KIGAZ 150
COMBUSTION GAS ANALYSEER

**Dimensions**
- Instrument: 331 x 112 x 86 mm
- Flue gas probe: 180 mm
- Cable length: 2.50 m

**Weight (battery included)**
680 g

**Display**
Grey scale 3.5” display

**Keypad**
10 keys dome switch keypad

**Material**
Housing and probe: ABS
Probe cable: neoprene

**Protection**
IP40

**PC interface**
USB
Bluetooth® (optional)

**Infrared (printer)**

**Conformity**
EN 50379-1 and 2

**Power supply**
Li-Ion 3.6V 4400 mA battery
Voltage of power supply: 100-250 VAC, 50/60 Hz

**Battery life**
10 h in continuous operation

**Battery charging time**
10 h

**Use and storage temperature**
From +5 to +50°C and from -20 to +50°C

**KEY POINTS**
- 2 Go memory (100 000 measurements)
- Step-by-step procedure (gas flow,...)
- Autodiagnostic menu
- External printer (optional)
- User management

**CERTIFICATION**
Combustion analysers meet all EN 50379-1 and -2 requirements.
TÜV-SÜD laboratory performed tests according to § 5.5.3, 5.5.4, 5.5.5, 5.5.6, 5.6.2, 5.6.4, 5.6.6, 5.7.2 including:
- Tests in O\(_2\)/CO/NO gas
- Tests in long term stability
- Tests under practical conditions on boilers

**INSTRUMENT FEATURES**

<table>
<thead>
<tr>
<th>GAS</th>
<th>Ambient CO max</th>
<th>Flue gas CO</th>
<th>Interchangeable sensors: O(_2) and CO compensated H(_2)</th>
<th>Excess air Losses</th>
<th>Efficiency &gt; 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESSURE</td>
<td>Differential pressure measurement</td>
<td>Draft measurement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEMPERATURE</td>
<td>Ambient temperature</td>
<td>Flue gas temperature</td>
<td>Delta Temperature</td>
<td>DHW temperature</td>
<td>Dew point temperature</td>
</tr>
<tr>
<td>OTHERS FUNCTIONS</td>
<td>15 programmed combustibles</td>
<td>Adding 5 combustibles by the user</td>
<td>Automatic measurements</td>
<td>Opacity index</td>
<td>External water trap</td>
</tr>
</tbody>
</table>

- **Combustibles**: 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%

- **Protection of sensors by pump stopping**

- **Interchangeable O\(_2\) and CO-H\(_2\) sensors**

- **Supplied with magnetic protective cover**

**Housing**
- Dimensions: Instrument: 331 x 112 x 86 mm
- Flue gas probe: 180 mm
- Cable length: 2.50 m
- Weight (battery included): 680 g
- Display: Grey scale 3.5” display
- Keypad: 10 keys dome switch keypad
- Material: Housing and probe: ABS
- Probe cable: neoprene
- Protection: IP40
- PC interface: USB
- Bluetooth® (optional)
- Infrared (printer)
- Conformity: EN 50379-1 and 2
- Power supply: Li-Ion 3.6V 4400 mA battery
- Voltage of power supply: 100-250 VAC, 50/60 Hz
- Battery life: 10 h in continuous operation
- Battery charging time: 10 h
- Use and storage temperature: From +5 to +50°C and from -20 to +50°C

**Combustibles**: 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%
**MEASURING RANGE**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sensor</th>
<th>Measuring range</th>
<th>Resolution</th>
<th>Accuracy*</th>
<th>T&lt;sub&gt;90&lt;/sub&gt; response time</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Electro-chemical</td>
<td>from 0% to 21%</td>
<td>0.1% vol.</td>
<td>±0.2% vol.</td>
<td>30 s</td>
</tr>
<tr>
<td>CO (with H&lt;sub&gt;2&lt;/sub&gt; compensation)</td>
<td>Electro-chemical</td>
<td>from 0 to 8000 ppm</td>
<td>1 ppm</td>
<td>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</td>
<td>30 s</td>
</tr>
<tr>
<td>Flue gas temperature</td>
<td>K thermocouple</td>
<td>from -100 to +1250°C</td>
<td>0.1°C</td>
<td>±0.4% [measured value] or ±1.1°C</td>
<td>45 s</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>Internal NTC</td>
<td>From -20 to +120°C</td>
<td>0.1°C</td>
<td>±0.5°C</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>Pt100 (1/3 DIN external probe)</td>
<td>From -50 to +250°C</td>
<td>0.1°C</td>
<td>±0.3% of the measured value ±0.25°C</td>
<td>30 s</td>
</tr>
<tr>
<td>Dew point temperature</td>
<td>Calculated**</td>
<td>From 0 to +99°Cstd</td>
<td>0.1°C</td>
<td>(no specific accuracy given)</td>
<td></td>
</tr>
<tr>
<td>DHW temperature</td>
<td>T&lt;sub&gt;ck&lt;/sub&gt; (external probe)</td>
<td>From -200 to +1300 °C</td>
<td>0.1°C</td>
<td>±0.4% [measured value] or ±1.1°C</td>
<td></td>
</tr>
<tr>
<td>Differential pressure Draft</td>
<td>Semiconductor</td>
<td>From -20 000 to +20 000 Pa</td>
<td>1 Pa</td>
<td>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 751 Pa : ±0.9% of measured value +1.5 Pa From 751 to 20 000 Pa : ±(0.5% of measured value +4.5 Pa)</td>
<td></td>
</tr>
<tr>
<td>Losses</td>
<td>Calculated**</td>
<td>From 0 to 100%</td>
<td>0.1%</td>
<td>(no specific accuracy given)</td>
<td></td>
</tr>
<tr>
<td>Excess air (A)</td>
<td>Calculated**</td>
<td>From 1 to 9.99</td>
<td>0.01</td>
<td>(no specific accuracy given)</td>
<td></td>
</tr>
<tr>
<td>Lower efficiency (η&lt;sub&gt;E&lt;/sub&gt;) (condensing)</td>
<td>Calculated**</td>
<td>From 0 to 100%</td>
<td>0.1%</td>
<td>(no specific accuracy given)</td>
<td></td>
</tr>
<tr>
<td>Higher efficiency (η&lt;sub&gt;T&lt;/sub&gt;) (condensing)</td>
<td>Calculated**</td>
<td>From 0 to 120%</td>
<td>0.1%</td>
<td>(no specific accuracy given)</td>
<td></td>
</tr>
<tr>
<td>Opacity index</td>
<td>External instrument</td>
<td>From 0 to 9</td>
<td>(no specific accuracy given)</td>
<td>(no specific accuracy given)</td>
<td></td>
</tr>
</tbody>
</table>

*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.

**SOFTWARE**

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

**SUPPLIED WITH**

The analysers are supplied with the following items:
- Differential pressure kit including 2 x 1 m of silicone tube
- Transport bag
- 180 mm flue gas probe and its water trap
- LIGAZ software and its USB cable
- Mains adapter
- Adjustment certificate
- Magnetic protective cover

**OPTIONS**

- SCOT : ambient CO probe
- SCO2T : ambient CO<sub>2</sub> probe
- SPA 150SP : ambient Pt100 probe
- SKCT : contact probe for pipes
- SDFG : gas leak detection probe (CH<sub>4</sub>)
- KEG : gas network tightness kit
- PMO : opacity pump
- Bluetooth® module : data downloading and device configuration
- SCI : Measurement probe of ionisation current
- KDIP : External printer

**REFERENCES**

- KIGAZ150 : combustion analyser with 2 sensors (O<sub>2</sub> and CO-H<sub>2</sub>)