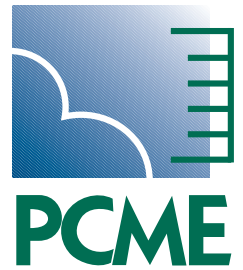


Passionate about Particulate



LEAK LOCATE 660 PLUS

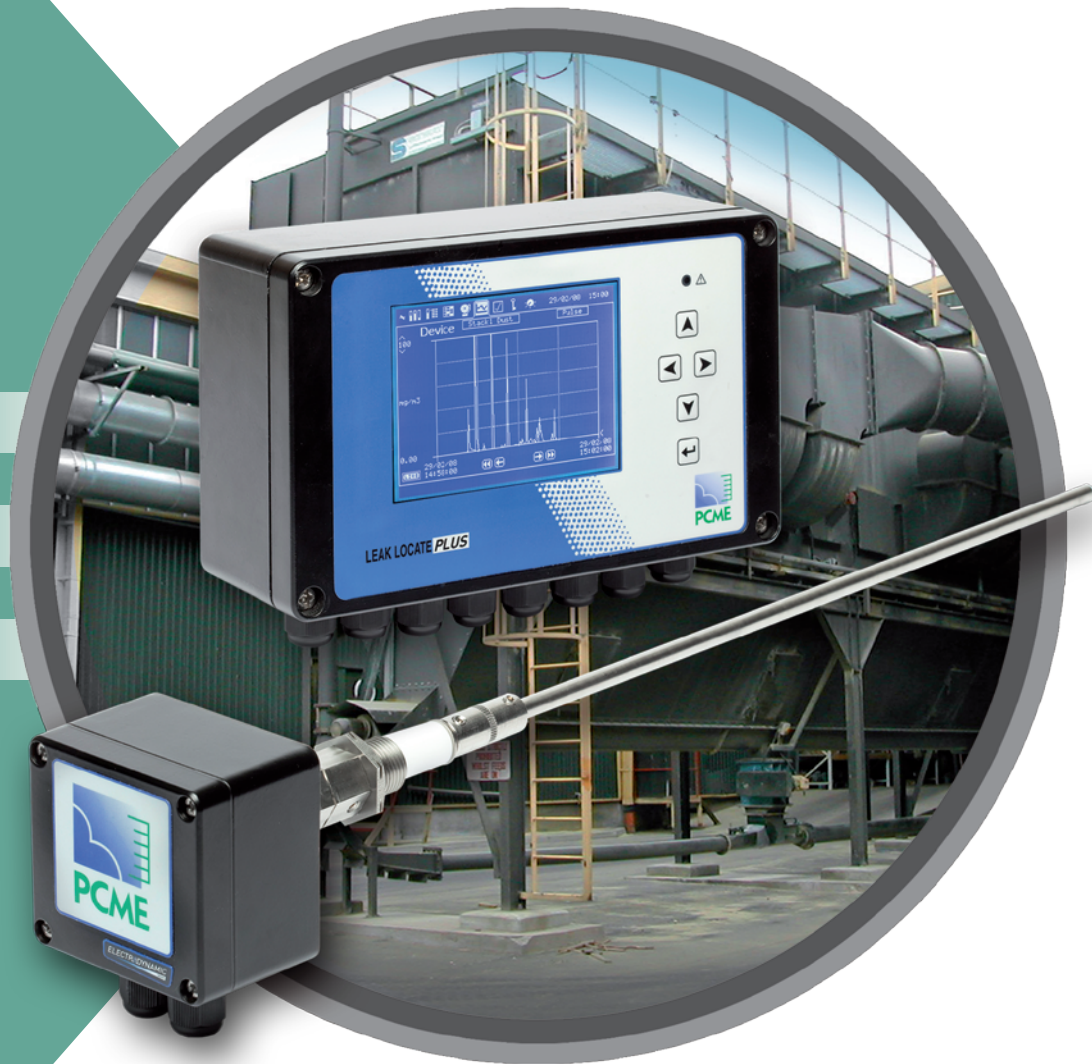
ELECTRODYNAMIC™
INSIDE

Filter

Performance

Monitor

Leak Location
Diagnostics for
Multi-compartment
Bagfilters



- Unique *ElectroDynamic*™ Probe Electrification measurement principle provides measurement stability with tolerance to dust build-up on probe rod and velocity changes
- Multi-point monitoring of each chamber/outlet of multi-chamber bag filters from 4-32 chambers (on-line or off-line cleaning)
- Large graphical user interface, bargraph and trend screens to facilitate data interpretation and analysis of location of leaking or broken bags
- Optional 'Predict' PC software for enhanced broken bag detection and location



Certificate No: 9389

System Description



The **LEAK LOCATE 660 PLUS** is a dust emission monitoring system incorporating a digital network and advanced graphics capability. It is designed for use in any processes where filter type arrestment plant are used, eg bag, ceramic and cartridge filters. The system comprises up to 32 networked sensors, a central control unit, user interface with data acquisition and optional PC software.

The **LEAK LOCATE 660 PLUS** is specifically designed to monitor the outlet of each chamber or plenum of a bagfilter to identify the relative dust levels through each chamber, highlighting which chamber or compartment contains leaking, faulty or broken bags, giving pre-warning of emissions to maintenance and process personnel. An advanced graphical user interface gives clear indication of each chamber's dust levels allowing the operator to identify both leaking and faulty filter media and importantly identify the position or location of this faulty media/bag for replacement. Additional intervention is not required, therefore, costs and filter downtime are significantly reduced.

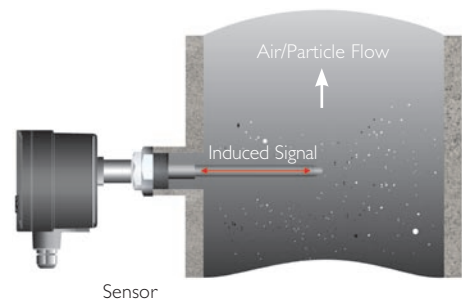
Principles of Operation

The instrument uses PCME's unique and patented *ElectroDynamic™* Probe Electrification technology. The sensor electronics measures the current signature created by particles interacting with the grounded sensing rod which protrudes into the stack. The electronics extract a specific frequency band of this signal and filters out the dc current caused by particle collisions (unlike DC Triboelectric systems and "induction sensing and protected probe" systems).

Advantages from this technology are that the signal generated is:

- Unaffected by contamination on the sensor rod (which causes signal drift issues for other systems).
- Not affected by velocity variations within typical bagfilter velocity ranges.
- Stable, reliable and does not drift due to electrostatic charging which may occur with protected probe systems in dry flue gas applications.

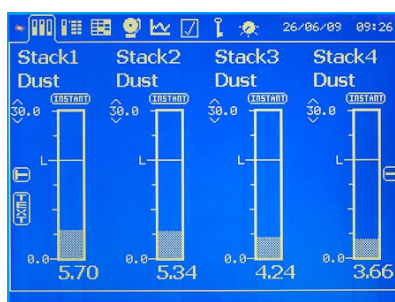
In addition, *ElectroDynamic™* Probe Electrification technology provides sufficient dynamic range to follow "on-line" and "off-line" bag cleaning cycles for predictive filter failure and faulty bag location detection.



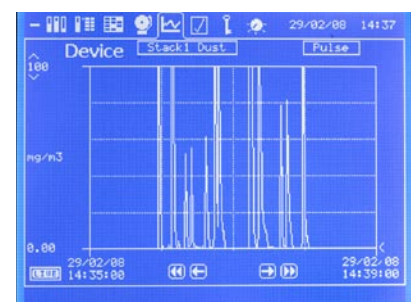
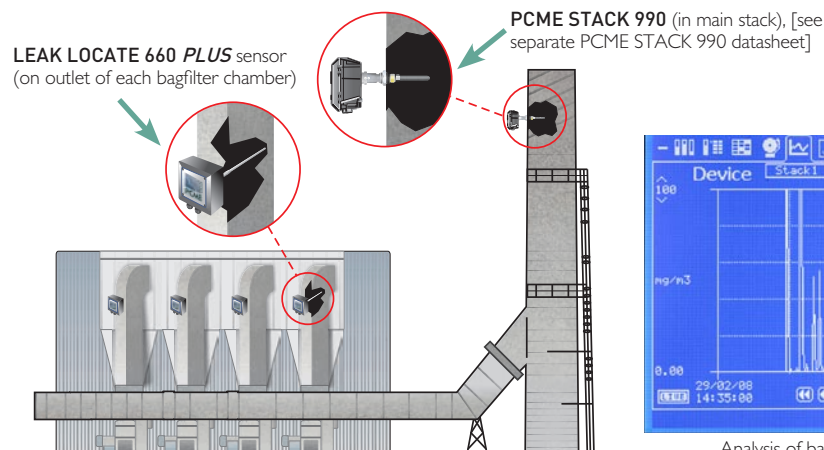
Added Value Features

ElectroDynamic™ Probe Electrification systems have the following added benefits:

- An optimised frequency spectrum to extend the velocity range over which the system has no cross sensitivity to changing velocity (see TUV approvals).
- Unique digital signal processing algorithms give the wide dynamic range required for measurement accuracy during arrestment plant cleaning and high reproducibility of signal tracking.
- Uses the same technology as in PCME's Continuous Emission Monitors (CEMS) approved by MCERTS and TUV.



Multi-channel overview of dust readings



Analysis of bag cleaning process

product features

Leak Location Diagnostics

The **LEAK LOCATE 660 PLUS** sensor has the appropriate high resolution and signal to noise characteristics to provide indication of dust emissions from cleaning pulses and to reliably monitor the performance of fabric filter dust collection equipment for applications requiring high accuracy and repeatability, in both on-line and off-line cleaning cycles.

The **LEAK LOCATE 660 PLUS** can be configured to display either:

- Emissions relative to a 'normal' level (for applications only needing to monitor changes in emissions).
- Bagfilter leakage and broken bags in addition to location of leaking bag row or chamber.
- Relative performance of each bag compartment.

Therefore, for installations with multiple chambers on a single bagfilter, dust levels can be compared between different emission points. The **LEAK LOCATE 660 PLUS** uses an advanced digital algorithm which has sufficient processing power to provide good resolution to track dust pulses in bag cleaning systems which may require a dynamic range of up to 5,000:1, eg reverse jet or reverse flow cleaning systems. Sensitivities of < 0.1 mg/m³ ensure bag leak detection can be measured (small changes in background dust levels can indicate bag leakage).

Advanced Features

The on-board pulse screen gives the advantage of offering an instantaneous view of the dust emissions of each of the chambers/compartments being cleaned. These can be viewed as bargraphs or on-line trend graph for instant visualisation of dust trends allowing the operator to assess the relative efficiency levels of each row/chamber. This data is additionally stored in the pulse logger and can be reviewed at a later time period to compare cleaning cycles and thereby changing emissions between cleaning. By helping to identify leaking or faulty bags in specific chambers or compartments, the instrument pre-warns of failing or faulty bag media before the event.



Specifications

Control Unit	MultiController (LEAK LOCATE PLUS)
Number of Sensors	4-32 additional power supply units may be required for larger systems (consult PCME or reseller)
Enclosure Rating	IP65
Dimensions (mm)	263 W x 160 H x 91 D
Power Supply	90-260VAC (50/60Hz)
Current Rating	1A
Ambient Temperature	-25°C to + 55°C
Display Type	Backlit LCD providing graphical and text display
Outputs	4 x Isolated 4-20mA outputs (500 ohm) [may be extended in units of 8 via optional Analogue Output Module (AOM)] 4 x Relays (user selectable) [may be extended in units of 8 via optional Relay Output Module (ROM)] Modbus RS232/485 Modbus ethernet (option)
Inputs	4 x digital inputs <ul style="list-style-type: none"> Plant stop signal (output to zero when plant is off) Marker for start of bag cleaning sequence

Sensor	
Enclosure Temperature Rating	-25°C to +55°C
Enclosure Rating	IP65
Enclosure Material	Die-cast aluminium (polyester powder coated)
Sensor Weight	0.7kg
Connection Required on Duct	1/2" BSP (female)
Power Requirements	24V (provided by control unit)
Cable Entries	2 x PG 9



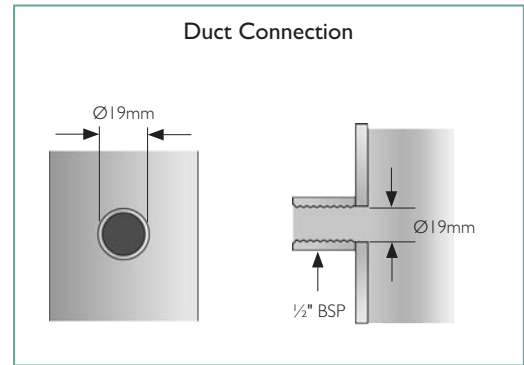
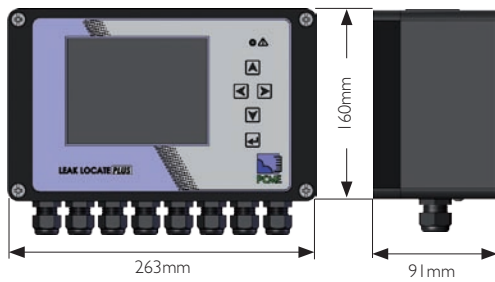
Data Logging

Memory Type	Typical Use	Log Rate (min-max)	Typical Log Period for 8 Sensors
Pulse	Locating Broken Bags	At poll rate (usually 1 sec)	> 1 hour (@ 1sec)
Alarm Log	Log of all alarms for fault indication	Instantaneous	500 entries total

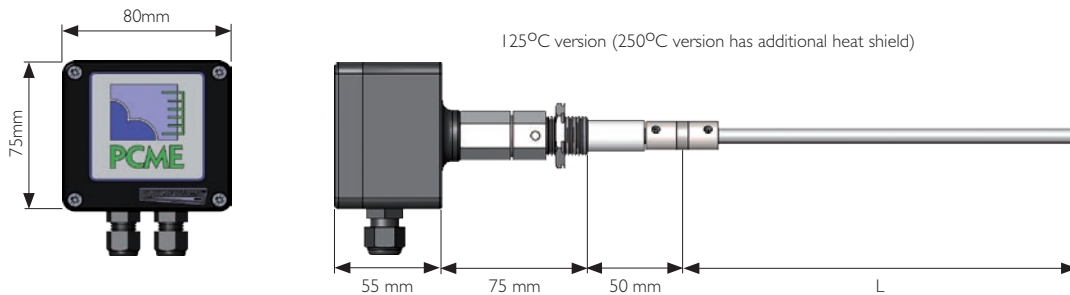
specifications

Dimensions

MultiController



Sensor



Order Codes

PCME LEAK LOCATE 660 PLUS

Control Unit Options CON 660 PLUS – A B

A	Controller	PLUS version (MultiController)	M
B	Ethernet	None Ethernet fitted	0 ET

Sensor Options SEN 660 – 1 2 3 4 5

1	Sensor Type	Up to 125°C Up to 250°C	125C 250C
2	Rod Length	0100-800mm	RODxxxx
3	Rod Material	Stainless	S
4	Air Purge Fitting	None	0
5	Air Filter/Regulator	None	0

Example: SEN 660 1: 250P 2: ROD0500 3: S 4: 0 5: 0

System Options

4-core Cable	Specify length required (10m per sensor included as standard)	CAB4
Spur	Divides cable into 2 branches	SPR
Power Supply/Repeater	Voltage and signal boost for extended cabling runs with multiple sensors	PWR
Analogue Input Module (AIM)	Input data from external devices (eg for Temp, O ₂)	AIM
Analogue Output Module (AOM)	Additional 4-20 mA x 8	AOM
Alarm Output Module (ROM)	Additional Relay x 8	ROM

PC Software Options (PC-ME Dust Tools)

Configuration Options	System Set
Real-time Data Options	On-line Predict
Historical Data Options	Data Downloader Data Viewer Predict View

About PCME Ltd

As a progressive environmental Company, PCME specialises in particulate measurement for industrial processes. With a worldwide reputation for reliability, innovation and technological excellence, the Company produces equipment for concentration and mass monitoring for regulatory, environmental and process control requirements. A dedicated team of qualified application and sales engineers is always on hand and should be consulted in the selection and usage of the most suitable equipment for any particulate application.

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