



Advanced Test Equipment Corp.

www.atecorp.com 800-404-ATEC (2832)

**HORIBA**

Process & Environmental

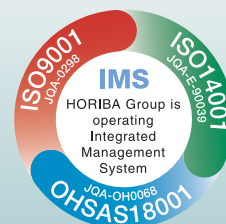


Portable Gas Analyzer

# 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>

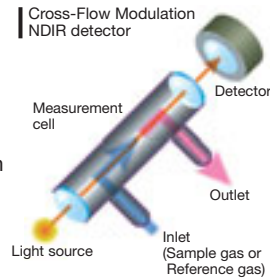


# Functions Advanced measurement needs met with advanced functions.

- **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.

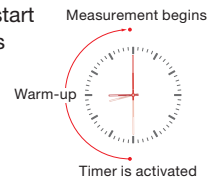


## **Warm-up time has been significantly reduced**

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.

[Sample display screens]

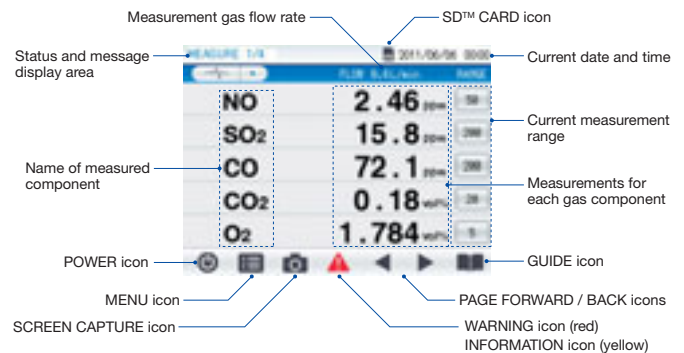


When you press the GUIDE button...

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

## LCD touch screen improves ease of operation

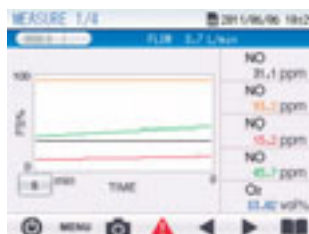
All operations, including calibration, measurement and saving on-screen data, can be performed on the touch screen. The high visibility color display makes it easy to check the status.



## 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.

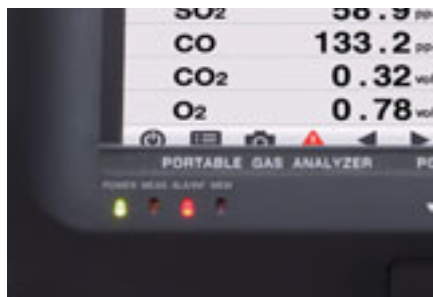
[Color trend graph]



[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 °C to 40 °C / 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*
Deozoneizer	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"
Sample conditions (at feed port)	Temperature	0 to 50 / 32°F to 122°F*    0 to 120 / 32°F to 248°F
	Moisture	40 vol% or less
Sample conditions (at feed port)	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



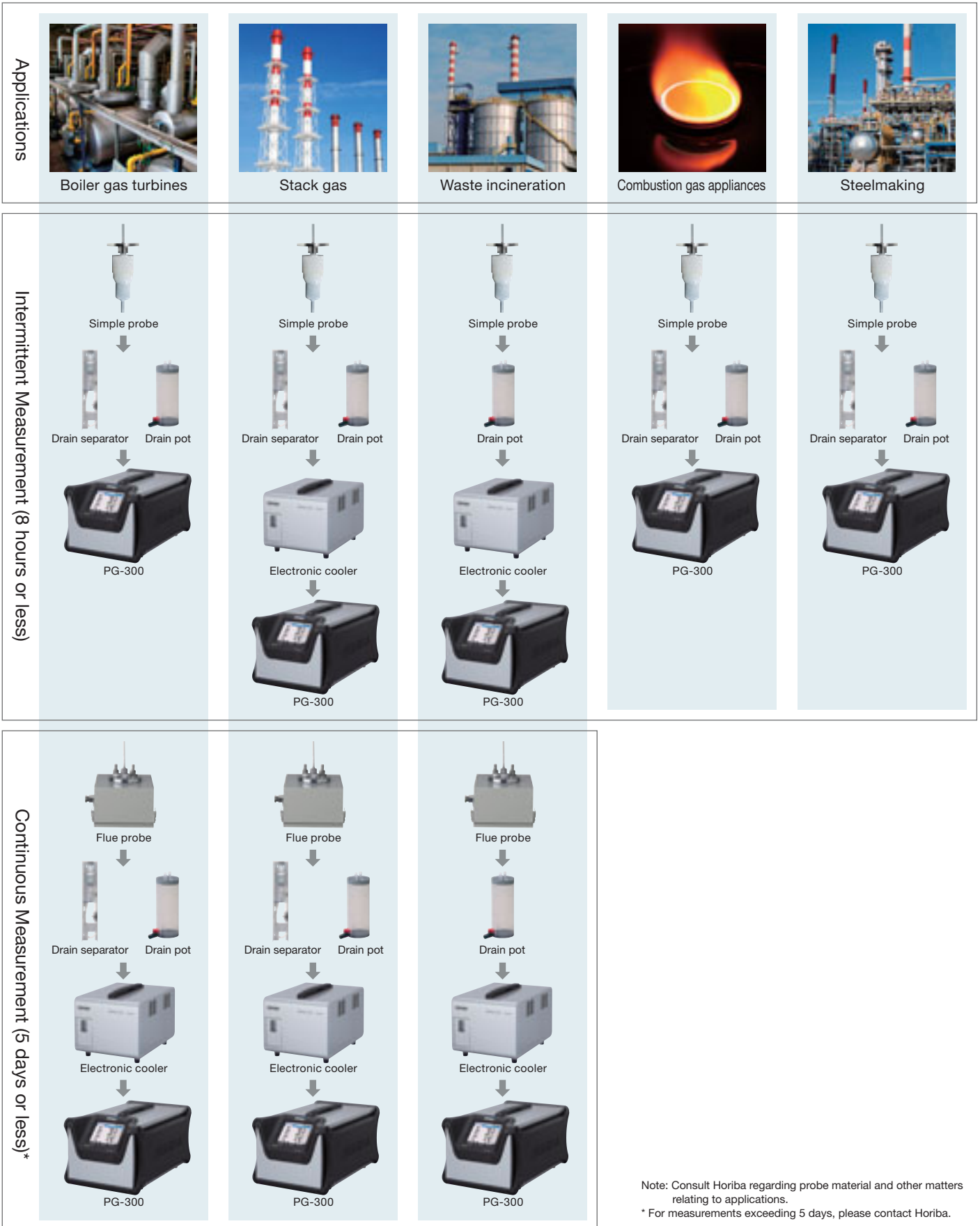
## ■ PG-300 Carrying Case

### ■ 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.

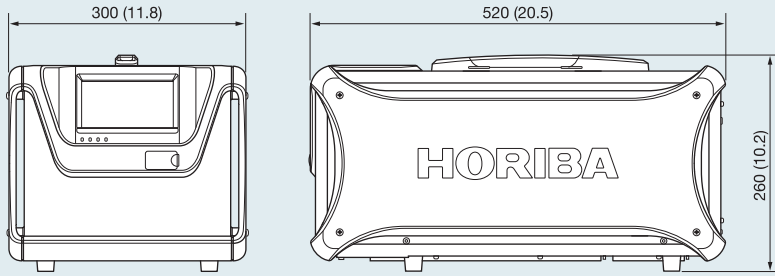


Please select the ideal combination according to your needs. **Sample Preprocessing Unit (optional) Uses**

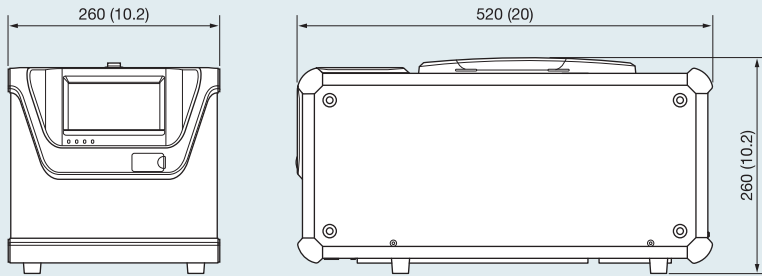


Note: Consult Horiba regarding probe material and other matters relating to applications.  
 \* For measurements exceeding 5 days, please contact Horiba.

●PG-300 Series Analyzer Unit



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



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.

<http://www.horiba.com> e-mail: [info@horiba.co.jp](mailto:info@horiba.co.jp)

●HORIBA, Ltd.

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

**Tokyo Sales Office**  
Kanda-Awaji-cho Nichome  
Building 2-6, Awaji-cho,  
Kanda, Chiyoda-ku, Tokyo,  
Japan  
Phone: 81 (3) 6206-4721  
Fax: 81 (3) 6206-4730

●HORIBA (China) Trading Co., Ltd.

**Shanghai Office**  
Unit D, 1F, Building A, Synnex  
International Park, No.1068  
West Tianshan Road,  
Shanghai, 200335 China  
Phone: 86 (21) 6289-6060  
Fax: 86 (21) 6289-5553

**Beijing Office**  
Room 1801, SK Tower,  
Tower 1 No.6Jia, Jianguomenwai Ave.,  
Chaoyang District, Beijing,  
100022 China  
Phone: 86 (10) 8567-9966  
Fax: 86 (10) 8567-9066

●HORIBA Korea Ltd.

10, Dogok-ro 6-gil,  
Gangnam-gu, Seoul,  
135-270, Korea  
Phone: 82 (2) 753-7911  
Fax: 82 (2) 756-4972

●HORIBA Instruments (Singapore) Pte Ltd.

**Head Office**  
10, UBI CRESCENT #05-12  
LOBBY B UBI TECHPARK  
SINGAPORE 408564  
Phone: 65 6745-8300  
Fax: 65 6745-8155

**Hanoi Office**  
Unit 10, 4 Floor, CMC tower,  
Duy Tan Street, Dich Vong  
Hau Ward, Cau Giay district,  
Hanoi, Vietnam  
Phone: 84 (4) 3795-8552  
Fax: 84 (4) 3795-8553

**Jakarta Office**  
Menara Bidakara 2 Unit 11-04,  
Jl. Jend. Gatot Subroto  
Kav. 71-73, Jakarta  
Selatan, 12870, Indonesia  
Phone: 62 (21) 2906-9419  
Fax: 62 (21) 2906-9421

●HORIBA India Private Limited

**Delhi Office**  
246, Okhla Industrial Estate,  
Phase 3 New Delhi - 110020,  
India  
Phone: 91 (11) 4646-5000  
Fax: 91 (11) 4646-5020

**Pune Office**  
502, Purushottam Plaza,  
Baner Road, Baner,  
Pune - 411045 India  
Phone: 91 (20) 4076-6000  
Fax: 91 (20) 4076-6010

●HORIBA Instruments Incorporated

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

●HORIBA Instruments Brasil, Ltda.

Avenida das Nacoes Unidas,  
21.735 PT QD 17 - Jurubatuba  
- Sao Paulo - SP - CEP  
04795-100 Brazil  
Phone: 55 (11) 55 45 1500  
Fax: 55 (11) 55 45 1570

●HORIBA UK Limited

**Northampton Office**  
Kyoto Close  
Summerhouse Road  
Moulton Park, Northampton  
NN3 6FL, UK  
Phone: 44 (1604) 542-5000  
Fax: 44 (1604) 542-699

●HORIBA (Austria) GmbH

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

HORIBA Czech

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  
Germany  
Phone: 49 (6172) 1396-0  
Fax: 49 (6172) 1373-85

Leichlingen Office

Julius-kronenberg Str.9  
D-42799 Leichlingen  
Germany  
Phone: 49 (2175) 8978-0  
Fax: 49 (2175) 8978-50

●HORIBA France Sarl

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