

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*

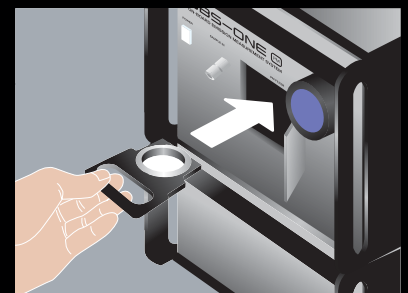
*As of August 2014. Based on our company's research.

● 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



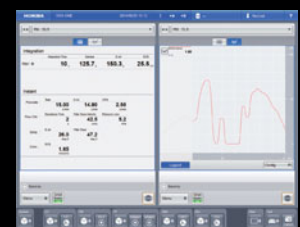
Cartridge filter

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

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|--|---|
| Measuring Principles | Batch sampling : Filter gravimetric method Real-time PM measurement : Diffusion charging method |
| Measuring Ranges (Real-time PM sensor) | 0 to 2500 $\mu\text{m}/\text{cm}^3$ (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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