

CERTIFICATE

(1) EC-Type Examination

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

(3) EC-Type Examination Certificate Number: **DEKRA 11ATEX0008 X** Issue Number: **4**

(4) Equipment: **Multi-Turn actuator, Types SA.Ex 07.2 to SA.Ex 16.2 in version AUMA NORM, AUMA SEMIPACT, AUMA MATIC or AUMATIC.... and wall bracket WH01.1**

(5) Manufacturer: **Auma Riester GmbH & Co. KG**

(6) Address: **Aumastraße 1, 79379 Müllheim, Germany**

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

(8) DEKRA Certification B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC 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 confidential test report number NL/DEK/ExTR11.0044/**.

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

EN 60079-0 : 2012	EN 60079-1 : 2007	EN 60079-7 : 2007	EN 60079-11 : 2012
EN 60079-15 : 2005	EN 60079-27 : 2006/2008	EN 60079-31 : 2009	

(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 according to the 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 2 G Ex d ... IIC T4 or T3 Gb or Ex d ... IIB T4 or T3 Gb
II 2 (3) G Ex d ... [... Gc] IIC T4 or T3 Gb or Ex d ... [... Gc] IIB T4 or T3 Gb
II 2 D Ex tb IIIC T130 °C or T190 °C Db IP6x

This certificate is issued on 17 June 2013 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

T. Pijpker
Certification Manager

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(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate DEKRA 11ATEX0008 X**

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(15) **Description**

The Multi-turn actuators, types SA.Ex 07.2 to SA.Ex 16.2 in version AUMA NORM comprise a motor, a switch compartment and a terminal compartment.

In versions AUMA SEMIPACT, AUMA MATIC and AUMATIC the actuators comprise a motor, a switch compartment, integral controls and a terminal compartment.

The motor is in the type of protection Ex d. In order to guarantee the temperature class, the motor is equipped either with thermo switches and a thermal overload relay or with PTC thermistors (three for 3-phase AC motors and one for 1-phase AC motors) integrated in each winding and a suitable electronics device for switching off in case of over temperature.

3-phase motors are classified for group IIC and 1-phase motors for group IIB.

The switch compartment is in type of protection Ex d and may optionally be provided with position transmitter type RWG5020.2Ex in type of protection Ex ib (EC-Type Examination Certificate PTB 03 ATEX 2176).

Terminal compartment type KES-Ex d is in type of protection Ex d. Terminal compartments type KP, KPH and KES are in type of protection Ex e.

The integral controls are in type of protection Ex d.

The integral control type AUMATIC ACExC 01.1 may optionally be provided with a Fieldbus interface in type of protection Ex nL according to FNICO and/or a Fieldbus interface in type of protection Ex ic according to FISCO

The integral control type AUMATIC ACExC 01.2 may optionally be provided with a Fieldbus interface in type of protection Ex ic according to FISCO.

The integral controls in type of protection Ex d may optionally be installed to a wall-bracket type WH 01.1. The electrical connections are in type of protection Ex d or in type of protection Ex e.

All Multi-turn actuators are in type of protection Ex tb for use in explosive dust atmospheres.

Type designation

Multi-turn actuator:

SA . Ex 07.2 - F07
 I II III IV V

Designation	Description	Value	Explanation
I	General	SA	Multi-turn actuator
II	Duty	none R	Open close duty Modulating duty
III	Area classification	Ex	For use in environments containing flammable gas / vapour / combustible dust substances.
IV	Actuator size	07.2 / 07.6 10.2 14.2 / 14.6 / 16.2	Indicator for standardized actuator sizes
V	Flange size	F**	Indicator for standardized flange sizes

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Optional integral controls:

AM Ex C 01 . 1
I II III IV V

Designation	Description	Value	Explanation
I	Controls indicator	AM AMB SEM AC	AUMA MATIC AUMA MATIC Basic AUMA SEMIPACT AUMATIC
II	Area classification	Ex	For use in explosive atmospheres
III	Equipment group	C	Group IIC / Group IIIC
IV	Size	01	Indicator for standardized actuator sizes
V	Design series	1 2	Design series 1 Design series 2, AExC controls only

Versions without optional integral controls are called AUMA NORM.

Thermal data

Ambient temperature range:

-60 °C to +60 °C or

-50 °C to +60 °C for actuators with a 1 phase motor or

-20 °C to +60 °C for integral controls AExC 01.1 with cylindrical joint and special fasteners M6/M8.

The Multi-turn actuators are classified for temperature class T4/T130 °C and may be classified for temperature class T3/T190 °C if required, for instance for prolonged running times.

Marking

The marking of the multi-turn actuators types SA.Ex 07.2 to SA.Ex 16.2 for use in explosive gas atmospheres includes the following:

Fieldbus interface	Terminal compartment	Position transmitter	Marking
--	KES-Exd	--	II 2 G Ex d IIC T4 or T3 Gb
		RWG5020.2Ex	II 2 G Ex d ib IIC T4 or T3 Gb
	KP, KPH and KES	--	II 2 G Ex d e IIC T4 or T3 Gb
		RWG5020.2Ex	II 2 G Ex d e ib IIC T4 or T3 Gb
FISCO	KES-Exd	--	II 2(3) G Ex d [ic Gc] IIC T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d ib [ic Gc] IIC T4 or T3 Gb
	KP, KPH and KES	--	II 2(3) G Ex d e [ic Gc] IIC T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d e ib [ic Gc] IIC T4 or T3 Gb
FNICO	KES-Exd	--	II 2(3) G Ex d [nL Gc] IIC T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d ib [nL Gc] IIC T4 or T3 Gb
	KP, KPH and KES	--	II 2(3) G Ex d e [nL Gc] IIC T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d e ib [nL Gc] IIC T4 or T3 Gb

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The marking of the Multi-turn actuators Types SA.Ex 07.2 to SA.Ex 14.6 with 1-ph motors for use in explosive gas atmospheres includes the following:

Fieldbus interface	Terminal compartment	Position transmitter	Marking
--	KES-Exd	--	II 2 G Ex d IIB T4 or T3 Gb
		RWG5020.2Ex	II 2 G Ex d ib IIB T4 or T3 Gb
	KP, KPH and KES	--	II 2 G Ex d e IIB T4 or T3 Gb
		RWG5020.2Ex	II 2 G Ex d e ib IIB T4 or T3 Gb
FISCO	KES-Exd	--	II 2(3) G Ex d [ic Gc] IIB T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d ib [ic Gc] IIB T4 or T3 Gb
	KP, KPH and KES	--	II 2(3) G Ex d e [ic Gc] IIB T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d e ib [ic Gc] IIB T4 or T3 Gb
FNICO	KES-Exd	--	II 2(3) G Ex d [nL Gc] IIB T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d ib [nL Gc] IIB T4 or T3 Gb
	KP, KPH and KES	--	II 2(3) G Ex d e [nL Gc] IIB T4 or T3 Gb
		RWG5020.2Ex	II 2(3) G Ex d e ib [nL Gc] IIB T4 or T3 Gb

For use in explosive dust atmospheres, the marking of the Multi-turn actuators additionally or alternately includes the following:

II 2 D Ex tb IIIC T130 °C or T190 °C Db

Electrical data

3-phase AC motor:

Actuator size	Motor size	Power ¹⁾
SA.Ex 07.2	ADX / VDX 63	0.02 – 0.30 kW
SA.Ex 07.6 ⁽²⁾	ADX / VDX 63	0.03 – 0.50 kW
SA.Ex 10.2	ADX / VDX 71	0.06 – 1.00 kW
SA.Ex 14.2	ADX / VDX 90	0.12 – 1.80 kW
SA.Ex 14.6 ⁽²⁾	ADX / VDX 90	0.20 – 3.30 kW
SA.Ex 16.2	ADX / VDX 112	0.40 – 6.00 kW

1-phase AC motor:

Actuator size	Motor size	Power ¹⁾
SA.Ex 07.2	AEX / ACX / VEX 48	0.02 – 0.30 kW
SA.Ex 07.6 ⁽²⁾	AEX / ACX / VEX 48	0.03 – 0.50 kW
SA.Ex 10.2	VEX 48	0.06 – 0.25 kW
	ACX 56	0.04 – 1.00 kW
SA.Ex 14.2 ⁽²⁾	ACX / VCX / VEX 56	0.12 – 0.75 kW
SA.Ex 14.6	VCX / VEX 56	0.20 – 0.80 kW

1) Nominal power at operating torque (corresponds to approx. 35% of maximum torque).

2) Size SAEx 07.6 is identical in design with SA.Ex 07.2, while SA.Ex 07.6 has a higher drive power. The same is applicable for the actuators SA.Ex 14.2 and SA.Ex 14.6.

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Motor type: 3-phase AC squirrel cage motor
Motor voltage: 690 V max.
Motor current: 25 A max.
Control voltage: 250 V max.
Control current: 5 A max.
Frequency: 50/60 Hz
Isolation class: F or H
Operation type: S2 - ... min.
S4 - ... % ED
S5 - ... % ED

Motor type: 1-phase AC asynchronous motor
Motor voltage: 240 V max.
Motor current: 25 A max.
Control voltage: 250 V max.
Control current: 5 A max.
Frequency: 50/60 Hz
Isolation class: F or H
Operation type: S2 - ... min.
S4 - ... % ED
S5 - ... % ED

Position Transmitter 4...20 mA, type RWG5020.2Ex:

In type of protection intrinsic safety Ex ib IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:

$U_i = 28,5 \text{ V}$; $I_i = 200 \text{ mA}$; $P_i = 0,9 \text{ W}$; C_i and L_i are negligibly small.

The electronic position transmitter is considered as being earthed in terms of safety.

Fieldbus interfaces of AUMATIC ACExC 01.1 and ACExC 01.2:

In type of protection energy limitation Ex nL IIC in accordance with FNICO (ACExC 01.1) and/or intrinsic safety Ex ic IIC in accordance with FISCO (ACExC 01.1 and ACExC 01.2).

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

No. NL/DEK/ExTR11.0044/**.

(17) **Special conditions for safe use**

For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report NL/DEK/ExTR11.0044/**.