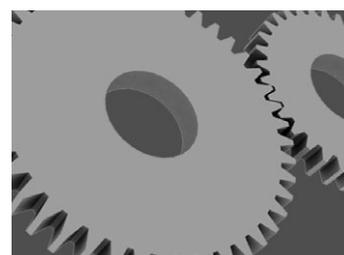




Operating and Installation Instructions



Sectional gate MakroPro 100 installation type VL

Catalog no. AW.03.66

Operating and Maintenance Manual

IMPORTANT INFORMATION

Please read these instructions carefully and follow the guidelines. You will find here essential information, which guarantees safe installation and use as well as proper maintenance of the sectional gate MAKROPRO 100. Please protect these instructions from damage and store them carefully.

EXPLANATIONS OF SYMBOLS

Numbers shown in fig. 1 correspond directly to numbers of drawings included in these instructions.

- A1 - gate leaf
- A2 - vertical guide assembly L
- A3 - vertical guide assembly P
- A4 - guide coupler
- A5 - console
- A6 - cable drum
- A7 - drive shaft
- A8 - carrier
- A9 - side gasket
- A10 - upper hinge
- A11 - side hinge
- A12 - protection from cable breaking
- A13 - lock/bolt
- A14 - bottom gasket
- A15 - middle hinge

- H_o - opening height
- S_o - opening width
- S_z - custom order width
- N - lintel
- E - garage depth
- W1 - side space L
- W2 - side space P
- L - cable length (specified in the guarantee certificate)

(drawing number) a - refers to installation of the gate with bolt
(drawing number) b - refers to installation of the gate with lock



Design and specification are subject to change (resulting from technological progress) without notice.

1. DESIGN CHARACTERISTICS & TECHNICAL SPECIFICATION

We offer as a standard MAKROPRO 100 series sectional gates designed for mounting in door-way dimensions as indicated by the hatched area on fig 2. Gates outside of the specified dimensional range can be made after prior arrangement made with WIŚNIOWSKI. As a standard MakroPro 100 gates are made as industrial type gates.

Gates higher than 2100 [mm] and up to 5000 [mm] in width can be equipped with pass door opening to the outside. Gates with a width up to 5500 [mm] can be provided with glazed sections, maximum number of windows is given in the price list.

Sectional gates MAKROPRO 100 are made from steel panels filled with polyurethane foam. As a standard the gates are provided with devices protecting the gate leaf from falling down in case of breaking of the cables, holding the gate leaf. In case of failure this device blocks the leaf in safe position.

2. APPLICATION AND FUNCTION

Sectional gates MakroPro 100 are external building partition used for closing garage and technical rooms, industrial facilities, in halls and storage houses. When in closed position they make a tight vertical partition of rooms, and when being opened allow taking in or out vehicles or industrial equipment. Due to corrosion protection applied the gates may be used for their intended purpose, in environments with corrosion category C1, C2 and C3 according to PN-EN ISO 012944-2 and PN-EN ISO014713.

3. SAFETY RECOMMENDATIONS

Before attempting to install and operate the door you must carefully read and understand the guidelines provided in these instructions. Following the gate installation and operation guidelines will ensure its correct installation and provide long and trouble-free service. All operations connected with installation of the gate should be carried out following the steps described.

4. REQUIRED INSTALLATION CONDITIONS

The gate should be used and operated according to its design purpose. Selection and use of gates in building applications should be based on the technical documentation of the building, drawn according to the Building Law, binding standards and other provisions - in particular according with the decree of the Minister of Infrastructure dated 12th of April 2002 regarding technical criteria for buildings and building locations (Journal of Law, No. 75, pos. 690 with later amendments).

Sectional gates MakroPro 100 can be mounted into reinforced concrete walls, walls made of bricks or steel frameworks. The room intended for gate installation should be fully finished (plastered walls, finished flooring), the walls must not show flaws in completion of the job (fig. 4). The room should be free from any chemical substances harmful to varnish coating. The floor around the bottom washer should be leveled and made in such a way to ensure free water removal. For proper installation of the gate you need lintel N to mount the guides and drive, and side space W1 and W2, with the minimal width required to install the gate shown on fig 5.2. Correct measurement of lintel height and width of side space is shown on fig 5.1.

5. INSTALLATION

Correct functioning of the gate depends to a great extent on its proper installation. The manufacturer may, if optionally ordered by the Client, install the gate or recommends authorized installation performers. Should the user choose to install the gate by himself, he must ensure that the guidelines contained in this manual are observed, to avoid incorrect functioning of the gate, its premature wear and voiding guarantee claims. Installation must be performed in accordance with binding standards and provisions and relevant design documentation.

5.1. Installation sequence

1. Push the guides against the wall and face them with the opening (fig. 8) - guide spacing as shown on fig. 7.
2. Mark off mounting holes (beneath bottom part of the guide) in the wall (fig. 8.1).
3. Put the bottom part of the guide aside (fig. 9).
4. Drill mounting holes (beneath bottom part of the guide) in the wall (fig. 10), fit the plugs of wall fixing into drilled holes (fig. 11).
5. Push the bottom part of the guide against the wall and face it with the opening (fig. 12).
6. Fix the vertical part of the guide to the wall (fig. 13), optionally bracing L section can be used (fig. 14).
7. Position the upper part of the guide and face it with the opening (fig. 15).
8. Mark off mounting holes (beneath upper part of the guide) in the wall (fig. 16).
9. Put the upper part of the guide aside (fig. 17).
10. Drill mounting holes in the wall and fit the plugs of wall fixing into drilled holes (fig. 18-19).
11. Position the upper part of the guide and face it with the opening (fig. 20).
12. Fix the upper part of the guide to the wall (fig. 20.3).
13. Screw down both parts of the guide in the connection point (fig. 21).
14. Fit the distance bracket (fig. 22).
15. Slide over the assembly tacks on the distance bracket, screw down temporarily the consoles to the guides (fig. 23).
16. Mark off mounting holes for the consoles, drill the holes and fit the plugs of wall fixing into drilled holes (fig. 24).
17. Screw down the consoles to the wall and tighten screws securing the consoles to the frame (fig. 25).
18. Mount the drive shaft and lubricate the bearings with grease (servomotor SI 55 - fig. 26-28, servomotor SI 17, SI 25, SI 40 - fig. 33).
19. Mount the gate drive - slide the key on the shaft, slide over the servomotor (SI 55 - fig. 29, SI 17, SI 25, SI 40 - fig. 34), screw down the plate securing the servomotor (fig. 35) and protect the servomotor with the edge ring (SI 55 - fig. 32, SI 17, SI 25, SI 40 - fig. 36).
20. Mount the cable (fig. 41).
21. Wind the cable on the drum (after winding three turns cut-off the remaining cable, and protect its end from unwinding) (fig. 37) - tighten firmly the plates securing the cable.
22. Mount the gate leaf (fig. 39-48).



To avoid damage and facilitate inspection (if brake is activated) do not remove tape from the knife when protecting from cable break.

23. Install the bolt/lock (fig. 49).



When using the lock - use distance sleeves in the side hinge between the first and second panel. In gates equipped with lock or bolt it is recommended to install a lock or bolt sensor.

24. Adjust initially the roller of the first section (fig. 50).

25. Adjust initially the rollers of other sections (fig. 50.1).

26. Install the bumper in the upper part of the guide (fig. 51).

27. Gate lifting/lowering test (fig. 52).

6. GATE INSTALLATION ERRORS

There is a risk that during installation of the gate some errors can be made, which can be easily avoided by paying attention that:

- vertical guides are properly installed, according to the specification provided in these instructions,
- the closed gate leaf creates equal plane, sections must not show any deformations - any displacements of the sections should be corrected on the hinges,
- side hinges are adjusted according to the instructions,
- all fasteners must be properly tightened.

Failure to follow the above mentioned basic guidelines may cause problems in correct functioning of the gate, damage to the gate or in consequence can void the guarantee.

7. DISASSEMBLY OF THE GATE

Disassemble the gate in the reverse order as when assembling it.



Removing the keys connecting the shaft with the servomotor and disassembling the servomotor is only possible with the gate fully closed.

8. MAINTENANCE INFORMATION

General proper maintenance conditions for the gate, assuring its long, trouble-free service:

- should you find any malfunctioning of the gate stop using the gate and contact the authorized service,
- do not block the area of the gate leaf movement. When opening and closing the door leaf make sure that there are no people, especially children or objects in its way,
- do not pass, run or drive under the moving gate, avoid excessive contamination of the gate leaf, particularly protect the leaf from harmful elements which could scratch the surface e.g. with sand,
- the floor around the bottom washer should ensure free water draining,
- protect the gate from contact with any substances harmful to varnish coatings and metals, ex. caustic substances (acid, lye, salt),
- when finishing the room or when renovating it protect the gate from contact with plaster chips, paints and solvents,
- the gate operated electrically should be opened following the instructions supplied with the electrical equipment,
- if during lifting of the gate some excessive resistance is encountered check correct adjustment of the hinges, if necessary, adjust the hinges according to the installation instructions,
- if pass door are installed in the gate do not lift the gate if the door is not locked.



It is not allowed to operate the gate if there is visible damage to the drive lines!

- after installation (at the latest up to two weeks) remove the protective foil from the panel surface.

8.1. Running maintenance instructions:

Operations that can be performed by the client after getting thoroughly acquainted with the Operating and Maintenance Instructions supplied with the gate:

- for cleaning the gate sections use mild cleansers, safe for varnish coatings ex. water and soft sponge or cleaning agents intended for use with varnish coatings available on the market,
- for cleaning glazed sections do not use agents containing alcohol or solvents (may cause dulling of acrylic glass), you can use mild cleaning agents but we recommend to do some testing first on small glazing surface,
- minimum once per three months and in the case of industrial gates

once a month perform by your own running inspections of the gate to check the following:

- check if the cables are not loose or damaged (broken wires, corrosion),
- check tightening and correct mounting of all fasteners, particularly screws securing guides, screws securing hinges,
- in case of any faults they must be completely removed,
- it is not allowed to operate the gate if there is visible damage to the drive lines,
- lubricate the running rollers and hinges at least once every six months using white mineral oil,
- replace the supply batteries at least once every 12 months,
- for electrically driven gates check correct adjustment of the limit switches (check by pressing the corresponding up/down button on the control panel, observing where the gate stops) - after the gate stops in closed position the cables should remain stretched, after the gate stops in open position the bottom gasket should not protrude above the gate opening,
- for electrically driven gates once every month check correct operation of electrical safety devices (if used):
 - photocells - by simulating the operating conditions - after cutting the light flux the gate should stop and move back,
 - optical strip - the gate should stop and move back, when the leaf touches 40 [mm] high object, placed on the floor. If necessary, adjust and check again, since bad adjustment can result in accident,
 - lock sensor - when the lock is in locked position the gate should not start,
 - pass door sensor - when the door is open the gate should not start,
- check operation of the emergency opening facility supplied with the servomotor.

8.2. Operations that can be performed by the authorized, trained personnel having proper qualifications:

- minimum once per six months and in the case of industrial gates once per three months perform inspections of the gate to check the following:
 - check cables on the entire length, for damage (broken wires, corrosion), check cable fitting on cable drums,
 - check tightening and correct mounting of all fasteners, particularly screws securing guides, screws securing hinges and keys, fastening of the servomotor,
 - check proper functionality of devices protecting from cable breaking,
 - in case of errors in work of electrical drives disconnect the drive from power supply for 2, 3 min and reconnect,
 - check adjustment of the rollers, adjust if necessary,
 - check condition of pass doors - adjust if necessary,
- in case of any faults they must be completely removed,
- all activities should be carried out following the gate operating and maintenance instructions.

8.3. Operations that can only be performed by the authorized FPHU WIŚNIOWSKI service personnel:

- any modifications of the gates,
- replacement of the protection from cable breaking,
- replacement of cables, cable drums,
- repairs of electrical components.

9. GATE OPERATING INSTRUCTIONS



Do not block the area of the gate leaf movement.

When opening and closing the gate leaf make sure that there are no people, especially children or objects in its way. Do not allow children to play with the equipment. Gate control transmitters should be kept out of the reach of children.

Prior to first opening the gate check its correct installation. The gate is mounted correctly if its leaf opens and closes smoothly and the gate can be operated with ease.

Electrically driven gate:

1. Operating the gate under normal conditions (without power loss) without self-support:

1. Opening: press the button  and hold it until the gate is completely open.
2. Closing: press the button  and hold it until the gate is completely closed.

3. The gate is stopped in each intermediate position when the button is released.

II. Operating the gate under normal conditions (without power loss) with self-support:

1. Opening: press the button once \uparrow and wait until the gate completely opens.
2. Closing: press the button once \downarrow and wait until the gate completely closes.
3. The gate is stopped in each intermediate position with the STOP button.

III. Operating the remotely controlled gate under normal conditions (without power loss):

1. Opening: press the control button once on the remote controller and wait until the gate completely opens.
2. Closing: press the control button once on the remote controller and wait until the gate completely closes.
3. The gate is stopped in each position with the control button on the remote controller.

IV. Emergency opening of the gate - manual operation (in case of supply voltage loss).



Please disconnect power supply before using emergency opening.

Manual emergency start is intended for opening or closing of the gate without electrical power supply.



Warning! Risk of injury in case of improper use!

Before manual emergency start make sure to turn off the main switch of the drive. Manual emergency start is only allowed with the stopped motor. With the manual start of the drive position yourself in a safe position.

In the case of servomotors with spring-loaded brake, opening and closing of the gate must take place by overcoming the brake resistance. For safety reasons with gates without weight compensation you may only release the brake for control purposes when the gate is in its lower position.

When using the manual emergency start facility do not set the gate outside its extremities, since this will activate emergency limit switches. Electrical actuation of the gate is not possible then.

Manual emergency start "QUICK CHAIN" or "Emergency manual chain"

Version S1K: "quick two chains".

Version KNH: "Emergency manual chain".

Actuation of the manual emergency unit is possible with the horizontal and vertical installation position of the actuator. For other non-standard installation positions, the actuator must be located within the area, shown on fig. I. If necessary, fit the element of the manual emergency start in a position reversed by 180°.

Changing the length of the catch chain

The catch chain can be open in the linking point and short or elongate it using extra chain links. Make sure to carefully overbend the chain links. When changing the length of the catch chain pay attention not to twist the chain during installation - fig. II.

Version S2K/KNH

"quick two chains" - fig. III.

"Emergency manual chain"

First pull slightly the red holder of the activating chain (1) home (maximum activation force 50 N). Control voltage is off and the gate can be opened or closed using the catch chain (2) (maximum activation force - see technical data in the servomotor documentation). Slight pulling the green holder of the activating chain home (maximum activation force 50 N) turns the control voltage on, the gate can be now electrically controlled.

Fig. I

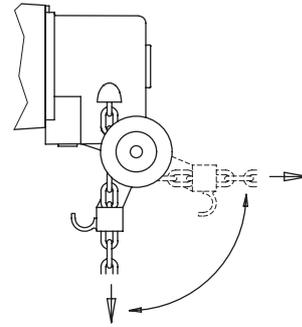


Fig. II

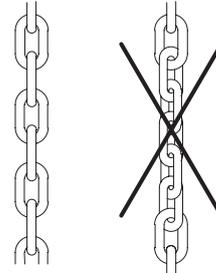
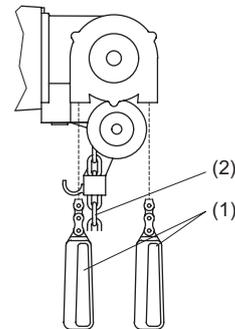
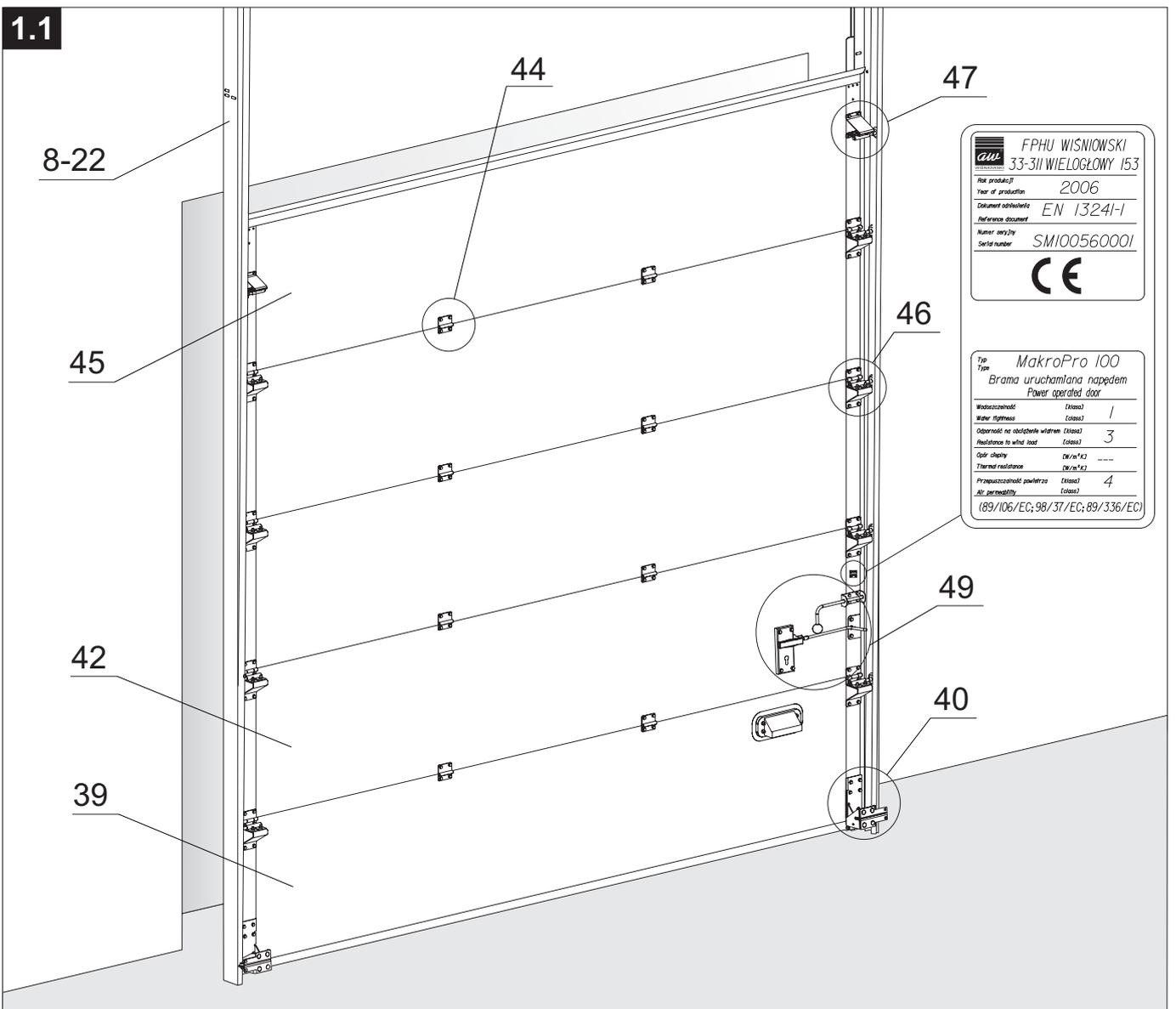
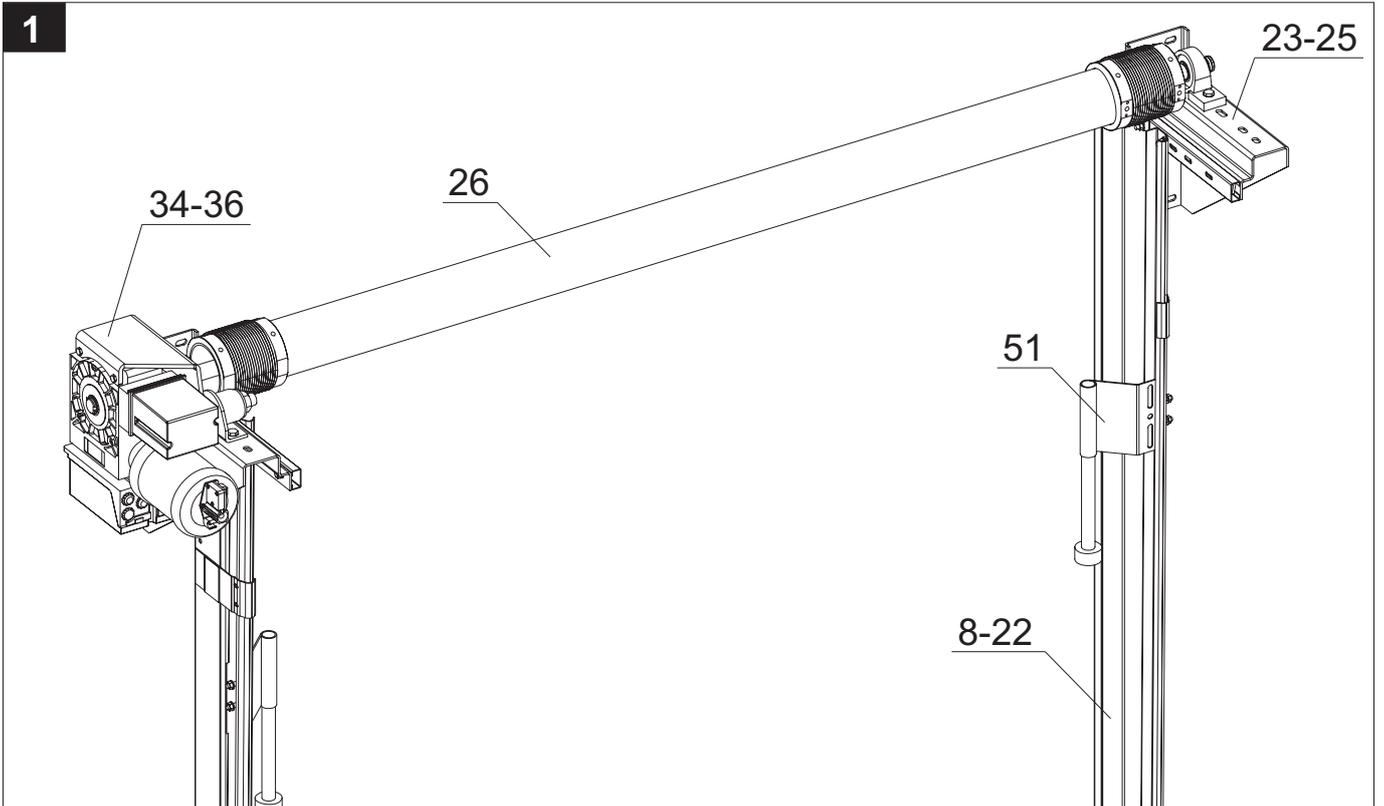


Fig. III

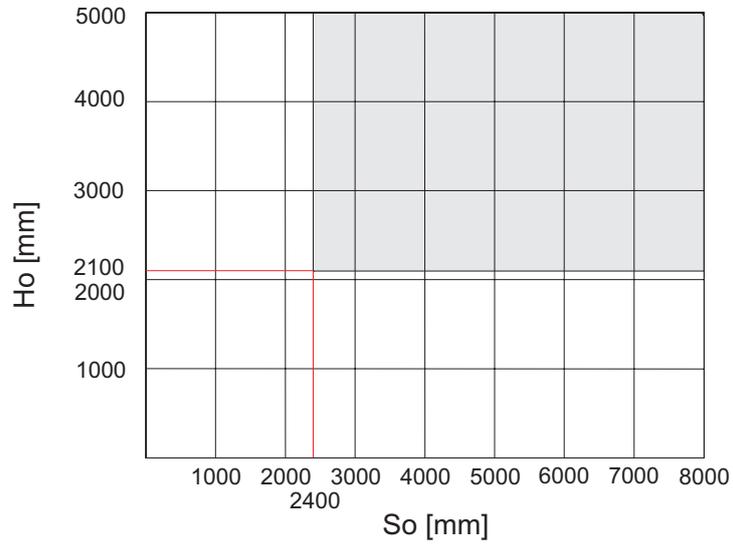


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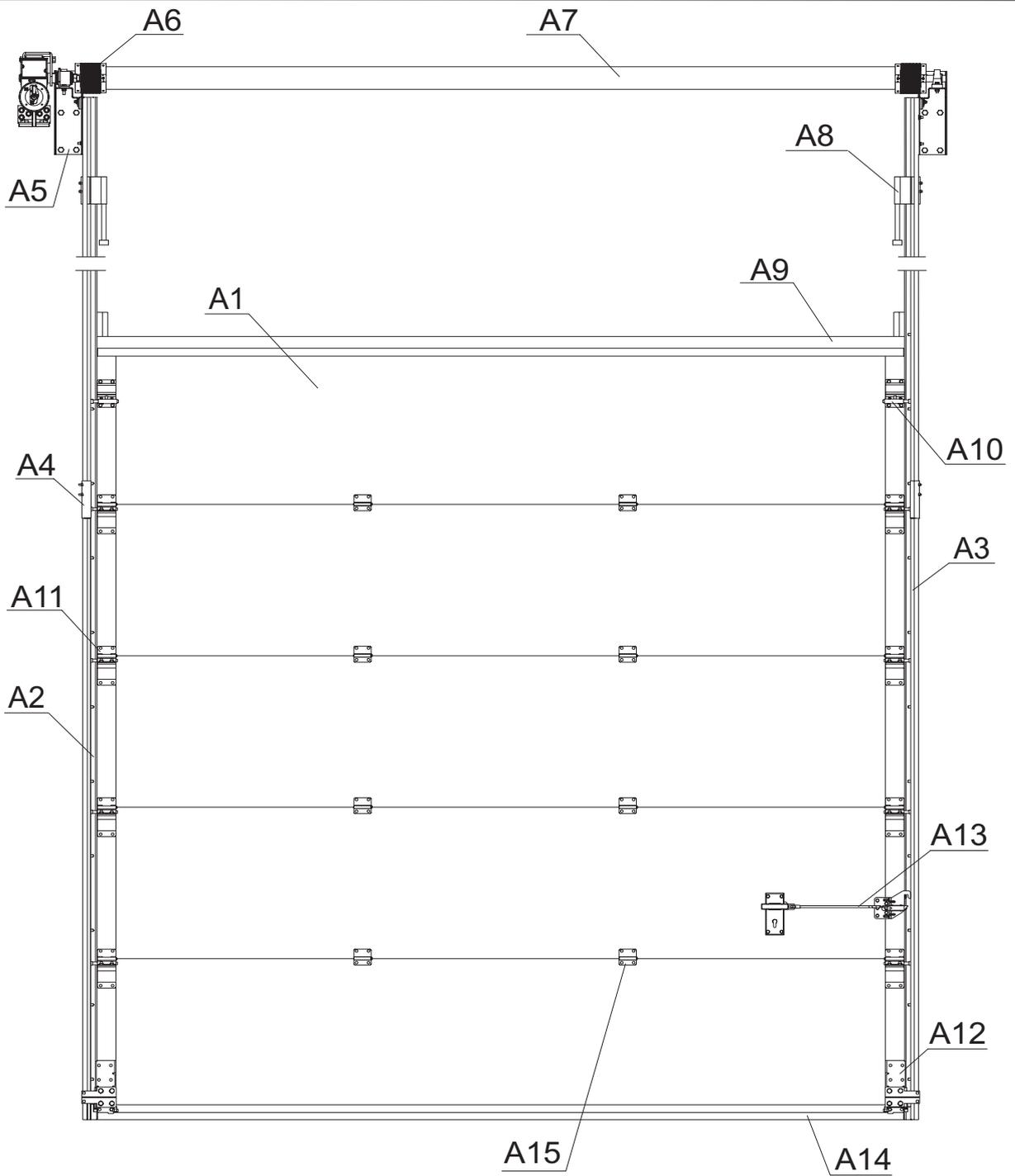
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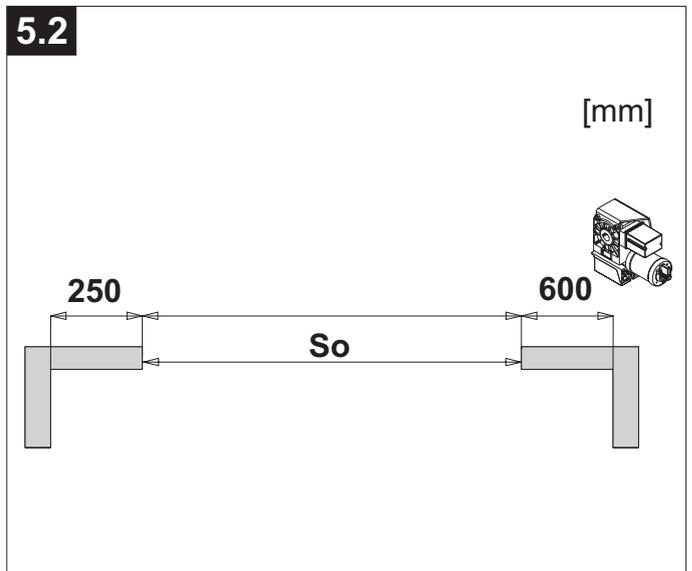
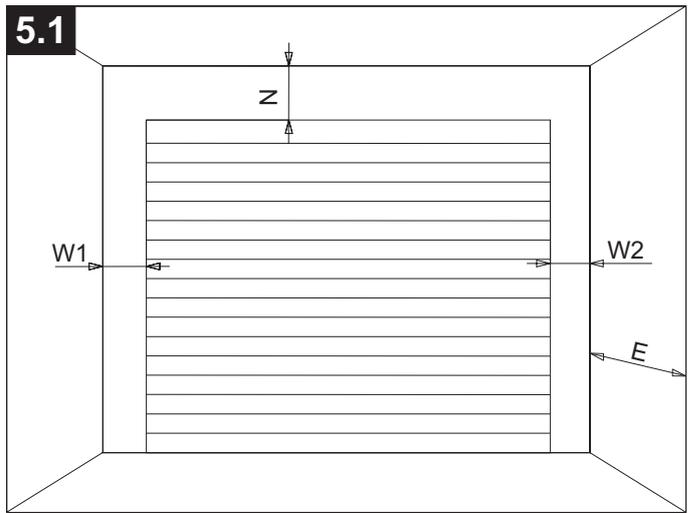
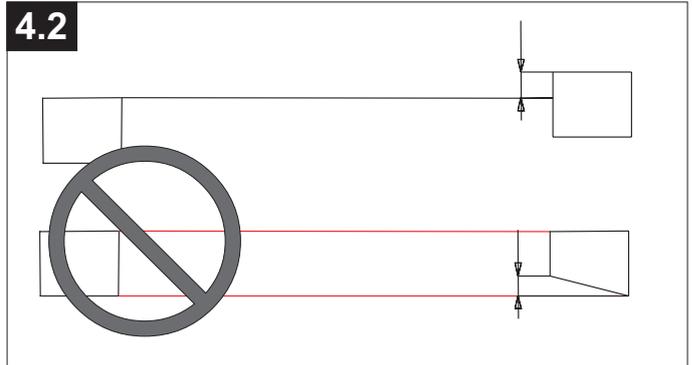
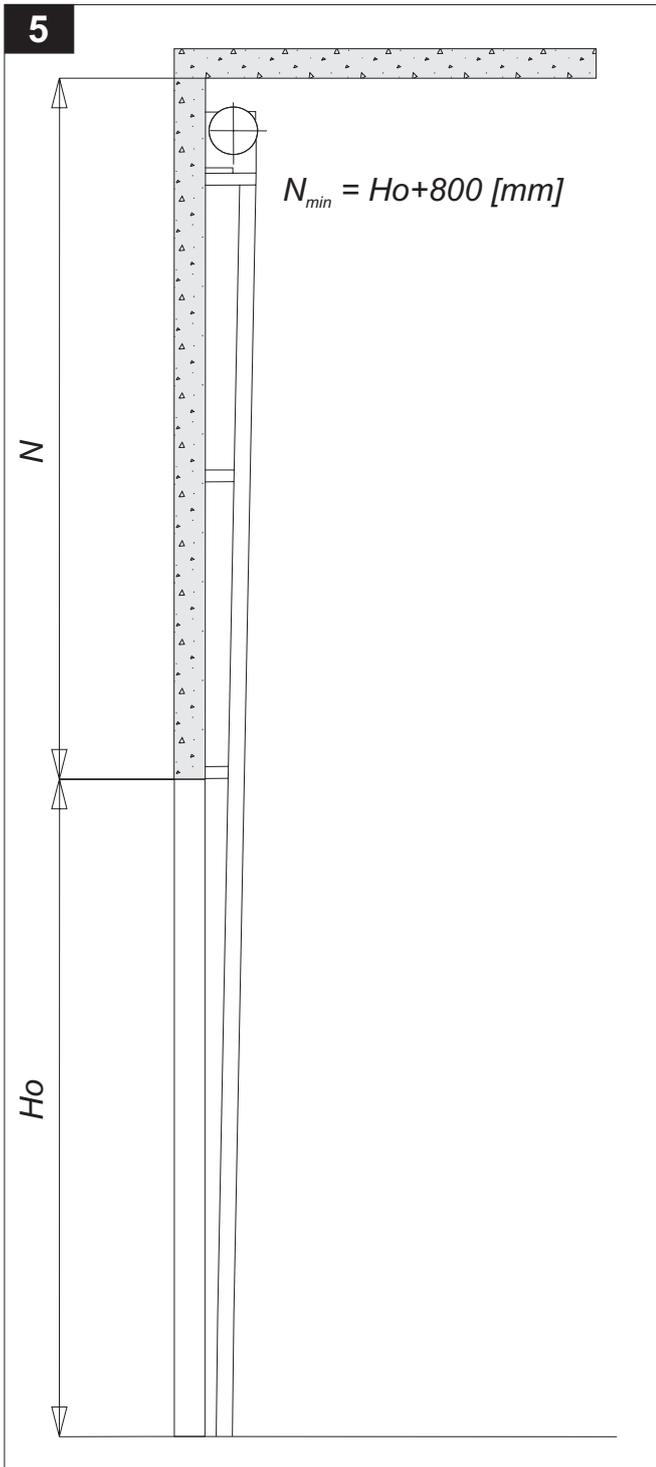
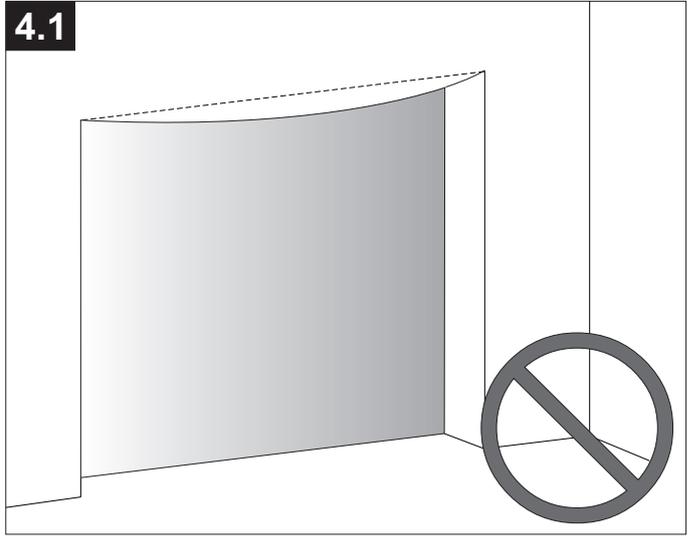
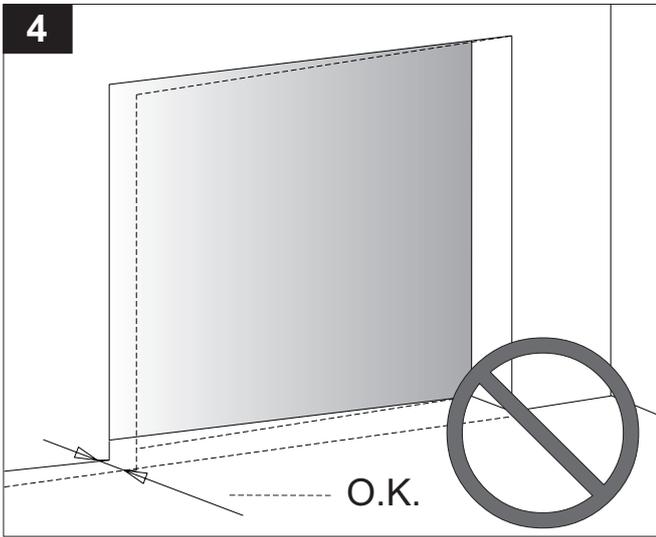


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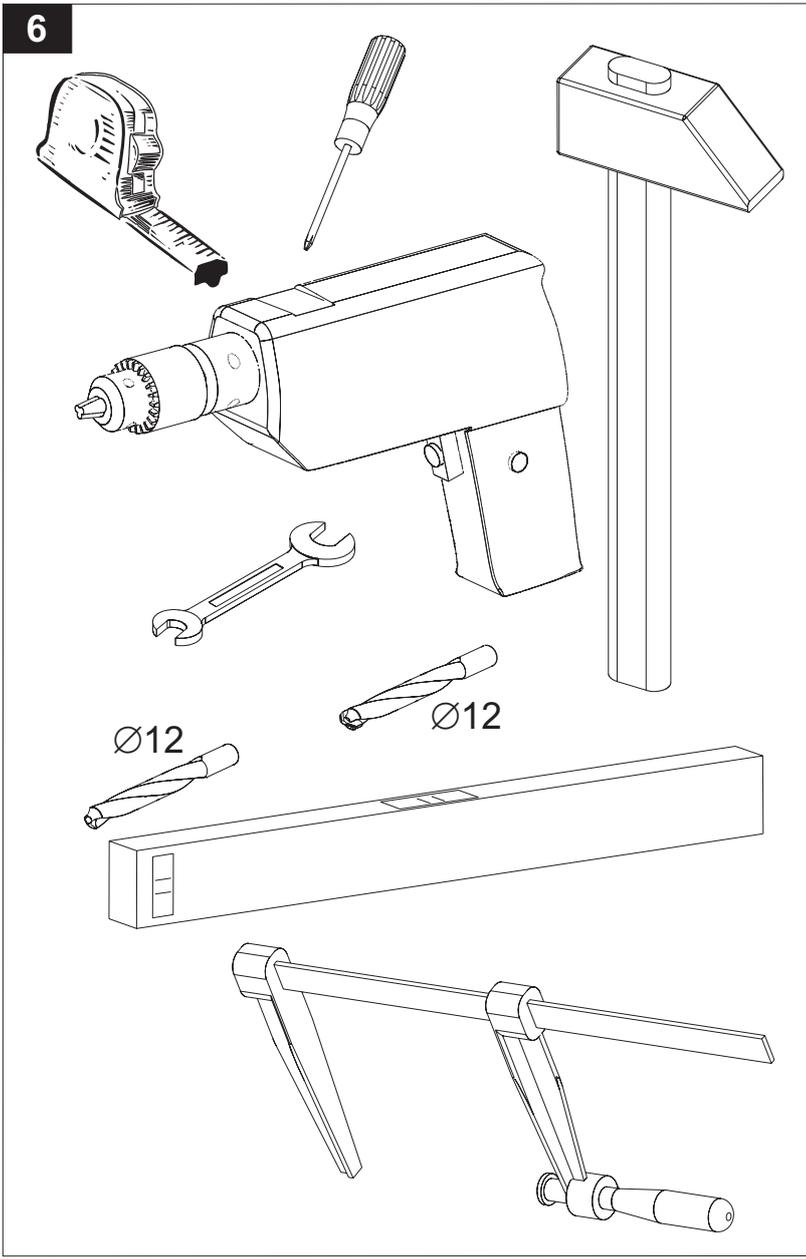


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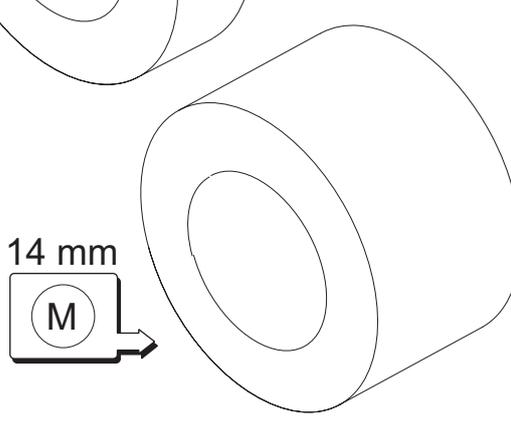
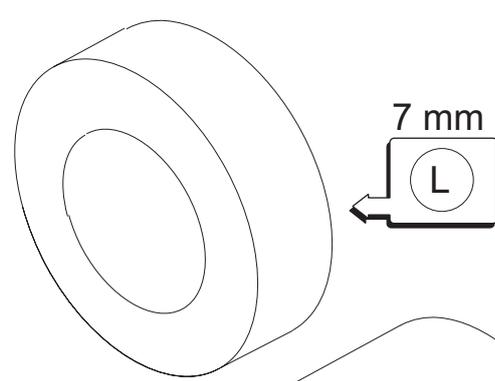
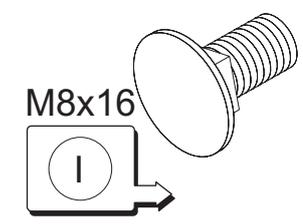
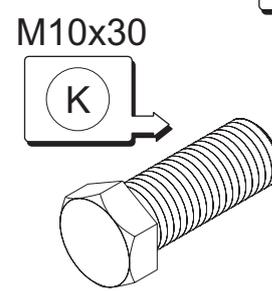
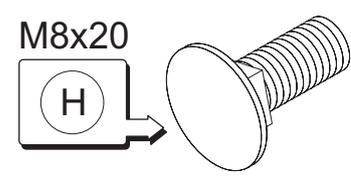
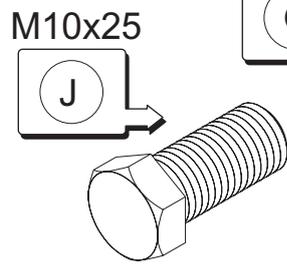
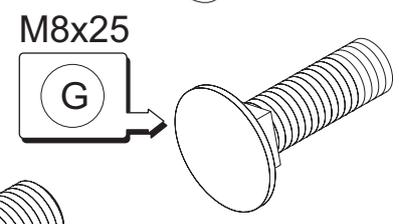
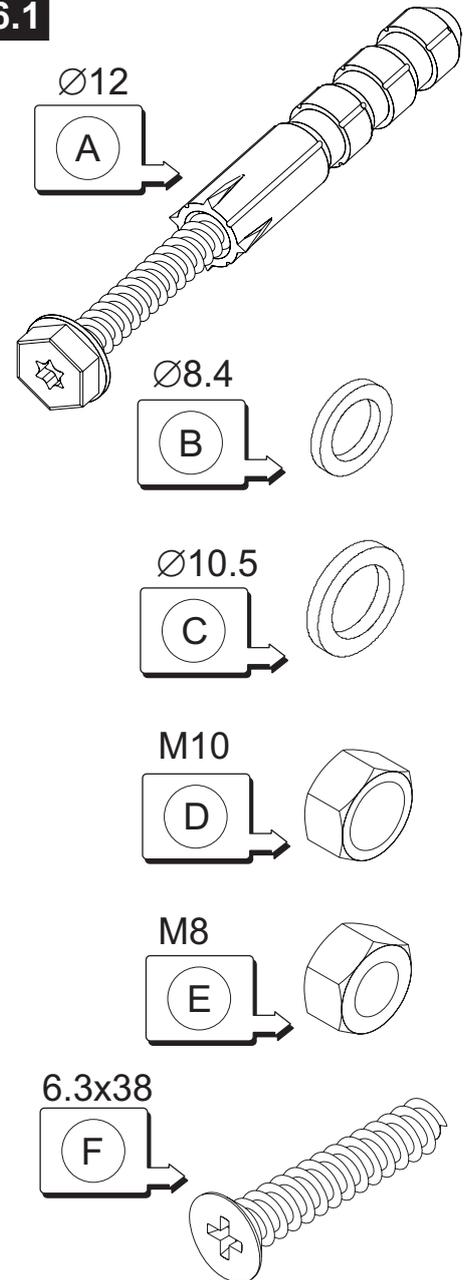


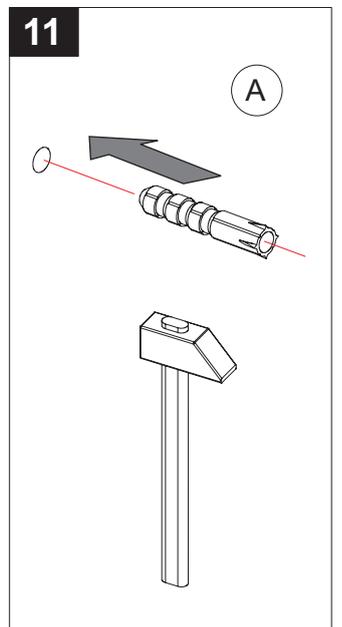
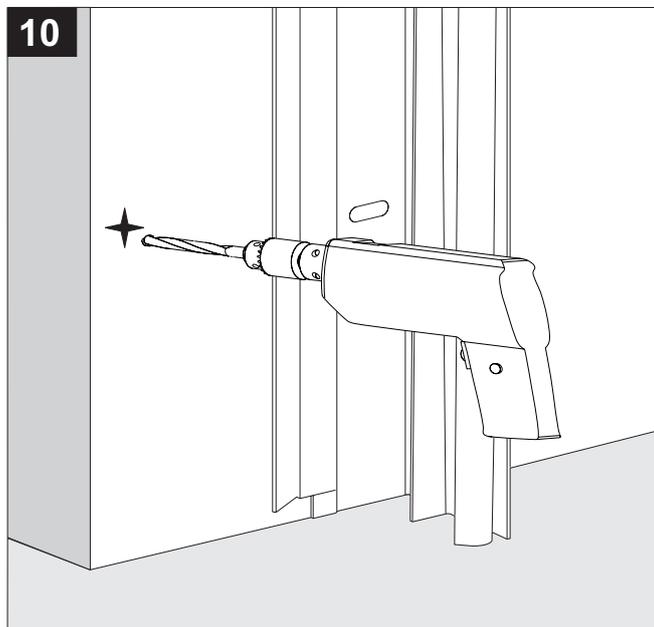
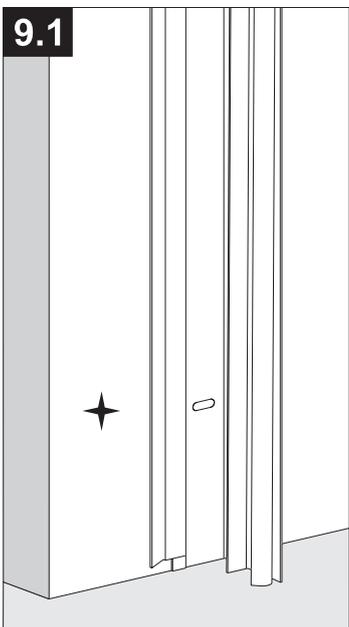
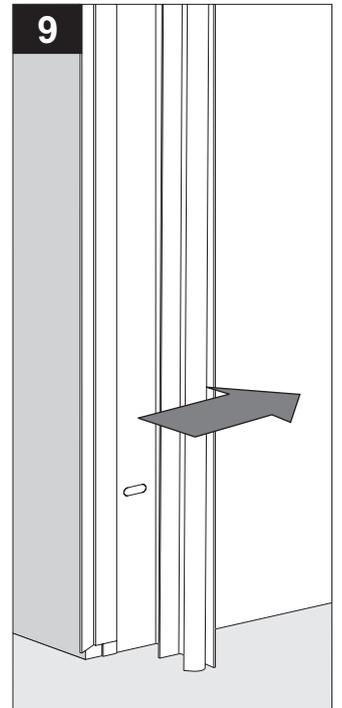
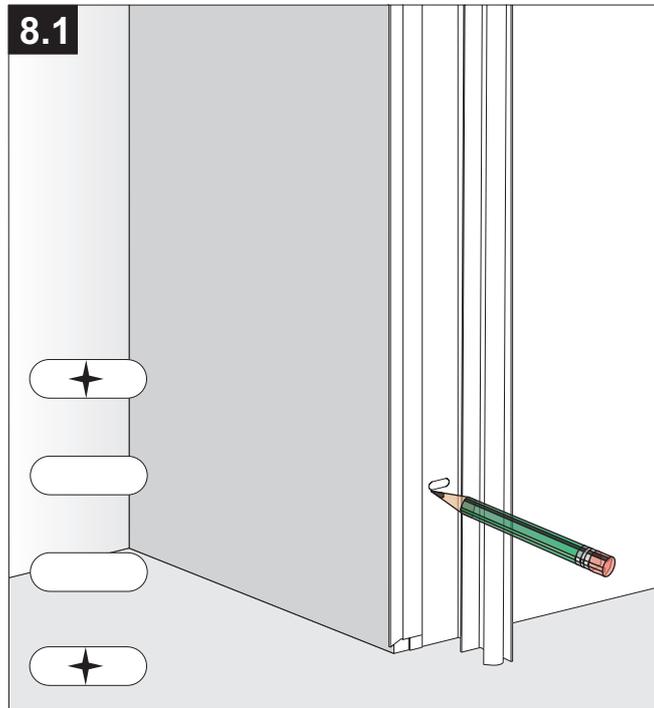
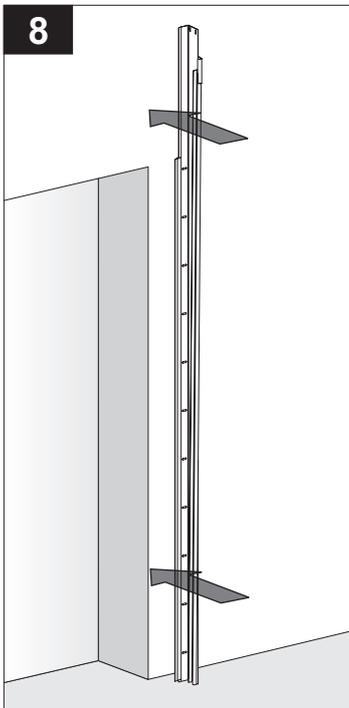
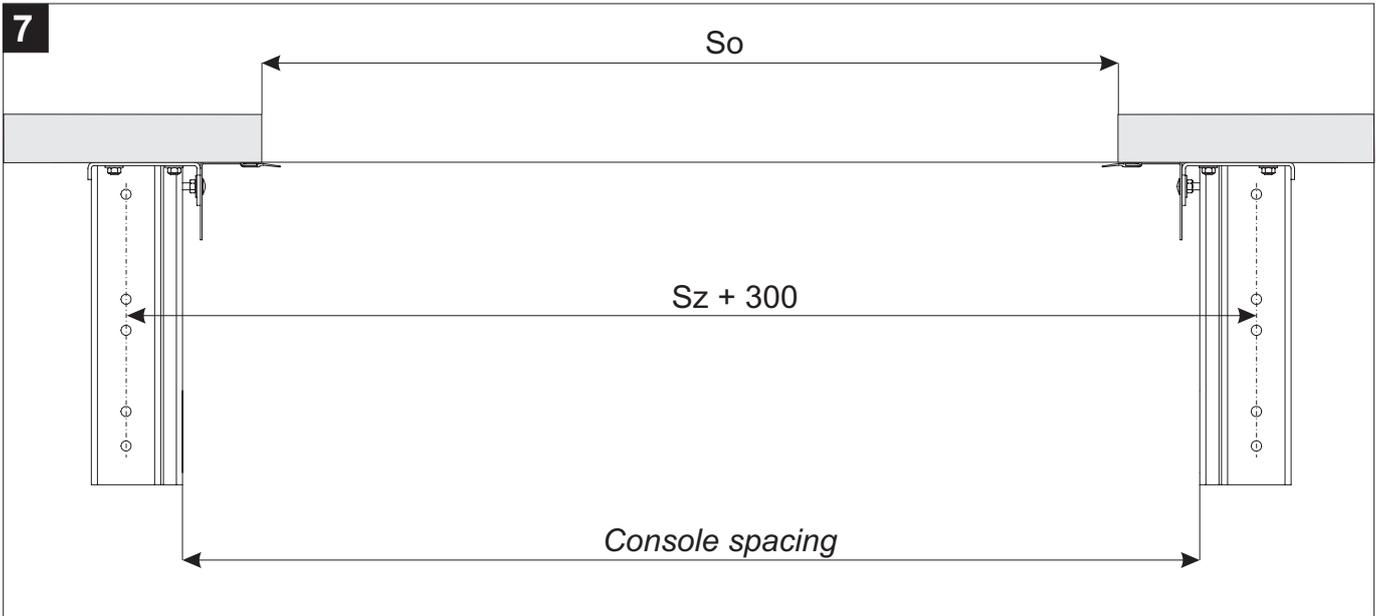


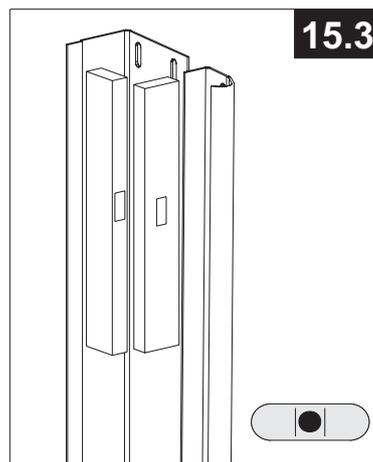
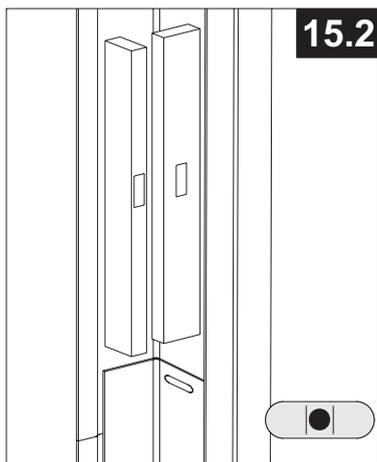
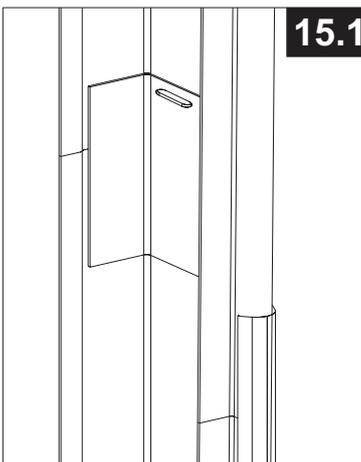
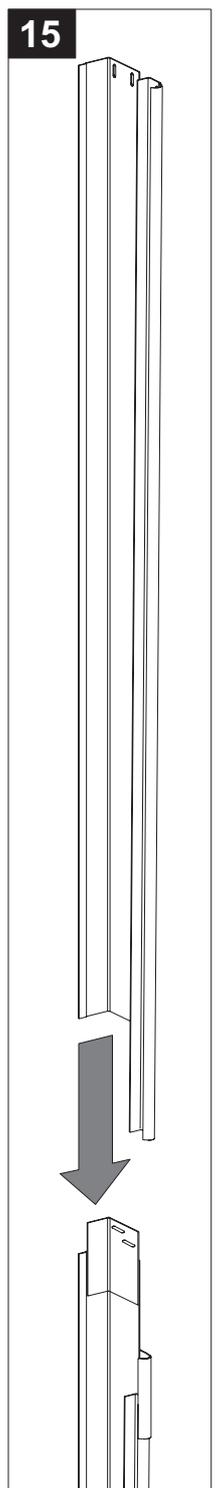
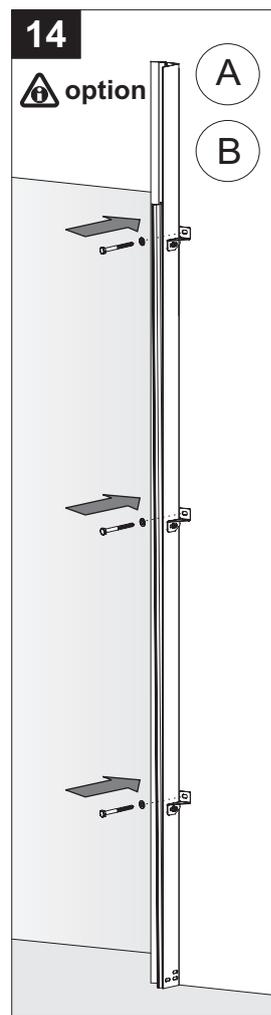
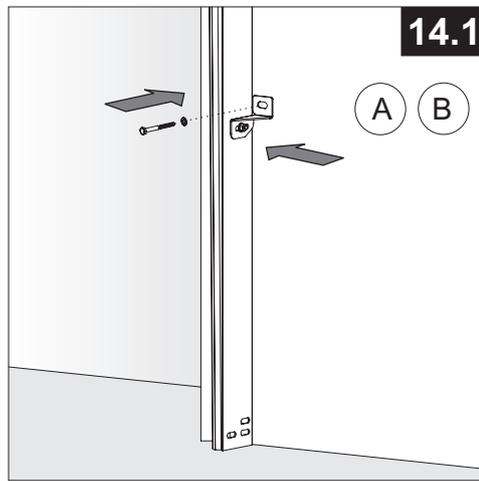
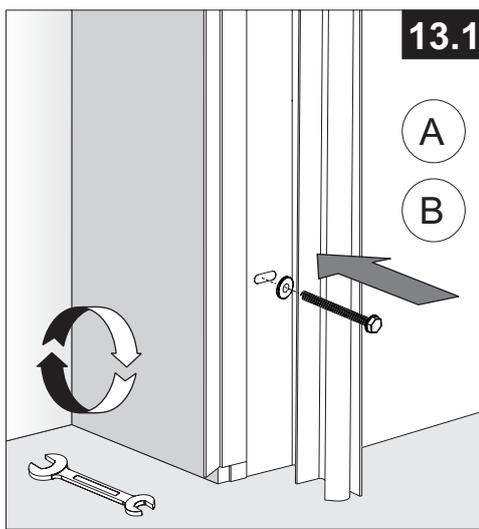
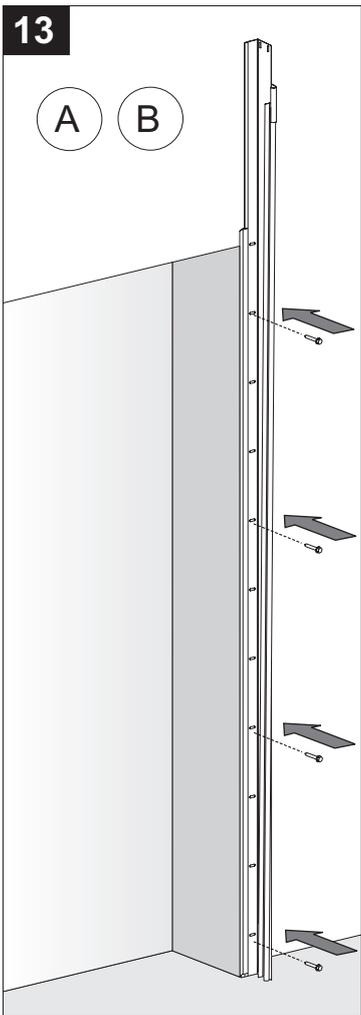
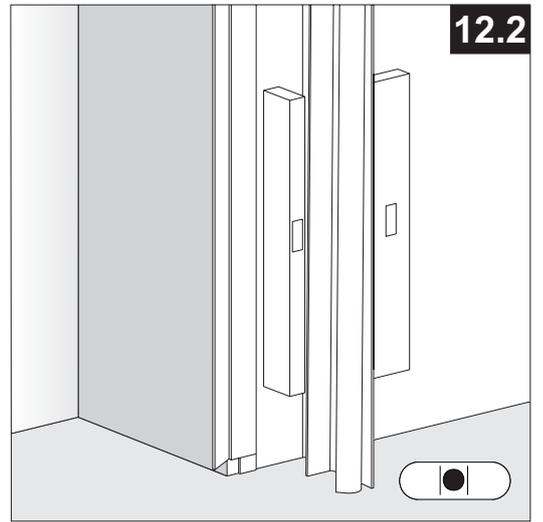
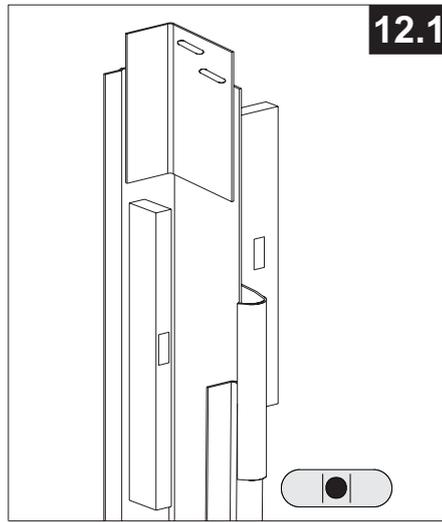
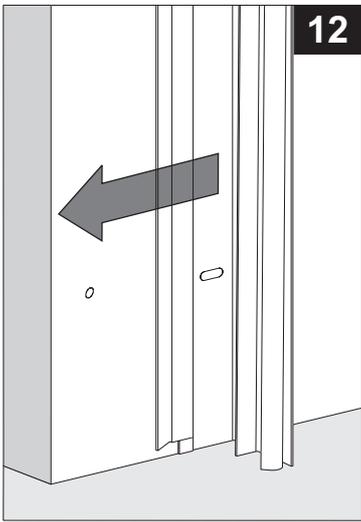
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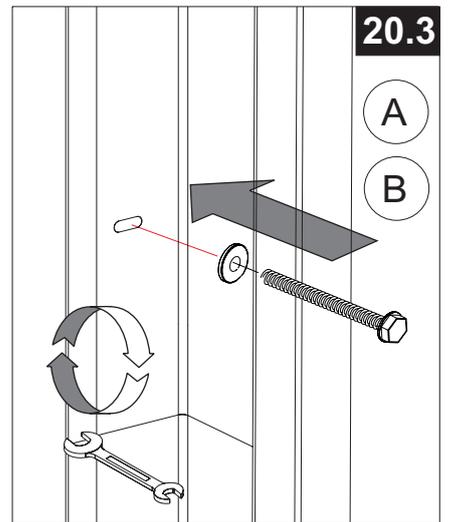
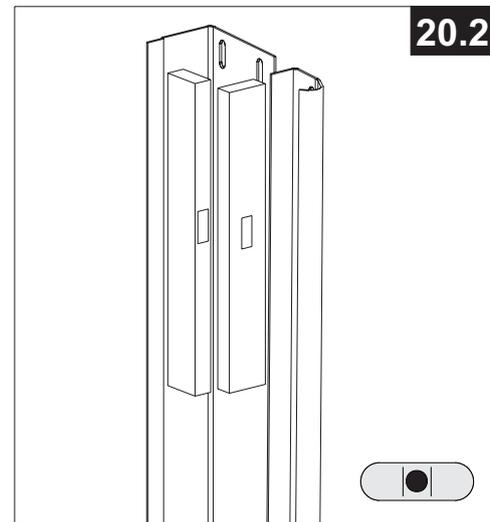
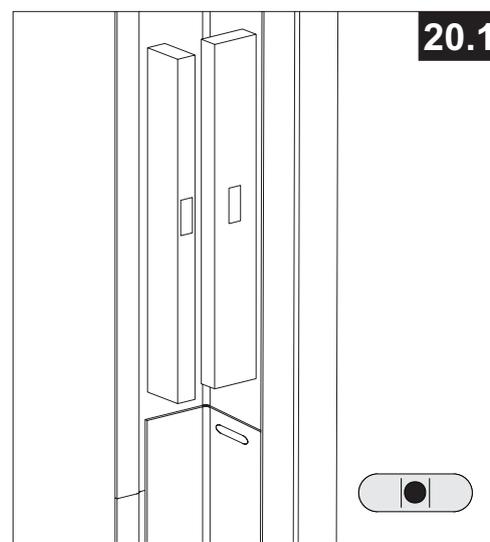
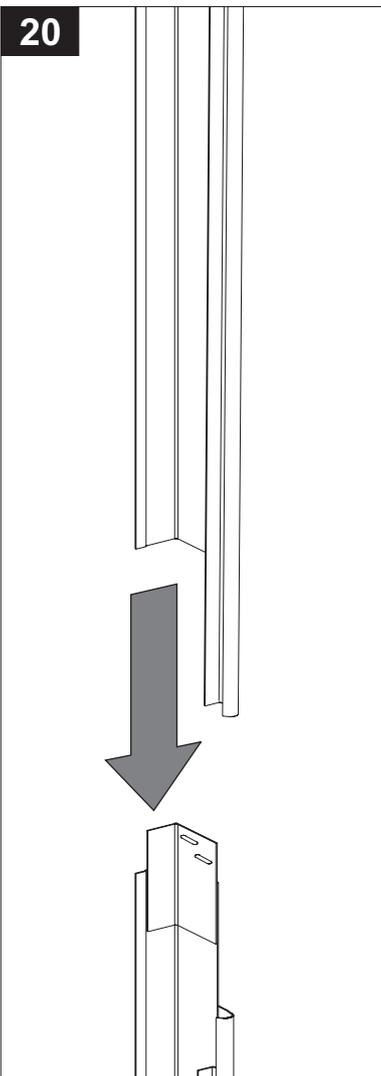
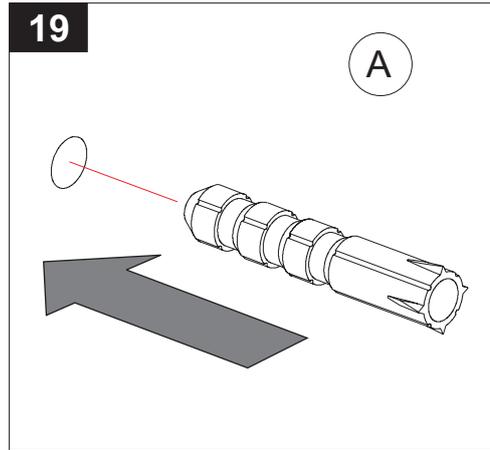
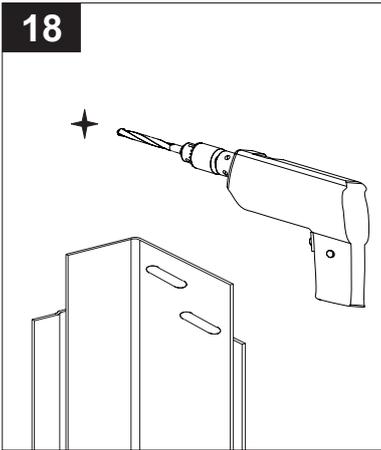
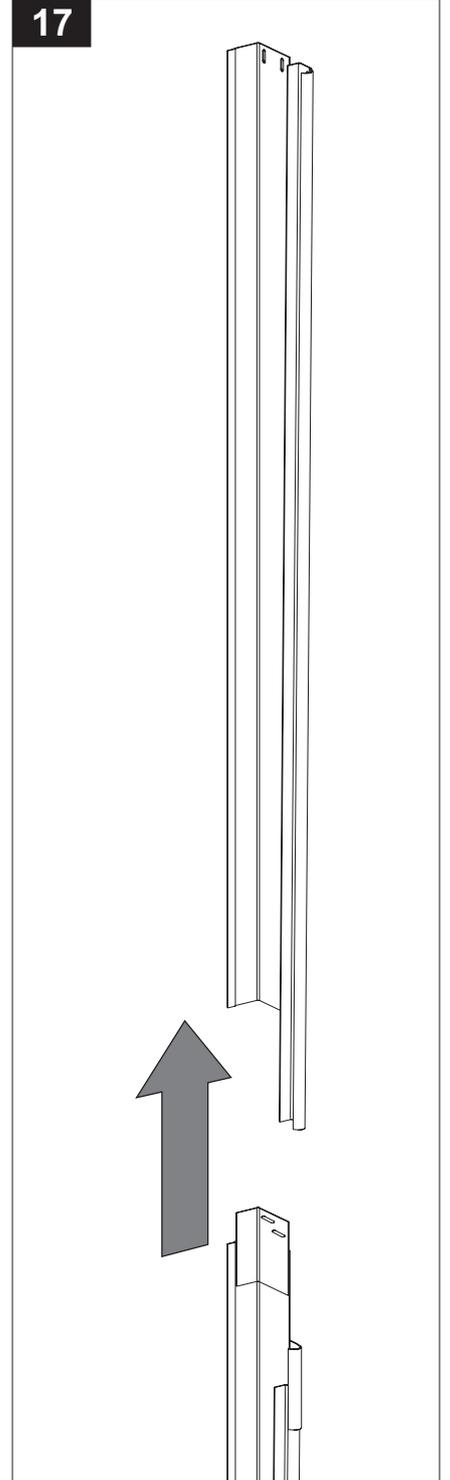
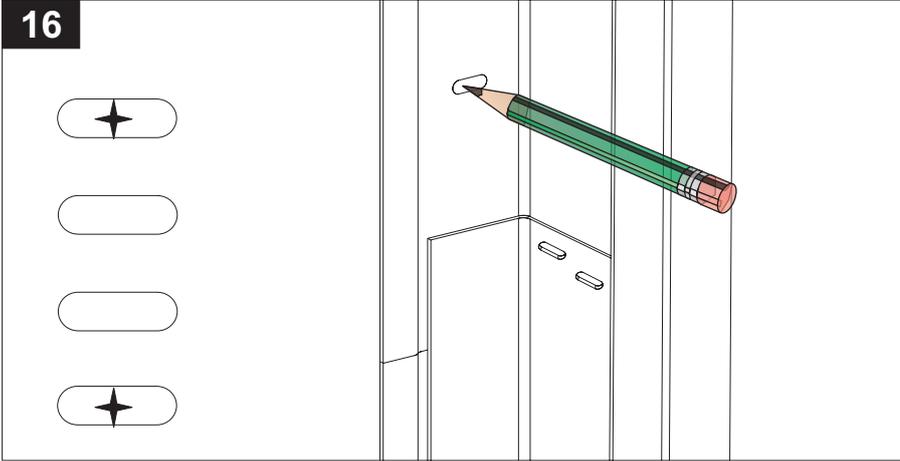


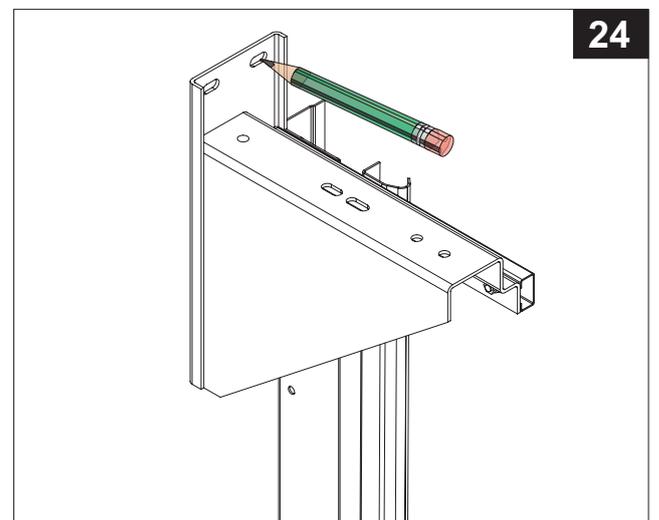
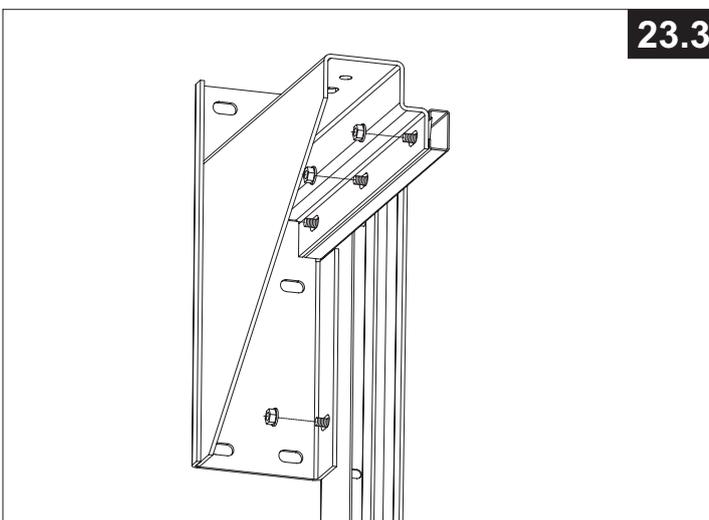
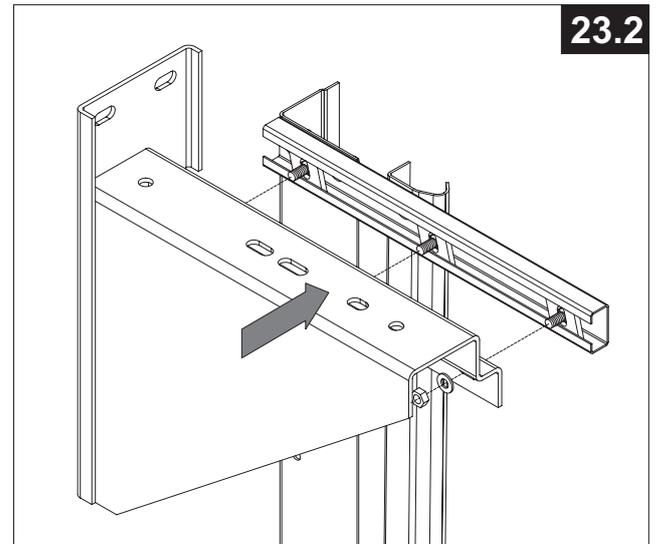
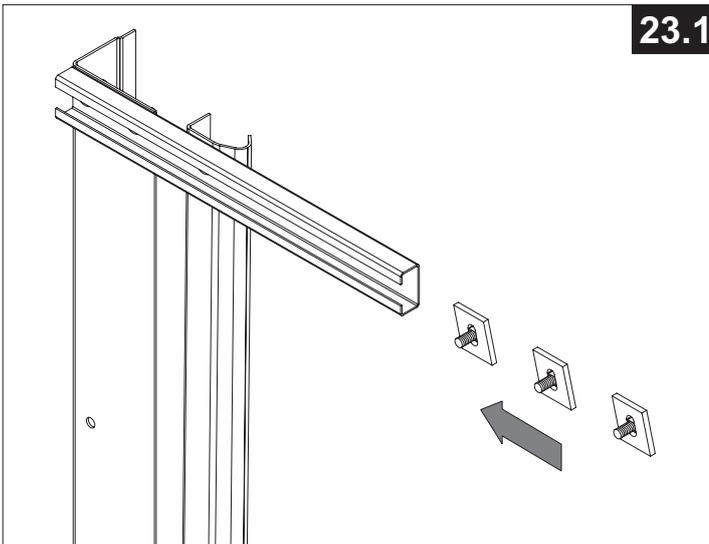
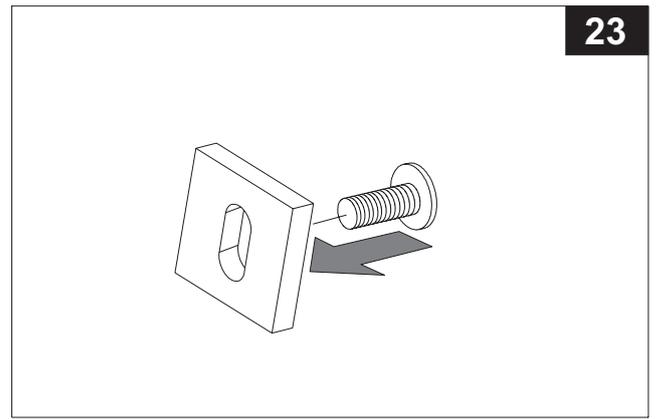
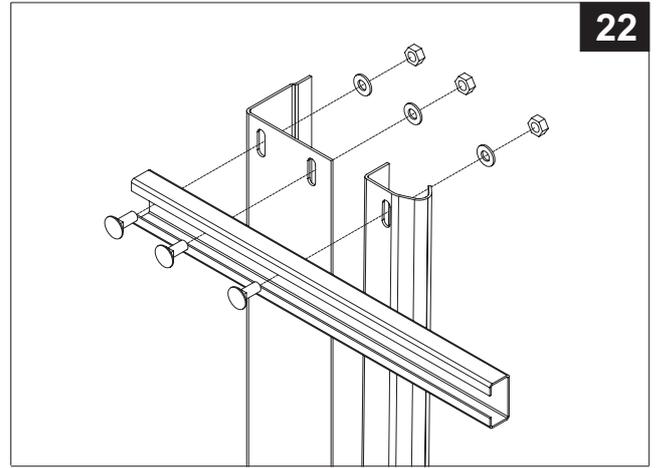
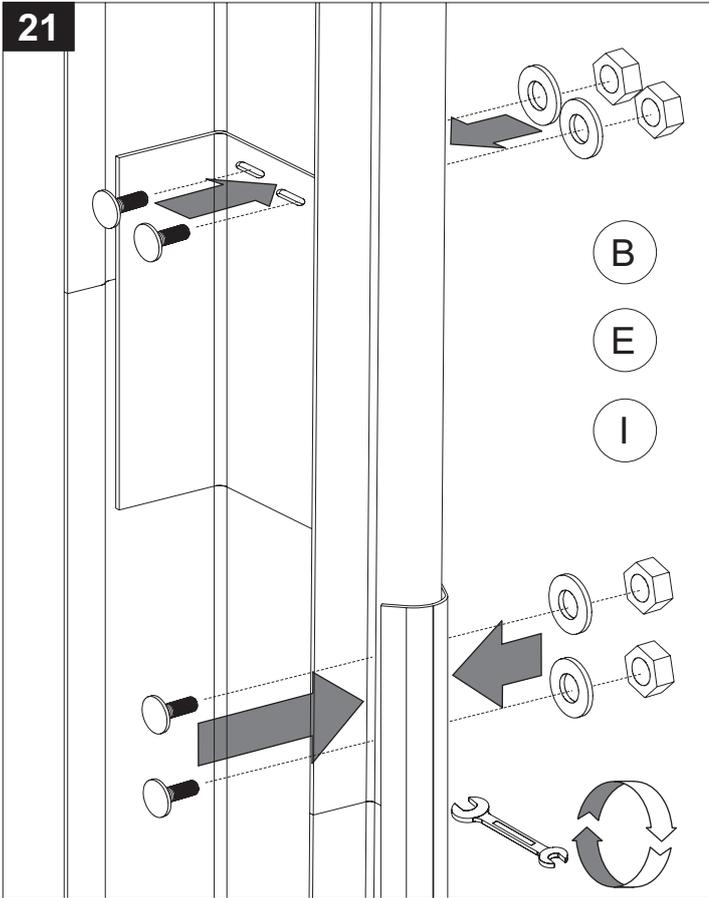
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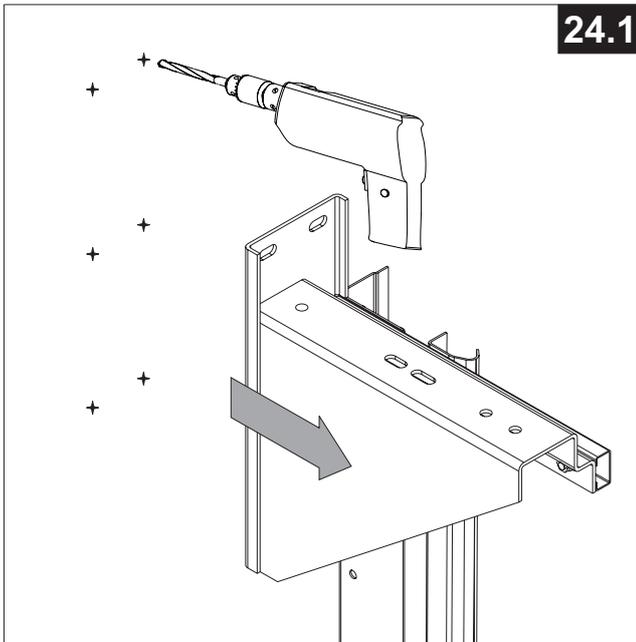




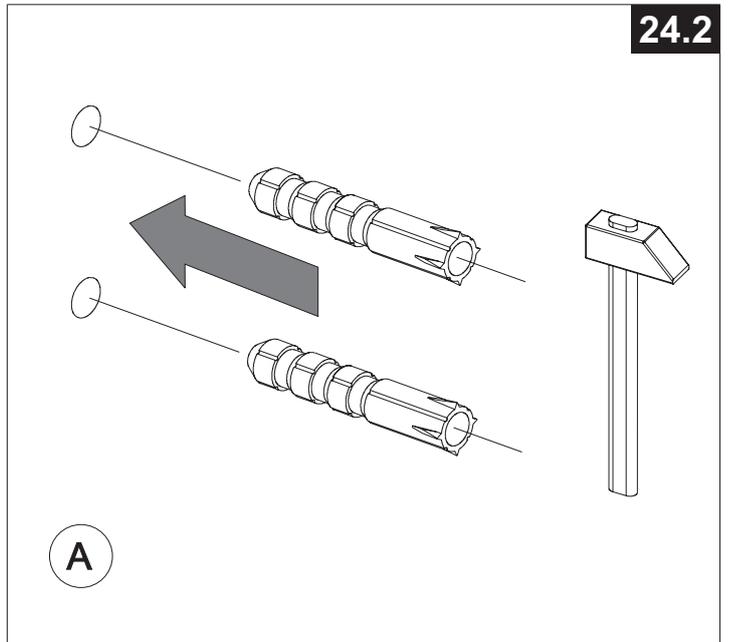




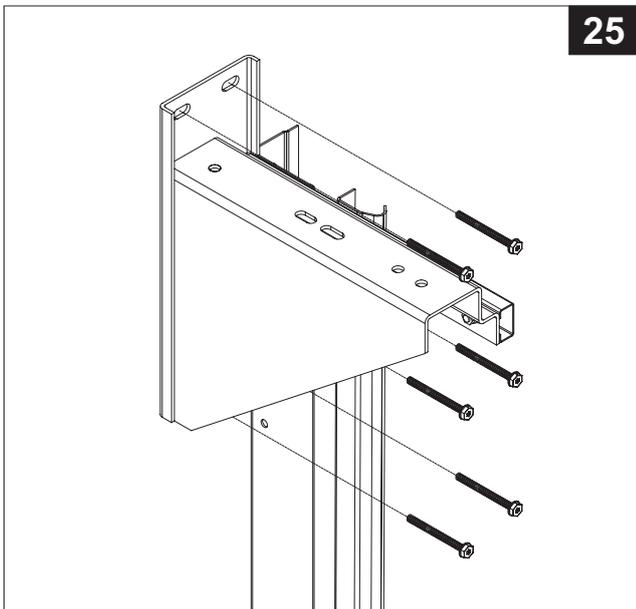




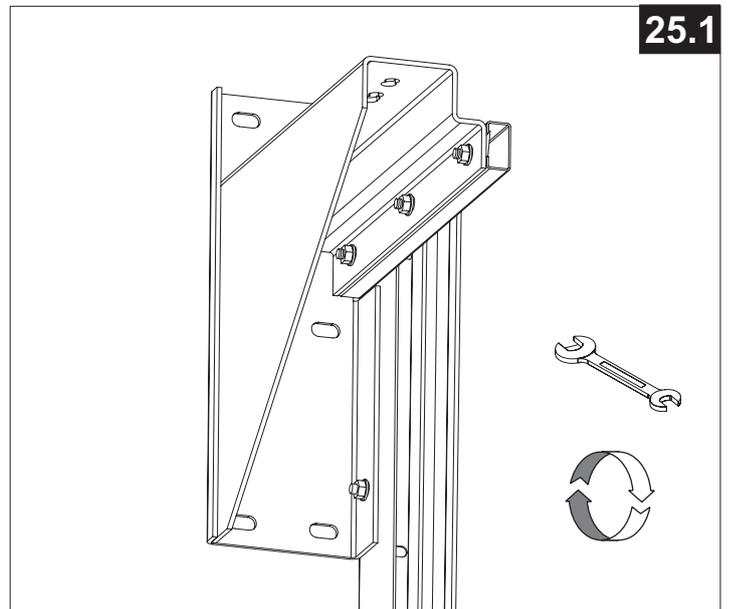
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24.2

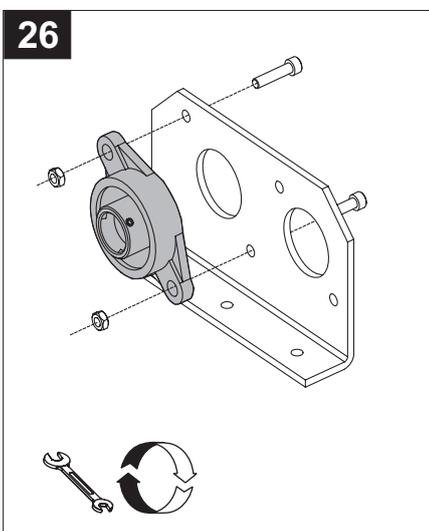


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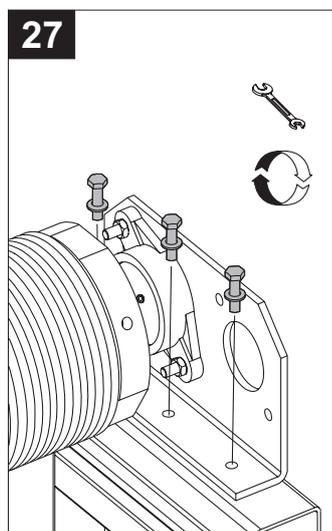


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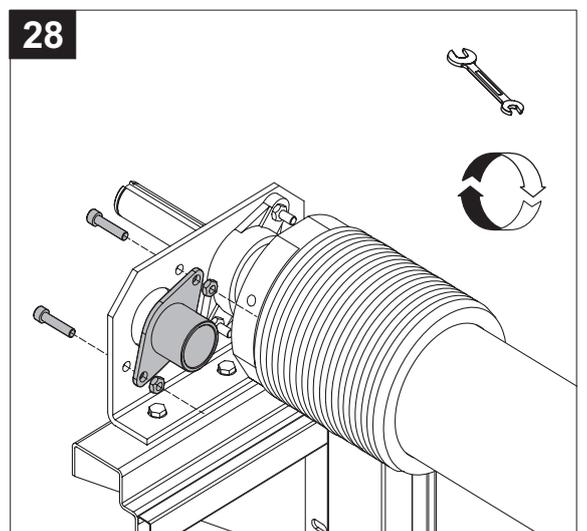
Servomotor version SI 55



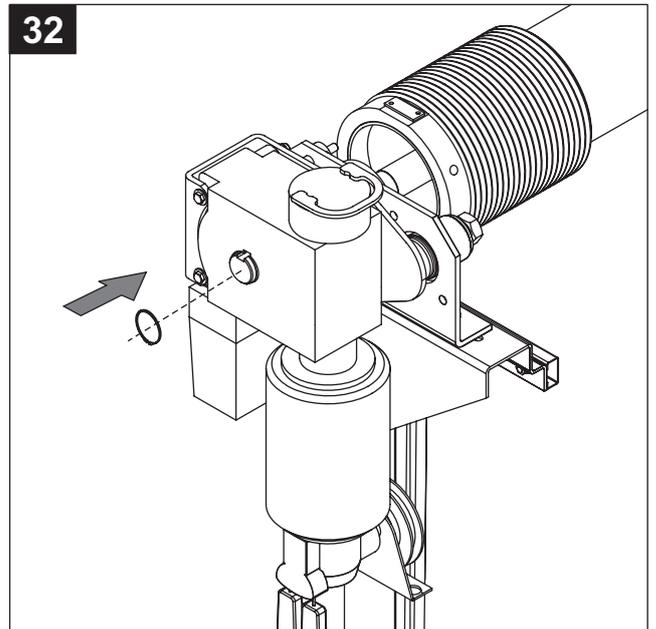
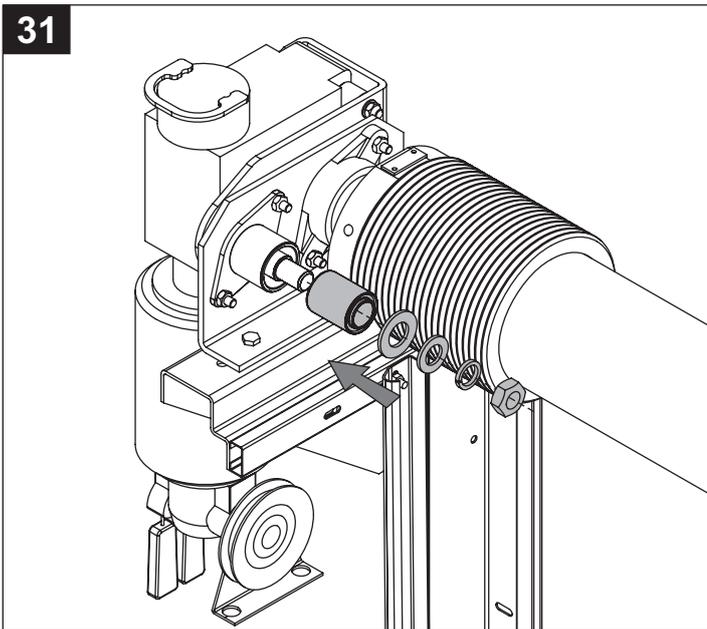
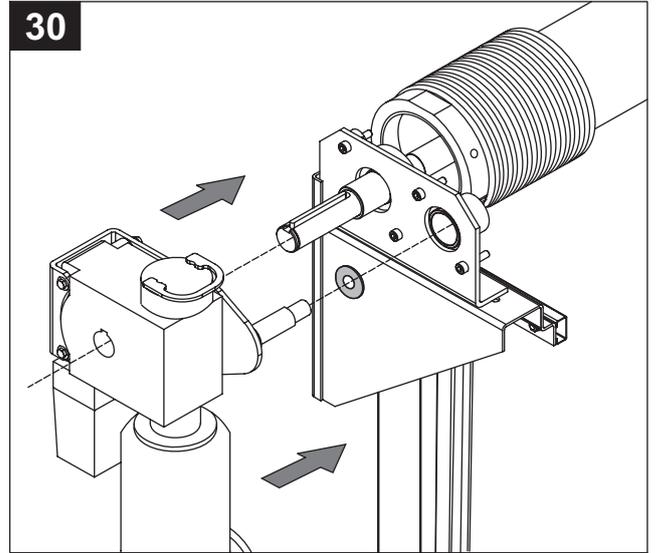
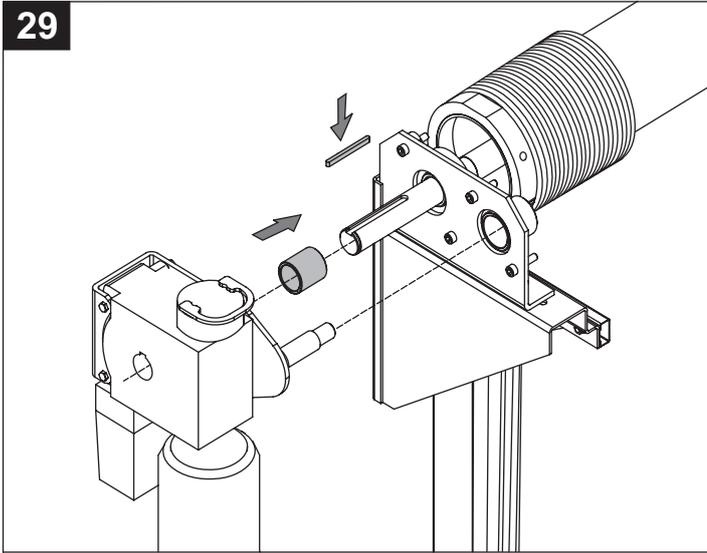
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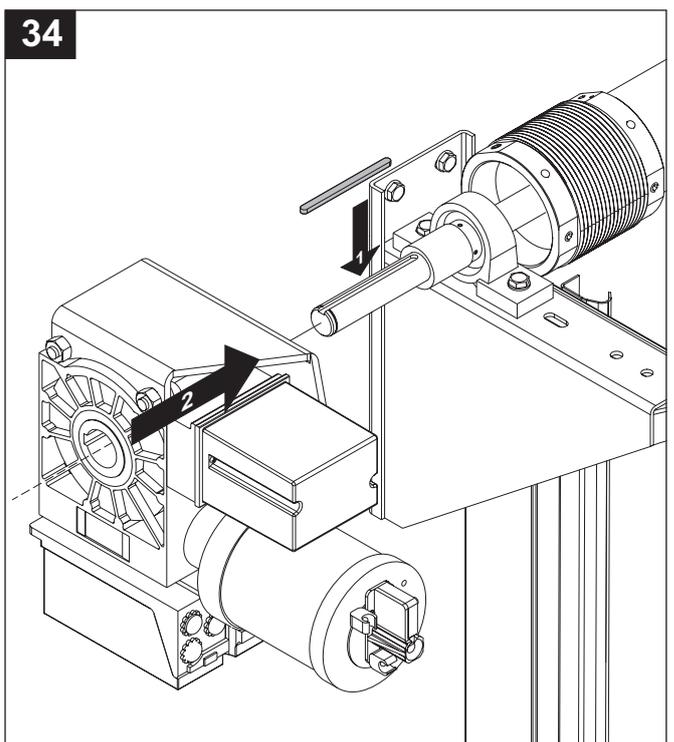
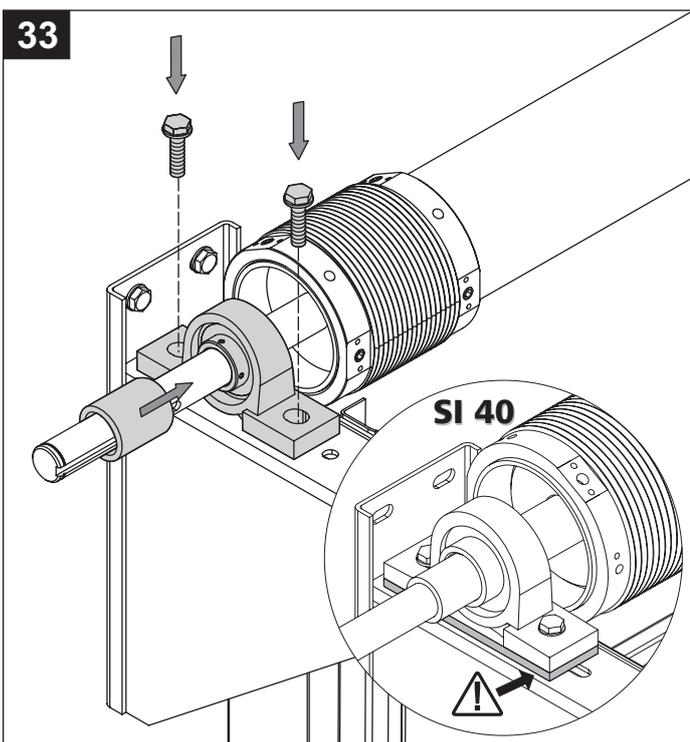
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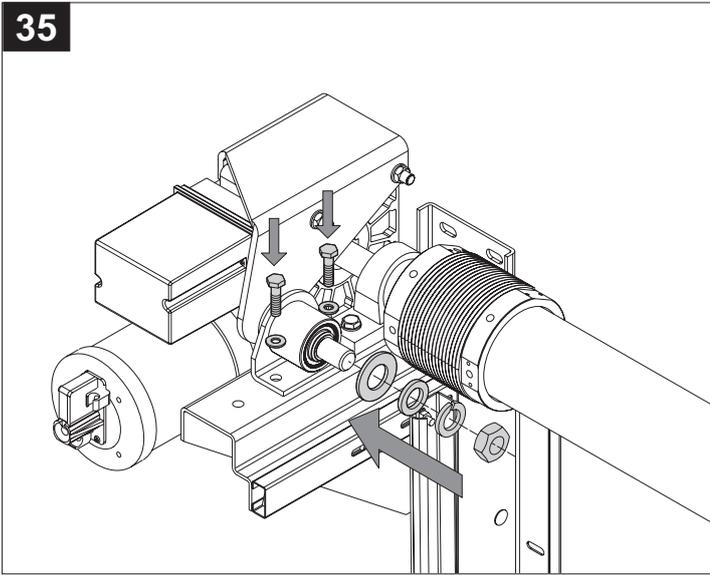
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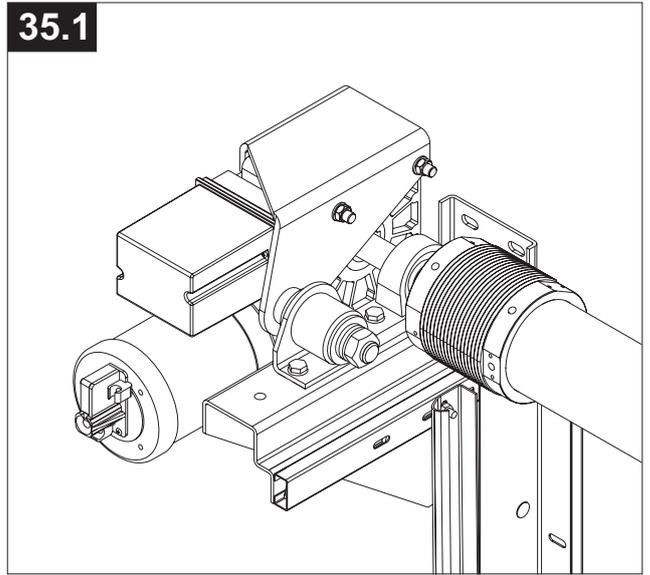
Servomotor version SI 17, SI 25, SI 40



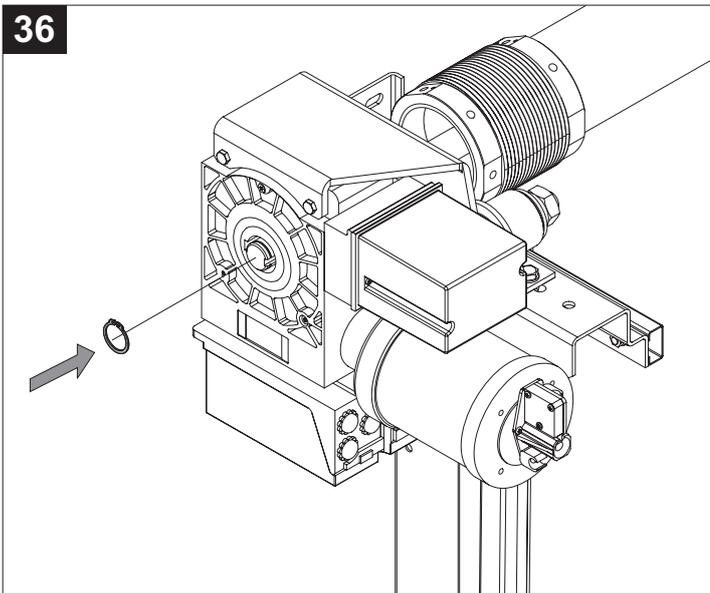
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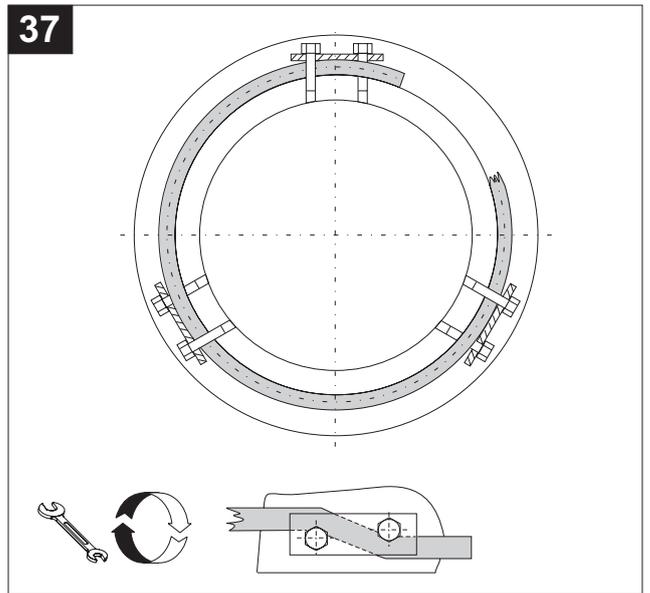
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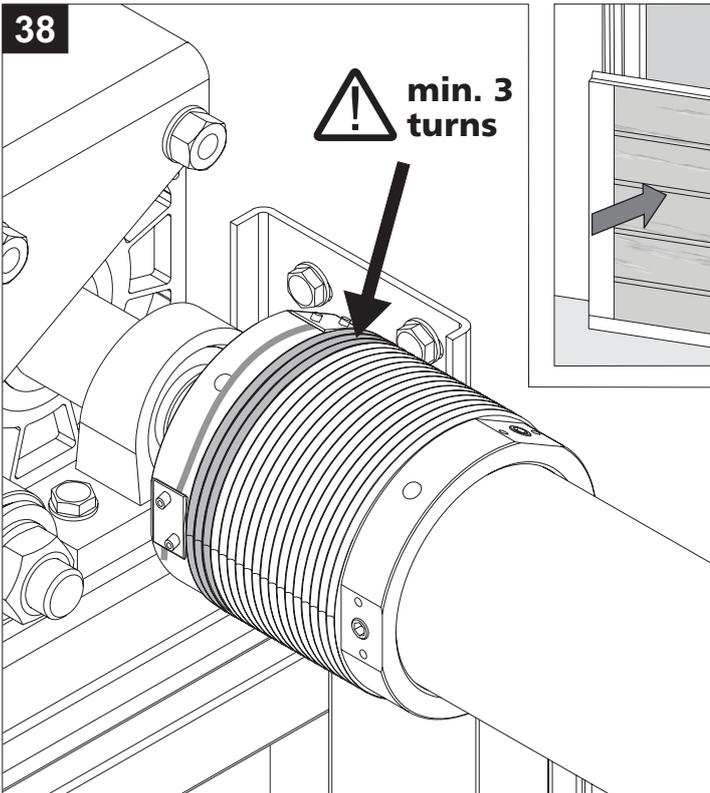
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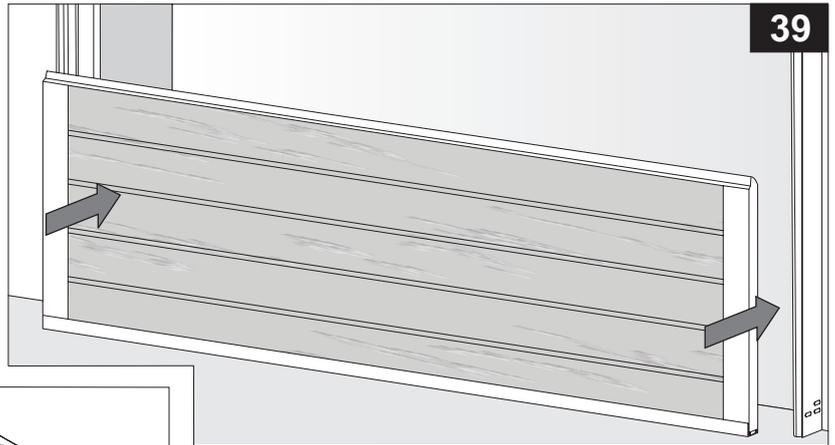
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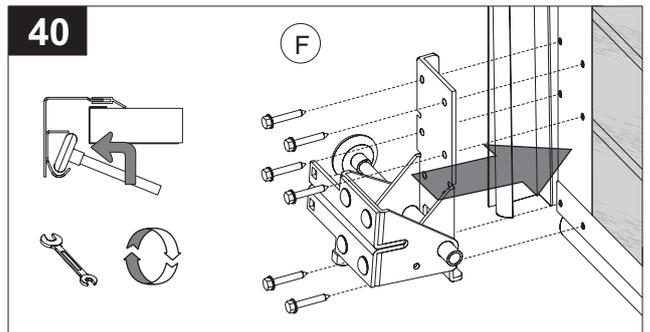
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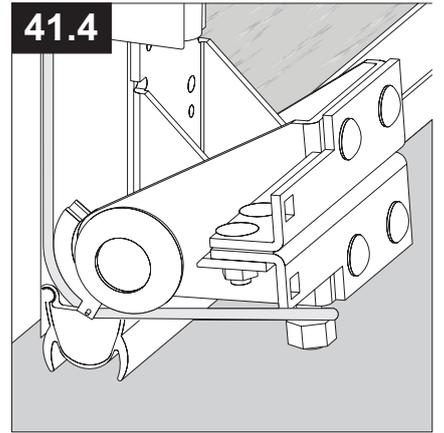
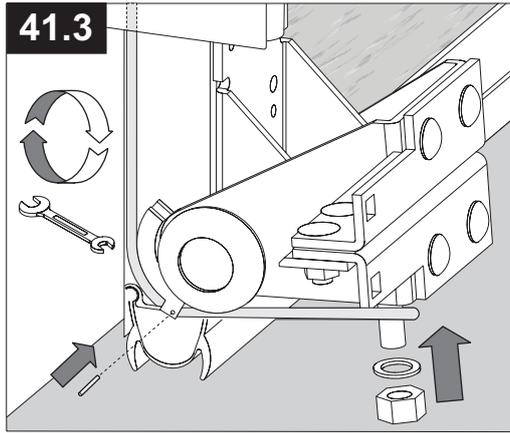
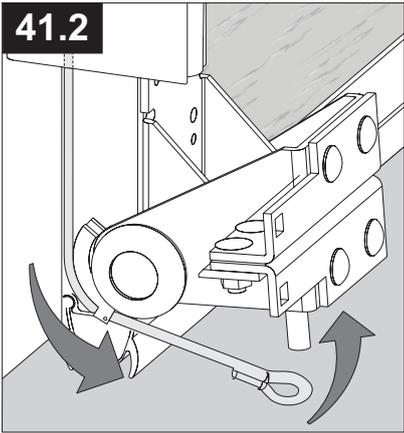
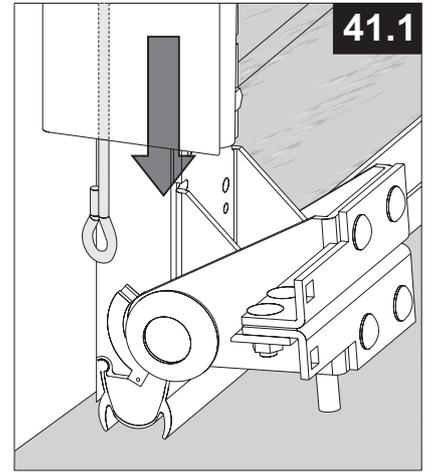
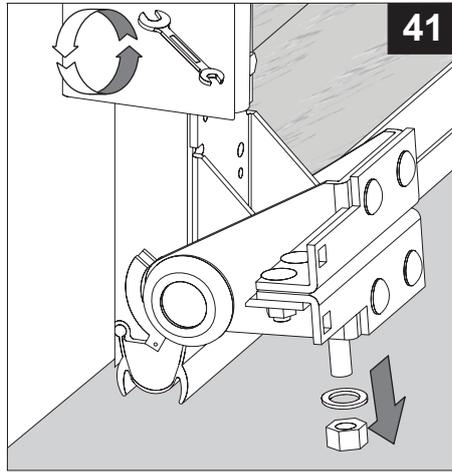
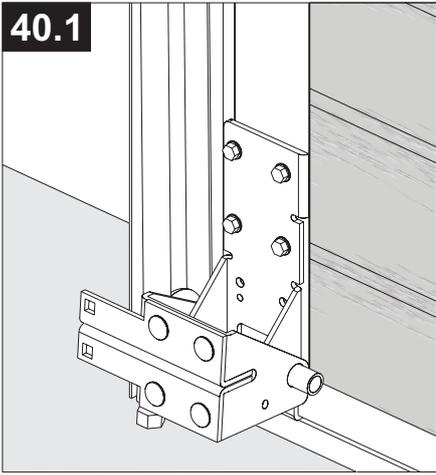


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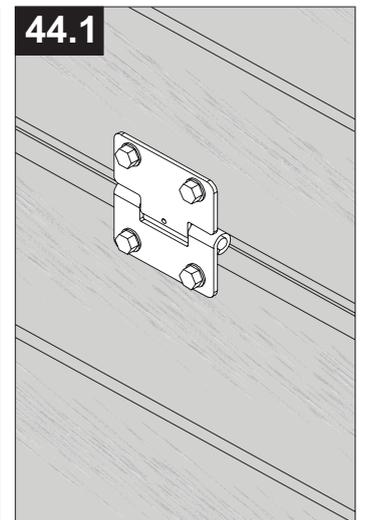
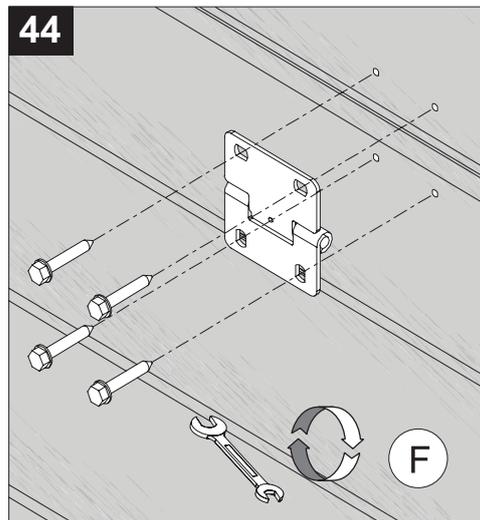
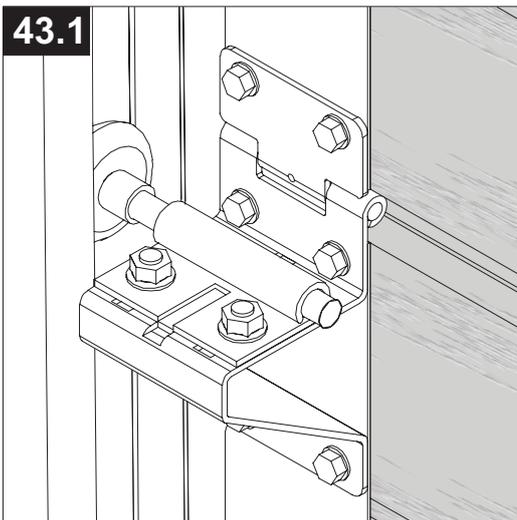
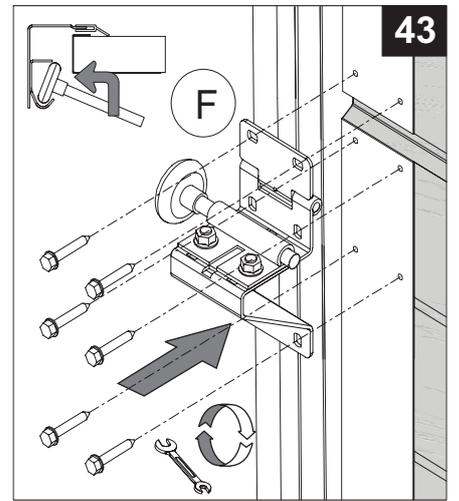
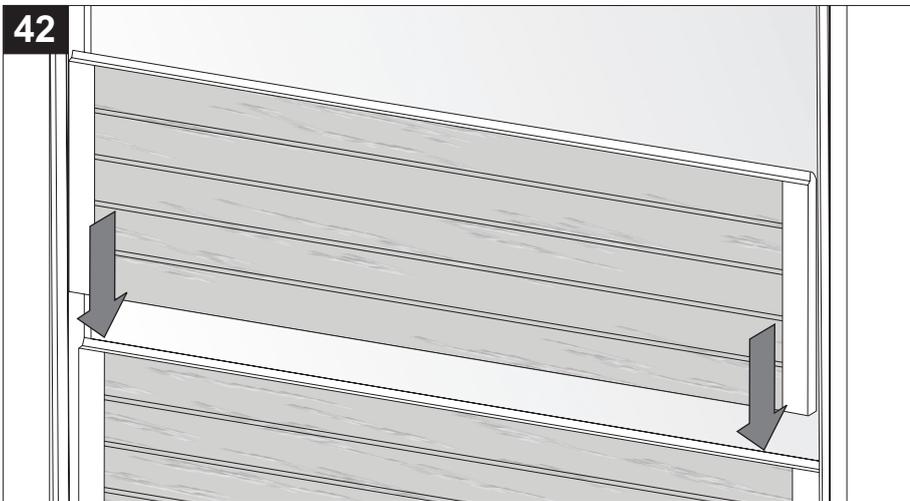


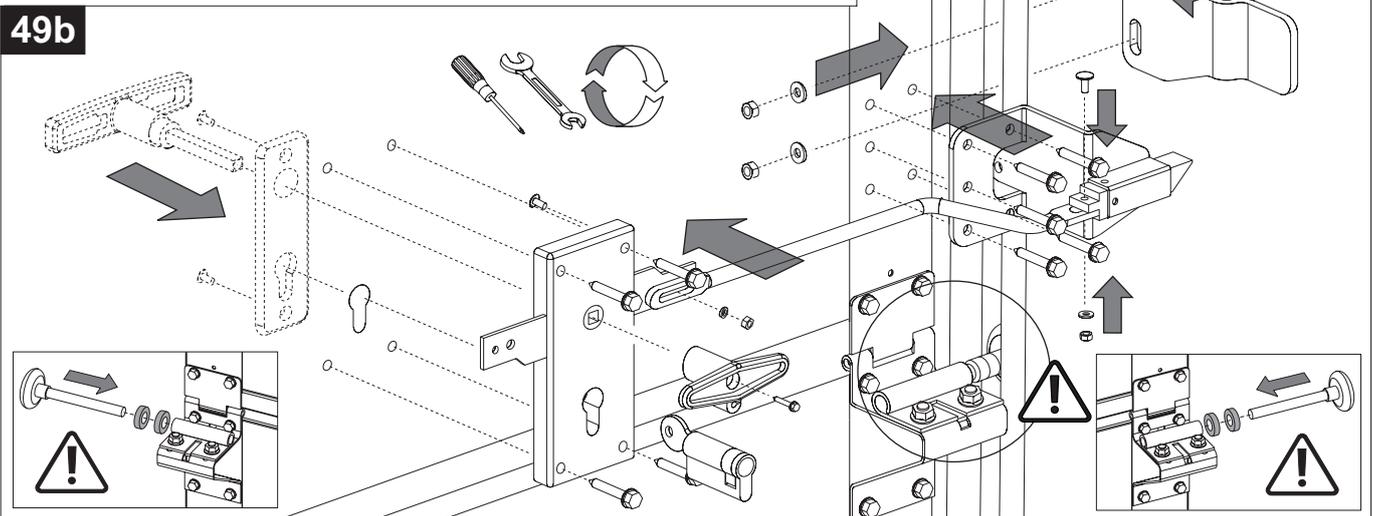
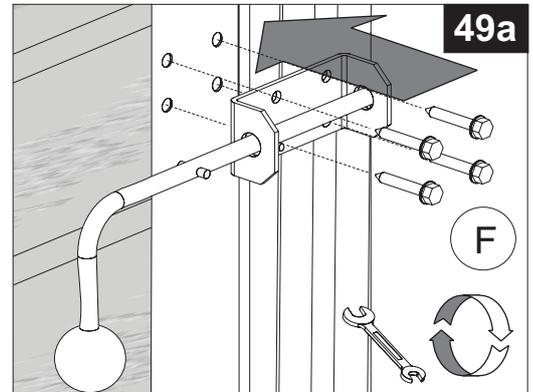
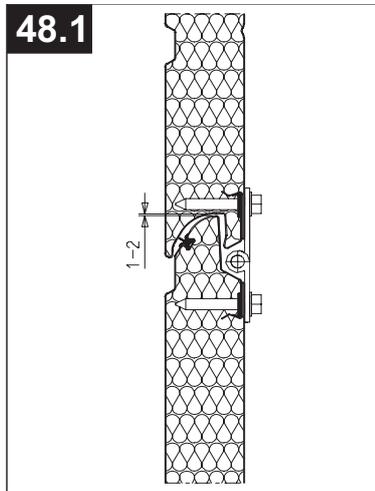
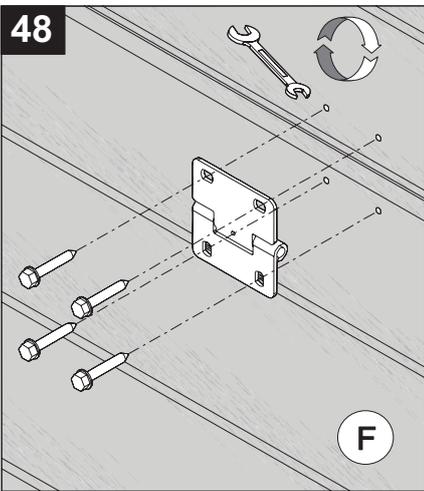
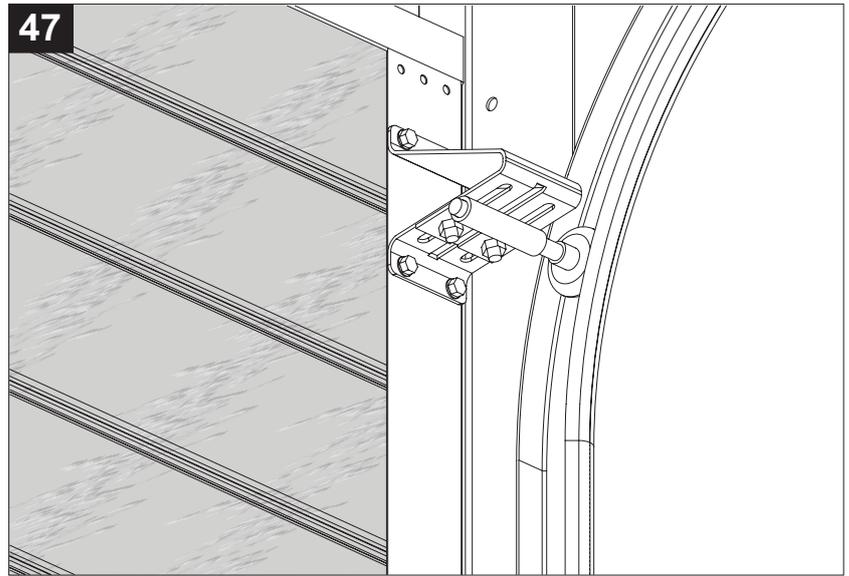
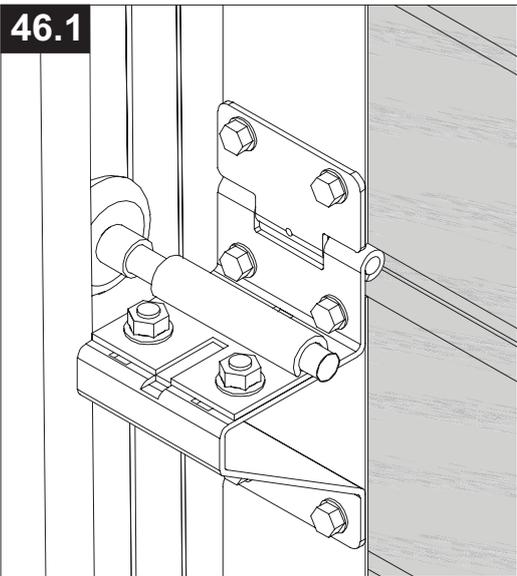
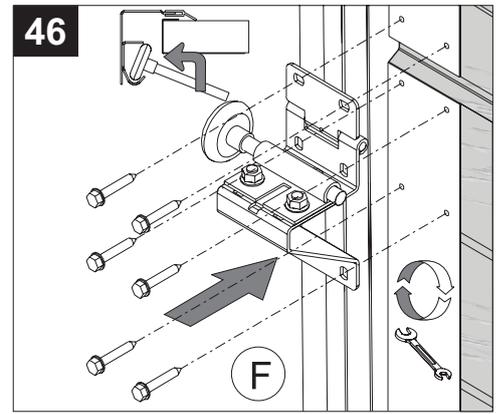
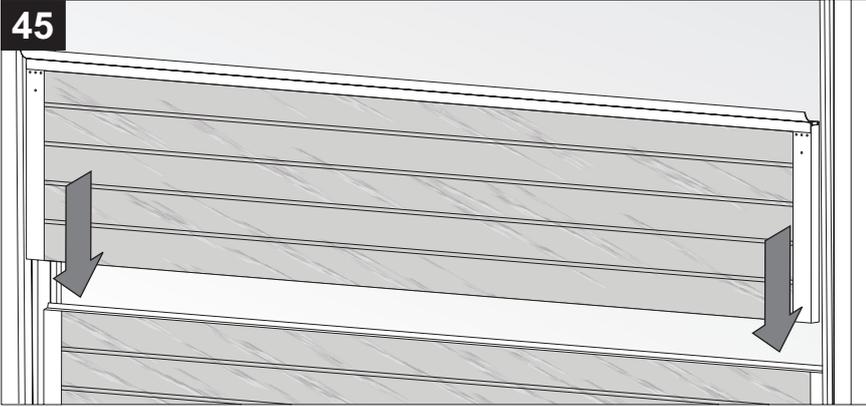
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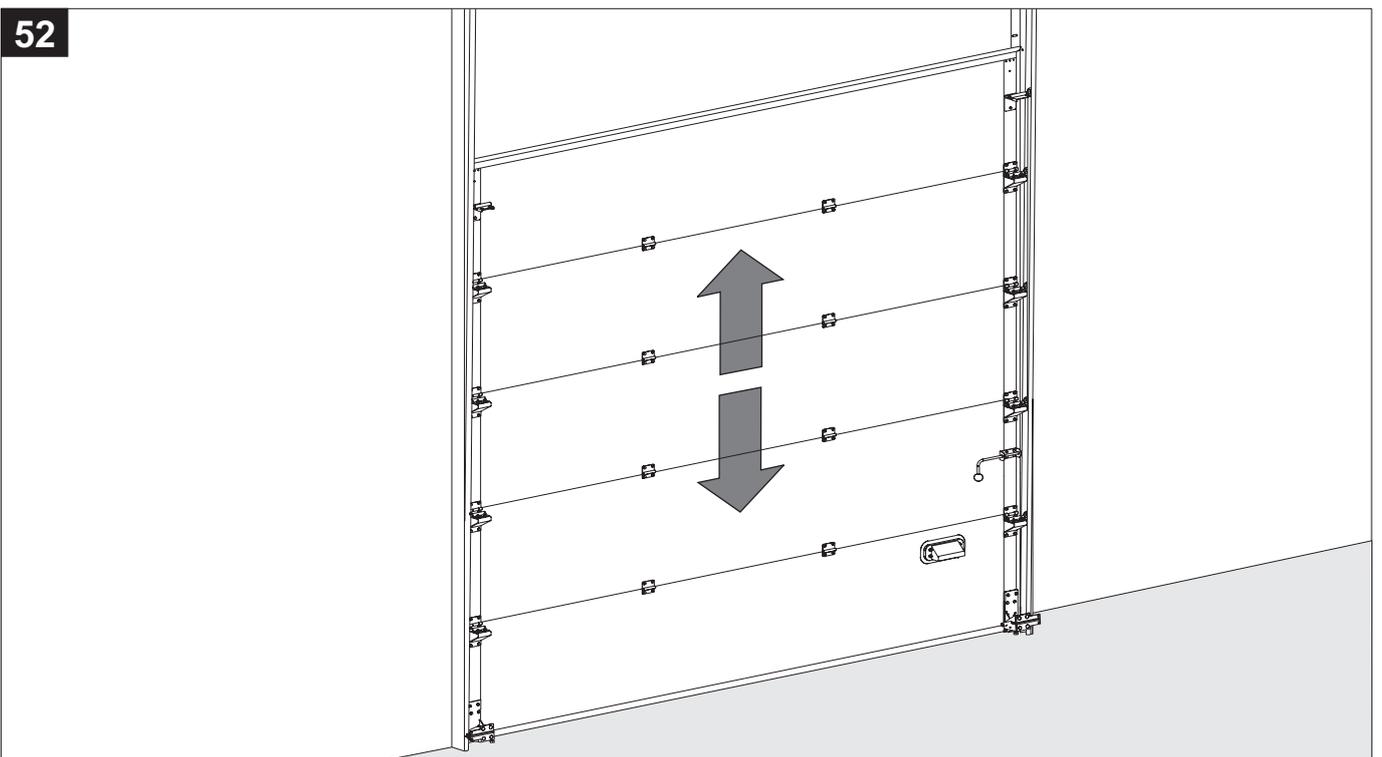
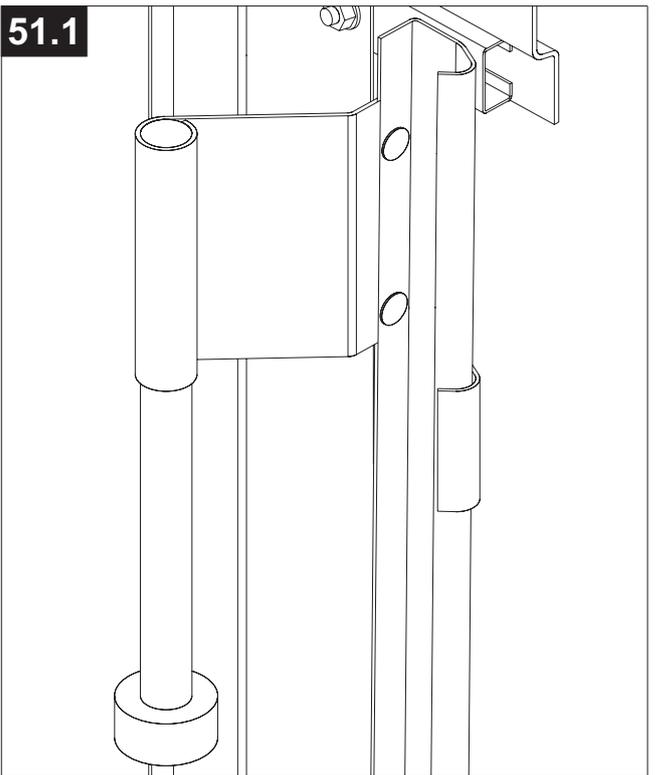
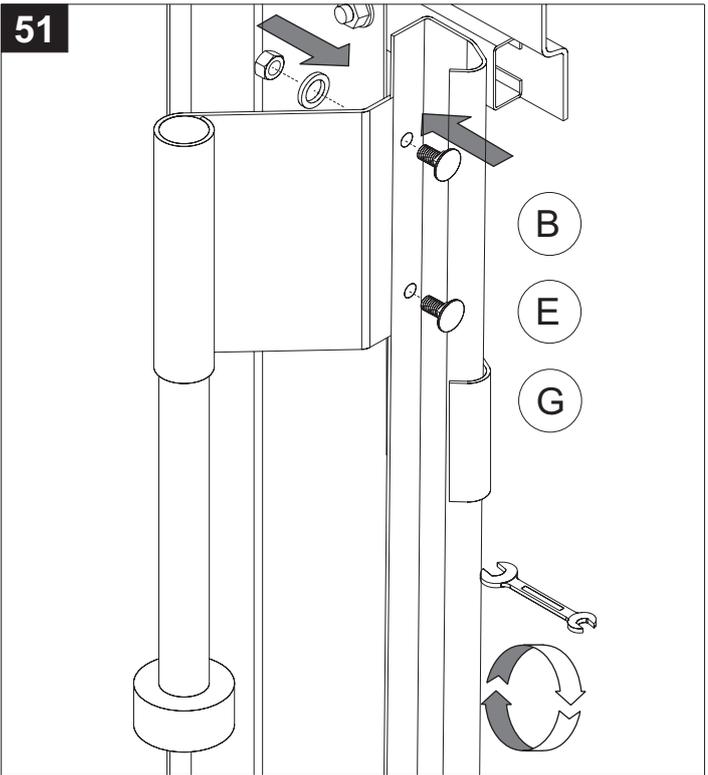
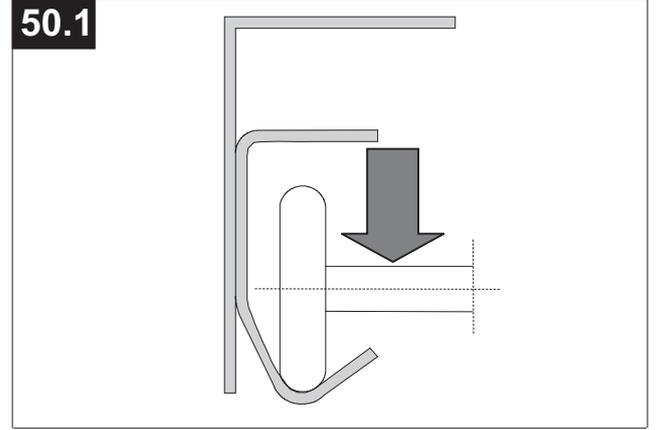
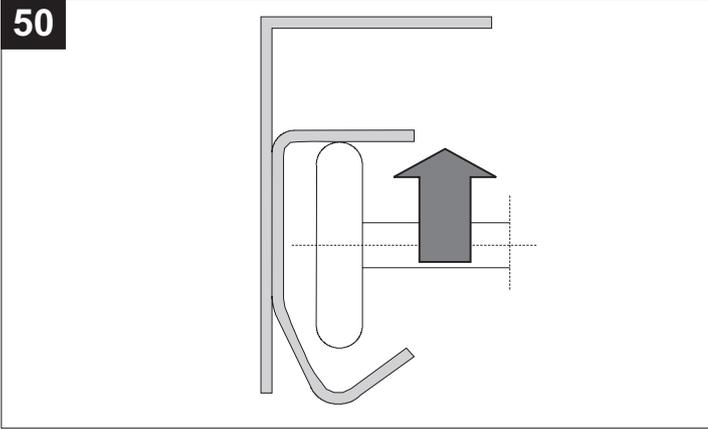




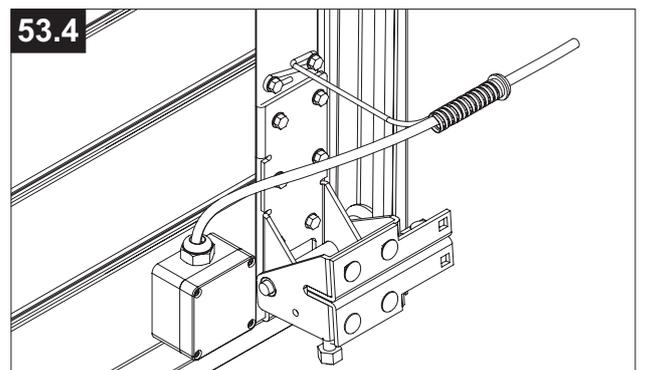
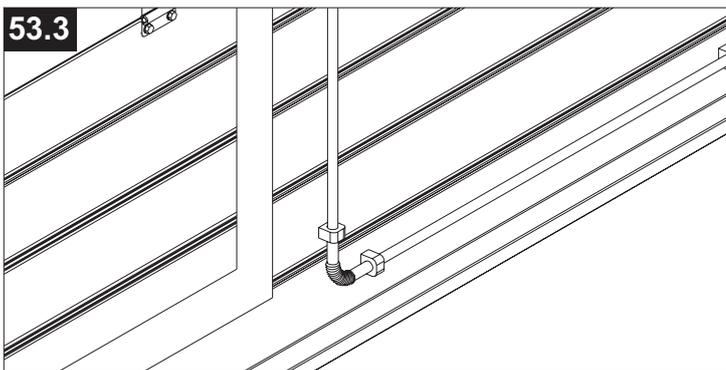
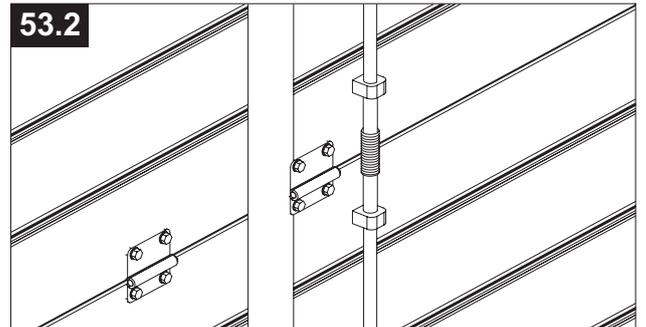
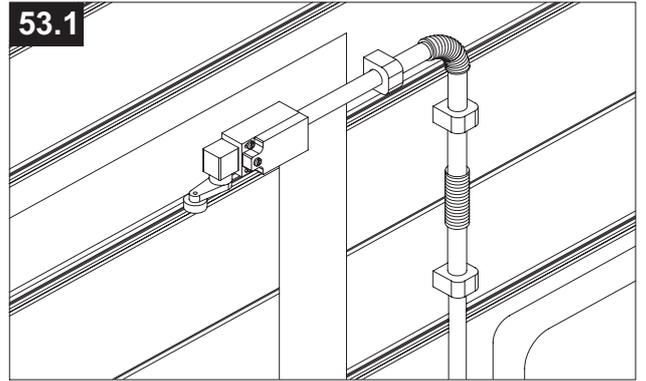
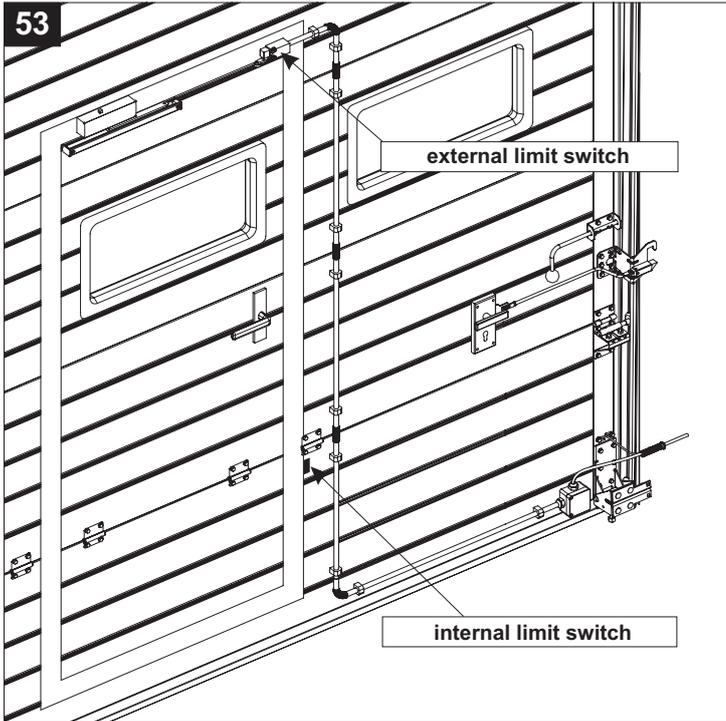
After installing the cable on the safety brake fit the cotter pin!



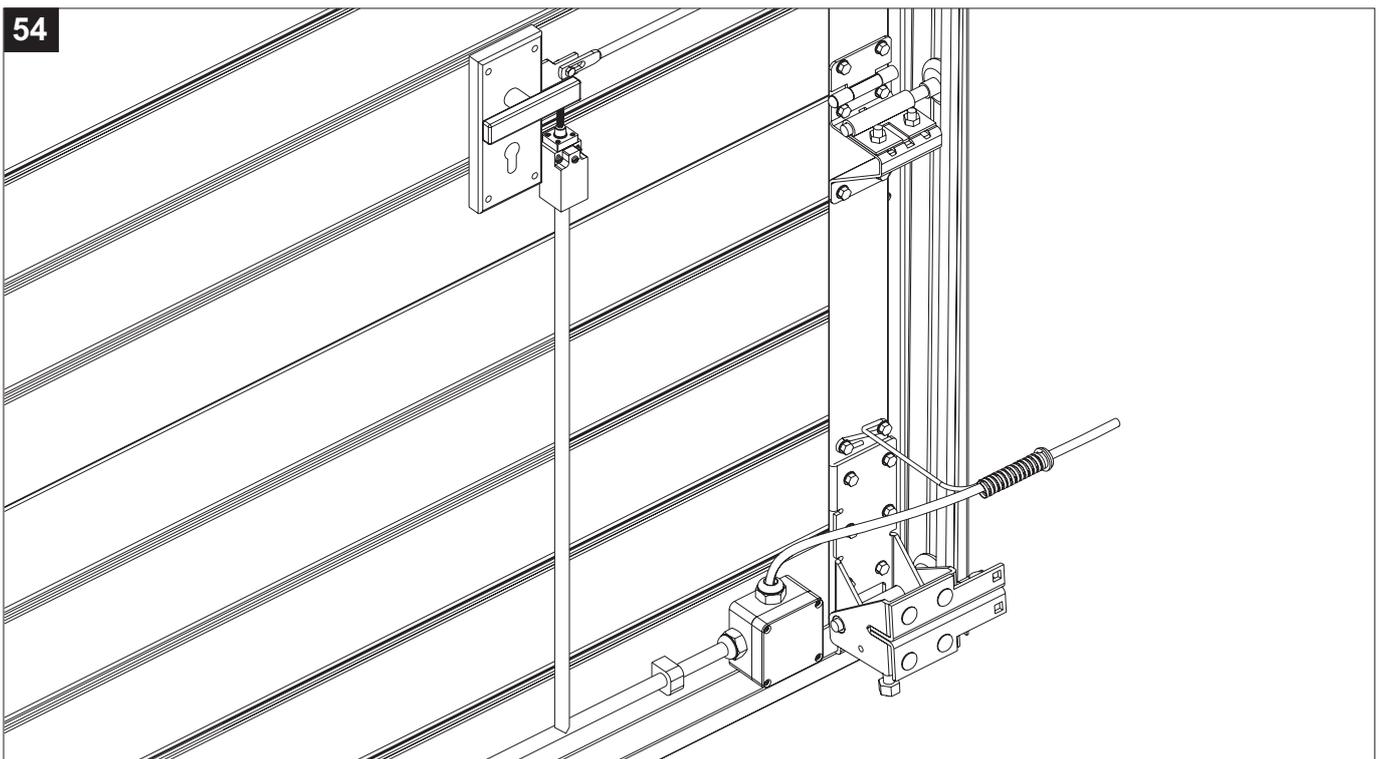




Installation of the limit switch for the pass door

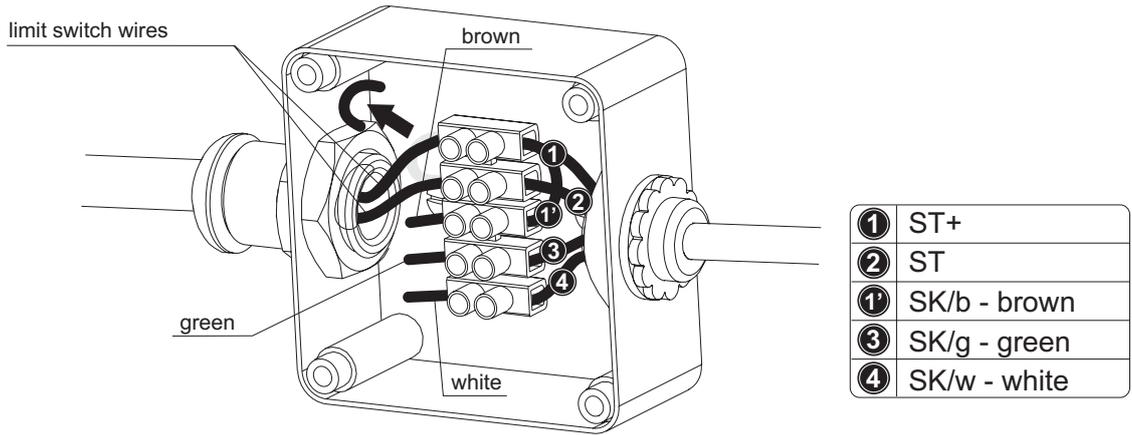


Installation of the lock limit switch



Servomotor version AUTOMATIK - control 961

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Connecting the limit switch of the pass door or lock:

External and internal limit switch of the pass door can be used alternatively - as a standard internal switch is installed.

1. Fit the limit switch to the gate, connect wires to switch terminals 23 and 24 (fig. 53.1).*
2. Run the wires over the gate leaf to the connection box (fig. 53.1-53.4).*
3. Open the connection box of the optical strip mounted on the gate leaf (fig. 55).

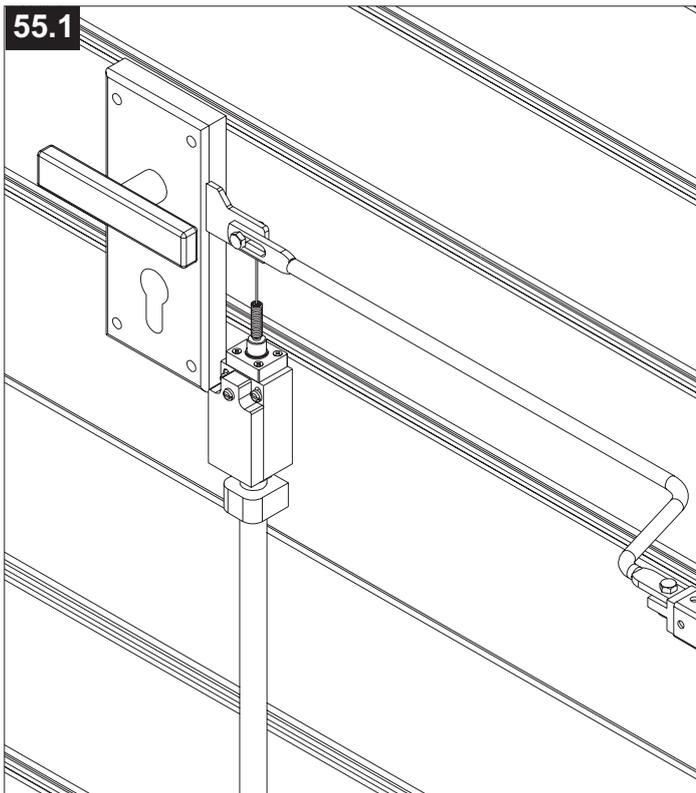
4. Remove the jumper from the terminals in the box as shown on fig. 55.

5. Hook up the wires in place of the removed jumper and connect the wires of the optical strip, if installed.

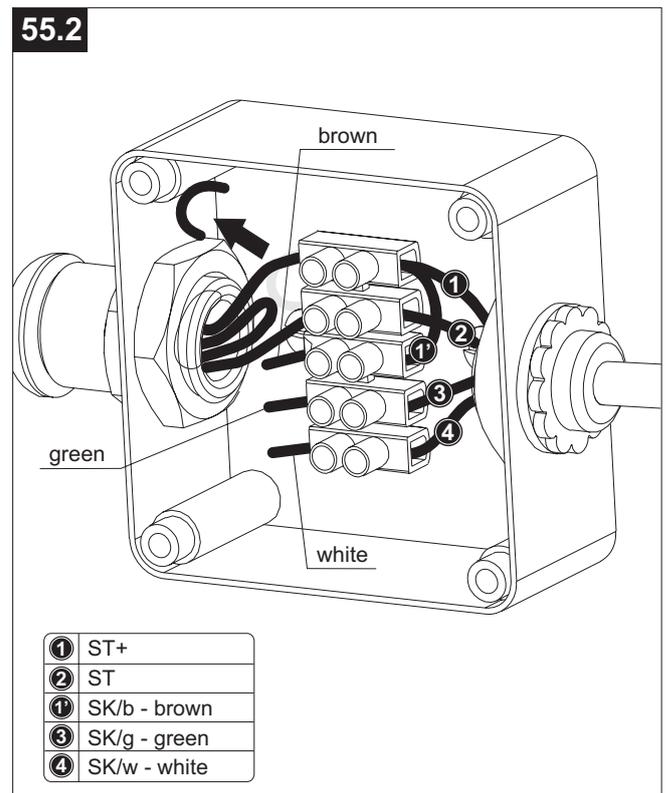
6. After correct connection, the servomotor will only work with the pass door closed.

*) – applies to external limit switch of the pass door

55.1



55.2



Connecting the limit switch of the lock or pass door:

1. Fit the limit switch to the gate (screw down beneath the lock rod), connect wires to limit switch terminals 21 and 22 (fig. 55.1).
2. Run the wires over the gate leaf to the connection box (fig. 54).
3. Open the connection box of the optical strip mounted on the gate leaf (fig. 55.2).
4. Remove the jumper from the terminals in the box as shown on fig 55.2.

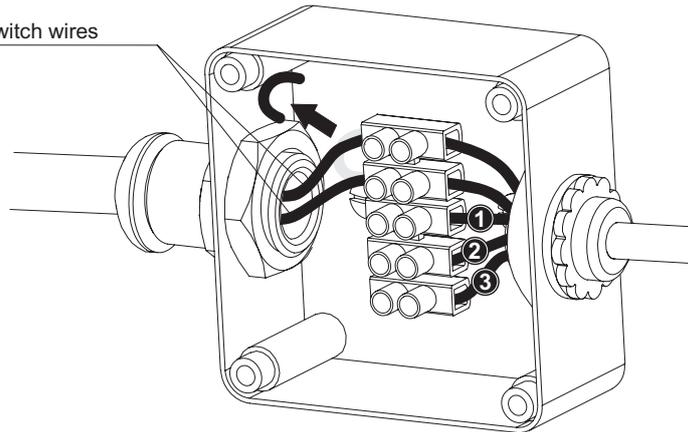
5. Hook up the limit switch wires of the lock and/or pass door (**in case of simultaneous use of the limit switches of the pass door and lock connect them in series**) in place of removed jumper and connect the wires of the optical strip, if installed.

6. After correct connection, the servomotor will only work with the lock in unlocked position.

Servomotor version TOTMANN - universal control

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Limit switch wires



①	brown
②	green
③	white

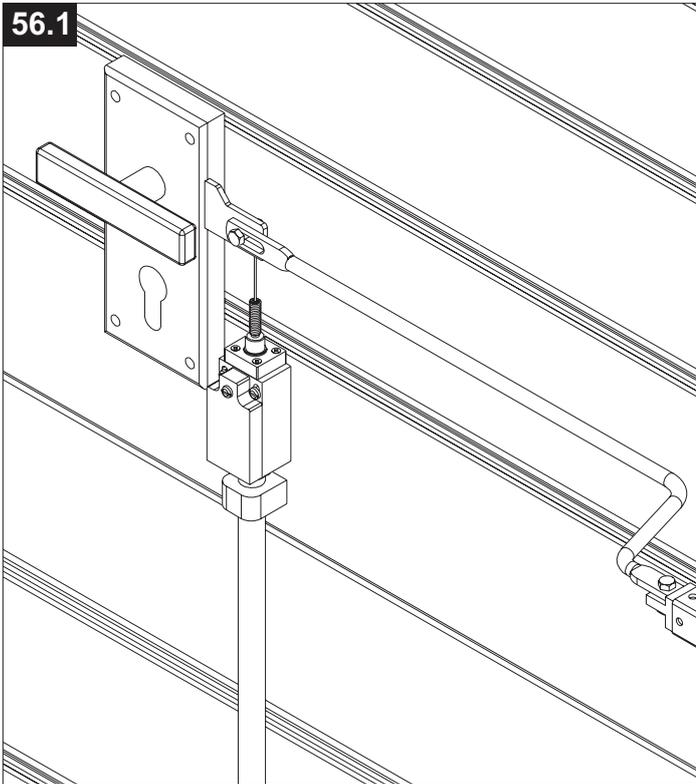
Connecting the limit switch of the pass door or lock:

1. Remove the jumper E from the strip X4, replace it with yellow and black (grey) wire.

2. Remove the jumper from the terminals in the box as per fig. 55, replace it with yellow and black (grey) wire.

3. After correct connection, the servomotor will only work with the pass door closed.

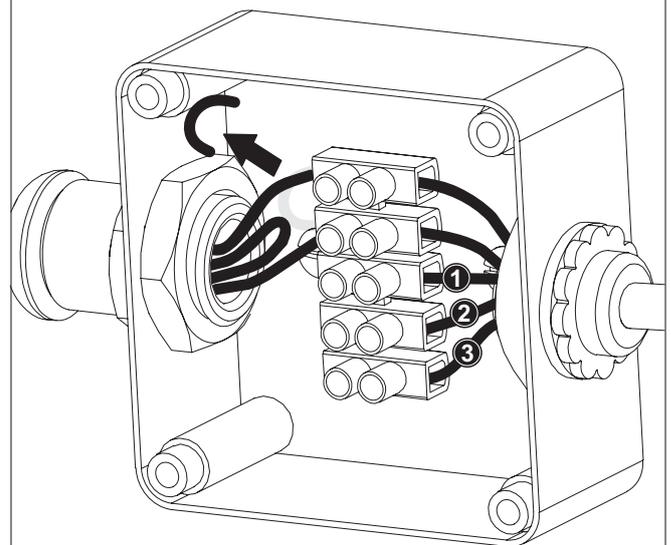
56.1



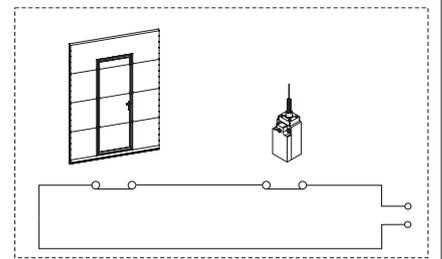
Connecting the limit switch of the lock or pass door:

1. Fit the limit switch to the gate (screw down beneath the lock rod), connect wires to limit switch terminals 21 and 22 (fig. 56.1).
2. Run the wires over the gate leaf to the connection box (fig. 54).
3. Open the connection box of the optical strip mounted on the gate leaf (fig. 56.2).
4. Remove the jumper from the terminals in the box as shown on fig. 55.2.

56.2



①	brown
②	green
③	white

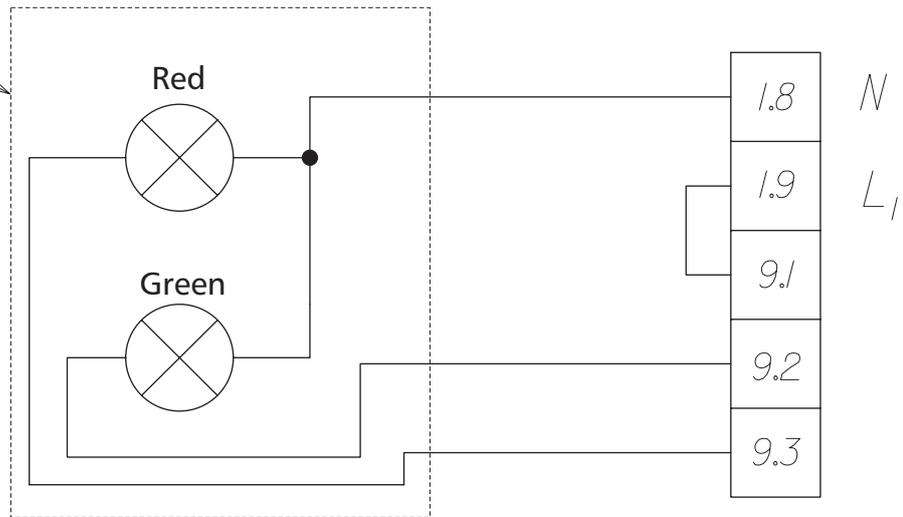


5. Remove the jumper E from the strip X4, replace it with black (grey) and yellow wire.
6. Hook up the limit switch wires of the lock and pass door **(in case of simultaneous use of the limit switches of the pass door and lock connect them in series)** in place of removed jumper.
7. After correct connection, the servomotor will only work with the lock in unlocked position and pass door closed.

Indicator connection diagram

57

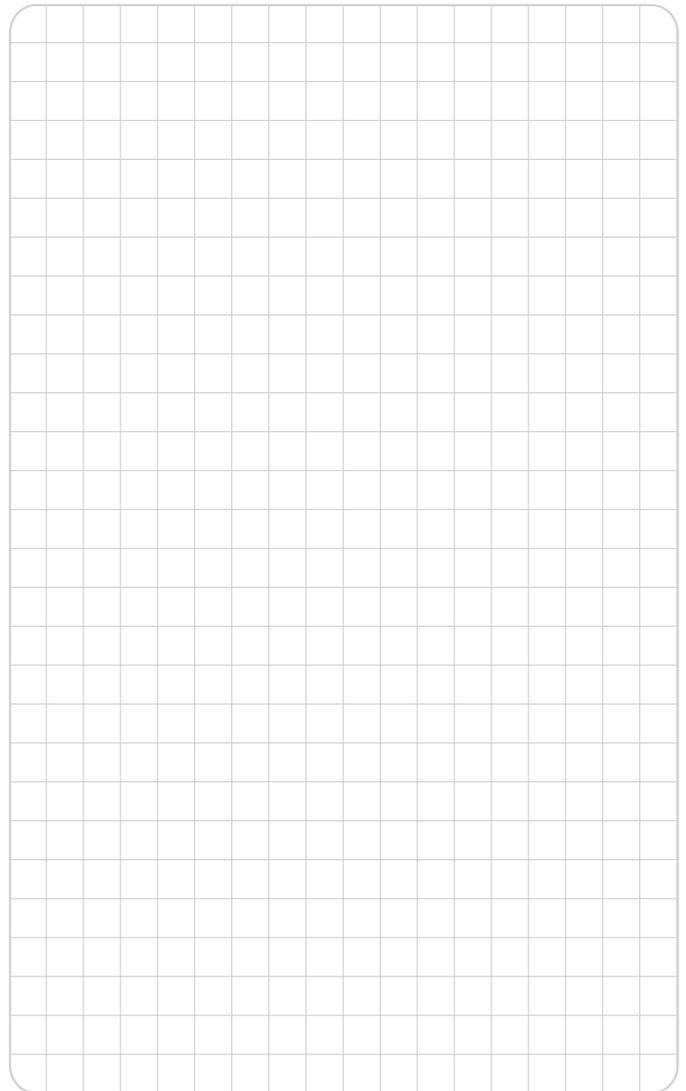
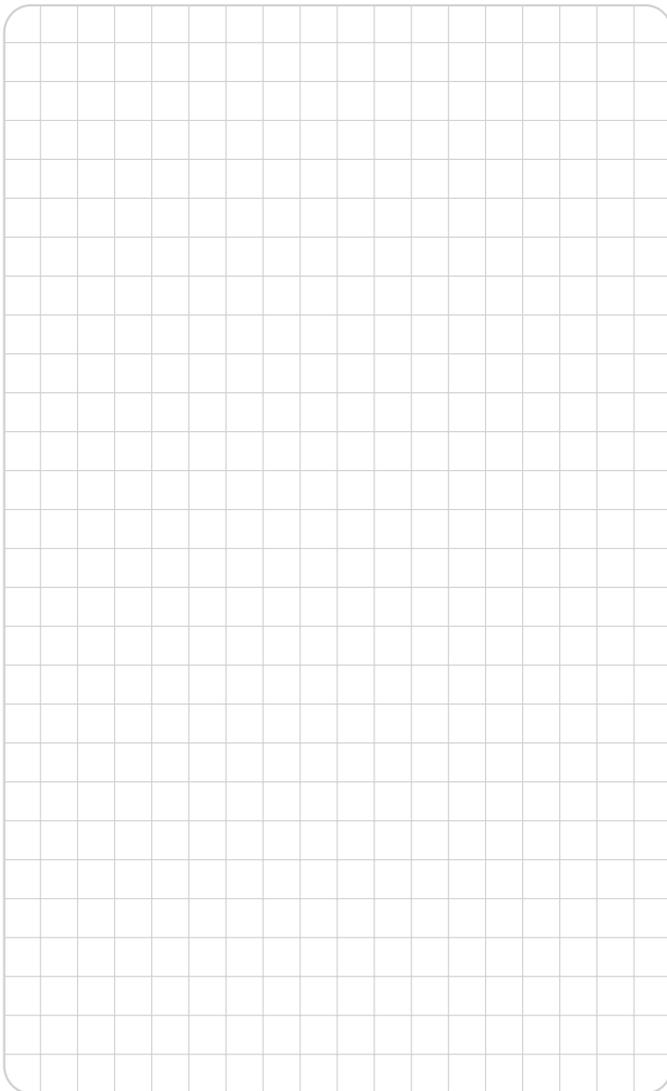
Indicator

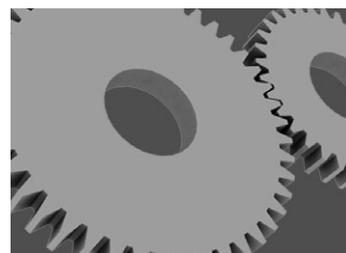
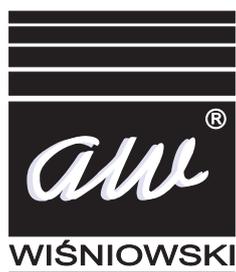


Connecting the indicators to servomotor GfA with control

TS 961: should be made according to diagram - fig. 57.
Position the additional extremity S6 (yellow) in the same way as the main opening extremity S3 (green).

With the gate closed and during its movement red light should be lit.
With the gate opened green light should be lit.





Installer: _____

A large, empty rounded rectangular box for the installer's signature or name.

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