

1121-1125 BUTTERFLY VALVES + SA ELECTRIC ACTUATOR

FEATURES

The butterfly valves 1121 to 1125 are dedicated to the automatic opening/shut-off of common fluid pipes. It has a cast iron body. Thanks to various material possibilities for both the butterfly and the sleeve, it can be used indifferent applications. The wafer type body enables the mounting between PN10/16 or ANSI 150 flanges. The ISO 5211 pad enables the direct mounting of the SA electric actuator. It is perfectly adapted for an indoor or outdoor industrial use.



LIMITS OF USE

Max. allowable pressure : PS	16 bar until DN 300
Fluid temperature : WT	According to the upper chart
Prohibited use	Steam, natural gas
Room temperature	-10°C / +70°C
Service factor	<u>S2</u> : 15mn - <u>S4</u> : 50% (SA 05)
	<u>S2</u> : 15mn - <u>S4</u> : 30% (SA 09)



AVAILABLE MODELS

DN 40 to DN 125

Flanged connections RF PN10/16 and ANSI 150

Supply voltage : 12 Vdc, 24 Vac-dc and 230 Vac

Ref.	Butterfly	Sleeve	Application examples	Min.TS	Max.TS
1121	Stainless steel	NBR	Liquid hydrocarbons - compressed air	-10°C	+80°C
1123	Stainless steel	EPDM	Demineralised water - Alkaline materials	-15°C	+110°C
1125	Ductile iron	EPDM	Cold water - hot water	-15°C	+110°C

Information given as an indication only, and subject to possible modifications



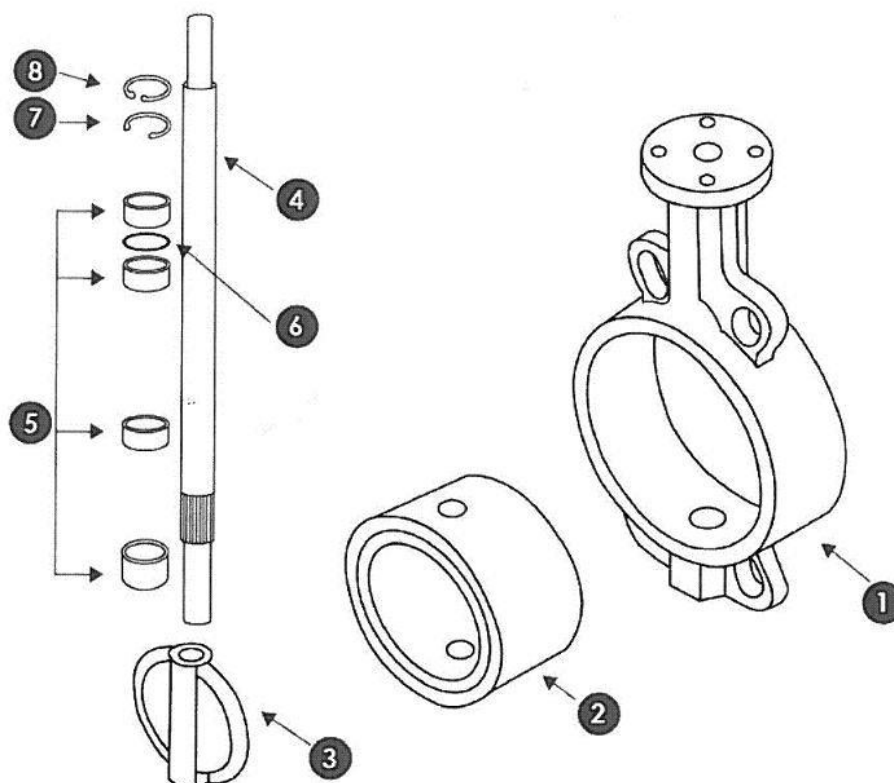
SECTORIEL S.A.
45 rue du Ruisseau
38290 SAINT QUENTIN-FALLAVIER – FRANCE
Tél : +33 4 74 94 90 70 Fax : +33 4 74 94 13 95
www.sectoriel.com / courrier : sectoriel@sectoriel.fr

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DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	ON	OBJET	Standard
2014/68/EC Pressure Equipment Directive	DN40 to DN50 : Cat I		Final test	API 598
	DN65 to DN200 : Cat II	0035	Conception	API 609
	DN250 to DN300 : CAT III	0035	Actuator pilot connection	NAMUR
Face-to-face dimension	ISO 5752 série 20		Limit switch box connection	VDI/VDE 3845
Flanges dimension	EN 1092-1		SIL 3 level (actuator only)	EN 61508
Connection motorization	ISO 5211			



CONSTRUCTION

No.	Name	1121	1123	1125
1	Body	Cast iron EN GJS-400-15		
2	Seat	NBR	EPDM	EPDM
3	Butterfly	Stainless steel A351 CF8M	Stainless steel A351 CF8M	Nickel plated ductile iron EN GJS-400-15
4	Stem	Inox 416		
5	Bearings	PTFE		
6	O-ring	NBR	NBR	NBR
7	Circlips	Acier		
8	Circlips	Acier		

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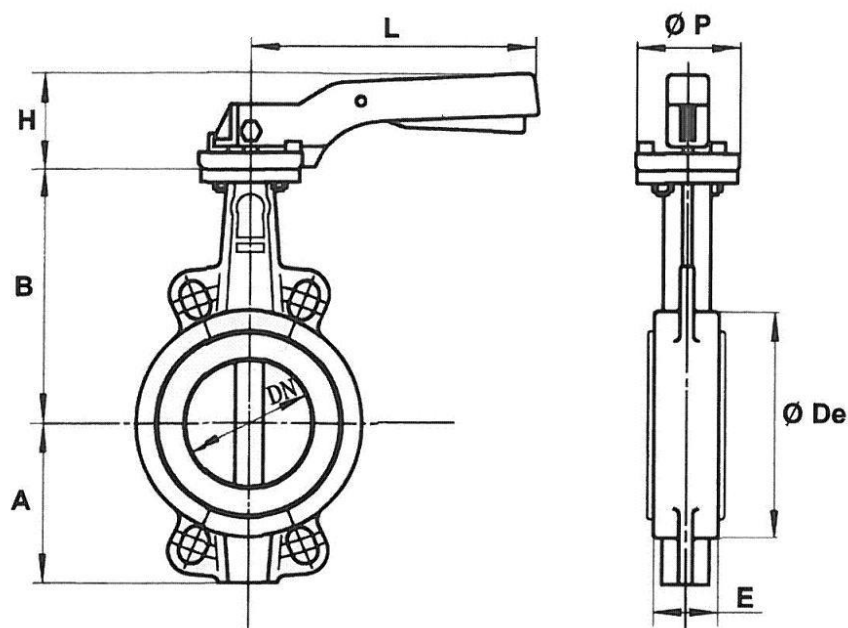


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DIMENSIONS (mm)



DN	40	50	65	80	100	125	150	200	250	300
A	61	77	87,5	95	107	121,5	144	171	205	235
B	130	136,5	142	158	180	192	215	242	280	310
Ø De	82	95	109	121	152	180	207	260	315	370
E	33	43	46	46	52	56	56	60	68	78
H	70	70	70	70	70	71	71	40	44	44
L	195	195	195	195	195	278	278	355	507	507
Ø P	65	65	65	65	65	90	90	125	150	150
Weight (kg)	1,8	2,5	2,9	3,2	4,12	6,7	7,8	14,2	23,4	33,8

DN	Opening angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
40	0,04	2	5	10	18	30	48	72	78
50	0,05	3	6	13	23	38	60	90	98
65	0,09	5	10	21	38	64	102	152	167
80	0,17	8	15	33	60	99	156	235	258
100	0,26	15	31	67	119	196	310	466	512
125	0,43	25	52	113	202	334	529	793	872
150	0,68	38	81	175	312	516	817	1226	1347
200	1,7	76	160	348	620	1025	1623	2434	2675
250	2,6	129	273	592	1055	1746	2764	4145	4555
300	3,4	200	422	914	1630	2697	4269	6403	7037

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MOTORIZATION ELECTRIQUE SA

Suggested standard SA actuation for 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 of 10 bar ($=\Delta P$)

The actuator is directly mounted with an aluminium actuation pad.

DN	Actuator	Power	Intensity 230 Vac	Intensity 24 Vac-dc	Time*	Standard equipment of the actuator
40	SA 05	6 W	23 mA	1,8 mA	17 s	2 adjustable limit switches 2 dry auxiliary switches 5 W anti-condensation heater Protection Actuator thermal cut-out Manual override by key Backlit position indicator (except for SA-X)
50	SA 05	6 W	23 mA	1,8 mA	17 s	
65	SA 05	6 W	23 mA	1,8 mA	17 s	
80	SA 05	6 W	23 mA	1,8 mA	17 s	
100	SA 05	6 W	23 mA	1,8 mA	17 s	
125	SA 09	6 W	23 mA	1,8 mA	17 s	
125	See 1125 + NA Actuator					Electrical connection: 2 gland packs M20 x 1.5
150						

For any other operating conditions, please contact us.

*indicative time of the no-load actuator for opening or closing.

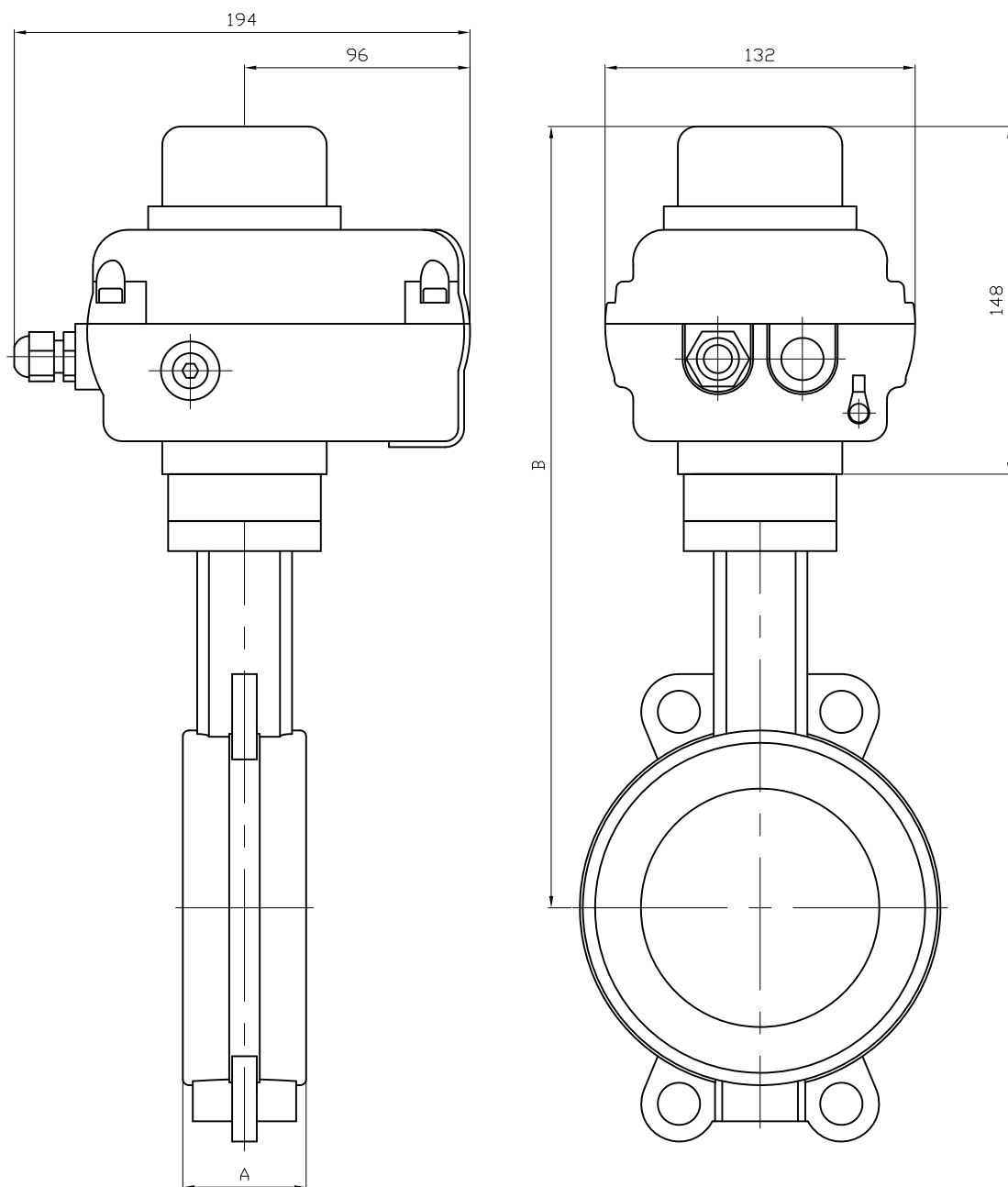
MOTORIZATION OPTION

There are many options for which you are invited to contact our sales service :

1	2	3	4
SA 05 S : Slow actuator 100s	SA 05 PCU : 4-20mA ou 0-10V proportional control unit actuator	SA 05 RBP : Safety actuator with an integrated battery emergency shutdown	SR 05 : Spring return fail safe actuator
			
6	SAPUI electric actuator with a feedback potentiometer		
7	Electric actuator sized for a maximum pressure differential up/downstream over 10 bar ($=\Delta P$)		
8	NA electric actuator with a declutchable manual override by handwheel		

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DN	40	50	65	80	100
A	33	43	46	52	56
B	298	304	310	326	348
KG	4.8	5.5	5.9	6.2	7.1

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

				Modification cote B	29/09/2011	A
Ech:	Date :04/10/2006	Dessiné par : L.L	Tolérances générales : +/- 0.2	Modifications	Date	REV.
Robinet à papillon 1121-1125 + Servomoteur électrique SA05 				Matière :		
				Poids <Kg> :		
				Traitement : SANS		
				Plan n° Ens 1001A		

45, Rue du Ruisseau
38297 SAINT QUENTIN FALLAVIER

SA 05 - SA 09 ELECTRIC ACTUATOR

FEATURES

The SA 05 / SA 09 electric actuator are intended for motorising industrial 1/4 turn valves. The torques are 50 Nm and 90 Nm. With a compact, robust construction and IP67 epoxy-coated aluminium housing, the SA actuator is especially well suited for motorising ball valves and butterfly valves installed in workshops or outdoors. The SA has a manual key control and a 3D visual position indicator. Compliant with the EN 15714-2 standard.

AVAILABLE MODELS

Supply voltages: 230 Vac (50-60Hz), 24 Vac/dc and 12 Vdc.

Options: 110 Vac, feedback potentiometer, local command.



LIMITS OF USE

IP rating	IP 67
Ambient temperature	- 20°C / +70°C
Service factor	S2: 15mn - S4: 50% (SA 05)
	S2: 15mn - S4: 30% (SA 09)



MECHANICAL FEATURES

Gear box	treated steel pinions
Torque	50 Nm / 90 Nm
Angle of rotation	90° +/- 5°
Declutching	Without
Override control	by key (except for SA 05 S)

Actuator	SA 05 / SA 09			SA 05 S	
Voltage	230V AC	24V AC/DC	12V DC	230V AC	24V AC/DC
Torque (Nm)	50 / 90			50	
Manoeuvring time (s)	17 / 32	10 / 22	11 / 25	100	100
ISO 5211	F03/F05/F07 star 14				

ELECTRICAL FEATURES

Motor protection	Thermal switch	Anti-condensation	5W heater
Limit switches	2 adjustable switches	Electrical connection	2 x P.E. M20x1.5
Auxiliary switches	2 adjustable dry switches		

Actuator	SA 05 / SA 09			SA 05 S	
Voltage	230V AC	24V AC/DC	12V DC	230V AC	24V AC/DC
Power (W)	6 W	15 W	6 W	6 W	6 W
Current (A)	0,23 / 0,25	1,8 / 2,1	3,2 / 3,4	0,23	1,8

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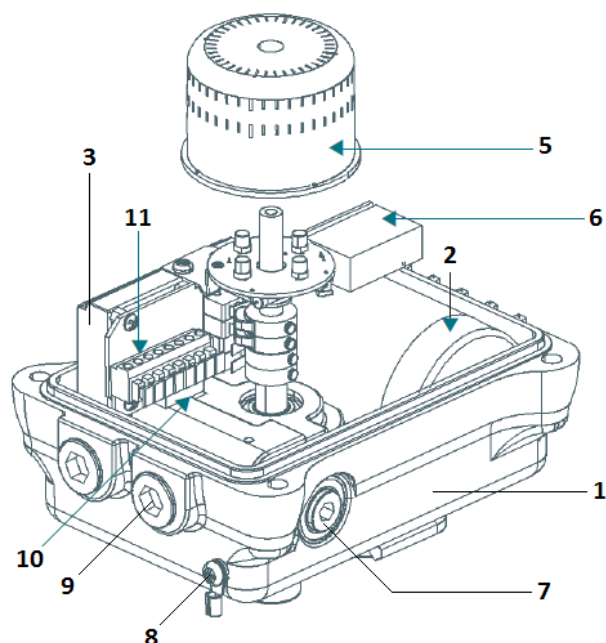
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SA 05 - SA 09 ELECTRIC ACTUATOR

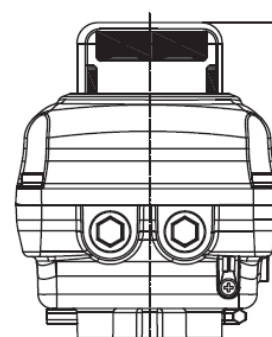
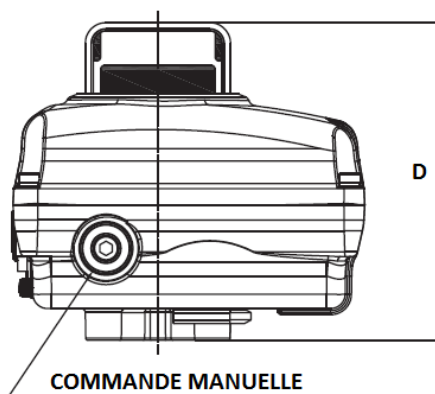
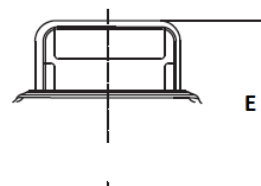
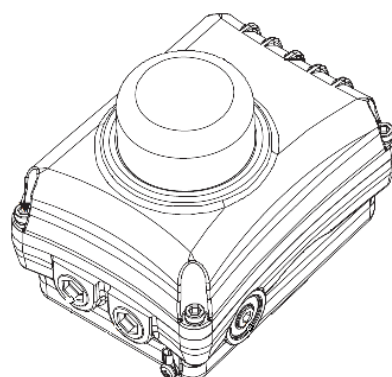
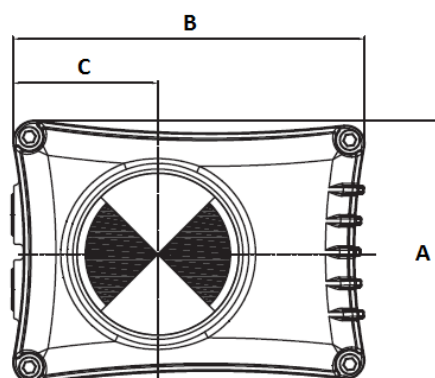
CONSTRUCTION

1	Housing	Polyester-coated aluminium
2	Electrical motor	
3	Gear box	Treated steel pinions
4	Cover	Polyester-coated aluminium
5	Position indicator	Polycarbonate plastic
6	Condenser	
7	Handle override	
8	Earthing	
9	Cable inlet	
10	Anti-condensation heater	
11	Terminal box	



DIMENSIONS (mm) AND WEIGHT (kg)

Dimensions (mm)	A	B	C	D	E	Weight (kg)
SA 05 / SA 09	127	170	70	153	80	3.2



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SA 05 - SA 09 ELECTRIC ACTUATOR

WIRING DIAGRAM 230V AC 50Hz/60Hz

1	common	CLS : Close Limit Switch (250VAC 3A) OLS : Open Limit Switch (250VAC 3A) ACLS : Aux Close Limit Switch (250VAC 3A) AOLS : Aux Open Limit Switch (250VAC 3A) TP : Thermal Protector (250VAC 3A) RM : Motor Regulation
2	anti-condensation heater	
3	closing command	
4	opening command	
5	closing auxiliary	
6	closing auxiliary	
7	opening auxiliary	
8	opening auxiliary	

WIRING DIAGRAM 24V AC/DC-12V DC

1	common or +	CLS : Close Limit Switch (250VAC 3A) OLS : Open Limit Switch (250VAC 3A) ACLS : Aux Close Limit Switch (250VAC 3A) AOLS : Aux Open Limit Switch (250VAC 3A) TP : Thermal Protector (250VAC 3A) RM : Motor Regulation
2	closing command	
3	opening command	
4	closing auxiliary	
5	opening auxiliary	
6	auxiliaries common	
7	anti-condensation heater power supply	
8	anti-condensation heater power supply	

OPTIONS

1	SA 05 / SA 09 X: version for ATEX zone
2	SA 05 / SA 09 PIU: version with feedback potentiometer
3	SA 05 / SA 09 CPT: version with position transmitter 4-20 mA
4	SA 05 / SA 09 PCU: version with adjustment card 0-10, 2-10V, 2-20 mA, 4-20 mA
5	SA 05 / SA 09 LCU: version with local control
6	SA 05 / SA 09 SCP: version with super capacitor safety

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SA 05 - SA 09 ELECTRIC ACTUATOR

SPARE PARTS

SA05 Electric actuator	
Gear box	
Printed circuit board	
Electrical motor	
Pinion	
https://www.sectoriel.com/fr/sa05-servomoteur-electrique-aluminium-1-4-tour-50-nm-on-off-ip67.html	

SA09 Electrical actuator	
Gear box	
Printed circuit board	
Electrical motor	
https://www.sectoriel.com/fr/sa09-servomoteur-electrique-aluminium-1-4-tour-90-nm-on-off-ip67.html	

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SA 05 - SA 09 ELECTRIC ACTUATOR

ASSEMBLING AND MAINTENANCE INSTRUCTIONS



SA05 - SA05S - SA09



SA05X - SA09X

1. DESCRIPTION

- 1.1 Electric actuator for motorising 90° turn valves.
- 1.2 The full features of this device are given in sheet FT23010 / FT23310.
- 1.3 Before operating this device, read the present instructions carefully.

2. GUARANTEE

- 2.1 Before any contact with our services, identify the type of actuator.
- 2.2 SECTORIEL actuators have a 12-month guarantee from the delivery date. Parts recognized as defective by an assessment at our facility, will be replaced at our expense. Complaints generated by incorrect use or a modification of the actuator cannot be taken into account.

3. VERIFICATIONS AND ACCEPTANCE

- 3.1 At acceptance, check that:
 - the packaging is in good condition;
 - the actuator is as ordered;
 - the equipment is not damaged.
- 3.2 It is recommended to install the actuator as soon as accepted and not to leave it unused. If the equipment has to be stored, it has to be in a dry place protected from weather.

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SA 05 - SA 09 ELECTRIC ACTUATOR

4. PRECAUTIONS FOR OPERATION

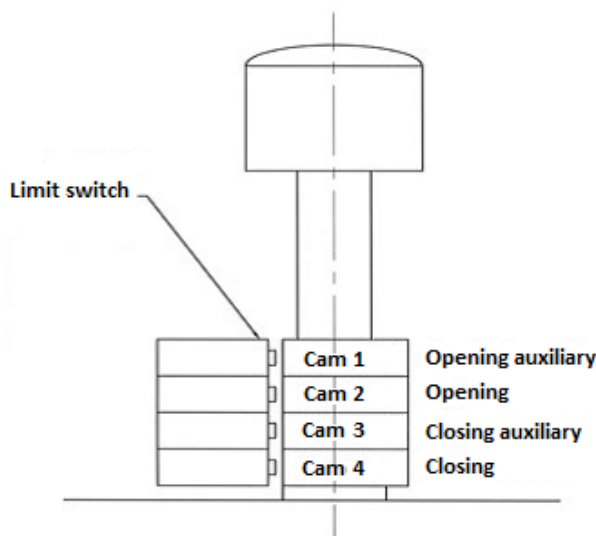
- 4.1 Before installing, make sure that the installation is completely depressurized and brought to ambient temperature.
- 4.2 In a zone classified as explosive, install only model SA05X / SA09X.
- 4.3 The protection class of the actuator is IP67 for indoors or outdoors installation. Do not install this actuator in a marine environment and do not immerse it.
- 4.4 The actuator must not be electrically powered during the installation and maintenance of the valve on the pipework, and of the actuator on the valve
- 4.5 Before proceeding to the electrical connection, check the supply voltage of the actuator.
- 4.6 Do not mount the actuator in series or in parallel with other electrical motors. If need be, use relays.
- 4.7 Do not mount the actuator on valves with higher torque than the nominal torque of the actuator.
- 4.8 The anti-condensation heater must be wired, indoors and outdoors, on special applications.

5. INSTALLATION AND OPERATION

- 5.1 Install the actuator on the valve (already done for units assembled in our workshops)
- 5.2 Perform the electrical wiring as shown in the diagram below.
- 5.3 Adjust the switch stops (already done for units assembled in our workshops).
- 5.4 View the valve's movement using the indicator light on the cover.
- 5.5 SA05 / SA09 and SA05X / SA09X actuator: to actuate the handle override, first disconnect the electrical power supply, then turn the hollow hex-head screw with an Allen key.
No handle override for SA05S.
- 5.6 SA05X actuator: the electrical connection must be carried out using an ATEX approved cable gland (CG) CG M20x1.5 which corresponds to the same operation zones as SA05X / SA09X.
SA05X has 2 connections M20x1.5. If using only one CG ATEX cable gland, the 2nd connection must be provided with an ATEX-approved plug which corresponds to the same operation zones as SA05X / SA09X.
CG and ATEX plug are not provided as standard. Option when ordering.

6. SWITCH SETTING

- 6.1 The cams are attached to the drive stem.
- 6.2 Clockwise rotation = valve closing. The micro-switch stops the actuator.
- 6.3 Anti-clockwise rotation = valve opening. The micro-switch stops the actuator.



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