



# UniGas 1000



## Basic Combustion Flue Gas Analyser

Low cost tool for boiler maintenance

### FLUE GAS ANALYSER

Compact and Ergonomic, Fits in Your Hand

Easy to Use with Large Multiline Display & Rotary Keys

Automatic LCD Backlight

Built-in Impact Printer (Not Thermal !)

Proprietary Design Water Trap

Draft & Differential Pressure Meter

Differential Thermometer Flow/Return

Ambient CO Monitoring Room Test **NEW**

Gas Network leak/Tightness Test Procedure **NEW**

Programmable Printer Header

Rechargeable Battery

Upgradable using Flash Memory



Bulletin 06-05.3 E - ed. 11.2006

Magnetic Rubber Holster Included !

- O<sub>2</sub>
- CO<sub>2</sub>
- CO
- Efficiency
- Excess air
- Differential pressure
- Tair Tgas T
- CO/CO<sub>2</sub> ratio

Designed to meet BS7927, BS7967, TUV, ISO, Gastec QA Criteria, GOST, Qualigaz, and UNI 10389

All descriptions are related to full options instrument. See latest page for the different configurations.

### Easy replaceable gas sensors

UniGas 1000 uses long life low maintenance sensors for O<sub>2</sub> and CO.

### Standard Report of Calibration

Each instrument is factory calibrated and certified against Eurotron Standard to ensure traceability, and shipped with a Report of Calibration.

### Rechargeable battery operations

Ni-MH rechargeable batteries provide longer field use. Flue gas analyser and internal printer is powered by unique batteries. Charger is supplied as standard.

### Built-in impact printer

The instrument is available with or without a built-in rugged impact printer. It uses a low cost common roll of paper. Certainly more readable, long time and heat resistant than the thermal printout on chemical paper. You can find paper in any stationary store.

### Pressure/Draft & Tightness Test

Differential pressure input to verify: draft, gas network leak with pressure decay programme, gas flow pressure, pressure in combustion chamber, P on filters and fan, pressure switches calibration. The tightness test procedure includes dual report (let by).

### Smoke index

Smoke index measurement is performed by using the optional external hand pump. The results can be stored in the internal memory and printed on the report.

### Ambient CO safety monitoring Room Test (BS7967)

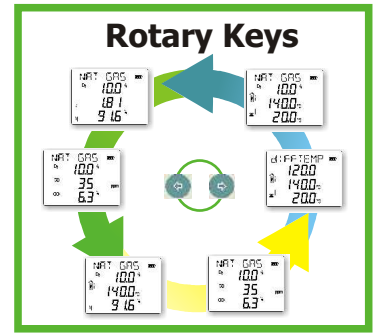
A procedure can be selected to monitor the CO in ambient air using the internal sensors. An internal program allows the CO max measurement in atmospheric boiler room test with 15 values logging.

### MULTI REPORTS **NEW**

(see UniGas 2000+ for details)



# UniGas 1000 Basic Combustion Analyser



## Specifications

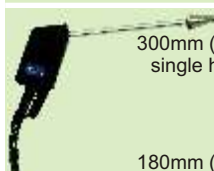
- **Calibration:** automatic calibration procedure at 60 seconds with smart autozero switch-On.
- **Self-diagnosis:** Sensors efficiency test with display diagnostic messages.
- **Fuel types:** Up to 10 selectable from keyboard (most common preprogrammed).
- **Power supply:** High capacity Ni-MH rechargeable battery pack / external battery charger.
- **Charging time:** 8h at 90% with instrument Off.
- **Battery life:** 6 hours (typical) continuous use (without printing and backlight).
- **Printer power supply:** from the analyser battery pack.
- **Printed report header:** 4 programmable lines.
- **Display:** 40x58 mm alpha-numeric LCD with backlight device.
- **Infrared port:** compatible with HP82240B cordless printer.
- **Operating temperature:** from -5°C to +45°C - from -10 to 90% RH
- **Storage temperature:** from -20 to +50°C (3 months maximum at temperatures exceeding the operational limits).
- **Dimensions and Weight:** 115x90x330 mm - 1.1 kg with battery and printer
- **Warranty: 2 years** NEW sensors, connectors, battery, printer and pump included.



**BB880028**  
ABS rigid carrying case.

**BB880033**  
Aluminium carrying case.

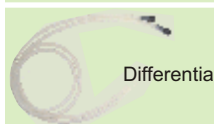
**BB880043**  
Compact rigid carrying case with shoulder strap. UniGas 1000, probes, and accessories need 1/3 of the classic carrying case space.



**BB610048**  
300mm (Temperature + Gas) single hose sampling probe  
6mm with 3 mt hose



**BB610047**  
180mm (Temperature + Gas) single hose sampling probe  
6mm with 3 mt hose



**F7828000**  
Manual pump for smoke index measurements



**EE300086**  
Differential pressure probe and burner hose kit



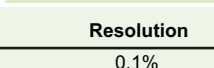
**BB830010**  
Gas sniffer probe



**BB290031**  
DC Auto Adapter



**F2139100**  
Tc K-Type Clamp Probe



**F2139200**  
Pt100 Clamp Probe

## Ordering Code

### cat. 7820 - A - B - C - D - E - F

The standard package includes:  
Unigas 1000 basic unit, battery charger, differential pressure sensor, infrared port for HP thermal printer, rubber holster, instruction manual, Eurotron calibration certificate.

**Table A Sensor n.1**  
1 O<sub>2</sub> (0-25%)

**Table B Sensor n.2**  
0 none  
2 CO (0-4000 ppm) - EN50379-3  
2H CO (0-8000 ppm) H<sub>2</sub> compensated EN50379-2

**Table C Sample probe**  
(including water trap and line filter)  
1 180mm flue gas probe or draft (single hose) BB610047  
2 300mm flue gas probe or draft (single hose) BB610048

**Table D Options**  
0 none  
P Built-in impact printer

**Table E Mains adapter / charger**  
1 115V ±10% 50/60Hz - USA plug  
2 230V ±10% 50/60Hz - Schuko plug  
3 230V ±10% 50/60Hz - UK plug  
4 230V ±10% 50/60Hz - European plug  
5 100V ±10% 50/60Hz - USA/Japan plug

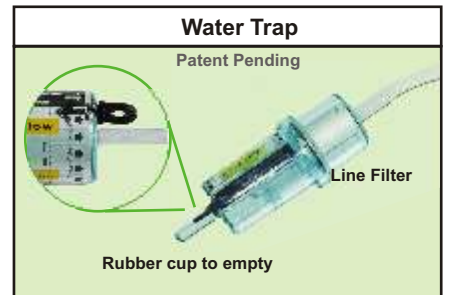
**Table F Calibration Certificate**  
1 Eurotron report

#### Consumable Parts

EE340006	Paper roll
EE490002	Printer ribbon cartridge
EE650011	Filter paper set for smoke index measurements (40 pcs)
EE860004	Smoke index comparison table
EE650074	Spare line filter cartridge

Parameter	Sensor	Range	Resolution	Accuracy
O <sub>2</sub>	Electrochemical	0 - 25%	0.1%	±0.2% vol
CO	Electrochemical	0 - 4000 ppm	1 ppm	±10 ppm <300 ppm ±4% rdg up to 4000ppm
CO H <sub>2</sub> compensated	Electrochemical	0 - 8000 ppm	1 ppm	±10 ppm <300 ppm ±4% rdg up to 2000 ppm ±10% rdg elsewhere
CO <sub>2</sub>	Calculated	0 - 99.9%	0.1%	
Tair	Pt100	-10 - 100°C	0.1°C	±0.5°C
Tgas	Tc K	0 - 600°C	0.1°C	±1°C
Pressure/Draft	Piezoresistive	-10hPa to 120hPa	0.01 hPa	±3Pa <300 Pa ±1% rdg. elsewhere
Excess air	Calculated	1.00 - infinity	0.01	or 0 - 250 %
Efficiency	Calculated	0 - 120.0%	0.1% (also for condensing boilers with automatic detection)	

All emission measurements can be displayed with reference to a programmable O<sub>2</sub> value. Accuracy limits are stated as % of reading. An additional ±1 digit error has to be considered. The stated pressure relative accuracy is valid only after the zero procedure. Measuring reading can be directly converted from °C to °F, ppm to mg/Nm<sup>3</sup> and from hPa to mmH<sub>2</sub>O, mbar, inH<sub>2</sub>O.



**Proprietary designed trap**  
Built-in protection for water suction. External, to prevent risk of sensors damage. Big water tank capacity for high condensing boiler. Small rubber cup for easy water empty. Long life paper filter.

Specifications may change without notice.