



UniGas 2000+



Professional Combustion Flue Gas Analyser

Providing the Latest Technological Analyser for Heating
Service Engineers, Gas Installers & Plumbers

FLUE GAS ANALYSER

8 INSTRUMENTS IN 1:

- 1 Combustion Flue Gas Analyser
- 2 Draft & Differential Pressure Meter
- 3 2 Channel Differential Thermometer
- 4 Ambient CO Monitor (Room Test)
- 5 Gas Network Leak / Tightness Tester
- 6 Gas Leak Detector
- 7 Ionization Flame Tester
- 8 NO/NO_x Emissions

Built-in Impact Printer (Not Thermal !)

Built-in Gas Sniffer

Rechargeable Battery

Easy to Use, with Large Multiline Display & Rotary Keys

Stores up to 250 Complete Analysis with Customer Name & Address

Windows Software & USB Cable
Upgradable Using Flash Memory



EN 50379-2
(O₂ and CO-H₂)
Compliant

- O₂
- CO₂
- CO
- NEW** NO_x
- Efficiency
- Excess Air
- Differential Pressure
- Tair Tgas
- CO/CO₂ Ratio
- Ambient CO Monitor
- Gas Leak Detector

Magnetic
Rubber Holster
Included !



Designed to meet BS7927, BS7967, TUV, ISO, Gastec QA Criteria, GOST, Qualigaz, and UNI 10389
All descriptions are related to a fully optional instrument. See last page for the different configurations.



Multifunction Unit for the Complete Maintenance of Your Boiler

One Instrument Multi Functions and Multi Reports NEW

```

Your company name
Phone number here
Fax number here

UniGas 2000 PLUS
Serial Number 102597

Date: 29/09/2006
Time: 14:15

Fuel: Natural Gas

O2      : 10.3 %
CO2     : 6.0 %
Exc. air : 1.86
Flue     : 138.9 °C
Inlet    : 42.2 °C
Temp. nett: 96.7 °C
Eff. Net : 92.3 %
Loss. Net : 7.7 %
Eff. Gross: 83.7 %
Loss. Gross: 16.3 %
CO       : 0 PPM
Draught  : -----
CO/CO2  : 0

Rif. %O2 : 3.0 %

CO       : 0 PPM
  
```

Easy replaceable gas sensors

UniGas 2000+ uses long life low maintenance sensors for O₂ and CO. Alarm levels with audible buzzer on gases measurement.

Multi Fuel selection

UniGas 2000+ provides up to 10 fuels for calculating combustion values. Most used fuels for your country are pre-loaded from factory. Others fuels can be added using GasConfig PC software.

Gas sampling probe

Flue gas sampling probes, with different lengths and shapes, are available to match each specific requirement. The sampling probe is connected to the instrument with a single or dual hose through a water trap and a suspended particle filter.

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.



Gas pipework leak test

To check gas pipework for the presence of leaks using a pressure decay program and the internal pressure sensor. The tightness test procedure includes dual report (let by). **IGE / UP / 1B compliant.**

Gas leak sniffer

The instrument can operate in two ways:

An **external** optional probe is available to locate the position of a gas leak. This probe has a flexible stainless steel shaft to reach difficult locations.

An **internal** optional sensor can be installed inside the analyser to locate the position of a gas leak into the domestic pipe network. The internal pump draws the air from ambient and makes the instrument more sensitive for micro-leaks.

```

Your company name
Phone number here
Fax number here
  
```

```

UniGas 2000 PLUS
Serial Number 102597
  
```

```

Date: 29/09/2006
Time: 14:44
  
```

```

Let by Test
Compliant to IGE/UP/1B
  
```

```

Start P1: 1.85 mbar
Finish P2: 0.04 mbar
  
```

```

Drop      : -1.81 mbar
Duration  : 60 secs
  
```



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.

```

Your company name
Phone number here
Fax number here
  
```

```

UniGas 2000 PLUS
Serial Number 102597
  
```

```

Date: 29/09/2006
Time: 14:41
  
```

```

Draught      :119.1 hPa
  
```

```

Your company name
Phone number here
Fax number here

UniGas 2000 PLUS
Serial Number 102597

Date: 29/09/2006
Time: 14:33

Differential Temperature
Flow T1      : 61.9 °C
Return T2   : 87.5 °C
Diff. Temp  : 25.6 °C
  
```

Differential Thermometer

The dual input temperature probes has to be used in the flue gas analysis for flue and air inlet measurements. The UniGas 2000+ can be used also as a two channel thermometer to measure air, liquid and surface (pipe) temperatures.

Ideal for Benchmark Test.



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. An external optional probe is also available for continuous surveillance of the ambient and operator safety. Both acoustic and visual alarm are available.

```

Your company name
Phone number here
Fax number here
  
```

```

UniGas 2000 PLUS
Serial Number 102597
  
```

```

Date: 02/10/2006
Time: 14:41
  
```

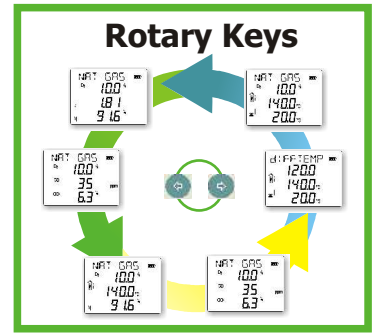
```

CO room test
Compliant to BS 7967
Time      CO
01       : 14 PPM
02       : 14 PPM
03       : 14 PPM
04       : 14 PPM
05       : 14 PPM
06       : 14 PPM
07       : 15 PPM
08       : 17 PPM
09       : 17 PPM
10       : 19 PPM
11       : 20 PPM
12       : 20 PPM
13       : 20 PPM
14       : 20 PPM
15       : 20 PPM
CO MAX   : 20 PPM
  
```





UniGas 2000+ The Most Powerful and Complete Gas Analyser



Technical Specifications

Type: palm-top combustion gas analyser.

Calibration: automatic calibration procedure at instrument 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 backlit).

Memory: up to 250 full analysis data structured by boilers (Tags).

Printer: Internal impact type 24 columns with 58 mm paper roll.

Printer power supply: from the analyser battery pack.

Print autonomy: up to 40 reports with full battery (typical).

Printed report header: 4 programmable lines.

Display: 40x58 mm alpha-numeric LCD with backlit device.

Serial communication: RS232 interface. USB cable optional.

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

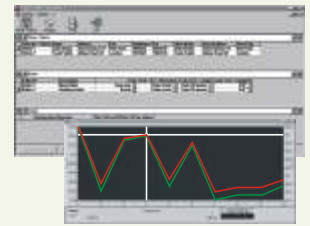
Warranty: 2 years - sensors, connectors, battery, printer and pump included. NEW

Parameter	Sensor	Range	Resolution	Accuracy
O ₂	Electrochemical	0 - 25%	0.1%	±0.2% vol
CO	Electrochemical	0 - 8000 ppm	1 ppm	±10 ppm <300 ppm ±4% rdg up to 2000 ppm ±10% rdg elsewhere
H ₂ compensated				
CO ₂	Calculated	0 - 99.9%	0.1%	
NO	Electrochemical	0 - 4000ppm	1ppm	±5ppm <125ppm ±4%rdg up to 4000ppm
NO _x	Calculated	0 - 5000ppm		
Tair	Pt100	-10 - 100°C	0.1°C	±0.5°C
Tgas	Tc K	0 - 600°C	0.1°C	±1°C
Differential temp.	Calculated	0 - 999°C	0.1°C	
Pressure/Draft	Piezoresistive	-10 to 120hPa	0.01 hPa	±3Pa <300 Pa ±1% rdg. elsewhere
Excess air	Calculated	1.00 - infinity	0.01	or 0 - 250%
Efficiency	Calculated	1 - 99.9%	0.1% (also for condensing boilers with automatic detection)	

All emission measurements can be displayed with reference to a programmable O₂ 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/Nm³ and from hPa to mmH₂O, mbar, inH₂O.

DBGas 2004 PC Software

UniGas 2000+ can store 250 readings structured by boilers and customers. Using the optional **DBGas2004** Windows™ software package, you can organize and manage your inspection and maintenance activity. Select your customer and boiler details from PC and download to your analyser. DbGas 2004 software package includes **GasConfig** Windows™ software. Using the Configuration software you can change the configuration of the analyser.



BB 530211
USB Cable

Pa Probe (BB830025)

External 200Pa probe for natural boiler draft measurements, UNI 10845 compliant

Resolution: 0,1 Pa
Precision: ±0,5 Pa (from -10 to +10 Pa)
+ 3 Pa otherwise.

Supplied with certificate of calibration.



WATER TRAP
Patent pending

Line Filter

Rubber cup to empty

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.



UniGas 2000+ Modular Design Giving Total Flexibility

Accessories



BB880028
ABS rigid carrying case
BB880033
Aluminium carrying case
BB880043
Compact rigid carrying case with shoulder strap. UniGas 2000+, probes, and accessories need 1/3 of the classic carrying case space.



BB610051
180mm (TGD - Temperature, Gas, Draft) sampling probe
BB610046
300mm (TGD - Temperature, Gas, Draft) sampling probe



EE300086
Differential pressure probe and burner hose kit



F7828000
Manual pump for smoke index measurements



BB830006
Pt100 remote air sensor with cone



BB290031
DC Auto Adapter



BB830009
Ambient CO probe

BB830010
Gas sniffer probe



BB830019
Ionization current probe



F2139000
Pipe Velcro TC K-Type
F2132100
130mm air TC K-Type
F2137100
130mm Contact TC K-Type



F2139100
Tc K-Type
Clamp temperature probe
F2139200
Pt100
Clamp temperature probe

Ordering Code

cat. 7822 - A - BB - C - D - E - F -

*The standard package includes:
Unigas 2000+ base unit with one electrochemical sensor, battery charger, differential pressure sensor, infrared port for HP thermal printer, instruction manual, magnetic rubber holster, RS232 cable, Eurotron calibration certificate*

Table A Sensor n.1
0 none
1 O₂ (0-25%)

Table B Sensor n.2 & n.3
0 none
2H CO (0-8000 ppm), H₂ compensated
4 NO/NO_x (0-4000 ppm)

Table C Sample probes (including water trap and line filter)
0 none
1 180mm flue gas probe + draft (dual hose) BB610051
2 300mm flue gas probe + draft (dual hose) BB610046
3 90mm 90° flue gas or draft (single hose) probe BB610043
4 160mm multipoint flue gas (single hose) probe for atmospheric boilers BB610070

Table D Options
0 none
2 Internal sensor for gas leak detector
3 External probe for gas leak detector
4 External probe for CO operator safety
6 Software GasConfig + DBGas2004 + USB cable
7 External probe for boiler ionization current
8 Remote combustion air temperature sensor with 2m cable and positioning cone
9 Differential pressure connection kit (dual hose)
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 Accessories
0 None
3 Vinyl case with shoulder strap
4 ABS carrying case
5 Aluminum carrying case
6 Manual pump for smoke index measurement with filters and comparison table
7 DC Auto battery charger

Table G Calibration Certificate
1 Eurotron report

Consumable parts

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