



Industrie Service

Certificate

TÜV Industrie Service GmbH
TÜV SÜD Gruppe

Laboratory for Environmental Services
(Laboratorium Umwelt Service)
accredited according DIN EN ISO/IEC 17025 DAP-PL-2885.99

Ultramat 6 E,F 7 MB21

Gas Analyser for CO, NO, SO₂
Report Nr. 24019084 (February 1999)

Manufacturer:
Siemens AG, Karlsruhe, Germany

TÜV Industrie Service GmbH, TÜV SÜD Group is herewith certifying that the analyser Ultramat 6 E,F 7MB21 is in accordance with DIN EN ISO 14956, Jan. 2003 and fulfils QAL1 of EN 14181 for the following ranges of measurement or for higher ranges:

Component	C _{test} mg/ m ³	Range of measurement mg/ m ³	In accordance with DIN EN ISO 14956
CO	50	0-75	Yes
NO	33	0-100	Yes
NO as NO ₂	50	0-153	Yes
SO ₂	50	0-75	Yes

The calculation according DIN EN ISO 14956 was performed on the basis of the results of the investigations for report Nr. 24019084 (February 1999) for the German suitability test.

The following performance characteristics were regarded: Response time; Non-linearity, Instability/ drift; Selectivity/ interfering components; Dependence of ambient temperature, ambient pressure and voltage; , Gas flow; Sample losses; Uncertainty of calibration gas; Uncertainty of independent reference method.

Munich, July 2004


Dr. D. Fiederer


Dr. A. Brandl

Laboratorium Umwelt Service, TÜV Industrie Service GmbH, Unternehmensgruppe TÜV
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Oxymat 6E,F 7MB20

Gas Analyser for O₂

Report Nr. 24019084 (February 1999)

Manufacturer:

Siemens AG, Karlsruhe, Germany

TÜV Süd Industrie Service GmbH is herewith certifying that the analyser Oxymat 6E,F 7MB20 for O₂ has the following expanded uncertainty (calculated according DIN EN ISO 14956, Jan. 2003 and prEN 15267-3, August 2005):

Component	C _{test} Vol.-%	Range of measurement Vol.-%	Expanded Uncertainty according EN ISO 14956
Oxygen, O ₂	11	0-25	0,49 Vol.-% (2 % of range of measurement)

The analyser can be used in combination with other tested measuring systems which fulfil QAL 1 of EN 14181.

The calculation according DIN EN ISO 14956 was performed on the basis of the results of the investigations of report 24019084 (February 1999) for the German suitability test.

The following performance characteristics were regarded: Response time; lower detection limit; lack of fit; instability/ drift; repeatability; sensitivity to ambient temperature, ambient pressure, voltage supply and gas flow; sample losses, selectivity/ interfering components; uncertainty of calibration gas

Munich, January 2006


Dr. D. Fiederer


Dr. A. Brandl

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**TÜV Süddeutschland
TÜV Ecoplan Umwelt GmbH**

**Process Gas Analyzers
ULTRAMAT 6 and OXYMAT 6**

Report-Nr: 24019084

Manufacturer:
SIEMENS AG, Karlsruhe, Germany

TÜV Ecoplan Umwelt GmbH, TÜV Süddeutschland group is herewith certifying for the Process gas analyzers ULTRAMAT 6 and OXYMAT 6, that the following measuring results for emission measurement at a waste incineration plant have been reached and are in accordance to the 13. BImSchV, 17. BImSchV und TA-Luft regulations.

Smallest tested measuring ranges:

CO	0....50 mg /m ³	NO	0....100 mg /m ³
SO ₂	0....75 mg /m ³	O ₂	0....5 / 25 Vol.-%

Availability:

> 99% over a period of 3 months for two independent systems including sample preparation.

Drift:

With automatic calibration of zero and span with calibration gas (weekly intervals):

Zero-drift	:	<2% of range per year
Span-Drift	:	<2% of range per year

Cross Interference:

The sum of all interferences to the measuring component stated above for SO₂, NO, O₂, NH₃, NO₂, CH₄, N₂O, CO, and H₂O with typical stack gas concentrations is <4% of the ranges.

Limit of Detection:

CO	≤ 1% of range	NO	≤ 0,8% of range
SO ₂	≤ 0,7% of range	O ₂	≤ 0,02 Vol.-% O ₂

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Dr. A. Brandl, München, September 1999, Dr. A. Witthuhn
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