eLAS-500 wall-mounted laser gas analysis system using high temperature with heat extraction technology, continuous online monitoring of the system including sampling and transmission unit, pre conditioning and control unit, analysis unit mainly used in many areas of industrial gas emissions monitoring and process control, for example: coal-fired power plant, waste incineration power plant, chemical plant and so on.

Analyzer using TDLAS (Tunable diode laser absorption spectroscopy) to measure specific process gas like NH₃, HCL, HF, H₂S, O₂, CO etc. The instrument has high sensitivity, fast response speed, no interference of background gas, real-time accurately reflect changes of the gas to provide a reliable guarantee.

Applications

- Safety monitoring of pulverized coal silo and coal mill
- Calorific value detection of mixed gas
- Optimization of boiler combustion efficiency
### Parameters

<table>
<thead>
<tr>
<th>Gas</th>
<th>Principle</th>
<th>Range</th>
<th>Resolutions</th>
<th>Repeatability</th>
<th>linearity</th>
<th>response time</th>
<th>Drift</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF</td>
<td>TDLAS</td>
<td>0-20PPM</td>
<td>1 ppm/0.1%</td>
<td>≤1%FS</td>
<td>≤1%FS</td>
<td>≤10S</td>
<td>≤1%FS</td>
</tr>
<tr>
<td>HCL</td>
<td>TDLAS</td>
<td>0-20PPM</td>
<td>1 ppm/0.1%</td>
<td>≤1%FS</td>
<td>≤1%FS</td>
<td>≤10S</td>
<td>≤1%FS</td>
</tr>
<tr>
<td>CO</td>
<td>TDLAS</td>
<td>0-5000 ppm /0-100%</td>
<td>1 ppm/0.1%</td>
<td>≤1%FS</td>
<td>≤1%FS</td>
<td>≤10S</td>
<td>≤1%FS</td>
</tr>
<tr>
<td>O2</td>
<td>ECD or TDLAS</td>
<td>0-25% vol</td>
<td>0.1%</td>
<td>≤2%FS</td>
<td>≤2%FS</td>
<td>≤20S</td>
<td>≤2%FS</td>
</tr>
</tbody>
</table>

### Function Parameters

- **Warm-up**: 60min
- **Digital output**: RS232/485
- **Analog Output**: 4-20mA, Max load is 750Ω
- **Power Supply**: AC100-240V/50Hz 1.5kVA
  - **Relay output**: Load capacity: AC/DC 24V/1A; concentration overrun alarm, transmittance and laser temperature abnormal alarm (customized)

### Environmental Parameters

<table>
<thead>
<tr>
<th>Light Path</th>
<th>1-3meters</th>
<th>Gas Temperature</th>
<th>≤800°C</th>
<th>Pressure</th>
<th>atmospheric pressure ± 5kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Flow</td>
<td>1-3L/min</td>
<td>Ambient Temperature</td>
<td>-10~55°C</td>
<td>Ambient Pressure</td>
<td>70kPa-120kPa</td>
</tr>
<tr>
<td>Blowing gas source</td>
<td>0.4~0.6MPa compressed air</td>
<td>IP grade</td>
<td>IP65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension</td>
<td>760（H）×550（L）×210（W）mm(analysis cabinet)</td>
<td>Weight</td>
<td>35kgs (analysis cabinet)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>500（H）×400（L）×210（W）mm(control cabinet)</td>
<td></td>
<td>25kgs (control cabinet)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Technical parameters

- Cabinet: cabinet protection grade IP65;
- Material: adopt 2mm thickness stainless steel 316L;
- Control system: the time relay, automatic sampling, purging, fault alarm etc.;
- Jet Pump: Using 0.2-0.6MPa compressed air pre heater into the jet pump to generate dynamic sampling, sampling rate of 8L/min, SS316L material, corrosion resistance, no mechanical parts, ensure stable operation for a long time;
- Filter: dust filter after sampling probe to ensure long-term stable operation of the gas analyzer, analyzer;
- Temperature: all kind of gas flowing through the heating element and the pipeline are arranged in the heating box, heating control temperature of 160 degree;
- Power supply: AC220V, 1.5kVA.

Flow chart of Gas Sampling
Sampling Probe

• **Introduction**
  • Sampling probe for the gas sampling, with dust filtering and heating function, condensation can effectively prevent the acquisition of sample gas, unique structure design makes the system more reliable sampling rate, less loss of sample gas, to ensure the stability of the system and real analysis. The characteristics of the product are as follows:
  • 1. The material is 316L stainless steel, and the anti-corrosion ability is very strong at high temperature. The preparation of rainproof cover is fully competent for outdoor working environment.
  • 2. The isothermal heating body is adopted in the design, the structure is compact and the heating temperature is stable.
  • 3. The filter cartridge is made of stainless steel sintered filter, which has the characteristics of large filtration area and high filtration precision. It can be pulled out of the device as a whole when it is replaced. It is easy to operate, no tools are needed, greatly shortens maintenance and replacement time, and reduces labor intensity.
  • 4. The operation is simple, with low temperature alarm.

The main technical parameters of the probe:
1. Maximum sampling temperature: 800°C
2. Maximum working pressure: 5bar
3. The sampling chamber heating temperature: 180 degrees (factory setting, temperature adjustable)
4. Power: 220VAC 50/60Hz 400W
5. Ambient temperature: 20~80°C
6. Maximum dust concentration: 100g/m3
7. Filter core filtering precision: 0.2μm (other precision, 1-10μm)
8. Size: 150*40/20mm filter
10. Sampling gas exports: OD8/6 connector
11. Length: 25×1200mm/ with sampling pipe, length is optional
12. Installation accessories: installation flange, flange plate, bolt, flange plate sealed flat cushion

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