



Translation

(1) **EC-Type Examination Certificate**

(2) **- Directive 94/9/EC -**

**Equipment and protective systems intended for use  
in potentially explosive atmospheres**

(3) **BVS 05 ATEX E 144 X**

(4) **Equipment:** VFS Sensor type FLP-E with VFS barrier type FLP-B

(5) **Manufacturer:** TST Elektronik GmbH

(6) **Address:** 58089 Hagen, Germany

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of EXAM BBG Prüf- und Zertifizier 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 05.2108 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:  
EN 50014:1997+A1-A2 General requirements  
EN 50020:2002 Intrinsic safety 'i'  
EN 50284:1999 Equipment Group II Category 1G

(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 schedule 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 1/2G EEx ia IIB T4** for the sensor  
**II (1)G [EEx ia] IIB** for the barrier

**EXAM BBG Prüf- und Zertifizier GmbH**

Bochum, dated 27. September 2005

Signed: Dr. Jockers

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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 05 ATEX E 144 X**

(15) 15.1 Subject and type  
VFS sensor type FLP-E with VFS barrier type FLP-B

15.2 Description

The sensor in combination with the barrier is used for flow measurement and for the conversion of the flow rate into an electrical signal.

The barrier will be mounted outside the hazardous area and the sensor will be mounted in a pipe system.

Sensor and barrier are connected together by a up to 50 m long cable.

15.3 Parameters

15.3.1 VFS barrier type FLP-B

15.3.1.1 Non-intrinsically safe circuits (terminals 1 up to 4)

max. Spannung – max. voltage	Um	AC	250	V
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15.3.1.2 Intrinsically safe output circuits type of protection EEx ia IIB (terminals 5 up to 8)

Voltage	Uo	DC	9,88	V
Current	Io		1,04	A
Power	Po		2,57	W

15.3.1.3 Ambient temperature range

Ta -20 °C up to +50 °C

15.3.2 VFS sensor type FLP-E

Ambient temperature range

Ta -20 °C up to +60 °C

(16) Test and assessment report  
BVS PP 05.2108 EG as of 27.09.2005

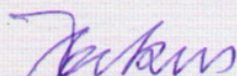
(17) Special conditions for safe use  
Along the intrinsically safe circuit between the places the barrier type FLP-B and the sensor type FLP-E are mounted equipotential bonding is required to ensure that no potential differences can occur.


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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, 27. September 2005  
BVS-Schu/Kw A 20050505

**EXAM BBG Prüf- und Zertifizier GmbH**

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

  
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Special services unit