### Specifications

- **Model**: TX-100
- **Type**: Tunable Laser Gas Analyzer

### Measurement Range

- **HCl, or HCl and H2O simultaneous measurement**

### Measurement Combination

- **Two channels (Process gas temperature, process gas pressure)**

### Measurement Principle

- **NDIR (Tunable Laser Absorption Spectroscopy method)**

### Measurement Conditions

- **Flow rate**: 25 m/s or less
- **Particles**: Dust: 0.1 mg/Nm³ or less
- **Gas**: Pressure: 101.3±10kPa
- **Temperature**: -20 to 55°C (no direct sun rays, radiant heat and heat conduction from flange)
- **Relative humidity**: 0-50%

### Instrument Air

- **Rate**: 60 L/min or more (depending on the process gas conditions)

### Power Supply

- **Voltage**: 24V DC
- **Current**: Max. 24 V, 1 A at each terminal

### Size

- **Width**: 19kg
- **Height**: 517 (D) x 453 (H) mm
- **Weight**: 147 mm

### Dimensions (Unit:mm)

- **TX-100**: 130 x 130 x 259
- **TX-200**: 130 x 130 x 259
- **TX-300**: 130 x 130 x 259

### For monitoring HCl concentration in incineration plants and the control of HCl removal process in cement factories and petrochemical plants, etc.
HORIBA’s Laser HCl analyzer makes a difference in cost and maintainability

TX-100 single probe laser analyzer clears concerns on cross-stack type analyzer

Probe type analyzer
- Both the laser and the receiver are installed at the same side of the stack
- Just one flange installation is sufficient for the setup
- Easy replacement for an existing analyzer requires no additional work
- Implements calibration while the probe remains inserted into the stack
- The stabilized optical axis provides excellent performance
- The function to correct continuous moisture supports high accuracy measurement.

Cross-stack type analyzer
- Both the laser and the receiver exist in opposite side of the stack
- Flange installation on both sides of the stack is required
- The probe must be detached each time calibration is conducted
- The optical axis is unstable because the projector and the receiver are attached separately

Calibration is available while the facility is in operation

By HORIBA’s original calibration system, calibration work can be implemented regardless of the facility’s operation status. Auto zero point checking enables stable measurement over a long period of time.

Measurement
Zero point checking and measurement are conducted alternately.

Zero point checking mode
Zero point checking is carried out while the prism is inserted into the optical path at fixed intervals.

Measurement mode
In measurement mode, the prism moves upward and leaves the optical path.

Calibration
Calibration is conducted after span gas is filled in the calibration cell.
Gas calibration is completed leaving the probe attached in the stack.

POINT
Laser light is controlled by a corner cube prism moving in and out of the optical path and stable signals are caused by zero point checking, execution of measurement and calibration. Those activities enable maintenance without interruption of the plant operation.

Corner cube prism
**Simple configuration for easy installation**

TX-100 is an easy-to-install analyzer, since it consists of a probe inserted into the stack and an analyzer unit (calibration CCP* unit and calibration cell included), and both are connected to each other at the flange. Measurement can be executed if AC power and instrument air are prepared.

**Selective Interface**

For TX-100, "HMI (Human Machine Interface unit)" and "PC-HMI" are available in addition to the "Analysis unit display" for data management.

**Analysis unit display**

Basic display to confirm and control information such as equipment status, gas status and communication status.

**HMI unit (option)**

A touch panel screen that can set and confirm concentration, transmittance, trend graph, maintenance info, and alarm status, etc.

**PC-HMI (software)**

PC-HMI is a software that includes almost the same function as the software installed in HMI unit. Install this software in a PC or other devices to operate. Ethernet is available for data transmission between PC and TX-100.

Free download available from our website. www.horiba.com/en/software/tx-100/

**HORIBA’s Total Solution**

Up to 7 components can be measured combining TX-100 with our Stack Gas Analyzer and dust meter (NOx/SO2/CO2/CO2). HORIBA can provide one stream support from planning to maintenance in accordance with customer’s request.

**Tunable Laser Absorption Spectroscopy (TLAS)**

Since the laser linewidth is narrower than absorption width, the TLAS technique realizes the high resolution measurement without interference effect.
**Tunable Laser Gas Analyzer**

**TX-100**

For monitoring HCl concentration in incineration plants and the control of HCl removal process in cement factories and petrochemical plants, etc.

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**Dimensions and Outline (Unit: mm)**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>TX-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>547</td>
</tr>
<tr>
<td>Height</td>
<td>339</td>
</tr>
<tr>
<td>Depth</td>
<td>1447</td>
</tr>
</tbody>
</table>

**Parameters**

- **Power Consumption**: Max. 100 W
- **Communication Function**: ModbusTM/TCP
- **Ambient Temperature**: -20 to 55°C (no direct sun rays, radiant heat and heat conduction from flange)
- **Calibration Cycle**: 6 months
- **Span Drift**: ±2.0% of full scale/6 months
- **Zero Drift**: ±2.0% of full scale/6 months
- **Data Updating Cycle**: 235 mm, Length 1500 mm
- **Linearity**: Within ±1.0% of full scale
- **Repeatability**: Within ±2.0% of full scale

**Model Specifications**

- **Type**: Tunable Laser Gas Analyzer
- **Name**: TX-100
- **Application**: HCl, or HCl and H2O simultaneous measurement
- **Measurement Principle**: NDIR (Tunable Laser Absorption Spectroscopy method)
- **Measurement Combination**: 0 to 50/100/200/300/400/500 ppm
- **Analytic Parameters**:
  - Temperature: 150 to 250°C
  - Pressure: 101.3±10kPa
  - Dust: 0.1 mg/Nm³ or less
  - Instrument air (must not contain oil or mist; no dew formation)
  - Air purge flow rate: 60 L/min or more (depending on the process gas conditions)

**Probe**

- **Flange diameter (Max.)**: 20kg
- **Analyzer**: 19kg,
- **Probe diameter**: 20kg

**Input Signal**

- **Two channels (Process gas concentration, transmission, process gas temperature, process gas pressure)**
- **4 to 20 mA (isolated input)**
- **4 to 20 mA (isolated output) Max. load: 550 /Ω**

**Output Signal**

- **Two channels (Warning/Calibration/Warm-up/Maintenance state/Fault)**
- **Two channels (Process gas concentration, transmission, process gas temperature, process gas pressure)**
- **4 to 20 mA (isolated output) Max. load: 550 /Ω**

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**For monitoring HCl concentration in incineration plants and the control of HCl removal process in cement factories and petrochemical plants, etc.**

For further details, please contact us.