

CONFIRMATION

of Product Conformity (QAL1)

Approved AMS: APSA-380 for SO₂

Manufacturer: Horiba Europe GmbH
Hans-Mess-Strasse 6
61440 Oberursel
Germany

Test Institute:: TÜV Rheinland Energy & Environment GmbH

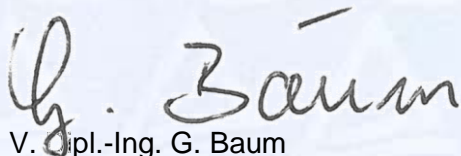
**This is to certify that the AMS has been tested
according to the standards**

**VDI 4202-1 (2018), EN 14212 (2012), EN 14212 (2024)
as well as EN 15267-1 (2009) and EN 15267-2 (2023).**

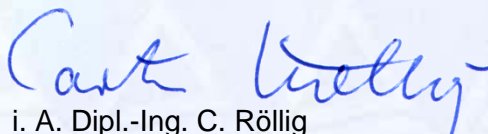
The AMS underwent independent expert testing and was accepted.
This confirmation is valid up to the publication of the certificate,
but no longer than 6 months from the date of issue
(this document contains 4 pages).

This confirmation is valid until: 31 December 2025

TÜV Rheinland Energy & Environment GmbH
Cologne, 4 July 2025



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Test institute accredited to EN ISO/IEC 17025 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to certificate D-PL-11120-02-00.

Confirmation:
4 July 2025

Test Report: EuL/21262682/D dated 7 February 2025

Expiry date: 31 December 2025

Approved application

The tested AMS is suitable for continuous immission measurement of SO₂ in stationary use.

The suitability of the AMS for this application was assessed on the basis of a laboratory test and a three month field test.

The AMS is approved for an ambient temperature range of +0° to 40°C.

The notification of suitability of the AMS, performance testing and the uncertainty calculation have been effected on the basis of the regulations applicable at the time of testing. As changes in legal provisions are possible, any potential user should ensure that this AMS is suitable for monitoring the measured values relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the intended purpose.

Note

The legal regulations mentioned do not correspond to the current state of legislation in every case. Each user should, if necessary, in consultation with the competent authority, ensure that this AMS meets the legal requirements for the intended use. In addition, it cannot be ruled out that legal regulations governing the use of a measuring device for emission monitoring may change during the lifetime of the certificate.

Basis of the confirmation

This confirmation is based on:

- Test report EuL/21262682/D dated 7 February 2025 issued by TÜV Rheinland Energy & Environment GmbH
- The ongoing surveillance of the product and the manufacturing process
- Expert testing and approval by an independent body

Confirmation:
4 July 2025

AMS designation:

APSA-380 for SO₂

Manufacturer:

Horiba Europe GmbH, Oberursel Germany

Field of application:

For the continuous determination of ambient air concentrations of sulphur dioxide in outdoor air in stationary use

Measuring ranges during performance testing:

Component	Certification range	Unit
SO ₂	0 – 1.000	µg/m ³

Software version:

A7: P2002638B 1.01
M4: P2002642A 1.00
Analyzer: P2002584B 1.02
FPGA: P2002759A 1.01

Restrictions:

none

Notes:

1. The measuring system also fulfils the requirements of DIN EN 14212:2024
2. The test report on the suitability test can be viewed on the Internet at www.qal1.de

Test Institute:

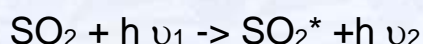
TÜV Rheinland Energy & Environment GmbH, Cologne
Report No.: EuL/21262682/D dated 7 February 2025

Tested product

This confirmation applies to automated measurement systems conforming to the following description:

The APSA-380 ambient air monitoring system is a continuous sulphur dioxide analyser. The measuring principle is based on UV fluorescence. The device was developed for the continuous measurement of sulphur dioxide in ambient air.

The measurement method is based on the physical principle that fluorescence occurs when sulphur dioxide (SO₂) is excited by UV light with wavelengths in the range of 190 nm - 230 nm (SO₂*). This reaction is a two-step process: The first step takes place when SO₂ molecules are hit by photons at the correct ultraviolet wavelength. In this analyser, a bandpass filter between the UV light source and the gas to be measured limits the wavelength of the light to about 214 nm. The SO₂ absorbs some of the energy of the UV light, which raises one of the electrons of the SO₂ molecule to a higher energy potential.



The second step of the reaction takes place when the SO₂ reaches its excited state (SO₂*). As the system always seeks to reach the lowest available stable energy state, the SO₂* molecule quickly returns to its ground state by emitting the excess energy in the form of a photon (hν). The wavelength of this fluorescent light is also in the ultraviolet range, but with a longer (energetically lower) wavelength of about 330 nm.

The optical design of the measuring chamber optimises the fluorescence reaction between SO₂ and UV light and thus ensures that only the UV light generated by the decay of SO₂* to SO₂ is detected by the device's fluorescence detector.

Technical data APSA-380

Measuring range:	Maximum 0 - 20 ppm (selectable)
Units:	ppb, ppm, mg/m ³ or µg/m ³
Measured compounds:	Sulphur dioxide
Sample flow:	approx. 0.6 litres/min (during the test)
Outputs:	Ethernet TCP/IP Modbus Serial interface, RS232 0 - 1/5/10 Volt analogue 4 - 20 mA analogue USB INTERFACE
Input voltage:	100 V to 240 V, 50 Hz or 60 Hz
Power:	50 W; maximum 210 W
Dimensions (L x W x H)	568 x 430 x 221 mm
Weight:	approx. 18 kg