

KIGAZ 300 COMBUSTION GAS ANALYSER



Interchangeable O₂, CO-H₂,
NO, NO₂, SO₂ et CH₄ sensors



CO dilution



Autozeroing in the flue



Supplied with magnetic
protective cover



KEY POINTS

- User friendly thanks to icons
- Vocal support
- LED on probe handle to light dark areas
- Built-in water trap with max level alarm
- 3 pressure sensors
- Step-by-step procedures (gas flow,...)
- Single connector
- Built-in printer
- Interchangeable duct
- 2 Go memory (100 000 measurements)

INSTRUMENT FEATURES

GAS	- Autozero in the flue - CO dilution up to 5% ¹	Flue gases CO and CO ₂ , ambient CO max	Interchangeable sensors: O ₂ , CO-H ₂ , NO, NO ₂ , SO ₂ , CH ₄ (optional)	Excess air Losses	Efficiency > 100%
PRESSURE	Differential pressure measurement	High accuracy draft measurement with autozero by solenoid valve	Measurement of the suction pump flow		
TEMPERATURE	Ambient temperature	Flue gas temperature	Delta Temperature	DHW temperature 2 thermocouples	Dew point temperature
OTHERS FUNCTIONS	15 programmed combustibles ²	Adding 5 combustibles by the user	Automatic measurement	Opacity index	

¹with an accuracy of ±10% of the measurement

²Combustibles : Sahara/Fos-sur-Mer Natural Gas, Groningen Natural Gas, Russia/North Sea Natural Gas, Propane, LPG, Butane, Light Oil, Heavy Oil, Bituminous coal, Hard coal, Coke gas, Bio fuel 5%, Wood 20%, Wood-chip 21%, Pellet 8%

MEASUREMENT RANGES

Parameters	Sensor	Measuring range	Resolution	Accuracy*	T ₉₀ response time
O ₂	Electrochemical	From 0% to 21%	0.1% vol.	±0.2% vol.	30 s
CO (with H ₂ compensation)	Electrochemical	From 0 to 8000 ppm	1 ppm	From 0 to 200 ppm : ±10 ppm From 201 to 2000 ppm : ±5% of the measured value From 2001 to 8000 ppm : ±10% of the measured value	30 s
NO	Electrochemical	From 0 to 5000 ppm	1 ppm	From 0 to 100 ppm : ±5 ppm. From 101 to 5000 ppm : ±5% of the measured value	30 s
NO _x	Calculated**	From 0 to 5155 ppm	1 ppm		
NO ₂	Electrochemical	From 0 to 1000 ppm	1 ppm	From 0 to 100 ppm : ±5 ppm. From 101 to 1000 ppm : ±5% of the measured value	80 s
SO ₂	Electrochemical	From 0 to 5000 ppm	1 ppm	From 0 to 100 ppm : ±5 ppm. From 101 to 5000 ppm : ±5% of the measured value	80 s
CO ₂	Calculated**	From 0 to 99% vol	0.1% vol		
CH ₄	Semiconductor	From 0 to 10000 ppm From 0 to 1% Vol From 0 to 20 %LEL	1 ppm 0.0001% Vol 0.002%LEL	±20% of full scale	40 s
Flue gas temperature	K thermocouple	From -100 to +1250°C	0.1°C	±1 °C	45 s
Ambient temperature	Internal NTC	From -20 to +120°C	0.1°C	±0.5°C	
Ambient temperature	Pt100 (1/3 Din external probe)	From -50 to +250°C	0.1°C	±0.3% of the measured value ±0.25°C	30 s
Dew point temperature	Calculated**	From 0 to +99°Ctd	0.1°C		
DHW temperature	TcK (external probe)	From -200 to +1300 °C	0.1°C	±1 °C	
Draft	Piezoelectric	From -10 to +10 Pa From -1000 to +1000 Pa	0.1Pa 1 Pa	From -100 to -10 Pa : ±2 Pa From -10 to +10 Pa : ±0.5 Pa From +10 to +100 Pa : ±2 Pa Above : ±2 % of the measured value	
Differential pressure	Piezoelectric	From -20 000 to +20 000 Pa	1 Pa	From -20 000 to -751 Pa : ±(-0.5% of measured value +4.5 Pa) From 750 to -61 Pa : ±(-0.9% of measured value +1.5 Pa) From -60 to 60 Pa : ±2 Pa From 61 to 750 Pa : ±(0.9% of measured value +1.5 Pa) From 751 to 20 000 Pa : ±(0.5% of measured value + 4.5 Pa)	
Losses	Calculated**	From to 100%	0.1%		
Flue gas velocity		From to 99.9 m/s	0.1 m/s		
Excess air (λ)	Calculated**	From 1 to 9.99	0.01		
Lower efficiency (ηs)	Calculated**	From 0 to 100%	0.1 %		
Higher efficiency (ηt) (condensation)	Calculated**	From 0 to 120%	0.1%		
Opacity index	External instrument	From 0 to 9			

*All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with required compensation.

**Calculation is made based on the measured values by the analyzer.

TECHNICAL FEATURES

	Features
Dimensions	Instrument : 331 x 112 x 86 mm Flue gas probe : 300 mm Cable length : 2.50 m
Weight (battery included)	1160 g
Display	TFT 3.5" color screen
Keypad	Rotating button ; 3 function keys + OK key ; Backlighted keypad
Material	Housing and probe : ABS ; Probe cable : neoprene

TECHNICAL FEATURES (suite)

PC interface	USB Bluetooth (optional)
Protection	IP40
Battery life	10 h in continuous operating
Power supply	Li-Ion 3.6 V 4400 mA battery
Operating temperature	From +5 to +50°C
Storage temperature	From -20 to +50°C

INSTRUMENT DESCRIPTION

> Overview



> Connections

Connection for external probes (temperature Pt100, CH₄...)



Thermocouple connections

Top view

Flue gas connection



P- pressure plug

P+ pressure plug

Bottom view

Power supply connection



USB connection

Right side view



Analysers menus



Example of analysis



DHW network temperature



Ambient CO checking

SUPPLIED WITH

Model	KIGAZ 300 CLA	KIGAZ 300 STD	KIGAZ 300 PRO
Supplied with			
Number of interchangeable sensors	2 (O ₂ , and CO-H ₂)	3 (O ₂ , CO-H ₂ and NO)	4 (O ₂ , CO-H ₂ , NO, NO ₂ or SO ₂)
Scalable	Yes : CH ₄ , NO, NO ₂ , SO ₂	Yes : CH ₄ , NO ₂ , SO ₂	/
Calibration certificate	yes	yes	yes
Transport case	yes	yes	yes
300 mm flue gas probe	yes	yes	yes
Magnetic protective cover	yes	yes	yes
Differential pressure kit	yes	yes	yes

Analysers are supplied with LIGAZ software allowing database creation (Customers, Boilers, inspections), downloading and printing inspections and analyser configuration.



Transport case

ACCESSORIES*

SCOT : Ambient CO probe

SCO2T : Ambient CO₂ probe

SPA 150SP : Ambient Pt100 probe

SKCL 150 : Thermocouple probe with lamella

SCI : Ionisation current measurement probe

SDFG : Gas leak detection probe (CH₄)

PSK180 : Flue gas probe with interchangeable contact duct, **180 mm** length, operating up to **500 °C**

PSK300 : Flue gas probe with interchangeable contact duct, **300 mm** length, operating up to **500 °C**

PSK750 : Flue gas probe with interchangeable contact duct in INCONEL, **750 mm** length, operating up to **1000 °C**

KEG : Gas network tightness kit

PMO : Opacity pump

Bluetooth® module : Data downloading and instrument configuration

LOGAZ : Software allowing database creation (customers, boilers and inspections), inspections downloading and printing, customizable procedure reports creation, inspection planning, on-site service contracts management (operator planning, customer care) and real-time measurements visualization and recording.

*Please see the technical datasheet of accessories for kigaz for further details

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EXPORT DEPARTMENT

Tel : + 33. 1. 60. 06. 69. 25 - Fax : + 33. 1. 60. 06. 69. 29

e-mail : export@kimo.fr