FPT-200 Flow Monitor

Overview

FPT-200 is an integrated temperature, pressure and flowrate online instrument which can continually monitor the temperature, pressure and flowrate of flue gas in a stack or duct, even under severe conditions. Flow is an important parameter to calculate the pollutant emission in any Continuous Emissions Monitoring System (CEMS).

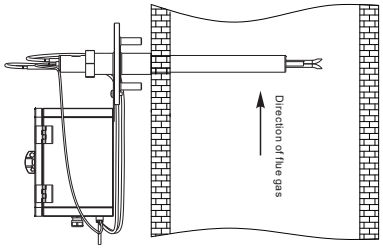
The FPT-200 has a high precision micro differential pressure/static pressure sensor equipped with a blowback unit. Compared with conventional integrated monitors, it can measure the pressure value to a minimum of 1m/s, with automatic or manual calibration for pressure and velocity. An LED display provides for convenient reading of data, signal, and debugging. The smaller size is convenient for installation, maintenance and relocation.

Principle of Operation

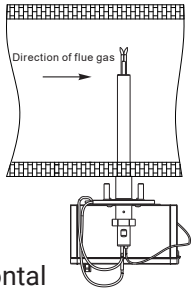
The FPT-200 temperature, pressure and flowrate integrated monitor is based on the principle of pitot differential pressure. When the pitot tube is inserted into the duct or stack, total pressure is measured facing the flow, and static pressure is measured facing the back of the flow. The total pressure and static pressure data are then used to calculate the flow rate.

When taking differential pressure, the differential pressure transmitter measures both total pressure and static pressure. For accurate measurements, special attention should be made during installation to ensure proper pitot tube placement. Make sure the direction of two pressure taking ports is the same as the flow direction of flue gas - the total pressure measurement port is directed into the flow of the flue gas, while the static pressure measurement port is directed with the flow of the flue gas.

There are two installation methods, vertical installation and horizontal installation, as follows:



Vertical



Horizontal

Specification

Range	0～40m/s;0～15.5m/s（Optional）	Pressure limit of differential pressure transmitter	1.0MPa
Accuracy	±5%FS	Range of pressure transmitter	-5kPa～5kPa、-10kPa～+10Pa (customizable)
Principle	pitot	Pitot insert length	400～1700mm（Optional）
Output signal	3x 4-20mA, 1x232/485	Range of temperature transmitter	0℃～300℃（customizable）
Pitot material	316、316L SS	Temperature range of flue gas	-40℃～300℃（customizable）
Purge pressure	0.3MPa～0.8MPa	Work temperature	-40℃～70℃
Storage temperature	0～50℃	Storage humidity	0～85%RH

Features

- 2m/s flowrate measurement by ultra-low range pressure sensor
- Includes LCD screen with HMI
- Programmable: timing purge, velocity field, pitot coefficient, etc.
- Over pressure protection to avoid damage to pressure sensor
- Automatic zero calibration
- Pitot anti-clogging, anticorrosive
- Lower operating cost

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