Translation

(1) # EC-Type Examination Certificate

(2) **- Directive 94/9/EC -**
Equipment and protective systems intended for use in potentially explosive atmospheres

(3) ## BVS 09 ATEX E 119 X

(4) **Equipment:** **Gas analyser Type Thermo-FID ***

(5) **Manufacturer:** **SK-Elektronik GmbH**

(6) **Address:** **51381 Leverkusen, Germany**

(7) The design and construction of this equipment 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 equipment 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 09.2140 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2006 General requirements
EN 60079-2:2007 Pressurized enclosure ´p´

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

(12) The marking of the equipment shall include the following:

II 2G Ex px II T2 – T4

DEKRA EXAM GmbH
Bochum, dated 09. September 2009

Signed: Simanski
Certification body

Signed: Dr. Eickhoff
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 09 ATEX E 119 X

(15) 15.1 Subject and type

Gas analyser type Thermo-FID FE
Thermo-FID MK
Thermo-FID FE-MSU

15.2 Description

The gas analysers of type Thermo-FID * are used to measure hydrocarbons in gas mixtures. They are designed in the type of protection Pressurized enclosure with continuous flow of protective gas (instrument air or nitrogen). For monitoring the minimum overpressure and the purging the system type F 850S, BVS 06 ATEX E 088, is used.

15.3 Parameters

15.3.1 Electrical data

Supply voltage	AC 230/115 V
Maximum power consumption	
Thermo-FID FE	500 W
Thermo-FID MK	1100 W
Thermo FID FE-MSU	500 W

15.3.2 Pneumatical data

Thermo-FID FE / Thermo-FID MK	
Internal volume	65 l
Minimum purge volume	325 l
Minimum continuous flow rate	800 l/h
Minimum overpressure	1 mbar
Maximum overpressure	15 mbar
Thermo-FID FE-MSU	
Internal volume	80 l
Minimum purge volume	400 l
Minimum continuous flow rate	800 l/h
Minimum purge volume	1 mbar
Maximum overpressure	15 mbar

(16) Test and assessment report

BVS PP 09.2140 EG as of 09.09.2009

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

(17) Special conditions for safe use

The measurement function for explosion protection according to EN 61779-1 and EN 61779-4 is not a subject of this EC-Type Examination Certificate.

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.

44809 Bochum, 09. September 2009
BVS-Wit/Her A 20090513

DEKRA EXAM GmbH

Certification body

Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

Translation

(1) # 1. Supplement to the EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **BVS 09 ATEX E 119 X**

(4) Equipment: **Gas analyser type Thermo-FID ***

(5) Manufacturer: **SK-Elektronik GmbH**

(6) Address: **Benzstraße 23-25, 51381 Leverkusen, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(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 equipment 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 09.2140 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2009 General requirements
EN 60079-2:2007 Pressurized enclosure „p“

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex II 2G Ex px IIC T2 – T4 Gb

DEKRA EXAM GmbH
Bochum, dated 23 January 2013

Signed: Hans Christian Simanski
Certification body

Signed: Dr. Franz Eickhoff
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(13) Appendix to

(14) **1. Supplement to the EC-Type Examination Certificate**
BVS 09 ATEX E 119 X

(15) 15.1 Subject and type

Gas analyser type Thermo-FID FE
Thermo-FID MK
Thermo-FID FE-MSU

15.2 Description

The gas analysers of type Thermo-FID * are used to measure hydrocarbons in gas mixtures. They are designed in the type of protection Pressurized enclosure with continuous flow of protective gas (instrument air or nitrogen). For monitoring the minimum overpressure and the purging the system type F 850S, BVS 06 ATEX E 088, is used.

Reason for the supplement is the operation at changed conditions of the sample gas and changed pneumatic parameters, and the upgrading to the current standards.

15.3 Parameters

15.3.1 Electrical data

Supply voltage	AC	230/115 V
Maximum power consumption		
Thermo-FID FE		500 W
Thermo-FID MK		1100 W
Thermo FID FE-MSU		500 W

15.3.2 Pneumatic data

Thermo-FID FE / Thermo-FID MK		
Internal volume		65 l
Minimum purge volume		325 l
Minimum continuous flow rate		1600 l/h
Minimum overpressure		1 mbar
Maximum overpresssure		15 mbar
Thermo-FID FE-MSU		
Internal volume		80 l
Minimum purge volume		400 l
Minimum continuous flow rate		1600 l/h
Minimum overpressure		1 mbar
Maximum overpresssure		15 mbar

(16) Test and assessment report

BVS PP 09.2140 EG as of 23 January 2013

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(17) Special conditions for safe use

The measuring function concerning the explosion protection is not subject of this EC-type test certificate.

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, 23 January 2013
BVS-Wit/Ma A 20120254

Certification body

Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com