BHOOMI®

1. Triboelectric Dust Monitor
2. Opacity Dust Monitor
3. Continuous Emission Monitoring System

NPL Certified
Compliance Assured

Dust Monitors - Triboelectric & Opacity Type, CEMS

sales@bhoomiltd.com 8693050520 www.bhoomiltd.com

01 Online Stack Dust Monitor - Triboelectric
BI 7020 Tribo

Optimized for low dust
In-situ Measurement

1.8" TFT Display

Auto-purge Facility

Direct Server Connectivity

Zero-maintenance Continuous Operation

Component-Level Repairability

24/7 Spares Availability

NPL/TÜV Certified

Bhoomi Triboelectric technology unifies the measurement process by integrating both DC impaction and AC induction electrostatic signals, resulting in a more reliable and sensitive output. This innovative approach provides significant advantages for applications in environmental compliance and process control.
BI 7020 Tribo Dust Monitor is a single-point/basic functionality particulate monitor employing charge induction sensing for reliable continuous monitoring of particulate in stacks, ducts, and pipes. Applications include filter leak detection, cyclone overflow, and powder flow/no flow.

FEATURES

- In-situ direct measurement in exhaust flue gas flow
- Unit programmable in mg/m³ & mg/Nm³
- Rugged design with no moving parts so low maintenance
- No manual adjustment / alignment required
- Automatic drift compensation
- Colour of particles will not affect the signal output
- Build-up of dust on the probe will not affect monitoring
- Vibration has no effect on the signal
- IP65 rating enclosure

TECHNICAL SPECIFICATIONS

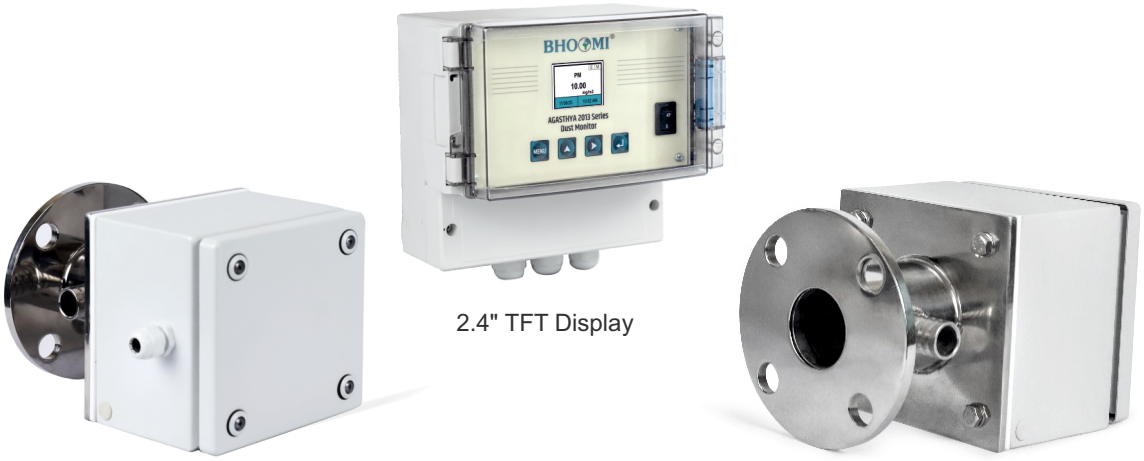
Specifications	Details
Measuring range	0-1000 mg/m³
Units of measurement	mg/m^3, mg/Nm^3
Accuracy	±2% FSD
Resolution	0.1 mg/m³ display resolution
Drift	±1% / month
Stack temperature	-20° to +121°C
Material of construction	SS316
Probe Insertion length	305, 457, 600, 762, 914 mm. Customized length on request
Positioning	90 degree to duct wall
Power	24 VDC or 230 VAC optional on request
Output	4-20 mA Analog Output
Digital communication	RS485 Modbus RTU

APPLICATIONS

- Thermal Power Plants
- Steel & Metallurgical Plants
- Cement Plants
- Chemical & Fertilizer Plants
- Paper & Pulp Mills
- Waste Incineration / Waste-to-Energy
- Mining & Minerals
- Sponge Iron Plants
- Boilers & Captive Power Units
- Process Stacks
- DG Sets

02 Online Stack Dust Monitor - Opacity
BI 7010

Dual Pass Accuracy
In-situ Measurement



Auto Purge Facility

NPL/TÜV Certified

Fail Safe Shutter

Direct Server Connectivity

Zero Maintenance Continuous Operation

Component-Level Repairability

24/7 Spares Availability

FEATURES

- In situ - Direct measurement in exhaust flue gas flow
- Unit programmable in mg/m^3, mg/Nm^3, % opacity
- RS485, supports Modbus protocol
- Rugged design with no moving parts so low maintenance
- Green LED source for long lifetime stability
- Single & Dual Pass Transmissometer
- IP65 rating enclosure
- Pressure-temperature compensation

TECHNICAL SPECIFICATIONS

Specifications	Details
Measuring range	0-100% Opacity, 0-1000 mg/m^3 user selectable
Units of measurement	mg/m^3, mg/Nm^3, % Opacity
Accuracy	±2% FSD
Resolution	0.1% Opacity & 0.1 mg/m^3
Drift	±1% / month
Operating wavelength	510-540 nm Green LED
Stack temperature	Up to 300°C
Power	24 VDC or 230 V AC optional on request
Output	4-20 mA Analog Output & 2 Relays
Digital communication	RS485 Modbus RTU
Input normalisation for temperature, pressure, O2/CO2 parameters	Provision for fixed keypad input
	Provision for analog input
	Provision for automatic measurement input

APPLICATIONS

- Thermal Power Plants
- Steel & Metallurgical Plants
- Cement Plants
- Chemical & Fertilizer Plants
- Paper & Pulp Mills
- Waste Incineration / Waste-To-Energy
- Mining & Minerals
- Sponge Iron Plants
- Boilers & Captive Power Units

03 Continuous Emission Monitoring System
BI 7000

NDIR, NDUV, TDLS, UV DOAS Technologies

CPCB Compliance

Different Technologies Under One Roof

Smart Remote Calibration

Direct Connectivity To Server

NPL, TUV, CE Certified

Zero Intervention Uptime

Automatic Blow Back System

Serviceable At Component Level

FEATURES

- Scalable ranges available for each gas
- All gas readings corrected with reference O2
- Manual / Auto / Remote calibration facility
- Diagnostic features usable, calibration, maintenance, faulty, zero and drift
- Analog output for each gas and digital output in Modbus protocol, 2-wire RS485 transmission
- Expression and display of measurements in ppm, mg/m3 or volume % as specified in standards (mg/Nm3 & kg/day optional)
- Efficient sample conditioning unit designed as per site conditions
- Heated probes for safe and hazardous area / heated sampling lines for safe and hazardous area
- Robust and reliable for optimal operation under extreme environment and conditions while maintaining its calibrated status
- Purged panel option is available for hazardous area
- In-situ / Extractive gas analyzers

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NDIR, NDUV, TDLS, UV DOAS Technologies

APPLICATIONS

- Thermal Power Plants
- Steel & Metallurgical Plants
- Cement Plants
- Chemical & Fertilizer Plants
- Paper & Pulp Mills
- Waste Incineration / Waste To Energy
- Mining & Minerals
- Sponge Iron Plants
- Boilers & Captive Power Units
- Process Stacks
- DG Sets

BI 7000

Rack Mount
Touchscreen

TECHNICAL SPECIFICATIONS

Specifications	Details
Repeatability	1% FS
Zero drift	<±1% per week of span
Span drift	<±1% per week of span
Response	T90 < 15 sec
Analog output	Isolated and linear 4-20 mA analog output for each gas
Digital communication	2 x RS485 Modbus RTU protocol (for data transmission & scrolling display / SCADA-based utility)
Relay output	2 nos. potential free contact for alarms
Power supply	100/240 VAC, 50 Hz, 24 VDC
Operating temperature	4 to 65°C
Mounting options	Panel & rack mount

Parameter	Resolution	Accuracy	Scalable range
NDIR (Non-dispersive Infrared)			
Carbon Monoxide	1 ppm	±1% FSD	0 - 5000 ppm
Nitric Oxide	1 ppm	±1% FSD	0 - 1000 ppm
Sulphur Dioxide	1 ppm	±1% FSD	0 - 1000 ppm
Carbon Dioxide	0.10%	±1% FSD	0 - 20%
Hydrocarbon	0.10%	±1% FSD	0 - 5%
NDUV (Non-dispersive Ultraviolet)			
Nitrogen Dioxide	1 ppm	±1% FSD	0 - 1000 ppm
Sulphur Dioxide	1 ppm	±1% FSD	0 - 1000 ppm
Chlorine	1 ppm	±1% FSD	0 - 30 ppm
Hydrogen Sulphide	1 ppm	±1% FSD	0 - 50 ppm
TDLS (Tunable Diode Laser Spectrometry)			
Hydrogen Fluoride	1 ppm	±1% FSD	0 - 30 ppm
Hydrogen Chloride	1 ppm	±1% FSD	0 - 200 ppm
Hydrogen Sulphide	1 ppm	±1% FSD	0 - 200 ppm
Ammonia	1 ppm	±1% FSD	0 - 500 ppm
Zirconia			
Oxygen	0.10%	±1% FSD	0 - 30%
FID			
Total Hydrocarbon / Total Organic Carbon	1 ppm	±1% FSD	0 - 1000 ppm