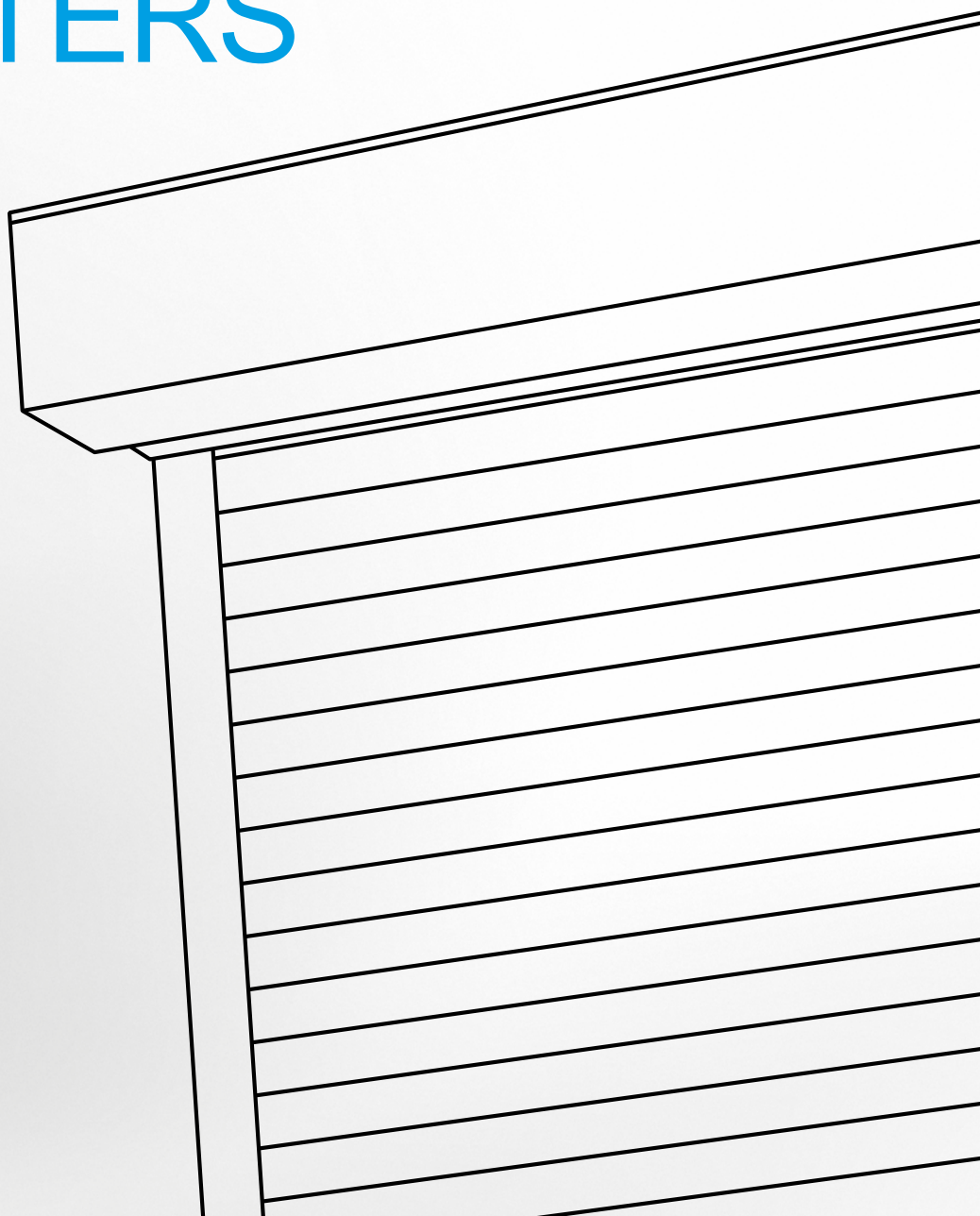




TECHNICAL MANUAL

# EXTERNAL ROLLER SHUTTERS



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## ISOTRA *Quality*

A brand symbolizing years of tradition, innumerable investments into research and development, use of high-quality materials, technological advancement, reliable work of hundreds of employees and many more parameters, which together form one whole - the final product of the company ISOTRA.

## CE Product Marking

All external roller shutters of ISOTRA a.s. comply with the standard ČSN EN 13659:2007

European Marking of CE Compliance – marking on products:



European Marking of CE Compliance – marking in the accompanying commercial documents:

|                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               |                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               |                                                                                                                                                                                                                               |
| ISOTRA a.s.<br>Bílovecká 2411/1, 746 01 Opava<br>07                                                                                                                                                                                                    | ISOTRA a.s.<br>Bílovecká 2411/1, 746 01 Opava<br>07                                                                                                                                                                                                   | ISOTRA a.s.<br>Bílovecká 2411/1, 746 01 Opava<br>07                                                                                                                                                                           | ISOTRA a.s.<br>Bílovecká 2411/1, 746 01 Opava<br>07                                                                                                                                                                           |
| <b>EN 13659:2015</b><br><b>VIVERA</b><br><b>CPR 020/2017</b><br>External sun visor<br>Wind resistance: 0 - 6<br>Additional thermal resistance<br>$\Delta R$ : 0,18 m <sup>2</sup> .K/W<br>Total transmittance<br>Solar energy $g_{tot}$ : 0,026 - 0,08 | <b>EN 13659:2015</b><br><b>HELUZ</b><br><b>CPR 021/2017</b><br>External sun visor<br>Wind resistance: 0 - 6<br>Additional thermal resistance<br>$\Delta R$ : 0,18 m <sup>2</sup> .K/W<br>Total transmittance<br>Solar energy $g_{tot}$ : 0,026 - 0,08 | <b>EN 13659</b><br><b>ROLOSA</b><br><b>CPR 056/2024</b><br>External sun visor<br>Wind resistance: 0 - 6<br>Additional thermal resistance<br>$\Delta R$ : 0,18 m <sup>2</sup> .K/W<br>Solar energy<br>$g_{tot}$ : 0,026 - 0,08 | <b>EN 13659</b><br><b>SALVIS</b><br><b>CPR 057/2024</b><br>External sun visor<br>Wind resistance: 0 - 6<br>Additional thermal resistance<br>$\Delta R$ : 0,18 m <sup>2</sup> .K/W<br>Solar energy<br>$g_{tot}$ : 0,026 - 0,08 |

## Standard EN 13659 – Control Force Limitation for Manual Control

The roller shutter armoring weight depends on the slat weight values (kg per m<sup>2</sup>) and the total roller shutter area (m<sup>2</sup>).

| Use of Slat | m²    | M 317; M 328; MY 442                 |     |     |     |     |     |     |     |     |     |     | M 317; MY 442 |     | MY 442 |     |     |     |  |
|-------------|-------|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|-----|--------|-----|-----|-----|--|
|             |       | 0,5                                  | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | 6,0           | 6,5 | 7,0    | 7,5 | 8,0 | 8,5 |  |
| Slat Type   | kg/m² | roller shutter armoring weight (kg)* |     |     |     |     |     |     |     |     |     |     |               |     |        |     |     |     |  |
| M 317       | 2,80  | 1                                    | 3   | 4   | 6   | 7   | 8   | 10  | 11  | 13  | 14  | 15  | 17            | 18  |        |     |     |     |  |
| M 328       | 2,60  | 1                                    | 3   | 4   | 5   | 7   | 8   | 9   | 10  | 12  | 13  | 14  |               |     |        |     |     |     |  |
| MY 442      | 2,85  | 2                                    | 3   | 5   | 7   | 9   | 10  | 12  | 14  | 16  | 17  | 19  | 21            | 22  | 24     | 26  | 28  | 29  |  |

\* The roller shutter armoring weight is rounded!

| Control                     | Maximum Armoring Weight (kg) |
|-----------------------------|------------------------------|
| Cord                        | 5                            |
| Tape                        | 9                            |
| Winder with crank tape/cord | 9                            |
| Crank                       | 15                           |
| Crank                       | 15                           |
| Motor                       | 29                           |

Selection of control type based on roller shutter armoring weight (kg)

|           | m²    | 0,5 | 1,0 | 1,5 | 2,0       | 2,5       | 3,0       | 3,5       | 4,0 | 4,5 | 5,0 | 5,5 | 6,0 | 6,5 | 7,0 | 7,5 | 8,0 | 8,5 |
|-----------|-------|-----|-----|-----|-----------|-----------|-----------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slat Type | kg/m² |     |     |     |           |           |           |           |     |     |     |     |     |     |     |     |     |     |
| M 317     | 2,80  | 6   | 6   | 6   | 1,2,3,4,5 | 1,2,3,4,5 | 1,2,3,4,5 | 4,5       | 4,5 | 4,5 | 4,5 | 4,5 | 5   | 5   |     |     |     |     |
| M 328     | 2,60  | 6   | 6   | 6   | 6         | 1,2,3,4,5 | 1,2,3,4,5 | 1,2,3,4,5 | 4,5 | 4,5 | 4,5 | 4,5 |     |     |     |     |     |     |
| MY 442    | 3,45  | 6   | 6   | 6   | 1,2,3,4,5 | 1,2,3,4,5 | 4,5       | 4,5       | 4,5 | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   |

Explanatory Notes

|                       |   |
|-----------------------|---|
| Tape                  | 1 |
| Cord                  | 2 |
| Winder with tape/cord | 3 |
| Crank                 | 4 |
| Motor                 | 5 |
| All control types     | 6 |

## PRODUCT TOLERANCES

Manufacturer: **ISOTRA a.s., Bílovecká 2411/1, 746 01 Opava, IČ: 47679191**

Product: **EXTERNAL ROLLER SHUTTERS**

The review should help you to recognize the permissible limits of compliance and incompliance. At the same time the sheet will help you with reasoning as regards any unjust claims of the clients.

External roller shutters comprise of many metal and textile elements with various material features and production tolerances. Despite the optimally selected products, deviations from ideal function may occur even in case of new installation due to the product tolerances.

The external roller shutters are permanently exposed to the effect of weather, particularly temperature, moisture content, wind, and contamination. They have a great effect on the function and appearance of external blinds.

The deviations from the table values can be corrected by our technicians within a specific scope.

**Please, be aware:**

The specified limit values are created based on the actual state of technology, respective technical standards, and based on many years of experience.

The table values are valid only for the external roller shutters within the permitted production dimensions available in our actual technical catalogue.

|   | Feature                              | Description of deviation                                                | Tolerance   |
|---|--------------------------------------|-------------------------------------------------------------------------|-------------|
| 1 | Roller shutter width                 | Roller Shutter up to 2000 mm                                            | +0, -3mm    |
|   |                                      | Roller Shutter from 2000 mm to 4000 mm                                  | +0, -4mm    |
|   |                                      | Roller Shutter over 4000 mm                                             | +0, -5mm    |
| 2 | Roller shutter height                | Roller Shutter height up to 1500 mm                                     | +0, -4mm    |
|   |                                      | Roller Shutter height from 1500 mm to 2500 mm                           | +0, -6mm    |
|   |                                      | Roller Shutter height over 2500 mm                                      | +0, -10mm   |
| 3 | Slats curvature                      | Deviation from the balance                                              | max. 15mm   |
| 4 | Slats slope run                      | Deviation from the balance                                              | +/- 10mm    |
| 5 | Roller shutter run time              | Permanent length of the motor                                           | max. 4min   |
| 6 | Light permeability – as per EN 14501 | In closed state, there is no horizontal view from outside inside.       | permissible |
|   |                                      | In closed state, there is no horizontal view from inside outside.       | permissible |
| 7 | Acoustics                            | The operation and disconnection sounds result from technical solutions. | permissible |
|   |                                      | Noise as per the wind force.                                            | permissible |



## Vivera

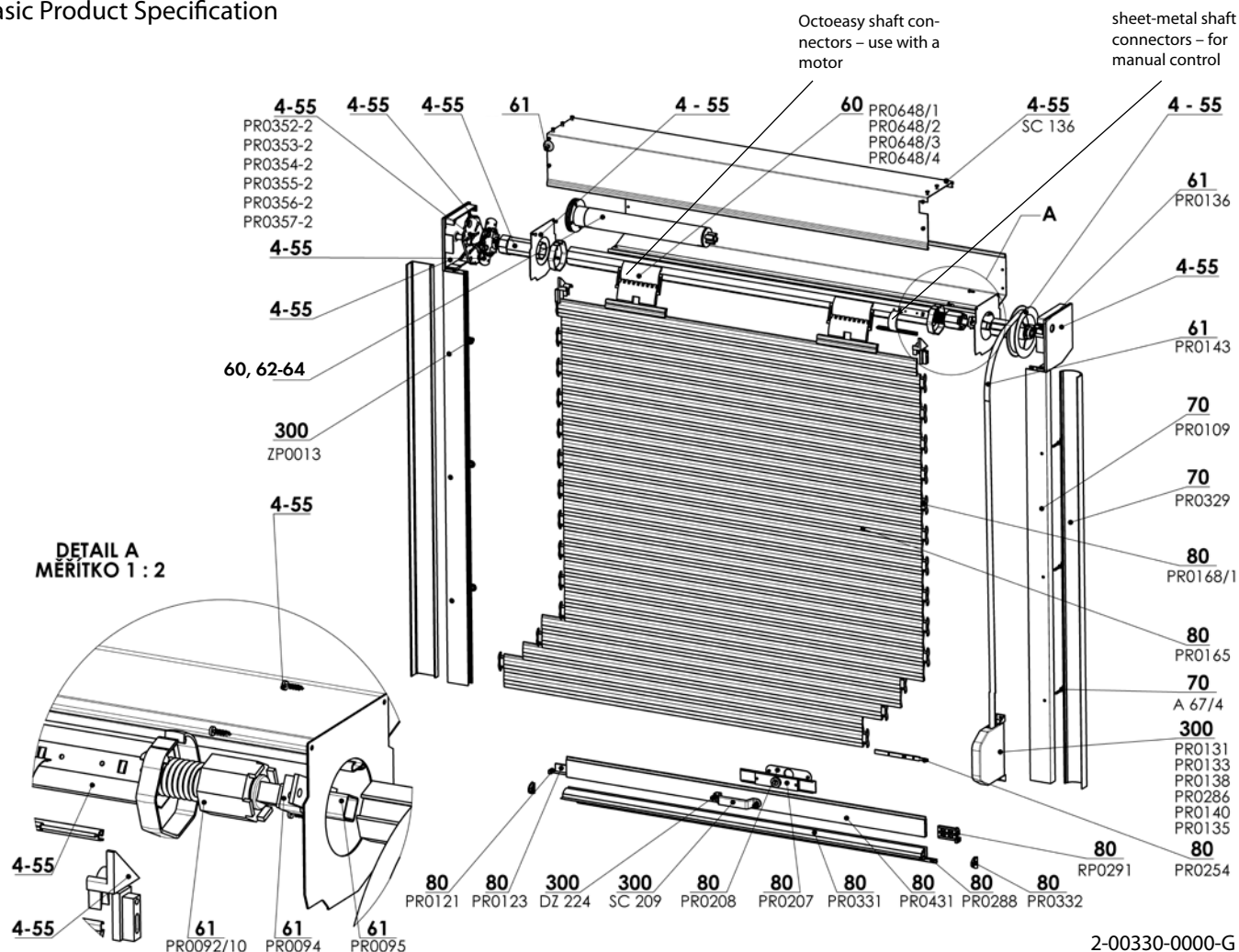


- ▲ High degree of shading and outside noise level reduction
- ▲ Electrical control option
- ▲ Suitable for additional installation on window frame or façade and for plastering under façade heat-insulating system too
- ▲ Aluminum profiles filled with PUR foam
- ▲ Optional design with integrated insect screen

**ISOTRA** *Quality*

# Vivera / Vivera-Sectra External Roller Shutter

## Basic Product Specification



### Control

- Cord** - used for pulling the roller shutter up and down. White or brown  $\varnothing$  4.5 mm cord.
- Handle** - used for pulling the roller shutter up and down. Handle – made of plastic material and steel ( $\varnothing$  15.5 mm or  $\varnothing$  13 mm tube). Handle passage at the angle of 45° or 90°.
- Tape** - used for pulling the roller shutter up and down. White or brown 14 mm wide tape.
- Spring** - used for pulling the roller shutter up and down. The shutter is controlled manually, whereas the blind is wound back by a pre-stressed spring, installed in the crank. Shaft with a diameter of 40 mm. It is required to use slats without apertures in the lock.
- Crank cord winder** - used for pulling the roller shutter up and down. White or brown color.
- Crank tape winder** - used for pulling the roller shutter up and down. White or brown color.
- Motor** - with the torque of 4–20 Nm, mounted in the octagonal rod with diameter of 40 mm or 60 mm. One motor can control more roller shutter simultaneously based on the roller shutter dimensions.

### Standard dimensions

#### Vivera

| Slat  | Control       | Width (mm) |      | Height (mm) |      | Guaranteed area (m <sup>2</sup> ) |
|-------|---------------|------------|------|-------------|------|-----------------------------------|
|       |               | min.       | max. | min.        | max. | max.                              |
| M328  | cord, tape    | 450        | 2700 | 800         | 4350 | 3,5                               |
|       | handle, motor | 450        | 2700 | 800         | 4350 | 5,8                               |
|       | spring        | -          | -    | -           | -    | 5,6 (17 kg)                       |
| M317  | cord, tape    | 450        | 2900 | 800         | 4340 | 3,2                               |
|       | handle, motor | 450        | 2900 | 800         | 4340 | 6,5                               |
| MY442 | motor         | 450        | 4000 | 800         | 2860 | 8,5                               |

### Standard dimensions

#### Vivera-Sectra

| Slat              | Width (mm) |      | Height (mm) |      | Guaranteed area (m <sup>2</sup> ) |
|-------------------|------------|------|-------------|------|-----------------------------------|
|                   | min.       | max. | min.        | max. | max.                              |
| M328, M317, MY442 | 450        | 1800 | 800         | 2500 | 3                                 |

When indicating the height of box for motor operated ROLLER SHUTTER, we have to know that the box is suitable for ROLLER SHUTTERS 100mm less height than the standard for handle operation is.

Maximum width of underplaster common box for outside roller shutters is 4 m and 5,5 m for visible box.

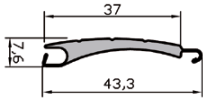
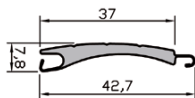
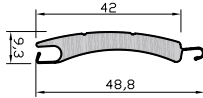
## VIVERA (2-00330-0000)

| Position    | Item name                                                         | Business name | Drawing number       |
|-------------|-------------------------------------------------------------------|---------------|----------------------|
| <b>4-55</b> | <b>Covering boxes</b>                                             |               | <b>2-00337-XXXX</b>  |
| 4-55        | Rivet Al 4x10 Din 7337 A                                          | SC 136        | 6-002680-XXXX        |
| <b>60</b>   | <b>Motors (SOMFY) EXTERNAL ROLLER SHUTTERS</b>                    |               | <b>2-00534-0000</b>  |
| 60          | Octoeasy suspension - single-cell, shaft 40 mm, box 125-165       | PR0648/1      | 6-013917-0000        |
| 60          | Octoeasy suspension - single-cell, shaft 60 mm, box 125-165       | PR0648/2      | 6-013918-0000        |
| 60          | Octoeasy suspension - double-cell, shaft 40 mm, box 180-205       | PR0648/3      | 6-013919-0000        |
| 60          | Octoeasy suspension - double-cell, shaft 60 mm, box 180-205       | PR0648/4      | 6-013920-0000        |
| <b>61</b>   | <b>Manual control</b>                                             |               | <b>2-00790-0000</b>  |
| 61          | Tape 14 mm brown/grey                                             | PR0143/XXXX   | 6-001916-XXXX        |
| 61          | Tape roller - white / brown                                       | PR0136/XXXX   | 6-001920-XXXX        |
| 61          | OCTO spring 40 - 600 mm                                           | PR0092/10     | 6-002684-0000        |
| 61          | Spring holder MINI for max. 30 kg                                 | PR0094        | 6-002693-0000        |
| 61          | Reduction for VR30                                                | PR0095        | 6-002694-0000        |
| 61          | Rubber cable, plastic, black                                      |               | 6-017078-0000        |
| <b>62</b>   | <b>Motors (GEIGER) EXTERNAL ROLLER SHUTTERS</b>                   |               | <b>2-00565-0000</b>  |
| <b>63</b>   | <b>Motors (BECKER) EXTERNAL ROLLER SHUTTERS</b>                   |               | <b>2-01297-0000</b>  |
| <b>64</b>   | <b>Motors (ELERO) EXTERNAL ROLLER SHUTTERS</b>                    |               | <b>2-01751-0000</b>  |
| <b>64</b>   | <b>Motors (ISOTRA BASIC) EXTERNAL ROLLER SHUTTERS</b>             |               | <b>6-019175-XXXX</b> |
| 70          | Guiding channel A3                                                | PR0109/XX     | 6-001786-XXXX        |
| 70          | Rounded FAR-ES guiding channel cover                              | PR0329/XX     | 6-003880-XXXX        |
| 70          | Screw 3,5x9,5 DIN 7504 M, Zn                                      | A 67/4        | 6-003096-0000        |
| 80          | Locking clip                                                      | PR0168/1      | 3-02239-0000         |
| <b>80</b>   | <b>Slats</b>                                                      |               | <b>2-00616-0000</b>  |
| 80          | Aluminium slat M 317                                              | PR0165/XX/B   | 6-002606-XXXX        |
| <b>80</b>   | <b>Slats</b>                                                      |               | <b>see Slats</b>     |
| 80          | Ratchet 10x3 mm to the end slat 8 mm                              | PR0254        | 6-002685-0000        |
| 80          | Rotary stop ABS - black - couple                                  | RP0291/200    | 6-006288-0001        |
| 80          | Lateral piece for SL-ES, black                                    | PR0332/9004   | 6-012002-9004        |
| 80          | End slat for the security shutter SL-ES                           | PR0331/XXXX   | 6-012001-XXXX        |
| 80          | Sealing insert, round into end-slat                               | PR0288        | 6-003664-0000        |
| 80          | End slat SL KU-N                                                  | PR0431/XX     | 6-010977-XXXX        |
| 80          | Stopper VB rotative Poly, transparent - pair                      | PR0121        | 6-001866-0000        |
| 80          | Cylinder round lock into KL white/brown/grey                      | PR0207/XX     | 6-002131-XXXX        |
| 80          | Cylinder round lock into KL white/brown/grey                      | PR0208/XX     | 6-002133-XXXX        |
| 80          | Weight down steel bar 18x3                                        | PR0123        | 6-001869-0000        |
| <b>300</b>  | <b>Accessories</b>                                                |               | <b>2-00690-0000</b>  |
| 300         | Selve - cord coiler, without cord - white/brown                   | PR0131/XXXX   | 6-001908-XXXX        |
| 300         | Selve - recessed cord coiler, without cord - white/brown          | PR0133/XXXX   | 6-001913-XXXX        |
| 300         | Selve - cord handle coiler without cord- white/brown              | PR0138/XXXX   | 6-001914-XXXX        |
| 300         | Selve - partially recessed tape coiler, without cord- white/brown | PR0286/XXXX   | 6-003640-XXXX        |
| 300         | Selve - cor- handle coiler, without cord - white/brown            | PR0140/XXXX   | 6-001954-XXXX        |
| 300         | Selve - cord coiler, without cord - white/brown                   | PR0135/XXXX   | 6-001911-XXXX        |
| 300         | Exterior aluminium handle white/brown                             | SC 209 XXXX   | 6-001387-XXXX        |
| 300         | Cover caps 10 mm                                                  | ZP0013/XXXX   | 6-002066             |
| 300         | Screw 2,9x6,5, DIN 7981 C,H, Zn                                   | DZ 224        | 6-003135-0000        |
| 330         | Engine holder MLP.2 125                                           | PR0352-2      | 6-012064-01252       |
| 330         | Engine holder MLP.2 138                                           | PR0353-2      | 6-012064-01382       |
| 330         | Engine holder MLP.2 150                                           | PR0354-2      | 6-012064-01502       |
| 330         | Engine holder MLP.2 165                                           | PR0355-2      | 6-012064-01652       |
| 330         | Engine holder MLP.2 180                                           | PR0356-2      | 6-012064-01802       |
| 330         | Engine holder MLP.2 205                                           | PR0357-2      | 6-012064-02052       |

## Electric Motor Technical Parameters

| Shaft | Maximum Roller Shutter Area | Torque | RPM    | Maximum Operation Time | Power Input | International Protection Rating | Cable Length |
|-------|-----------------------------|--------|--------|------------------------|-------------|---------------------------------|--------------|
| 40    | 3.8 m <sup>2</sup>          | 4 Nm   | 14 RPM | 4 min.                 | 65 W        | IP44                            | 3 m          |
| 40    | 5.8 m <sup>2</sup>          | 9 Nm   | 14 RPM | 4 min.                 | 100 W       | IP44                            | 3 m          |
| 60    | 7.9 m <sup>2</sup>          | 15 Nm  | 17 RPM | 4 min.                 | 140 W       | IP44                            | 1 m          |
| 60    | 7.8 m <sup>2</sup>          | 20 Nm  | 17 RPM | 4 min.                 | 160 W       | IP44                            | 1 m          |
| 60    | 6.6 m <sup>2</sup>          | 10 Nm  | 17 RPM | 4 min.                 | 120 W       | IP44                            | 1 m          |
| 60    | 5.3 m <sup>2</sup>          | 8 Nm   | 17 RPM | 4 min.                 | 90 W        | IP44                            | 1 m          |
| 60    | 4.1 m <sup>2</sup>          | 6 Nm   | 17 RPM | 4 min.                 | 90 W        | IP44                            | 1 m          |

## Slats

| Standard                                                                          |                                                                                    |                                                                                     |                        |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|
| M317                                                                              | M328                                                                               | MY442                                                                               |                        |
| Vivera, Heluz                                                                     | Vivera, Heluz                                                                      | Vivera, Heluz                                                                       |                        |
| Al                                                                                | Al                                                                                 | Al                                                                                  |                        |
|  |  |  |                        |
| <b>Technical data ( mm )</b>                                                      | M317                                                                               | M328                                                                                | MY442                  |
| Covering height                                                                   | 37                                                                                 | 37                                                                                  | 42                     |
| Thickness                                                                         | 7,6                                                                                | 7,8                                                                                 | 9,3                    |
| Material thickness                                                                | 0,3                                                                                | 0,28                                                                                | 0,3                    |
| Weight                                                                            | 2,8 kg/m <sup>2</sup>                                                              | 2,6 kg/m <sup>2</sup>                                                               | 2,85 Kg/m <sup>2</sup> |
| Maximum Width                                                                     | 2900                                                                               | 2700                                                                                | 4000                   |
| Maximum Area                                                                      | 6,5 m <sup>2</sup>                                                                 | 5,8 m <sup>2</sup>                                                                  | 8,5 m <sup>2</sup>     |

## Vivera

### Winding table for 40 mm octagonal shaft.

| Box size (mm) | Slat                       |       |                |       |                |       |
|---------------|----------------------------|-------|----------------|-------|----------------|-------|
|               | M317                       |       | M328           |       | MY442          |       |
|               | Roller shutter height (mm) |       |                |       |                |       |
|               | manual control             | motor | manual control | motor | manual control | motor |
| 125           | 1270                       | 1170  | 1390           | 1290  | -              | -     |
| 138           | 1600                       | 1500  | 1720           | 1620  | -              | -     |
| 150           | 2090                       | 1990  | 2160           | 2060  | -              | -     |
| 165           | 2720                       | 2620  | 2640           | 2540  | -              | -     |
| 180           | 3260                       | 3160  | 3260           | 3160  | -              | -     |
| 205           | 4350                       | 4250  | 4360           | 4260  | -              | -     |

### Winding table for 60 mm octagonal shaft.

| Box size (mm) | Slat                       |       |                |       |                |       |
|---------------|----------------------------|-------|----------------|-------|----------------|-------|
|               | M317                       |       | M328           |       | MY442          |       |
|               | Roller shutter height (mm) |       |                |       |                |       |
|               | manual control             | motor | manual control | motor | manual control | motor |
| 125           | -                          | 780   | -              | 970   | -              | 660   |
| 138           | -                          | 1220  | -              | 1480  | -              | 950   |
| 150           | -                          | 1700  | -              | 1960  | -              | 1240  |
| 165           | -                          | 2250  | -              | 2430  | -              | 1800  |
| 180           | -                          | 2960  | -              | 2950  | -              | 2260  |
| 205           | -                          | 4070  | -              | 4010  | -              | 2860  |

## Vivera-Spectra

### Winding table for 40 mm octagonal shaft

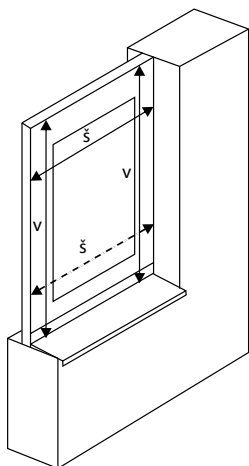
| Box size (mm) | Slat                       |       |                |       |                |       |
|---------------|----------------------------|-------|----------------|-------|----------------|-------|
|               | M317                       |       | M328           |       | MY442          |       |
|               | Roller shutter height (mm) |       |                |       |                |       |
|               | manual control             | motor | manual control | motor | manual control | motor |
| 138           | 1110                       | 1010  | 1170           | 1070  | -              | -     |
| 150           | 1630                       | 1530  | 1790           | 1690  | -              | -     |
| 165           | 2230                       | 2130  | 2340           | 2240  | -              | -     |
| 180           | 2500                       | 2400  | 2500           | 2400  | -              | -     |

### Winding table for 60 mm octagonal shaft

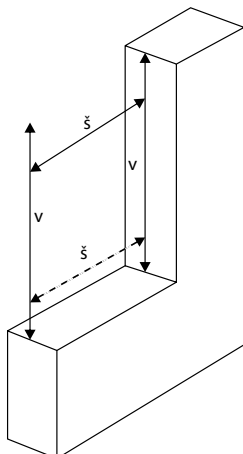
| Box size (mm) | Slat                       |       |                |       |                |       |
|---------------|----------------------------|-------|----------------|-------|----------------|-------|
|               | M317                       |       | M328           |       | MY442          |       |
|               | Roller shutter height (mm) |       |                |       |                |       |
|               | manual control             | motor | manual control | motor | manual control | motor |
| 138           | -                          | 720   | -              | 960   | -              | -     |
| 150           | -                          | 1350  | -              | 1470  | -              | -     |
| 165           | -                          | 1760  | -              | 2060  | -              | -     |
| 180           | -                          | 2400  | -              | 2400  | -              | -     |

## Measuring

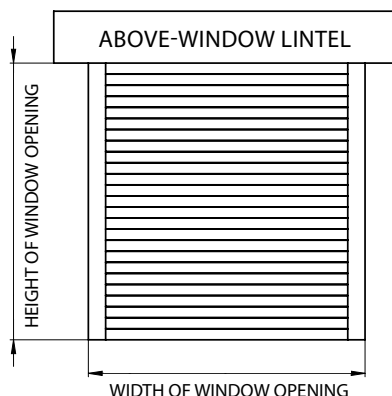
Front window roller shutter



Above-window roller shutter



Under plaster roller shutter



The ordering dimensions are the dimensions for the finished roller shutter.

Width of the roller shutter = X

Height of the roller shutter = Y

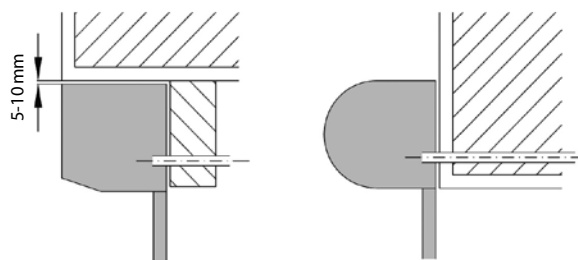
The height and the width are always measured in a minimum of three places. The manufacturing dimensions are always the minimum measured value. Measurements are taken after the frame or window is fitted into the construction hole after completion of the outside and inside reveals, including parapets. The method of measurement of external roller shutter is so specific that it is recommended to consult the technical plans at the construction site. Other specific solutions are possible.

## ASSEMBLY

The assembly may only be performed by a qualified professional employee! Construction preparedness for the assembly: finished reveal, coloured façade, finished outside parapets

### AREA FOR ASSEMBLY

- on the top 5 - 10 mm (closed with sealing substance)
- on sides also approximately 5 mm
- down: leave a maximum distance of 5 mm between the leading bar and the parapet



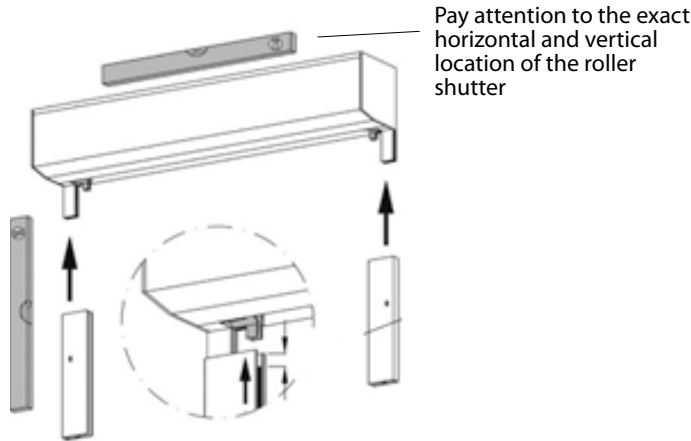
### ASSEMBLY TOOLS:

1. Tape measure
2. Water gauge
3. Pencil
4. Hammer
5. Electric drill as per the source material
6. Cordless electric drill
7. Magnetic adapter
8. Bits PZ2, PH2, magnetic adapter on hexagonal head 8 and 10
9. Set of Allen wrenches
10. Assembly cable
11. Small ratchet wrench and 8 nut
12. Set of screwdrivers, insulated, electric

## INSPECTION

Before assembly we recommend inspecting all the parts after delivery of the goods to prevent any problems. The manufacturer must be notified of any defects or comments concerning the assembly or roller shutter.

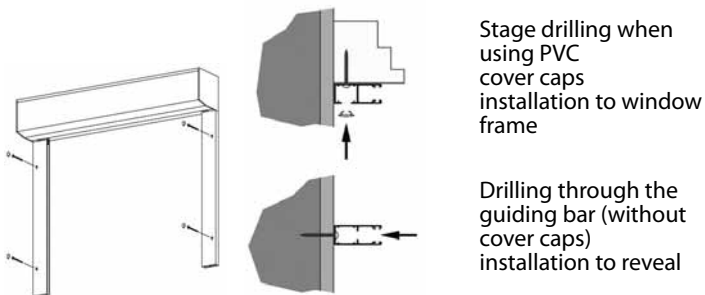
1. Check the dimensions of the roller shutter and the construction hole or the window
2. On the box cut the outlet for the strip, cable or lever of the conical gearbox and drill the passage on the wall or in the window. To prevent damage to the strip, it is necessary to drill the passage for the strip perpendicularly, if possible. Pay attention when drilling to the handle bar; the square must be located centrally in the drilled hole and must not be in contact with the walls in the hole and the scrub in them. (For the 14 mm strip, drill about 16 mm / for strip 23 mm strip, drill a hole of about 32 mm / for the cable, drill a hole about 10 mm / for the conical gearbox, follow the manual).



3. Insert the guiding bars into the leg of the side wall; check the guiding bars are the same height. (The insertion of the guiding bar into the side wall must not damage the starting point of the armour located in the side wall.)
4. Marking of drilling points in which the screws fix the blind (the size is according to the masonry and screws used). In the upper part of the guide rail, there is a fixing hole for additional fixing of the box, which it prevents it from tipping over.

## CONTROL USING THE STRIP OR THE CORD

5. On the strip attach the penetration, plastic tube, tape roll, etc. (roll downward, brush upward).
6. Suspend the strip or the cord into the spring clamp so that during the movement of the armour the upward strip is automatically wound into the winding mechanism (according to the construction the winding mechanism must be open and the strip must be hooked and fixed to the spring mechanism). We advise that when shortening the strip, the blind armour must be lowered. When working with the strip, the spring mechanism must be secured against winding!
7. Fixation of the winding mechanism on the frame of the window or the wall.
8. Fixation of the strip penetration on the wall or the window frame (the roll simplifies the movement of the strip).





**ENGINE CONTROL**

9. Attach the cable from the engine to the connection box.

N.B. It is necessary to connect the cables according to the drawing of the engine supplier. The work with parts connected to the electricity current must be carried out by trained experts. During the connection all the electric lines must be without electric current. Engines are pre-adjusted, but in the place of the installation of the roller shutter they must be tested and the border settings must be adjusted.

**CONTROL BY HANDLE:**

10. Passing through the wall of the square joint bearing and fixation into the conical gearbox (in the box the square must be shortened according to the fixation).

11. Fixation of the joint bearing by the attached screws on the wall or the window frame.

12. Insert the handle (profiled tube) into the joint bearing and fix it with the fixation clamp (plastic ring).

13. Fixation of the handle holder on the window frame or the wall.

14. Version of the box under the plaster.

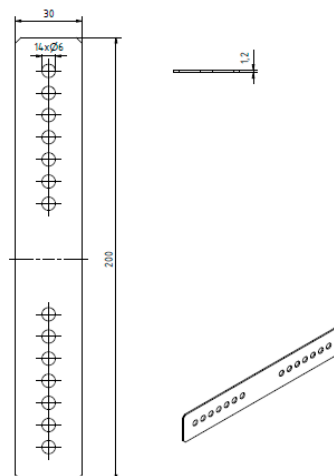
- Before starting plaster work it is necessary to cover the joints between the box and the wall and the large area joint. (Additional fixation and armouring prevents the origination of cracks from tension.)

In the upper part of the guide rail, there is a fixing hole for additional fixing of the box, which it prevents it from tipping over.

- When installing the plastering boxes, you must follow the plastering guidelines, or consult a plastering company. In principle, the box must be fixed to the masonry with the supplied perforated fastening tapes or similar fastening means. The following should be observed: the screw for fixing the perforated tape should be screwed into the upper part of the box as far as possible to avoid damage to the hinge inside the box.
- Fixing strap for flush-mounted boxes, abbreviation 2: PR0511, can be selected as an optional accessory.



**The roller shutters must be assembled and serviced by trained specialists**

**NUMBER OF FIXATIONS FOR ONE GUIDING BAR:**

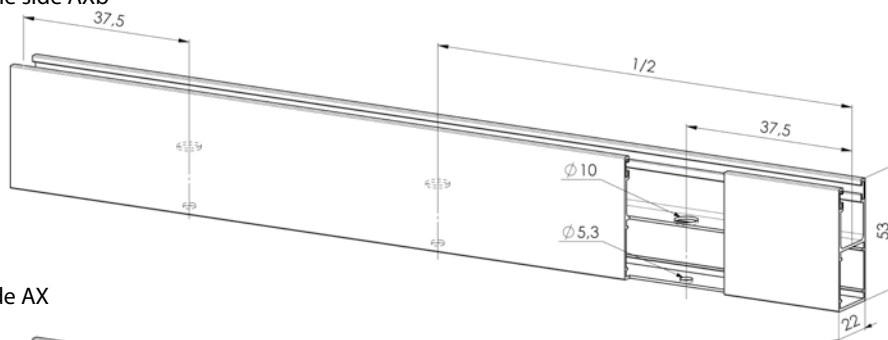
Height of the roller shutter up to 150 cm > 2 fixation points in one guiding bar  
 Height of the roller shutter up to 250 cm > 3 fixation points in one guiding bar  
 Height of the roller shutter over 250 cm > 4 fixation points in one guiding bar

37,5 mm from the upper edge of the guide rail, there is a fixing hole for strengthening the guide rail and the plaster box.

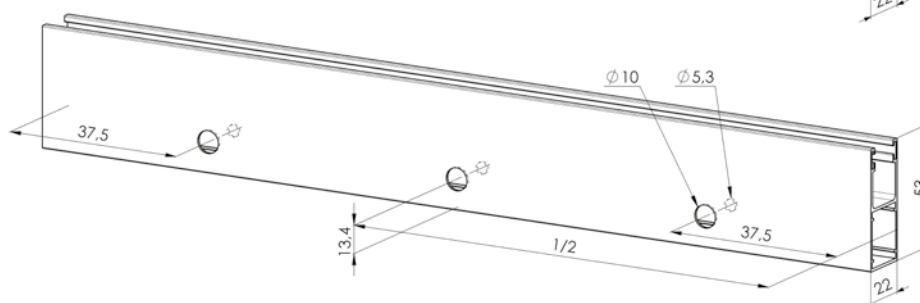
This data is valid during assembly into the masonry with a sufficient load-bearing capacity. The same is also valid for data for the attached joining material. The fixation material must be chosen according to the strength of the masonry and the static conditions of the particular case.

**Guiding rails drilling**

A) from the side AXb



B) face side AX

**Guide rails - frontway/sideway drilling (200 mm on both sides from the edges)**

|                                 |                                                          |
|---------------------------------|----------------------------------------------------------|
| up to a height of 1500 mm       | 2 openings (on the edges)                                |
| more than 1500 mm up to 3000 mm | 3 openings (2 openings on the edges + 1 centre opening)  |
| from 3000 mm up to 4500 mm      | 4 openings (2 openings on the edges + 2 centre openings) |
| from 4500 mm                    | 5 openings (2 openings on the edges + 3 centre openings) |



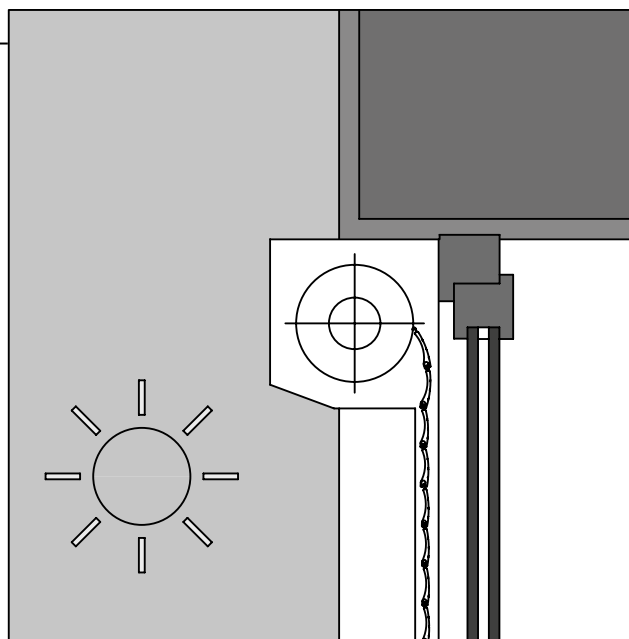
Dismantling of the revision cover of the box must always be enabled. Therefore, the revision cover cannot be plastered or fixed into the construction. For the installation of boxes under the plaster, the strip is prepared which is fixed to the side by the rivet which can be plastered.

## Assembly Alternatives

### Vivera and Sectra Roller Shutter Assembly

#### Assembly A

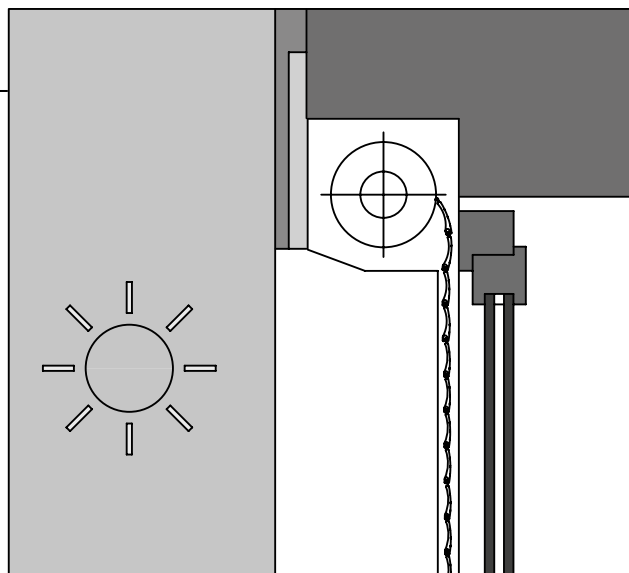
**Assembly on window frame.** Prepare the aperture for passage of the control mechanisms into interior, prepare the passage for cord, crank or electrical cable based on the control method and lower the rolling Shutter to the low position. Put the box onto the guiding rails and then screw the complete set onto the window frame. Cover the screws with covers. After checking the roller Shutter function, attach the bushing for cord, tape or crank in the interior. In the case of electrical control, complete the wiring, which can only be done by a qualified person. In the case of absence of the expanding profile on the window, the disadvantage of the installation is the window clearance reduction.



### Admira and Vivera Roller Shutters Assembly

#### Assembly A

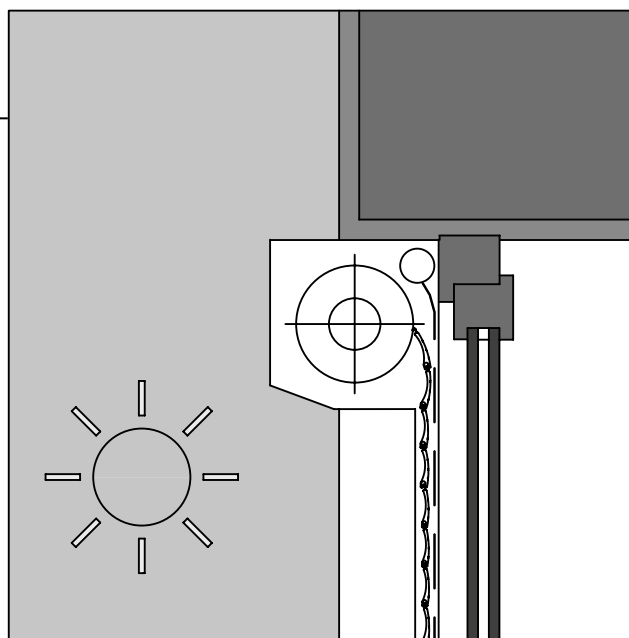
**Assembly on window frame.** An advantage of these roller shutter is that they are hidden under the façade or heat-insulating system that does not disturb the building aesthetics. Prepare the aperture for passage of the control mechanisms into interior, prepare the passage for cord, crank or electrical cable based on the control method and lower the roller shutter to the low position. Put the box onto the guiding rails and then screw the complete set onto the window frame. Cover the screws with covers. After checking the roller shutter function, attach the bushing for cord, tape or crank in the interior. In the case of electrical control, complete the wiring, which can only be done by a qualified person.



### Vivera-Sectra Roller Shutters Assembly

#### Assembly A

**Assembly on window frame.** Prepare the aperture for passage of the control mechanisms into interior, prepare the passage for cord, crank or electrical cable based on the control method and lower the roller shutter to the low position. Put the box onto the guiding rails and then screw the complete set onto the window frame. Cover the screws with covers. After checking the roller shutter function, attach the bushing for cord, tape or crank in the interior. In the case of electrical control, complete the wiring, which can only be done by a qualified person. Drill apertures for the screen locking in the guiding rail. The SECTRA roller shutter can also be mounted in above-window pockets or lintels.



### Assembly B

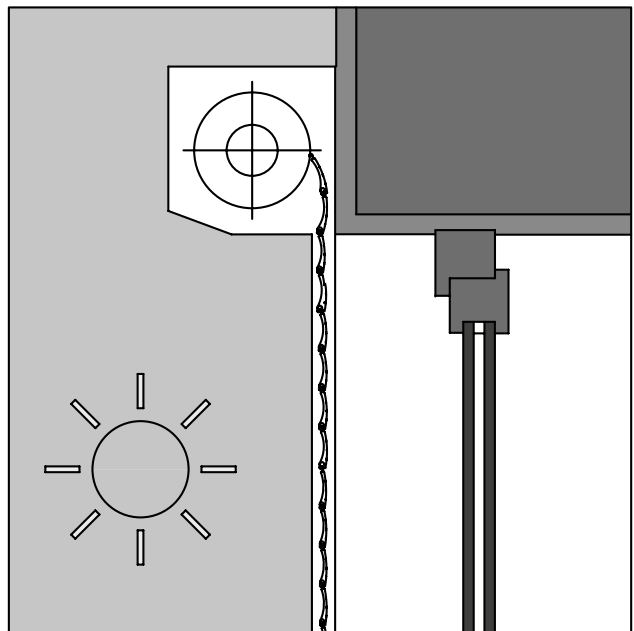
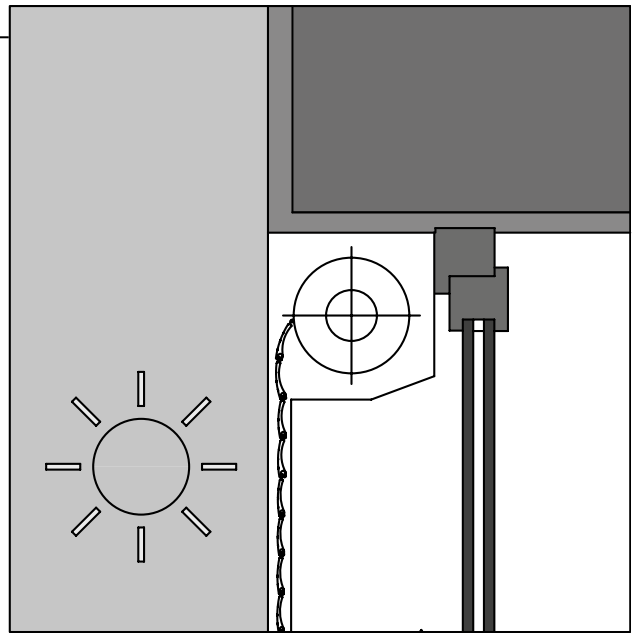
**Reverse Assembly on window frame.** The box is screwed onto the window frame en face and the distance between guides and window is based on the box size. Prepare the aperture for passage of the control mechanisms into interior, prepare the passage for cord, crank or electrical cable based on the control method and lower the roller shutter to the low position. Put the box onto the guiding rails and then screw the complete set onto the window frame. Cover the screws with covers. Screw the guiding rails onto the window lining. After checking the roller shutter function, attach the bushing for cord, tape or crank in the interior. In the case of electrical control, complete the wiring, which can only be done by a qualified person.

### Assembly D

**Assembly on window frame from interior.** This is practically Installation A with the only difference that the roller shutter and the roller shutter control are installed inside the room. Put the box onto the guiding rails and then screw the complete set onto the window frame. Cover the screws with covers. Complete the control system. After checking the roller shutter function, attach the bushing for cord, tape or crank in the interior. In the case of electrical control, complete the wiring, which can only be done by a qualified person.

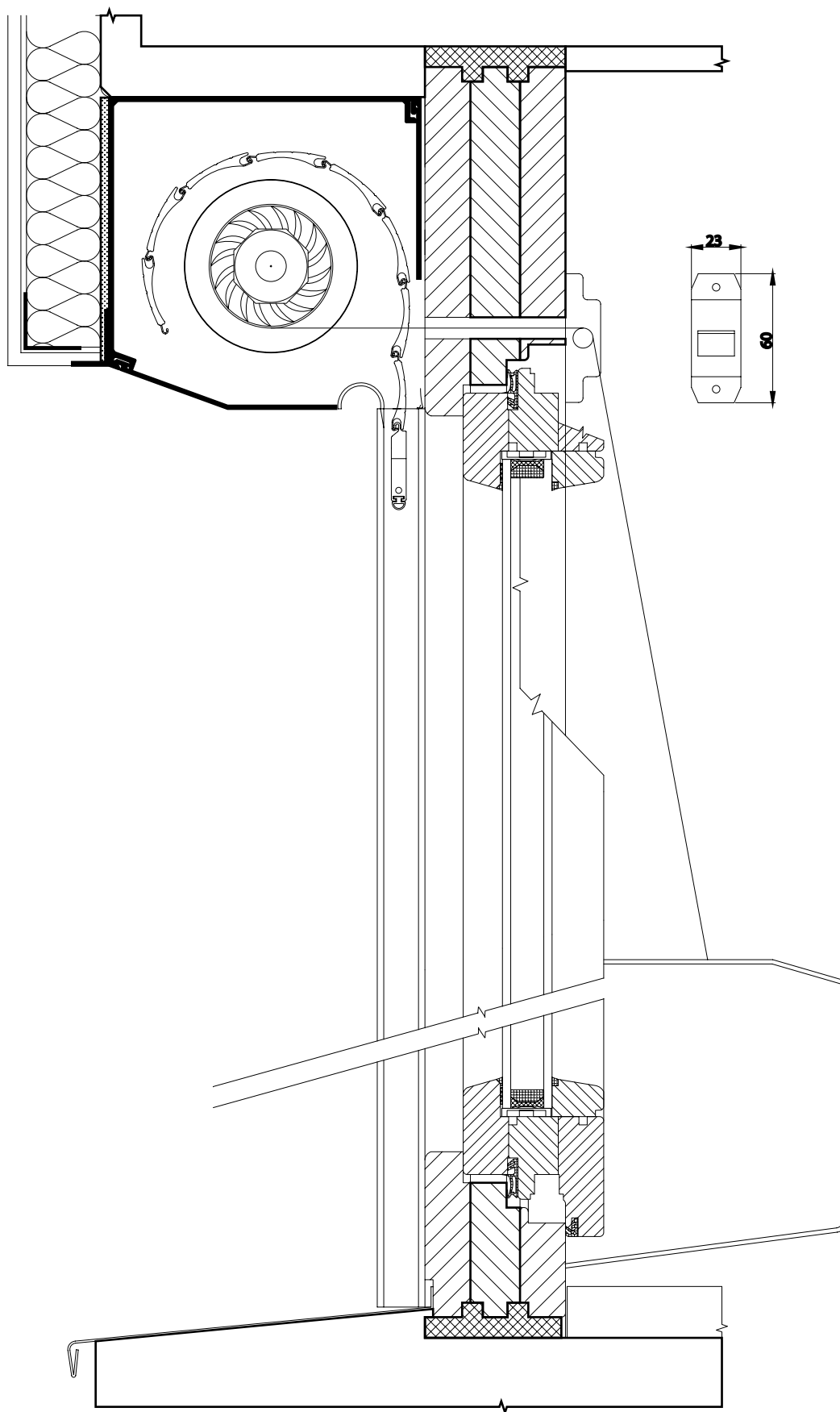
### Assembly E

**Assembly on facade.** Prepare the aperture for passage of the control mechanisms into interior, prepare the passage for cord, crank or electrical cable based on the control method and lower the roller shutter to the low position. Put the box onto the guiding rails and then screw the complete set onto the facade. Cover the screws with covers. After checking the roller shutter function, attach the bushing for cord, tape or crank in the interior. In the case of electrical control, complete the wiring, which can only be done by a qualified person. The guiding rails should have end stops.



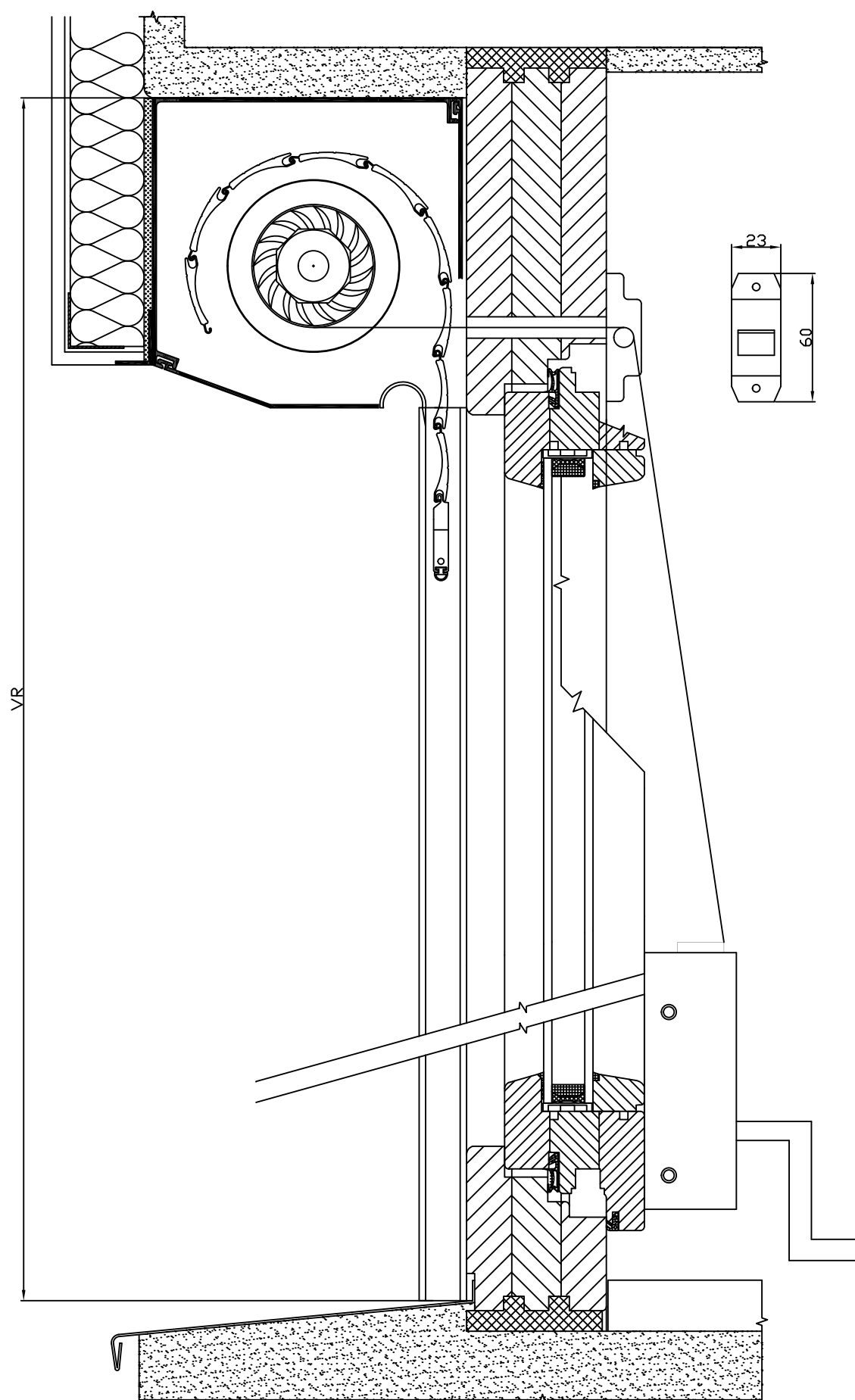
## Schematic Sections for Individual Control Types

### Tape Controlled Roller Shutter – vertical section



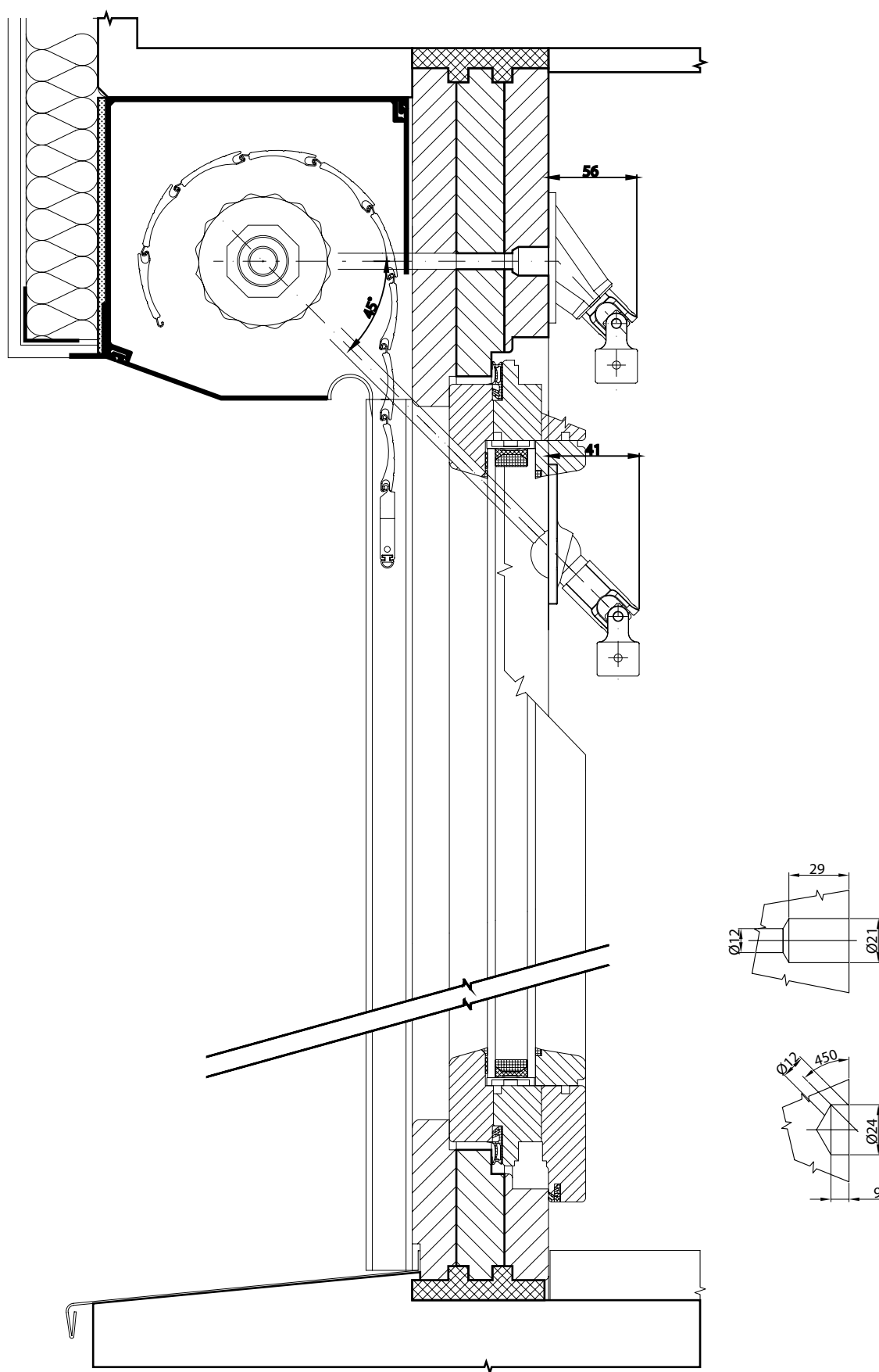
This is a schematic drawing whose shape varies according to the configuration of the product.

## Crank Winder Controlled Roller Shutter – vertical section



This is a schematic drawing whose shape varies according to the configuration of the product.

## Crank Controlled Roller Shutter – vertical section



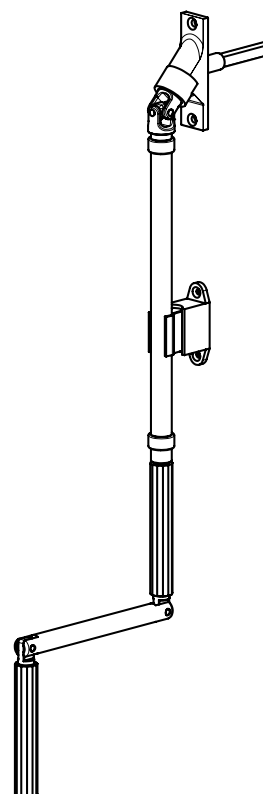
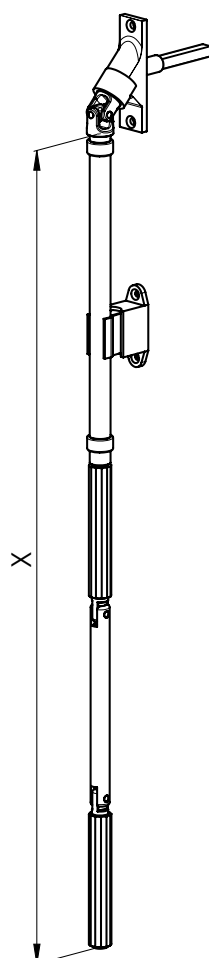
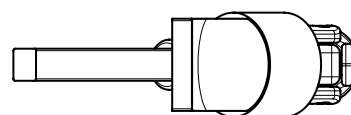
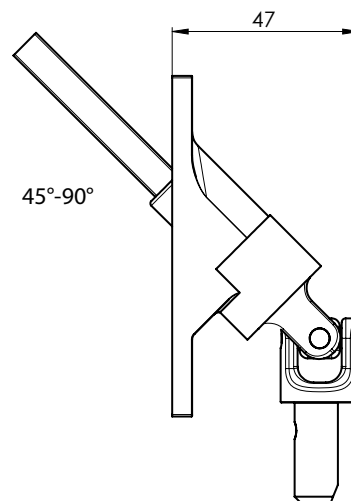
This is a schematic drawing whose shape varies according to the configuration of the product.



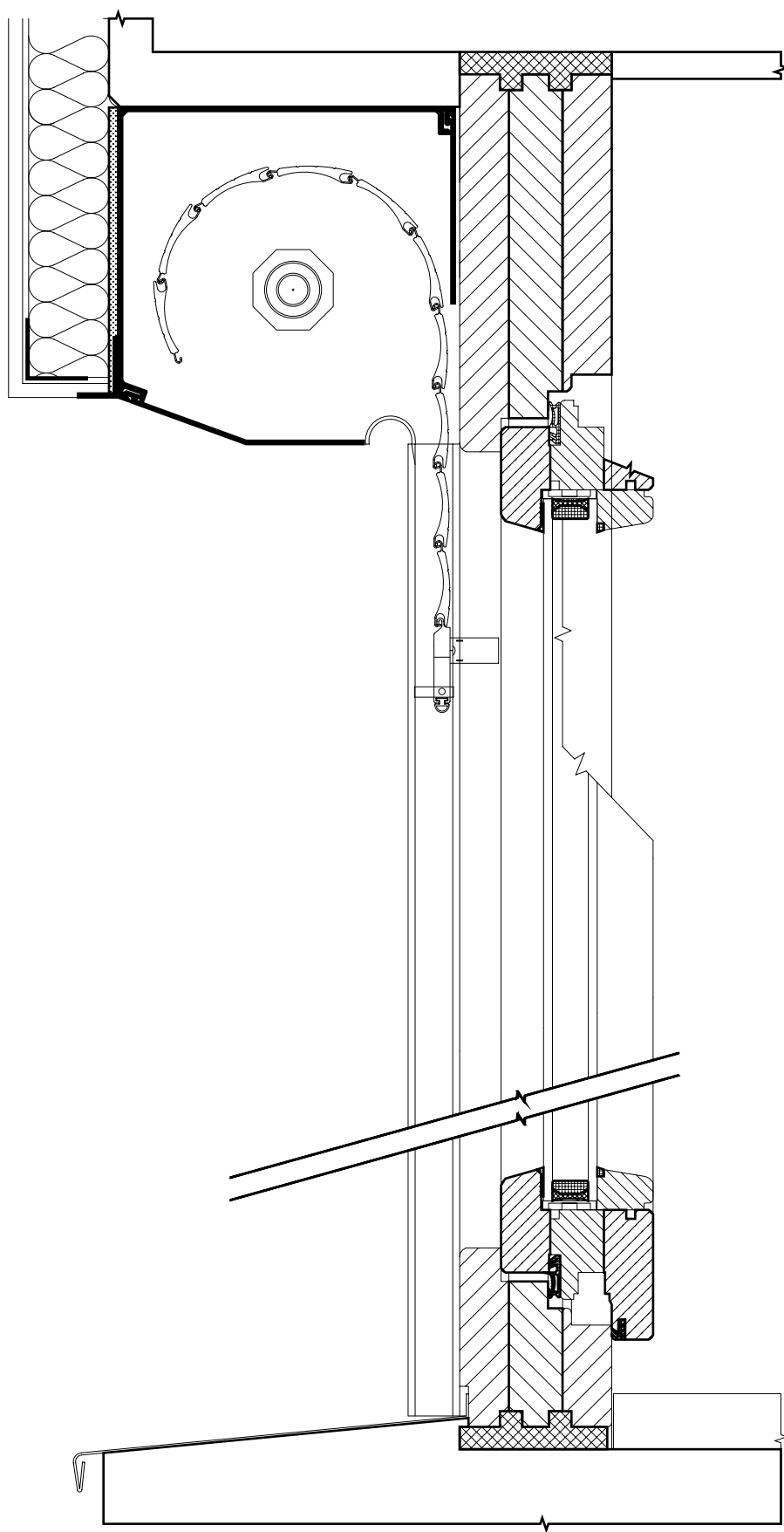
### Articulated coupling 45-90°

PR0185

(6-002709-0000)



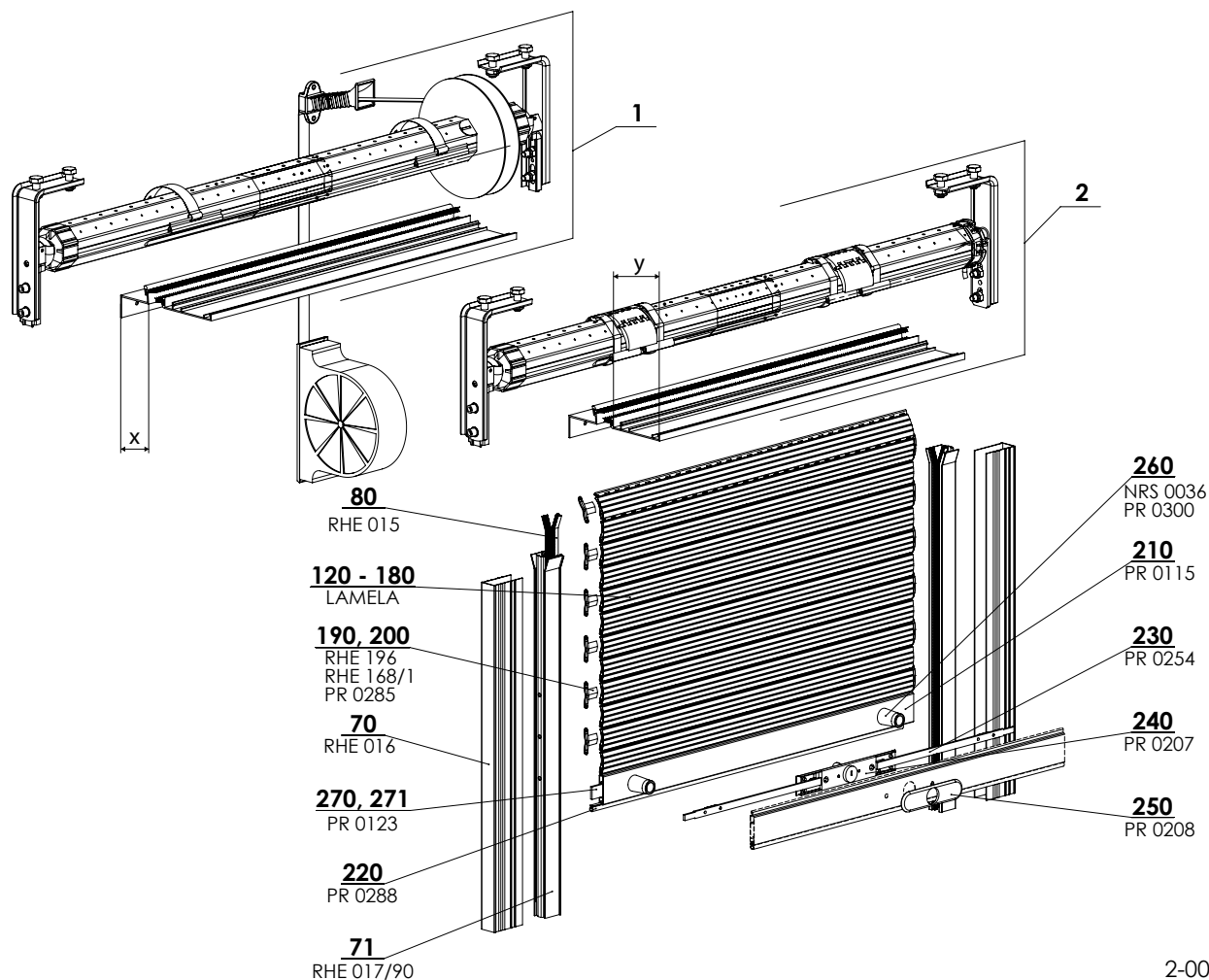
## Spring or Motor Controlled Roller Shutter - vertical section



This is a schematic drawing whose shape varies according to the configuration of the product.

# HELUZ Lintel External Roller Shutter

## Basic Product Specification



### Control

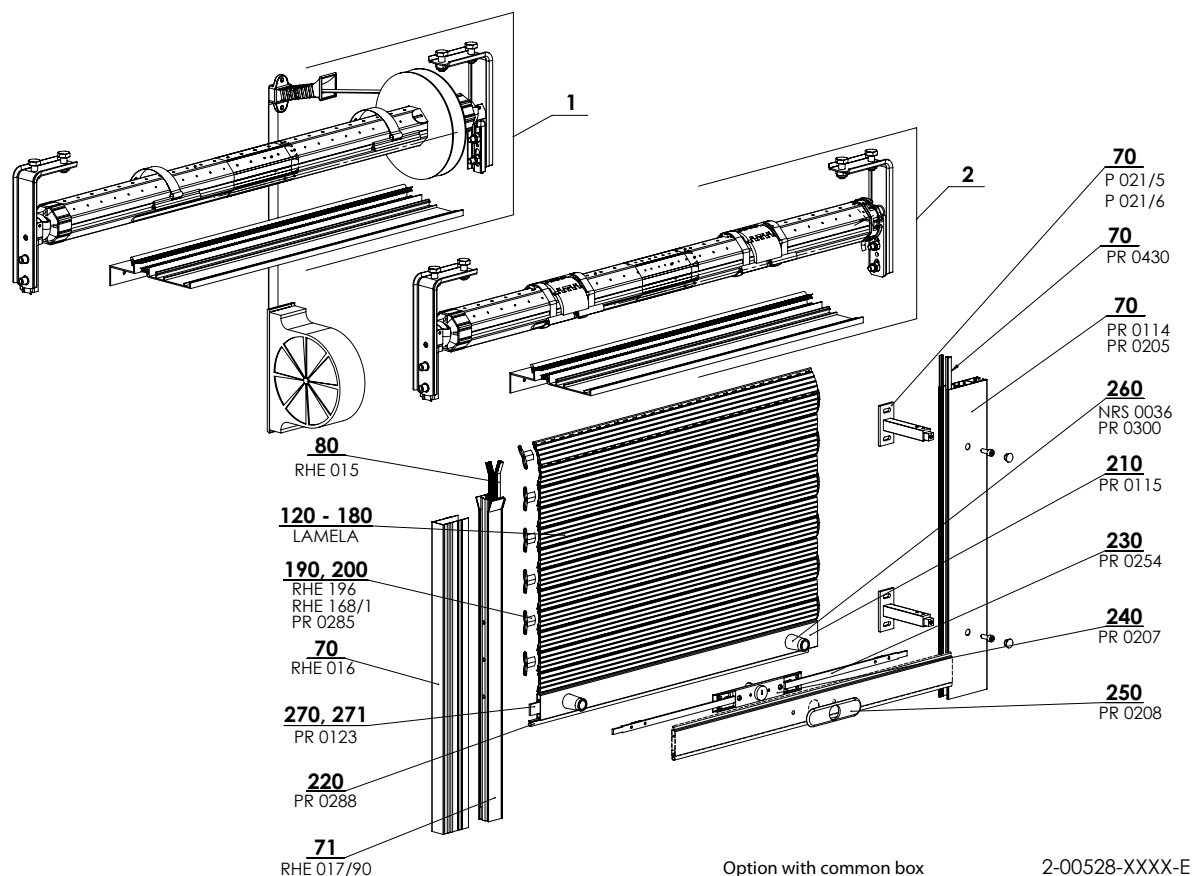
- Tape - used for pulling the roller blind up and down. White or grey 22 mm wide tape.
- Motor - with the torque of 4–20 Nm, mounted in the octagonal rod with diameter of 40 mm or 60 mm.

### Standard Dimensions

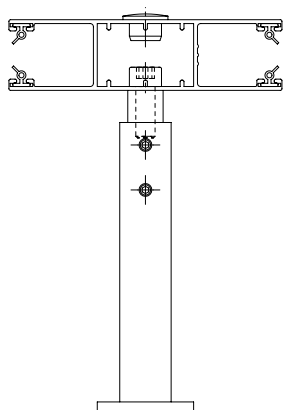
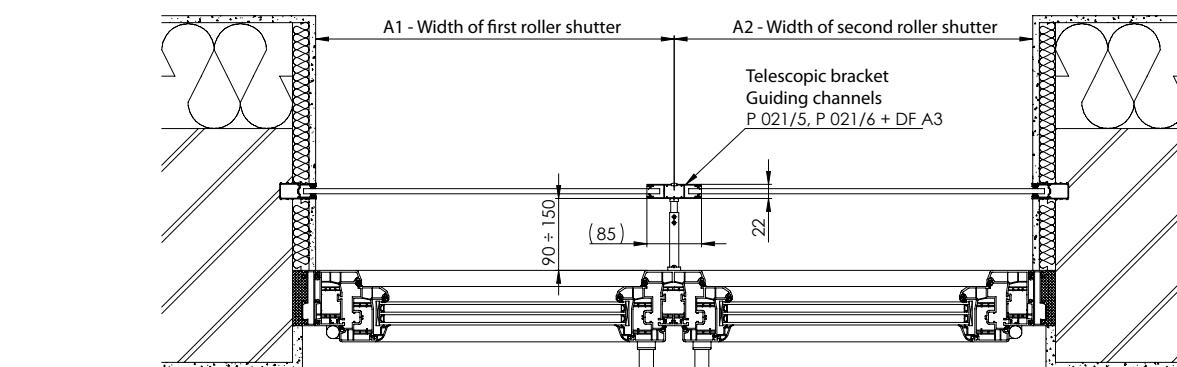
| Slat  | Control | Width (mm) |      | Height (mm) |      | Guaranteed area (m <sup>2</sup> ) |
|-------|---------|------------|------|-------------|------|-----------------------------------|
|       |         | min.       | max. | min.        | max. |                                   |
| M328  | tape    | 600        | 2700 | 600         | 2800 | 3,5                               |
|       | motor   | 600        | 2700 | 600         | 2800 | 5,8                               |
| M317  | tape    | 600        | 2900 | 600         | 2800 | 3,2                               |
|       | motor   | 600        | 2900 | 600         | 2800 | 6,5                               |
| MY442 | motor   | 600        | 4000 | 600         | 2300 | 8,5                               |

Maximum width of underplaster common box for outside roller shutters is 4 m and 5,5 m for visible box.

## Roller shutter for Heluz lintel - common guiding channel



## Roller shutter for Heluz lintel - connected roller shutters



Telescopic bracket P 021/5, P 021/6

| Recommended quantity of telescopic brackets for guide rail DF A3 |        |          |           |           |           |
|------------------------------------------------------------------|--------|----------|-----------|-----------|-----------|
| Height of roller shutter                                         | 0 - 75 | 76 - 125 | 126 - 175 | 176 - 225 | 226 - 290 |
| Amount of brackets                                               | 2      | 3        | 4         | 5         | 6         |

Connected roller shutters for Heluz lintel

2-00528-XXXX-E

| Position       | Item name                          | Business name | Drawing number     |
|----------------|------------------------------------|---------------|--------------------|
| 1              | Motor drive                        |               | 2-00531-0000       |
| 2              | Manual drive                       |               | 2-00532-0000       |
| 70             | Al pocket for guiding channel      | RHE016        | 6-006565-0000      |
| 71             | Al. guiding channel without brush  | RHE017/90     | 6-006566-0090      |
| 80             | Brush for guiding channel          | RHE015        | 6-006564-0000      |
| <b>120-180</b> | <b>Slats</b>                       |               | <b>see page 36</b> |
| 190,200        | Staple                             | PR0285        | 6-003139-0000      |
| 210            | End cap                            | PR0115        | 6-001858-xxxx      |
| 220            | Staple                             | PR0288        | 6-003139-0000      |
| 230            | Ratchet 10x3mm into last slat      | PR0254        | 6-002685-0000      |
| 240            | Cylinder round lock into last slat | PR0207        | 6-002131-0000      |
| 250            | Round end cap lock                 | PR0208        | 6-002133-xxxx      |
| 260            | Dead stop 28 mm                    | NRS0036       | 6-005477-0000      |
| 260            | PVC block for last slat            | PR0300        | 6-009813-0004      |
| 270,271        | Weight down steel bar              | PR0123        | 6-001869-0000      |

#### Electric Motor Technical Parameters

| Shaft | Maximum Roller Shutter Area | Torque | RPM    | Maximum Operation Time | Power Input | International Protection Rating | Cable Length |
|-------|-----------------------------|--------|--------|------------------------|-------------|---------------------------------|--------------|
| 60    | 4,1 m <sup>2</sup>          | 6 Nm   | 17 RPM | 4 min.                 | 90 W        | IP44                            | 1 m          |
| 60    | 5,3 m <sup>2</sup>          | 8 Nm   | 17 RPM | 4 min.                 | 90 W        | IP44                            | 1 m          |
| 60    | 6,6 m <sup>2</sup>          | 10 Nm  | 17 RPM | 4 min.                 | 120 W       | IP44                            | 1 m          |
| 60    | 7,8 m <sup>2</sup>          | 20 Nm  | 17 RPM | 4 min.                 | 160 W       | IP44                            | 1 m          |
| 60    | 7,9 m <sup>2</sup>          | 15 Nm  | 17 RPM | 4 min.                 | 140 W       | IP44                            | 1 m          |

#### Heluz

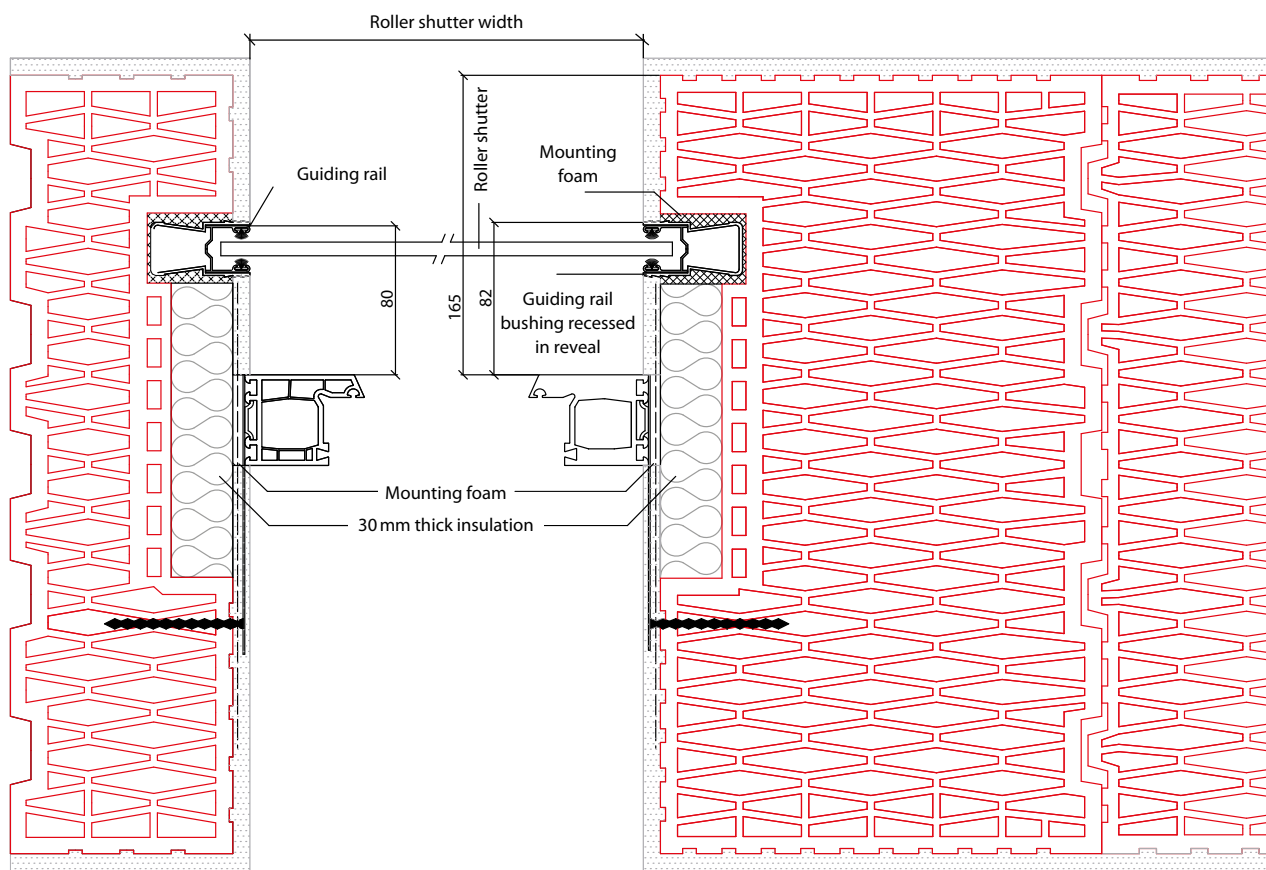
##### Winding table for 60 Octagonal Shaft

| Box Size | Slat           |       |                |       |                |       |
|----------|----------------|-------|----------------|-------|----------------|-------|
|          | M317           |       | M328           |       | MY442          |       |
|          | manual control | motor | manual control | motor | manual control | motor |
| 165      | 2300           | 2200  | 2480           | 2380  | 1850           | 1750  |
| 180      | 3000           | 2900  | 3000           | 2900  | 2300           | 2200  |

## Measuring and Installation of HELUZ Lintel External Roller Shutter

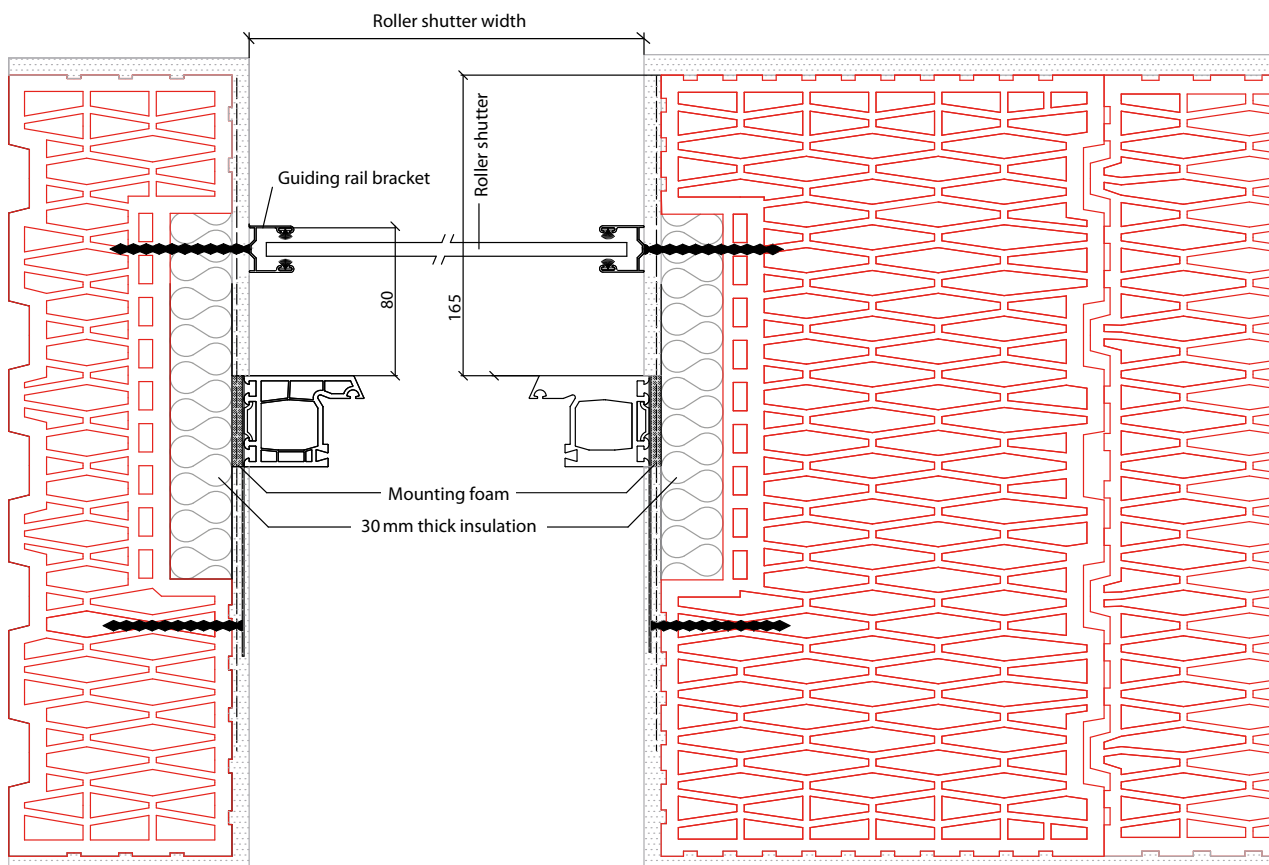
The guiding rail bushings can be recessed in an insulation sandwich. The roller shutter guiding rails can also be attached to the windows frame using attachments.

### Fitting of roller shutter bushing with recessed guiding rail – standard Installation



Use the Fisher FFS or FFSZ screw for window frames or appropriate frame dowels with a minimum length of 80 mm.

### Fitting of roller shutter guiding rail in reveal



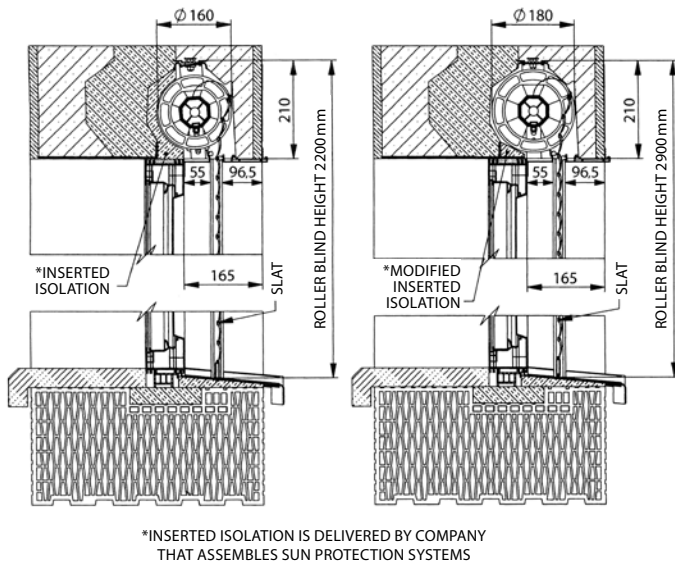
Use the Fisher FFS or FFSZ screw for window frames or appropriate frame dowels with a minimum length of 80 mm.

## Fitting of window frame for roller shutter assembly

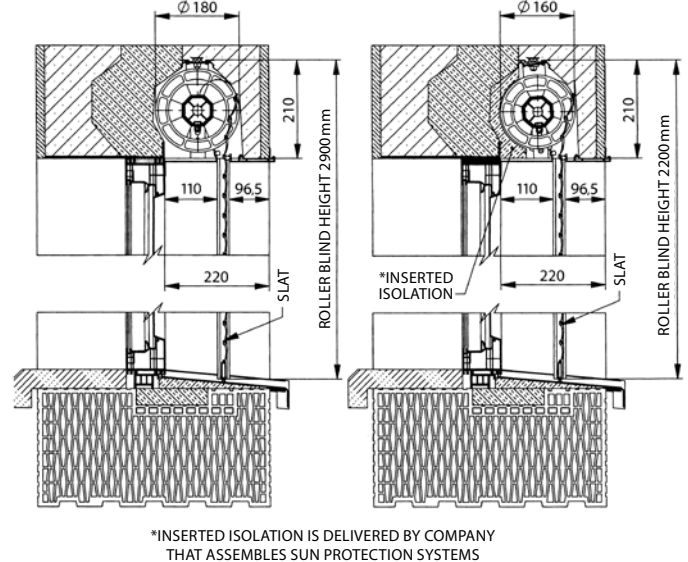
The distance between the outside brick lining of lintel and outside part of window frame is 220 mm.

This distance is identical for assembly of roller shutters and Venetian blinds. The distance of 165 mm is suitable for using the inserted isolation for the roller shutter assembly.

FITTING THE WINDOW FRAME FOR ROLLER SHUTTERS  
165 mm FROM THE OUTSIDE LINING OF THE LINTEL



FITTING THE WINDOW FRAME FOR ROLLER BLINDS 220 mm  
FROM THE OUTSIDE LINING OF THE LINTEL



## Control

The bearing HELUZ roller shutter lintel can be fitted either with manual or electric control.

If the customer decides for the manual control using a tape, it is necessary to keep the lintel seating of 200 mm, rather 250 mm, if possible, on the control side. The tape winds into the box located in the wall next to the window (from the left or from the right). The box must be located along the vertical axis of the lintel aperture. In the case of electrical control of the shading systems, a wiring branch box is to be installed next to the lintel and a cable with minimum of 3 wires with the section of 1.5 mm<sup>2</sup> for 230 V power supply will lead into it. The branch box with the cable tube with the minimum diameter of 16 mm will be interconnected with the inner part of the lintel, eventually with a switch. The electrical drive is to be located in the roller shutter rod or Venetian blind carrier. The entire wiring system needs to be consulted with the shading equipment assembling company prior to applying the plastering.

When using the electrical control, we can place the lintel symmetrically on the assumption of keeping the minimum lintel seating of 200 mm on both sides.



Motor control

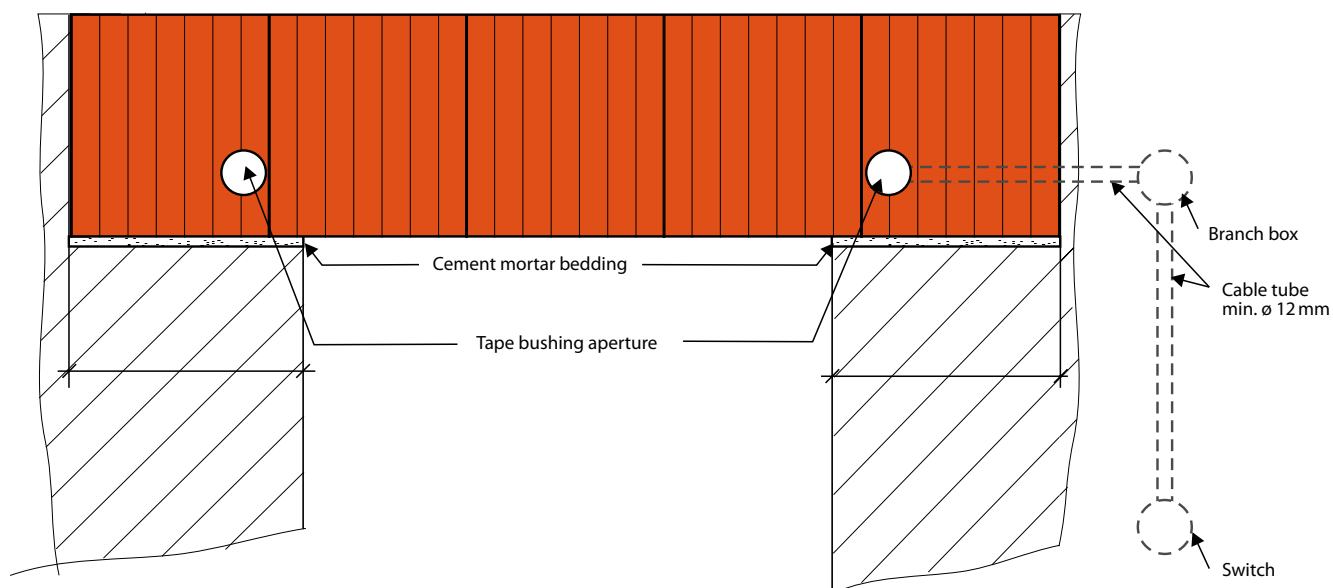


Tape control

### Recessing of components for motor control

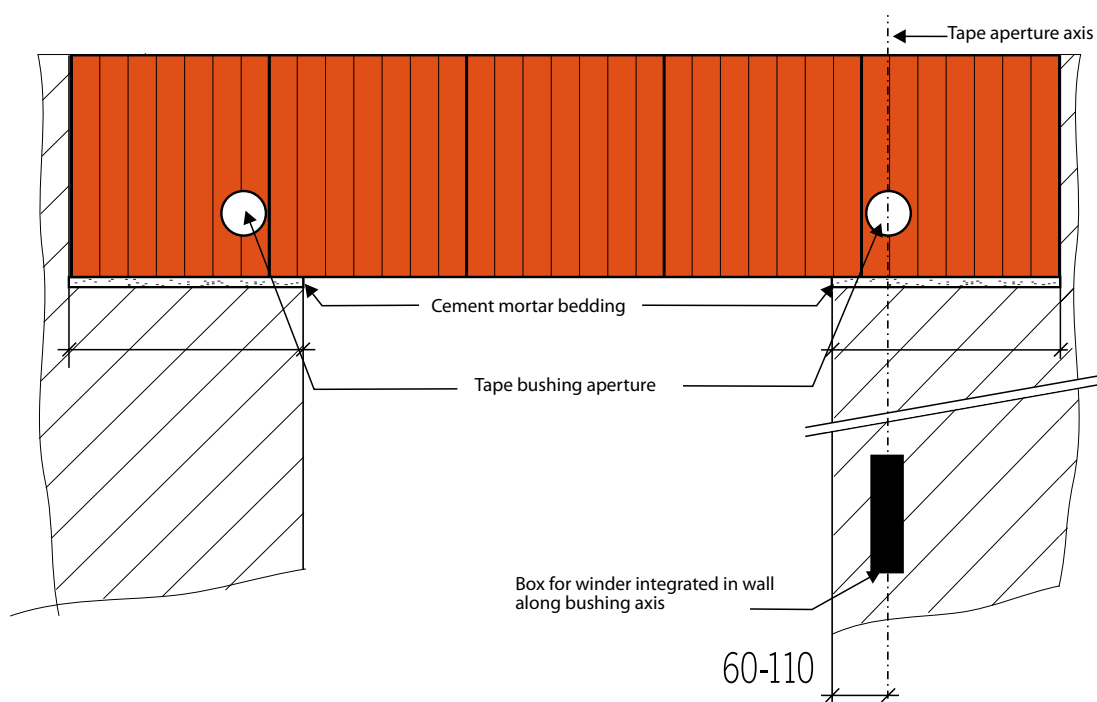
In the case of the motor control, the electric motor is installed in the roller shutter crank. We do not fit the winder box or tape bushing. In this case, we install a branch box, cable tube and eventually a switch box next to the lintel.

**Do not cut out the polystyrene inside the lintel!**

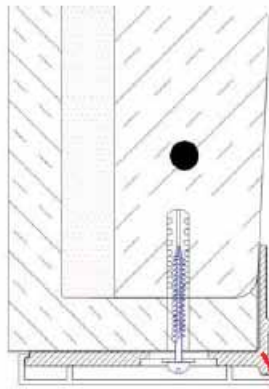


### Recessing of components for manual control

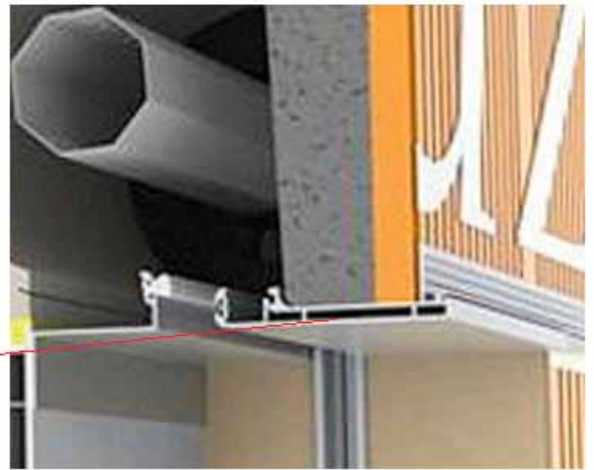
The manual control is performed using a tape bushing, 22 mm tape and winder recessed in the masonry next to the window.



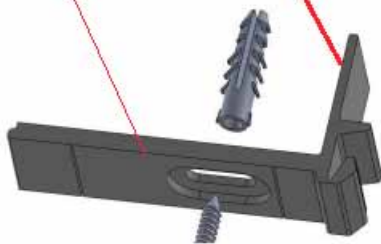




External aluminium flap.  
Width 96.5 mm  
Order number: 6-011038-0090

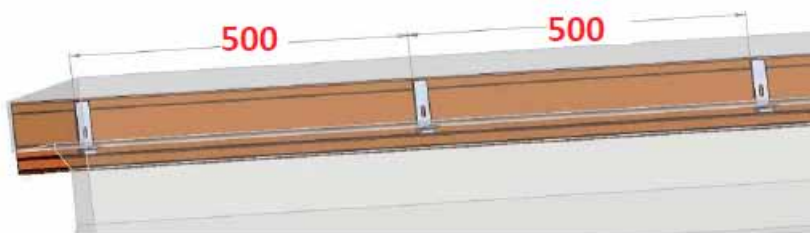


Front flap plastic brackets.  
Order number: 6-012196-0000

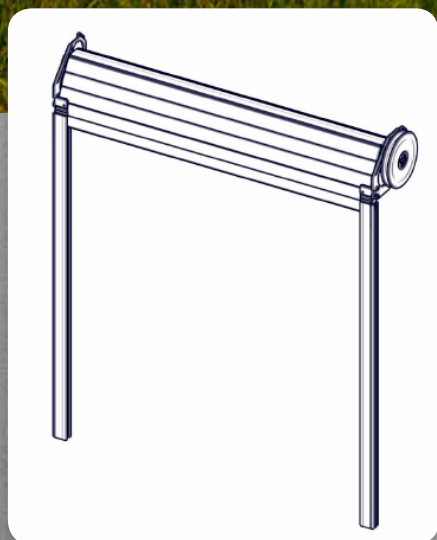


**Installation of the new version:**

Recommended distance between brackets approx. 500 mm.



## ROLOSA



- ▲ Complete solution for lintel systems
- ▲ Self-supporting
- ▲ For lintels in new as well as refurbished buildings
- ▲ Simple and fast shutter installation
- ▲ Convenient motor operation
- ▲ Made of high-quality, durable materials

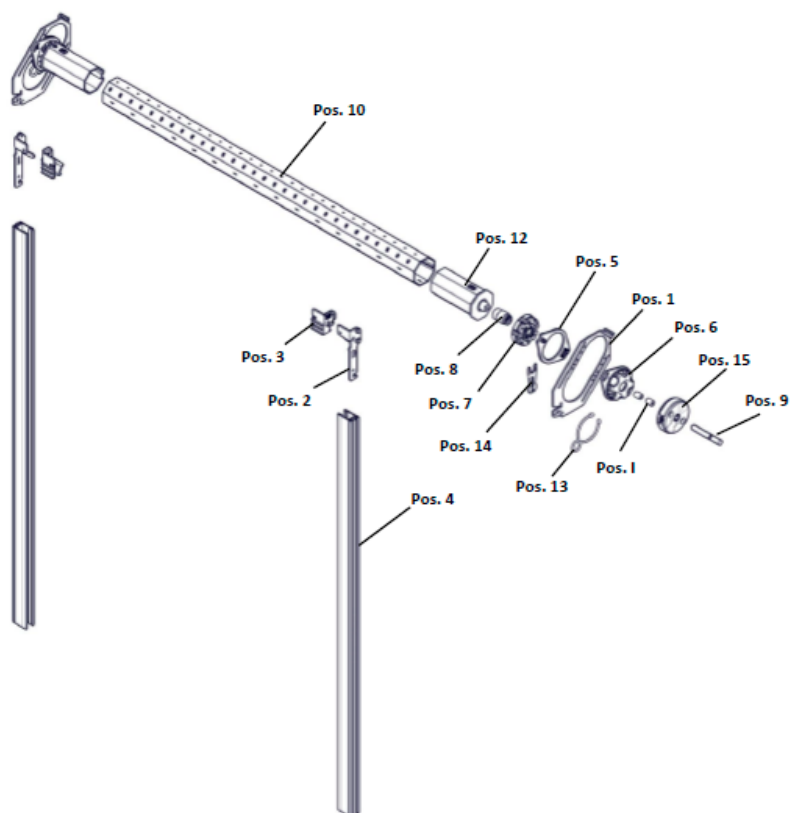
**ISOTRA** *Quality*

## ROLOSA External Roller Shutters

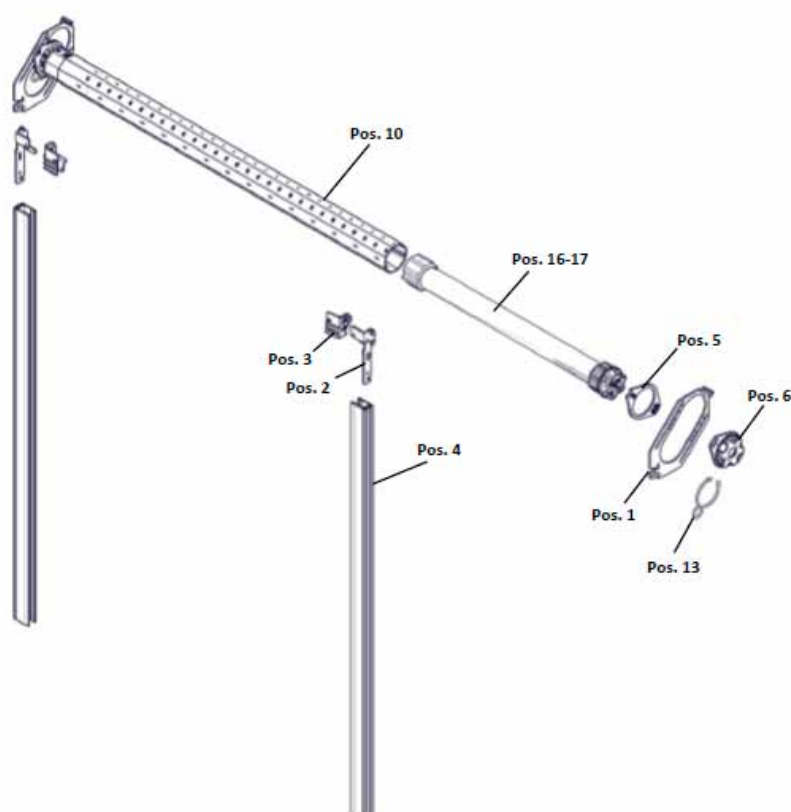
### Basic product specification

#### Controls

##### Handle



##### Motor



## Standard dimensions

## Slat M317

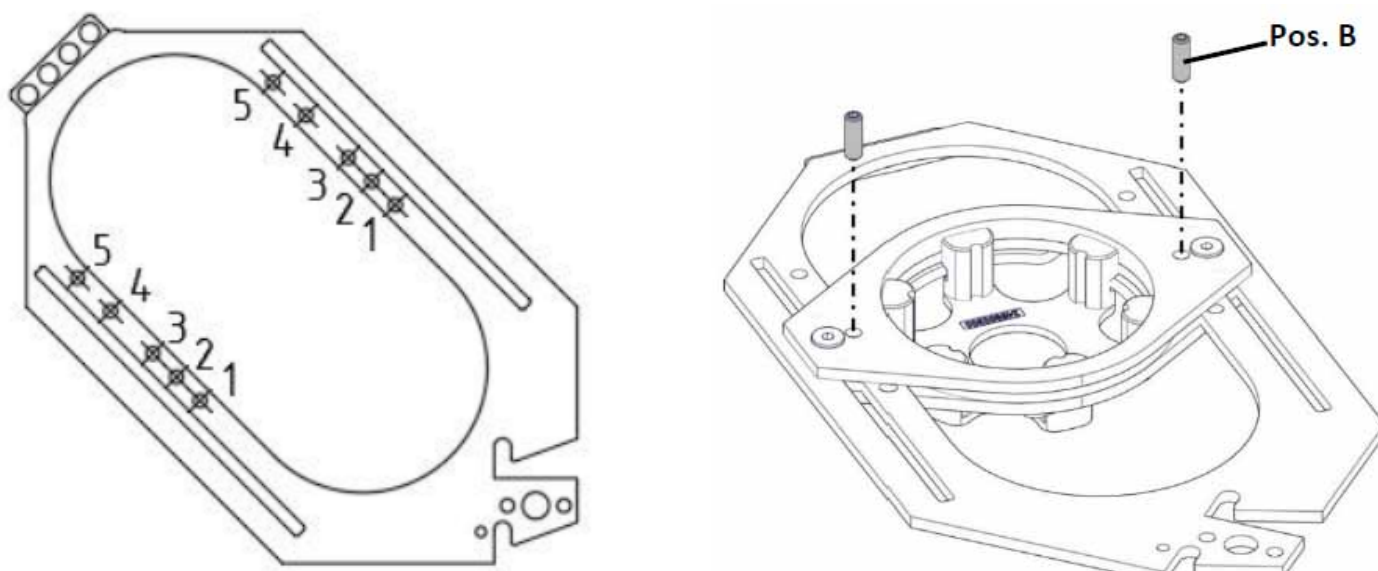
| Controls    | Width (mm) |      | Height (mm) |      | Guaranteed area (m <sup>2</sup> ) |
|-------------|------------|------|-------------|------|-----------------------------------|
|             | min.       | max. | min.        | max. | max.                              |
| Handle      | 400        | 2900 | 1130        | 5880 | 6,5                               |
| Motor       | 720        | 2900 | 1130        | 5880 | 6,5                               |
| Solar motor | 840        | 2500 | 400         | 3000 | 5,5                               |

## Slat MY442

| Controls    | Width (mm) |      | Height (mm) |      | Guaranteed area (m <sup>2</sup> ) |
|-------------|------------|------|-------------|------|-----------------------------------|
|             | min.       | max. | min.        | max. | max.                              |
| Motor       | 720        | 4000 | 1370        | 4370 | 8,5                               |
| Solar motor | 840        | 2500 | 400         | 3000 | 5,5                               |

The minimum and maximum heights depend on the position of shaft positioning elements.

The shaft is offered only in 60 mm diameter.



## Standard dimensions

| Slat           | M317                                      | MY442               |
|----------------|-------------------------------------------|---------------------|
| Poloha hřídele | Shaft position acc. to the element height |                     |
| Position 1     | ≤1130 mm                                  | ---                 |
| Position 2     | >1130 mm - ≤1880 mm                       | ≤1370 mm            |
| Position 3     | >1880 mm - ≤2880 mm                       | >1370 mm - ≤1870 mm |
| Position 4     | >2880 mm - ≤4380 mm                       | >1870 mm - ≤3120 mm |
| Position 5     | >4880 mm - ≤5880 mm                       | >3120 mm - ≤4370 mm |

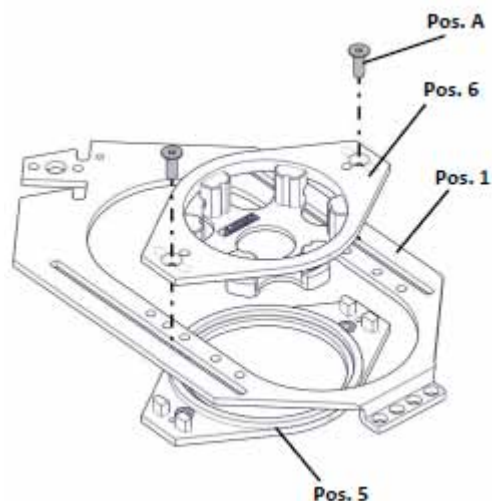
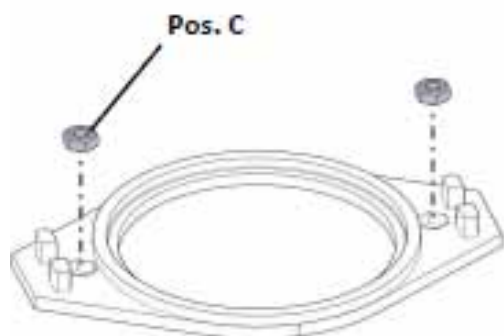
**ROLOSA (2-01122-0001)**

| Item       | Item name                                          | Trade name       | Drawing No.          |
|------------|----------------------------------------------------|------------------|----------------------|
| <b>10</b>  | <b>Motors (SOMFY) EX. ROLLER SHUTTERS</b>          |                  | <b>2-00534-0000</b>  |
| <b>20</b>  | <b>Motors (GEIGER) EX. ROLLER SHUTTERS</b>         |                  | <b>2-00565-0000</b>  |
| 30         | Star-shaped motor holder                           |                  | 6-019105-000         |
| 40         | Worm gear 4 : 1                                    |                  | 6-019114-0000        |
| 41         | Coupler, galvanised                                |                  | 6-019100-0000        |
| 42         | L coupler holder, galvanised                       |                  | 6-019101-0000        |
| 43         | R coupler holder, galvanised                       |                  | 6-019102-0000        |
| 45         | Lead for guide rail NB-N 22                        |                  | 6-019103-0000        |
| 46         | Universal holder                                   |                  | 6-019104-0000        |
| 49         | Friction bearing bush                              |                  | 6-019106-0000        |
| 49         | Friction bearing bush                              |                  | 6-019106-0000        |
| 50         | Friction bearing with recessed square 10×10 mm     |                  | 6-019107-0000        |
| 50         | Friction bearing with recessed square 10×10 mm     |                  | 6-019107-0000        |
| 51         | Square 10×10×80 mm                                 |                  | 6-019108-0000        |
| 51         | Square 10×10×80 mm                                 |                  | 6-019108-0000        |
| 52         | Carrier of tube 60 mm, 115 mm                      |                  | 6-019111-0000        |
| 56         | Carrier of tube 60 mm, 115 mm                      |                  | 6-019111-0000        |
| 60         | Lock ring                                          |                  | 6-019112-0000        |
| 65         | Safety lock                                        |                  | 6-019113-0000        |
| 65         | Safety lock                                        |                  | 6-019113-0000        |
| 66         | Ceiling holder, galvanised                         |                  | 6-019110-0000        |
| 70         | Grommet 90 deg.                                    |                  | 6-019115-0000        |
| 75         | Steel octagonal shaft 60 mm, 0.9 mm                |                  | 6-019109-0000        |
| 80         | Steel octagonal shaft 60 mm, 0.9 mm                |                  | 6-019109-0000        |
| <b>140</b> | <b>Roller shutter slat – (CURTAIN)</b>             | <b>PANCIR VR</b> | <b>2-00616-0000</b>  |
| 250        | Octoeasy link – two-part, shaft 60 mm, box 180–205 | PR0648/4         | 6-013920-0000        |
| 251        | Octoeasy link – two-part, shaft 60 mm, box 180–205 | PR0648/4         | 6-013920-0000        |
| 252        | Octoeasy link – two-part, shaft 60 mm, box 180–205 | PR0648/4         | 6-013920-0000        |
| 260        | Spring lock (link with steel band), Mini No. 1     | PR0102           | 6-001871-0000        |
| <b>270</b> | <b>Guide rail STS</b>                              | <b>PRR016/1</b>  | <b>7-304436-0000</b> |
| 302        | Plastic screw 3.5×12 mm                            |                  | 6-019118-0000        |
| 304        | Grub screw M4×12                                   |                  | 0-019119-0000        |
| 307        | Nut M4 DIN 934, 8.8                                |                  | 6-004600-0001        |
| 313        | Bolt M5×50, countersink head                       |                  | 6-019120-0000        |
| 325        | Nut M5 DIN 934, 8.8, Zn                            | P 041/3/2        | 6-001178-0000        |
| 350        | Bolt M5×12 Zn DIN 967                              |                  | 6-012863-0000        |
| 375        | Extension 5.2×10                                   |                  | 6-019121-0000        |
| <b>400</b> | <b>Accessories package as per summary</b>          |                  | <b>2-00341-0000</b>  |



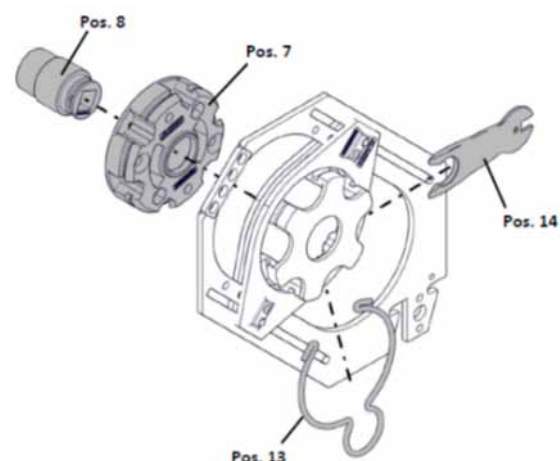
### Preparation of side pieces

2 side pieces  
1× left 1× right

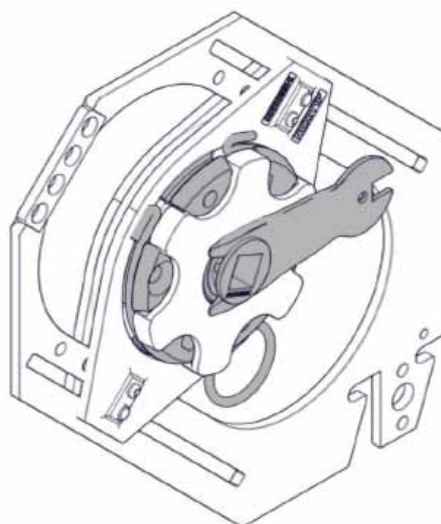


### Assembly of the bearing

1× opposite side of the drive  
1× by the handle

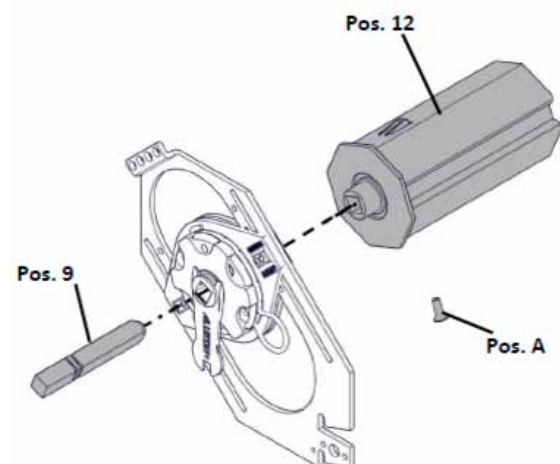


1× opposite side of the drive  
1× by the handle



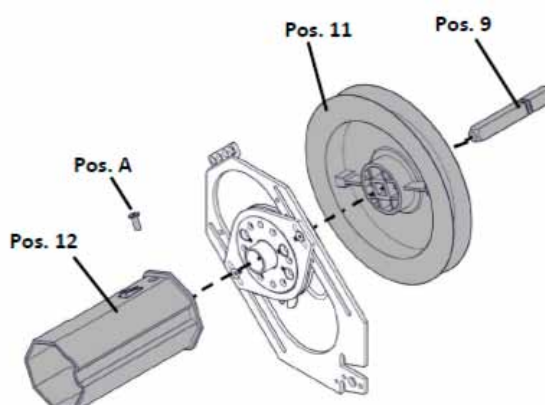
### Assembly of the cylindrical cap

1× opposite side of the drive



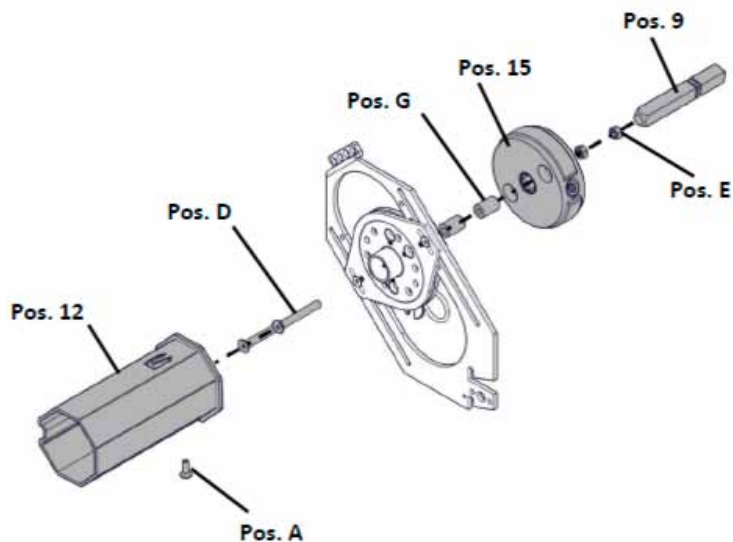
### Assembly of the pulley

1× drive side



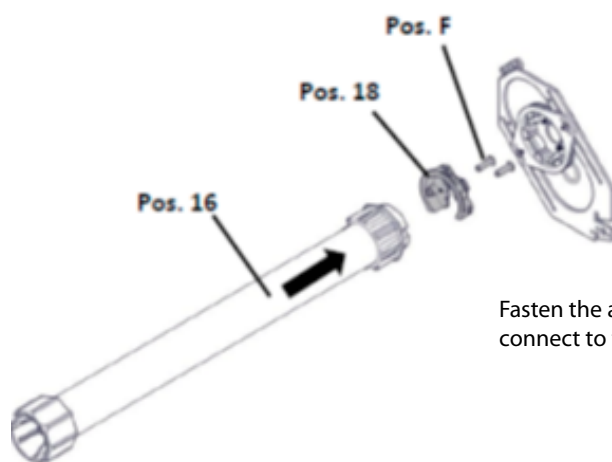
## Assembly of the handle

1× drive side



## Assembly of the Becker motor

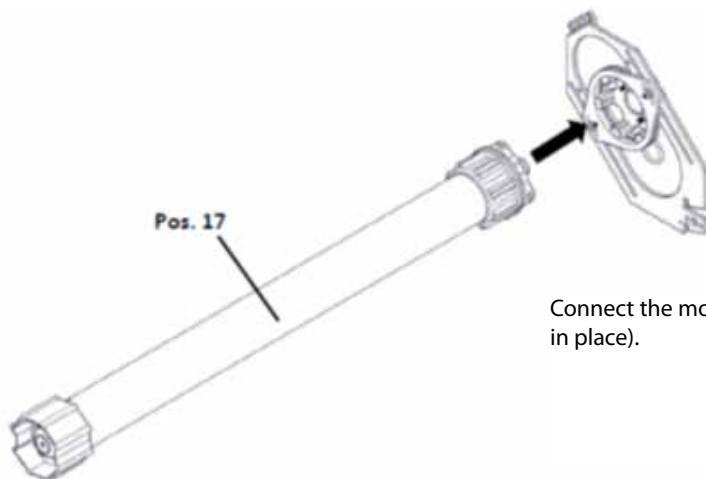
1× drive side



Fasten the adapter (Item 18) to the motor and connect to the side piece (it will lock in place).

## Assembly of the Somfy motor

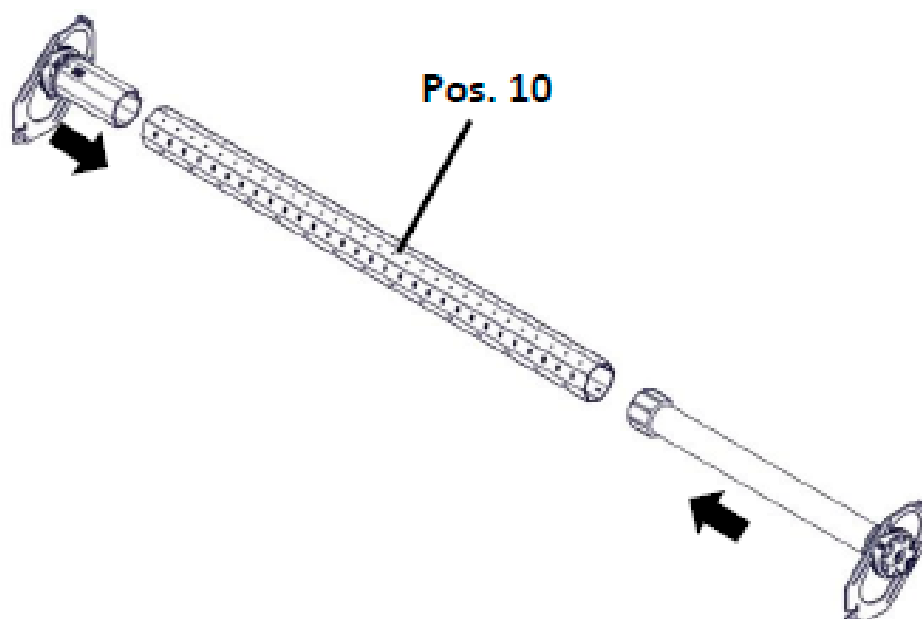
1× drive side



Connect the motor to the side piece (it will lock in place).

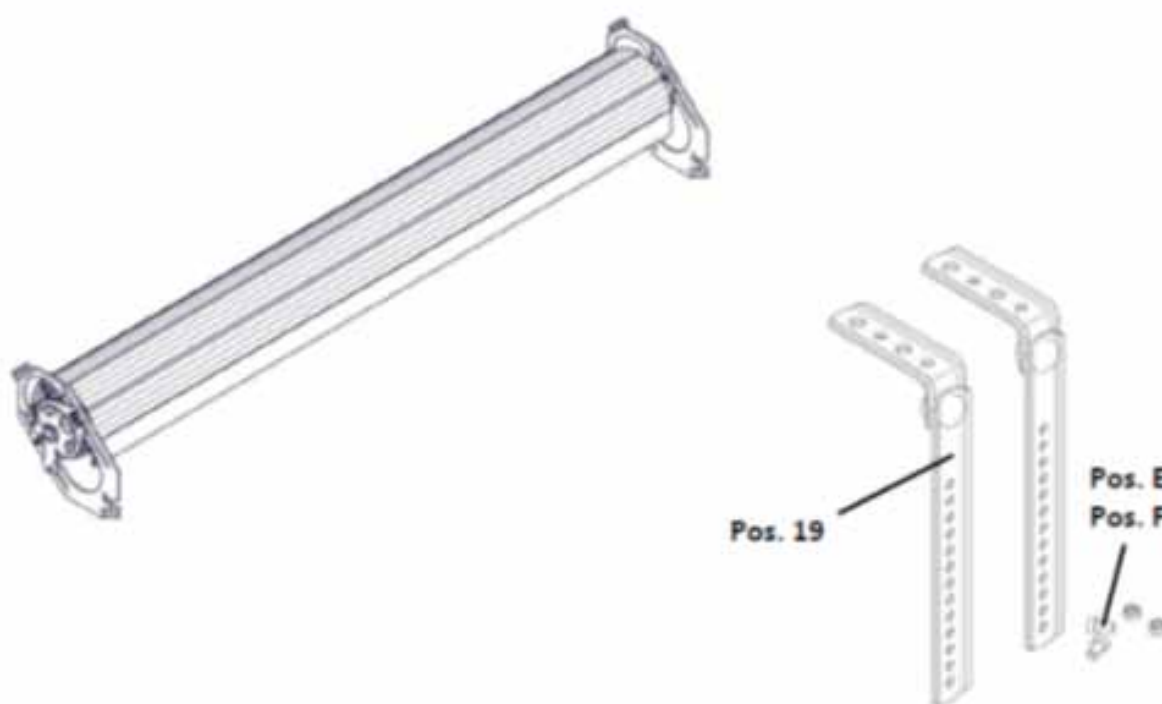
**Assembly of the shaft**

Slide the shaft through the side p



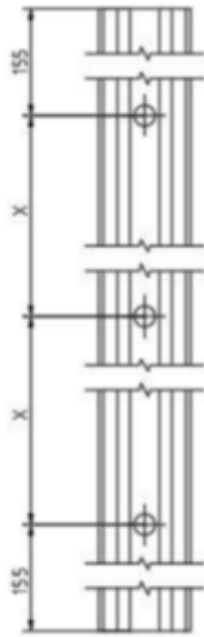
Attach the curtain to the shaft and roll it to the shaft.

Place the assembly to the ceiling (Item 19, Item E, Item F).

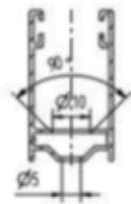




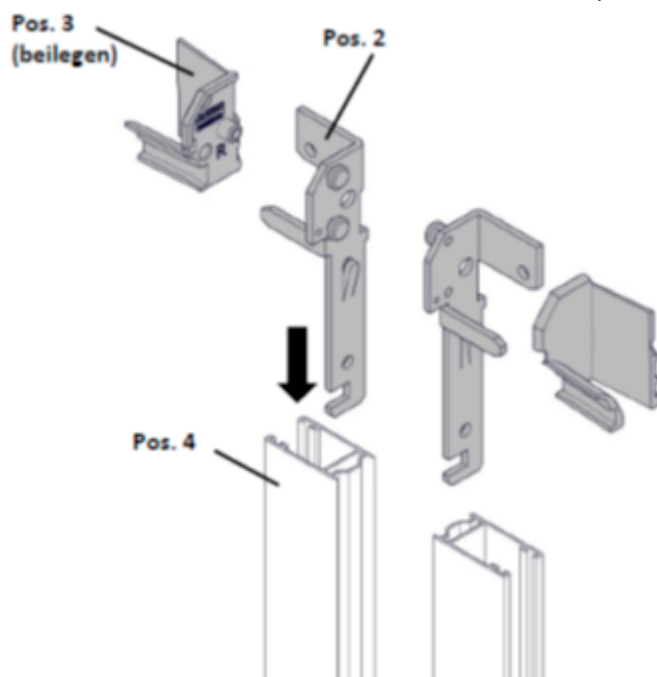
## Guide rail (chamberless NB-N22)



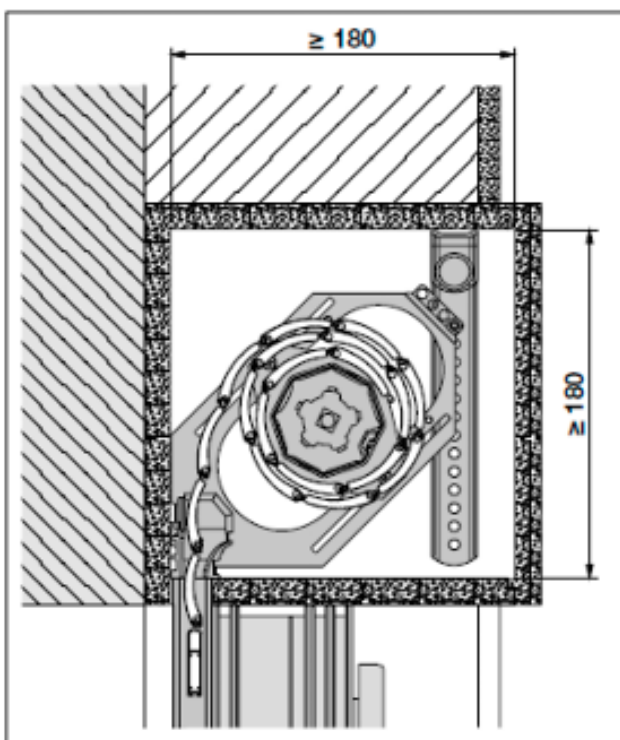
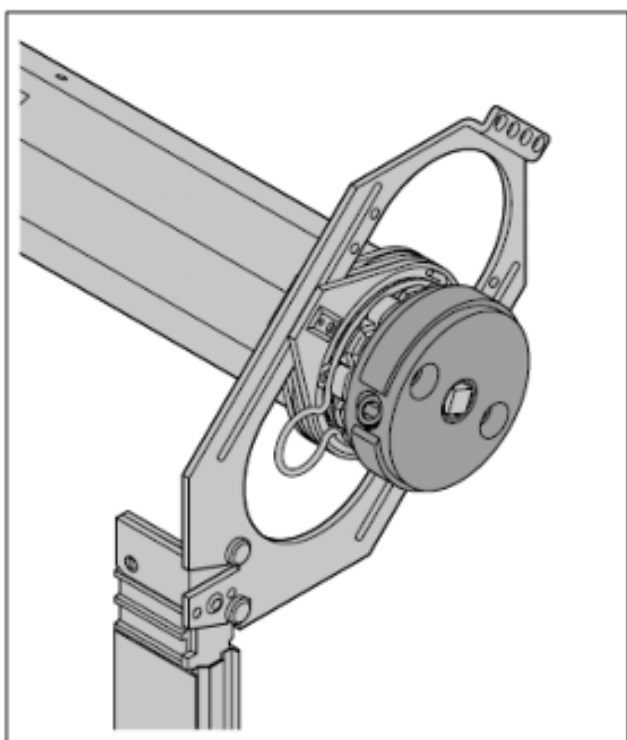
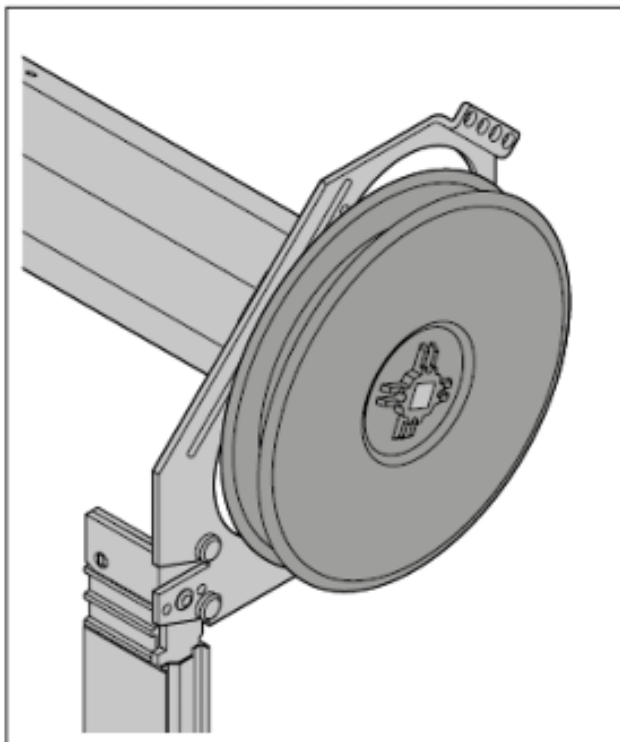
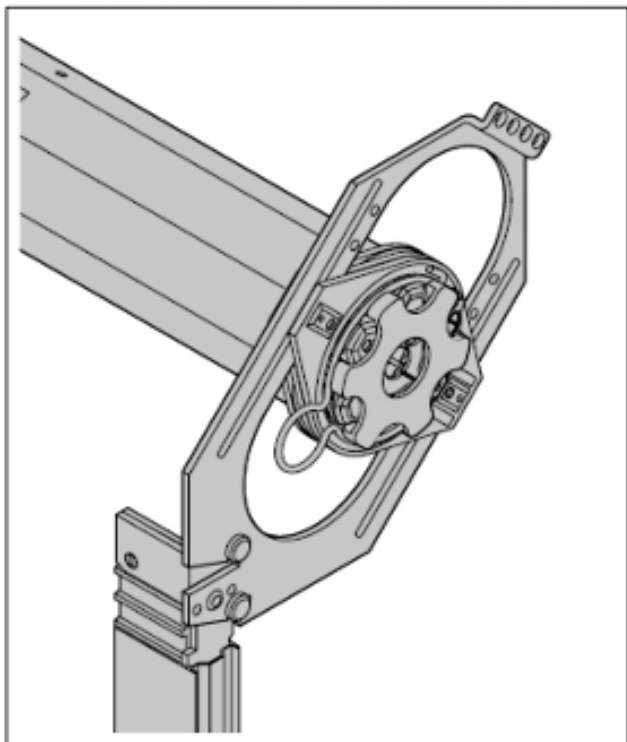
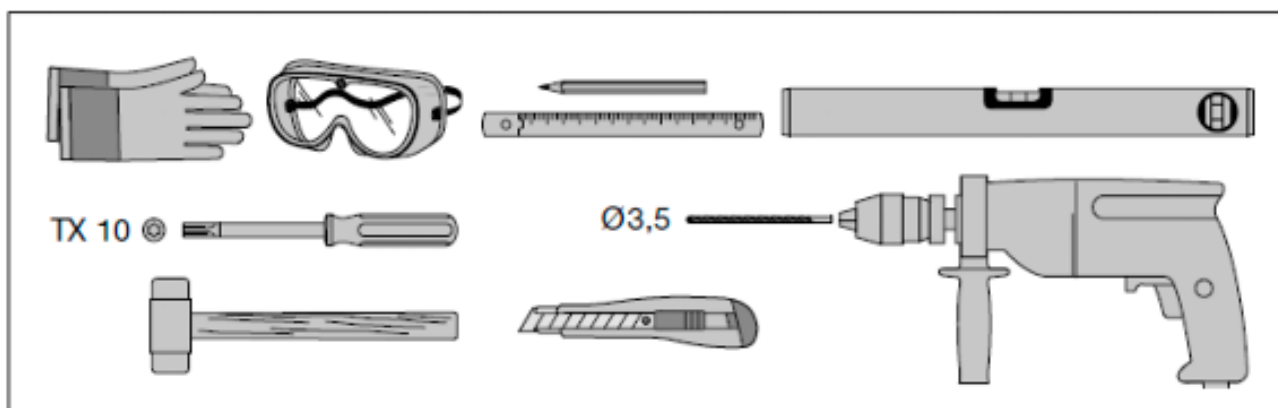
Element height up to 150 cm -> 2 holes in the guide rail  
Element height up to 250 cm -> 3 holes in the guide rail  
Element height exceeding 250 cm -> 5 holes in the guide rail



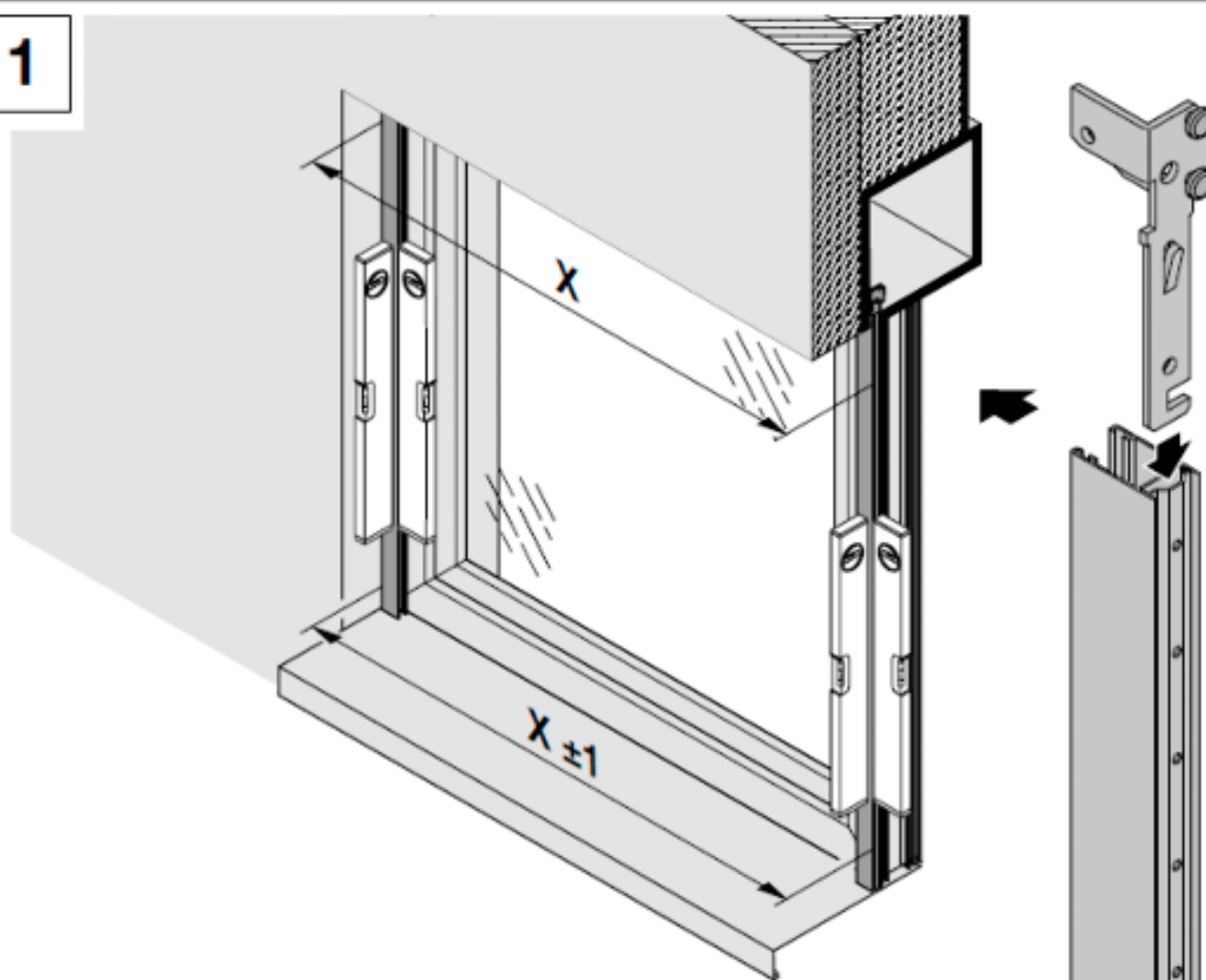
Slide the foot (Item 2) in the guide rail chamber (Item 4). Apply the input funnel (Item 3).



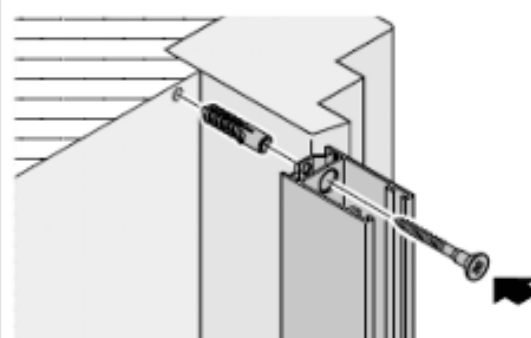
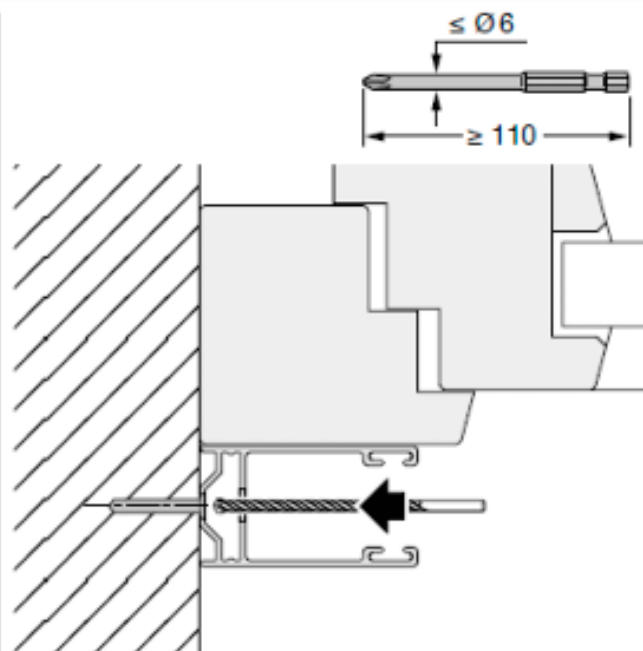
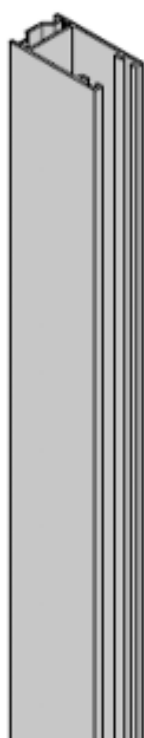
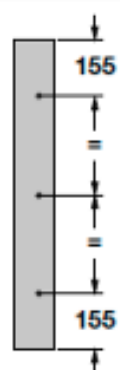
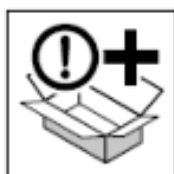
## Measurements and installation

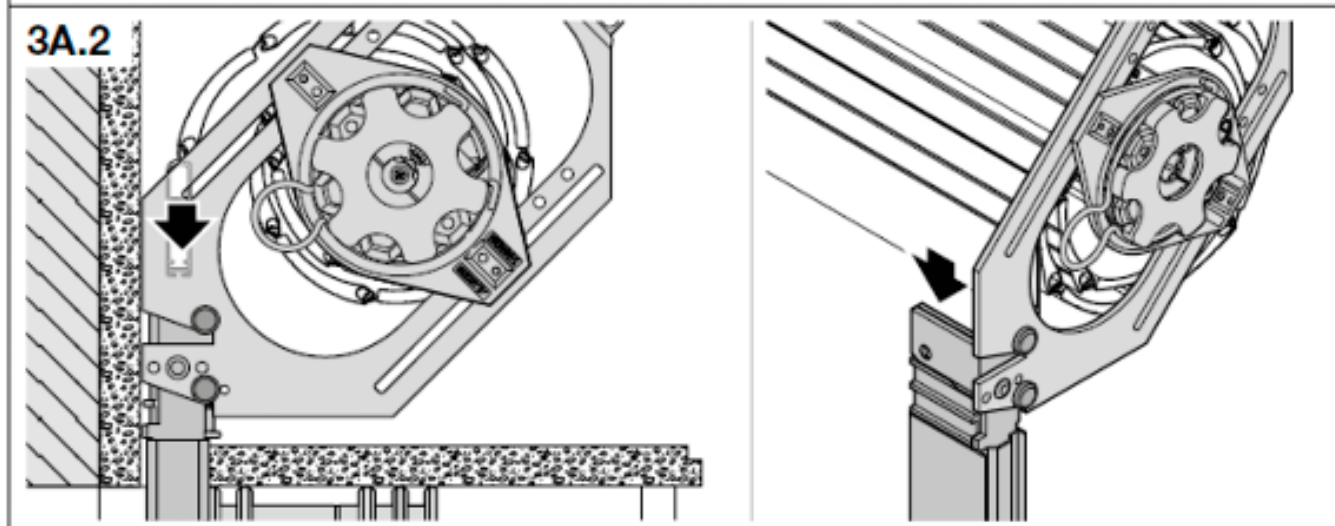
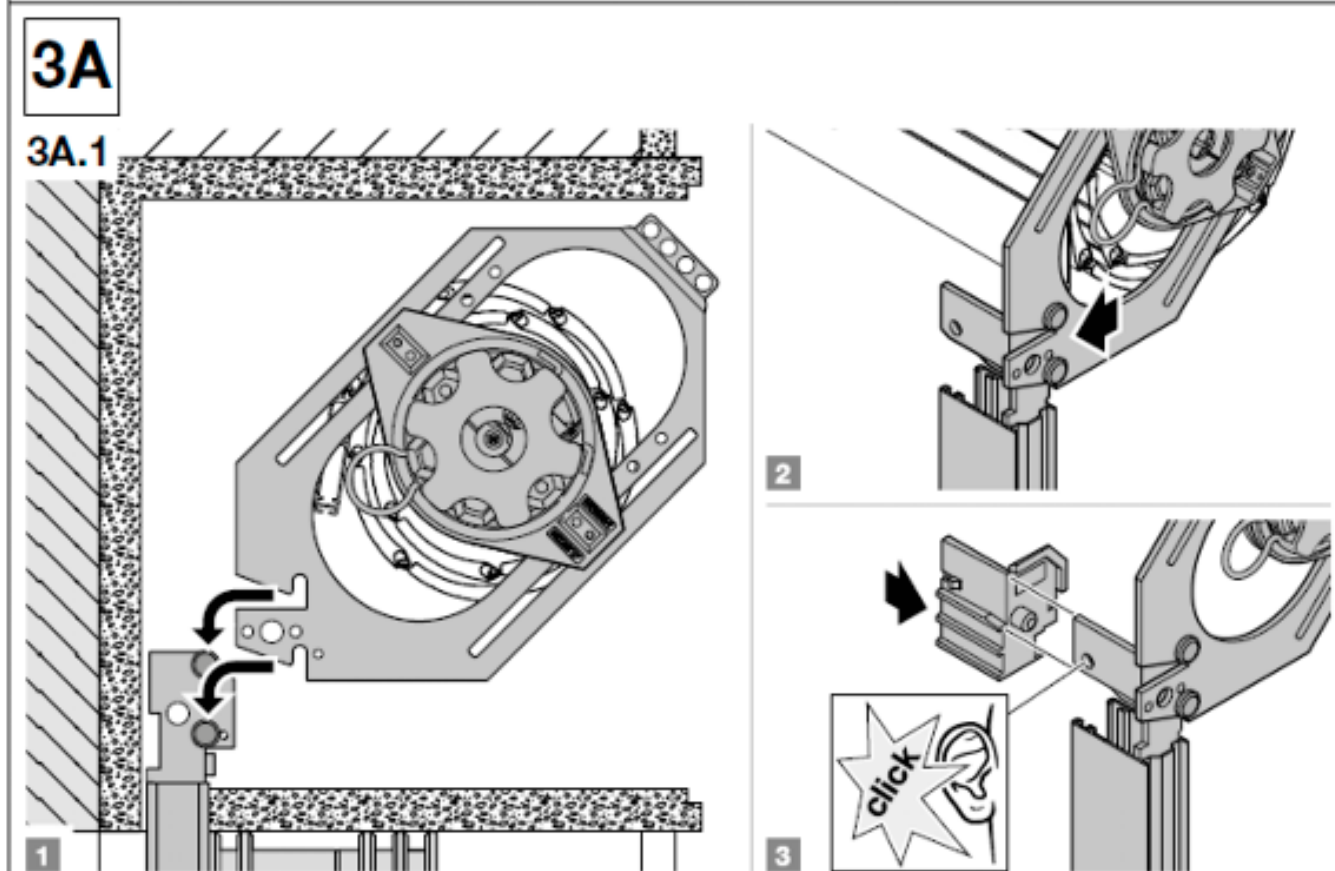
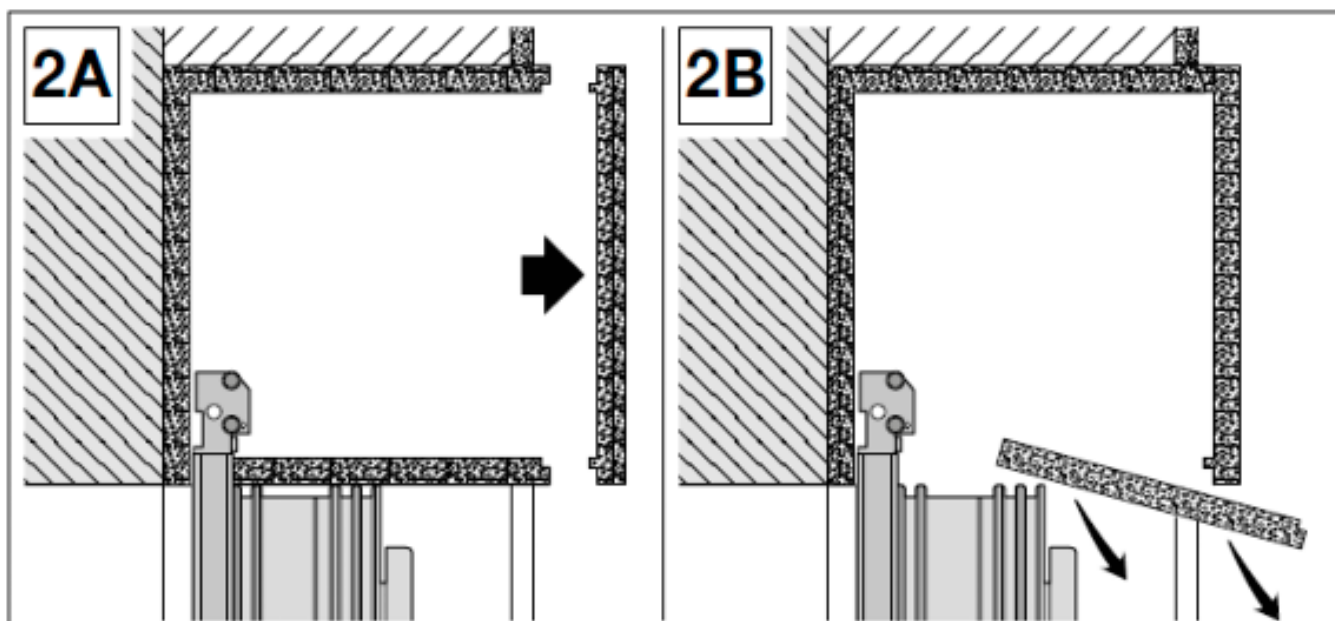


1



1.1

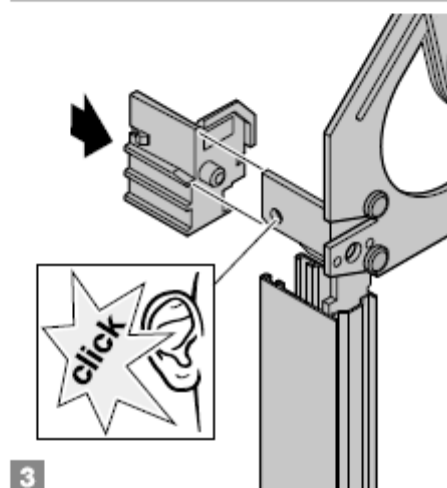
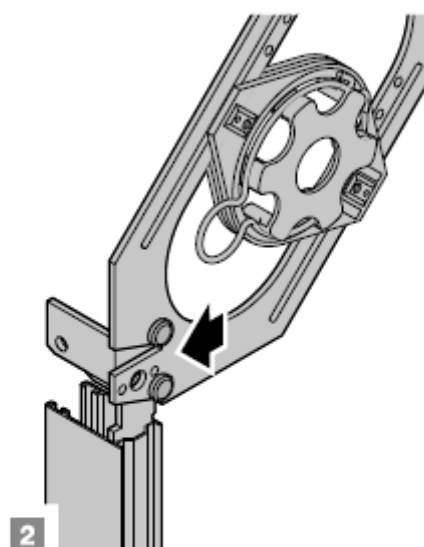
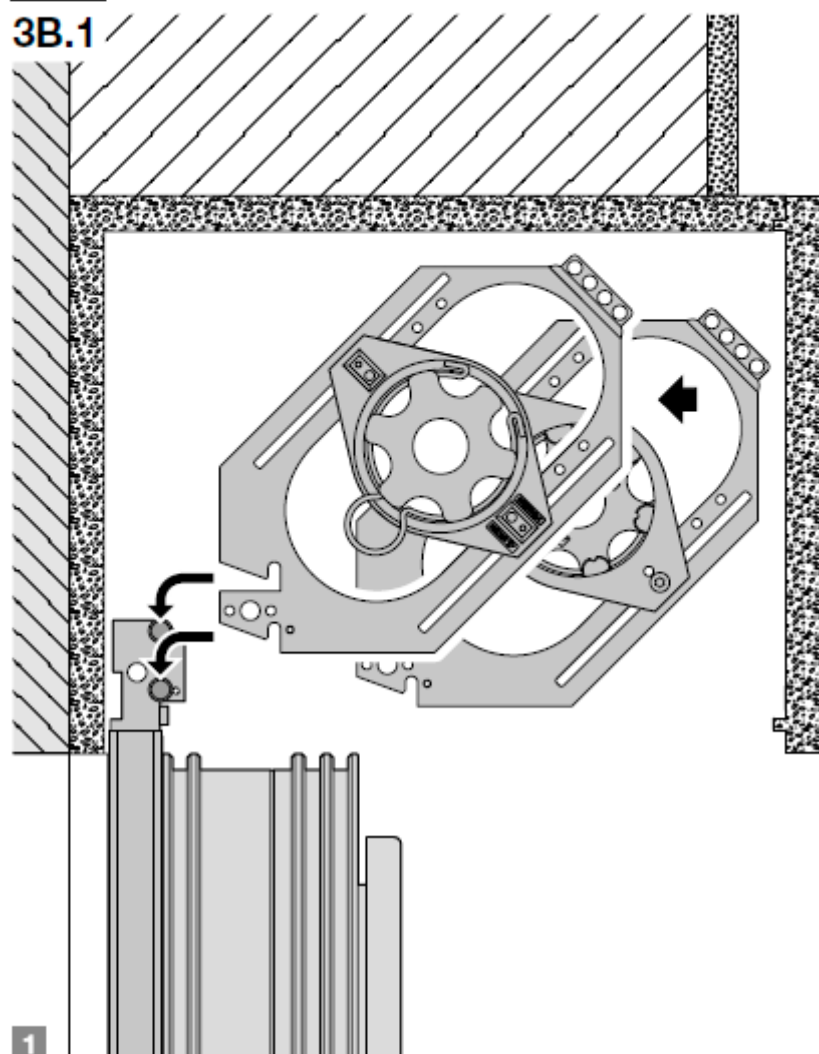




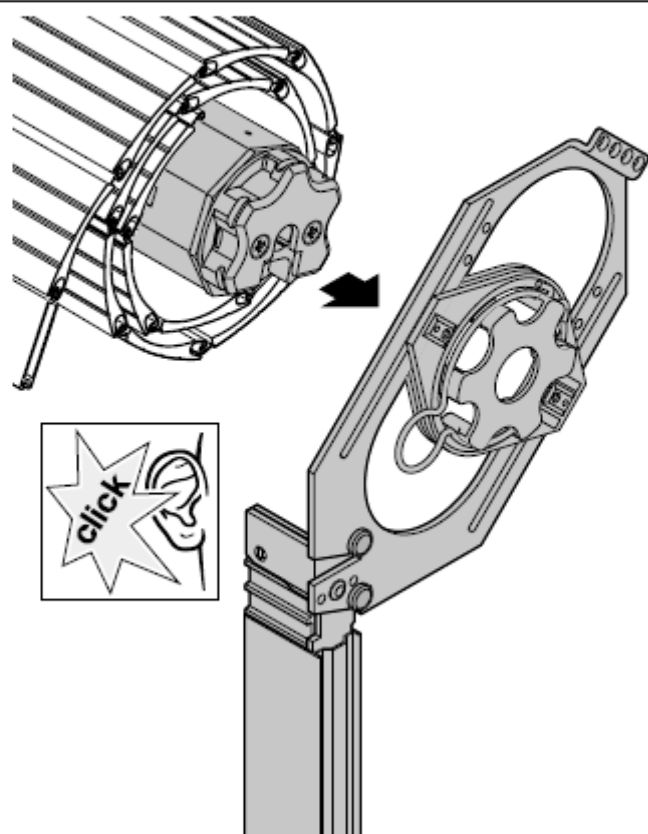
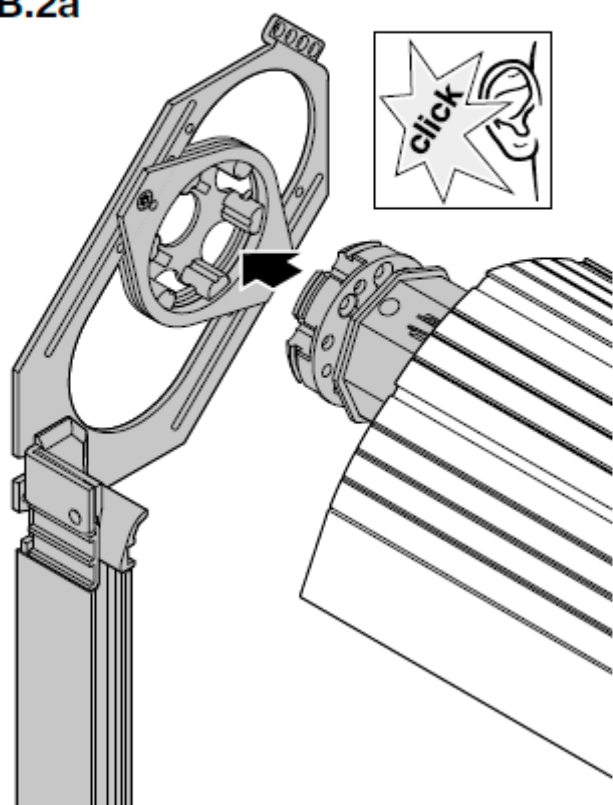


# 3B

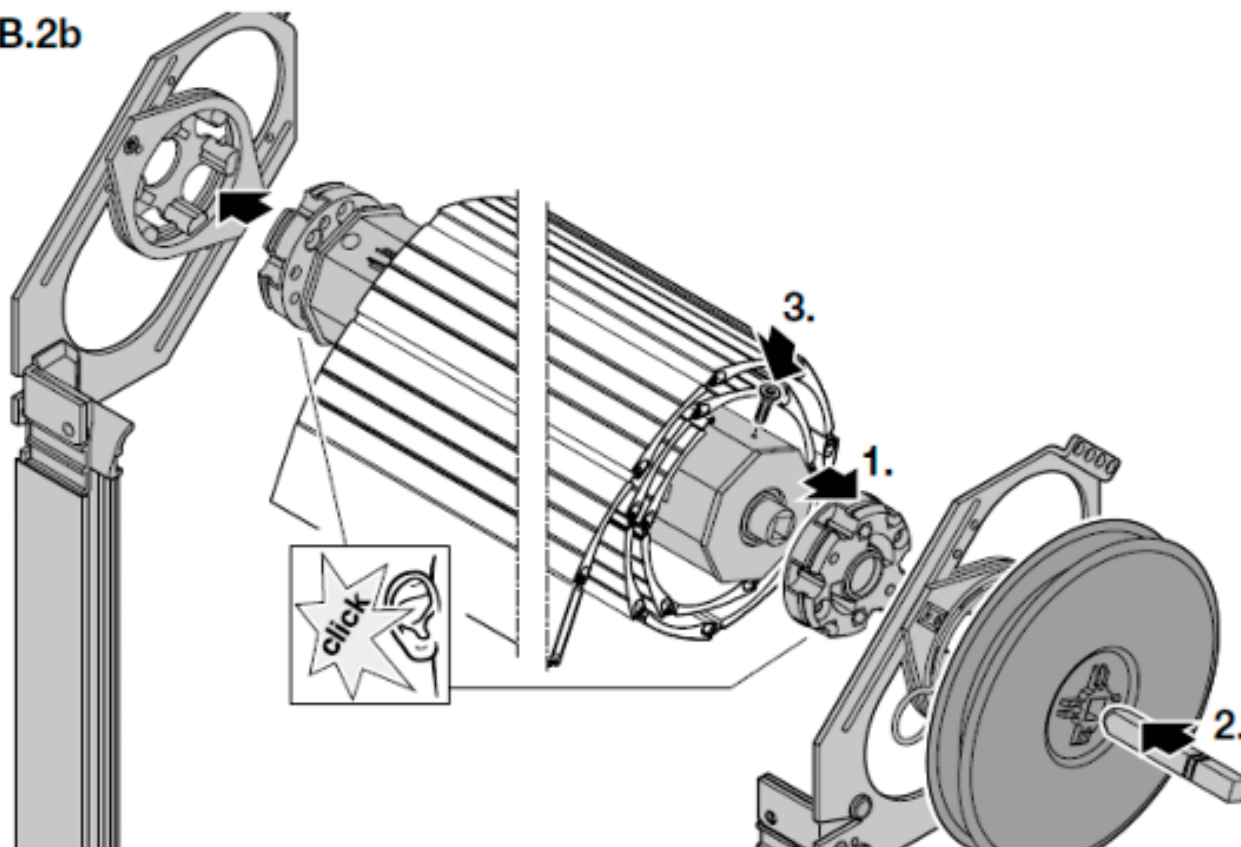
## 3B.1



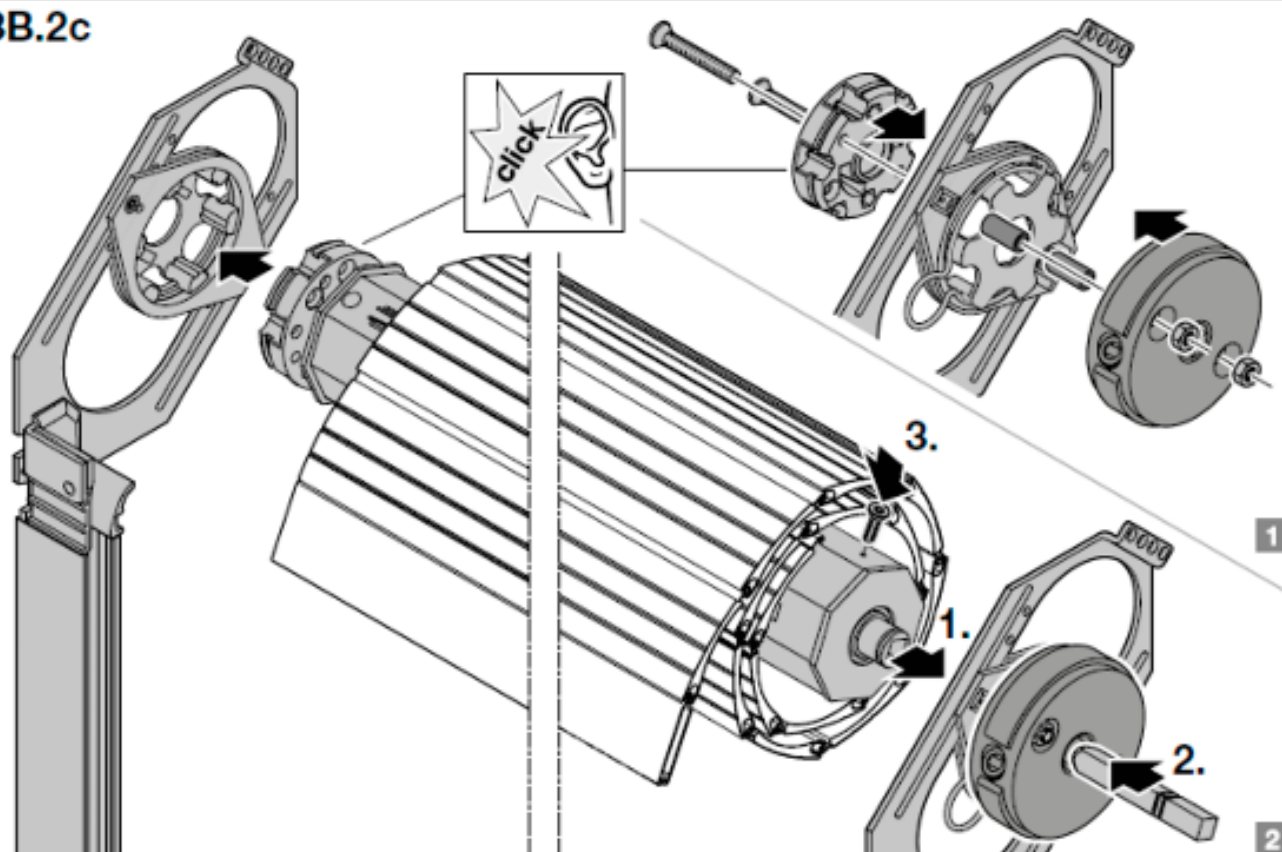
## 3B.2a



## 3B.2b

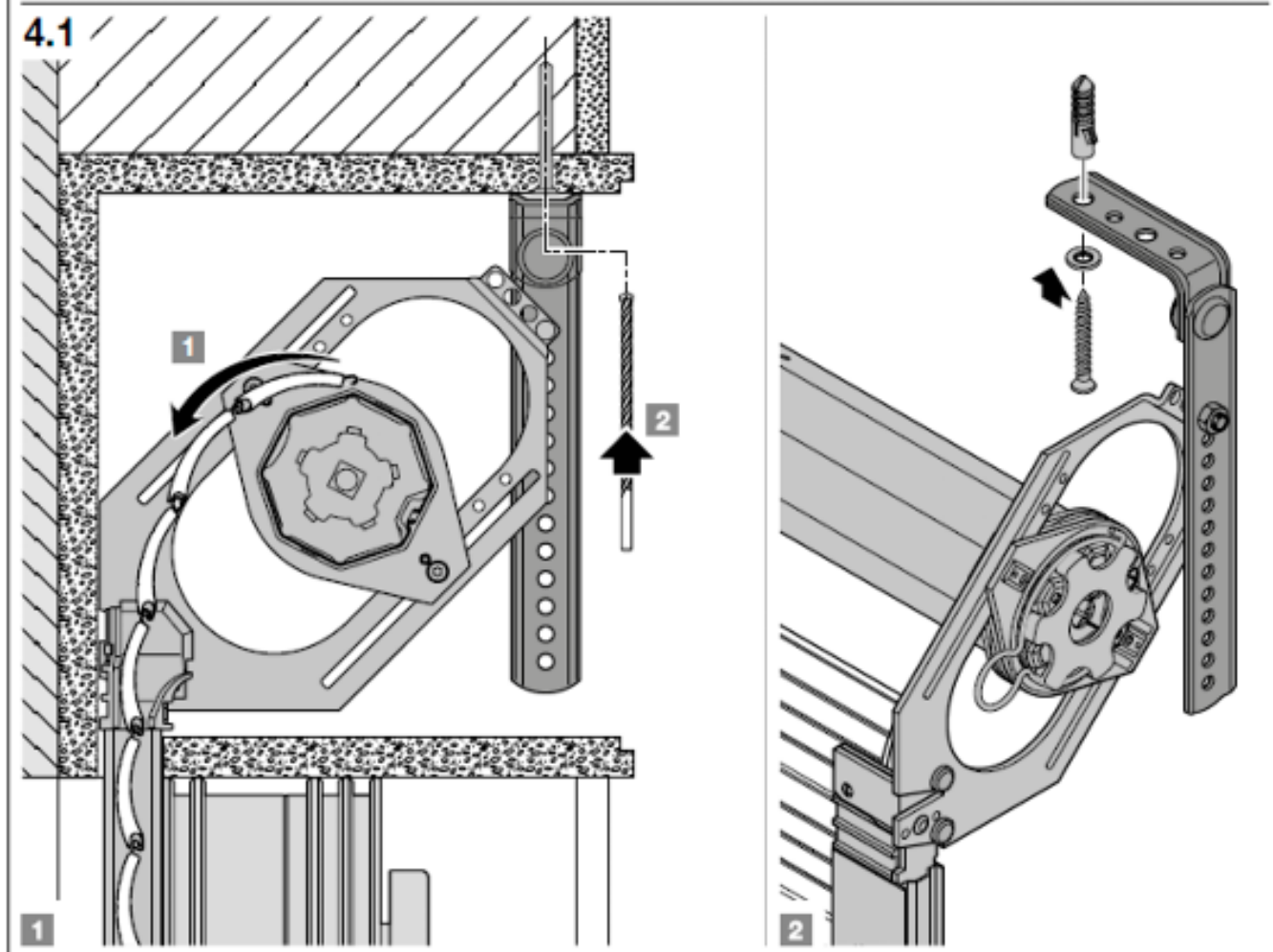
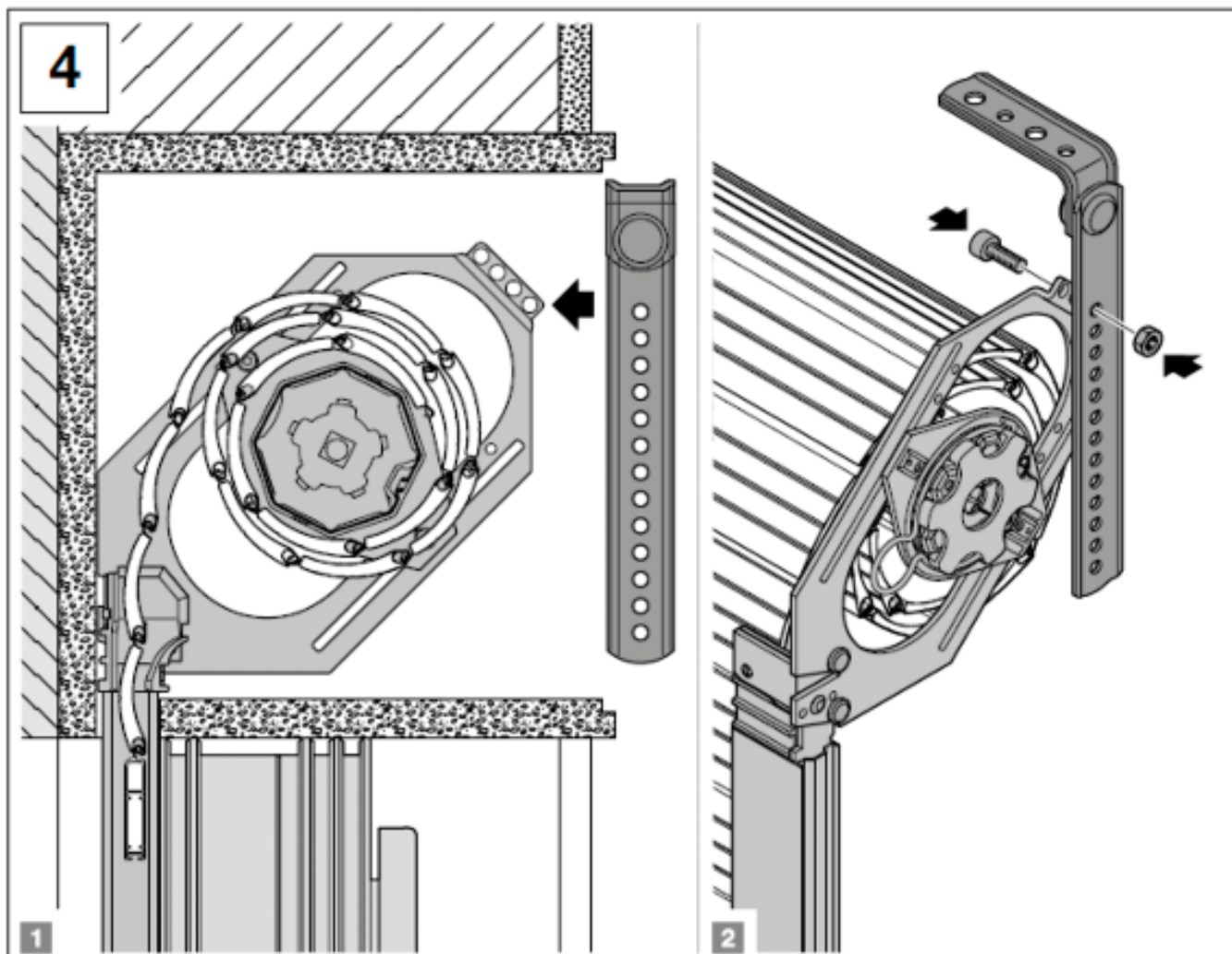


## 3B.2c



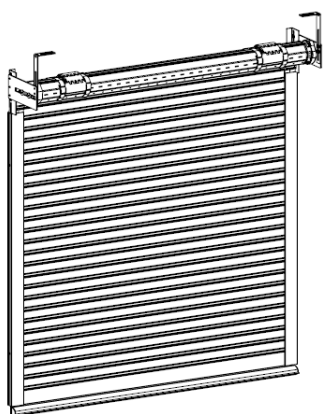
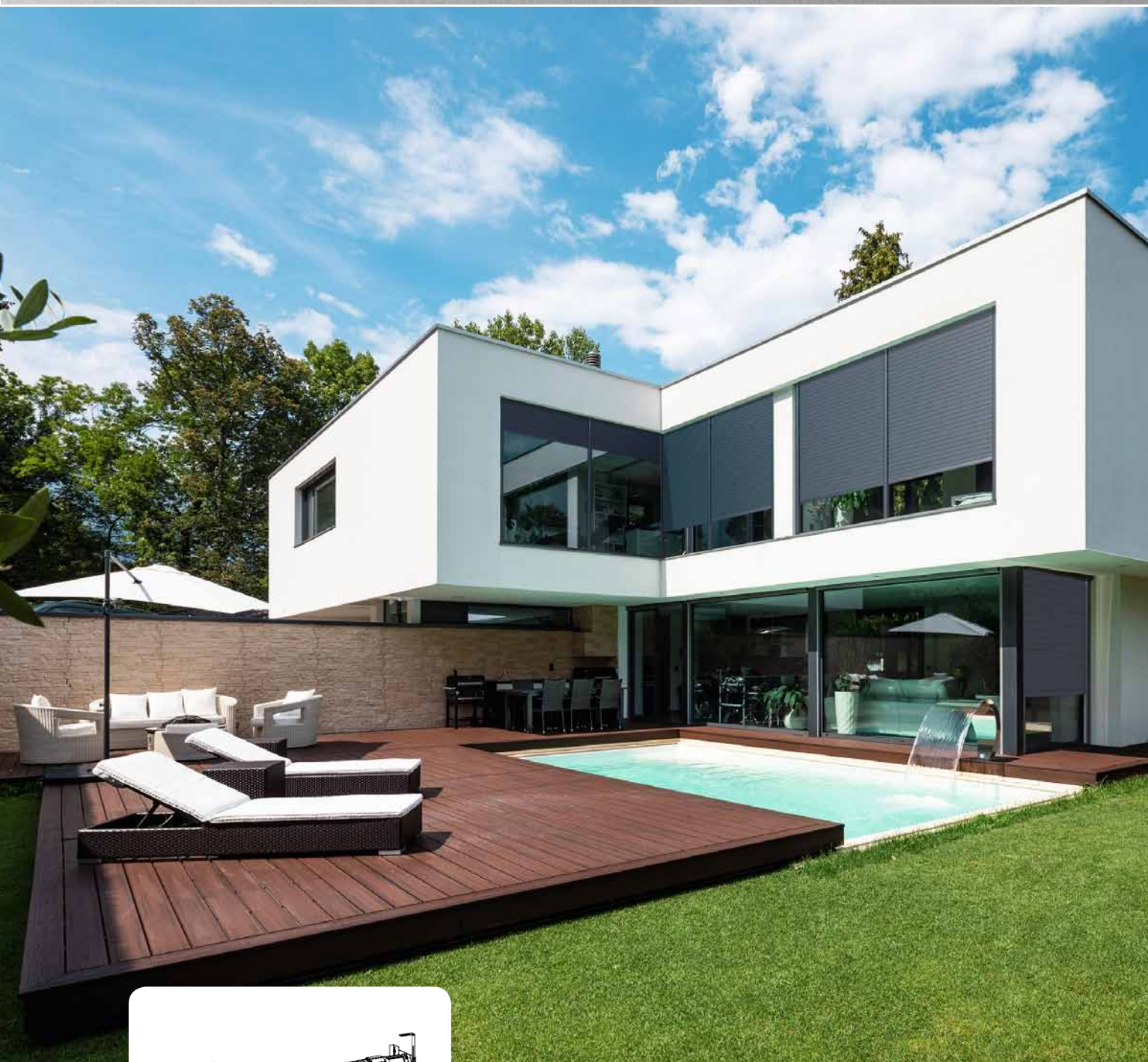
## 3B.3







## SALVIS



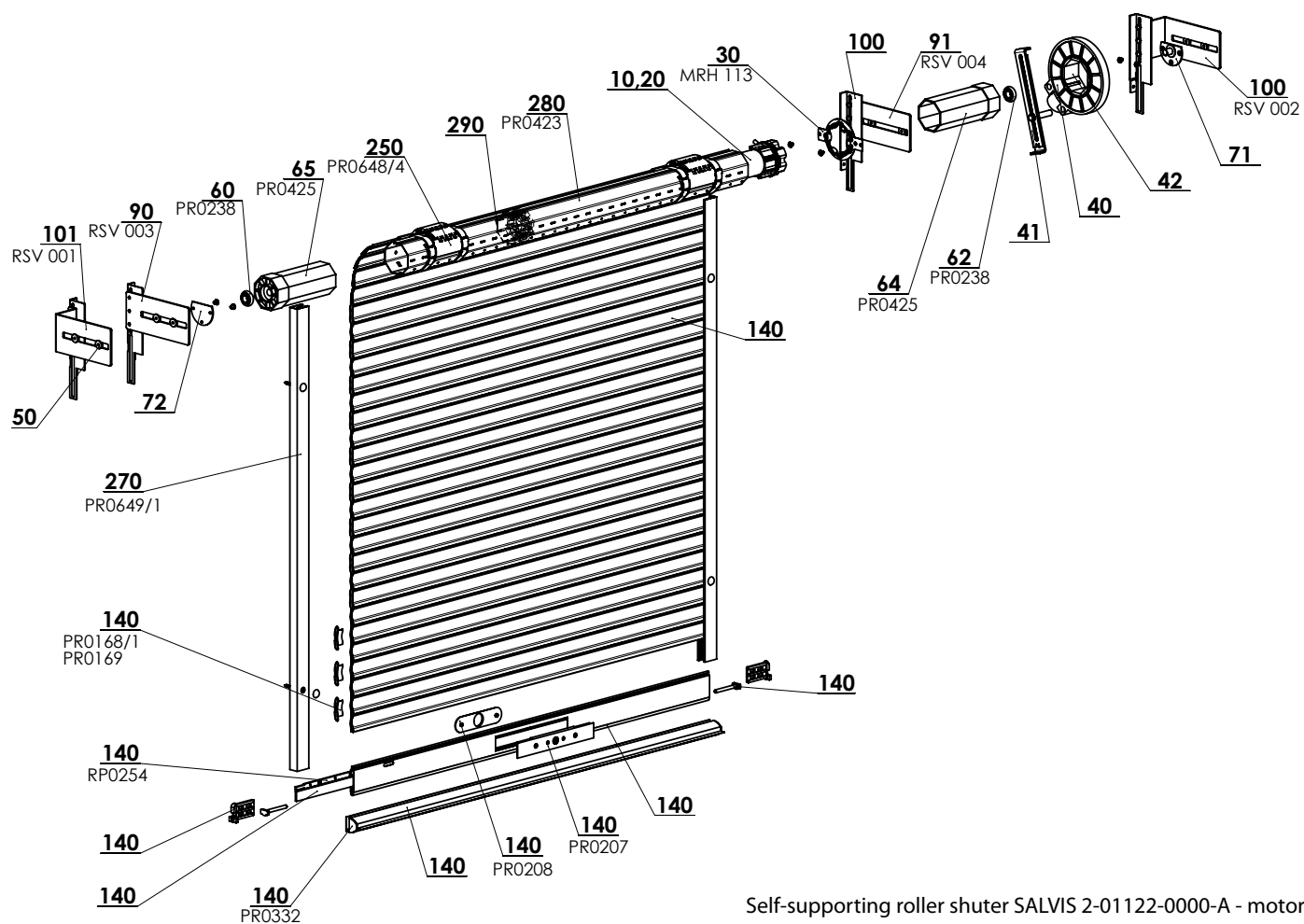
- ▲ Self-supporting
- ▲ For load-bearing lintels in new as well as renovated buildings
- ▲ Electric controls possible
- ▲ Made of high-quality, durable materials

**ISOTRA** *Quality*



## SALVIS External Roller Shutter

### Basic product specification



### Standard dimensions

#### Slat M317

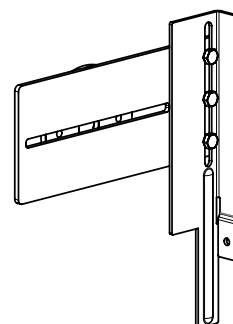
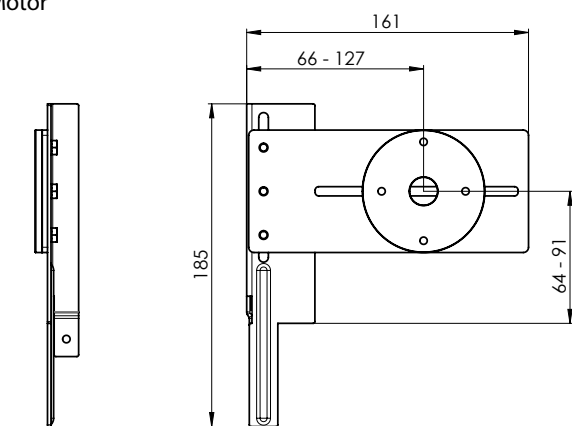
| Controls    | Width (mm) |      | Height (mm) |      | Guaranteed area (m <sup>2</sup> ) |
|-------------|------------|------|-------------|------|-----------------------------------|
|             | min.       | max. | min.        | max. | max.                              |
| Motor       | 740        | 2900 | 1130        | 5880 | 6,5                               |
| Solar motor | 840        | 2500 | 400         | 3000 | 5,5                               |
| Handle      | 400        | 2900 | 400         | 5880 | 6,5                               |

#### Slat MY442

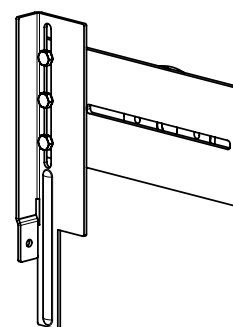
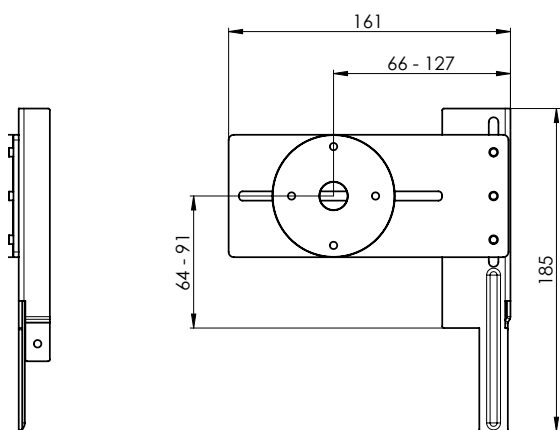
| Controls    | Width (mm) |      | Height (mm) |      | Guaranteed area (m <sup>2</sup> ) |
|-------------|------------|------|-------------|------|-----------------------------------|
|             | min.       | max. | min.        | max. | max.                              |
| Motor       | 740        | 4000 | 1370        | 4370 | 8,5                               |
| Solar motor | 840        | 2500 | 400         | 3000 | 5,5                               |

## Controls

## Motor



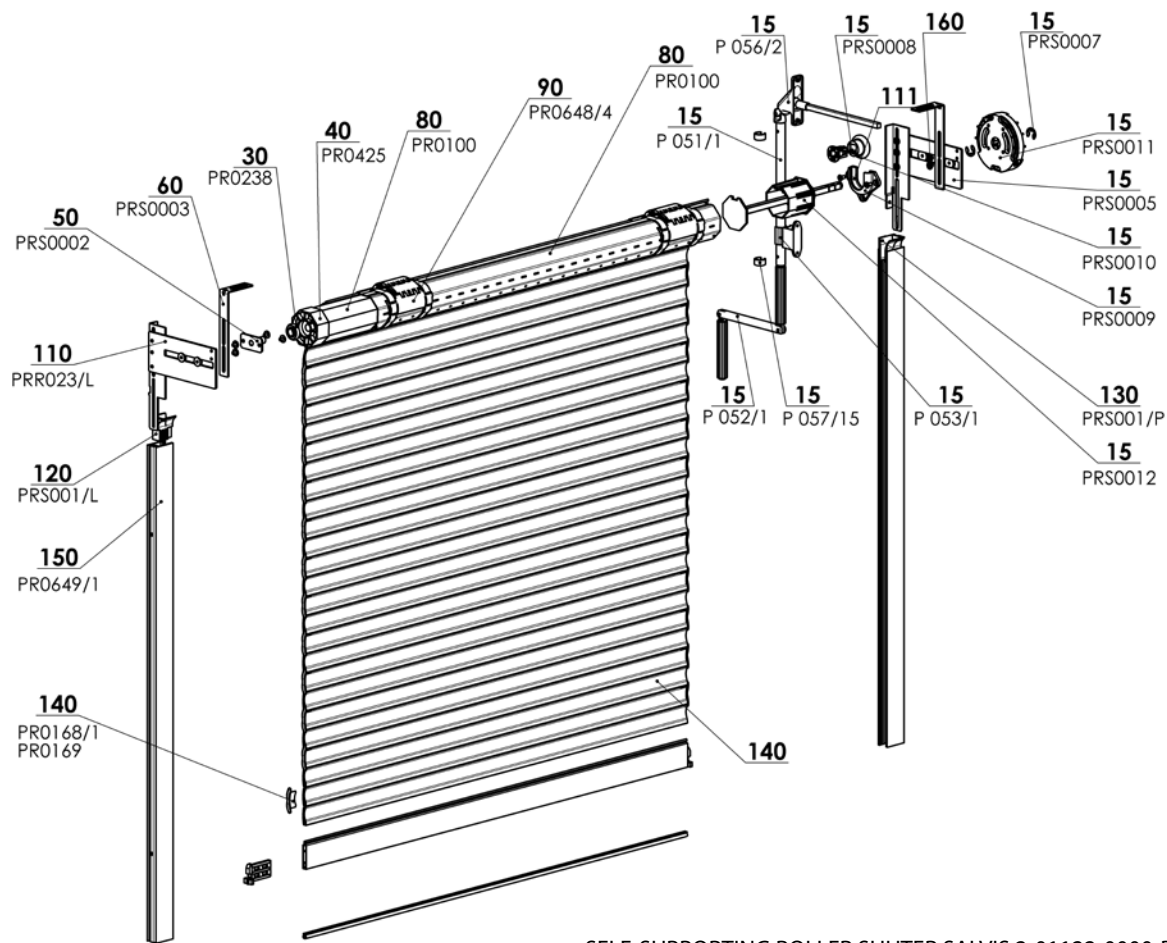
BEARING / MOTOR HOLDER – RIGHT RVS 003 2-01348-XXX-1



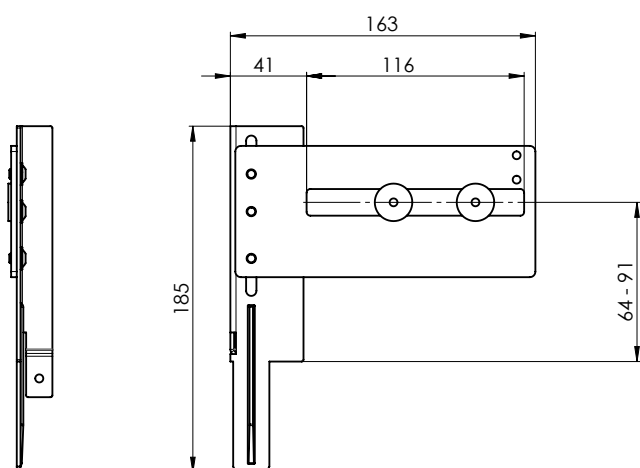
BEARING / MOTOR HOLDER – LEFT RVS 004 2-01349-XXX-1

## SALVIS External Roller Shutters HANDLE

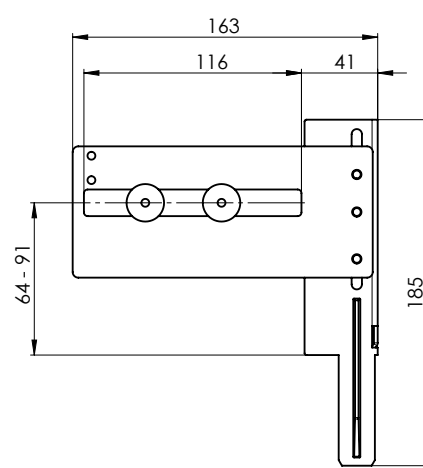
Basic product specification



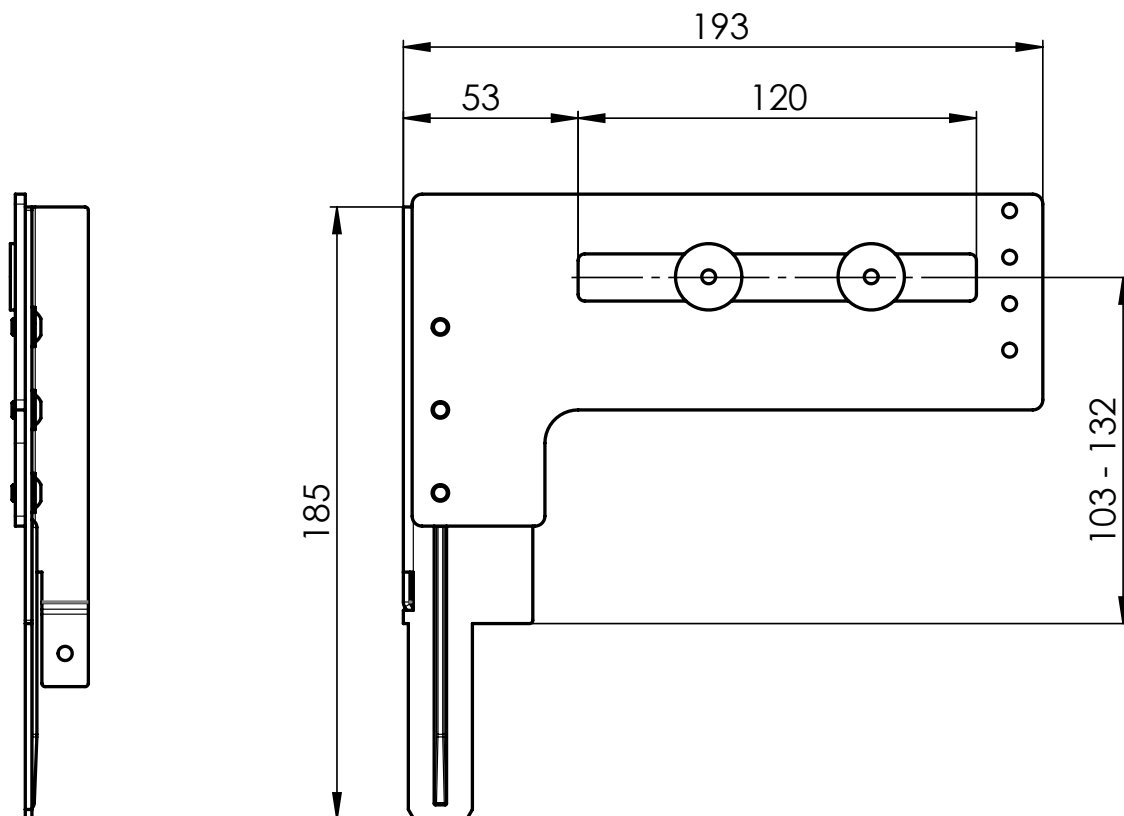
SELF-SUPPORTING ROLLER SHUTTER SALVIS 2-01122-0000-B – HANDLE



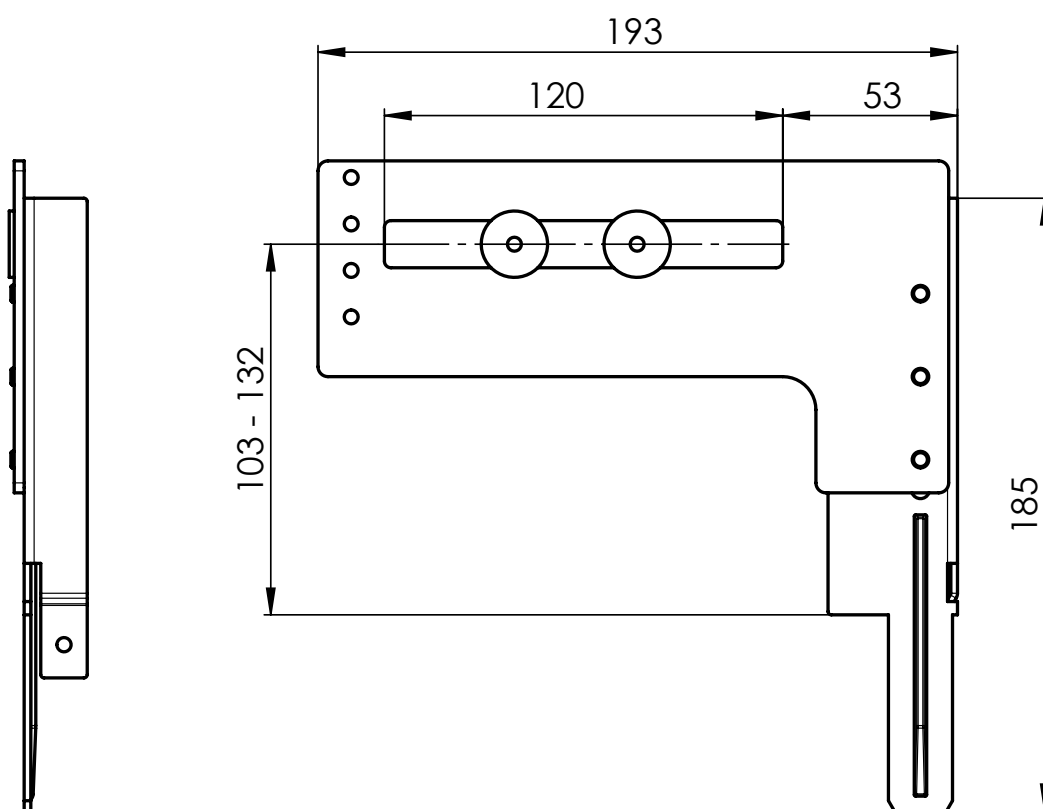
HANDLE HOLDER – RIGHT PRS0015/P 2-01912-XXXX-0



HANDLE HOLDER – LEFT PRS0015/L 2-01913-XXXX-0



EXPANDED HANDLE HOLDER – RIGHT PRS0014/P 2-01914-XXXX-0

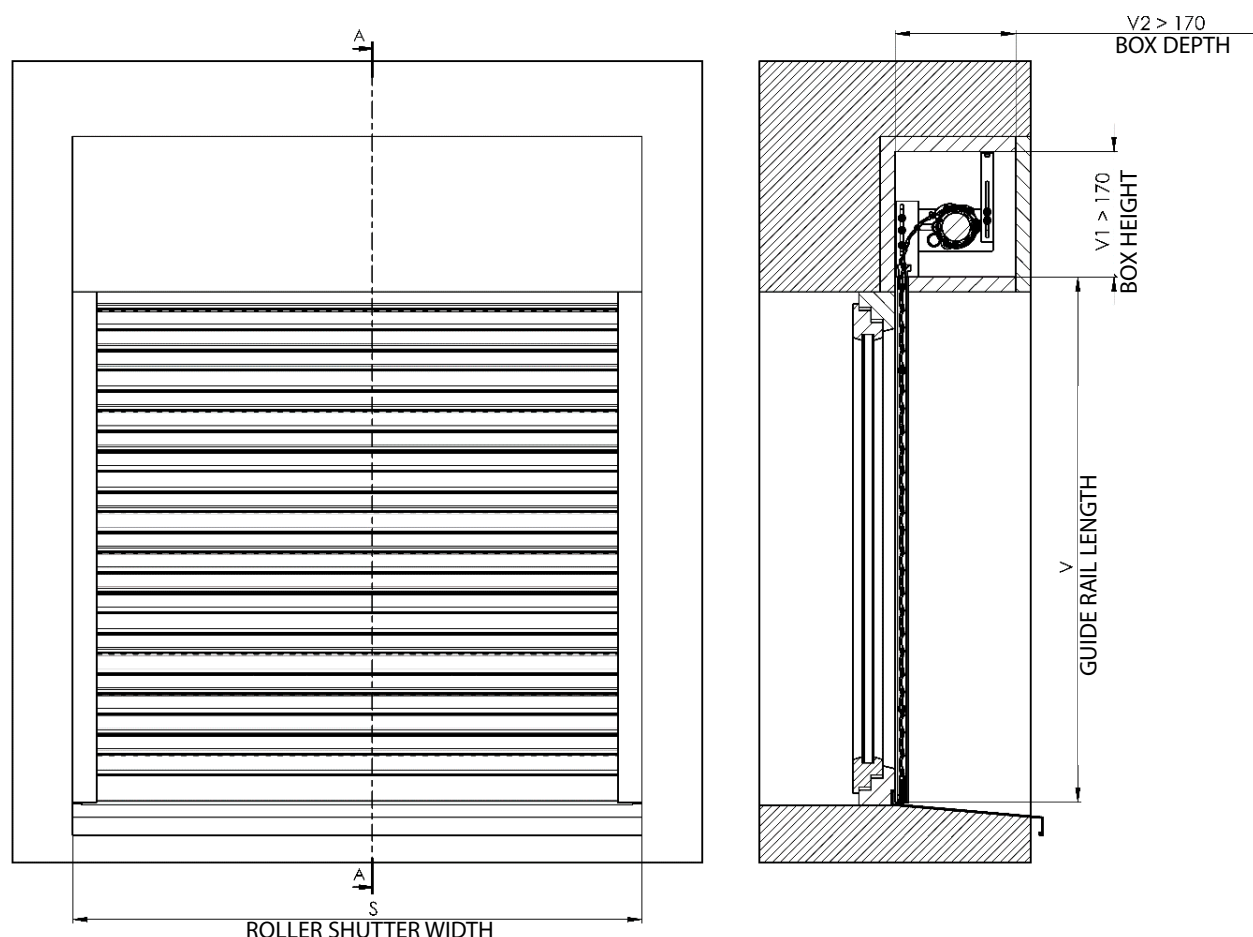


EXPANDED HANDLE HOLDER – LINDS PRS0014/L 2-01915-XXXX-0

**Salvis (2-01122-0000)**

| Item | Item name                                          | trade name   | drawing number |
|------|----------------------------------------------------|--------------|----------------|
| 10   | Plastic gear 6:1, 8mm, 10mm.8 Nm                   | PRS0007      | 6-014083-0000  |
| 10   | Motors (SOMFY) EX. ROLLER SHUTTERS                 |              | 2-00534-0000   |
| 20   | Bearing 40x15,2, recessed square,plastic           | PRS0008      | 6-014081-0000  |
| 20   | Motors (GEIGER) EX. ROLLER SHUTTERS                |              | 2-00565-0000   |
| 30   | Bearing holder 40, metal                           | PRS0009      | 6-014082-0000  |
| 30   | Ball bearing 12 mm, with edge                      | PR0238       | 6-002480-0000  |
| 40   | PVC shaft end piece,SW 60,10mm,250mm               | PRS0012      | 6-014084-0000  |
| 40   | Cylindrical plug 150 mm                            | PR0425       | 6-012146-0000  |
| 50   | Bearing reducer for handle                         | PRS0010      | 7-304620-0000  |
| 50   | Pin                                                | PRS0002      | 3-04439-0000   |
| 60   | Lock ring 8, DIN 6799                              |              | 6-014425-0000  |
| 60   | Holder                                             | PRS0003      | 3-04440-0000   |
| 70   | Bolt M5x10 A2 DIN 7991                             |              | 6-017206-0000  |
| 70   | Universal holder for awnings                       | XY 00012     | 6-009254-0000  |
| 80   | Handle holder, right                               | PRS0015/P    | 2-01912-PU22   |
| 80   | Octagonal steel shaft 60 mm                        | PR0100       | 6-001875-0000  |
| 80   | Octagonal steel shaft 60 mm                        | PR0100       | 6-001875-0000  |
| 90   | Handle holder, left                                | PRS0015/L    | 2-01913-PU22   |
| 90   | Octoeasy link – two-part, shaft 60 mm, box 180–205 | PR0648/4     | 6-013920-0000  |
| 91   | Octoeasy link – two-part, shaft 60 mm, box 180–205 | PR0648/4     | 6-013920-0000  |
| 92   | Octoeasy link – two-part, shaft 60 mm, box 180–205 | PR0648/4     | 6-013920-0000  |
| 100  | Handle holder, right                               | PRS0015/P    | 2-01912-PU22   |
| 100  | Universal carrier                                  | PR0423       | 6-008041-0000  |
| 110  | Handle holder, left                                | PRS0015/L    | 2-01913-PU22   |
| 110  | Shaft / motor holder, left                         | PRR023/L     | 2-01349-PU22   |
| 111  | Shaft / motor holder, right                        | PRR023/P     | 2-01348-PU22   |
| 120  | Expanded handle holder, left                       | PRS0014/L    | 2-01915-PU22   |
| 120  | Lead for self-supporting roller shutter – L        | PRS0001/L    | 3-04437-0000   |
| 130  | Expanded handle holder, right                      | PRS0014/P    | 2-01914-PU22   |
| 130  | Lead for self-supporting roller shutter – R        | PRS0001/R    | 3-04438-0000   |
| 140  | Expanded handle holder, right                      | PRS0014/P    | 2-01914-PU22   |
| 140  | Roller shutter slat – (CURTAIN) + sale             | PANCIR VR    | 2-00616-0000   |
| 150  | Expanded handle holder, left                       | PRS0014/L    | 2-01915-PU22   |
| 150  | Guide rail STS                                     | PRR016/1     | 7-304436-0000  |
| 160  | Bearing holder / motor, left                       | PRR023/L     | 2-01349-PU22   |
| 160  | Allen bolt with convex head and flange M5x6 Zn     |              | 6-006944-0013  |
| 170  | Bearing holder / motor, right                      | PRR023/P     | 2-01348-PU22   |
| 180  | Bearing holder / motor, left                       | PRR023/L     | 2-01349-PU22   |
| 190  | Bearing holder / motor, right                      | PRR023/P     | 2-01348-PU22   |
| 200  | Expanded holder left                               | PRS0013/L    | 2-01876-PU22   |
| 210  | Expanded holder right                              | PRS0013/P    | 2-01875-PU22   |
| 220  | Expanded holder left                               | PRS0013/L    | 2-01876-PU22   |
| 230  | Expanded holder right                              | PRS0013/P    | 2-01875-PU22   |
| 240  | Complete handle ( 90° ) - Salvis - 1,2m            | PRS0017/1200 | 2-01919-1200   |
| 240  | Complete handle ( 90° ) - Salvis - 1,3m            | PRS0017/1300 | 2-01919-1300   |
| 240  | Complete handle ( 90° ) - Salvis - 1,4m            | PRS0017/1400 | 2-01919-1400   |
| 240  | Complete handle ( 90° ) - Salvis - 1,5m            | PRS0017/1500 | 2-01919-1500   |
| 240  | Complete handle ( 90° ) - Salvis - 1,6m            | PRS0017/1600 | 2-01919-1600   |
| 290  | Label CE-ČSN EN 13659 – SALVIS                     |              | 7-302007-0057  |
| 300  | Packing VR (+ GV)                                  |              | 2-00341-0000   |

## Measurement and installation

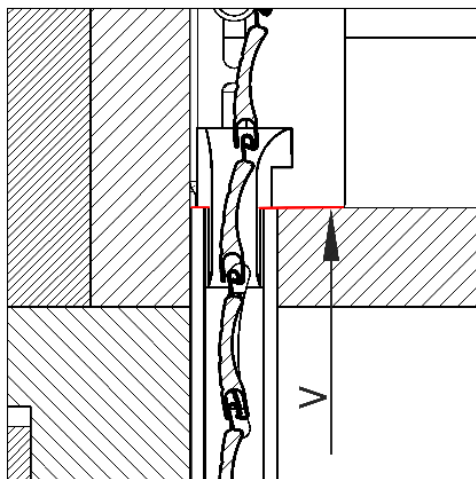


### 1. MEASURING

S – roller shutter width (from the lateral edge of one guide rail to the lateral edge of the other guide rail)

V – guide rail length

Always measure the width in at least three positions. The manufacturing dimension is always the minimum value measured. The height is specified by the guide rail length and the minimum box dimensions. The upper edge of the guide rail should link up to the inside of the box bottom. If the box has no lower edge, the minimum guide rail length must be up to the lower edge of the box front side. The box size is measured from the upper edge of the guide rail. The minimum inner dimensions of the box are 170 × 170 mm. The values may differ while maintaining the minimum size. In any case, take measurements only after the window frame or complete window has been installed in the wall opening and the external and internal reveals incl. window sills are finished. The method of taking measurements for exterior blinds is so specific that we recommend consulting the technical aspects on site. Other specific solutions are also possible.



Upper edge of the guide rail links up to the inside wall of the box bottom.



## 2. RECOMMENDED MINIMUM BOX INTERNAL DIMENSIONS PER SLAT TYPE

### SLAT M317

V Up to 2200 - V1min, V2min 170mm  
V Up to 2640 - V1min, V2min 180mm  
V Up to 3080 - V1min, V2min 190mm  
V Up to 3540 - V1min, V2min 200mm  
V Up to 4000 - V1min, V2min 210mm  
V Up to 4500 - V1min, V2min 220mm  
V Up to 5000 - V1min, V2min 230mm  
V Up to 5540 - V1min, V2min 240mm  
V Up to 5900 - V1min, V2min 250mm

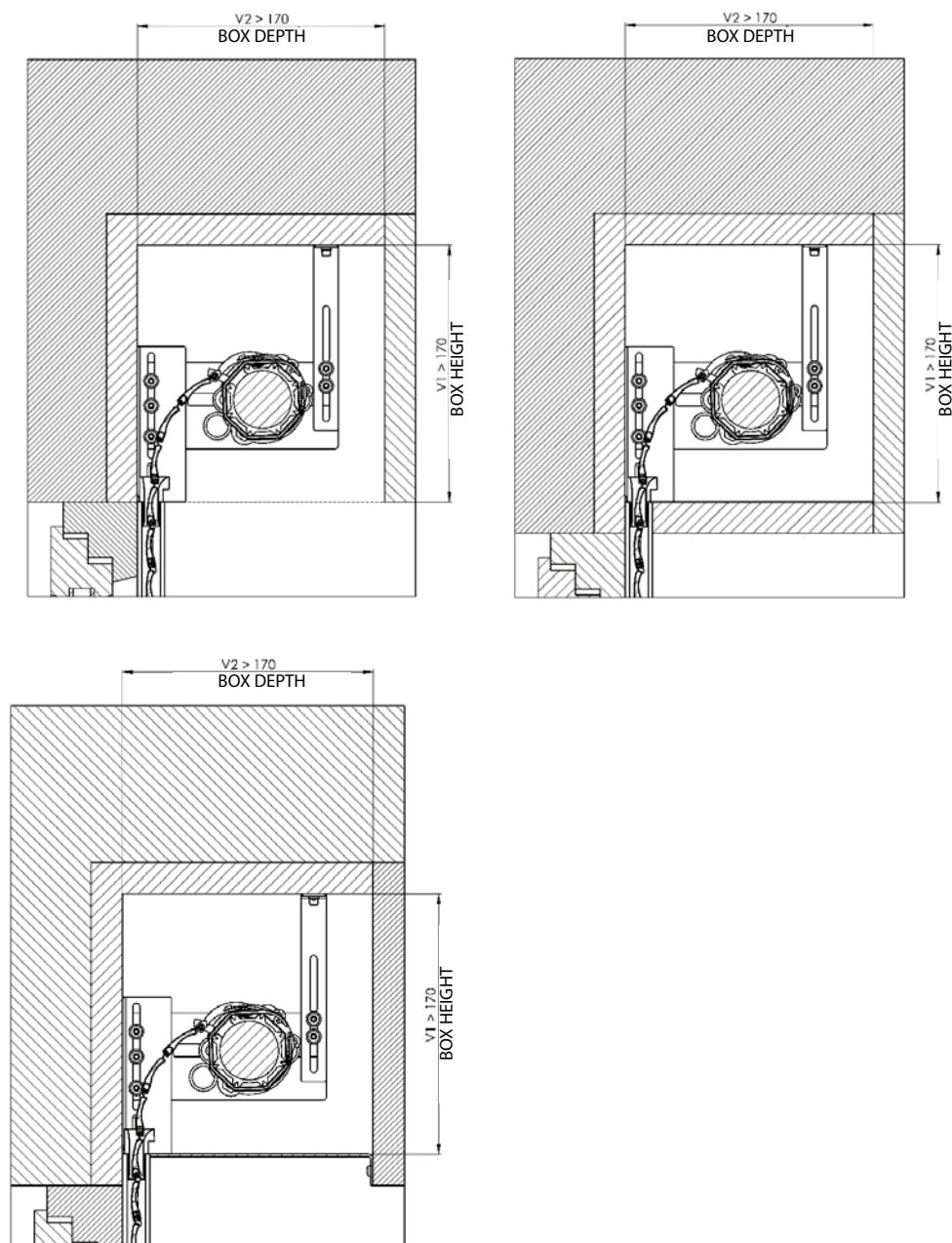
### SLAT M442

---  
V Up to 1900 - V1min, V2min 180mm  
V Up to 2170 - V1min, V2min 190mm  
V Up to 2440 - V1min, V2min 200mm  
V Up to 2700 - V1min, V2min 210mm  
V Up to 2950 - V1min, V2min 220mm  
V Up to 3230 - V1min, V2min 230mm  
V Up to 3490 - V1min, V2min 240mm  
V Up to 3750 - V1min, V2min 250mm

#### 1) Limits

| Slat         | M317                  | M 442                  |
|--------------|-----------------------|------------------------|
| Slat height  | 43,6 mm               | 48,8 mm                |
| Thickness    | 7,6 mm                | 9,3 mm                 |
| Cover height | 37 mm                 | 42 mm                  |
| Weight       | 2,8 kg/m <sup>2</sup> | 2,85 kg/m <sup>2</sup> |
| Min width    | Motor length + 170 mm | Motor length + 170 mm  |
| Max width    | 2900 mm               | 4000 mm                |
| Max area     | 6,5 m <sup>2</sup>    | 8,5 m <sup>2</sup>     |

#### Possible box versions



### 3. INSTALLATION - MOTOR

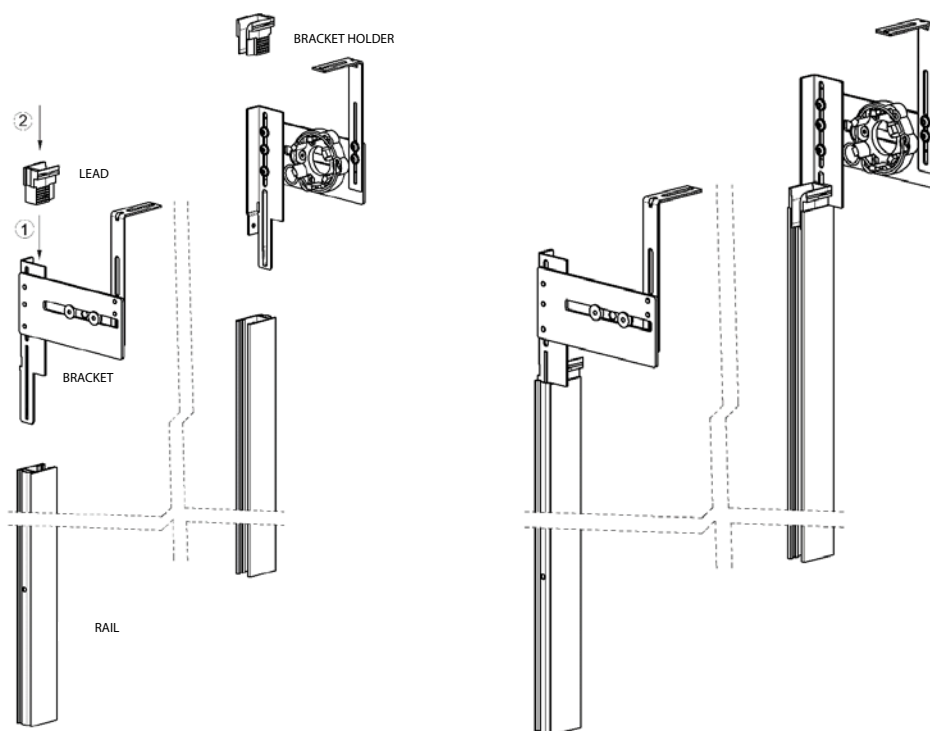
Installation may only be carried out by a qualified professional.

Construction readiness for installation: finished reveal incl. box, wiring box for connecting the motor.

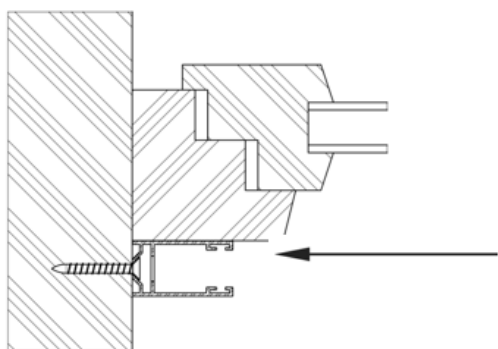
#### 3.1) Assembling the holder with the guide rail

3.1.1) Slide the holders in the guide rails. Drive the holders all the way to the guide rail.

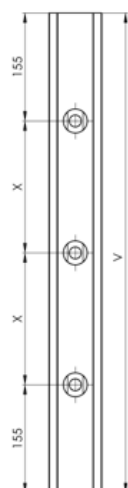
3.1.2) Drive the curtain leads to the holders.



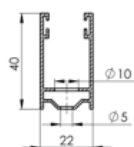
#### 3.2) Anchoring the guide rails



Choose suitable fasteners according to the base material.  
It is only possible to anchor the rail to the reveal.

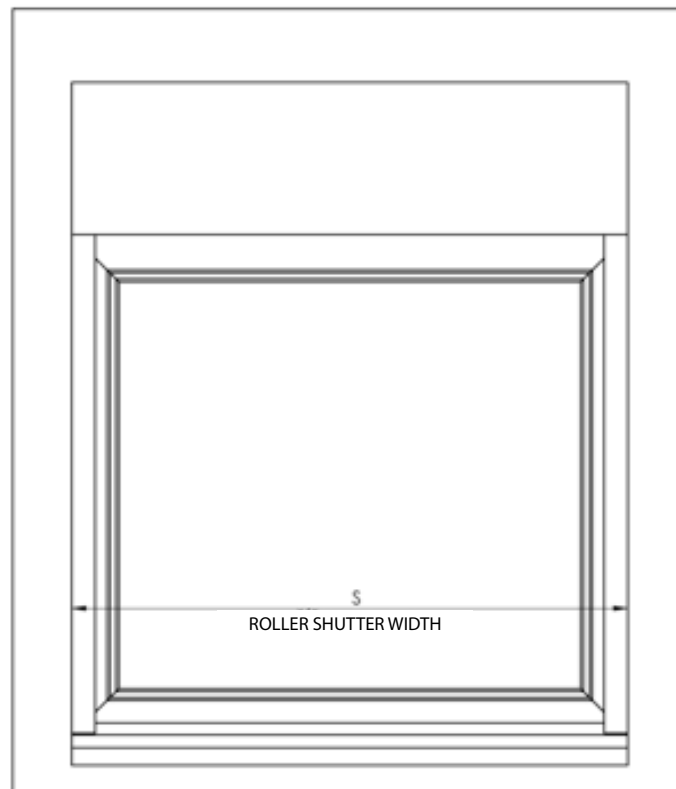


|                   |            |
|-------------------|------------|
| $V < 1500$        | 2 OPENINGS |
| $1501 < V < 2500$ | 3 OPENINGS |
| $2501 < V$        | 5 OPENINGS |

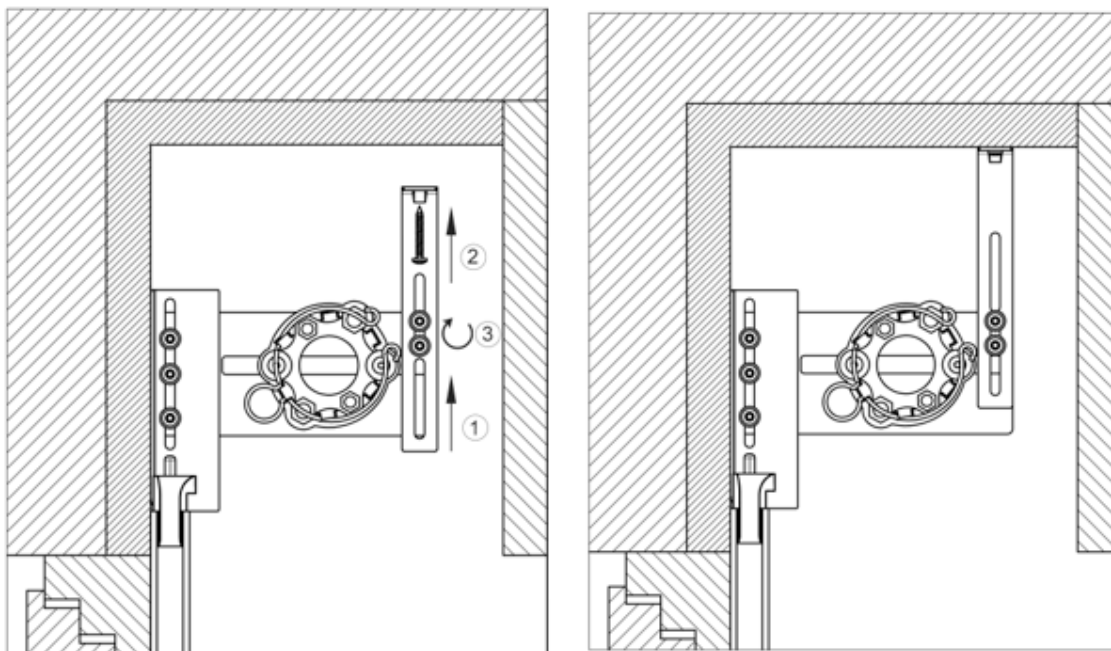


Sketch of hole drilling in guide rail.

3.3) Check if the width across the guide rails corresponds to the width as specified.



3.4) Secure the brackets

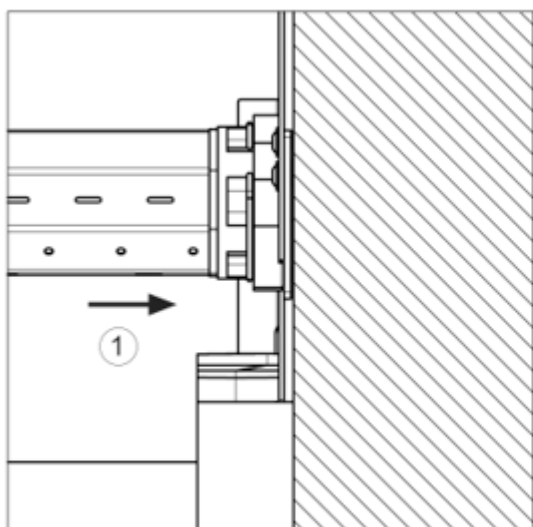


3.4.1) Slide the bracket holder up.

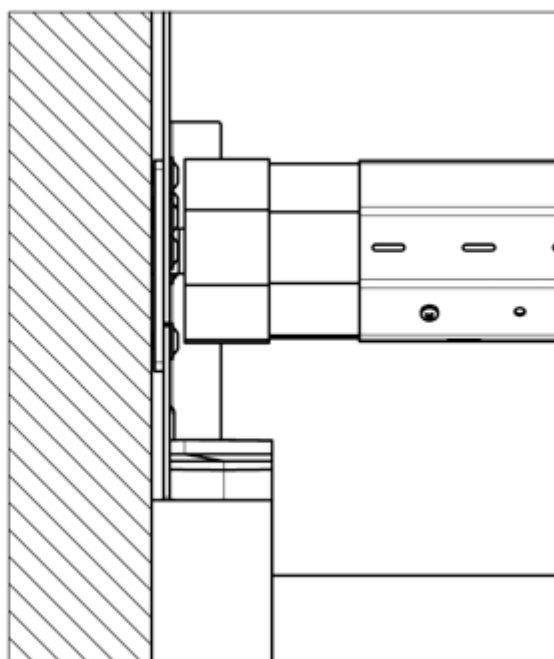
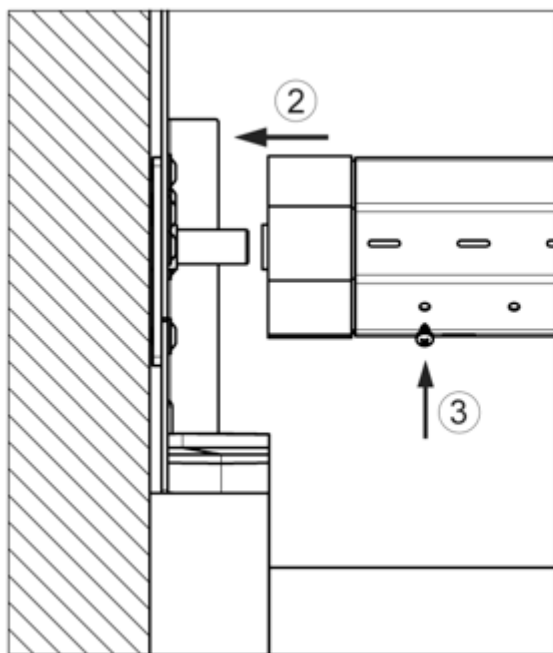
3.4.2) Secure the holder by a suitable screw.

3.4.3) Secure the holder with the bracket by bolts.

### 3.5) Fit the tube for the curtain



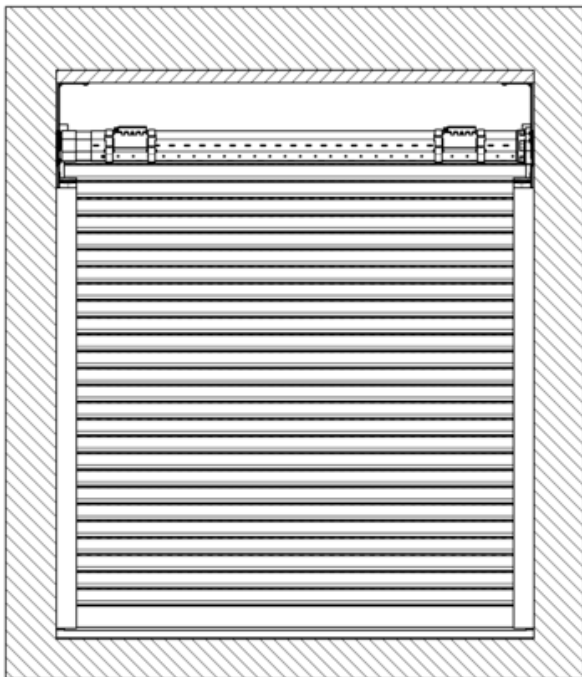
#### 3.5.1) Slide the motor to the carrier, lead the motor cable to the wiring box.



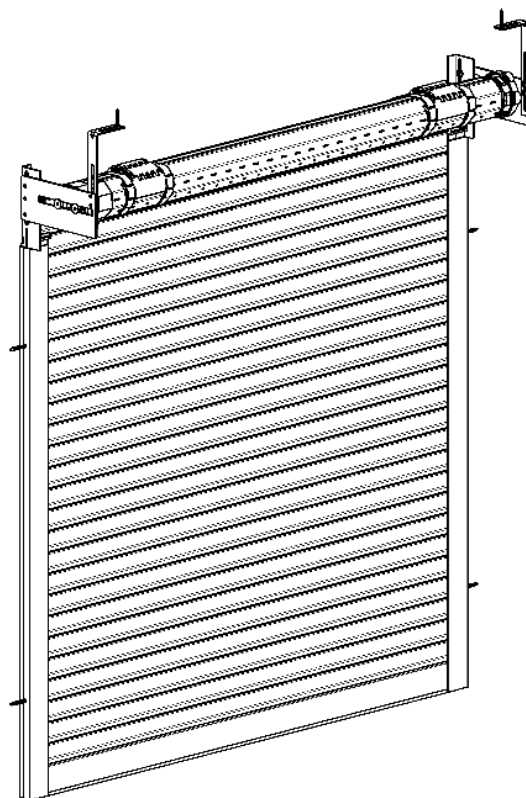
#### 3.5.2) Protrude the cylindrical plug with the bearing to the pin.

#### 3.5.3) Secure the cylindrical plug against moving.

### 3.6) Fitting the curtain

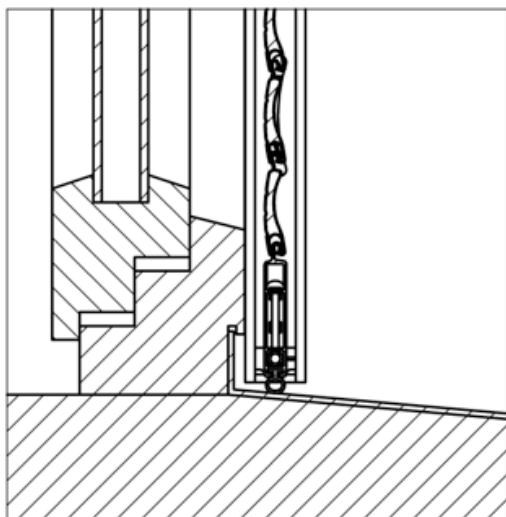


### 3.7) Lead the curtain in the guide rails and secure the curtain holders on the drum



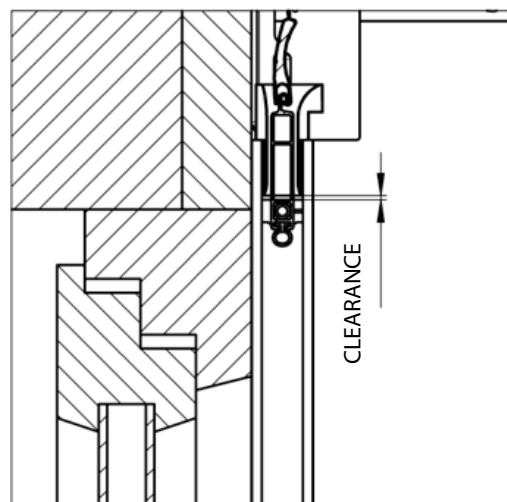
### 3.8) Adjustment and checking

#### 3.8.1) Adjusting the lower stop piece



#### 3.8.2) Adjusting the upper stop piece

When adjusting, it is necessary to maintain the 5 mm clearance between the curtain lead and the stop piece in the lower rail.



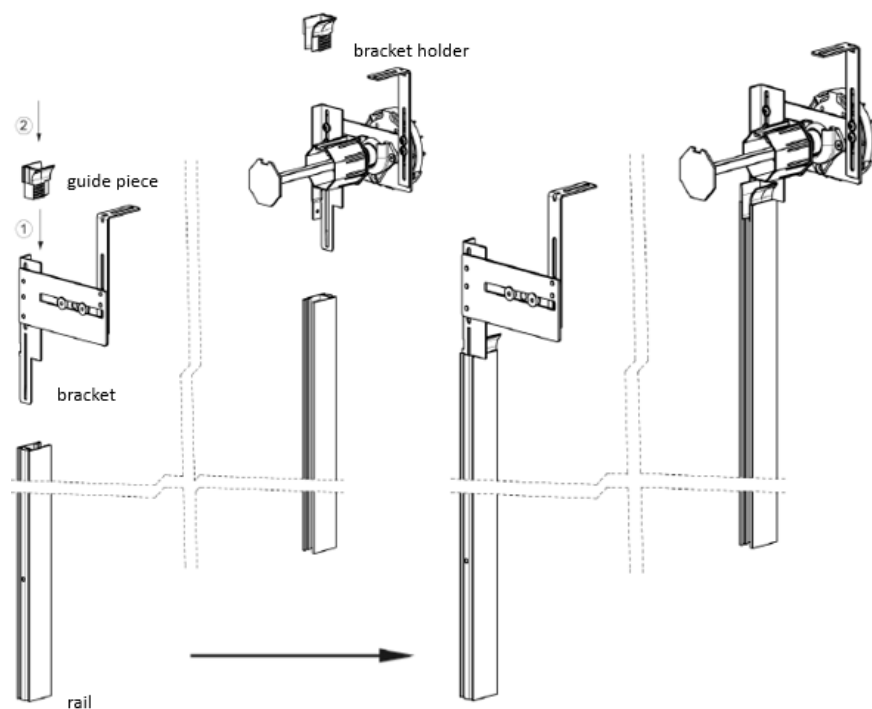
## 4. INSTALLATION – HANDLE

Installation may only be carried out by a qualified professional.

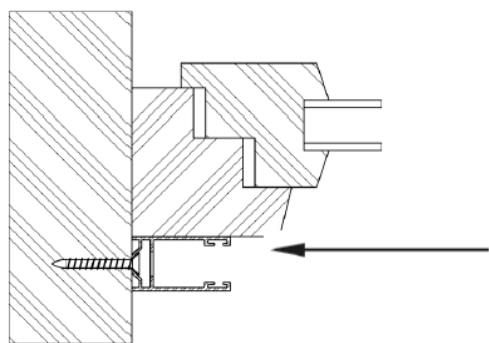
### 4.1) Assembling the holder with the guide rail

4.1.1) Insert the holders in the guide rails. Push the brackets down to the guide rail.

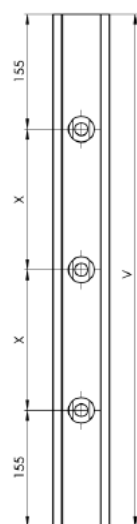
4.1.2) Insert the curtain guide pieces in the installed holders.



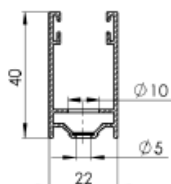
### 4.2) Guide rail anchoring



Select suitable fasteners according to the type of substrate.  
Anchoring is only possible to the side – to the reveal.

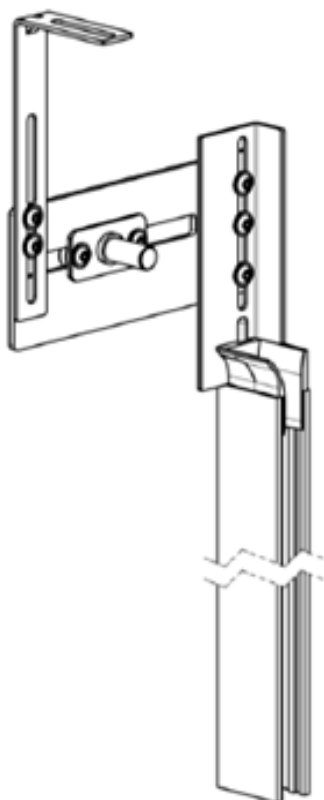


|                   |         |
|-------------------|---------|
| $V < 1500$        | 2 HOLES |
| $1501 < V < 2500$ | 3 HOLES |
| $2501 < V$        | 4 HOLES |

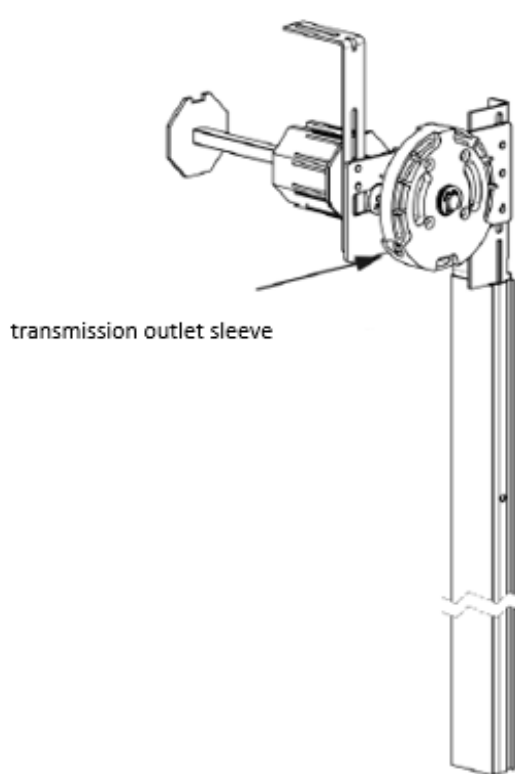
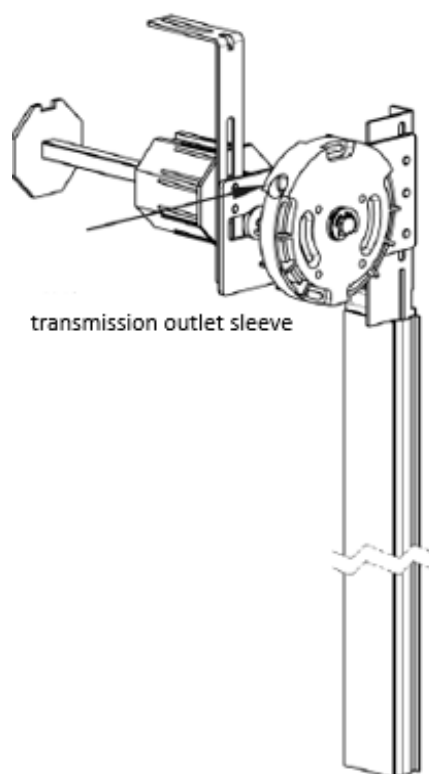


Guide rail hole drilling sketch

4.3) First, anchor the guide rail with the roller support (non-control side)



4.3.1) Prior to anchoring the guide rail of the controls, it is possible to turn over the transmission so that the outlet is at the top.

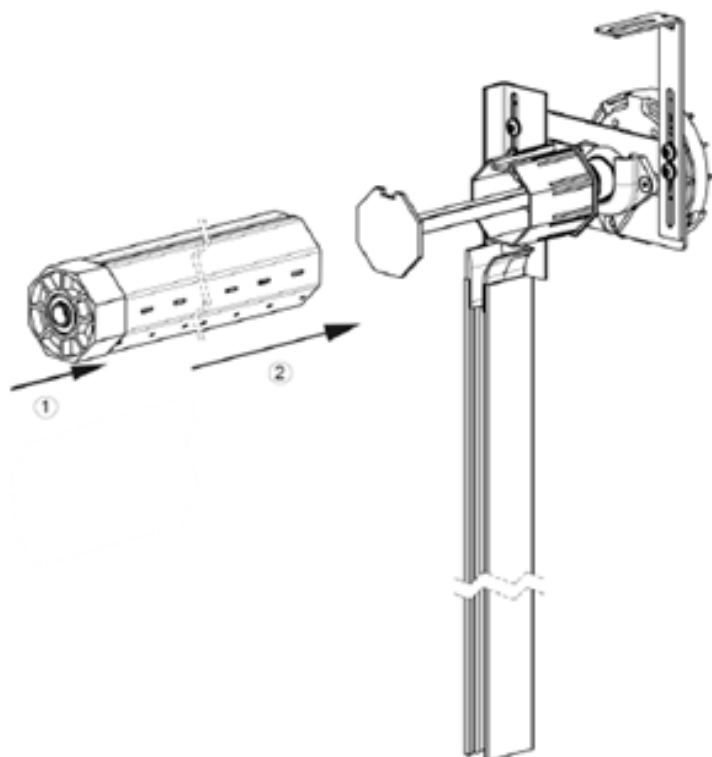


**CAUTION!**

When tampering with the transmission, it is necessary to check its functionality. The transmission contains a stop plate in one direction. If the transmission is turned over, the sense of rotation of the handle reverses.

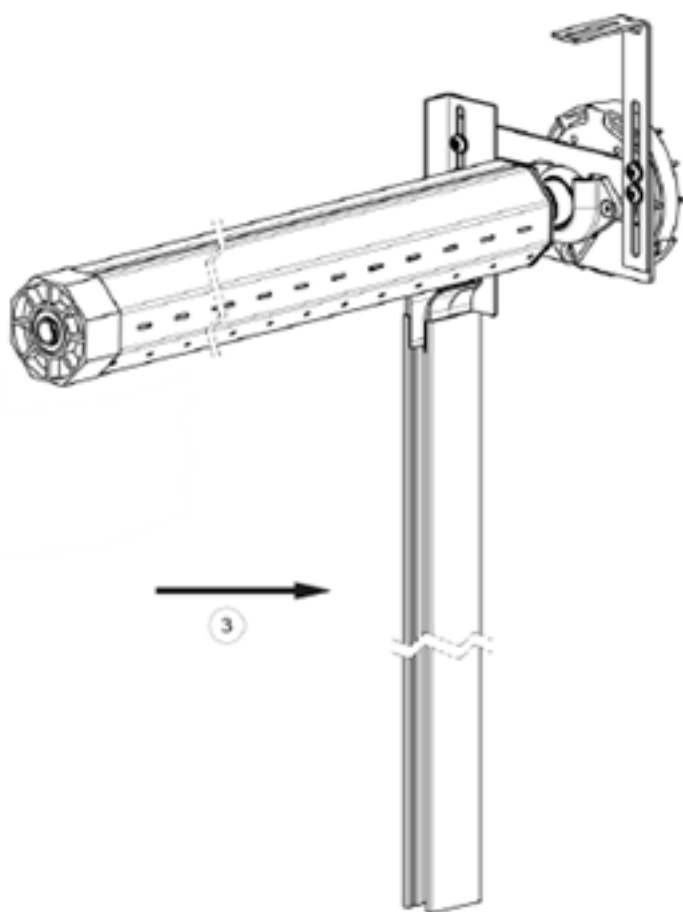


4.4) Fit the shaft onto the completed guide rail with control



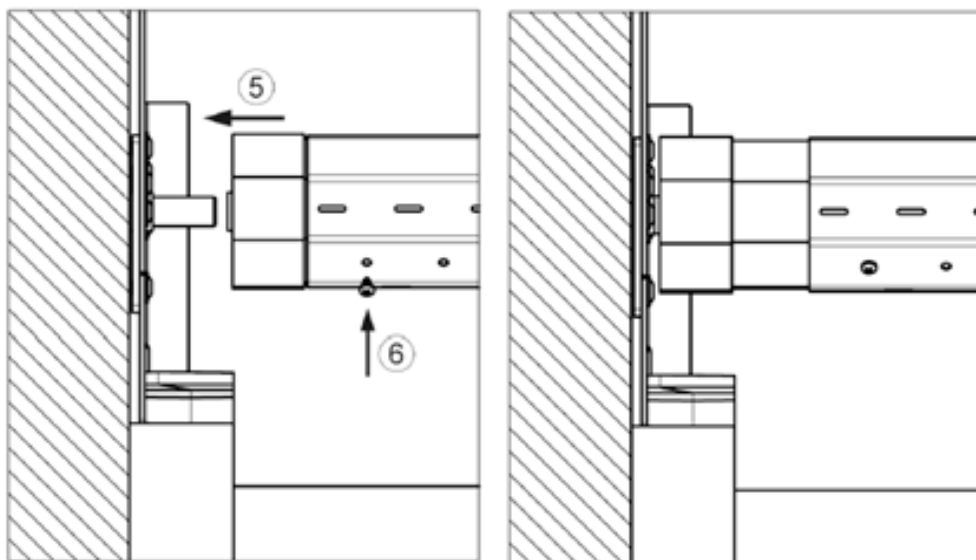
4.4.1) Insert the roller end with the bearing into the shaft.

4.4.2) Fit the shaft onto the carrier.



4.4.3) Fit the assembly to the side opposite the rail with the roller support.

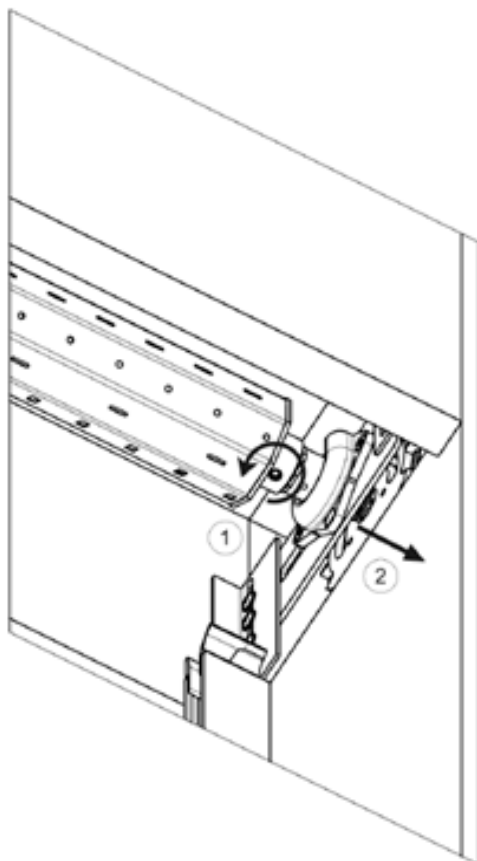
4.4.4) Align, set up, and anchor the guide rail.



4.4.5) Extend the cylindrical plug with the shaft to the pin.

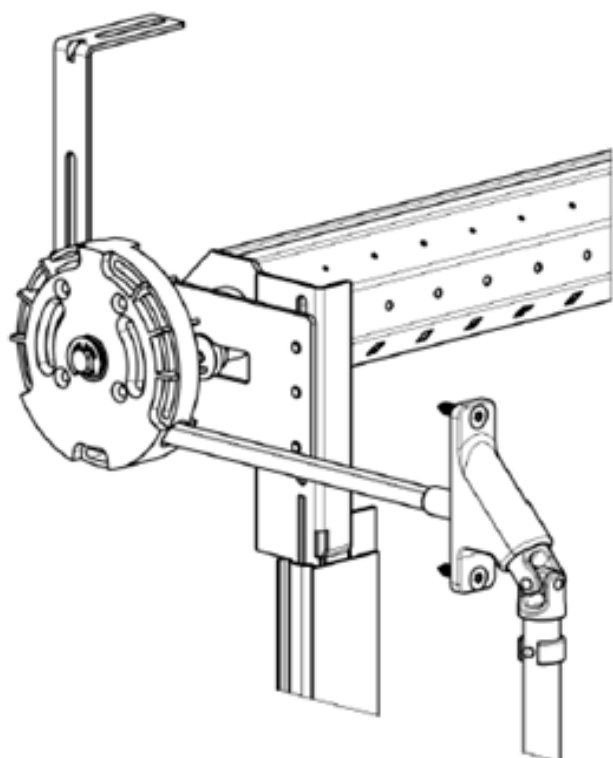
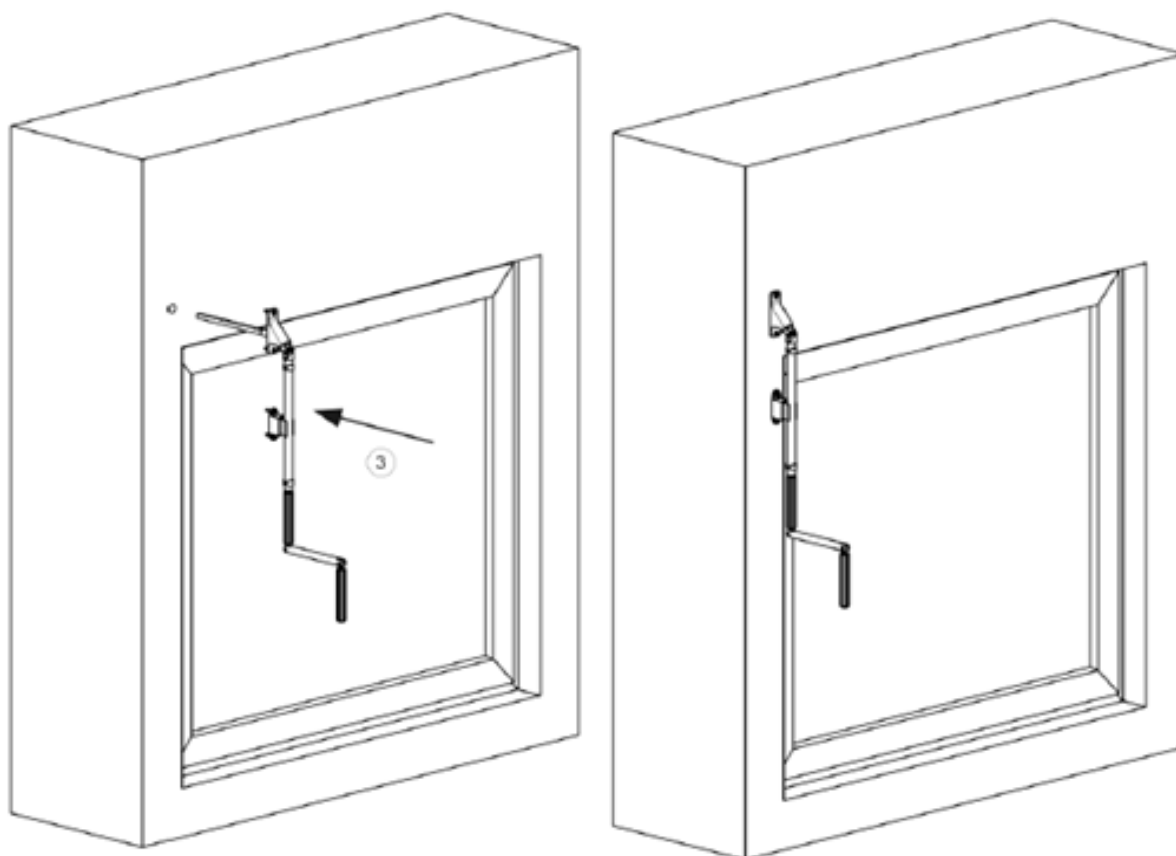
4.4.6) Secure the cylindrical plug against movement.

4.5) Connecting the transmission and the handle



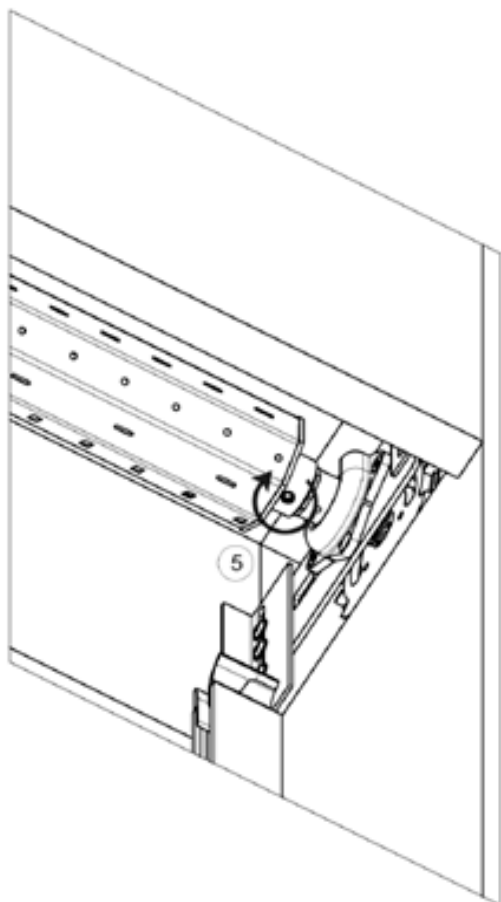
4.5.1) Loosen the screw that locks the telescopic pin.

4.5.2) Move the transmission to the position opposite the fitted handle.

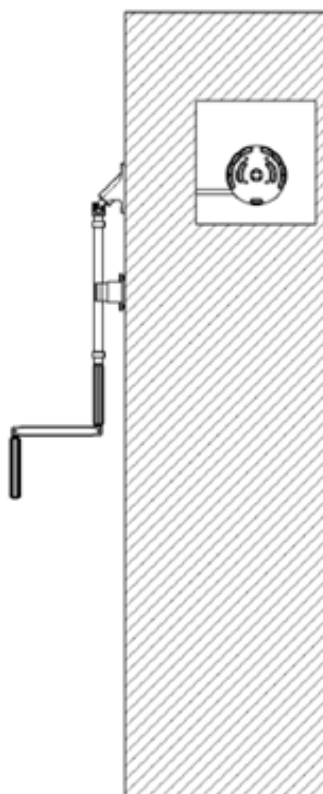
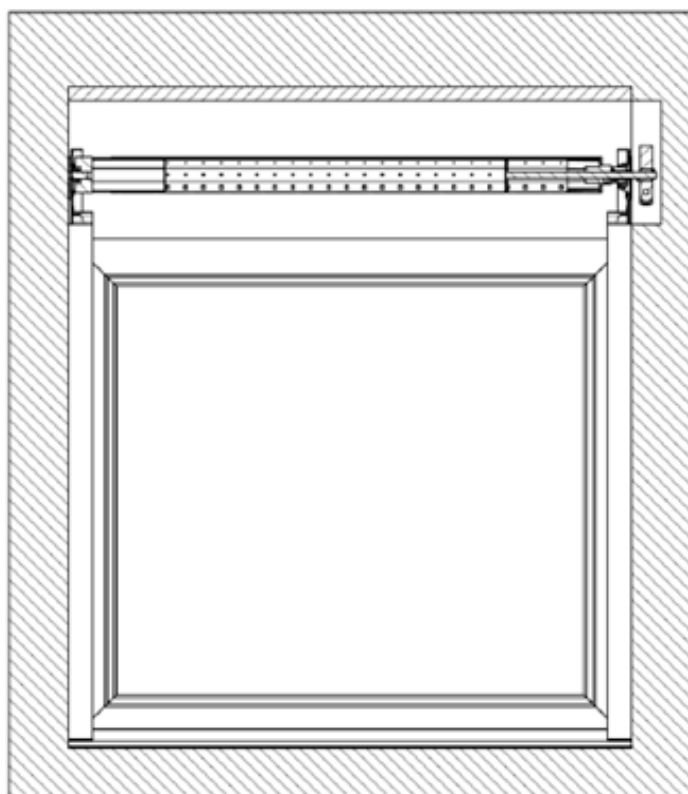


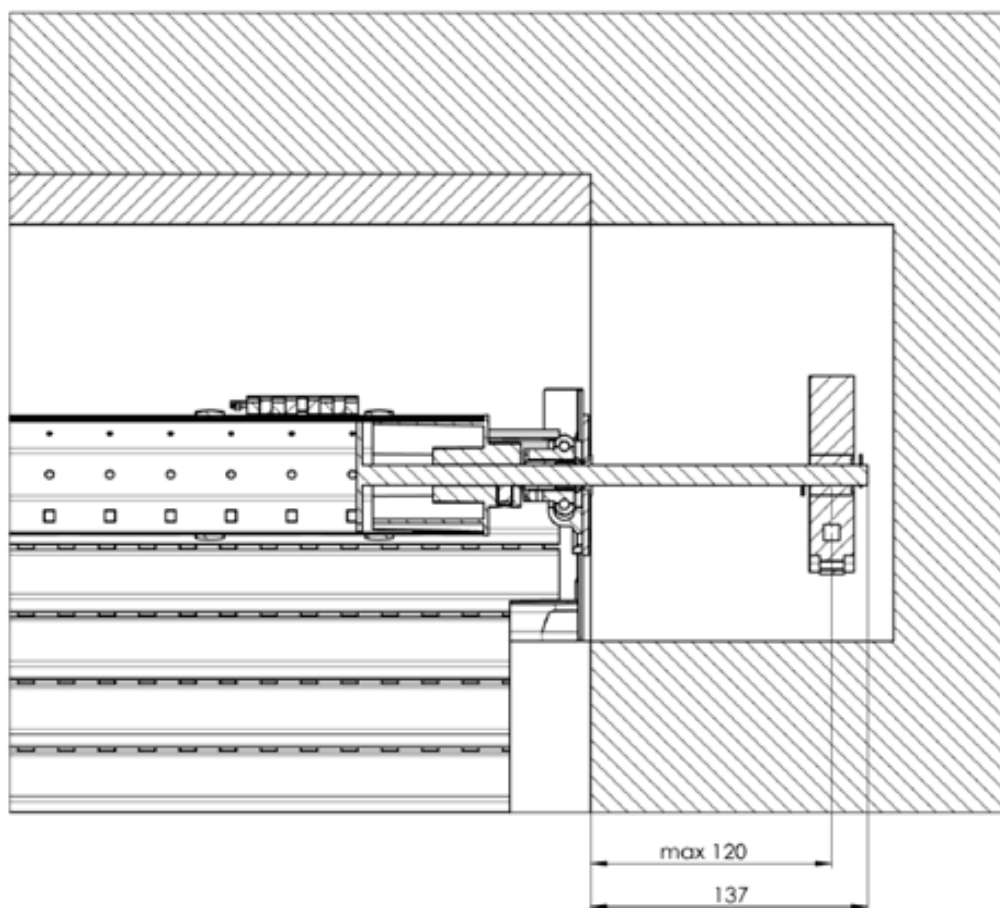
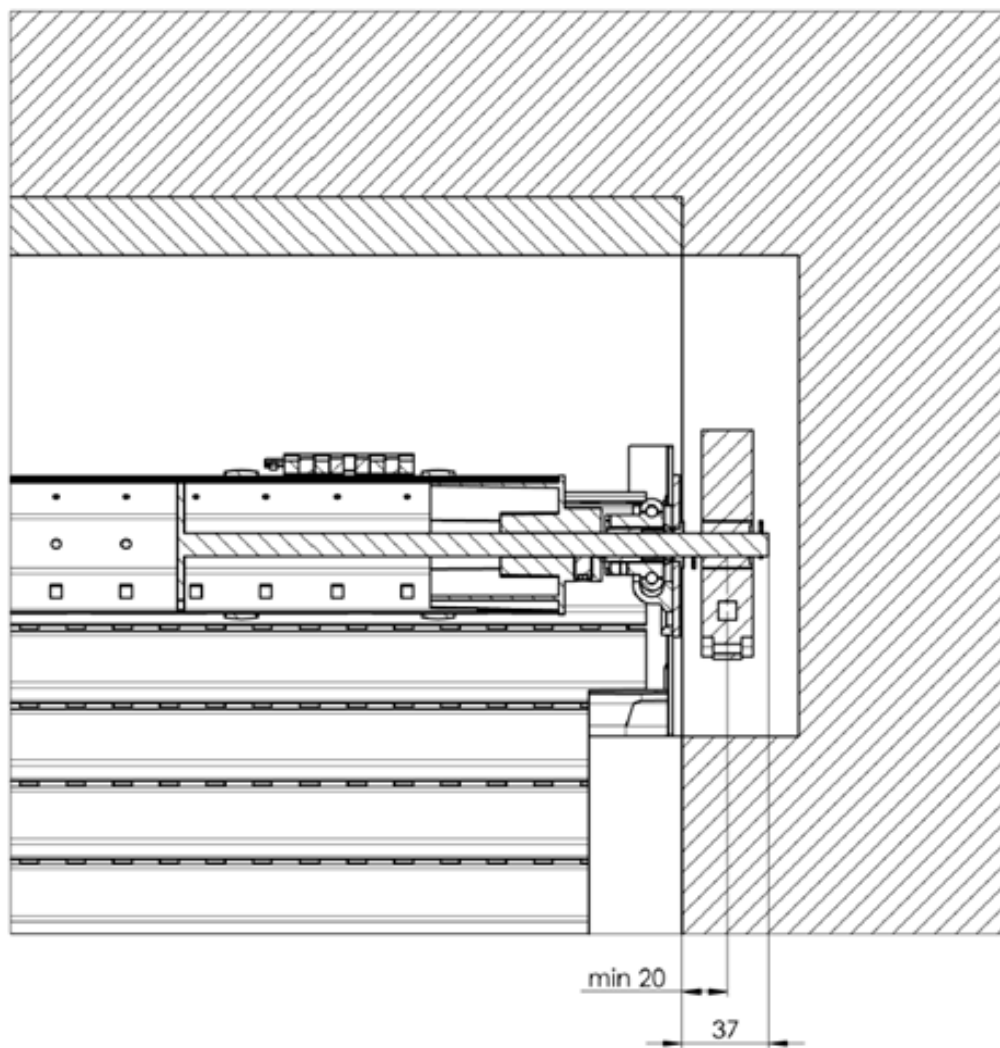
4.5.3) Insert the pin from the sleeve from the handle to the transmission.

4.5.4) Anchor the sleeve using suitable fasteners.

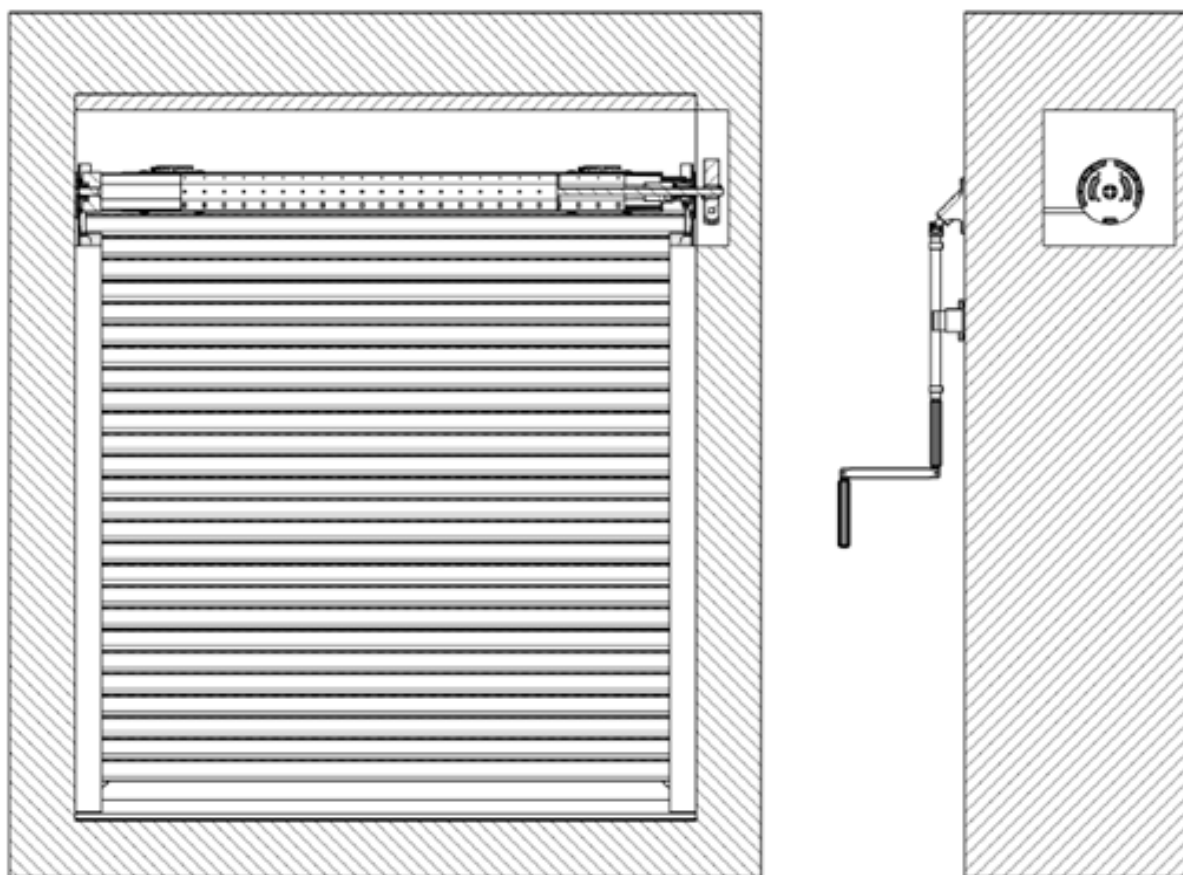


4.5.5) Tighten the screw that locks the telescopic pin.

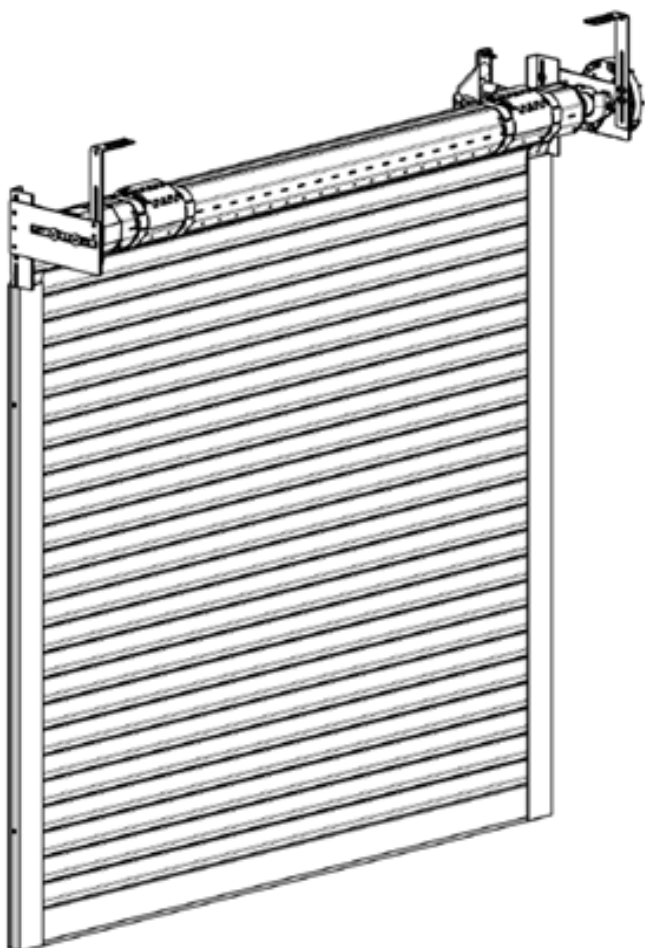




#### 4.6) Inserting the curtain



##### 4.6.1) Guide the curtain in the guide rails and secure the curtain braces on the roller.



## Motors

### GEIGER MOTORS, 60 mm SHAFT – for MY442, M328 and M317 slats

| item name                                       | trade name | drawing number |
|-------------------------------------------------|------------|----------------|
| Geiger TOUCH, 6 Nm (incl. adapter and carrier)  | PR0629/06  | 6-012799-0006  |
| Geiger TOUCH, 10 Nm (incl. adapter and carrier) | PR0629/10  | 6-012799-0010  |
| Geiger TOUCH, 20 Nm (incl. adapter and carrier) | PR0629/20  | 6-012799-0020  |
| Geiger EASY, 10 Nm (incl. adapter and carrier)  | PR0630/10  | 6-012800-0010  |
| Geiger EASY, 20 Nm (incl. adapter and carrier)  | PR0630/20  | 6-012800-0020  |
| Geiger AIR, 10 Nm                               | PR0787/10  | 6-015625-0010  |
| Geiger AIR, 20 Nm                               | PR0787/20  | 6-015625-0020  |

### BECKER MOTORS, 60 mm SHAFT – for MY442, M328 and M317 slats

| item name                                | trade name     | drawing number |
|------------------------------------------|----------------|----------------|
| Becker R8-17-C01 PLUS, radio-controlled  | X.2010/1201580 | 6-017951-0008  |
| Becker R12-17-C01 PLUS, radio-controlled | X.2010/1201590 | 6-017951-0012  |
| Becker R20-17-C01 PLUS, radio-controlled | X.2020/1201280 | 6-017951-0020  |
| Becker R30-17-C01 PLUS, radio-controlled | X.2030/1201580 | 6-017951-0030  |
| Becker R40-17-C01 PLUS, radio-controlled | X.2040/1201170 | 6-017951-0040  |
| Becker R4-17-M17, 4 Nm                   | X.2010/1100430 | 6-017871-0004  |
| Becker R08/17 E03, mechanical            | PR0900/08      | 6-017148-0008  |
| Becker R12/17 E03, mechanical            | PR0900/12      | 6-017148-0012  |
| Becker R20/17 E03, mechanical            | PR0900/20      | 6-017148-0020  |

### ISOTRA BASIC MOTORS, 60mm SHAFT

| item name                  | trade name    | drawing number |
|----------------------------|---------------|----------------|
| ISOTRA BASIC MOTOR, 6Nm/17 | X.AM45 6/17R  | 6-019175-0006  |
| ISOTRA BASIC MOTOR, 6Nm/17 | X.AM45 10/17R | 6-019175-0010  |

### S&S RS100 MOTORS

| item name                 | trade name | drawing number |
|---------------------------|------------|----------------|
| S&SO RS100 io 6/17        | PR0880/06  | 6-014804-0006  |
| S&SO RS100 io 10/17       | PR0880/10  | 6-014804-0010  |
| S&SO RS100 io 15/17       | PR0880/15  | 6-014804-0015  |
| S&SO RS100 io 20/17       | PR0880/20  | 6-014804-0020  |
| S&SO RS100 ioHybrid 6/17  | MR 135/06  | 6-015565-0617  |
| S&SO RS100 ioHybrid 10/17 | MR 135/10  | 6-015565-1017  |
| S&SO RS100 ioHybrid 15/17 | MR 135/15  | 6-015565-1517  |
| S&SO RS100 ioHybrid 20/17 | MR 135/20  | 6-015565-2017  |

### BECKER MOTORS, 40 mm SHAFT – for M328 and M317 slats

| item name                                                    | trade name     | drawing number |
|--------------------------------------------------------------|----------------|----------------|
| Becker P5-16-C01, pushbutton input (40 mm), radio-controlled | X.2009/1201200 | 6-017832-0005  |
| Becker P9-16-C01, pushbutton input (40 mm), radio-controlled | X.2009/1201220 | 6-017832-0009  |
| Becker P5-16-E01 (40mm)                                      | X.2009/1201100 | 6-019589-0005  |
| Becker P 9/16 PR+, (40 mm)                                   | PR0903/09      | 6-017151-0009  |
| Becker SOLAR KIT SK460, 6 Nm (40 mm)                         | X.B/SK46006    | 6-017873-0006  |
| Becker SOLAR KIT SK460, 10 Nm (40 mm)                        | X.B/SK46010    | 6-017873-0010  |

### SOMFY MOTORS, SHAFT 40 mm – for M328 and M317 slats

| item name          | trade name | drawing number |
|--------------------|------------|----------------|
| Ilmo 2 40 WT 4/16  | PR0406/4   | 6-017830-0004  |
| Ilmo 2 40 WT 9/16  | PR0406/9   | 6-017830-0009  |
| Ilmo 2 40 WT 13/10 | PR0406/13  | 6-017830-0013  |
| 40 iO 4/16         | PR0652/4   | 6-014871-0004  |
| 40 iO 9/16         | PR0652/9   | 6-014871-0009  |
| 40 iO 13/16        | PR0652/13  | 6-014871-0013  |

### SOLAR SET, 40 mm SHAFT – for M328 and M317 slats

| item name                                             | trade name | drawing number  |
|-------------------------------------------------------|------------|-----------------|
| Oximo 40 WireFree RTS 3/23, with integrated receiver* | PR0415     | 6-008256-WF03   |
| Oximo 40 WireFree RTS 6/18, with integrated receiver* | PR0416     | 6-008256-WF06   |
| SOLAR KIT "Oximo 40" 6/18 io*                         | PR0416io   | 6-008256-WF06io |
| SOLAR KIT "Oximo 40" 10/12 io*                        | PR0417io   | 6-008256-WF10io |

\* The Oximo 40 WireFree RTS und IO set contains a drive with integrated remote control receiver and an external solar panel.



**LT 50 NHK MOTORS**

| item name                    | trade name | drawing number |
|------------------------------|------------|----------------|
| LT 50 NHK - Jet 8/17         | PR0400     | 6-002631-0008  |
| LT 50 NHK - Meteor 20/17     | PR0401     | 6-002631-0020  |
| LT 50 NHK - Jet RTS 10/17    | MR 090/10  | 6-002632-0010  |
| LT 50 NHK - Meteor RTS 20/17 | MR 090/20  | 6-002632-0020  |

**SOMFY MOTORS, 60 mm SHAFT – for MY442, M328 and M317 slats**

| item name                                                    | trade name | drawing number |
|--------------------------------------------------------------|------------|----------------|
| Ilmo WT 6/17                                                 | PR0409     | 6-006867-WT06  |
| Ilmo WT 10/17                                                | PR0410     | 6-006867-WT10  |
| Ilmo WT 15/17                                                | PR0411     | 6-006867-WT15  |
| Ilmo S WT 6/17                                               | PR0408     | 6-006867-S006  |
| Oximo WT 6/17                                                | PR0333     | 6-001532-0006  |
| Oximo WT 10/17                                               | PR0334     | 6-001532-0010  |
| Oximo WT 15/17                                               | PR0335     | 6-001532-0015  |
| Oximo WT 40/17                                               | PR0338     | 6-001532-0040  |
| Oximo RTS 6 Nm for 60 mm shaft, with integrated receiver     | PR0339     | 6-002615-0006  |
| Oximo RTS 10 Nm for 60 mm shaft, with integrated receiver    | PR0340     | 6-002615-0010  |
| Oximo RTS 15 Nm for 60 mm shaft, with integrated receiver    | PR0341     | 6-002615-0015  |
| Oximo RTS 20 Nm for 60 mm shaft, with integrated receiver    | PR0342     | 6-002615-0020  |
| Oximo RTS 30 Nm for 60 mm shaft, with integrated receiver    | PR0343     | 6-002615-0030  |
| Oximo RTS 40 Nm for 60 mm shaft, with integrated receiver    | PR0344     | 6-002615-0040  |
| Oximo S auto RTS 6/17, with external remote control receiver | PR0414     | 6-008040-0000  |
| Oximo 50 io 6/17, with integrated receiver                   | PR0636     | 6-012566-0617  |
| Oximo 50 io 10/17, with integrated receiver                  | PR0637     | 6-012566-1017  |
| Oximo 50 io 15/17, with integrated receiver                  | PR0638     | 6-012566-1517  |
| Oximo 50 io 20/17, with integrated receiver                  | PR0639     | 6-012566-2017  |
| Oximo 50 io 30/17, with integrated receiver                  | PR0640     | 6-012566-3017  |
| Oximo 50 io 40/17, with integrated receiver                  | PR0641     | 6-012566-4017  |
| Oximo S Auto io 6/17, with external remote control receiver  | PR0642     | 6-013056-0000  |
| RS100 SOLAR IO 10/12                                         | PR0906/10  | 6-018869-0010  |
| RS100 SOLAR IO 6/15                                          | PR0906/06  | 6-018869-0006  |

## Operating and Maintenance Instructions

Read this manual carefully, especially the safety precautions. Damages resulting from failure to comply with the conditions stated in these Operating and Maintenance Instructions **shall not be covered by the warranty**. Enforce implementation of recommendations stated herein, **hand this manual over upon sale of the product**, as it contains information regarding maintenance and commissioning of the product.

The shutter **has been made and installed by a professionally trained and competent company** in the area of sun protection. **Repairs and disassembly** may only be performed by **trained experts**. **Do not attempt to perform any changes to the product, otherwise proper use of the product cannot be ensured.**

Images shown herein apply to various versions of the shutters.

## PRODUCT FEATURES

### Simultaneous shutter movement

It is not possible to achieve perfect synchronous operation of several shutter due to different friction of the individual shutters and different speeds of their drives. This also applies to intermediate positions.

### Translucence

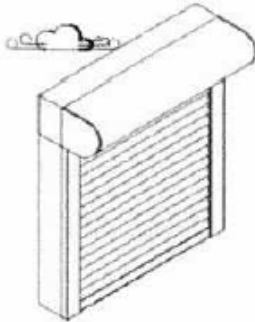
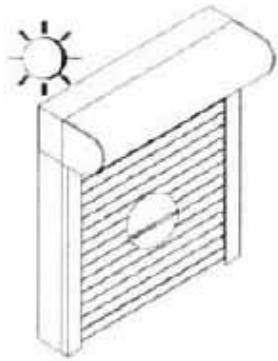
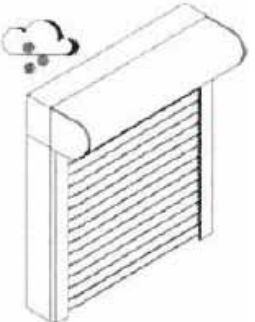
Due to their design, shutters cannot serve as blackout units. Penetration of diffuse light is allowed in the area of slat connections, lateral guides, and the upper and lower ends.

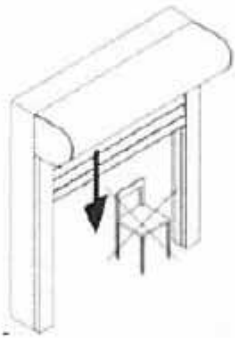
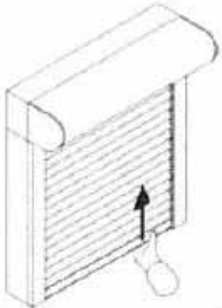
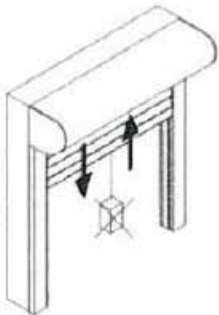
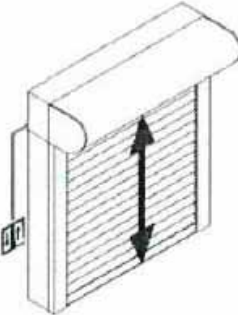
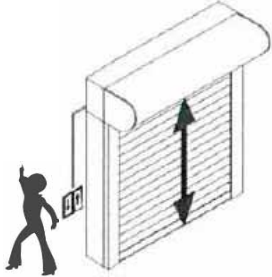
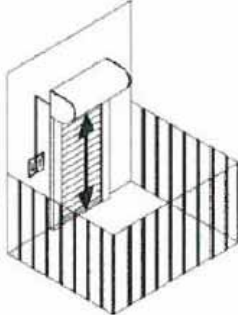
### Noise emission

Structural parts of the shutters may be a source of noise due to their properties or movement (operation, wind, thermal expansion). If the shutter has been exposed to strong sunlight for longer period of time, "clicking" noise caused by the surface treatment or plastics may be heard when the shutter is activated. Both aluminium and plastic shutters expand due to heat. Such expansion, or shrinking, due to temperature changes may also be associated with various sounds.

### Surface quality

When assessing the shutter's surface quality, it is necessary to observe the viewing distance specified in the respective standard. Said distance is 3 metres for exterior structural parts, and 2 metres for interior structural parts. It is only possible to complain about surface defects that visible to the naked eye the distances specified above and under normal conditions.

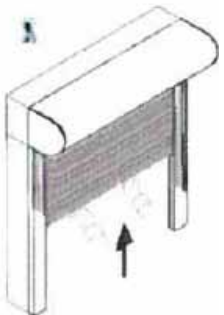
| Operation in strong winds                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     | Operating the shutter at high temperatures                                                                                                                                                                                                                                          |                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <p>Close the windows in strong wind conditions.<br/>Prevent draught, especially if you are not present.</p> <p><b>NOTE</b><br/>The shutters are designed to withstand the expected wind intensity without permanent damage. Both the window and the shutters must be completely closed in strong wind conditions, otherwise there is a risk of permanent damage to the shutters.</p>               |  | <p>Sufficient ventilation of the curtain must be ensured if the shutter is used as sun protection. In this case, lighting openings of the shutter must be left open to prevent overheating, otherwise there is a risk of permanent damage, especially in case of plastic slats.</p> |  |
| Operating the shutter at low temperatures                                                                                                                                                                                                                                                                                                                                                          |                                                                                     | Operating the shutter in the winter                                                                                                                                                                                                                                                 |                                                                                       |
| <p>During cold seasons of the year and depending on current weather conditions, the curtain may freeze onto the lower end rail and/or lateral guide rails due to penetration of water during thawing or rain/snow at low temperatures.</p> <p><b>NOTE</b><br/>In such cases, do not attempt to move the shutter by force. This may lead to faulty function or permanent damage of the shutter.</p> |  | <p>If there is a risk of freezing onto surfaces, deactivate automatic controls of the shutter.</p> <p><b>EXCEPTION:</b><br/>There is no need to deactivate shutter drives equipped with overload sensors. If there is a risk of damage, they will deactivate automatically.</p>     |  |

| Shutter movement                                                                                                                                                                                                  |                                                                                    | Incorrect control                                                                                                                                                                                                                    |                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <p>It is necessary to ensure the shutter area is free of any objects and other obstacles that would prevent free downward and upward movement of the shutter.</p>                                                 |   | <p>Do not control the shutter in a manner other than specified in this technical manual.</p> <p><b>NOTE:</b><br/>Never attempt operating the shutter manually by force. This is likely to cause permanent damage to the shutter.</p> |   |
| Unsuitable use of the shutter                                                                                                                                                                                     |                                                                                    | Duration of the motor run                                                                                                                                                                                                            |                                                                                      |
| <p>Never use the shutter for a purpose other than for which it has been designed.</p> <p><b>NOTE:</b><br/>Do not hang any objects to the curtain. This is likely to cause irreversible damage to the shutter.</p> |   | <p>The motors used are not intended for long, uninterrupted operation. The integrated thermal protection will deactivate the motor after approx. 4 minutes.</p> <p>The motor will return to the stand-by mode in 10–15 minutes.</p>  |   |
| Accessibility of the control elements                                                                                                                                                                             |                                                                                    | Automatic operation of French door shutters                                                                                                                                                                                          |                                                                                      |
| <p>Prevent easy access by children to the shutter control elements. This precaution will prevent possible damage to the control elements as well as the whole shutter.</p>                                        |  | <p>When staying at a balcony or terrace, deactivate automatic shutter controls. This will prevent being “trapped” at the balcony (terrace).</p>                                                                                      |  |

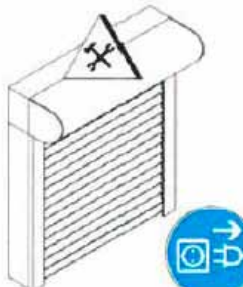
## Electric motor control

| Control using a push-button switch without the OFF position                                                                                                                                                                      | Control using a push-button switch with the OFF position                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>After pressing and holding the respective button (UP/DOWN) or rotating the switch (LEFT/RIGHT), the shutter will move in the required direction.</p> <p>The shutter movement will stop after releasing the button/switch.</p> | <p>After pressing and holding the respective button (UP/DOWN) or rotating the switch (LEFT/RIGHT), the shutter will move in the required direction.</p> <p>After pressing the button or rotating the switch in the OFF position (depending on the button/switch version), the shutter movement will stop.</p> |

## Operating the integrated insect screen

| Operating the insect screen                                                                                                                                                      |                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <p>When releasing the insect screen in the upward direction, hold the screen by both hands. This will prevent damage by fast movement of the screen or by hitting the stops.</p> |  |

## Care and maintenance

| Care                                                                                                                                                                                                                                                                                                      |                                                                                     | Maintenance                                                                                                                                                                                                                                                   |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <p>Lifetime of the product can only be guaranteed by proper use, care and maintenance. Regular cleaning should <b>only</b> be performed by suitable means. Gently remove dirt and obstacles from the guide rails.</p> <p><b>RECOMMENDATION:</b><br/>Disconnect the unit from the mains when cleaning.</p> |  | <p>We recommend performing regular visual checks of the control elements (wear, damage, etc.) and check of rigidity of the whole unit.</p> <p>Call a specialist to replace worn-out and damaged parts <b>by original spare parts</b> as soon as possible.</p> |  |

More information is given in the separate **Operating and Maintenance Instructions**.

## Oximo 40 WireFree IO solar kit for Vivera and Vivera-Sectra blinds

The exterior roller shutter with external solar power is a unique and fully automated roller shutter that is wirelessly controlled and has zero electricity consumption. This roller shutter-bworks on the principle of the so-called photovoltaic phenomenon - i.e. the conversion of sunlight into electrical energy. This is the most ecological and energy-saving drive solution for roller shutters. The drive is powered by a long-life battery charged by a solar panel that works in all weather conditions.

### Product parameters:

- for 40 mm shaft
- for slats M328 and M317
- battery life from 8 to 10 years
- the solar panel is always on the motor side
- installation in the facade is not possible

### Set includes:

- Motor Oximo 40 WireFree 6/18 IO or 10/12 IO
- solar panel Oximo/Sunea WireFree resin 3.2 W
- battery WireFree NiMH, 12V, 2.2 Ah
- connecting cable

### Accessories for the set:

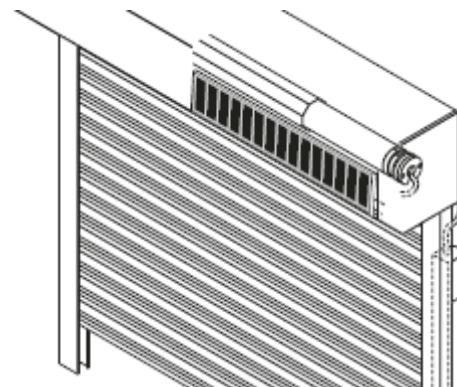
- solar panel holder for wall mounting, (6-016468-0000)
- battery charger for the solar panel (for recharging from the electrical network), (6-016470-0000)
- extension cable to solar panel 5 m, (6-016471-0000)

### Advantages for assembly companies:

- the fastest drive to install
- no wiring required
- it is not necessary to have access into the installation object
- mounting the battery on the exterior - in a box or a guide rail
- variable setting of end positions by remote control
- roller shutter protection against freezing
- working temperature range from -20 °C to +70 °C

### Technical data for motors

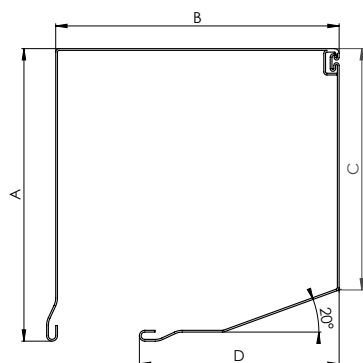
| Name                     | Oximo 40 WireFree 6/18 IO | Oximo 40 WireFree 10/12 IO |
|--------------------------|---------------------------|----------------------------|
| Nominal torque           | 6 Nm                      | 10 Nm                      |
| Nominal speed            | 18 rpm                    | 12 rpm                     |
| Nominal voltage          | 11.8 – 15 V               | 11.8 – 15 V                |
| Nominal power            | 26 W                      | 29 W                       |
| Nominal current          | 2.20 A                    | 2.40 A                     |
| Max. continuous run time | w/o min.                  | w/o min.                   |
| Degree of protection     | IP44                      | IP44                       |
| Protection level         | III.                      | III.                       |
| Weight                   | 0.8 kg                    | 0.68 kg                    |
| Dimension (length)       | 460 mm                    | 460 mm                     |
| Cable colour             | white                     | white                      |
| Cable length             | 0.18 m                    | 0.18 m                     |



## Rolled Covering Boxes (Sectra, Vivera)

The dimensions given in the table correspond to the exact dimensions of the box. To place the box in a lintel, it is necessary to add 3 mm to dimension "A" and 6 mm to dimension "B".

Rolled box, 20° bevel



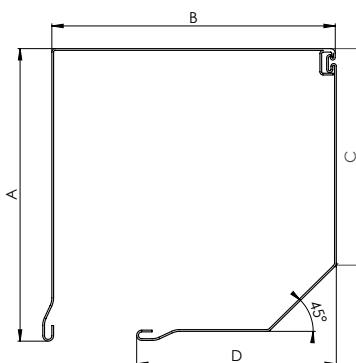
Vivera

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 125  | 129 | 125 | 106 | 88  |
| 138  | 138 | 136 | 115 | 101 |
| 150  | 152 | 150 | 127 | 113 |
| 165  | 167 | 165 | 142 | 128 |
| 180  | 182 | 181 | 153 | 143 |
| 205  | 206 | 207 | 175 | 170 |

Sectra

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 138  | 138 | 136 | 115 | 101 |
| 150  | 152 | 150 | 127 | 113 |
| 165  | 167 | 165 | 142 | 128 |
| 180  | 182 | 181 | 153 | 143 |

Rolled box, 45° bevel



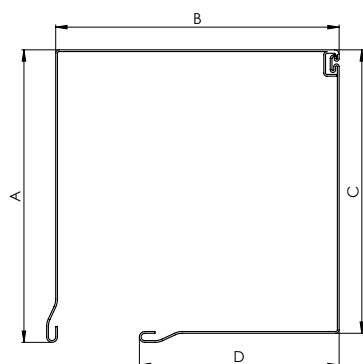
Vivera

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 125  | 128 | 126 | 95  | 88  |
| 138  | 138 | 138 | 104 | 104 |
| 150  | 150 | 151 | 111 | 116 |
| 165  | 170 | 168 | 120 | 126 |
| 180  | 185 | 182 | 131 | 145 |
| 205  | 205 | 207 | 149 | 168 |

Sectra

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 138  | 138 | 138 | 104 | 104 |
| 150  | 150 | 151 | 111 | 116 |
| 165  | 170 | 168 | 120 | 126 |
| 180  | 185 | 182 | 131 | 145 |

Rolled round box, straight design, 90°



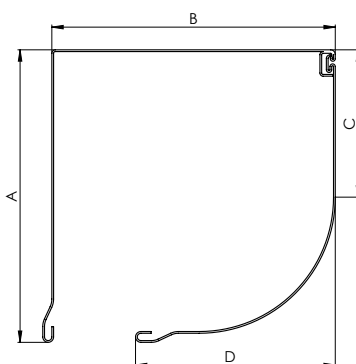
Vivera

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 125  | 129 | 125 | 127 | 86  |
| 138  | 138 | 136 | 135 | 101 |
| 150  | 152 | 150 | 151 | 112 |
| 165  | 167 | 165 | 167 | 127 |
| 180  | 182 | 181 | 182 | 142 |
| 205  | 206 | 207 | 206 | 172 |

Sectra

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 138  | 138 | 136 | 135 | 101 |
| 150  | 152 | 150 | 151 | 112 |
| 165  | 167 | 165 | 167 | 127 |
| 180  | 182 | 181 | 182 | 142 |

Rolled quarter-round box



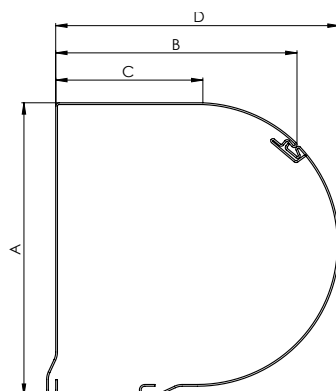
Vivera

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 138  | 138 | 137 | 70  | 101 |
| 150  | 152 | 151 | 76  | 115 |
| 165  | 167 | 167 | 87  | 130 |
| 180  | 182 | 182 | 92  | 145 |
| 205  | 206 | 205 | 106 | 166 |

Sectra

| Size | A   | B   | C  | D   |
|------|-----|-----|----|-----|
| 138  | 138 | 137 | 70 | 101 |
| 150  | 152 | 151 | 76 | 115 |
| 165  | 167 | 167 | 87 | 130 |
| 180  | 182 | 182 | 92 | 145 |

Rolled round box



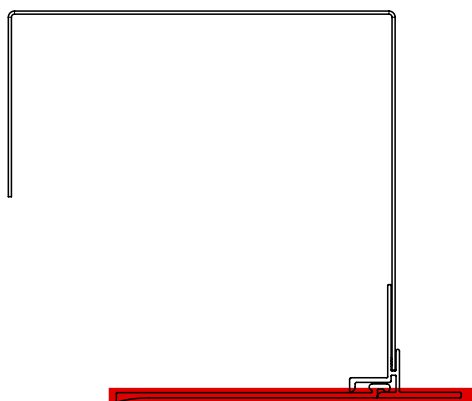
Vivera

| Size | A   | B   | C   | D   |
|------|-----|-----|-----|-----|
| 138  | 139 | 118 | 78  | 145 |
| 150  | 152 | 131 | 84  | 160 |
| 165  | 167 | 143 | 92  | 173 |
| 180  | 180 | 156 | 99  | 188 |
| 205  | 206 | 179 | 113 | 215 |

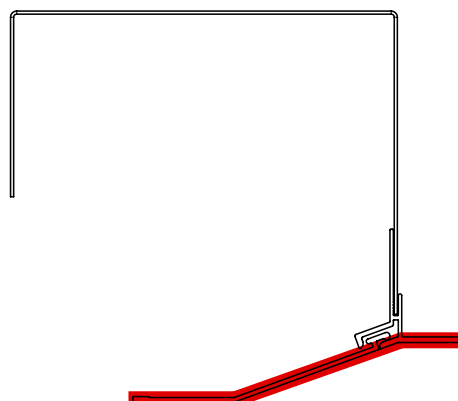
Sectra

| Size | A   | B   | C  | D   |
|------|-----|-----|----|-----|
| 138  | 139 | 118 | 78 | 145 |
| 150  | 152 | 131 | 84 | 160 |
| 165  | 167 | 143 | 92 | 173 |
| 180  | 180 | 156 | 99 | 188 |

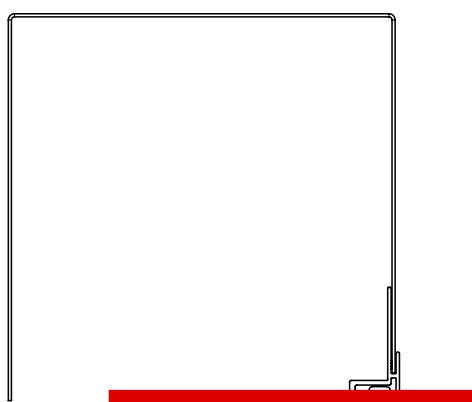
| Abbreviation 2 | Name                                       |
|----------------|--------------------------------------------|
| K020           | For plastering, 20°                        |
| K020P          | For plastering, 20°, (Plasterax extension) |
| K090           | For plastering, 90°                        |
| K090P          | For plastering, 90°, (Plasterax extension) |



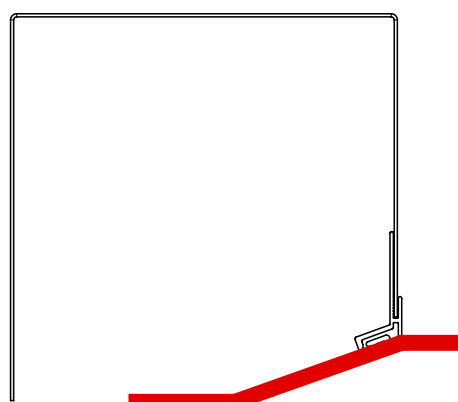
KO90



KO20



KO90P



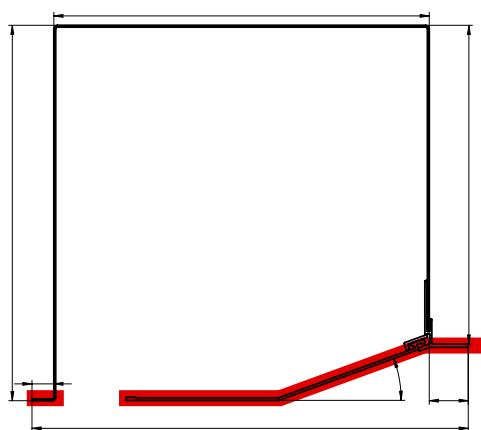
KO20P

 painting

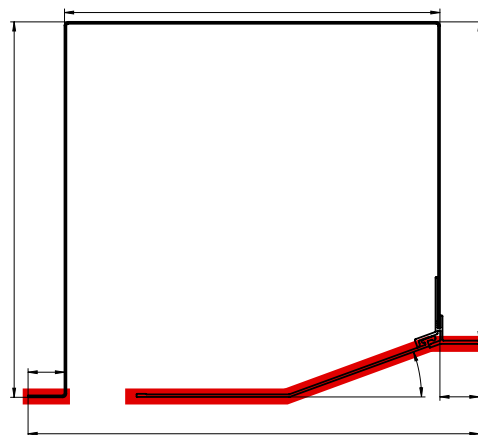
These values represent a situation where the back side of Plasterax will end alongside the check flap.



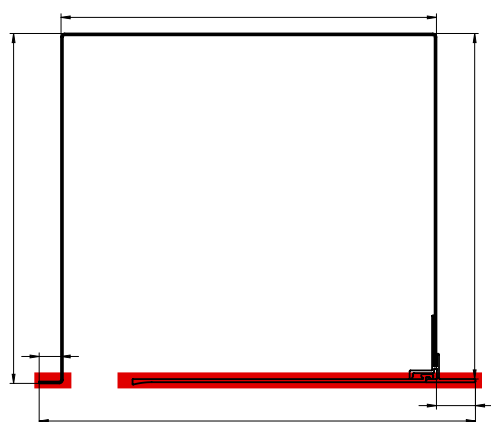
| Abbreviation 2 | Name                                           |
|----------------|------------------------------------------------|
| KO20PL12       | For plastering, 20°, extension L12 (Plasterax) |
| KO20PL20       | For plastering, 20°, extension L20 (Plasterax) |
| KO90PL12       | For plastering, 90°, extension L12 (Plasterax) |
| KO90PL20       | For plastering, 90°, extension L20 (Plasterax) |



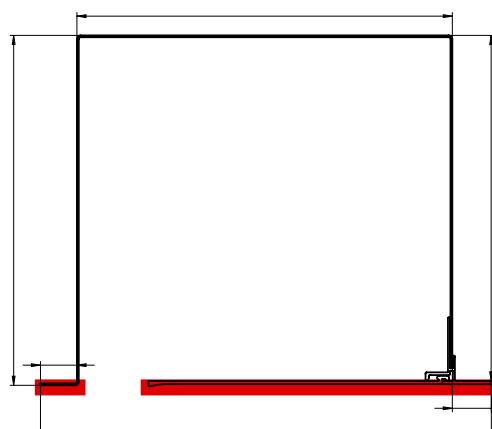
KO20PL12



KO20PL20



KO90PL12

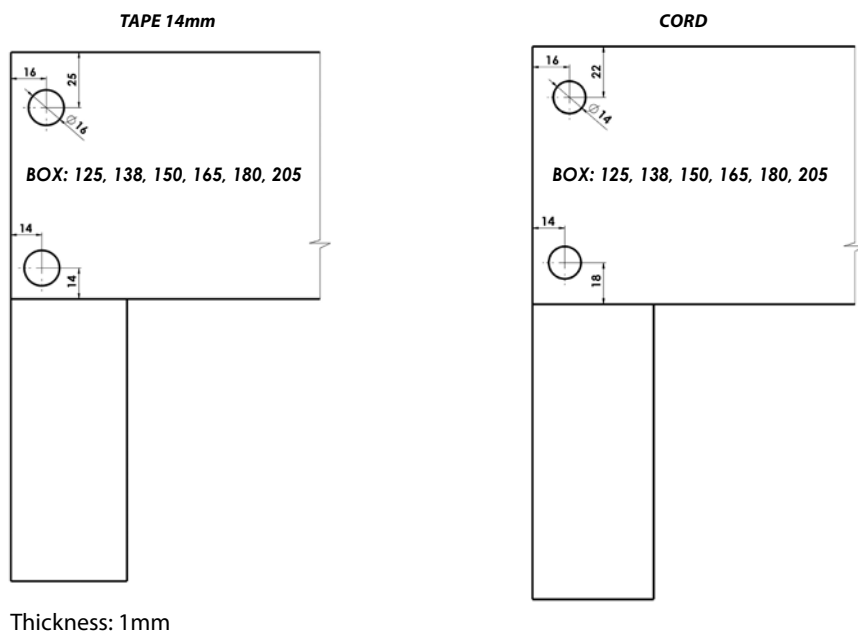


KO90PL20

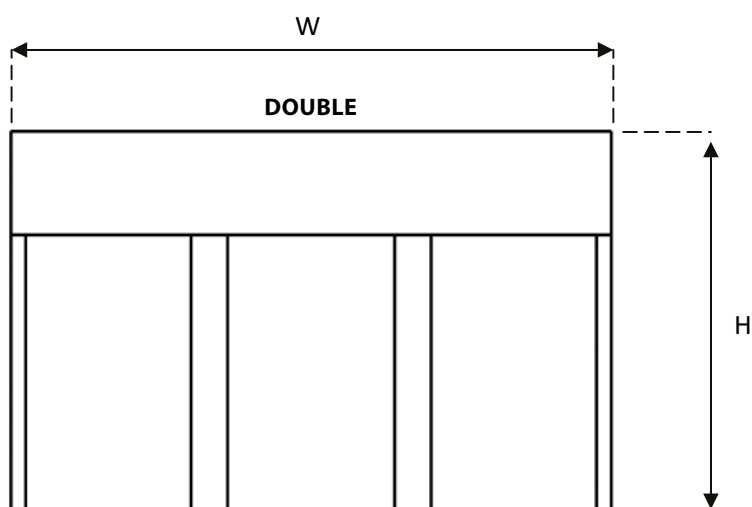
 painting

These values represent a situation where the back side of the Plasterax will end at the same time as the revision flap and in the back part there is a nose of size 12 mm or a nose of size 20 mm.

## Covering box



## Continuous box - double guiding channel



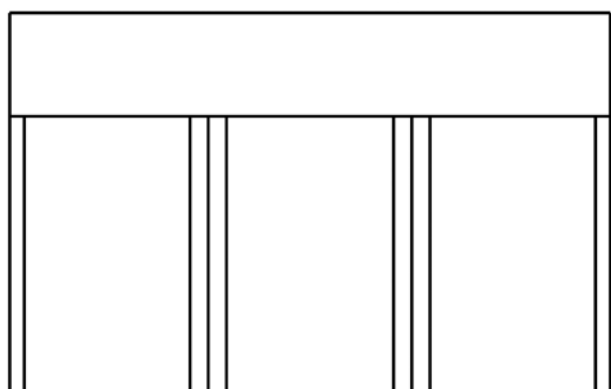
max. width\* = 4500 mm

max. height = 4350 mm

\*Max. width for Plasterax is 4000 mm.

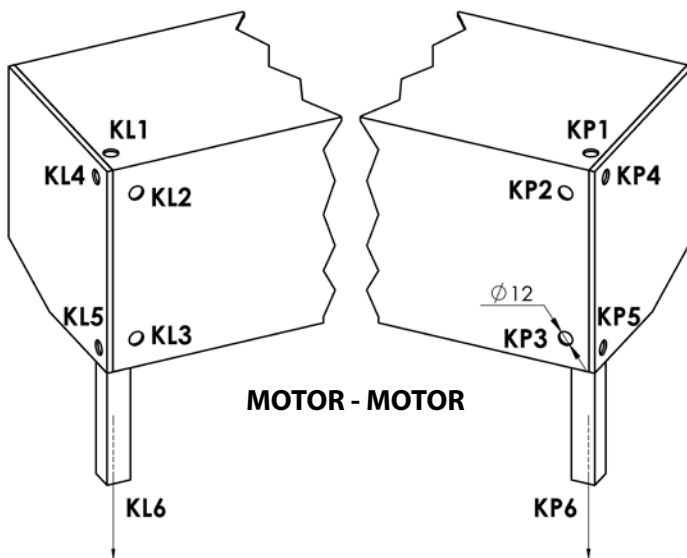
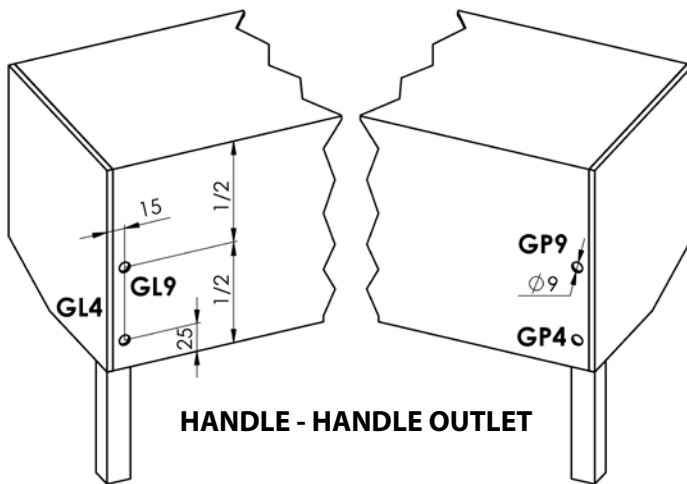
Note: In case of double rails, do not select a motor to both sides!

## Continuous box – two guiding channels



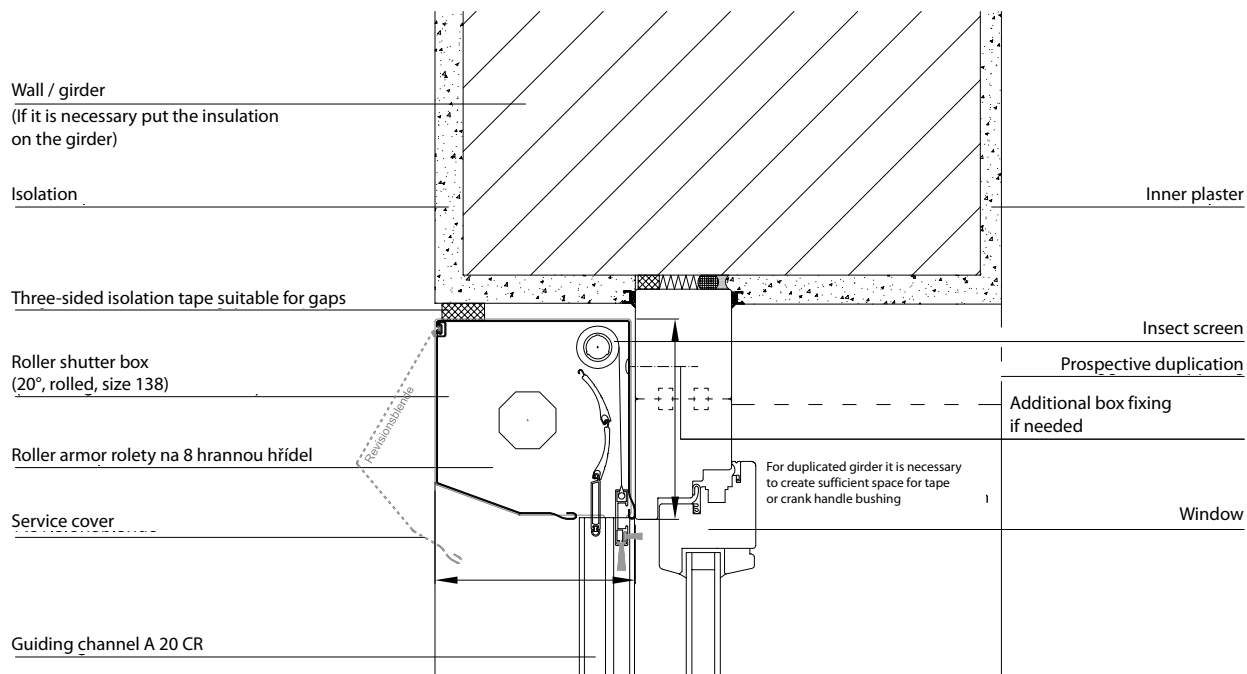
Note: Cables for roller shutters in a common box are led out of the box in the place of entry, they are not guided to a central location!

## Control Placement

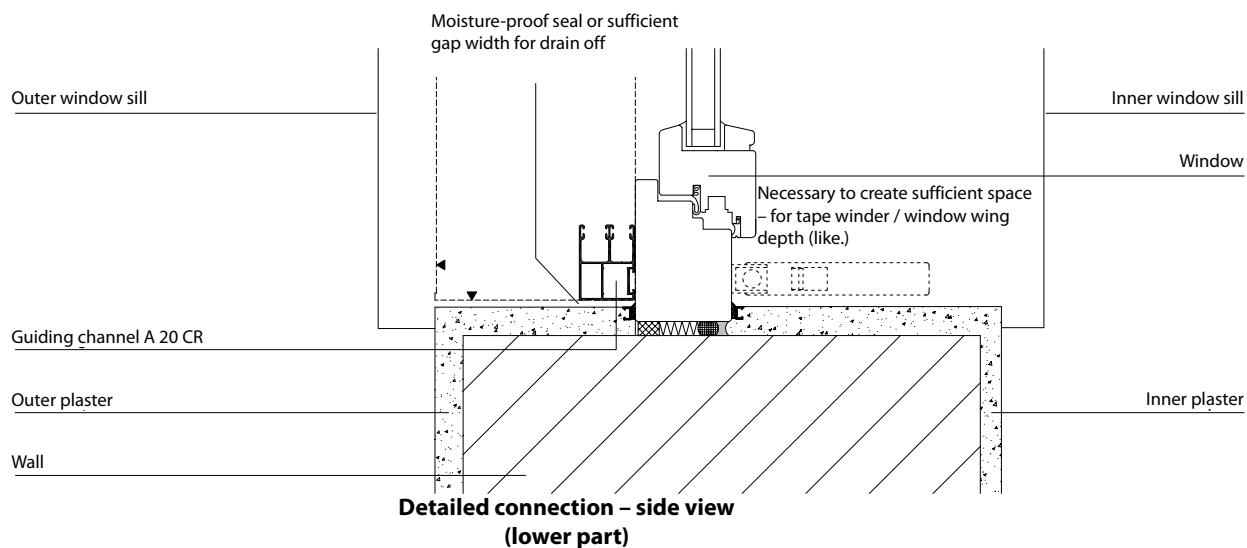


## Roller shutters with integrated insect screen – visible box

**Detailed connection – side view  
(upper part)**

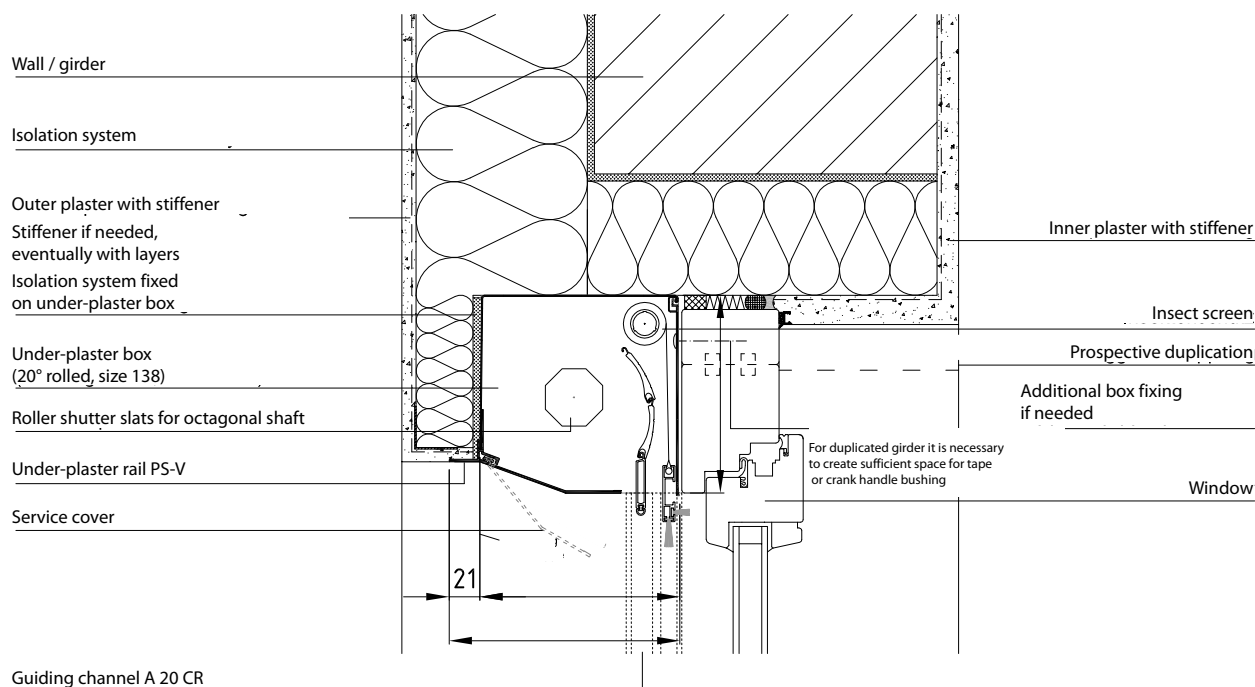


Necessary to create sufficient space for extended weatherboard placed by windows connection



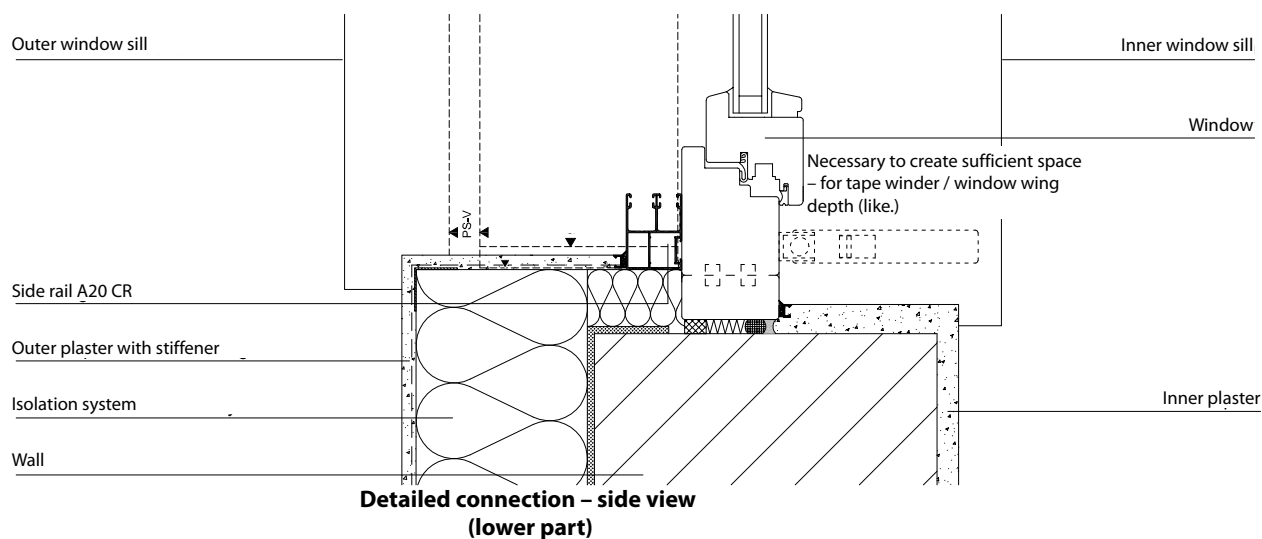
## Roller shutters with integrated insect screen – under-plaster box

**Detailed connection – side view  
(upper part)**



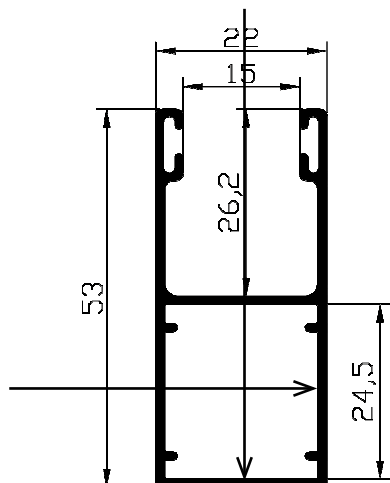
Box must not move and has to be fixed additionally

Necessary to create sufficient space for extended weatherboard placed by windows connection

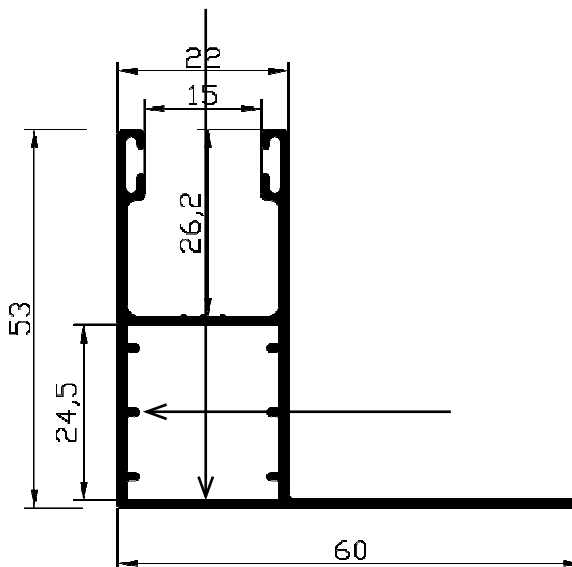


## Guiding channels

Guiding rail A3 (6-001786-xxxx) - standard

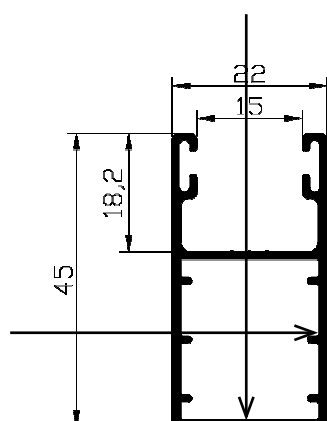


Guiding rail A4 (6-001788-xxxx)

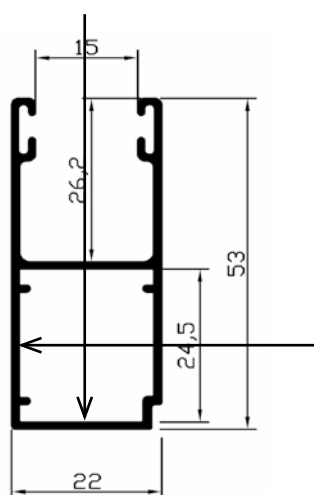


Note: Rail for the FAR or FAG safety cover

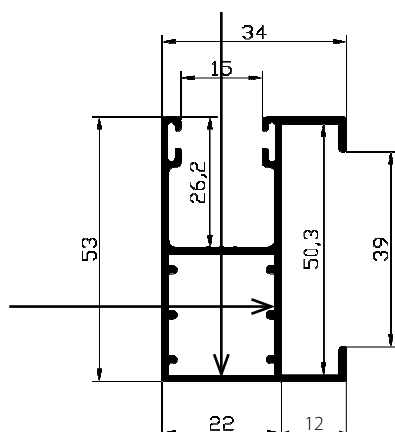
Guiding rail A5 (6-002595-xxxx)



Guiding rail A3-ES V2 (6-003879-xxxx)

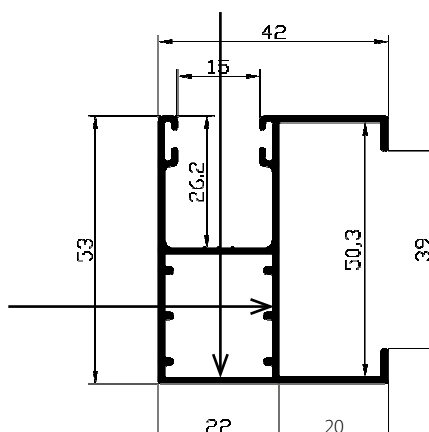


Guiding rail A8 - 12 (6-002599-xxxx)



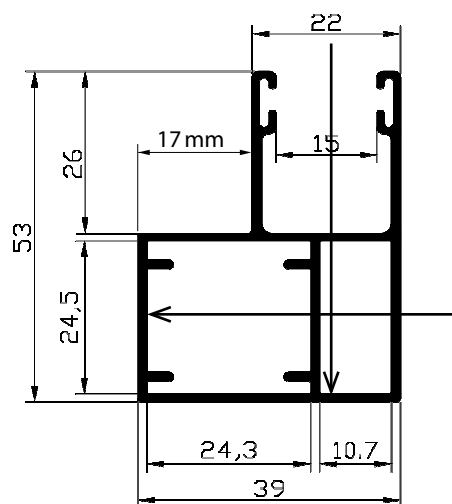
It allows a 12 mm offset from the window. A gap will appear between the box and the window.

Guiding rail A8-20 (6-002600-xxxx)



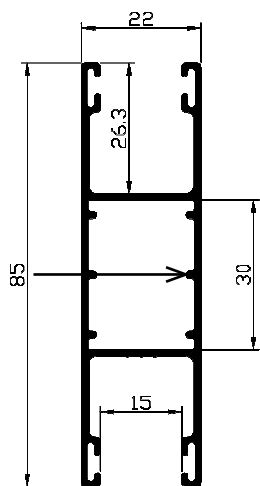
It allows a 20 mm offset from the window. A gap will appear between the box and the window.

Guiding rail A15 (6-001794-xxxx)

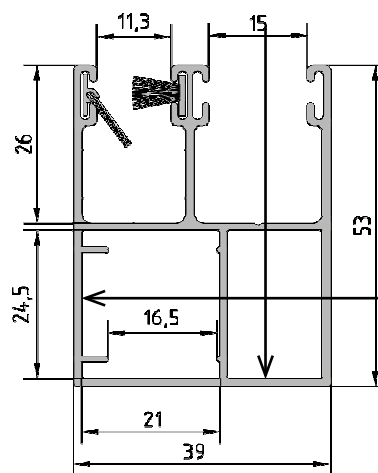


Note: Allows a 17 mm clearance from the window without creating a gap between the window and the roller shutter's backside.

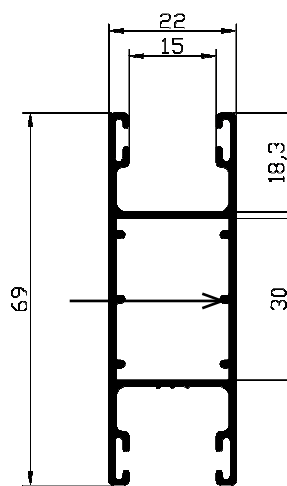
Guiding rail DF-A3 (6-002601-xxxx)



Guiding rail A20 (6-001926-xxxx) Sectra



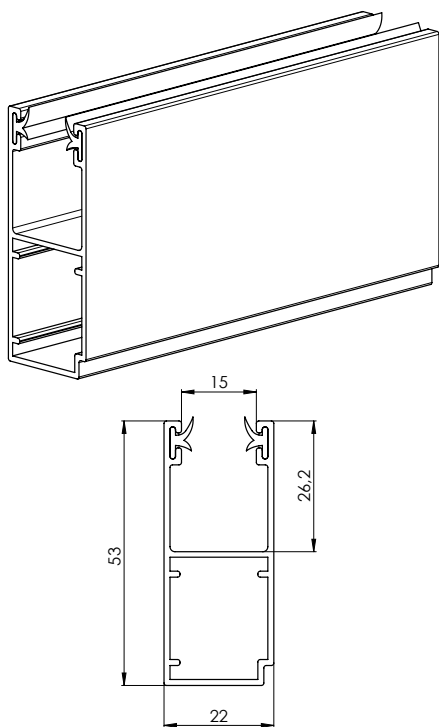
Guiding rail DF-A5 (6-001808-xxxx)



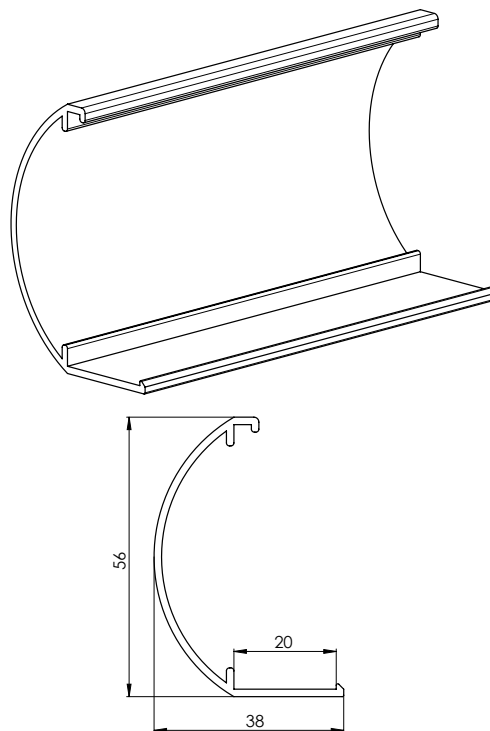


## The elements to secure external roller shutter - safety components

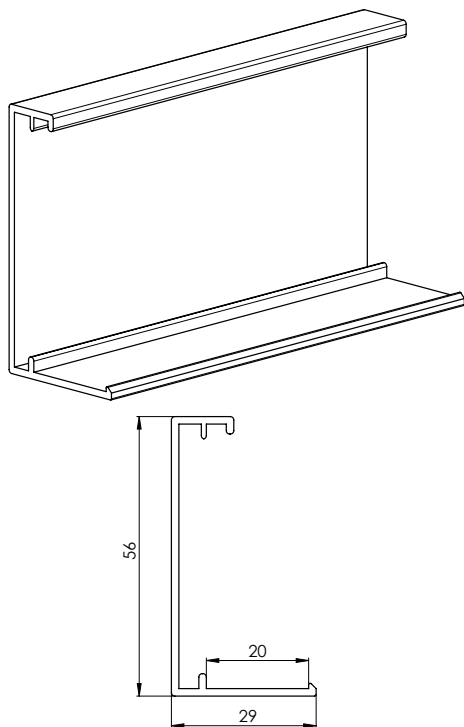
Guiding rail A3-ES V2 (6-003879)



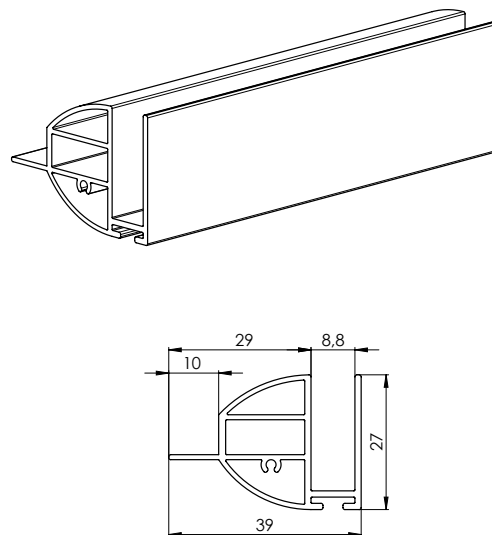
Guiding rail cover FAR-ES V2 (6-003880)



Guiding rail cover FAG-ES V2 (6-012000)

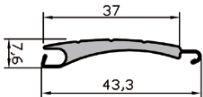
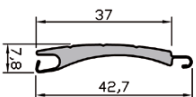
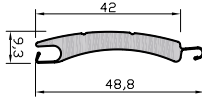


Special end rail (6-012001)



Note: Safety components for guide rails can only be selected within the MY442 slat, the special end rail is supplied automatically.

## Slats

| Standard                                                                          |                                                                                   |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| M317                                                                              | M328                                                                              | MY442                                                                               |
| Vivera, Heluz                                                                     | Vivera, Heluz                                                                     | Vivera, Heluz                                                                       |
| Al                                                                                | Al                                                                                | Al                                                                                  |
|  |  |  |

### Technical Data (mm)

|                    | M317                  | M328                  | MY442                  |
|--------------------|-----------------------|-----------------------|------------------------|
| Covering height    | 37                    | 37                    | 42                     |
| Thickness          | 7,6                   | 7,8                   | 9,3                    |
| Material thickness | 0,3                   | 0,28                  | 0,3                    |
| Weight             | 2,8 kg/m <sup>2</sup> | 2,6 kg/m <sup>2</sup> | 2,85 Kg/m <sup>2</sup> |
| Maximum Width      | 2900                  | 2700                  | 4000                   |
| Maximum Area       | 6,5 m <sup>2</sup>    | 5,8 m <sup>2</sup>    | 8,5 m <sup>2</sup>     |

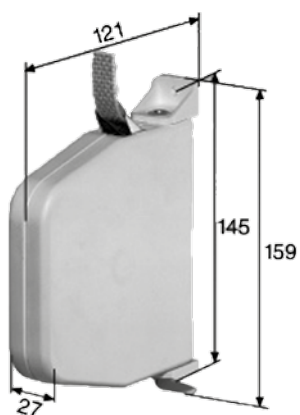
| M317                         |    | M328                         |    | MY442                        |    |
|------------------------------|----|------------------------------|----|------------------------------|----|
| 01 white                     | ●  | 01 white                     | ●  | 01 white                     | ●x |
| 02 grey                      | ●x | 02 grey                      | ●x | 02 grey                      | ●x |
| 03 velvet brown              | ●  | 03 velvet brown              | ●  | 03 velvet brown              | ●x |
| 04 beige                     | ●x | 04 beige                     | ●x | 04 beige                     | ●x |
| 05 dark Begie                | x  | 07 natural                   | ●  | 07 natural                   | ●x |
| 07 natural                   | ●  | 13 moss Green                | ●x | 22 golden oak                | ●x |
| 09 bronze                    | x  | 22 golden oak                | ●  | 23 lighter grey              | ●x |
| 11 oak                       | x  | 27 creamy white              | ●x | 27 creamy white              | ●x |
| 12 teak                      | x  | 30 jamaica brown             | ●x | 30 jamaica brown             | ●x |
| 13 moss Green                | ●x | 35 sand-begie                | ●x | 38 anthracite grey           | ●x |
| 14 purple red                | x  | 38 anthracite grey           | ●  | 84 ivory                     | ●x |
| 22 golden oak                | ●  | 84 ivory                     | ●x | 86 nut                       | ●x |
| 23 lighter grey              | ●x | 86 nut                       | ●x | other (consultation with SR) |    |
| 27 creamy white              | ●x | other (consultation with SR) |    |                              |    |
| 37 velvet grey               | x  |                              |    |                              |    |
| 38 anthracite grey           | ●  |                              |    |                              |    |
| 84 ivory                     | ●x |                              |    |                              |    |
| 85 gray aluminum 9007        | x  |                              |    |                              |    |
| other (consultation with SR) |    |                              |    |                              |    |

- standard price and standard delivery
- x standard price and delivery after consulting
- x extra charges and delivery must be consulted

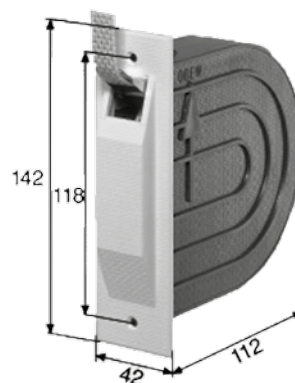


## Accessories

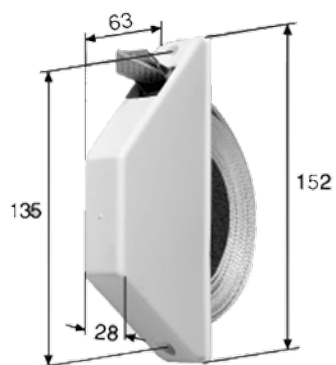
**Tape coiler PR0131**  
6-001908-XXXX  
Design: white, brown



**Flush fitting cord coiler PR0133**  
6-001913-XXXX  
Design: white, brown

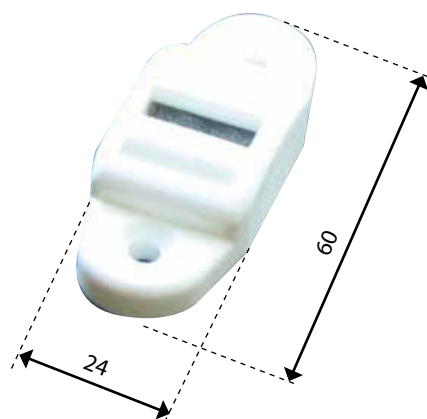


**Semi-recess tape coiler PR0286**  
6-003640-XXXX  
Design: white, brown



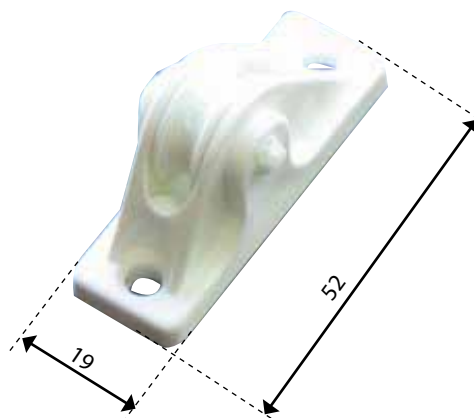
## Guides

**Tape guide PL0146**  
6-001918-XXXX



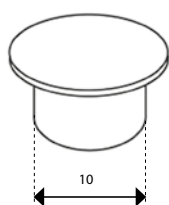
Cord colour: whitegrey, brown  
Height 18 mm

**Deflect roller for cord PR0148**  
6-001923-XXXX



Tape colour: grey, brown  
Height 28 mm

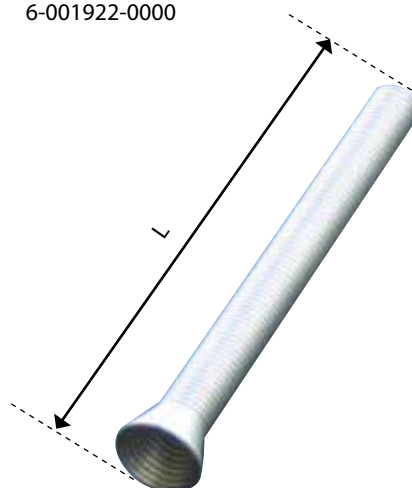
**Plug 10 mm, ZP0013/1015, 3-03684-0000**



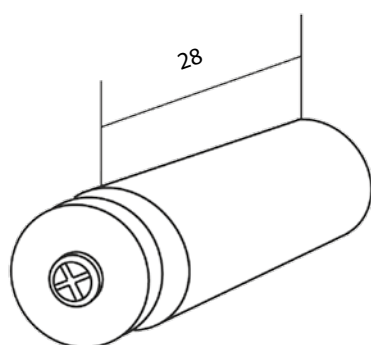
Design:

- Signal white (RAL 9003)
- Light ivory (RAL 1015)
- Clay brown (RAL 8003)
- Sepia brown (RAL 8014)
- Window grey (RAL 7040)
- Anthracite grey (RAL 7016)
- Signal black (RAL 9004)

**Cord spring (100/200 mm) PR0149**  
6-001922-0000



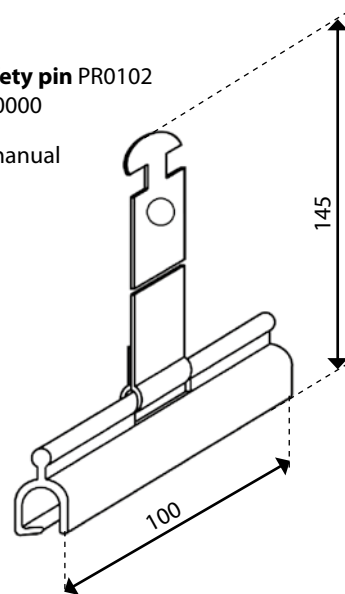
**Dead stop**  
6-005477-xxxx



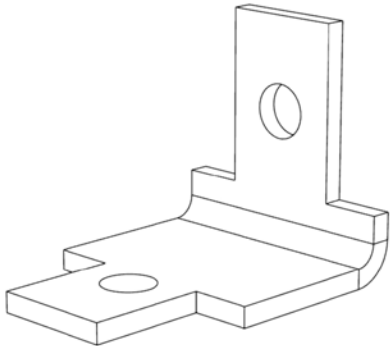
A = 28mm  
Design: white, brown, grey, black, beige

**Spring safety pin PR0102**  
6-001871-0000

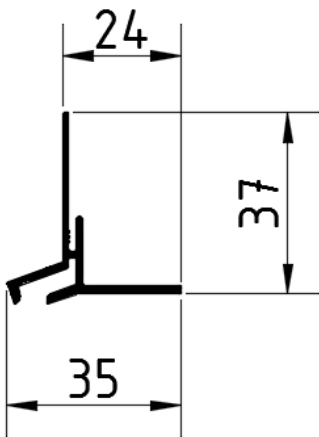
Note: for manual control



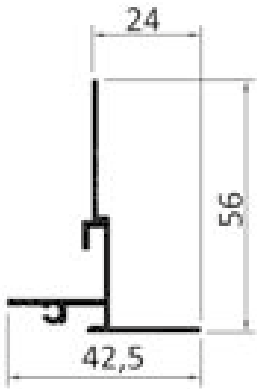
**Guide channel end parts PR0432**  
 6-011947-0000



**Concealed rail for under-plaster box**



**Angles for concealed under-plaster box 90°**



**Octoeasy suspension**

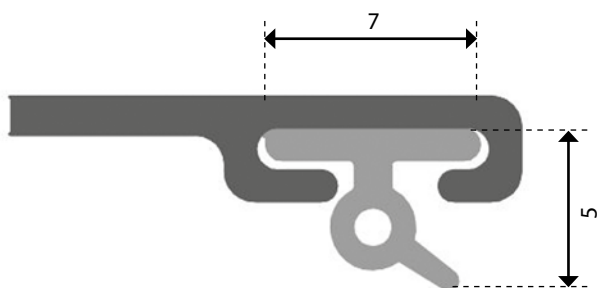
- Octoeasy suspension - single-cell, shaft 40mm, box 125-165
- Octoeasy suspension - single-cell, shaft 60 mm, box 125-165
- Octoeasy suspension - double-cell, shaft 40mm, box 180-205
- Octoeasy suspension - double-cell, shaft 60 mm, box 180-205

|          |                 |
|----------|-----------------|
| PR0648/1 | (6-013917-0000) |
| PR0648/2 | (6-013918-0000) |
| PR0648/3 | (6-013919-0000) |
| PR0648/4 | (6-013920-0000) |

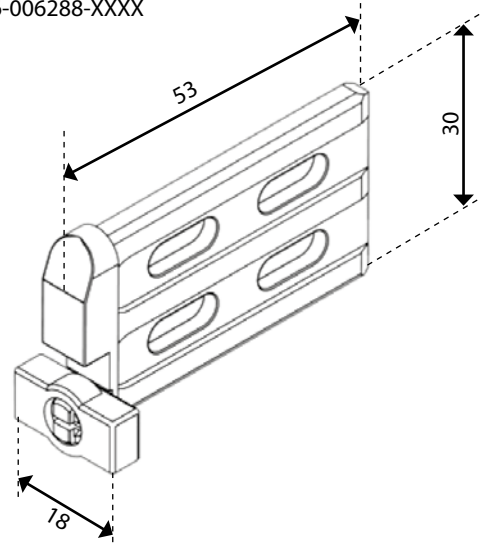


Note: for motor control

**PVC insert PR0430**  
6-001796-0000



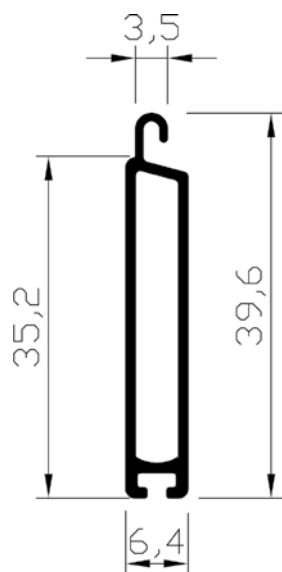
**Connecting buffer swiveling RP0291**  
6-006288-XXXX



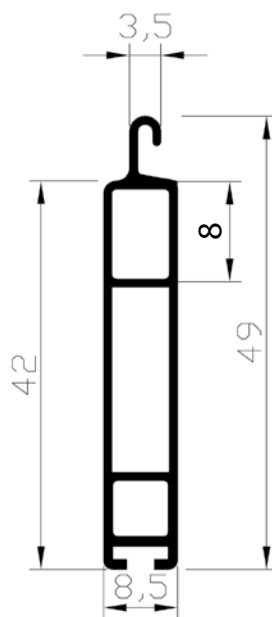
Design: white, black

### End slat

**End slat PR0431**  
6-010977-XXXX

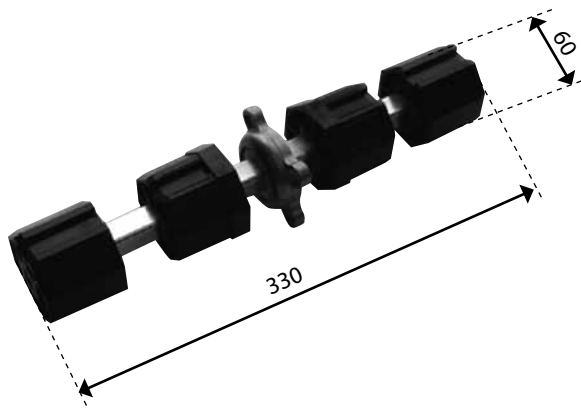


**End slat for covered stops PR0115**  
6-001858-XXXX



Note: In case of roller shutter width smaller than 1000 mm, a galvanised steel weight 18x2 mm is inserted in the lower rail.

**Double shaft bolt**  
6-010973-0000



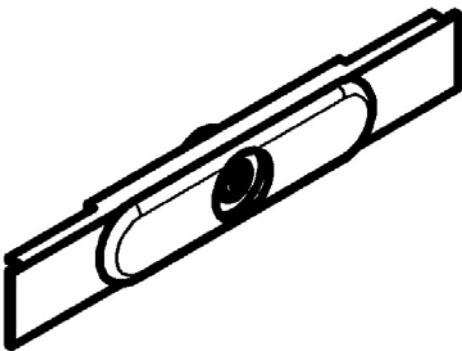
**Linkage (120/130/140/150/160 mm)**

6-001883-0000  
6-002704-0000  
6-002706-0000  
6-002707-0000  
6-002708-0000

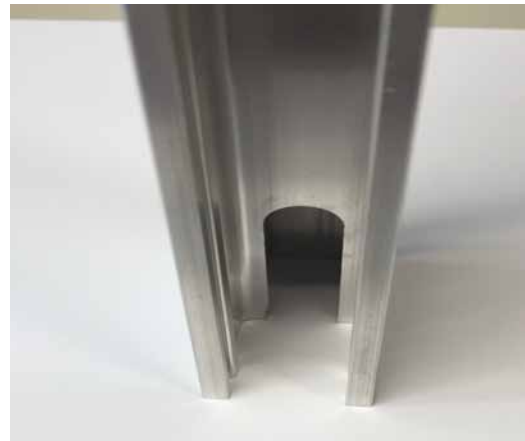


Design: white

**Cylinder round lock PR0207**  
6-002131-xxxx



**Groove in side guide rail for cylinder lock**



**Note:**

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.





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