

DAPFLOW™ - Online Flow Measurement

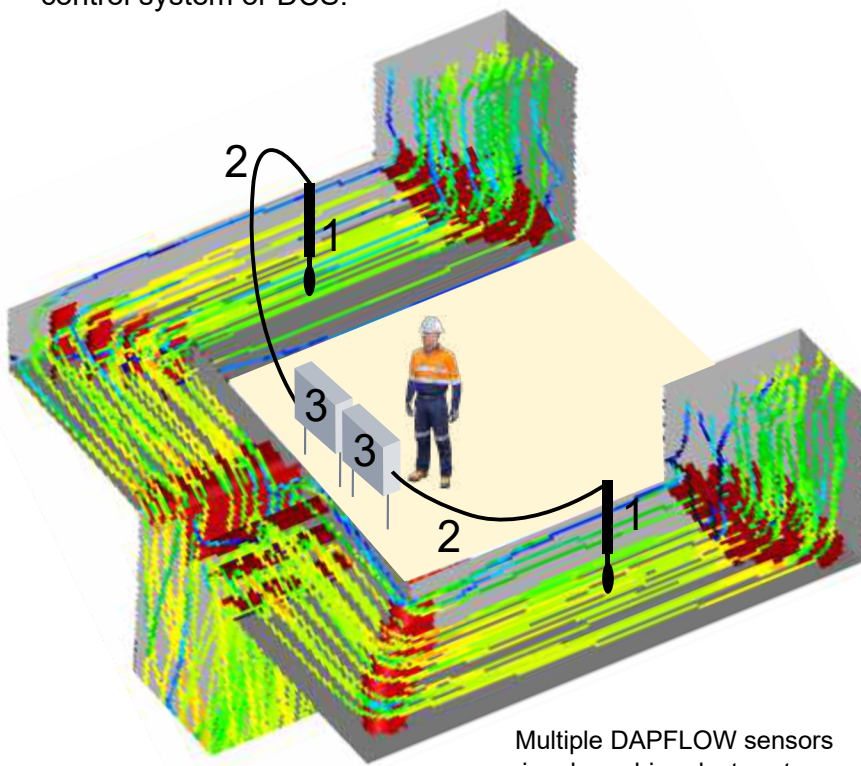
For particulate-laden flow streams



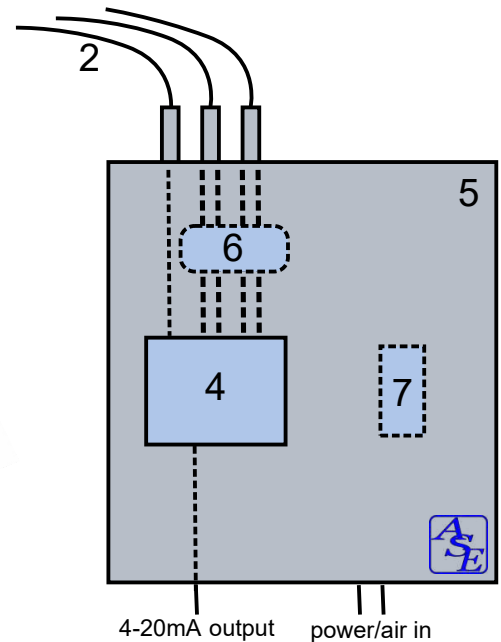
The DAPFLOW system provides real-time, online measurement of air/gas flow rate through a duct system. The key element of the DAPFLOW is the choice of sensor tip: the Dirty Air Pitot (DAP) probe is custom-designed to handle flow streams that are heavily laden with particulate.

Compared to other pressure-type velocity probes, the design of the DAP reduces the potential for pluggage of the sensor, a situation that will yield erroneous results. The DAP probe can be used in piping or duct systems that transport minerals, cement, pulverized coal, lime, food products, or many other particulates.

The DAPFLOW System is a part of the Airflow Guardian™ product line and provides all the basic equipment needed to measure air velocity, pressure, and temperature within the ductwork. The system has many configuration options, allowing local display of flow parameters or an output signal to plant control system or DCS.



Multiple DAPFLOW sensors in a branching duct system



Typical Control Panel Layout

DAPFLOW Components:

- 1 – Dirty air pitot velocity probe with thermocouple
- 2 – Pressure, temperature lines
- 3 – Airflow Guardian Monitoring System
- 4 – Instrumentation
- 5 – Enclosure
- 6 – Compressed Air Back Purge
- 7 – Enclosure Climate Control



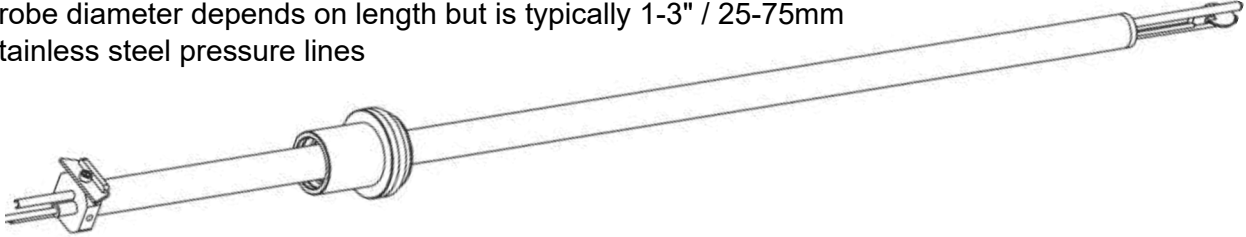
DAP probe sensing tip - custom designed for minimal particulate plugging

DAPFLOW System Options

The DAPFLOW from Airflow Sciences Equipment can be manufactured to fit a variety of configurations.

DAP Probe

- Typical construction is 304 stainless steel, but erosion-resistant materials are available
- Probe length is variable, dependent on duct size
- Probe diameter depends on length but is typically 1-3" / 25-75mm
- Stainless steel pressure lines



Instrumentation options

- Analog pressure gage for local display only
- Flow transmitter / flow computer with 4-20mA signal output

Enclosure options

- NEMA 4 / IEC IP66 painted aluminum
- NEMA 4X stainless steel for corrosive environments

Compressed Air Back Purge options

- Manual valving for maintenance personnel periodic purging
- Automated purging via PLC/relay timer at user-set interval

Internal Materials options

- Brass / copper standard components
- Stainless steel components for corrosive environments

Enclosure Climate Control options

- Electric heater with set point for cold environments (<50°F / 30°C)
- Vortex cooler for hot environments (>135°F / 60°C)

Specifications

System Parameters

Size:	varies based on options
Weight:	varies based on options
Electrical:	120 VAC, 5 Amps
Compressed Air:	90 PSI, 5 CFM
Enclosure:	NEMA 4 or 4X
Environment:	50°F to 135°F / 30°C to 60°C
Heating / cooling:	optional

Measurement Ranges

Air Velocity:	20 ft/sec to 160 ft/sec 6 m/s to 50 m/s
Static Pressure:	-65 IWC to +65 IWC -16 kPa to +16 kPa
Temperature:	32°F to 700°F 0°C to 370°C