TÜVRheinland®
Precisely Right.

CONFIRMATION

of Product Conformity (QAL1)

Approved AMS:	Set CEM CERT II 7MB1957 for CO, NO, NO_2, NO_x, SO_2, O_2 and CO_2
Manufacturer:	Siemens Östliche Rheinbrückenstr. 50 76187 Karlsruhe Germany
Test Institute::	TÜV Rheinland Energy & Environment GmbH

This is to certify that the AMS has been tested according to the standards EN 15267-1 (2009), EN 15267-2 (2023), EN 15267-3 (2007) as well as EN 14181 (2014).

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 6 pages).

This confirmation is valid until: 14 August 2024

TÜV Rheinland Energy & Environment GmbH
Cologne, 15 March 2024

i. V. Dipl.-Ing. G. Baum

i. A. Dipl.-Ing. C. Röllig

www.umwelt-tuv.eu tre@umwelt-tuv.eu Tel. +49 221 806-5200	TÜV Rheinland Energy & Environment GmbH Am Grauen Stein 51105 Köln

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.

Test Report:	EuL/21258935/B dated 29 September 2023
Initial certification:	20 March 2023
Expiry date:	14 August 2024

Approved application
The tested AMS is suitable for use at plants according to Directive 2010/75/EC, chapter III (combustion plants / 13th BImSchV:2021), chapter IV (waste incineration plants / 17th BImSchV:2021), Directive 2015/2193/EC (44th BImSchV:2022), 30th BImSchV:2019, TA Luft:2021 and 27th BImSchV:2013. 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 12 month field test at a waste incineration.

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 emission limit values and oxygen concentration 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/21258935/B dated 29 September 2023 issued by TÜV Rheinland Energy GmbH
- The ongoing surveillance of the product and the manufacturing process
- Expert testing and approval by an independent body
- Suitability announced by the relevant body.

AMS designation:
SET CEM CERT II 7MB1957 for CO, NO, NO_2, NO_x, SO_2, CO_2 and O_2

Manufacturer:
Siemens AG, Karlsruhe, Deutschland

Field of application:
Modular measuring system for plants requiring official approval and plants according to the 27th BImSchV.

Measuring ranges during performance testing:

Component	Module	Certification range	Supplementary measuring ranges		Unit
	Ultramat23-7MB235a-0bcd6-3efg				
CO	a=5; bc=(AG,AJ)1)	0 – 50	0 – 1250	0 – 3000	mg/m³
	a=7; (bc=(AG,AJ)1) oder ef=AA,(AG,AJ)1))				
	a=8; bc=BM,(AK,AS)1)				
NOx	a=7; (bc=PA,(PF,PG,PH,PU,PV,PW)1) or ef=(PF,PG,PH,PU,PV,PW)1))	0 – 50	0 – 2000	–	mg/m³
	a=8; bc=AS1)				
NO	a=5; bc=PA,(PF,PG,PH,PU,PV,PW)1)	0 – 50	0 – 1000	–	mg/m³
	a=7; (bc=PA,(PF,PG,PH,PU,PV,PW)1) or ef=(PF,PG,PH,PU,PV,PW)1))				
	a=8; bc=(AK,AS)1)				
NO_2	a=5; bc=NS	0 – 50	0 – 1000	–	mg/m³
	a=7,8; ef=NS				
SO_2	a=5; bc=NS,(NF,NG,NH,NW)1)	0 – 70	0 – 1250	–	mg/m³
	a=7; (bc=(NF,NG,NH,NW)1) or ef=NS,(NF,NG,NH,NW)1))				
	a=8; ef=NS,(NF,NG,NH,NW)1)				
CO_2	a=5; bc=CP	0 – 25	–	–	Vol.-%
	a=7; (bc=CP oder ef=CP)				
	a=8; bc=BM				
O_2 electrochemical	a=5,7,8; d=1	0 – 25	–	–	Vol.-%

*1 additional range

Software version:

ULTRAMAT 23-7MB2355 4.02.13
ULTRAMAT 23-7MB2357 4.02.13
ULTRAMAT 23-7MB2358 4.02.13
SIEMENS SIMATIC Set CEM CERT 7MB1957 Rev. 3.0.5

Restrictions:

None

Notes:

1. The ULTRAMAT 23 series modules are to be operated with a 24 hour interval for automatic zero adjustment.
2. The maintenance interval is six months.
3. The modular measuring system Set CEM CERT II 7MB1957 includes a system cabinet with housing protection class IP40. The system cabinet can be equipped with an air-conditioning unit or a fan unit.
4. The measuring system has a digital interface for data transmission according to the guideline VDI 4201 Part 1 (general requirements), Part 3 (Modbus TCP/IP) and Part 4 (OPC).
5. The measuring system can be operated with the following sample gas cooler models: RC1.2+ and EGK 2-19 (+) from Bühler Technologies GmbH and MAK20-2 from AGT-PSG GmbH.
6. Supplementary test (Approval of further sample gas coolers) with regard to the announcement of the Federal Environment Agency (UBA) of 5 July 2023 BAnz AT 02.08.2023 B7, chapter I number 3.3).

Test Institute:

TÜV Rheinland Energy GmbH, Cologne
Report No.: EuL/21258935/B dated 29 September 2023

Tested product

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

The certificate is valid for automatic measuring devices that comply with the following description:

The entire tested modular measuring equipment Set CEM CERT II 7MB1957 is composed of a heated sample gas sampling probe, the heated sample gas line, the two-stage sample gas cooler, the sample gas feed pump and a maximum of three multi-component analyzers from the possible analyzers Ultramat 23-7MB2355, Ultramat 23-7MB2357 or Ultramat 23-7MB2358.

Measuring cabinet
Set CEM CERT II 7MB1957 System cabinet

Probe in test

Manufacturer:	Bühler Technologies GmbH
Type:	GAS 222.20-Cal-twin incl. ceramic filter (length 100 cm), heated 180 °C

Heated sample gas line

Temperature:	180 °C
Length:	50 m in the field, 10 m in the laboratory
Diameter (inside):	4 mm
Material:	PTFE

Compressor cooler in testing

Manufacturer:	Bühler Technologies GmbH
Type:	RC1.2+, 2 cooling stages, dew point at 4 °C

Alternative cooler models

Manufacturer:	Bühler Technologies GmbH
Type:	EGK 2-19 (+), 2 cooling stages, dew point at 5 °C
Manufacturer:	AGT-PSG GmbH
Type:	MAK20-2, 2 cooling stages, dew point at 4 °C

Sample gas pump

Manufacturer	Bühler Technologies GmbH
Type:	P 2.3

Analytical modules

Manufacturer	Siemens AG
Type	Ultramat 23-7MB2355 Ultramat 23-7MB2357 Ultramat 23-7MB2358

The modular measuring system Set CEM CERT II 7MB1957 includes a system cabinet with housing protection class IP40. The system cabinet can be equipped with an air-conditioning unit or with a fan unit.

The sample gas pump with integrated gas recirculation for adjusting the sample gas flows is located between the first and second cooler stages. A fine filter for fine dust separation is also integrated into the cooler housing. Downstream of the sample gas cooler, the gas path splits into either two or three sections and supplies the analyzer modules arranged in parallel with sample gas. The excess gas flows off via a bypass, if necessary. Immediately upstream of each analyzer module is another condensate filter which closes the gas path in the event of moisture breakthrough in order to protect the analyzers. To connect zero gas for automatic zero point setting (AutoCal), a three-way valve is installed upstream of the pump, which is switched by the SIMATIC.

For the connection of zero/test gases, a further three-way valve is installed downstream of the pump which, if necessary, can offer corresponding gases for the automatic adjustment of zero and reference point - switched time-controlled by the SIMATIC. Alternatively, the test gases can also be supplied manually via a third three-way valve.