



Double Pass Dust & Opacity Monitor DO1000.12



BONT[®]

Bont Technologies GmbH

Double Pass Dust & Opacity Analyzer

Features

- * Double Pass Principle
- * Low Dust Concentration 0-7.5mg/m³ and high range 0-1000mg/m³
- * Measure Opacity in 0-100% Dust in mg/m³ with reference to ISO-Kinetic Sample method
- * Robust design with Aluminium Casing and stainless steel part
- * Communication via RS485 Modbus RTU
- * Failsafe Shutter (optional)
- * Online Calibration (optional)
- * Cloud DAS or Station (optional)



Description

The DO1000.12 design based on double pass technology which it detect the differential of transmit and reflect frequency in pulse with also the reference of measurement. The light source is a green LED that will have the wavelength of 450nm to 600nm and transmit to the opposite multi angle reflector to reflect back to the sender. The display controller can be install at a maximum of 800M away to read and retransmit the data. ISO-Kinetic sampling data is required for dust concentration reference in mg/m³

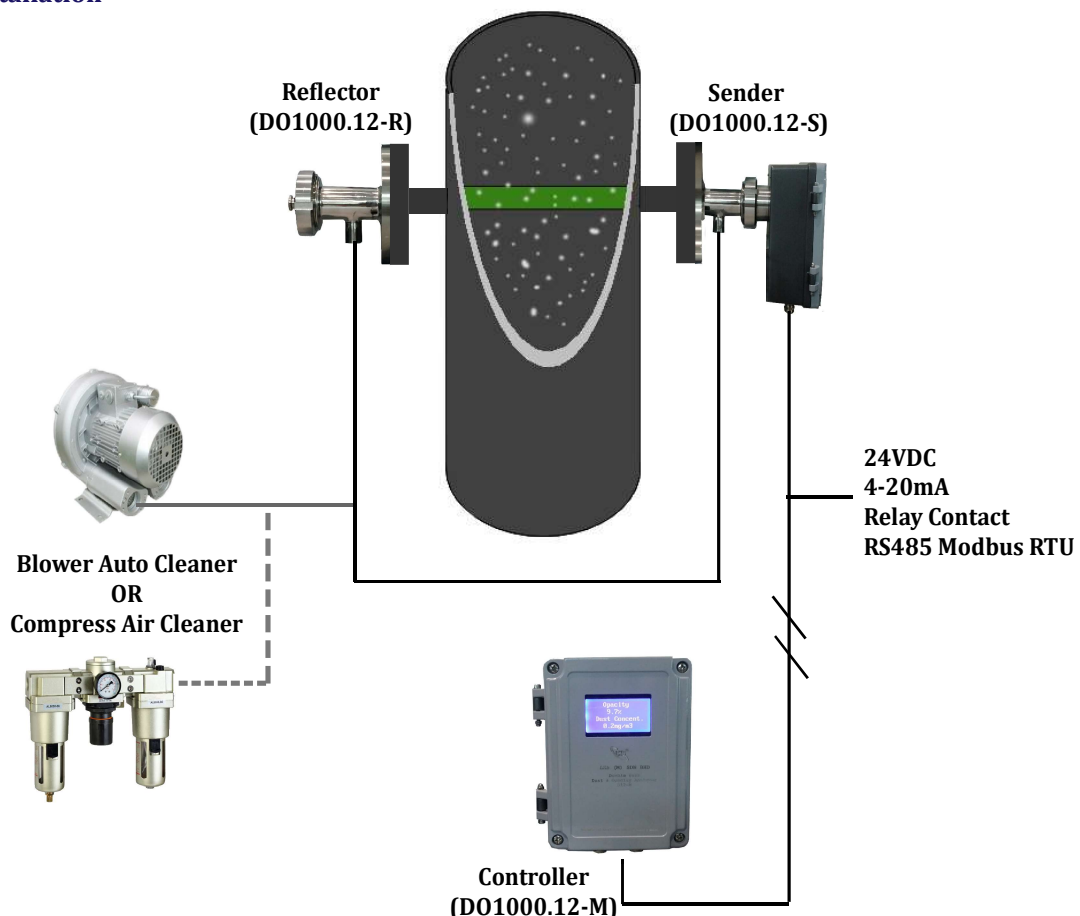
Application

- * Steel & Iron Plant
- * Cement Plant
- * Tunnel for visibility
- * Palm Oil Mill
- * Refinery Plant
- * Aluminium Plant
- * Power Plant Boiler
- * Cement works
- * Waste Incinerator
- * Petro Chemical Plant

Benefits

- * Suitable for highly fluctuating dust concentrations
- * Better accuracy over shorter path lengths
- * Reliable application due to redundant measurement
- * Low maintenance due to self-monitoring function
- * Future-proof for decreasing limit values

Typical Installation



Controller Unit

- * Continuous monitoring in % (Opacity) and mg/m³ (Dust)
- * Alarm contact for exceed limit
- * Aid to Efficiency of combustion
- * RS485 Modbus RTU
- * 4-20mA Analogue output for Dust and Opacity

Parameter	Description
Model	DO1000.12-M
Power	24VDC
Measurement Range	0 ~ 7.5 mg/m ³ to 0 ~ 1000 mg/m ³
Sender Source	450 ~ 600 nm (Green LED)
Alarm Contact	5A/30VDC
Scanning Distance	0.5 ~ 5 Meter
Engineering Unit	Percent Obscuration (%) - Opacity mg/m ³ - Dust Concentration
Mounting	Wall Mounting
Dimension	W135 x H185 x W86mm
Weight	1.25 Kg
Sampling Time	0.2 Seconds
Display Accuracy	±1.0% Fs
Operating Temperature	-20 ~ +55°C
Operating Humidity	0°C to 55°C
Protection	IP65

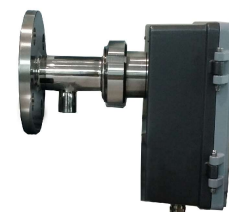


Sender And Reflector Unit

- * Mounted on opposite sides of the stack or duct
- * Sender light beam is at right angles to flow or flues gases and give unrestricted illumination of the reflector solar cell
- * Aid to Efficiency of combustion
- * RS485 Modbus RTU

Sender Unit

Sender Model	DO1000.12-S
Power	24VDC
Enclosure Class	IP65
Transmitter Element	LED Green (0.5 ~ 5 Meter)
Flange Mounting Size	130mm P.C.D, Ø18mm Holes, C.T.C : 100mm
Air Pressurized Adapter	1/4" BSP Thread
Weight	3.25 Kg



Reflector Unit

Reflector Model	DO1000.12-R
Enclosure Class	Stainless Steel
Flange Mounting Size	130mm P.C.D, Ø18mm Holes, C.T.C : 100mm
Air Pressurized Adapter	1/4" BSP Thread
Weight	1.8 Kg



Auto Cleaner

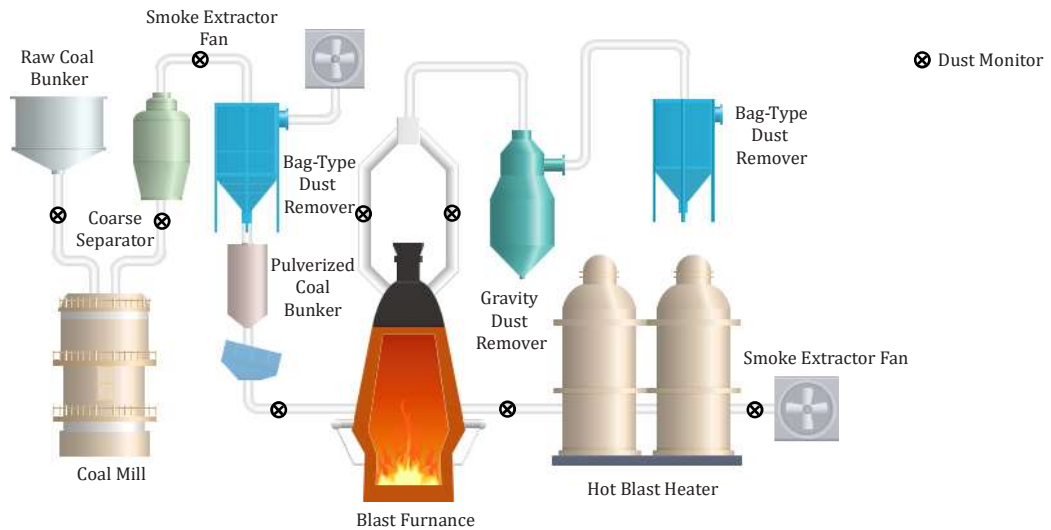
Model	DO1000.AC
Ambient Temperature	25°C and 50°C
Power Supply	Single Phase : 200 ~ 240VAC, 50Hz 3 Phase : 345 ~ 415VAC, 60Hz
Material	Cast Aluminium
Connection	DN40 BSP
Static Pressure	120 mbar
Capacity	140m ³ /Hr
Weight	40 Kg
Accessories	Hose x 10 meter, Y-Joint x 1 & Hose Clip x 6



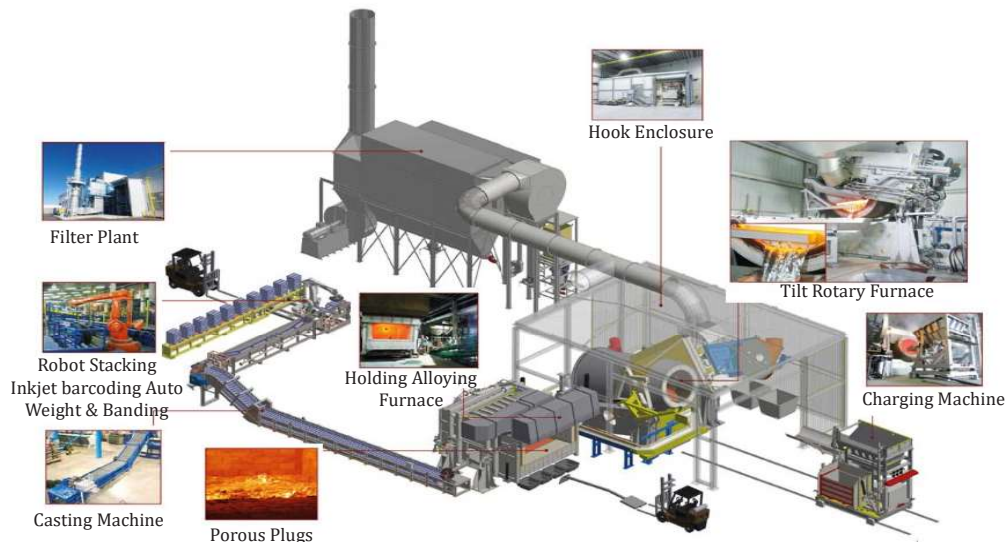
Ordering Information

Description	Model
Controller	DO1000.12-M
Sender	DO1000.12-S
Reflector	DO1000.12-R
Auto Cleaner	DO1000.AC

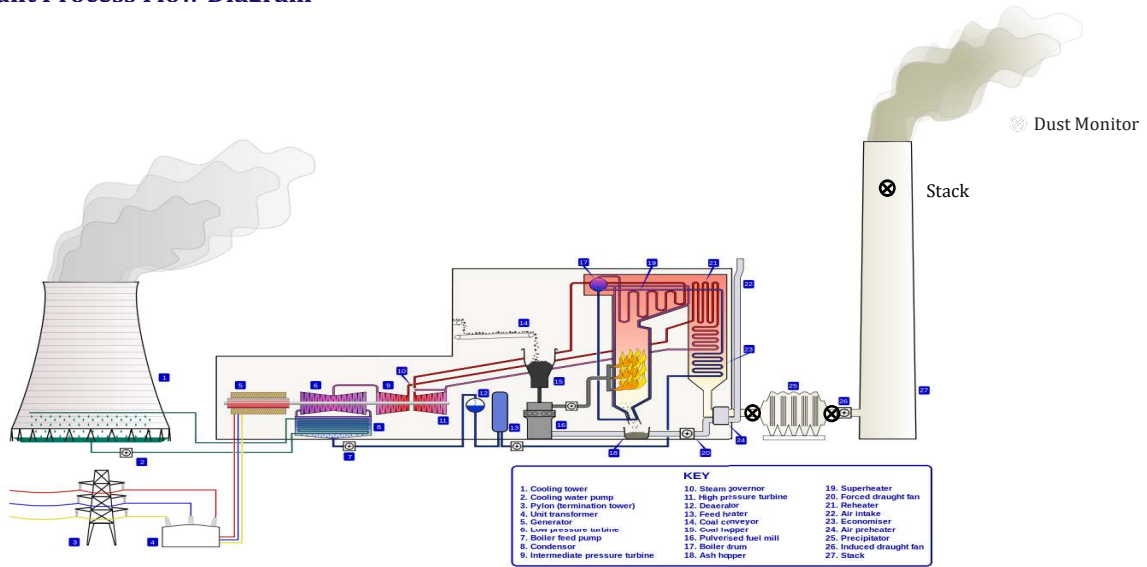
Iron & Steel Process Flow Diagram



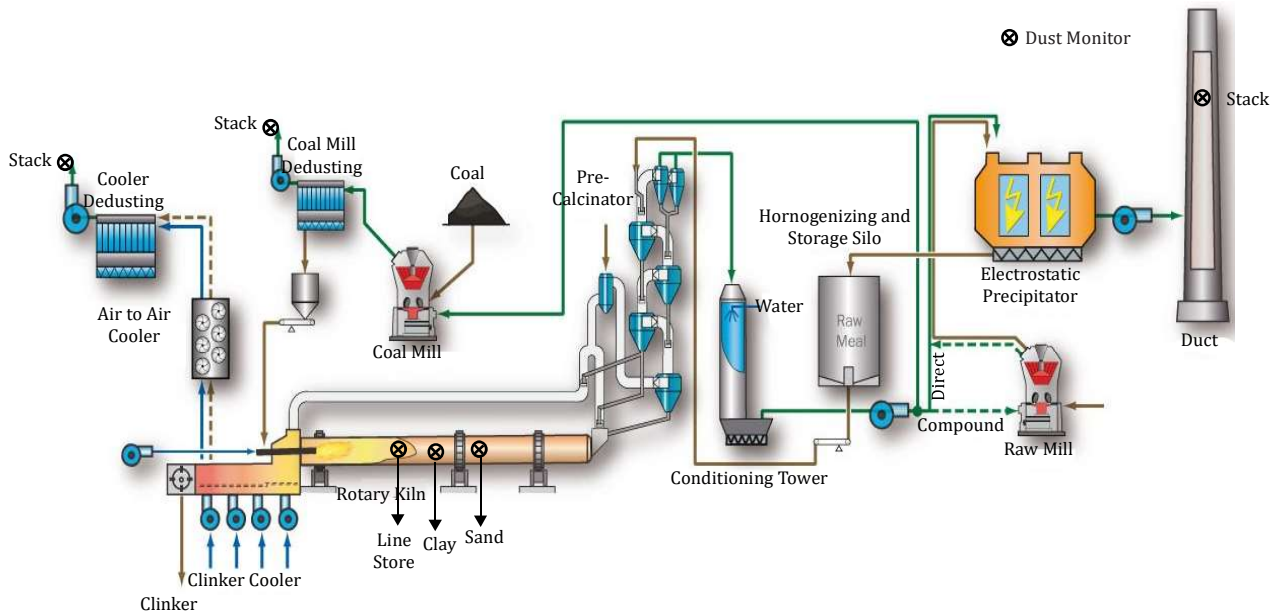
Melting Aluminium Flow Diagram



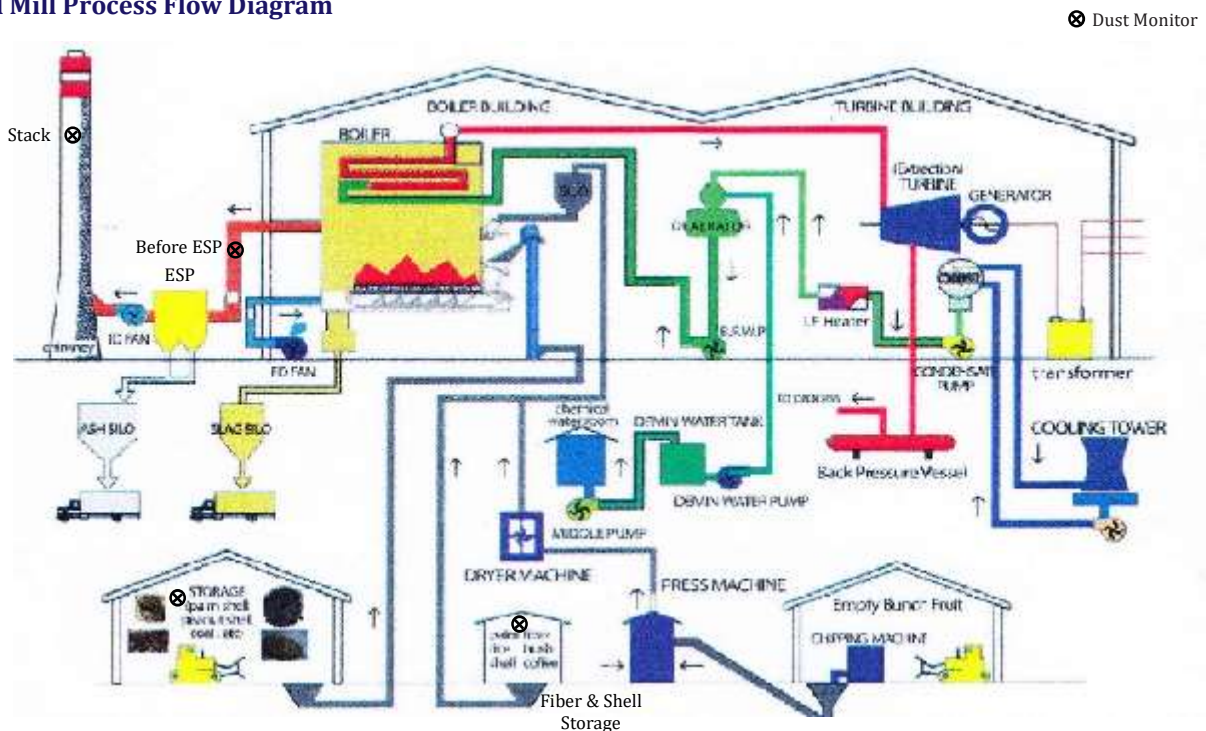
Coal Power Plant Process Flow Diagram



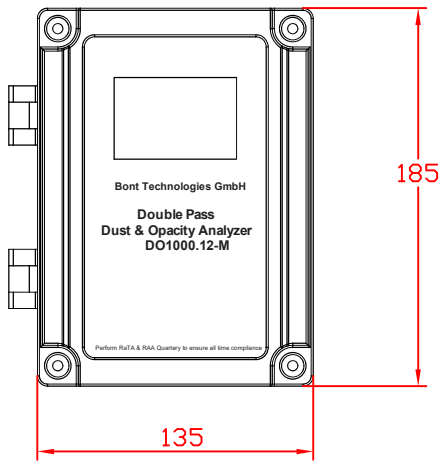
Cement Plant Process Flow Diagram



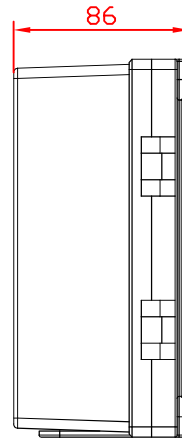
Palm Oil Mill Process Flow Diagram



Dimension Controller

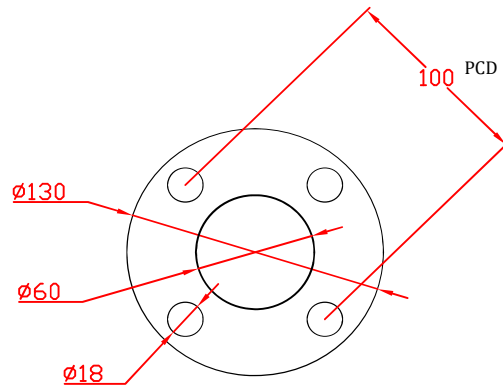
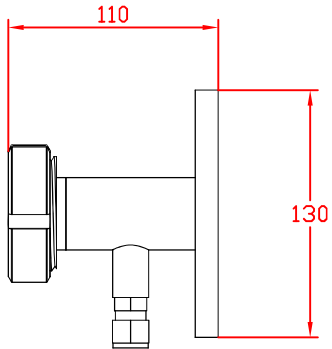


Front View

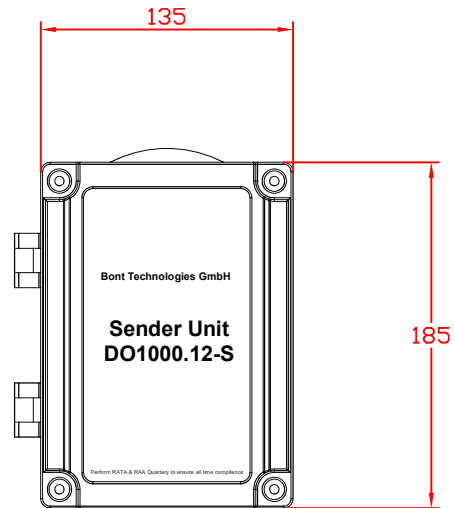
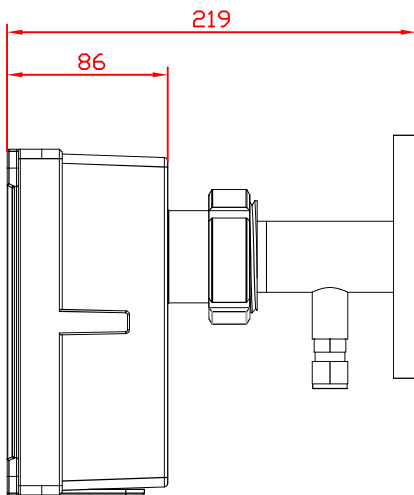


Side View

Reflector



Sender



Distributor: