

## Translation

# EC-Type Examination Certificate

- (1)
- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) No. of EC-Type Examination Certificate: **BVS 10 ATEX E 087 U**
- (4) Component: **Process gas cuvette type PGK.. Ex**
- (5) Manufacturer: **SICK MAIHAK GmbH**
- (6) Address: **88709 Meersburg, Germany**
- (7) The design and construction of this component and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.  
The examination and test results are recorded in the test and assessment report BVS PP 10.2227 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:  
**EN 60079-0:2009 General requirements**  
**EN 60079-7:2007 Increased safety 'e'**
- (10) The sign "U" placed after the certificate number indicates that the certificate must not be mistaken for a certificate for equipment or a protective system. This certificate may only be used as the basis for the certification of equipment or a protective system.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component in accordance to Directive 94/9/EC.  
Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

 **II 2G Ex e IIC Gb**

DEKRA EXAM GmbH  
Bochum, dated 23. September 2010

Signed: Simanski

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Certification body

Signed: Dr. Eickhoff

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Special services unit

- (13) Appendix to
- (14) **EC-Type Examination Certificate**  
**BVS 10 ATEX E 087 U**
- (15) 15.1 Subject and type

Process gas cuvette type      PGK.. Ex

PGK10 Ex: 10 cm length of sample container  
 PGK20 Ex: 20 cm length of sample container  
 PGK50 Ex: 50 cm length of sample container  
 PGK75 Ex: 75 cm length of sample container

15.2 Description

The heated process gas cuvette is manufactured in the type of protection Increased Safety; it is a part of a measuring system used to analyse gas mixtures. The measuring gas flows through a sample cuvette which is limited by windows on its sides. The measuring beam of the analyser connected radiates lengthwise through the cuvette and the sample container. The measuring beam is diluted by the measuring gas in a gas-specific manner and it is this dilution which is evaluated by the analyser.

Protective windows located between the windows of the sample container and the flanges towards the analyser form a purging gas compartment which can be purged by the appropriate purging gas connections. Thus, e.g. in case the cuvette windows are leaking, gas escaping can be purged and detected if necessary.

15.3 Parameters

15.3.1	Electrical data	
	Rated voltage	115 / 230 V, 50 – 60 Hz
	Power consumption PGK10 Ex / PGK20 Ex / PGK50 Ex	250 W
	Power consumption PGK75 Ex	500 W
15.3.2	Thermal data	
	Ambient temperature	+5 °C ≤ T <sub>a</sub> ≤ +40 °C
	Maximum cuvette temperature	150 °C
15.3.3	Pneumatic data	
	Maximum pressure of measuring gas	
	Cuvette window quartz or CaF <sub>2</sub>	20 bar
	Cuvette window BaF <sub>2</sub>	10 bar
	Maximum flow rate of measuring gas	
	- Process not an explosive hazard	1000 l/h
	- Process requiring category 2G or 3G	100 l/h
	Maximum pressure of purging gas compartment	3 bar
	Flow rate purging gas	2 – 100 l/h

- (16) Test and assessment report  
BVS PP 10.2227 EG as of 23.09.2010

- (17) Special conditions for safe use  
The heated measuring gas cuvettes shall only be operated together with a temperature limiting device, a fault current control or an insulation control system.

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH  
44809 Bochum, 07.02.2011  
BVS-Wit/Ar E 0114/11

  
\_\_\_\_\_  
Certification body

  
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Special services unit