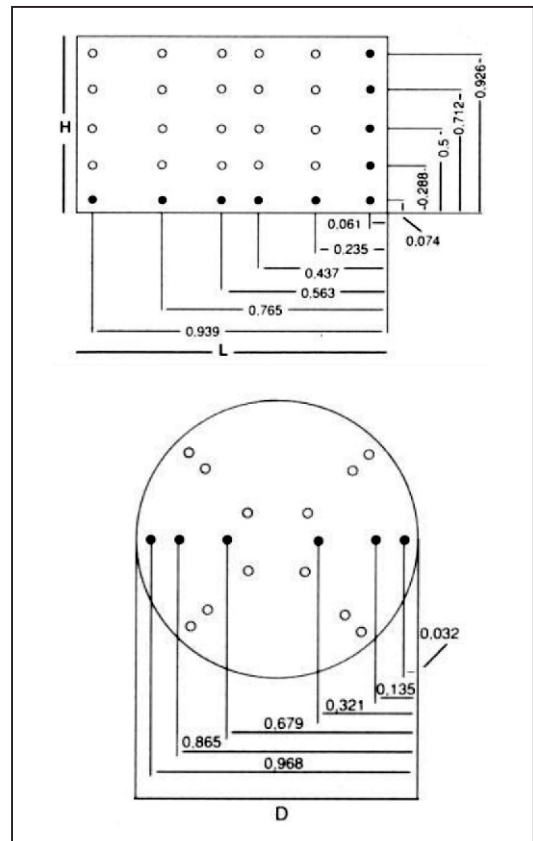
The dynamic pressure corresponds to the difference between the total pressure and the static pressure.

$$P_d = P_t - P_s$$



Above : The KIMO MP100 electronic manometer indicates directly the : velocity in m/s.

MEASUREMENT POINTS POSITIONS



Simplified plan according to NF.X10.112 norm of the measurement points following the "Log. Tchebycheff" method.

With the dynamic pressure in mm CE or in Pa, the velocity in m/s is determined by the simplified BERNOULLI formula :

$$V \text{ in m/s} : 1,291 \sqrt{P_d \text{ in Pascal}}$$

or

$$V \text{ in m/s} : 4,05 \sqrt{P_d \text{ in mm H}_2\text{O}}$$

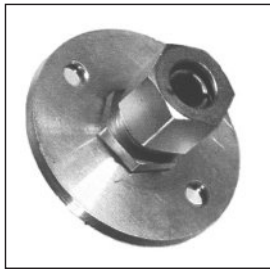
Formula to calculate velocity with temperature correction :

$$V \text{ in m/s} \sqrt{\frac{574,20 (546,3 + 2)}{2P_0}} \times \sqrt{P_d \text{ in Pa}}$$

Where :

P_0 = Barometric pressure in Pa
(eg : 101325 Pa)

= temperature in °C



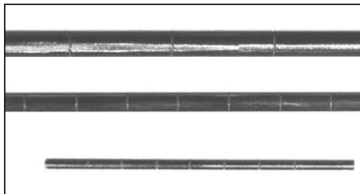
● **Stuffing-box :**

For fixed-station Pitot tubes installation.

Réf : **PE 458 Ø 3**
PE 458 Ø 6
PE 458 Ø 8

● **Caps :** 10 units bag.

Réf : **GPN.U3B** Cap for blocking up holes in Ø 7,5 to 9,5 mm tubing.
GPN.U5B Cap for blocking up holes in Ø 9 to 11 mm tubing.
GPN.U6B Cap for blocking up holes in Ø 10 to 11,5 mm tubing.
GPN.U8B Cap for blocking up holes in Ø 11,5 to 13 mm tubing.
GPN.U10B Cap for blocking up holes in Ø 12,5 to 14,5 mm tubing.
GPN.U12B Cap for blocking up holes in Ø 14 to 16 mm tubing.
GPN.U17B Cap for blocking up holes in Ø 18,5 to 21 mm tubing.



● **Red graduation marks on the Pitot tube shaft :**

Réf : **TP GR 03**
TP GR 06
TP GR 08

● **Tubes :**

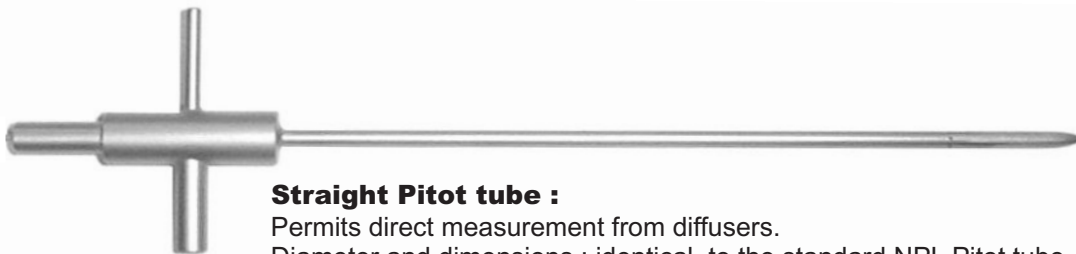
Réf : **TC 5 X 8** Clear tube Ø 5 X 8 mm for fixed Pitot tubes.
TS 4 X 7 Black or white silicone tube Ø 4 X 7 mm for Pitot tubes.

● **Stainless steel sliding connections with a teflon nipple :** 1/4cylindrical gas threading.

Réf : **TP RC 03**
TP RC 06
TP RC 08



● **TIG welding :** For a Pitot tube use up to 1100°C.



Straight Pitot tube :

Permits direct measurement from diffusers.
 Diameter and dimensions : identical to the standard NPL Pitot tube.

If you have special requirement, consult KIMO Research and Development Department.

www.kimo.fr

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