



TÜV Rheinland Group

(1) **TYPE-EXAMINATION CERTIFICATE**

(Translation)

(2) Equipment and Protective Systems intended for Use in Potentially Explosive Atmosphere - **Directive 94/9/EC**



(3) Type-Examination Certificate Number

**TÜV 05 ATEX 7218 X**

(4) **Equipment:** Variable Volume Flow Control TVRX / AKX

(5) **Manufacturer:** Gebrüder Trox GmbH

(6) **Address:** Heinrich -Trox-Platz

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV CERT-Zertifizierungsstelle for ex-protected products of TÜV Industrie Service GmbH, TÜV Rheinland Group certifies this equipment has been found to comply with the Essential Health and Safety Requirements that related to the design of Category 3 equipment, which is intended for use in potentially explosive atmosphere. These the Essential Health and Safety Requierements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in the confidential report: 194/218.00.05

(9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

**EN 1127-1**

**EN 13463-1:2001**

**EN 13463-5:2003**

(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 Type-examination certificate relates only to the design, examination and tests of the specified equipment in accordance with Directive 94/9/EC. Further requirements of the Directive may 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 2 G

c II T5 / T6

TÜV CERT-Zertifizierungsstelle für Explosionsschutz

Köln, 14.12.05

Dipl.-Ing. K. Wettingfeld

This Type Examination Certificate without signature and stamp shall not be valid.

This Type Examination Certificate may only be circulated without alterations. German version is valid. Extracts or alterations must be approved by TÜV CERT-Zertifizierungsstelle of TÜV Industrie Service GmbH, TÜV Rheinland Group, Am Grauen Stein 51105 Köln, Tel. +49 (0) 221 806-0 Fax. + 49 (0) 221 806 114



TÜV Rheinland Group

## 1<sup>st</sup> Supplement

acc. to directive 94/9/EC, Appendix III, No 6  
to the Type Examination Certificate

**TÜV 05 ATEX 7218 X**

**(Translation)**



Equipment: Variable Volume Flow Control TVR-EX – TES/F and TVR-Ex-P5  
shut-off flap AK-EX-TOS/F and shut-off flap AK-Ex-T5

Manufacturer: TROX GmbH

Address: Heinrich- Trox- Platz  
47504 Neukirchen- Vluyn

### Description of supplements and modifications

The name of the manufacturer has been changed from Trox GmbH to TROX GmbH.



The descriptive name of the variable volume flow control TVRX and shut-off flap AKX of the original certificate have been changed to TVR-Ex und AK-Ex.

The device combination TVR-Ex or AK-Ex in the electrical realisation are now suitable also for dust explosion protection. The pressure transmitter has been integrated in the enclosure of the shut-off flap (valid for the electrical design).

Additionally to the electrical variant there are pneumatic variants TVR-Ex-P5 and AK-Ex-T5 covered by this supplement.

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In case of dispute, the German text shall prevail

The marking is extended for the electrical model by the dust explosion protection

 II 2 G c II T5/T6 electrical variant: TVR-Ex –TES/F and AK-Ex – TOS/ F  
 II 2 D c II T80 °C electrical variant: TVR-Ex –TES/F and AK-Ex – TOS/ F

The original marking has been changed for the new pneumatic variant by restricting the explosion group from II to IIB

 II 2 G c II B T5/T6 pneumatic variant: TVR-Ex –P5 und AK-Ex- T5

### Technical Data

No change

Test report: 194/Ex 218.01/08

The attachments which are certified by withdrawn standards match still the state of the art.

### Special Conditions for the safe use

None

### Basic Safety and Health Requirements

Covered by afore mentioned standards

The Certificate TÜV 05 ATEX 7218 X must be observed.  
The temperature class has to be marked according to the chosen temperature range.  
The variable volume flow control or shut-off flap must be connected to the equipotential bonding. The connection has to be locked against to become loose.

The load current of the limit switch may not exceed 5 A.

TÜV-CERT-Zertifizierungsstelle für Explosionsschutz

Köln, den 12.06.08


Dipl.-Ing. Klaus Wettingfeld

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# 2<sup>nd</sup> Supplement

to

## Type Examination Certificate

### TÜV 05 ATEX 7218 X



**Device:** Variable Volume Flow Control type TVR-Ex-\* and Shut-off Flap type AK-Ex-\*

**Manufacturer:** TROX GmbH  
**Address:** Heinrich-Trox-Platz  
47504 Neukirchen-Vluyn  
Germany

#### Description of supplements and modifications:

Subject of this supplement is the introduction of the new type TVR-Ex-S1\* of Variable Volume Flow Control as well as minor constructional changes to the equipment and editorial changes to the certification documentation.

Moreover the equipment's compliance to the actual standard requirements was checked.

#### (15) The following modifications are valid for this 2nd Supplement

Standard basis:

EN 1127-1:2011

EN 13463-1:2009

EN 13463-5:2011

Code for type of protection

With electrical control:



**II 2G c II TX**

**II 2D c II T80 °C**

With pneumatical control:



**II 2G c IIB TX**

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Tel. +49 (0) 221 806-0 Fax. + 49 (0) 221 806 114



## 15.1 Equipment and Type

Variable Volume Flow Control type TVR-Ex/\*\*/\* and  
 Shut-off Flap type AK-Ex/\*\*/\*

The first asterisk in the type designation of the Variable Volume Flow Control or Shut-off Flap represents the control component in the following variants:

Gerät / device	Schischek-Komponenten für die elektronischen Varianten / Schischek components for the electronic variants										Sauter-Komponenten für die pneumatischen Varianten / Sauter components for the pneumatic variants							
	Regelkomponente / Control component	elektronische Regelung/ Stellantrieb / electronic control/actuator	pneumatische Regelung/ Stellantrieb / pneumatic control/actuator	Federrücklauf / Spring return	Hilfsschalter / Limit switch	EXCos-P500	ErReg-V200-A	ErMax-5-10-V	ErMax-5-10-VF	ErMax-5-10-CY	ErSwitch	ErBox-V/S	ErBox-V/S-SW	ErBox-SW	Pneumatikregler / pneumatic controller R.L.P. 100 F003	Pneumatikregler / pneumatic controller R.L.P. 100 F901	Pneumatikregler / pneumatic controller R.L.P. 100 F915	Pneumatiktrieb / pneumatic actuator AK31/A1
TVR-Ex	TES	X				X	X				X							
	TEF	X		X		X		X			X							
	TEX	X		X	X	X		X			X	X						
	TEY	X		X	X	X		X			X							
	S1S	X					X		X									
	S3F	X		X			X		X									
	S1X	X		X	X		X		X		X			X				
	S1Y	X		X	X		X		X	X			X					
	PG5		X											X				X
	P05		X											X	X			X
PLS		X											X		X		X	
AK-Ex	T0S	X					X				X							
	T0F	X		X				X			X							
	T0X	X			X			X			X	X						
	T0Y	X		X	X			X			X	X						
	P50		X															X

## 15.2 Description

The Variable Volume Flow Control type TVR-Ex/\*\*/\* are used to control volume flow rate or pressure and the Shut-off Flap type AK-Ex/\*\*/\* cut-off volume flow rates in ventilation systems which are installed in hazardous areas of Zone 1.

The control at Variable Volume Flow Control or the cut-off Flap can be done either by electrical or pneumatically components.

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