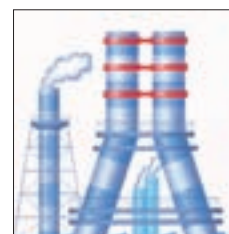
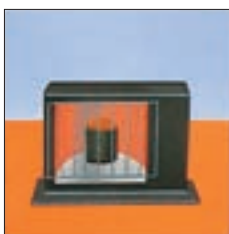


Portable Gas Analyzer PG-250



A single portable analyzer capable of measuring five components with the same methods used by permanent CEMS.

The First Advanced Gas

A single analyzer capable of measuring five components

The HORIBA PG-250 is a highly reliable and versatile gas analyzer for compliance testing of NO_x, SO₂, CO, CO₂, and O₂, housed in a single lightweight and fully portable case. Unlike other portable gas analyzers that rely upon electro-chemical sensors, the HORIBA PG-250 utilizes the same measurement principles as a permanently installed CEMS. These include NDIR (pneumatic) for CO and SO₂; NDIR (pyrosensor) for CO₂; Chemiluminescence (cross flow modulation) for NO_x; and Galvanic Cell for O₂ measurements. More importantly, the HORIBA PG-250 meets or exceeds the regulatory requirements established by agencies such as the EPA in the U.S. for portable or backup continuous emission monitoring systems.

Compact and lightweight

The PG-250 is capable of intermittent or continuous measurement of five components simultaneously. The compact and lightweight case, with a built-in carrying handle, is as easy to transport as a suitcase. Thus, the PG-250 is ideal for moving between several stacks at a single plant or for carrying across the country to measure clusters of stack emissions at multiple locations.

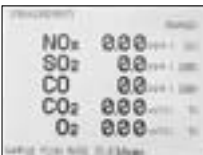
Built-in sampling unit

The HORIBA PG-250 consists of a sample probe, drain separator and gas analyzer. The built-in sampling system consists of a filter, an acid mist catcher, a sampling pump, an electronic cooler for removal of water vapor, a solenoid valve for auto-draining, an NO_x to NO converter and a scrubber to remove internally generated ozone from the instrument exhaust.

Simple to operate, easy to read

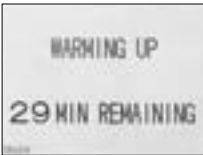
A major feature of the PG-250 is its ease of operation and large, easy-to-read front panel displays. Screens can be selected from a menu or appropriate screens and messages will appear automatically during operation.

Measurement screen



Concentrations for five components, along with the sample flow rates, are indicated simultaneously on the LCD. Raw measurements are automatically adjusted for oxygen concentration.

"WARM-UP" screen



Indicates that the power has recently been turned on. When ready, "MEASUREMENT" is displayed. (Forced measurement is possible in the WARM-UP mode.)

Calibration screen



Indicates the analyzers range, and zero and span calibration information for all components with calibration commands.

Others screens and messages are:

Parameter setting: To set O₂ concentration to be used to correct the measured values for NO_x and SO₂ and to set the measurement arranging time. (10 or 30 s)

Battery drained: Memory back up battery needs to be replaced.

Purge: In process, completed

Drain discharging

Display: Reset the number of operating days.

Optional electronic cooler

To measure sample gases that contain greater than 20% by volume concentrations of water vapor, such as those encountered during continuous monitoring of internal gas turbines, boilers, waste incinerators incineration, etc., an optional sample gas pre-conditioning unit, called an "electronic cooler," is available. This accessory is recommended when the instrument will be sampling stack gases continuously for longer than eight hours. (Max. 3 days)

SPECIFICATIONS

Model	PG-250
Components Measured	NO _x /SO ₂ /CO/CO ₂ /O ₂ (5 components)
Analysis Principle	NO _x : Chemiluminescence Detection method (CLD) SO ₂ /CO/CO ₂ : Non-dispersive Infrared Absorption (NDIR) O ₂ : Galvanic Cell
Certification	TÜV Rheinland 936/809014
Ranges	NO _x : 0 to 25/50/100/250/500/1000/2500 ppm, 7 ranges SO ₂ : 0 to 200/500/1000/3000 ppm, 4 ranges CO : 0 to 200/500/1000/2000/5000 ppm, 5 ranges CO ₂ : 0 to 5/10/20 vol%, 3 ranges O ₂ : 0 to 5/10/25 vol%, 3 ranges
Repeatability	±0.5% of F.S. (NO _x : ≥ 100ppm range CO: ≥ 1000 ppm range) ±1.0% of F.S.
Linearity	±2.0% of F.S.
Drift	±1.0% of F.S./day (SO ₂ : ±2.0% of F.S./day)
Response Time (T ₉₀)	45 s or less SO ₂ Only : 240 s or less
Sample Gas Flow Rate	Approx. 0.4 L /min
Display	Measured value (3 or 4 digits) active, range, flow rate
Output	DC 4 to 20 mA (Nonisolated), RS-232C interface
Ambient Temperature	5 to 40°C
Ambient Humidity	80% or less (up to 31°C decreasing linearly to 50% relative humidity at 40°C)
Altitude	2000 m
Power	100 to 120 V AC, 200~240 V AC 50/60 Hz
Power Consumption	250 VA/400 VA
Dimensions	260 (W) × 510 (D) × 260 (H) mm / 10.2 (W) × 20.0 (D) × 10.2 (H) in
Mass	Approx. 17 kg / 37.4 lbs
Sample Gas Condition	Temperature : Less than 40°C H ₂ O Content : Saturated or less at ambient temperature Dust : 0.1 g/m ³ or less Pressure : ±0.98 kPa

An analyzer in a Portable Case.



Drain separator unit
Required when the dew point of the sample gas is $< 40^{\circ}\text{C}$ (approximately 7% H_2O by volume). This unit attaches to the rear of the instrument at the sample gas inlet.

Electronic cooler unit (optional)

Required when the H_2O content of the sample gas is $> 20\%$ by volume and when the instrument will be sampling stack gases continuously for more than eight hours. (Max. 3 days)

Cl_2 scrubber

When Cl_2 is included in the sample gas from an incinerator, this scrubber is required to protect the analyzer sample cells and piping from corrosion.

The number of applications for gas analyzers (for example, studying global environmental problems resulting from combustion exhaust, research on energy conservation, and research on catalyst and control gas concentrations in process gas) has been steadily growing.

Major application

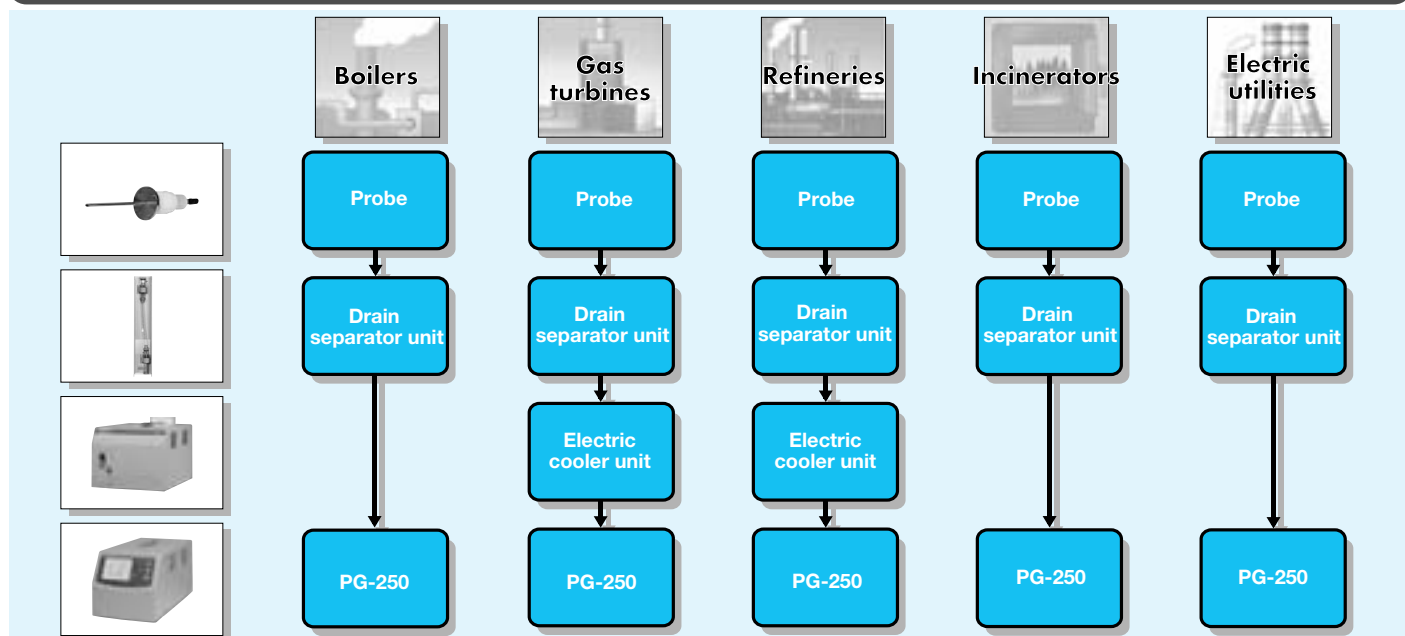
- Boilers
- Gas turbines
- Refineries
- Waste incinerators
- Electric utilities

Major uses

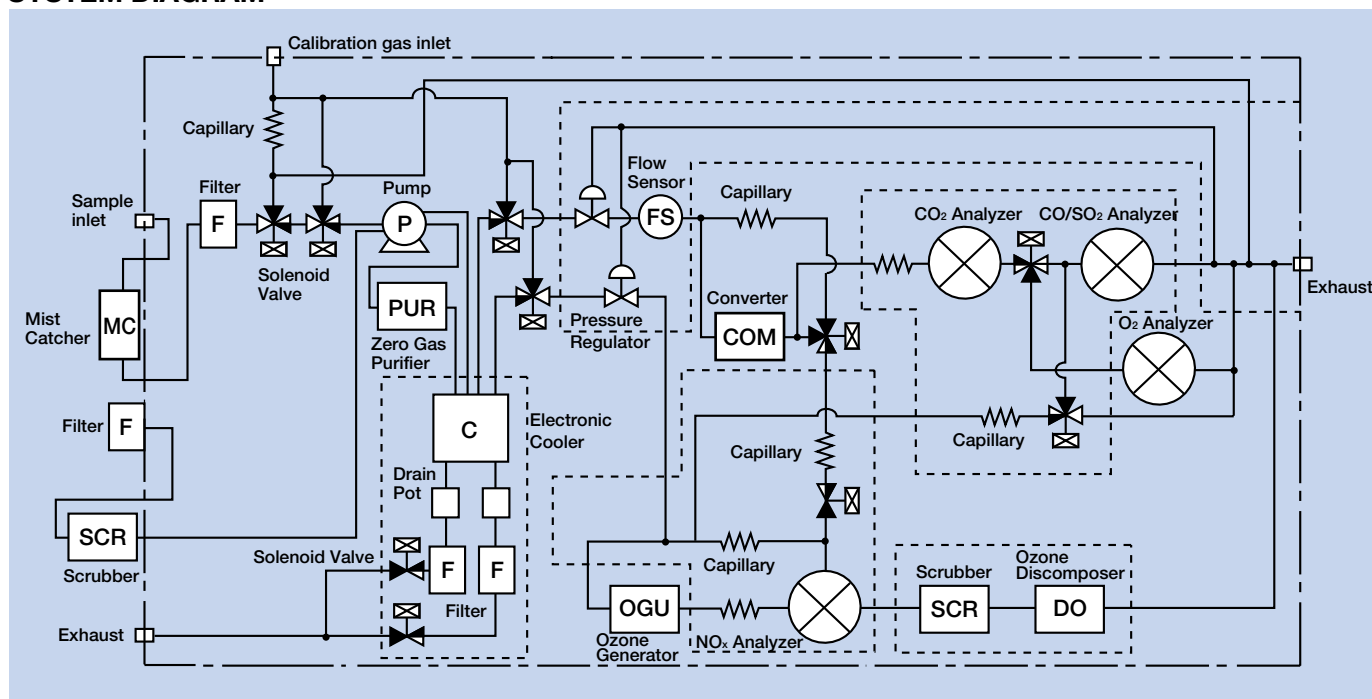
- CEMS backup
- Emissions testing
- Combustion efficiency
- Pollution control systems
- Relative accuracy test audits

Choose the best combination for each application.

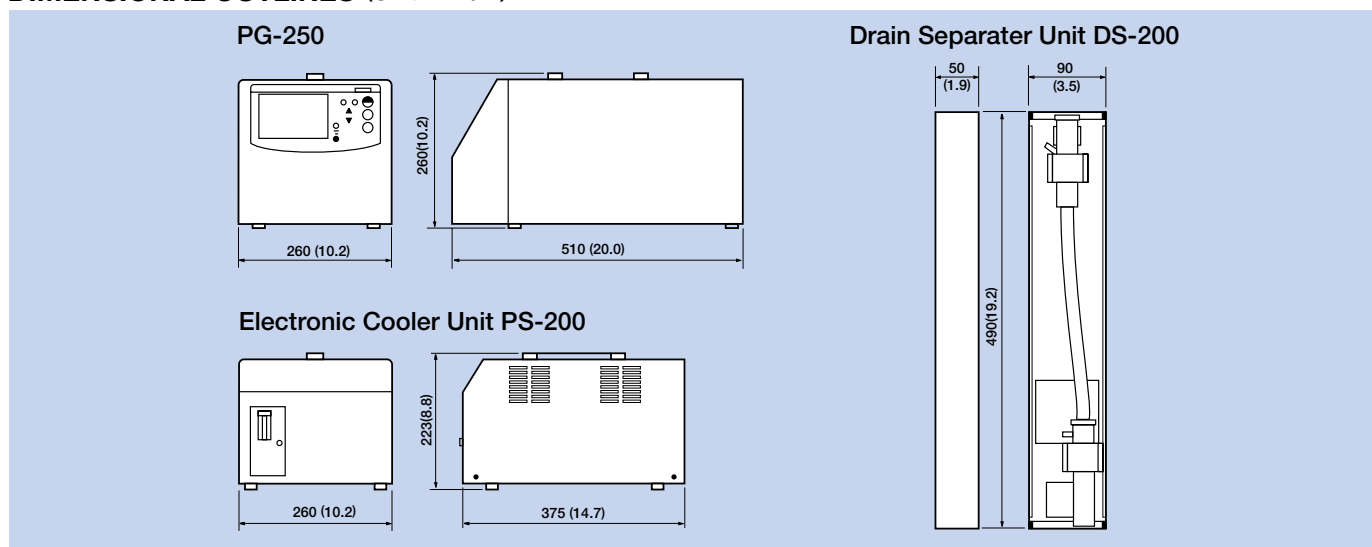
Configuration for typical applications



SYSTEM DIAGRAM



DIMENSIONAL OUTLINES (Unit: mm/in)



⚠ Please read the operation manual before using this product to assure safe and proper handling of the product.

- The contents of this catalog are subject to change without prior notice, and without any subsequent liability to this company.
- The color of the actual products may differ from the color pictured in this catalog due to printing limitations.
- It is strictly forbidden to copy the content of this catalog in part or in full.
- All brand names, product names and service names in this catalog are trademarks or registered trademarks of their respective companies.

HORIBA continues contributing to the preservation of the global environment through analysis and measuring technology.



<http://www.horiba.com> e-mail: info@horiba.co.jp

● HORIBA, Ltd.

Head Office
Miyano Higashi, Kisshoin
Minami-ku, Kyoto, Japan
Phone: 81 (75) 313-8123
Fax: 81 (75) 321-5725

Tokyo Sales Office
1-7-8 Higashi-Kanda
Chiyoda-ku, Tokyo, Japan
Phone: 81 (3) 3861-8231
Fax: 81 (3) 3861-8259

● HORIBA TRADING (SHANGHAI) CO., Ltd.

Shanghai Office
Room 1701, United Plaza,
1468 Nanjing Rd. West,
Shanghai, 200040, China
Phone: 21-6289-6060
Fax: 21-6289-5553

Beijing Office
Room 1801, Capital Tower Beijing,
Tower 1 No.6Jia, Jianguomenwai Ave.,
Chaoyang District, Beijing,
100022 China
Phone: 10-8567-9966
Fax: 10-8567-9066

● HORIBA KOREA Ltd.

112-6 Sogong-Dong
Choong-ku, Seoul, Korea
Phone: 82 (2) 753-7911
Fax: 82 (2) 756-4972

● HORIBA INSTRUMENTS Pte. LTD.

10 Ubi Crescent
#05-11/12, Ubi Techpark
Singapore 408564
Phone: 65 6745-8300
Fax: 65 6745-8155

● HORIBA India Private Limited

Delhi Office
1212A, Hemkunt Tower,
98 Nehru Place,
New Delhi - 110019 INDIA
Phone: +91 11-4669-5001/5002

Pune Office
502, Purushottam Plaza,
Baner Road, Baner,
Pune - 411045 INDIA
Phone: +91 20-2729-1121

● HORIBA INSTRUMENTS INCORPORATED

Irvine Facility
17671 Armstrong Avenue
Irvine, CA 92614, U.S.A.
Phone: 1 (949) 250-4811
Fax: 1 (949) 250-0924

● HORIBA INSTRUMENTS LIMITED

Kyoto Close
Summerhouse Road
Moulton Park, Northampton
NN3 6FL, U.K.
Phone: 44 (1604) 542500
Fax: 44 (1604) 542699

● HORIBA GmbH

Kaplanstrasse 5
A-3430 Tulln,
Austria
Phone: 43 (2272) 65225
Fax: 43 (2272) 65230

HORIBA CZECHIA

Organizacni slozka Praha
Petrohradská 13
CZ-101 00 Praha 10,
Czech Republic
Phone: 420 (2) 717-464-80
Fax: 420 (2) 717-470-64

● HORIBA EUROPE GmbH

Head Office
Hans-Mess-Str.6
D-61440 Oberursel/Ts.
Germany
Phone: 49 (6172) 1396-0
Fax: 49 (6172) 137385

Leichlingen Facility

Julius-kronenberg Strasse
D-42799 Leichlingen
Germany
Phone: 49 (2175) 8978-0
Fax: 49 (2175) 8978-50

● HORIBA FRANCE

12, Avenue des Tropiques
91955 LES ULIS
France
Phone: 33 (1) 69-29-96-23
Fax: 33 (1) 69-29-95-77