SENSOR TECHNOLOGY

PCME

ELECTRODYNAMIC DUST EMISSIONS MONITOR

DT370 & DT990 SERIES

AN INGENIOUS MEASUREMENT SYSTEM COMPLETELY HAS CHANGED THE STEREOTYPED CONCEPT ABOUT DUST MONITOR. HERE IT COMES UP WITH AN ULTRALOW CONCENTRATION MEASUREMENT, HIGH-SPEED RESPONSE AND MAINTENANCE FREE.

CAT.No.Z1-001-0706J

KANSAI Automation Co.,Ltd.

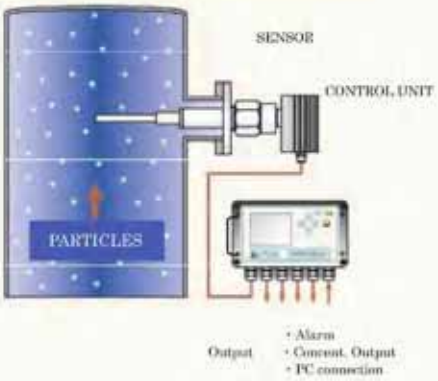
DT990/DT370 series are unique dust monitors applying an electrodynamic principle, of which features are high-resolution and extremely stable monitoring even with dust buildup on the rod sensor as opposed to those based on the common triboelectric method or the conventionally optical measurement method.

FEATURES

- It may not be affected by fouling or dust buildup on the rod sensor.
- Ultra high-sensitive 0.01 – 1000mg/m^3
- The sensor rod covered with teflon or FRP can be available.
- High-humidity gas can be measured with Air Purge(optional).
- Power Supply: 90 – 250VAC
- Ultra high-temperature application: Maximum 800℃
- Controls up to 32 sensors(DT990)
- Controls up to 4 sensors(DT370)

PRINCIPLES OF OPERATION

It detects the electric charge transfer of charged particles passing in a stack in a noncontact manner by applying the electrostatic induction. It measures this signal and converts to AC response. The triboelectricity (DC response) generated by particles colliding with a probe is filtered out through a special circuit and thus increases the stable outputs. As it has waveform control that is not affected by flow velocity as well as an advanced automatic functionality checks, it can reliably measures. Because it is of a noncontact measurement, the rod can be covered with teflon or FRP.



OPERATING MODE

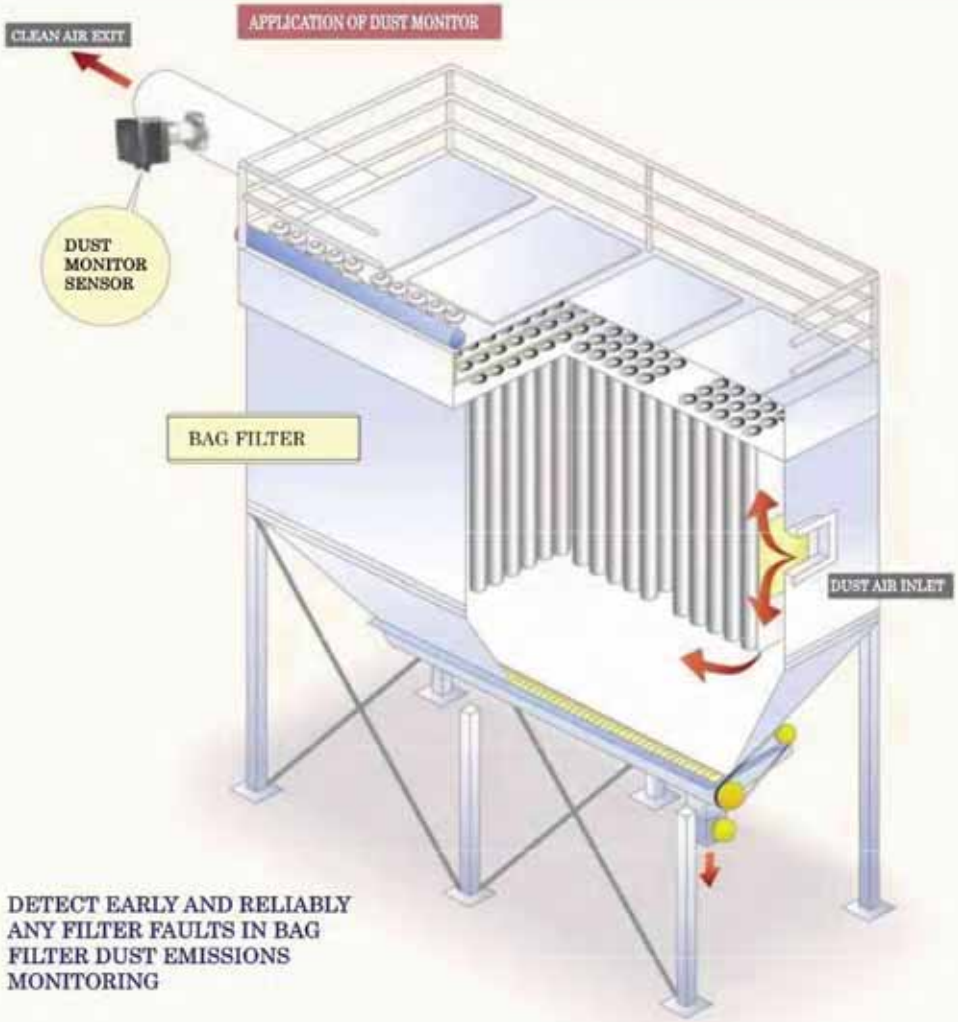
User-friendliness being prioritized, you can have an access to the screen in question quickly and reliably. A logger being equipped, you can analyze the conditions because the display has a high level of visibility and the keypad is user-friendly and easily reconfigure the screen as required. The dedicated PC soft makes it possible to download data-logger and to review the conditions through Online Trend via a PC. When it is connected to a PC, you can also configure through the PC.

· Display Screen Bargraph (DT370)

· Display Screen Real Time Trend (DT370)

· PC Trend Screen

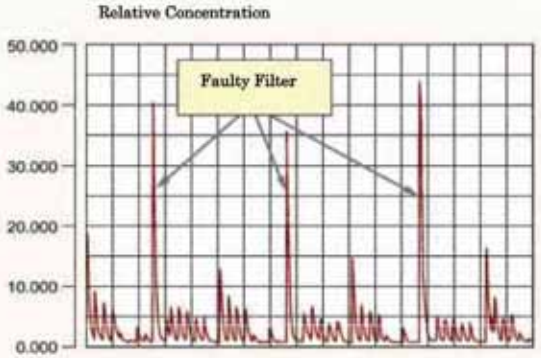
These series in particular can be multi-connected to sensors. DT990 Model permits 32 sensors to be connected to a single control unit, while DT370 does 4 sensors. Customers requiring detections at multi-points can enjoy a good cost performance and a central control via a PC.



DETECT EARLY AND RELIABLY ANY FILTER FAULTS IN BAG FILTER DUST EMISSIONS MONITORING

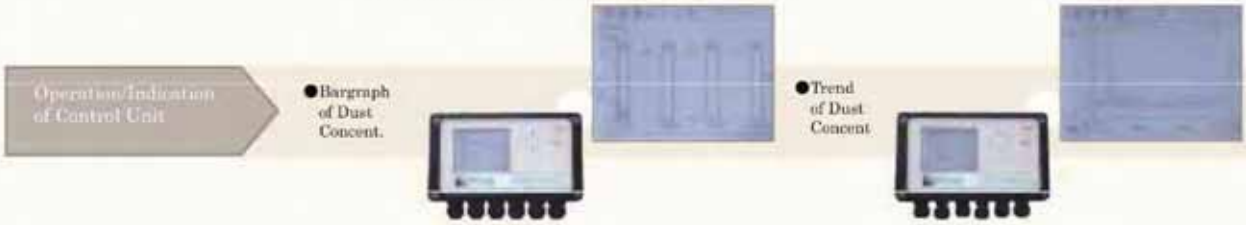
Bag filter cleaning(pulse jet, shaking, back washing) in general comes up with the rise of emission concentration instantaneously. As any filter faults occur, the emission concentration sharply rises at the time of cleaning. The electrodynamic dust monitor accurately detects the minute change which shows a predictive sign before the filter is completely broken. In this occasion, if the filter can be replaced at the next plant shut-down period, you can prevent the emergency shut down of the plant due to the filter breakage. It can be applied to higher concentration (baghouse inlet, exit of boiler and furnace, transport lines of low concentration and others) and high water processes (various dryers, wet-scrubber and others) with the probe in varied shapes created and our abundant experiences build up as well as baghouse emissions monitoring, and, therefore, outputs of dust monitor can be fed back to various process controls. .

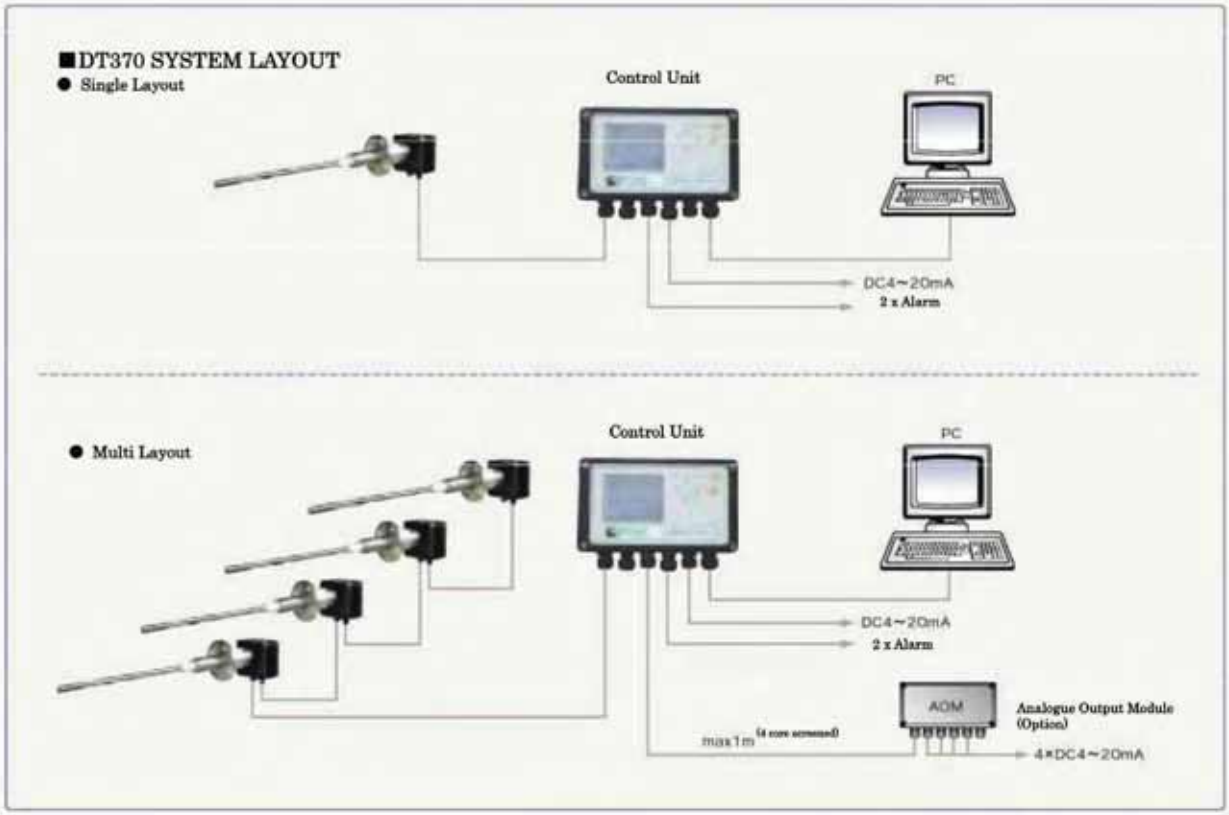
· Dust Monitor Output Trend



DT370 SERIES

Electrodynamic Dust Emissions Monitoring





DT370 Controller Standard Specification

Power Supply: 90 – 250VAC (50/60Hz)

Output : DC4-20mA (insulated Load resistance Max 250 Ω), Serial RS232C & RS485, Relay contact 1C x 2

Sensors Contact: 4
Resolution : < 0.01mg
Self-checks : Refer to DT370 series Specification Table

Memory Storage Rate/Capacity:
24 hour Memory (every 30 seconds rolling)
16,000 point data logger (30 seconds – 24 hour adjustable)
(i.e. every 1 hour, 600 days)
Enclosure : IP65 Material ADC (epoxy coating)

Display : LCD (bargraph) / values / trends

Temperature : Ambient Temp -25℃ - 55℃
Emissions Duct -25℃ - 250℃(Standard)
-25℃ - 400℃ (Med Temp)
-25℃ - 800℃ (High Temp)

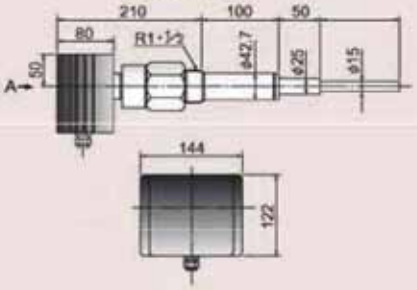
Probe Length: Maximum 1500mm
(Advance arrangements when it exceeds 1500mm)

Probe Material: SUS316, Teflon (teflon covering as option)
Sensor connection dia.: Screw - R1 · 1/2 or over,
Flange - over 50A
(Smaller diameter can be available as an option)

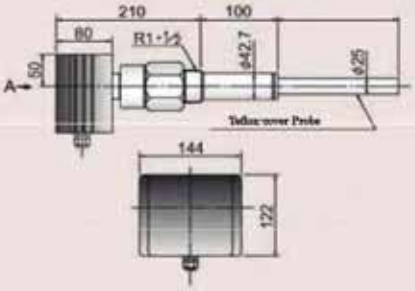
Cable Specification: 4 core screened cable 0.5sq 50Ω/km
(maximum 100m single layout)

■OUTLINE DRAWING

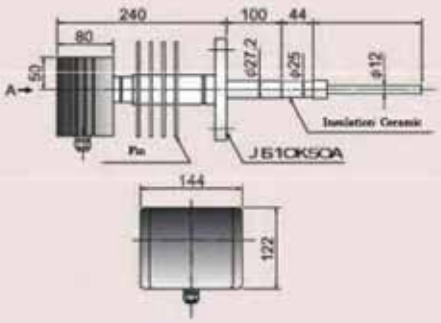
Standard Sensor (up to 250℃)
(~250℃)



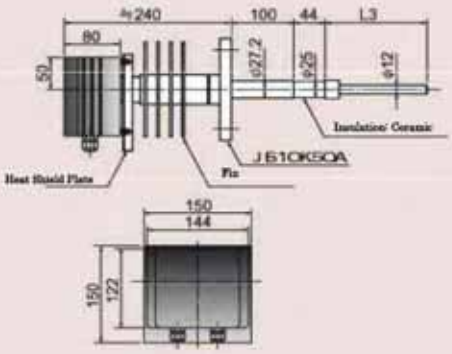
Teflon-covering Sensor (up to 250℃)
(~250℃)



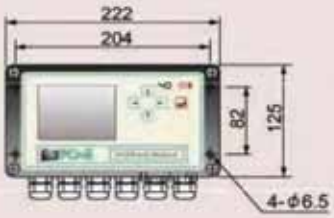
Heat-resistant Sensor (Med Temp – 400℃)



Heat-resistant Sensor (High Temp – 800℃)



Control Unit



AOM Analogue Output Module
(Option)

■ DT370 SERIES SELF-CHECK FUNCTION

Model	DT373	DT372	DT371
Commu Check Sensor – Con Unit	○	○	○
Probe Insul Check	○	X	○
Zero Check	○	○	X
Span Check	○	○	X

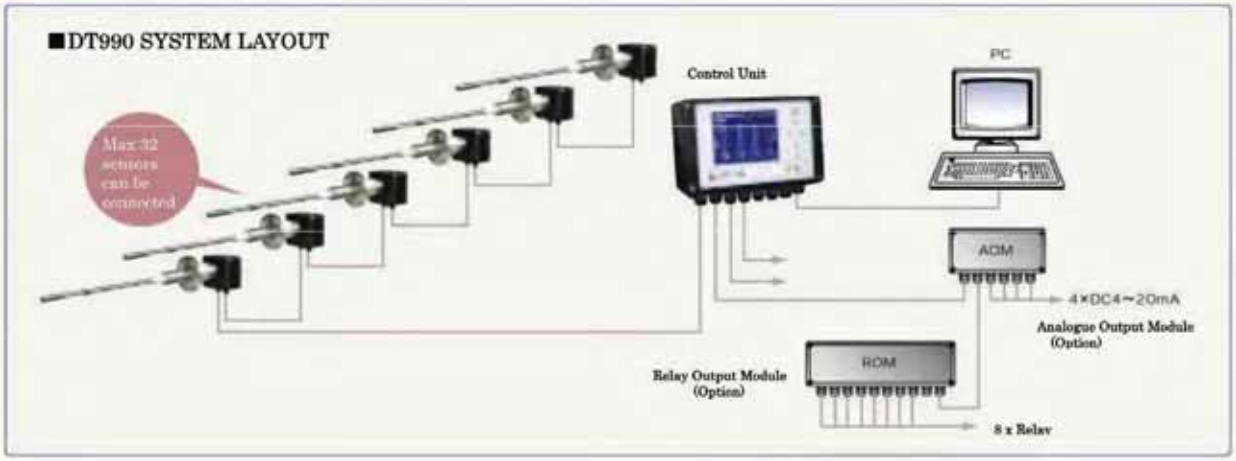
■ AOM(ANALOGUE OUTPUT MODULE

Enclosure: IP65
Material ADC (epoxy coating)
Power Supply: 24VDC (Control Unit)
Temperature: -25℃ ~ 55℃
Output : DC4 – 20mA x 4
(Insulated Load resistance max 500Ω)

DT990 SERIES

ELECTRODYNAMIC DUST EMISSIONS MONITORING

■DT990 SYSTEM LAYOUT



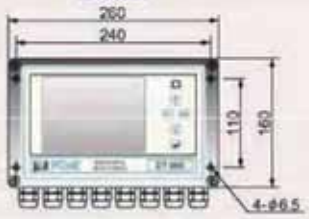
DT990 CONTROLLER STANDARD

Power Supply: 90 – 250VAC 250mA (50/60Hz)
Outputs : 4 x Isolate 4-20mA (Load resistance Max 250Ω)
Serial RS232C & RS485
Relay Contact 1c x 4 (max 3A)
Inputs : 4 x Digital Inputs
(Plant on/off, bagfilter, cleaning pulse, multiple calibrations)
Sensor contact: 32
Resolution : <0.01 mg
Self-checks : Zero check, Span check, Contamination check
Memory Storage Rate/Capacity:
Long term 1min – 2 hours(150k), 204days(@15 min)
Short term 1sec – 4 mins (20k), 20hours(@30sec)
Pulse Optimised (13k) 25 minutes
Alarm log Instantaneous 1000 entries

Enclosure rating: IP65 Material ADC (epoxy coating)
Display : LCD (provide bargraph, values & trends)
Temperature : Ambient -25℃ - +55℃
Emissions Duct
-25℃ - 250℃ (standard)
-25℃ - 400℃ (med temperature)
-25℃ - 800℃ (high temperature)
Probe length : Max 1500mm
(need advance arrangements when it exceeds the size)
Probe material : SUS316, Teflon (Teflon covering as option)
Sensor connection dia.: screw R1・1/2 or over
(One in smaller diameter is available as option)
Cable : 4 core screened 0.5sq. 50Ω/km
(max 1000m single layout)

■ OUTLINE DRAWING

CONTROL UNIT (DT990)



AOM (Analogue Output Module) (Option)

Depth: 56.5

ROM (Relay Output Module) (Option)

Depth: 56.5

The sensor is the same as that of DT370

Ranging from Nuclear Power Plant to Rice Mill
All-round Manufacturer of Level Controllers for Powder, Granules and Liquid

Line of business

- ●回転式レベルスイッチ
- ●振動式レベルスイッチ
- ●振子式レベルスイッチ
- ●音波式レベルスイッチ
- ●静電容量式レベルスイッチ
- ●静電容量式近接センサ
- ●静電容量式レベルメータ
- ●ダイヤフラム式レベルスイッチ
- ●チルトスイッチ
- ●リーク式レベルスイッチ
- ●マイクロウェーブスイッチ
- ●サウンジング式レベルメータ
- ●フロースイッチ
- ●電極式レベルスイッチ
- ●フロートスイッチ
- ●フロート式レベルメータ
- ●超音波式レベルメータ
- ●コンベア周辺機器
- ●ダストモニタ
- ●ジルコニア酸素濃度計
- ●レーザー式レベルメータ
- ●電波式レベルメータ
- ●液体濃度・濃度計
- ●超音波流量計

※ご使用に際しては取扱説明書を必ずお読み下さい。
※予告なく仕様変更することがありますので予めご了承下さい。

Nuclear Power Generation to Rice Milling
All-round Manufacturer of Level Controllers for Powder, Granules and Liquid

KANSAI Automation Co.,Ltd.

Headquarters : TEL. 81-6-6312-2071 FAX. 81-6-6314-0848
URL: http://www.kansai-automation.co.jp
e-mail: info@kansai-automation.co.jp

Headquarters: 2-14, Togano-cho, Kita-ku, Osaka 530-0056, Japan
Tel 81-6-6312-2071 Fax 81-6-6314-0848

Tokyo Branch: 1-29-6, Hamamatsu-cho, Minato-ku, Tokyo 105-0013, Japan
Tel 81-3-5777-6931 Fax 81-3-5777-6933

Nagoya Office: 3-31-27, Uchiyama, Chigusa-ku, Nagoya 464-0075, Japan
Tel 81-52-741-2432 Fax 81-52-741-1588

Kyushu Office: 1-2-39, Asano, Kokura Kita-ku, Kitakyushu 802-0001, Japan
Tel 81-93-511-4741 Fax 81-93-511-4580

代理店

SCIENCE GATE Your Automation Partner

SCIGATE AUTOMATION (S) PTE LTD
No.1 Bukit Batok Street 22 #01-01 Singapore 659592
Tel: (65) 6561 0488 Fax: (65) 6562 0588
Email: sales@scigate.com.sg Web: www.scigate.com.sg
Business Hours: Monday - Friday 8.30am - 6.15pm