

Compact

Light-weight

Energy efficient



EPA CFR part 1065 Compliance

On-board PM measurement for real-world results

OBS-ONE PM unit is the industry-leading on-board Particulate Matter (PM) measurement system. It collects PM on a filter paper, using a partial flow gravimetric sampling method, while simultaneously measuring real-time PM. A key feature of this design is the use of a venturi flow meter which enables reliable proportional sampling and accurate exhaust gas flow measurement under transient flow conditions.

Combine the GAS unit and PM unit to perform certification tests on heavy duty and non-road vehicles.



Certification

- US EPA CFR part 1065 subpart J
- Simplify data collection and post-processing regulation requirements by using this measurement method

R&D

- Easily compare in-lab test results with real-road test results
- Support R&D by simulating real-world driving events in the test cell with the Test Automation System STARS

● The world's smallest PM measurement system in its class*

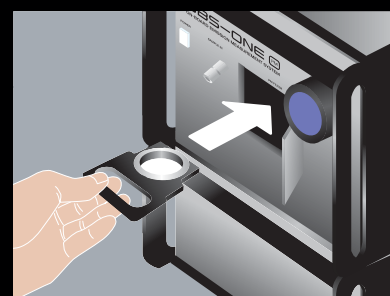
*As of August 2014. Based on our company's research.

● The reliable test method for high speed flow rate control

- PM transient measurement by proportional sampling

● User-friendly design mounts easily on any vehicle (modular and front-access design)

- One-touch fitting for module and cable connections
- Cartridge filters are easily changed



Cartridge filter

Integrated Operation Software



HORIBA ONE PLATFORM

OBS-ONE and other HORIBA ONE series measurement devices employ a common interface with future expandability. Control and management of each emission measurement device can be integrated into a single controller, as well as provide notifications of system health.



Specifications of PM measurement unit

Measuring Principles	Batch sampling : Filter gravimetric method Real-time PM measurement : Diffusion charging method
Measuring Ranges (Real-time PM sensor)	0 to 2500 mm/cm ³ (Concentration after dilution)
Dilution Method	Partial flow dilution method (Proportional sampling mode / Fixed dilution ratio mode)
Signal for Gas Sampling	Exhaust gas flow rate : Isolated analog signal (0-10 V)
Flow Rate of Diluted Gas	10 to 15 L/min (Under the conditions of 20 deg.C and 101.3 kPa)
Filter Holder	Diameter 47 mm, Effective diameter 26.2 mm (Without backup filter)
Particle Pre-classifier (Cyclone)	99% penetration of particle size of less than 1 μm 50% cut off point : particle size between 2.5 and 10 μm
Power Requirements	DC 24 V
Power Consumption	Max. 0.6 kVA
Dimensions	350(W) x 470(D) x 460(H) mm (Excluding controller and protruding objects)
Mass	Approx. 45 kg (Excluding controller)
Operating Conditions	Temperature : 0 to 40 deg.C (During operation) Relative humidity : less than 80% Altitude : 0 to 2000 m above sea level

System Configuration

Combination of PM measurement unit and GAS measurement unit



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

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

●**HORIBA, Ltd.**
Head Office
2 Miyano Higashi, Kisshoin
Minami-ku, Kyoto Japan
Phone: 81 (75) 313-8121
Fax: 81 (75) 321-5725

●**HORIBA (China) Trading Co., Ltd.**
Shanghai Office
Unit D, 1F, Building A, Synnex
International Park, 1068
West Tianshan Road,
Shanghai, 200335 China
Phone: 86 (21) 6289-6060
Fax: 86 (21) 6289-5553

●**HORIBA Instruments (Singapore) Pte Ltd.**
10, Ubi Crescent #05-12
Lobby B Ubi Techpark
Singapore 408564
Phone: 65 (6) 745-8300
Fax: 65 (6) 745-8155

●**PT HORIBA Indonesia**
Jl. Jalur Sutera Blok 20A,
No.16-17, Kel. Kunciran, Kec.
Pinang Tangerang - 15144,
Indonesia
Phone: 62 (21) 3044-8525
Fax: 62 (21) 3044-8521

●**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

●**HORIBA Korea Ltd.**
10, Dogok-Ro, 6-Gil,
Gangnam-Gu, Seoul-Si,
135-860, Korea
Phone: 82 (2) 753-7911
Fax: 82 (2) 756-4972

●**HORIBA Instruments Incorporated**
Irvine Office
9755 Research Drive,
Irvine, CA 92618, U.S.A.
Phone: 1 (949) 250-4811
Fax: 1 (949) 250-0924

Ann Arbor Facility
5900 Hines Drive
Ann Arbor, MI 48108
U.S.A.
Phone: 1 (734) 213-6555
Fax: 1 (734) 213-6525

●**HORIBA Canada, Inc.**
Unit 102, 5555 North Service
Road, Burlington, Ontario
L7L 5H7, Canada
Phone: 1 (905) 335-0234
Fax: 1 (905) 331-2362

●**TCA/HORIBA**
Sistema de Testes
Automotivos Ltda.
Rua Goiás 191 Villa Oriental,
Diadema, São Paulo,
Brasil CEP 09941-690
Phone: 55 (11) 4224-0200
Fax: 55 (11) 4227-3133

●**HORIBA Europe**
Automation Division
GmbH
Zabergaeu-Str. 3, D-73765
Neuhausen, Germany
Phone: (49) 7158-933-300
Fax: (49) 7158-933-399

●**HORIBA Europe GmbH**
Head Office
Hans-Mess-Str.6
D-61440 Oberursel,
Germany
Phone: 49 (6172) 1396-0
Fax: 49 (6172) 1373-85

Darmstadt Office
Landwehrstrasse 55
D-64293 Darmstadt
Germany
Phone: 49 (6151) 5000-0
Fax: 49 (6151) 5000-3865

HORIBA Sweden
Sydhamsvagen 55-57,
SE-15138, Sodertalje,
Sweden
Phone: 46 (8) 550-80701
Fax: 46 (8) 550-80567

HORIBA Benelux
Science Park Eindhoven 5080
(Industrial park "Ekkersrijt")
5692 EA, Son, Netherlands
Phone: 31 (40) 2900-240
Fax: 31 (40) 2900-624

Torino Office
Strada Torino 43/45,
10043 Orbassano,
Torino, Italy
Phone: 39 (11) 904-0601
Fax: 39 (11) 904-0448

Istanbul Office
Küçükbakkalköy Mah.
Kayışdağı Cad.,
Flora Residence No:3/2504,
34750 Ataşehir/Istanbul
Phone: 90 (216) 572-1166
Fax: 90 (216) 572-1167

Olomouc Factory
Železnici 512/7, 772 00
Olomouc, Czech Republic
Phone: (420) 588-118-365
Fax: (420) 585-310-725

●**HORIBA France Sarl**
12, Av des Tropiques Hightec
Sud, F-91955 Les Ulis,
France
Phone: 33 (1) 69-29-96-23
Fax: 33 (1) 69-29-95-77

●**HORIBA UK Limited**
Northampton Office
Kyoto Close
Moulton Park, Northampton
NN3 6FL, UK
Phone: 44 (1604) 542-500
Fax: 44 (1604) 542-699

●**HORIBA Test Automation**
Limited
Teme House,
Whittington Hall,
Whittington Road,
Worcester, WR5 2RY, UK
Phone: 44 (1905) 359359
Fax: 44 (1905) 359332

●**HORIBA (Austria) GmbH**
Head Office
Kaplanstrasse 5
A-3430 Tulln,
Austria
Phone: 43 (2272) 65225
Fax: 43 (2272) 65230

Tulln Sucursala Pitesti
B-dul REPUBLICII, Nr. 38,
Bloc 2 IRTA, Scara A, Etaj 3,
Ap. 11, PITESTI, 110011,
Judetul Arges ROMANIA
Phone: 40 (348) 807117
Fax: 40 (348) 807118

●**HORIBA OOO**
Head Office
Altufievskoe shosse, 13,
building 5, 127106, Moscow,
Russia
Phone: 7 (495) 221-87-71
Fax: 7 (495) 221-87-68

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