

1160-1164 BUTTERFLY VALVES + SA ELECTRIC ACTUATOR

FEATURES

The butterfly valves 1160 to 1164 are dedicated to the automatic opening/shut-off of various fluid pipes. It has a ductile iron body. Thanks to various material possibilities for both the butterfly and the sleeve, it can be used in different applications. The lug type body enables the mounting on PN10/16 flanges. This type of attachment enables the dismantling of pipes or other devices without draining the whole system. The ISO 5211 pad enables the direct mounting of the SA electric actuator. It is perfectly adapted for an indoor or outdoor industrial use.



SA



SA-X 05



with SA-X 05



EAC

AVAILABLES MODELS

DN 32 to DN 100.

Flanged connections PN16.

Supply voltages : 12 Vdc, 24 Vac-dc and 230 Vac.

LIMITS OF USE

Fluid pressure : WP	16 bar
End-of-pipe mounting	6 bar
Fluid temperature: WT°	According to the table below
Ambient temperature	-20°C / +70°C
Service factor	S2-15mn - S4 : 50 %



Ref.	Butterfly	Sleeve	Application examples	Min. TS	Max. TS
1160	GS Ductile iron	EPDM	Cold water – hot water (110 °C max.) - ACS	-20°C	+110°C
1161	SS 316	NBR	Hydrocarbons, natural gas, compressed air	-10°C	+90°C
1162	GS Ductile iron	NBR	Hydrocarbons, natural gas, compressed air	-10°C	+90°C
1163	SS 316	EPDM	Demineralised water – Alkaline materials (max 110 °C) - ACS	-20°C	+110°C
1164	SS 316	FPM	Compatible aggressive fluids, oil	-5°C	+180°C
1181	GS Ductile iron	NBR Gaz	Gaz naturel – Homologation NF-ROB GAZ 5 bar	-20°C	+60°C

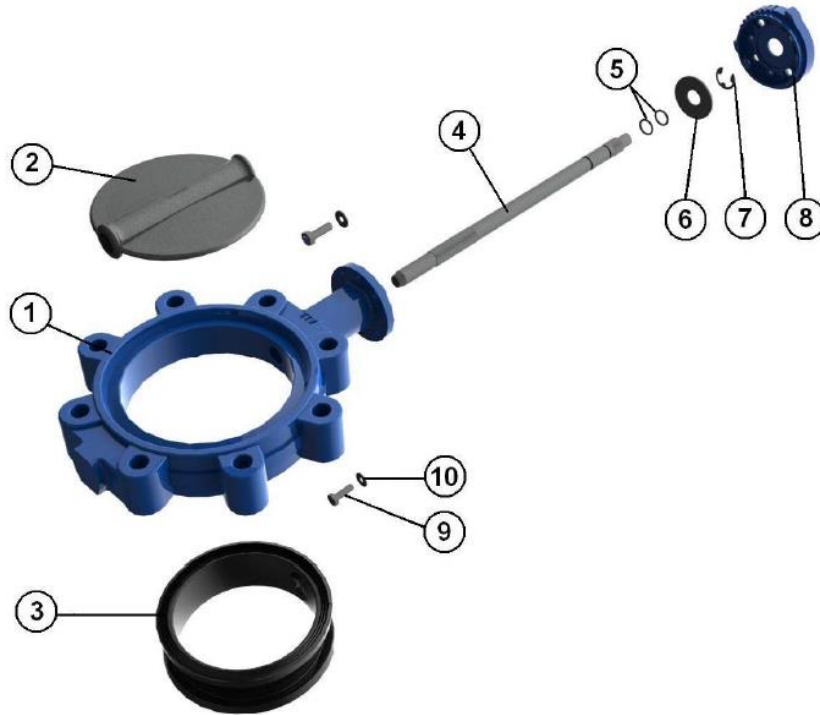
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DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	ON	OBJET	Standard
2014/68/EC Pressure Equipment Directive	Cat. III modules B+C1	0409	Final test	ISO 5208
ATEX DIRECTIVE	II 2G/D Tx zones 1,2,21 and 22	0038	Face-to-face dimension	ISO 5752 series 20
Flanges dimension	EN 1092-1		Racc. Motorisation	ISO 5211
Sanitary compliance	ACS			



CONSTRUCTION

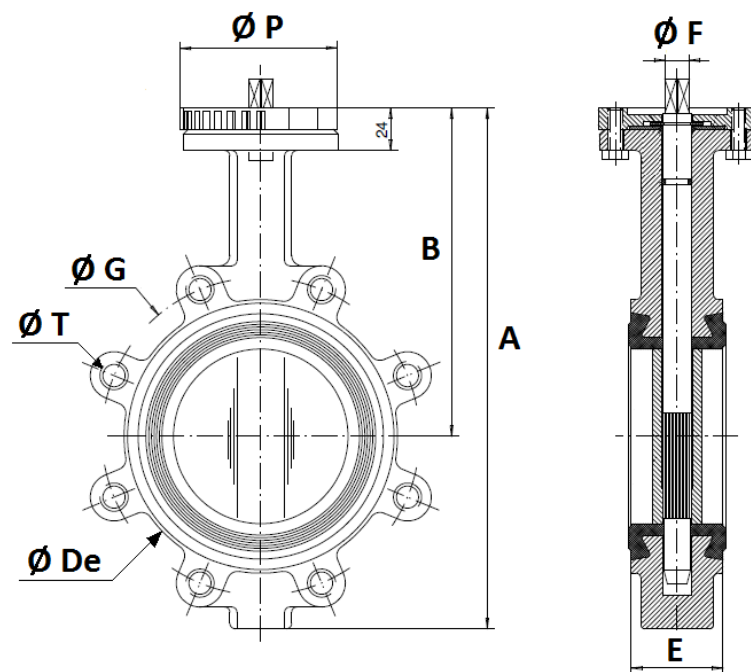
No.	Name	1160	1161	1162	1163	1164	1181
1	Body	Ductile iron EN GJS-500-7					
2	Butterfly DN32-100	Stainless steel A351 CF8M /1.4408					
3	Sleeve	EPDM	NBR	NBR	EPDM	FPM	NBR gas
4	Stem	SS 420	SS 304	SS 420	SS 304	SS 304	SS 420
5	O-ring	NBR	NBR	NBR	EPDM	FPM	NBR
6	Ring	Steel					
7	Circlips	Steel					
8	ISO pad	aluminium					
9	Screw	Steel 5.6					
10	Washer	Steel					

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DIMENSIONS (mm)



DN 32 - 100

DN	32-40	50	65	80	100
A	205	226	246	259	295
B	140	156	161	169	187
Ø De	83	102	115	136	157
E	33	43	46	46	52
Ø F	9.5	9.5	12	14	14
Ø G	100/110	125	145	160	180
Ø P	88	88	88	88	88
Ø T	4xM16	4xM16	4xM16	8xM16	8xM16
Weight (kg)	2,7	4,1	4,7	6,1	7,9

FLOW-RATE COEFFICIENT Kv (m³/h)

DN	32-40	50	65	80	100
Kv	70	109	200	334	551

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SA ELECTRICAL MOTORIZATION

The SA motorisation proposed as a standard extends to:

- IP67 epoxy coated aluminium housing for actuator and steel gear box,
- safety coefficient of 1.3 minimum compared to the nominal torque of the valve,
- upstream / downstream pressure difference $\Delta P=10$ bar max,

The actuator assembly is of the direct type, with aluminium motorisation mounting pad.

The actuator assembly is of the direct type, with aluminium motorisation mounting pad.						
DN	Actuator	Power (W)	Intensity 230V CA	Intensity 24V CA-CC	Time (s)*	Standard equipment of the actuator
32	SA 05	6 W	0,23 A	1,8 A	17 s	2 adjustable limit switches 2 dry auxiliary contacts Anti-condensation heater 5W Thermal protection of the motor Stand-by manual control with key Backlit position indicator (apart from SA-X) Electrical connection: 2 P.E. M20x1.5
40	SA 05	6 W	0,23 A	1,8 A	17 s	
50	SA 05	6 W	0,23 A	1,8 A	17 s	
65	SA 05	6 W	0,23 A	1,8 A	17 s	
80	SA 05	6 W	0,23 A	1,8 A	17 s	
100	SA 05	6 W	0,23 A	1,8 A	17 s	
125	Voir 1160 + actuator NA					
150						
200*						
250*						
300*						

For any other operating conditions, please contact us.

* indicative time for actuator running empty

MOTORIZATION OPTIONS

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

There are many options for which you are invited to contact our sales service :				
1	2	3	4	5
SA 05 S : Slow actuator 100 s	SA 05 PCU : 4-20mA or 0-10V proportional control unit actuator	SA 05 SCP : super capacitor safety actuator	SA 05 X : zone ATEX 1 and 2 actuator	SR 05 : spring return fail safe actuator
				
6	SA PUI actuator with feedback potentiometer			
7	actuator dimensioned for an upstream / downstream pressure difference ΔP greater than 10 bar			
8	NA actuator with override by handwheel			
OPTIONS ON THE VALVE				
1	Carbon steel body, 304 and 316 SS, bronze and aluminium			
2	Carbon steel butterfly, 304 and 316 SS, copper-alu, Uranus, Hastelloy			
3	Hypalon liner, silicone steam, white EPDM, natural rubber, neoprene, vulcanised			
4	Stems of 420, 304, 316 SS, Hastelloy			

INSTALLATION IN AN ATEX ZONE

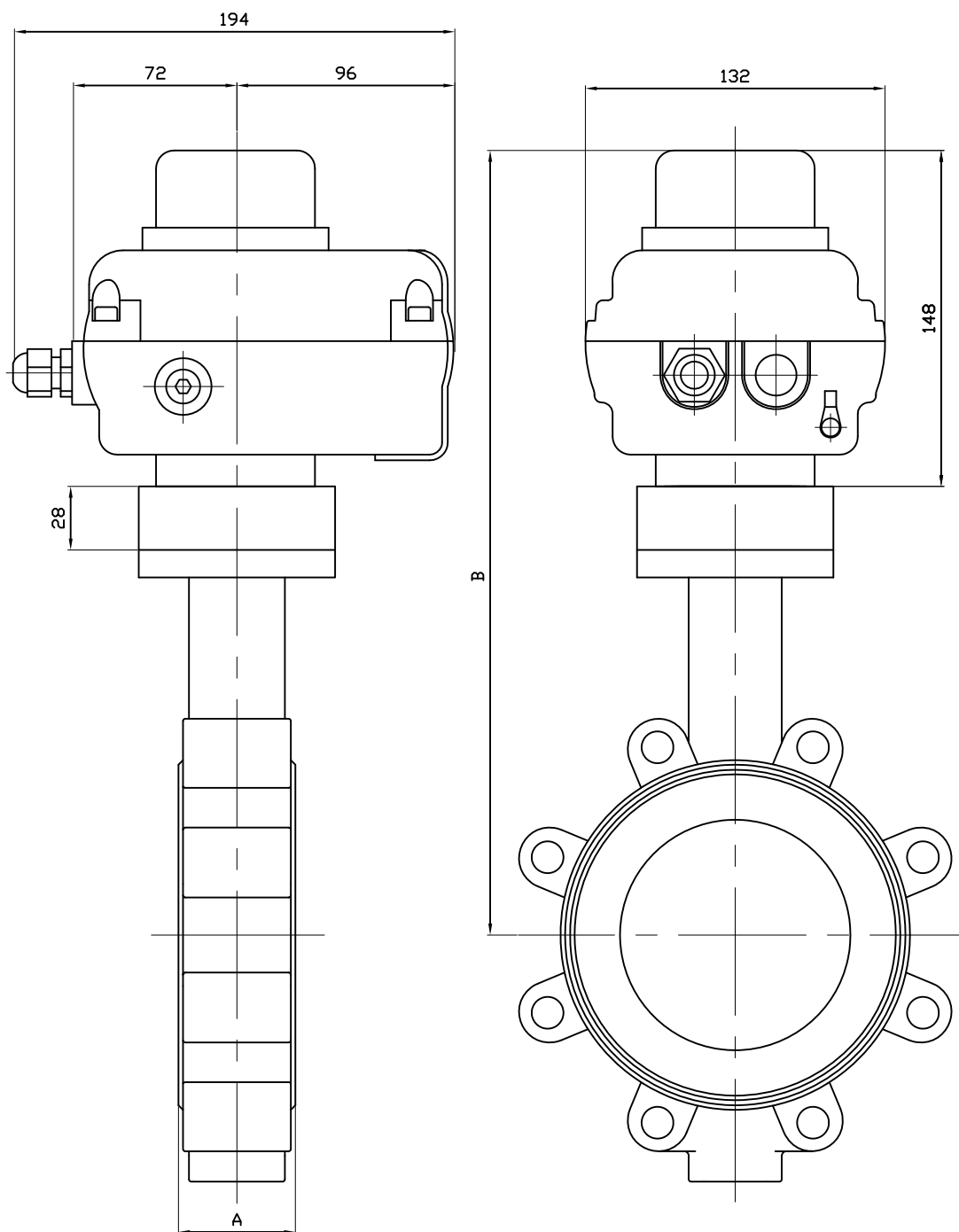
For automatic valves 1160+SA-X to be installed in the ATEX 1 or 2 zones, this has to be specified when ordering. Our services will check of the assembly, the installation of an earthing braid, and will issue an assembly certificate. Our authorised technicians carry out these operations in the workshop. Please contact us.

The special assembly and maintenance instructions for motorised valves in the ATEX zones must be followed. The ATEX glands and plug are not included in the supply. Use the following codes:

Presse-étoupe aluminium M20x1,5 ATEX	Code 980179	Bouchon aluminium M20x1,5 ATEX	Code 980180
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DN	32/40	50	65	80	100
A	33	43	46	46	52
B	301	315	321	333	346
KG	5.7	7.1	7.7	9.1	10.9

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

				Ajout poids	06/06/2012	A
Ech: /	Date :05/10/2006	Dessiné par : L.L	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A PAPILLON 1160-1168/BUTTERFLY VALVE 1160-1168 + SERVOMOTEUR SA05/ELECTRIC ACTUATOR SA05				Matériau :		
				Poids (Kg) :		
				Traitement : SANS		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Plan n° Ens 1009A		

SA 05 ELECTRIC ACTUATOR

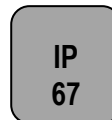
FEATURES

The SA 05 electric actuator is intended for motorising industrial 1/4" turn valves. The torque is of 50 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 05 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 Code	IP 67
Ambient temperature	- 20°C / +70°C
Service factor	S2 : 15mn - S4 : 50%

MECHANICAL FEATURES

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



Actuator	SA 05			SA 05 S	
Voltage	230V AC	24V AC/DC	12V DC	230V AC	24V AC/DC
Torque (Nm)	50				
Manoeuvring time (s)	17	10	11	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 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	1.8	3.2	0.23	1.8

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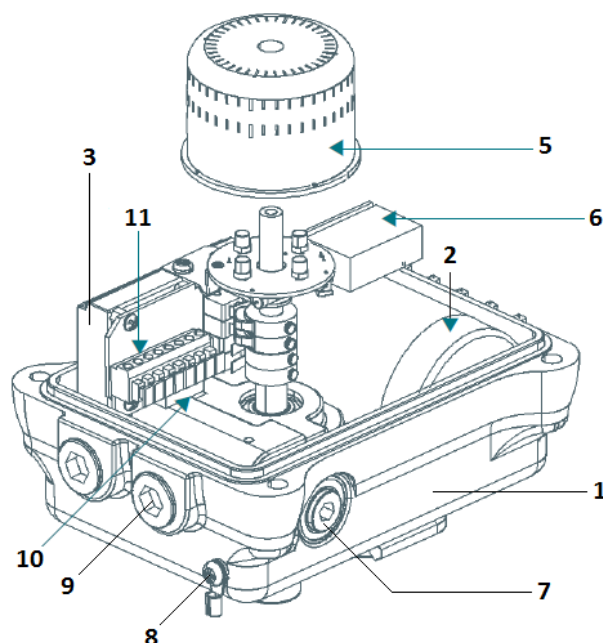
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SA 05 ELECTRIC ACTUATOR

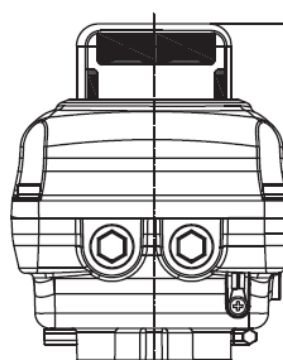
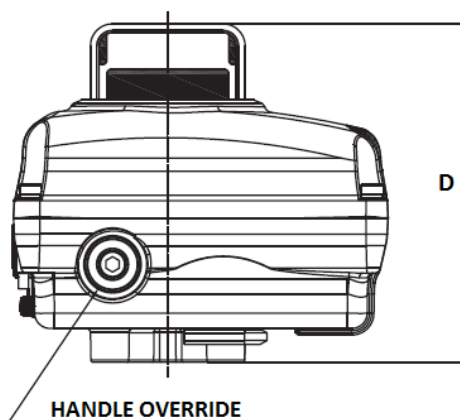
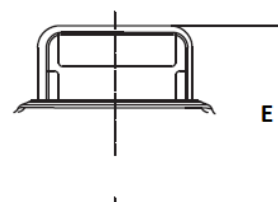
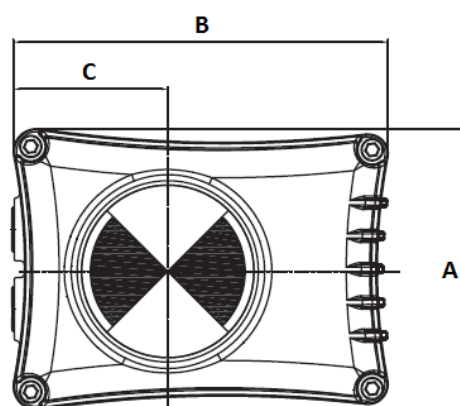
CONSTRUCTION

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	127	170	70	153	80	3.2

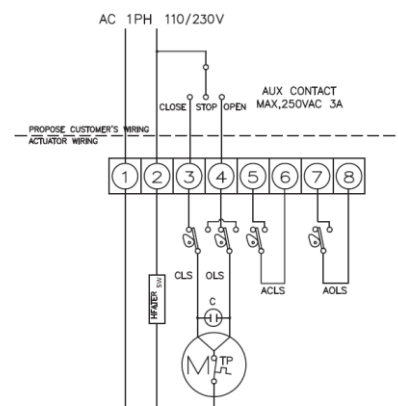


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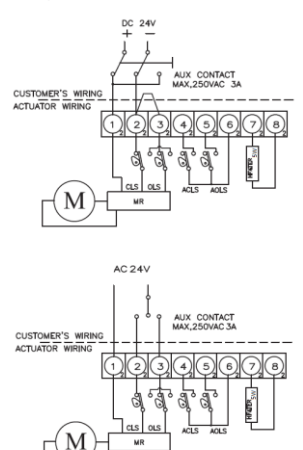
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SA 05 ELECTRIC ACTUATOR

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 X: version for ATEX zone
2	SA 05 PIU: version with feedback potentiometer
3	SA 05 CPT: version with position transmitter 4-20 mA
4	SA 05 PCU: version with adjustment card 0-10, 2-10V, 2-20 mA, 4-20 mA
5	SA 05 LCU: version with local control
6	SA 05 RBP: version with in-built fail safe/security

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SA 05-X ELECTRIC ACTUATOR

FEATURES

SA05-X electric actuators are intended for motorising 1/4" turn valves in explosive zones. The torque is of 50 Nm. The protection mode is a "d" explosion-proof. With a compact, robust construction and IP67 epoxy-coated aluminium housing, the SA05-X actuator is especially well suited for motorising ball valves and butterfly valves installed in difficult atmospheres. The SA05-X has a manual key control and a 3D visual position indicator. Compliant with the EN 15714-2 standard.

AVAILABLE MODELS

Supply voltages: 230V AC (50-60Hz), 24V AC/DC.

LIMITS OF USE

IP Code	IP 67
Ambient temperature	- 20°C / +55°C
Service factor	S2: 15mn - S4: 50%



ATEX APPROVAL

Protection mode	"d" according to the EN 60079-1 standard
Category of material	2
Operation zones	1G and 2G
Marking	II 2 G Ex d IIB T4 (ON KEMA no. 0344)



MECHANICAL FEATURES

Gear box	treated steel pinions
Torque	50 Nm
Angle of rotation	90° +/- 5°
Declutching	Without
Override control	By key

Actuator	SA 05-X (50Hz)		SA 05-X (60Hz)
Voltage	230V AC	24V AC/DC	230V AC
Torque (Nm)	50		50
Manoeuvring time (s)	17	10	14
ISO 5211	F03/F05/F07 star 14		

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SA 05-X ELECTRIC ACTUATOR

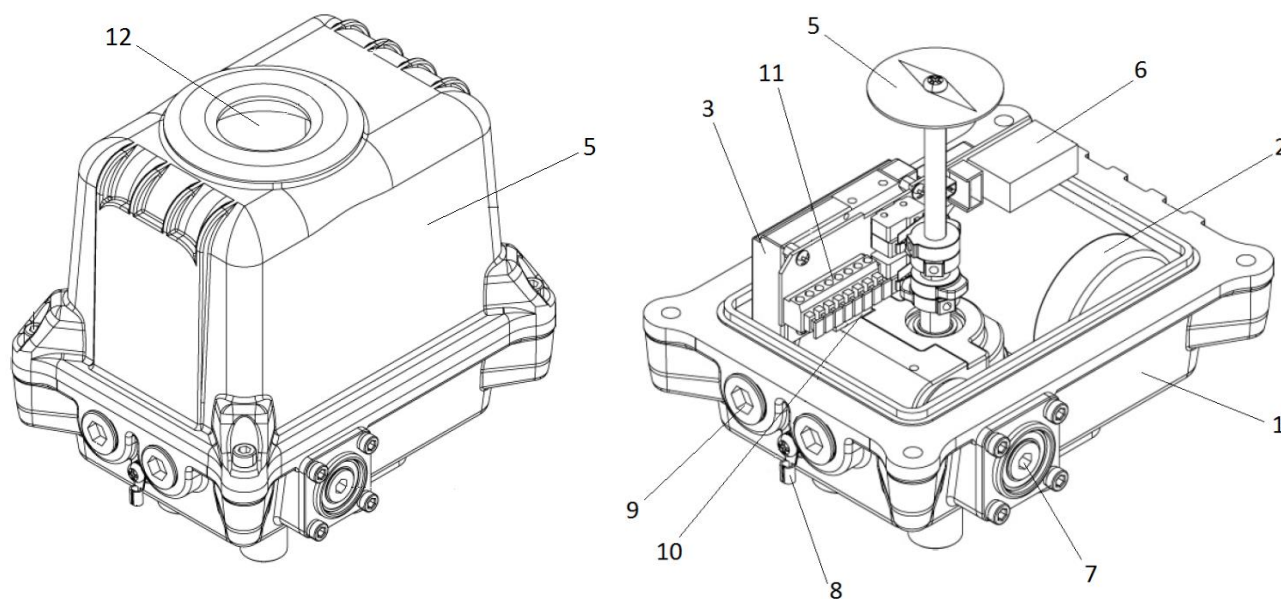
ELECTRICAL FEATURES

Motor protection	Thermal switch	Anti-condensation	5W heater
Limit switches	2 adjustable switches	Electrical connection	2 x C.G. M20x1.5 ATEX (NOT SUPPLIED on option)
Auxiliary switches	2 adjustable dry switches		

Actuator	SA 05 X	
Voltage	230V AC	24V AC/DC
Power (W)	6 W	6 W
Current (A)	0.23	1.8

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	
12	Indicator light	Toughened glass



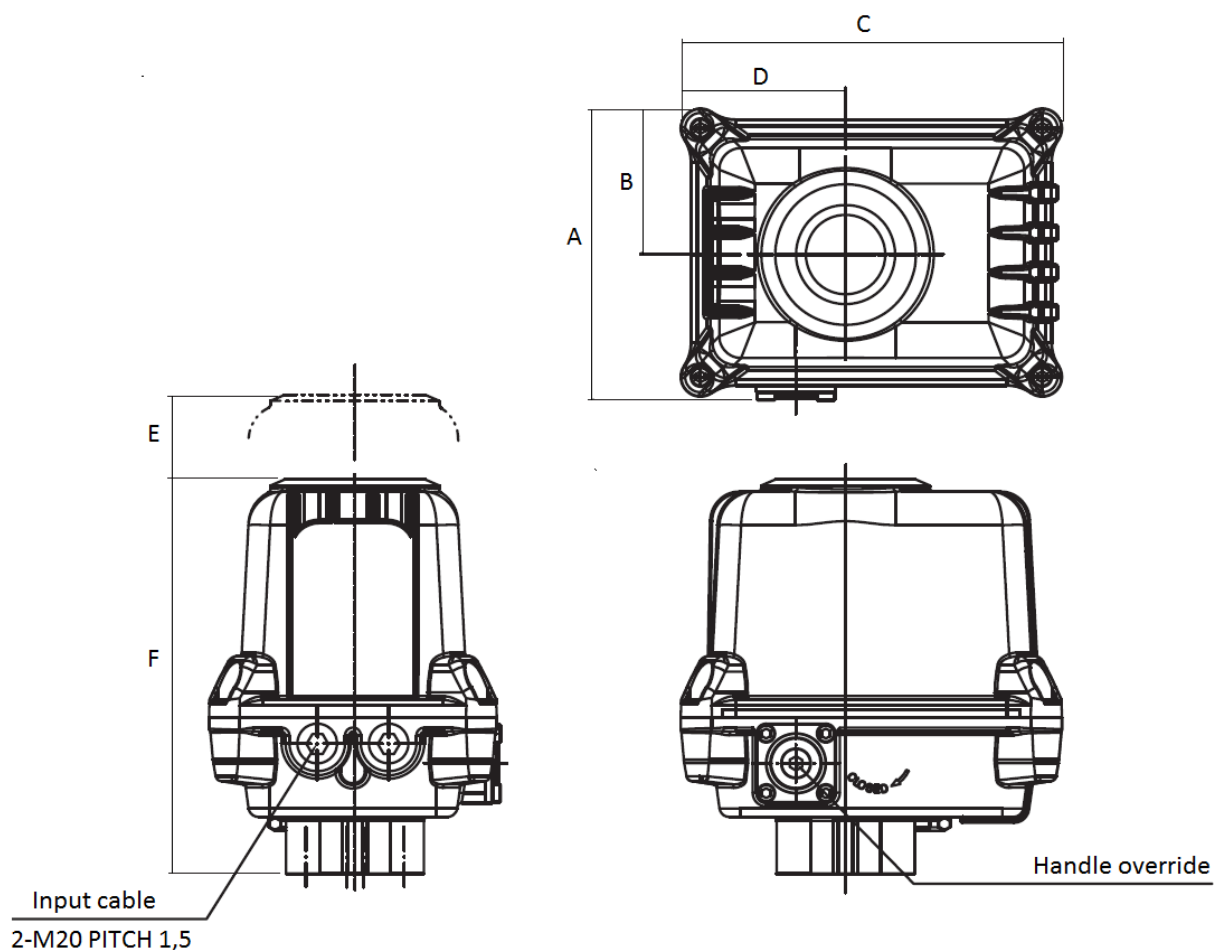
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SA 05-X ELECTRIC ACTUATOR

DIMENSIONS (mm) AND WEIGHT (kg)

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

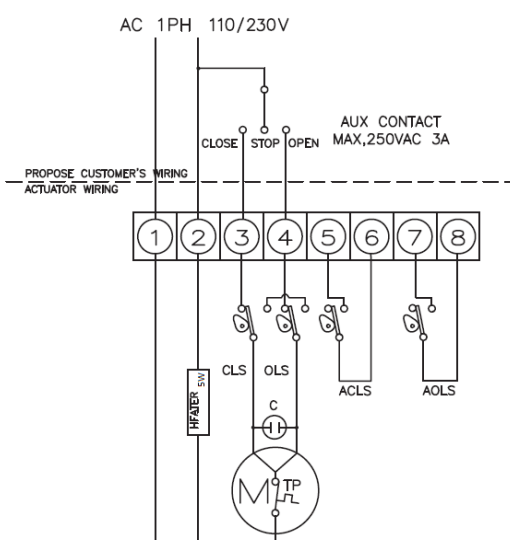


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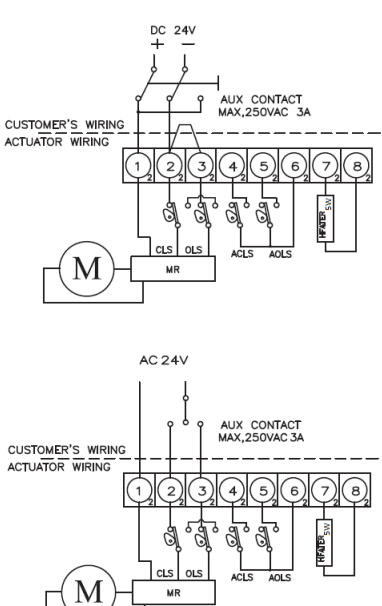
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SA 05-X ELECTRIC ACTUATOR

WIRING DIAGRAM 230V AC 50Hz/60Hz

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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

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	

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