

Passionate about Particulate



Leak Locate 880

ELECTRODYNAMIC™
INSIDE

Dust Filter

Performance

Monitors

Leak Location for
single compartment
bagfilter with TUV
approval*

*approval pending



- Diagnoses the location of faulty bag rows and reduces bagfilter running costs cleaning cycle dependant
- Dust pulse screen identifies and locates weak and failing bags in single compartment reverse jet cleaned bag filters
- TUV, MCERTS approvals and ASTM compliant for filter leak monitoring



Certificate No: 9389

System Description and Product Range

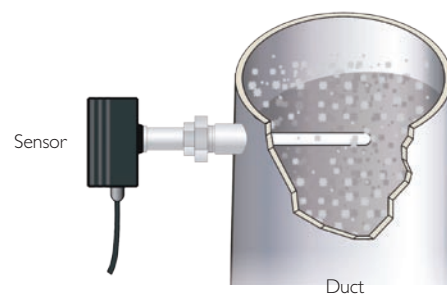
The Leak Locate 880 is particularly suited for optimising the performance of pulse jet cleaned single compartment fabric filter type dust collectors (baghouses). By monitoring and graphically recording and displaying the pulses of dust associated with bag cleaning, the instrument permits plant maintenance personnel to identify failing or weak bags ahead of gross failure. In addition, by providing information on the bag row of failed bags, bags need only be replaced when necessary,



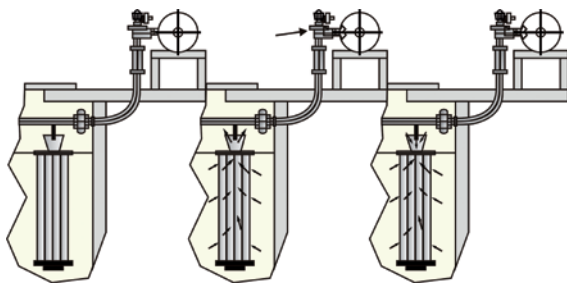
extending bag life by up to 60% (see separate Case Study) reducing bag filter running costs and maintenance. In addition, the instrument provides powerful reliable and robust monitoring of changes in particulate loading from the bagfilter caused by leaking or worn bags. The instrument benefits, first from PCME's unique *ElectroDynamic™* Probe Electrification technology, secondly advanced features enabling the Leak Locate 880 to be configured for all types of bagfilters irrespective of cleaning sequence and finally a choice of upgradeable options. The Leak Locate 880 is part of PCME's Leak Locate family of products and is designed for single compartment bagfilters (multi-compartment leak location is provided by Leak Locate 660). The Leak Locate 880 **plus** provides a convenient networked solution for monitoring multiple filters on the same plant and provides large graphic user interface and optional ethernet connectivity.

Principles of Operation

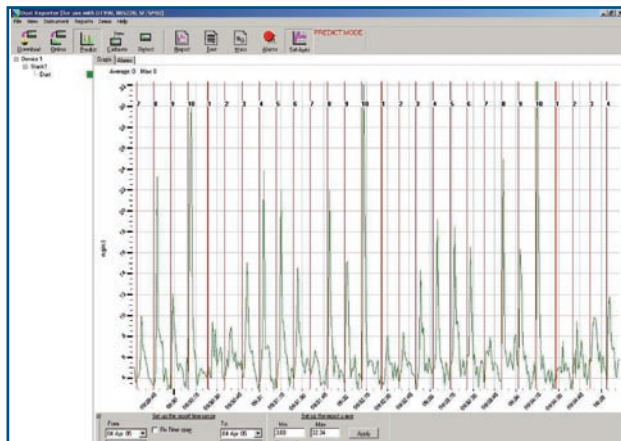
The Leak Locate 880 combines advanced signal processing techniques with PCME's unique *ElectroDynamic™* Probe Electrification technology. When the sensing probe is installed after the bagfilter, particles in the airstream interact with the sensing probe to induce a charge signature. The resulting signal is filtered electronically to reject signals outside a defined frequency range (including the dc Triboelectric signal) to make the instrument less susceptible to changes in particle velocity and to virtually eliminate the effect of any particle contamination on the rod.



Principle of Leak Location

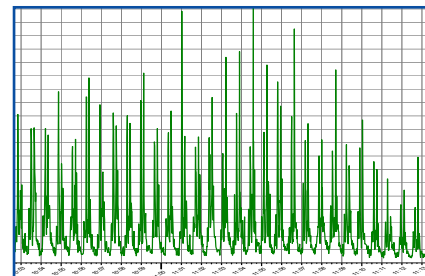


The Leak Locate output may be transferred and displayed on a PC using Predict software.



The Leak Locate accurately tracks the pulse of dust created when the automatic cleaning system of the bag filter (usually reverse jet cleaning) cleans a bag row. The profile of dust pulses created by the bag cleaning sequence provides the information on which bag row is performing worst than others and hence provides a reliable way of identifying which bag row has failed or contains weak bags. The Leak Locate is provided with an advanced display and recording system which permits this 'pulse log' to be viewed and compared on a graphical screen. The display may be easily synchronised to the bag cleaning controller to provide automatic labelling of the failed bag rows.

Emissions profile showing dust pulses due to bag cleaning



The instrument also provides Leak Alert capability and provides a robust detection of changes in average emissions from the bagfilter. The instrument has the necessary features to discriminate between the variation in dust due to the bag cleaning sequence and real leak conditions.

Instrument Performance Approvals

In addition to providing leak location capability, the Leak Locate 880 is designed to meet performance approvals as a "Dust Filter Leak Monitor" and relevant product approvals for dust filter leak location according to European and ASTM standards. The product has TUV approval as a filter leak monitor (BIMSCHV 27) and is suitable for meeting ASTM D 6026-03 for bag leak monitors. The instrument automates the internal zero and reference quality assurance features required to meet these standards, saving the user considerable time in performing alternative manual procedures.

specifications

User selectable added value options

The Leak Locate 880 is also provided with a full choice of user selectable added value features. These include:



Automatic insulator contamination detection

Electrodynamic sensors are tolerant to dust contamination of the sensor rod (unlike Triboelectric systems) due to the non-contact measurement principle, however, build-up of conductive material across the insulator at the base of the rod can lead to error (as with all charge electrification systems). For standard dry dust collector applications, contamination is unlikely, but a possibility. The contamination detection option provides a reliable method for detecting insulator contamination and hence improve Quality Assurance. (For applications where water condensation is likely, PCME's patented insulated sensor is a preferred option).

- **Automatic electronics zero and drift detection (standard)**

Simulated dust signals are automatically injected into the front end of the sensor electronics to ensure any electronic and signal measurement malfunction is automatically detected. This Quality Assurance Feature is required by European and US performance Standards for Filter leak monitors.

Advanced Features

The Leak Locate 880 provides powerful leak location and leak detection capability based on the following standard features:

Powerful remote user Interface

- Multiple language to assist operator
- Graphical display of pulse log for easy identification of failed bag row
- One hour pulse log record compatible with extended cleaning cycle
- Icon and password protected menu driven control unit
- Alarm log, QA screen, bar graph, graphics display, pulse log recording, set up functionality
- Networked version of control unit (Leak Locate Plus) supports 12 sensors simultaneously on single network



Specifications

Sensor	
Ambient temperature (stack limit is 250°C or 400°C)	-25°C to 55°C
Stack connection (at sensor connection)	1 1/2" BSP (requires optional air purge filters)
Enclosure rating	IP-65 (with hinged lid closed)
Power Requirements	24VDC (provided by control unit)
Outputs	RS-485 connection to control unit
Inputs	Plant stop signal (output to zero when plant is off) / Start bag cleaning sequence
Cable entries	3 x M20 gland/conduit entries
Air purge connection	1/2" BSP*

*option: requires external supply of 0.5 liters/min of dry, clean, oil free instrument air

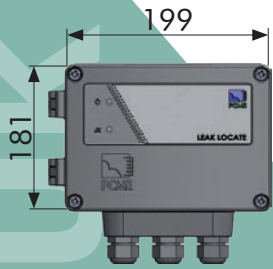
Control unit (Standard)	
Ambient temperature	-25°C to 55°C
Enclosure rating	IP-65 (with hinged lid closed)
Power Requirements	115 230VAC 50/60Hz
Outputs	RS-485 Modbus Isolated 4 -20mA 3 x relays (Hi Hi alarm, Hi alarm, sensor fault)
Inputs	Plant stop signal (output to zero when plant is off) / start bag cleaning sequence
Pulse memory	1 hour data @ 1 sec data recording rate

Control unit (Plus version additional features)	
Outputs	Ethernet (option) Isolated 4 -20mA x4 (may be extended in units of 8 via AOM option)
Number of sensors	1-12

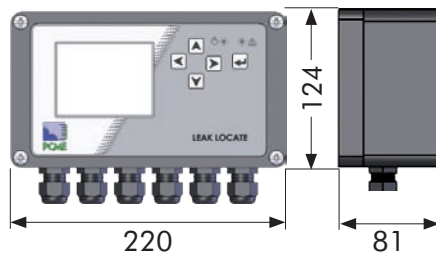
specifications

Physical Dimensions & Order Codes

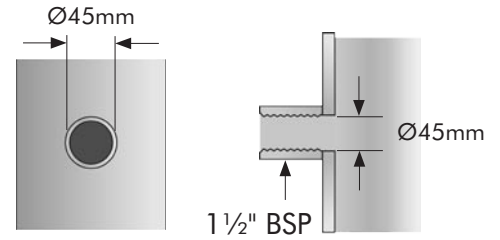
Back Display



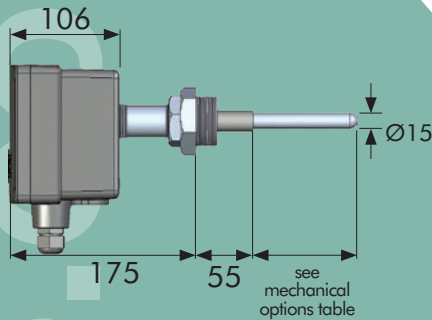
Interface Module



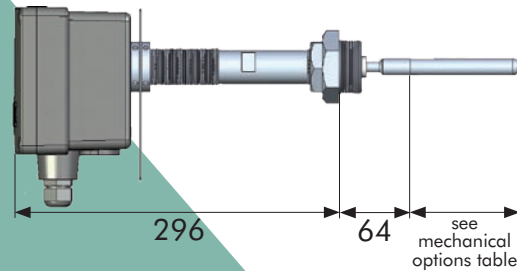
Duct Connection



250°C Standard Sensor



400°C Standard Sensor



Optional PC Software

Name	Purpose
Predict	Analysing the bag cleaning emission profile
Dust view	Viewing emissions

Order Code

Leak Locate 880 - I 2 3 - A B C D

Example	I	2	3	A	B	C	D
Leak Locate 880 -	250C	R0500	S	SC	E	%	X22

Mechanical Options (I 2 3)

	Requirement	Option	Code
1	Stack Temperature	Up to 250°C Up to 400°C	250C 400C
2	Rod Length	0100mm to 1000mm	Rxxxx
3	Rod material	Stainless Insulated (PTFE)	S I

Electrical Options (A B C D)

	Feature	Option	Code
A	Contamination check	None Short Circuit Check	0 SC
B	Electronic Self checks	Electronic Zero and Reference Checks (included as standard)	E
C	Scaling method	Percentage of 4-20mA Scaling factor	% SF
D	ATEX category	Category 3 dust (zone 22) Category 2 dust (zone 21)	X22 X21

Multi Sensor System (Leak Locate Plus)

For each sensor:

Leak Locate 880S - I 2 3 - A B C D

For control unit:

Leak Locate 880 Plus - W

	Feature	Option	Code
W	Ethernet enabled	None Ethernet fitted	0 ET

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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