

CONFIRMATION

of Product Conformity (QAL1)

Sampling device: Giano / Gemini for suspended particulate matter PM₁₀ and PM_{2,5}

Manufacturer: Dado Lab srl.
Via Pellizza das Volpedo 101A
20092 Cinisello B. (MI)
Italy

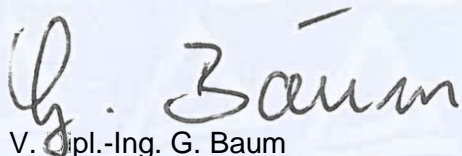
Test Institute:: TÜV Rheinland Energy & Environment GmbH

**This is to certify that the AMS has been tested
according to the standards
EN 12341 (2023) as well as EN 15267-1 (2009) and EN 15267-2 (2023).**

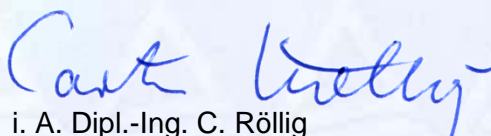
The sampling device underwent independent expert testing and was accepted.
This confirmation is valid up to the publication of the certificate,
but no longer than 6 months from the date of issue
(this document contains 5 pages).

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/21261817/A dated 8 February 2025

Expiry date: 31 December 2025

Approved application

The tested sampling device is suitable for sampling PM₁₀ and/or PM_{2.5} for subsequent gravimetric determination.

The suitability of the sampling device for this application was assessed on the basis of a laboratory test and a field test at a location close to the highway for over a month.

The sampling device is approved for an ambient temperature range of -20° to +50°C.

The notification of suitability of the sampling device and performance testing 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 sampling device is suitable for monitoring the measured values relevant to the application.

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 sampling device 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/21261817/A dated 8 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:

Giano / Gemini for suspended particulate matter PM₁₀ and PM_{2,5}

Manufacturer:

Dado Lab srl.

Field of application:

Sampling device for gravimetric determination of particulate matter PM_{2.5} or PM₁₀ in accordance with DIN EN 12341 (2023)

Software version:

V2.4.2001.u

Restrictions:

none

Notes:

1. The test includes the device versions Giano (single-channel version) and Gemini (dual-channel version).
2. The test was carried out with active air conditioning of the filter chamber.
3. 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/21261817/A dated 8 February 2025

Tested product

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

The sampling device is an automatic and sequential device designed as a low volume sampler for dust sampling on membrane filters. The two versions, Giano and Gemini, differ only in the number of sampling lines:

Giano version: one sampling line, either for PM_{2.5} or PM₁₀

Gemini version: two sampling lines, PM_{2.5} and PM₁₀

The only structural difference between the versions is that the Gemini version contains an additional, completely independent and identical sampling line. The complete design and construction of the Gemini is otherwise identical to the Giano. For this reason, the test was carried out for both variants with two Gemini test specimens. All results obtained can be transferred 1:1 to the Giano type.

Basically, the system consists of one sampling line (Giano) or two independent sampling lines (Gemini) and can be operated either with a PM₁₀ sampling inlet or a PM_{2.5} sampling inlet (Giano) or in parallel with a PM₁₀ sampling inlet and a PM_{2.5} sampling inlet. Ambient air is drawn in via the respective sampling inlet for PM₁₀ and/or PM_{2.5} with the aid of a pump. The dust-laden air is then separated for each fraction by a membrane filter. After sampling, the dust separated on the filters is determined by external gravimetric weighing in accordance with the European standard EN 12341. In addition, the filters can be used for further analytical procedures such as the detection of heavy metals.

Confirmation:
4 July 2025

Technical specifications / operating parameters Giano / Gemini

| | | |
|---|---------------------|---|
| Sampling device | Giano: | 518 mm x 338 mm x 2300 mm (with sampling tube 600 mm) 66.5 kg (without head) |
| | Gemini | 518 mm x 338 mm x 2300 mm (with sampling tube 600 mm) 73.5 kg (without heads) |
| Sampling tube | Giano: | 300 mm to 2500 mm |
| | Gemini: | 300 mm to 2500 mm |
| Sampling head | PM _{2.5} : | Article 102 101 2015 (body) +article 102 101 2019 (nozzle set) |
| | PM ₁₀ : | Article 102 101 2015 (body) + article 102 101 2017 (nozzle set) |
| Power supply | | 230 VAC, 50 - 60 Hz |
| Power consumption | Giano: | 450 W |
| | Gemini: | 600 W |
| Installation conditions | | |
| Temperature | | -20 to +50 °C |
| Humidity | | 0-95% rH |
| Sampling line | Giano: | 1 |
| | Gemini: | 2 |
| Sample flow rate | | 2.3 m³/h = 38.33 l/min constant |
| Sampling tube | | Aluminium, anodised |
| Filter management | | |
| Filter type | | Plane filter, d = 47 mm |
| Filter holder | | Plastic (POM-C) "Smart cartridge" functionality with storage of sampling data directly in the filter holder, reada ble with reader and "DADOLAB Filter Program ming" software, can also be integrated into Sarto rius weighing systems via DADOLINK (this func tion was not part of the test) |
| Maximum filter capacity | | 21 |
| Conditioning of the filters after sampling | | Optional (conditioning during the test to target value 23°C) |
| Data recording | | |
| Interval | | 60 min |
| Operating parameters | | Flow rate, Volume, Pressure drop across the filter, Sampling time, Air temperature after the filter, Filter storage temperature Ambient pressure Ambient temperature Ambient air humidity Device status Calibration logs Test protocols |
| Interfaces, | | USB, GSM-SMS option, 3G modem option (Dadolab Cloud), smart cartridge option |