

737XS VALVE WITH SA03 ELECTRIC ACTUATOR

FEATURES

The 737XS + SA03 2-way steel ball valve is intended for automatic disconnection of common industrial fluid networks. With their 3-piece and external bolts construction, they are easy to dismantle for maintenance. This full-bore ball valve has an antistatic device, a gland pack double tightness. It is CE approved, fire safety and TA-LUFT. The ISO 5211 pad enables the direct mounting of the SA03 electric actuator. It is suitable for type S2 service factors and is perfectly suited for industrial use with indoor or outdoor installation under shelter.

AVAILABLE MODELS

Diameters 1/2" to 2".

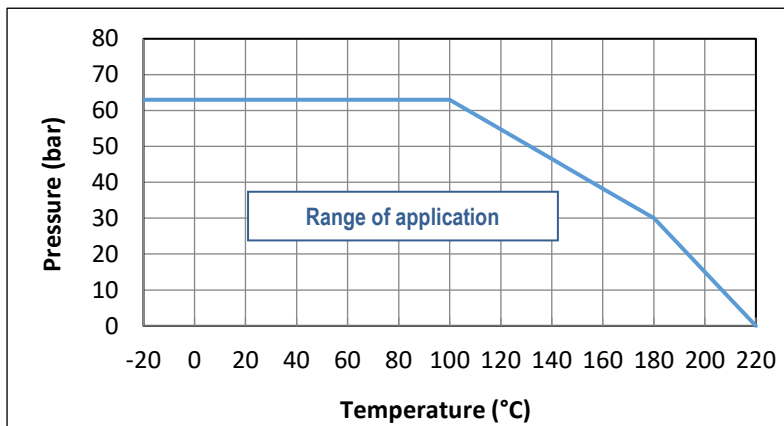
Supply voltages : 24 Vac/dc and 230 Vac.

Connection	G	BW	SW
Carbon steel	737 XS	738 XS	739 XS



LIMITS OF USE

Fluid pressure : PS	63 bar (20°C)
Fluid temperature : WT°	-25°C / +220°C
Ambiant temperature	- 20°C / + 70°C
Service factor	<u>S2</u> : 15 mn / <u>S4</u> : 50%



DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	ON	OBJET	Standard
Pressure Equipment Directive 2014/68/EC	<u>1/2" to 1"</u> : not subject		Final test	EN 12266
	<u>1"1/4 to 2"</u> : category III	TÜV 0035	Material certificate	EN 10204
Size	EN 12516-1		Motorisation connection	ISO 5211
Steel grade	EN 1503-1		Fire safty	REI 607/5 – ISO 10497-5

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



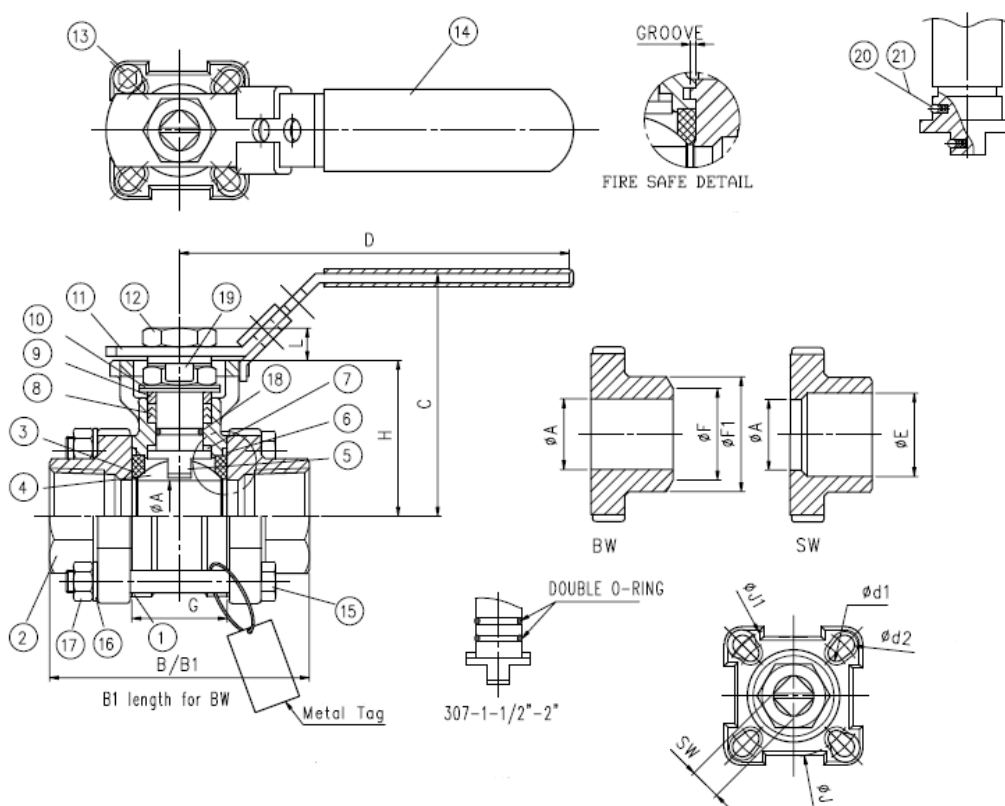
SECTORIEL S.A.
45 rue du Ruisseau
38290 SAINT QUENTIN-FALLAVIER – FRANCE
Tél : +33 4 74 94 90 70 - Fax : +33 4 74 94 13 95
www.sectoriel.com / Email : sectoriel@sectoriel.fr

Pages	1/7
Ref.	TDS737XS+SA03-D ENG
Rev.	02
Date	03/2024

737XS VALVE WITH SA03 ELECTRIC ACTUATOR

CONSTRUCTION

No.	Name	Carbon steel	Stainless steel	No.	Name	Carbon steel	Stainless steel
1	Body	1.0619	1.4408	12	Nut	304 SS	304 SS
2	Ends	1.0619	1.4408	13	End stop	304 SS	304 SS
3*	Seats	PTFE+15%GF	PTFE+15%GF	14	Sleeve	PVC	PVC
4	Ball	CF8M / 316	CF8M / 316	15	Bolts	304 SS	304 SS
5	Stem	316 SS	316 SS	16	Washer	304 SS	304 SS
6*	Body gasket	PTFE	PTFE	17	Nuts	304 SS	304 SS
7*	Washer	PTFE+15%GF	PTFE+15%GF	18*	O-ring	FPM	FPM
8*	Packing	PTFE	PTFE	19	Retaining ring	304 SS	304 SS
9	Spacer	304 SS	304 SS	20	Antistatic	316 SS	316 SS
10	B washer	301 SS	301 SS	21	Spring	304 SS	304 Ss
11	Lever	Inox 304	304 SS	*Items provided in the maintenance kit			



DIMENSIONS (mm)

DN	A	B (G)	B (SW)	B1 (BW)	C	D	E	F	F1	G	H	J1	SW
1/2"	16	75	75	75	70,9	110	21,9	17	22,4	25,2	42,3	42	9
3/4"	20	80	80	90	73,4	110	27,2	22	28,2	27,7	44,8	42	9
1"	24,5	90	90	100	84,1	135	34,0	28	33,7	33,0	54,0	50	11
1"1/4	32	110	110	110	89,3	135	42,7	37	44,0	41,2	59,2	50	11
1"1/2	38	120	120	125	109,5	165	48,8	43	50,8	49,3	73,5	70	14
2"	50	140	140	150	118,9	165	61,3	54	62,6	63,6	82,9	70	14

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 / Email : sectoriel@sectoriel.fr	Pages	2/7
		Ref.	TDS737XS+SA03-D ENG
		Rev.	02
		Date	03/2024

737XS VALVE WITH SA03 ELECTRIC ACTUATOR

SA 03 ELECTRICAL MOTORISATION

Suggested standard actuation for SA03 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 of 10 bar ($=\Delta P$),

Direct mounting of the electric actuator.

DN	Actuator	Power	Intensity 230V AC	Intensity 24V AC-DC	Time*	Standard equipment of the actuator
1/2"	SA 03	3 W	0,8 A	0,8 A	8 s	2 adjustable limit switches 2 dry auxiliary switches 2 W anti-condensation heater Actuator thermal cut-out Declutching lever Manual override by key Backlit position indicator Electrical connection: 1 gland pack. M20x1.5
3/4"	SA 03	3 W	0,8 A	0,8 A	8 s	
1"	SA 03	3 W	0,8 A	0,8 A	8 s	
1"1/4	Refer to 737 XS + SA 05 actuator					
1"1/2						
2"						

For any other operating conditions, please contact us.

* indicative time for actuator running empty

MOTORISATION OPTION

1	100 mm high stem extension for pipe insulation
---	--

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 / Email : sectoriel@sectoriel.fr	Pages	3/7
		Ref.	TDS737XS+SA03-D ENG
		Rev.	02
		Date	03/2024

737XS VALVE WITH SA03 ELECTRIC ACTUATOR

ASSEMBLY AND MAINTAINANCE INSTRUCTIONS

1 – Installation

1.1 - Checks

- Check that the material of the valve body is chemically compatible with the fluid.
- Check that the pressure and service conditions are compatible with the (P, T) diagram of the valve. See § “Service limits”
- Check that the fluid is clean and free of particles. The latter could scratch the ball and damage the seats, hence causing the valve to leak. If need be, install an upstream filter.
- Check that there is no risk of thermal expansion of the fluid, which could damage the seats. In the open position, a hole at the top of the ball balances the pressures between the body cavity and the flow of the fluid. As an option, we recommend a relief hole upstream of the valve for equalising the pressures for fluids such as ammonia, LPG, chlorine, etc.
- Check that the valve is not used for flow or pressure control since it is not intended for this use and there is a risk of premature wear of the seats, in particular in the event of high pressure and/or temperature. For this special application, preferably use our “V-port” version with a V-shaped hole in the ball. Please contact us.
- Check that the valve is not used on a gas which might condense at certain times during the process. In such a case, the pressure within the body cavity could become negative, which could lead to a significant deformation of the seats. Please contact us.
- Static electricity: the valve will be supplied with a ball-stem-body internal electrical continuity tester. If the service conditions require the electrical continuity of the installation, check its earthing.
- If the valve is installed in an explosive zone, you must follow the additional “IMEVMATEX” instructions.

1.2 - Storage before installation

- Follow our general “IMESTOCK” instructions for storage.
- Check that the tie-bolts of the valves were not loosen during transport.

1.3 - Installation

- Before any installation, isolate the piping upstream and downstream, depressurize the piping and bring the installation to ambient temperature. Carefully clean the piping of any particle (foreign body, dust, rust, etc.) or shavings by water rinsing or air blowing.
- Remove the protective tips from the valve ends.
- Check the cleanliness of the internal surfaces of the valve and if need be, clean them.
- Direction of mounting: the valves do not have a preferred direction of mounting, unless a relief hole was drilled into the ball.
- Check the perfect alignment and the proper support of the pipe installation upstream and downstream of the valve. Alignment defects cause mechanical deformations which can block the valve or lead to leaks at the body gaskets.

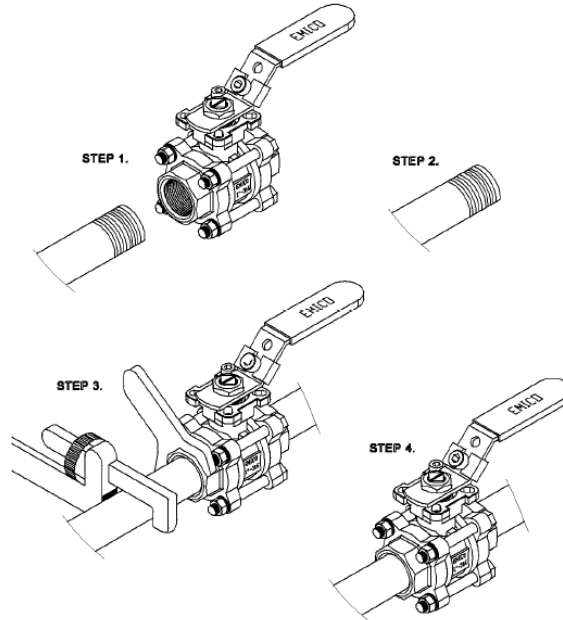
Information given as an indication only, and subject to possible modifications

	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 / Email : sectoriel@sectoriel.fr	Pages	4/7
		Ref.	TDS737XS+SA03-D ENG
		Rev.	02
		Date	03/2024

737XS VALVE WITH SA03 ELECTRIC ACTUATOR

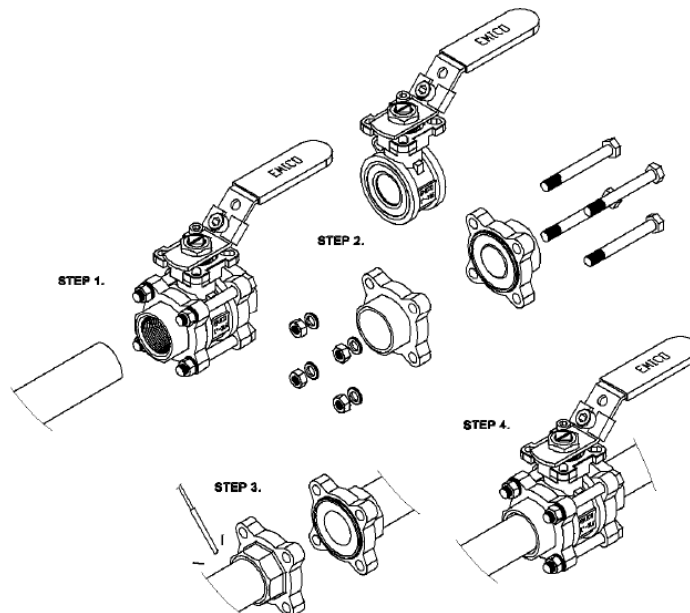
○ Threaded valve connection:

- Check that the standards for the valve internal thread and pipe thread are the same.
- Cover the pipe threads using a sealing material (tow, PTFE tape, sealing glue, etc.) which is suitable for the fluid.
- Screw the tube into the valve end clockwise, as shown in the diagram below.
- Check the sealing of the connection using a suitable test (hydrostatic test or leak detection spray).



○ Connection of weld-on valves:

- Remove the end (items 2) by unscrewing the tie-bolts, and remove the central body.
- Weld each end onto the upstream or downstream pipe, following the alignment of the tie-bolt holes.
- Cool down to the room temperature the welded ends, then put back the central body complying with the tightening torques shown in the table below.
- Check the sealing of the connection using a suitable test (hydrostatic test or leak detection spray).



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 / Email : sectoriel@sectoriel.fr		Pages	5/7
			Ref.	TDS737XS+SA03-D ENG
			Rev.	02
			Date	03/2024

737XS VALVE WITH SA03 ELECTRIC ACTUATOR

- Hydraulic test of the installation
 - Valves were tested at the factory at 1.5 x WP.
 - If a hydrostatic test is carried out on the installation, do not exceed the authorised pressure.

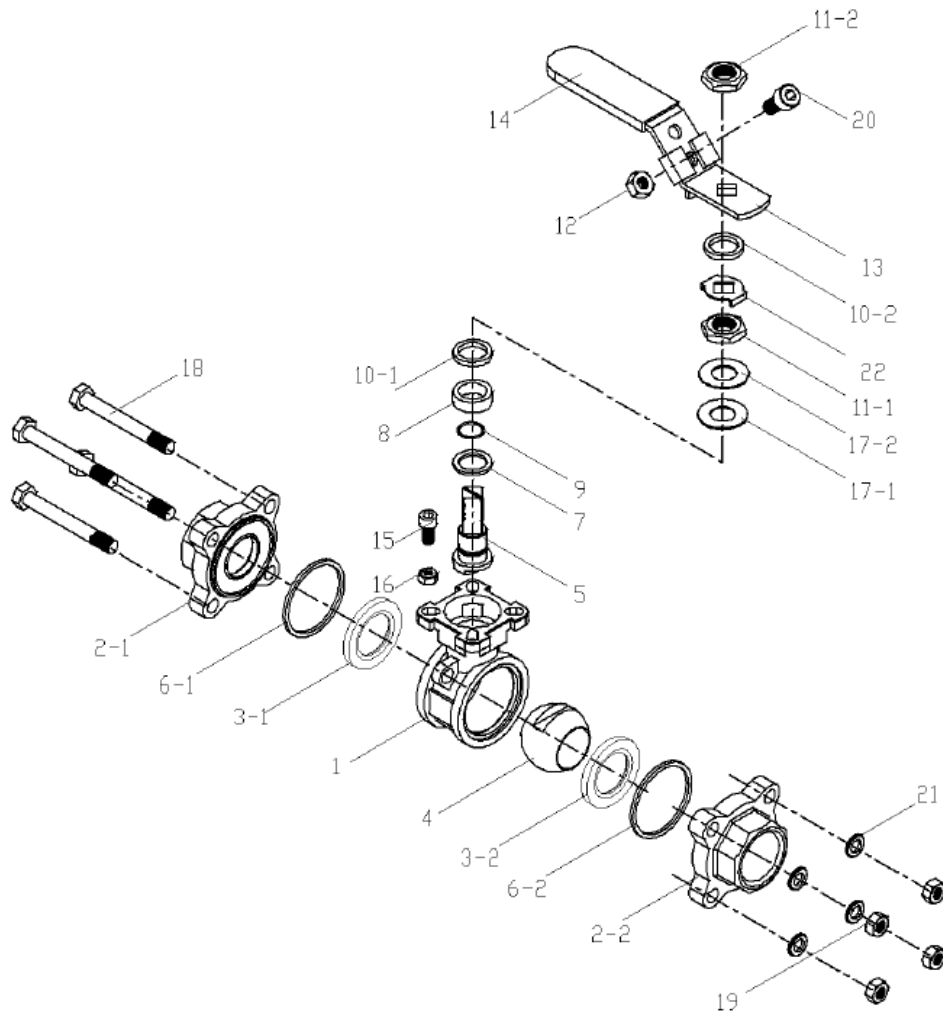
2 - Service

- If a hot fluid flows across the valve, do not touch the valve surface.
- Always operate the valve slowly and smoothly.
- Opening clockwise, closing anti-clockwise.

3 - Servicing

3.1 - Frequency of servicing

- The servicing frequency depends upon the use of the valve, of the type of fluid, of its velocity, of its frequency of operation, of the cycles of rise and fall in pressure and temperature.
- Before any intervention, isolate the upstream and downstream pipe installation using the valves provided for this purpose. Depressurize the pipe installation and bring it to ambient temperature.
- If the lever has to be removed, do that before disassembling the body.
- To remove the central body, unscrew the tie-bolts symmetrically. Then gently remove the central part avoiding to drop the ball.
- To remove the ball from the body, turn the stem by a quarter turn.



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 / Email : sectoriel@sectoriel.fr	Pages	6/7
		Ref.	TDS737XS+SA03-D ENG
		Rev.	02
		Date	03/2024

737XS VALVE WITH SA03 ELECTRIC ACTUATOR

3.2 - Inspecting the state of the valve and possible repair

- Check the state of the ball (Item 4): it has to be clean and unscratched. If the cleaning or polishing is not possible, replace it (see the § on spare parts).
- Check the state of the seats (3.1 and 3.2): they must not be deformed, nor scratched, nor worn, or dirty. Otherwise, replace them with parts from the gasket kit.
- Check the state of the packing gland (7.8 and 9): no leak should be found at the stem and the rings should not be excessively worn. If need be, replace the gaskets.
- Check the state of the body gaskets (6.1 and 6.2). Replace them if necessary.
- Reassemble the different parts of the valve, following the tightening torques shown in the table below.
- Check that the stem manoeuvring is smooth. Perform about ten manoeuvres.

TABLE OF THE TIGHTENING TORQUES OF THE TIE-BOLTS AND OF THE LEVER NUT

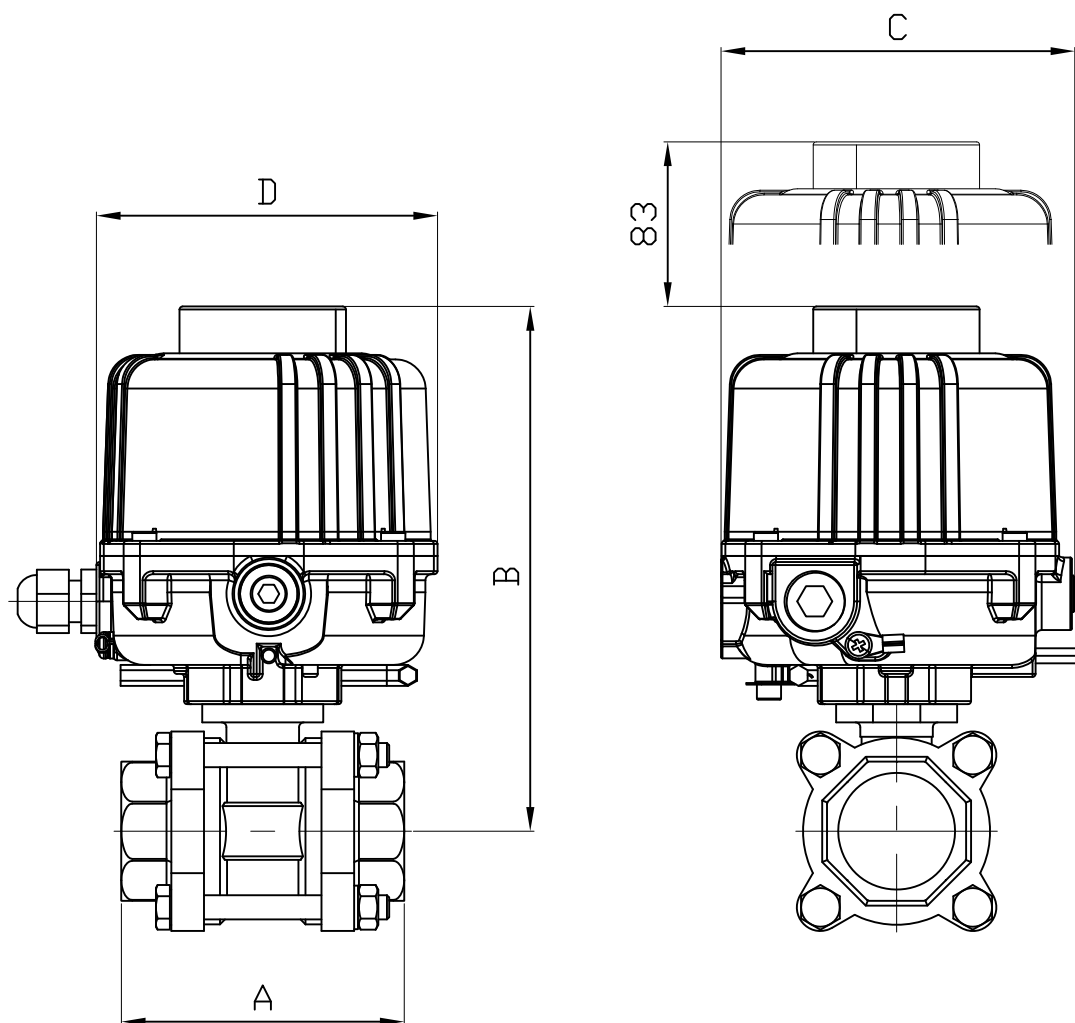
DN	Tie-bolts	Torque (Nm)	Lever nut (Nm)
1/2" - 15	M6	10	4
3/4" - 20	M8	20	4
1" - 25	M8	20	4.5
1"1/4 - 32	M10	35	4.5
1"1/2 - 40	M10	35	5.5
2" - 50	M10	40	5.5

SPARE PARTS

DN	Gasket kit	Ball	V30° ball	V60° ball	Tie-bolt kit	Handle
Reference mark	6-7-8-18	4	4	4	15-16-17	11
1/2" - 15	982872	980032	980042	980052	982832	982802
3/4" - 20	982873	980033	980043	980053	982833	982802
1" - 25	982874	980034	980044	980054	982834	982804
1"1/4 - 32	982875	980035	980045	980055	982835	982804
1"1/2 - 40	982876	980036	980046	980056	982836	982806
2" - 50	982877	980037	980047	980057	982837	982806

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 / Email : sectoriel@sectoriel.fr	Pages	7/7
		Ref.	TDS737XS+SA03-D ENG
		Rev.	02
		Date	03/2024



DN	1/2"	3/4"	1"
SERVO	SA03	SA03	SA03
A	75	80	90
B	173.5	176.3	185.5
C	117	117	117
D	113	113	113
KG	2.21	2.2	3.1

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

Ech: /	Date :06/09/2019	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 737XSD/BALL VALVE 737XSD + SERVOMOTEUR SA03/ ELECTRIC ACTUATOR SA03				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Plan n° Ens 1382		

SA 03 ELECTRIC ACTUATOR

FEATURES

The SA03 electric actuator is intended for motorising under on/off operation the 1/4 turn valves with a torque of at most 30 Nm. With a compact construction and epoxy-coated aluminium housing, it is especially well suited for motorising small diameter ball valves. Backlit dome position indicator. IP67 leak-tightness: it can be used both indoors and outdoors. Compliant with the EN 15714-2 standard.

AVAILABLE MODELS

Supply voltages: 230V AC and 24V AC/DC

LIMITS OF USE

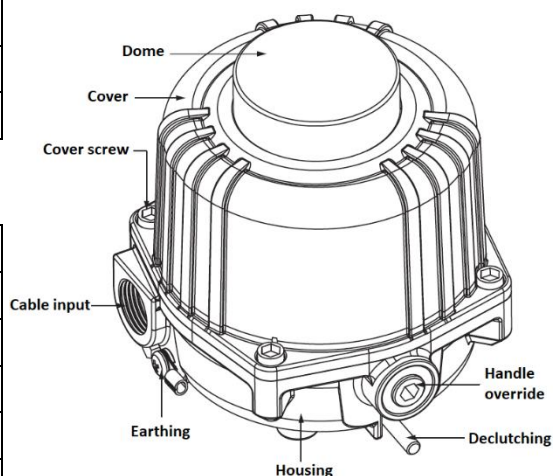
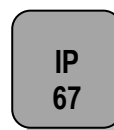
IP Code	IP 67
Ambient temperature	- 20°C / + 70°C
Service factor	<u>S2</u> : 15 minutes / <u>S4</u> : 50%

MECHANICAL FEATURES

Gear box	treated steel pinions	
Torque	30 Nm	
Angle of rotation	90° +/- 5°	
Manoeuvring time	24V AC/DC	230V AC
	<u>AC</u> : 9 s / <u>DC</u> : 7 s	12 s
ISO 5211	F03 / F05 star 11	
Declutching	key-controlled	
Override control	using a 6 mm hex key	
Weight	1.5 kg	

ELECTRICAL FEATURES

Power	18 W	
Current	24V AC/DC	230V AC
	0.8 A	0.1 A
Motor protection	thermal	
Limit switches	2 adjustable switches	
Auxiliary switches	2 adjustable dry switches 250V AC 5A	
Anti-condensation	2x1.5W heater	
Electrical connection	2 x M20 x 1.5 (one PE and one plug provided)	



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

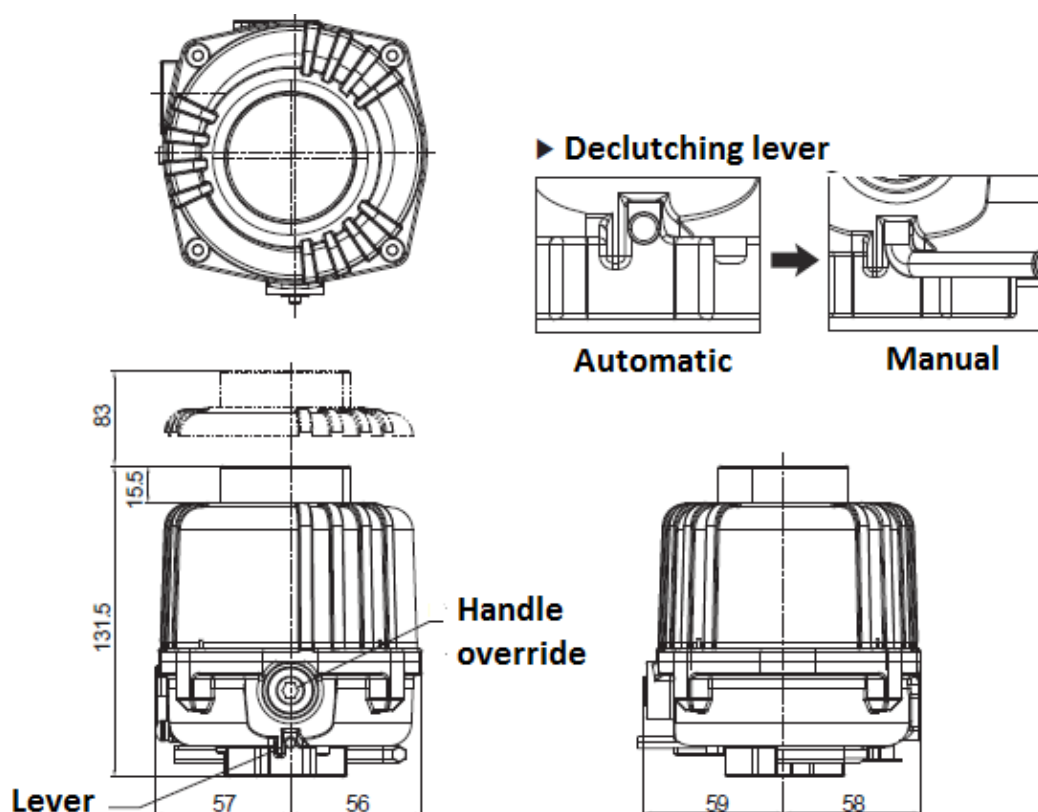


SECTORIEL S.A.
45 rue du Ruisseau
38290 SAINT QUENTIN-FALLAVIER – FRANCE
Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95
www.sectoriel.com / Email: sectoriel@sectoriel.fr

Pages	1/5
Ref.	FT23000 ENG
Rev.	06
Date	05/2023

SA 03 ELECTRIC ACTUATOR

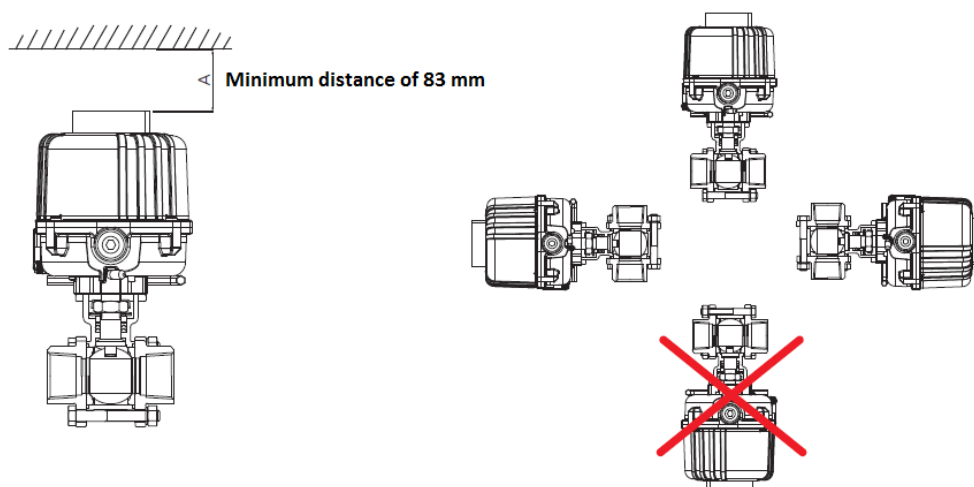
DIMENSIONS (mm)



CONSTRUCTION

No.	Item	Material
1	Housing	Epoxy-coated aluminium alloy
2	Cover	Epoxy-coated aluminium alloy
3	Cover screw	Stainless steel
4	Dome	polycarbonate

ASSEMBLY POSITIONS



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

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email: sectoriel@sectoriel.fr	Pages	2/5
		Ref.	FT23000 ENG
		Rev.	06
		Date	05/2023

SA 03 ELECTRIC ACTUATOR

GUARANTEE

Before any contact with our services, identify the type of actuator.

SECTORIEL actuators have a 12-month guarantee from the delivery date. The parts admitted as faulty 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.

VERIFICATIONS AND ACCEPTANCE

At acceptance, check that:

- the packaging is in good condition,
- the actuator is as ordered,
- the equipment is not damaged.

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 must be in a dry place protected from weather.

PRECAUTIONS FOR OPERATION

Before installing, make sure that the installation is completely depressurized and brought to ambient temperature.

Do not install this actuator in a zone classified as explosive (ATEX).

The IP Code of the actuator is IP67 for interior or exterior mounting. Do not install this actuator in a marine environment and do not immerse it.

The actuator must not be powered during installation and maintenance of the valve on the pipework, and of the actuator on the valve.

Before proceeding to the electrical connection, check the supply voltage of the actuator.

Do not mount the actuator in series or in parallel with other electrical motors. If need be, use relays.

Do not mount the actuator on valves with higher torque than the nominal torque of the actuator.

INSTALLATION AND OPERATION

Install the actuator on the valve (already done for the units assembled in our workshops)

Perform the electrical wiring as shown on the diagram below

Adjust the switch stops (already done for the units assembled in our workshops).

View the movement of the valve using the indicator light on the cover.

SA03 actuator: to use the manual override, first disconnect the electrical power, then turn the hollow hex-head screw with a hex key.

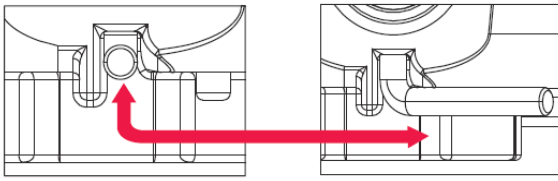
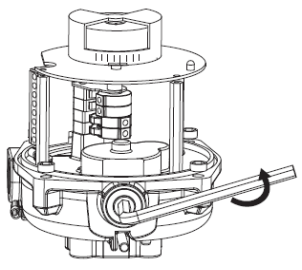
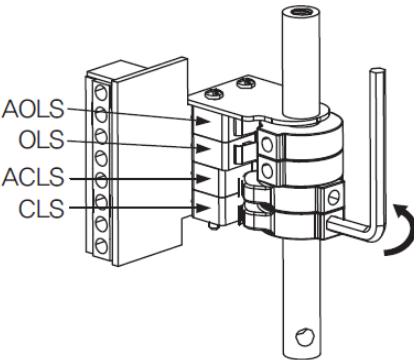
Reposition the manual override after use.

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

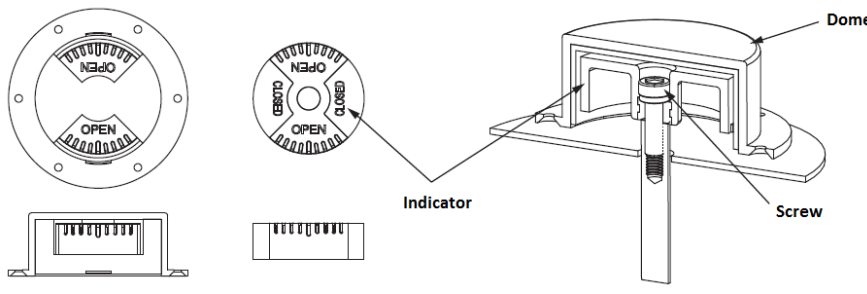
	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email: sectoriel@sectoriel.fr	Pages	3/5
		Ref.	FT23000 ENG
		Rev.	06
		Date	05/2023

SA 03 ELECTRIC ACTUATOR

SWITCH SETTING

1. Switch the actuator to manual mode	2. Turn the key to bring the valve, successively, in the open and closed positions, and to set the switches as shown below.							
 Auto Manual								
	The cams are attached to the drive stem							
	Clockwise rotation = valve closing. The micro-switch stops the actuator.							
	Anti-clockwise rotation = valve opening. The micro-switch stops the actuator.							
	<table> <tr> <td>CLS</td><td>Closing switch</td></tr> <tr> <td>OLS</td><td>Opening switch</td></tr> <tr> <td>ACSL</td><td>Auxiliary closing switch</td></tr> <tr> <td>OCSL</td><td>Auxiliary opening switch</td></tr> </table>	CLS	Closing switch	OLS	Opening switch	ACSL	Auxiliary closing switch	OCSL
CLS	Closing switch							
OLS	Opening switch							
ACSL	Auxiliary closing switch							
OCSL	Auxiliary opening switch							

SETTING THE POSITION INDICATOR

	The position of the valve is indicated by the indicator. If its alignment is incorrect, remove the cover and proceed to its setting by unscrewing the attachment screw.
--	--

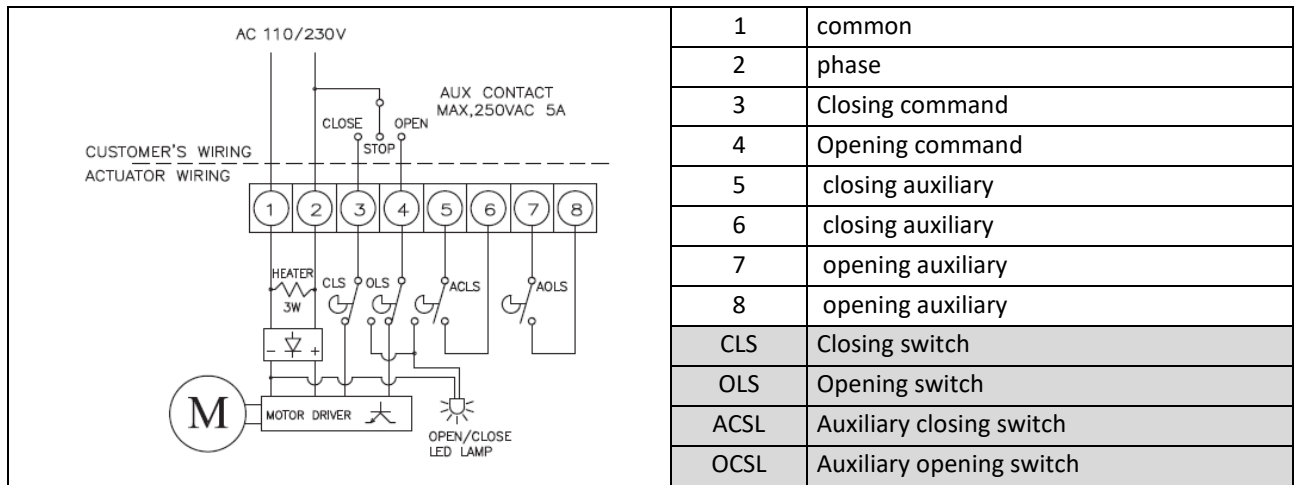
Information given as an indication only, and subject to possible modifications

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email: sectoriel@sectoriel.fr	Pages	4/5
		Ref.	FT23000 ENG
		Rev.	06
		Date	05/2023

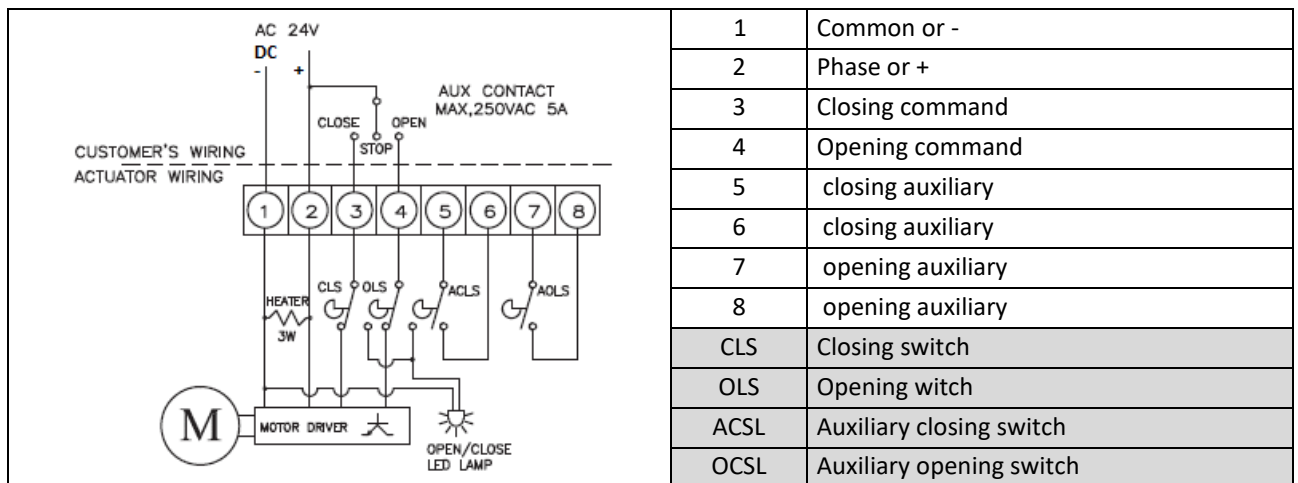
SA 03 ELECTRIC ACTUATOR

ELECTRICAL WIRING

Wiring for 110/230V AC voltages



Wiring for 24V AC/DC voltages



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

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email: sectoriel@sectoriel.fr	Pages	5/5
		Ref.	FT23000 ENG
		Rev.	06
		Date	05/2023