

PORTABLE

STACK GAS ANALYSER / FUEL EFFICIENCY ANALYSER



FOR SINGLE OR MULTI GAS ANALYSIS

THE MOST POWERFUL, COMPACT, RUGGED & INTELLIGENT INSTRUMENT

ITS SIMPLE AUTOMATIC OPERATION, CONTINUOUS, MEASUREMENT AND DISPLAY OF GAS CONCENTRATION AND OTHER PARAMETERS MAKES IT A VALUABLE AID FOR ANALYSIS IN NUMEROUS APPLICATION.



PA 960

APPLICATIONS

- In Quality Control Labs
- Process Analysis
- Stack Gas Analysis
- Fuel Efficiency Analysis
- Furnaces
- Underground Mines
- Ambient & Emission Monitoring
- Internal Combustion Engines
- Burner Performance Monitoring
- Boiler Corrosion
- Excess Air Measurement
- Atmosphere Monitoring
- Burner Flame Control

INDUSTRIES

- Power Generation
- Combined Cycle Gas Turbine Generators
- Petrochemicals
- Chemicals
- Process Industries
- Pharmaceuticals
- Incineration
- Cement
- Glass
- Steel
- Pulp and Paper
- Road Tunnels
- Furnaces

SPECIAL FEATURES

■ **Complete Automatic operation**

Complete Automatic operation including Calibration, "ON - OFF" & "SAMPLE" Keys only.

■ **Self diagnostic check**

Self diagnostic check & specific fault indication, Discrete LEDs for Sample Flow, Sensor Efficiency & Battery Condition.

■ **Self-integrity Check**

Continuous on-line full self-integrity check eliminates wrong measurements due to Instrument Faults.

■ **USER Friendly**

Visual Messages on status on functioning.

■ **Proven Sensor Technology**

Special purpose long life Sensors with Cross Interference filters to achieve high accuracy.

■ **Oxygen Sensor Guaranteed for 4 years.**

Display of Concentrations

Continuous, Stable & Automation display of concentrations - ensures maximum accuracy & reliability.

■ **Sensor Technologies**

Analyser is built up using sensors technology to suit specific application.

■ **Batteries**

Long life rechargeable batteries.

■ **Diffusion or Suction with**

Time tested, sturdy, high suction in-built pump supervisory circuit continuously monitors the pump against failure.

■ **Disposable Cartridge Line Filter & Moisture Separator**

Low porosity, disposable cartridge line filter & moisture separator suitably conditions the sample.

■ **Calibration**

A built-in procedure allows easy and automatic span sensor calibration using standard gas cylinder.

Periodic zero calibration is automatic on demand.

■ **Electronic Flow Meter**

An automatic built-in system measures a flow of sampling gas to obtain a constant sampling volume.

■ **Multi Fuel Selection**

The fuel efficiency analyser can be programmed for selection upto 10 fuels for calculating combustion values.

■ **Gas Probes & Sampling System**

Flue gas sampling probes with different lengths, shapes and max, operating temperatures Upto 1600°C are available to match various requirements of different applications. A sintered pre-filter is suggested for severe and having dust loded applications.

- **Heated Sampling Hose**

A heated sampling Hose is available for high temperature applications. A heated hose allows flue gas sampling without condensation.

- **Continuous Monitoring**

The industrial design and the advanced technology applied to the unit, allows it to perform long term gas analysis

- **PROBES - APPLICATION SPECIFIC AVAILABLE**

- **Ambient CO Probe**

An optional probe to monitor ambient CO concentration to keep the operator in a safe environment.

- **Gas Sniffer Probe**

To detect and locate the precise position of a gas leak in a pipe network or equipment.

- **Smoke Index**

Smoke Index measurement can be obtained using a special heated probe, supplied on request, and through a dedicated internal procedure that computes the required volume of gas sample flowing into the specific filter. The results can be obtained by comparison with the Smoke Index Table.

- **Gas Velocity**

An internal procedure allows gas velocity measurements using the differential pressure inlet combined with a pitot tube.

- **Report of Calibration**

Each instrument is factory calibrated and certified against Endee's Standard Gasses and shipped with a Report of Calibration stating the nominal and actual values and the deviation error.

- **Quality System**

Research, development, production, inspection and certification activities are defined by methods and procedures of the Endee's System inspected for compliance and certified ISO 9001.

OPERATION

On start up, the instrument automatically goes through complete integrity check, calibration cycle before displaying its readings for sampling. With the press of sampling switch, the analyser automatically extracts the sample, analyses and display the concentrations of various gases in cyclic order. To stop or for further sampling at different locations or clearing with fresh air before switch off, one has to press the sample switch again.

SPECIFICATIONS

| | | |
|---------------------|---|---|
| Display | : | High quality Alpha Numeric LCD. |
| Calibration | : | Automatic Zero On Start with fresh air sample. |
| SPAN Calibration | : | automatic with calibration gas. |
| Response Time : | | Maximum 20 seconds at 95% variation |
| Power Supply | : | Internal battery pack with external charger 220V / 50 Hz |
| Working Temperature | : | -5 to 55°C |
| Storage Temperature | : | -20 to 45°C |
| Case | : | Aluminum |
| External Dimension | : | 170 X 100 X 130 mm |
| Weight : | | 1.5 Kg. App. |
| Probe (Optional) | : | (i) 8mm, Dia SS 600 mm length with 2 meter Hose Probes of other material & length available. (ii) Sniffer Probe : To detect & locate the precise position of Gas leak in a pipe network. |
| Accessories | : | Leather case with shoulder strap, battery charger, operational manual. |

MEASURING RANGE (SPECIFY PARAMETERS OF YOUR INTEREST)

| PARAMETER | SENSOR | RANGE | RESOLUTION | ACCURACY |
|----------------------------------|-----------------------|-------------------------|------------|--------------|
| O2 | Electrochemical | 0-25% | 0.1% | 0.5% |
| CO | Electrochemical | 0-4000 | 1 PPM | ± 2% |
| CO (A) Sensor Comp. For H2 | Electrochemical | 0-4000 PPM | 1PPM | ± 2% |
| CO(B) | Electrochemical | 0-10% | 0.01% | ± 2% |
| CO2 | TCD/ NDIR | 0-25% / 100% V | 0.1% | ± 2% |
| NO | Electrochemical | 0-1999 PPM | 1PPM | ± 2% |
| NOX | Electrochemical | 0-1999 PPM | 1PPM | ± 2% |
| NO2 | Electrochemical | 0-100 PPM | 1PPM | ± 2% |
| SO2 | Electrochemical | 0-1999 PPM | 1PPM | ± 2% |
| CxHx (Calibrated for methane) | Catalytic TCD/NDIR | 0-100% LEL or 0-5% V | 1% 0.1% | + 2% ± 2% |
| Excess Air (A) | Calculated | 0-100 % | 0.1% | ± .5% |
| Temp. Air (Ambient) | PT 100 | 0-99°C | 1°C | ± 0.5% |
| Temp. Gas | Tc K | 0-1000°C | 1°C | ± 0.5% |
| Temp. Differential | Tc K | 0-1000°C | 1°C | ± 0.1% |
| Combustion Efficiency | Calculated | 0-99.9% | 0.1% | |
| Smoke Index | Paper Filter Method | 0-9 Bachrach Scale | 0.1% | |

The above Parameter and Ranges are only indicative. Endee will build up and supply the analyser with Parameters, range and features to any Practical Configuration.

Note : Specifications and Features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. Due to endee's commitment to research, design and product improvement, specifications are subject to change without notice.



ENDEE ENGINEERS PVT. LTD.

Office : 25/N, Laxmi Industrial Estate, Link Road, Andheri (W), Mumbai - 400 053.
Tel. : 6692 3081 / 82 | Fax : 2637 5973
Email : sales@endee-engineers.com | info@endee-engineers.com
Website : www.endee-engineers.com