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KANE 458s

Flue Gas Analyser with direct CO, CO_2 & CO sensor protection

Stock No: MAN00099 Rev: 1.10221 FEBRUARY 2021

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CONTENTS

	Page No.
KANE 458s OVERVIEW	**4-5**
INSTRUMENT FEATURES & KEYPAD	**6-9**
FUNCTION KEYS	7
ANALYSER LAYOUT	8
BACK OF ANALYSER - PROBE ETC	9
BATTERIES	**10**
BATTERY TYPE	10
REPLACING BATTERIES	10
TIME & DATE	10
CHARGING NIMH BATTERIES	10
BATTERY DISPOSAL	10
GENERAL SAFETY	**11**
USING YOUR KANE458s FOR THE FIRST TIME	**12-13**
USING YOUR KANE458S EVERY TIME	12
FRESH AIR OURGE ON SWITCH ON	12-13
USING THE MENU	**14-16**
MEASURING FLUE GASSES	**16**
CO PROTECTION PUMP OPERATION	**17**
USING YOUR ANALYSER	**18-19**
COMBUSTION TESTS	18
RATIO DISPLAY	18
02/EFF DISPLAY	19
AUX DISPLAY	19
TRANSFERING RESULTS	**19-21**
TO VIEW / PRINT A LOGGED RESULT	20
VIEWING / PRINTING A LOGGED COMBUSTION TEST	20
KANE INFRARED PRINTER	20
PRINTOUTS	20
COMMISSIONING TEST	**22**
PRESSURE & TEMPERATURE TESTING	**23-24**
PRESSURE MEASUREMENT GOOD PRACTICE	24

LARGE BORE TUBING ISSUES 24

LET-BY & TIGHTNESS TESTING 25-26

ROOM CO TESTING 27-28
TEST TYPES 27
ROOM CO DISPLAY 28

USING YOUR KANE458s AS A THERMOMETER OR PRESSURE METER 27-28

ANALYSER PROBLEM SOLVING 29

SPECIFICATIONS 30-31

EU DECLARATION OF CONFORMITY 32

SERVICE – CALIBRATE - RECERTIFY 33-37
KANE ASSET MANAGER (KAM) 34-35
GUARANTEED SAME DAY DESPATCH 36
WHERE TO SEND YOUR ANALYSER 37
COLD WEATHER PRECAUTIONS 37

KANE 458s OVERVIEW

Your KANE458s combustion analyser measures:

- Carbon Monoxide (CO)
- Carbon Dioxide (CO_2)
- Oxygen (O2) if fitted
- Nitric Oxide (NO) if fitted
- Differential Pressure
- Differential temperature

Your KANE458s measures CO2 using KANE's unique NDIR sensor.

Always use fresh outdoor air to "zero" your analyser during the initial countdown or when prompted to "ZERO CO" as indoor CO2 levels are increased by human activity.

This applies even if your analyser measures O2 instead of CO2 as it is best practice to use fresh, outdoor air during initial countdown to protect you from unsafe levels of CO & CO2 possibly present in the room.

Depending on your options these parameters are calculated:

- Oxygen (O2)
- CO/CO_2 ratio
- Carbon Monoxide (CO_2)
- Combustion Efficiency
- Losses
- Excess Air
- Differential Temperature

Your analyser also measures CO levels in ambient air – useful when a CO alarm is triggered – & performs a Room CO test for up to 30 minutes.

Your KANE458s has a structured Commissioning Test to help install boilers.

Your KANE458s has a protective rubber cover with magnets for "hands-free" operation & is supplied with a flue probe with integral temperature sensor.

Your analyser has a low flow detector to switch off the analyser's pump if it detects an over filled water trap.

Your KANE458s has a large 6 line display showing data & test results based on your actions.

Your KANE458s can send test results to our optional KANE IRP-2 infrared printer or KANE's wireless printer App.

The memory can store up to:

- 60 combustion tests
- 20 AUX tests
- 20 let-by/tightness tests
- 20 temperature & pressure tests
- 20 room CO tests
- 20 commissioning Tests

You can personalise 2 lines of 16 characters on your test results header - for example your company name & telephone number.

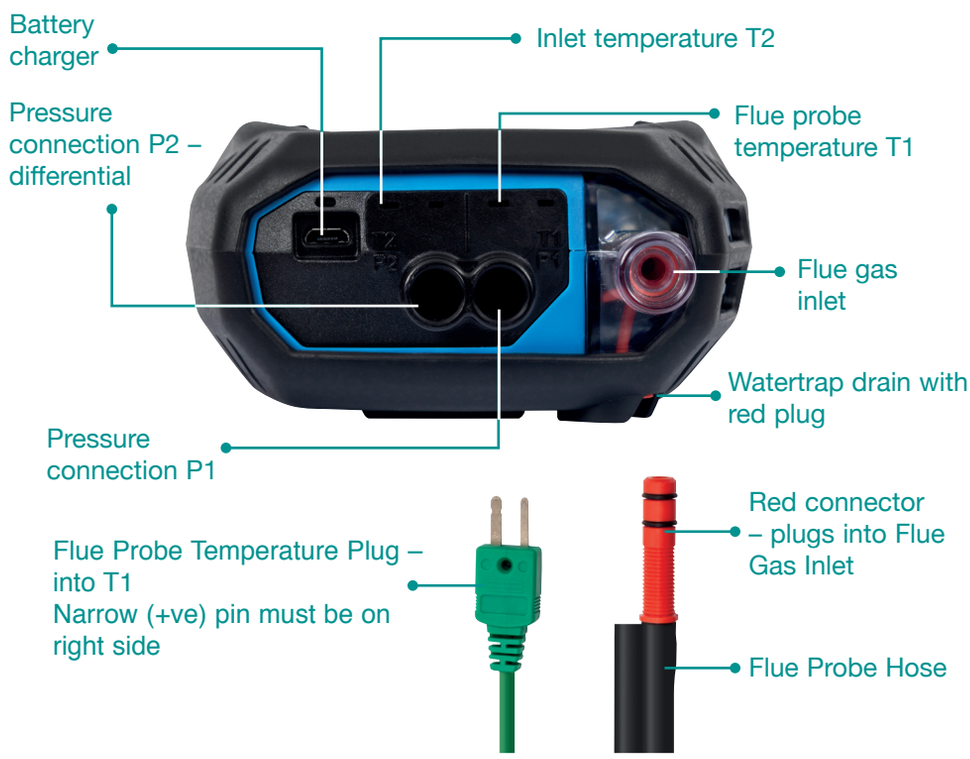
ANALYSER FEATURES & KEYPAD

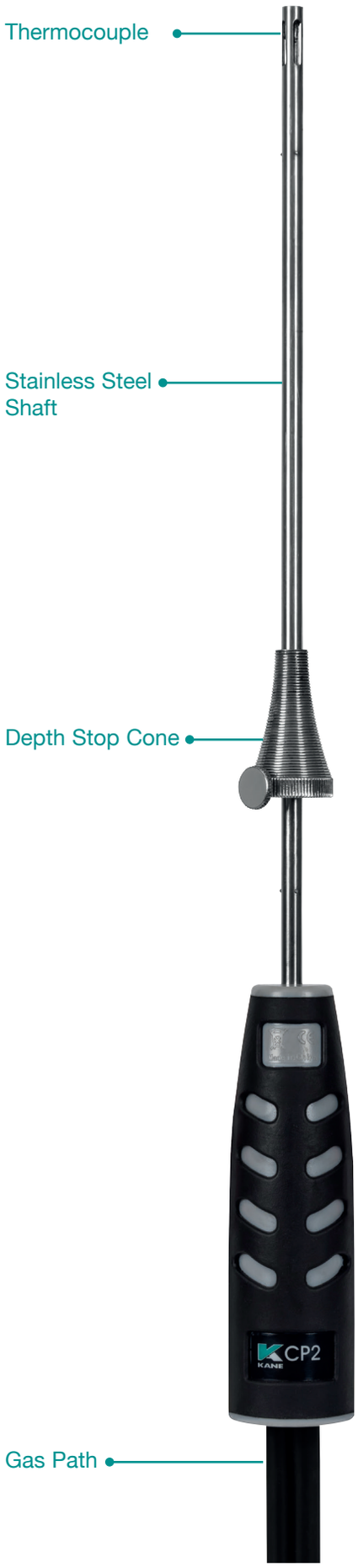
KANE458s BUTTONS

Function keys

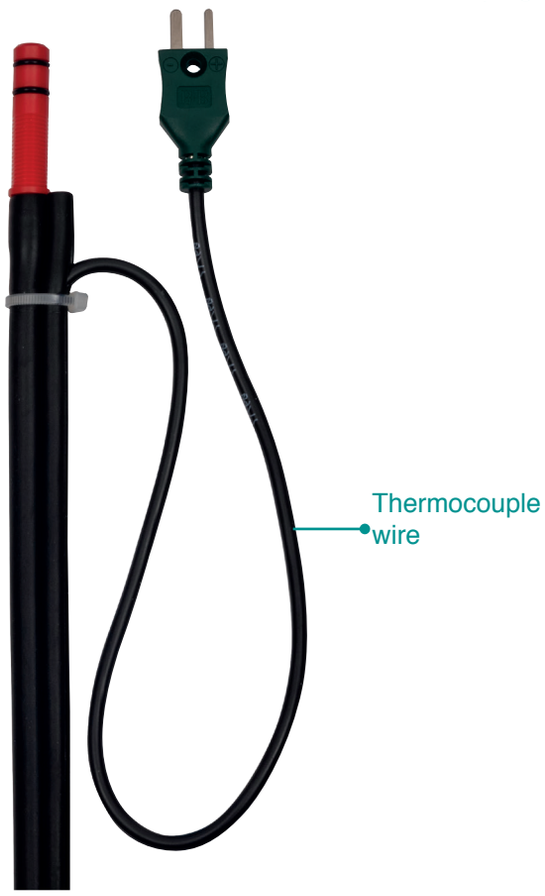
ICON	DESCRIPTION ICONS
	Save log – long press to store data
	Print report – short press to enter a print or wireless data transfer
	Navigate up – short press to scroll up
	Enter key – used to select current option
	Navigate down – short press to scroll down
	Data hold – short press to hold current data on screen
	Pump toggle – long press to switch pump on & off

ANALYSER LAYOUT




Thermocouple
Stainless Steel Shaft
Depth Stop Cone
Gas Path
KCP2
KANE

Magnets x2
Watertrap drain with red plug


Thermocouple wire

BATTERIES

BATTERY TYPE

Your KANE458s uses rechargeable Nickel Metal Hydride (NiMH) batteries - using other battery types may void your KANE458s' warranty.

⚠ WARNING

Although you can use Alkaline batteries you must not charge your analyser with Alkaline batteries fitted.

Do not mix NiMH batteries of different capacities or from different manufacturers – all must be identical.

REPLACING BATTERIES

Turn over your analyser & remove its protective rubber cover. Open the battery compartment & fit 3 NiMH "AA" rechargeable batteries – check battery polarity is correct. Replace battery cover & protective rubber cover.

TIME & DATE

After changing the batteries reset your analyser's time & date.

CHARGING NIMH BATTERIES

Your KANE458s uses a standard Micro USB connector for charging (KANE part No: USB1).

For best results turn off your analyser then connect your charger – the charging indicator illuminates & turns off when charging finishes.

Your first charge should be for 8 hours continuously – thereafter NiMH batteries can be topped up at any time, even for short periods.

If the analysers batteries discharge & the analyser enters a 'low power shut down' a 1 hour charge will provide approx 2 hours continuous use.

BATTERY DISPOSAL

Always dispose of depleted batteries using approved disposal methods that protect the environment.

GENERAL SAFETY

⚠ WARNING

This analyser extracts combustion gases that may be toxic in relativity low concentrations. These gases are exhausted from the bottom of the analyser. This analyser must only be used in well-ventilated locations by trained & competent persons after due consideration of all the potential hazards.

Portable gas detector users should conduct “bump” test before relying on the unit to verify an atmosphere is free from hazard.

A “bump” test is a way to test an instrument works within acceptable limits by briefly exposing to a known gas mixture that change the output of all the sensors present.

Note: This is different from a calibration where your analyser is also exposed to a known gas mixture but is allowed to settle to a steady figure & the reading adjusted to the stated gas concentration of the test gas.

Protection Against Electric Shock (In accordance with EN 61010-1: 2010):

This analyser is designed as Class III equipment & should only be connected to SELV circuits. The battery charger is designated as:

- Class II equipment
- Installation category II
- Pollution degree 2
- Indoor use only
- Altitude to 2000m
- Ambient temperature 0°C-40°C
- Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50%RH at 40°C
- Mains supply fluctuations not to exceed 10% of the nominal voltage

⚠ WARNING

Your analyser’s protective cover is fitted with strong magnets – magnetic fields can cause damage to magnetic storage media. Certain electronic devices are sensitive to magnetic fields & may be damaged permanently if exposed to a strong magnetic field.

USING YOUR KANE458s FOR THE FIRST TIME

Charge your analyser's batteries for 8 hours – an overnight charge should be sufficient for an average 8-hour day.

Take time to read this manual fully & be aware your analyser's configuration may not support all features detailed in this manual.

Take time to set up your requirements before using your analyser.

USING YOUR KANE458s EVERY TIME:

Check your analyser's water trap is empty & particle filter is not dirty.

To empty, pull out the red plug, shake out water & replace red plug.

To change the particle filter, remove protective rubber cover, slide the water trap from analyser, remove particle filter from its spigot & replace.

Reconnect your analyser's water trap & rubber protective cover.

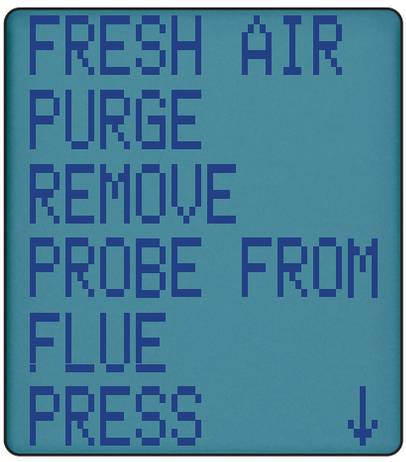
Connect your flue probe hose to your analyser's flue gas inlet – see p.8.

Connect your flue probes temperature plug to your analyser's T1 socket – check plug orientation is correct – See p.8.

FRESH AIR PURGE ON SWITCH ON

Your analyser starts a zero countdown to auto calibrate itself.
When finished, rotate dial to "RATIO" – In fresh air CO reading should be zero.

Rotate dial to "O2/EFF" – In fresh air O2 readings should be 20.9% + 0.3%.



⚠ WARNING

This message says your analyser must be reset in fresh air.

Place your analyser in outdoor fresh air, press ↵.

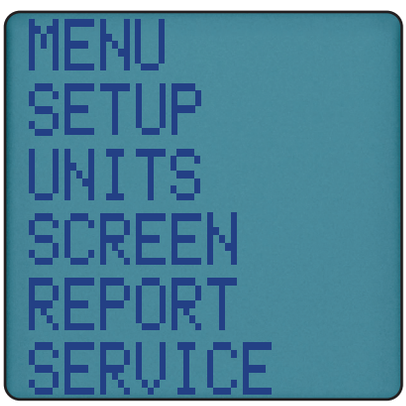
You can perform a manual “ZERO” any time – rotate dial to “RATIO” & hold down the ▼ button to see the message above.

USING THE MENU

Rotate dial to “Menu” & navigate using the function buttons:

▲ = SCROLL UP ▼ = SCROLL DOWN ↵ = ENTER

NOTE: To exit MENU rotate dial to any position – any changes not entered will not store.



As you scroll up or down, the side LEDs illuminate to point to the active line

MAIN MENU	SUB MENU	OPTIONS/COMMENTS
SETUP	LANGUAGE	ENGLISH
	SET TIME	HH:MM:SS format e.g. 7 am = 07:00:00, 7pm = 19:00:00
	SET DATE	DD/MM/YY format
	REPORTS	
	PRINTER	KM IRP KANE IRP-2 WIRELESS SERIAL
	BACK	

MAIN MENU	SUB MENU	OPTIONS/COMMENTS
UNITS	FUEL TYPE	NAT GAS, TOWN GAS, COKE GAS, PROPANE, BUTANE, LPG, LIGHT OIL, BIO OIL, WOOD PELLETS, BIO GAS, USER FUEL 1 TO 5
	FUEL ORIGIN	UK, FRANCE, SPAIN, N AMERICA, BELGIUM, NETHERLAND
	EFFICIENCY	GROSS, NET, GROSS COND, NET COND
	PRESSURE	SEE NEXT TABLE BELOW
	GAS	PPM, PPM(N), MG/M3, MG/M3(N), MG/KWH, MG/KWH(N)
	TEMP	C , F
	02 REF	UP/DOWN TO SET VALUE (3% DEFAULT)
	NOX CALC	UP/DOWN TO SET VALUE (5% DEFAULT)
	BACK	

MAIN MENU	SUB MENU	OPTIONS/COMMENTS
PRESSURE	FILTER	OFF = normal response. ON = slower (damped) response
	RESOLUTION	LOW = e.g. 0.01mbar resolution. HIGH = displays to an extra decimal place
	UNITS	mbar, Pa, PSI, mmHg, hPa, inH2O, mmH20, kPa, psi
	TIME	LET BY = Set duration of let-by test in minutes. Default = 1 minute
	PRINTER	STABIL'N = Set duration of stabilisation in minutes. Default = 1 minute
	PASS KEY	TIGHTN'S = Set duration of tightness test in minutes. Default = 2 minute
	BACK	

MAIN MENU	SUB MENU	OPTIONS/COMMENTS
SCREEN	CONTRAST	Factory setting is 14
	BACKLIGHT	0 to 300 secs
	AUX	Enables users to customise the parameters on the AUX display: LINE 1, LINE 2, LINE 3, LINE 4, LINE 5, LINE 6, BACK
	BACK	

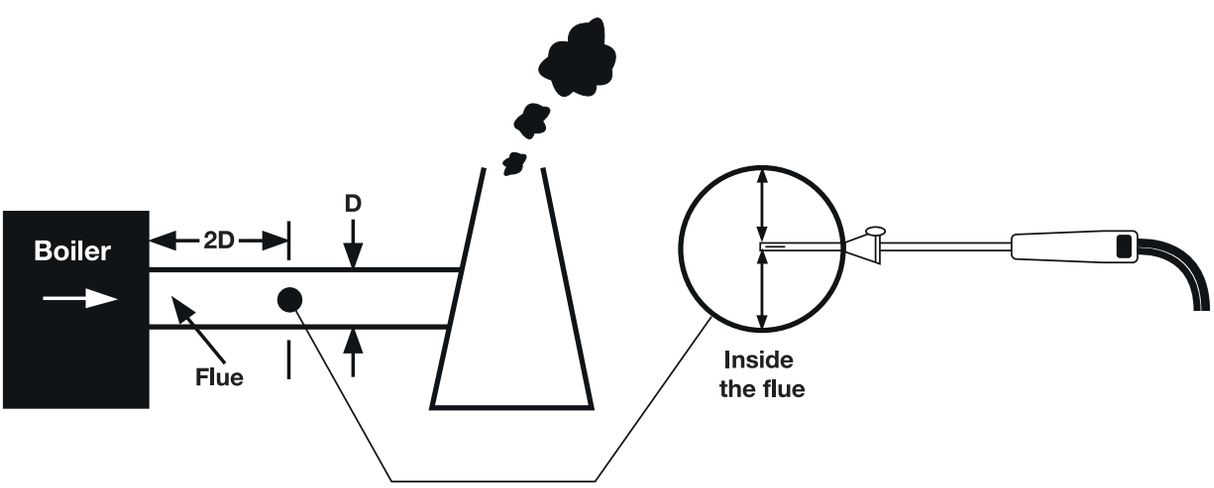
MEASURING FLUE GASSES

After the countdown is finished & the analyser is correctly set up, put its flue probe into the appliance's sampling point. The tip of the probe should be at the centre of the flue. Use the flue probe's depth stop cone to set the position.

With balanced flues, make sure the probe is positioned far enough into the flue so no air can "back flush" into the probe.

⚠ WARNING

Ensure the flue probe handle does not get hot!



Make sure you do not exceed the analyser's operating specifications. In particular:

- Do not exceed the flue probe's maximum temperature (600°C)
- Do not exceed the analyser's internal temperature operating range

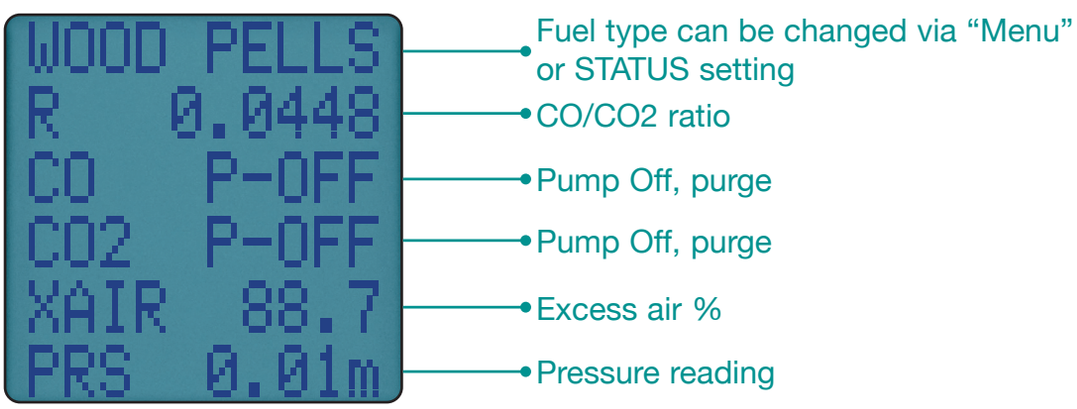
• Do not put the analyser on a hot surface
• Do not exceed the water trap's levels
• Do not let the analyser's particle filter become dirty & blocked

Look at your analyser's displayed data to ensure stable operating conditions are achieved & readings are within expected range.

CO PROTECTION PUMP OPERATION

Your analyser's CO sensor is automatically protected from high levels of CO. When levels of CO rise above 2000ppm the analyser's pump stops & its CO purge pump starts.

Your analyser displays P-OFF until CO level falls below 2000ppm.



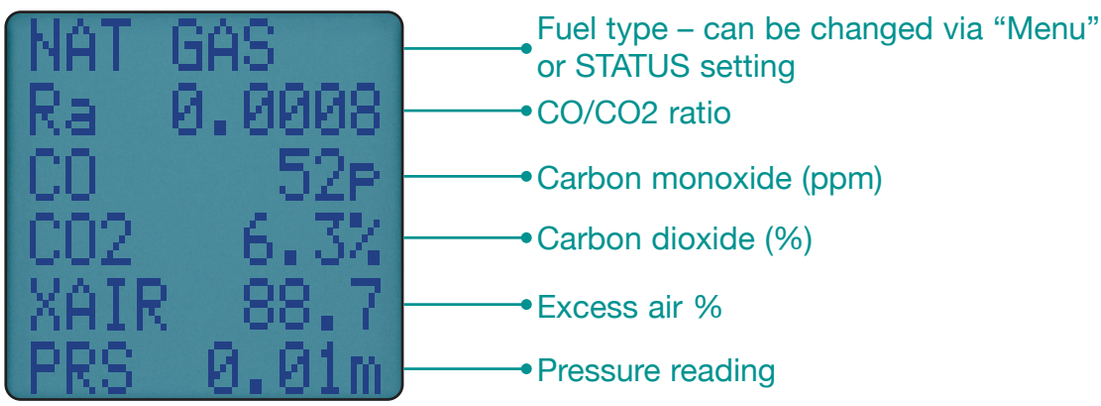
USING YOUR ANALYSER

COMBUSTION TESTS

Insert your flue probe tip into the centre of the flue. Readings will settle within 60 seconds assuming boiler conditions are stable.

Rotate dial to “Ratio” to display:

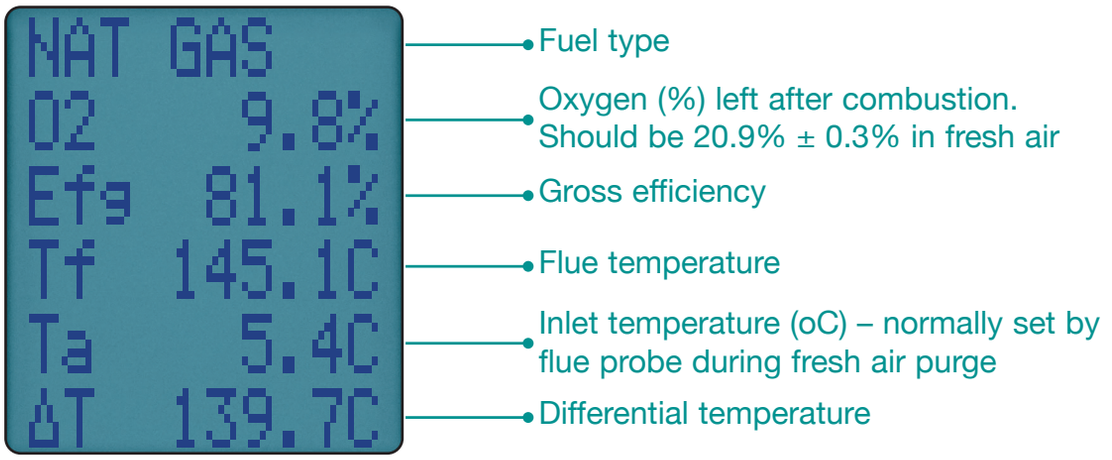
RATIO DISPLAY



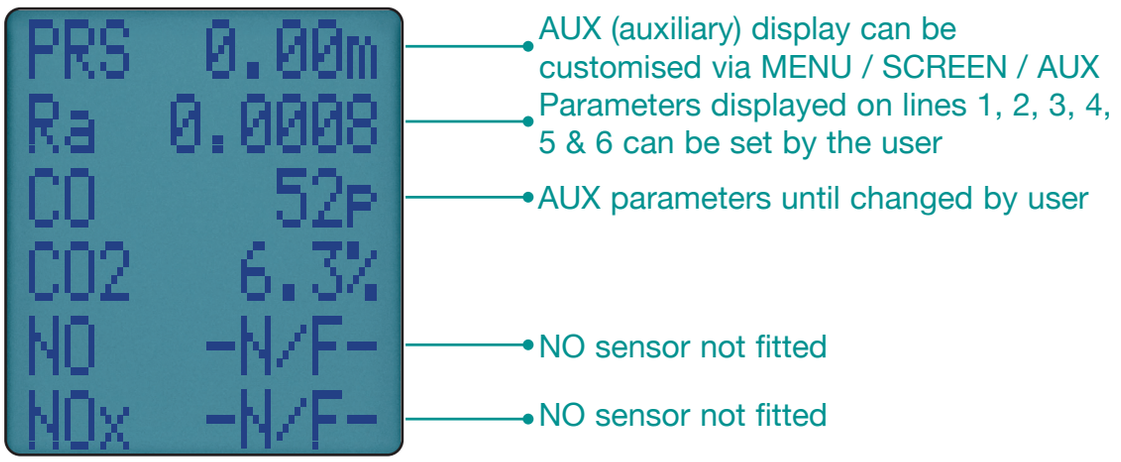
Press ⦿ button to send a full combustion test to our optional KANE IRP-2 printer or KANE’s App via Wireless module.

Press & hold ⦿ button for 2 seconds to log a full combustion report. Page 21 explains how to view & print stored reports.

O2/EFF DISPLAY



AUX DISPLAY



TRANSFERING RESULTS

To print, simply press & release the ⦿ button to send results to our optional KANE IRP-2 printer or KANE's App via wireless module – you can stop printing by pressing ↵ again.

Your analyser's side lights highlight the displays the active line.

Use ▲ or ▼ to change the pointer.

Press ↵ to select a line. The side lights now flash.

Use ▲ or ▼ to scroll or change the selected line.

Press ↵ to exit a line.

TO VIEW / PRINT A LOGGED REPORT

Select MENU / REPORT / COMBUSTION / VIEW.

Your analyser's side lights highlight the top line of its display.

Press ↵ to select this line – side lights will flash.

Use ▲ or ▼ to scroll or change the Log No – if only 1 report is logged, number will not change.

Press ↵ to confirm a Log No. – the side lights will stop flashing.

To view logged data press ▲ or ▼ to highlight another line.

Press ↵ – sidelights will flash on that line.

Use ▲ or ▼ to scroll through data.

To finish, press ↵. Sidelights stop flashing.

Use ▲ or ▼ to scroll down to "PRINT".

Press ↵ to print.

VIEWING / PRINTING A LOGGED COMBUSTION TEST

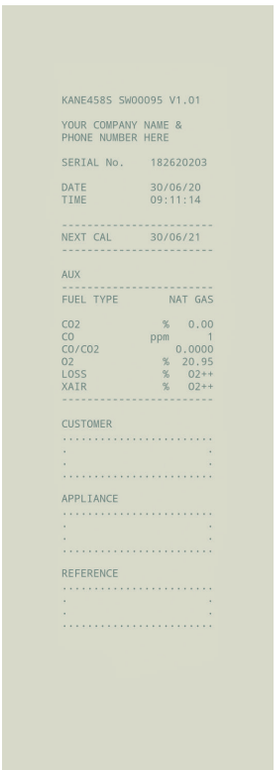
Press ↵ to send tests to our optional KANE IRP-2 printer or KANE's App via wireless module.

KANE INFRARED PRINTER

Switch on your printer & place its infrared receiver in line with the emitter on top of your analyser – allow a 15cm gap between the printer & analyser.

PRINTOUTS

Auxiliary



```
KANE458S SW00095 V1.01

YOUR COMPANY NAME &
PHONE NUMBER HERE

SERIAL No.     182620203

DATE           30/06/20
TIME           09:11:14

-------------------------
NEXT CAL       30/06/21
-------------------------

AUX
-------------------------
FUEL TYPE         NAT GAS

CO2               %   0.00
CO              ppm      1
CO/CO2            0.0000
O2                %  20.95
LOSS              %   O2++
XAIR              %   O2++
-------------------------

CUSTOMER
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APPLIANCE
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REFERENCE
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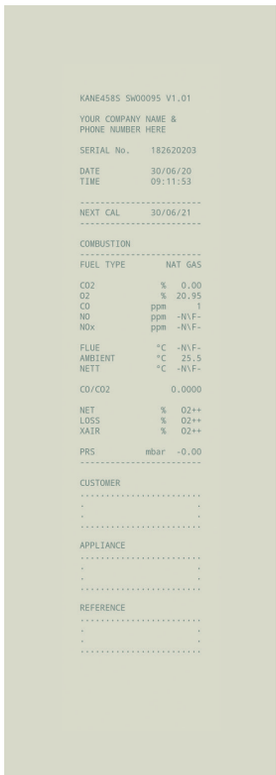
Combustion



```
KANE458S SW00095 V1.01

YOUR COMPANY NAME &
PHONE NUMBER HERE

SERIAL No.     182620203

DATE           30/06/20
TIME           09:11:53

-------------------------
NEXT CAL       30/06/21
-------------------------

COMBUSTION
-------------------------
FUEL TYPE         NAT GAS

CO2               %   0.00
O2                %  20.95
CO              ppm      1
NO              ppm  -N\F-
NOx             ppm  -N\F-

FLUE            °C   -N\F-
AMBIENT         °C   25.5
NETT            °C   -N\F-

CO/CO2            0.0000

NET               %   O2++
LOSS              %   O2++
XAIR              %   O2++

PRS            mbar  -0.00
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Pressure/Temp

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KANE458S SW00095 V1.01

YOUR COMPANY NAME &
PHONE NUMBER HERE

SERIAL No.     182620203

DATE           30/06/20
TIME           09:15:23

-------------------------
NEXT CAL       30/06/21
-------------------------

PRS/TEMP
-------------------------
PRS            mbar   0.00
T1              °C   21.4
T2              °C   20.9
DELTA           °C    0.5
-------------------------

CUSTOMER
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APPLIANCE
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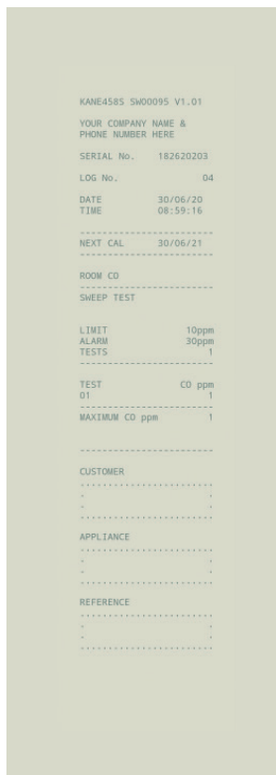
Sweep Test



```
KANE458S SW00095 V1.01

YOUR COMPANY NAME &
PHONE NUMBER HERE

SERIAL No.     182620203

LOG No.                 04

DATE           30/06/20
TIME           08:59:16

-------------------------
NEXT CAL       30/06/21
-------------------------

ROOM CO
-------------------------
SWEEP TEST

LIMIT             10ppm
ALARM             30ppm
TESTS                 1
-------------------------

TEST              CO ppm
01                    1
-------------------------
MAXIMUM CO ppm        1

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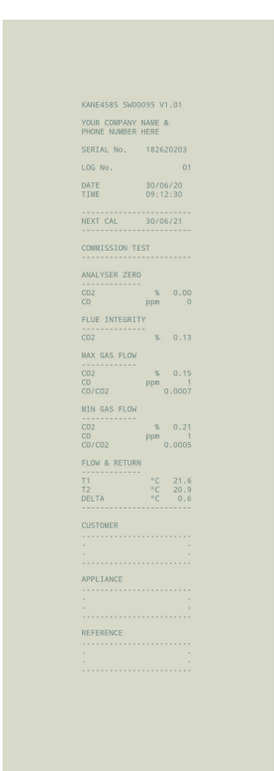
Commission



```
KANE458S SW00095 V1.01

YOUR COMPANY NAME &
PHONE NUMBER HERE

SERIAL No.     182620203

LOG No.                 01

DATE           30/06/20
TIME           09:12:30

-------------------------
NEXT CAL       30/06/21
-------------------------

COMMISSION TEST
-------------------------

ANALYSER ZERO
-------------
CO2               %   0.00
CO              ppm      0

FLUE INTEGRITY
-------------
CO2               %   0.13

MAX GAS FLOW
-------------
CO2               %   0.15
CO              ppm      1
CO/CO2            0.0007

MIN GAS FLOW
-------------
CO2               %   0.21
CO              ppm      1
CO/CO2            0.0005

FLOW & RETURN
-------------
T1              °C   21.6
T2              °C   20.9
DELTA           °C    0.6
-------------------------

CUSTOMER
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APPLIANCE
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Let by/Tightness

```
KANE458S SW00095 V1.01

YOUR COMPANY NAME &
PHONE NUMBER HERE

SERIAL No.     182620203

LOG No.                 01

DATE           30/06/20
TIME           09:20:45

-------------------------
NEXT CAL       30/06/21
-------------------------

LET BY TEST
-------------------------
PRS 1          mbar   0.00
PRS 2          mbar   0.00
LET BY         MINS   1:00

TIGHTNESS TEST
-------------------------
PRS 1          mbar   0.00
PRS 2          mbar   0.01
DELTA          mbar  -0.00

STABILIS'N     MINS   1:00
TIGHTNESS      MINS   2:00
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CUSTOMER
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APPLIANCE
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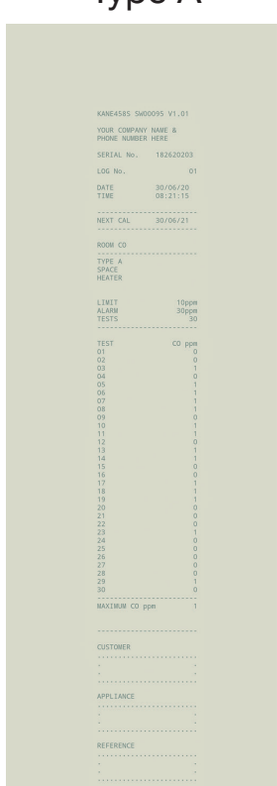
Type A



```
KANE458S SW00095 V1.01

YOUR COMPANY NAME &
PHONE NUMBER HERE

SERIAL No.     182620203

LOG No.                 01

DATE           30/06/20
TIME           08:21:15

-------------------------
NEXT CAL       30/06/21
-------------------------

ROOM CO
-------------------------
TYPE A
SPACE
HEATER

LIMIT             10ppm
ALARM             30ppm
TESTS                30
-------------------------

TEST              CO ppm
01                     0
02                     0
03                     1
04                     0
05                     1
06                     1
07                     1
08                     1
09                     0
10                     1
11                     1
12                     0
13                     1
14                     1
15                     0
16                     0
17                     1
18                     1
19                     1
20                     0
21                     0
22                     0
23                     1
24                     0
25                     0
26                     0
27                     0
28                     0
29                     1
30                     0
-------------------------
MAXIMUM CO ppm         1

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COMMISSIONING TEST

Your analyser's commissioning test uses the test outlined in the UK's TB143 but is not a substitute for an appliance manufacturer's instructions.

Rotate dial to COM TEST position & follow your analyser's instructions.

TEST 1 – CHECK THE APPLIANCE AT MAX GAS RATE

Switch on appliance to max rate & zero your analyser in outside fresh air.

Once stable at its maximum gas flow rate; insert your flue probe into the flue's air inlet to measure CO_2 levels – Readings must be stable & under or equal to 0.20%.

TEST 2

Insert your flue probe into the appliance's exhaust outlet to measure CO, CO_2 & RATIO levels – these must be within the manufacturer's instructions. If manufacturer's instructions are not available CO must be under 350ppm & RATIO under 0.0040.

TEST 3 – CHECK THE APPLIANCE AT MINIMUM GAS FLOW RATE WHERE THIS IS POSSIBLE

Once the appliance is stable at its minimum gas rate, measure CO, CO_2 & RATIO levels – these must be within the manufacturer's instructions.

If manufacturer's instructions are not available, CO must be under 350ppm & RATIO under 0.0040.

TEST 4 – MEASURE FLOW & RETURN TEMPERATURES FROM THE APPLIANCE

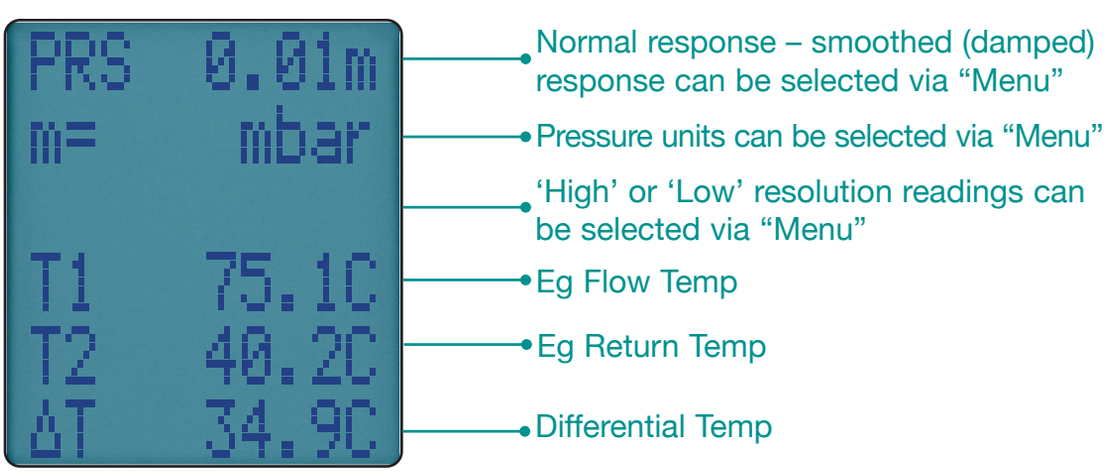
All measured readings are logged & can be printed to our optional KANE IRP-2 printer or KANE's App via wireless module.

PRESSURE & TEMPERATURE TESTING

⚠ WARNING

Never attempt to take a pressure reading without knowing maximum pressure that might be present. The Analyser's pressure transducer is rated at 80 mbar with a maximum over range of 400 mbar.

Rotate dial to Prs/Temp. Using the black connectors & the manometer hose, connect to P1 for single pressure or P1 & P2 for differential pressure.



VIEWING/PRINTING

Press ⦿ button to send your Pressure & Temperature report to our optional KANE IRP-2 printer or KANE's App via Wireless module.

Press & hold ⦿ button for 2 seconds to log a pressure & temperature report. Page 20 explains how to view & print stored reports.

PRESSURE MEASUREMENT GOOD PRACTICE

⚠ WARNING

Before using your analyser to measure an appliance's gas/air ratio valve, read the manufacturer's instructions thoroughly. If in doubt contact the manufacturer.

After adjusting a gas/air ratio valve you must ensure CO, CO_2 & CO/CO_2 ratio readings are within the manufacturer's specified limits.

LARGE BORE TUBING ISSUES

If using lager bore tubing when performing pressure tests:

Push orange tube over the rim of the spigot to ensure a gas tight seal.

This may not produce a gas tight seal.

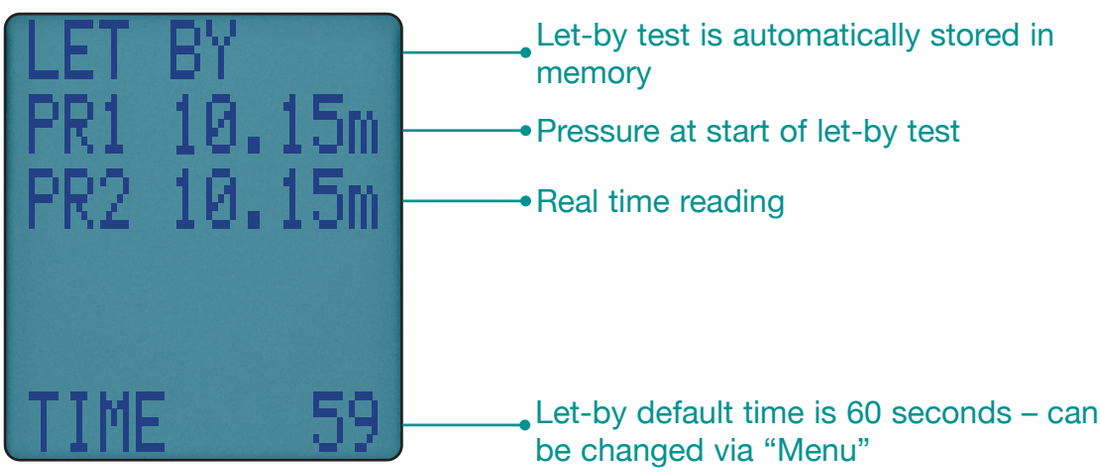
LET-BY & TIGHTNESS TESTING

Rotate dial to “Tightness” & press ↵ to auto zero pressure sensor.

Using the black connectors, connect your manometer hose from the appliance’s test point to your analyser’s P1 input.

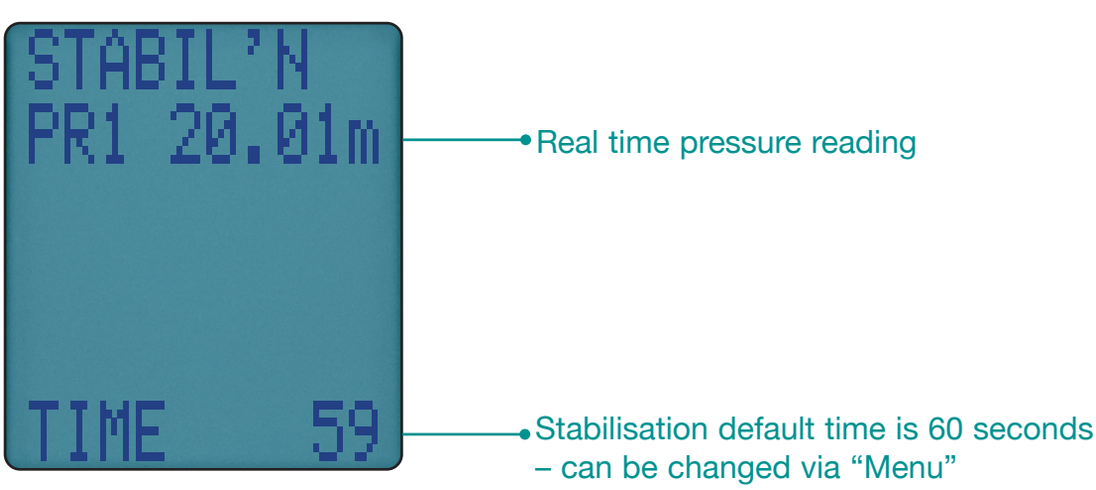
Display shows “LET BY?” – use ▲▼ & ↵ to select YES or NO.

If YES is selected, set the let-by pressure then press ↵ to start the let-by test – display shows:

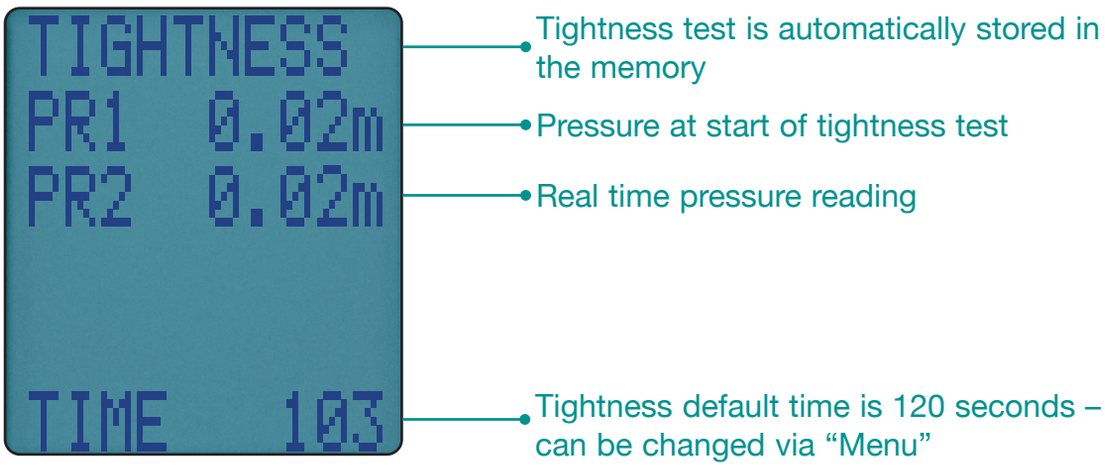


If let-by test fails rotate dial to another position to stop the test.

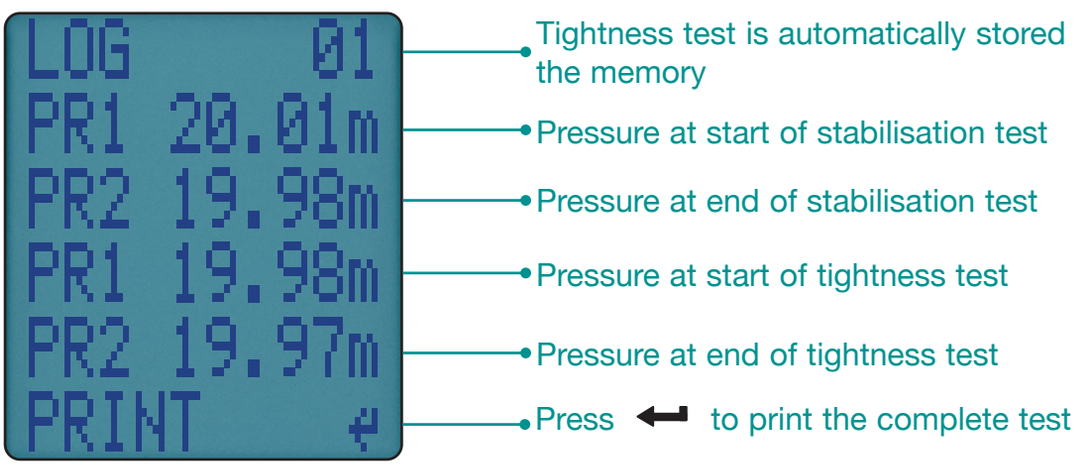
If Let-by test passes, adjust gas pressure for the tightness test & press ↵ to start the stabilisation test – display shows:



When complete press ↵ to start the tightness test:



When complete display shows:



VIEWING/PRINTING

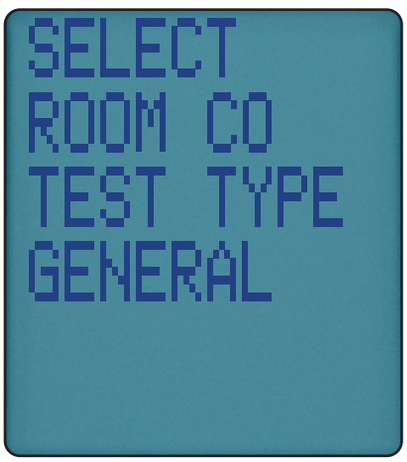
Press button to print a full Let-By & Tightness report to our optional KANE IRP-2 printer or KANE’s App via wireless module.

Let-by & Tightness reports are automatically stored. Page 20 explains how to view & print stored reports.

ROOM CO TESTING

Select “Room CO” to measure & record CO readings for up to 30 minutes.

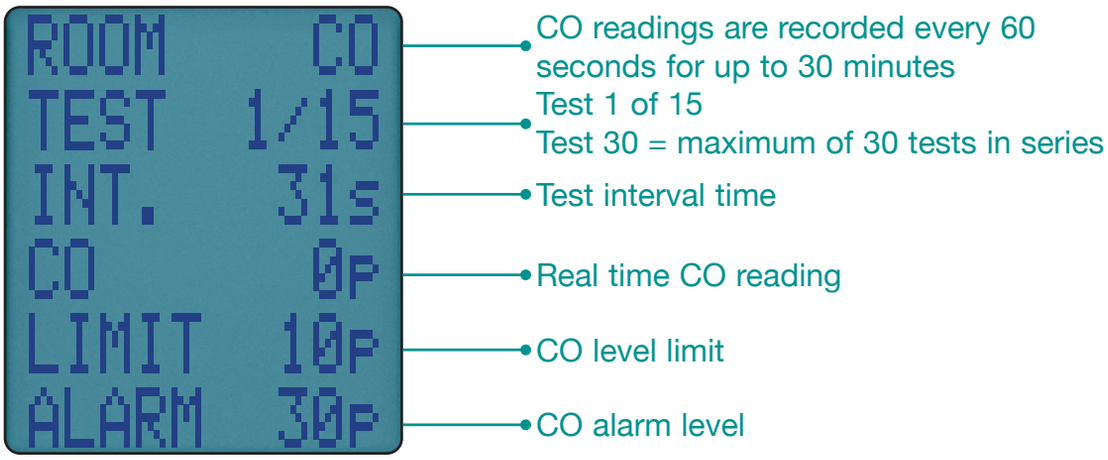
Use ▲▼ to select test type from the following:



TEST TYPES

TEST TYPE	DURATION	LIMITS/ALARM LEVELS
GENERAL	15 minute test with results stored every minute	LIMIT = 10ppm ALARM = 30 ppm
SWEEP TEST	2 minute test with max reading stored at end	LIMIT = 10ppm ALARM = 30 ppm
MIGRATION TEST	15 minute test with results stored every minute	LIMIT = 10ppm ALARM = 30 ppm
TYPE C SEALED APPLIANCE	15 minute test with results stored every minute	LIMIT = 10ppm ALARM = 30 ppm
TYPE B BOILER OPEN FLUE	15 minute test with results stored every minute	LIMIT = 10ppm ALARM = 30 ppm
TYPE A COOKER	30 minute test with results stored every minute	LIMIT = 10ppm ALARM = 30 ppm
TYPE A WATER HEATER	5 minute test with results stored every minute	LIMIT = 10ppm ALARM = 30 ppm
TYPE A SPACE HEATER	30 minute test with results stored every minute	LIMIT = 10ppm ALARM = 30 ppm

ROOM CO DISPLAY



You can stop the Room CO test at any time by pressing ↵.

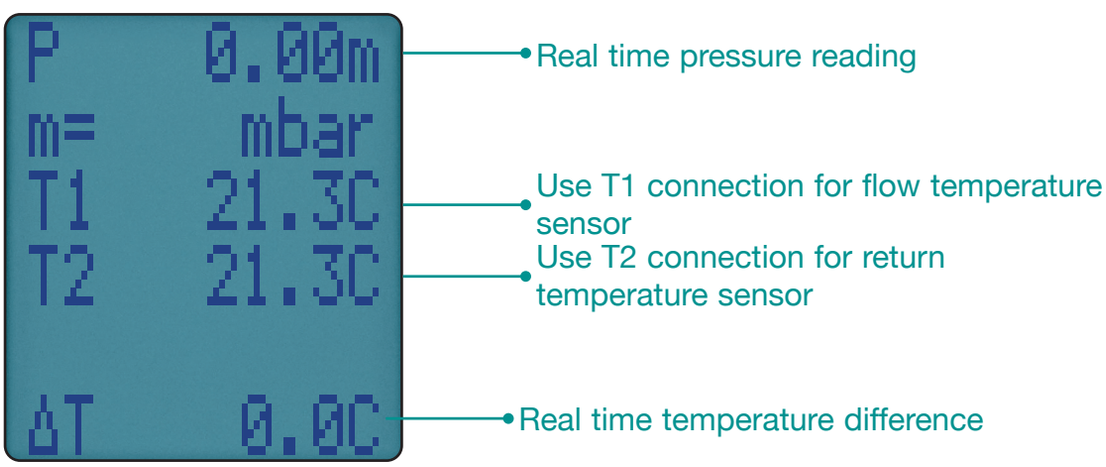
Otherwise Room CO tests automatically end after the pre-set time.

Room CO tests are automatically stored in your analyser's memory as a log number.

You can send your Room CO test log to our optional KANE IRP-2 printer or KANE's App via wireless module by pressing ᯤ .

USING YOUR KANE458s AS A THERMOMETER OR PRESSURE METER

Rotate the dial to PRS/TEMP – display will show:



ANALYSER PROBLEM SOLVING

FAULT SYMPTOM	CAUSES / SOLUTIONS
• Oxygen too high • CO2 too low	• Air leaking into probe, tubing, water trap, connectors or internal to analyser
• Batteries not holding charge • Analyser not running on mains adapter	• Batteries exhausted • AC charger not giving correct output • No fuse
•Analyser does not respond to flue gas	• Particle filter blocked • Probe or tubing blocked • Pump not working or damaged with contaminants
• Net temperature or Efficiency calculation incorrect	• Ambient temperature set wrong during Automatic Calibration
•Flue temperature readings erratic	• Probe not connected • Faulty connection or break in cable or plug
• T flue or ΔT displays (-N/F-)	• Probe not connected. • Faulty connection or break in cable or plug
• EFF or X-Air displays (- O2++-)	• CO2 reading is below 2%. • 02 > 18%
• Analyser just continually beeps	• Turn dial back to MENU & press ↵ • Turn dial back to Tightness & press ↵

SPECIFICATIONS

PARAMETER	RANGE	RESOLUTION	ACCURACY
Temperature Measurement			
Flue Temperature	0 - 600°C	0.1°C	±0.5°C
Inlet temperature (Internal Sensor)	0 50°C	0.1°C	±1°C
Inlet temperature (External Sensor)	0 - 600°C	0.1°C	±0.5°C
Flue Gas Measurement			
Carbon Monoxide	0 - 2000ppm	1ppm	±3ppm or ±5% of reading (whichever is greater)
Carbon Dioxide	0 - 20%	0.1%	±0.3% Volume
Oxygen (If fitted)	0 - 21%	0.1%	±0.3% Volume
Nitric Oxide (If fitted)	0 - 600ppm	1ppm	±5ppm or ±5% of reading (whichever is greater)
Calculations			
Oxygen	0 - 21%	0.1%	±0.3% Volume
CO/CO2 Ratio	0 - 0.9999	0.0001	±5% of reading
Efficiency (Net or Gross)	0 - 99.9%	0.1%	±1% of reading
Efficiency High (C)	0 - 119.9%	0.1%	±1% of reading
Excess Air	0 - 119.9%	0.1%	±0.2% of reading
Pressure (Differential)	±80mbar	0.1mbar	±0.5% FSD
Pre-programmed Fuels			
UK, USA & France	Natural Gas, Propane, Butane, LPG, Light Oil, Digester Gas, Wood Pellets		
European	Natural Gas, Light Oil, Bio Oil, Coke, LPG, Wood, Town Gas, Butane & Propane		
Battery Life	>8 hours (continuous with pump on)		
Certification	The KANE458s is independently tested & certified to EN 50379, Parts 1-3 in accordance to 1st German Federal Emission Control Ordinance (Bim5chV)		

PARAMETER	RANGE	RESOLUTION	ACCURACY
Operating Conditions			
Temperatures	0 - 45°C		
Humidity	15 to 90% RH, (non-condensing)		
Power Supply	Rechargeable batteries, USB Charging		
Physical Characteristics			
Weight	Approx. 0.625g		
Dimensions	L: 216mm x H: 105mm x W:45mm		

EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:-

Kane International Ltd.
Kane House, 11 Bessemer Road, Welwyn Garden City, Hertfordshire. AL7 1GF, UK.

Tel: +44 1707 375550 Web: www.kane.co.uk

The KANE458s is in conformity with the relevant Union harmonization legislation below:

DIRECTIVE	TITLE
201430EU	Electromagnetic Compatibility (EMC)
201165EU	Restriction of the use of certain hazardous substances in electrical & electronic equipment (RoHS)

The following harmonised standards & technical specifications have been applied:

CERTIFICATION

The KANE458s is independently tested & certified to EN 50379, Parts 1 & 3 in accordance to 1st German Federal Emission Control Ordinance (BImSchV)

EMC

EN50270:2015

SAFETY

EN61010-1:2010

ROHS

IEC62321-2:2013, IEC62321-1:2013, IEC62321-3-1:2013, IEC62321-5:2013, IEC62321-4:2013, IEC62321-7-2:2017, IEC62321-7-1:2015, IEC62321-6:2015

Signed for on behalf of:- Kane International Ltd.

01. July 2020

Paul Morrison
Engineering Manager

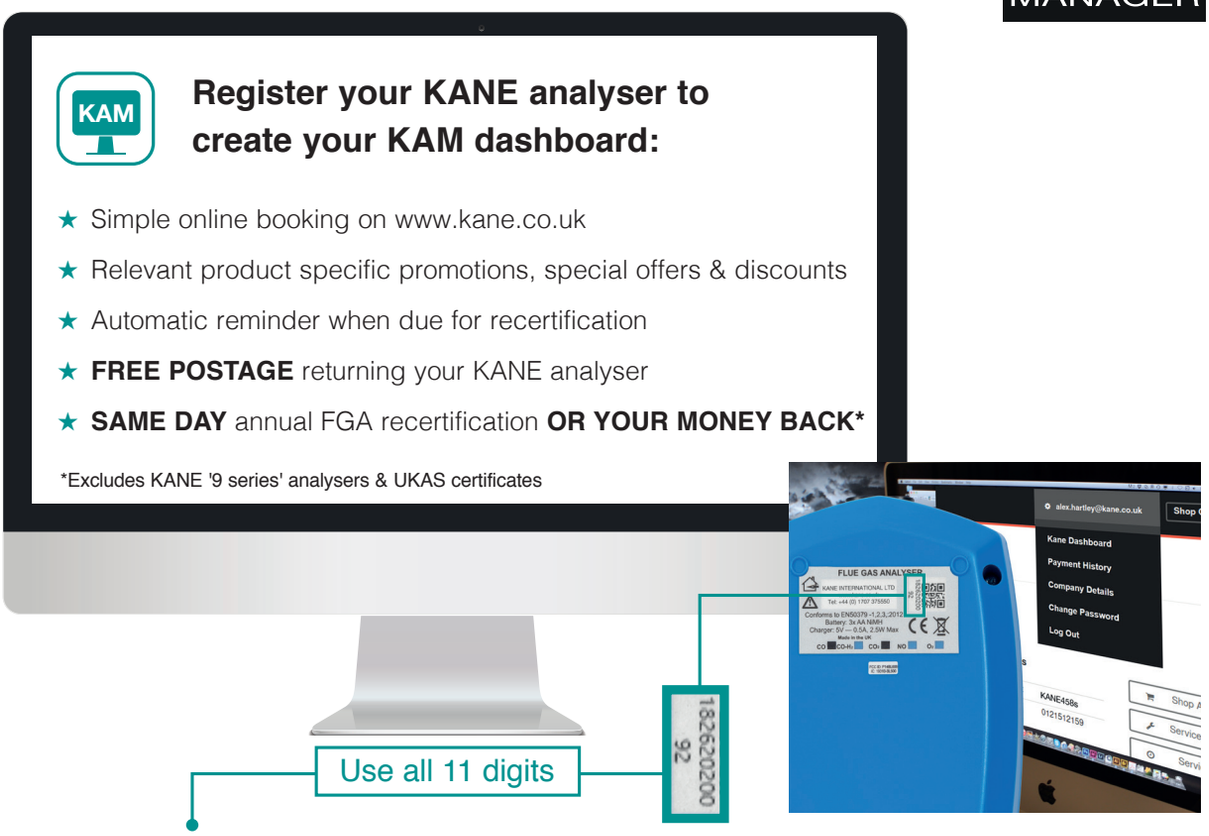
SERVICE – CALIBRATE – RECERTIFY

All analysers & pressure meters should be recertified annually.

Extend your KANE analyser & pressure meter's 'no quibble' warranty up to 10 years by returning your analyser & pressure meter via your KAM dashboard annually.

KANE ASSET MANAGER (KAM)

The fastest way to manage your analyser's recertification with FREE postage using www.kane.co.uk



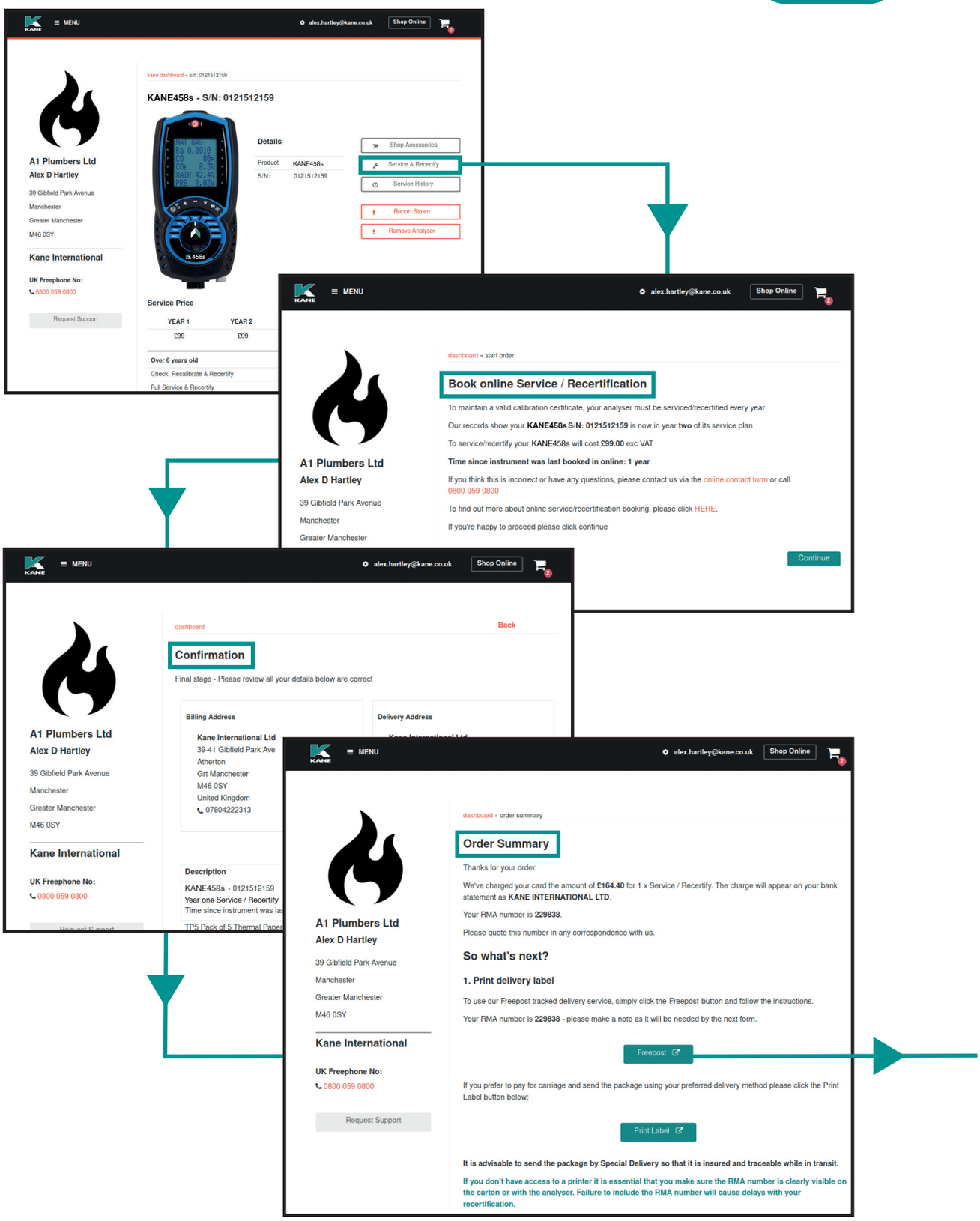
Please **register** your analyser at **www.kane.co.uk**
& download the full instruction manual from your KAM dashboard
PLEASE READ ALL SAFETY WARNINGS IN THE MANUAL

Use your KAM dashboard to:

- View - your Payment History / Company Details / Analyser Details / Service Pricing
- Buy KANE products, accessories, spares & consumables with FREE delivery
- Manage your KANE analyser's recertification online to receive same day turnaround
- Service History: Access, view & email electronic Calibration Certificates when required for compliance
- Report Stolen: Reporting your analyser stolen ensures our Stolen Analyser Register is up-dated & helps prevent industry colleagues unknowingly buying stolen goods
- Remove your KANE Analyser once sold so its new owner can also benefit

There are different KAM options & we'd be delighted to discuss your individual requirements
More than 4 FGAs? Contact: support@kane.co.uk

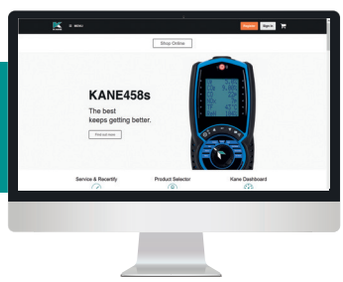
Your support - our way

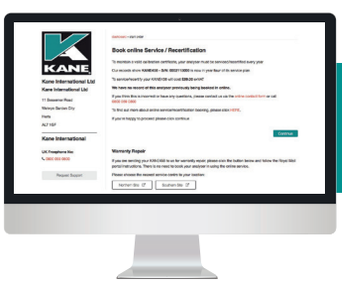


GUARANTEED SAME DAY DESPATCH

Analyser Service & Recertification

Register your analyser on www.kane.co.uk





Book & pay to Service & Recertify via your KAM dashboard

Select FREEPOST for tracked carriage - UK mainland only

Your analyser will be despatched on the same day we receive it...

OR YOUR MONEY BACK*

WHERE TO SEND YOUR ANALYSER

Northern Customer Service
Kane International Ltd
Gibfield Park Avenue
Atherton,
Manchester
M46 0SY, UK
e: nservice@kane.co.uk
t: 0800 059 0800

Southern & International Customer Service
Kane International Ltd
Kane House, 11 Bessemer Road
Welwyn Garden City
Hertfordshire
AL7 1GF, UK
e: sservice@kane.co.uk
t: 0800 059 0800

Outside UK Call +44 1707 375550

COLD WEATHER PRECAUTIONS

It is important you keep your flue gas analyser in a warm place overnight.

Electronic devices that become really cold, by being left in a vehicle overnight, suffer when taken into a warm room the next morning. Condensation may form which can affect the analyser's performance & cause permanent damage.

Electrochemical sensors used in flue gas anlysers can be affected by condensation or water being sucked into the analyser, as the small apertures on top of sensors can become blocked with water, stopping sensors seeing flue gas. When this happens, oxygen or carbon dioxide reading will display as "—" & sensors may be permanently damaged.

If you think that your analyser is affected by condensation or water ingress, it may be possible to rectify the problem yourself. Simple leave the analyser running in a warm place, with the pump 'ON' sampling fresh air for a few hours (use mains adapter/battery charger if needed). If, after doing this, you still experience problems please contact our Service Centres.

THIS PRODUCT CONFORMS WITH THE FOLLOWING

PLEASE RECYCLE

MADE IN THE UK

Thank you for buying this analyser.

Before use, please register on our website

www.kane.co.uk

Scan the QR code to go directly to register your product online.

Kane International Ltd
Kane House, 11 Bessemer Road
Welwyn Garden City
Hertfordshire
AL7 1GF, UK
email: sales@kane.co.uk
telephone: 0800 059 0800