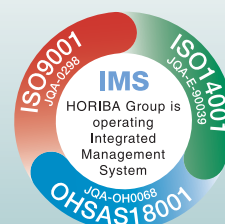


Portable Gas Analyzer  
**PG-300 Series**  
NO<sub>x</sub>—SO<sub>2</sub>—CO—CO<sub>2</sub>—O<sub>2</sub>—CH<sub>4</sub>

Precision analyses, anywhere.



# Measurement So Easy It's Almost Instinctive

**Portable and lightweight with laboratory-level precision.**

## The New Possibilities of Gas Analysis Begin with "Precision Mobility"

For situations when you can only take measurements in the field, but you want the same precision that you get in the laboratory: Horiba presents the PG-300 Portable Gas Analyzer. The PG-300 offers the same accuracy and reliability of laboratory measurements in a portable and durable unit that is 20% lighter with a faster response time than existing models. With less warm up time required, high visibility touch screen, accuracy in measuring five crucial components in the field and the durability to facilitate mobile measurement, the PG-300 is the analyzer of the future.

### Portable Gas Analyzer **PG-300** Series

NO<sub>x</sub>—SO<sub>2</sub>—CO—CO<sub>2</sub>—O<sub>2</sub>—CH<sub>4</sub>



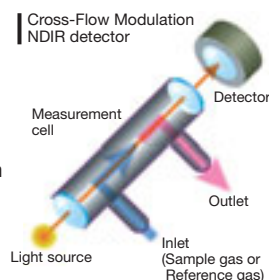
# Functions

Advanced measurement needs met with advanced functions.

- Cross-Flow Modulation type detector
- Capable of measuring methane (CH<sub>4</sub>)
- Less warm-up time
- Timer Function
- Data management with Ethernet and LAN
- SO<sub>2</sub> reduced response time
- Multi languages and Certificates

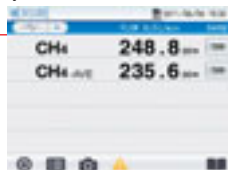
## Cross-Flow Modulation advanced efficiency of NDIR analysis

In PG-300, Cross-Flow Modulation is newly applied to SO<sub>2</sub>, CO, and new CH<sub>4</sub> analyzers. With Cross-Flow Modulation NDIR method, sample gas and reference gas flow into a single measurement cell switching one by one, and it brings about advantages that no optical adjustment is required, the zero point is kept stable, and the sample cell remains clean and it reduces span drift. The equipments will be kept safe for a long time as well. Cross-Flow Modulation Chemiluminescence detection method is already introduced for NOx analyzer in previous model and has the same effects as aforesaid analyzers.



## Capable of measuring methane (CH<sub>4</sub>) for expanded options

Improving on previous models, the new PG-300 is equipped with a methane (CH<sub>4</sub>) analyzer that is ideally suited for many current and emerging applications such as biomass combustion.



## Ethernet communication facilitates data management\*\*1

Standard Ethernet interface for connection to LAN environment enables real-time data import.

## Collecting data over LAN network\*\*1

Following network connectivity on the PG-300, data uploads and status checking can be performed remotely over the network.

\*\*1 Requires separate software.

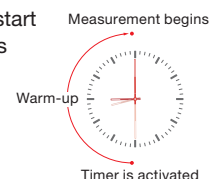


## Warm-up time has been significantly reduced

Reducing from 1 hour to 30 minute warm-up time, the PG-300 increases its readiness time for measurement.

## Timer function enables automatic instrument start and sleep modes

For example, setting the PG-300's automatic start time 30 minutes ahead of when measurements are needed eliminates your need to wait for the instrument to warm up; it will be ready when you are. There is also a sleep mode that reduces power use when the unit is idle.



## Reduced response time for SO<sub>2</sub> analyzer

The response time of the SO<sub>2</sub> analyzer is faster than on previous models, increasing the overall measurement performance.

## Multi languages and Global certificates

<Languages>

English, Chinese, Korean, German, French, Russian, and Japanese

<Certificates> Acquired: TÜV(EU), China, Korea, Japan

To be acquired: MCERTS(UK), GOST(Russia)

# Field × Lab

## Rugged Lightweight Design

20% lighter than previous models, the PG-300 is your choice for portability. Side guards are available to prevent unexpected impacts during transport. PG-300 provides full support for your field measurements and analyses.

Lightweight makes it easy to transport.



# Easy Operation

Simple and intuitive, making it easy to operate in the lab or out in the field.

- SD™ memory card slot
- Screen capture function
- On screen guidance
- Color trend graph

## Equipped with an SD™ memory card slot to enable data to be saved immediately

SD™ memory card slot accessed from the front of the instrument enables necessary data to be saved on the spot in the universal CSV format.

The SD™ card slot is located on the front of the unit for easy access.



## Screen capture function enables data to be saved immediately as a bitmap image onto the SD memory card.

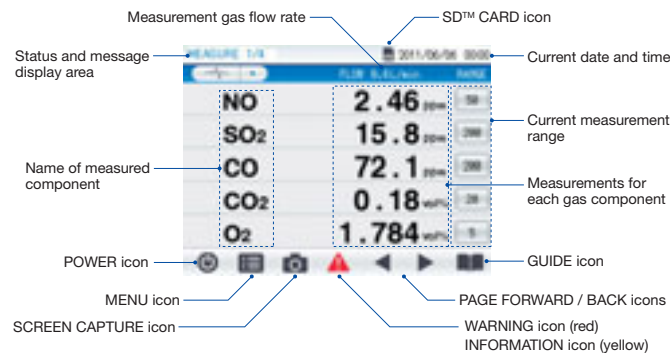
No paper or pen required - simply touch the SCREEN CAPTURE icon and a screen shot is stored in memory.

## On screen guidance function allows you to confirm review operating procedures instantly

The simple guidance function provides assistance when you forget how to perform an operation. You can review regular operational procedures or important points right on the screen.

## LCD touch screen improves ease of operation

All operations, including calibration, measurement and saving on-screen data, can be performed on the touch screen. The high visibility color display makes it easy to check the status.



## Easy real time analysis using the color trend graph

A convenient color trend graph function enables gas component trends as a function of time to be confirmed at a glance.

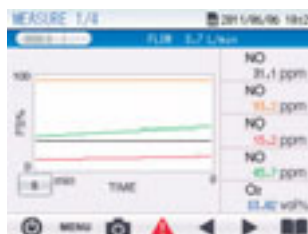
[Sample display screens]



When you press the GUIDE button...

...and then the screen shows information that you can handle at the current operation.

[Color trend graph]



[Calibration screen]



Note: Calibration requires separately purchased calibration gas and pressure regulator.



● Front panel LED's clearly display unit status.



● Easy-to-operate unit yields precision analysis results.



● Color LCD touch screen with high visibility display.

● SD is a trade mark for SD-3C, LLC.

## Analyzer Specifications

Type of Analyzers	2 component Analyzer		3 component Analyzer			4 component Analyzer	5 component Analyzer	2 component Analyzer	4 component Analyzer
Model	PG-320	PG-325	PG-330	PG-335	PG-337	PG-340	PG-350	PG-324	PG-344
Components Measured	CO/CO <sub>2</sub>	NOx/O <sub>2</sub>	CO/CO <sub>2</sub> /O <sub>2</sub>	NOx/CO/O <sub>2</sub>	NOx/SO <sub>2</sub> /O <sub>2</sub>	NOx/CO/CO <sub>2</sub> /O <sub>2</sub>	NOx/SO <sub>2</sub> /CO/CO <sub>2</sub> /O <sub>2</sub>	CH <sub>4</sub> /CO <sub>2</sub>	CH <sub>4</sub> /CO/CO <sub>2</sub> /O <sub>2</sub>
Analysis Principle	NOx: Cross-Flow Modulation Chemiluminescence Detection Method SO <sub>2</sub> ,CO,CH <sub>4</sub> : Cross-Flow Modulation Non-Dispersive Infrared Absorption Method CO <sub>2</sub> : Non-Dispersive Infrared Absorption Method O <sub>2</sub> * : Galvanic Method, Zirconia Method								
Ranges	NOx : 0-25/50/100/250/500/1000/2500 ppm SO <sub>2</sub> : 0-200/500/1000/3000 ppm CO : 0-200/500/1000/2000/5000 ppm CO <sub>2</sub> : 0-10/20/30 vol% O <sub>2</sub> : 0-5/10/25 vol%							CH <sub>4</sub> : 0-2000/5000 ppm CO : 0-2000/5000 ppm CO <sub>2</sub> : 0-5/10/20 vol% O <sub>2</sub> : 0-5/10/25 vol%	
Repeatability	±0.5% of Full scale (NOx : ≧ 100 ppm range / CO : ≧ 1000 ppm range) ±1.0% of Full scale (Except above)							±1.0% of Full scale	
Linearity	±2.0% of Full scale								
Drift	±1.0% of Full scale / day (For SO <sub>2</sub> analyzer only : ±2.0% of Full scale / day)							±1.0% of Full scale / day	
Response Time (T <sub>90</sub> )	Analyzers except SO <sub>2</sub> analyzer : 45 sec. or less (From sample inlet, response time setting of electrical system : 10 sec.) SO <sub>2</sub> analyzer : 180 sec. or less (From sample inlet, response time setting of electrical system : 10 sec.) Moving average selectable (10 or 30 sec.)								
Sample Gas Flow Rate	Approx. 0.5 L/min.								
Display	Measurement (3 or 4 digit display), range, flow rate, etc.								
Output	DC 4-20 mA (non-insulated) / Ethernet								
Warm-up Time	With 30 min. warm-up, ±2.0% of Full scale / 2 hours								
Data Saving	SD™/SDHC™ memory card								
Ambient Temperature	0 ℃ to 40 ℃ / 32°F to 104°F								
Ambient Humidity	85% R.H. or less								
Power	AC 100 V - 120 V, 220 V - 240 V								
Power Consumption	Approx. 160 VA in a steady state								
Outline	260 (W) x 520 (D) x 260 (H) mm    10.2" (W) x 20" (D) x 10.2" (H) (without side guards) 300 (W) x 520 (D) x 260 (H) mm    11.8" (W) x 20.5" (D) x 10.2" (H) (with side guards)    (projections excluded)								
Mass	Approx. 13 kg to 15 kg / Approx. 29 lb to 33 lb								
Sample Gas Conditions	Temperature : Less than 40°C / 104°F, H <sub>2</sub> O Content : Standard or less at ambient temperature, Dust : 0.1 g/m <sup>3</sup> or less, Pressure : ±0.98 kPa								

\* Paramagnetic Method is available. Please contact Horiba representative in your area for the details.

• SD is a trade mark for SD-3C, LLC.

• TAKE GREAT CARE WHEN HANDLING SAMPLE GASES CONTAINING TOXIC OR FLAMMABLE GASES. TAKE MEASURES SUCH AS PROVIDING ADEQUATE VENTILATION, INSTALLING GAS DETECTORS, AND REMOVING IGNITION SOURCES IN THE WORKING AREA.

• THE PG-300 SERIES IS NOT EXPLOSION-PROOF. DO NOT USE THIS PRODUCT IN A HAZARDOUS LOCATION OR FOR MEASUREMENT OF SAMPLE GASES IN EXPLOSIVE ATMOSPHERES (MIXTURE OF A COMBUSTIBLE GAS AND AIR WITHIN THE FLAMMABILITY LIMITS). HORIBA, LTD. AND ITS AFFILIATES ARE NOT LIABLE FOR EMERGENCIES CAUSED BY LEAKAGE OR MISHANDLING OF SUCH GASES.

## Standard Accessories

Part Name	Specifications	Quantity
Filter element	For reference line	24
Signal cable	For analog output (2 m) with connector	1
Power cord	2.5 m	1
Tube	φ6/φ4PTFE tube 0.12 m (for mist catcher short)	1
Tube	φ6/φ4PTFE tube 5 m (for sample)	1
Tube	φ9/φ5 Imron tube 5 m (for exhaust)	1
Tube	φ9/φ5 Imron tube 1 m (for drain discharge)	1
Joint	φ6 straight (for sample tube)	1
Cover	Dust cover (for storage)	1
SD™ memory card	512 MB	1
Galvanic O <sub>2</sub> cell	R22-A	1*

\* Separate tubing and joint are required if a pretreatment unit is added.

\* Differs depending on model.

## Replacement parts

Replacement part intervals assume 8 hours of operation per day. Replacement interval may be more frequent depending on measurement gas conditions and use conditions.

[Consumable Items]

Name	Replace Every (general guideline)	Notes
Mist catcher	3 months	MC-025
Scrubber	3 months	For reference line
Air filter element	2 weeks	For reference line

[Replacement Parts]

Name	Replace Every (general guideline)	Notes
Pump	1 year	Replace when broken
NOx converter catalyst	1 year	For NOx analyzer*
Zero gas purifier unit catalyst	1 year	*
Ozone generator	1 year	For NOx analyzer*
Deoionizer	1 year	For NOx analyzer*
CR2032 battery	5 years	For clock backup
Galvanic O <sub>2</sub> cell	1 year	Replace when broken*

\* Differs depending on model

# Options

Additional optional components expand the PG-300 portable analyzer capabilities.



Drain separator



Drain pot

## ■ Drain separator unit ■ Drain pot unit

When the gas sample includes moisture ranging from ambient temperature saturation to 40 °C saturation, a Drain Separator and Drain Pot are installed at the stage before the analyzer unit.

### ■ Drain separator unit / Drain pot unit specifications

Model	DS-300 (drain separator)	DP-300 (drain pot)
Temperature	0 to 40 / 32°F to 104°F	
Sample conditions (at feed port)	Moisture: Ambient temperature saturation ~ 40 / 104°F saturation	
	Dust: 0.1 g/m <sup>3</sup> or less	
	Pressure: ±0.98 kPa	±4.9 kPa

## ■ Electronic cooler unit

When the gas sample includes moisture exceeding 40 °C saturation, or when conducting continuous measurement (for five days or less), a thermoelectric cooler is installed at the stage before the analyzer unit. The electronic cooler unit can also accommodate low-temperature SO<sub>2</sub> measurements.



## ■ Electronic Cooler unit specifications

Model	PS-300
Material in contact with gas	Ti, SUS, PVC, PTFE, FKM, PVDF, PP, Glass
Inlet sample	Approx. 2 L/min
Dehumidify	15 / 59°F saturated
Usable temperature	0 to 40 / 32°F to 104°F
Usable humidity	85% or less
Power	100/110/115/120/220/230/240 V AC, 50 Hz/60 Hz (depend on specifications)
Outline	260(W) x 375(D) x 235(H) mm / 10.2"(W) x 14.7"(D) x 9.2"(H) (except for protrusion)
Mass	Approx. 12kg / 26.46 lb
Sample gas condition	Temperature: Ambient temperature; Dust: 0.1g/m <sup>3</sup> or less; Moisture: H <sub>2</sub> O ≤ 20 vol%; Pressure: ±4.9 kPa (8 mm O.D./6 mm I.D. PTFE tube, within 50 m)

### [Halogen scrubber] (optional)

The Halogen scrubber can be built into the electronic cooling unit as an option. It is used to prevent corrosion of the cells, tubes and other internal components when the gas analyzer is operated at waste incineration facilities or in other situations where the gas sample includes Cl<sub>2</sub>.

## ■ Primary side filter probe

Either of two types may be selected depending on use.



Flue probe



Simple probe

## ■ Primary side filter probe specifications

Model	Simple probe	SE3 (flue probe)
Probe length (standard)	10 cm / 3.937"	1 m / 3'28"
Temperature	0 to 50 / 32°F to 122°F*	0 to 120 / 32°F to 248°F
Sample conditions (at feed port)	Moisture: 40 vol% or less	
	Dust: 0.1 g/m <sup>3</sup> or less	
	Pressure: ±2.94 kPa	

\*At flange inlet

Note:

- Please contact Horiba if the analyzer will be used in environments in which the temperature exceeds 120 °C.
- Please contact Horiba in case of use under the environmental that the pressure condition is other than ±2.94 kPa.

# Accessory



## ■ PG-300 Carrying Case

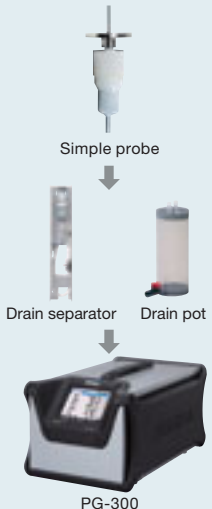
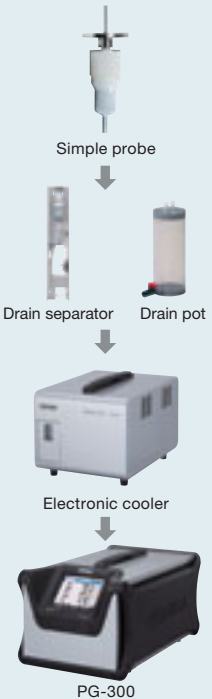

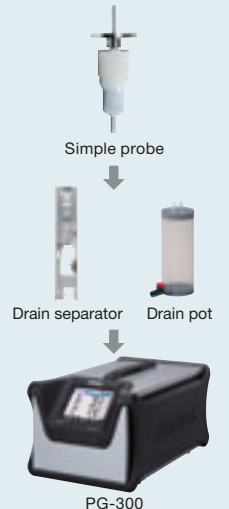
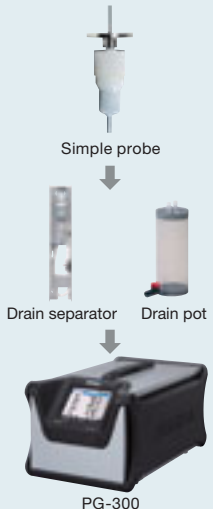
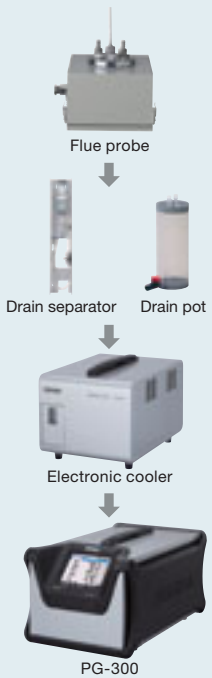
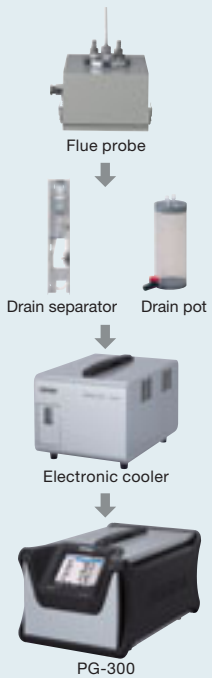

### ■ Specifications

Model	PG-300 Carrying Case
Outline	630 (W) x 492 (D) x 352 (H) mm 24.8" (W) x 19.3" (D) x 13.8" (H)
Mass	12kg / 26.4lb
Materials	Case: Polypropylene Interior: Ethylene foam
Equipments	Carry handle, casters, handles, etc.

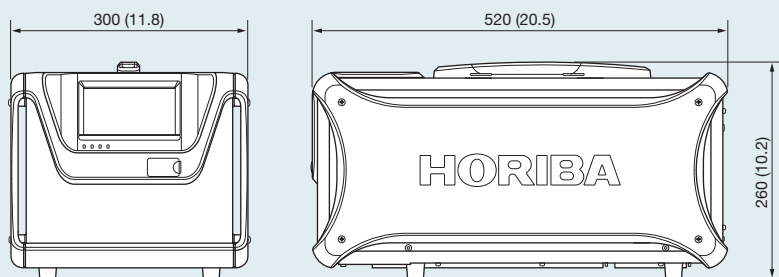


Please select the ideal combination according to your needs.

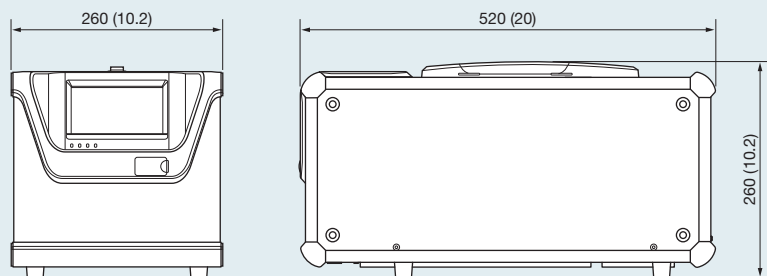
## Sample Preprocessing Unit (optional) Uses

Applications	Boiler gas turbines	Stack gas	Waste incineration	Combustion gas appliances	Steelmaking
Intermittent Measurement (8 hours or less)	 <p>Simple probe</p> <p>Drain separator</p> <p>Drain pot</p> <p>PG-300</p>	 <p>Simple probe</p> <p>Drain separator</p> <p>Drain pot</p> <p>Electronic cooler</p> <p>PG-300</p>	 <p>Simple probe</p> <p>Drain pot</p> <p>Electronic cooler</p> <p>PG-300</p>	 <p>Simple probe</p> <p>Drain separator</p> <p>Drain pot</p> <p>PG-300</p>	 <p>Simple probe</p> <p>Drain separator</p> <p>Drain pot</p> <p>PG-300</p>
Continuous Measurement (5 days or less)*	 <p>Flue probe</p> <p>Drain separator</p> <p>Drain pot</p> <p>Electronic cooler</p> <p>PG-300</p>	 <p>Flue probe</p> <p>Drain separator</p> <p>Drain pot</p> <p>Electronic cooler</p> <p>PG-300</p>	 <p>Flue probe</p> <p>Drain pot</p> <p>Electronic cooler</p> <p>PG-300</p>	<p>Note: Consult Horiba regarding probe material and other matters relating to applications. * For measurements exceeding 5 days, please contact Horiba.</p>	

●PG-300 Series Analyzer Unit



●PG-300 Series Analyzer Unit (Side guards excluded)



Applying to the EU RoHS Directive : This products is compliant with the restriction of the designated 6 hazardous substances(\*).

(\*) lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE)

Using lead-free soldering : Lead-free soldering is used for mounting components of printed circuit boards.

- Many countries consider the reinforcement of regulations concerning the risk caused by lead to human body and the environment



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

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