

BALL VALVE WITH SA05 ELECTRIC ACTUATOR 702-703

MAIN CHARACTERISTICS

The 702-703+SA05 valve is a 3-piece ball valve dedicated to the automatic opening/shut off of industrial uncharged fluids below 100 bar. It's double sealed, antistatic and fire safe body make it possible for use in the oil and gas industry. This full bore valve has the Fire safe, EC and ATEX certifications. The ISO 5211 pad allows a simple mounting of the SA actuator. It is perfectly suitable for an indoor or outdoor industrial use.

AVAILABLE MODELS

702 : carbon steel body

703 : stainless steel body

Diameters 1/4" to 2"

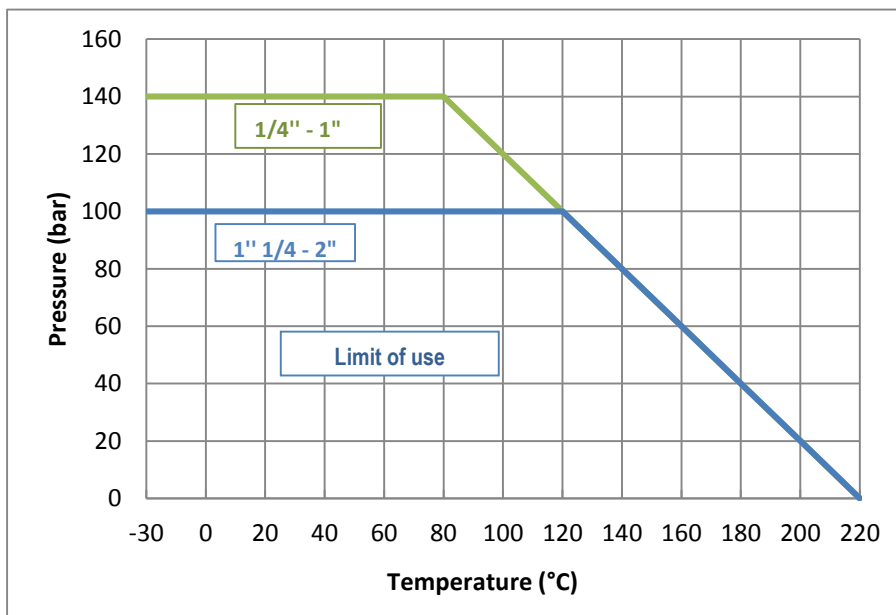
BSP and NPT Screwed end connections, Welding ends SW and BW.

Voltages : 12 V CC, 24V CA-CC and 230V CA



LIMITES D'EMPLOI

Max allowed fluid pressure : PS	<u>1/4" to 1"</u> : 140 bar (20°C) <u>1" 1/4 to 2"</u> : 100 bar
Max allowed fluid temperature : TS	<u>Carbon steel</u> : -20°C / +218°C <u>Stainless steel</u> : -30°C / +218°C
Room temperature	- 20°C / + 70°C
Duty factor	S2 – 70%



Modifications reserved



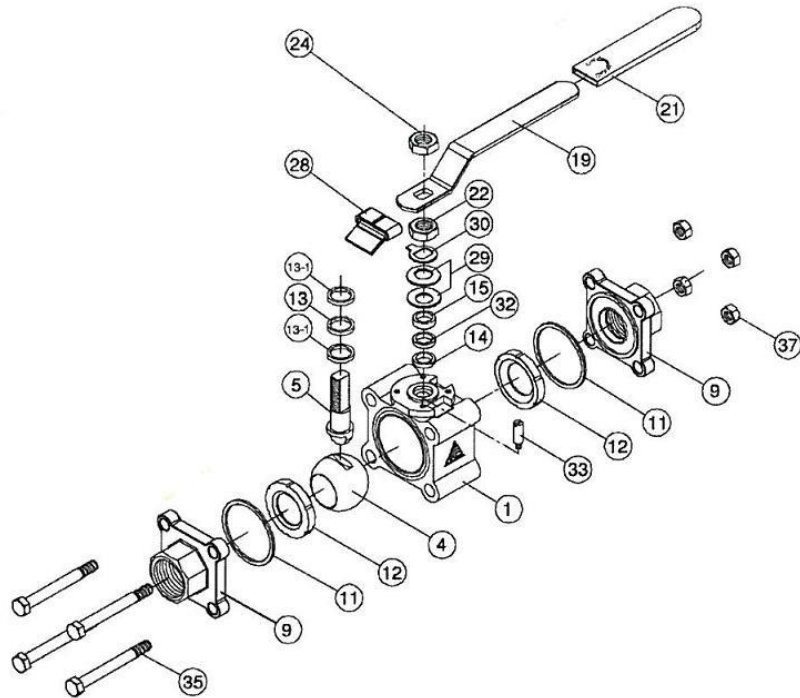
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Rev.	01
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BALL VALVE WITH SA05 ELECTRIC ACTUATOR 702-703

REGULATIONS AND STANDARDS OF CONSTRUCTION

ITEM	Standard	ON	ITEM	Standard
Pressure equipment directive 97/23	1/4" to 1" : excluded		Final text	API 598
	1" 1/4 to 2" : category III	TÜV 0035	Certificate material	EN 10204
Conception	ANSI B16.34		Safety fire	API 607
Size	EN 12516-1		Connecting motorization	ISO 5211
Stainless steel	EN 1503-2			
BSP thread	ISO 228-1		Connecting NPT	ANSI B1.20
Directive ATEX	Ball valve	TÜV 0035	II 2G/D Tx for zones 1,2,21 and 22	
	Actuator (option SA-X)	KEMA 0344	II 2G EEx d II C T4 for zones 1 and 2	



CONSTRUCTION

N°	Item	Carbon steel	Stainless steel	N°	Item	Carbon steel	Stainless steel
1	Body	ASTM A216 WCB	ASTM A351 CF8M	21	Handle cover	Plastic	
4	Ball	ASTM A351 CF8M		22	Packing nut	Stainless steel 304	
5	Stem	A182 F 316 stainless steel		24	Handle nut	Stainless steel 304	
9	Ends	ASTM A216 WCB	ASTM A351 CF8M	28	Locking device	Stainless steel 304	
11	Body gasket	Graphite		29	Elastic washer	Stainless steel 301	
12	Seat	PTFE filled with 15% graphoil		30	Tab washer	Stainless steel 304	
13	Thrust washer	Graphite		32	Packing follower	PTFE filled with 15% graphoil	
13.1	Thrust washer	PTFE filled with 15% graphoil		33	Stop pin	Stainless steel 304	
14	Packing	Graphite		35	Body bolt	Stainless steel 304	
15	Gland bush	Stainless steel 304		37	Bolt nut	Stainless steel 304	
19	Handle	Stainless steel 304					

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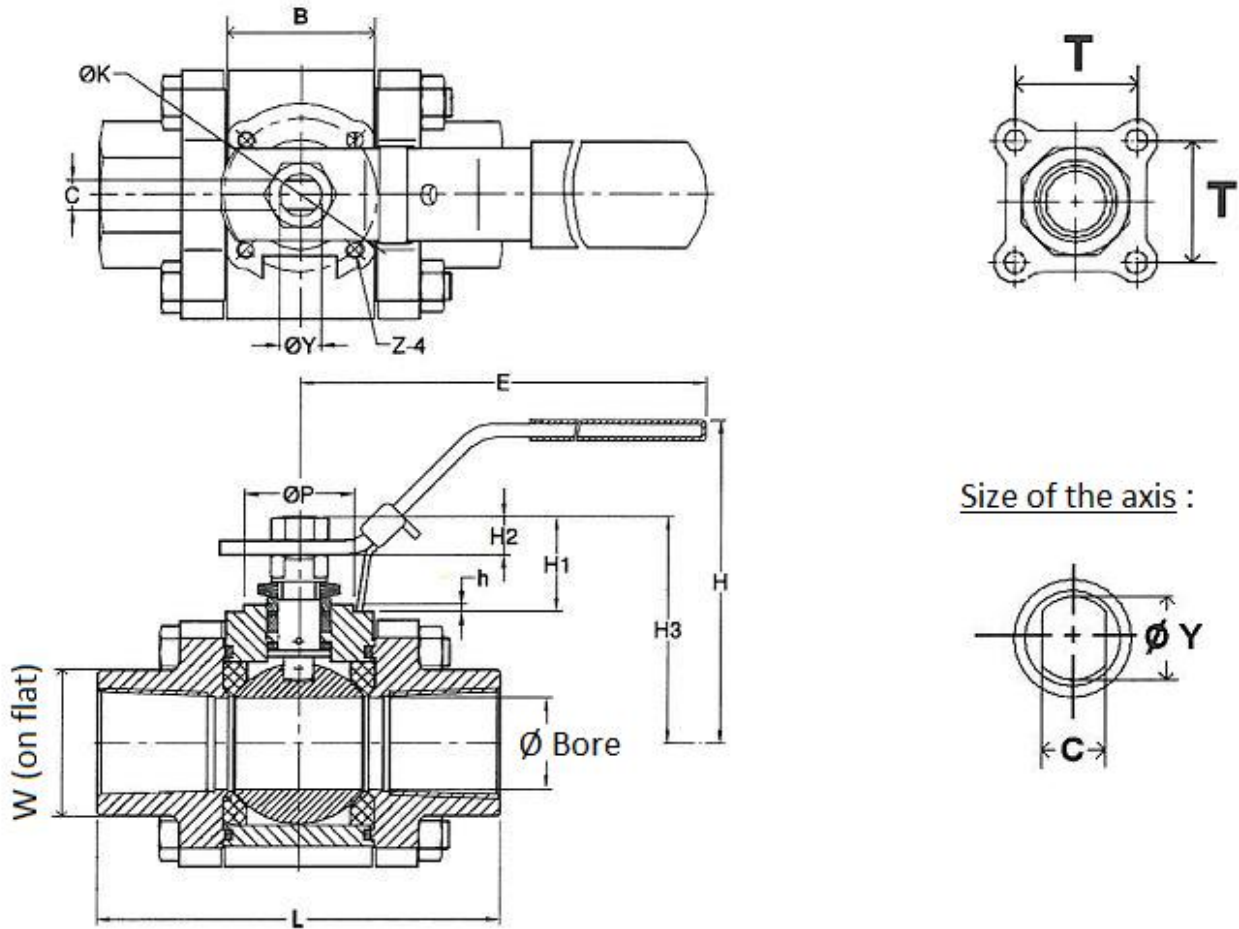


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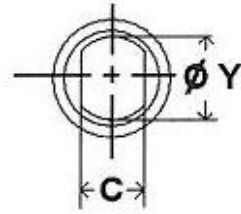
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DIMENSIONS (mm)



Size of the axis :



DN	1/4"	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"
ØD	10	10	15	20	25	32	38	50
L	64.8	64.8	72.5	85.4	105.3	111	127.3	145
L (BW)	64.8	64.8	75	90	110	115	130	145
B	19.6	19.6	24	31	40.7	47.7	55.6	70
E	134	134	134	134	170	170	207	215
H	64	64	72	77	83	88	104	133
H1	7.4	7.4	16.1	18.4	25.2	24.2	33.4	28.1
H2	6.1	6.1	7.3	9.1	11.6	9.6	15	16
H3	37.2	37.2	45.1	51.4	61.4	64.2	79	99.4
h	0.5	0.5	2	2	2	2	2.2	1.5
C	6.5	6.5	6.5	6.5	8	8	9.7	12
ØY	9.5	9.5	9.5	9.5	11.1	11.1	14.3	19
T	32	32	39	45	50	58	68	82
W	29.5	29.5	30	36	44.5	54	60	73.2
ØK	36	36	36	36	42	42	50	70
ØP	25	25	25	25	30	30	35	55
Z-4	M5	M5	M5	M5	M5	M5	M6	M8
Weight (kg)	0.7	0.7	0.85	1.37	2	2.78	4.08	6.80

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ACTUATION WITH SA

Suggested standard SA actuation under the following conditions:

- Electric actuator with an IP 67 epoxy coated aluminium enclosure and steel gears.
- A minimum 1.3 safety factor compared with the valve nominal torque rating.
- A maximum pressure differential up / downstream $\Delta P=10$ bar max.

Direct mounting of the electric actuator.






DN	Actuator	Power consumption	Intensity 230V CA	Intensity 24V CA-CC	Operating time*	Standard equipment of the actuator
1/4"	SA 05	6 W	28 mA	1,8 A	17 s	2 adjustable limit switches 2 adjustable dry switches 2W Resistance heater Actuator thermal cut-out Manual override by key Backlit position indicator (except for the SA-X version) <u>Electric connecting</u> : 2 P.E. M20x1,5
3/8"	SA 05	6 W	28 mA	1,8 A	17 s	
1/2"	SA 05	6 W	28 mA	1,8 A	17 s	
3/4"	SA 05	6 W	28 mA	1,8 A	17 s	
1"	SA 05	6 W	28 mA	1,8 A	17 s	
1" 1/4	SA 05	6 W	28 mA	1,8 A	17 s	
1" 1/2	SA 05	6 W	28 mA	1,8 A	17 s	
2"	SA 05	6 W	28 mA	1,8 A	17 s	

Unloaded operating time given for information purpose only. May vary depending on the medium.

* For any other working conditions, please contact us.

ACTUATION OPTIONS

There are many different options, please contact our commercial department :

1	2	3	4	5
SA 05 S : low speed actuator 70 s	SA 05 PCU : regulation actuator 4-20mA or 0-10V	SA 05 RBP : Safety actuator with integrated battery emergency shutdown	SA 05 X : Actuator for use in ATEX zones 1 and 2	SR 05 : Safety spring return actuator
				
6	SA PUI electric actuator with feedback potentiometer			
7	Thermal dispersion bracket for high temperature fluids			
8	100 mm high stem extension for pipe insulation			
9	Electric actuator sized for a maximum pressure differential up/downstream over 10 bar (=ΔP)			
10	NA electric actuator with a declutchable manual override by handwheel			


ATEX ZONE INSTALLATION

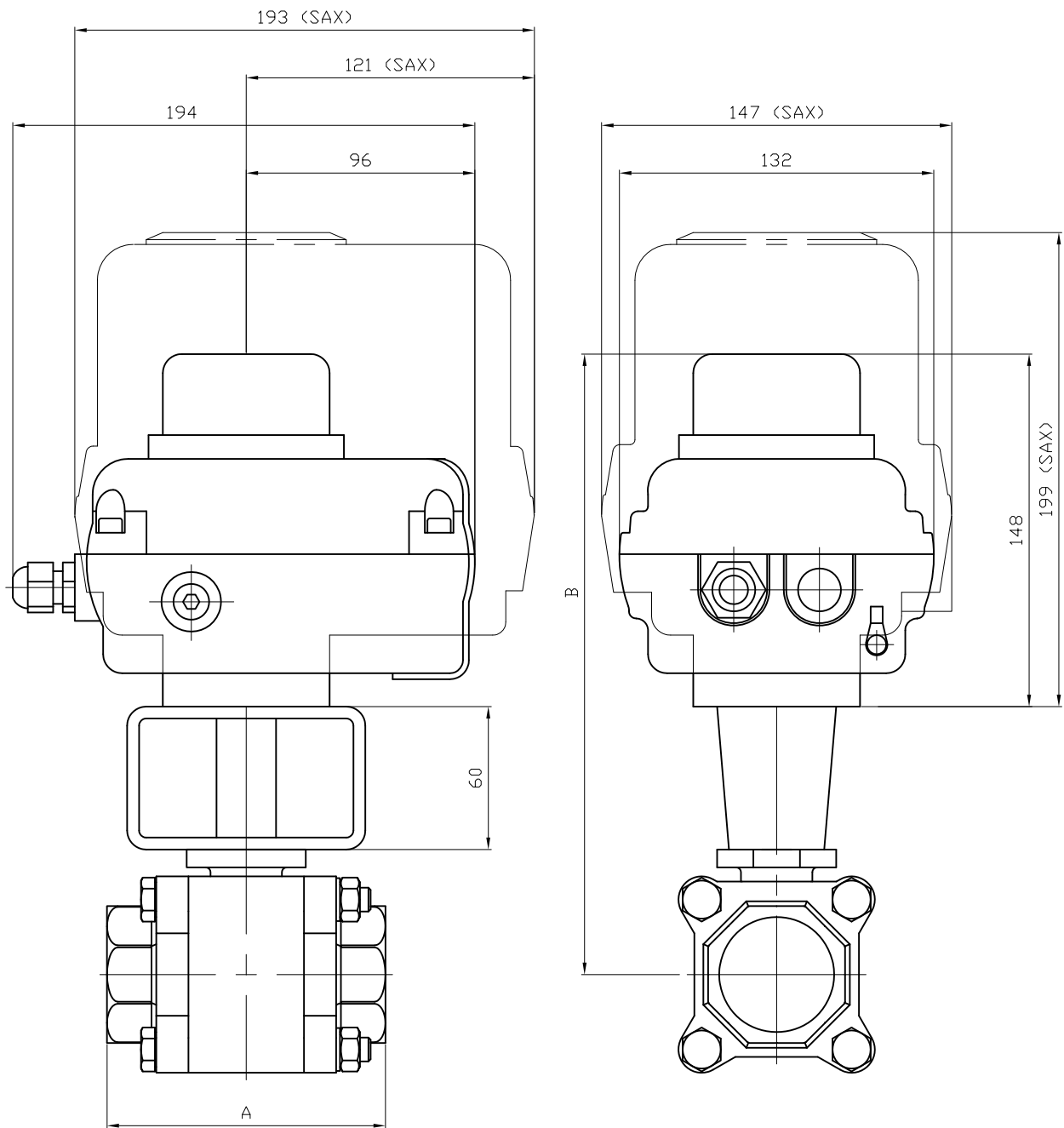
It is compulsory to specify if the installation of the automatic valve 702-703+SA-X will take place in ATEX zones 1 or 2 while making the order. Our services will proceed to the mounting check, to a grounding strip installation and will edit a mounting certificate. Those operations are performed by our proper engineers.

Please contact us for further details. It is also compulsory to follow the ATEX zone motorized valves mounting and maintenance special instructions. The ATEX gland packs and sealing plugs are not provided. Please use the following codes:

ATEX aluminium gland pack M20x1.5	Code 980179	ATEX aluminium sealing plugs M20x1.5	Code 980180
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DN	1/4"-3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
A	65	72	86	105	111	127	145
B	237.8	237	241	244.2	248	253.6	279.3
KG	3.87	4.02	4.54	5.17	5.95	7.2	9.97
KG(SAX)	6.07	6.22	6.74	7.37	8.15	9.4	12.17

Informations données à titre indicatif et sous réserve de modifications éventuelles
data subject to alteration

Ech:	Date :	Dessiné par :	Tolérances générales :	Modif.cote B ajout SAX	04/10/2011	A
	:25/09/2006	: LL	: +/- 0.2	Modifications	Date	REV.
Robinet à tournant sphérique 702-703 + Servomoteur SA05-SAX05				Matière :		
Ball valve 702-703 + SA05-SAX05 Electric actuator				Poids (Kg) :		
				Traitement : SANS		
				Plan n° Ens 958A		
45, Rue du Ruisseau						
38297 SAINT QUENTIN FALLAVIER						

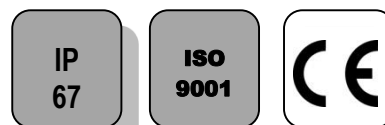
ELECTRIC ACTUATOR SA 05

MAIN CHARACTERISTICS

The SA05 electric actuator is dedicated to the actuation of industrial 1/4" turn valve. The torque value is 50 Nm. With a compact design, an IP67 cast aluminium enclosure and an epoxy protection, the SA electric actuator is especially adapted to the actuation of ball valves and butterfly valves in outdoor or indoor areas. The SA 05 is equipped with a visual 3D position indicator and a manual override driven by an allen key. It complies with the EN 15714-2.

AVAILABLE MODELS

Voltages of supply : 230V CA (50-60Hz), 24V CA/CC et 12V CC



LIMITS OF USE

Indication of protection	IP 67
Room temperature	- 20°C / +70°C
Duty Factor	S2 : 15mn - S4 : 50%

MECHANICAL CHARACTERISTICS

Gear	Treated Steel pignons
Torque	50 Nm
Angle of rotation	90° +/- 5°
Declutch	Without
Manual override	By key (except SA 05 S)



Actuator	SA 05			SA 05 S	
	Voltage	230V CA	24V CA/CC	12V CC	230V CA
Torque (Nm)	50				
Time of operation (s)	17	10	11	100	100
ISO 5211	F03/F05/F17 Star 14				

ELECTRIC CHARACTERISTICS

Protection of the motor	Thermal regulation	Resistance heater	5W resistancy
Limit swithes	2 adjustable switches	Electric connecting	2 x P.E. M20x1.5
Auxiliary swithes	2 adjustable dry switches		

Actuator	SA 05			SA 05 S	
	Voltage	230V CA	24V CA/CC	12V CC	230V CA
Power consumption (W)	6 W	15 W	6 W	6 W	6W
Intensity (A)	0,23	1,8	3,2	0,23	1,8

Modifications reserved



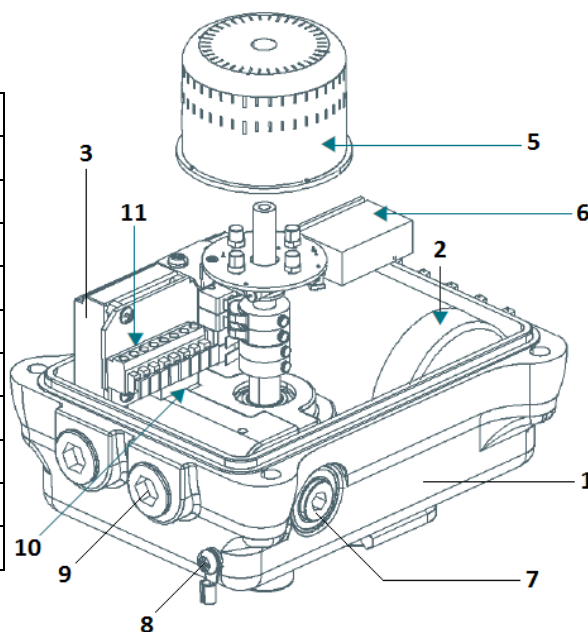
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ELECTRIC ACTUATOR SA 05

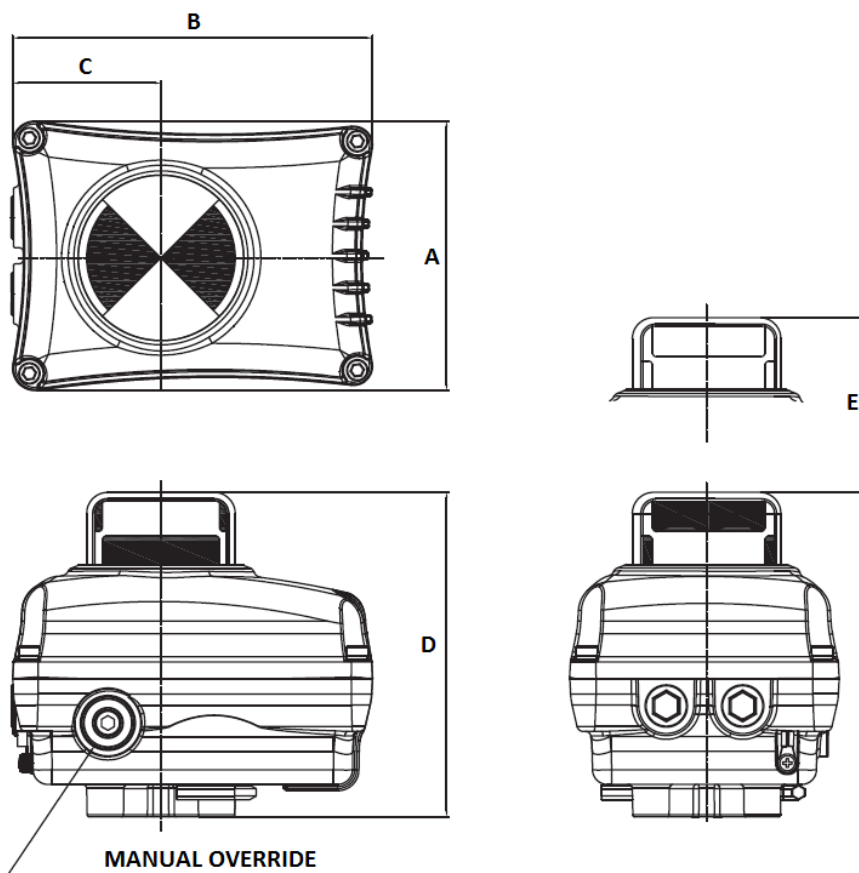
CONSTRUCTION

1	Housing	Coated Aluminium polyester
2	Electric motor	
3	Gear	Treated steel
4	Cover	Coated Aluminium polyester
5	Position indicator	polycarbonate
6	Condenser	
7	Manual override	
8	Earthing	
9	Cables entrances	
10	Resistance heater	
11	Therminal block	



DIMENSIONS (mm) AND WEIGHT (kg)

Dimensions (mm)	A	B	C	D	E	Weight (Kg)
SA 05	127	170	70	153	80	3,2



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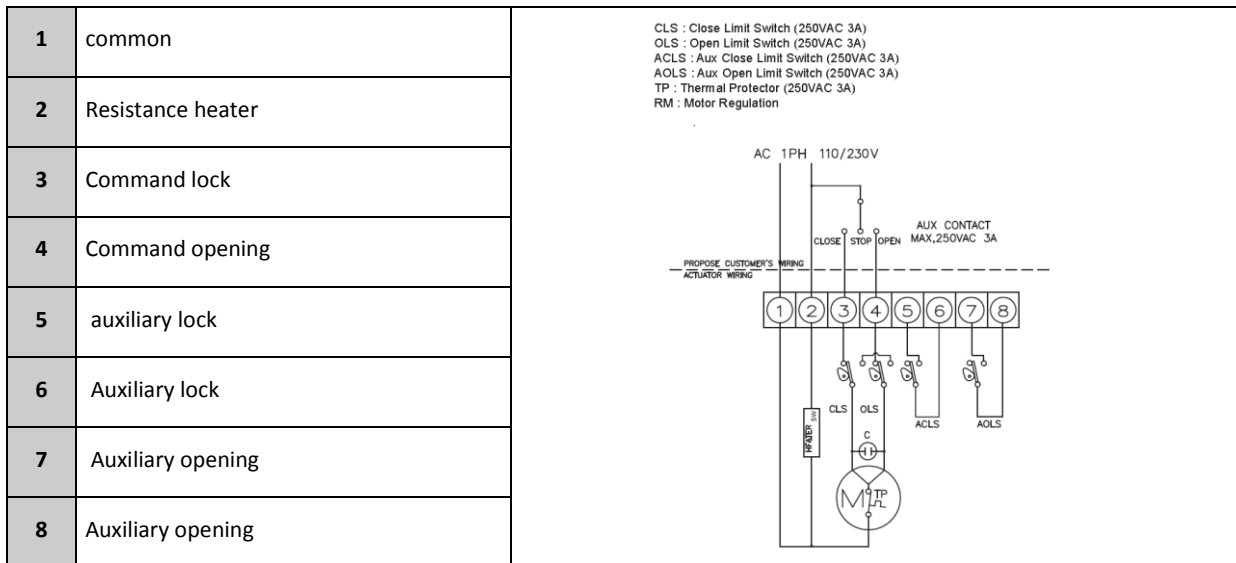


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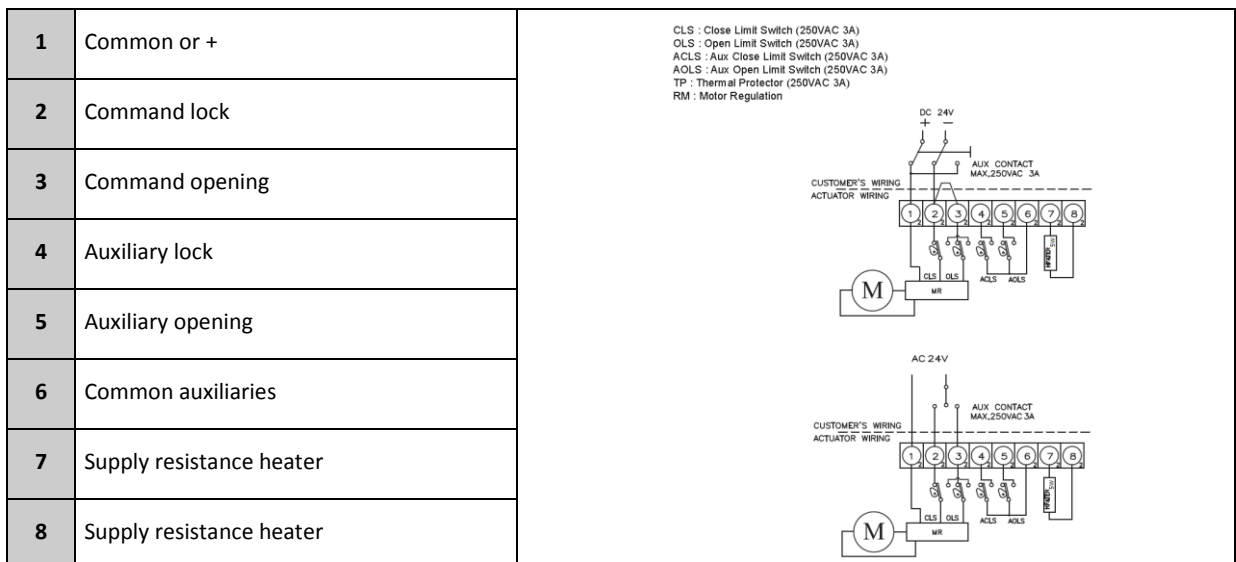
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ELECTRIC ACTUATOR SA 05

WIRING DIAGRAM 230V CA 50Hz/60Hz



WIRING DIAGRAM 24V CA/CC – 12VCC



OPTIONS

1	SA 05 X : version for hazardous area
2	SA 05 PIU : version with potentiometer
3	SA 05 CPT : version with position of transmitter 4-20 mA
4	SA 05 PCU : version with regulation of card 0-10, 2-10V, 2-20 mA, 4-20 mA
5	SA 05 LCU : version local control unit
6	SA 05 RBP : version with block of security battery integrated

Modifications reserved

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ELECTRIC ACTUATOR SA 05-X

MAIN CHARACTERISTICS

The SA05-X electric actuator is dedicated to the actuation of 1/4" turn valve installed in explosive hazardous atmosphere. The torque value is 50 Nm. The mode of protection is explosion-proof « d ». With a compact design, an IP67 cast aluminium enclosure and an epoxy protection, the SA05-X electric actuator is especially adapted for the motorization of ball and butterfly valves serious atmospheres. The SA05-X is equipped with a window's indicator and a manual override driven by an allen key. It complies with the EN 15714-2.

AVAILABLE MODELS

Voltages of supply : 230V CA (50-60Hz), 24V CA/CC.

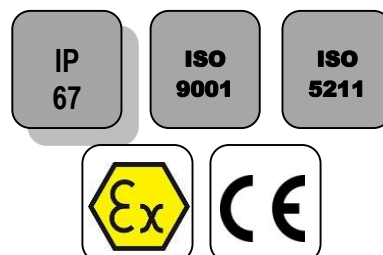
LIMITS OF USE

Proof index	IP 67
Room temperature	- 20°C / +55°C
Duty Factor	S2 : 15mn - S4 : 50%



ATEX HOMOLOGATION

Mode of protection	« d » according to EN 60079-1
Category of material	2
Hazardous atmosphere of use	1G et 2G
Marking	II 2 G Ex d IIB T4 (ON KEMA n°0344)



MECHANICAL CHARACTERISTICS

Gear	Treated Steel pignons
Torque	50 Nm
Angle of rotation	90° +/- 5°
Declutch	Without
Manuel override	By a allen key

Actuator	SA 05-X (50Hz)		SA 05-X (60Hz)
Voltage	230V CA	24V CA/CC	230V CA
Torque (Nm)	50		50
Time of operation (s)	17	10	14
ISO 5211	F03/F05/F17 étoile de 14		

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ELECTRIC ACTUATOR SA 05-X

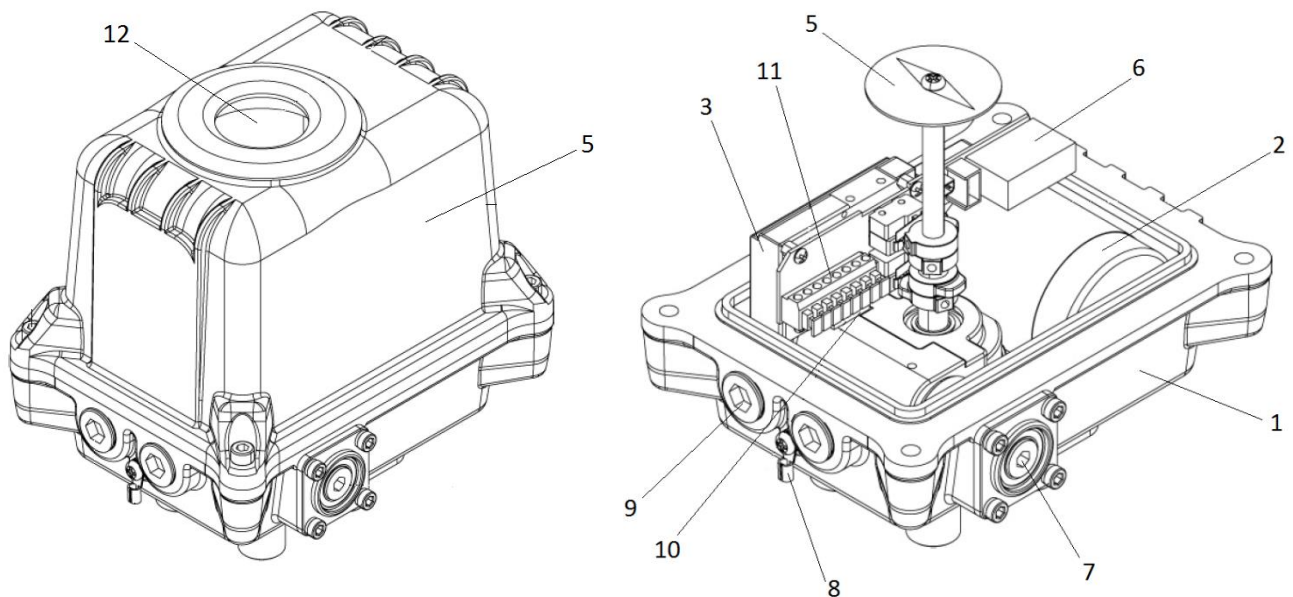
ELECTRIC CHARACTERISTICS

Protection of the motor	Thermal regulation	Resistance heater	5W resistancy
Limit swithes	2 adjustable switches	Electric connecting	2 x P.E. M20x1.5 ATEX (Not SUPPLIED optional)
Auxiliary swithes	2 adjustable dry switches		


Actuator	SA 05	
Voltage	230V CA	24V CA/CC
Power consumption (W)	6 W	15 W
Intensity (A)	0,23	1,8

CONSTRUCTION

1	Housing	Coated Aluminium polyester
2	Electric motor	
3	Gear	Treated steel
4	Cover	Coated Aluminium polyester
5	Position indicator	Polycarbonate
6	Condenser	
7	Manual override	
8	Earthing	
9	Cables entrances	
10	Resistance heater	
11	Terminal block	
12	Window indicator	in toughened glass



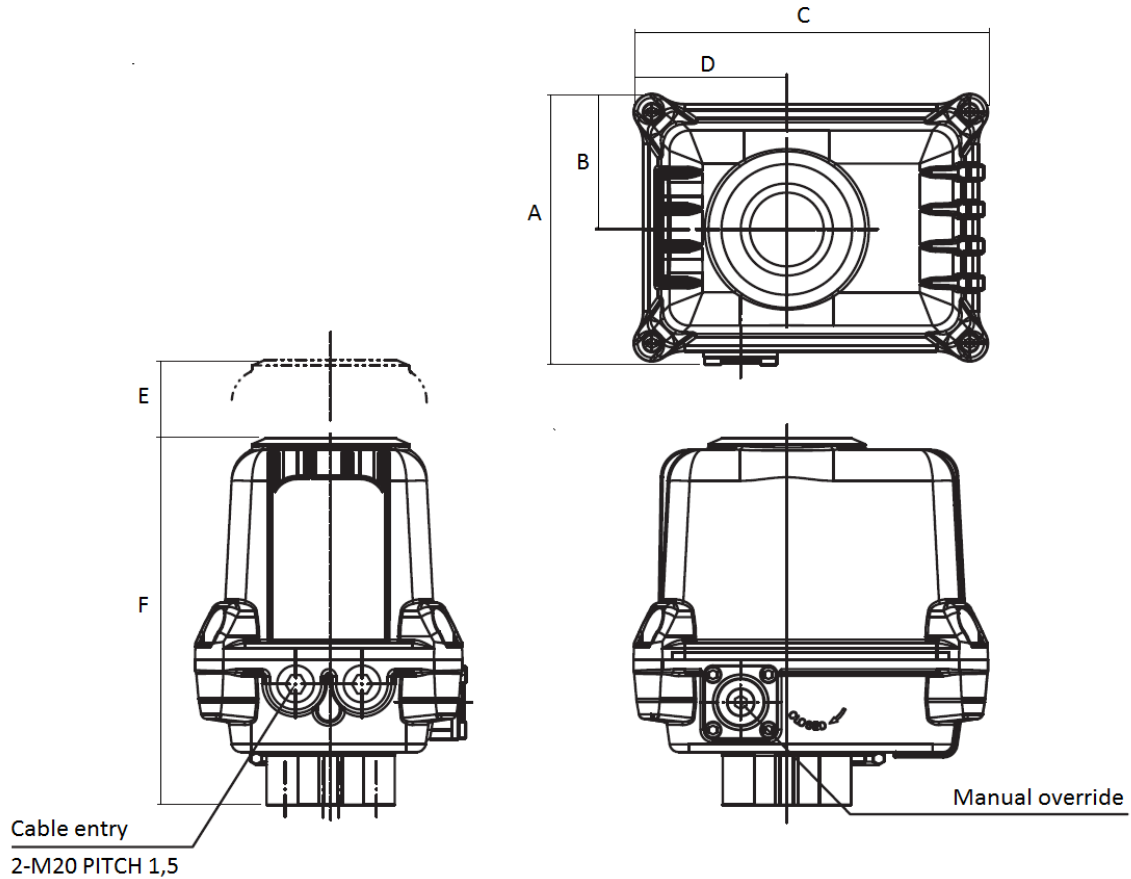
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ELECTRIC ACTUATOR SA 05-X

DIMENSIONS (mm) AND WEIGHT (Kg)

Dimensions (mm)	A	B	C	D	E	F	Weight (Kg)
SA05-X	147	73	193	83	100	199	5

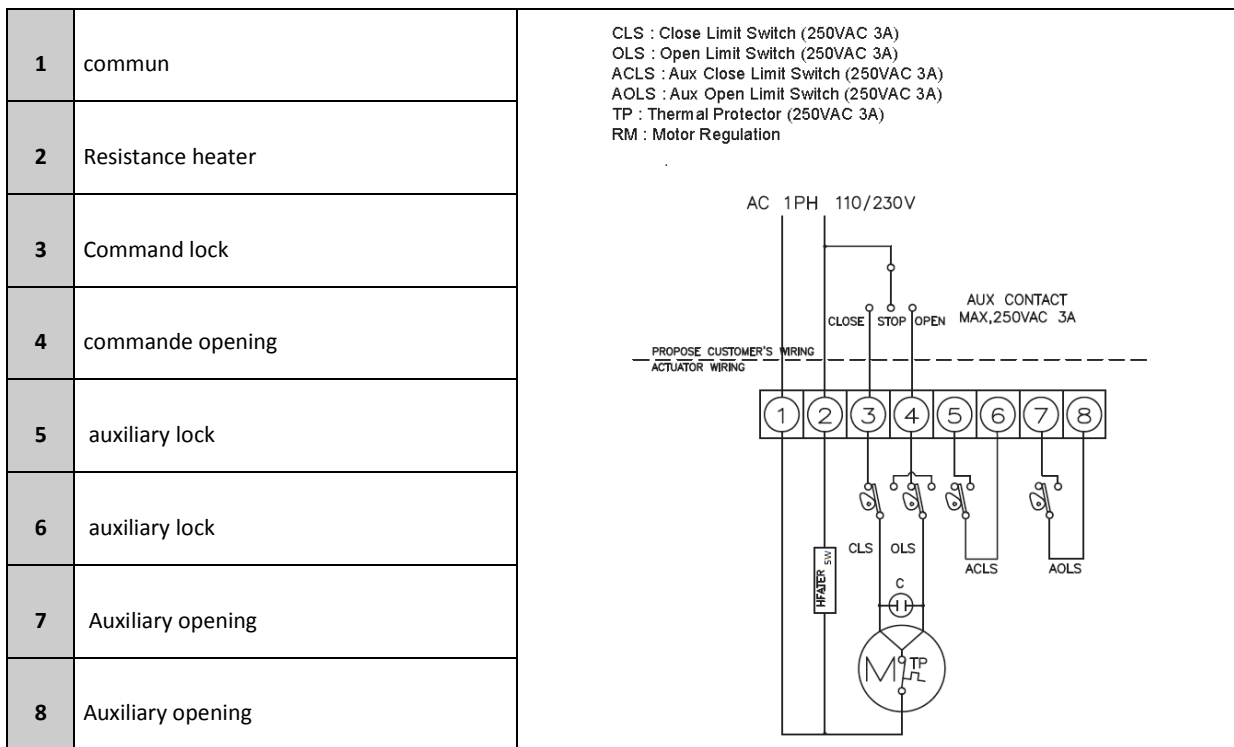


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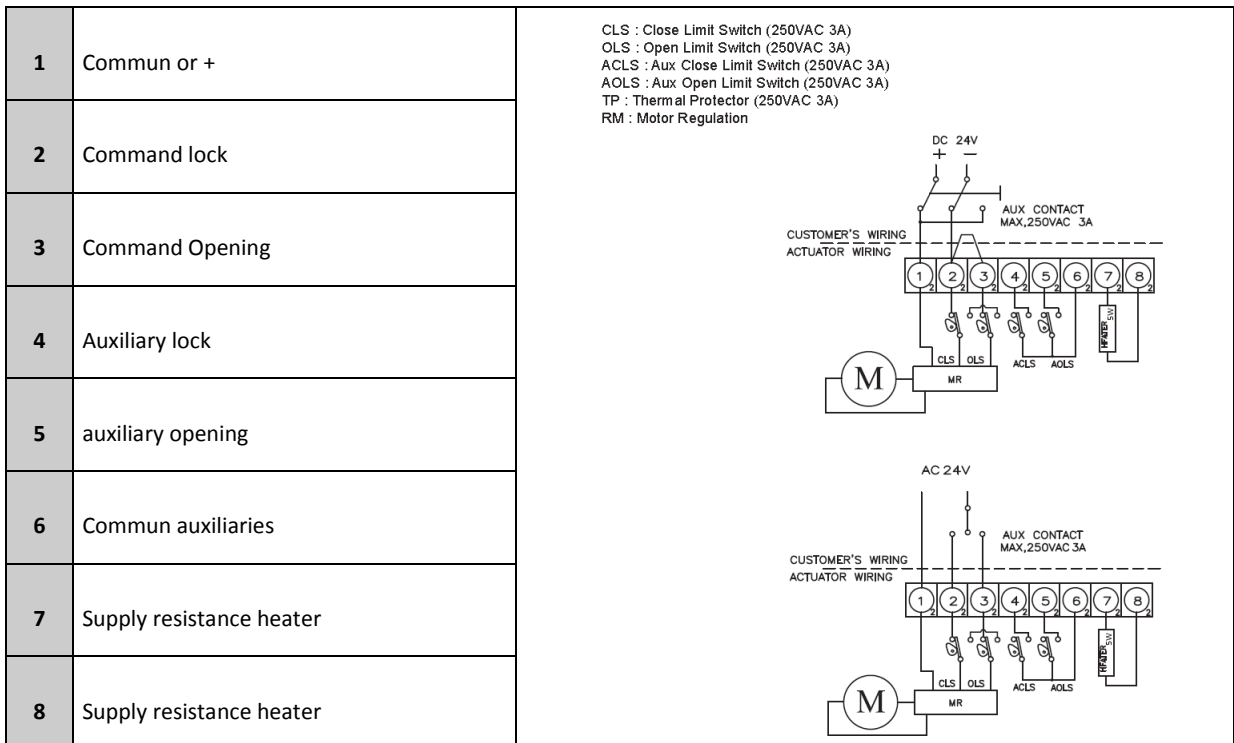
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ELECTRIC ACTUATOR SA 05-X

WIRING DIAGRAM 230V CA 50Hz/60Hz



WIRING DIAGRAM 24V CA/CC



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