

Average Flow Measuring Tube



High temperature resistance
Corrosion resistant, Anti-clogging
Data convert to flow rate quickly

FMTA

| Feature |

- Stainless steel housing, high temperature resistant, corrosion resistance, dust resistance, can measure micro flow rates.
- If connect with BASS transmitters MPS/MSP or APT series with multifunction display BAB216 series is a great solution for measure the dynamic pressure (ΔP) of the airflow in the pipeline and calculate the wind speed, air volume and temperature.
- Applied in harsh environments, exhaust gas emission, environmental protection engineering, installation location is not restricted. ✕ Can be customized according to customer needs.

| Introduction |

FMTA and differential pressure transmitter are often being used in the measurement of flow. With several pressure detecting holes on the FMTA, we can get the average of the flow inside the duct and improve the problem happened in the flow measuring where disturbance occurs when there's no adequate space inside the straight inlet.

FMTA is a probe we inserted into the duct (along with the whole diameter) to measure the flow. When the probe encounters the flow, will sense and get the average total pressure P1 in windward side and static pressure P2 in leeward. FMTA then gets the flow velocity by measuring the difference between total pressure and static pressure (i.e.) dynamic pressure (ΔP) and flow average velocity (V).



Application:

Ventilation pipes / Flue industry / Exhaust gas emission / Environmental protection engineering / Air conditioning systems / Vacuum cleaning. Especially high temperature and chimney, wind speed measurement of dusty air and high flow rate in environmental testing.

| Specification |

ITEM		Function & Parameter
Output	Operating pressure	Max 10 bar
	Operating temperature	Max. 250°C
	Measuring medium / coefficient	Air / flow coefficient(K) : 1
Installation mounting	Tube / flue installation	Tube type
Material	Measuring tube	SUS316
	Connection screw	Copper or stainless steel (optional)
Connection screw	Installation connection	4 ... 12" below 3/4" PT movable thread
		18 ... 40 " below 1" PT movable thread
Connecting pipe	Outlet connection	1/8" G inside thread or 1/4" G inside thread
	Length (mm)	100/150/200/300/450/600/800/1000mm

| Air velocity formula |

- Flow rate formula

$$V = K \sqrt{\frac{2}{\rho} \Delta P}$$

- Flow formula

$$qv = K \epsilon A \sqrt{\frac{2}{\rho} \Delta P}$$

$$qm = qv \times \rho$$

v = velocity of the liquid (m/s)

ΔP = Difference between total pressure and static pressure (dynamic pressure), Pa

ρ = Flow density (kg/m³)

K = Flow coefficient

qv = Volume flow of liquid (m³/s)

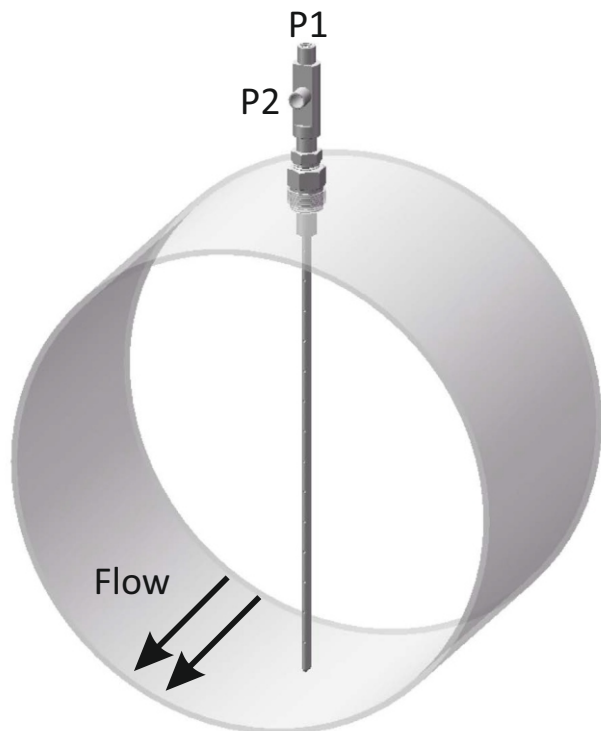
qm = Mass flow of liquid (kg/s)

K = Flow coefficient of average flow measuring

ε = Inflation coefficient of liquid going thru measuring tube during operation

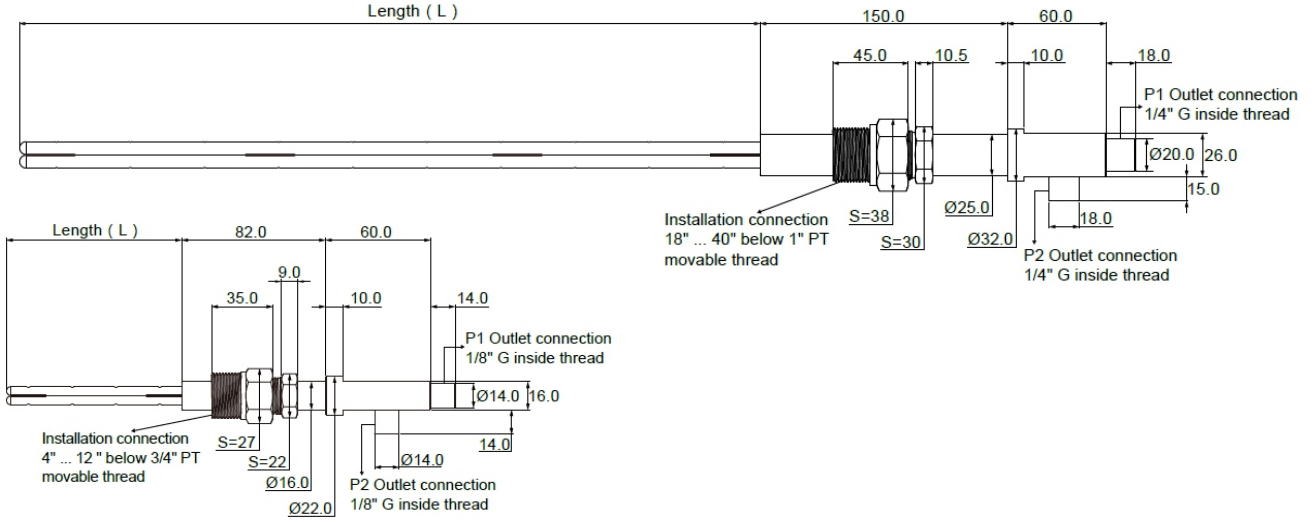
A = Cross-sectional area of duct during operation (m²)

| Installation direction |



| Dimension |

Unit : mm



| Ordering Guide |

	Installation	Material	Length
FMTA	04	2	450
	4" : 100mm
	6" : 150mm
	8" : 200mm
	12" : 300mm
	18" : 450mm
	24" : 600mm
	32" : 800mm
	40" : 1000mm