

Thermo Scientific Model TS Flow 100

No-contact, Cross-stack, In-situ Ultrasonic Flow Meter



Key Features/Benefits

- Compact design and easy installation
- User-selectable response time
- Digital signal between transmitter/receiver unit and evaluation unit
- Automatic measurement of transducer temperature

Operating principle

An ultrasonic transducer is mounted on one side of the gas duct at a certain angle to the direction of flow. The transducer alternately transmits and receives sound pulses with and against the flow direction. Thermo Fisher Scientific TS Flow 100 measures the propagation time delay of the pulses and uses this to calculate the velocity of the gas and determine the volume flow during operation.

Measuring Technique

The tried and tested in-situ technology from Thermo Scientific utilizes ultrasonic technology to measure the gas velocity across the entire stack. This cross-stack model consists of two transmitter/receiver units, all connection cables and an evaluation unit (control panel). A single penetration probe-type model is also available.

Features

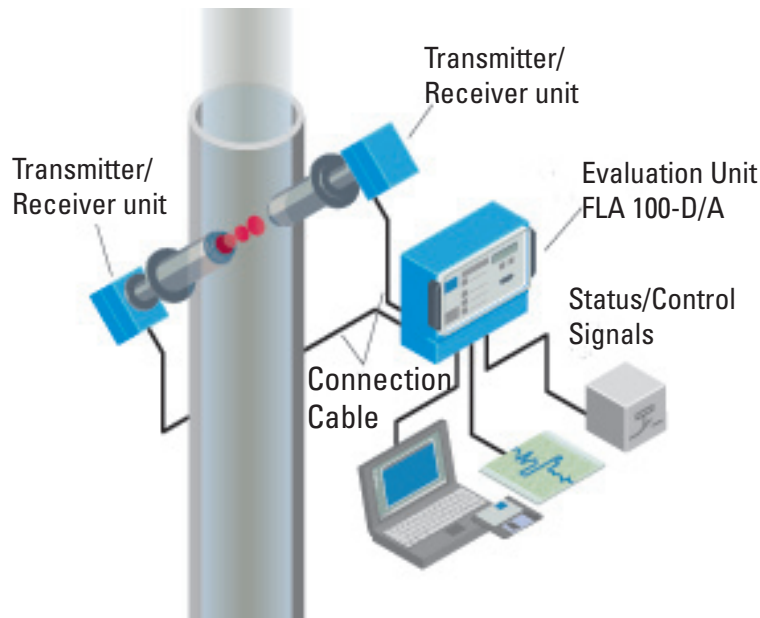
- Easy replacement for competitive flow meters which can typically use the existing penetrations
- Highly reliable with low maintenance requirements
- Integrated measurement of the gas velocity between the transducers are independent of pressure, temperature and gas composition
- Minimal gas flow disruption as only the narrow probe and transducers are in the stack

Benefits for you

Reliable, accurate, easy to plan, install and commission. Extremely low maintenance requirements during operation.



TS Flow 100



Application Data	
Active measuring path	6' 7" - 49' 3" (2.0m - 15.0m)
Inner channel diameter	4' 7" - 42' 8" (1.4m - 13.0m)
Gas temperature (max)	428°F (220 °C)
Inner channel pressure max.	± 0.1 bar
Dust concentration (load) max.	10 g/m ³ s.s.
Ambient temperature	-4 - +130 °F (-20 - +55 °C)
Distance: evaluation unit - transmitter/receiver unit	1000 m
Device Data	
Measured quantity	Gas velocity, volume flow s.s./o.s., gas temperature
Measuring range	v: °40 m/s; user-selectable
Emission measurement accuracy	±0.1 m/s
Process control precision	±1% for v > 2m/s; ±0.02 m/s for v < 2m/s
Signals	1 analog output: 0/2/4-20 mA: 750 Ω load 4 relay outputs f. status signals: 48 V/1A (el. isolated)
Interfaces	RS232
Response time (T₉₀)	1-300 seconds ; user-selectable
Mounting angle	45° - 60°
Options	2 analog modules max. 0-20 mA, 1 pulse output 1 interface module RS232/422/485
Power supply	90-140 VAC/180-240 VAC; 50/60 Hz; ca. 20 W
Protection class	IP 65

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