

tekMass Multivariable Thermal Mass Flow Sensors

The patented **tekMass TM3** is designed for the bi-directional mass flow measurement of gases, where temperature and pressure are not required to compensate the sensing. **tekMass** embodies a heated sensor and a reference sensor. The power required to maintain the temperature differential of the two sensor is a measurement of the mass flow rate of the gas. **tekMass** embodies a patented control of the reference sensor temperature, which also allows the highest media temperature option available.



tekMass TMS-I Insertion



tekMass TMS-P Flange In-Line

Features:

- Accuracy : $< \pm 1\%$ of reading, $\pm 0.5\%$ full scale with USA NIST and international traceability
- Pipe Sizes : 20 – 300mm (0.25" – 10") diameter or equivalent duct size
- Gas Contact Material : AISI 316 stainless steel, Hastelloy C, titanium
- Mean Velocity Ranges : 1 – 100 nm/s (3.5 – 350 sfps)
 $\text{nm}^3/\text{h} = \text{nm/s} \times \text{pipe ID mm}^2 / 354$
 $\text{scfh} = \text{sfps} \times \text{pipe ID inches}^2 / 0.367$
- Turndown : 100 : 1
- Resolution : 0.001 nm/s (0.0035 sfps)
- Temperature : options to - 40°C to + 510° C (- 40° to + 950°F)
- Pressure : 6 – 16 bar g (87 – 232 psig), special to 200 bar g (2900 psig)
- Max. insertion pressure : 4 bar g (60 psig)
- Power Supply : 24V dc (600mA) or 90 – 265 Vac (3W)
- Response Time : 1 second (time constant 0.2s)
- Inline Flow Tube Material : carbon steel, stainless steel
- Converter : aluminium - epoxy coated finished
- Protection : IP65 weatherproof and NEMA 4X
- Multivariable Display : totalized mass or rate, standard or normal volumetric flow, run time, accumulated run time, media temperature
- Outputs : 4 – 20mA isolated into 1000 Ohms max, 5A relay, RS485, RS232 HART protocol
- Certification : intrinsically safe to Ex ia IIC T3, flameproof to Ex d IIC T4