

Dust Monitor D10.14



Your Automation Partner

Dust Monitor

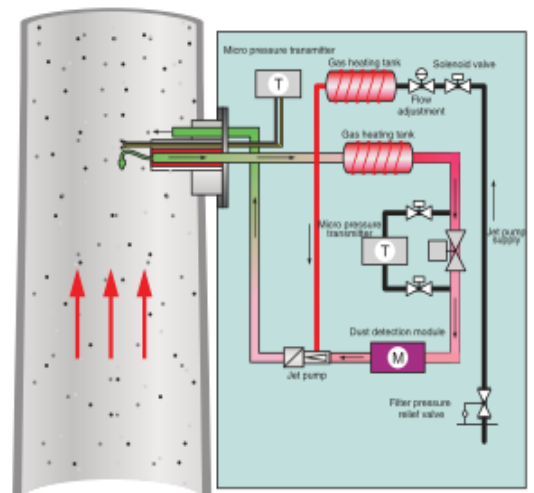
D10.14 extractive dust monitoring system is a high temperature heating extractive dust monitor, based on years of dust detection technology research and development process. Different from normal in situ scattering dust monitors, D10.14 uniformly samples dust in the flue (stack) to the high temperature heat tracing dust measuring module to measure. Its detection limit reaches $0.05\text{mg}/\text{m}^3$. It has features of no moisture influence and high accuracy. It is applicable for ultra-clean emissions, low temperature and high humidity flue gas situation after wet deSO_x, meet the coal-fired power plant air pollutants emission standards.

Measuring Principle

Under the negative pressure effect of jet pump, dust heated by sampling probe enters the measurement module. Heat tracing during the entire process of extraction, measurement and emission, it eliminates moisture interference, and prevents dust in the condensate blocking the gas path. After heating, the dust enters the measurement module, using laser forward scattering principle to measure dust concentration. The exhaust gas after measurement passes into the stack.

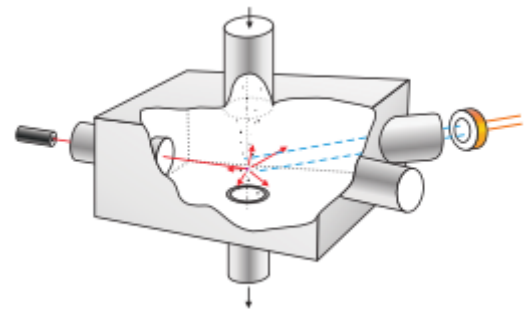
It uses electromagnetic valve and control unit to realize automatic counter blowing of gas path and measuring module, and automatic zero at regular intervals. After maintenance the laser device can be closed and calibration block can be inserted for manually zero and calibration.

It uses micro differential pressure transmitter and pitot tube to measure flue gas flow inside the stack, feedback to flow control device and controls pump velocity by changing the fluid flow, realizes pitot tube balance sampling, isokinetic extracts stack dust to measure.



Features

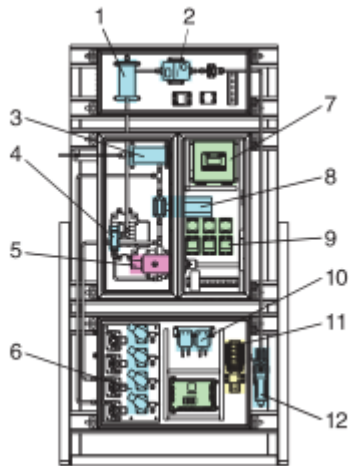
- Using laser forward scattering method to detect dust concentration, low detection limit.
- High temperature heat tracing of dust extraction make steam evaporation to avoid dust agglomerate blocking gas path under the influence of water. Suitable for high humidity.
- Pitot tube isokinetic sampling, comply with technical conditions of sampler for stack dust
- Support automatic blow, cleaning gas path, stop the dust blocking
- Support automatic zero and manual span calibration in the field.



Specifications

Measured Data	
Measuring Principle	Laser forward scattering
Concentration Range	0-10mg/m ³ , multi-range switching
Detection Limit	0.05mg/m ³
Accuracy	±20%
Repeatability	±20%
Response Time	2s (optional)
Laser	650nm, 20mW
Measuring Condition	
Sampling Head Diameter	6mm, 8mm, 10mm, 12mm (According to the condition of customization)
Heat Tracing Temperature	120°C ~ 180°C
Medium Temperature	<300°C
Ambient Temperature	-20°C ~ +50°C
Compressed Gas	No water and oil. ≥0.4MPa, gas consumption 100L/min
Blowback Time	Blowback 30s (concentration data keep), interval period 3h (According to the condition of customization)
Velocity Range	(2-40)m/s
Preheating Time	15min
Input, Output, and Interface	
Analog Output	4-20mA, maximum load 500Ω
Communication Interface	RS485, RS232 (option)
General Information	
Weight	103kg
Dimension	1620mm (H) x 850mm (L) x 264mm (D)
Power	1500W
Supply	220VAC
Enclosure Rating	IP54

Composition



1. Jet Gas Heating Tank
2. Flow Controller
3. Sample Gas Heating Tank
4. Jet Pump
5. Measuring Module
6. Solenoid Valve
7. Control & display unit
8. High Temperature Ball Valve
9. Thermostat
10. Micro Pressure Transmitter
11. Terminal Block
12. Filter Pressure Relief Valve

The system comprises a jet gas control unit (1,2), measuring unit (3,4,5,8,9), control and display unit (7), and gas path control unit (6,10,11,12). The flue gas in the stack is isokinetic extracted to measuring unit by gas path control unit. High temperature heat tracing of dust extraction to eliminate the influence of moisture on dust concentration measurement. The real dust concentration is displayed by control and display unit. Gas path control unit measures flow of the stack and gas path extractive. Adjusting the flow control valve to realize isokinetic extract and reflect the gas concentration more closely.