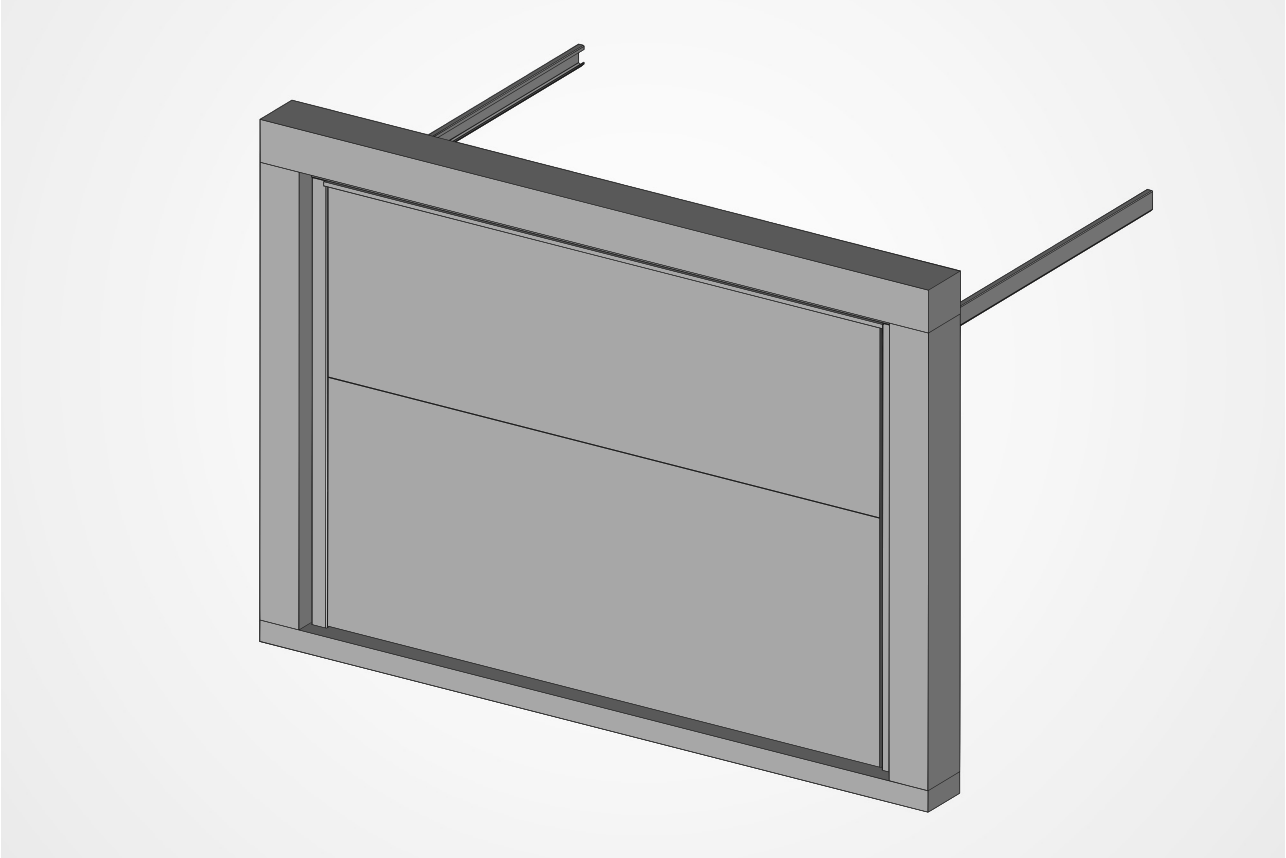


AquaLOCK® Up-And-Over Door

Installation and Operating Instructions

Version 04/2024

Contents

1 About This Document

These Installation and Operating Instructions contain all the information regarding the intended use of the AquaLOCK® Up-And-Over Door.

Observe the following:

- The Installation and Operating Instructions are an integral component of the product.
- The Installation and Operating Instructions must be available to the operator at all times.
- The Installation and Operating Instructions must be stored in a nearby, easily accessible location for the entire service life of the AquaLOCK® Up-And-Over Door.
- The Installation and Operating Instructions must also be passed on if the AquaLOCK® Up-And-Over Door are transferred to a new operating company or owner.

1.1 Validity

These Installation and Operating Instructions are valid for the AquaLOCK® Up-And-Over Door product series for protection from floods and heavy rain. It provides basic information about product installation, operation, maintenance, and cleaning.

Standardized illustrations

The illustrations in these operating instructions correspond as closely as possible to the described product. Some figures are standardized illustrations, which may deviate slightly from the actual product.

1.2 Target groups

These Installation and Operating Instructions are intended for everyone coming into contact with the AquaLOCK® Up-And-Over Door, especially the end user.

Please follow the instructions below:

- All work on the product (installation, maintenance, etc.) must be performed by an appropriately qualified specialist. The relevant rules of accident prevention, occupational safety, and environmental protection must be followed.
- Only trained personnel may operate the product.
- Children may not use the product.

1.3 Conventions

Warnings and other instructions

The operating instructions weigh instructions differently. Pictograms indicate the difference.

Signal word	Meaning
⚠ DANGER	Imminent danger. Death or very serious injury will result.
⚠ WARNING	Potentially dangerous situation. Death or serious injury may occur.
⚠ CAUTION	Potentially dangerous situation. Minor or moderate injury may occur.
NOTICE	Instructions that must be observed to ensure safe product operation

Warnings are structured as follows:

⚠ SIGNAL WORD	**Type and source of hazard** Impacts. – Avoidance.

Signal word
Indicates the severity of the hazard.

Type and origin of the hazard
Describes the hazard and where it may occur.

Impacts
Describes the implications that may occur if instructions are not observed.

Avoidance
Describes how to prevent the hazard from occurring, or provides instructions for safety measures if the hazard occurs.

Example warning:

⚠ WARNING	**Risk of injury due to improper use** Improper use of the AquaLOCK® Up-And-Over Door may result in personal injury and property damage. – Use the AquaLOCK® Up-And-Over Door only as intended and as described below.

Instructions

Instructions are numbered to indicate the sequence of the individual steps. Results of the actions (if applicable) are directly below.

Example:

1. This is the first step.
2. This is the second step.

   → This is the result of the second step.

1.4 Manufacturer contact

Torbau Schwaben GmbH
Enzianstrasse 14
88436 Oberessendorf, Germany
Phone: +49 7355 9310 0
info@torbau-schwaben.de
www.aqualock.info

2 Safety Instructions

This section contains all the safety-relevant information. Before using the AquaLOCK® Up-And-Over Door, read all safety instructions carefully and follow them during use.

The safety instructions highlight risks of personal injury and property or environmental damage, and contain information about avoiding and preventing hazards and product damage.

2.1 Intended use

Intended use of the AquaLOCK® Up-And-Over Door requires familiarity with the operating instructions as well as compliance with all instructions, maintenance, and inspection requirements contained therein.

⚠ WARNING	**Risk of injury due to improper use** Improper use of the AquaLOCK® Up-And-Over Door may result in personal injury and property damage. – Use the AquaLOCK® Up-And-Over Door only as intended and as described below.

The AquaLOCK® Up-And-Over Door provides mechanical protection from floods and heavy rain.[1] The following uses are intended:

- Use as a garage door for private or commercial buildings

For intended use of the AquaLOCK® Up-And-Over Door, the following additional conditions must be observed:

- Only trained personnel may operate the AquaLOCK® Up-And-Over Door and only when it is open and free of load or closed.
- Children may not use it.
- If the application area or control type requires it, additional safety devices (e.g., light barriers) must be provided.
- The customer must ensure the structure's suitability (structural stability, masonry impermeability, etc.). This applies to the walls and the lintel and floor area.
- The intended service life for the AquaLOCK® Up-And-Over Door's mechanical wear parts is approx. 25,000 cycles, but not more than five years; for door seals it is two years. Thereafter, an inspection and possible replacement by the manufacturer or a specialist company is necessary.
- Repairs and maintenance work on the product must be carried out by the manufacturer or a specialist company authorized by the manufacturer.
- Proper AquaLOCK® Up-And-Over Door function must be ensured through an annual inspection by the manufacturer or a specialist company authorized by the manufacturer (annual expert inspection).

[1] Flood resistance in accordance with IFT Guideline FE-07/1, Water Ingress <240 l/24 h

2.2 Improper use

Use of the product for a purpose other than that described in *Section "2.1 Intended use" on page 7* is considered improper use. Examples of improper use include:

- Use when safety features are not in a proper condition
- Handling by children without adult supervision

NOTICE	The manufacturer assumes no liability for damage resulting from improper use. As a result, the company operating the product bears sole responsibility.

2.3 General rules of conduct

When handling the AquaLOCK® Up-And-Over Door, follow these rules of conduct:

- Use the AquaLOCK® Up-And-Over Door only as intended.
- Always ensure your own safety and the safety of others.
- When using the door drive: Open and close the AquaLOCK® Up-And-Over Door only when you have visual contact with it.
- Do not use the AquaLOCK® Up-And-Over Door if there is noticeable damage or obstructions. If necessary, notify the manufacturer or an authorized specialist company.

2.4 Personnel qualification – who does what?

The following section covers the various personnel groups who handle the AquaLOCK® Up-And-Over Door.

2.4.1 Operator

The operator can be any trained adult who is in full possession of his mental and physical abilities.

Operator duties

- Read and adhere to all the operation and safety information in this Installation and Operating Instructions.
- Do not operate the AquaLOCK® Up-And-Over Door if there is noticeable damage.
- Ensure that all control elements are installed/stored out of children's reach.
- Report any faults, malfunctions, or noticeable damage to the operator or contact manufacturer customer service.
- Keep the AquaLOCK® Up-And-Over Door clean (see *Section "8 Maintenance and Servicing" on page 43*).

2.4.2 Installation and maintenance personnel

⚠ WARNING

Risk of injury from improper work

Improper work on the AquaLOCK® Up-And-Over Door may result in personal injury and property damage.

– All work in the areas of installation, disassembly, inspection, and maintenance must be performed by the manufacturer or an authorized specialist company.

Installation and maintenance personnel is defined as follows:

- Trained specialist
- Expertise in the installed technology
- Certified by the manufacturer
- Familiarity with the relevant occupational safety and accident prevention regulations

2.4.3 Overview – who does what?

The following table assigns work to the groups of persons mentioned above.

Task	Operator	Assembly/ maintenance personnel
Operation	yes	
Cleaning, care	yes	
Visual inspection for external damage	yes	
Troubleshooting		yes
Maintenance		yes
Repair		yes
Installation, modification, transport, disassembly, disposal	in coordination with the manufacturer	

2.5 Residual risks

The AquaLOCK® Up-And-Over Door consists of moving and heavy components. To avoid personal injury or property damage, observe the safety instructions below:

Danger during transport, assembly, and maintenance work

- Only authorized specialists or the manufacturer may carry out transport, installation, or maintenance work.
- When handling heavy parts, use only suitable, tested hoisting equipment. During selection, ensure component dimensions and weight. Moreover, at least two people are required for safe transport and installation.
- Do not stand under suspended loads. Maintain a sufficient safety distance.

- During installation, secure the door leaf and frame so that they do not tip or fall.
- Wear suitable personal protective equipment during installation (see *Section "2.6 Personal protective equipment" on page 10*).
- Do not make any modifications to the AquaLOCK® Up-And-Over Door yourself.

Dangers during use

- When opening and closing the AquaLOCK® Up-And-Over Door, ensure that there are no people, pets, or objects in the vicinity. Ensure that no people nor objects can be crushed.
- Never reach between fixed and moving parts.
- Have the manufacturer or an authorized specialist company inspect the AquaLOCK® Up-And-Over Door if there is noticeable external damage or the closing or sealing mechanism does not function properly.
- After each flood event, the AquaLOCK® Up-And-Over Door must be inspected by an expert.

2.6 Personal protective equipment

To ensure the transport, installation, and maintenance work on the AquaLOCK® Up-And-Over Door is safe, you and any assisting personnel must wear personal protective equipment. The following table lists the minimum personal protective equipment required for various work:

Personal protective equipment	Required type/protection class	Task
Work clothes	long, tight-fitting work clothes	all work
Safety shoes	slip-resistant safety shoes with toe cap according to EN ISO 20345	all work
Protective gloves	as required	as needed
Safety goggles	as required	during drilling, cutting, and grinding work, etc.
Hearing protection	as required	during chiseling work, etc.
Respiratory protection	as required	if there is dust formation, etc.

3 Technical Data

Parameters		Value
Flood resistance	Water ingress	<240 l/24 h in accordance with IFT Guideline FE-07/1
	Protection height	Type V, Type E: approximately half the door height (see order documents) Type V500: to 0.5 m
Door dimensions		Width up to 520 cm Height up to 252 cm (Special dimensions upon request)
Installation depth		90 mm (with 40-mm stop rail) 100 mm (with 50-mm stop rail)
Resistance to wind pressure		Class 2 according to DIN EN 13241-1
Heat transition coefficient		2.91W/m²·K according to ANSI/DASMA 105-2020
Air permeability		6.01 l/s·m² according to ANSI/DASMA 105-2020
possible installation types		Behind reveal Between reveal

4 Structure and Function

This section outlines the structure and function of AquaLOCK® Up-And-Over Door.

4.1 Overview

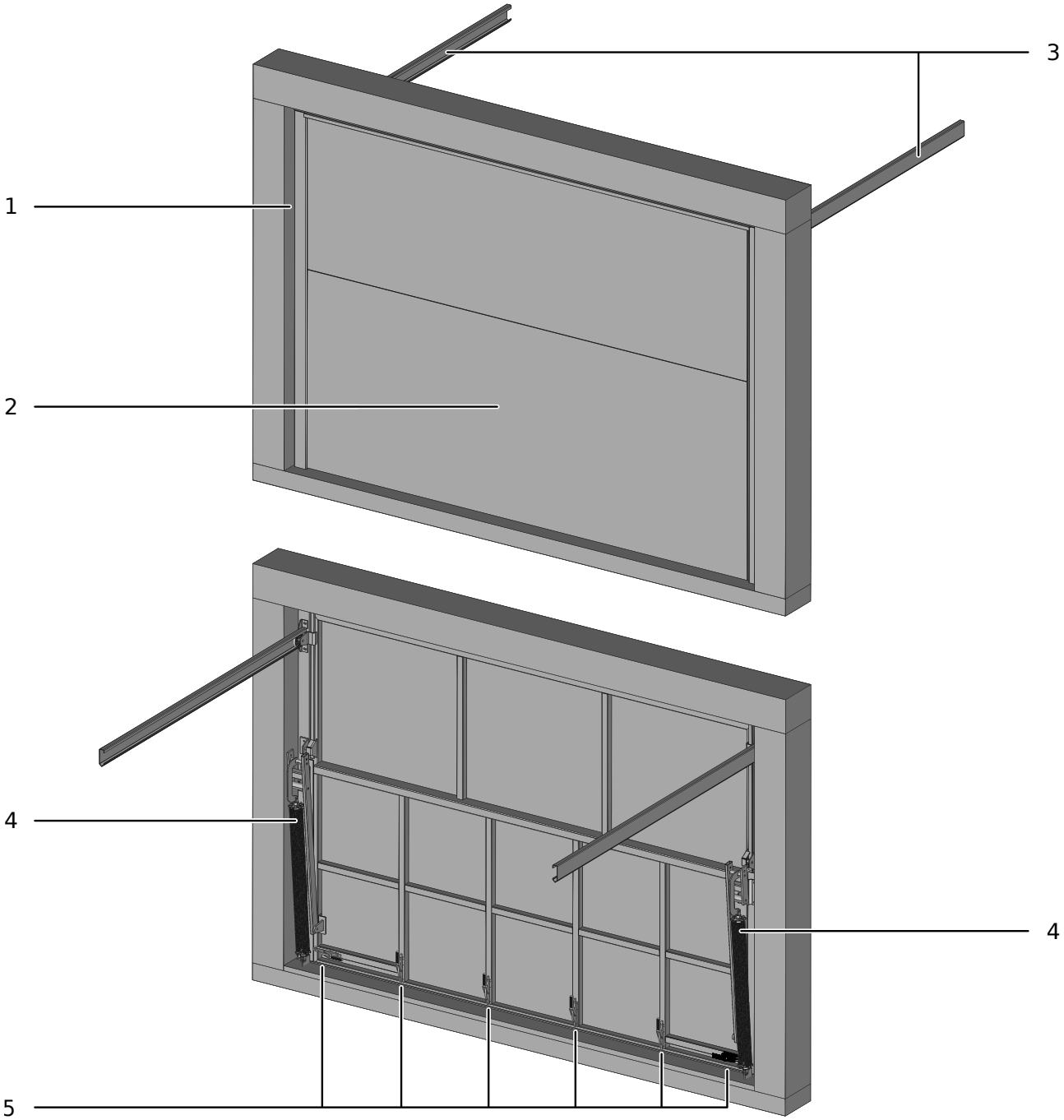


Fig. 1: AquaLOCK® Up-And-Over Door – Inside and outside view

1 - Frame
2 - Door leaf
3 - Rails
4 - Spring mechanism
5 - Shoot bolt

4.2 Operation

The AquaLOCK® Up-And-Over Door is opened and closed with a commercially available garage door drive. The rails ensure that the door leaf is guided properly. The spring mechanism ensures weight compensation.

The AquaLOCK® Up-And-Over Door is equipped with a special sealing system. The protection height varies by type and can be found in the order documents.

NOTICE	After each incident in which the AquaLOCK® Up-And-Over Door is damaged, an expert inspection must be performed, and possibly the building structure as well, to ensure proper function and flood resistance.

5 Storage, Transport, and Installation

⚠ WARNING

Risk of injury from heavy components

During the component transport and installation of the AquaLOCK® Up-And-Over Door, hazards from heavy and tipping parts may arise.

– Follow instructions in *Section "2.5 Residual risks" on page 9* and *Section "2.6 Personal protective equipment" on page 10*.

5.1 Storage and transport

Maintain the following environmental conditions for the AquaLOCK® Up-And-Over Door during storage and transport:

Parameters	Value
Temperature	-10 to +30°C
Environment	dustproof and splashproof

When transporting the AquaLOCK® Up-And-Over Door, follow the instructions below:

- During vehicle transport, ensure that the load is properly secured.
- When handling the AquaLOCK® Up-And-Over Door, use suitable, tested hoisting equipment and have at least one other person help you.
- Do not stand under suspended loads. Maintain a sufficient safety distance.

5.2 Installation

During installation of the AquaLOCK® Up-And-Over Door, follow the general instructions below:

- Installation strictly according to a spirit level is not possible. The solid welded construction is subject to a certain amount of warping. This is entirely normal and not grounds for a complaint.
- The top priority for the sealing system is to fit properly when the door is closed.
- Dark doors that are exposed to direct sunlight must be covered during installation.

  Otherwise, the door surface may deform under the resulting heat. If the door is assembled in this condition, the sealing system will not fit properly once the door cools off.
- After installing each attachment point, check that the sealing system fits. When the door is closed, no light may be visible through the bottom AquaLOCK® sealing system. At each support point, the sealing system must be pressed on firmly.
- After assembly of the AquaLOCK® Up-And-Over Door, all mortar and foam residue and other impurities must be removed immediately to prevent corrosion damage.

NOTICE

In addition to the installation instructions in this manual, a detailed installation video is available for the system.

To access it, scan the QR code with your smartphone or another suitable mobile device.

5.2.1 Preparing the installation

To prepare the AquaLOCK® Up-And-Over Door installation, proceed as follows:

1. Once the system is delivered, check it for completeness and damage.
2. If you identify damage:
   - Note the type of damage in the carrier's delivery documents
   - ⚠ **WARNING!** Danger of personal injury and property damage from damaged components. Do not install the AquaLOCK® Up-And-Over Door with damaged components. Ensure that damaged components are replaced before beginning installation, or contact the manufacturer.
3. Remove the transport packaging and dispose of it in an environmentally-friendly manner, which complies with local requirements. The packaging material can be entirely recycled.
4. Keep the required tools, aids, and fastening materials at hand:
   - Wooden wedges
   - Hammer
   - Spirit level
   - Screws/anchoring systems suitable for the wall/lintel and floor material

     ⚠ **WARNING!** Danger of personal injury and property damage from improper anchoring to the structure. Fastening material must be suitable for the wall material and the conditions at the installation site. Additional material, or material not included in the scope of delivery, may be necessary. If in doubt, contact a qualified structural engineer.
   - Suitable wrench/bits
   - Cordless screwdriver
   - Hammer drill
   - Drill
   - Drill suitable to the screws/anchoring system; steel drill if necessary
   - Suitable ladders and installation supports (available from the manufacturer)
   - Plastic protection for covering the floor
   - Masking tape to be used when creating the sealing joint
   - Underlayment for orienting the building junction profile
   - Knife for opening the sealing adhesive
   - Press for injecting the sealing adhesive into the joint
   - Extruder for creating joints
   - Spray bottle for smoothing agent
   - Paper towels
   - Vacuum cleaner
   - Garbage bags
5. Cover the area around the installation area to protect against dirt.
6. Provide suitable barriers to ensure that the installation area is accessible to installation personnel only.

7. Before beginning installation, ensure that the dimensions of the AquaLOCK® Up-And-Over Door match the wall opening and the selected installation type. This information can be found in the purchase documents (order confirmation, invoice, delivery note).

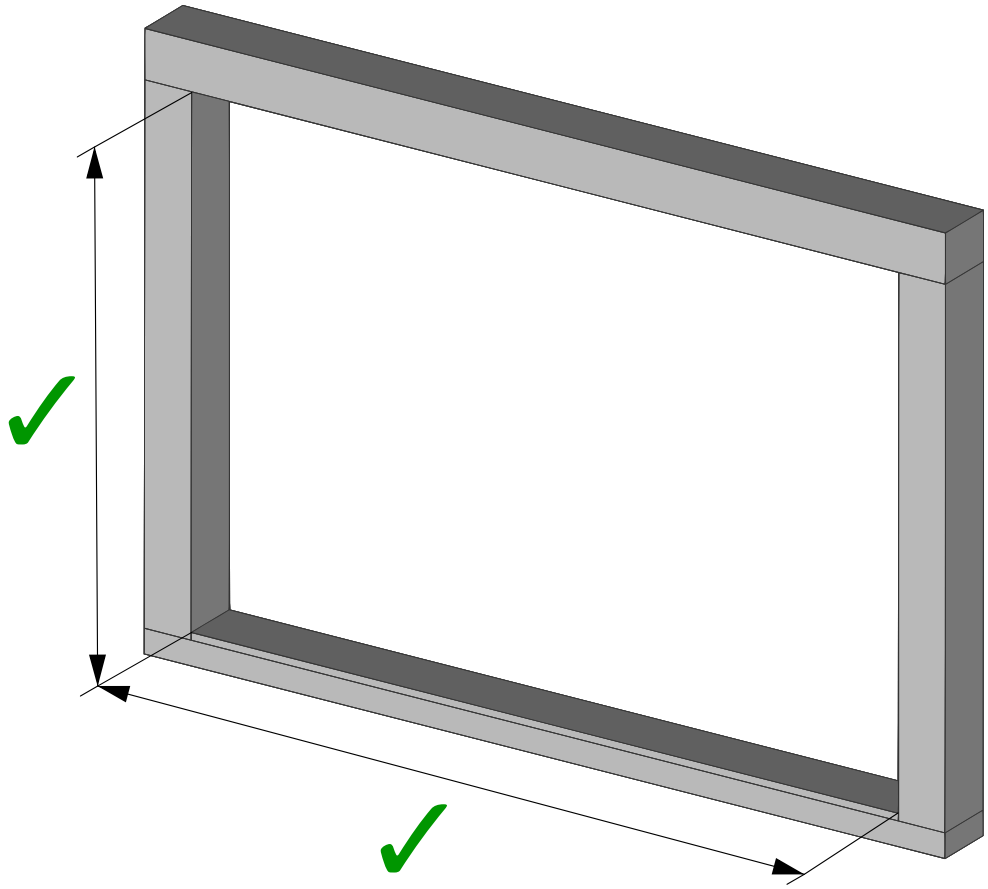


Fig. 2: Check wall opening dimensions prior to installation

8. Create a groove in the floor for the threshold profile (stop rail) along the wall opening into which the AquaLOCK® up-and-over door is to be installed:

   - Length: Length of the AquaLOCK® Up-And-Over Door + 50 mm on each side
   - Width: 150 mm
   - Depth: Threshold height[2] + 10 mm

NOTICE

– Use a tool suitable for the subsurface, e.g. hammer drill, etc.
– The groove must be positioned according to installation type so that the threshold profile fits to the door leaf after installation (see *Section "5.2.2 Positioning the door" on page 18*).

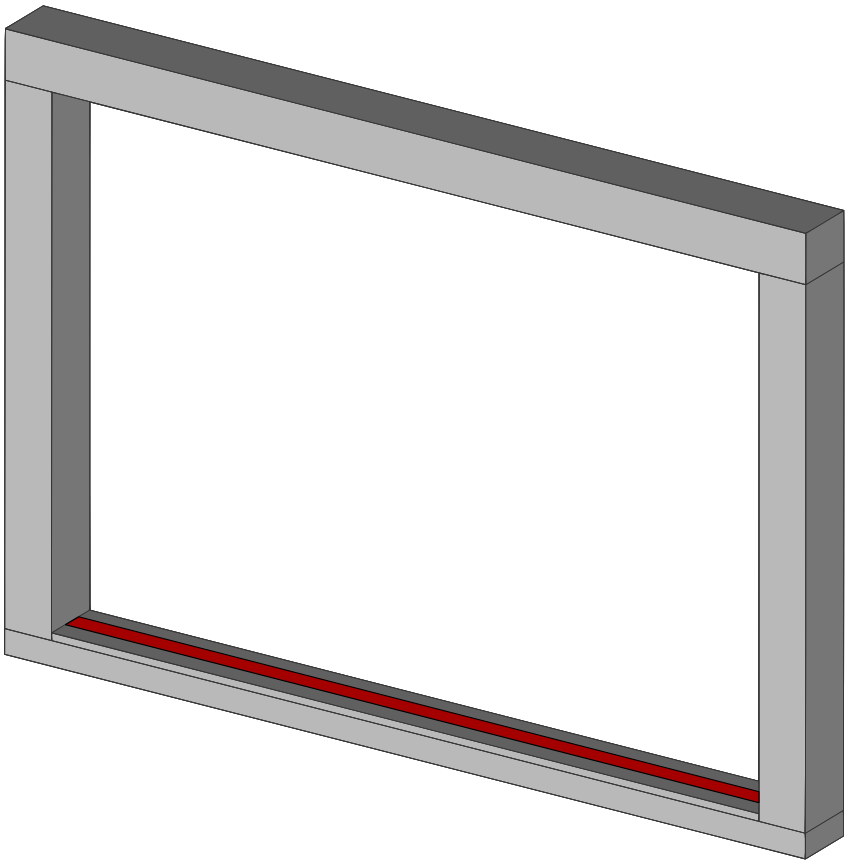


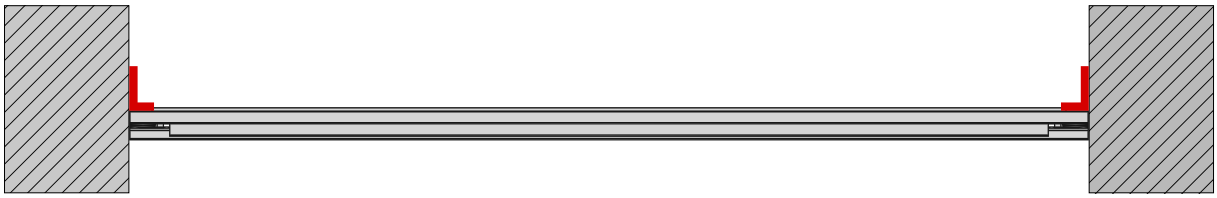
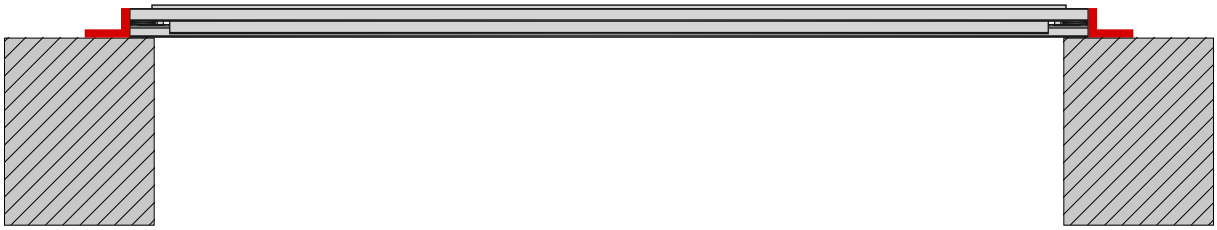
Fig. 3: Creating a groove in the floor

[2] see order documents

5.2.2 Positioning the door

Depending on the installation type, the AquaLOCK® Up-And-Over Door is positioned in the wall opening or inside against the wall opening.

The following installation types can be fundamentally implemented:

Installation type
Between-reveal installation 
Behind-reveal installation 

NOTICE	These instructions show the between-reveal installation of the AquaLOCK® Up-And-Over Door.

For positioning, proceed as follows:

1. Position the AquaLOCK® up-and-over door in the wall opening. Use suitable hoisting equipment/means of transport or have more than one person carry the door.

⚠ ***WARNING***	**Risk of injury from tipping** If the AquaLOCK® Up-And-Over Door is not held, it can tip. There is a risk of injury. – Always affix suitable installation supports after you have positioned the AquaLOCK® Up-And-Over Door (such supports are available from the manufacturer).

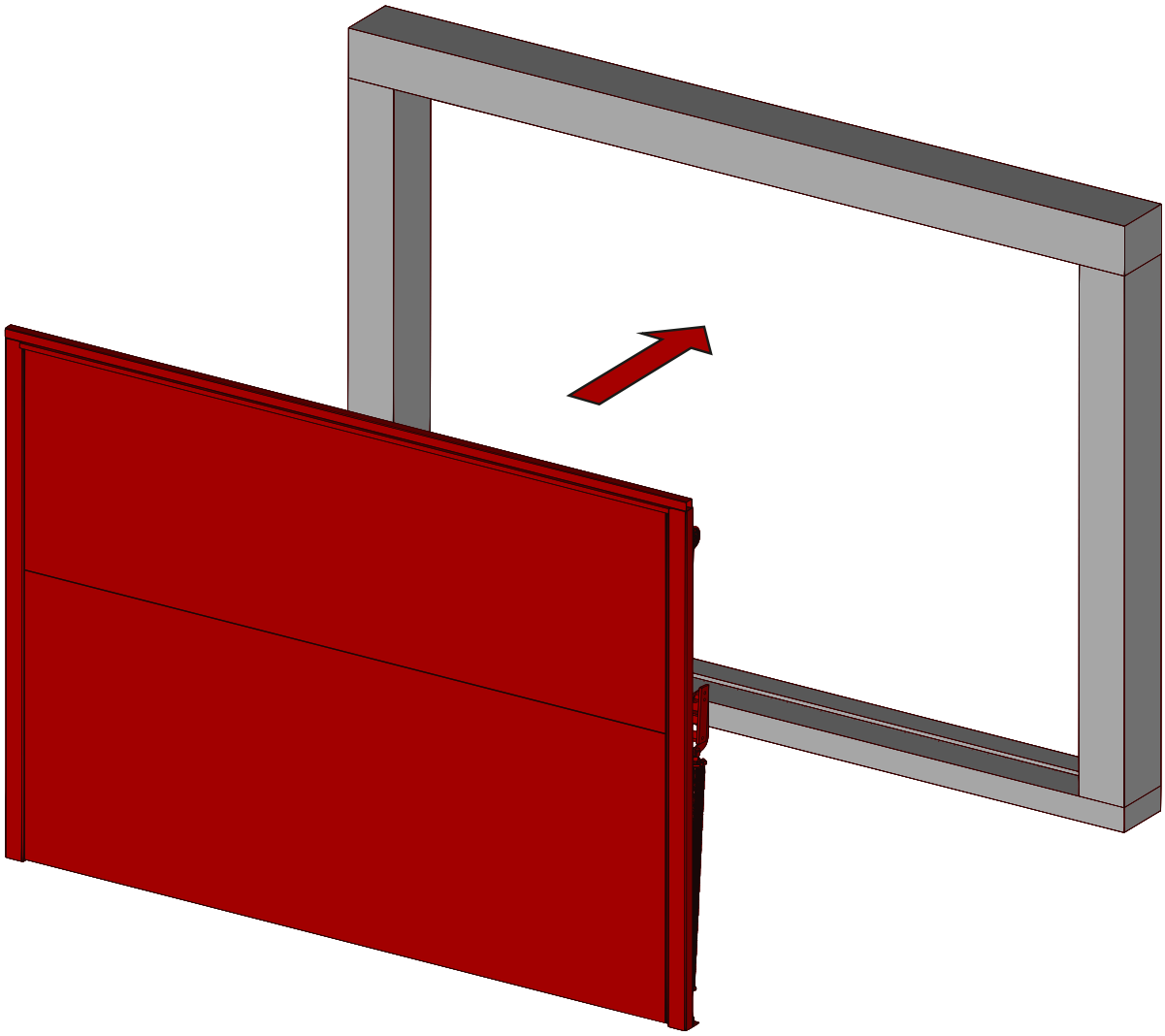


Fig. 4: Moving the AquaLOCK® up-and-over door into the wall opening

2. Install suitable assembly supports. Use soft backing material in order to avoid damaging the door leaf surface.
3. Ensure that the AquaLOCK® Up-And-Over Door is securely held by the installation supports.
4. Use wooden wedges to orient the AquaLOCK® Up-And-Over Door so that it fits evenly into the wall opening as seen from outside. During this process, observe the following:

   - The lateral joints between door leaf and frame must be parallel. As necessary, correct the orientation by inserting spacers outside the frame.
   - Ensure that the top frame is horizontal. Minor deviations are permissible if they are necessary for adjusting the exterior view to the wall opening (lintel).
   - Make sure to keep an installation distance of 5-10 mm between the structure and the top and side frames! This clearance is necessary for correct orientation and proper jointing.
   - Install the top frame so that there is a slight central curvature to the outside. This ensures that the drive can exert its full pressure on the sealing system.

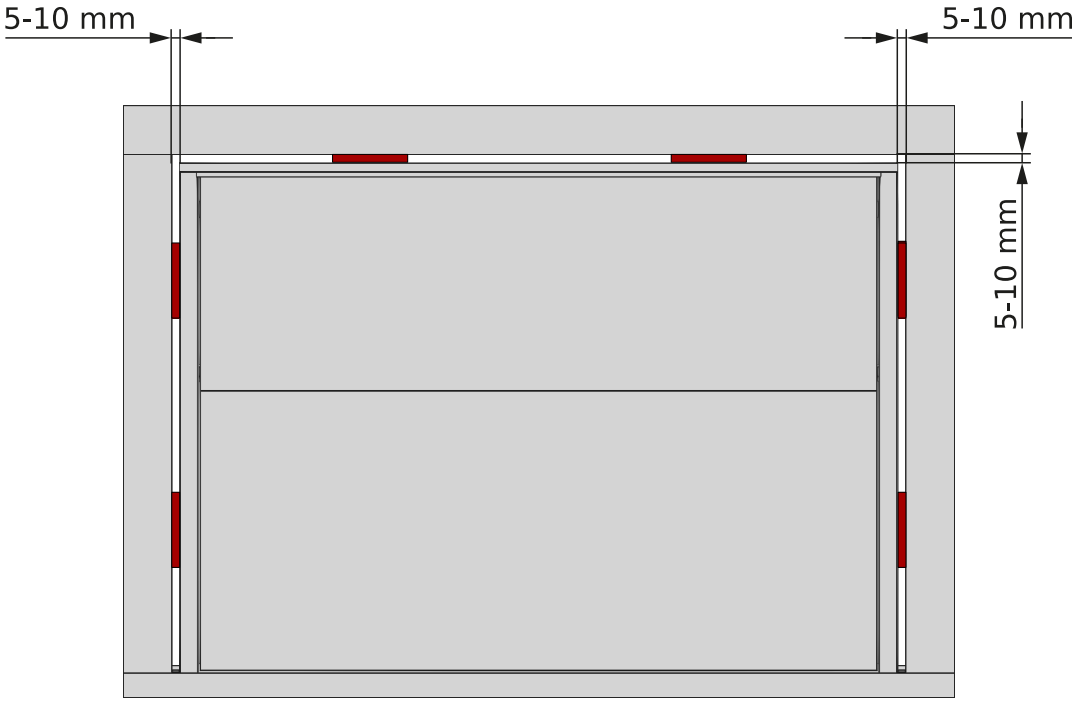


Fig. 5: Aligning the AquaLOCK® up-and-over door in the wall opening

5.2.3 Fastening the frame

General instructions

Follow the general instructions below to fasten the frame:

- The frame is anchored to the walling with a mounting bracket.
- ⚠ **WARNING!** Danger of personal injury and property damage from improper anchoring to the structure. Fastening material must be suitable for the wall material and the conditions at the installation site. Additional material, or material not included in the scope of delivery, may be necessary. If in doubt, contact a qualified structural engineer.
- Follow all manufacturer's instructions and use proven methods for the fastening material used, for example:
  - Edge distances for walling
  - Distance between attachment points
  - Load-bearing capacity and strength
  - Anchor suitability
  - etc.
- During drilling, avoid damaging any necessary structural supports
- Use only adhesives and sealing materials suitable for the application. Follow the information on material compatibility and the material manufacturer's processing instructions. Suitable sealing materials are available from the manufacturer.

Side frame: Attaching the top and bottom mounting brackets

To attach the top and bottom mounting brackets, proceed as follows:

1. Open all locking latches.
2. From the outside, recheck the course of the joint and the position of the AquaLOCK® Up-And-Over Door in the opening. If necessary, correct the orientation by inserting the frame beneath the door on the side.
3. Start with the top left frame (seen from inside):
   Position the mounting bracket at the level of the prepared threaded hole in the frame. Position the mounting bracket so that it is flush with both the frame and the wall.
4. Use the M8 screws provided to attach the mounting bracket to the frame.
5. Bore holes in the wall to attach the mounting bracket.
6. Fasten the mounting bracket to the wall with a screw/anchoring system suitable for the wall material.
7. Ensure that the sealing system fits properly along the entire sealing surface.
8. Continue with the bottom left (seen from inside):
   Move the frame towards the inside/outside until the sealing system fits exactly.
9. Fasten the mounting bracket as described in Items 4-7.

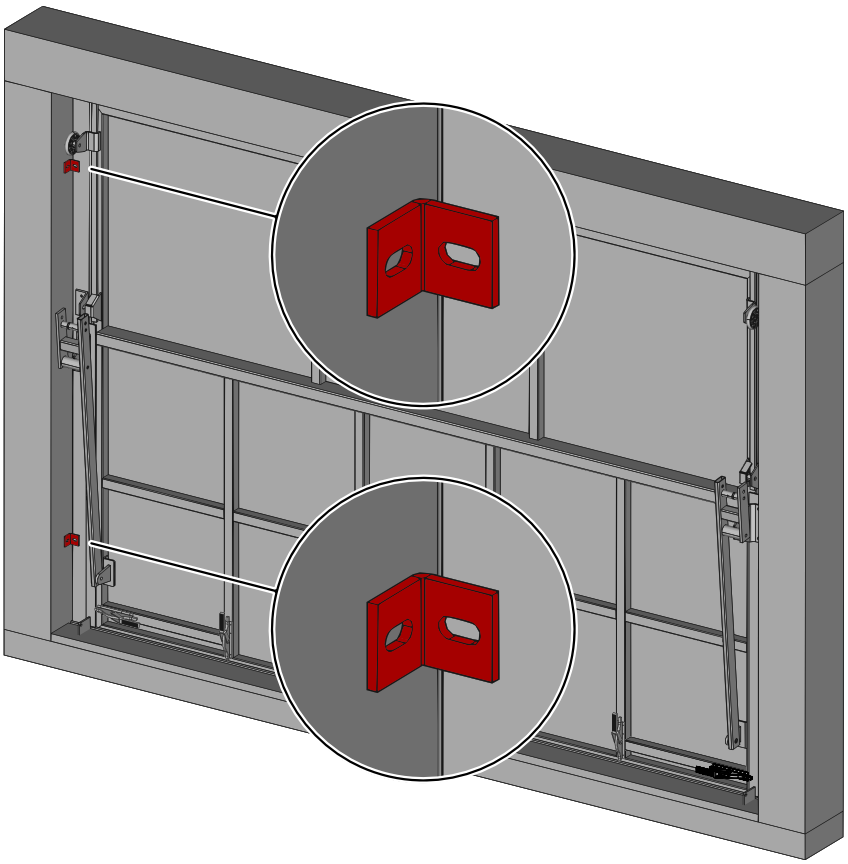


Fig. 6: Attaching the mounting brackets at the left top and bottom

10. Continue with the top right (seen from inside):
    Move the frame towards the inside/outside until the sealing system fits exactly.
11. Fasten the mounting bracket as described in Items 4-7.
12. Continue with the bottom right (seen from inside):
    Move the frame towards the inside/outside until the sealing system fits exactly.
13. Fasten the mounting bracket as described in Items 4-7.

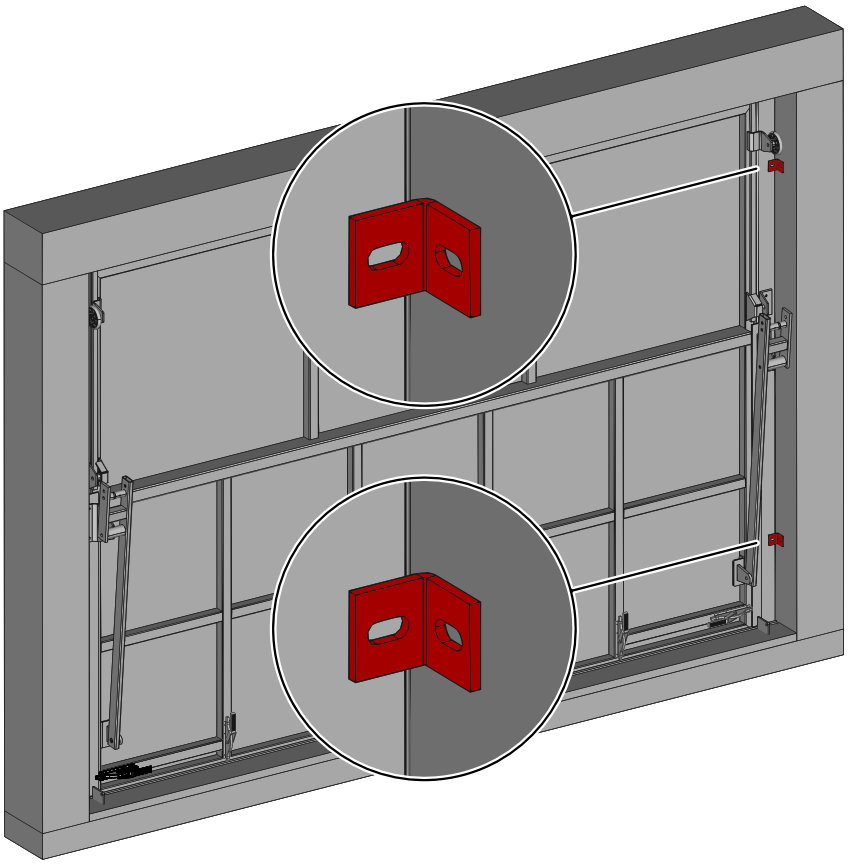


Fig. 7: Attaching the mounting brackets at the right top and bottom

NOTICE	After each newly installed attachment point, check that the entire sealing system fits exactly.

Side frame: Attaching the center mounting brackets

To attach the center mounting brackets, proceed as follows:

1. Start with the left (seen from inside):
   Position two mounting brackets at the level of the prepared threaded holes in the frame. Position the mounting brackets so that they are flush with both the frame and the wall.
2. Use the M8 screws provided to attach the mounting brackets to the frame.
3. Bore holes in the wall to attach the mounting brackets.
4. Fasten the mounting brackets to the wall with a screw/anchoring system suitable for the wall material.
5. Ensure that the sealing system fits properly along the entire sealing surface.

NOTICE	Orient the center mounting bracket so that the frame is level or has a slight **inward** curvature. Otherwise, proper sealing system function cannot be ensured!

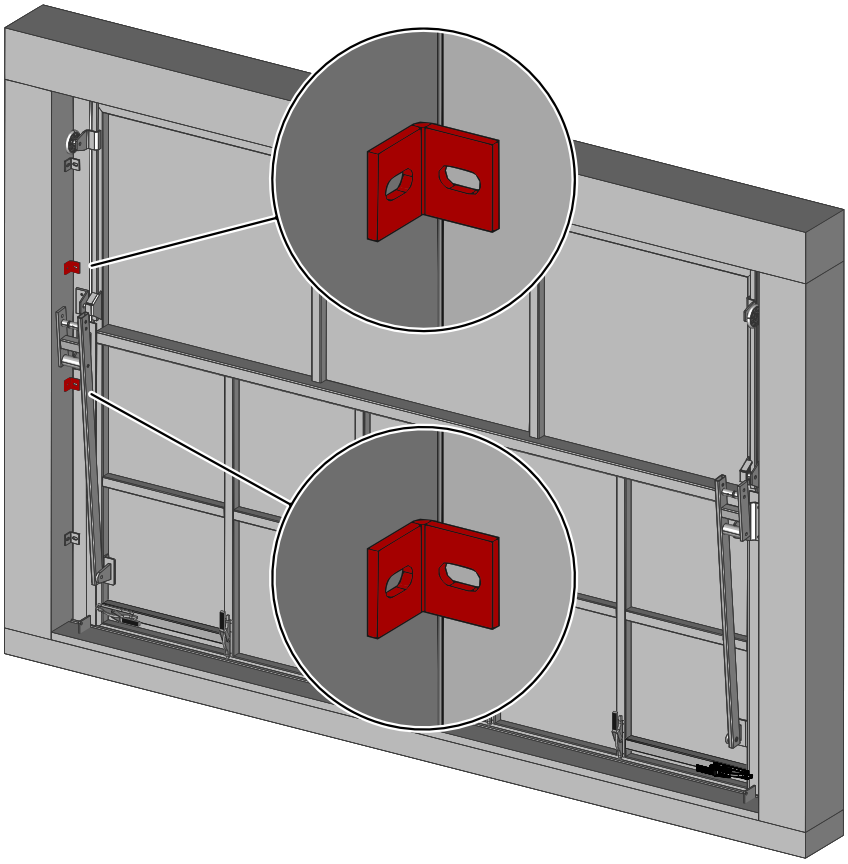


Fig. 8: Attaching the center left mounting brackets

6. Continue with the right (seen from inside):
   Position two mounting brackets at the level of the prepared threaded holes in the frame. Position the mounting brackets so that they are flush with both the frame and the wall.
7. Fasten the mounting bracket as described in Items 2-5.

NOTICE	Orient the center mounting bracket so that the frame is level or has a slight **inward** curvature. Otherwise, proper sealing system function cannot be ensured!

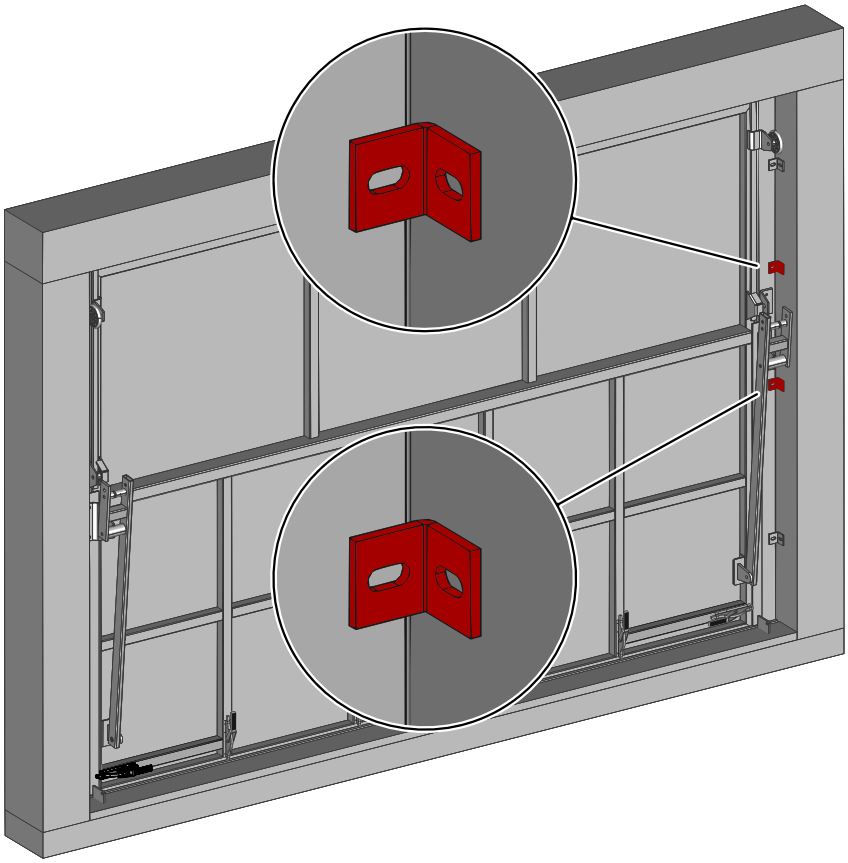


Fig. 9: Attaching the center right mounting brackets

NOTICE	After each newly installed attachment point, check that the entire sealing system fits exactly.

Top frame: Attaching the mounting bracket

To attach the mounting bracket to the top frame, proceed as follows:

1. Start with the right and left (seen from inside):
   Position two mounting brackets at the level of the prepared threaded holes in the frame. Position the mounting brackets so that they are flush with both the frame and the lintel.
2. Use the M8 screws provided to attach the mounting brackets to the frame.
3. Bore holes in the lintel to fasten the mounting brackets to the wall.
4. Fasten the mounting brackets to the lintel with a screw/anchoring system suitable for the wall material.
5. Ensure that the sealing system fits properly along the entire sealing surface.

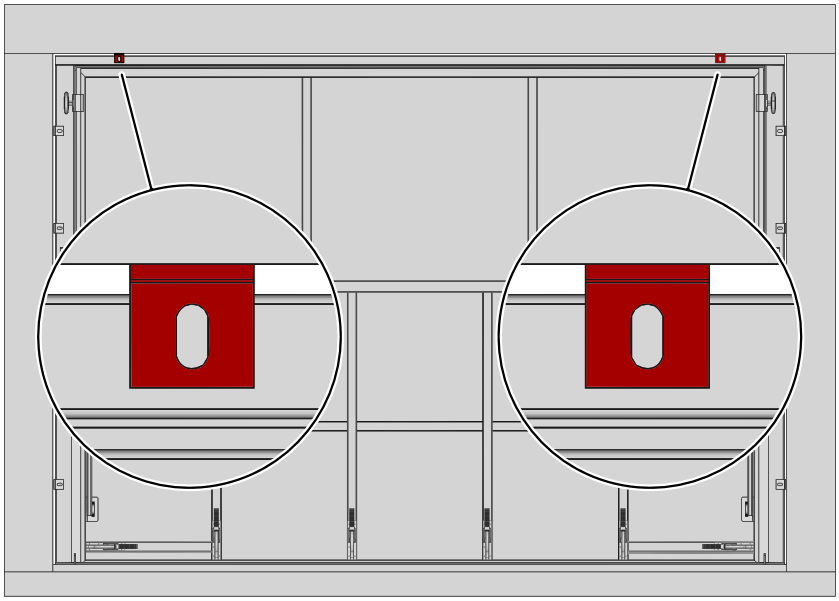


Fig. 10: Fastening the top right and left mounting brackets

6. Continue with the center (seen from inside):
   Position two mounting brackets at the level of the prepared threaded holes in the frame. Position the mounting brackets so that they are flush with both the frame and the lintel.
7. Fasten the mounting bracket as described in Items 2-5.

NOTICE	Orient the center mounting brackets so that the frame is level horizontally and tends to have a slight **outward** curvature (there may not be a curvature inward nor downward!). Otherwise, proper sealing system function cannot be ensured!

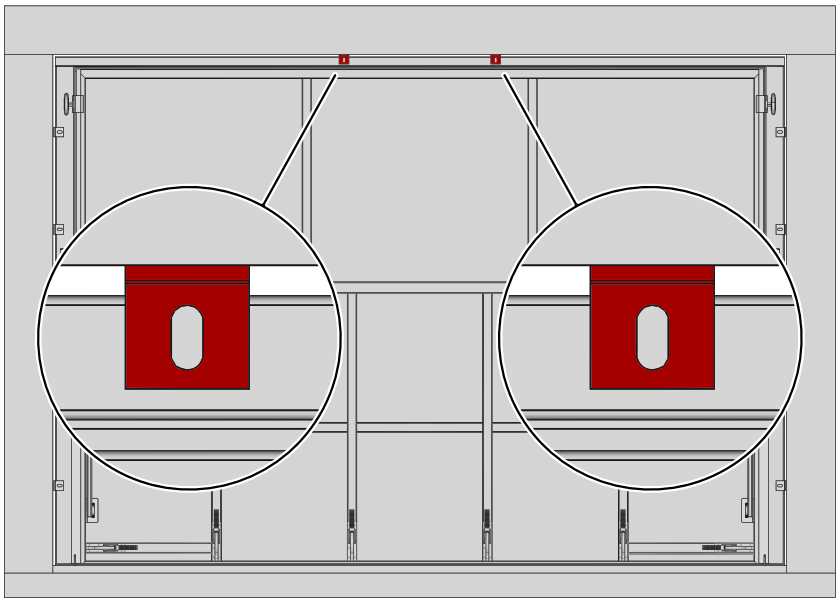


Fig. 11: Attaching the top center mounting brackets

Fastening the rails

To fasten the rails, proceed as follows:

1. Use the screws and nuts provided to mount the rail supports, always on the closed side of the rails:
   - Screws: Carriage bolts, M8x30
   - Nuts: M8 hexagon nuts with locking teeth

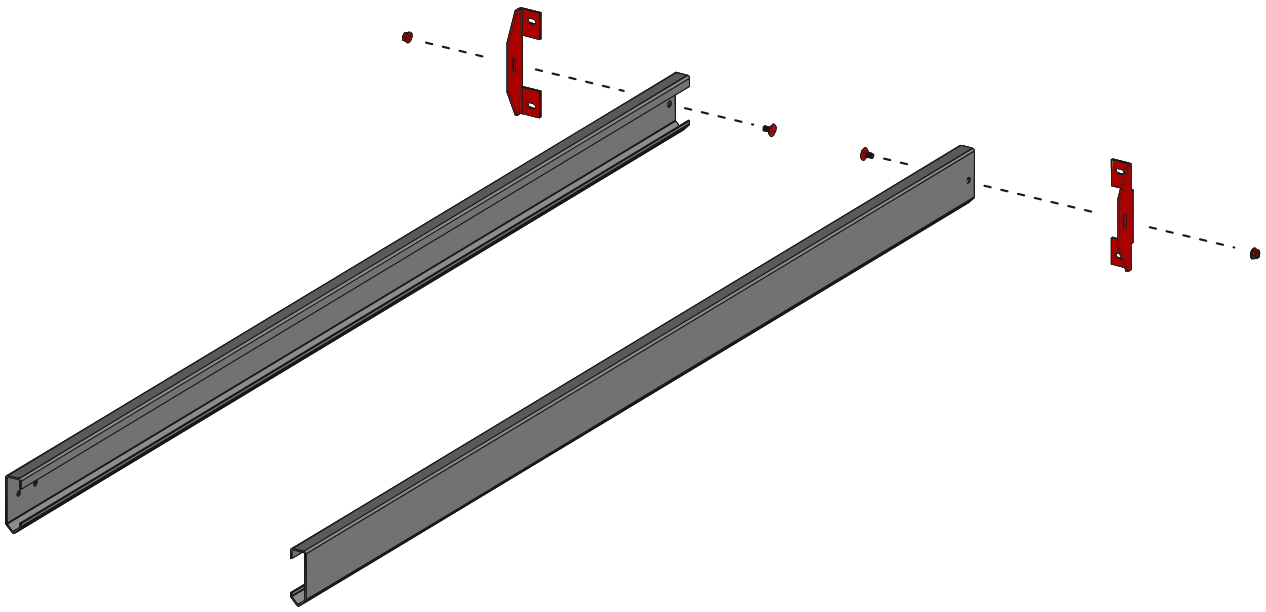


Fig. 12: Installing the rail mounts

2. Adjust suitable installation supports to the rail height. Use the bottom edge of the roller for orientation.
3. Position the rail so that the tapered side is oriented downward.

4. Fasten the rails to the AquaLOCK® up-and-over door with the fastening materials provided and brace the rails with the installation supports.
5. Secure the installation supports against falling over by holding or taping them.

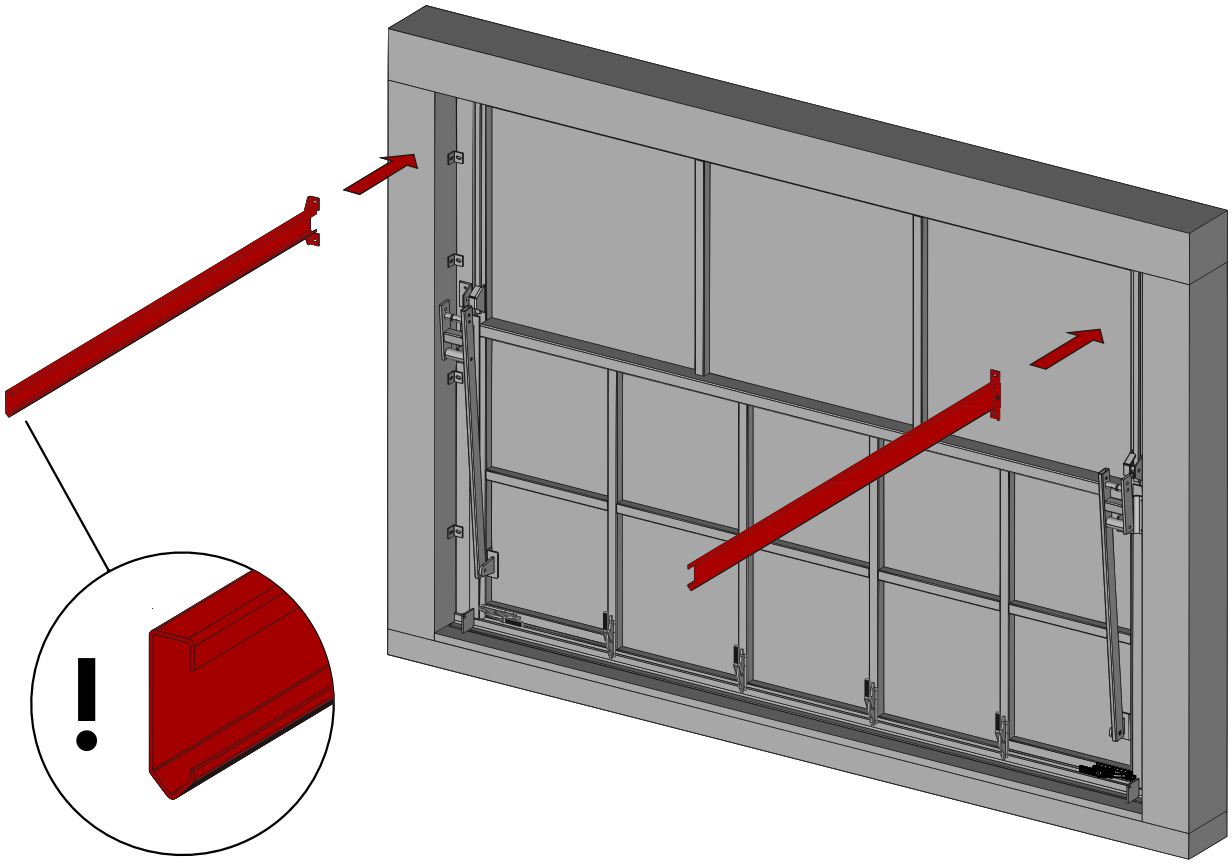


Fig. 13: Fastening the rails to the door leaf

⚠ CAUTION	**Risk of injury from the door leaf falling** Since the weight compensation is not yet installed, there is risk of injury when the door leaf is opened. – Use special caution and be sure to hold onto the door leaf until it is fixed in place. – Work with at least one other person.

6. Carefully open the door leaf by hand. To do this, push the lower tubular frame outward. IMPORTANT: To avoid damage to the door leaf, apply no pressure to the aluminum casing.

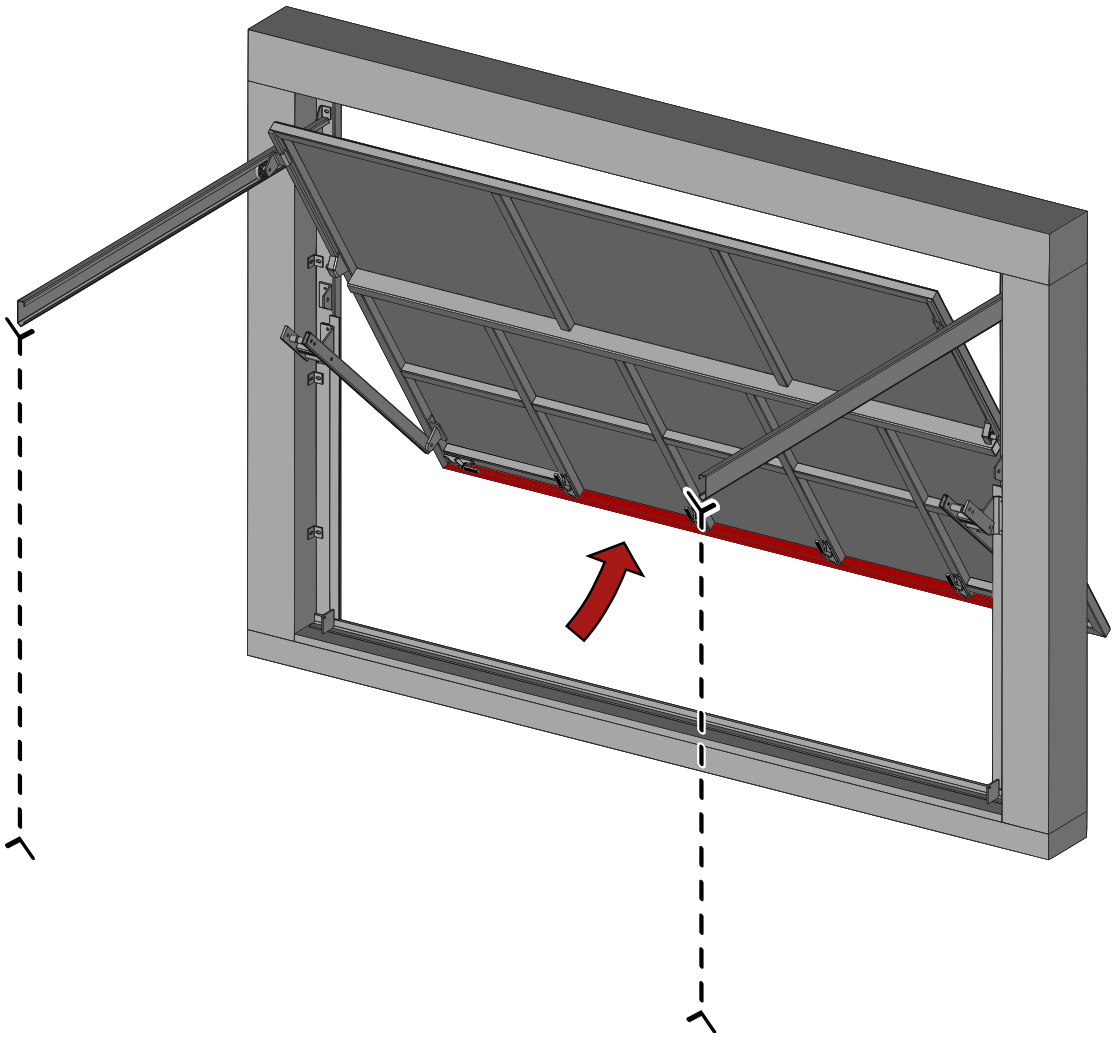


Fig. 14: Opening the door leaf

7. When the door leaf is completely open:

   - Fasten both rollers in the rails to secure the door leaf against falling.
   - To do this, use suitable clamps.
   - Position them in front of the rollers so that the lower edge of the open door leaf is at least 20 mm above the edge of the frame (toward the outside).

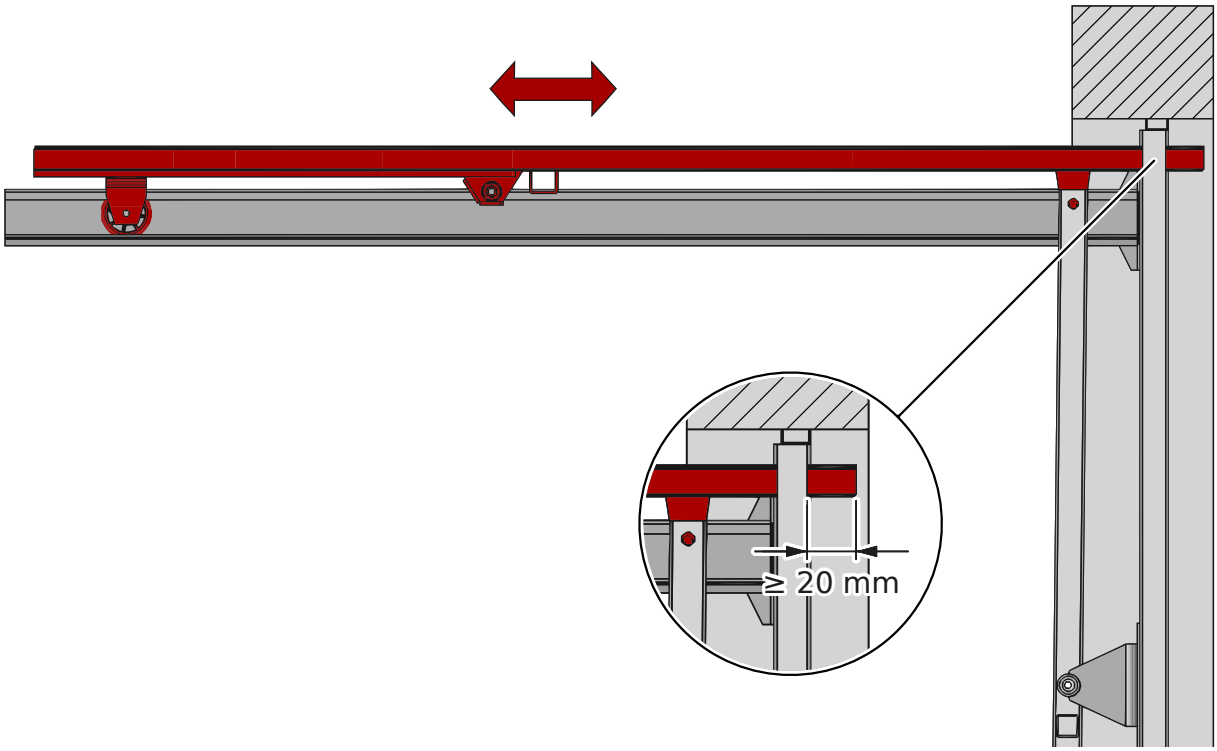


Fig. 15: Positioning the door leaf

8. Mount the bump stops provided in both rails:

   - Position each bump stop so that there is a clearance of approx. 20 mm between it and the roller.
   - Bore the necessary holes (diameter 8.5 mm).
   - Use the screws and nuts provided to mount the bump stop.

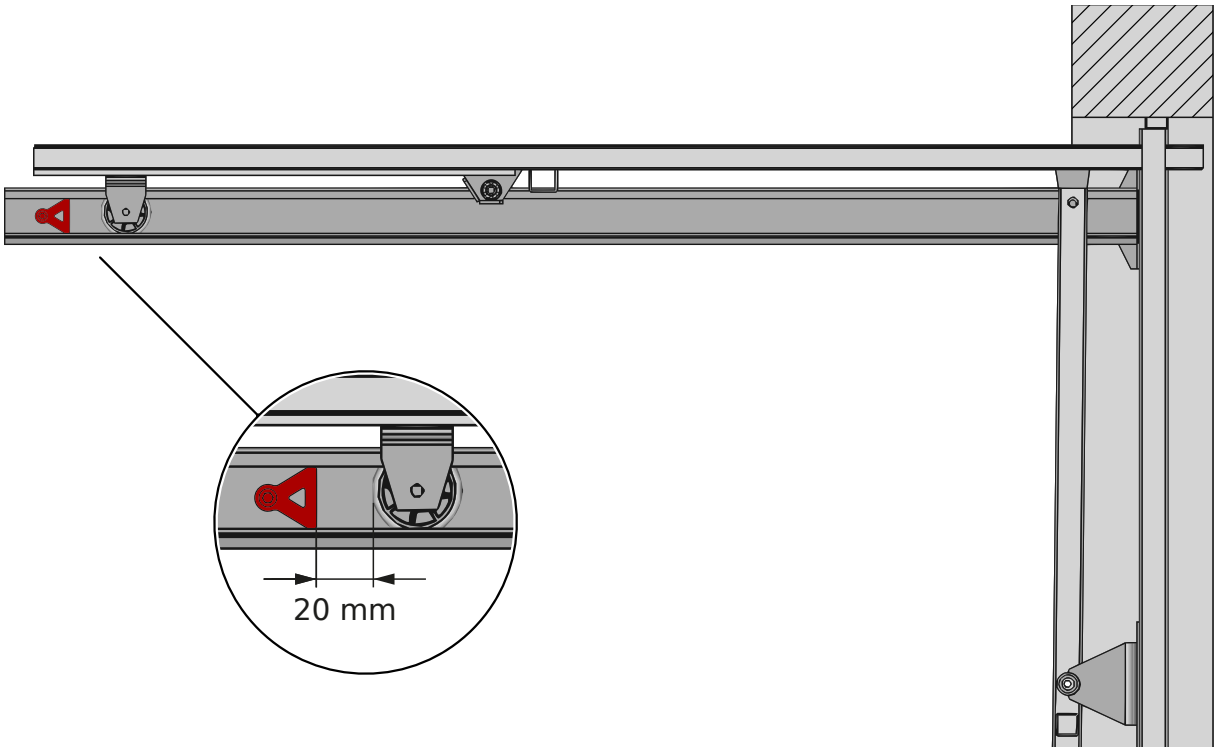


Fig. 16: Mounting the bump stop in the rails

NOTICE	When installing the door drive later, ensure that there is approx. 20 mm between the open end position and the roller. Follow manufacturer's instructions.

9. Attach the two wedges between door leaf and frame. This does the following:

   - Ensures correct rail orientation.
   - Fixes the door leaf.
   - Ensures an equal distance between the door leaf and the frame.

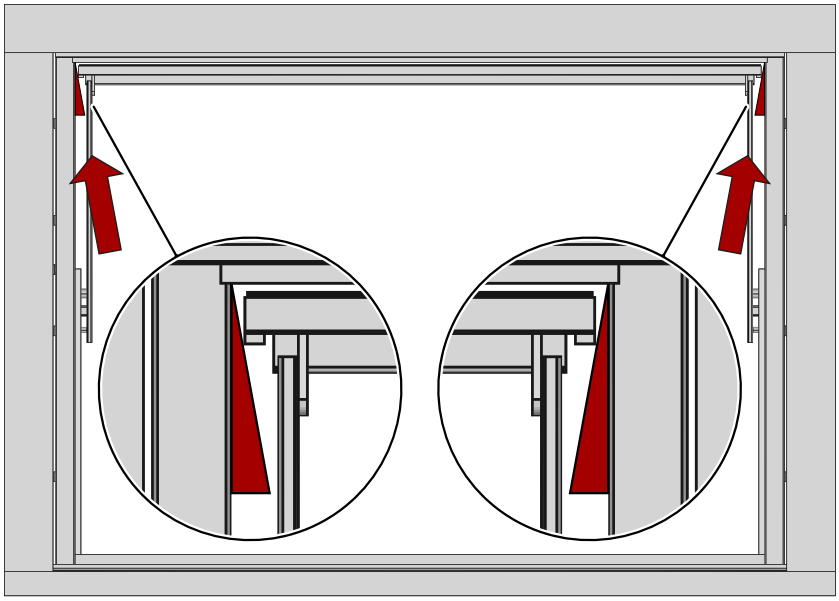


Fig. 17: Attaching wedges between door leaf and frame

10. Use at least two V-shaped suspensions for each rail to fix them to the ceiling or walls.

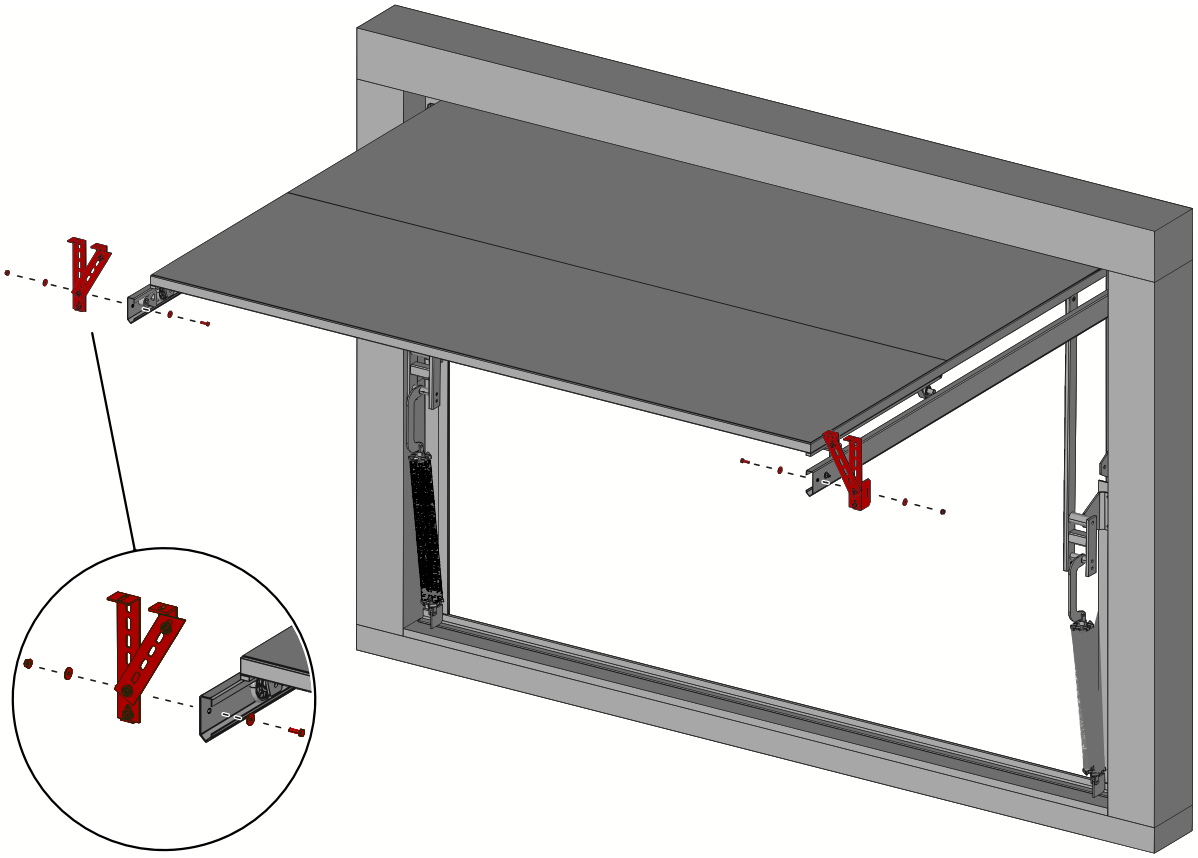


Fig. 18: Installing the suspensions

11. Remove the adjustment wedges.
12. Remove the assembly supports

→ The rails are fastened.

⚠ **WARNING!** Risk of injury from the door leaf falling. Do not remove the door leaf fixing element yet!

Installing the springs

To install the springs, proceed as follows:

⚠ CAUTION	**Risk of injury during spring installation** During spring installation, there is risk of injury from pinching. – Proceed with special caution. – Use suitable protective gloves.

1. Hook the springs into the mount:

   - Hook the spring into the bottom spring mounting plate, pull it upwards with some force, and hook it into the top spring mounting plate.
   - Ensure that the springs bend only a little so that they are not damaged.
   - The intended number of springs per side can be found in the order documents.

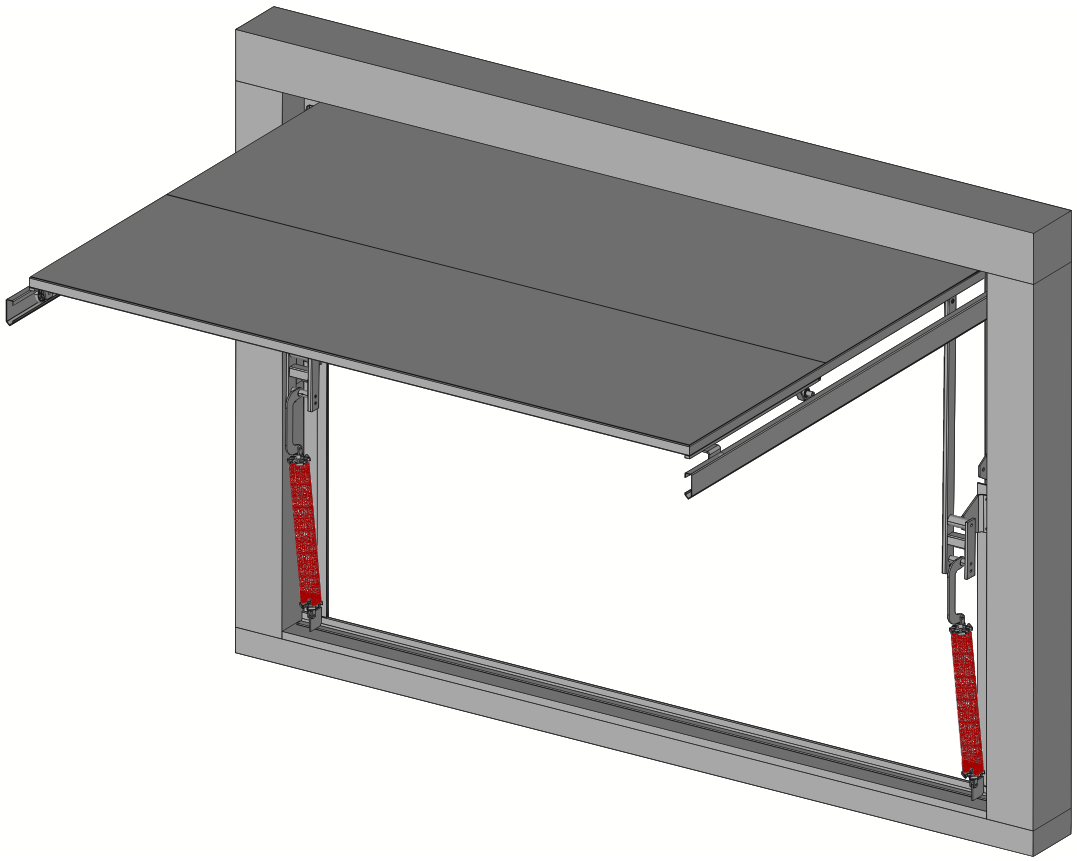


Fig. 19: Installing the springs

2. Make the rough adjustment for the correct preload. To do this, you can vary the number of springs installed or the spring stiffness. Three different types of springs are included in the scope of delivery:

   - springs marked blue: low stiffness
   - springs marked yellow: medium stiffness
   - springs marked white: high stiffness

NOTICE	The correct spring tension is achieved when the open garage door leaf stops at about 1/3 of the way open (without connection to the garage door drive).

3. Perform fine adjustment for the correct preload. Use the spring mounting plate adjustment mechanism at the bottom end of the springs:

   - Loosen both nuts to fix the adjusting screw to the spring mounting plate.
   - Change nut position to achieve the desired setting.
   - Tighten both nuts.

NOTICE	Springs with a length of 480 mm should be tensioned so that their length is increased by 150 mm. Springs with a length of 400 mm should be tensioned so that their length is increased by 130 mm.

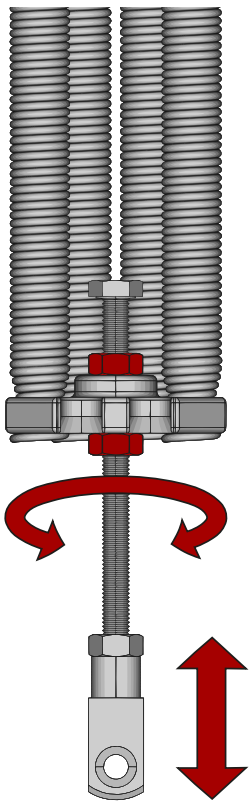


Fig. 20: Spring preload fine adjustment

Fastening the stop rail

To fasten the stop rail, proceed as follows:

1. Position the stop rail. If necessary, use a tire iron.

NOTICE	The stop rail must be oriented and fastened so that the sealing system fits tightly across its entire length and the screws are seated in their boreholes with no clearance towards the sealing level.

2. Bore the first hole for floor anchoring.
3. Fasten the stop rail at this point with a screw/anchoring system suitable to the floor material.
4. Ensure that the sealing system is firmly in place.
5. Repeat Steps 2-4 for the remaining attachment points. After each, ensure that the sealing system is firmly in place.

   → The stop rail is fastened.

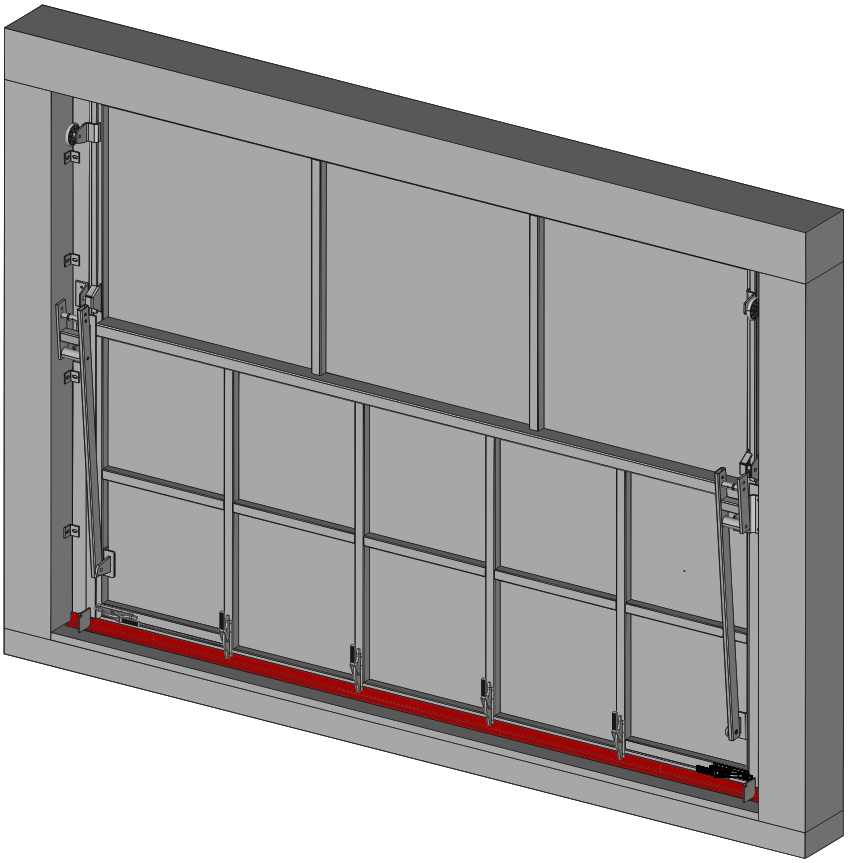


Fig. 21: Fastening the stop rail

Installing the drive

Door drive installation is not part of this Installation and Operating Instructions. Mount an approved, tested door drive according to manufacturer's instructions.

Sealing

Follow the general instructions below for sealing:

- ⚠ **WARNING!** Danger of personal injury and property damage from insufficient sealing. Make absolutely sure that the sealing material is suitable for the structural conditions and the intended application area. If in doubt, consult a specialist.
- It is recommended to use the sealing material included in the installation package, which can be ordered separately. Any other sealing material must be able to withstand the expected loads (pressure, weather, etc.).
- All surfaces must be dry, free of dust and sturdy.
  - If necessary, they must be prepared for the sealing process accordingly.
  - You can also use another suitable sealing system, for example, fluid plastic with fleece lining.

The figure below provides an overview of correct sealing between the side frame and the wall.

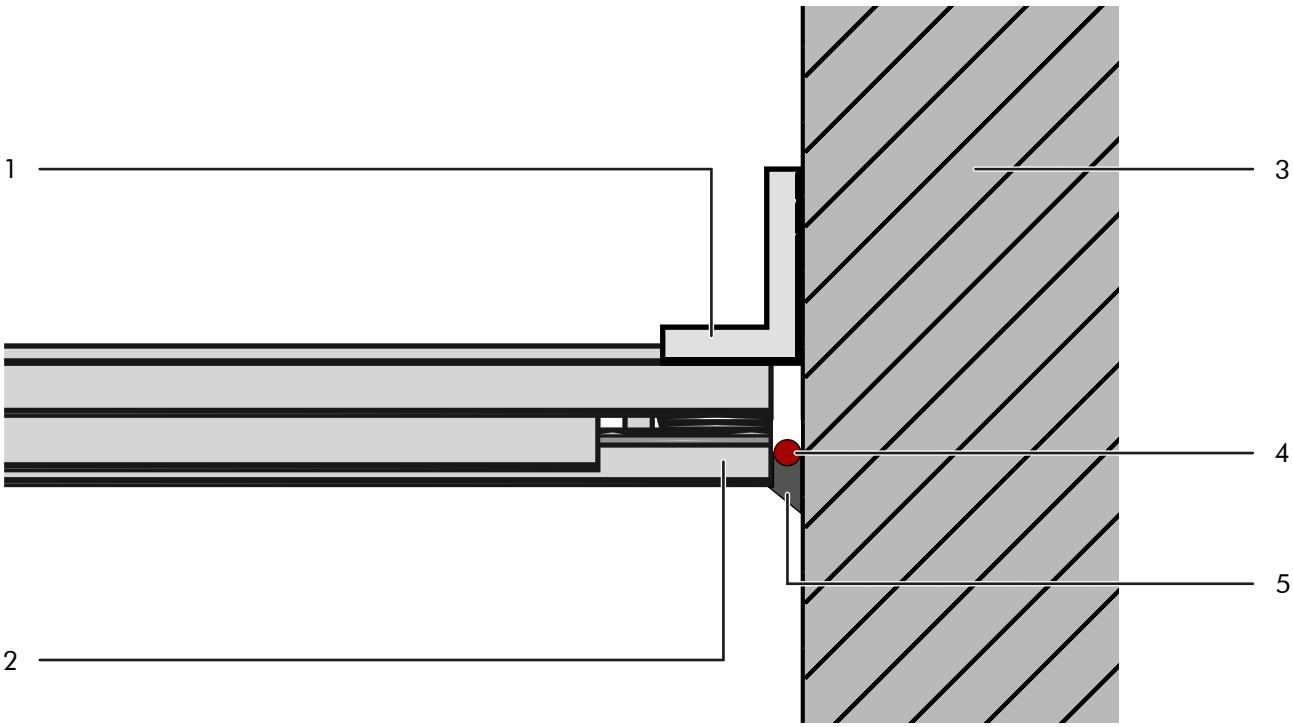


Fig. 22: Sealing the side frame

1 - Mounting bracket
2 - Frame
3 - Wall
4 - Backfill material
5 - Joint

NOTICE	Joint width should be the same as joint depth.

To create the sealing joint, proceed as follows:

1. Press the joint cord supplied into the gap between the AquaLOCK® Up-And-Over Door frame and the wall. The front edge must be approx. 5-8 mm deep (as close to the joint width as possible).
2. To create a straight joint edge, tape masking tape to the wall at a distance of approx. 6–8 mm from the frame.
3. Mask the frame with masking tape.
4. If the wall surface is sandy or porous (plaster, concrete, etc.): Apply primer (not in the standard scope of delivery; can be supplied by the manufacturer).
5. Apply the sealing adhesive and use an extruder to create the joint (approx. 6 mm).
6. Finish the joint and remove the masking tape.
7. Allow the joint to harden. At 20°C, the sealing adhesive takes approx. 24 hours to harden. The joint must not be under load during this time.

Then create the sealing joint on the threshold profile (stop rail). To do this, proceed as follows:

Variant 1: Cast with grouting concrete or epoxy resin	Variant 2: With sealing adhesive
1. Cast the threshold profile with a suitable grouting concrete or epoxy resin product. 2. Allow the joint to harden. Observe manufacturer information regarding hardening time. The joint must not be under load during this time.	1. Follow the instructions for the sealing joints on the side frame (see *Section "Sealing" on page 38*).

NOTICE	Casting with grouting concrete or epoxy resin is the best option for a secure, long-lasting seal on the threshold profile and for diverting applied forces. Vehicles may drive over thresholds that have not been cast, only if at least the floor threshold plate (available separately) has been installed. Screwing in the threshold and sealing with the sealing joint is not sufficient. For multi-car garages, casting the threshold is strongly recommended.

6 Commissioning

When commissioning the AquaLOCK® Up-And-Over Door, follow the instructions below:

- Only qualified personnel may commission the AquaLOCK® Up-And-Over Door.
- Commissioning must be documented in a written report.
- If you have questions, contact installation personnel or the manufacturer.

7 Operation

This section contains information about operating the AquaLOCK® Up-And-Over Door.

7.1 Opening and closing the door

The AquaLOCK® Up-And-Over Door can be opened and closed like a normal up-and-over door with electric drive:

1. Ensure that no people nor objects can be crushed.
2. Open and close the door with the controller intended by the drive manufacturer (remote control, etc.).

   ⚠ **WARNING!** Danger of injury and property damage from door leaf movement. Open and close the AquaLOCK® Up-And-Over Door only when you have visual contact with it.

7.2 Stopping door movement in an emergency

To stop AquaLOCK® Up-And-Over Door movement in an emergency, actuate the control device provided by the drive manufacturer (emergency stop, remote control, etc.).

7.3 Actuating the emergency release and opening the door by hand

For opening and closing the AquaLOCK® Up-And-Over Door by hand during a power failure, some drive systems have an emergency release. Check the drive operating instructions to see whether your drive has an emergency release and if so, how to actuate it.

⚠ ***WARNING***	**Danger of personal injury and property damage due to improper operation** If the emergency release is not actuated correctly, there is a risk of injury. The AquaLOCK® Up-And-Over Door can also be damaged. – Only trained personnel may actuate the emergency release. – Observe drive manufacturer documentation. – Before actuating the emergency release: Open all the bolts of the AquaLOCK® Up-And-Over Door and secure the door leaf against unintentional movement.

After actuating the emergency release, proceed as follows to open the AquaLOCK® Up-And-Over Door by hand:

1. Ensure that no people nor objects can be crushed.
2. Press the bottom tubular frame on the inside of the door leaf to open the leaf carefully outward.
   IMPORTANT: To avoid damage to the door leaf, apply no pressure to the aluminum casing.
3. In each position, keep a secure hold on the door leaf and push it to the top end position.
4. Fix the door leaf in the top end position to secure it against falling.

7.4 Establishing flood resistance

To establish flood resistance for the AquaLOCK® Up-And-Over Door, proceed as follows:

1. Make sure that there are no objects (ice fragments, rocks, leaves, dirt, etc.) in the door leaf's opening area to avoid impairing the sealing function.
2. Ensure that no people nor objects can be crushed.
3. Close the AquaLOCK® Up-And-Over Door as described in *Section "7.1 Opening and closing the door" on page 41*.
4. Close the bolt on the inside of the door leaf by rotating the bolt trigger 180°, extending the bolt.
   - On both bottom corners of the door leaf.
   - If applicable, on the bottom of the door leaf.

   → Flood resistance has been established for the AquaLOCK® Up-And-Over Door.

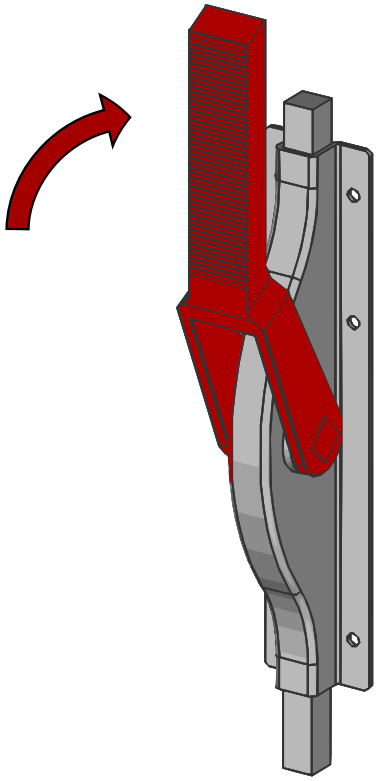


Fig. 23: Actuating the bolt

NOTICE	Note that when the bolt is closed, the drive can no longer be used to open the AquaLOCK® Up-And-Over Door. **If the bolt is closed, the drive may not be actuated!**

8 Maintenance and Servicing

This section contains information about servicing and maintaining the AquaLOCK® Up-And-Over Door.

⚠ ***WARNING***	**Danger of personal injury and property damage due to improper maintenance** Improper maintenance of the AquaLOCK® Up-And-Over Door may result in personal injury or property damage. – Maintenance and repair work must be carried out only by specialists certified by the manufacturer. – Wear suitable personal protective equipment.

8.1 Cleaning and care

Regular cleaning greatly extends the service life of the AquaLOCK® Up-And-Over Door. During cleaning and care, follow the instructions below:

- For cleaning, use warm water and a mild detergent.
- Wipe the door's surfaces with a clean, soft cloth.
- Treat the metal surface with suitable care products.
- Never use aggressive detergents such as lyes, acids, and abrasive products.
- Do not use mechanical aids such as scrapers and putty knives; use no high-pressure cleaners.

8.2 Regular maintenance work

Stop rail

Clean the area around the stop rail regularly, removing any contamination and foreign bodies.

Seals

For the seals, use a care product suitable for silicone seals.

Annual expert inspection

Ensuring flood resistance requires an annual expert inspection. If these inspections are not performed and documented properly, the manufacturer guarantee is voided.

Checking spring tension for the weight compensation

The springs are wear parts. Spring force may decrease slightly as the opening and closing cycles accumulate. As a result, the door leaf's weight compensation must be checked regularly using the springs and, if necessary, readjusted by a specialist company.

⚠ **WARNING!** Danger of personal injury and property damage from defective springs. If you notice any springs that are worn, deformed, or broken, stop using the door system and have the springs replaced by a trained specialist.

8.3 Spare parts and accessories

Use only original manufacturer spare parts and accessories. The manufacturer is not liable for damage caused by third-party spare parts.

8.4 Wear part service life

We guarantee the following minimum service life for the wear parts of the AquaLOCK® Up-And-Over Door , (but not more than five years):

Part	maximum service life
Rollers	50,000 door movements (25,000 cycles)
Door tension springs	50,000 door movements
Articuling arms	50,000 door movements
Plain/ball bearings	50,000 door movements
Door seals	24 months (given regular maintenance)

9 Disassembly and Disposal

This section contains information about safely disassembling and disposing of the AquaLOCK® Up-And-Over Door. For these operations, proceed as follows:

⚠ ***WARNING***	**Risk of injury from improper disassembly** Improper disassembly may cause injuries, e.g., by tipping heavy parts. – Disassembly work must be carried out by trained specialists only. – Wear suitable personal protective equipment. – Proceed with special caution when removing springs under tension. – Use only suitable, approved lifting equipment. – Keep transport routes clear.

1. Using suitable tools, break the product down into its constituent components properly and in an environmentally friendly manner.
2. Dispose of components in a proper and environmentally friendly manner. While doing so, ensure compliance with all legal regulations. Ensure that disassembled components are made available for reuse wherever possible:

   - Scrap residual components made of metal.
   - Recycle plastic pieces.
   - Dispose of the remaining components according to material characteristics (electronic waste, etc.), separating them as cleanly as possible.

TBS
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