

CONFIRMATION

of Product Conformity (QAL1)

AMS designation: CMM for Hg

Manufacturer: Gasmot Technologies Oy
Pulittitie 8 A 1
00880 Helsinki
Finland

Test Laboratory: TÜV Rheinland Energy GmbH

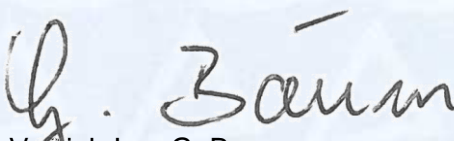
**This is to certify that the AMS has been tested and certified
according to the standards**

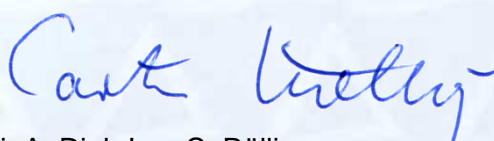
**EN 15267-1: 2009, EN 15267-2: 2009, EN 15267-3: 2007
and EN 14181: 2015**

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)

Expiry date: 19 December 2018

TÜV Rheinland Energy GmbH
Cologne, 20 June 2018


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Test institute accredited to EN ISO/IEC 17025:2005 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to the certificate D-PL-11120-02-00.

Confirmation:
20 June 2018

Test Report: 936/21238865/C dated 8 March 2018
Expiry date: 19 December 2018

Approved application

The tested AMS is suitable for use at combustion plants according to Directive 2010/75/EU, chapter III (13th BImSchV) and waste incineration plants according to Directive 2010/75/EU, chapter IV (17th BImSchV). The measured ranges have been selected so as to ensure as broad a field of application as possible.

The suitability of the AMS for this application was assessed on the basis of a laboratory test and a six-months field test at a lignite-fired plant. An additional two-months test was performed at a special-waste incinerator.

The AMS is approved for an ambient temperature range of +5 °C 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 limit values relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the installation at which it will be installed.

Basis of the confirmation

This confirmation is based on:

- Test report 936/21238865/C dated 8 March 2018 issued by TÜV Rheinland Energy GmbH
- The ongoing surveillance of the product and the manufacturing process
- Expert testing and approval by an independent body

AMS designation:

CMM for Hg

Manufacturer:

Gasmet Technologies Oy, Helsinki, Finland

Field of application:

For plants requiring official approval in accordance with 13th and 17th BImSchV

Measuring ranges during performance testing:

| Component | Certification range | Supplementary measuring ranges | | | | Unit |
|-----------|---------------------|--------------------------------|------|-------|---------|-------------------|
| Hg | 0–5 | 0–10 | 0–45 | 0–100 | 0–1 000 | µg/m ³ |

Software version:

1.197

Restrictions:

None

Notes:

1. The maintenance interval is three months.
2. Wet test gases should be used for testing Hg.
3. An external test gas generator is needed for regular span checks during the maintenance interval.
4. The length of the sample gas line was 12 m for the laboratory and field test and 25 m (waste incinerator)
5. The measuring system needs to be aligned with the zero and span point daily using the integrated Hg(0) generator.
6. Supplementary testing (extension of the maintenance interval, software changes, reduction of the certification range and extension of the scope of certification to cover plants according to Directive 2010/75/EU, chapter IV (17th BImSchV) as regards Federal Environment Agency (UBA) notice of 21 February 2018

(BAnz AT 26.03.2018 B8, chapter I number 2.1)

Test Report:

TÜV Rheinland Energy GmbH, Cologne

Report no.: 936/21238865/C dated 8 March 2018

Tested product

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

The AMS is an extractive continuous mercury emission monitoring system. A sample flow is extracted from the waste gas using an electronically heated probe tube and diluted with nitrogen in the probe. The diluted sample gas is then transported to the analyser cabinet via a heated test gas line where it first passes through a thermal catalytic converter which converts chemically bound mercury present in the waste gas into atomic mercury. The mercury present in the waste gas is then measured with the help of a spectrometer using atomic fluorescence spectroscopy (CVAF; cold vapour atomic fluorescence).

The AMS under test comprises the following main components:

- Sampling probe (stainless steel, glass coated) heated to 180 °C with diluter and back purging unit.
- Cable bundle between probe and analyser cabinet containing 4 separate gas lines (diluted sample gas from the probe to the analyser cabinet (heated), adjustment gas (heated), compressed air for back purging and nitrogen for diluting from analyser cabinet to probe), max. 12 m in length
- Air-conditioned analyser cabinet (dimensions 2.03/0.6/0.6 m c/w air conditioning) comprising the following components:
 - Mercury analyser with integrated high temperature converter
 - Adjustment gas generator for Hg(0) and HgCl₂ (not part of the performance test) adjustment gas
Adjustment gas (not covered by the test)
 - Nitrogen generator for the purpose of dilution
 - Windows PC running Gasmeter MAUI (Mercury Analyzer User Interface) Software for control and evaluation
 - Sample gas pump
 - Compressed air preparation
 - Interface card for analogue and digital inputs and outputs

The adjustment generator is able to generate Hg(0) and HgCl₂ separately. A heated line transports the adjustment gas generated to the probe. During the performance test period, the AMS zero and span points were automatically compared with Hg(0) daily.

The HgCl₂ function of the adjustment gas generator was deactivated during the performance test. The current software version is: 1.197.

The current manual version is: D2.2 (19.9.2017).