

Dust Monitor  
DT450G



Dust Monitor

**DT450G**

Bulletin 11K01C01-01E

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# Detecting Leakage and Damage to Bag Filter and Monitoring Operation Status of Electrostatic Precipitator

Triboelectric method **Dust Monitor**

# DT450G

The DT450G Dust Monitor features improved operability and reliability based on installation and application experiences with the previous model DT400G. Features include one-touch automatic range setup in response to process conditions and automatic drift compensation. Also, the DT450G can measure at a process temperature up to 250°C, allowing it to cover a wide range of applications.



## Features

### High Performance and High Reliability

- The measurement range can be set through a one-touch operation in response to process conditions
- Automatic drift compensation function is available

### Wide Range of Applications with Simple Operation

- All you need to do is just set the parameters through key operation on the front panel
- Standard specifications are applicable to a wide range of applications at a process temperature up to 250°C and with a pressure of up to 200 kPa

### Excellent Maintainability

- Air purging prevents moisture condensation at connecting portions
- Maintenance-free operation over a long time without being affected by dust accumulation

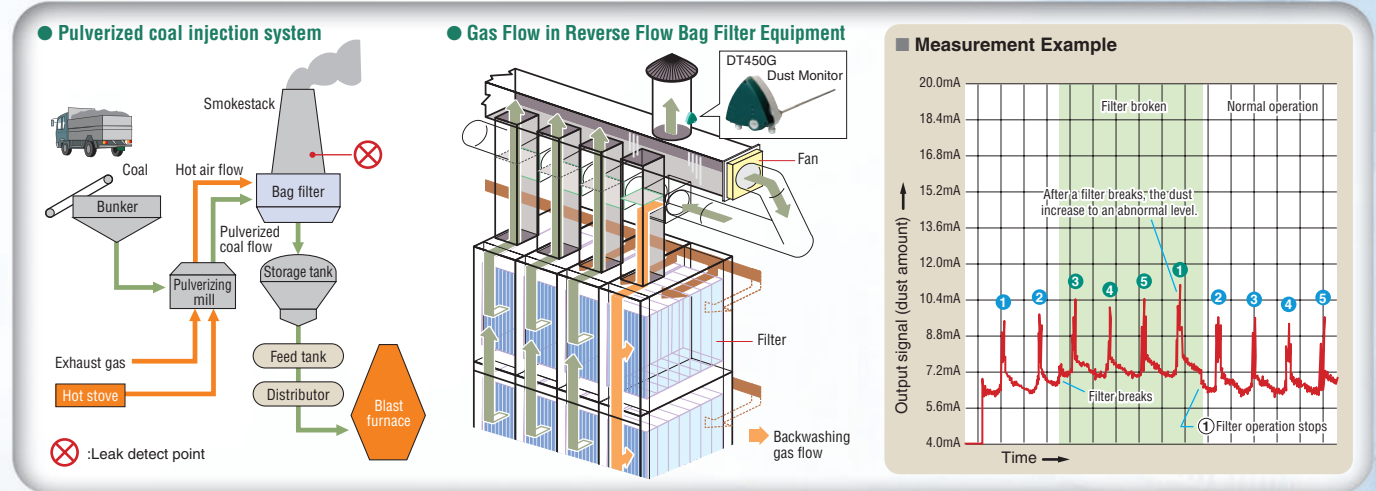
### Flexible Installation

- Integrated construction of sensor and converter allows for easy installation
- Flange mounting or socket welding mounting can be selected

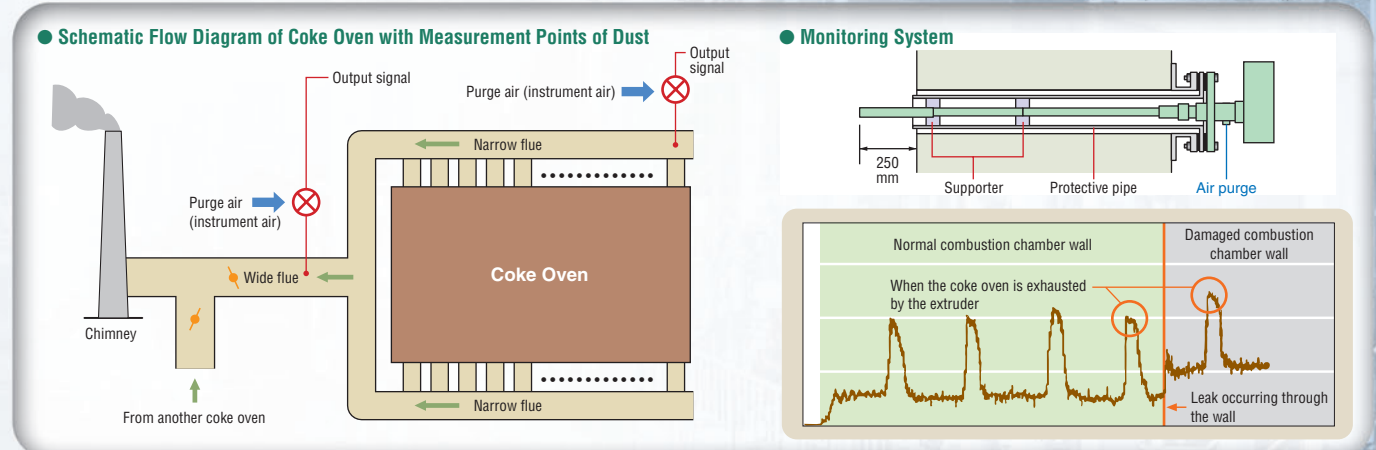
## Applications

- Electrostatic precipitators at boilers, incinerators, cement kilns
- Bag filters at pulverized coal, granulation, sugar, powder milk plants

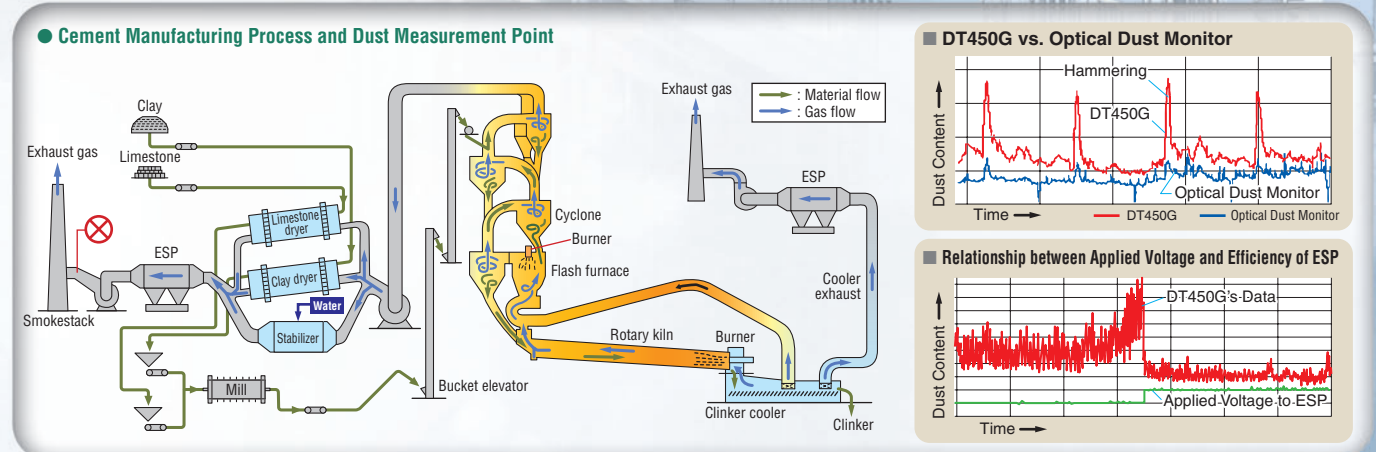
### Bag Filter Breakage Detection in a Pulverized Coal Injection System



### Dust Monitoring to Detect Damage in Coke Oven Walls



### Dust Monitoring of Exhaust Gases for Efficient ESP Operation in Cement Manufacturing Process





## STANDARD SPECIFICATIONS

Measurement objects	Solid particles in gas Particle size: 0.3 μm or greater Measurement range: 0.1 mg/m <sup>3</sup> to 1 kg/m <sup>3</sup>
Measurement principle	Inductive electrification
Process conditions	Temperature: 250 °C or less Pressure: 200 kPa or less Gas flow rate: 4 m/s or greater (approx. 30 m/s max) Humidity: 40 %RH or less
Measurement range (Note 1)	Range setup: One-touch automatic setup or manual setup (Note 2) Setup range: Variable (10 to 50 %, 10 % step)
Analog output signal	4-20 mA DC, insulated, load resistance; 500 Ω
Contact output signal	High/Low alarm Contact capacity: 5 A, 240 V AC or 24 V DC Setting range: 1 to 99 % (1 % step) of measurement span
Ambient conditions	Temperature: -20 to 45 °C Humidity: 95 %RH or less (non-condensing) Vibration: 5 m/s <sup>2</sup> (0.5G) or less
Construction	Converter: Integrated with detector, protection rating IP 64 Sensor probe: Direct insertion
Materials	Sensor probe: Stains steel (316SS) Insulation of sensor: PEEK Case: Aluminum
Power supply	Rating: 100 to 120 V AC, 200 to 240 V AC
Air purge	Air source: Clean, dry air equivalent to instrument air at process pressure +50 kPa Air consumption: approx. 50 Nl/min Connection: Rc 1/4
Mounting	Flange or Socket (dedicated)
Weight	Approx. 2.3 kg (excluding flange)
Dimensions	172W x 173H x 672D mm

Note 1: Measurement range does not directly represent dust concentration. To know the absolute value of dust concentration, the relationship between the output signal and the dust concentration should be obtained by laboratory analysis or relevant way.

Note 2: With one-touch automatic setup function, measurement range is set so that the dust concentration of the process corresponds to a setpoint of setting level. In manual setup, the measurement range is set by gain (x1, x10, x100, x1000, x10000).

Refer to GS 11K01C01-01E for detailed specification.

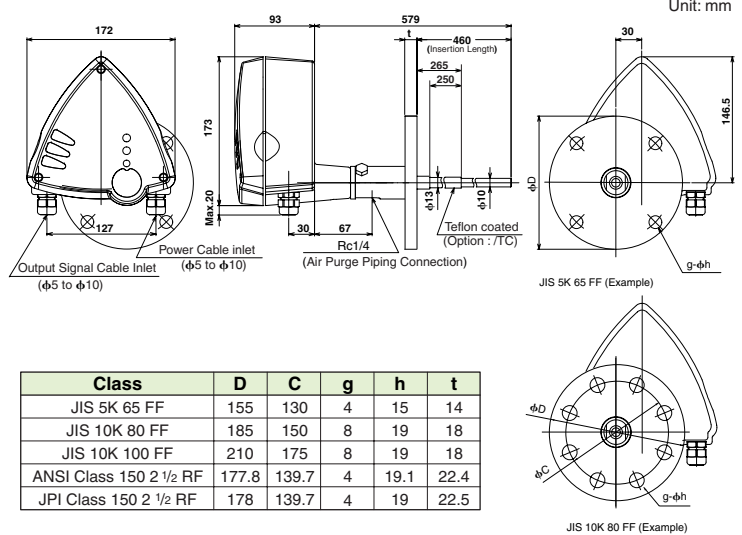
## MODEL AND SUFFIX CODES

Model	Suffix Code	Option Code	Description
DT450G			Dust monitor (heat resistant up to 250°C)
Analog output	-5		4-20 mA DC analog output + fine adjustment for measuring range
Power supply	-2		200-240V AC, 50/60Hz
	-5		100-120V AC, 50/60Hz
Probe length	-05		460mm
Sensor material	-1		316SS
Air purge	-A		With air purge
Instruction Manual	-J		Japanese
	-E		English
Mounting	-W		Socket mounting (welding socket)
	-A		Flange mounting (ANSI Class 150 2 1/2 RF)
	-K		Flange mounting (JIS 5K 65 FF)
	-M		Flange mounting (JIS 10K 80 FF)
	-P		Flange mounting (JIS 10K 100 FF)
	-T		Flange mounting (JPI Class 150 2 1/2 RF)
	-A		Always -A
Option	/TC		Probe: Teflon coated

Note: Teflon coated probe (option code "/TC") is recommended to prevent the insufficient insulation by dust and moisture deposited on sensor probe. Teflon coated probe is designed to operate at a temperature not exceeding approximately 150 °C.

## DIMENSIONS

Flange Mounted Model



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