

702-703 XS-F-V-PORT VALVES + SA05 PCU

FEATURES

702XS-F (steel) and 703XS-F (stainless steel) + SA05 2-way ball valves with machined "V" ball are designed for flow, pressure or temperature control in industrial fluid networks. Their 3-piece construction with external tie rods makes them easy to disassemble for maintenance. The full-bore valve features an antistatic device and a double gland seal. The ball is available in "V" 30° or "V" 60° with different flow coefficients. The SA05 PCU control actuator is powered by 230V AC or 24V AC/DC and controlled by a 0-10V or 4-20 mA signal.



IP
67

3.1
Cert



AVAILABLE MODELS

702 XS-F: carbon steel body.

703 XS-F: body in stainless steel.

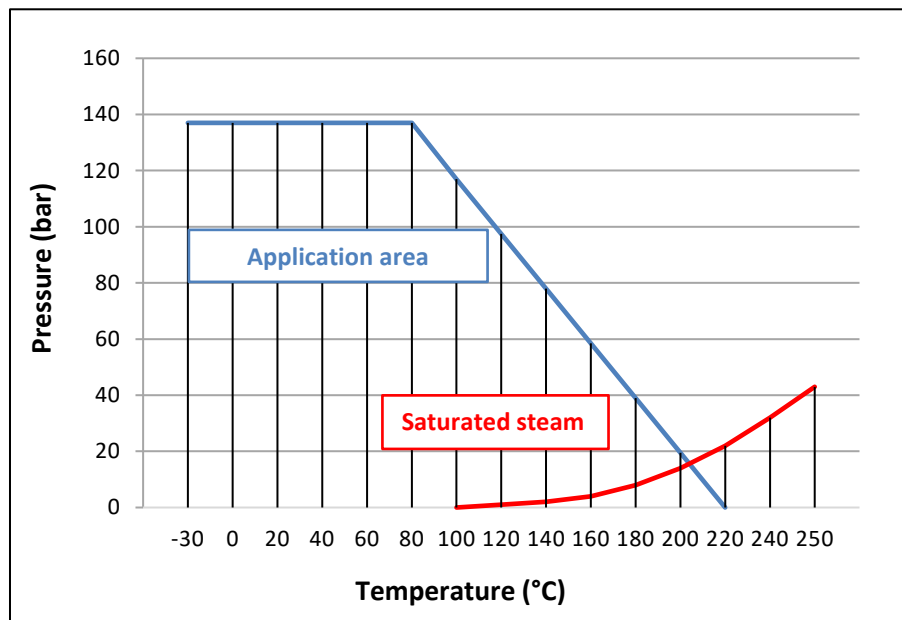
Diametres : 1/2" to 1"1/2.

Connections: G and NPT threaded, SW and BW weld ends.

Supply voltages: 24 Vca-cc and 230 Vca.

LIMITS OF USE

Material	Steel	St steel
Fluid	Not recommended for steam or gases with a velocity > 10m/s	
Fluid pressure: PS	137 bar	
Fluid temperature: TS	-20°C / +220°C	- 30°C / +220°C
Room temperature	- 20°C / + 70°C	
Service factor	50 – 70%	



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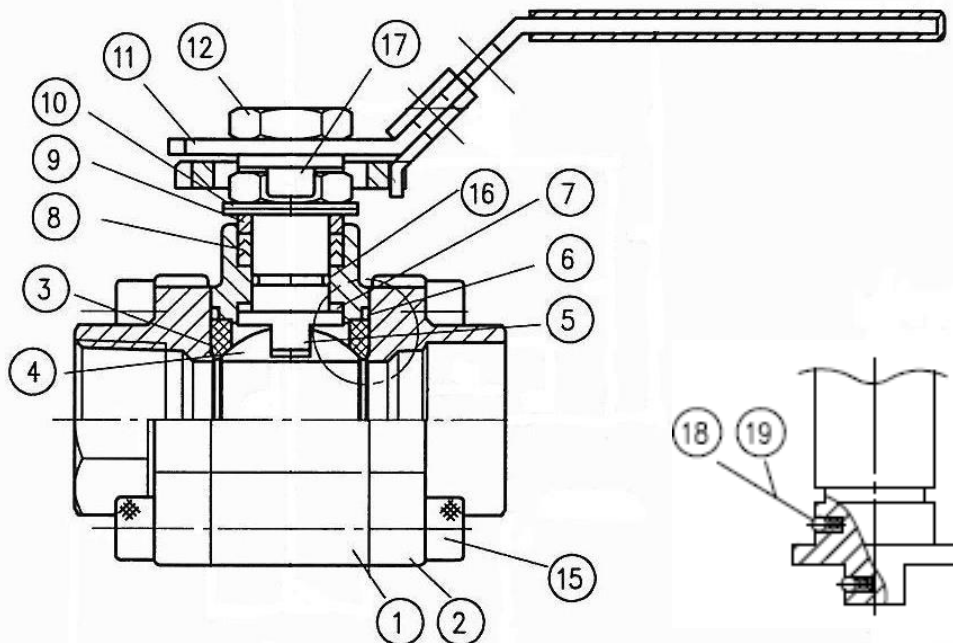
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DIRECTIVES AND MANUFACTURING STANDARDS

OBJECT	Standard	NB	OBJECT	Standard
PED Directive 2014/68	<u>1/2" to 1"</u> : not subject		Final test	API 598
	<u>1" 1/4 to 2"</u> : category III	TÜV 0035	Material certificate	EN 10204
Design	ANSI B16.34		Corrosion resistance	NACE MR-0175
Size	EN 12516-1		Fire safe	API 607/4
Steel grades	EN 1503-2		Motor connection	ISO 5211
Connection G	ISO 228-1	SIRA 0518	NPT connection	ANSI B1.20

CONSTRUCTION

N°	Name	Steel	St steel	N°	Name	Steel	St steel
1	Body	Carbon steel 1.0619	Stainless steel 1.4408	11	Lever	St steel 304	
2	Ends	Acier carbone 1.0619	Acier inox 1.4408	12	Lever nut	St steel 304	
3	Seats	PTFE + 50% inox		13	Pin	St steel 304	
4	Ball	Acier inoxydable 316		14	Cover	PVC	
5	Stem	Acier inoxydable 316		15	Screw	ISO 898 12.9	
6	Body gasket	Graphite		16	O-ring	FPM	
7	Ring	PTFE + 50% inox		17	Locking device	St steel 304	
8	Packing	Graphite		18	Bille	St steel 316	
9	Washer	St steel 304		19	Spring	St steel 316	
10	Belleville washer	St steel 301					

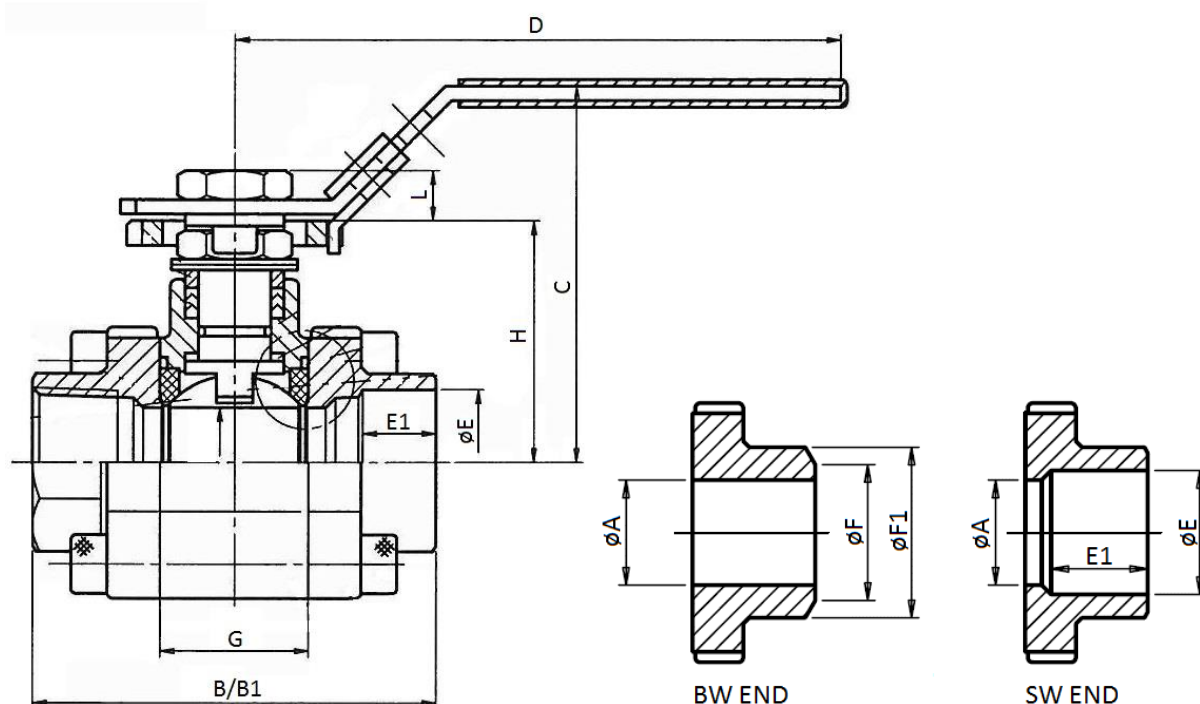


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DIMENSIONS (mm)



DN	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"
A	16	20	24,5	32	38	50
B (SW)	75	80	90	110	120	140
B1 (BW)	75	90	100	110	125	150
C	70.9	73.4	84.1	89.3	109.5	118.9
D	110	110	135	135	165	165
E	21.8	27.2	33.9	42.7	48.8	61.2
E1	11.2	14.3	15.8	17.5	19.1	21.3
F (BW)	17	22	28	37	43	54
F1 (BW)	21.3	26.9	33.7	42.4	48.3	60.3
G	25.2	27.7	33	41.2	49.3	63.6
H	42.3	44.8	54	59.2	73.5	82.9
L	8	8	10	10	14.8	14.8

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SA ELECTRIC ACTUATOR

The SA motorisation offered as standard must be understood as

- Actuator with IP67 epoxy-coated aluminium housing and steel gearbox.
- Safety factor at least 1.3 relative to the valve's nominal torque.
- Upstream/downstream pressure difference $\Delta P=10$ bar max.

The actuator is mounted directly.

DN	Actuator	Actuator	Intensity 230V CA	Intensity 24V CA-CC	Time*	Standard electric actuator equipment
15	SA 05 PCU	6 W	28 mA	1,8 mA	17 s	2 adjustable limit switches 2 dry auxiliary contacts 2W anti-condensation resistor Thermal motor protection Emergency manual override with key Backlit position indicator (except SA-X) Electrical connection: 2 P.E. M20x1.5
20	SA 05 PCU	6 W	28 mA	1,8 mA	17 s	
25	SA 05 PCU	6 W	28 mA	1,8 mA	17 s	
32	SA 05 PCU	6 W	28 mA	1,8 mA	17 s	
40	SA 05 PCU	6 W	28 mA	1,8 mA	17 s	
50	SA 05 PCU	6 W	28 mA	1,8 mA	17 s	

For other service conditions, please contact us.

* Indicative time for opening or closing of the motor uncharged.

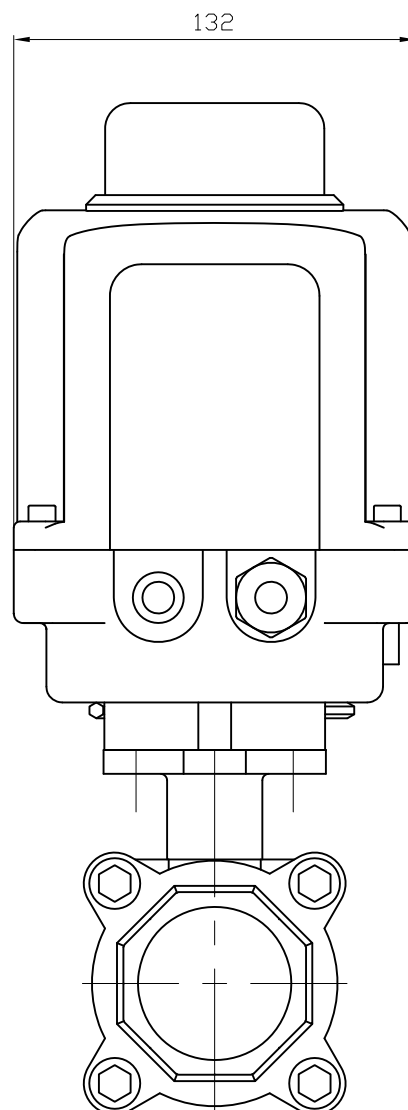
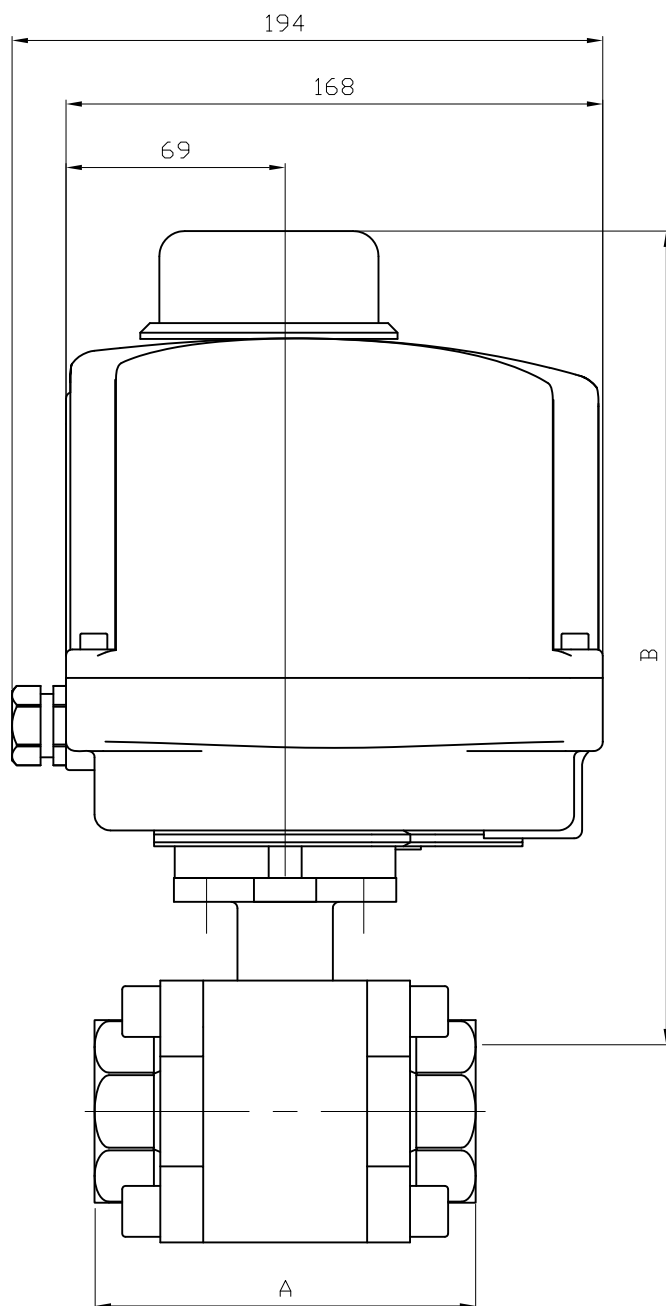
FLOW RATE (Kv)

The values of Kv (m3/h) as a function of the degree of opening are as follows:

DN	Sphere	Kv (m3/h) by opening angle																		
		0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
15	30°	0	0	0	0	0	0	0	0,1	0,1	0,2	0,4	0,8	1,1	1,5	1,8	2,5	3,1	4,1	5,1
	60°	0	0	0	0	0	0	0	0,2	0,4	0,6	0,9	1,4	1,9	2,6	3,3	4,6	5,9	8,0	10,1
20	30°	0	0	0	0	0	0,1	0,2	0,4	0,6	0,9	1,2	1,6	1,9	2,5	3,1	3,8	4,6	5,7	6,8
	60°	0	0	0	0	0	0,2	0,3	0,6	0,9	1,3	1,8	2,4	2,9	4,0	5,0	6,7	8,4	11,5	14,5
25	30°	0	0,03	0,04	0,3	0,5	0,9	1,2	1,7	2,2	2,8	3,4	4,2	5,0	6,3	7,5	8,9	10,2	11,9	13,7
	60°	0	0,03	0,05	0,4	0,7	1,1	1,5	2,0	2,6	3,2	3,9	5,1	6,2	8,0	9,7	12,6	15,5	20,0	24,5
40	30°	0	0,01	0,02	0,4	0,7	1,3	2,0	2,7	3,4	4,7	5,9	7,4	8,9	11,3	13,7	16,3	18,8	22,1	25,3
	60°	0	0,01	0,02	0,5	0,9	1,7	2,4	3,8	5,2	6,4	7,6	10,1	12,6	15,7	18,8	24,7	30,6	39,3	47,9
50	30°	0	0,16	0,32	1,1	1,9	2,9	3,9	5,0	6,1	7,5	9,0	11,3	13,6	17,0	20,4	24,6	28,8	33,6	38,4
	60°	0	0,22	0,44	1,3	2,1	3,4	4,7	6,7	8,7	11,2	13,6	17,9	22,3	28,6	34,9	43,7	52,4	66,9	81,4
80	30°	0	0,30	0,60	1,7	2,9	5,1	7,4	10,4	13,5	18,2	22,9	29,0	35,1	43,4	51,8	62,6	73,4	85,4	97,4
	60°	0	0,41	0,82	2,1	3,4	6,4	9,3	14,4	19,5	26,6	33,8	45,1	56,3	73,7	91,0	114	137	176	216
100	30°	0	0,37	0,74	2,8	4,8	8,3	11,8	17,7	23,5	31,5	39,5	50,3	61,2	75,6	90	106	123	145	167
	60°	0	0,82	1,6	3,3	5,0	10,3	15,5	24,0	32,5	44,5	56,5	75,7	94,9	123	151	194	236	297	358

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DN	1/2"	3/4"	1"	1 1/2"
A	75	80	90	120
B	250.3	252.8	262	281.5
KG	4.87	5.1	5.9	8.05

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

Ech: /	Date :25/07/2017	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 703XS V-PORT + SA-PCU/V-PORT BALL VALVE 703XS + ELECTRIC ACTUATOR SA-PCU				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Plan n° Ens 1300		

SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

FEATURES

The electric actuator SA 05 PCU is intended for the motorization of 1/4 turn valves with a regulating function. The operating torque is 50 Nm. Of compact and sturdy construction with aluminum case epoxy IP67, The actuator SA is particularly well adapted to the motorization of painted ball and butterfly valves installed in workshop or outside. The SA 05 PCU is provided with a manual device by key and with a 3D visual indicator of position. Functioning 3 points. Proportional control 4-20mA. it is in accordance with the standard EN 15714-2. The SA-X version can be installed in an hazardous area.

AVAILABLE MODELS

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

Regulation board: 0-10 V / 2-10 V / 0-20 mA / 4-20 mA / Copy 4-20 mA.

LIMITS OF USE

Indication of protection	IP 67	
Room temperature	SA05 PCU	SA05X PCU
	- 20°C / +55°C	- 20°C / +70°C
Duty 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)



SA05 + PCU

SA05X + PCU



MECHANICAL CHARACTERISTICS

Gear	Steel cogs handled
Torque	50 Nm
Angle of rotation	90° +/- 5°
Declutch	Without
Manual override	By key

Actuator	SA05 / SA05X + PCU	
Voltage	230V CA	24V CA/CC
Torque (Nm)	50	
Time of operation (s)	17	17
ISO 5211	F03/F05/F07 Star 14	



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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

ELECTRIC CHARACTERISTICS

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

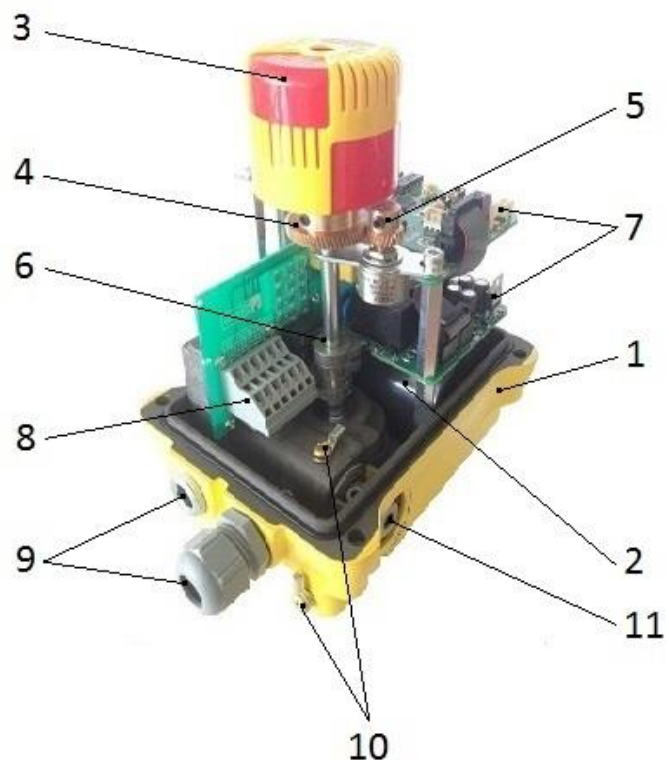
Actuator	SA05 / SA05X + PCU	
Voltages	230V CA	24V CA/CC
Power consumption (W)	6 W	15 W
Intensity (A)	0,23	1,8

SIGNALS OF REGULATION

Input signals	Signals of copy
0 - 5 V	4 - 20 mA
0 - 10 V	
2 - 10 V	
1 - 5 V	
4 - 20 mA	

CONSTRUCTION

N°	Item
1	Housing
2	Electric motor
3	Position indicator
4	Wheel
5	Potentiometer of copy
6	Cams
7	Regulation PCB
8	Terminal block
9	Cables entrances
10	Grounding
11	Manual override



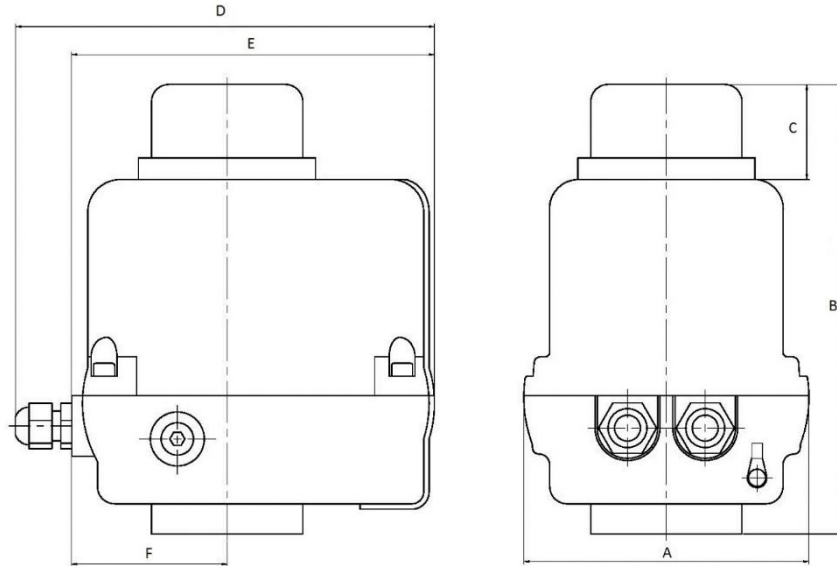
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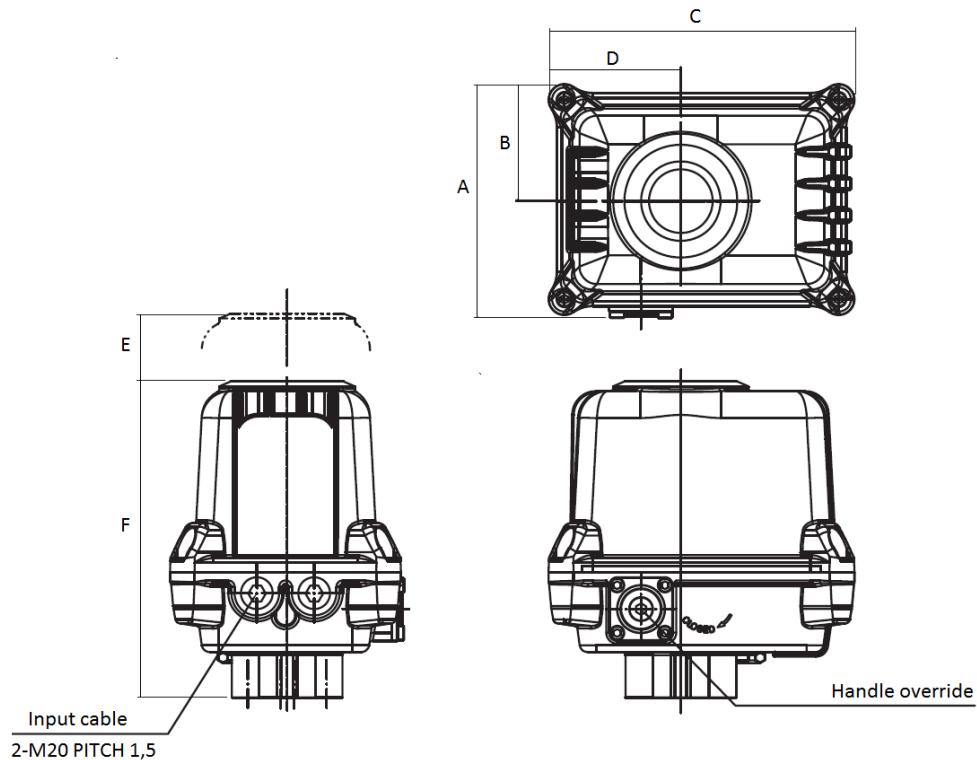
SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

DIMENSIONS (mm) AND WEIGHT (Kg)

Dimensions (mm)	A	B	C	D	E	F	Weight (Kg)
SA05 + PCU	132	208	44	194	168	72	4



Dimensions (mm)	A	B	C	D	E	F	Weight (Kg)
SA05X + PCU	147	73	193	83	100	199	5



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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

SPARE PARTS

SA05 / SA05X + PCU Electric actuator	
Gear box	
Printed circuit board	
Electrical motor	
Transformer relay printed circuit board	
All printed circuit board kit	
https://www.sectoriel.com/fr/sa05pcu-servomoteur-electrique-de-regulation-1-4-tour-50nm-ip67.html	

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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

ASSEMBLING AND MAINTENANCE INSTRUCTIONS



SA05 + PCU



SA05X + PCU



1. DESCRIPTION

- 1.1 Electric actuator for motorising 90° turn valves.
- 1.2 The full features of this device are given in sheets FT23050.
- 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 as of the delivery date. The 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.

4. PRECAUTIONS FOR OPERATION

- 4.1 Before installing, make sure that the installation is completely depressurized and brought to ambient temperature.
- 4.2 Do not install this actuator in a zone classified as explosive.
- 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.

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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

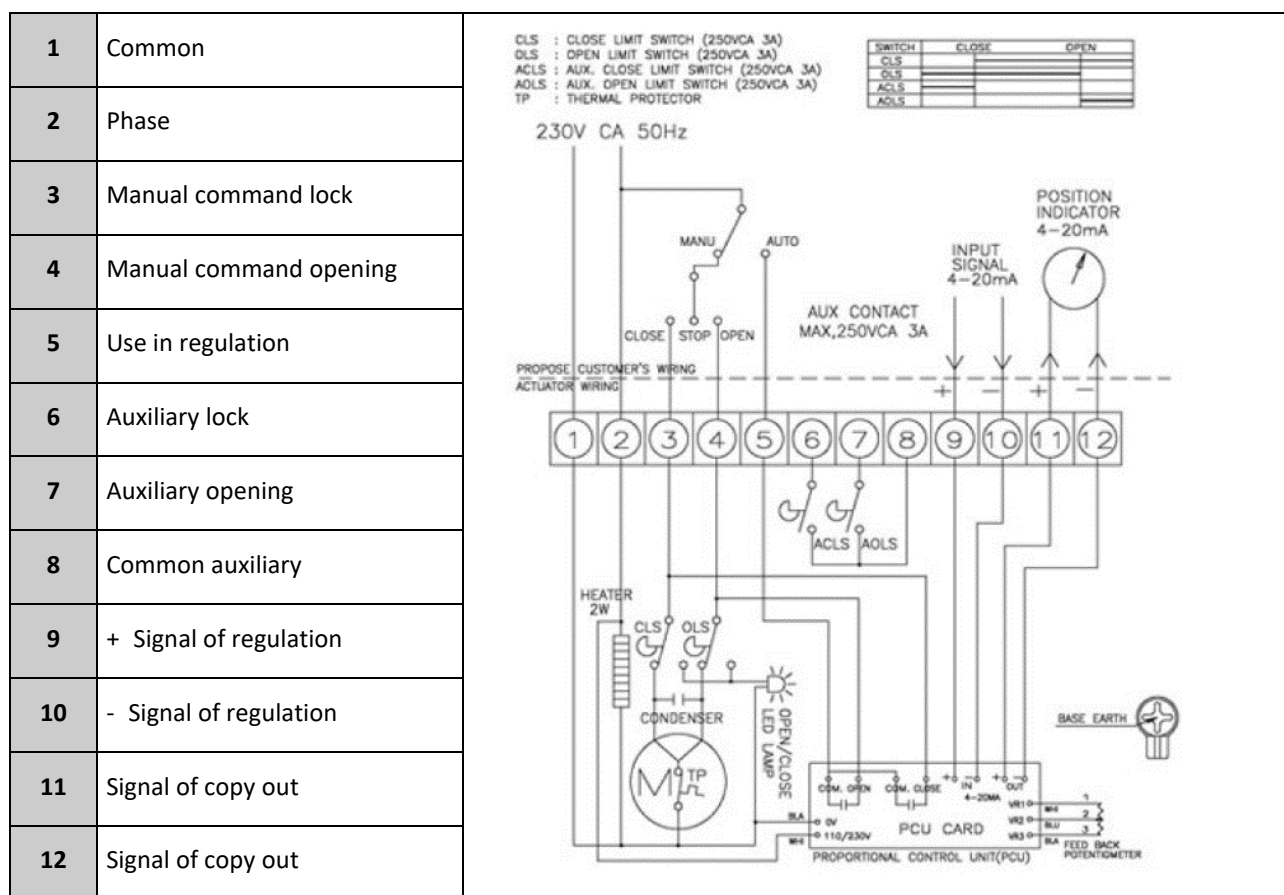
5. INSTALLATION AND OPERATION

- 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 / SA05X PCU actuator: to actuate the handle override, first disconnect the electrical power supply, then turn the hollow hex-head screw with an Allen key.

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.

WIRING DIAGRAM 230V CA 50Hz

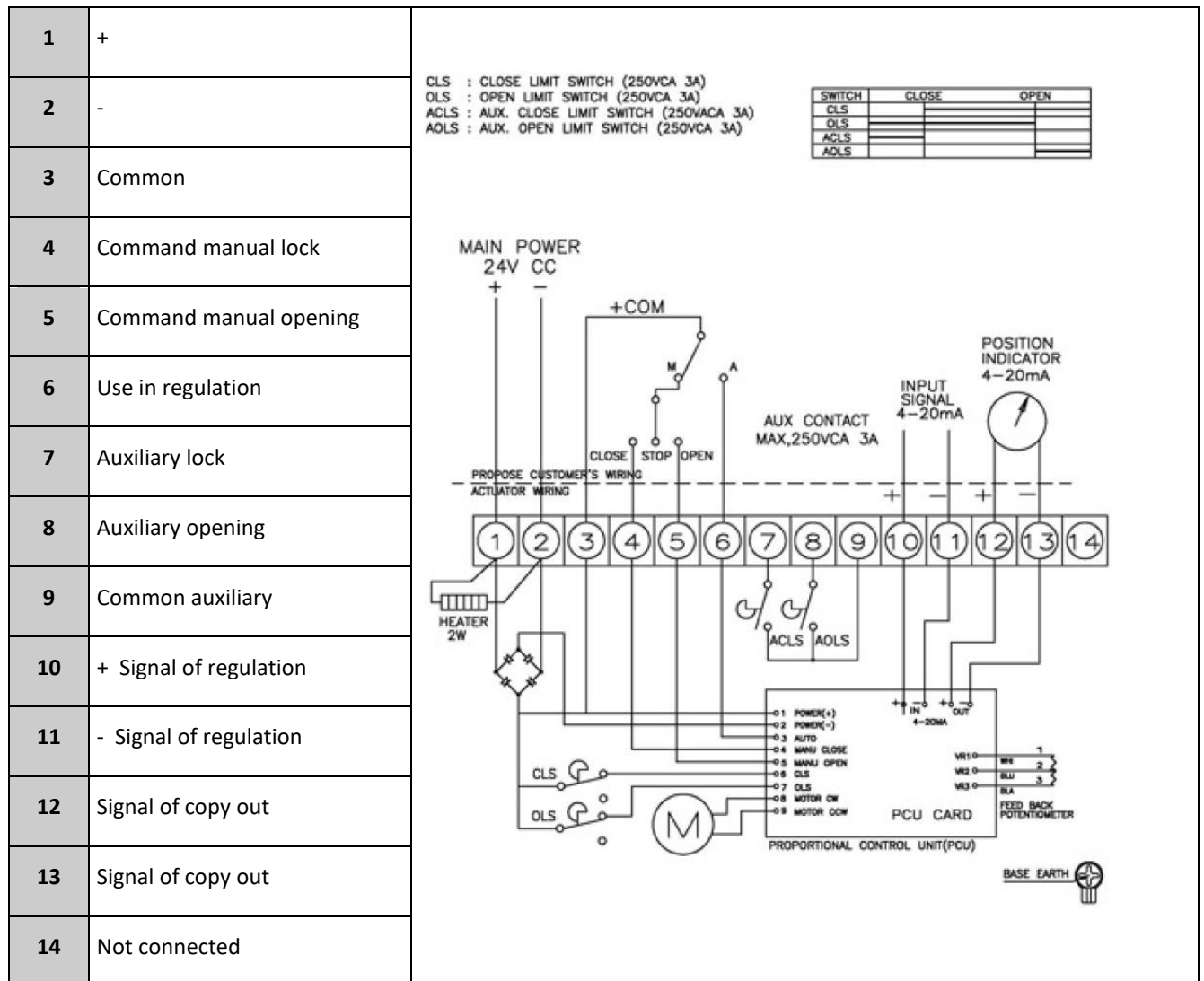


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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

WIRING DIAGRAM 24V CA/CC



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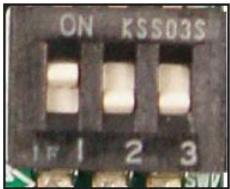
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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

PCU BOARD SPECIFICATION



Name	Spec.
ZERO	Close manual control button / Input module button
SPAN	Open manual control button / Input module button
ASCN	AUTO SCAN BUTTON (ACTUATOR automatic control button) delivered from the factory the resistance value of potentiometer may can be changed if the user modifies its limit setting. Please make sure to press the autoscan button for at least 2 seconds before operating proportional control.

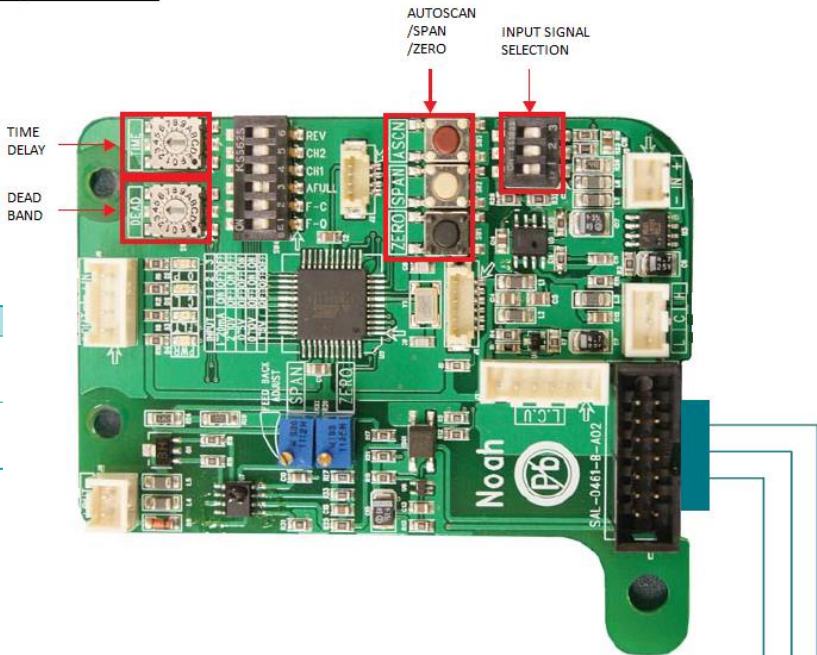


INPUT	S/W	1	2	3
4-20mA	ON	ON	OFF	OFF
2-10V	OFF	ON	ON	OFF
0-5V	OFF	OFF	ON	ON
0-10V	OFF	OFF	ON	ON
1-5V	OFF	OFF	OFF	OFF

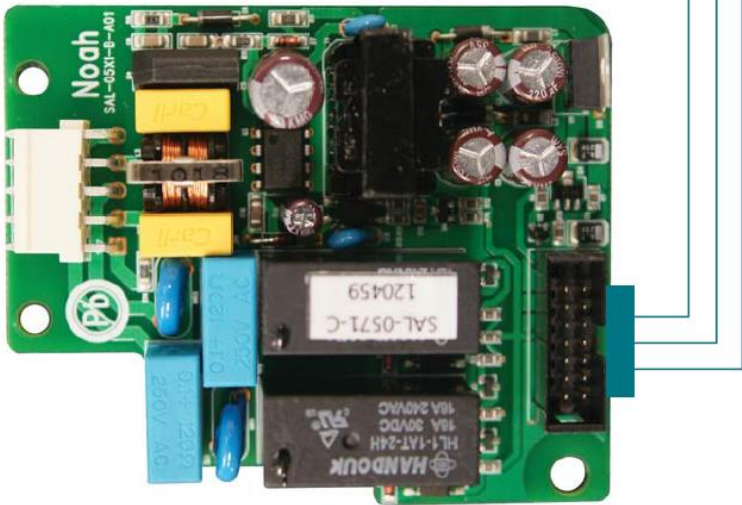
PCU Board specification



Name	Spec.
DEAD BAND	Mechanical steps at least (0,2ma)
TIME DELAY	Modulating starting time (1sec)



PCU Board



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