

# CERTIFICATE

## of Product Conformity (QAL1)

Certificate No.: 0000035013\_03

**AMS designation:** PCME QAL 182 WS for dust

**Manufacturer:** ENVEA UK Ltd.  
ENVEA House, Rose & Crown Road  
Swavesey / Cambridge CB24 4RB  
United Kingdom

**Test Laboratory:** TÜV Rheinland Energy GmbH

**This is to certify that the AMS has been tested  
and found to comply with the standards  
EN 15267-1 (2009), EN 15267-2 (2009), EN 15267-3 (2007)  
and EN 14181 (2014).**

Certification is awarded in respect of the conditions stated in this certificate  
(this certificate contains 8 pages).

The present certificate replaces certificate 0000035013\_02 of 28 February 2017.



Suitability Tested  
EN 15267  
QAL1 Certified  
Regular  
Surveillance

www.tuv.com  
ID 0000035013

Publication in the German Federal Gazette  
(BAnz) of 02 March 2012

German Federal Environment Agency  
Dessau, 16 February 2022

This certificate will expire on:  
01 March 2027

TÜV Rheinland Energy GmbH  
Cologne, 15 February 2022



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Head of Section II 4.1



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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.

<b>Test report:</b>	936/21216218/A of 14 October 2011
<b>Initial certification:</b>	16 March 2012
<b>Expiry date:</b>	01 March 2027
<b>Certificate</b>	Renewal (of previous certificate 0000035013_02 of 28 February 2017 valid until 01 March 2022)
<b>Publication:</b>	BAnz. 02 March 2012, no. 36, p. 920, chapter III number 1.2

### Approved application

The tested AMS is suitable for use at combustion plants according to Directive 2010/75/EU, chapter III (13<sup>th</sup> BImSchV), chapter IV (17<sup>th</sup> BImSchV), 30<sup>th</sup> BImSchV, plants in compliance with TA Luft, plants according to the 27<sup>th</sup> BImSchV and other plants requiring official approval. 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 evaluated on the basis of a laboratory test and a 3-month field test at a plant for thermal recycling of industrial solvents.

The AMS is approved for an ambient temperature range of -20° to +50°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 intended purpose.

### Basis of the certification

This certification is based on:

- Test report 936/21216218/A of 14 October 2011 by TÜV Rheinland Energie und Umwelt GmbH
- Suitability announced by the German Federal Environment Agency (UBA) as the relevant body
- The ongoing surveillance of the product and the manufacturing process

Publication in the German Federal Gazette: BAnz. 02 March 2012, no. 36, p. 920, chapter III number 1.2, UBA announcement dated 23 February 2012:

**AMS designation:**

PCME STACK 181 WS for dust

**Manufacturer:**

PCME Ltd., St. Ives, Cambs, England

**Field of application:**

For measurements at plants requiring official approval and plants according to 27<sup>th</sup> BImSchV

**Measuring ranges during performance testing:**

Component	Certification range	Supplementary measuring ranges			Unit
Dust	0 - 15	0 - 7.5	0 - 30	0 - 100	SL

0 - 15 Scattered light units (SL)  $\hat{=}$  15 mg/m<sup>3</sup> dust

**Software versions:**

Control Unit: 8.00  
Wet Stack Monitor: 2.00

**Restrictions:**

None

**Notes:**

1. The dust concentration is determined in wet flue gas under operational conditions.
2. The maintenance interval is four weeks.

**Test Report:**

TÜV Rheinland Energy GmbH, Cologne  
Report no.: 936/21216218/A of 14 October 2011

Publication in the German Federal Gazette: BAnz AT 20.07.2012 B11, chapter IV  
12<sup>th</sup> notification, UBA announcement dated 06 July 2012:

**12 Notification as regards Federal Environment Agency (UBA) notice  
of 23 February 2012 (BAnz. p. 920, chapter I number 1.2)**

The measuring system formally known as PCME STACK 181 WS for dust  
manufactured by PCME Ltd. is now named: PCME QAL 181 WS

Statement issued by TÜV Rheinland Energie und Umwelt GmbH dated 12 March 2012

Publication in the German Federal Gazette: BAnz AT 14.03.2016 B7, chapter V  
26<sup>th</sup> notification, UBA announcement dated 18 February 2016:

**26 Notification as regards Federal Environment Agency (UBA) notices  
of 23 February 2012 (BAnz. p. 920, chapter I number 1.2) and  
of 06 July 2012 (BAnz AT 20.07.2012 B11, chapter IV, 12<sup>th</sup> notification)**

The current software versions of the measuring system PCME QAL 181 WS  
for total dust of PCME Ltd. are:

Controller Software: 8.45

Sensor Software: 2.06

Statement issued by TÜV Rheinland Energie und Umwelt GmbH  
dated 22 October 2015

Publication in the German Federal Gazette: BAnz AT 26.03.2018 B8, chapter V  
36<sup>th</sup> notification, UBA announcement dated 21 February 2018:

**36 Notification as regards Federal Environment Agency (UBA) notices  
of 23 February 2012 (BAnz. p. 920, chapter I number 1.2) and  
of 18 February 2016 (BAnz AT 14.03.2016 B7, chapter V 26<sup>th</sup> notification)**

The new designation of the measuring system PCME QAL 181 WS for dust  
from PCME Ltd. is now PCME QAL 182 WS.

The sample chamber of the PCME QAL 182 WS measuring system is to be made of  
Peek plastic in the future.

The current software versions of the PCME QAL 182 WS measuring system  
for dust from PCME Ltd. are:

Controller Software: 8.45

Sensor Software: 2.09

Statement issued by TÜV Rheinland Energy GmbH dated 7 December 2017

Publication in the German Federal Gazette: BAnz AT 26.03.2019 B7, chapter IV  
49<sup>th</sup> notification, UBA announcement dated 27 February 2019:

**49 Notification as regards Federal Environment Agency (UBA) notices  
of 23 February 2012 (BAnz. p. 920, chapter I number 1.2) and  
of 21 February 2018 (BAnz AT 26.03.2018 B8, chapter V 36<sup>th</sup> notification)**

The current software versions of the PCME QAL 182 WS measuring system  
for total dust from PCME Ltd. are:

Controller Software: 9.04  
Sensor Software: 2.13

Statement issued by TÜV Rheinland Energy GmbH dated 2 October 2018

Publication in the German Federal Gazette: BAnz AT 24.03.2020 B7, chapter IV  
41<sup>st</sup> notification, UBA announcement dated 24 February 2020:

**41 Notification as regards Federal Environment Agency (UBA) notices  
of 23 February 2012 (BAnz. p. 920, chapter I number 1.2) and  
of 27 February 2019 (BAnz AT 26.03.2019 B7, chapter IV 49<sup>th</sup> notification)**

The company name has changed from PCME Ltd. to ENVEA UK Ltd.

The new production site for the PCME QAL 182 WS dust measuring system  
manufactured by ENVEA UK Ltd. is:

ENVEA UK Ltd.  
ENVEA House, Rose & Crown Road  
Swavesey  
Cambridge CB24 4RB  
United Kingdom

Statement issued by TÜV Rheinland Energy GmbH dated 4 December 2019

### **Certified product**

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

The measuring system PCME QAL 181 WS is an extractive dust measuring device.

The complete system consists of the main unit, a scattered light sensor and a control unit. The PCME QAL 181 WS works as a bypass system. The dust concentration is determined by the principle of scattered light measurement.

The system continuously samples moist waste gas containing water droplets by creating a mass flow through the PCME QAL 181 WS sensor head using a pressure differential generated by air flow over an air funnel. A partial gas flow is extracted from the waste gas via a measuring gas probe. The sample gas flow is passed over a heating chamber, which evaporates the water droplets and thus eliminates their influence on the dust readings. The temperature of the sample gas stream is approximately 280 °C.

### **General remarks**

This certificate is based upon the equipment tested. The manufacturer is responsible for ensuring that on-going production complies with the requirements of the EN 15267. The manufacturer is required to maintain an approved quality management system controlling the manufacturing process for the certified product. Both the product and the quality management systems shall be subject to regular surveillance.

If a product of the current production does not conform to the certified product, TÜV Rheinland Energy GmbH must be notified at the address given on page 1.

A certification mark with an ID-Number that is specific to the certified product is presented on page 1 of this certificate.

This document as well as the certification mark remains property of TÜV Rheinland Energy GmbH. Upon revocation of the publication the certificate loses its validity. After the expiration of the certificate and on request of TÜV Rheinland Energy GmbH this document shall be returned and the certificate mark must no longer be used.

The relevant version of this certificate and its expiration date are also accessible on the internet at [qal1.de](http://qal1.de).

### Document history

Certification of the PCME QAL 182 WS measuring system is based on the documents listed below and the regular, continuous surveillance of the manufacturer's quality management system:

#### Initial certification according to EN 15267

Certificate no. 0000035013\_00: 16 March 2012  
Expiry date of the certificate: 01 March 2017  
Test Report: 936/21216218/A of 14 October 2011  
TÜV Rheinland Energie und Umwelt GmbH  
Publication: BAnz. 02 March 2012, no. 36, p. 920, chapter III number 1.2  
UBA announcement dated 23 February 2012

#### Supplementary testing according to EN 15267

Certificate no. 0000035013\_01: 20 August 2012  
Expiry date of the certificate: 01 March 2017  
Test Report: 936/21216218/A of 14 October 2011  
TÜV Rheinland Energie und Umwelt GmbH  
Publication: BAnz AT 20.07.2012 B11, chapter IV number 12  
UBA announcement dated 6 July 2012

#### Notifications according to EN 15267

Statement issued by TÜV Rheinland Energy GmbH dated 22 October 2015  
Publication: BAnz AT 14.03.2016 B7, chapter V notification 26  
UBA announcement dated 18 February 2016  
(Software updates)

#### Renewal of the certificate

Certificate no. 0000035013\_02: 28 February 2017  
Expiry date of the certificate: 01 March 2022

#### Notifications according to EN 15267

Statement issued by TÜV Rheinland Energy GmbH dated 7 December 2017  
Publication: BAnz AT 26.03.2018 B8, chapter V notification 36  
UBA announcement dated 21 February 2018  
(Hardware and software changes as well as name change of the measuring system)

Statement issued by TÜV Rheinland Energy GmbH dated 2 October 2018  
Publication: BAnz AT 26.03.2019 B7, chapter IV notification 49  
UBA announcement dated 27 February 2019  
(Software updates)

Statement issued by TÜV Rheinland Energy GmbH dated 4 December 2019  
Publication: BAnz AT 24.03.2020 B7, chapter IV notification 41  
UBA announcement dated 24 February 2020  
(Change manufacturer name and address)

#### Renewal of the certificate

Certificate no. 0000035013\_03: 16 February 2022  
Expiry date of the certificate: 01 March 2027

### Calculation of overall uncertainty according to EN 14181 and EN 15267-3

#### Measuring system

Manufacturer	PCME Ltd.
Name of measuring system	PCME STACK 181 WS
Serial number of the candidates	38654 / 38655
Measuring principle	Scattered light extractiv

#### Test report

Test laboratory	TÜV Rheinland
Date of report	2011-10-14

#### Measured component

Certification range	dust	0 - 15 mg/m <sup>3</sup>
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#### Calculation of the combined standard uncertainty

##### Tested parameter

	u	u <sup>2</sup>
Standard deviation from paired measurements under field conditions *	u <sub>D</sub> 0.127 mg/m <sup>3</sup>	0.016 (mg/m <sup>3</sup> ) <sup>2</sup>
Lack of fit	u <sub>lof</sub> 0.081 mg/m <sup>3</sup>	0.007 (mg/m <sup>3</sup> ) <sup>2</sup>
Zero drift from field test	u <sub>d.z</sub> 0.130 mg/m <sup>3</sup>	0.017 (mg/m <sup>3</sup> ) <sup>2</sup>
Span drift from field test	u <sub>d.s</sub> -0.217 mg/m <sup>3</sup>	0.047 (mg/m <sup>3</sup> ) <sup>2</sup>
Influence of ambient temperature at span	u <sub>t</sub> 0.006 mg/m <sup>3</sup>	0.000 (mg/m <sup>3</sup> ) <sup>2</sup>
Influence of supply voltage	u <sub>v</sub> 0.021 mg/m <sup>3</sup>	0.000 (mg/m <sup>3</sup> ) <sup>2</sup>
Influence of sample gas flow	u <sub>b</sub> 0.078 mg/m <sup>3</sup>	0.006 (mg/m <sup>3</sup> ) <sup>2</sup>
Uncertainty of reference material at 70% of certification range	u <sub>rm</sub> 0.121 mg/m <sup>3</sup>	0.015 (mg/m <sup>3</sup> ) <sup>2</sup>

\* The larger value is used :

"Repeatability standard deviation at span" or

"Standard deviation from paired measurements under field conditions"

Combined standard uncertainty (u<sub>c</sub>)

$$u_c = \sqrt{\sum (u_{max,j})^2} \quad 0.33 \text{ mg/m}^3$$

Total expanded uncertainty

$$U = u_c * k = u_c * 1.96 \quad 0.64 \text{ mg/m}^3$$

#### Relative total expanded uncertainty

U in % of the ELV 10 mg/m<sup>3</sup> **6.4**

#### Requirement of 2000/76/EC and 2001/80/EC

U in % of the ELV 10 mg/m<sup>3</sup> **30.0**

#### Requirement of EN 15267-3

U in % of the ELV 10 mg/m<sup>3</sup> **22.5**