

# PAUL-GOTHE-GmbH Bochum

Wittener Straße 82  
D-44789 Bochum



## Manual for extensible Pitot Tube

### The Pitot-Tube

In case you need more information about the function of Pitot tubes, use our homepage.

More information and the Declaration of Conformity can be found at service and support on: [www.paulgothe.de](http://www.paulgothe.de)

### Prandtl-Pitot-Tube

Long leg against the gas flow.

Formula to calculate the gas velocity:

with p: difference pressure in mbar,  
 $\delta$ : operating density of the gas

$$v = \sqrt{\frac{200 \cdot \Delta p}{\delta}}$$

### S-Pitot-Tube

Factor ~ 0,84

One leg against the gas flow.

Formula to calculate the gas velocity:

with p: difference pressure in mbar,  
 $\delta$ : operating density of the gas

K: Correction factor (see calibration certificate [K ~ 0,84])

$$v = K \cdot \sqrt{\frac{200 \cdot \Delta p}{\delta}}$$

### Extensions

The extension tubes (40 x 1) have G1" threads. Before assembly, check threads for damage and always clean it thoroughly. In particular, at lengths over two meters is essential to ensure during assembly, that the parts are horizontal. All thread running smoothly, if not, the threads are not in alignment. Never apply force to tighten or loosen the threads.

Also, keep the tubes in alignment when you loosen the threads.

Strongly heated thread must completely cool down before loosening! Shall be thread used in hot gases, we recommend the use of copper paste. This copper paste is to make a better heat transfer and a better sliding of the thread flanks. If you cannot loose a thread, call us and ask advice. If the thread is twisted with power, we can later not repair it!

The exit of the pressure-tubes at the Prandtl- or S-Pitot -Tube is with outer- $\varnothing$  6 mm smoothly, with hose-olive or with self-cutting ring screw connections. The smooth exits and the hose-olives are for hoses which lies loose inside the extensions. The operating-temperature is dependent on the material of the hoses (silicone: 60 ..+ 180°C; Teflon (PTFE and PFA): -200 ..+ 260°C; Viton: -70 ..+ 300°C).

In case of self-cutting ring screw connections must use the matching stainless steel-inside-tubes (6 x 1 mm) for the pressure line (up to 600°C). Tighten the union nut with a wrench with a 1/2 turn.

Example:



Supplied with a direction indicator (mounting example)

