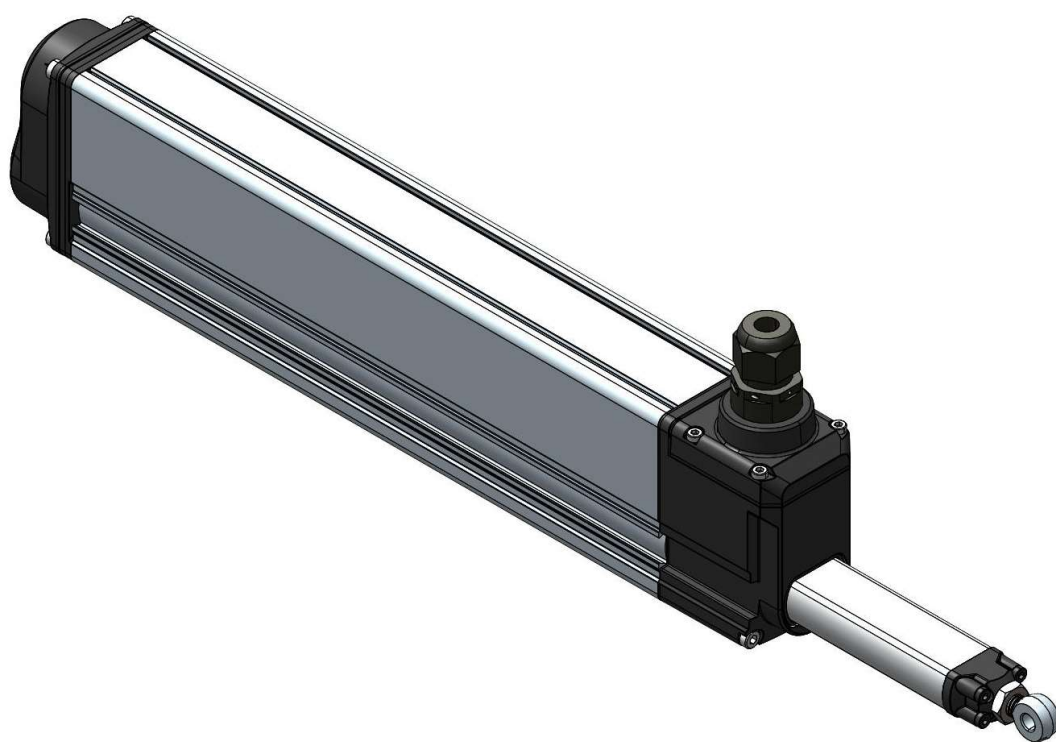


**ROD ACTUATOR FOR  
WINDOWS AUTOMATION**

**S80**



*original instructions*



**COD. 0P5361**

**VER.0.0**

**REV.01.20**

**BEFORE INSTALLING AND USING THE ACTUATOR, IT IS  
COMPULSORY FOR THE INSTALLER AND THE USER TO READ  
AND UNDERSTAND THIS MANUAL IN ALL ITS PARTS.**

**THIS MANUAL IS INTEGRAL PART OF THE ACTUATOR  
AND MUST BE PRESERVED FOR FUTURE REFERENCE  
UNTIL DEMOLITION OF THE SAME.**



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## 1- EC DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

ORIGINAL



The undersigned, in the name of and  
behalf of the following company

**Topp S.r.l.**  
**Via Galvani, 59**  
**36066 Sandrigo (VI)**  
**Italia**

herewith declares that the person authorised to compile the technical file is

Name: Plaza Trinidad- Topp S.r.l.

Address: via Galvani, 59 36066 Sandrigo (VI)

and that to the partly completed machinery

### **ACTUATOR FOR WINDOW AUTOMATION RWA ACTUATOR FOR WINDOW AUTOMATION**

Type: S80  
Model: S80/230V - S80/24V - S80/24V RWA

the following essential requisites of the

**2006/42/EC Machinery Directive (including all applicable amendments)**

have been applied and fulfilled: Enclosure I: 1.5.1; 1.5.2; 1.5.10; 1.5.11

that the relevant technical documentation is compiled in accordance with part B of Annex VII of the above  
mentioned Machinery Directive..

The above identified partly completed machinery is also in conformity with the all the relevant provisions of the  
following directives (including all applicable amendments)

**EMC Directive 2014/30/EU**

**RoHS II Directive 2011/65/EU**

The following harmonised standards have been applied:

**EN 60335-2-103:2015 (applicable parts)**

**EN 55014-1:2006 + A1:2009 + A2:2011**

**EN 55014-2:2015**

**EN 61000-6-2:2005.**

**EN 61000-6-3:2007 + A1:2011 + AC:2012.**

**EN 50581:2012**

**EN 12101-2:2017 (only for RWA):** 4.5 class "B30030"; 4.6.1 "SL 0"; 4.6.2 "T(-15)"; 4.6.3 "WL1500";  
4.7 "Re1000".

and the following technical documents:

**EN 62233:2008**

The undersigned also undertakes the obligation, in response to a duly reasoned request by the national market  
surveillance authorities, to transmit to the a.m. authorities, in electronic or paper format, the relevant technical  
documentation on the partly completed machinery.

The above identified partly completed machinery must not be put into service until the final machinery into which  
it is to be incorporated has been declared in conformity with the provisions of the above mentioned Machinery  
Directive.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

**Date:** Sandrigo 20/11/2019

**Signature:** Matteo Cavalcante  
Amministratore



## 2.1- GENERAL INSTRUCTIONS



**BEFORE INSTALLING AND USING THE ACTUATOR, IT IS COMPULSORY THAT THE INSTALLER AND THE USER CAREFULLY READ AND UNDERSTAND THIS MANUAL IN ALL ITS PARTS.**



**THIS MANUAL IS INTEGRAL PART OF THE ACTUATOR AND MUST COMPULSORILY BE PRESERVED FOR FUTURE REFERENCE.**



**THE MANUFACTURER HAS NO LIABILITY FOR ANY EVENTUAL DAMAGE TO PERSONS, ANIMALS AND THINGS DUE TO THE INOBSERVANCE OF THE PRESCRIPTIONS DESCRIBED IN THIS MANUAL.**



**IN ORDER FOR THE AUTOMATION UNIT TO OPERATE CORRECTLY, WE RECOMMEND CARRYING OUT PERIODICAL MAINTENANCE ON IT, AS INDICATED IN PAR. 7 OF THIS MANUAL.**



**THE WARRANTY ON THE ACTUATOR WILL NOT BE HONORED IF PRODUCT IS NOT INSTALLED AND USED ACCORDING TO THE INSTRUCTIONS PROVIDED AND THE REGULATIONS SHOWN IN THIS INSTRUCTION MANUAL AND IF IT IS USED WITH NONGENUINE PARTS, ACCESSORIES, SPARE PARTS AND/OR CONTROL/FEEDING UNITS.**

## 2.2- INSTALLER AND USER



**THE ACTUATOR INSTALLATION CAN BE PERFORMED EXCLUSIVELY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL SATISFYING THE PROFESSIONAL AND TECHNICAL REQUIREMENTS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.**



**THE INSTALLATION TECHNICIAN SHALL ACCEPT FULL RESPONSIBILITY FOR ANY INSTALLATION ERRORS AND FOR ANY FAILURE TO ADHERE TO THE INSTRUCTIONS PROVIDED IN THIS MANUAL. THE INSTALLATION TECHNICIAN SHALL THEREFORE BE EXCLUSIVELY LIABLE FOR ANY DAMAGES CAUSED TO USERS AND/OR THIRD PARTIES THAT MAY ARISE AS A RESULT OF INCORRECT INSTALLATION.**



**THE ACTUATOR CAN BE USED EXCLUSIVELY BY A USER ACTING IN COMPLIANCE WITH THE INSTRUCTIONS CONTAINED IN THIS MANUAL AND/OR IN THE MANUAL OF THE ACTUATOR CONTROL DEVICE (E.G.: CONTROL UNIT).**

## 2.3- TECHNICAL ASSISTANCE

Contact the installation technician or retailer for assistance.

## 2.4- RESERVED RIGHTS

The reserved rights on this manual "Installation and use instructions" remain property of the Manufacturer. Each information herein contained (text, drawings, diagrams, etc.) is reserved.

None part of this manual can be reproduced and disclosed (totally or partially) by any reproduction means (photocopies, microfilms or other) without written authorization of the Manufacturer.

## 2.5- DESCRIPTION OF PERSONNEL



**USERS MUST NEVER PERFORM OPERATIONS RESERVED FOR MAINTENANCE PEOPLE OR SPECIALISED TECHNICIANS. THE MANUFACTURER DECLINES ALL LIABILITY FOR DAMAGE DERIVING FROM FAILURE TO OBSERVE THE ABOVE REQUIREMENTS.**

### **Specialised electrician:**

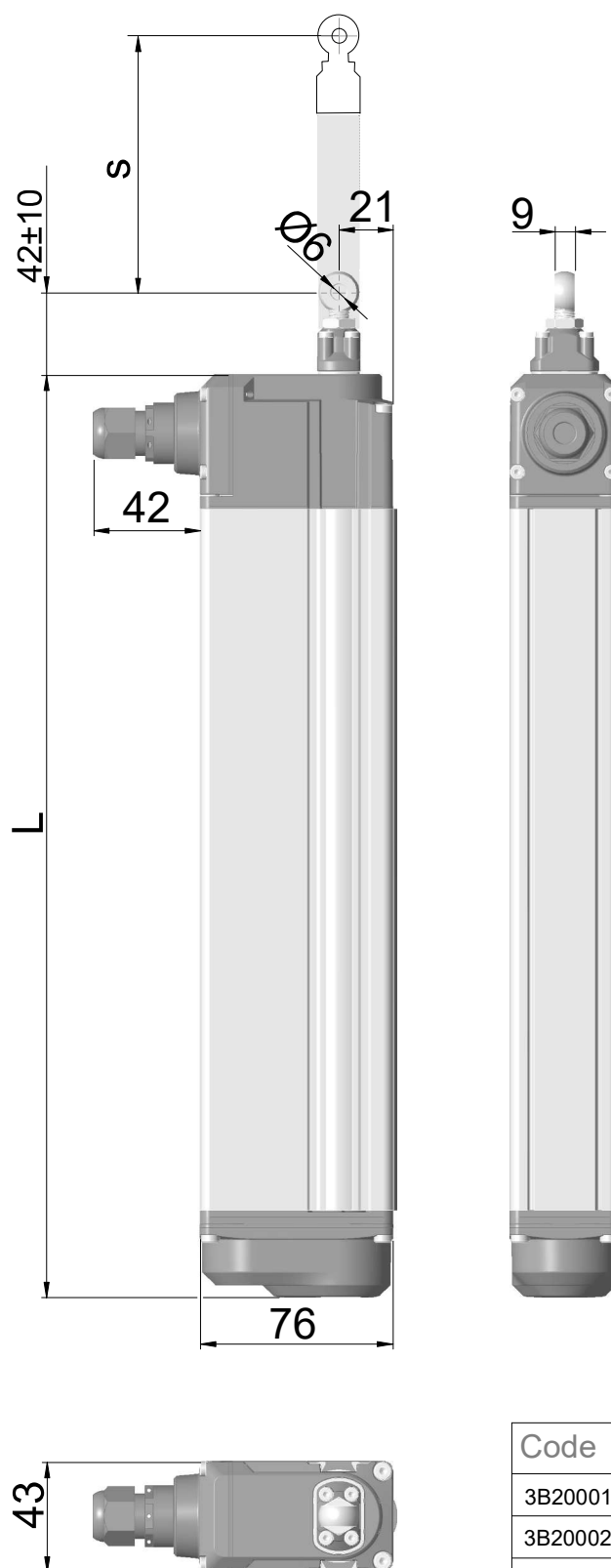
A specialised electrician must be able to install the actuator, start it and operate it both in normal conditions and in the maintenance mode; he/she is qualified to perform all electrical and mechanical adjustment and maintenance operations. He/she is allowed to work on live electrical cabinets and junction boxes.

### **User:**

specialised person capable of operating the actuator under normal conditions by using the relative controls. He/she must also be able to operate with the actuator under "maintenance" in order to perform simple routine maintenance operations (cleaning), and start or reset the actuator following an unscheduled stop.

## 3.1- DENOMINATION – DIMENSIONS- TECHNICAL DATA

Fig. 1



Code	Stroke(s)	L
3B20001	200	364
3B20002	400	564
3B20003	600	794
3B20004	800	1024
3B20005	1000	1224

Tab. 1

TECHNICAL DATA S80	STROKE (1) (mm)				
	200	400	600	800	1000
POWER SUPPLY VOLTAGE [ V ]	24V				
ABSORBED CURRENT [ A ]	1A	1A	1A	1A	1A
ABSORBED POWER WHEN LOAD [ W ]	24	24	24	24	24
PROTECTION AGAINST ELECTRIC SHOCK	CLASS II				
PROTECTION DEGREE OF ELECTRIC DEVICES (3)	IP68 (4)	IP68 (4)	IP65	IP65	IP65
PARALLEL ELECTRIC CONNECTION OF MORE ACTUATORS ON THE SAME WINDOWS	YES				
THRUST FORCE [ N ]	800	800	800	800	800
THRUST FORCE [ N ] (for dual purpose ventilator RWA)	400	400	-	-	-
TRACTIVE FORCE [ N ]	800	800	800	800	800
TRANSLATION SPEED [ mm/s ]	6,5	6,5	6,5	6,5	6,5
DURATION STROKE [ s ]	30	60	90	120	150
SERVICE TYPE S2 (2) [ min ]	3				
LIMIT SWITCH	MECANICAL/ELETTRONIC				
OPERATING TEMPERATURE	- 20°C to + 60°C				
GROSS WEIGHT [ kg ]	1,8	2,4	2,9	3,5	4

TECHNICAL DATA S80	STROKE (1) (mm)				
	200	400	600	800	1000
POWER SUPPLY VOLTAGE [ V ]	230V				
ABSORBED CURRENT [ A ]	0,2	0,2	0,2	0,2	0,2
ABSORBED POWER WHEN LOAD [ W ]	28	28	28	28	28
PROTECTION AGAINST ELECTRIC SHOCK	CLASS II				
PROTECTION DEGREE OF ELECTRIC DEVICES (3)	IP68	IP68	IP65	IP65	IP65
PARALLEL ELECTRIC CONNECTION OF MORE ACTUATORS ON THE SAME WINDOWS	YES				
THRUST FORCE [ N ]	800	800	800	800	800
TRACTIVE FORCE [ N ]	800	800	800	800	800
TRANSLATION SPEED [ mm/s ]	6,5	6,5	6,5	6,5	6,5
DURATION STROKE [ s ]	30	60	90	120	150
SERVICE TYPE S2 (2) [ min ]	3				
LIMIT SWITCH	MECANICAL/ELETTRONIC				
OPERATING TEMPERATURE	- 20°C to + 60°C				
GROSS WEIGHT [ kg ]	1,8	2,4	2,9	3,5	4

(1) Tolerance on the precision of limit switch tripping at output: +/- 1 mm

(2) Service of limited duration according to EN 60034

(3) The IP degree is guaranteed if the installation of the connector cover and the cable gland is done in a workmanlike manner.  
IP68 has been evaluated at a depth of 1m for 8h.

IP65 Actuators are not suitable for outdoor use

(4) The IP rating for RWA actuators is IP65

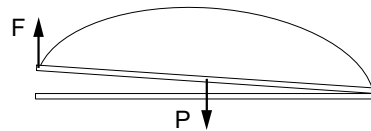
## 3.2-FORMULAS FOR THE CALCULATION OF THRUST AND TRACTIVE FORCE

**Fig. 2**

### Horizontal domes or skylights

F= Force necessary for opening or closing  
P= Weight of the skylight or dome  
(Only movable part)

$$F = 0,54 \times P$$

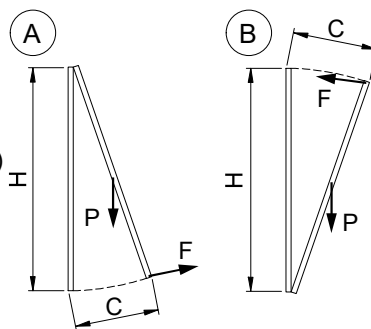


**Fig. 3**

### Top hung windows (A) or bottom hung windows (B)

F= Force necessary for opening or closing  
P= Weight of the window (Only movable part)  
C= Window opening stroke  
H= Window height (Only movable part)

$$F = (0,54 \times P) \times \left( \frac{C}{H} \right)$$



## 3.3- DESTINATION OF USE

The actuator has been designed and manufactured to perform, by means of a command device, the opening and closing of the windows.

The actuator can also be used to move windows louvers or sun blades.

**Application RWA:** The RWA actuator has been designed and manufactured to perform in case of emergency the opening of the window for safe discharge of the smoke. It must be installed in windows that opening outside and bottom hinged. According to EN 12101-2 / 2003.

## 3.4- USE LIMITS

The actuator has been designed and manufactured exclusively for the destination of use given in par. 3.3, therefore, any other type of use is strictly forbidden in order to assure in any moment the safety of the installer and of the user, as well as the efficiency of the actuator itself.

Check carefully all environmental conditions (temperature, humidity, wind, snow, potential chemical agents, etc.) and installation settings (misaligned fitting of brackets and attachment to the frame, frictions produced by hinges or gaskets, use of selfbalancing window stays, etc.) it is recommended that they not exceed the actuator performances shown in par.3.1. If they do, please find an alternative and more suitable product for your application.


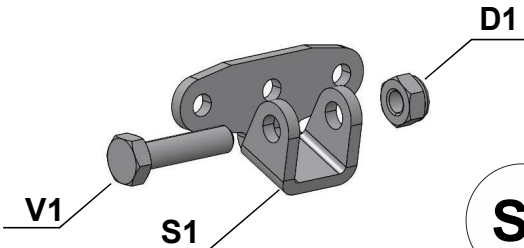
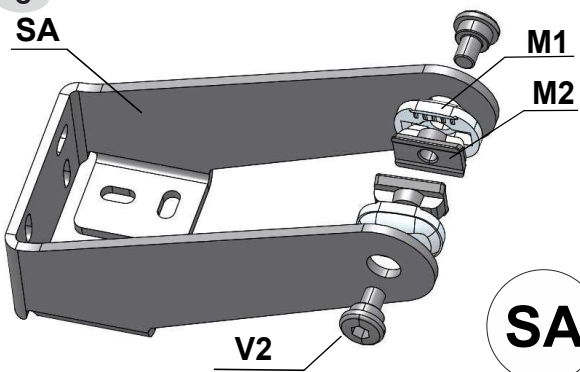
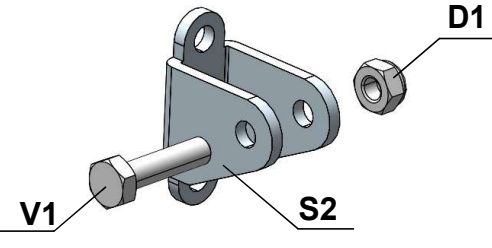
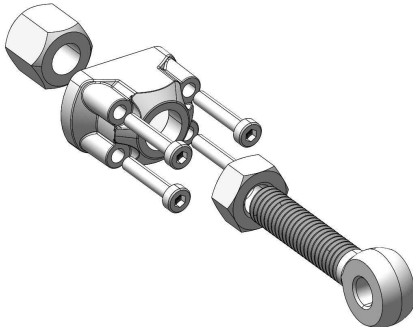

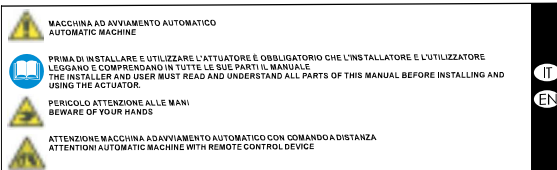


**THE USE OF THE ACTUATOR IN ENVIRONMENTS WITH POTENTIALLY EXPLOSIVE ATMOSPHERE IS STRICTLY FORBIDDEN.**



**IT IS COMPULSORY TO KEEP THE PACKAGE AND THE ACTUATOR OUT OF REACH OF CHILDREN.**

## 3.5- COMPONENTS

<b>Fig. 4</b>	
<b>Ref. A</b> 	
<b>Ref. B</b> 	<b>Ref. C</b> 
<b>Ref. D</b> 	<b>Ref. E</b> 
<b>Ref. F</b> 	<b>Ref. G</b> 

**3.6- RATING PLATE AND “CE” MARKING**

The “CE” marking certifies the compliance of the machine with the essential safety and health requirements foreseen by the product European Directives.

The rating plate is an adhesive plate in polyester, silk-screen printed in black, having the following size: L=24 mm - H=60 mm

It is applied externally on the actuator. The plate bears in readable and indelible way the following data:

- logo and address of the manufacturer
- type and model
- voltage and intensity of power supply (V - A)
- absorbed electric power P (W)
- thrust and tractive force F (N)
- type of service S2 (min)
- idle translation speed (mm/s)
- protection degree (IP)
- “CE” marking
- symbol of WEEE Directive 2002/96/CE
- symbol of double insulation (only for mod. S80/230V)
- serial number

**3.7- PACKAGE**

Each package of the product (**Fig. 4**) contains:

**Window opening application:**

- 1) Actuator (**Ref. A**);
- 2) Window mounting brackets **S1** and screws for aluminum (**Ref. B**);
- 3) Actuator bracket **SA** and screws for aluminum (**Ref. C**);
- 4) Installation and use instructions (**Ref.F**);
- 5) Safety plate (**Ref. G**).

or

**Sun blades or window louvers application:**

- 1) Actuator (**Ref. A**);
- 2) Window mounting brackets **S2** and screws for aluminum (**Ref. D**);
- 3) **T2** and screws (**Ref. E**);
- 4) Installation and use instructions (**Ref.F**);
- 5) Safety plate (**Ref. G**).



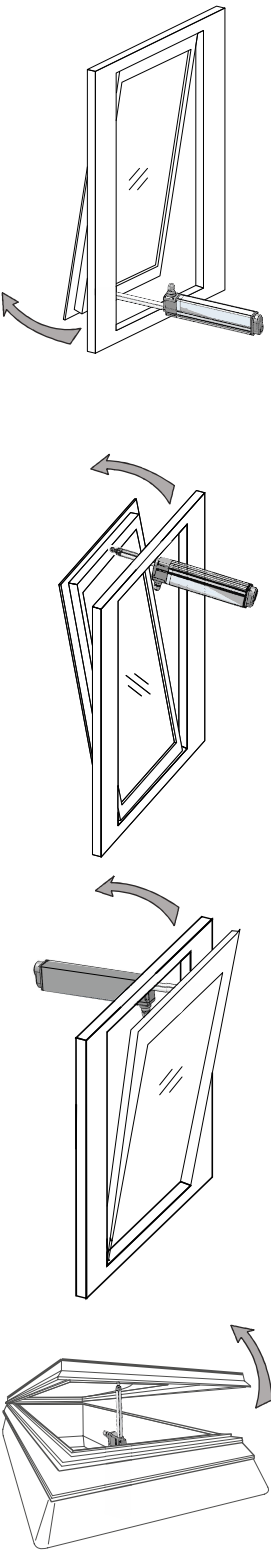
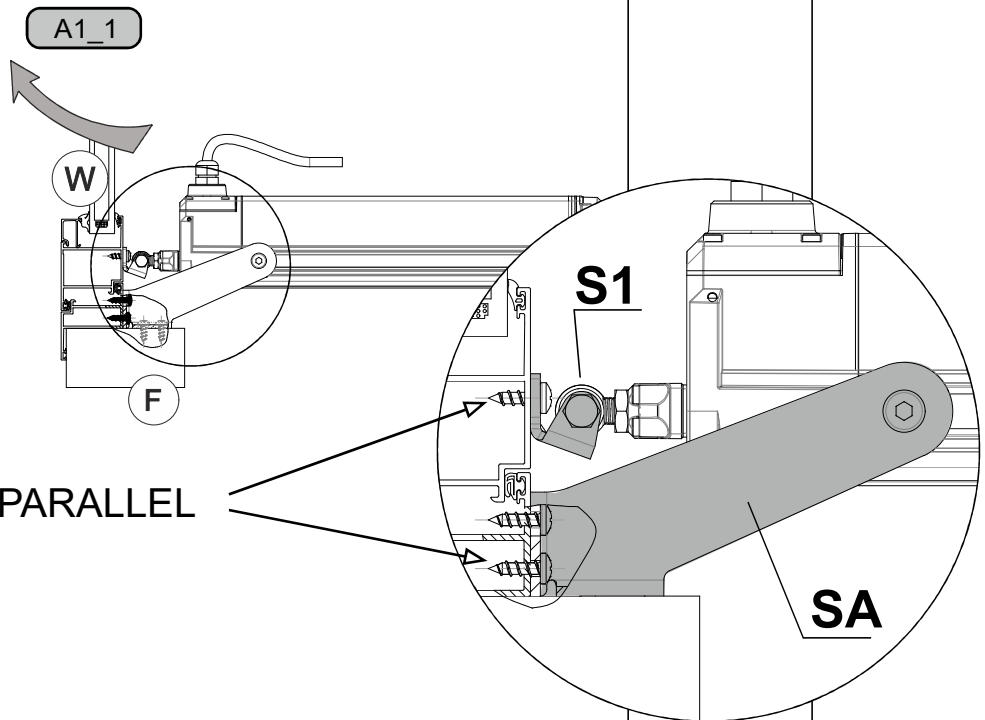
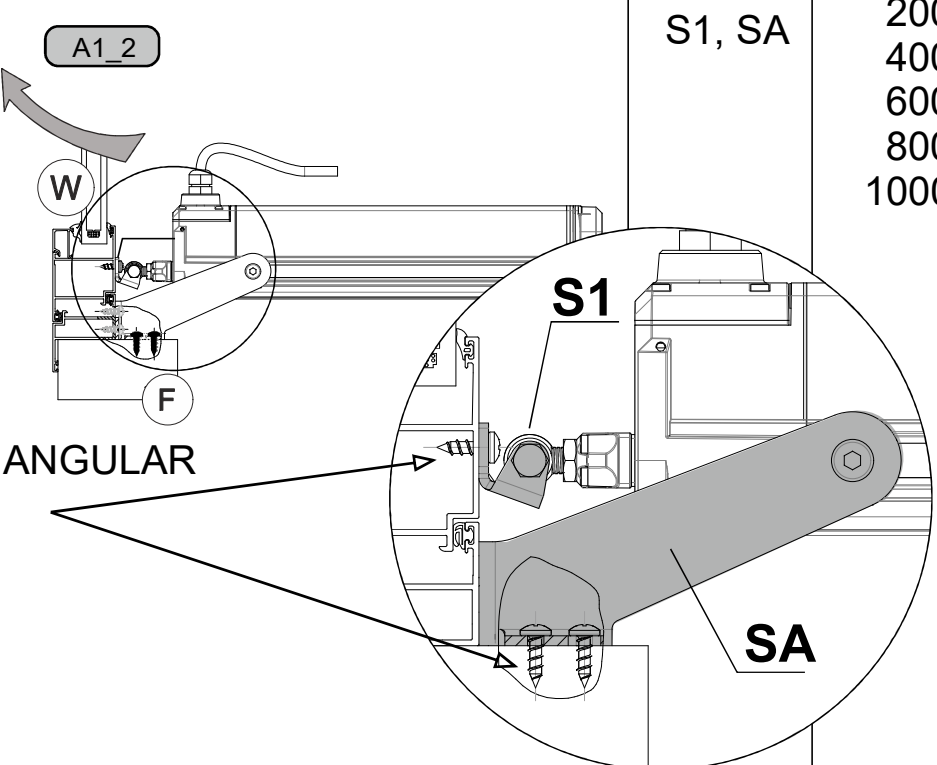
**MAKE SURE THAT THE ABOVE DESCRIBED COMPONENTS ARE CONTAINED IN THE PACKAGE, AS WELL AS THAT THE ACTUATOR HAS NOT BEEN DAMAGED DURING TRANSPORT.**

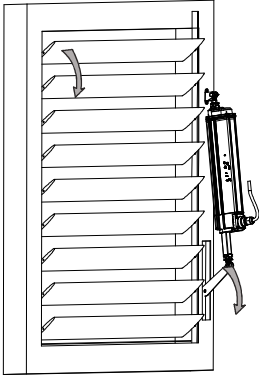
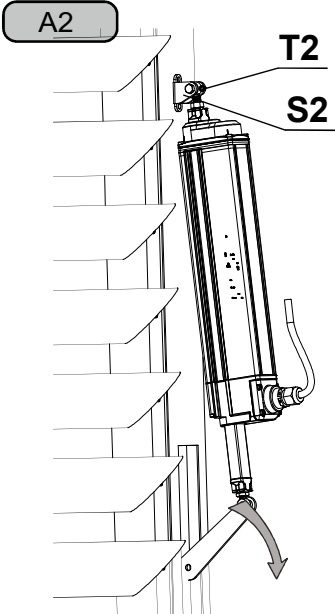


**SHOULD ANY ANOMALY BE DETECTED, IT IS FORBIDDEN TO INSTALL THE ACTUATOR, AND IT IS COMPULSORY TO REQUIRE TECHNICAL ASSISTANCE FROM YOUR DEALER OR THE MANUFACTURER.**

3.8- APPLICATION

Fig. 5

WINDOWS OPENING	APPLICATION	BRACKETS	STROKE
	<div>A1_1</div>  <p>PARALLEL</p> <p>W = windows ; F= Frame</p>		
	<div>A1_2</div>  <p>ANGULAR</p> <p>W = windows ; F= Frame</p>	S1, SA	200 400 600 800 1000

SUNBLADES OR louvers	APPLICATION	BRACKETS	STROKE
		S2, T2	200 400



#### 4.1- GENERAL INSTRUCTIONS



**OPERATORS MUST BE INFORMED OF ACCIDENT RISKS, SAFETY DEVICES AND THE GENERAL ACCIDENT PREVENTION REGULATIONS ESTABLISHED BY INTERNATIONAL DIRECTIVES AND BY THE LAW IN FORCE IN THE COUNTRY OF USE.**  
**ALL OPERATORS MUST STRICTLY COMPLY WITH THE ACCIDENT PREVENTION REGULATIONS IN FORCE IN THE COUNTRY OF USE.**



**DO NOT REMOVE OR ALTER THE PLATES PLACED ON THE ACTUATOR BY THE MANUFACTURER.**



**IF THE WINDOW FRAME IS ACCESSIBLE FROM OR INSTALLED AT A HEIGHT OF LESS THAN 2.5m FROM THE GROUND, AND IF IT CAN BE COMMANDED BY AN UNTRAINED USER OR WITH A REMOTE CONTROL DEVICE, FIT AN EMERGENCY STOP SYSTEM WHICH AUTOMATICALLY CUTS IN TO PREVENT THE RISK OF CRUSHING OR DRAGGING PARTS OF THE BODY INSERTED BETWEEN THE MOVING AND FIXED PARTS OF THE WINDOW FRAME.**



**ANY TAMPERING WITH OR UNAUTHORISED REPLACEMENT OF ONE OR MORE PARTS OR COMPONENTS OF THE ACTUATOR, OR THE USE OF UNORIGINAL ACCESSORIES AND CONSUMABLES, MAY INCREASE THE RISK OF ACCIDENT AND THUS RELIEVES THE MANUFACTURER OF ALL CIVIL AND PENAL LIABILITY.**



**THE MAINTENANCE OPERATIONS INVOLVING THE TOTAL OR PARTIAL DISMOUNTING OF THE ACTUATOR MAY ONLY BE PERFORMED AFTER DISCONNECTING IT FROM THE POWER SUPPLY.**



**THIS APPLIANCE MAY NOT BE USED BY PERSONS (CHILDREN INCLUDED) WITH REDUCED PHYSICAL, SENSORIAL OR MENTAL CAPACITIES, OR INEXPERT PEOPLE, UNLESS THEY ARE SUPERVISED AND TAUGHT HOW TO USE IT BY A PERSON RESPONSIBLE FOR THEIR SAFETY. CHILDREN MUST BE CONTROLLED TO MAKE SURE THEY DO NOT PLAY WITH THE APPLIANCE.**



**DURING HANDLING AND INSTALLATION OF THE PARTS, THE PERSONNEL SHALL BE EQUIPPED WITH SUITABLE PERSONAL PROTECTION EQUIPMENT (PPE) SO AS TO PERFORM THE WORKS REQUIRED UNDER SAFE CONDITIONS.**

#### 4.2- SAFETY DEVICES

##### 4.2.1- PROTECTION AGAINST ELECTRIC HAZARD

The actuator is protected against electric hazard due to direct and indirect contacts.

The protection measures against direct contacts aim at protecting people against hazards due to contact with active parts, usually live parts; while the protection measures against indirect contacts aim at protecting people against hazards due to conducting part, which are usually insulated, but could become live in case of failure (insulation failure).

The adopted protection measures are the following:

- 1) Insulation of live parts by means of a plastic material body;
- 2) Enclosure with suitable protection degree;
- 3) **Only for Mod. S80/230 V equipped with double insulation:** Protection of passive type given by the use of components with double insulation, also called components of class II or with equivalent insulation. (It is forbidden to connect the actuators equipped with double insulation to the earth plant.

## 4.3- SAFETY PLATES



**IT IS FORBIDDEN TO REMOVE, MOVE, SPOIL OR IN ANYWAY REDUCE THE VISIBILITY OF THE SAFETY PLATES. FAILURE TO OBSERVE THE ABOVE MAY CAUSE SERIOUS HARM TO PEOPLE AND DAMAGE TO PROPERTY. THE MANUFACTURER DECLINES ALL LIABILITY FOR ANY DAMAGE CAUSED BY THE FAILURE TO OBSERVE THE ABOVE REQUIREMENT.**

In **Fig. 6** illustrates the safety plate: this must be applied directly to the outside of the actuator or near it and always in a position where it can be seen by the installer and/or operator.

## 4.4- RESIDUAL RISKS

The installer and the user are herewith informed that after the actuator has been installed on the window, the actuator drive can accidentally generate the following residual risk:

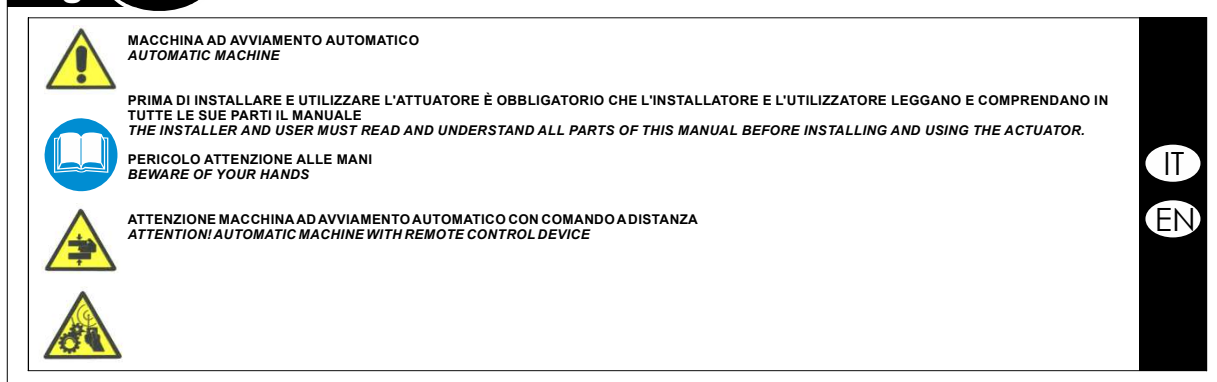
**Residual risk:** Hazard of squashing or dragging of body parts inserted between the movable and the fix part of the window frame.

**Exposure frequency:** Accidental and when the installer or the user decides to perform a wrong voluntary action.

**Severity of the damage:** Light lesions (usually reversible)

**Adopted measures:** Before enabling the device, it is compulsory to verify that near the window there are not persons, animals or things whose safety may be accidentally jeopardized. During actuator operation, it is compulsory to be in a safe control position assuring visual control on the window movement.

Fig. 6



### 5.1-GENERAL INSTRUCTIONS



THE ACTUATOR INSTALLATION CAN BE PERFORMED EXCLUSIVELY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL SATISFYING THE PROFESSIONAL AND TECHNICAL REQUIREMENTS FORE SEEN BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.



THE ACTUATOR PERFORMANCE MUST BE SUFFICIENT TO ASSURE THE CORRECT MOVEMENT OF THE WINDOW. IT IS COMPULSORY TO VERIFY THE THRUST OR TRACTIVE FORCE ACCORDING TO THE TYPE AND WEIGHT OF THE WINDOW. IT IS FORBIDDEN TO EXCEED THE LIMITS CONCERNING TECHNICAL DATA (PAR. 3.1).



THE ACTUATOR INSTALLATION MUST BE PERFORMED EXCLUSIVELY WITH CLOSED WINDOW.



BEFORE PERFORMING THE INSTALLATION OF THE ACTUATOR ON BOTTOM HUNG WINDOWS, VERIFY THAT ON BOTH SIDES OF THE WINDOW TWO COMPASS STROKE LIMIT DEVICES ARE INSTALLED IN ORDER TO AVOID THE ACCIDENTAL FALL OF THE WINDOW.



THE FITTING SURFACE FOR THE BRACKETS MUST BE PERFECTLY FLAT AND/OR SMOOTH.



CHECK THE ADEQUACY OF THE WINDOW AND THE SUITABILITY OF THE MATERIALS OF THE WINDOW AND/OR FRAME ON WHICH THE ACTUATOR WILL BE FASTENED. AND IT MUST ENSURE A GOOD SUPPORT OF THE ACTUATOR-WINDOW ASSEMBLY DURING THE MOVEMENT.



THE CORRECT ADJUSTMENT OF THE WINDOW FRAME CLOSING ASSURES THE LIFE AND THE TIGHTNESS OF THE SEALS, AS WELL AS THE GOOD OPERATION OF THE ACTUATOR.



WITH OPEN WINDOW FRAME, VERIFY THAT THE STROKE IS SOME CENTIMETRE LOWER THAN THE STROKE LIMITED BY WINDOW FRAME MECHANICAL LIMIT DEVICES.



TO GUARANTEE THE DEGREE OF IP PROTECTION STATED IT IS NECESSARY TO TIGHTEN THE SCREWS OF THE COVER AND CABLE GLAND WITH A 1.5Nm PAIR

### 5.2-INSTALLATION

Perform the installation as described in **Chapter 10 : DRAWINGS / INSTALLATION INSTRUCTIONS.**

### 5.3-ELECTRIC CONNECTIONS



THE CONNECTION OF MODEL S80/24V HAS TO BE CARRIED OUT WITH VERY LOW VOLTAGE SAFETY FEEDER PROTECTED AGAINST SHORT CIRCUIT.



THE ELECTRIC CONNECTION OF THE ACTUATOR MUST BE DONE BY THE INSTALLER WITH BIPOLAR, TRIPOLAR OR MULTIPOLAR CABLES, WITH 0.75mm<sup>2</sup> SECTION, AND EXTERNAL DIAMETER FROM 4.5mm TO 10mm, ACCORDING TO THE MACHINE TYPE (24V, 230V, TANDEM) . FOR EXTERNAL INSTALLATIONS IT IS NECESSARY TO CHOOSE SUITABLE CABLES FOR THIS USE TYPE H05RN-F. IT IS RECOMMENDED TO RESPECT THE COLOR CODE AS INDICATED IN THE TECHNICAL INSTALLATION STANDARDS.



THE ELECTRIC CONNECTION OF THE ACTUATOR (PAR.11) CAN BE PERFORMED ONLY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL FORESEEN BY THE LAW IN FORCE IN THE COUNTRY OF INSTALLATION WHO CAN ISSUE TO THE CUSTOMER A DECLARATION OF CONFORMITY FOR THE CONNECTION AND/OR PLANT CARRIED OUT.



BEFORE PERFORMING THE ELECTRIC CONNECTION OF THE ACTUATOR, VERIFY THE CORRECT INSTALLATION ON THE WINDOW



THE MAINS TO WHICH THE ACTUATOR IS CONNECTED MUST COMPLY WITH THE REQUIREMENTS OF THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION, AS WELL AS SATISFY THE TECHNICAL FEATURES GIVEN IN PAR.3.1 AND ON THE RATING PLATE AND THE "CE" MARKING.



THE SECTION OF THE MAINS CABLES MUST BE PROPERLY SIZED ACCORDING TO THE ABSORBED ELECTRIC POWER (SEE RATING PLATE AND "CE" MARKING).



ANY TYPE OF ELECTRIC MATERIAL (PLUG, CABLE, TERMINALS, ETC.) USED FOR THE CONNECTION MUST BE SUITABLE FOR THE USE, WITH "CE" MARKING, AND COMPLYING WITH THE REQUIREMENTS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.



TO ASSURE AN EFFICIENT SEPARATION FROM THE MAINS, IT IS COMPULSORY TO INSTALL UPSTREAM OF THE DEVICE A TEMPORARY BIPOLAR SWITCH (PUSHBUTTON) OF APPROVED TYPE. UPSTREAM OF THE COMMAND LINE, IT IS COMPULSORY TO INSTALL AN UNIPOLAR MAIN SWITCH WITH OPENING OF CONTACTS OF AT LEAST 3 mm.



BEFORE MAKING ANY ELECTRICAL CONNECTIONS ON THE ACTUATOR, MAKE SURE THE POWER SUPPLY CABLE IS NOT DAMAGED. IF THE CABLE IS DAMAGED, THEN IT MUST BE REPLACED BY THE MANUFACTURER THROUGH THE TECHNICAL ASSISTANCE SERVICE OR BY TECHNICAL OPERATORS.

Perform the electrical connections as described in **Chapter 11**.

## 5.4- COMMAND DEVICES



THE CONTROL DEVICES USED TO DRIVE THE ACTUATOR MUST ASSURE THE SAFETY CONDITIONS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF USE.

According to the different type of installations, the actuators can be driven by the following control devices:

### 1) MANUAL PUSH-BUTTON:

Bipolar switch button with central OFF position, with biased-off switch;

### 2) OPTIONAL: CONTROL AND FEEDING UNIT:

TOPP microprocessor control units (e.g.: Mod. TF, etc.) controlling the single actuator or more than one actuator simultaneously by means of one or more manual pushbuttons, an infrared remote control or a 433 Mhz radio control.

To these control units, it is possible to connect rain sensors (RDC - 12V), wind sensor (RW) and brightness sensor.



TO ASSURE A CORRECT OPERATION OF THE ACTUATOR, THE COMMAND AND FEEDING UNITS EVENTUALLY USED HAVE TO PROVIDE POWER SUPPLY TO THE ACTUATOR FOR MAX. 120 sec.



BEFORE OPERATING THE ACTUATOR, THE USER MUST COMPULSORILY VERIFY THAT NEAR AND/OR UNDER THE WINDOW THERE ARE NOT ANY PERSON, ANIMAL AND THING WHOSE SAFETY MAY BE ACCIDENTALLY JEOPARDISED (SEE PAR. 4).

## 5.5- EMERGENCY PROCEDURES

Should it be necessary to open or close the window manually, due to power supply failure or mechanism block, follow these instructions:

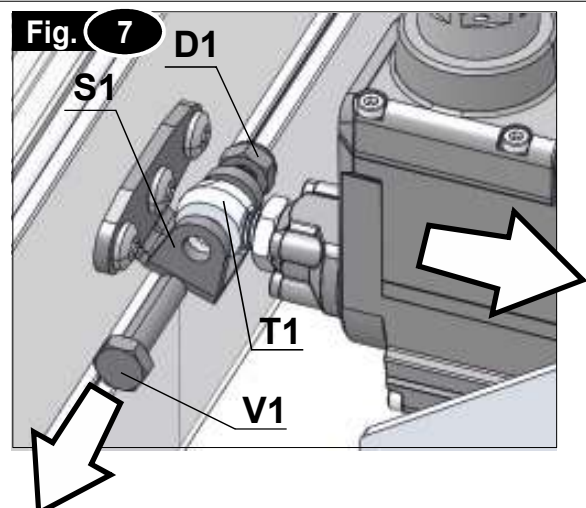


BEFORE PERFORMING ANY TYPE OF TRIPPING ON THE ACTUATOR AND ON THE WINDOW, IT IS COMPULSORY TO DISCONNECT THE POWER SUPPLY OF THE ACTUATOR AND TO PUT ON "0" THE EVENTUAL SWITCHES OF THE CONTROL DEVICES.



IT IS COMPULSORY TO PADLOCK THE MAIN SWITCH OF THE DISCONNECTION DEVICE INSTALLED ON THE MAINS IN ORDER TO AVOID ANY UNEXPECTED START. IF THE MAIN SWITCH CANNOT BE PADLOCKED, IT IS COMPULSORY TO PLACE A SIGN FORBIDDING THE ENABLING.

- 1) **Fig. 7-** Act on the screw "V1" by unscrewing the nut "D1" and by extracting it from the bracket "S1" ;
- 2) Open the window manually.



### 5.6- RESTORATION OF THE FINAL STROKE

Once the mechanical final stroke has been adjusted and the installation is completed, the actuator does not need further adjustment.

If an obstacle is detected, more than 3 times consecutively in the same position, it will be recognized as a final stroke (in opening or closing) and therefore, at subsequent openings, the stroke will be automatically reduced to the obstacle even if this is removed.

The original final stroke is restored automatically, as the actuator checks the limit switches every 4 cycles. If the obstacle has been removed, on the fifth cycle, the machine will continue its run for a maximum of 5cm beyond the previous acquired position.

If the obstacle had limited the stroke by more than 5cm, you will have to wait for the next 4 cycles to repeat the limit switch check and to continue the run for a further 5cm.

To restore the final stroke manually it will be sufficient (once the obstacle is removed) to position the machine near the original final stroke and activate the manual command in open-close for 4 cycles (it is not necessary to complete the whole cycle but it is sufficient to give the command for 1s in open and 1s in close). In this way, every 4 cycles the stroke will be increased by 5cm.

### 6.1-USE OF THE ACTUATOR



THE ACTUATOR CAN BE USED EXCLUSIVELY BY AN USER ACTING IN COMPLIANCE WITH THE INSTRUCTIONS CONTAINED IN THIS MANUAL AND/OR IN THE MANUAL OF THE ACTUATOR CONTROL DEVICE (e.g.: WIND AND RAIN CONTROL UNIT).



BEFORE USING THE ACTUATOR, IT IS COMPULSORY FOR THE USER TO READ AND UNDERSTAND IN ALL ITS PARTS THIS MANUAL, AS WELL AS THE EVENTUAL MANUAL OF THE INSTALLED CONTROL DEVICE TYPE.



BEFORE OPERATING THE ACTUATOR, THE USER MUST COMPULSORILY VERIFY THAT NEAR AND/OR UNDER THE WINDOW THERE ARE NOT ANY PERSON, ANIMAL AND THING WHOSE SAFETY MAY BE ACCIDENTALLY JEOPARDISED (SEE PAR. 4).



DURING THE OPERATION OF THE ACTUATOR CONTROL DEVICE, THE USER HAS TO COMPULSORILY OCCUPY A SAFE CONTROL POSITION ASSURING VISUAL CONTROL ON THE WINDOW MOVEMENT.



DO NOT OPERATE DOME WINDOWS IN THE PRESENCE OF A LOAD OF SNOW IN EXCESS OF THE QUANTITY DECLARED ACCEPTABLE BY THE WINDOW MANUFACTURER.



IT IS COMPULSORY TO VERIFY CONSTANTLY IN TIME THE FUNCTIONAL EFFICIENCY AND THE RATED PERFORMANCE OF THE ACTUATOR, OF THE WINDOW FRAME WHERE IT IS INSTALLED AND OF THE ELECTRIC PLANT, PERFORMING WHEN NECESSARY INTERVENTIONS OF MAINTENANCE ASSURING OPERATION CONDITIONS COMPLYING WITH SAFETY REGULATIONS.



ALL ABOVE MENTIONED INTERVENTIONS CAN BE PERFORMED ONLY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL MEETING THE PROFESSIONAL AND TECHNICAL REQUIREMENTS FORESEEN BY THE LAW IN FORCE IN THE COUNTRY OF INSTALLATION.



IN ORDER FOR THE AUTOMATION UNIT TO OPERATE CORRECTLY, WE RECOMMEND CARRYING OUT PERIODICAL MAINTENANCE ON IT, AS INDICATED IN PAR. 7.1 OF THIS MANUAL.



TOPP INFORMS THE USER THAT, IN ACCORDANCE WITH ART. 8 OF MINISTERIAL DECREE NO. 38 OF 22.1.2008, THE OWNER OF THE SYSTEM IS RESPONSIBLE FOR ADOPTING ALL NECESSARY MEASURES TO MAINTAIN THE SAFETY FEATURES SET OUT IN APPLICABLE LEGISLATION, OBSERVING THE INSTRUCTIONS FOR MAINTENANCE AND USE PROVIDED BY THE MANUFACTURER OF THE DEVICE AND BY THE COMPANY THAT CARRIED OUT THE INSTALLATION.

The use of the actuator allows to control automatically the opening and closing of the window according to the type of control device installed (see par. 5.4).

The Smart Reset System is integrated into the software of the electronic control board of **S80** actuator. This system adjusts the closure of the window in a highly efficient fashion so as not to damage the window in any way. If you were to put an obstacle in the way while the window is closing, the system would block the actuator(s) attached to the window to avoid damaging it. If this happens in the last 50mm of the movement, which is below the allowable maximum overlap, you might find that the window remains slightly open the next time it is closed. You only need to briefly open and close the window a few times (about 4 times) to activate the system and restore the window to its correct and proper closure.

## 7- MAINTENANCE

### 7.1-GENERAL INSTRUCTIONS



IF THE ACTUATOR WORKS INCORRECTLY, CONTACT THE MANUFACTURER.



ANY WORK ON THE ACTUATOR (E.G.: POWER CABLE, ETC.) OR ITS COMPONENTS MAY ONLY BE CARRIED OUT BY PERSONNEL QUALIFIED BY THE MANUFACTURER. TOPP DECLINES ALL LIABILITY FOR WORK PERFORMED BY UNAUTHORISED PEOPLE.



THE MAINTENANCE OPERATIONS INVOLVING THE TOTAL OR PARTIAL DISMOUNTING OF THE ACTUATOR MAY ONLY BE PERFORMED AFTER DISCONNECTING IT FROM THE POWER SUPPLY.

The actuator incorporates components that do not require significant routine or extraordinary maintenance operations.

The recommended maintenance activities should in any case involve the periodical execution (every 6 months) of at least the following operations: that the actuator assembly components are clean, the replacement of components that show signs of superficial damage such as injuries, cracks, discoloration, etc., the fixing systems (brackets and screws) are tight, the window frame is not deformed and the seals are tight, and check the cables and connectors.

This maintenance activity may be carried out either by TOPP, in accordance with a specific agreement made with the user, or by the installation technician or by other competent and qualified technical personnel in possession of all legal requirements.

### 8.1-GENERAL INSTRUCTIONS



THE DISPOSAL OF THE ACTUATOR MUST OCCUR IN COMPLIANCE WITH THE LAWS IN FORCE ON ENVIRONMENT PROTECTION.

### 9.1-GENERAL INSTRUCTIONS



THE USE OF "NON-ORIGINAL" SPARE PARTS AND ACCESSORIES WHICH MAY ENDANGER THE SAFETY AND THE EFFICIENCY OF THE ACTUATOR IS FORBIDDEN..



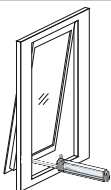
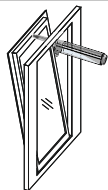
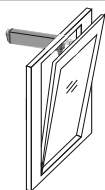
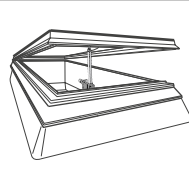
ORIGINAL SPARE PARTS AND ACCESSORIES HAVE TO BE REQUESTED EXCLUSIVELY TO YOUR DEALER OR TO THE MANUFACTURER STATING TYPE, MODEL, SERIAL NUMBER, AND YEAR OF CONSTRUCTION OF THE ACTUATOR.



THE REPLACEMENT CAN BE PERFORMED EXCLUSIVELY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL MEETING THE PROFESSIONAL AND TECHNICAL REQUIREMENTS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.

## APPLICATION

A1

WINDOW  
OPENING

Top hung  
Outward opening

Bottom hung  
Outward opening

Bottom hung  
Inward opening

Skylight or  
dome

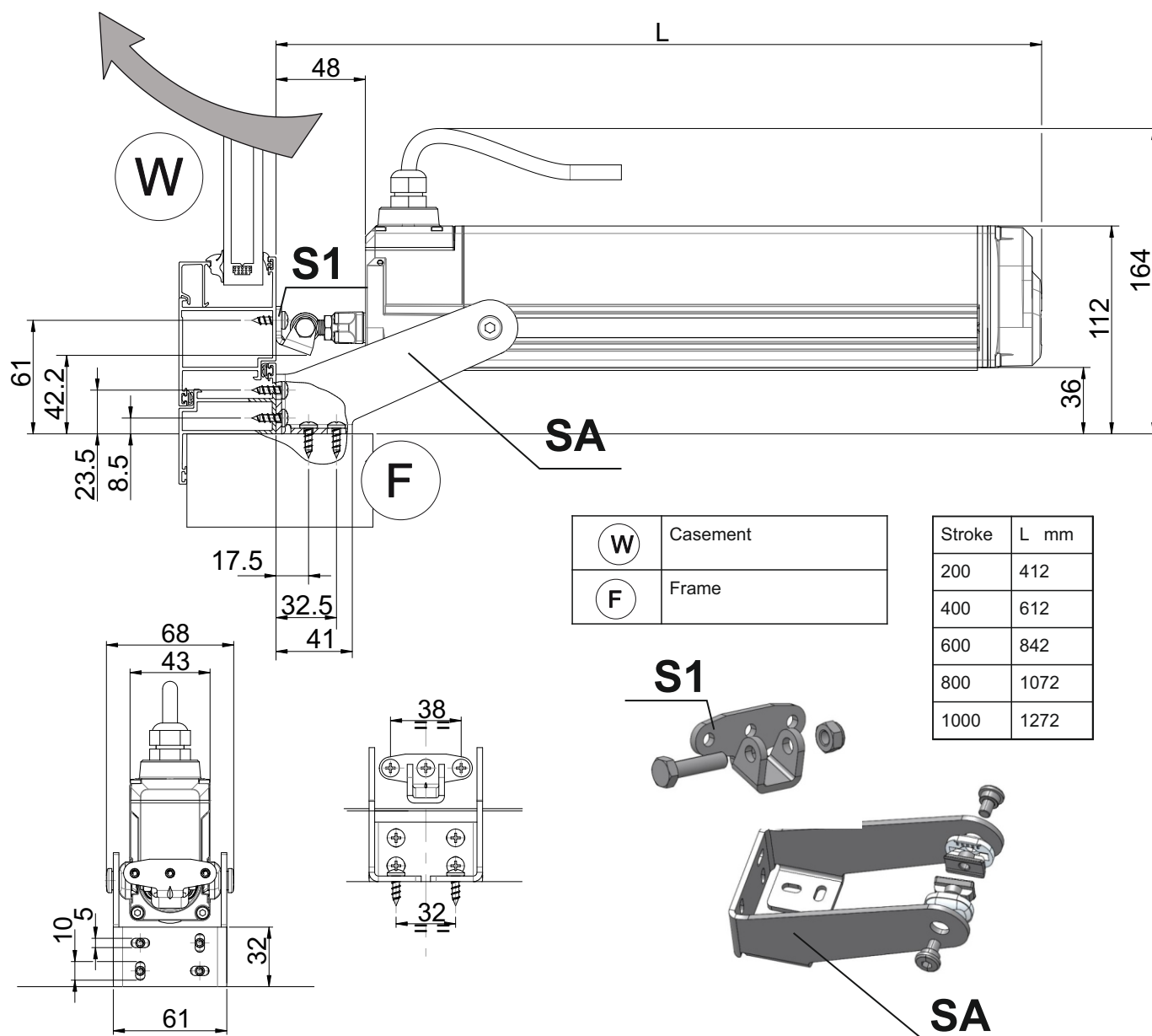
Stroke 200-400-600-800-1000

24V - 230V

Standard - RWA

A1

S1,SA

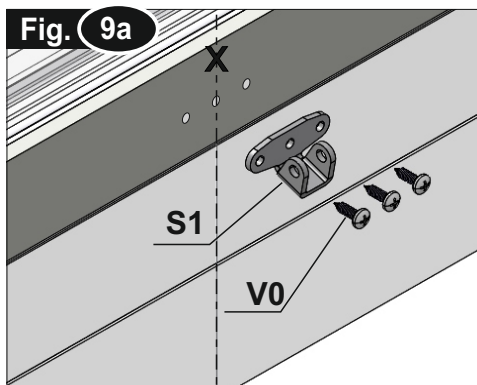
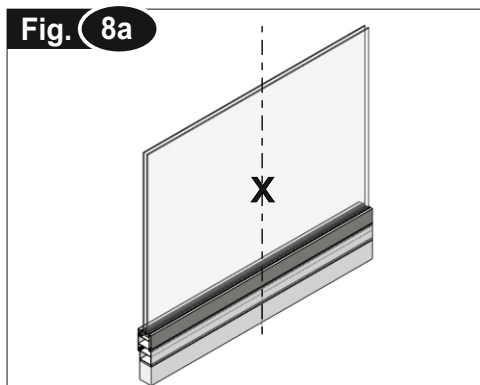




A1\_1

S1,SA

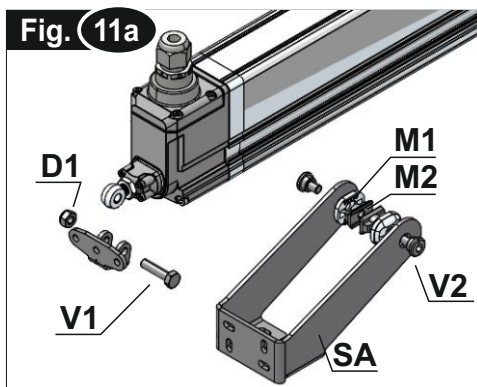
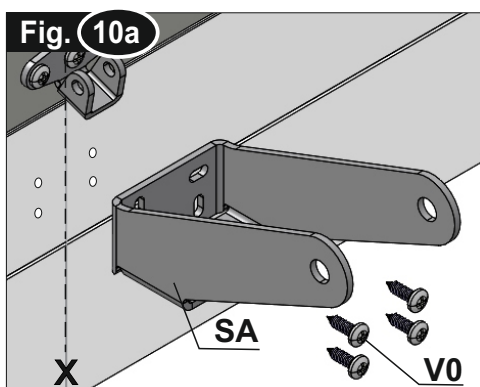
## PARALLEL INSTALLATION



0) Set hypothetical stroke end, for the complete opening of the window, Fig 15 to 18.

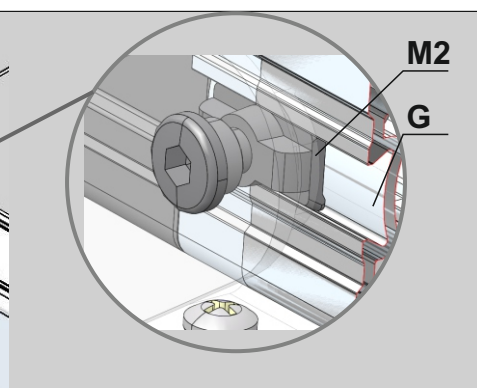
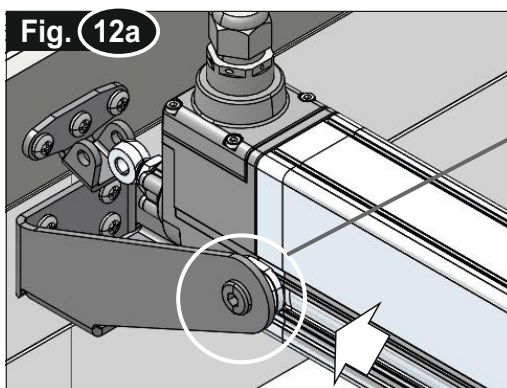
1) Fig. 8a- With a pencil draw the centre line X of the window frame;

2) Fig.9a- Use a suitable drill to drill the movable part of the frame and fix the bracket "S1" with the screws "V0".



3) Fig.10a- Drill the frame of the window and fix the actuator support bracket "SA" with the screws "V0", making sure that the brackets are aligned.

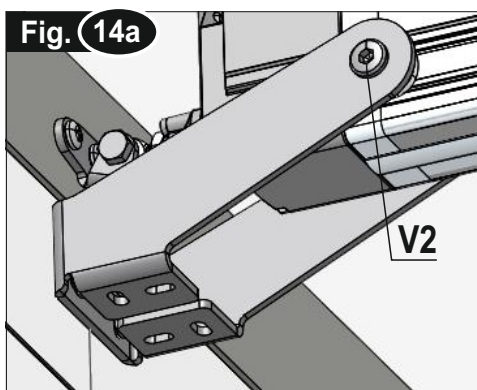
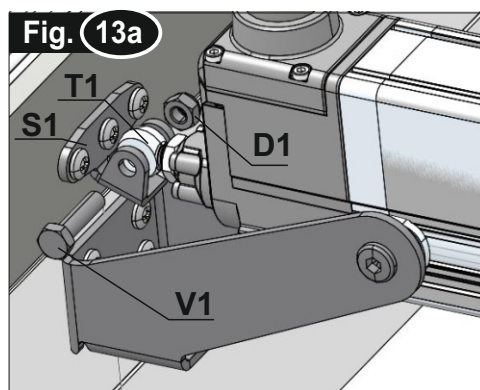
4) Fig.11a- Mount the internal clamps "M1" and "M2" on the "SA" bracket using the "V2" screws.



5) Fig.12a- Make sure that the actuator rod has completely retracted into the actuator.

Insert the "M2" clamps in the "G" guides on the sides of the actuator.

6) Fig.13a- After having verified that the window frame is in closing position, fix the thrust rod head "T1" to the bracket "S1" with the screw "V1" and of the nut "D1";

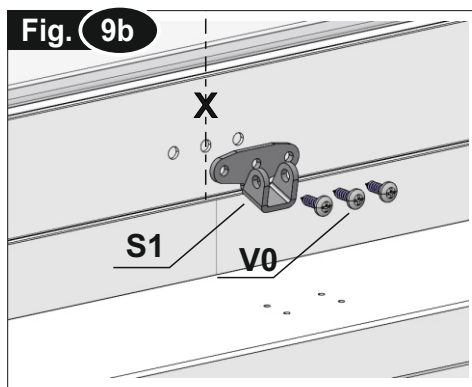
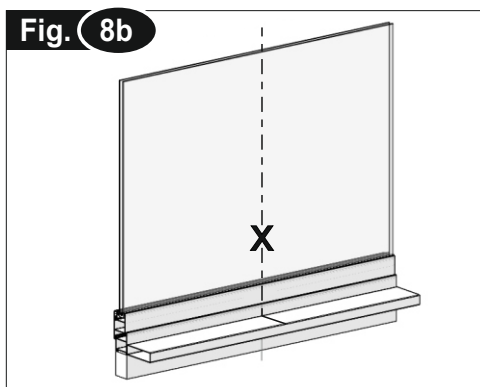


If necessary adjust (screwing or unscrewing) the eyebolt "T1".

7) Fig.14a- Let the actuator slide along its axis until such a pressure is performed on the seals as to obtain a good closing of the window frame. Then, fix the screws "V2".

8) Perform the electrical connections as described, see, Cap. 5.3.

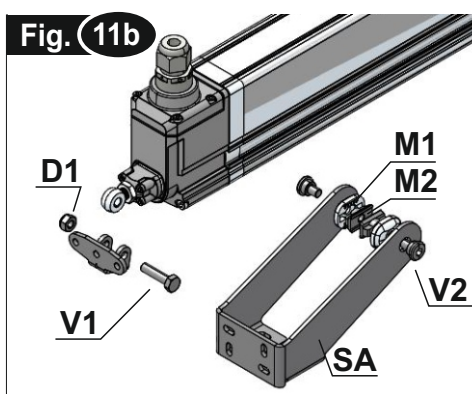
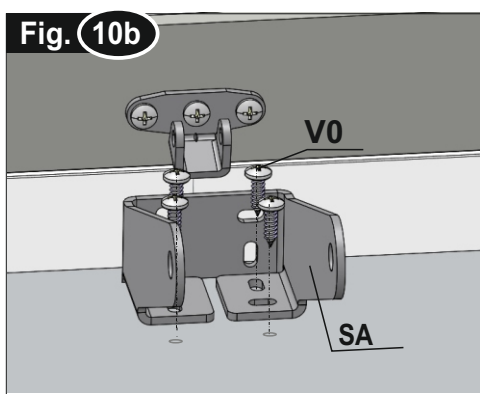
## A1\_2 S1,SA ANGULAR INSTALLATION



0) Set hypothetical stroke end, for the complete opening of the window, Fig. 15 to 18.

1) Fig. 8b- With a pencil draw the centre line X of the window frame;

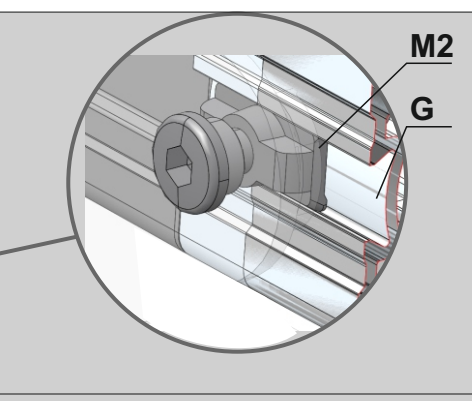
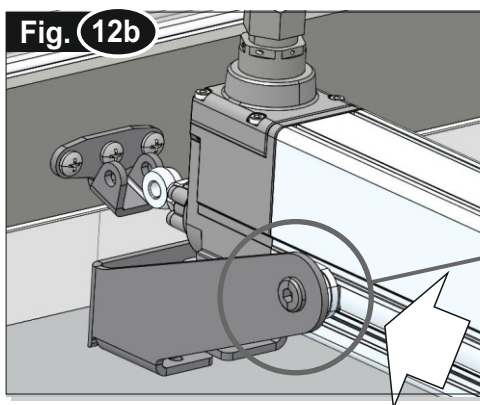
2) Fig.9b- Use a suitable drill to drill the movable part of the frame and fix the bracket "S1" with the screws "V0".



3) Fig.10b- Drill the frame of the window and fix the actuator support bracket "SA" with the screws "V0", making sure that the brackets are aligned.

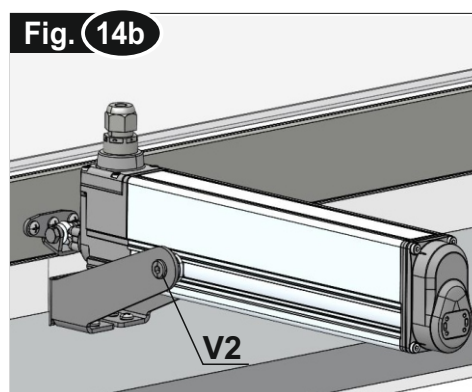
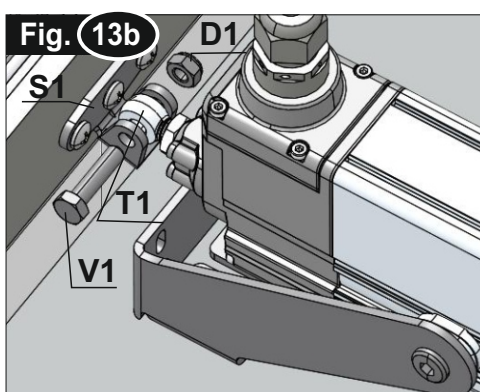
4) Fig.11b- Mount the internal clamps "M1" and "M2" on the "SA" bracket using the "V2" screws.

5) Fig.12b- Make sure that the actuator rod has completely retracted into the actuator.



Insert the "M2" clamps in the "G" guides on the sides of the actuator.

6) Fig.13b- After having verified that the window frame is in closing position, fix the thrust rod head "T1" to the bracket "S1" with the screw "V1" and of the nut "D1";

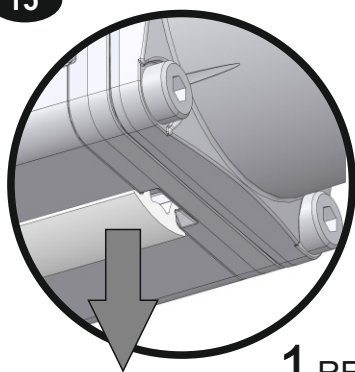


If necessary adjust (screwing or unscrewing) the eyebolt "T1".

7) Fig.14b- Let the actuator slide along its axis until such a pressure is performed on the seals as to obtain a good closing of the window frame. Then, fix the screws "V2".

8) Perform the electrical connections as described, see, Cap. 5.3.

Fig. 15



1 REMOVE

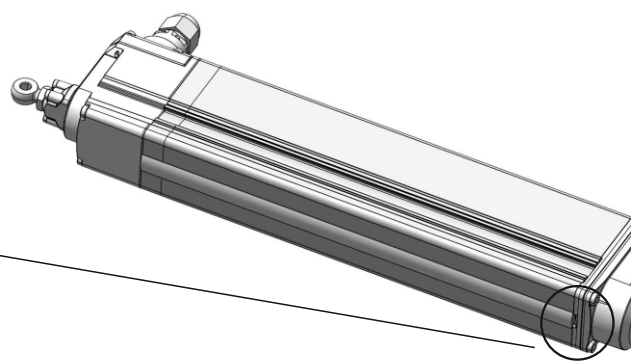
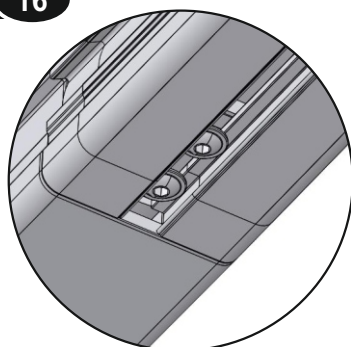


Fig. 16



Lt = Total stroke

2 UNSCREW

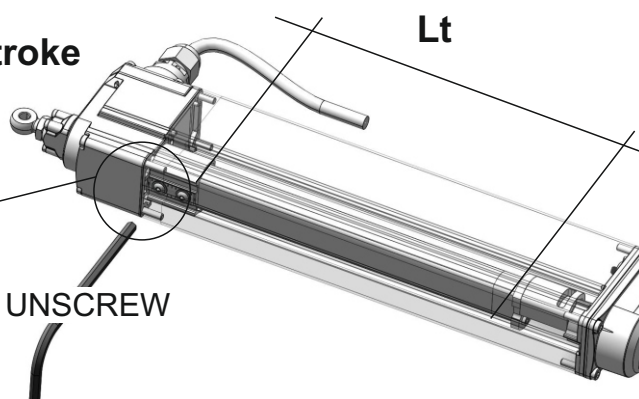
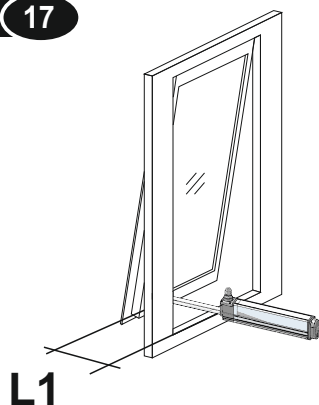
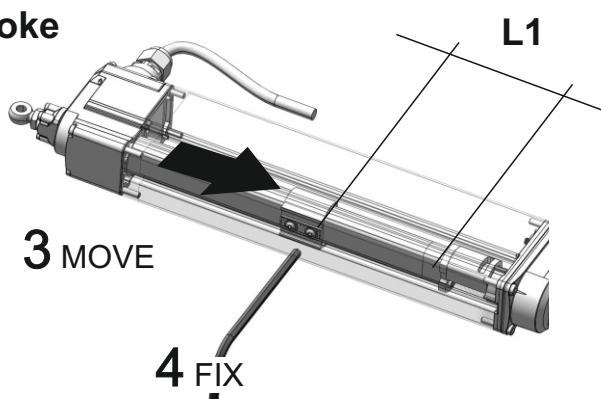


Fig. 17



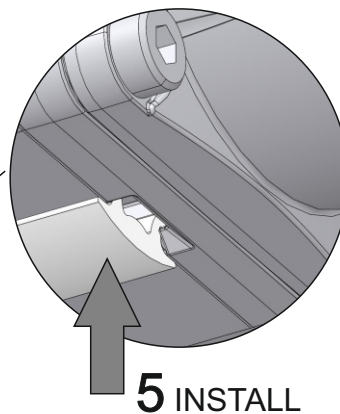
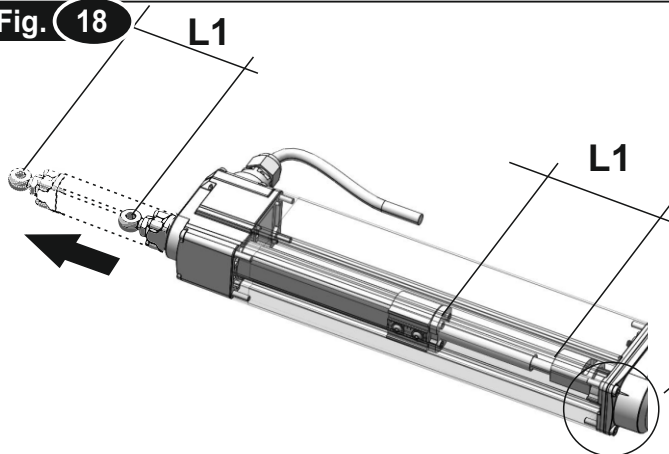
L1 = Window stroke



3 MOVE

4 FIX

Fig. 18

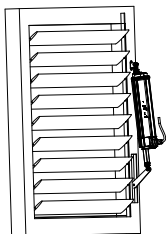


5 INSTALL

## APPLICATION

A2

SUN BLADES  
or  
louvers



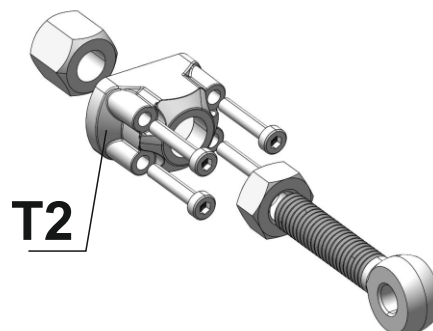
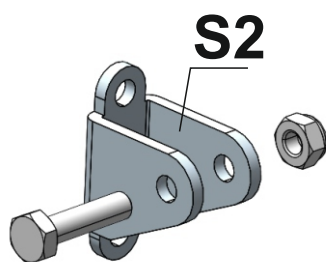
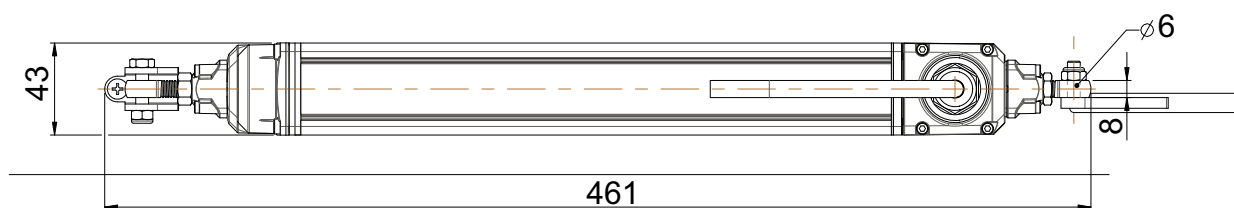
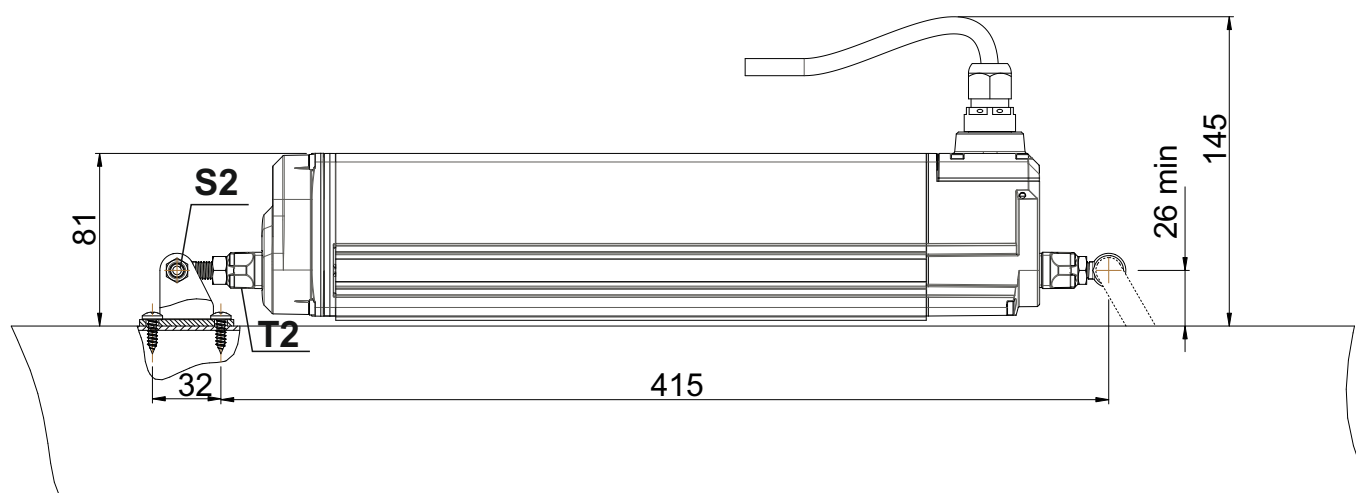
Stroke 200 -400

24V - 230V

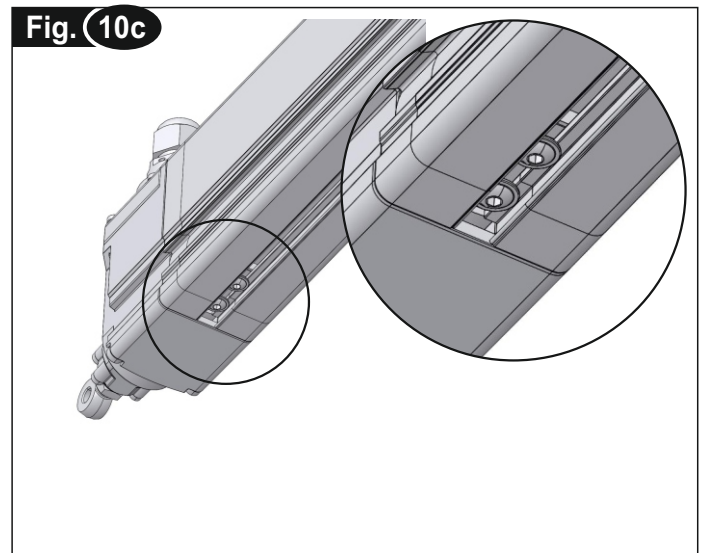
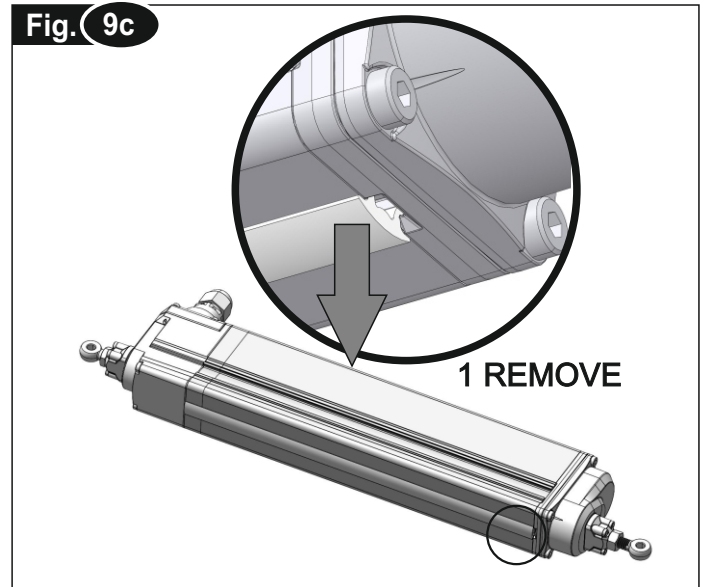
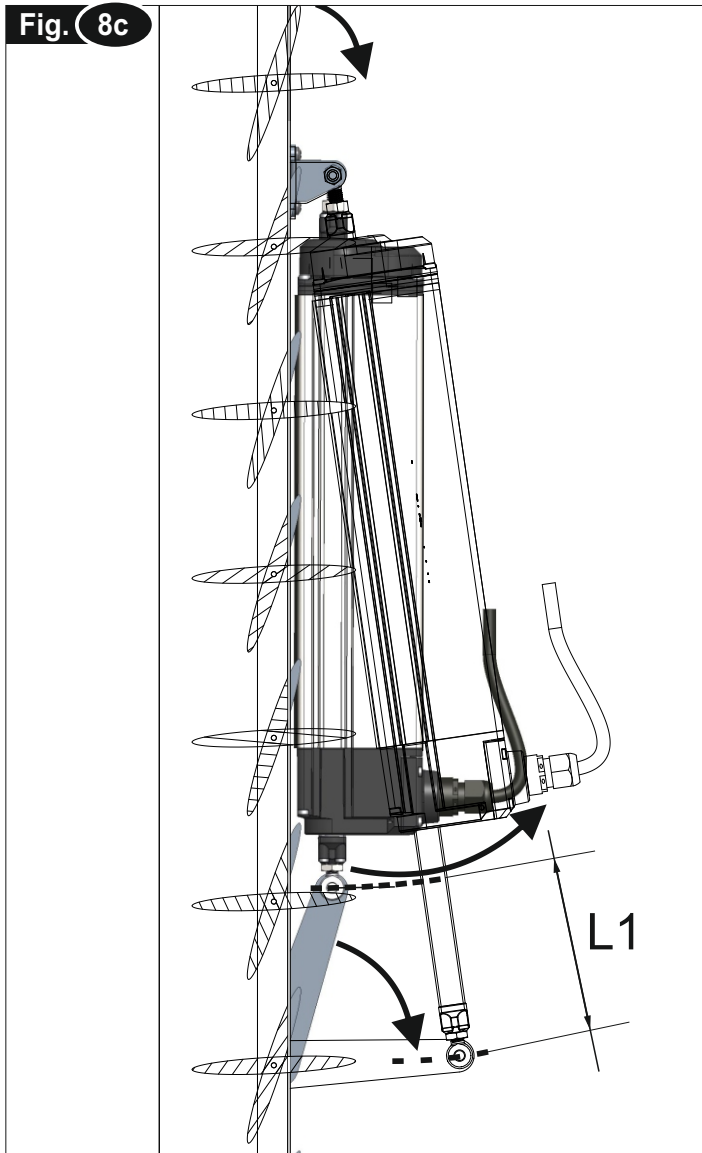
Standard

A2

S2, T2







### INSTALLATION INSTRUCTION

- 1) Fig.8c-Define the hypothetical stroke "L1".
  - 2) Set the final stroke "L1", see Fig. from 9c- to 13c-.
  - 3) Fig.14c- Make a hole in the window with a suitable drill and fix the bracket "S2" with "V0" screws.
  - 4) Fig.15c- Fix the thrust rod head "T2" to the bracket "S2" using "V1" screw and "D1" nut.
  - 5) Fig.16c- Fix the thrust rod head "T1" to the winch using "V1" screw and "D1" nut.
- If necessary adjust (screw-unscrew) the thrust rod head "T1".
- 6) Perform the electrical connections as described, see, Cap. 5.3.

Fig. 11c

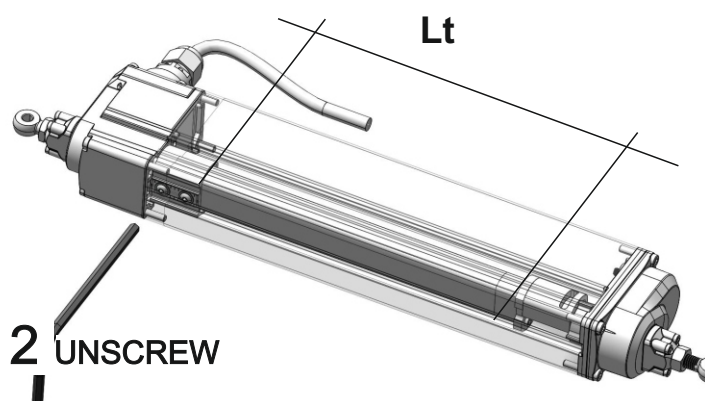


Fig. 12c

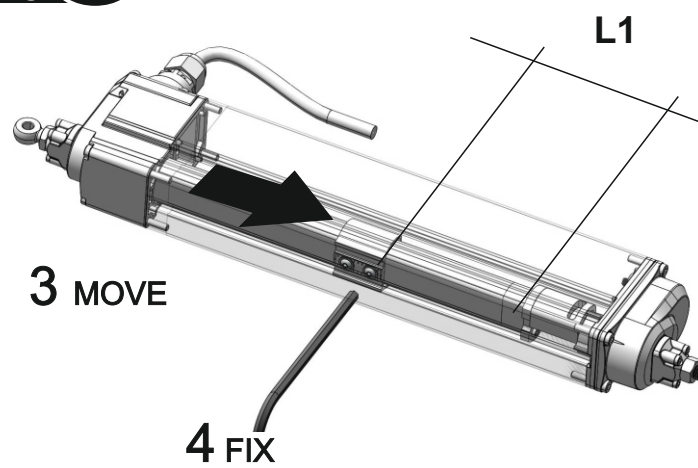


Fig. 13c

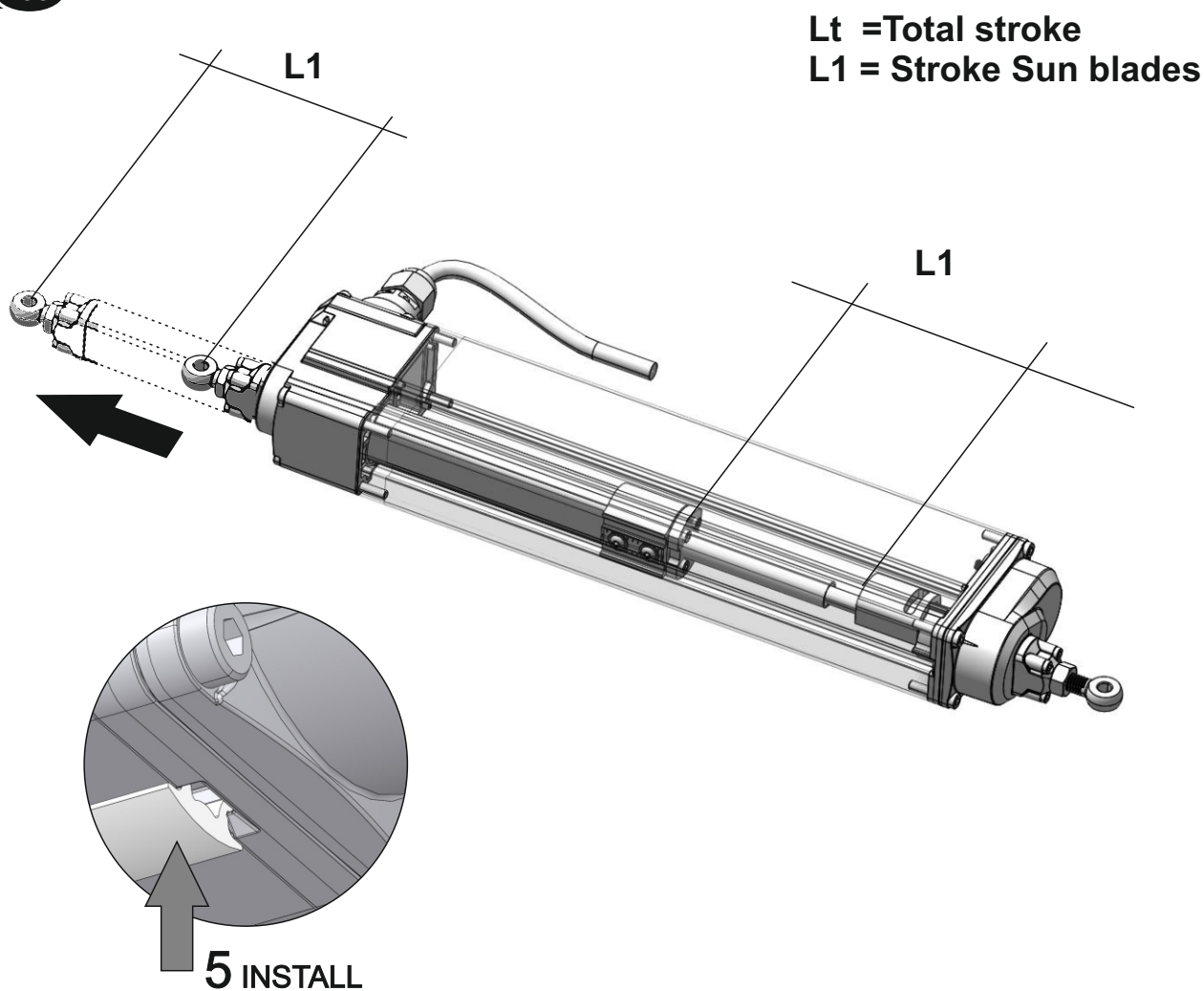


Fig. 14c

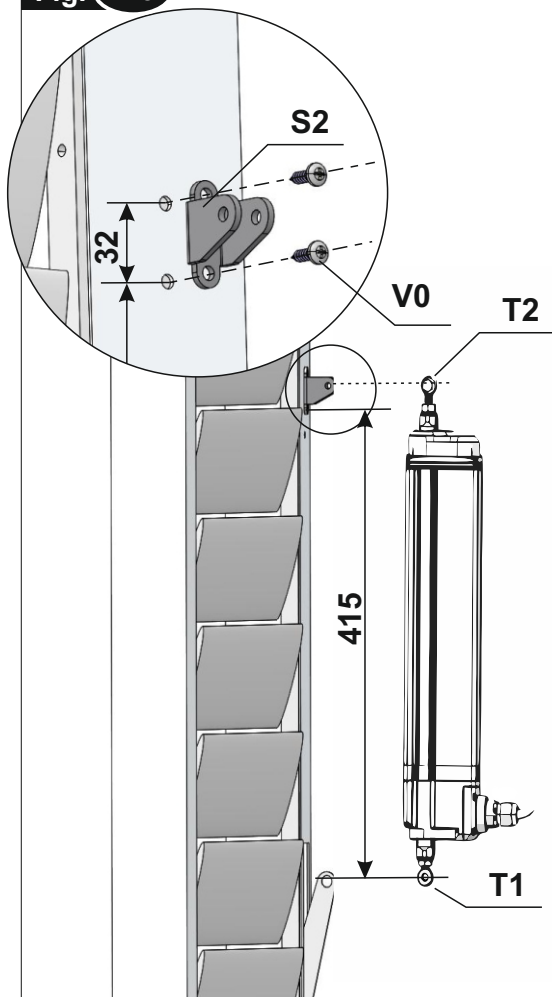


Fig. 15c

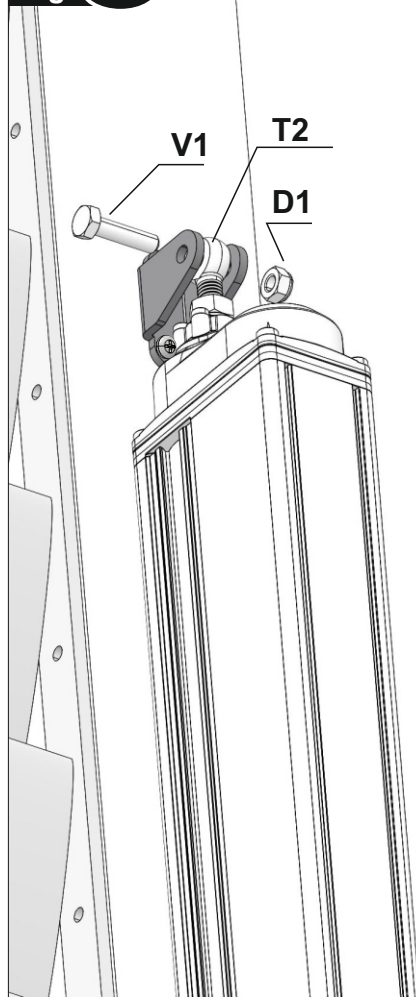
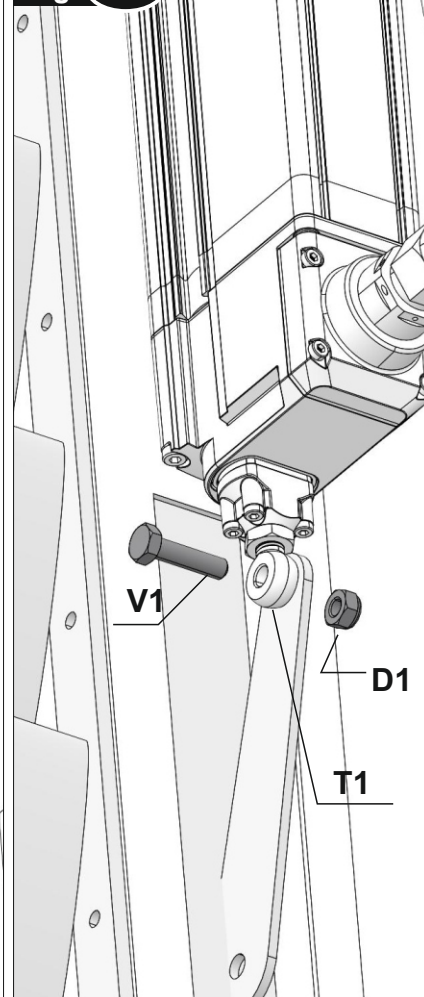
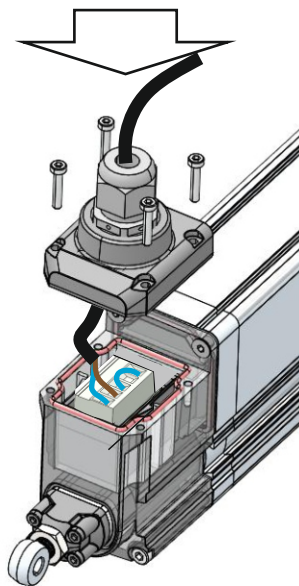
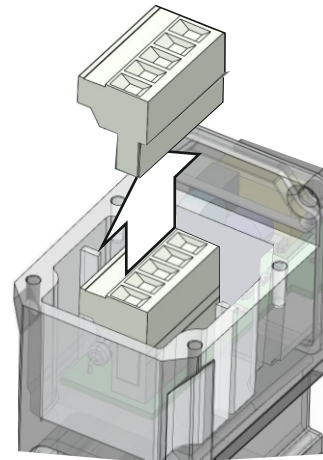
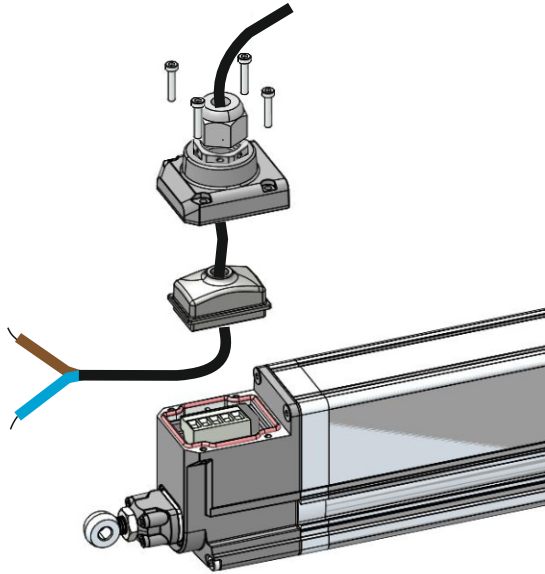


Fig. 16c



## Cable - Clamp - Cover - Cable gland



THE ELECTRIC CONNECTION OF THE ACTUATOR MUST BE DONE BY THE INSTALLER WITH BIPOLAR, TRIPOLAR OR MULTIPOLAR CABLES, WITH 0.75mm<sup>2</sup> SECTION, AND EXTERNAL DIAMETER FROM 4.5mm TO 10mm, ACCORDING TO THE MACHINE TYPE (24V, 230V, TANDEM) . FOR EXTERNAL INSTALLATIONS IT IS NECESSARY TO CHOOSE SUITABLE CABLES FOR THIS USE TYPE H05RN-F. IT IS RECOMMENDED TO RESPECT THE COLOR CODE AS INDICATED IN THE TECHNICAL INSTALLATION STANDARDS.



TO GUARANTEE THE DEGREE OF IP PROTECTION STATED IT IS NECESSARY TO TIGHTEN THE SCREWS OF THE COVER AND CABLE GLAND WITH A 1.5Nm PAIR

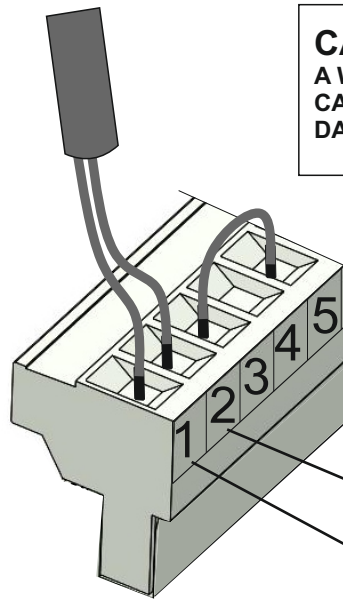




**CAUTION**  
A WRONG CONNECTION  
CAUSES IRREPARABLE  
DAMAGE TO THE ACTUATOR.

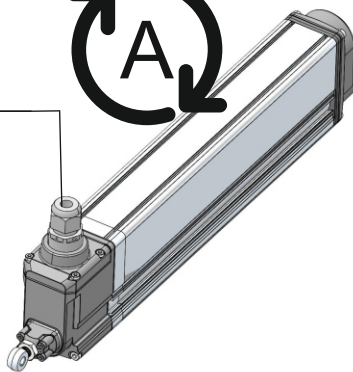
**24 Vdc**

**Single**

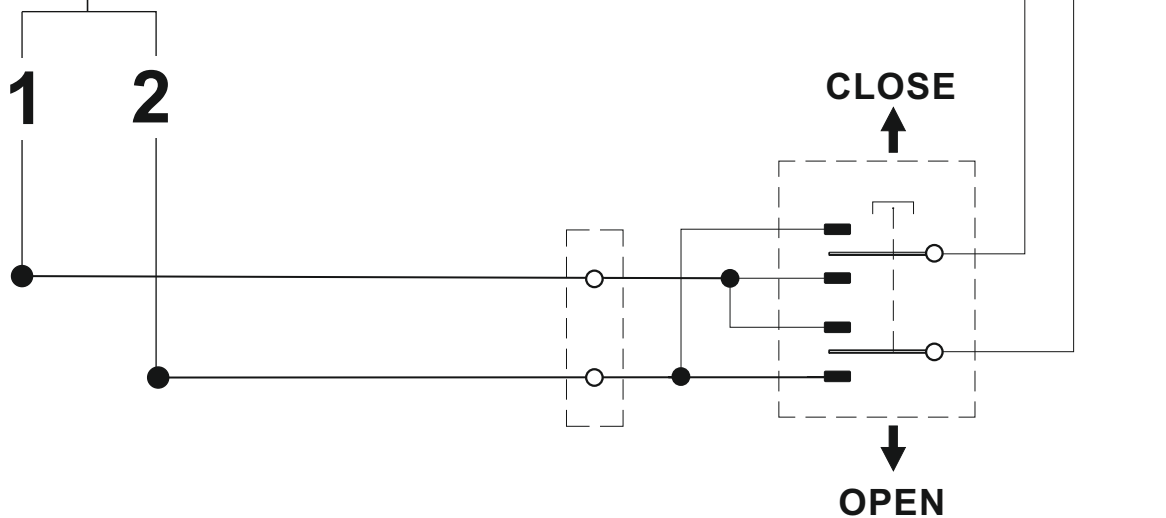
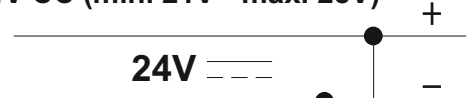


	OPEN	CLOSE
2	+	-
1	-	+

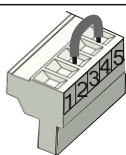
**S80/24V**



24V CC (min. 21V - max. 28V)



**24 Vdc**



**CAUTION**  
Remove link

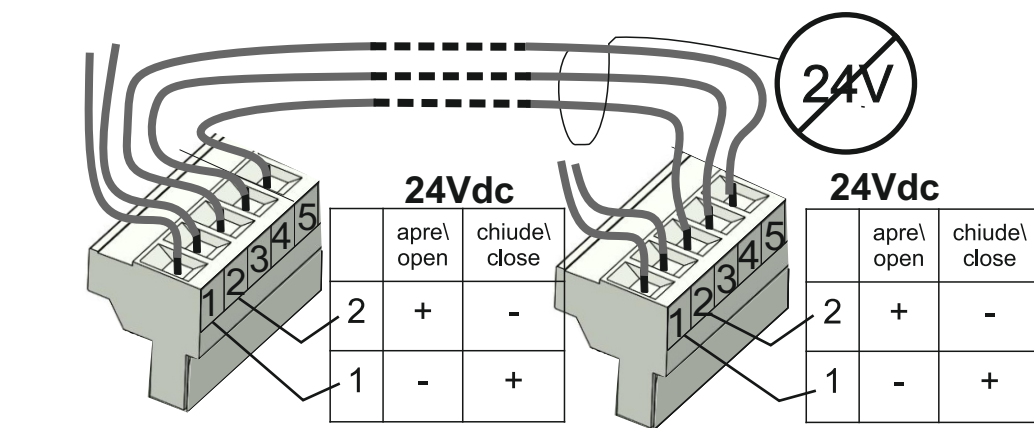


**CAUTION**  
A WRONG CONNECTION  
CAUSES IRREPARABLE  
DAMAGE TO THE ACTUATOR.

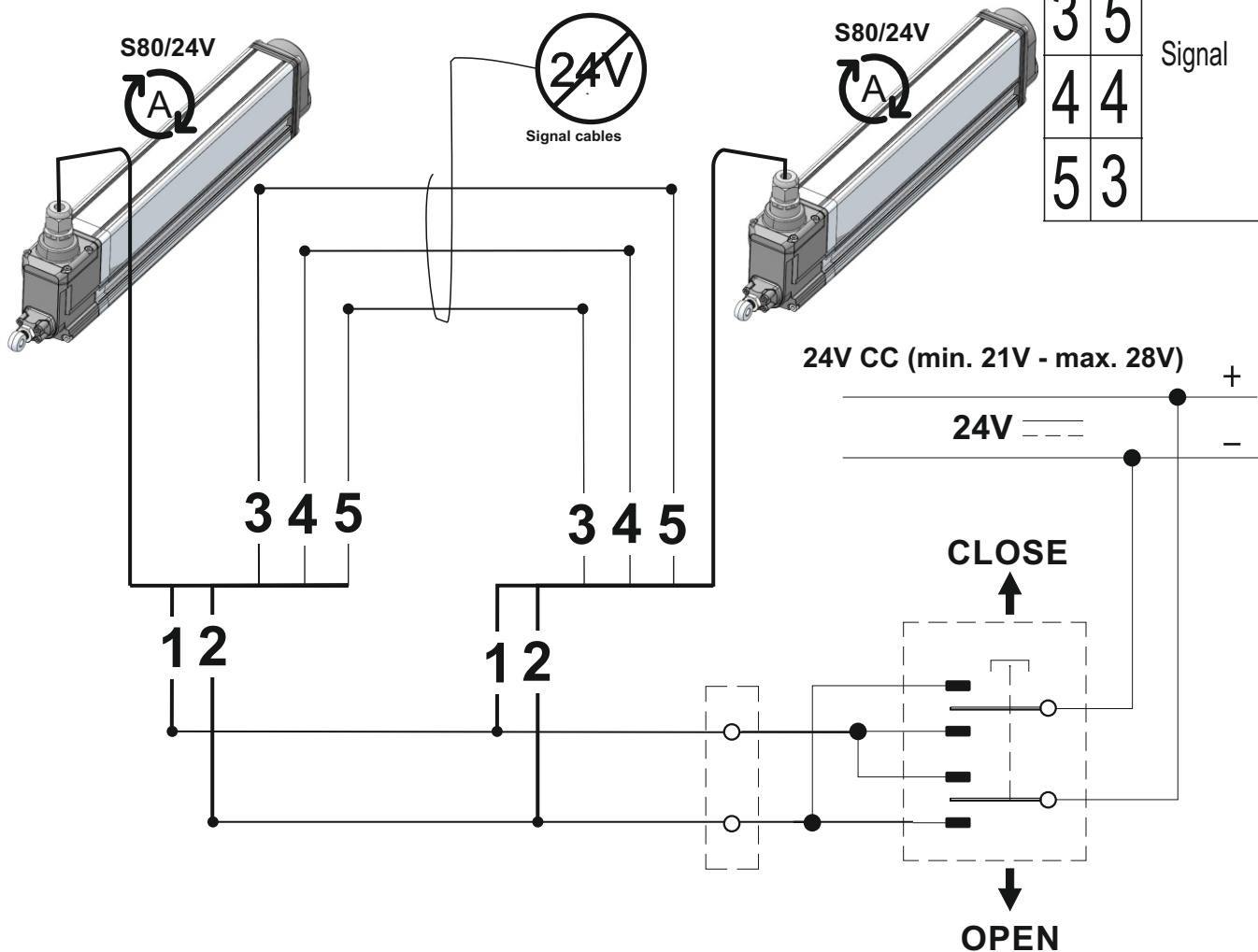


**SYNC**

# Double



Connect.		
1	1	24Vdc
2	2	
3	5	Signal
4	4	
5	3	



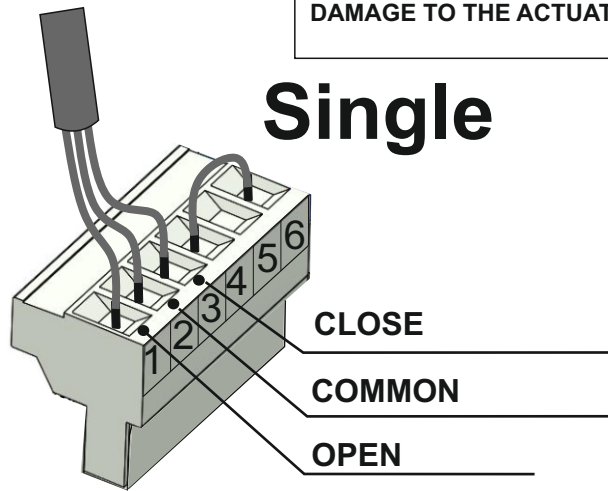
  
230Vac

**CAUTION**  
A WRONG CONNECTION  
CAUSES IRREPARABLE  
DAMAGE TO THE ACTUATOR.

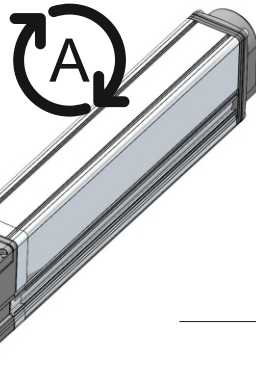
**Single**

**230 Vac**

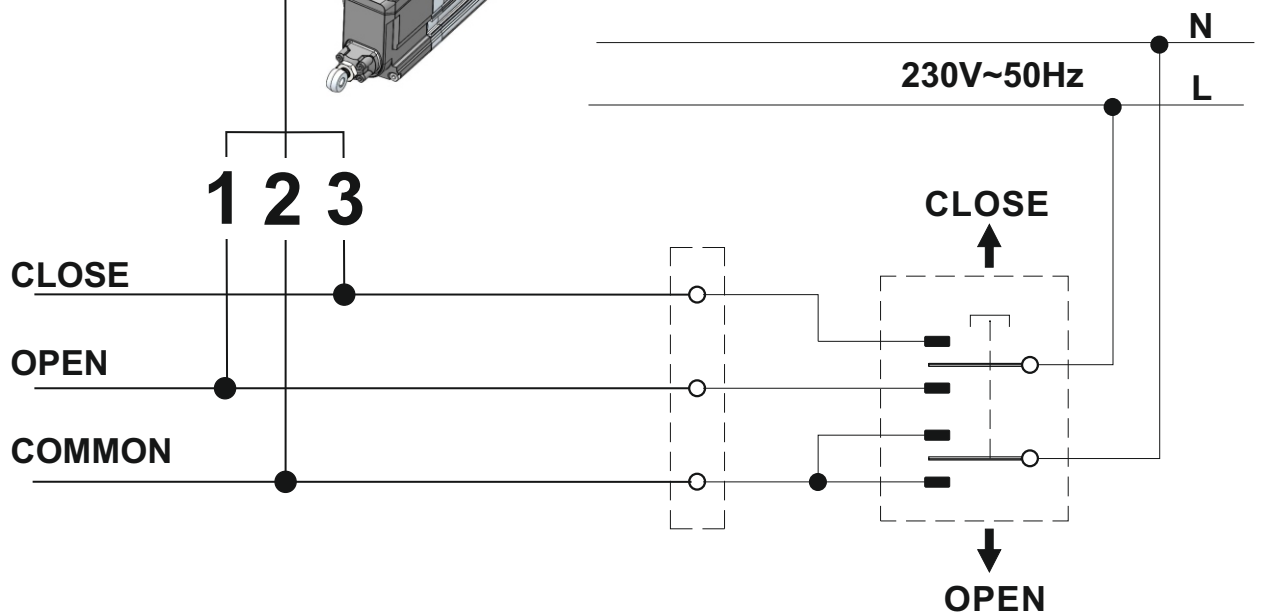
**Single**



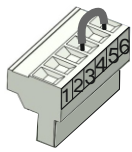
S80/230V



	OPEN	CLOSE
L	1	3



## Electrical scheme 230V - Double

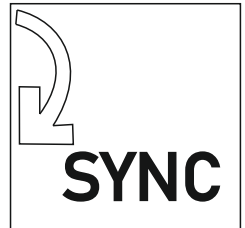


**CAUTION**  
Remove link

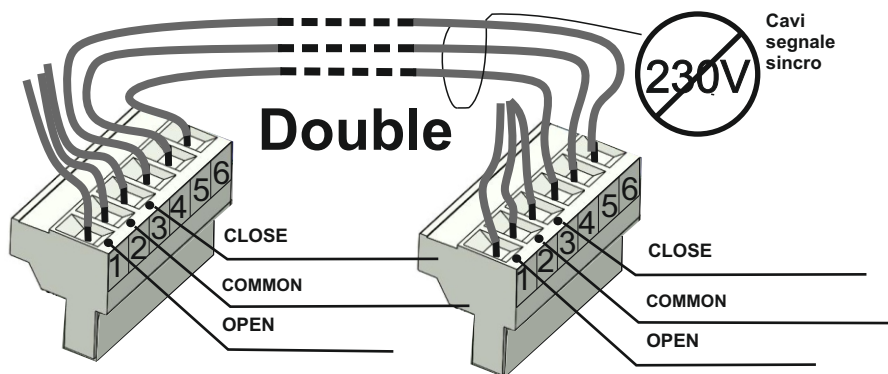


**CAUTION**  
A WRONG CONNECTION  
CAUSES IRREPARABLE  
DAMAGE TO THE ACTUATOR.

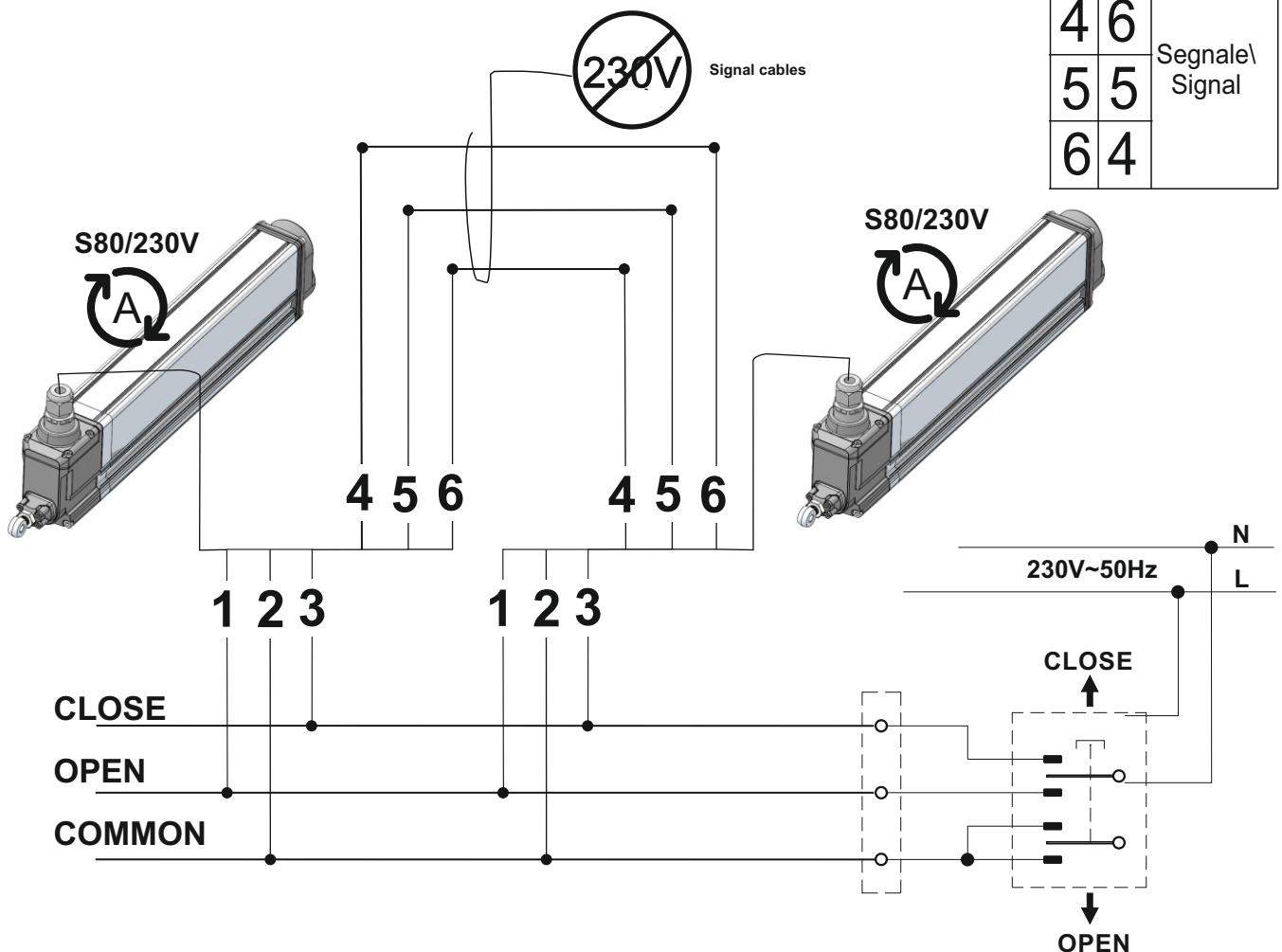
**230 Vac**



**Double**



Connect.		
1	1	Open
2	2	Common
3	3	Close
4	6	Segnale/ Signal
5	5	
6	4	











TOPP S.r.l.

Società a Socio Unico soggetta a direzione e coordinamento di 2 Plus 3 Holding S.p.a.

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