

# 513-514 VALVES WITH SA03 and SA05 ELECTRIC ACTUATOR

1/4" up to 1" with SA03 actuator ~ 1.1/4" up to 2" with SA05 actuator

Notice:SA05 Actuator from page 10

## CHARACTERISTICS

The 513+SA03 L-port and 514+SA03 T-port stainless steel 3-way ball valves are dedicated to the mixing, diverting or automatic discharging of industrial unloaded fluids. It is a reduced bore ball valve. With EC and the French ACS certification, it is suitable for drinking water applications. The ISO 5211 pad allows a direct mounting of the SA actuator. It is perfectly suitable for an indoor or outdoor industrial use.

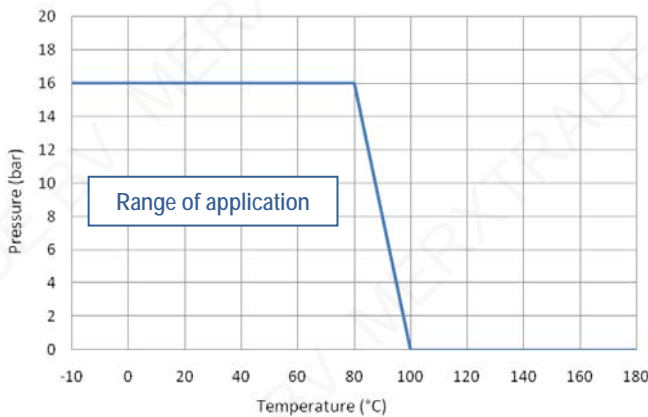
## AVAILABLE ITEMS

Brass body – reduced bore  
 Size ¼" to 1"  
 BSP threaded connections  
 Voltage: 24 V DC, 24 V AC and 230 V AC



## LIMITS OF USE

Max. allowable pressure (PS)	16 bar
Min./max. allowable temperature (TS)	-10 °C / +100 °C
Room temperature	-10 °C / +70 °C
Service	S2 – 50%



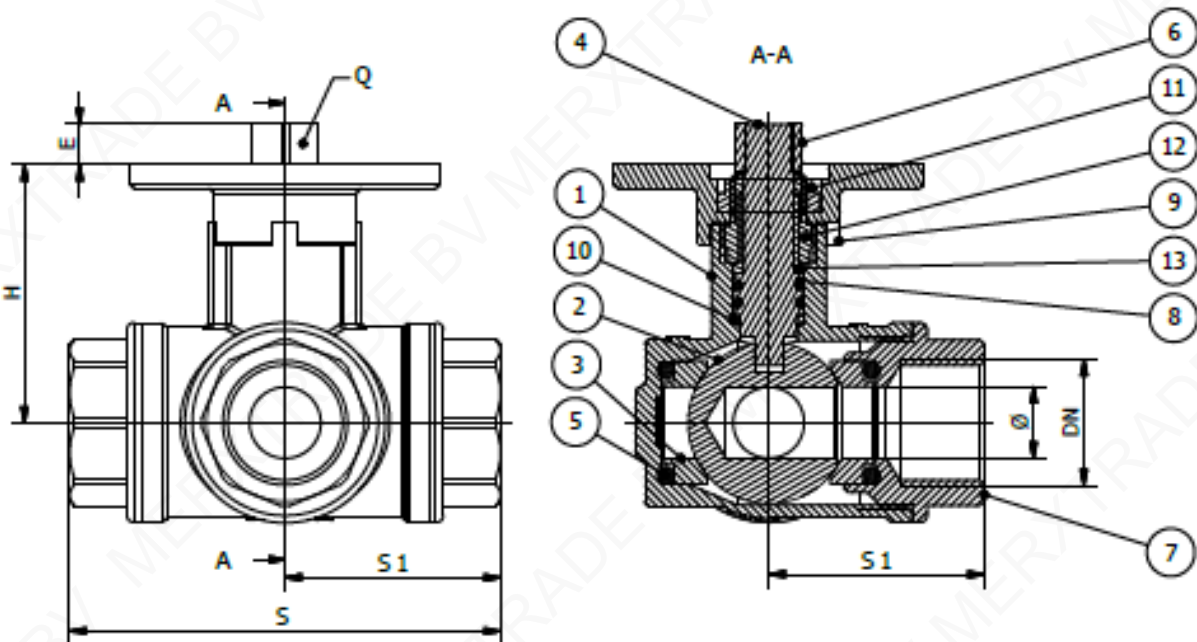
## DIRECTIVES AND DEVELOPMENT STANDARDS APPLICABLE

	Standard	Notified bodies		Standard
97/23/EC Pressure Equipment Directive	¼" to 1" : excluded		Actuator attachments	ISO 5211
	1" ¼ to 2" : category II	PASCAL#1115		
Drinking water application	ACS 08 ACC LY 074	CARSO		

## 513-514 VALVES WITH SA03 ELECTRIC ACTUATOR

### CONSTRUCTION

#	Item	Material	#	Item	Material
1	Body	CW 617N brass	8	O-ring	FPM
2	Ball	CW 614N brass	9	ISO pad 5211	CW 617N brass
3	Seat	PTFE	10	Anti-friction ring	PTFE
4	Stem	CW 614N brass	11	Nut	CW 614N brass
5	O-ring	FPM	12	Nut	CW 614N brass
6	Square drive	CW 614N brass	13	Anti-friction sleeve	PTFE
7	End	CW 617N brass			



### DIMENSIONS (mm)

DN	¼"	3/8"	½"	¾"	1"	1" ¼	1" ½	2"
S	76	76	82	90	106	120	142	165
S1	38	38	41	45	53	60	71	82.5
∅	10	10	10	15	20	25	32	40
P	18	18	17	18,5	20	23.5	28.5	32
H	50.5	50.5	50.5	53.5	63	67	73	80
E	8	8	8	10	10	12	12	12
Q	11	11	11	11	11	14	14	14
ISO	F05	F05	F05	F05	F05	F05/F07	F05/F07	F05/F07

## 513-514 VALVES WITH SA03 ELECTRIC ACTUATOR

### ELECTRIC ACTUATION WITH SA03

Suggested standard SA actuation under the following conditions:

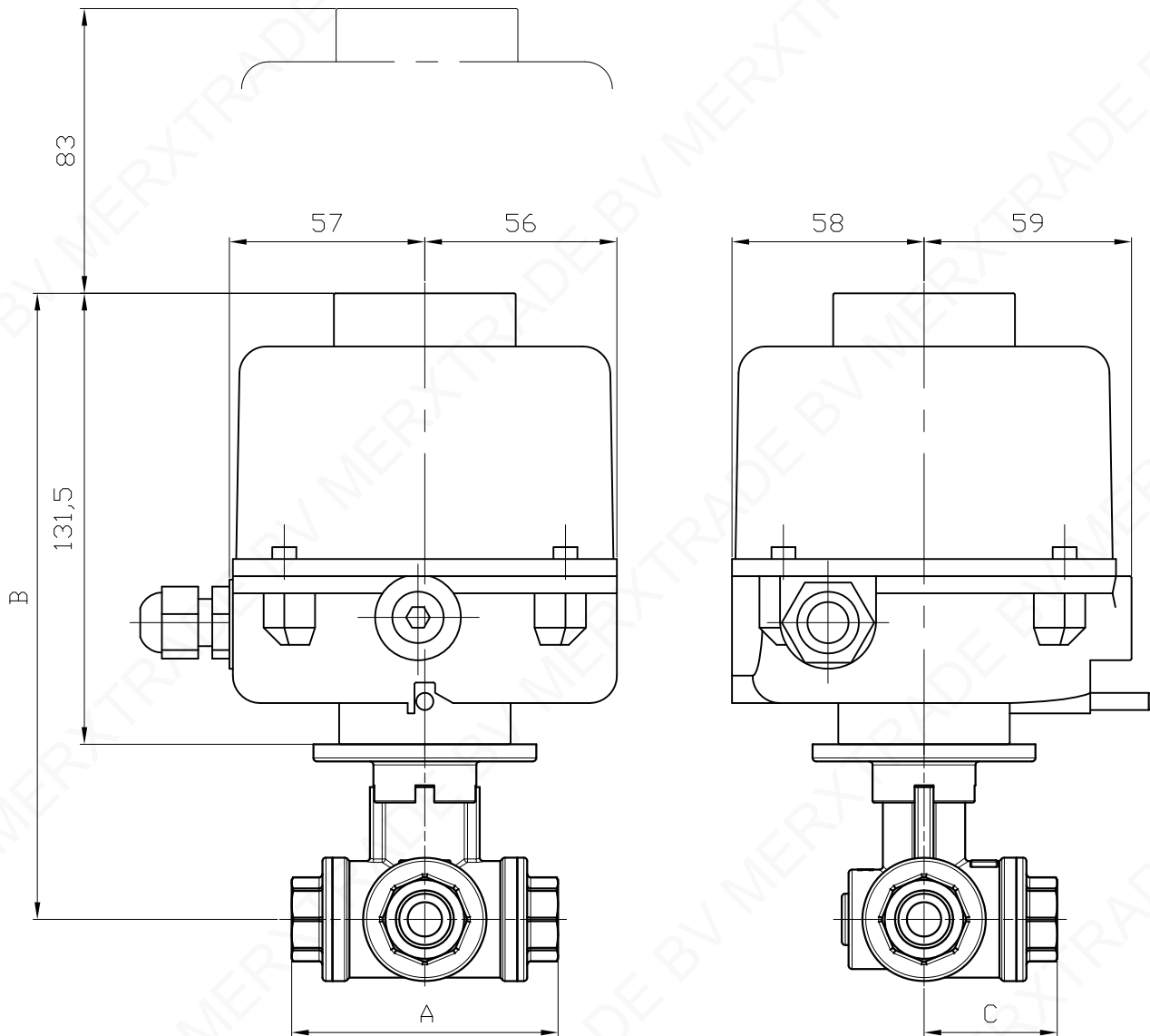
- Electric actuator with an IP 67 epoxy coated aluminium enclosure and steel gears
- A minimum 1.3 safety factor compared with the valve nominal torque rating,
- A maximum pressure differential up/downstream of 10 bar (=ΔP)

Direct mounting of the electric actuator

DN	Actuator	Power	Intensity 230 V AC	Intensity 24 V AC/DC	Operating Time*	Standard equipment of the actuator	
¼"	SA03	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 by lever Manual override by key Backlit position indicator Electrical connection: 1 gland pack. M20x1.5	
3/8"	SA03	3 W	0.8 A	0.8 A	8 s		
½"	SA03	3 W	0.8 A	0.8 A	8 s		
¾"	SA03	3 W	0.8 A	0.8 A	8 s		
1"	SA03	3 W	0.8 A	0.8 A	8 s		
1" ¼"	Refer to 513-514 + SA05 version						
1" ½"							
2"							

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

For any other working conditions, please contact us.



DN	1/4"	3/8"	1/2"	3/4"	1"
A	76	78	82	90	106
B	182	182	182	185	194.5
C	38	39	41	45	53
KG	2.28	2.28	2.28	2.43	2.95

## ELECTRIC ACTUATOR SA03

### GENERAL CHARACTERISTICS

The SA03 electric actuator is dedicated to the actuation of  $\frac{1}{4}$  turn valve. The maximum torque value is 30 Nm. With a compact design, a cast aluminium enclosure with an epoxy protection, it is especially adapted to the actuation of small diameter valves. It is equipped with a backlit position indicator. Protection IP67: can be used indoor or outdoor. The SA03 complies with the EN 15714-2 standard.

### AVAILABLE ITEMS

Voltage: 230 V AC, 24 V AC, 24 V DC



### LIMITS OF USE

Protection rating	IP 67
Temperature range	-20 °C / +70 °C
Service	S2 - 15 minutes / S4 - 70%

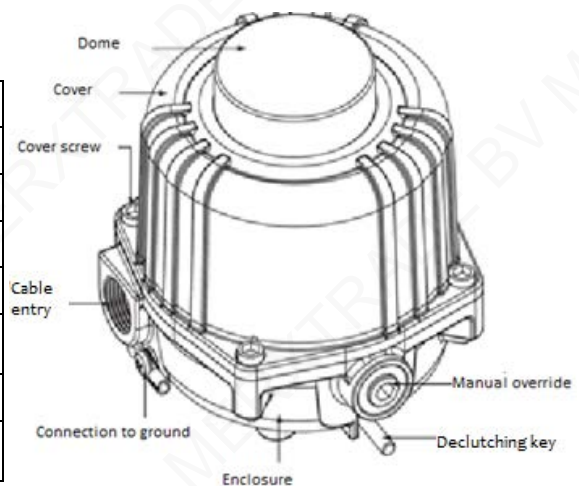
### MECHANICAL CHARACTERISTICS

Gears	Treated steel pinions		
Torque	30 Nm		
Rotation angle	90° +/- 5°		
Operating time	24 V DC	24 V AC	230 V AC
	7 s	9 s	12 s
ISO 5211 pad	F03/F05 star 11		
Declutching	Declutching key		
Manual override	6mm Allen key		
Weight	1.5 kg		



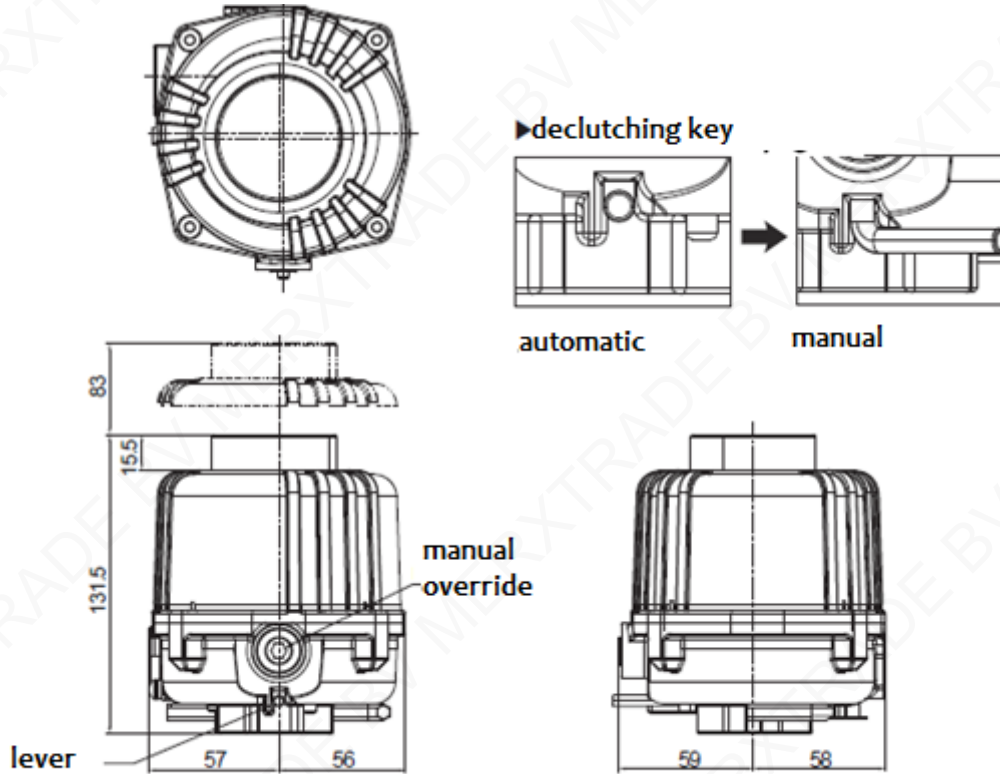
### ELECTRICAL CHARACTERISTICS

Power	3 W		
Intensity	24 V DC	24 V AC	230 V AC
	0.8 A	1 A	0.1 A
Motor Protection	Thermal cut-out		
Limit switches	2 adjustable switches		
Auxiliary switches	2 dry adjustable switches 250 V AC 5 A		
Anti-condensation	Heater 2x1.5 W		
Electrical connection	2 x M20 x 1.5 (supplied with 1 cap and 1 gland pack)		



## ELECTRIC ACTUATOR SA03

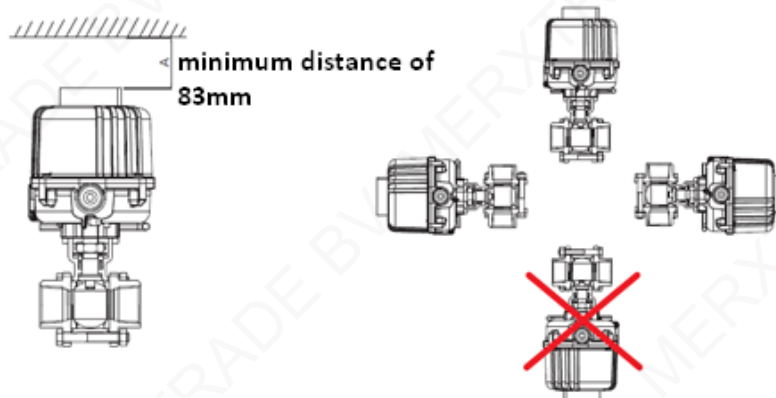
### DIMENSIONS (mm)



### CONSTRUCTION

#	Item	Material
1	Enclosure	Epoxy coated aluminium alloy
2	Cover	Epoxy coated aluminium alloy
3	Cover screws	Stainless steel
4	Dome	Polycarbonate

### ASSEMBLY POSITIONS



## ELECTRIC ACTUATOR SA03

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### WARRANTY

Before contacting us, please make sure to identify the type of actuator.

The SECTORIEL actuators are guaranteed 12 months after the delivery date. The defective pieces, after our expertise, will be replaced at our own expense. We will not accept any claim of damage caused by a wrong use or modification of the actuator.

### CHECK UPON DELIVERY

When delivered, please check:

- The quality of the package
- The conformity of the actuator to the ordered one
- The possible damages

It is recommended to install the electric actuator right after the delivery and not to leave it without using it. If the device is stored, it has to be in a dry and sheltered place.

### PRECAUTIONS FOR USE

Before installation, please check that the device is depressurized and at room temperature.

Do not install in an explosive area.

For an indoor and an outdoor installation, the actuator protection class is IP 67. Do not immerse the actuator nor install it in a marine environment.

Do not connect the actuator to the electricity supply during the installation or during the maintenance of the valve on the pipe or of the actuator on the valve.

Check the input voltage of the actuator before connecting.

Do not connect the actuator in parallel or in series with others. If necessary, use relays.

Do not install the actuator on valves with a higher rating than the nominal torque of the actuator.

### INSTALLATION AND USE

Mount the actuator on the valve (already done for actuated valve provided by ourselves).

Connect as indicated on the below electrical wiring scheme.

Adjust the limit switches (already done for actuated valve provided by ourselves).

Check the valve movement using the dome located on top of the cover.

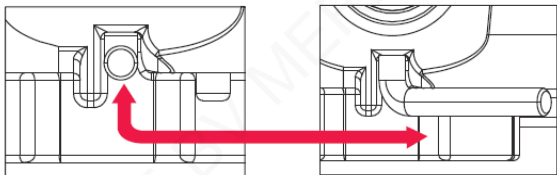
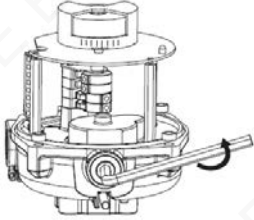
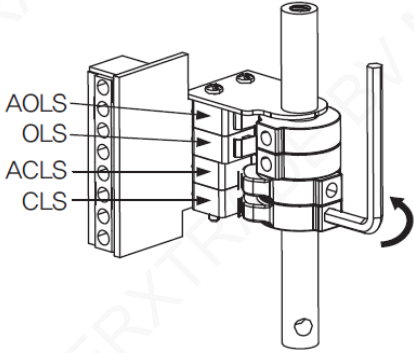
#### **Emergency manual override:**

Please, before using the emergency manual override, disconnect the power supply and declutch the motor with the declutching key. Then, rotate the hexagonal drive thanks to the corresponding Allen key.

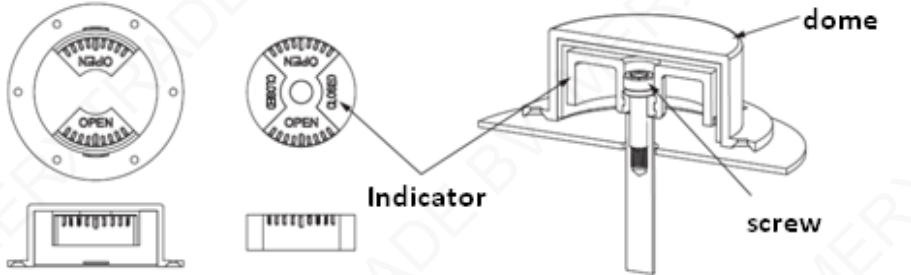
Reposition the declutching key after use.

## ELECTRIC ACTUATOR SA03

### LIMIT SWITCHES ADJUSTMENT

<p>1. Switch the electric actuator to manual mode (using the declutching key)</p>	<p>2. Use the Allen key to open and close the valve and to adjust the limit switches as indicated below</p>								
 <p style="text-align: center;">Auto                      Manual</p>									
	<p>The cams are attached on the drive shaft</p> <p>Clockwise rotation = closing of the valve. The micro-switch stops the electric actuator.</p> <p>Anti-clockwise rotation = opening of the valve. The micro-switch stops the electric actuator.</p> <table border="1" data-bbox="831 1220 1425 1379"> <tr> <td><b>CLS</b></td> <td>Closing contact</td> </tr> <tr> <td><b>OLS</b></td> <td>Opening contact</td> </tr> <tr> <td><b>ACSL</b></td> <td>Auxiliary closing contact</td> </tr> <tr> <td><b>OCSL</b></td> <td>Auxiliary opening contact</td> </tr> </table>	<b>CLS</b>	Closing contact	<b>OLS</b>	Opening contact	<b>ACSL</b>	Auxiliary closing contact	<b>OCSL</b>	Auxiliary opening contact
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<b>OLS</b>	Opening contact								
<b>ACSL</b>	Auxiliary closing contact								
<b>OCSL</b>	Auxiliary opening contact								

### POSITION INDICATOR ADJUSTMENT

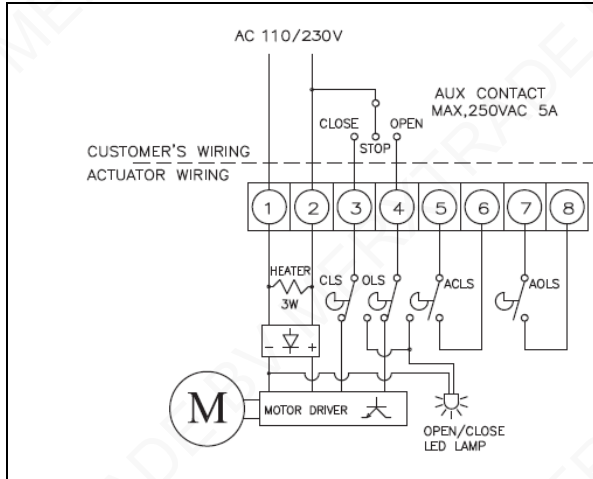
	<p>The valve position is shown by the indicator.</p> <p>If it is not aligned correctly, remove the cover and adjust it by unscrewing the fixing screw.</p>
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# ELECTRIC ACTUATOR SA03

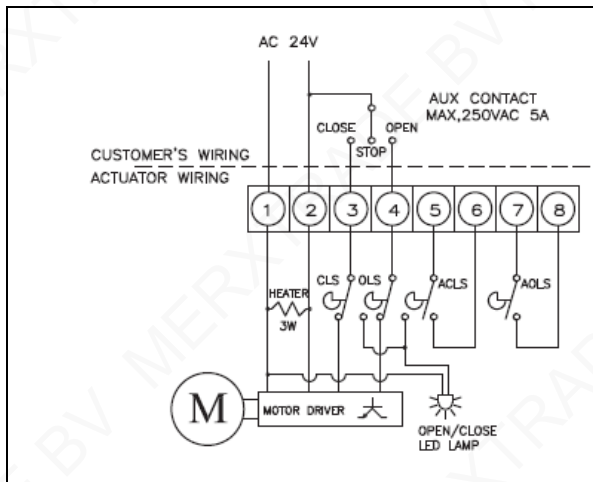
## ELECTRICAL WIRING Wiring

for 110/230 V AC voltage



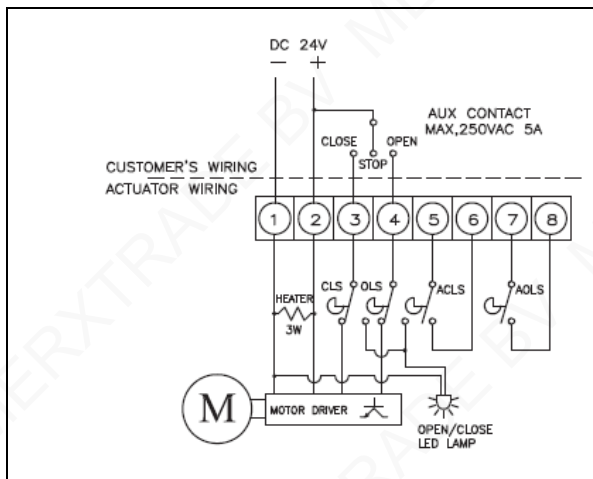
1	Common
2	Phase
3	Closing control
4	Opening control
5	Auxiliary closing
6	Auxiliary closing
7	Auxiliary opening
8	Auxiliary opening
CLS	Switch closing
OLS	Switch opening
ACSL	Auxiliary switch closing
OCSL	Auxiliary switch opening

Wiring for 24 V AC voltage



1	Common
2	Phase
3	Closing control
4	Opening control
5	Auxiliary closing
6	Auxiliary closing
7	Auxiliary opening
8	Auxiliary opening
CLS	Switch closing
OLS	Switch opening
ACSL	Auxiliary switch closing
OCSL	Auxiliary switch opening

Wiring for 24 V DC voltage



1	+
2	-
3	Closing control
4	Opening control
5	Auxiliary closing
6	Auxiliary closing
7	Auxiliary opening
8	Auxiliary opening
CLS	Switch closing
OLS	Switch opening
ACSL	Auxiliary switch closing
OCSL	Auxiliary switch opening

## 513-514 VALVES WITH SA05 ACTUATOR

### CHARACTERISTICS

The 513+SA05 L-port and 514+SA05 T-port stainless steel 3-way ball valves are dedicated to the mixing, diverting or automatic discharging of industrial unloaded fluids. It is a reduced bore ball valve. With EC and the French ACS certification, it is suitable for drinking water applications. The ISO 5211 pad allows a direct mounting of the SA actuator. It is perfectly suitable for an indoor or outdoor industrial use.

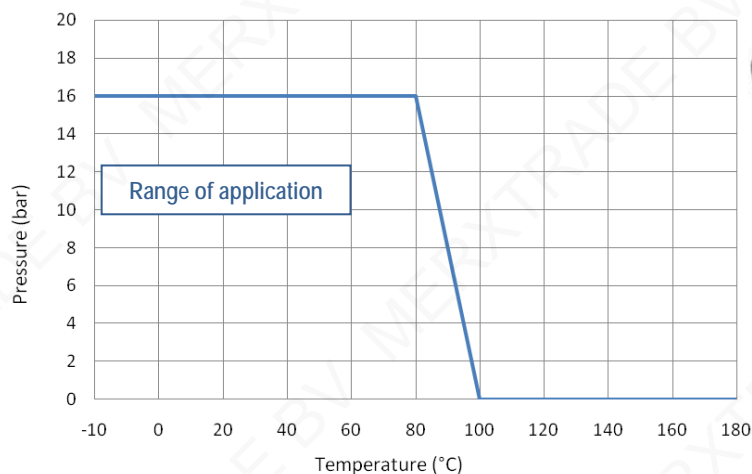
### AVAILABLE ITEMS

Brass body – reduced bore  
 Size ¼" to 2"  
 BSP threaded connections  
 Voltage: 24 V DC, 24 V AC and 230 V AC



### LIMITS OF USE

Max. allowable pressure (PS)	16 bar
Min./max. allowable temperature (TS)	-10 °C / +100 °C
Room temperature	-10 °C / +70 °C
Service	S2 – 50%



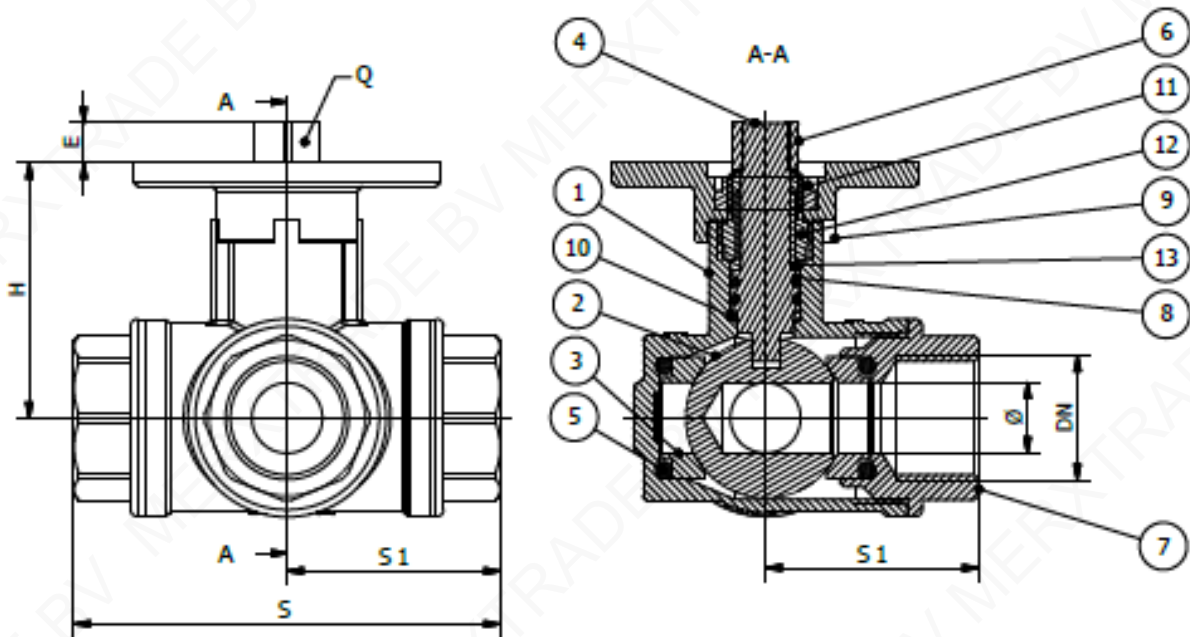
### DIRECTIVES AND DEVELOPMENT STANDARDS APPLICABLE

	Standard	Notified bodies	Standard
97/23/EC Pressure Equipment Directive	¼" to 1" : excluded		Actuator attachments ISO 5211
	1" ¼ to 2" : category II	PASCAL#1115	
Drinking water application	ACS 08 ACC LY 074	CARSO	

## 513-514 VALVES WITH SA05 ACTUATOR

### CONSTRUCTION

#	Item	Material	#	Item	Material
1	Body	CW 617N brass	8	O-ring	FKM
2	Ball	CW 614N brass	9	ISO pad 5211	CW 617N brass
3	Seat	PTFE	10	Anti-friction ring	PTFE
4	Stem	CW 614N brass	11	Nut	CW 614N brass
5	O-ring	FKM	12	Nut	CW 614N brass
6	Square drive	CW 614N brass	13	Anti-friction sleeve	PTFE
7	End	CW 617N brass			



### DIMENSIONS (mm)

DN	¼"	3/8"	½"	¾"	1"	1" ¼	1" ½	2"
S	76	78	82	90	106	120	142	165
S1	38	39	41	45	53	60	71	82,5
Ø	10	10	10	15	20	25	32	40
P	18	18	17	18,5	20	23,5	28,5	32
H	50,5	50,5	50,5	53,5	63	67	73	80
E	8	8	8	10	10	12	12	12
Q	11	11	11	11	11	14	14	14
ISO	F05	F05	F05	F05	F05	F05	F05/F07	F05/F07

## 513-514 VALVES WITH SA05 ACTUATOR

### ELECTRIC ACTUATION WITH SA05

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 of 10 bar (=ΔP)

Direct mounting of the electric actuator




DN	Actuator	Power	Intensity 230 V AC	Intensity 24 V AC/DC	Operating Time*	Standard equipment of the actuator
¼"	SA05	6 W	23 mA	1.8 mA	17 s	2 adjustable limit switches 2 dry auxiliary switches 2 W anti-condensation heater Actuator thermal cut-out Manual override by key Backlit position indicator Electrical connection: 2 gland packs. M20x1.5
3/8"	SA05	6 W	23 mA	1.8 mA	17 s	
½ "	SA05	6 W	23 mA	1.8 mA	17 s	
¾ "	SA05	6 W	23 mA	1.8 mA	17 s	
1"	SA05	6 W	23 mA	1.8 mA	17 s	
1" ¼	SA05	6 W	23 mA	1.8 mA	17 s	
1" ½	SA05	6 W	23 mA	1.8 mA	17 s	
2"	SA05	6 W	23 mA	1.8 mA	17 s	

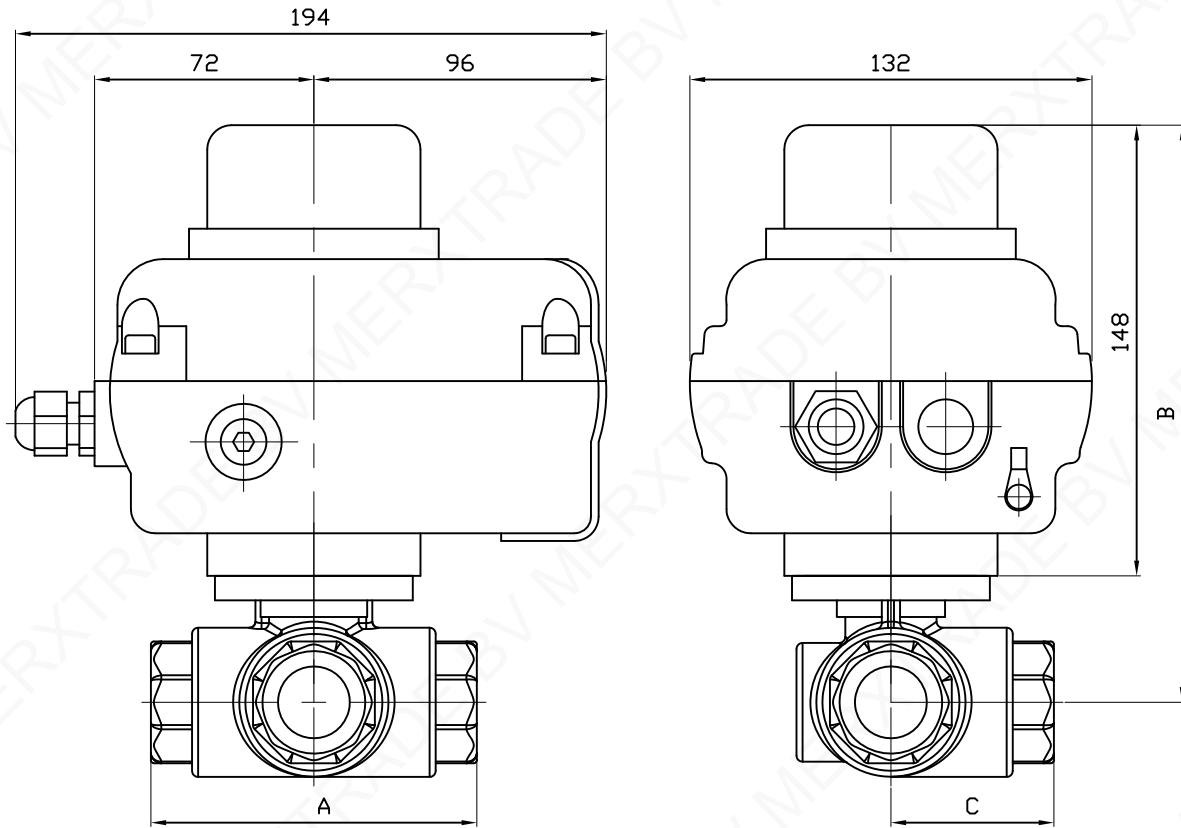
\*Unloaded operating time given for information purpose only. May vary depending on the medium

For any other working conditions, please contact us.

### ACTUATION OPTIONS

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

1	2	3
SA05S: Slow closing electric actuator 70 s	SA05PCU: Regulation actuator 4-20 mA or 0-10 V	SA05RBP: Safety actuator with an integrated battery emergency shutdown
		
4	SAPUI electric actuator with feedback potentiometer	
5	100 mm stem extension for pipe insulation (see 500HC model)	
6	Electric actuator sized for a maximum pressure differential up/downstream over 10 bar (=ΔP)	
7	NA electric actuator with a declutchable manual override by handwheel	



DN	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	76	78	82	90	106	120	142	165
B	198.5	198.5	198.5	201.5	211	215	221	228
C	38	39	41	45	53	60	71	82.5
KG	3.58	3.58	3.58	3.73	4.25	4.73	7	8.8

## ELECTRIC ACTUATOR SA05

### GENERAL DESCRIPTION

The SA05 electric actuator is dedicated to the actuation of industrial ¼ turn valve. The torque value is 50 Nm. With a compact design, an IP 67 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 SA05 is equipped with a visual 3D position indicator and a manual override driven by an Allen key. It complies with the EN 15714-2 standard.

### AVAILABLE ITEMS

Voltage: 230 V AC (50-60 Hz), 24 V AC/DC and 12 V DC



### LIMITS OF USE

Protection rating	IP 67
Temperature range	-20 °C / +70 °C
Service	S2 - 70%

### MECHANICAL CHARACTERISTICS

Gears	Treated steel pinions
Torque	50 Nm
Rotation angle	90° +/-5°
Declutching	N/A
Manual override	Allen key (except for SA05S)



Electric actuator	SA05			SA05S	
	Voltage	230 V AC	24 V AC/DC	12 V DC	230 V AC
Torque	50 Nm				
Operating time	17 s	17 s	17 s	100 s	100 s
ISO 5211 pad	F03/F05/F17 star 14				

### ELECTRICAL CHARACTERISTICS

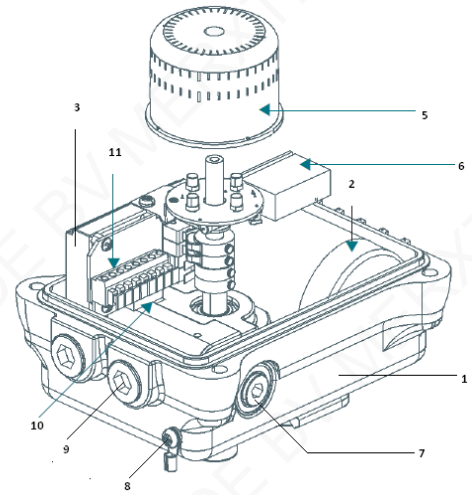
Motor protection	Thermal cut-out	Anti-condensation	2 W heater
Limit switches	2 adjustable switches	Electrical connection	2 gland packs M20x1.5
Auxiliary switches	2 adjustable dry switches		

Electric actuator	SA05			SA05S	
	Voltage	230 V AC	24 V AC/DC	12 V DC	230 V AC
Power	6 W	15 W	15 W	6 W	6 W
Intensity	0.24 A	1.8 A	3.6 A	0.24 A	1.8 A

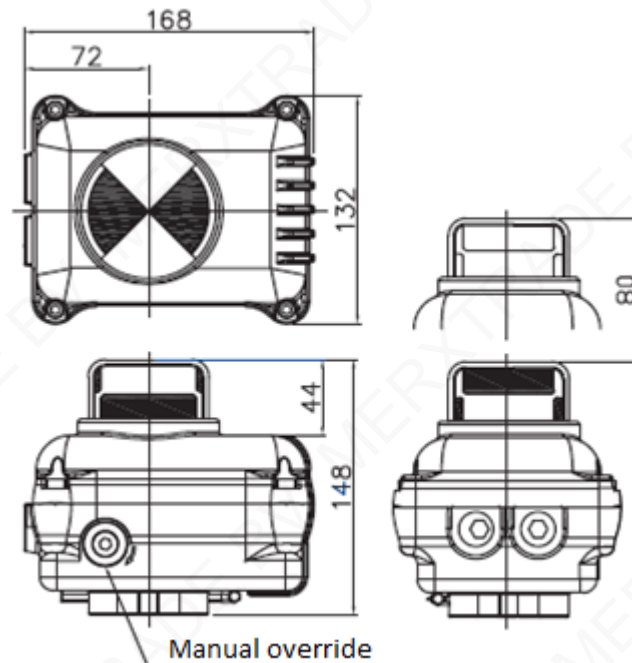
## ELECTRIC ACTUATOR SA05

### CONSTRUCTION

1	Enclosure	Polyester coated aluminium
2	Electric motor	
3	Gear	Treated steel pinions
4	Cover	Polyester coated aluminium
5	Position indicator	Polycarbonate plastic
6	Condenser	
7	Manual override	
8	Connection to ground	
9	Cable inlet	
10	Anti-condensation heater	
11	Terminal block	



### DIMENSIONS (mm)



# ELECTRIC ACTUATOR SA05

## WIRING SCHEME 230 V AC

1	Common	<div style="display: flex; justify-content: space-between;"> <div style="font-size: 8px;"> <p>CLS : CLOSE LIMIT SWITCH (250VCA 3A)                      OLS : OPEN LIMIT SWITCH (250VCA 3A)                      ACLS : AUX. CLOSE LIMIT SWITCH (250VCA 3A)                      AOLS : AUX. OPEN LIMIT SWITCH (250VCA 3A)                      TP : THERMAL PROTECTOR</p> </div> <table border="1" style="font-size: 8px;"> <thead> <tr> <th>SWITCH</th> <th>CLOSE</th> <th>OPEN</th> </tr> </thead> <tbody> <tr> <td>CLS</td> <td></td> <td></td> </tr> <tr> <td>OLS</td> <td></td> <td></td> </tr> <tr> <td>ACLS</td> <td></td> <td></td> </tr> <tr> <td>AOLS</td> <td></td> <td></td> </tr> </tbody> </table> </div>	SWITCH	CLOSE	OPEN	CLS			OLS			ACLS			AOLS		
SWITCH	CLOSE		OPEN														
CLS																	
OLS																	
ACLS																	
AOLS																	
2	Anti-condensation heater																
3	Closing control																
4	Opening control																
5	Auxiliary switch closing																
6	Auxiliary switch closing																
7	Auxiliary switch opening																
8	Auxiliary switch opening																

## WIRING SCHEME 24 V AC/DC

1	Common or +	<div style="display: flex; justify-content: space-between;"> <div style="font-size: 8px;"> <p>CLS : CLOSE LIMIT SWITCH (250VCA 3A)                      OLS : OPEN LIMIT SWITCH (250VCA 3A)                      ACLS : AUX. CLOSE LIMIT SWITCH (250VCA 3A)                      AOLS : AUX. OPEN LIMIT SWITCH (250VCA 3A)                      TP : THERMAL PROTECTOR                      RM : MOTOR REGULATOR</p> </div> <table border="1" style="font-size: 8px;"> <thead> <tr> <th>SWITCH</th> <th>CLOSE</th> <th>OPEN</th> </tr> </thead> <tbody> <tr> <td>CLS</td> <td></td> <td></td> </tr> <tr> <td>OLS</td> <td></td> <td></td> </tr> <tr> <td>ACLS</td> <td></td> <td></td> </tr> <tr> <td>AOLS</td> <td></td> <td></td> </tr> </tbody> </table> </div>	SWITCH	CLOSE	OPEN	CLS			OLS			ACLS			AOLS		
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CLS																	
OLS																	
ACLS																	
AOLS																	
2	Closing control																
3	Opening control																
4	Auxiliary switch closing																
5	Auxiliary switch opening																
6	Auxiliary common																
7-8	Anti-condensation heater power supply																

## OPTIONS

1	SA05X: ATEX area version
2	SA05PIU: feedback potentiometer version
3	SA05CPT: 4-20 mA position transmitter version
4	SA05PCU: 0-10, 2-10 V, 2-20 mA, 4-20 mA regulation card version
5	SA05LCU: local control version
6	SA05RBP: integrated battery emergency shutdown device version