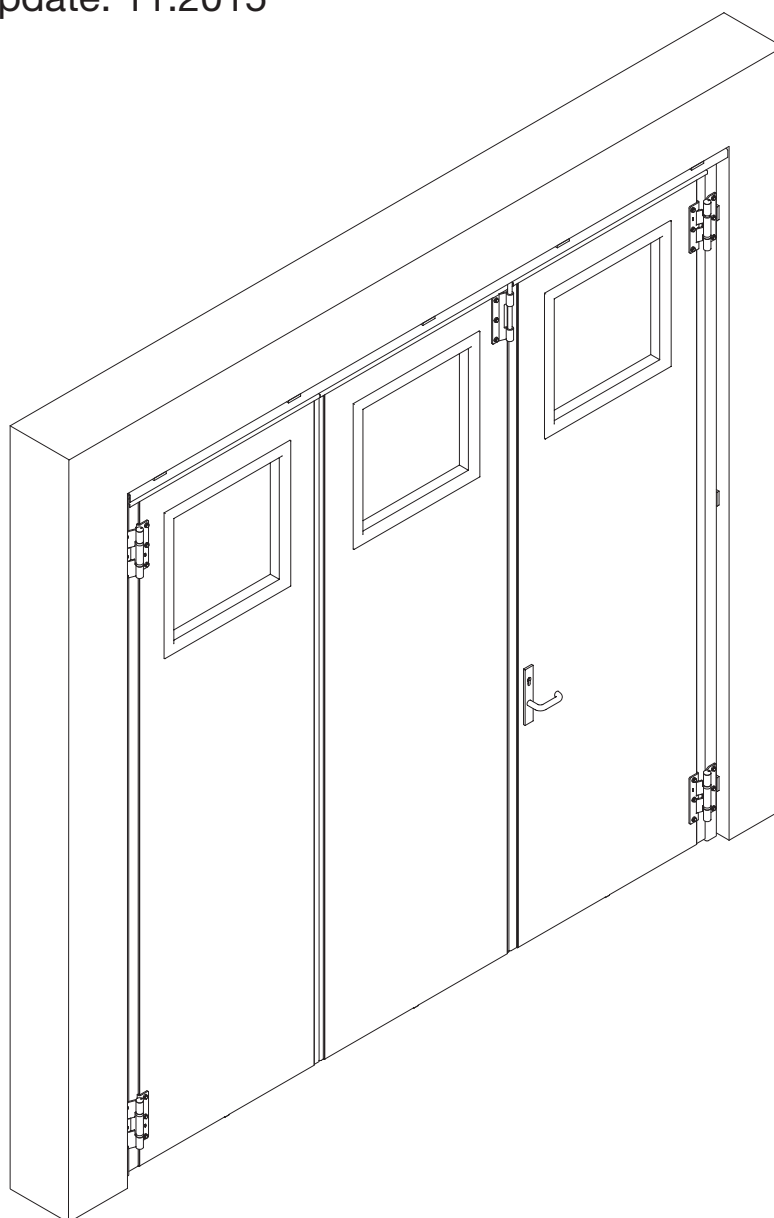


Installation, operation and maintenance instructions for Folding Doors

GB

Last update: 11.2015



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2. Symbol Explanation



Caution! Risk of personal injuries!

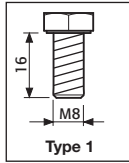
Attention! Risk of material damages!

Note

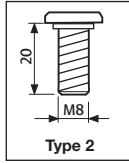
Function check

Reference

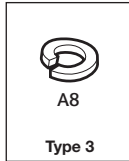
3. Overview of screws



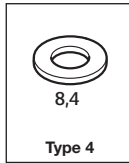
Type 1



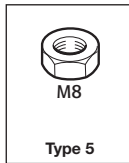
Type 2



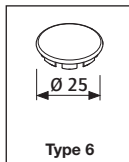
Type 3



Type 4



Type 5



Type 6

4. General Information

4.1 Target group

Installation should only be carried out by fully qualified specialists.

Qualified and trained door installation specialists have

- knowledge of general and special safety and accident prevention regulations
- participated in training courses for the application of safety equipment
- been trained in the safe use of hand and electric tools
- regularly attended training held by the manufacturer.

4.2 Warranty

A warranty as regards functioning and safety can only be provided if

- the safety and warning notices have been adhered to
- installation has been carried out correctly and in the order specified in the instructions
- only original Teckentrup accessories have been used
- no additional objects are attached to the door
- the supplied parts have not been adjusted or adapted
- regular door maintenance has been carried out
- the operator has been provided with all the relevant operating instructions (door, drive system and safety equipment).

4.3 General safety instructions

Caution!

- Cordon off the danger zone prior to installation.
- Ensure that people who are not involved with door installation are kept away from the danger zone.
- Installation should only be carried out by fully qualified specialists.
- Installation has to be carried out from a secure position (e.g. scaffolding).
- Supplied drawings take precedence over any other drawings.
- To prevent crushing, the door should only be opened and closed when no-one is located in the door travel area.
- In the event of defects or irregularities, the door must not be used and a fully trained and qualified fitter should come and inspect the door system.



4. General Information

4.4 Installation site requirements

- The door should only be installed in walls which have been tested and are approved for the static loading.

The following types of wall are permissible:

- Masonry in accordance with DIN 1053-1, min. masonry compressive strength class 12 min. masonry mortar group IIa, wall thickness ≥ 175 mm.
- Concrete in accordance with DIN 1045, min. masonry strength class B15, wall thickness ≥ 140 mm.
- Autoclaved aerated concrete blocks and high precision units in accordance with DIN 4165, min. masonry strength class 4.
- Steel construction with static documentation.

The following wall plugs are recommended:

- Masonry: Fischer FUR
- Concrete: Fischer FAZ, Fischer FH-S
- Autoclaved aerated concrete: on request

- The finished floor must be level and horizontal.
- The walls at the opening side have to be aligned.
- The door must not open into public thoroughfares.
- Ensure sufficient drainage in the area in front of the door.
- The door must be mounted to the adjacent constructional elements in a way that satisfies the following requirements:
 - Loads on the opened and closed door are accommodated securely and permanently.
 - Loads which develop due to the door movement are accommodated securely and permanently.
 - The forces should not affect the stability of the adjacent wall.
- Always observe and adhere to local regulations if the door is installed in potentially explosive areas. The operator must inform the fitter of these regulations.
- Earthing work should only be carried out by trained and qualified personnel.
- Make sure there are no installation or electrical wires within or on the wall in the installation area.

4.5 Door installation instructions

- Leave all the components in the packaging until they are required for assembly.
- Depending on the type of door, the door must be installed either within or to the face of the opening.
- Types of mounting not specified in the instructions must be approved by the manufacturer in advance.
- Insofar as no finish is provided, doors which are installed outdoors must be provided with a finishing coat no later than three (3) months after installation.
- The ready-for-use door must satisfy the requirements of EN 12604.

4.6 Door operation instructions

- Never place any objects within the movement range of the door.
- The door must be held in position (locked) when open and closed.
- The door must be either fully open or fully closed, but not be left in an intermediate position.
- For doors fitted with outer locking mechanisms, it must be possible to unlock the door from the inside or to exit the room via a separate entrance.
- The opening and closing of the door leaves is permitted only with the handles provided. The door must not be moved using the unlocking and locking handles (basquill).

5. General

5.1 Scope of delivery

- Door pack
- Accessories pack
- Door specific drawing

Refer to the enclosed packing list for details.

5.2 Illustrations

The described assembly refers to a triple-leaf door. Two leaves open to the left and one leaf to the right. Please refer to the door specific drawing for the on-site arrangement and the number of door leaves.

Technical details subject to change.

5.3 Dimensional checks

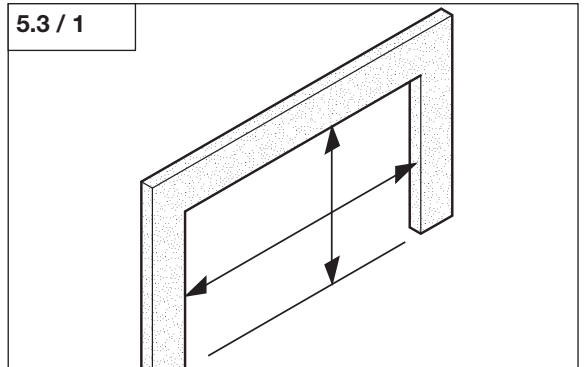


Reference:

Please refer to the order confirmation or the door specific drawing for the order dimensions of the door.

- Compare the order dimensions of the door and the actual structural conditions.

5.3 / 1



Note:

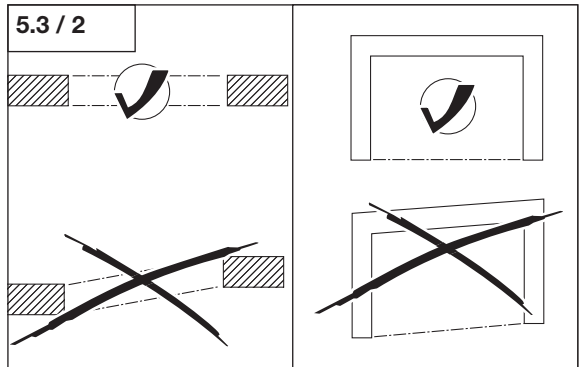
In order to install the door, the following conditions must be fulfilled:

- The finished floor should be level and horizontal.
- The walls at the opening side must be parallel to one another.

Please consult the manufacturer for permissible maximum deviations prior to assembly.

- Check the subsurface.

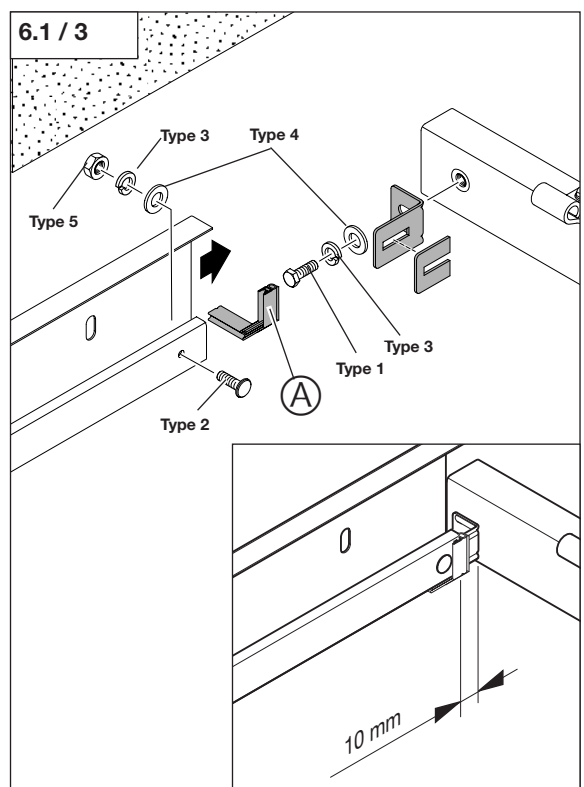
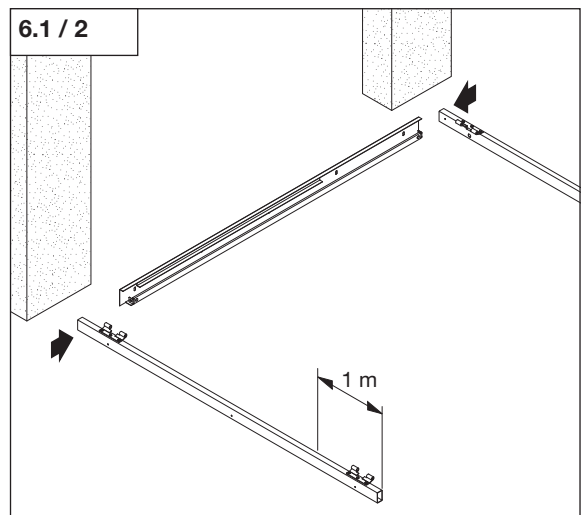
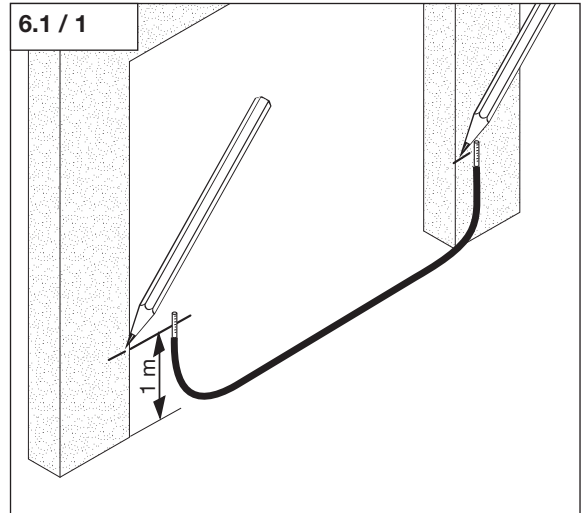
5.3 / 2



6. Installation

6.1 Preparing the frame

- Use a pencil to mark the 1 metre level on the assembly side.
- Transfer the 1 metre level to the opposite side.

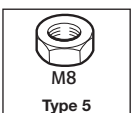
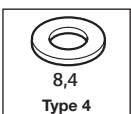
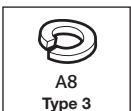
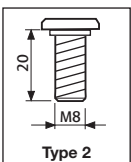
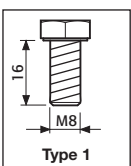


Note:

The frame must be screwed into position as follows:

- The hinges must be aligned correctly.
- To enable subsequent adjustment of the frame, a 10 mm gap must be observed between the side frame element and the upper frame element. The gap must be sealed with the supplied rubber strip (A).

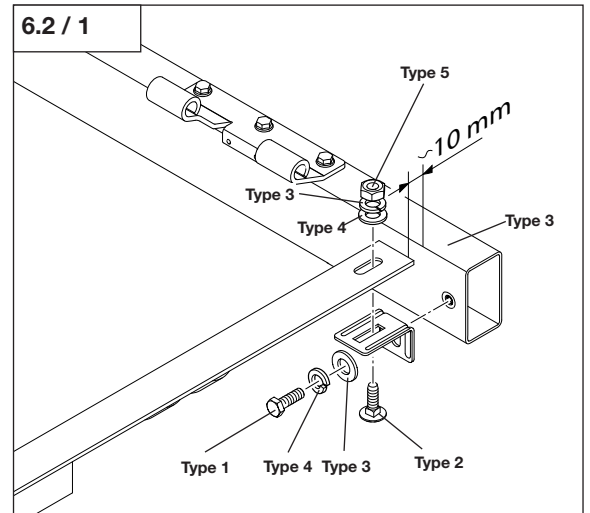
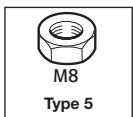
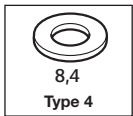
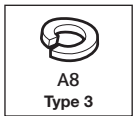
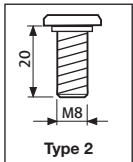
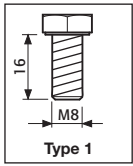
- Lay the frame elements in front of the opening.
- Use a pencil to mark the 1 metre level on the side frames.
- Screw the frame elements together.



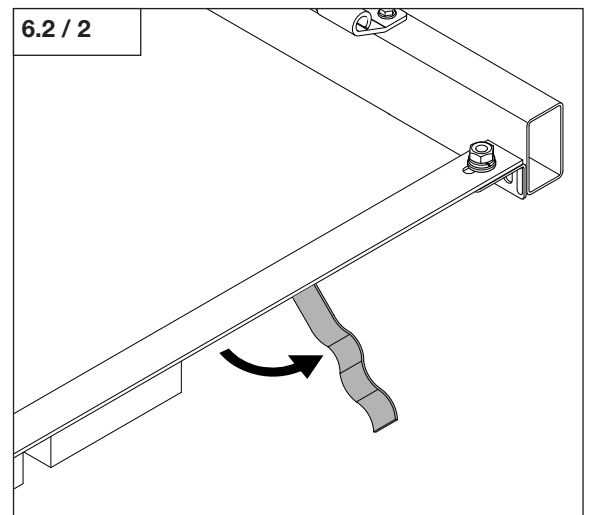
6. Installation

6.2 Installation of the lower stop (optional)

- Mount the bracket.

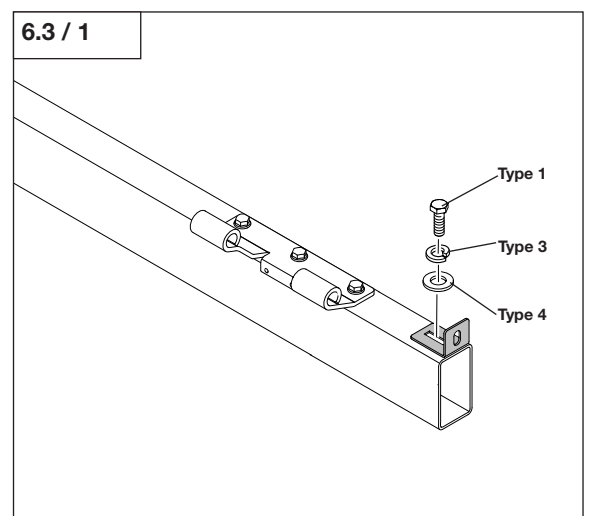
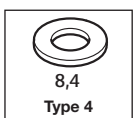
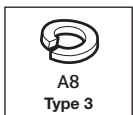
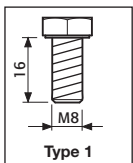


- Position all assembly anchors before alignment.



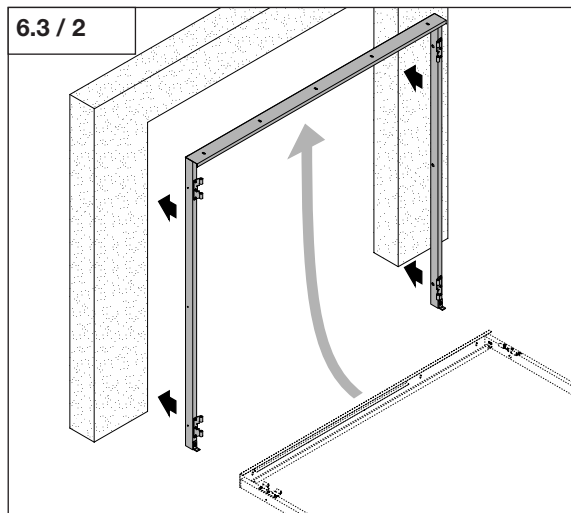
6.3 Frame installation in the reveal

- Mount the bracket.



6. Installation

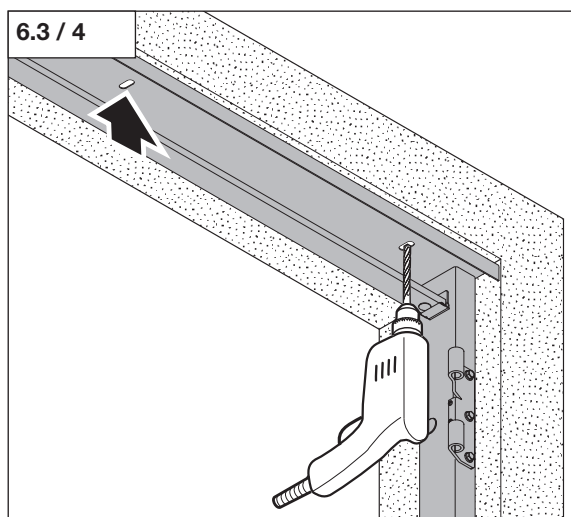
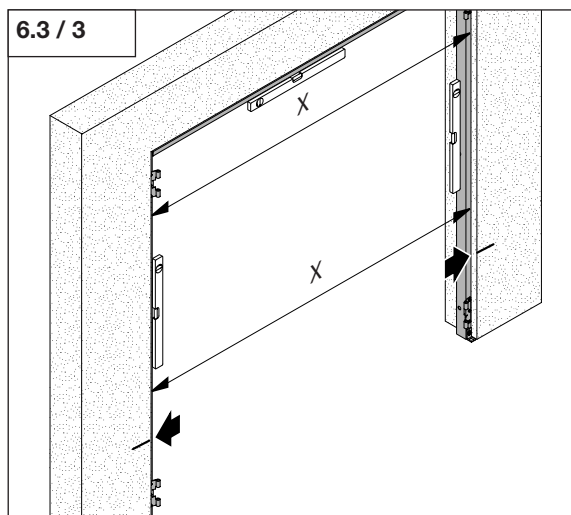
- Stand the frame up.
- Position the frame within the opening.



Attention!

The frame should not be welded into position.

- Align the frame to the middle.
 - Align the frame to the 1 metre level.
 - Align the frame vertically.
 - Fix the frame in the aligned position.
 - Check the overall frame dimension (X).
-
- Drill the fastening holes through the punched holes in the header.



6. Installation

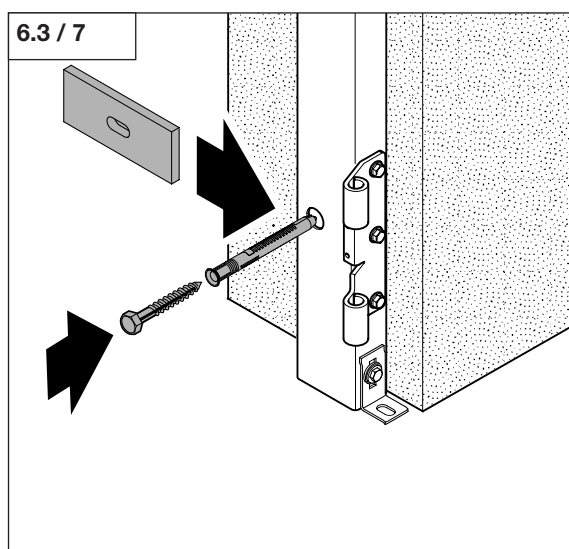
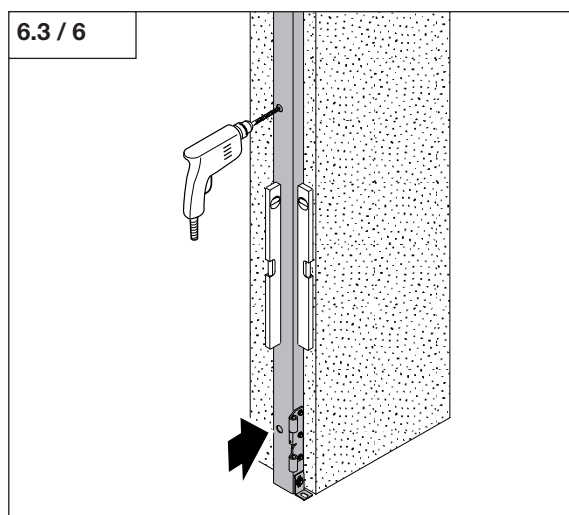
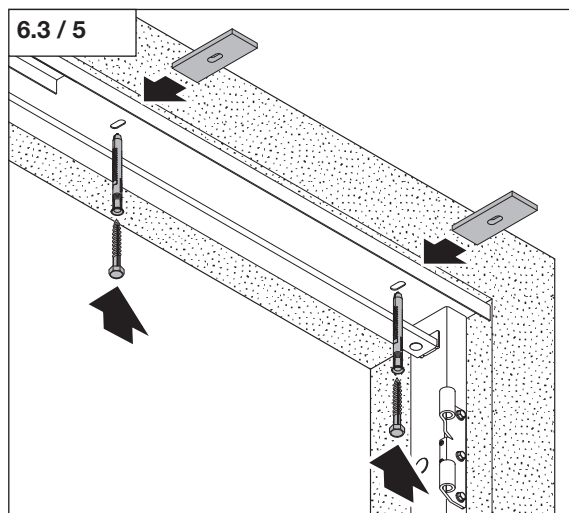


Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.
- Doors with strain relief must be levelled out.

- Screw the frame to the header.
- Clean any drilling dust off the frame.

- Drill through all the pre-marked holes of the side frame into the wall.



Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.

- Screw the side frames to the wall.



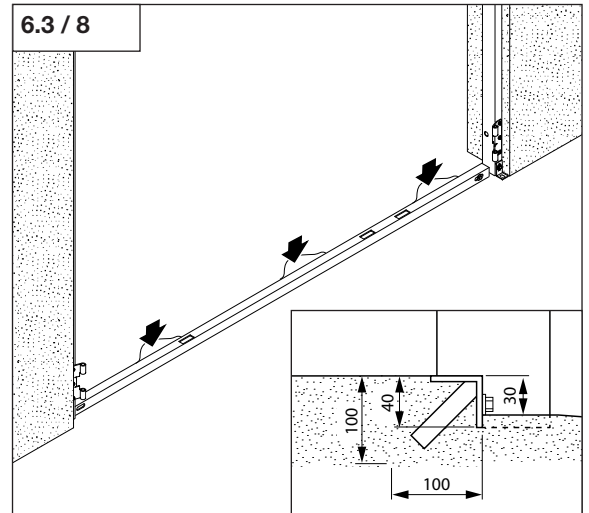
6. Installation

Lower stop (optional)

- Fill in the lower stop.

Note:

Before further work can be carried out, the filling must have hardened.

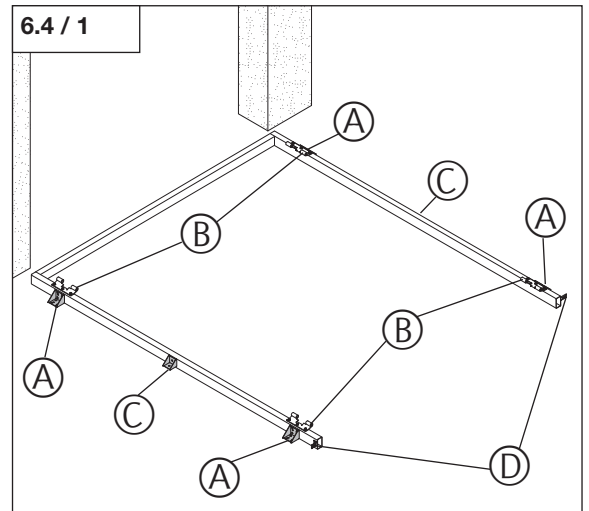


6.4 Frame installation on front of the reveal

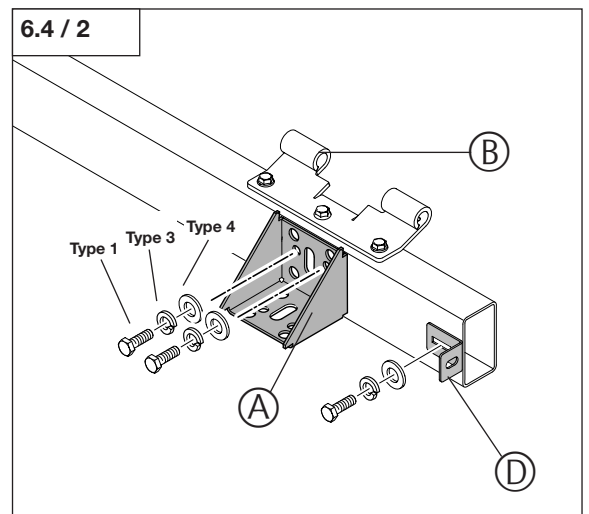
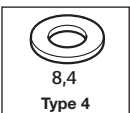
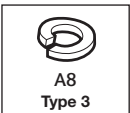
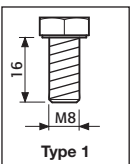
Note:

The brackets must be fixed to the frame as follows:

- The large brackets (A) must be mounted next to the hinges (B).
- The small brackets (C) must be centrally mounted.
- The floor bracket (D) must be mounted on the bottom.

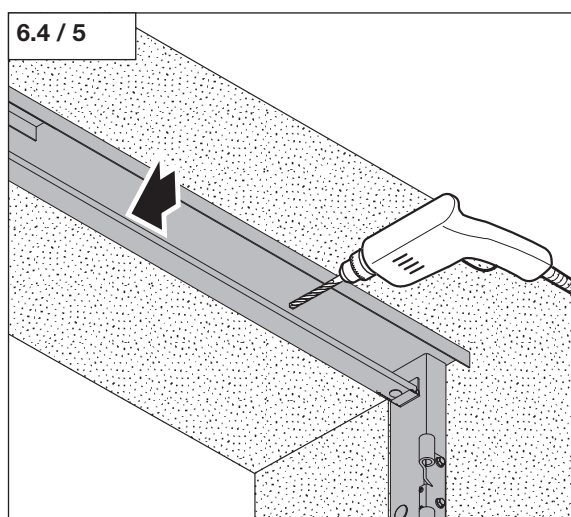
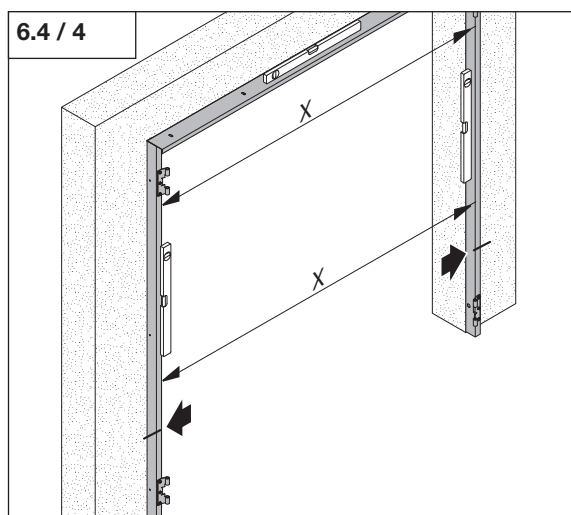
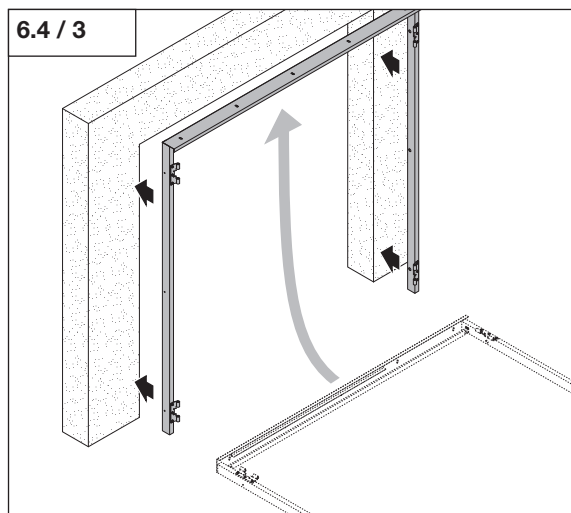


- Install all brackets.



6. Installation

- Stand the frame up.
- Position the frame to the face of the opening.



Attention!
The frame should not be welded into position.

- Align the frame to the middle.
 - Align the frame to the 1 metre level.
 - Align the frame vertically.
 - Fix the frame in the aligned position.
 - Check the overall frame dimension (X).
-
- Drill the fastening holes through the punched holes in the header.



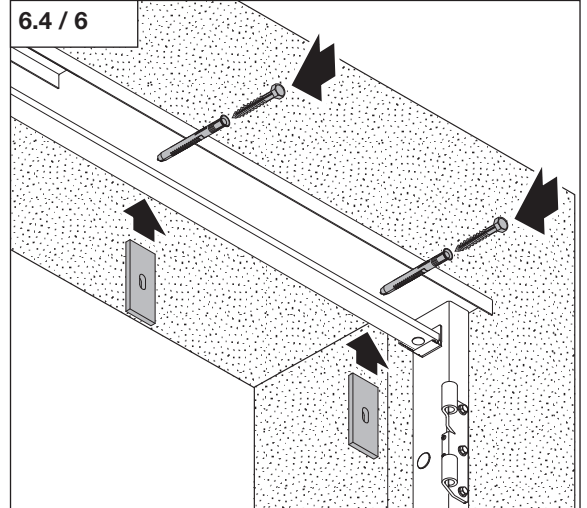
6. Installation



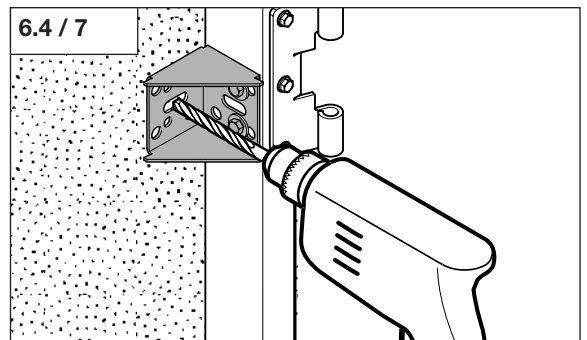
Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.
- Doors with strain relief must be levelled out.

- Screw the frame to the header.
- Clean any drilling dust off the frame.



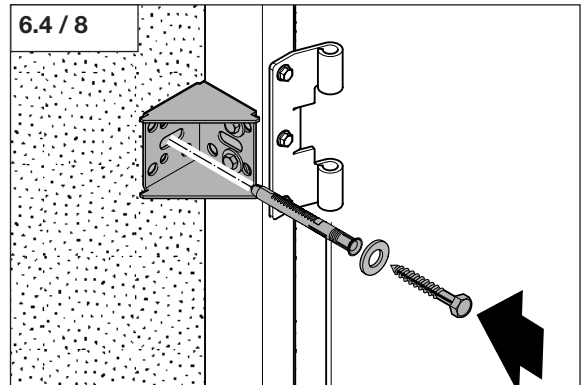
- Drill the holes for the fastening bracket.



Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.

- Screw the side frame into the masonry with the fastening brackets.



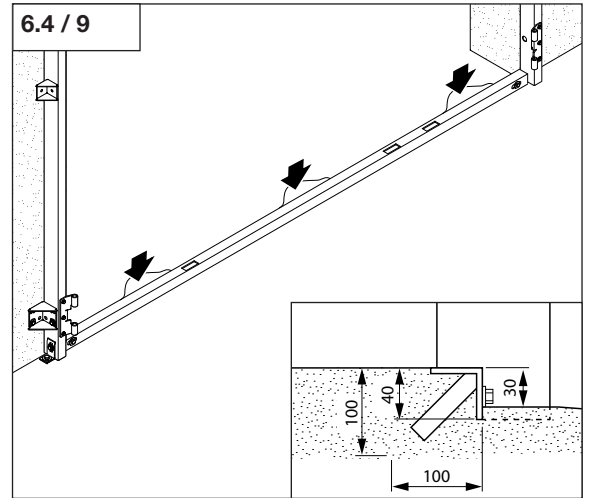
6. Installation

Lower stop (optional)

- Fill in the lower stop.

Note:

Before further work can be carried out, the filling must have hardened.



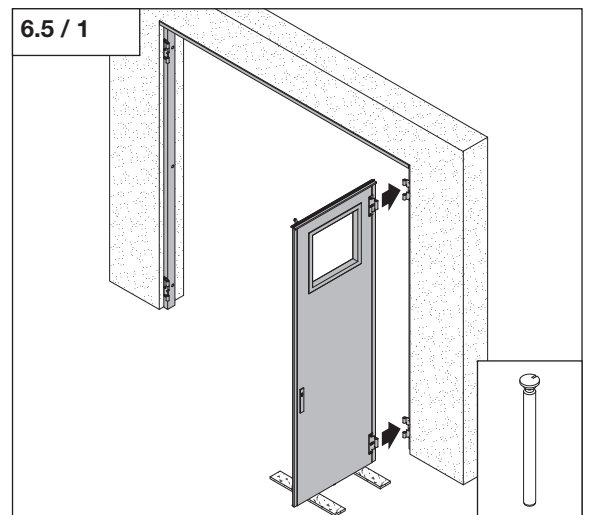
GB

6.5 Assembling the door leaves

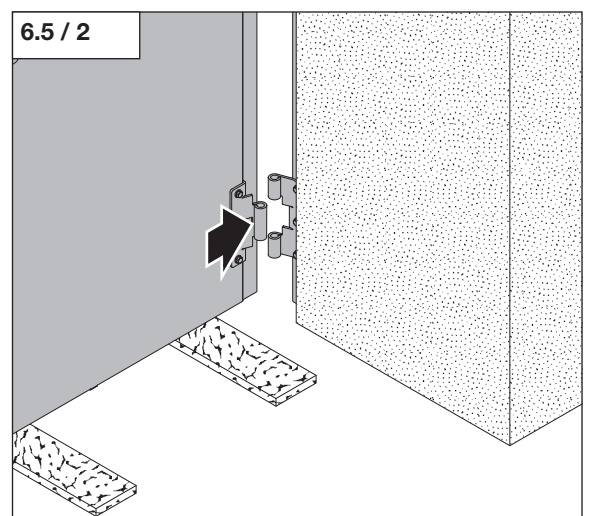
Note:

The following points must be observed for the assembly of the door leaves:

- The door leaves must be carefully removed from the packaging.
- The door leaves must be removed and installed in the specified sequence.
- The door leaves must be placed on wooden blocks.
- To ensure a long service life, the hinges and bolts must be cleaned and lubricated prior to assembly.



- Position the door leaf in the lower hinge.



6. Installation



Note:

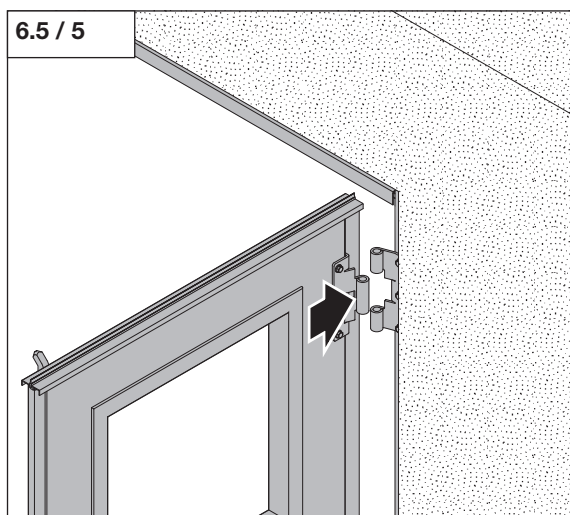
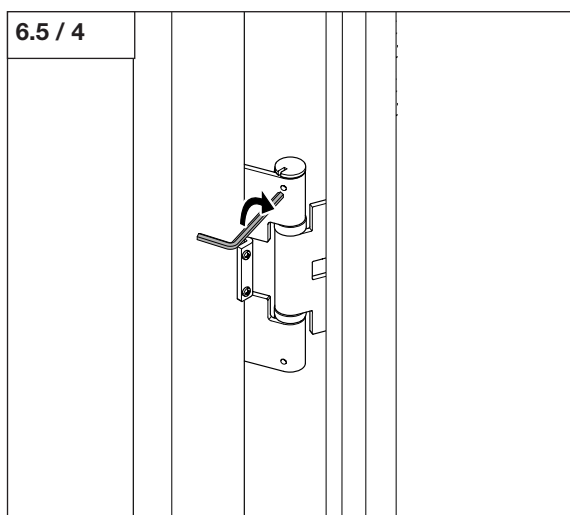
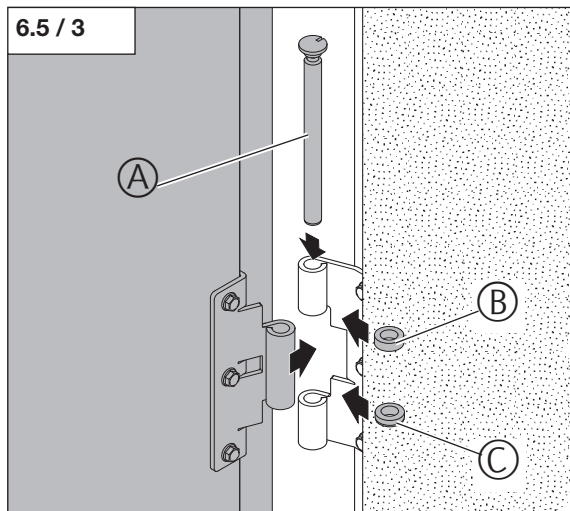
The bearing (C) must be installed so that the rounded side faces downwards.

- A Bolt
- B Spacer
- C Bearing (rounded side faces downwards)

- Connect the door leaf to the frame.

- Secure the bolt with the threaded pin.

- Position the door leaf in the upper hinge.



6. Installation

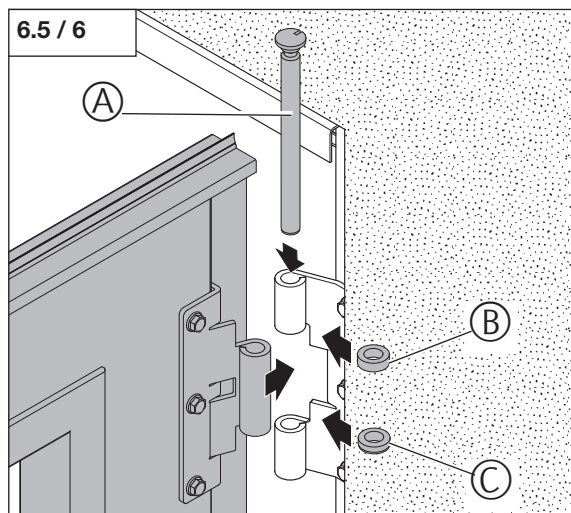


Note:

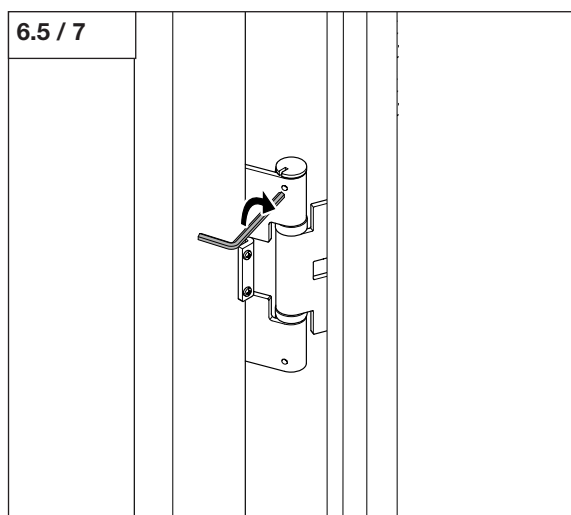
The bearing (C) must be installed so that the rounded side faces downwards.

- A Bolt
- B Spacer
- C Bearing (rounded side faces downwards)

- Connect the door leaf to the frame.



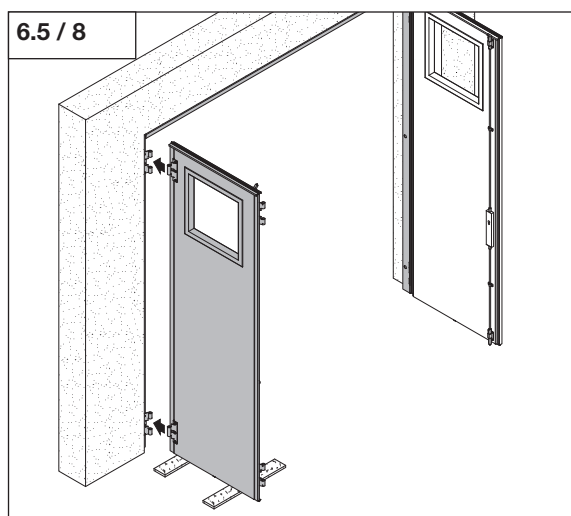
- Secure the bolt with the threaded pin.



Attention!

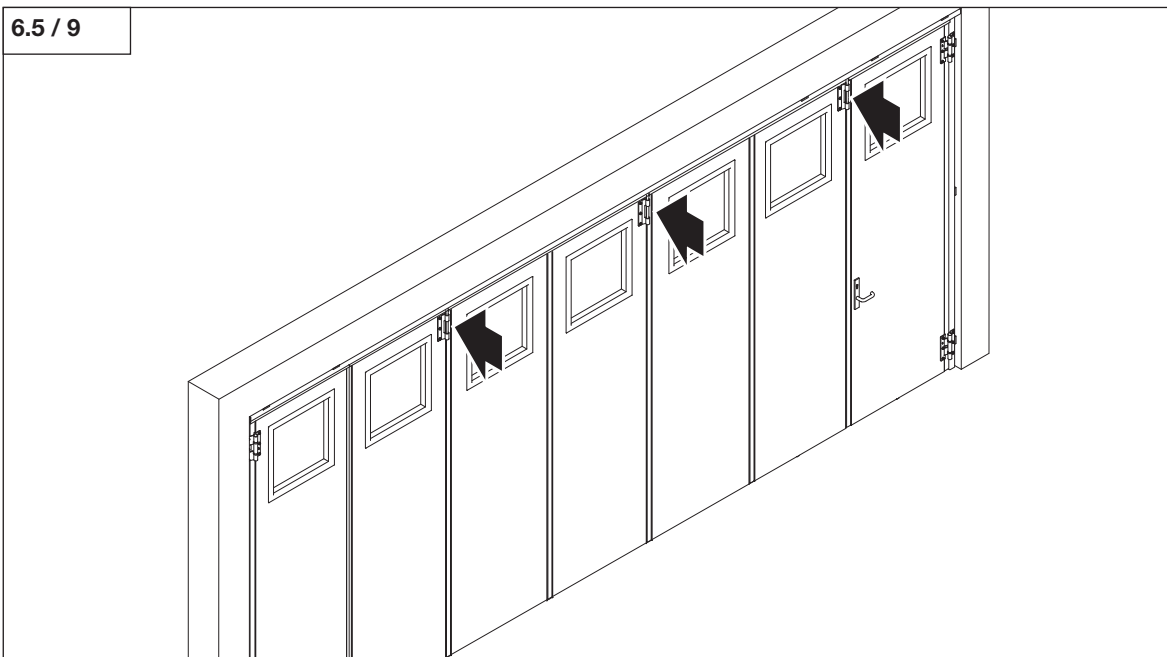
In order not to damage the door leaves and frame, the door leaves must be protected against being knocked over and from undue movements after mounting.

- Assemble the second door leaf on the opposite frame side.



6. Installation

6.5 / 9



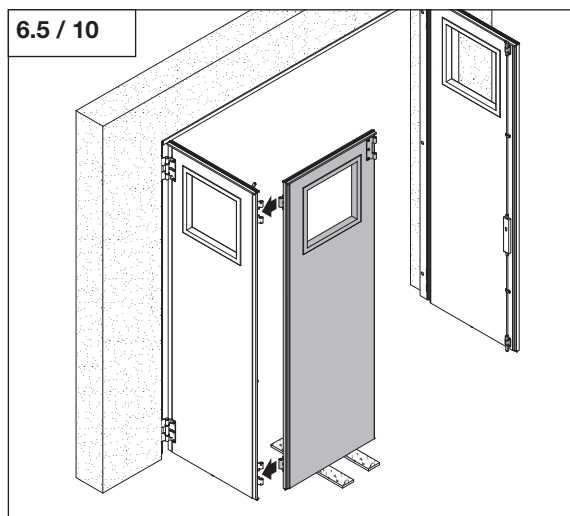
Note:

For door sides with two or three door leaves, a guide roller is inserted.

For door sides with more than three door leaves, a support roller must be inserted at every second connected door leaf.

- Assemble the third door leaf.

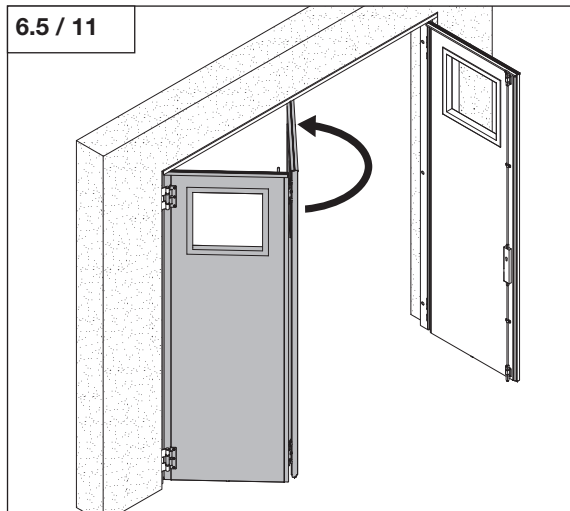
6.5 / 10



Assembling the guide roller

- Swing the door leaf underneath the upper frame element.

6.5 / 11



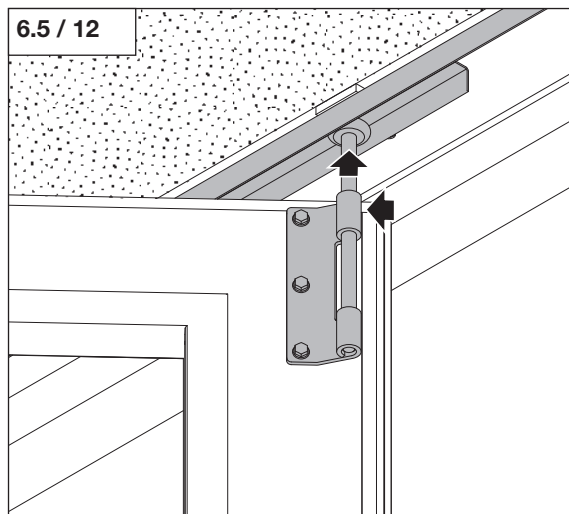
6. Installation



Note:

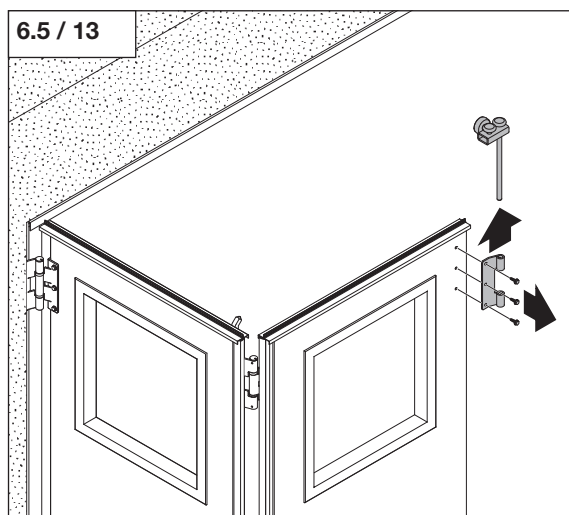
If there is a further door leaf, the following door leaf must be assembled at the bottom first and then connected at the top to the roller in the roller holder.

- Loosen the grub screw at the roller holder.
- Push the roller into the guide rail.
- Tighten the grub screw in the groove of the roller.

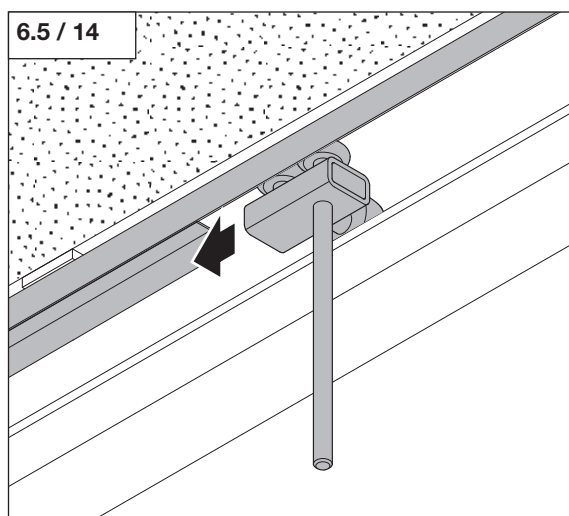


Assembling the support roller

- Remove the roller holder from the door leaf.
- Remove the support roller from the roller holder.

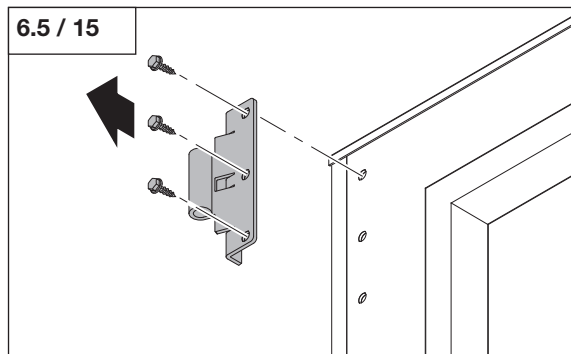


- Insert the support roller into the rail.

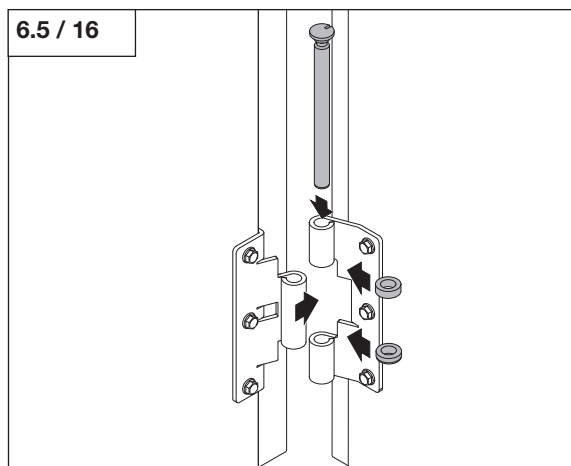


6. Installation

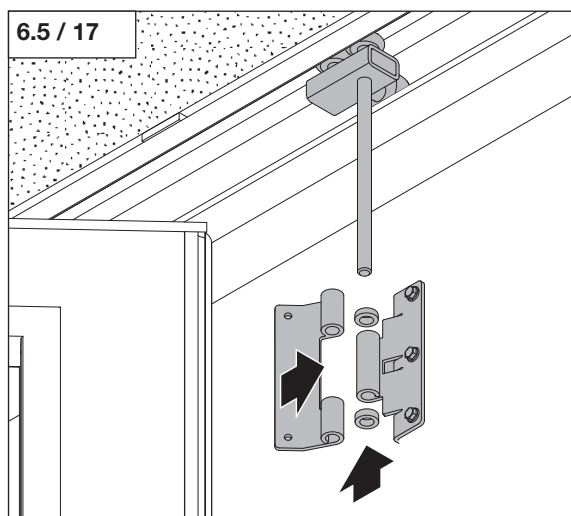
- Unscrew the hinge from the following leaf.



- Assemble the door leaves together at the bottom.

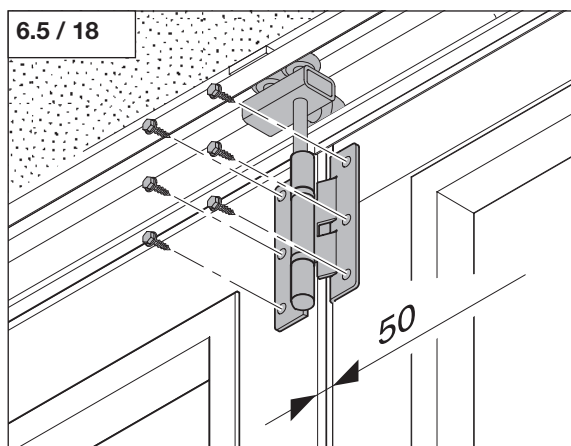


- Assemble the disassembled hinges on the roller.



- Position the door leaves with a 50 mm gap at the top.

- Screw the door leaves together.

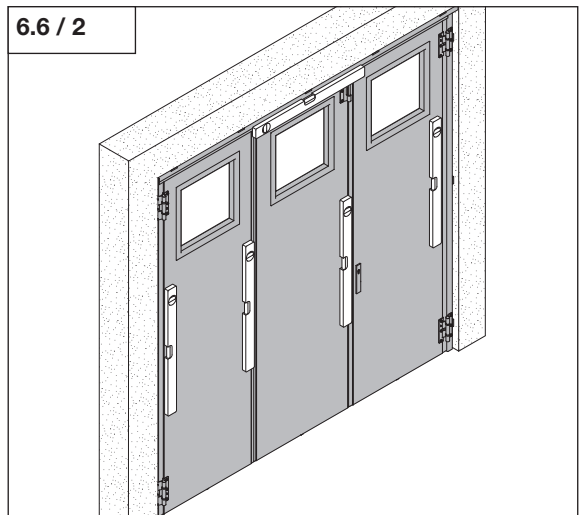
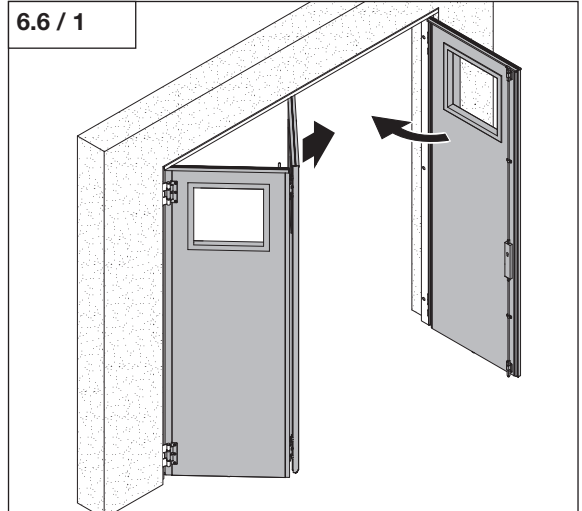


- Assemble all the other door leaves.

6. Installation

6.6 Adjusting the door

- Close the door.



Function check:

The following points must be fulfilled:

- The door must close easily and fully.
- The door must close tightly.
- The rubber seals must provide a flush fit and finish.
- The door must be aligned vertically and horizontally.

If the functional check is unsatisfactory, the door must be adjusted until all the requirements are met.

The following measures can be used to adjust the door.

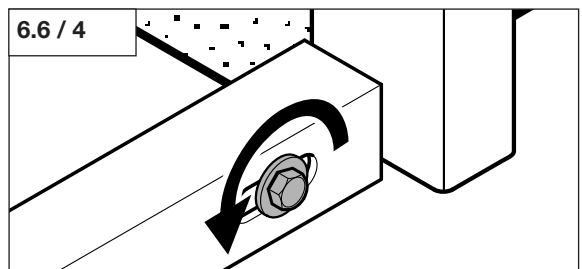
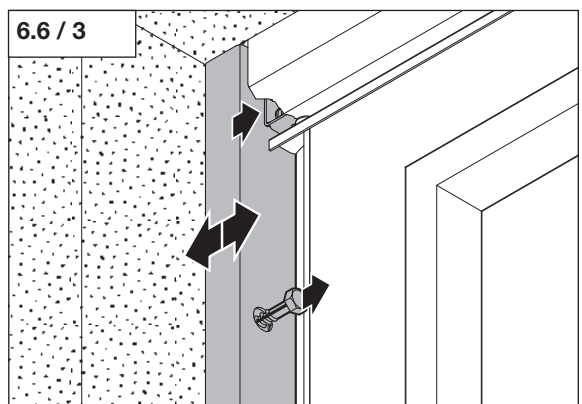
Adapting the side frame

- Loosen the bracket on the frame.
- Loosen the frame from the wall.

Note:

For doors with a lower stop, the screw on the stop must be loosened slightly.

- Adjust the door by moving the frame.
- Retighten the bracket.
- Screw the frame to the wall.
- Firmly screw the lower stop in place.



6. Installation



Adjusting the hinges

Note:

Adjustment of the door via the hinges must be carried out one hinge at a time. Changes to the hinges accumulate.

Upper hinge

The hinges can be tightened via M6x20 Torx screw.

Lower hinge

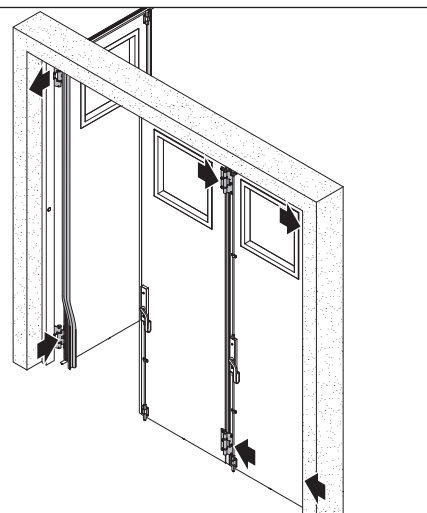
The hinge can be adjusted via the M8 set screw.

- Loosen the hinge at the door leaf.
- Partially remove the rubber profile from the holder.
- Adjust the door leaf via the Torx screws at the top and bottom (max. 3 mm).
- Push the rubber profile back into the holder.
- Tighten the hinge at the door leaf.

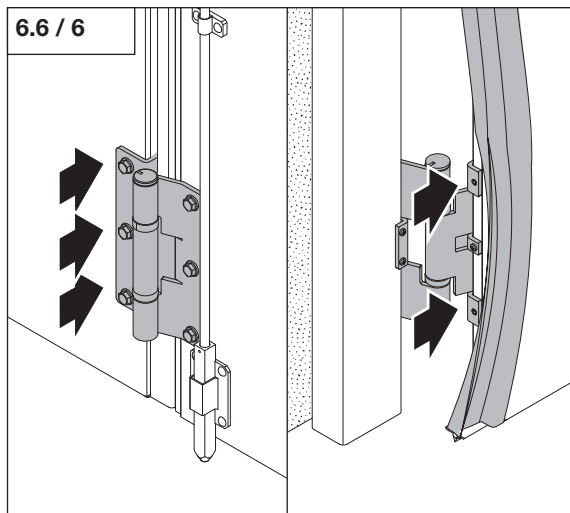
Adjusting the closing limit

- Adjust the closing limit via the door stopper.

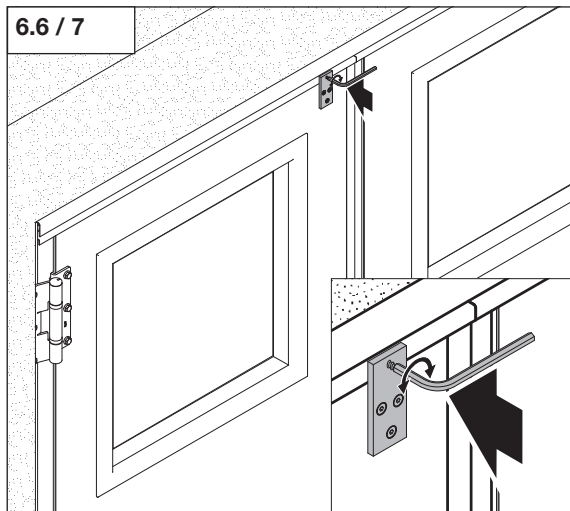
6.6 / 5



6.6 / 6



6.6 / 7



6. Installation

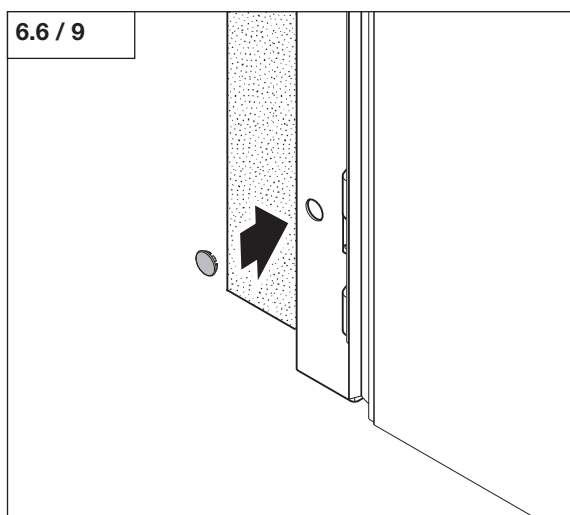
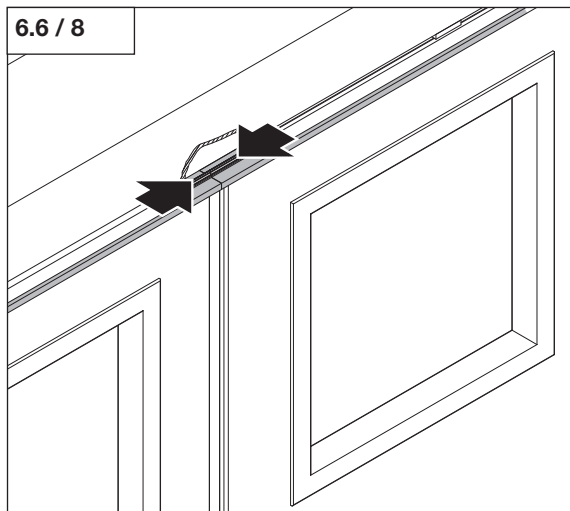


Adjusting the rubber seal

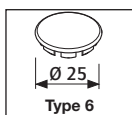
Note:

When the door is closed, the rubber seals must not be crushed or deformed.

- Adjust the rubber seals to ensure a flush fit and finish.



- Place the caps on the holes in the side frames.

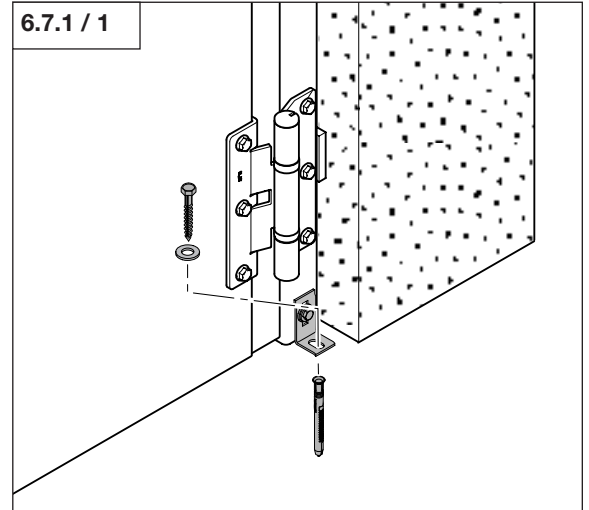


6. Installation

6.7 Fixing the frame

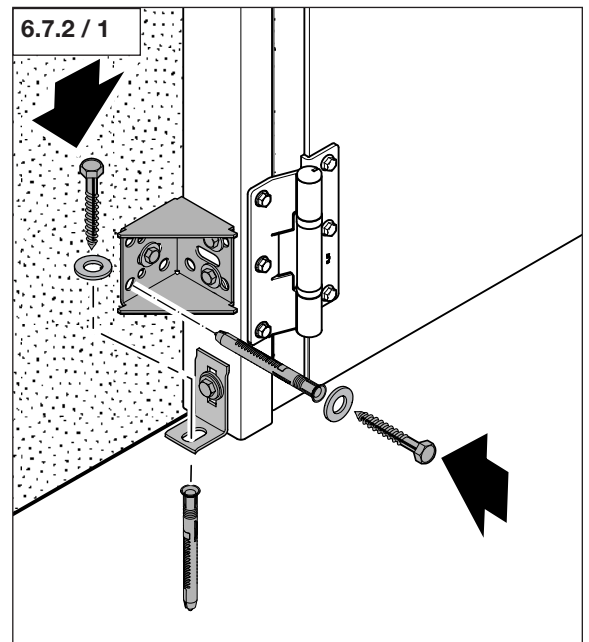
6.7.1 Frame installation in the reveal

- Screw the side frame onto the floor with the bottom brackets.



6.7.2 Frame installation in front of the reveal

- Screw the side frame onto the floor with the bottom brackets.
- Screw an additional screw through all fastening brackets into the masonry.

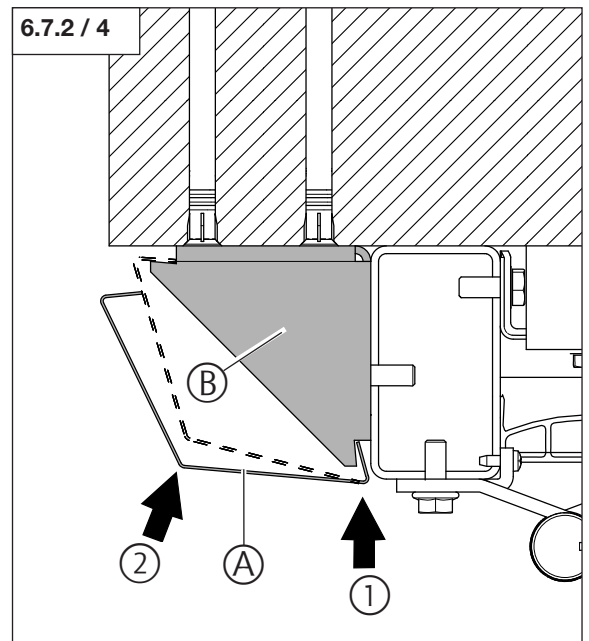
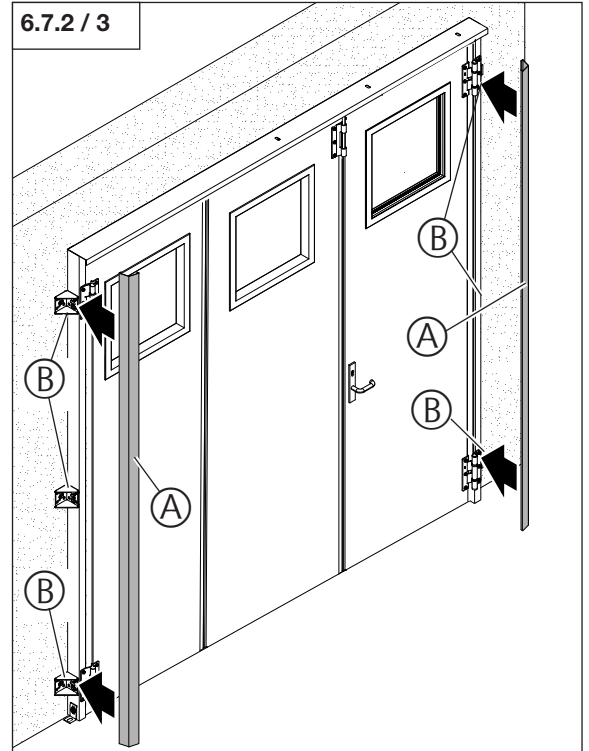


6. Installation

Mounting the side panels (optional)

The side panels (A) are clipped onto the fastening brackets (B).

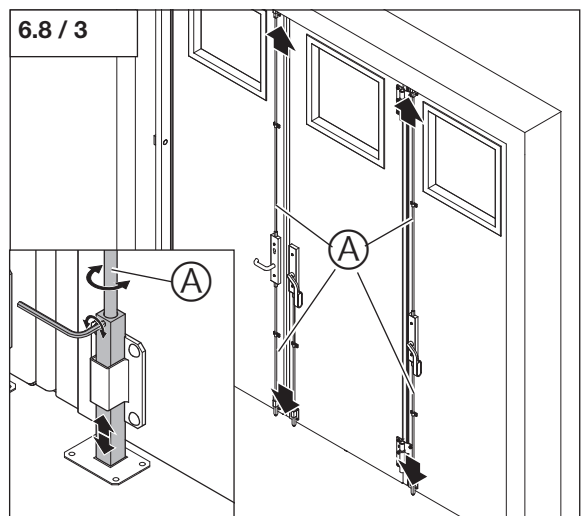
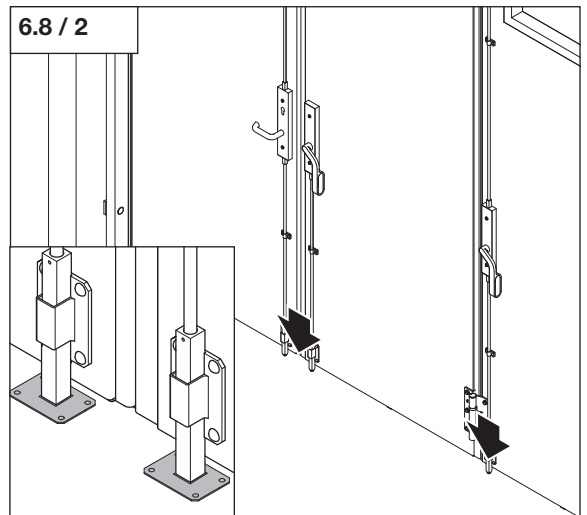
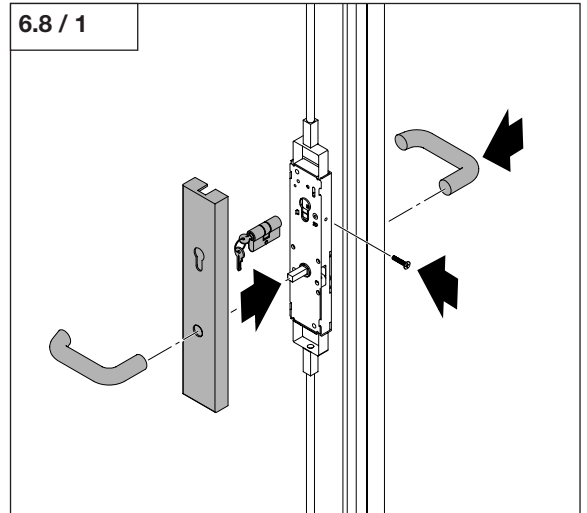
- Position the side panel (A) in the front recesses on the fastening brackets (B).
- Press the side panel (A) with a firm and sudden jolt behind the respective fastening bracket (B).



6. Installation

6.4 Assembling the locking mechanisms

- Assemble the lock.
- Assemble the door handles.



Note:

A mount for the locking mechanism must be recessed in the floor for doors without a lower stop.

- Mark the position for the lock holder.
- Drill the cut-out for the lock holder.
- Screw the lock holder to the floor.
- Adjust the height of all the locking mechanisms at the top and bottom of the door (adjustment range ± 10 mm).

Adjusting the lock

The locking mechanisms can be adjusted at the top and bottom by ± 10 mm.

- Loosen the screws at both ends of the rod (A).
- Adjust the height by turning the rods (A).
- Tighten the screws.



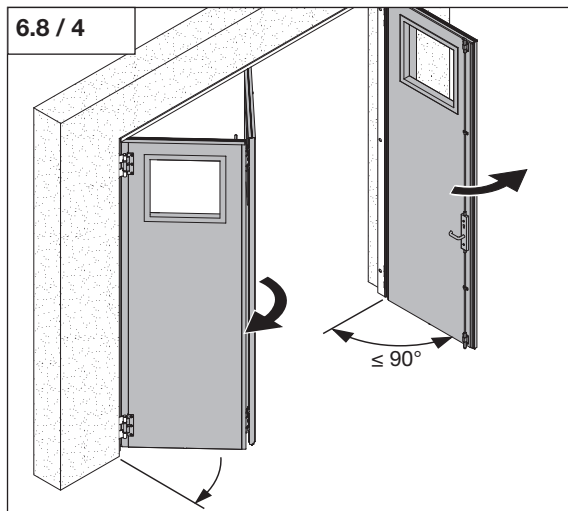
6. Installation



Attention!

To prevent damage to the door, the door leaves should not be opened further than 90°.

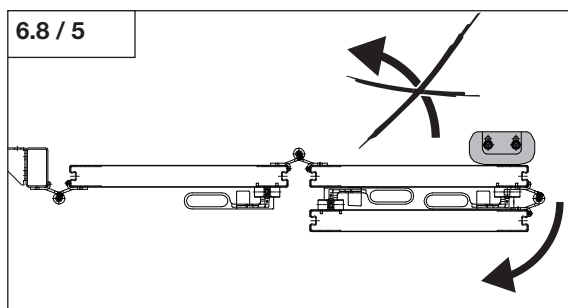
- Assemble the door hold open device (optionally available).



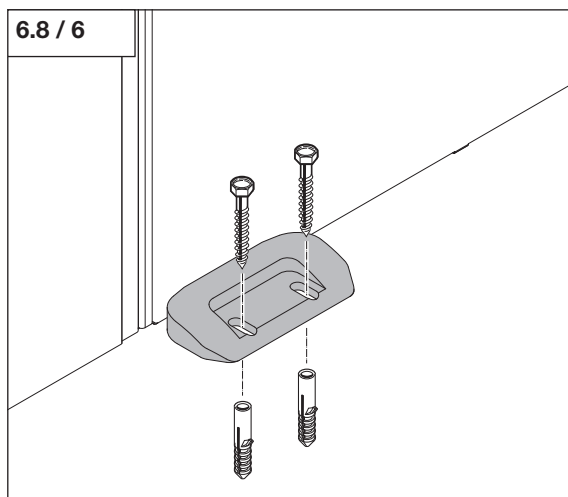
Inwardly opening door

Note:

In the case of inwardly opening doors, the door leaves must be prevented from swinging outwards.



- Screw the door locks on the outside, in front of the corresponding door leaf.



6. Installation



6.9 Final work

Attention!

To prevent damage to the surface, the door must be protected against spots of mortar, cement, plaster or paint.

6.9.1 Sealing

- Use permanently elastic sealing to seal the frame (insulation).

6.9.2 Painting

Note:

The application of top coats containing alkyd resin on galvanized substrates can lead to a later loss of adhesion of the overall coating on outside surfaces which are exposed to harsh weather conditions. If harsh weather conditions are expected, a 2K acrylic or 2K polyester paint must be used.

Doors with a 2K-HS filling primer

The components can be painted with a standard top coat paint.

Doors with powder-coating or strip coating

Note:

Insofar as no finish is provided, doors which are installed outdoors must be provided with a finishing coat no later than three (3) months after installation.

The surface must be sanded and cleaned before carrying out further processing tasks.

A solvent-based 2K polyurethane paint can be used for single-layer painting.

Always apply a solvent-based Epoxy primer before using synthetic-resin varnishes.



7. Operation



7.1 Door opens outwards

Attention!

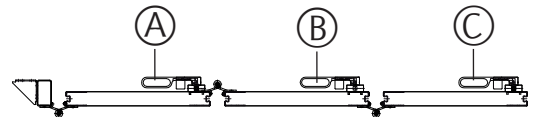
For all doors without a bottom buffer, a set unlocking order must be followed in order to prevent damage to the door. The locks must not be unlocked all at once.

Door opening procedure

The locks (A) and (B) are closed.

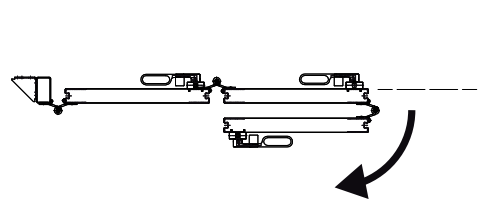
- Open lock (C).

7.1 / 1



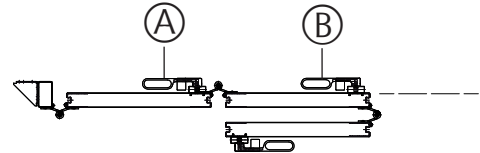
- Open the unlocked door leaves.

7.1 / 2



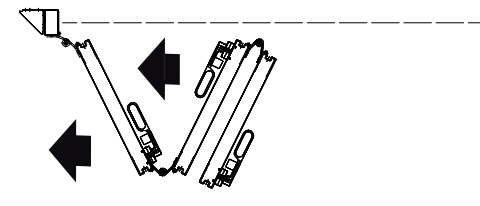
- Open locks (A) and (B).

7.1 / 3



- Open the unlocked door leaves.

7.1 / 4



Door closing procedure

To close the door leaf, simply follow the instructions in reverse order.

7. Operation



7.2 Door opens inwards

Attention!

For all doors without a bottom buffer, a set unlocking must be followed in order to prevent damage to the door. The locks must not be unlocked all at once.

The door leaves must be prevented from swinging outwards.

Reference:

The installation of the stopper that prevents the door leaf from swinging outwards is described in chapter 6.8.

Door opening procedure

The lock (A) is closed.

- Open locks (B) and (C).

- Open the unlocked door leaves.

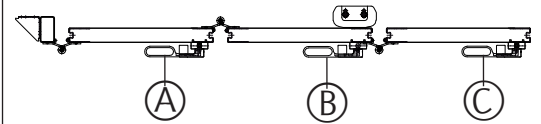
- Open lock (A).

- Open the unlocked door leaves.

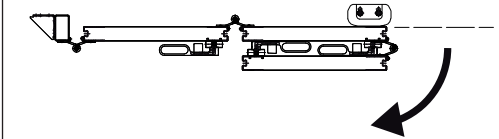
Door closing procedure

To close the door leaf, simply follow the instructions in reverse order.

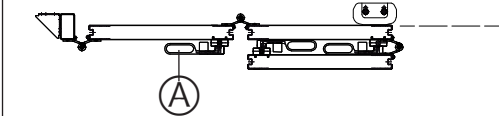
7.2 / 1



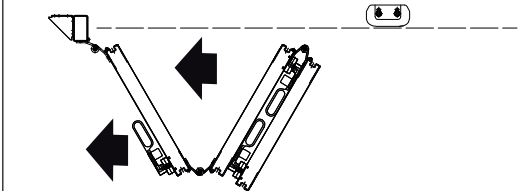
7.2 / 2



7.2 / 3



7.2 / 4



8. Maintenance



Note:

The folding door and the corresponding components must be regularly maintained by fully trained and qualified fitters. Maintenance must be carried out every 12 months. All maintenance tasks must be documented in a maintenance protocol.

The following maintenance tasks must be carried out by the operator once a week:

- Visually inspect the door leaves, guide rails, seals and glazing.
- Check the correct attachment of the guide rails, hinges and frame elements (clean the guide rails if necessary).
- Check the correct position of the hinges and bolts (grease the bolts if necessary).
- Check the correct functioning of all the locking mechanisms, guide rollers, locks and hardware.
- Inspect the surfaces for damage. Damaged surfaces must be touched up (anti-corrosion protection).

9. Appendices

9.1 Installation 180° opening (lightweight version)

The 180° opening "lightweight version" is used on door sides with 1 guide roller.



Reference:

- The connection of the frame elements is described in chapter 6.1.
- The fastening of the frame to the wall is described in chapter 6.3 / 6.4.
- The assembly of the door leaves is described in chapter 6.5.
- The adjustment of the door is described in chapter 6.6.

- Connect the frame elements.
- Screw the frame to the wall.
- Assemble the door leaves.
- Adjust the door.



Function check:

Opening and closing must be checked to ensure correct operation after installation.

Opening the door

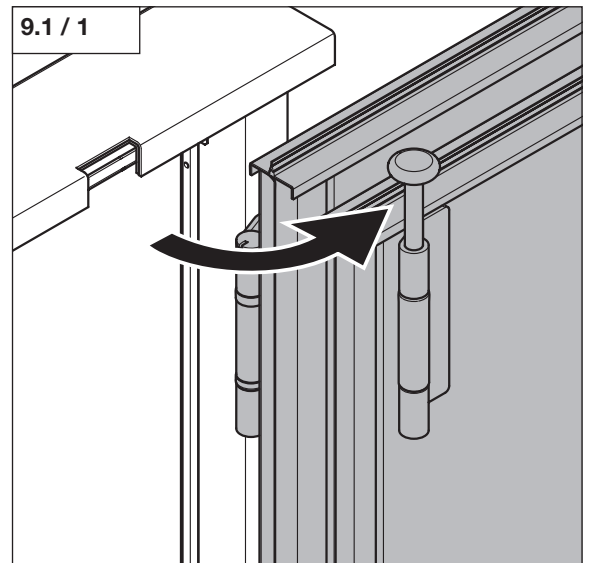


Attention!

In order to prevent damage the door, the following conditions must apply:

- The door leaves must be connected to the leaf locking devices before it is opened into the 180° position.
- The door must be secured in the 180° position.

- Push the door to the 90° position.
- Check whether the leaf locking devices have locked in.
- Open the door to the 180° position.
- Secure the door in the 180° position.



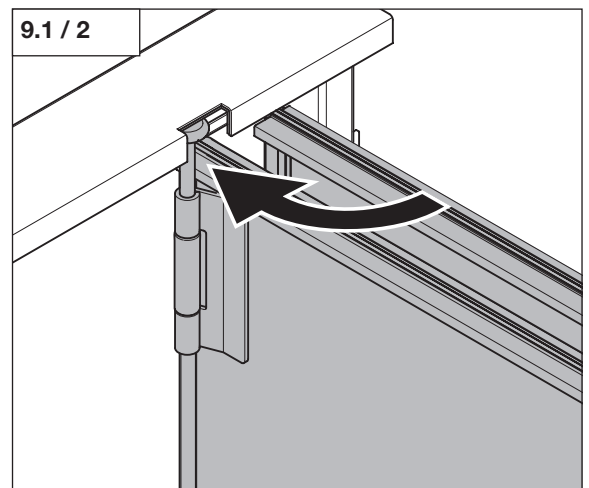
Closing the door



Attention!

The door leaf has to be swivelled slowly and carefully into the guide rails; this ensures that the frame is not destroyed.

- Swivel the door slowly into the guide rail.
- Release the leaf locking device.
- Close the door.



9. Appendices

9.2 Installation 180° opening (medium-duty and heavy-duty version)

The 180° opening "medium-duty version" is used on door sides with 1 unloading roller.

The 180° opening "heavy-duty version" is used on door sides with more than 1 unloading roller.

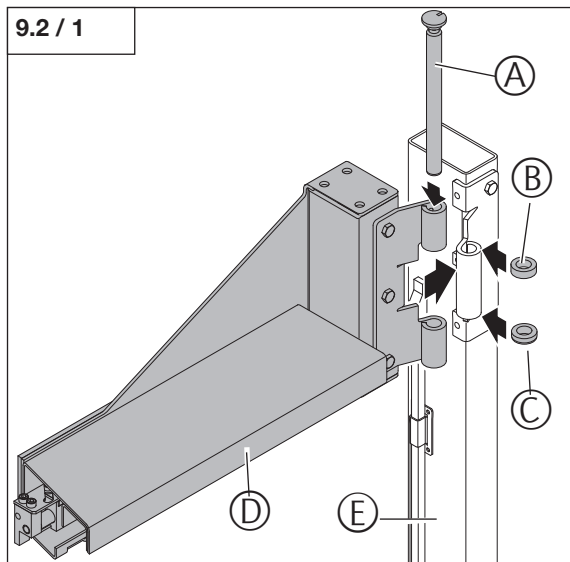
**Note:**

The bearing (C) must be installed in such a way that the rounded side is directed downwards.

- A Bolts
- B Bearing (rounded side down)
- C Spacer

- Connect the opening element (D) with the frame (E).

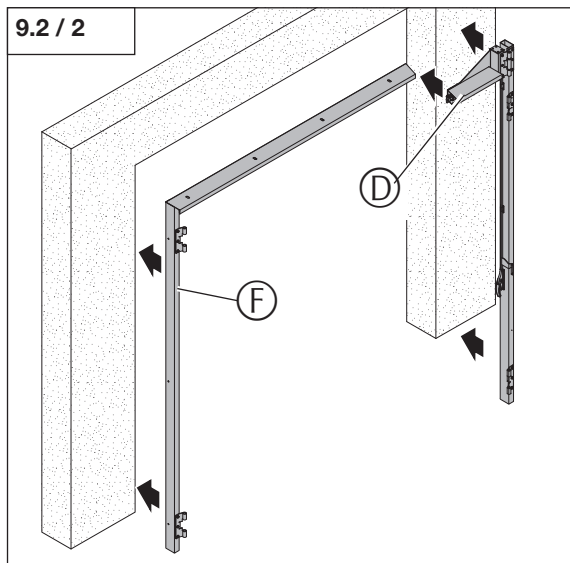
9.2 / 1

**Reference:**

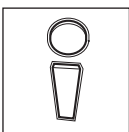
A frame side (F) which does not have the 180° opening function must be pre-assembled as described in chapter 6.1.

- Position the frame (F) on the opening.
- Position the frame with the opening element (D) on the frame.

9.2 / 2

**Note:**

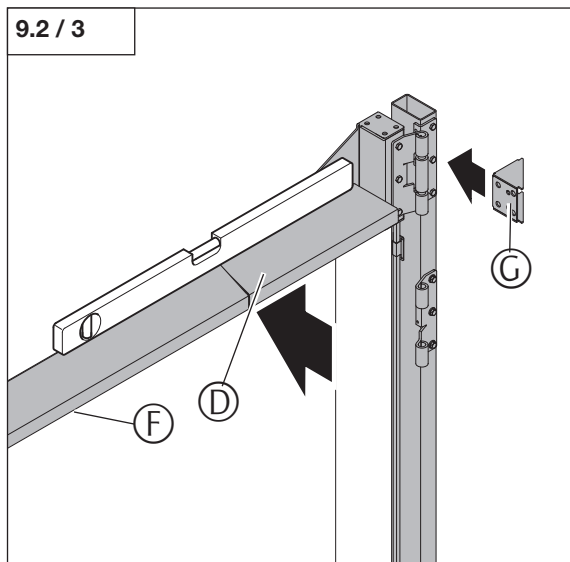
The frame (F) and the opening element (D) must
- meet together exactly and
- align to one another horizontally.

**Reference:**

The fastening of the frame to the wall is described in chapter 6.3 / 6.4.

- Screw the frame to the wall.
- Screw next to the opening element (D) a bracket (G) to the frame and the wall.

9.2 / 3



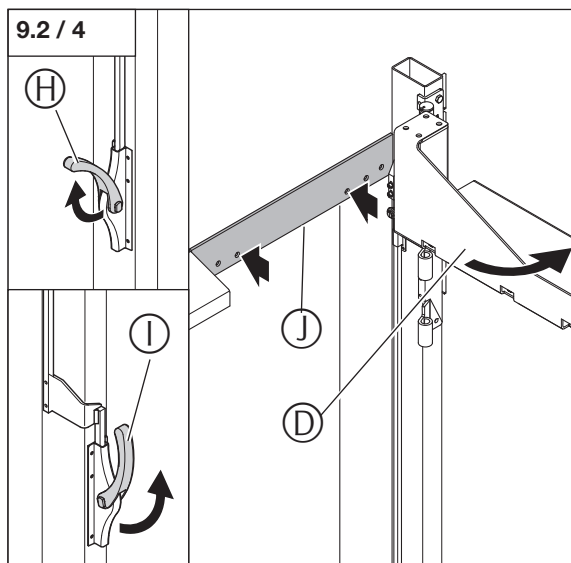
9. Appendices

- Unlock and open the opening element (D).

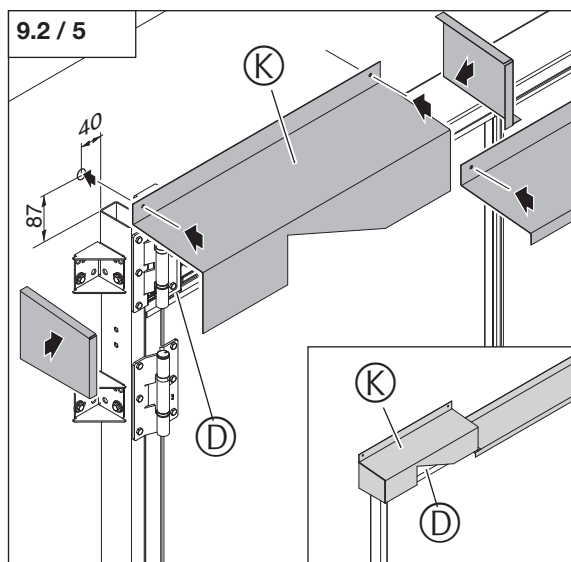
H Door variant outward opening
I Door variant inward opening

- Screw the distance sheet (J) with two countersunk screws to the wall.

- Close and latch the opening element (D).



- Install the rain protection panel (K) over the opening element (D) (optional).



Note:

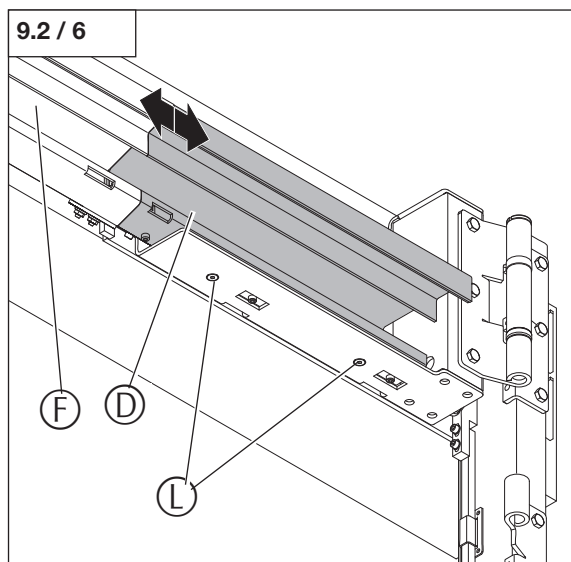
The following points must be checked and if necessary adjusted.

Gap size

Note:

The frame (F) and the opening element (D) must meet together exactly.

- Adjust the gap size between the frame (F) and the opening element (D) with the screws (L).



9. Appendices



Height difference

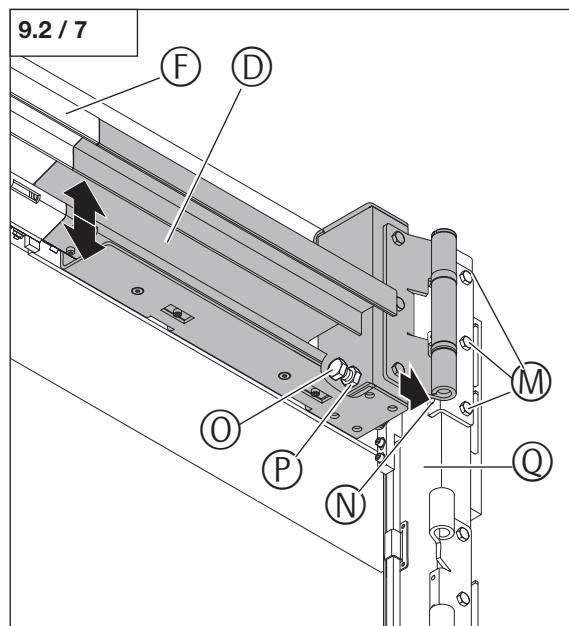
Note:

So that the unloading rollers can run in and out of the opening element (D) correctly, a height difference to the frame (F) must be compensated.

- Loosen the screws (M).
- Adjust the height with the screw (N).
- Tighten the screws (M).

The screws (O) prevent sagging of the opening elements (D) under load through the open door.

- Turn the screws (O) in front of the profile (Q).
- Secure the position with the nut (P).

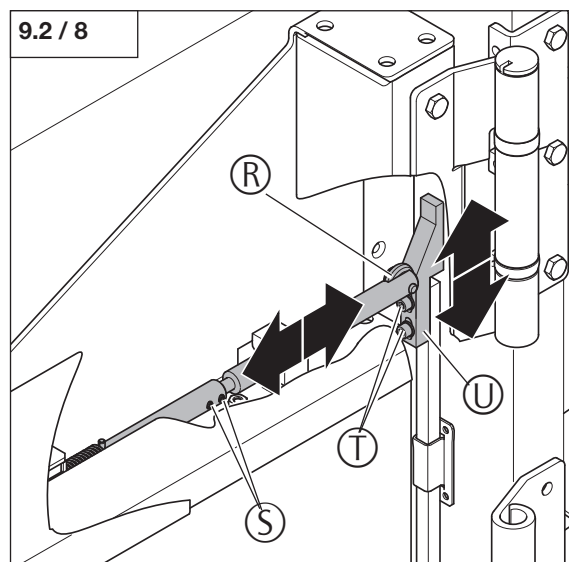


Bolt mechanism

Note:

The bolt mechanism must be adjusted so that the opening element locks and unlocks correctly. The illustration shows the locked position.

- Adjust the roller (R) and secure the position with the screws (S).
- Loosen the screws (T).
- Adjust the leading ramp (U).
- Tighten the screws (T).

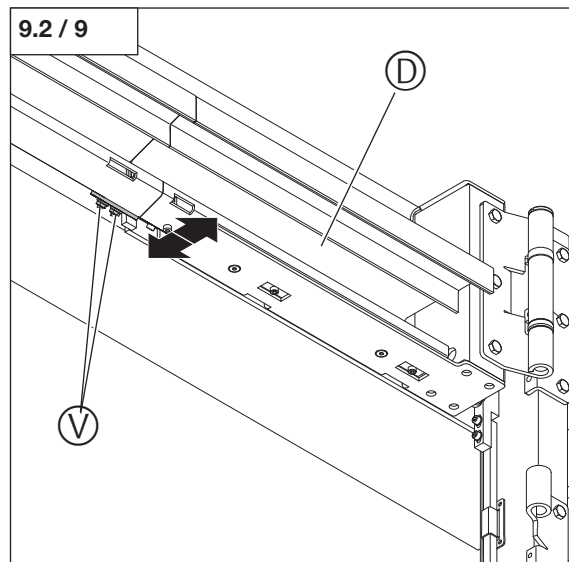


Buffer

Note:

The buffer must be adjusted so that the opening element (D) and the frame (F) are flush to one another.

- Adjust the buffer position of the opening element (D) with the screws (V).



9. Appendices



Reference:

The assembly of the door leaves is described in chapter 6.5.

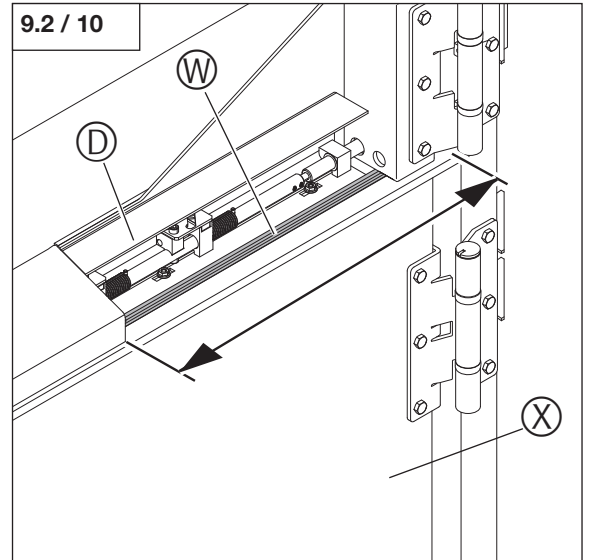
- Assemble the door leaves.



Note:

The rubber seal (W) of the door element (X) must be adjusted in height on the length of the opening element (D).

- Adjust the rubber seal (W).



Reference:

The adjustment of the door is described in chapter 6.6.

- Adjust the door.



Function check:

The opening and closing mechanism must be checked for correct operation following installation.



Opening the door

Attention!

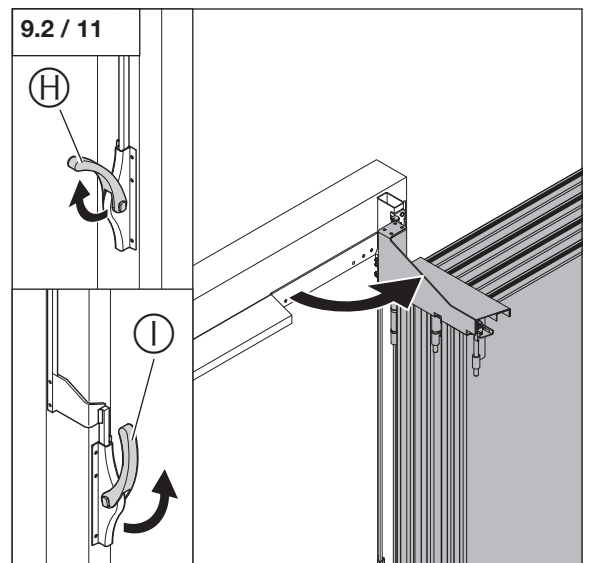
In order not to damage the door, the following conditions must be observed:

- The door must be fully open before unlocking.
- The opened door position must be secured.
- The folding door elements must not be folded out in their swivelled out position.

- Push the door to the 90° position.
- Bring down the handle.

H Door variant outward opening
I Door variant inward opening

- Open the door to the 180° position.



9. Appendices



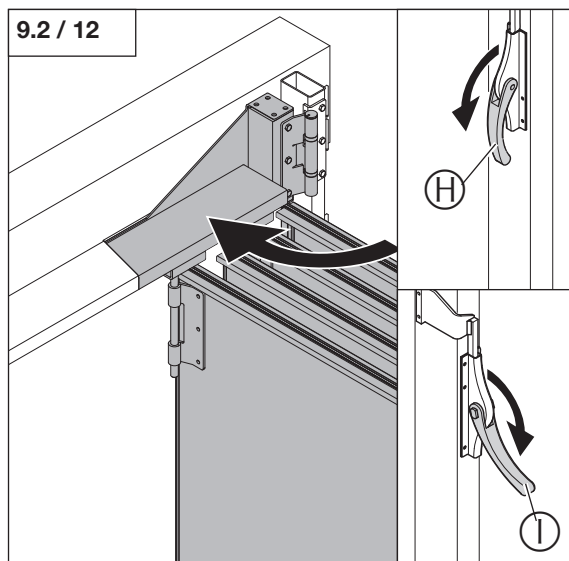
Closing the door

Attention!

The door must only be swivelled when the handle is in the unlocked position.

- Swivel the door on the frame.
- Bring down the handle.

H Door variant outward opening
I Door variant inward opening



Note:

If the opening and closing mechanism does not work properly, the door must be adjusted.



9. Appendices

9. Appendices
