

Agasthya Series 2013 Continuous Emission Monitoring Systems Model BI 7000 EC

The Agasthya Series BI 7000 EC is designed to meet the needs of organizations requiring cost effective and reliable multiple gas analyzer solutions. The technology employed is tried and tested to ensure the user experiences maximum reliability and accuracy.

Up to twelve gases can be analyzed simultaneously with scalable ranges for each gas. The Agasthya Series BI 7000 EC is an ideal solution to protect initial investment & long lasting performances.

Designed for the use in hostile or friendly environments the Agasthya Series BI 7000 EC maintains high levels of gas selectivity wherever installed. All packed into a robust, attractive, industrial enclosure.



Features :

- 32-Bit Cortex-M3 ARM Processor
- 5.7" QVGA TFT Touch Screen Display
- The best price performance on the market - designed with user requirements foremost in mind
- Tried and tested technology with proven reliability
- Built-in simultaneously analyze upto 12 gases - upgrades available to protect investments
- Scalable ranges available for each gas
- Wide range of gas selectivity
- Unit programmable in ppm & mg/m³
- Isolated 4-20 mA analog output per each gas
- RS 485, MODBUS, Ethernet & GPRS output as option
- High / Low Gas, low flow & other programmable events available
- PTFE sample lines & sample components (where prudent)
- Highly efficient automatic purge & drain system

Bhoomi Advantages

- Low cost of ownership, maintenance and installation
- Ensured after sales & service support
- Spares and accessories availability guaranteed

Technical Specification

GAS OPTION - ELECTROCHEMICAL SENSOR			
PARAMETER	RESOLUTION	ACCURACY	SCALABLE RANGE
Oxygen	0.1%	±1% of reading	0 - 21%
Carbon Monoxide	1 ppm	±20 ppm<500 ppm, ±5%>500 ppm	0 - 10000 ppm
Carbon Monoxide (High Range)	0.01%	±5% of reading	0 - 10%
Nitric Oxide	1 ppm	±5 ppm<100 ppm, ±5%>100 ppm	0 - 5000 ppm
Nitrogen Dioxide	1 ppm	±5 ppm<100 ppm, ±10 ppm<500 ppm ±5% >500 ppm	0 - 1000 ppm
Sulphur Dioxide	1 ppm	±5 ppm<100 ppm, ±5% >100 ppm	0 - 5000 ppm
Hydrogen Chloride	1 ppm	±5 ppm	0 - 200 ppm
Hydrogen Fluoride	0.1 ppm	±0.5 ppm	0 - 30 ppm
Hydrogen Sulphide	1 ppm	±5 ppm	0 - 1000 ppm
Hydrogen	1 ppm	±5 ppm	0 - 5000 ppm
Ammonia	1 ppm	±5 ppm	0 - 1000 ppm
Chlorine	1 ppm	±5 ppm	0 - 1000 ppm
CALCULATIONS			
Carbon Dioxide	0.1%	±0.1% of reading	0 - 20%
NO _x	1 ppm	±1% of reading	0 - 6000 ppm

Option available to display all gas readings corrected to reference O₂.

Analyzer Specification :

- Sensor Technology : Electrochemical
- Repeatability : 0.5% of FSD
- Drift : Within 5% per 6 months for all sensors
- Response : T90 less than 60 sec
- Operating Temperature : 4°C to 65°C
- Isolated and linear : 4-20mA analog output
- Digital Communication : RS 485, MODBUS, Ethernet & GPRS as option
- Potential free contact o/p : 2 Nos. for alarms
- Potential free contact o/p : 2 Nos. for auto-calibration
- Potential free contact o/p : 4 Nos. for logic sequence
- Power Supply : 110/230 VAC, 50 Hz
- Programmable events for High / Low Alarms
- Auto & semi auto calibration facilities

System Components

Non heated sampling probe

- Particulate filter size : 20 micrometer
- Probe diameter : 50 mm
- Probe length : 150 mm to 2000 mm
- Probe material : SS, Alumina, SiC
- Mounting : Flange type
- Max temperature : 600^oC (Above 600^oC on request)

Heated Sampling Probe

- Operating temperature : Max. 200^oC
- Max. working pressure : 6 bar
- Voltage : 110/230 V, 50 /60 Hz
- Heating : Self regulating +180^oC
- Ambient temperature : -20 to +80^oC
- For dust concentration : Upto 2 g/m³

Non heated Sample Gas Line

- Material : Teflon
- Dimension : 1/4 inch OD

Heated Sample Gas Line

- Process Tube : PTFE (Teflon)
- Process Tube Size : 1/4 inch OD
- Heating Element : Constant watt type, self limiting
- Thermal Insulation : Fiberglass wool
- Outer Jacket : Corrugated SS Conduit Braided Sleeve in SS
- Operating Voltage : 230 VAC
- Watt Density : Up to 200 W/m
- Length : To be specified by client
- Max. Operating Temperature : 200^oC
- Temperature Sensor : In built RTD
- Process Connection : Flanged Type
- Power/Control Connection : Lead cable (3 Wire), 2 Meter for both power & control

Sample Conditioning Unit

a) Microcontroller / PLC based Smart unit

- Aspirator/Pump for sampling flue gas
- Pre and post cooler fine filters to remove drain, dust and mist in sample gas
- Auto drain and auto purging (blow back) facilities
- 2 way solenoid valves for switching, sampling, purging, draining and calibration
- Flowmeter to regulate and monitor the flow of sample gas
- Drain pump for continuous removal of condensate
- HCl Scrubber

b) Cooler

- Sample gas flow range : 1 - 3 LPM (2.1-6.4 SCFM)
- Inlet condition at rated flow : 150°C @ 12% H₂O, 2.5 LPM
- Outlet dew point at rated flow : 4°C
- Maximum inlet temperature : 200°C for SS, Durinert, Glass; 138°C for Kynar
- Ambient temperature range : 0.6 - 40°C
- Power supply : 90 - 240 VAC, 50/60 Hz 100W

c) NO_x Converter

- High NO₂ conversion capability
- Enclosure : 19 inch Housing
- Working temperature : 400°C
- Sample gas pressure : up to 1.5 bar
- Warm-up time : 30 min
- Sample gas flow : up to 120 l/h
- Sample gas temperature : 5 to 80°C
- Ambient temperature : 5 to 50°C

d) Cabinet

- Industrial Cabinet
- Meets IP 54 standard
- Inbuilt air conditioning system
- Automatic cabinet illumination when door open
- Earthing bar assembly
- 180 degree door opening
- Standard Dimension : 800mm W x 600mm D x 1500mm L