AGASTHYA 2005
Series BI 7000 Universal
Flue Gas Analyzing System

O_2

SO_2

CO_2

HCL

NO_2

NO

NH_3

CO

H_2S

HF

CH_4

BHOOMI

The **AGASTHYA 2005** series model **BI 7000 UNIVERSAL** is Stack Gas Analyzing System that can be configured for 1 gas to 8 gas analysis. Add-on modules make it flexible and adaptable to any process conditions. Also it offers various detection methods like NDIR, electrochemical, paramagnetic and ZrO_2 technology. The **AGASTHYA 2005** series model **BI 7000 UNIVERSAL** can simultaneously measure up to eight gas components.

BHOOMI - a committed partner

We have more than 8 years experience in process gas analysis
We enhance the product quality by the continuous process of research and development.
We have range of models to suite various site conditions and processes

GAS ANALYSIS using NDIR Technology

Species	Min range	Max range	Long Term O/P Drift	Linearity	Repeatability	Response Time T90
NO	0 - 200ppm	0 - 5000ppm	< 2% per week	1%	0.5% of full scale	< 60 Sec
SO_2	0 - 200ppm	0 - 5000ppm	< 2% per week	1%	0.5% of full scale	< 60 Sec
CO_2	0 - 100ppm	0-100 vol%	< 2% per week	1%	0.5% of full scale	< 60 Sec
CO	0 - 200ppm	0-100 vol%	< 1% per week	1%	0.5% of full scale	< 60 Sec
CH_4	0 - 500ppm	0-100 vol%	< 2% per week	1%	0.5% of full scale	< 60 Sec

O_2 ANALYSIS

Sensor type	Min range	Max range	Long Term O/P Drift	Linearity	Repeatability	Response Time T90
Zirconia cell	0 - 10 vol%	0 - 25 vol%	< 0.05% per week	1%	0.05% of full scale	< 3Sec
Paramagnetic cell	0 - 10 vol%	0 - 25 vol%	< 0.05% per week	1%	0.03% of full scale	< 10 Sec
Fuel cell	0 - 10 vol%	0 - 25 vol%	< 0.125% per week	1%	0.5% of full scale	< 20 Sec

Zirconia Oxygen Sensor : Other specifications

- Insertion length : 18”, 36” & 72”
- Static system accuracy : 5% of reading
- Dynamic system accuracy : 1% of reading
- Sample gas temperature : 10 °C to 760 °C
- Ambient temperature : 0 °C to 55 °C
- Probe material : SS 316 L
- Installation : Flange mounting
- Power requirement : 150 Watts
- Filter : Sintered steel or ceramic with 20 micron porosity
- Reference air : Clean dry instrument quality air
- Mounting : 90mm diameter insertion hole. Adapter plate to be welded or anchored on process wall.

PARTICULATE AND OPACITY MONITORING

Species	Range	Long Term O/P Drift	Linearity	Repeatability	Response Time T90
Opacity	0 - 100%	< 1% per annum	< 1%	1% of signal	< 1 Sec
SPM	0 - 3000 mg/m^3	< 1% per annum	< 1%	1% of signal	1 Sec

TEMP PARAMETERS

Parameter	Measuring Method	Range	Resolution	Accuracy	Time (T90)
Tgas - flue gas temperature	Thermocouple	0..1600°C	1°C	± 2 °C	30 s
Tamb - ambient temperature	Thermistor	0..100°C	1°C	± 1 °C	30 s

GAS ANALYSIS using Electrochemical Sensors

Species	Range	Long Term O/P Drift	Linearity	Repeatability	Response Time T90
CO	10000ppm	< 1% per month	< 1%	2% of signal	< 40 Sec
CO_2	25%	Derived	Derived	Derived	Derived
NO	2000ppm	< 2% per month	< 1%	2% of signal	< 25 Sec
NO_2	200ppm	< 2% per month	< 1%	2% of signal	< 60 Sec
SO_2	2000ppm	< 2% per month	< 1%	1% of signal	< 40 Sec
HCL	100ppm	< 2% per month	< 1%	2% of signal	< 120 Sec
H_2S	200ppm	< 2% per month	< 1%	1% of signal	< 35 Sec

Combustion Efficiency Parameters

Parameter	Range	Resolution
Excess air number	1..10	0.01
Combustion losses	0..100%	0.1%
Efficiency	0..120%	0.1%
Commom fuels	20	
Programmable fuels	5	

Analyzer other specifications

- Sample Line: 15m Standard (up to 50m available)
- Measurement Units: ppm , mg/m^3 and %
- Ambient Temperature: -10C to 50C
- Process Temperature: dew point to 600 C (above 600C by arrangement)
- Four simultaneous 4 - 20 mA, permissible load resistance: 550 _ max.
- RS 422 Computer Interface
- Power supply 100/110/115/200/230 V AC ±10%, 50/60 Hz ±0.5 Hz
- Wall mounting and standing panels available, dimension may vary according to application.
- Clean, oil free compressed air 5 bar minimum pressure, 0.25 liter/sec continuous

Analyzer Features

- Up to 8 gas species
- Correction to O_2 reference values
- Volumetric measurement in terms of $mg/m^{3,}$ ppm and vol%
- Double stage sample gas cooler
- Continuous monitoring
- Full range of outputs & alarms
- Data logging via pc software package
- Fully automated sample conditioning Unit
- Modular system, can increase gas species from min one up to max eight

Technology involved

- High resolution NDIR technology for IR absorption gases such as CO, CO_2, CH_4, SO_2, NO
- Options of zirconium oxide analyzer, paramagnetic analyzer or fuel cell for oxygen
- Accurate electrochemical sensors for CO, $CO_{2,}$ NO, NO_2, SO_2, HCL and H_2S
- Other gases on request

Bhoomi advantages

- Low cost of ownership, maintenance and installation
- Ensured after sales & service support
- Emission monitoring according to local regulations
- Spares and accessories availability guaranteed for years
- Proven hot/wet extractive measurement
- Combination of technologies and integration under one roof
- Single sample inlet for sample gases with air driven eductor pump
- Output in the form of current, voltage and RS422 interface

Typical Applications

- Hazardous waste incinerators
- Municipal waste incinerators
- Biomedical waste and sludge incinerators
- Combustion analysis
- Cement kilns
- Steel and aluminum smelters
- Gasification and pyrolysis processes
- DeNOx and DeSOx of power plants
- Brick, tiles and glass manufacturing
- Solvent recovery and destruction

BHOOMI™ Analyzers

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