PRESS RELEASE

Date: 12th October 2020

Advanced Rugged Enclosure Makes HORIBA's OBS-ONE PEMS Ideal for NRMM and HDV Harsh Environment Real World Emissions Monitoring

Northampton, United Kingdom – HORIBA, a leading supplier of automotive test systems, has launched an advanced rugged enclosure for its versatile OBS-ONE portable emissions measurement system (PEMS), enabling it to be used for the in-service monitoring of real world emissions (RWE) of combustion engine-powered non-road mobile machinery (NRMM) in real-life operational and often harsh environments.

Called the OBS-ONE-RE, the enclosure is a feature-rich system in its own right and enables the OBS-ONE – as trusted the world over by leading OEMs of light- and heavy-duty vehicles for establishing real-driving emissions (RDE) and in-service conformity – to be used for monitoring the exhaust gases of machinery such as diggers, quarry vehicles, snowmobiles, inland water vessels and portable power generating sets.

Les Hill, Manager of HORIBA's Global Product Planning Group and a member of a number of RDE working groups, comments: "In 2016, the European Commission published the EU Stage V legislation for Non-Road Mobile Machinery. Subsequently, in 2019, the in-service monitoring of NRMMs became mandatory, to monitor for discrepancies between engine-under-test emissions established in the laboratory and real-world emissions when the engine is installed in equipment and in use."

Launched in 2014, HORIBA's OBS-ONE measures concentration levels of gaseous emissions – specifically carbon monoxide (CO), carbon dioxide (CO_2), total hydrocarbons (THC), nitrogen oxides (NOx) and nitrogen dioxide (NO_2) - plus particle number (PN). It also measures the exhaust flow rate, environmental conditions

(atmospheric temperature, humidity and pressure) and GPS data to provide a record of not just the emissions but also the conditions and the location at which the data was captured.

The OBS-ONE-RE features high endurance and reliable springs that protect the OBS-ONE from shock and vibration in all three axes. In addition, the OBS-ONE-RE is weather-proof, has dust filters and has a cooling system that maintains a consistent internal temperature; enabling the OBS-ONE-RE to operate over the range -7 to +40^{o}C.

Built-in Wi-Fi allows the OBS-ONE-RE to be operated and monitored remotely, enabling the NRMM driver to concentrate on the vehicle or machinery operation.

This rich feature set makes the rugged enclosure the perfect solution for protecting the OBS-ONE from the harsh environments in which many NRMMs, and some HDVs operate and which must now be monitored under industry regulations.

Lewis George, Product Design Engineer of HORIBA UK's R&D department, comments: "The OBS-ONE-RE is the result of extensive research, development and verification, including testing on the shaker rigs of certified test houses and on various NRMM vehicles, to ensure the product's durability and robustness. Most importantly, the OBS-ONE maintains a stable response within tolerances appropriate for certification."

George goes on to explain that HORIBA is already the go-to company for LDV RDE PEMS and for HDV in-service monitoring PEMS, adding: "Now we've risen to the challenge of taking our trusted and reliable PEMS out into the harshest environments, which will be useful for product development purposes as well meeting the industry's requirements for in-service monitoring post product launch. Also, our solution offers easy on-site customisation, ensuring monitoring can be performed reliably while ensuring the safety of those operating the OBS-ONE."

Those developing NRMMs or HDVs likely to be used in harsh environments are encouraged to contact HORIBA for further information on the latest RWE regulations, likely changes to regulations in the future and how HORIBA's proven and trusted OBS-ONE and the Rugged Enclosure can help them achieve compliance and de-risk their programmes.

MAIN ENDS

Caption: Advanced Rugged Enclosure Makes HORIBA's OBS-ONE PEMS Ideal for NRMM and HDV Harsh Environment Real World Emissions Monitoring

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Notes to Editors

This press release was issued on behalf of HORIBA UK Limited by Declaration Limited.

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About HORIBA

The HORIBA Group of worldwide companies provides an extensive array of instruments and systems for applications ranging from automotive R&D, process and environmental monitoring, in-vitro medical diagnostics, semiconductor manufacturing and metrology to a broad range of scientific R&D and QC measurements. Proven quality and trustworthy performance have established widespread confidence in the HORIBA brand.

Net sales 200,241 million Japanese yen (Consolidated, Fiscal 2019). Paid in capital 12,011 million Japanese yen (as of December 31, 2019). Business domain manufacture and sale of analytical measurement equipment. Fiscal closing date December 31, annually. Annual meeting of shareholders held in March. Number of employees 8,288 (Consolidated, as of December 31, 2019). For further information, please visit www.horiba.com