Translation of German Original

TÜV CERT

(1) # EC-Type Examination Certificate

(2) Equipment or Protective Systems intended for use in potentially explosive atmospheres - Directive 94/9/EC.

(3) EC-Type Examination Certificate No

TÜV 03 ATEX 2151

(4) Instrument: Variable Area Flowmeter Models 10A322. and FAM322.

(5) Manufacturer: ABB Automation Products GmbH

(6) Address: D-37079 Göttingen, Dransfelder Straße 2, Germany

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

(8) The TÜV NORD CERT GmbH & Co. KG, TÜV Certification Body No. 0032 in accordance with Article 9 of the Council Directive of the European Community of 23 March 1994 (94/9/EC) certifies that this equipment or protective system 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 of the directive.

The examination and test results are recorded in the confidential Report No. 03YEX550611.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with

EN 13 463-1:2001

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

(11) With refer to Directive 94/9/EC this EC-Type Test Examination Certificate relates only to the design and construction of the specified equipment. Further requirements of this Directive apply to the manufacture and supply of these equipment. This requirements are not part of this certificate.

(12) The markings for the equipment shall include the following specifications:

II 1/2 G c T6 or II 1/2 G EEx c ia IIC T6 or II 2 D T115°C

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Hannover, 13 June 2003

p.p. Schwedt

Head of the Certification Body

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(13) **SCHEDULE**

(14) EC-Type Examination Certificate No. TÜV 03 ATEX 2151

(15) Description of the Equipment

The Variable Area Flowmeter Models 10A322.and FAM322. in meter sizes ¼", $^3/_8$", ½" and 1" are none electrical apparatus and are used to measure the flowrates of gases and liquids.
The Variable Area Flowmeter Models 10A322.and FAM322. may be installed and operate in hazardous areas defined for Category 2-Equipments (Gas and Dust).The internal volume of the metering tube corresponds to Category 1 (Gas).
Separate certified electrical apparatus (Initiators) according to EC-Type Examination Certificate PTB 99 ATEX 2219 X or PTB 00 ATEX 2049 X may be installed inside of the indicator housing for limit detection.

Electrical Specifications

Initiator Circuits (cable junction)	Ignition Class Intrinsically Safe EEx ia IIC Only for connection to a certified Intrinsically Safe circuit with the following maximum values: U_i = 16V I_i see table P_i see table Effective internal capacitance: 30 nF Effective internal inductance: 0,1 mH

The relationship between the maximum allowable Fluid Temperature, Ambient Temperature T_{AMB}, Temperature Classes and Electrical Data of the Initiators are listed in the table below:

Electrical Data		Maximum allowable Fluid Temperature [°C]								
I_i [mA]	P_i [mW]	T_{AMB} = 40°C			T_{AMB} = 50°C			T_{AMB} = 60°C		
		T6	T5	T4	T6	T5	T4	T6	T5	T4
25	34	60	60	60	60	60	60	60	60	60
25	64	60	60	60	60	60	60	60	60	60
52	169	50	60	60	35	60	60	25	60	60
76	242	10	50	60	--	35	60	--	25	50
		Minimum allowable Fluid Temperature						-20°C		
		Allowable Process Pressure inside the Metering Tube						0,8 to 1,1bar		

Schedule to EC-Type Examination Certificate No. TÜV 03 ATEX 2151

The information in the manufacturer instruction manual obtain in addition to this table.

With refer to the Dust Ignition Proof the temperature is T115°C or T_{MEDIUM}.
The highest temperature is relevant.

(16) Test documents are listed in the Test Report No. 03 YEX 550611

(17) Special Conditions

none

(18) Essential Health and Safety Requirements

none additionally