Slide&Tilt / Timber 12 gap / Automatic operation

INSTALLATION INSTRUCTIONS
TIMBER
Application
Automatic operation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>kg</th>
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<tbody>
<tr>
<td>720 - 2000</td>
<td>900 - 2700</td>
<td>160</td>
</tr>
<tr>
<td>960 - 2000</td>
<td>900 - 2700</td>
<td>200*</td>
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</table>

* for sash weight > 160 kg use tandem roller

- **Backset**

- **Sash rebate width (SRW)**

- **Sash rebate height (SRH)**

- **Sash width**

- **Handle dimension**

- **Frame rebate width**

- **Frame rebate height**

Left version shown, Right version as mirror image
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Product liability

Important notes

• Observe the maximum and minimum dimensions as well as the max. permissible sash weight.

• Observe the specifications of the profile manufacturer, especially with regard to possible restrictions of the minimum and maximum heights, the sash weight and the locking point.

• Do not make any changes to the design of the fitting components.

• Use only MACO hardware for the entire fitting.

• Mount all fitting components as described in these instructions and observe all safety instructions.

• Use the screw sizes specified. Match the screw lengths to the profile system.

• Insert the screws straight (if not otherwise specified) and do not over-tighten them, since this would otherwise adversely affect the smooth running of the hardware.

• Fasten the screw of load-bearing components (e.g. roller, roller track and guide track) onto the reinforcement profile.

• Make sure there is a positive transfer of pressure forces onto the reinforcement profile in the area of the roller.

• Do not use acidic wetting sealants, since these can cause corrosion in the fittings.

• Keep the roller track and all sashes free of soiling and masonry residue. Avoid contact of the hardware with moisture and cleaning agents.

• Attach the operation sticker so that it is easily visible on the installed slide&tilt sash.

• If the slide&tilt fittings are subjected to excessive loads or not operated properly the sash can fall out of its guide, please remove thereby cause severe injuries. If excessive loads are to be expected in special circumstances (in schools, nursery schools, etc.), suitable measures must be adopted to prevent damage to the slide&tilt unit For example: – Moving the stop to reduce the opening width, or – Installing a profile cylinder to prevent unauthorized use.

If in doubt, please ask your MACO contact person.

Disclaimer
We shall not be liable for malfunctions and damage to the fittings and/or to Slide&Tilt units equipped with these, if this has been caused by inadequate tendering procedures, non-compliance with these installation instructions, or physical force applied to the fittings (e.g. due to improper use).
Fold-out side 1:
Overview drawings and parts list
Fold-out side 2:
Sections scale 1:1, view of sash and frame
① keep to dimension! 
Dimension for 
18 mm rebate leg

② Underlay the roller 
over the entire 
length. 
(not a MACO article)
Roller up to 160 kg

Tandem roller up to 200 kg
Types of openings

- Fixed glazing
- With mullion

- Fixed glazing
- With mullion

- Fixed glazing
Types of openings

Mullion installed on second sash

Two adjacent drive gears
Types of openings
Mullion installed on second sash
Types of openings
Two adjacent drive gears
Types of openings
With lockable drive gear
Sash installation

Hole for handle for drive gear DM 0

Drilling jig No. 455661:
Sash installation

Hole for handle for drive gear DM 17.5
drilling jib no. 465150
Sash installation

Hole for handle for lockable drive gear DM 17,5

drilling jib no. 465150

MACO RAIL-SYSTEMS
Sash installation

Scissor stay routing
drilling jig no. 455661
Sash installation

Installing the central lock

Install ① - ④

Attach ⑤ - ⑧, cut to length and install.

⚠️ ⑤ + ⑦ Label must point to the pivot post!

⚠️ Observe the positions of the Locking cams!
Sash installation

⚠️ a Observe the centre fastening of the scissor stays!

⚠️ b Note:
We recommend that you do not attach the covers until the sashes have been mounted.
Sash installation

Installing the handle

Pre-assembled cylinder screw made of PVC must always be used to fasten the cylinder!

Operate the handle to release the installation fastening.
Sash installation
Installing the 160 kg roller
Sash installation

Installing the 160 kg roller

1. Set the jig $x > 0$: for pronounced arches or angles at the sash
   $A = \text{sash} / B = \text{roller}$
2. Apply jig to rebate leg and drill

$x = 0, Y = 10$
$x > 0, Y = 10 + x$
$x = 5, Y = 15$

---

Installing the 160 kg roller

1. Set the jig $x > 0$: for pronounced arches or angles at the sash
   $A = \text{sash} / B = \text{roller}$
2. Apply jig to rebate leg and drill

$x = 0, Y = 10$
$x > 0, Y = 10 + x$
$x = 5, Y = 15$
Sash installation

Installing the 160 kg roller

1. Install the roller and support
2. Cut the connection rod to length
3. Install the connecting rod at the rear roller
4. The roller can be fastened at the rear using the jig.
5. Fasten the connecting rod at the front roller

⚠️ Make sure that the rollers are parallel!
Sash installation

Installing the 200 kg roller
Tandem roller

\[ x = 0, \ Y = 10 \]
\[ x > 0, \ Y = 10 + x \]
\[ x = 5, \ Y = 15 \]
Sash installation
Installing the 200 kg roller

⚠️ Make sure that the rollers are parallel!

5x50

![Diagram showing the correct and incorrect installation of rollers]

- Correct installation: Alignment of 'a' and 'b'
- Incorrect installation: Misalignment of 'a' and 'b'
Sash installation

1. Cut the cover profile to length according to the mark on the roller and snap on
2. Clip on the caps at the front

Notes:
We recommend that you do not attach the covers until the sashes have been mounted
Frame installation

Installing the strikers
Frame installation

1. Striker positioning jig for drive gear and height unit no. 211611 and no. 211612
   Striker positioning jig for width unit no. 214759

<table>
<thead>
<tr>
<th>Size</th>
<th>900 - 1100</th>
<th>1101 - 1300</th>
<th>1301 - 1500</th>
<th>1501 - 1700</th>
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<td>-</td>
<td>1034</td>
<td>1234</td>
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Frame installation
Installing the guide track

1. Cut the guide track to length.

⚠️ Dimension for rebate leg 18.
Frame installation

2 Screw-on jig No. 465173

3 Pre-drill and fasten the guide track, drilling jig 465945

Notes:
We recommend that you do not attach the covers until the sashes have been mounted
Frame installation

Installing the roller track

⚠️ Underlay the roller over the entire length!

⚠️ Cut the roller track to length to match.

⚠️ Dimension for rebate leg 18.
Frame installation

2 Screw-on jig No. 465173, Z = rebate leg

3 Pre-drill and fasten the roller track, drilling jig no. 465945

Notes:
We recommend that you do not attach the covers until the sashes have been mounted
Inserting the sash

1. Insert the roller.

2. Insert the scissor backsets into the centre slider openings until they snap into the sliders (audible click!) and pull/press down the scissor arms to check that the connections are secure.

3. When installed correctly, the security slider on the side snaps in flush with the edges of the slider housing.

⚠️ Caution: If the scissor backsets do not snap in properly, the window sash will not be held securely and may fall out. Serious personal injuries may result.
Inserting the sash

4  Assembly jig for control module No. 465175  
   Dimension 72 mm corresponds to distance to outside edge of sash  
   - 10 mm roller for 18 mm rebate leg.

5  Install the bottom stop for the desired opening width of the roller track.

6  Insert the top stop in the guide track and install at the desired opening width.
Inserting the sash

7 Activate the lever lock! Move the lever lock on both rollers back until they snap into place at the marked position.

⚠️ If the lever lock is not (or not correctly) in place at the marked position, the window sash will not be secured properly.

**Caution:**
Serious personal injuries may result!

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1 Unhinge the scissor stay

2 Tandem roller
Inserting the sash
Correct the parallel setting of the roller

1. Loosen the connecting rod on the roller at the handle side.
2. Push the connecting rod to the left or right to position the rear roller (b) set parallel parallel to the roller unit (a).
3. Fasten the connecting rod on the roller at the handle side.

Regulating the height of the roller
- Lift off the adjustment ① lock
- Set the height (+ 6 mm)
- Reattach the adjustment lock
Inserting the sash

1. Correct the sash entry and 2. set the contact pressure.

Handle position

1. closed
2. tilt
3. open/close

Anti lock-out device
Prevent the sash snapping into place inadvertently.

⚠️ 4. close

No anti lock-out device!
Notes