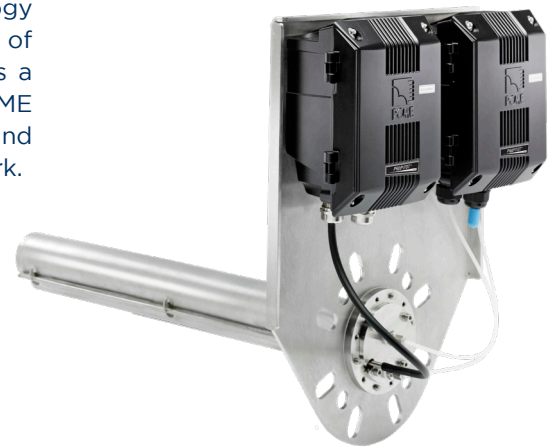


Averaging Pitot Probe (Flow/Temperature/Pressure)

PROCESS & EMISSIONS MONITORING SYSTEMS

The **STACKFLOW 200™** uses the well-established Averaging Pitot sensor technology to provide continuous emission monitoring of Flow, Temperature and Pressure. Utilised as a standalone sensor or in combination with PCME controllers for the monitoring of particulate and flue gas as part of a larger monitoring network.



SPECIFIC FEATURES:

- Certified by TÜV to EN 15267-3 with QAL1 as defined by EN 14181
- Complies with EN 16911-2 and is US EPA PS-6 capable
- Averaging Pitot probe for improved representative measurement of velocity, temperature and pressure
- Zero and span checks to satisfy EN 14181, QAL3 and US EPA PS-6
- Automatic inlet cleaning cycle for reduced maintenance
- Optional inbuilt gas sampling port for cost-effective CEMS integration
- Integrated Flange for enhanced stack connection compatibility and reduced installation time and costs
- Three probe lengths for improved representative sample and increased application suitability
- Standalone sensor or combined with single-channel or multi-channel Controllers for enhanced user interface, cost-effective and easy integration of additional sampling points or other systems, such as particulate monitors, to provide mass emission rates

MAIN APPLICATIONS:

- > Waste to Energy and Incineration Plants
- > Emissions from Metal, Chemical and Mineral Processing Industries
- > Power and Combustion Plants
- > Variable speed fans on dust arrestment plant
- > European Industrial Emission Directive 2010/75/EU & US EPA PS-6

COMPLIANCE WITH:

EU Regulation IED (WID / LCPD / MCPD directives)
and US EPA (PS-6)



Combined version :
Gas sample & FTP measurement
on a same flange



APPLICATION CONDITIONS

Stack Temperature	-20°C to 500°C (-4°F to 932°F)
Stack Dust Concentration	Suitable for dust loads up to 150mg/m ³
Stack Diameter	0.45m to 5 m (1.5 ft to 16.4 ft)
Ambient Temperature	-20°C to 50°C (-4°F to 122°F)

SENSOR MEASUREMENT

Gas Velocity Range	2 – 30 m/s (main Certification Range) 2 – 50 m/s (extended Certification Range)
Min. Detection Velocity	2 m/s
Resolution	0.1m/s
Lack of Fit (Linearity)	< 0.3 m/s from 2–30 m/s < 0.5 m/s above 30 m/s
Zero/Span Drift	< 0.1m/s per month
Measurement Length	0.5 m to 1.5 m (1.6 ft to 5 ft)
Response Time	15 sec
Stack Pressure Range	600 – 1100 mbar (31%)
Stack Temperature Range	0 – 500°C (32°F to 932°F), class B
Temperature Accuracy	Up to 250°C ±1.5°C Up to 500°C ±3.3°C

SENSOR COMMON

Probe Material	316 SS, PFA coating (optional)
Dimension outside (mm)	W 359 x H 473 x D 118
Enclosure rating	IP65
Power supply voltage	24V DC (via control unit or PSU)
Power consumption	Average load: 135 mA (24V) Maximum load: 400 mA (24V)
Outputs	1x RS-485 Modbus, 1x Relay output 1x 4-20mA output
Input	1x Digital input
Purge air supply	Dry and clean (oil-free) instrument air Pressure: 4 bar (4 10 ³ hPa) Minimum flow: 20 L/min (1.2 m ³ /h) Average daily consumption: 0.25 m ³

SENSOR INSTALLATION

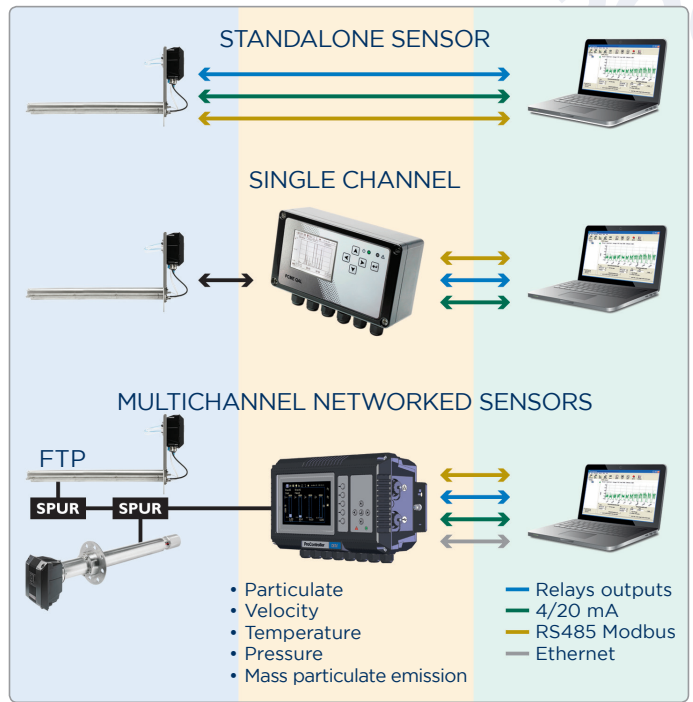
Installation angle	approx. 90° to stack wall
Flanges	Integrated flange suitable for 3" & 4" 150lb ANSI or DN80 PN10/PN16 or DN100 PN20
Port Internal Diameter	> 88 mm (3.5 in.)
Stack Orientation	Vertical or Horizontal
Probe Length	0.6 m / 1 m / 1.5 m (2 ft / 3.3 ft / 5 ft)
Weight	From 13kg, probe length dependent

OPTIONS

- Probe Back Purge (above 150mg/m³)
- Specific gas sampling port
- Insulated probe for humid and corrosive applications (up to 250°C)

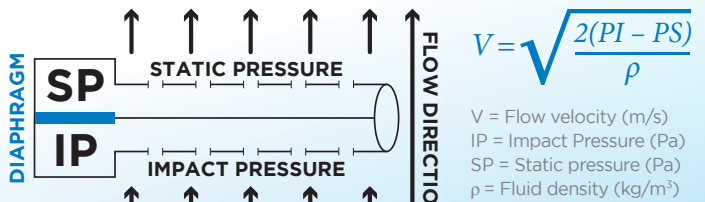
CONTROL UNIT SPECIFICATIONS

	ProController	Standard controller
No. of Sensors	2– 32	1
Advanced I/O	Oui (USB 2.0) Ethernet (RJ45)	None
Standard I/O	2x RS-485 (Modbus RTU) / 4x 4-20mA outputs (500Ω) 4x relays (3A @250V/24V, configurable) 4x digital inputs (isolated)	1x RS-485 (Modbus RTU) / 2x digital inputs / 1x 4-20 mA outputs (500Ω) 2x relays (2A @ 250 V, user configurable)
Data logging	Capacity stated for 4 sensors (plus QAL3 channels) :	Capacity stated for 1 sensors (plus QAL3 channels) :
Long-term	24 months @ 15 minutes	12 months @ 15 minutes
Short-term	7 days @ 1 minute	7 days @ 1 minute
Pulse data	8 hours @ 1second	2 hours @ 1 second
Alarms	500 entries	500 entries
Display	High-contrast, anti-glare colour 7" WVGA (800 x 480 px)	Two-tone grey, backlit display (320 x 240 px)
Dimensions (WxHxD)	390 x 221 x 118 mm (15.4 x 8.7 x 4.6 in.)	220 x 124 x 80 mm (8.7 x 4.8 x 3.1 in.)
Power supply	85V to 265V AC (50/60 Hz)	100V to 240V AC (50/60 Hz)
Temperature range	-20°C to +50°C (-4°F to 122°F)	-20°C to +50°C (-4°F to 122°F)
Enclosure IP rating	IP66	IP65



The SF200™ provides Flow, Temperature and Pressure measurement by insertion into a stack or duct perpendicular to the flow. The probe is positioned with one row of holes facing upstream (Impact Pressure, IP) and with the opposite set of holes facing downstream (Static Pressure, SP).

Inlet tubing interconnects the probes two sets of holes to a Differential Pressure transducer. The Differential Pressure transducer consists of two chambers separated by a diaphragm, which is used to measure small differences in the Impact and Static Pressure. The Impact and Static pressure signals provided are used by the formula below to calculate velocity (V).



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