

Attuatore elettrico a catena
Electric chain actuator

CE

LIWIN L40 Slim

(LIWIN L40 Slim, LIWIN L40 Slim WiFi)



 **COMUNELLO**
MOWIN

Window Automation Technology

ISTRUZIONI D'USO E DI INSTALLAZIONE
INSTALLATION AND USER'S MANUAL

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INDEX

1. GENERAL INFORMATION	29
1.1 Introduction to this manual	29
2. SAFETY	29
3. TECHNICAL DATA	30
3.1 Technical data table and CE marking	30
3.2 Technical drawing with overall dimensions and hole spacing	31
4. PRELIMINARY CHECKS FOR INSTALLATION	32
4.1 Calculation of the necessary force	32
4.2 LIWIN L40 Slim flow rate - 350 in bottom hung inward, top hung outward and dome applications	33
4.3 Graph for determining the opening angle	34
4.4 Minimum installation dimensions	37
4.5 Contents of the pack	38
4.6 Tools necessary for installation of the actuator	38
4.6.1 Screws required for installation	38
5. INSTALLATION	38
5.1 Installation warnings	38
5.2 Minimum panel heights	44
5.3 Operating test	44
6. ELECTRICAL CONNECTIONS	45
7. ACTUATOR SYNCHRONIZATION	48
7.1 Manual synchronization	48
7.2 Synchronization via MOWIN APP	48
7.3 Chain strokes adjustment	49
7.4 Replacing a FAULTY ACTUATOR from a group of synchronized actuators	49
7.5 Adding or removing an actuator from a synchronized group	49
8. RESET PROCEDURE	50
9. DIAGNOSTICS	50
10. MOWIN APP	50
11. MAINTENANCE, EMERGENCY MANOEUVRES, CLEANING	51
12. ENVIRONMENTAL PROTECTION	51
13. FAQs (Frequently Asked Questions)	51
14. WARRANTY	52
15. DECLARATION OF INCORPORATION (for a partly completed machine) AND EC DECLARATION OF CONFORMITY	53

1. GENERAL INFORMATION

1.1 INTRODUCTION TO THIS MANUAL

Carefully read and follow the instructions in the manual. Keep this manual for future use and maintenance. Pay attention to the TRIMMER configuration and/or to the WI-FI settings, performance data (see "Technical Data") and installation instructions. Improper use or incorrect operation/installation could damage the system as well as objects and/or persons.

2. SAFETY

This installation manual is only intended for professional personnel. Installation, electrical connections and adjustments must be carried out respecting Good Technique and in compliance with the current regulations. Read the instructions carefully before starting to install the product. Incorrect installation can be a source of danger. Packaging materials (plastic, polystyrene, etc.) must not be dispersed in the environment and must not be left within the reach of children as they are potential sources of danger. Before starting the installation check the integrity of the product.

If the power cord is damaged, it must be replaced by the manufacturer, by its technical assistance service or in any case by a person with similar qualification in order to prevent any risk.

Do not install the product in an explosive environment and atmosphere: the presence of flammable gases or fumes constitute a serious safety hazard.

Before installing the motor, make all the structural changes relating to the construction of safety measures and the protection or segregation of all crushing, shearing, conveying and danger zones in general.

The installer must verify that the temperature range indicated on the label is acceptable for the installation site.

Check that the existing structure has the necessary strength and stability requirements. The drive manufacturer is not responsible for failure to respect Good Technique in the construction of the windows to be motorised, as well as for any deformations that could occur during use. Apply the warnings required by current regulations to identify hazardous areas.

Check that the electricity distribution network is not the "site" type but is under dedicated cabins. In the event of uncertainty or the absence of (certain) information, also ensure:

- special isolation transformers;
- Magnetothermic circuit breakers suitable for the required voltage load;
- surge arresters.

Before connecting the power supply, make sure that the plate data correspond to those of the electrical distribution network. Provide an omnipolar switch/disconnector on the power supply network with an opening distance of the contacts equal to or greater than 3 mm. Check that there is a suitable circuit breaker and overcurrent protection upstream of the electrical system. When required, connect to an effective earthing system performed according to the current safety regulations of the country in which the actuator is installed. Before carrying out any intervention (installation, maintenance and repair) disconnect the power supply before acting on the equipment. To ensure effective separation from the network, it is necessary to install an approved bipolar button with "deadman" operation.

The 24 VDC low voltage actuators must be powered by special class II-approved power supplies (NO TRANSFORMERS) (double safety insulation) with output voltage from 24VDC to 27VDC. Using the 24Vdc version the cable must have a suitable section, calculated based on the distance between the power supply and the actuator in order to avoid voltage drops or losses.

The appliance is not intended for use by persons (including children) whose physical, sensory or mental capabilities are impaired or who lack experience or knowledge unless they have been able to benefit, through the intermediary of a person responsible for their safety, from surveillance or instruction concerning use of the appliance. Children should be supervised to ensure that they do not play with the appliance.

The LIWIN L40 Slim line actuators are intended solely and exclusively for the use for which they were designed and the manufacturer cannot be held responsible for damage due to improper use. The actuator is intended exclusively for internal installation to open and close top hung outward windows, bottom hung inward windows, hinges, skylight domes, pantograph. Any other use is not recommended unless previously approved by the manufacturer. The actuator must be installed following the instructions in this manual. Failure to comply with these recommendations could compromise safety.

Any service and control device of the actuator must be produced according to the regulations in force and comply with the relevant regulations issued by the European Community.

In case of installation of the actuator on a window placed at a height of less than 2.5 m from the floor and in buildings (public and non-public) where the intended use is not clear, the actuator must be operated only and exclusively by a control not accessible to the public (key button).

The command must:

- 1) be positioned at a minimum height of 1500 mm from the floor
- 2) be positioned in such a way that upon activation, the person in charge of opening/closing has all the moving parts within their field of vision.

Do not wash the appliance with solvents or water jets. Do not immerse the appliance in water. All repairs must be carried out by qualified personnel (manufacturer or authorised service centre). Always and exclusively request the use of original spare parts. Failure to use original spare parts could compromise correct operation of the product and the safety of persons and property, also invalidating the benefits of the warranty that covers the appliance. In case of problems or uncertainties, contact the point of sale where the product was purchased or the manufacturer directly.

The system must be frequently checked, in particular check the cables, hinges, safety arms and supports in general for any imbalances and signs of wear or damage. Do not use if repair or adjustment is necessary, as installation failure or incorrect automation balancing may lead to injury.

3. TECHNICAL DATA

3.1 TECHNICAL DATA TABLE AND CE MARKING

The CE marking certifies that the actuator complies with the essential health and safety requirements of the European product directives. The CE marking can be identified by means of a dedicated adhesive plate applied externally to the product which indicates some of the data in the table below:

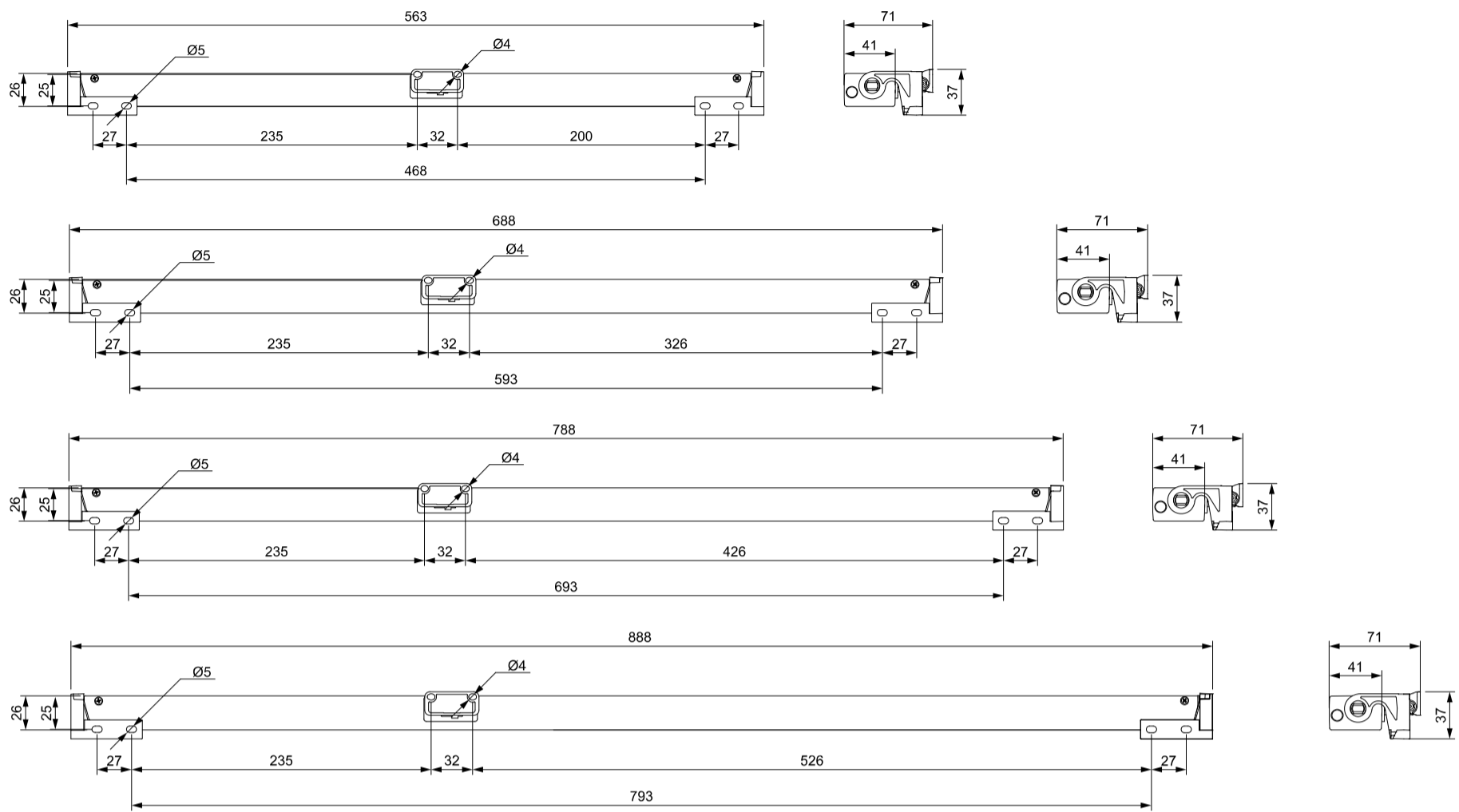
TECHNICAL DATA	LIWIN L40 slim		LIWIN L40 Slim WIFI	
MAX TRACTION FORCE	400 N*	400 N*	400 N*	400 N*
PUSHED FORCE	400 N*	400 N*	400 N*	400 N*
POWER SUPPLY	110/230 VAC	24 VDC	110/230 VAC	24 VDC
FREQUENCY	50/60 HZ	n/a	50/60 HZ	n/a
TYPE OF SERVICE	3 min ON - 7 min off	3 min ON - 7 min off	3 min ON - 7 min off	3 min ON - 7 min off
NO LOAD SPEED	11mm/s	11mm/s	11mm/s	11mm/s
LOADED SPEED	6mm/s	6mm/s	6mm/s	6mm/s
AVAILABLE STROKES	200-250-300-350 mm 400-500-550-600 mm 650-700-750-800 mm 850-900-950-1000 mm	200-250-300-350 mm 400-500-550-600 mm 650-700-750-800 mm 850-900-950-1000 mm	200-250-300-350 mm 400-500-550-600 mm 650-700-750-800 mm 850-900-950-1000 mm MILLIMETRIC ADJUSTMENT WITH MOWIN APP	200-250-300-350 mm 400-500-550-600 mm 650-700-750-800 mm 850-900-950-1000 mm MILLIMETRIC ADJUSTMENT WITH MOWIN APP
TYPES OF OPENINGS	TOP HUNG OUTWARD, BOTTOM HUNG INWARD, HINGED, SKYLIGHT DOMES, PANTOGRAPH	TOP HUNG OUTWARD, BOTTOM HUNG INWARD, HINGED, SKYLIGHT DOMES, PANTOGRAPH	TOP HUNG OUTWARD, BOTTOM HUNG INWARD, HINGED, SKYLIGHT DOMES, PANTOGRAPH	TOP HUNG OUTWARD, BOTTOM HUNG INWARD, HINGED, SKYLIGHT DOMES, PANTOGRAPH
OPERATING TEMPERATURE	-5°C + 50°C	-5°C + 50°C	-5°C + 50°C	-5°C + 50°C
DEGREE OF IP PROTECTION	30	30	30	30
SOFT START/SOFT STOP	YES	YES	YES	YES
CURRENT ABSORPTION	0,40 A	1 A	0,40 A	1 A
POWER CONSUMPTION	42 W	24 W	42 W	24 W
CURRENT CONSUMPTION (IN STAND-BY)**	-	-	0,010 A	0,025 A
ABSORBED POWER (IN STAND-BY)**	-	-	0,8 W	0,6 W
OBSTACLE DETECTION	CURRENT ABSORPTION	CURRENT ABSORPTION	CURRENT ABSORPTION	CURRENT ABSORPTION
PARALLEL CONNECTION	YES (MAX 30 ACTUATORS)	VERIFY	YES (MAX 30 ACTUATORS)	VERIFY
SYNCHRONISATION	NO	NO	YES UP TO 8 ACTUATORS	YES UP TO 8 ACTUATORS
DIMENSIONS	26 X 41 X 563/688/788/888 mm	26 X 41 X 563/688/788/888 mm	26 X 41 X 563/688/788/888 mm	26 X 41 X 563/688/788/888 mm
CABLE	PVC 3x0.75 L=2500mm	SILICONE 4X1 L=2500mm	PVC 3x0.75 L=2500mm	SILICONE 4X1 L=2500mm
LIMIT SWITCH IN OPENING	ENCODER	ENCODER	ENCODER	ENCODER
LIMIT SWITCH IN CLOSING	AMPEROMETRIC	AMPEROMETRIC	AMPEROMETRIC	AMPEROMETRIC
STATIC RETENTION FORCE	2200 N	2200 N	2200 N	2200 N
ACTUATOR WEIGHT	1.210 Kg	1.480 Kg	1.660 Kg	1.860 Kg
COLORS	GREY	GREY	GREY	GREY
CODE	ML4S S VN NW 35h AL00 I ML4S S VN NW 60H AL00 I ML4S S VN NW 80H AL00 I ML4S S VN NW 10H AL00 I	ML4S S RW NW 35L AL00 I ML4S S RW NW 60L AL00 I ML4S S RW NW 80L AL00 I ML4S S RW NW 10L AL00 I	ML4S S VN WF 35h AL00 I ML4S S VN WF 60H AL00 I ML4S S VN WF 80H AL00 I ML4S S VN WF 10H AL00 I	ML4S S RW WF 35L AL00 I ML4S S RW WF 60L AL00 I ML4S S RW WF 80L AL00 I ML4S S RW WF 10L AL00 I

* See flow chart on page 7.

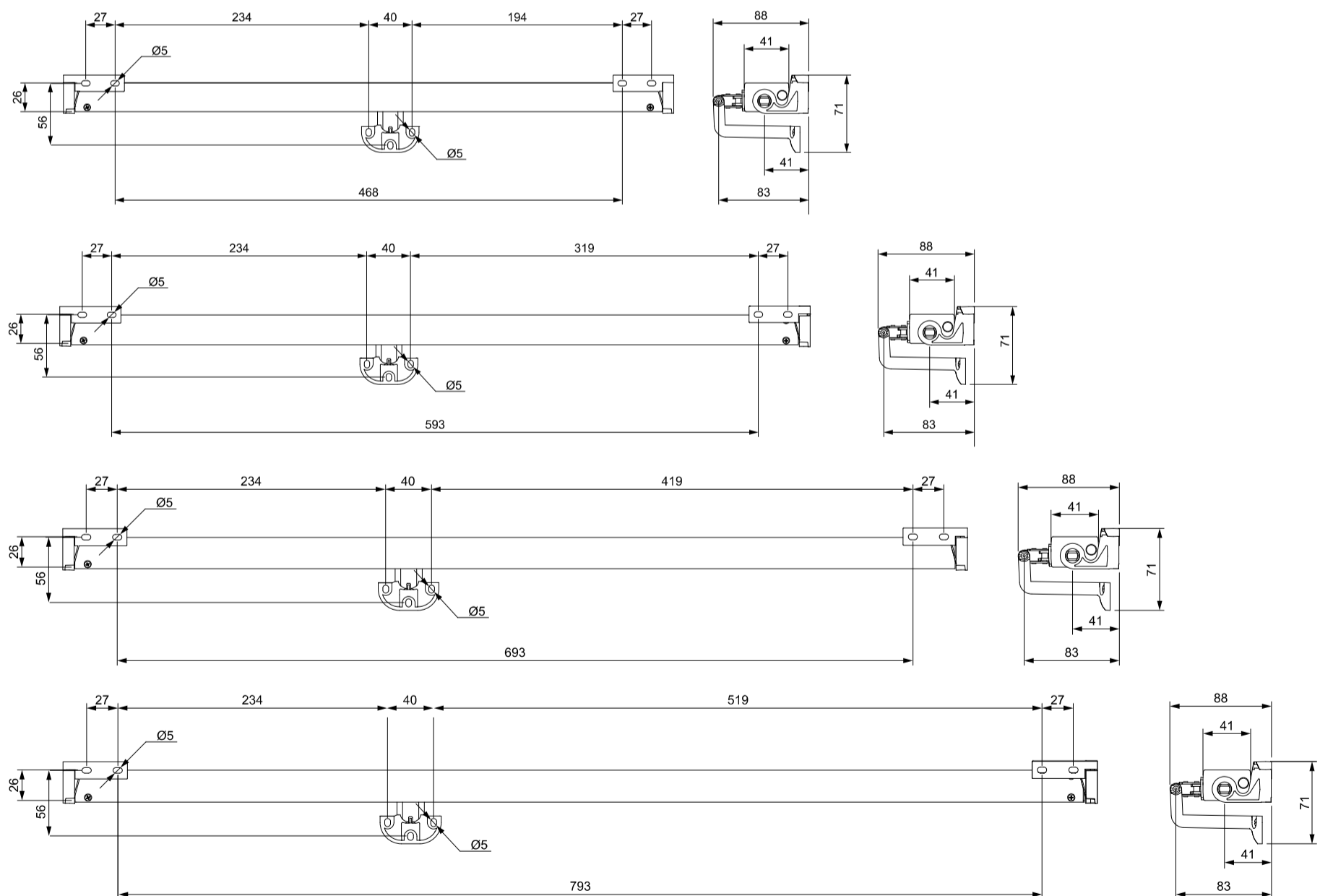
** Only in case of always powered.

3.2 TECHNICAL DRAWING WITH OVERALL DIMENSIONS AND HOLE SPACING

Top hung outward, pantograph and hinged opening: Dimensions and assembly holes



Bottom hung inward opening: Dimensions and assembly holes



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4. PRELIMINARY CHECKS FOR INSTALLATION

4.1 CALCULATION OF THE NECESSARY FORCE

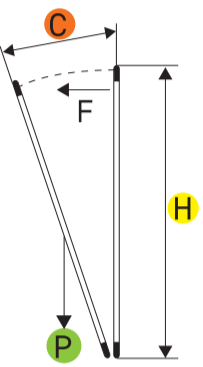
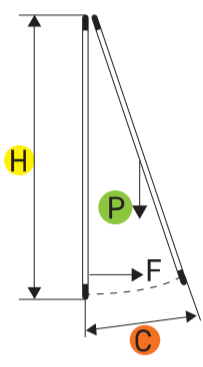
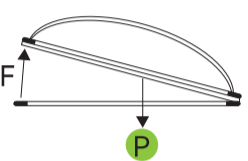
The calculation is made without considering the loads due to atmospheric agents.

Symbology F (N) = Force required to open the panel (mobile part of the window);

P (Kg) = Weight of the panel (mobile part of the window);

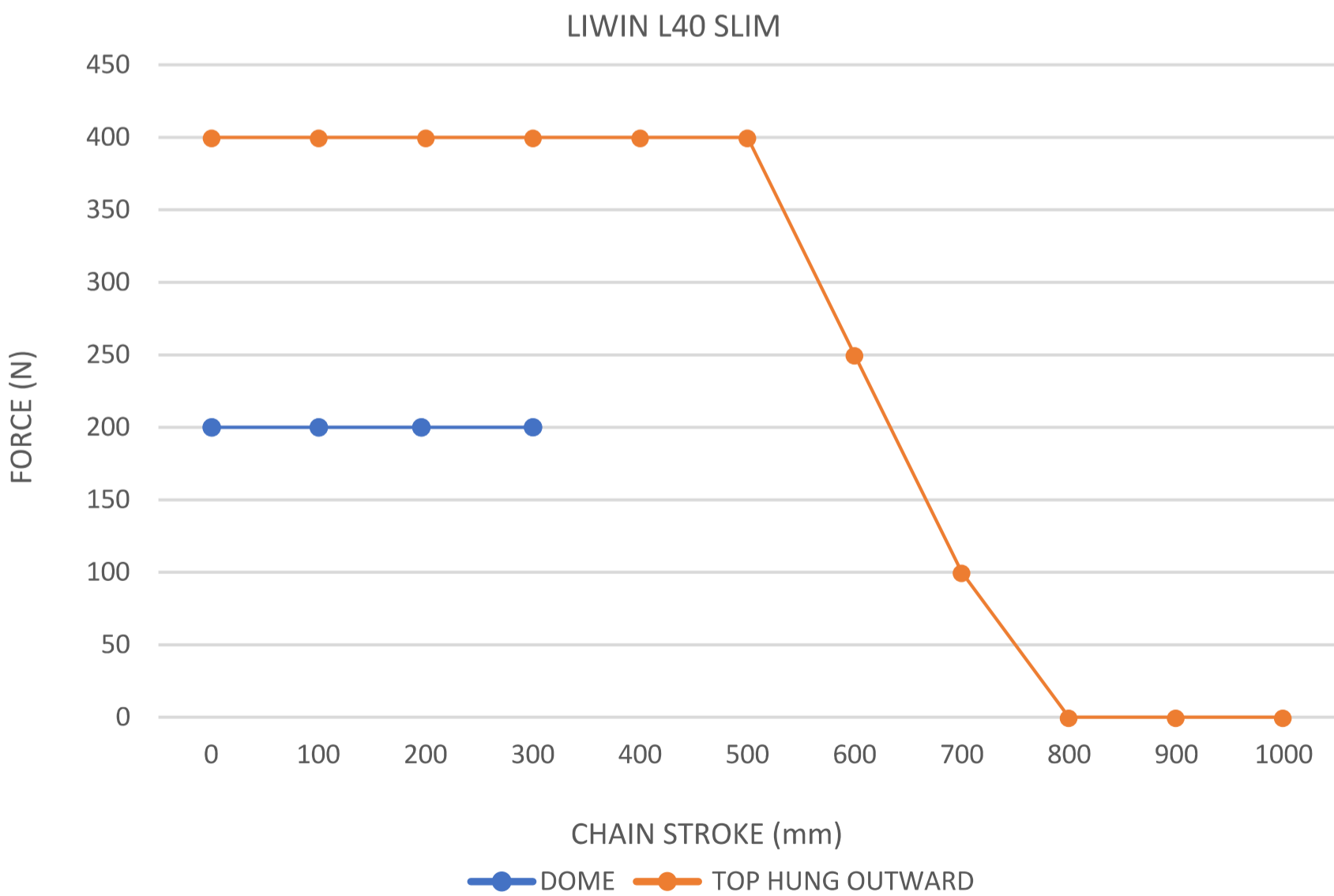
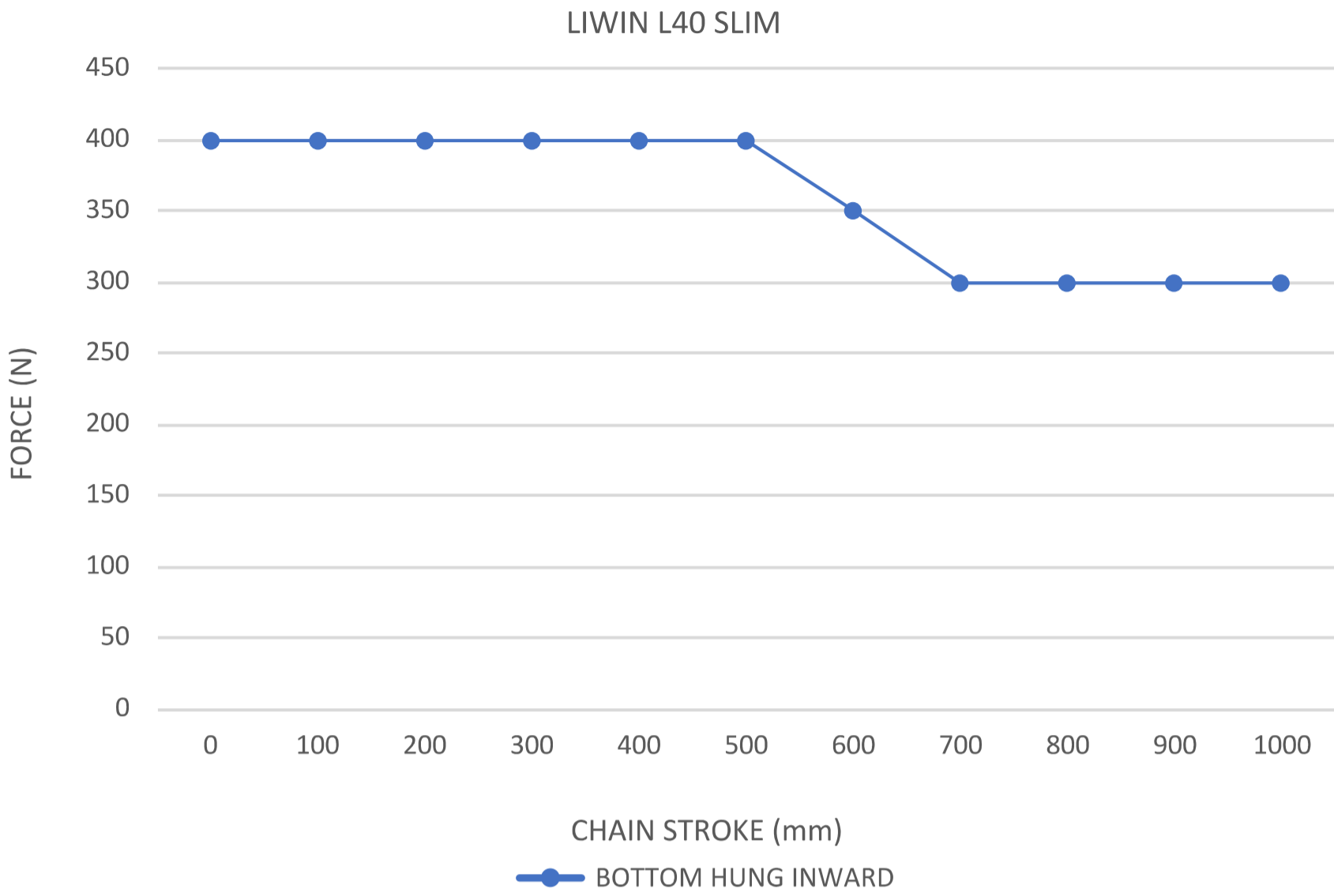
C (cm) = Actuator opening stroke;

H (cm) = Height of the panel (movable part of the window).

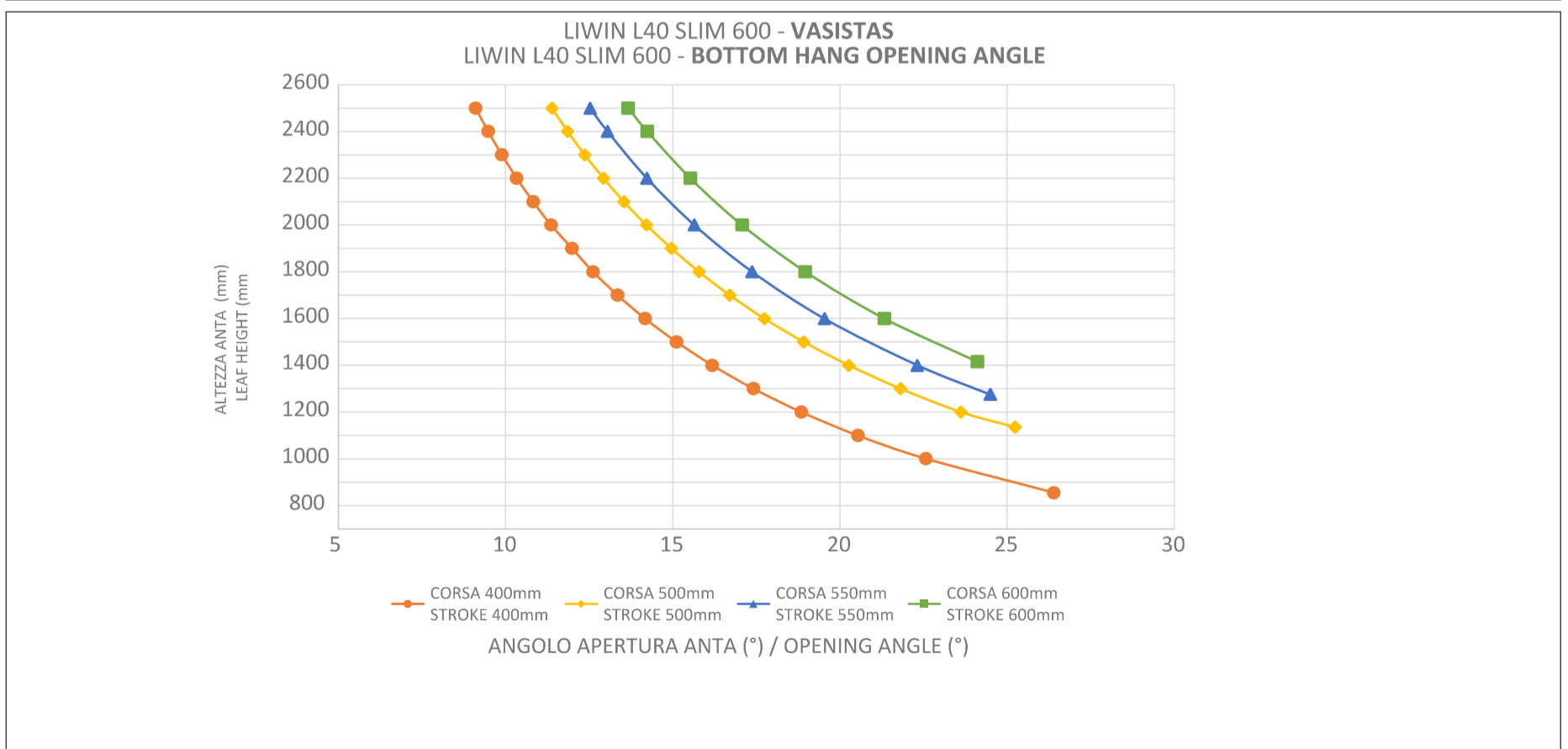
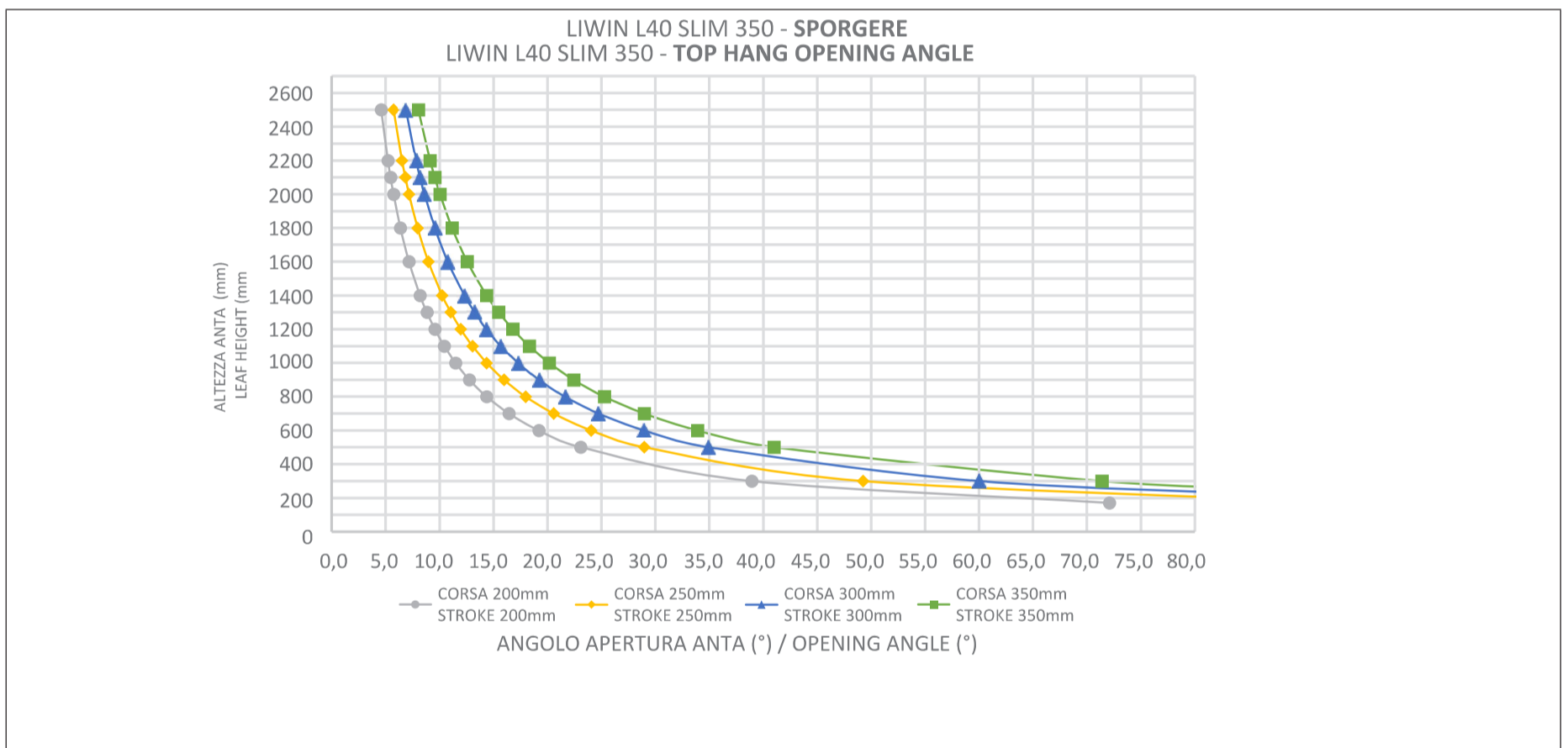
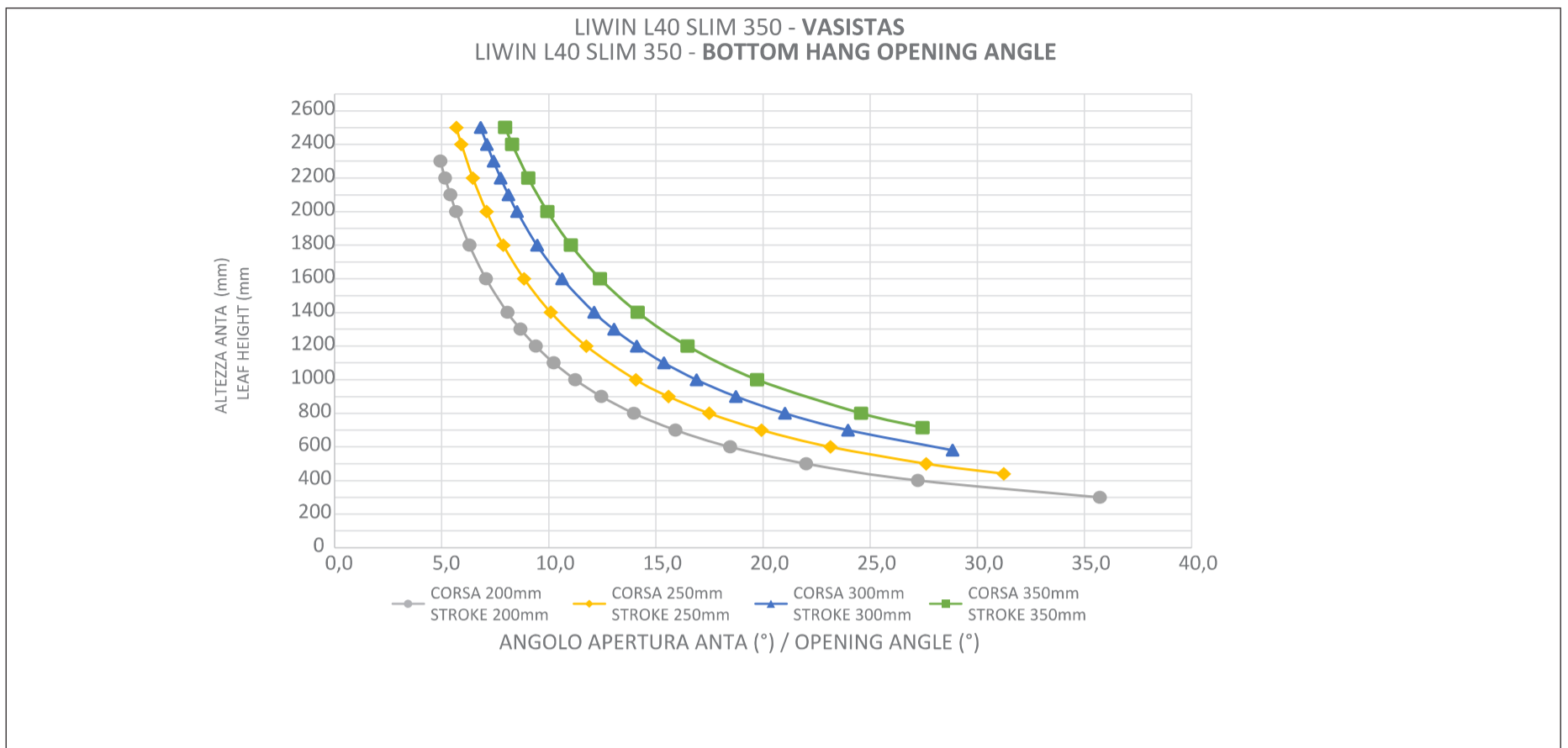
Bottom hung inward opening window	Top hung outward opening window	Horizontal domes or skylights
 $\frac{(C \div H) \times (P \div 2) = F \text{ Kg}}{F \text{ (Kg)} \times 9,8 = \mathbf{N F (N)}}$	 $\frac{(C \div H) \times (P \div 2) = F \text{ Kg}}{F \text{ (Kg)} \times 9,8 = \mathbf{N F (N)}}$	 $\frac{P \div 2 = F \text{ Kg}}{F \text{ (Kg)} \times 9,8 = \mathbf{N F (N)}}$

In the case of Hinged or Pantograph windows, the force must only overcome the friction of the hinge.

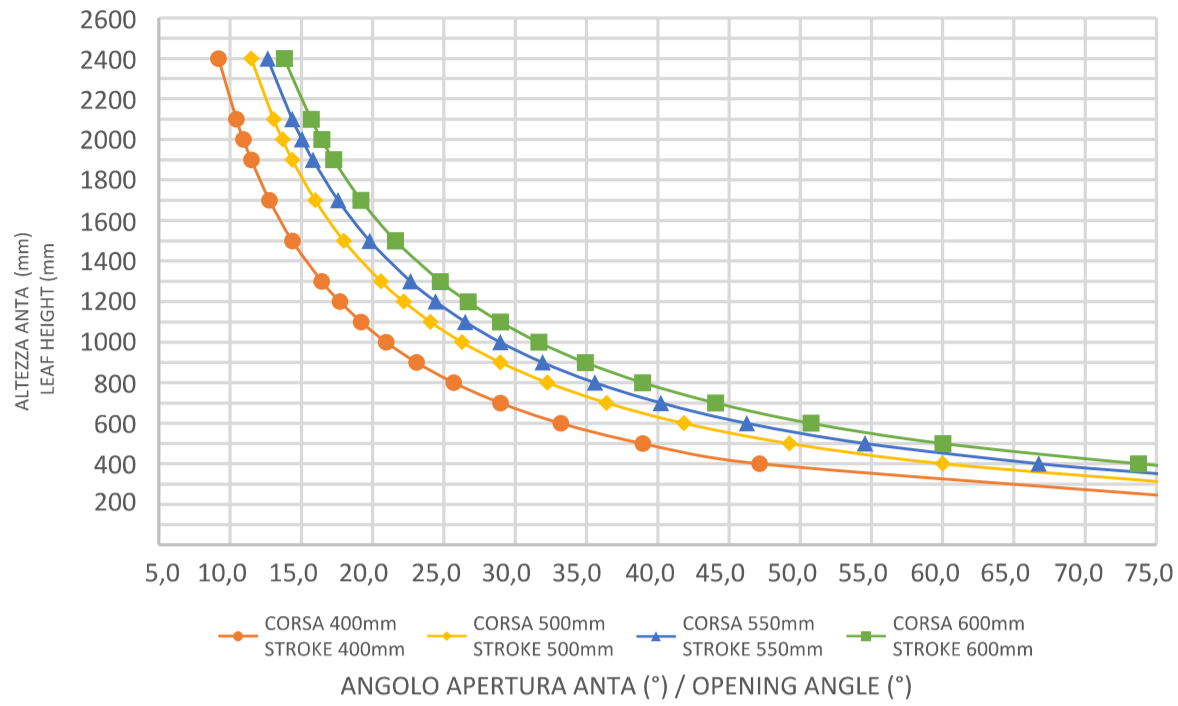
4.2 LIWIN L40 SLIM FLOW RATE - 350 IN BOTTOM HUNG INWARD, TOP HUNG OUTWARD AND DOME APPLICATIONS



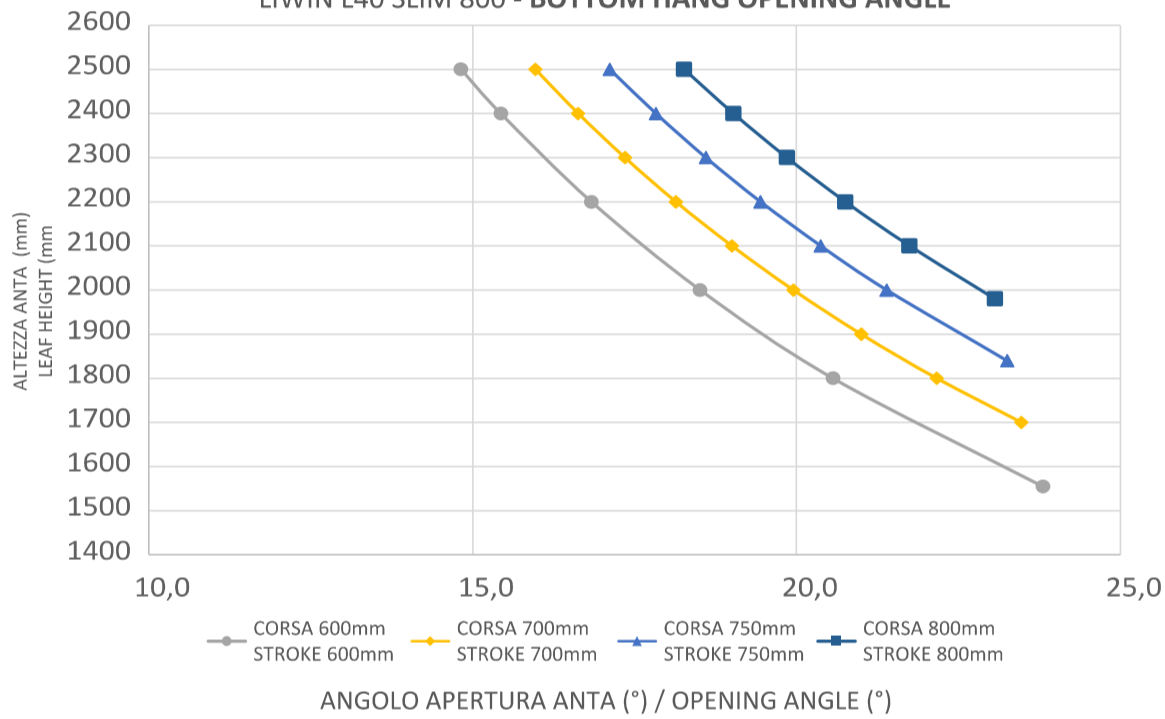
4.3 GRAPH FOR DETERMINING THE OPENING ANGLE*



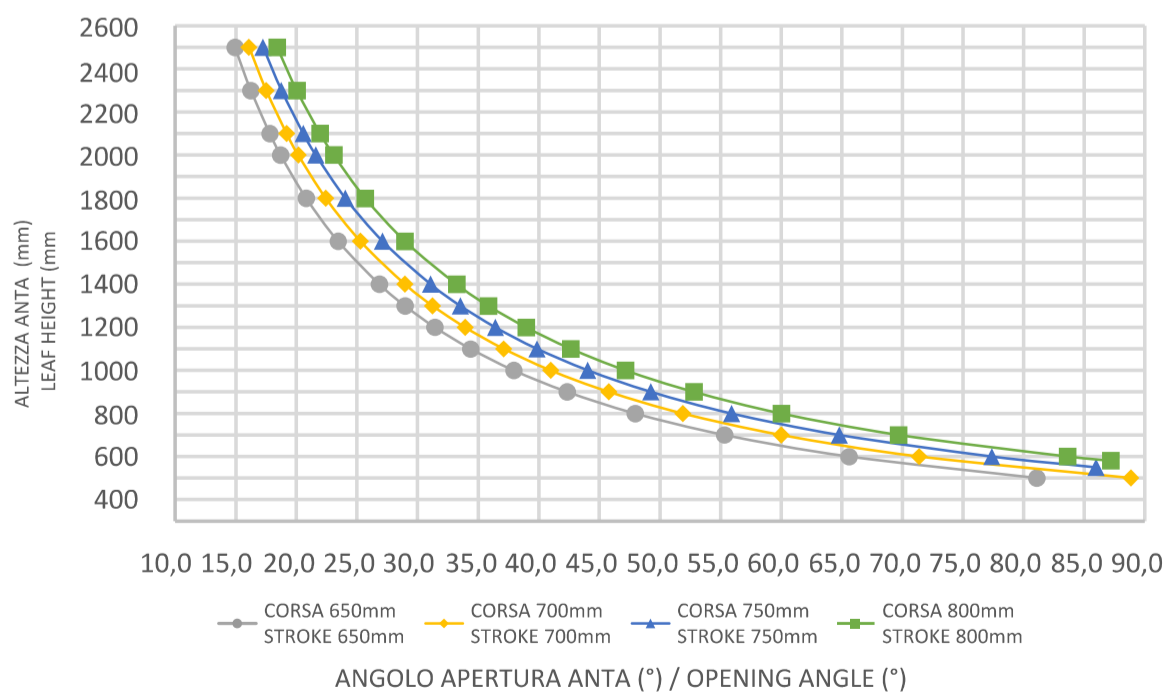
LIWIN L40 SLIM 600 - SPORGERE
LIWIN L40 SLIM 600 - TOP HANG OPENING ANGLE

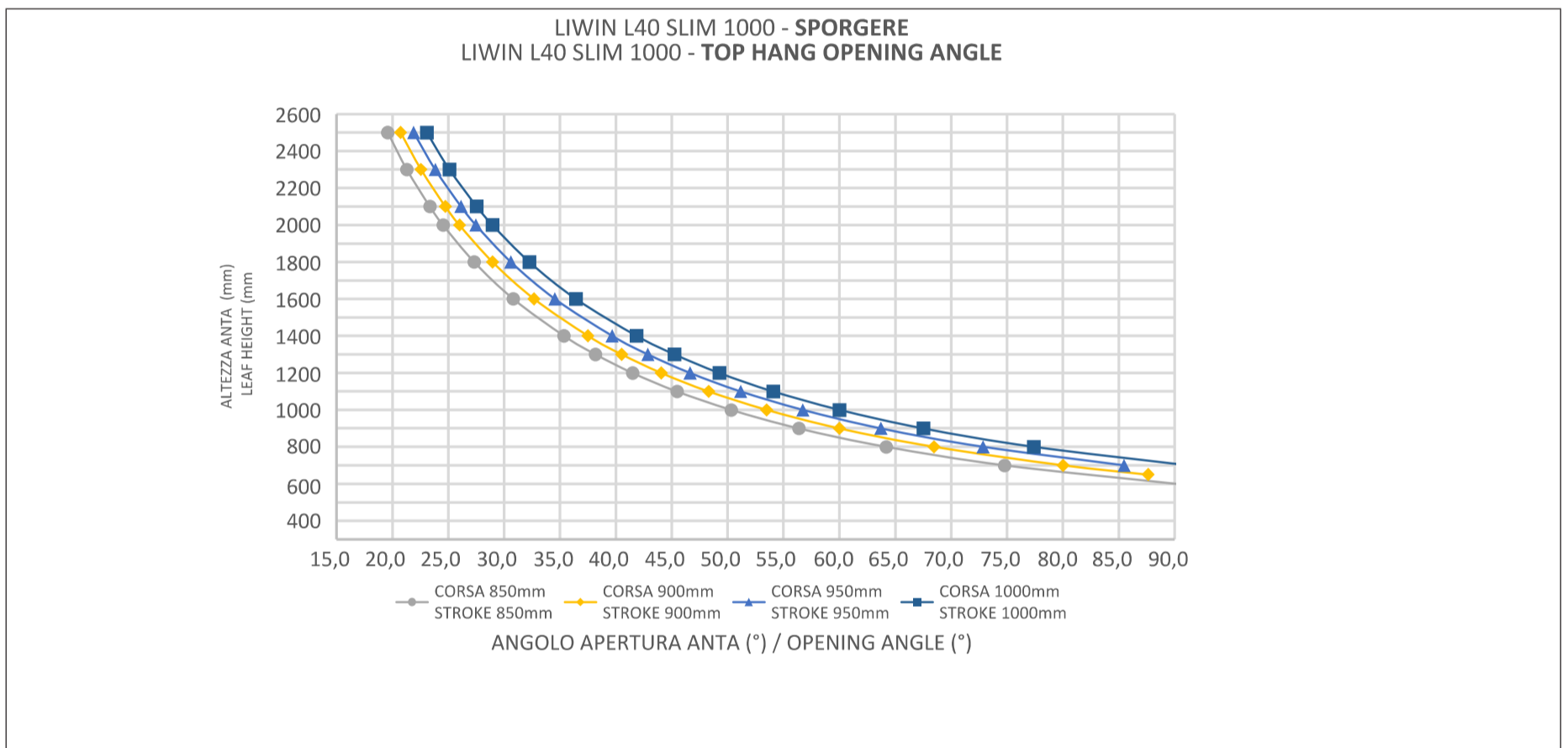
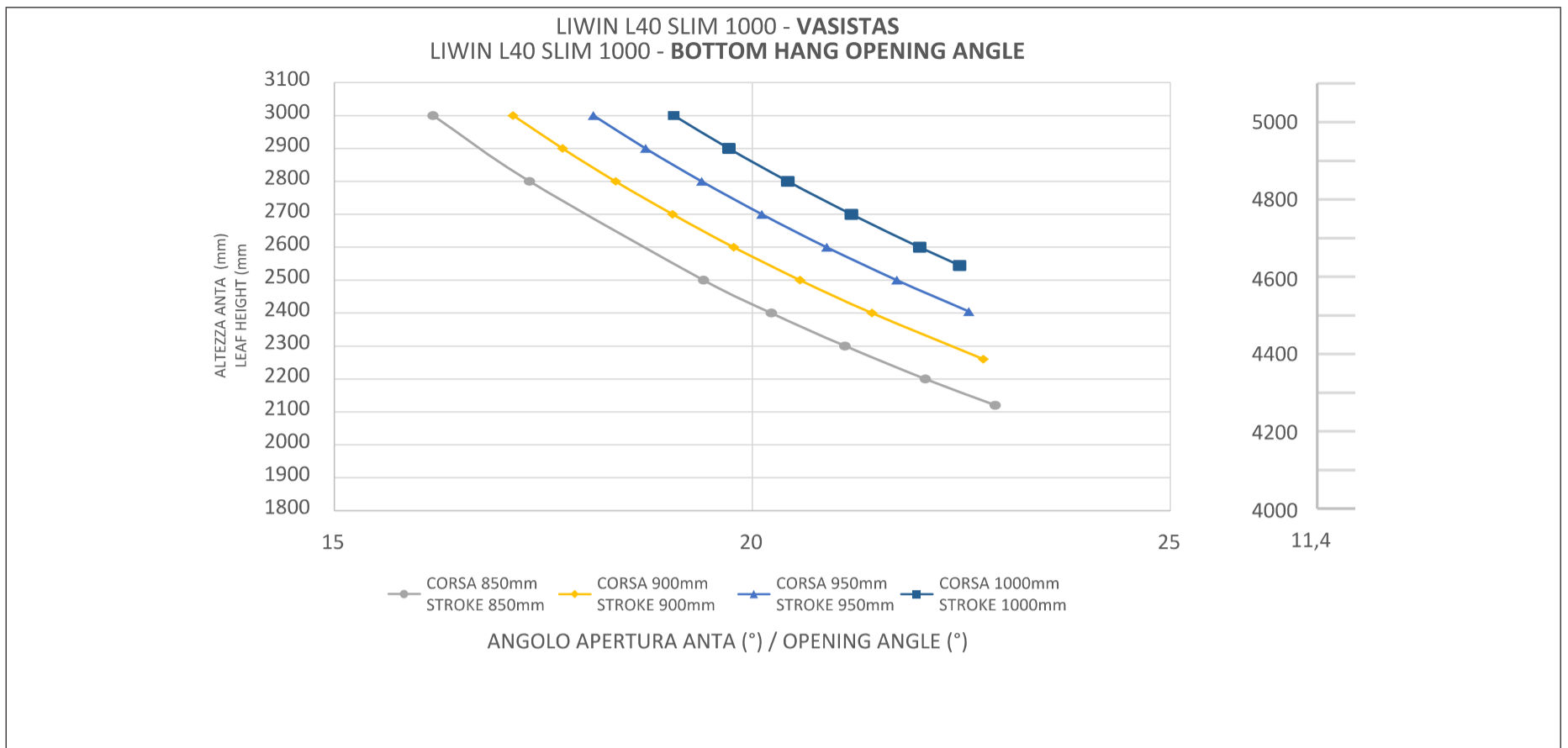


LIWIN L40 SLIM 800 - VASISTAS
LIWIN L40 SLIM 800 - BOTTOM HANG OPENING ANGLE



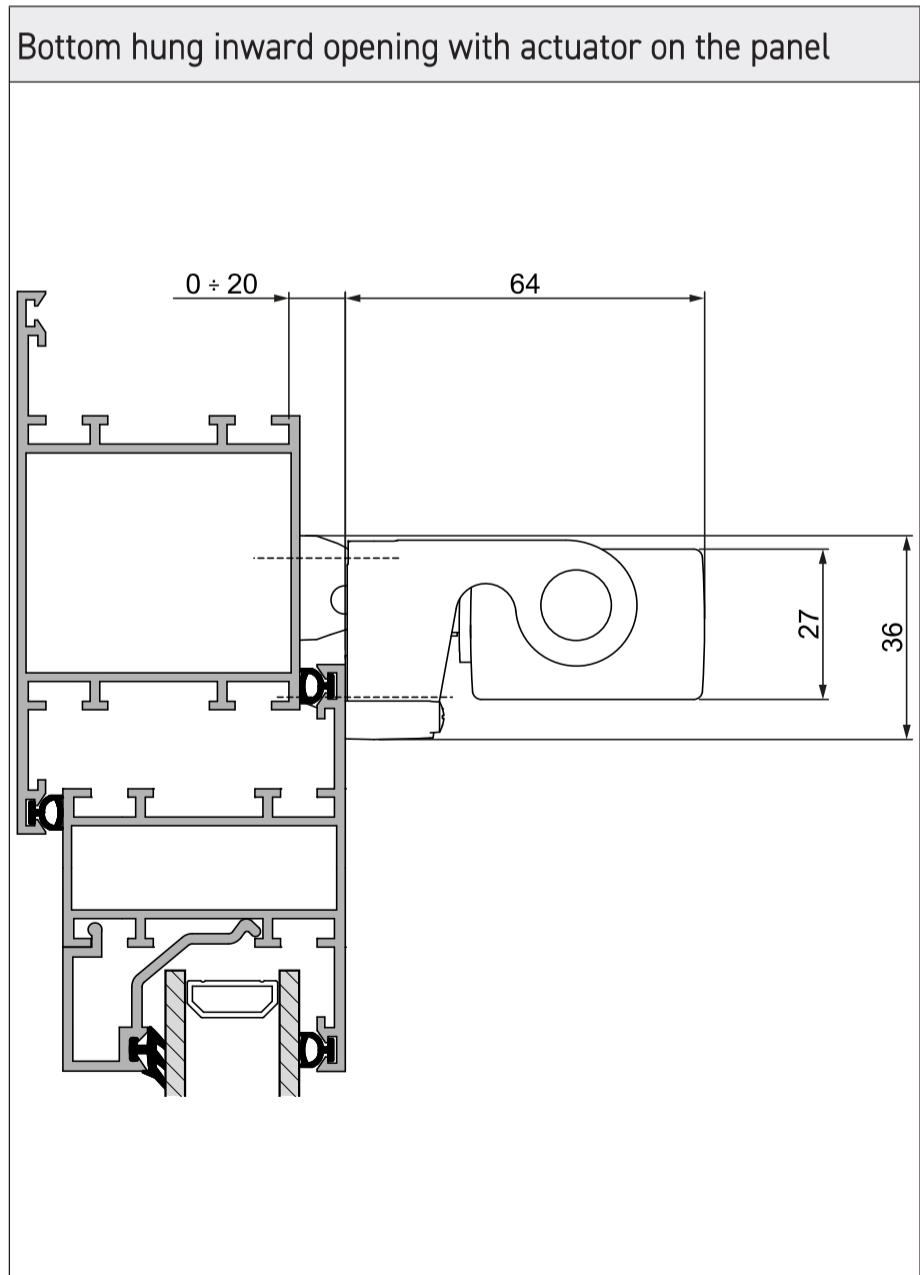
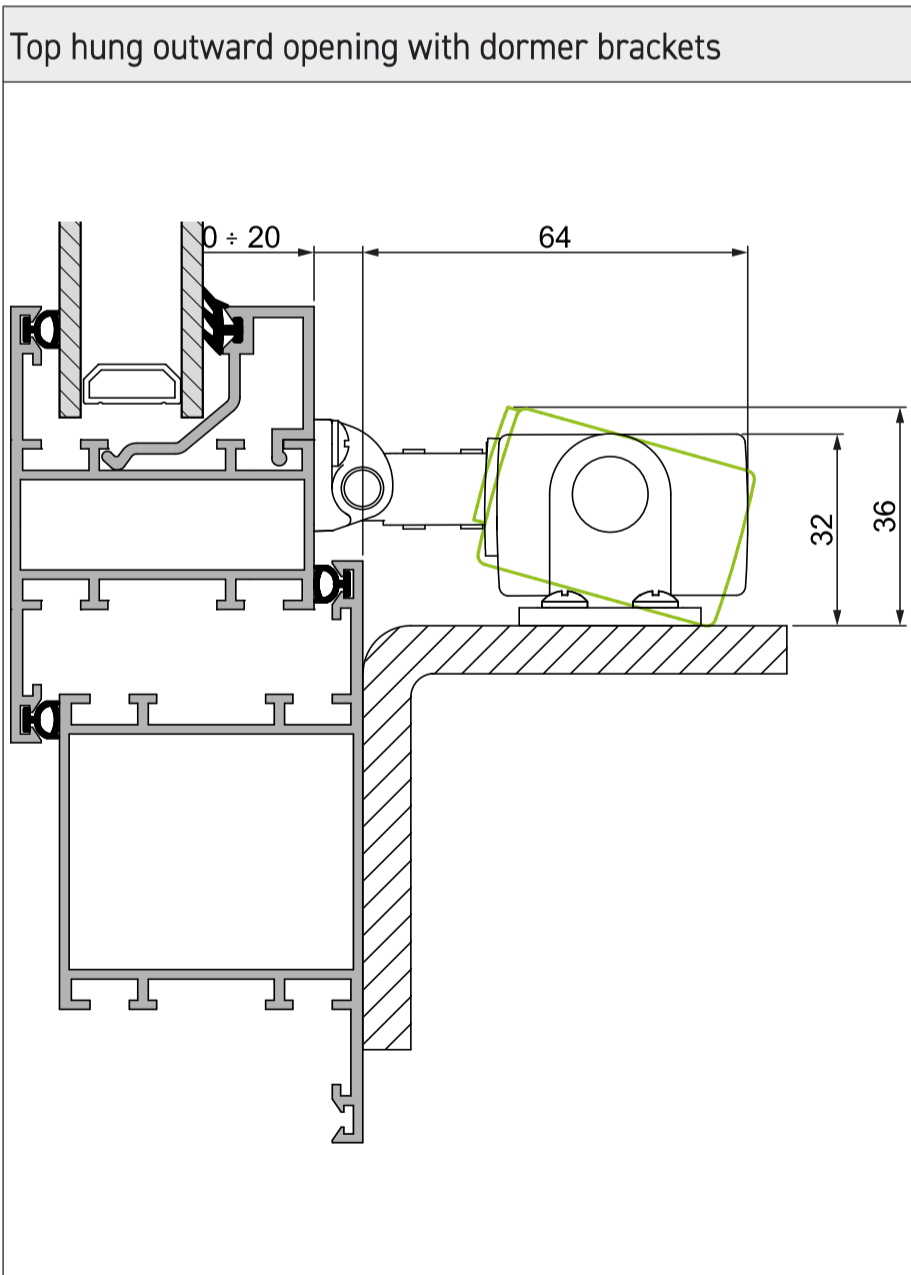
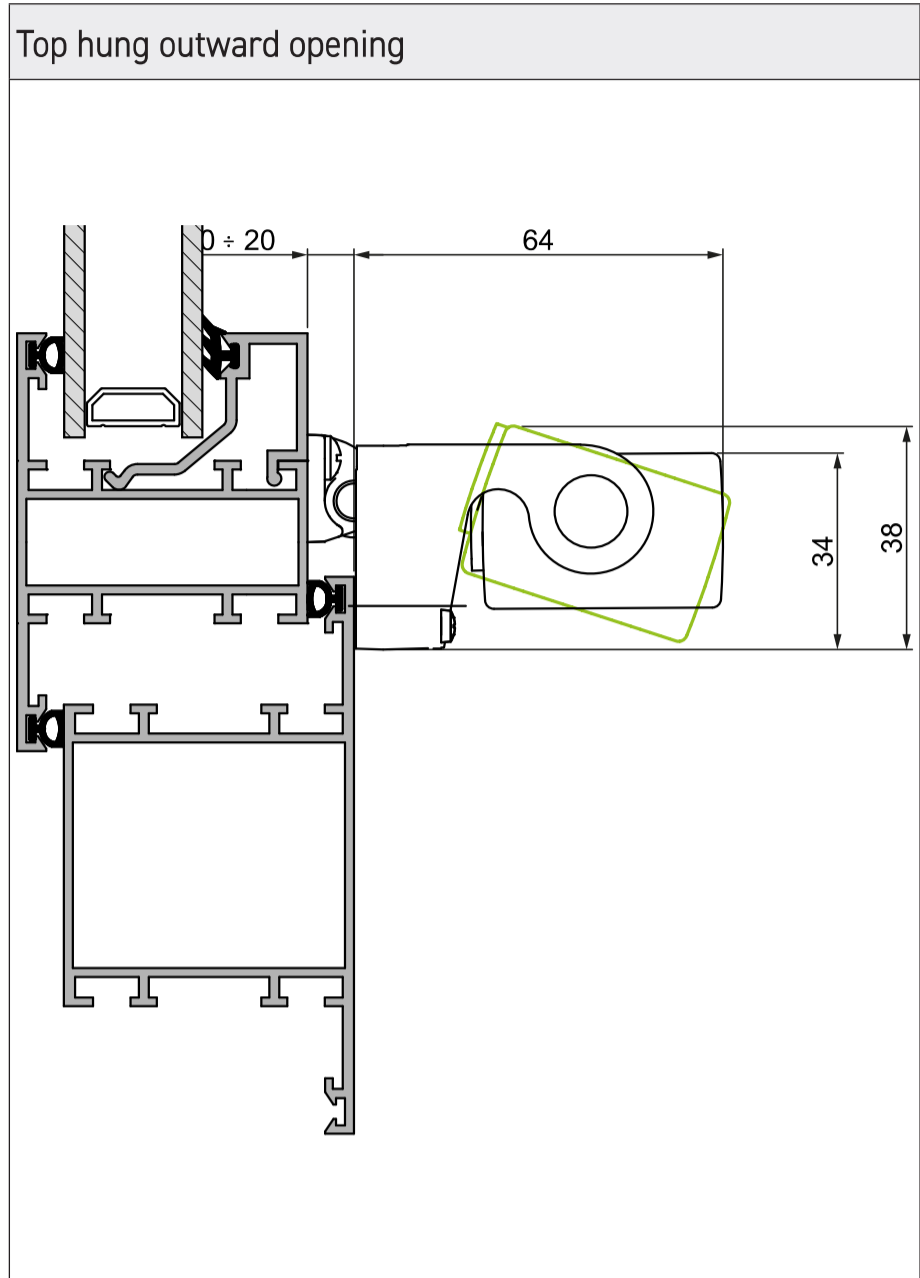
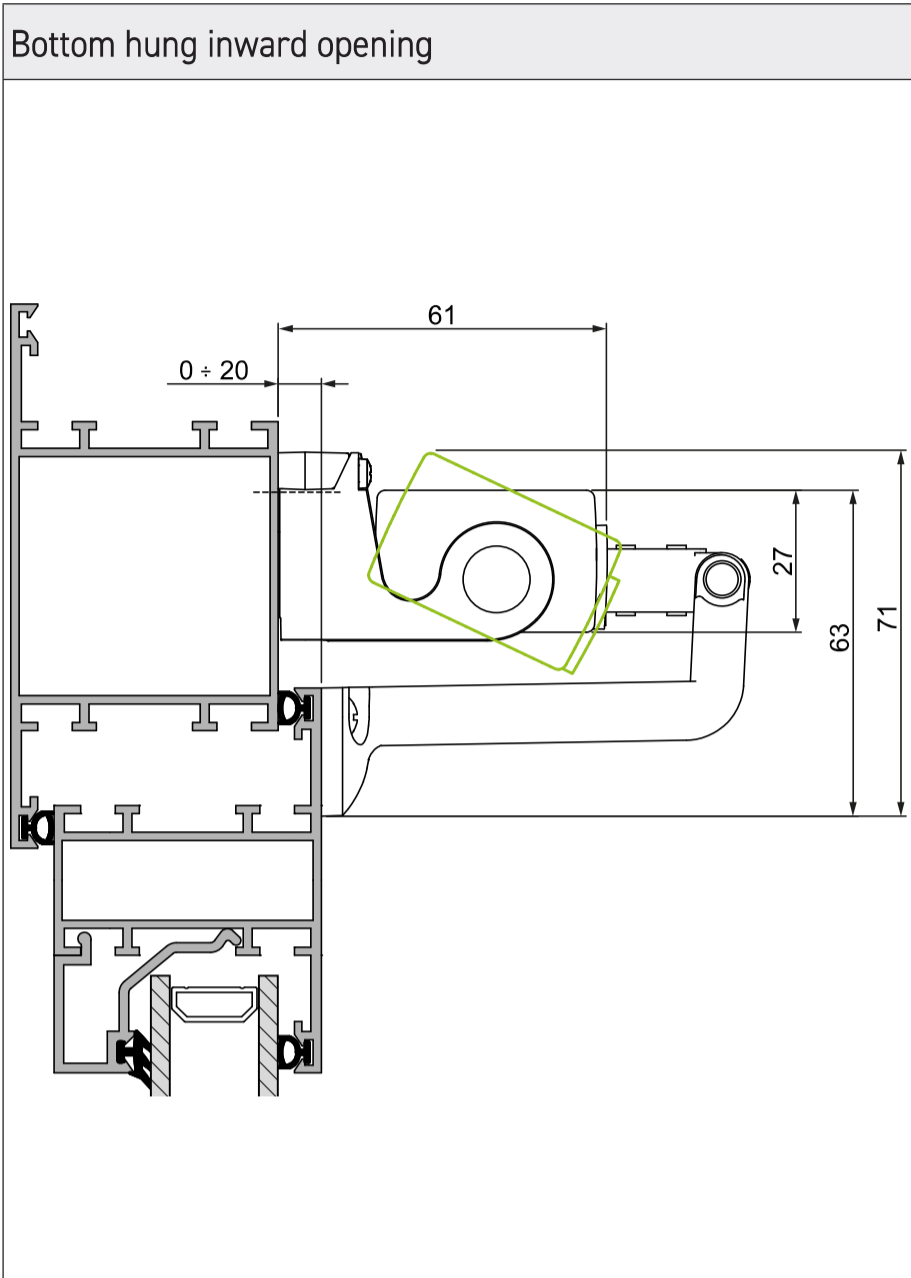
LIWIN L40 SLIM 800 - SPORGERE
LIWIN L40 SLIM 800 - TOP HANG OPENING ANGLE





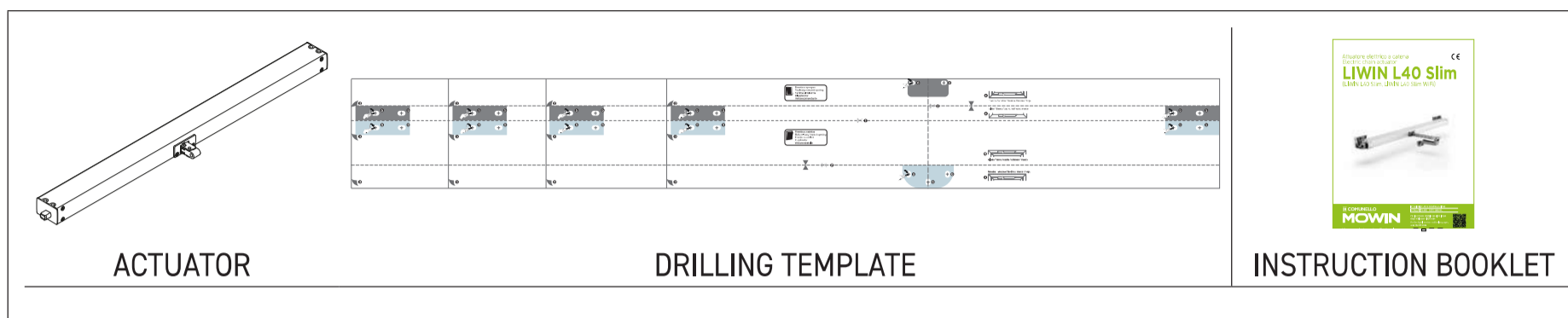
*The calculation is indicative and considers an overlap equal to 0

4.4 MINIMUM INSTALLATION DIMENSIONS

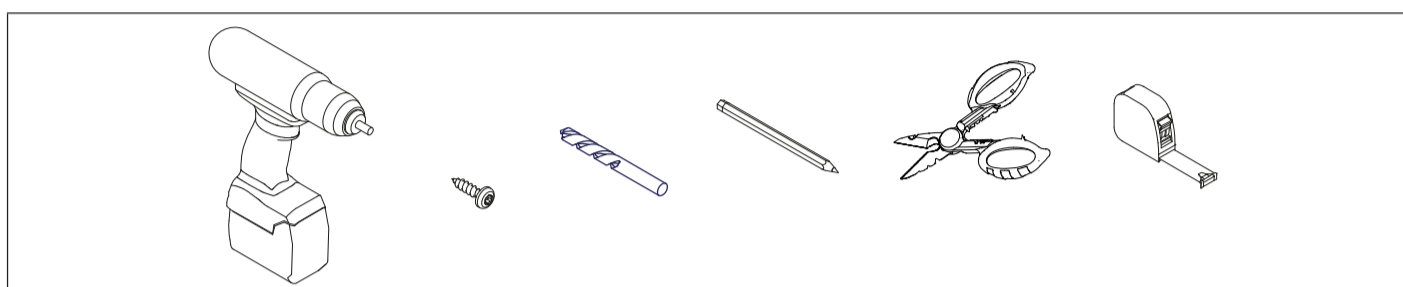


N.B.: THE OVERALL MEASUREMENTS ARE RELATIVE AND DO NOT CONSIDER ANY ELASTIC DEFORMATIONS OF THE SYSTEM

4.5 CONTENTS OF THE PACK



4.6 TOOLS NECESSARY FOR INSTALLATION OF THE ACTUATOR



4.6.1 SCREWS REQUIRED FOR INSTALLATION

Metal windows:

Fixing the support brackets: No. 4 M5 threaded inserts + No. 4 M5 ISO 7045 flat head metric screws

Fixing bracket to bottom hung inward or top hung outward: No. 2 M4 threaded inserts + No. 2 M4 ISO 7045 flat head metric screws

Wooden doors and windows:

Fixing the support brackets: No. 4 self-tapping wood screws $\varnothing 4,8$ ISO 7946

Fixing bracket to bottom hung inward or top hung outward: No. 2 self-tapping wood screws $\varnothing 3,9$ ISO 7946

PVC windows:

Fixing the support brackets: No. 4 self-tapping screws $\varnothing 4,8$ ISO 7049

Fixing bracket to bottom hung inward or top hung outward: No. 2 self-tapping screws $\varnothing 3,9$ ISO 7049

5. INSTALLATION

5.1 INSTALLATION WARNINGS



On windows with a bottom hung inward opening there is a danger of injury caused by the accidental fall of the window. It is **NECESSARY** to install restraining arms or an alternative safety system of sufficient size to withstand any accidental falling of the window.

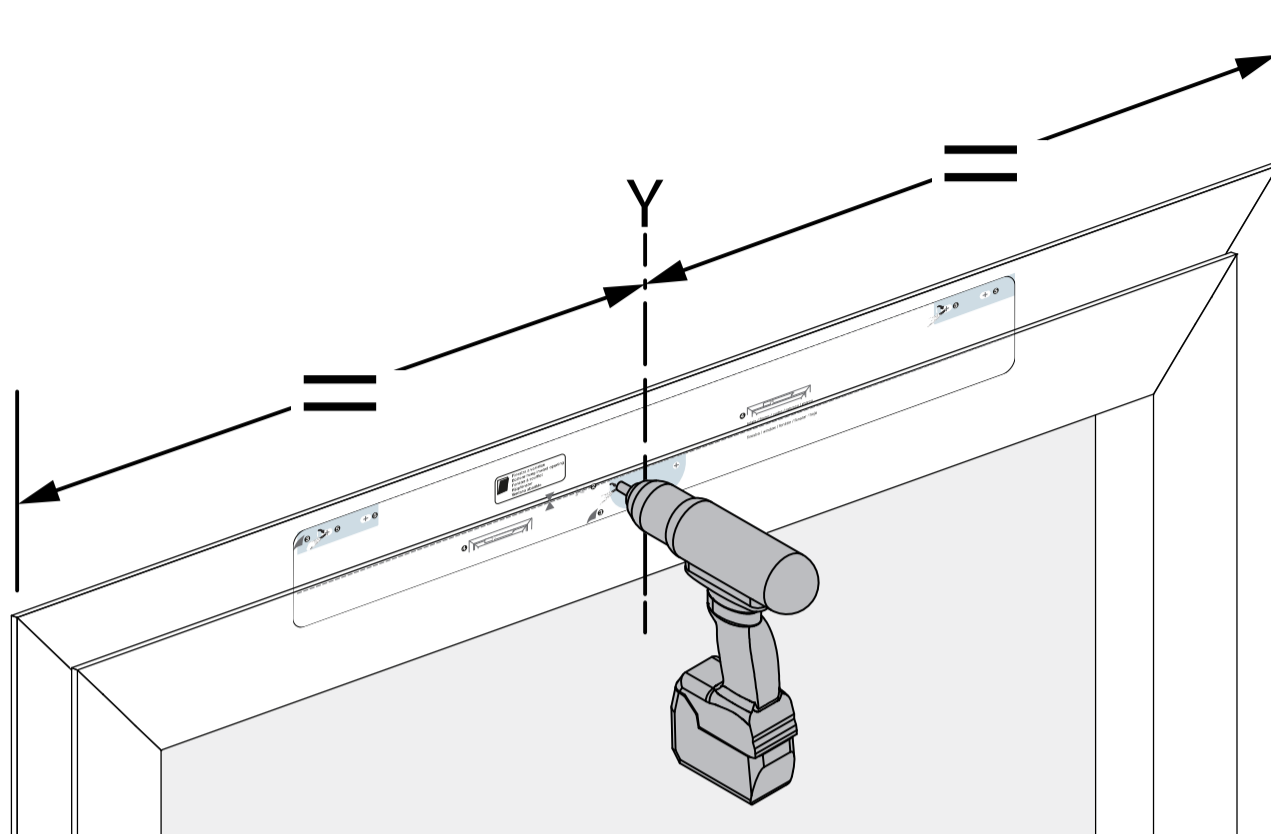
- Check that the width "L" of the window, where the actuator is expected to be installed, is greater than

LIWIN MODEL	MINIMUM WINDOW WIDTH
L40 Slim - 350	640 mm
L40 Slim - 600	690 mm
L40 Slim - 800	890 mm
L40 Slim - 1000	1090 mm

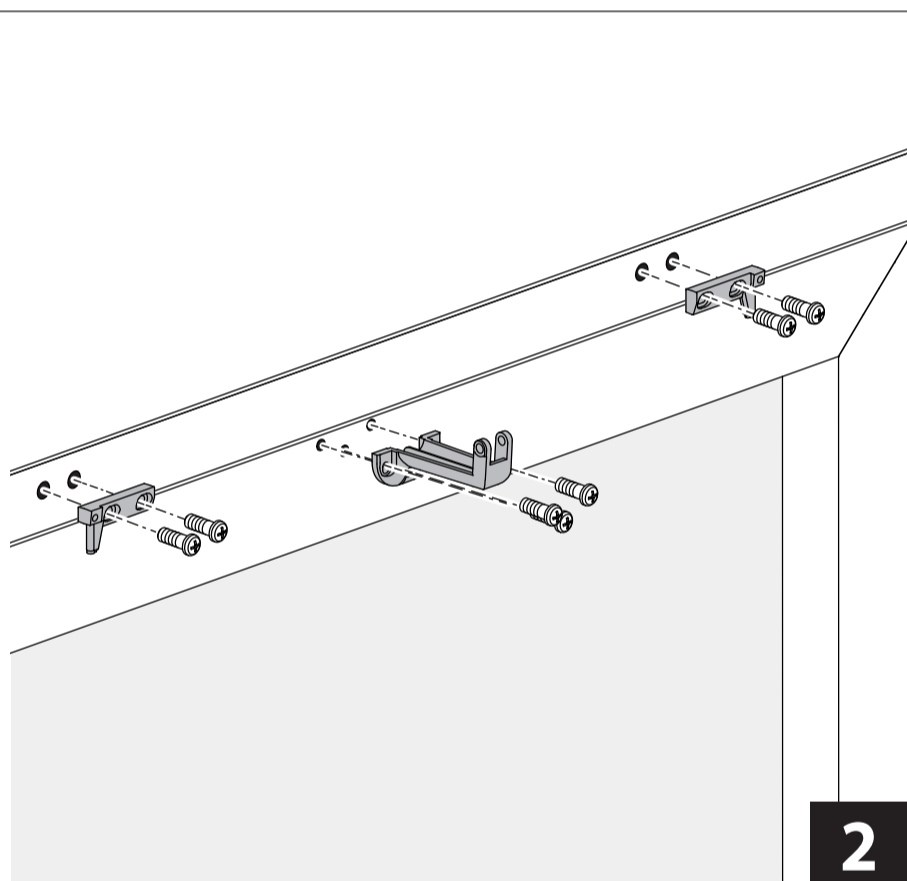
Otherwise, it is **NOT POSSIBLE** to fit the actuator.

- Check that the force required to open/close is less than or equal to 400N in the case of a single actuator or the total force $F_{tot}=400*x*0.7$ where "x" is the number of synchronized actuators in the single window (max 8 synchronized actuators).
- Manually check the opening of the door, checking and eliminating any obstacle areas that may give rise to malfunctions.
- Manually check the maximum opening of the door by checking that it is greater than the stroke to be set on the actuator.

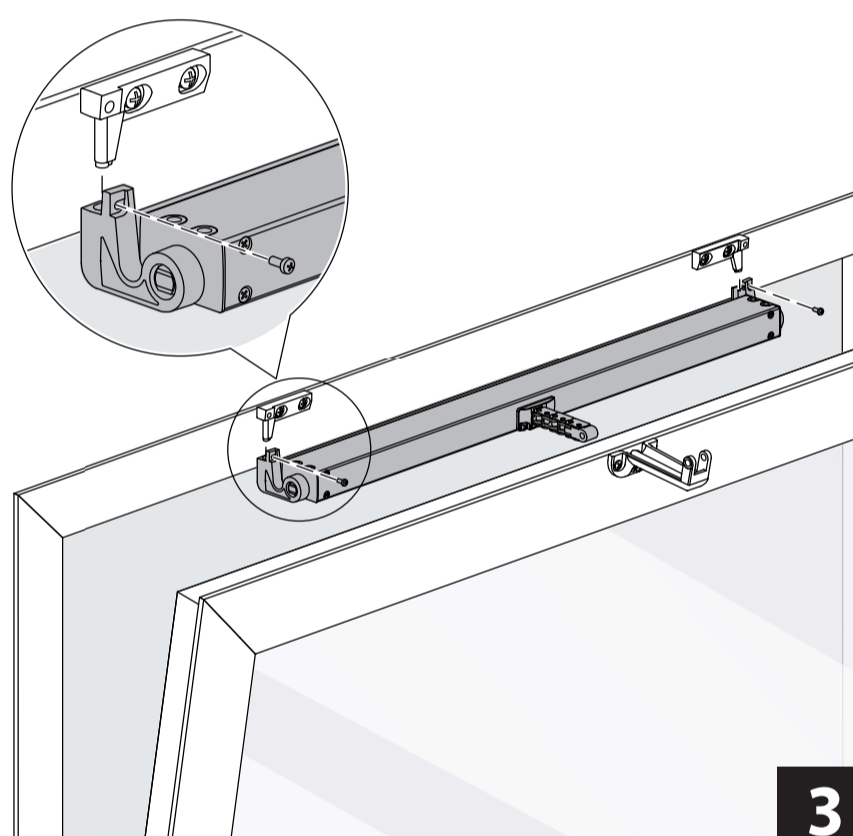
BOTTOM HUNG INWARD OPENING



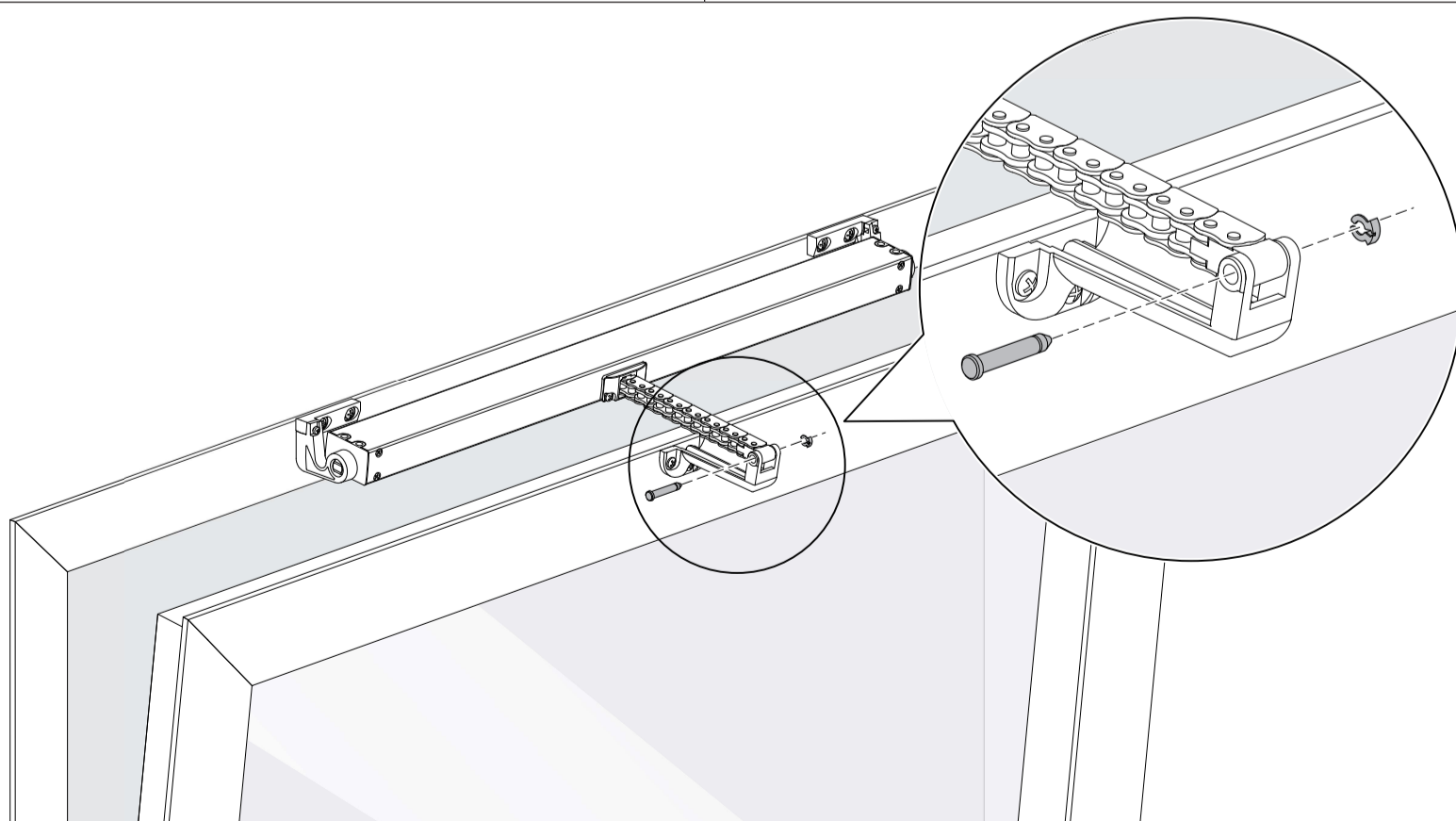
1



2



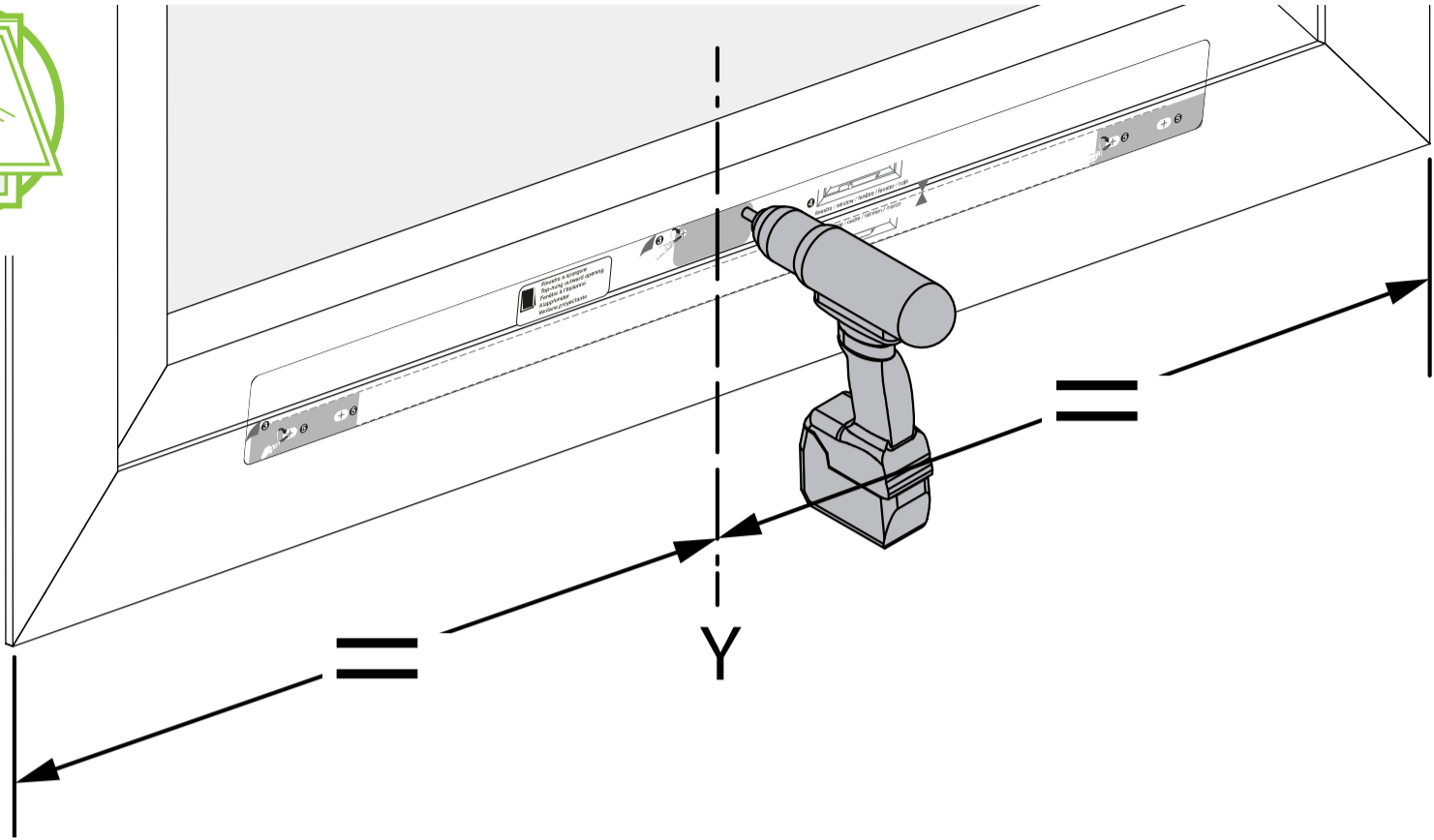
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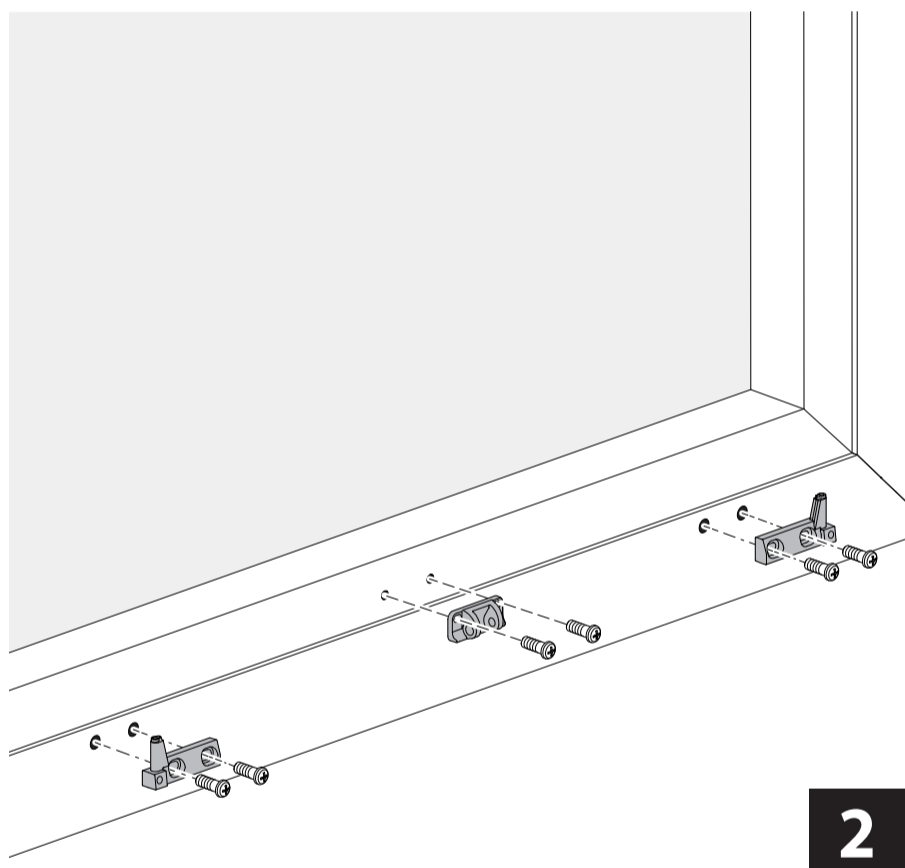
4

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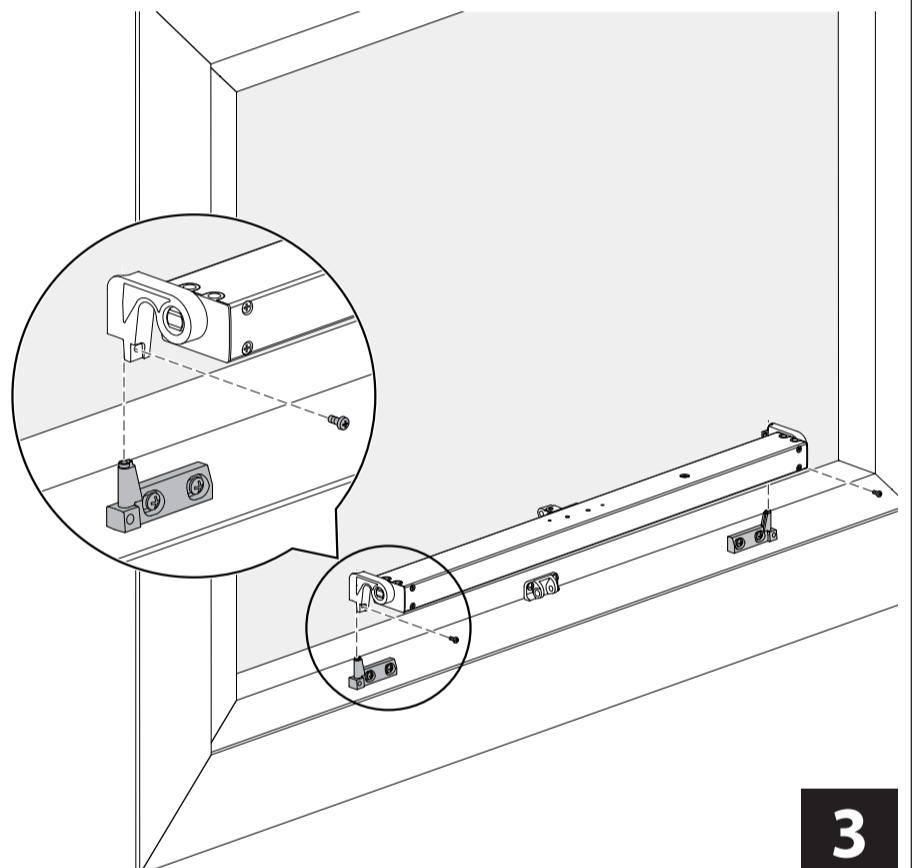
TOP HUNG OUTWARD OPENING



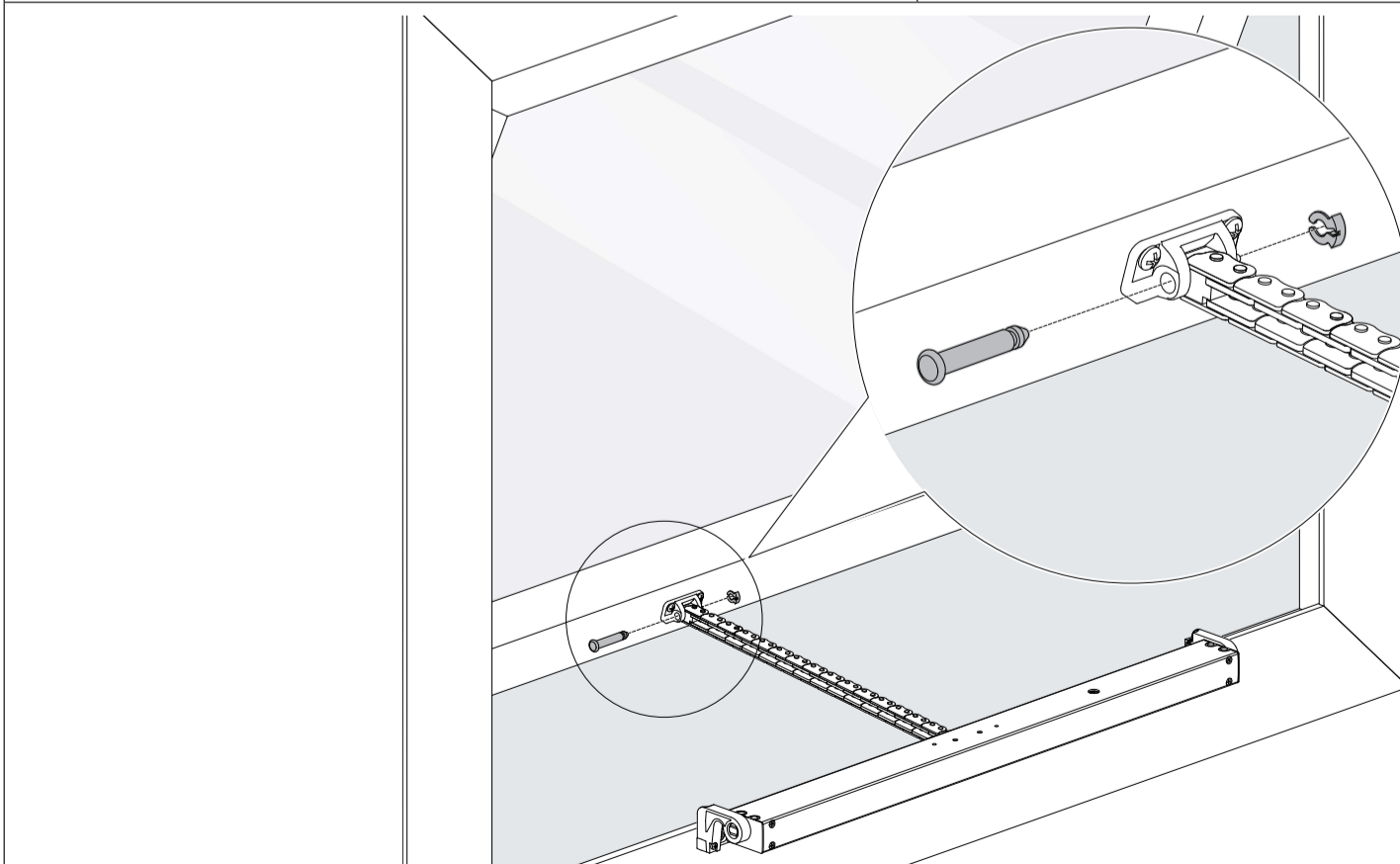
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2

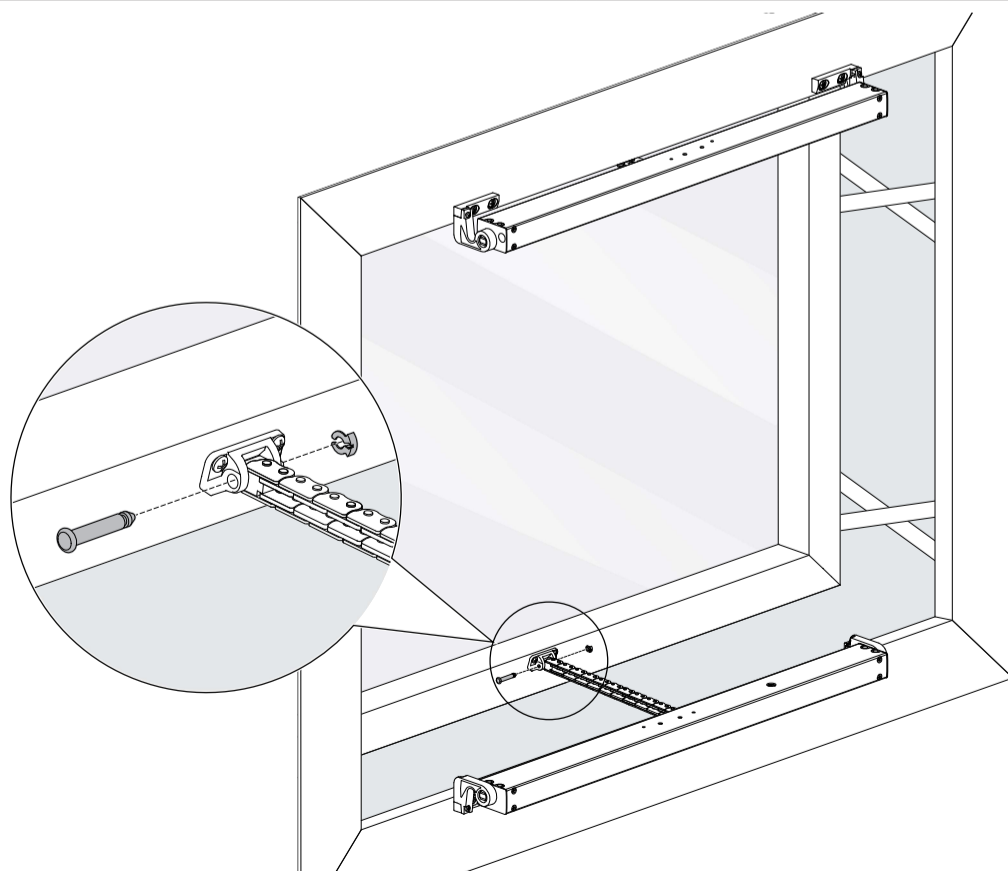
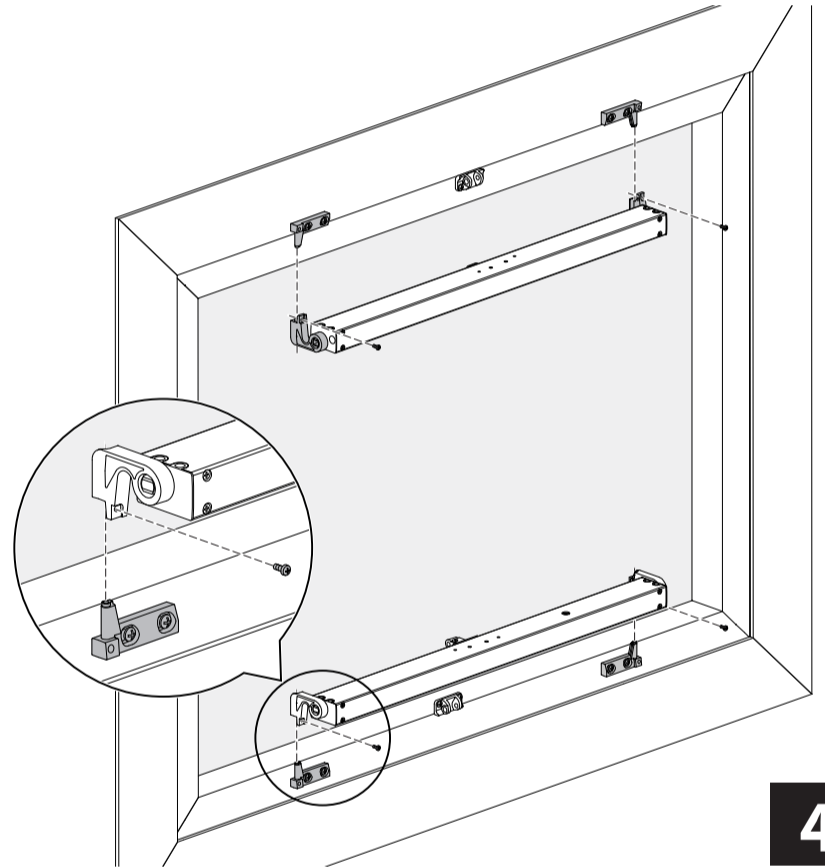
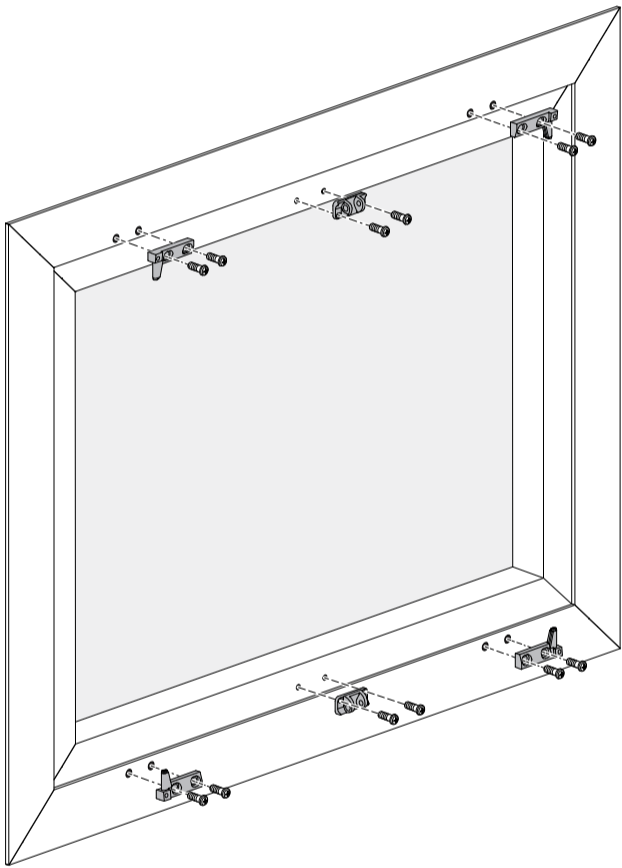
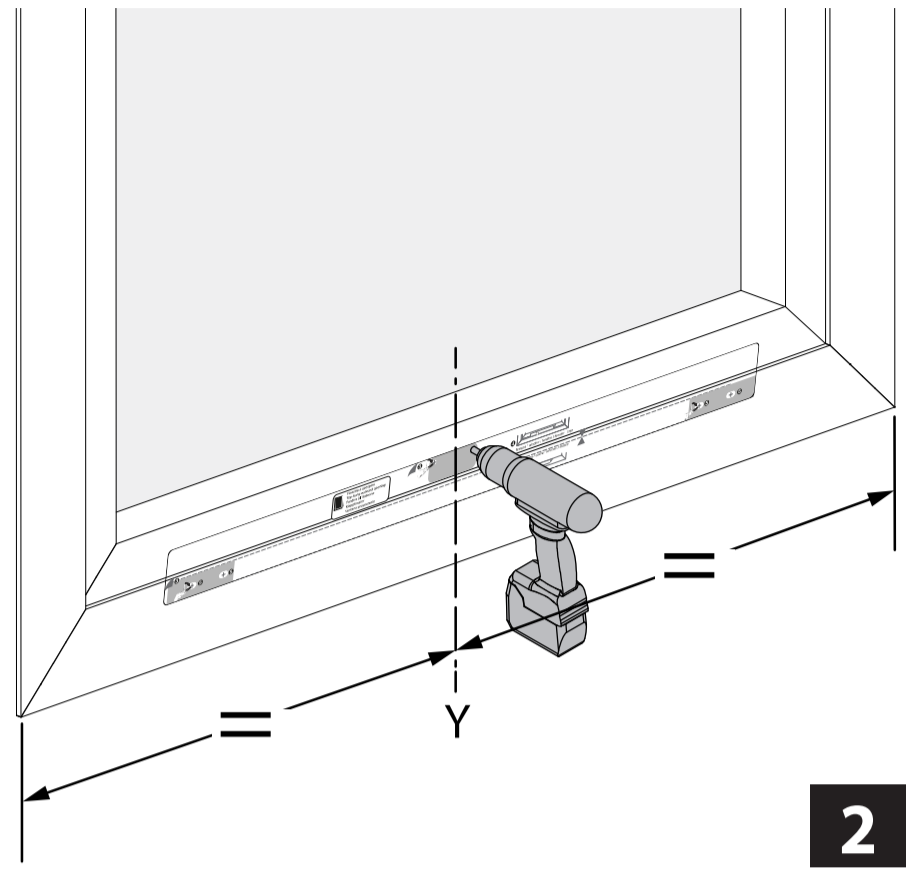
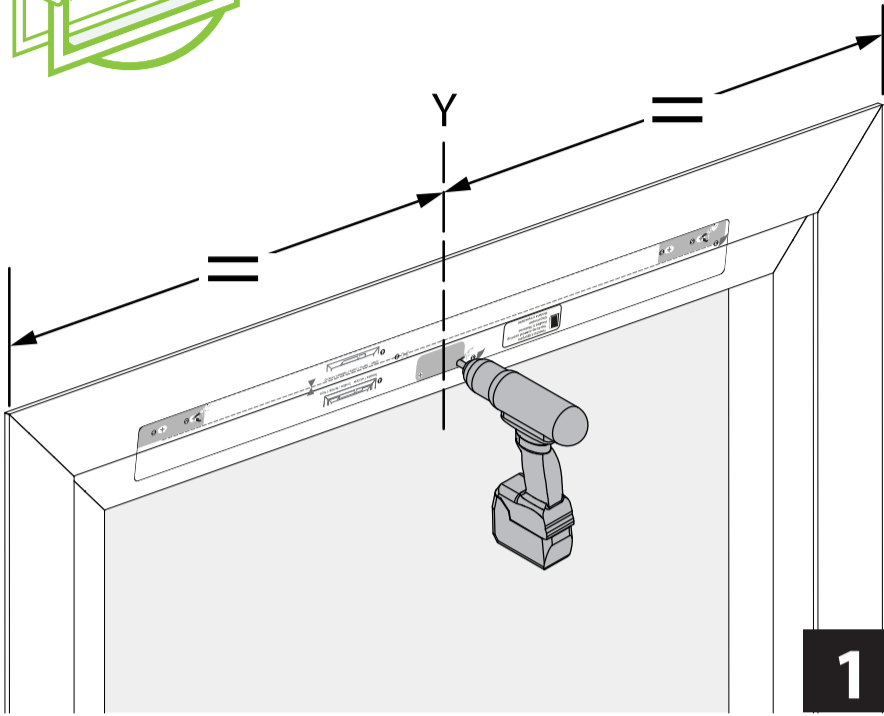
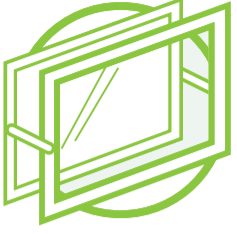


3



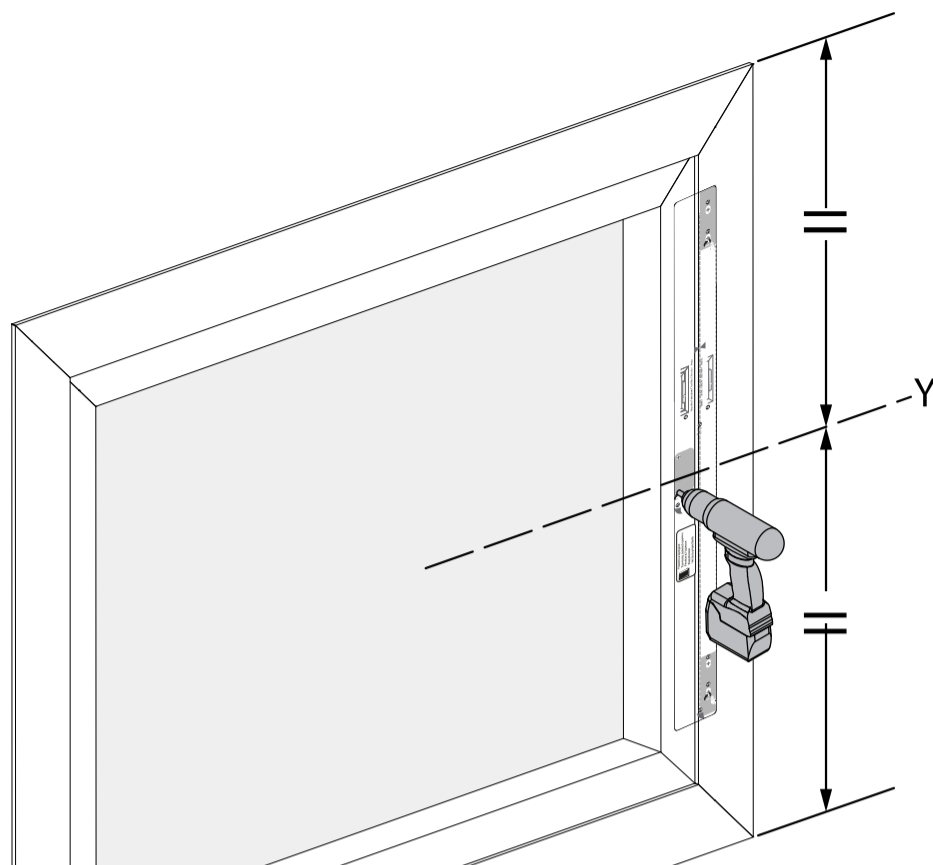
4

PANTOGRAPH OPENING

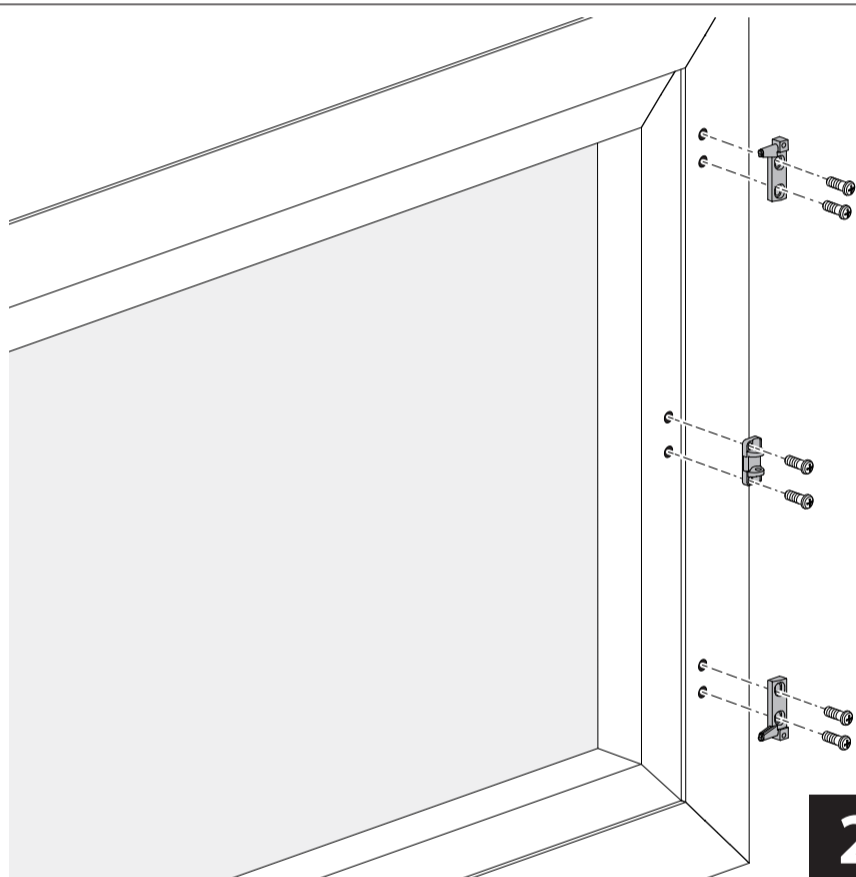


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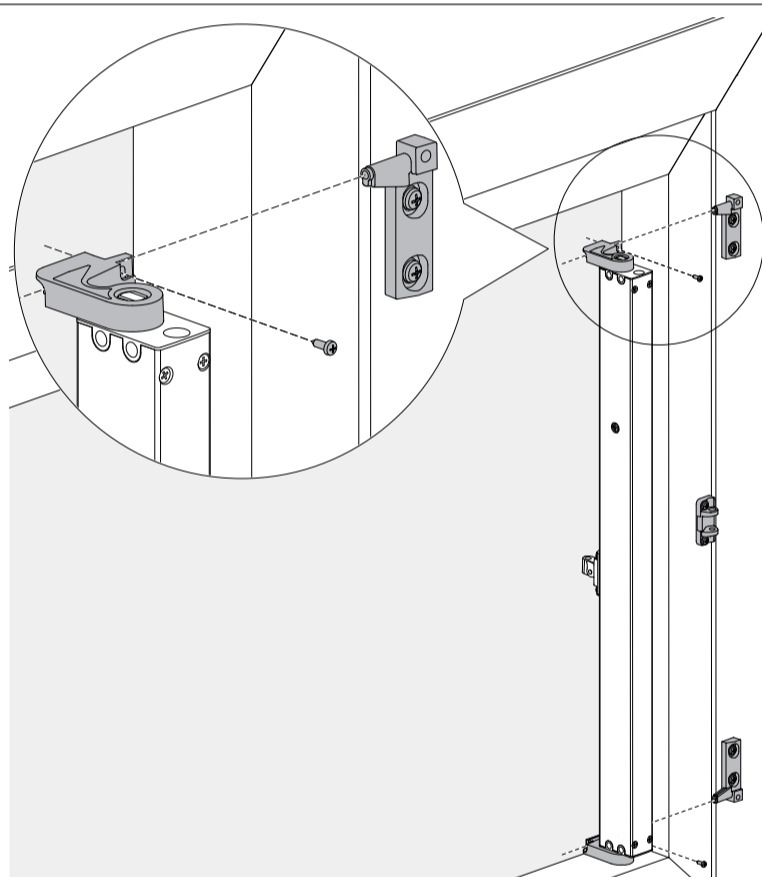
HINGED OPENING



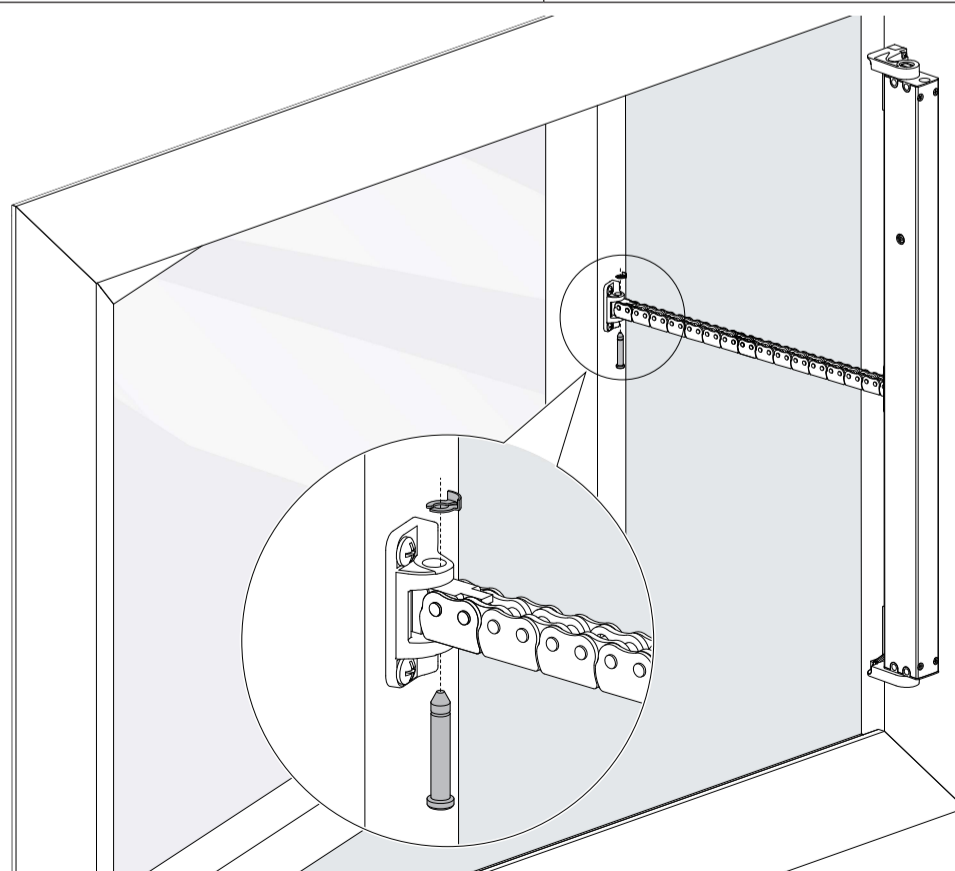
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2

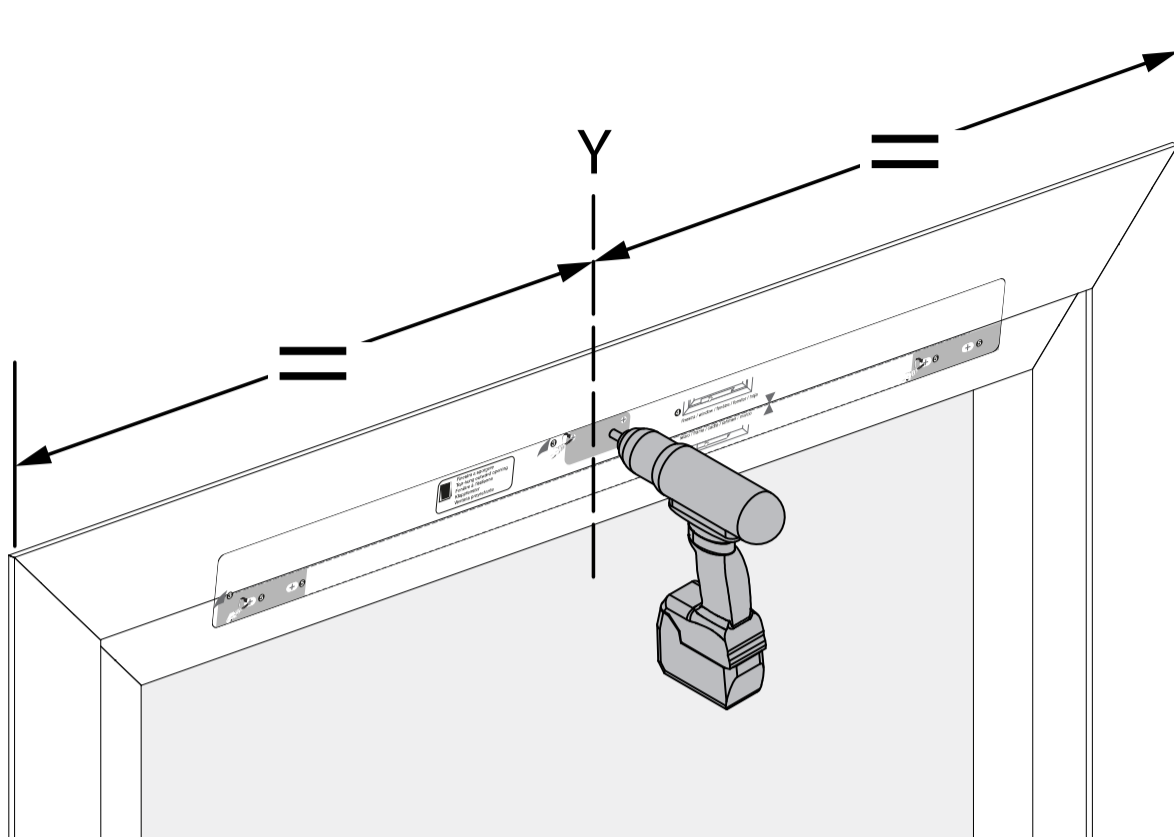


3

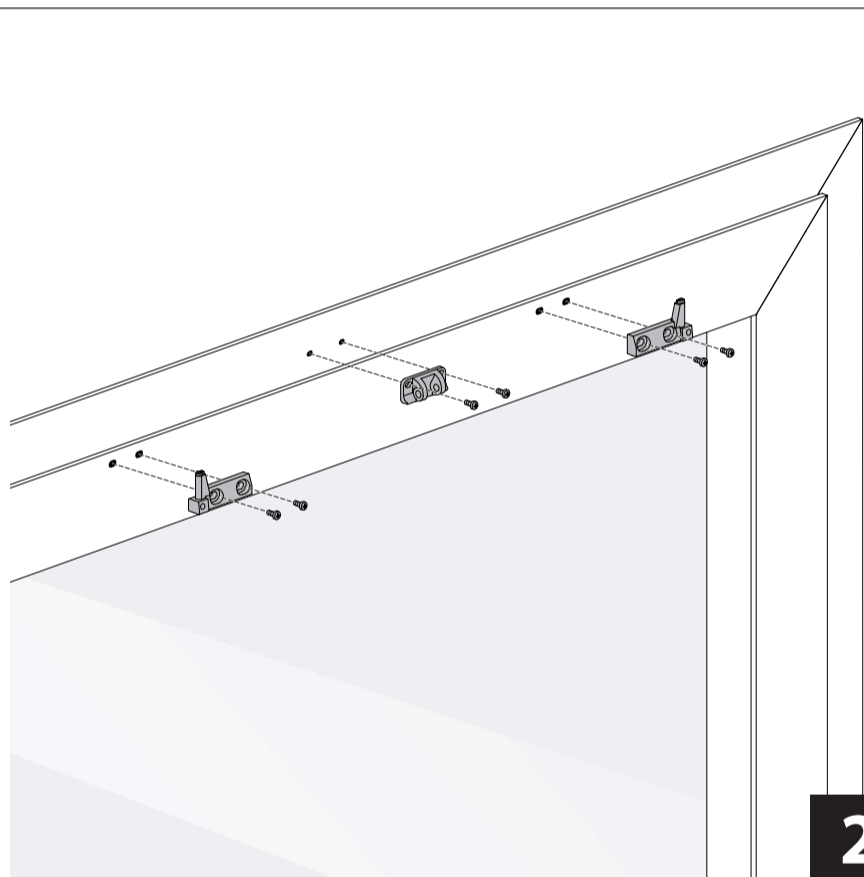


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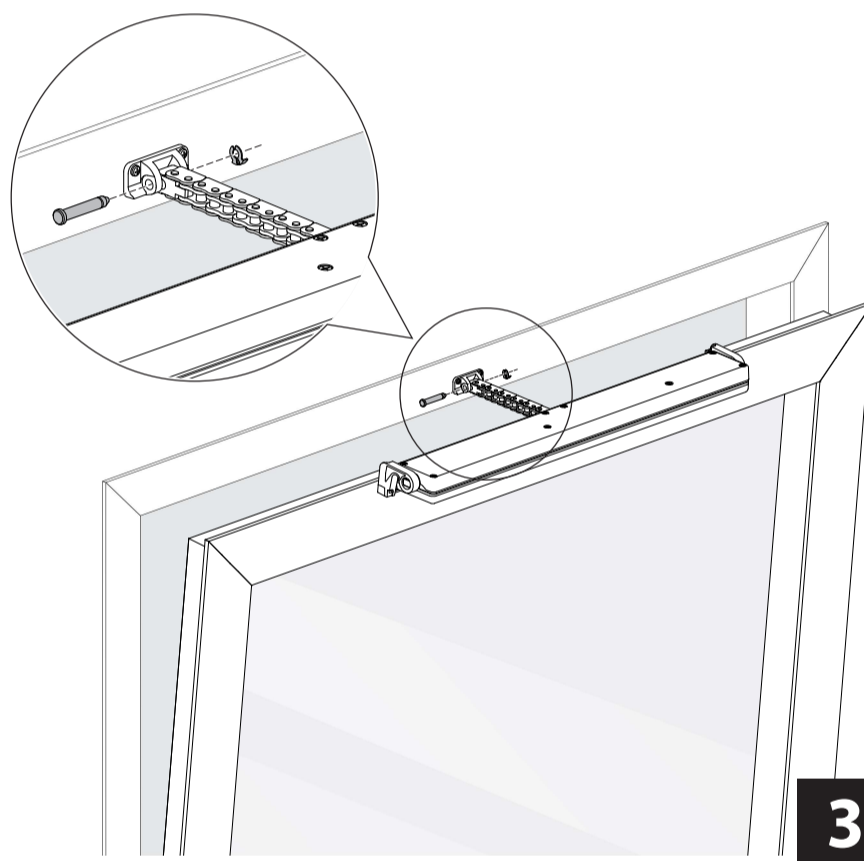
BOTTOM HUNG INWARD OPENING ON WINDOW



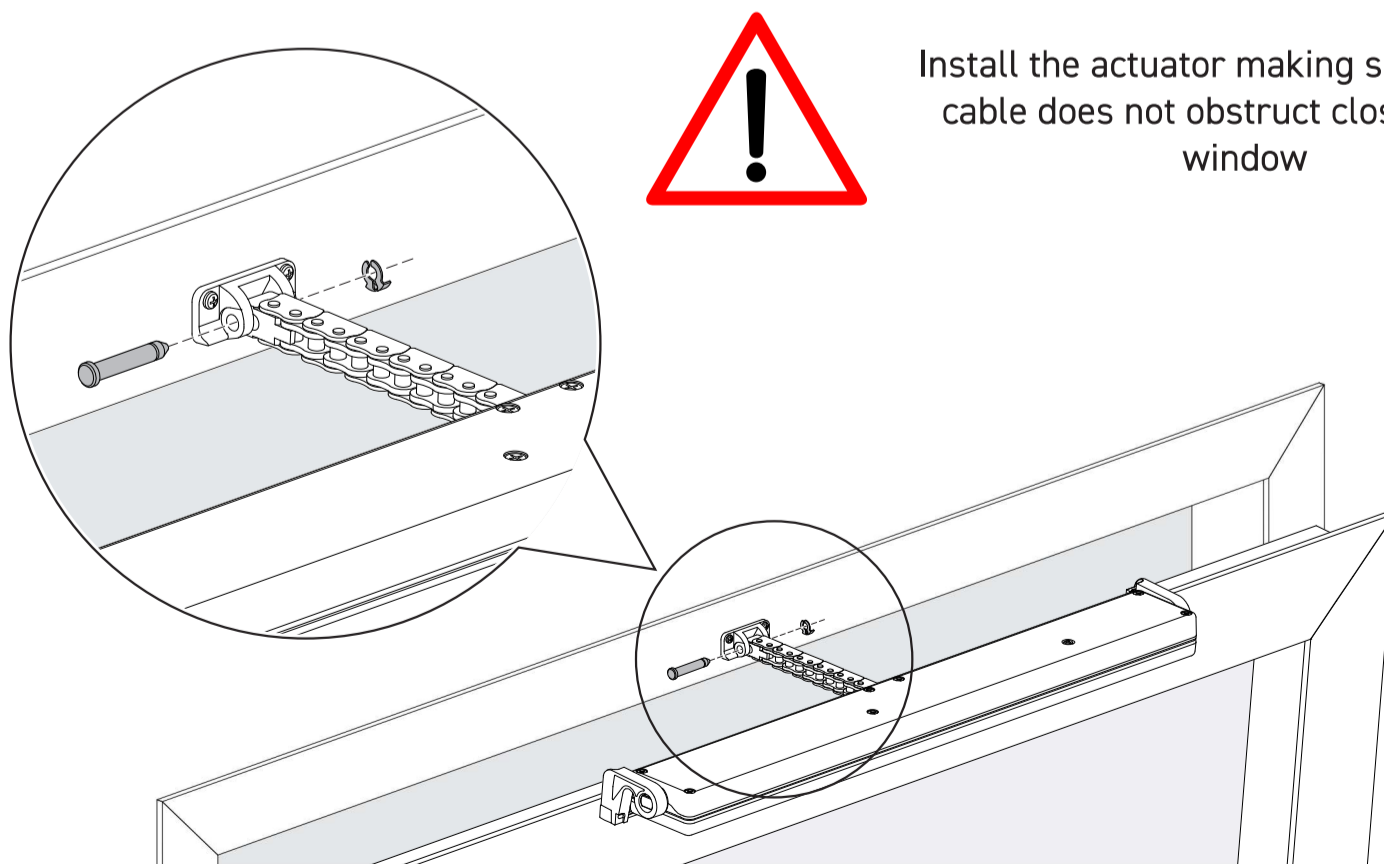
1



2



3



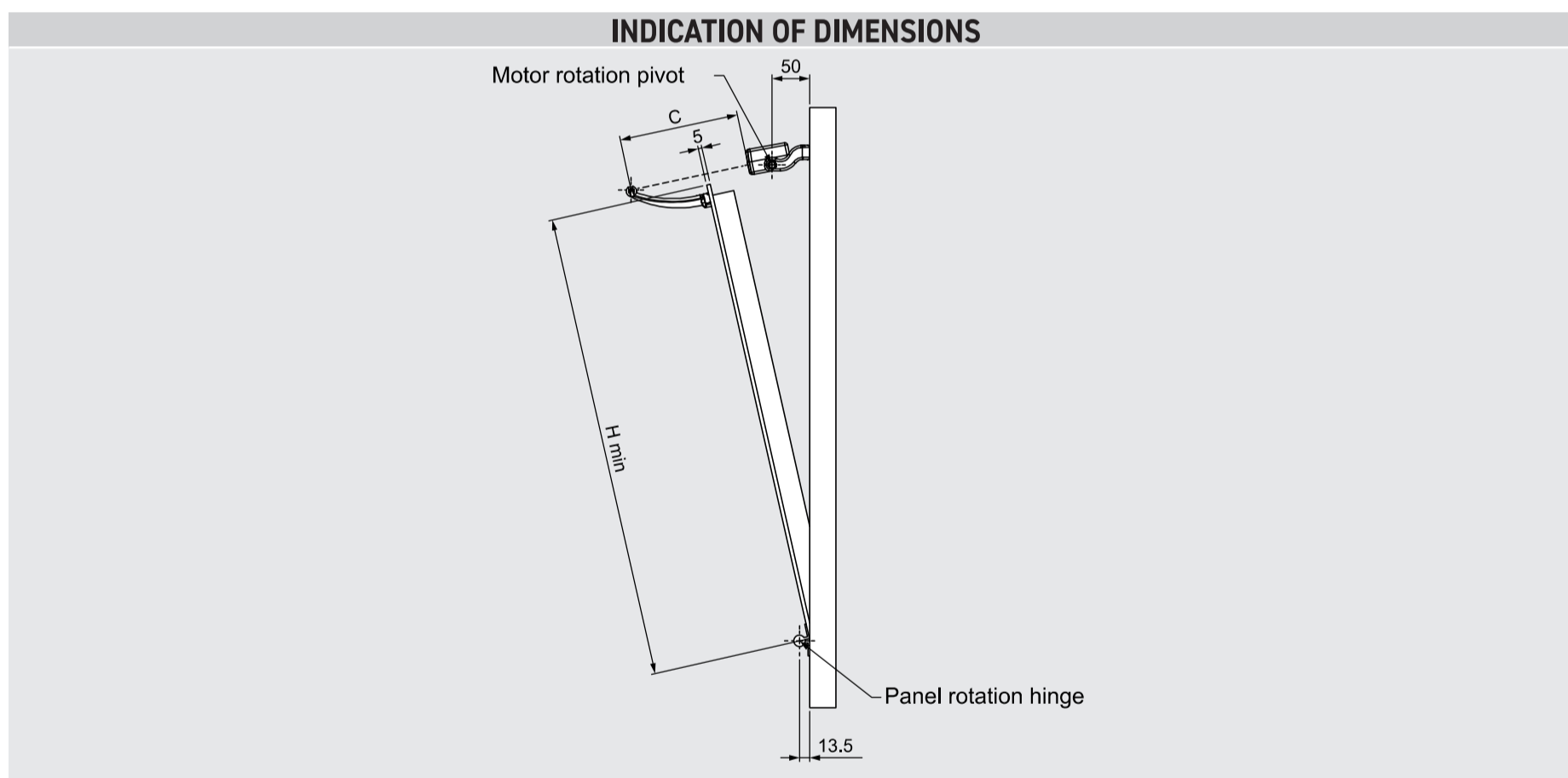
4

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5.2 MINIMUM PANEL HEIGHTS

Refer to the table for the values of the minimum heights of the panels relative to the chain motors in the bottom hung inward opening version.

Chain stroke "C"	H min panel
200 mm	300 mm
250 mm	440 mm
300 mm	580 mm
350 mm	715 mm
400 mm	855 mm
500 mm	1135 mm
550 mm	1275 mm
600 mm	1415 mm
650 mm	1555 mm
700 mm	1700 mm
750 mm	1840 mm
800 mm	1980 mm
850 mm	2120 mm
900 mm	2260 mm
950 mm	2405 mm
1000 mm	2545 mm



5.3 OPERATING TEST

ATTENTION! Carry out the first maneuver of the window during the closing phase.

Press the control button and close the window, checking that:

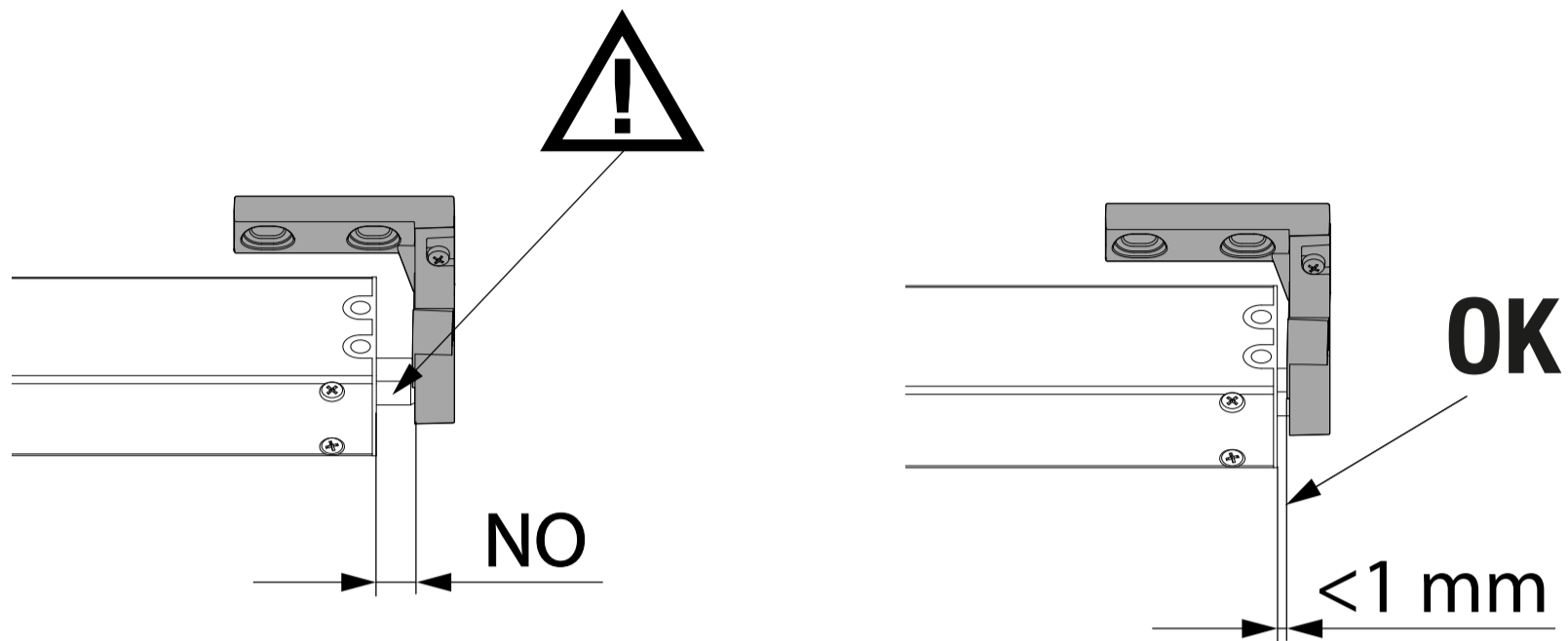
- The window is completely closed. If it is not, check that the gap between the window and the frame is bigger than or equal to 0 mm. If necessary, insert spacers so as to obtain the correct gap.
 - The chain is perfectly vertical to the window frame. If necessary adjust the fixing bracket by using the screws and slots.
- Having reached the correct closing position, press the control button and open the window in order to check that the actuator runs freely over the full travel set up.

Having achieved the required opening run, press the control button again to close the window. Once the window has completely closed, check that the screws, supports and fixings are tightened correctly, and that the seals are sufficiently compressed.

6. ELECTRICAL CONNECTIONS

ATTENTION!

Before operating the actuator, always check that the product is engaged in the correct position



ENGLISH

Create the wiring according to the voltage required by the actuator (see label on the product) following the diagram below.

230 Vac power supply			24 VDC power supply		
1	Blue	Neutral / Common	1	Blue	Positive
2	Black	Phase Open	2	Brown	Negative
3	Brown	Phase Close	3	Grey/Red	+24V Power supply
4	Grey	+230V Power supply	4	Black	0V Power supply

NATURAL VENTILATION

LIWIN L40 Slim 230VAC

<p>1) ACTUATOR WITHOUT WIFI: single or parallel connection</p>	<p>2) ACTUATOR WITH WIFI NOT USED: single or parallel connection</p>
<p>L40 SLIM 230V ML4S S VN NW 35H AL00 I L40 SLIM 230V ML4S S VN NW 60H AL00 I L40 SLIM 230V ML4S S VN NW 80H AL00 I L40 SLIM 230V ML4S S VN NW 10H AL00 I</p>	<p>L40 Slim 230V-WF ML4S S VN WF 35H AL00 I L40 Slim 230V-WF ML4S S VN WF 60H AL00 I L40 Slim 230V-WF ML4S S VN WF 80H AL00 I L40 Slim 230V-WF ML4S S VN WF 10H AL00 I</p>

<p>3) ACTUATOR WITH WIFI: single or parallel connection</p>	<p>4) ACTUATOR WITH WIFI: synchronized actuators</p>
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NB: once the adjustments have been made via APP or synchronization (manual or with APP) the wire 4 can be disconnected and isolated. This way the actuators are powered only when the OPEN/CLOSE command is given.

<p>L40 Slim 230V-WF ML4S S VN WF 35H AL00 I L40 Slim 230V-WF ML4S S VN WF 60H AL00 I L40 Slim 230V-WF ML4S S VN WF 80H AL00 I L40 Slim 230V-WF ML4S S VN WF 10H AL00 I</p>	<p>L40 Slim 230V-WF ML4S S VN WF 35H AL00 I L40 Slim 230V-WF ML4S S VN WF 60H AL00 I L40 Slim 230V-WF ML4S S VN WF 80H AL00 I L40 Slim 230V-WF ML4S S VN WF 10H AL00 I</p>

NATURAL VENTILATION AND SMOKE AND HEAT EVACUATION

LIWIN L40 Slim 24VDC

1) ACTUATOR WITHOUT WIFI: single or parallel connection	2) ACTUATOR WITH WIFI NOT USED: single or parallel connection		
L40 Slim RWA L40 Slim RWA L40 Slim RWA L40 Slim RWA	ML4S S RW NW 35L AL00 I ML4S S RW NW 60L AL00 I ML4S S RW NW 80L AL00 I ML4S S RW NW 10L AL00 I	L40 Slim RWA-WF L40 Slim RWA-WF L40 Slim RWA-WF L40 Slim RWA-WF	ML4S S RW WF 35L AL00 I ML4S S RW WF 60L AL00 I ML4S S RW WF 80L AL00 I ML4S S RW WF 10L AL00 I

3) ACTUATOR WITH WIFI: single or parallel connection	4) ACTUATOR WITH WIFI: synchronized actuators
---	--

NB: once the adjustments have been made via APP or synchronization (manual or with APP) wires 3 and 4 can be disconnected and isolated. This way the actuators are powered only when the OPEN/CLOSE command is given.

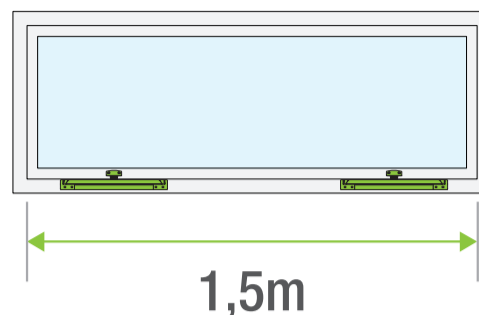
L40 Slim RWA-WF L40 Slim RWA-WF L40 Slim RWA-WF L40 Slim RWA-WF	ML4S S RW WF 35L AL00 I ML4S S RW WF 60L AL00 I ML4S S RW WF 80L AL00 I ML4S S RW WF 10L AL00 I	L40 Slim RWA-WF L40 Slim RWA-WF L40 Slim RWA-WF L40 Slim RWA-WF	ML4S S RW WF 35L AL00 I ML4S S RW WF 60L AL00 I ML4S S RW WF 80L AL00 I ML4S S RW WF 10L AL00 I

ENGLISH

7. ACTUATOR SYNCHRONIZATION



Depending on the rigidity of the window, we recommend installing at least one actuator for every 1.5m of window length.



There are 2 modes to synchronize up to a maximum of 8 devices (actuators and/or blocks) in the WIFI versions to be installed in a single window: manual synchronization and synchronization via APP.

N.B.: to calculate the maximum total force of multiple synchronized actuators, consider the following formula:

$$F_{TOT} = 400 * x * 0.7$$

(F_{TOT} = total force; x = number of synchronized actuators)



Once several actuators have been synchronized, make sure that they are not mixed up with others and that they are installed on the same window. Installing actuators synchronised with other actuators in the same window can cause damage to the window.

7.1 MANUAL SYNCHRONIZATION

Through the manual configuration, it is possible to synchronize 2 or more LIWIN L40 Slim and BLOCK actuators up to a maximum number of 8 devices to be installed in a single window (Example: No. 6 actuators + No. 2 BLOCK = 8 devices). If there is a BLOCK device in the synchronization, read the dedicated instructions.

To manually synchronize the actuators proceed as follows:

- 1) Make sure all chains are out of the same length. Otherwise, align the chains by powering the actuators individually (See the "single connection" diagram in the chapter "6. ELECTRICAL CONNECTIONS");
- 2) Connect the actuators according to diagram 4 "NATURAL VENTILATION" a pagina 46 (230 VAC) or page 47 (24 VDC) in chapter "6. ELECTRICAL CONNECTIONS".
- 3) Set all actuator trimmers to position M. If the actuators were previously synchronized, ensure that they are reset (see chapter "8. RESET PROCEDURE");
- 4) Ensure that there no other individual actuators are powered and with trimmer set to 'M'.
- 5) Only power the actuators to be synchronized. The synchronization procedure must be done with powered actuators.

N.B.: All devices (not yet synchronized) with the trimmer in M do not move if an Open/Close command is given);

- 6) All actuator LEDs light up;
- 7) Move the trimmer of one of the actuators following the sequence: M-A-C, within 5 sec ('C' stands for the desired stroke and corresponds to one of the positions 1/2/3/4). The actuator will become a MASTER device;
- 8) The LEDs of the Slaves turn off while the led of the Master makes a continuous fast flash for 3 seconds;
- 9) After the 3-second flash, the Master begins to make a slow flash indicating the number of Slaves that have been synchronized. Synchronization completed.

E.g.: in a group consisting of a Master and 2 Slaves the Master led flashes           ;

10) AFTER INSTALLATION OF THE ACTUATORS, carry out a complete closing manoeuvre. After synchronization, the actuators will only accept a complete closing command.

11) The led of the Master actuator will flash during each opening and closing manoeuvre; while the LEDs of the SLAVES will remain off.

N.B.: If the synchronization fails, the LED of the Master actuator will flash quickly to signal an error (see chapter "8. RESET PROCEDURE").

N.B.: Once the actuators are synchronised to return them to the factory condition, a reset must be carried out (see chapter "8. RESET PROCEDURE").

7.2 SYNCHRONIZATION VIA MOWIN APP

NB: the MOWIN APP is intended to be used only by professionals in the sale and installation of actuators.

To synchronize two or more actuators, download the MOWIN APP available in the Android and IOS stores for free and create a "new synchronization" following the APP instructions:

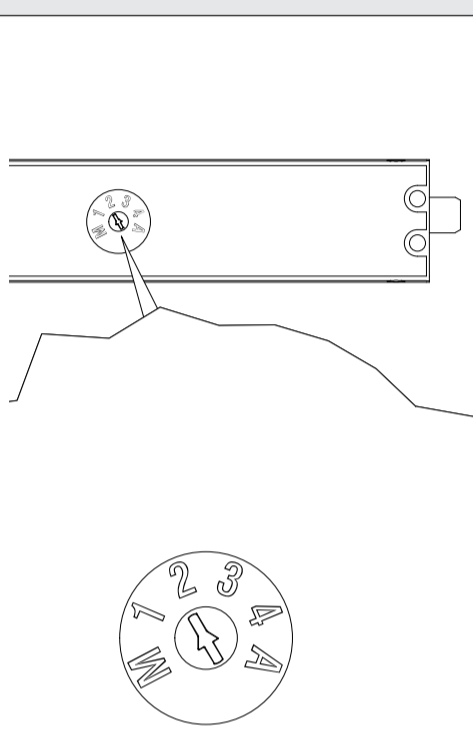
To create a synced group, using the MOWIN APP, do the following:

- 1) Position all actuator trimmers to be synchronized in M (SLAVE actuator state)
- 2) Place only the trimmer of one of the actuators in "A" (MASTER actuator status)
- 3) Power the MASTER actuator (or all actuators)
- 4) Create a "new synchronization" by following the Step by Step APP

7.3 CHAIN STROKES ADJUSTMENT

It is possible to adjust the stroke of the chain millimetrically through the APP or manually through the special trimmer on the front of the actuator. Below is the table with the various chain lengths corresponding to the positions of the trimmer.

To adjust the stroke of a single actuator move the trimmer to one of the 1-2-3-4 positions depending on the desired stroke.

STROKES SELECTABLE BY SNAP TRIMMERS					
	350	600	800	1000	
TRIMMER POSITION M	* SLAVE actuator status	* SLAVE actuator status	* SLAVE actuator status	* SLAVE actuator status	
TRIMMER POSITION 1	200mm STROKE	400mm STROKE	650mm STROKE	850mm STROKE	
TRIMMER POSITION 2	250mm STROKE	500mm STROKE	700mm STROKE	900mm STROKE	
TRIMMER POSITION 3	300mm STROKE	550mm STROKE	750mm STROKE	950mm STROKE	
TRIMMER POSITION 4 (Factory setting)	350mm STROKE	600mm STROKE	800mm STROKE	1000mm STROKE	
TRIMMER POSITION A	** MASTER actuator/Wi-Fi status active	** MASTER actuator/Wi-Fi status active	** MASTER actuator/Wi-Fi status active	** MASTER actuator/Wi-Fi status active	

* the actuator does not move unless it has first been synchronised with a MASTER actuator;

** The WIFI of the actuator is active and it is therefore possible to interact through the Mowin app. On the OPEN command, the actuator makes the maximum stroke.

7.4 REPLACING A FAULTY ACTUATOR FROM A GROUP OF SYNCHRONIZED ACTUATORS

If it is necessary to replace a device in a synchronized group, proceed as follows:

- 1) Disconnect the actuators from the window;
- 2) Reset the actuators using the reset procedure (see chapter "8. RESET PROCEDURE");
- 3) Activate the actuators individually by setting the trimmers to the stroke position and locate the faulty one;
- 4) Replace the non-functioning actuator with a new one;
- 5) Perform the manual or APP synchronization procedure.

7.5 ADDING OR REMOVING AN ACTUATOR FROM A SYNCHRONIZED GROUP

To add or remove one or more actuators from an already synchronized group, it is necessary to reset the synchronized group and perform a new synchronization procedure.

8. RESET PROCEDURE

The reset procedure allows the actuators to be returned to factory conditions. It is necessary to perform a RESET in the following cases:

- 1) Actuators are to be reset to factory settings.
- 2) Synchronization failed.
- 3) The number of synchronized actuators must be increased or decreased.
- 4) It is necessary to replace an actuator on a group of synchronized actuators.

To perform a reset, proceed as follows:

- 1) Disengage the actuator(s) from the window.
- 2) Power the actuator(s) to be reset.
- 3) With the actuator(s) powered, move the Trimmer following the M-C-M-C-M-C-M sequence within 5 sec ("C" stands for stroke and corresponds to one of positions 1-2-3-4).
- 4) The trimmer flashes three times.
- 5) At the end of the operation, all the motors will be reset to factory conditions and the LEDs will remain lit.

N.B.: In the case of a group of synchronized actuators, if all are energised, simply reset the MASTER and the SLAVES will also be reset.



Once the reset operation is complete and the trimmer is set to 'M', the actuator will not accept any opening or closing commands.

Once the reset operation is completed, the actuator will only accept a complete closing command.

9. DIAGNOSTICS

Using the COMUNELLO MOWIN APP, it is possible to perform the Diagnostics operation to verify the errors encountered.

ERRORS	FLASHING
abnormal obstacle	
wi-fi communication error between actuators	
actuator alignment error	
stop for encoder	
block error	

10. MOWIN APP

The MOWIN app can be downloaded for free from Android and IOS stores.

The MOWIN APP is intended only for professional sellers and installers in the sector. The MOWIN APP is not intended for use by children and/or incompetent persons.

In order to interact with an actuator (only in WIFI versions) through the MOWINAPP, it is necessary to activate the actuator's WIFI. To activate the WIFI of an actuator, turn the trimmer to position "A".

As illustrated by the APP, to connect to the actuator it is necessary to scan the QR code on the product and packaging labels.

11. MAINTENANCE, EMERGENCY MANOEUVRES, CLEANING

If it is necessary to manually disengage the actuator from the window, for example for a replacement or maintenance of the system, follow the procedure illustrated in Chapter "5. INSTALLATION" in reverse order.

CAUTION, DANGER of the window falling: when the actuator is released from the window, the door is free to move with accidental fall.

Cleaning and maintenance is intended to be carried out by the user and must not be carried out by children without supervision. Before carrying out operations on the system (maintenance, cleaning), the product must always be disconnected from the mains supply and any batteries.

12. ENVIRONMENTAL PROTECTION

The actuator contains non-recyclable parts inside (plastic materials and electronic parts) that are not part of normal waste. They must be disposed of properly. For any questions, please contact the waste disposal company.

13. FAQs (FREQUENTLY ASKED QUESTIONS)

Question	Causes	Solution
Does the actuator not work?	No voltage	Check that the status of the differential or the circuit breaker is ON. Cable probably not connected. Check the electrical connections from the switch to the actuator.
	Voltage present	Check that the actuator voltage is consistent with the detected voltage.
	Trimmer in M or A position	Synchronize or schedule or set a stroke.
	Synchronized assembly misalignment	See synchronization chapter "7. ACTUATOR SYNCHRONIZATION".
The actuator does not perform the desired stroke	The opening width is not as desired	Check according to chapter "7.3 Chain strokes adjustment" that the trimmer is positioned on the desired stroke.
	The limiting arm does not allow the complete stroke to the actuator	Unhook the chain from the coupling and check that the limiting arm allows the actuator to run completely. If this is not the case, adjust the limiter arm so that the actuator performs the entire stroke.
The actuator ripped off the screws	The connections inward opening window) are no longer fixed to the window.	Check that suitable fasteners have been used.
		Check that during closing the chain is perfectly perpendicular to the window. If this is not the case, check that the installation has been carried out according to sequence 5.1.

14. WARRANTY

a) This warranty supplied as part of commercial dealings or the sale of goods for professional use, is limited to the repair or replacement of Product parts recognised by FRATELLI COMUNELLO SPA as defective with equivalent repaired Products (hereinafter "Standard Warranty"). The warranty does not cover the costs incurred by the repair and replacement of materials (for example, cost of labour, material rental, etc.).

b) The application of the discipline dictated by articles 1490-1495 of the Italian Civil Code is excluded.

c) FRATELLI COMUNELLO SPA warrants that the Products are in good working order within the limits indicated in the previous sub point a). Unless otherwise agreed, the Standard Warranty is valid for a period of 36 (thirty-six) months from the date of production, indicated on the Products themselves. The Warranty is valid and binding for COMUNELLO only if the product is correctly assembled and serviced in accordance with the rules of installation and safety indicated in the documentation provided by COMUNELLO or in any case available on the website <http://www.comunello.com/it/corporate/condizioni-general/>

d) The warranty does not cover: faults or damage due to transportation; faults or damage caused by defects in the electric supply system installed at the premises of the purchaser of the Product and/or negligence, inadequacy or improper use of that system; faults or damage resulting from tampering on the part of unauthorised personnel or as a result of incorrect use/installation (in this regard, we recommend that the system be serviced at least every six months) or utilisation of non-original spare parts; defects caused by chemical agents and/or atmospheric conditions. The warranty does not cover the cost of consumables, in any case COMUNELLO accrues credit for the intervention carried out at the client premises, in the event the latter proves useless because the warranty was no longer valid or because the client had used the COMUNELLO product in a negligent, careless or inexperienced manner, such that correct use of the product would have prevented the need for installation.

e) Implementation of warranty: unless otherwise agreed, the right to claim under the Standard Warranty is exercised by submitting a copy of the purchase document (tax invoice) to COMUNELLO. The Client must report the defect to COMUNELLO within a period of 30 (thirty) days from its discovery.

Action must be taken within the statutory limitation period of 6 (six) months from the date of discovery. The parts of the Product for which a claim is made under the Standard Warranty must be sent by the Client to FRATELLI COMUNELLO SPA, Via Cassola 64, 36027 Rosà (VI) – Italy.

f) The Client cannot claim compensation for consequential damage, loss of profit, loss of production and in any case cannot claim for sums higher than the value of the supplied components or Products. All expenses relating to the transportation of Products to be repaired or repaired, even if covered by the Standard Warranty, shall be borne by the Client.

g) No external operations carried out by COMUNELLO technical personnel are covered by the Standard Warranty.

h) Specific modifications to the terms of the Standard Warranty described herein may be established by the parties in their sales agreements.

i) In case of legal disputes of any nature, Italian law shall apply and the competent forum shall be the Court of Vicenza.

15. DECLARATION OF INCORPORATION (FOR A PARTLY COMPLETED MACHINE) AND EC DECLARATION OF CONFORMITY

The Manufacturer Fratelli Comunello S.p.A. hereby with headquarters in Via Cassola 64, 36027 Rosà (VI), Italy, declares under its own responsibility that the following products:

LIWIN L40 Slim - 24V, LIWIN L40 Slim - 24V - Wi-Fi
LIWIN L40 Slim - 230V, LIWIN L40 Slim - 230V - Wi-Fi

Product description: Chain actuator for windows

Year of construction from 2024 They satisfy the applicable essential requirements of the Machinery Directive 2006/42/EC, Annex I, Art.1.1.2, 1.1.3, 1.1.5, 1.2.1,1.2.3, 1.2.6, 1.3.9, 1.5.1, 1.5.2, 1.5.6, 1.5.8, 1.5.9, 1.5.10, 1.5.11, 1.7.1, 1.7.1.1, 1.7.3, 1.7.4.2, 1.7.4.3
The relevant technical documentation is compiled according to Annex VII, section B

The person authorized to compile the relevant technical documentation is Fratelli Comunello SPA. Mail: info@comunello.it
Mail: info@comunello.it

Upon adequately motivated request from the national authorities, the technical documentation of the aforementioned products will be made available, via e-mail, within a time compatible with its importance. Furthermore, the aforementioned products comply with the relevant provisions of the following Directives:

- 2014/30/EU Electromagnetic Compatibility Directive
- 2014/35/EU Low Voltage Directive
- 2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive)

and the following harmonized standards and/or technical specifications:

IEC 60335-2-103:2006, IEC 60335-2-103:2006/AMD1:2010 in conjunction with
IEC 60335-1:2010, IEC 60335-1:2010/AMD1:2013, IEC 60335-1:2010/AM2 :2016
EN 61000-6-2 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-3 Generic standards - Emission standard for equipment in residential environments
ETSI EN 300 328 V2.2.2

The commissioning of a complete machine which includes the above-mentioned partly completed machine, supplied by us, is not permitted until it is ascertained that the installation has been carried out according to the specifications and installation instructions contained in the "Instruction Manual" supplied with the partly completed machinery and that an acceptance procedure has been completed and documented, in a specific protocol, by a qualified technician.

This declaration is made by the manufacturer: Fratelli Comunello SPA, via Cassola 64, 36027 Rosà (VI), - ITALY

Represented by: Luca Comunello

Rosà, 02/20/24