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Lammi Windows and Doors Operation and Maintenance Manual

Instructions and tips for the independent
operation and maintenance of windows
and doors

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1. WINDOW OPERATION AND SAFETY

1.1. Ventilation window

The ventilation window has fittings designed for ventilation. Ventilate using windows only those equipped with proper ventilation fittings.

The window stay has a restrictor which must be adjusted (max. 100 mm) with child safety in mind. The window stay connects the interior and exterior sashes.

The coupling of two sashes can be released from the window stay allowing the washing of windows. After washing, connect the sashes together again.

NOTE! Do not ventilate during heavy rain or wind.

1.2. Other openable windows

Windows other than ventilation windows can be opened by unlocking the locks on the window frame with a separate window key. The window frame opens inward. More detailed instructions here:

- When you open large windows with side-hinged frames larger than 1500 mm, support them always from the lower edge of the frames by any appropriate means (support for washing).
- Do not hang the opened window or allow any additional load on it at any point.
- Make sure to always carefully open/close all locks on the sashes while opening/closing the window. Misuse can twist the sashes and damage seals or other window components. Trying to open the window while one of the locks is still closed can even cause the glass to break.
- Window assemblies/structures are designed to endure normal natural conditions (rain and wind). Hence, protect the window from excessive external load since even the smallest point load can cause the glass to break.

NOTE! Do not leave window keys in the locks and keep them out of the reach of children to prevent the risk of falling.

1.3. Accessories

If you are purchasing additional window accessories such as window blinds, roller blinds, mosquito/insect net sashes, window tapes, etc., assure their compatibility with the window manufacturer. For example, blinds of certain colour can lead to glass breakage at worst.

1.3.1. Fittings

Handle the fittings always with great care to avoid damaging the parts and thus impairing the operation of the window.

1.3.2. Seals

When opening or closing windows, always pay attention that the seals are placed correctly.

1.3.3. Venetian blinds

Practice special caution when installing blinds. Attach the blind bracket with a screw since hammering a nail into the sash might cause fractures to the insulating glass that can cause the glass to break even later in the future.

When talking about blinds, please take the risk of thermal shock into account. Dark-coloured blinds tend to absorb solar heat which induces drastic temperature differences between the edges and the middle part of the window to such an extent that the window can even crash. Here's how you can prepare for this:

- Choose blinds as light-coloured as possible
- Do not use dark-coloured blinds with solar protected glass
- Do not leave blinds halfway open; raise them fully or lower them completely to avoid thermal shock hazard.

NOTE! Lammi Ikkuna Oy's warranty does not cover broken glass due to thermal shock!

1.3.3.1. Use of traditional blinds

Turn the slats of the traditional window blinds by the adjustment lever on the inside of the interior sash. To raise the slats, pull the (operating) cord on the inside of the interior sash: With the slats fully raised, wind the cord around the cord lock to hold the window blind in place. When you want to lower the slats, unwind the operating cord from the cord lock and lower the slats in a controlled manner.

1.3.3.2. Use of integrated blinds

Turn the integral blind slats by the rotary knob on the inside of the interior sash. To raise the slats/blinds, use the knob of the lifting cord on the inside of the interior sash: Pull the knob out of its sleeve and then pull the lifting cord until the blind is up. Wind now the lifting cord around the cord post at the top of the interior sash. Finally, lock the roller blind by pressing the knob back into its sleeve. To lower the blind slats pull the knob of the lifting cord out of its sleeve and lower them carefully, in a controlled manner. Finally, push the knob back into its sleeve.

1.3.3.3. Use of surface-mounted blinds (fixed windows and balcony doors)

Turn the slats of the window blinds by the adjustment lever on the side of the blinds. Raise the slats by the operating cord on the side of the blind. The housing of blind has a locking mechanism, which automatically fix the slats in the top. To lower the blind slats, pull the lifting cord briefly obliquely and then loosen the cord.

NOTE! Raise the blind slats only when the slats are horizontal (open). The operational cords wear out if the slats are raised while closed.

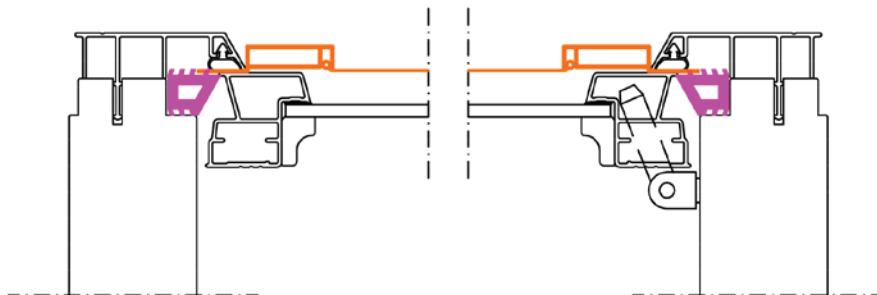
NOTE! Do not rotate the lifting cords to prevent them from twisting. Twisting causes cords to become worn and, in the worst case, prevents the use of the blind.

NOTE! Lammi Ikkuna Oy's warranty does not cover broken glass due to thermal shock!

NOTE! Do not allow the blinds hang freely; we recommend them to lift out of the reach of children.

1.3.4. Mosquito Net Sash

To install and remove a mosquito net sash, open the ventilation window and lift the net frame in place or out of place. Use elastic mounting pads to lock the frame. It is recommended to remove the mosquito net sash for winter (more in section 2.5.1. Mosquito Net Sash).



1.3.4.1. Installing the mosquito net sash between the exterior sash and lining of the window frame:

1. Open the sashes and separate them by opening the window stay.
2. Remove hinge pins from the exterior sash and carefully lift the sash off. Take good care to not damage the sashes.
3. Tighten the exterior frame hinges and the window stay pins approximately one turn.

4. Fit the mosquito in place and press the rubber mounting pieces into the groove as shown in the picture.
5. Refit the exterior sash by fixing the hinge pins back in place.
6. Connect the sashes again.
7. Check that the sashes are installed correctly.

NOTE! Mosquito net sashes are only meant for summer-time use. In winter, frozen water or birds looking for food might break the mosquito net. Broken net is not covered by warranty.

1.3.4.2. Removing the mosquito net sash

1. Open the ventilation window.
2. Separate the sashes from each other.
3. Detach the hinge pins of the exterior sash and remove it from place.
4. Lift the mosquito net sash off and remove the rubber mounting pieces from the groove as well.
5. Loosen the exterior sash hinges and the window stay pegs circa one turn.
6. Put the exterior sash carefully back on the hinges with the hinge pins.
7. Secure the sashes back to each other with the window stay.

2. INSTRUCTIONS FOR WINDOWS MAINTENANCE

The windows are designed to need low maintenance. To assure trouble-free operation and long-term sustainability, it is good to check at least annually the following and, if necessary, to take corrective measures:

- Seals and possible silicone seams (2.1.)
- Window jambs, casings and water extraction (2.2.)
- Fittings and valves (2.3.)
- Painted surfaces (2.4.)
- Accessories (2.5.)
- Maintenance of glass surfaces (2.6.)

The need for maintenance of windows is influenced by regional circumstances, structural aspects of the building, room conditions and the use of windows.

The factors influencing the need for maintenance and the frequency of maintenance is best to assess on a case-by-case basis. Talk to your building manager to estimate how much maintenance your windows might need.

2.1. Seals and possible silicone seams

If the seal is damaged, replace it with a new one of the same type. Remove the defective silicone seam and replace it with a new silicone mass. Seals should be wiped with a washcloth when washing windows.

2.2. Window jambs, casings and water extraction (2.2.)

Check the tightness of the casing seals every year and if needed, fix broken seals to avoid moisture in the structures. The sill and possible horizontal middle rail have an aluminium profile strip with water extraction holes. These holes also ventilate the space between the window frames. If the holes are covered, the space might collect water vapour. For instance, snow on top of the window sill below might impair ventilation. Clean the holes at least once a year.

2.3. Fittings and valves

It is recommended to lubricate the moving metal parts of the fittings at least once a year with i.e. lock oil. You can lubricate the parts every time you wash the windows, for example.

2.4. Painted surfaces

We recommend checking the exterior parts of the windows once a year. The surface finish of aluminium does not need maintenance. To guarantee lasting surface finish and to avoid colour fading, it is recommended to wash dirt off these parts once a year. Use neutral detergents for washing. More detailed advice here:

- The surface finish of aluminium does not need maintenance.
- Check opaque painted wooden parts and fix possible cracks in the paint coat to avoid peeling damage (scaling) to the surrounding areas.
- Treat translucent coatings with translucent finish every 2-5 years.

NOTE! Ask the paint dealer or the window supplier for further instructions.

2.4.1. Coating and maintenance painting of wooden parts

Before painting, clean the windows with a suitable detergent (mildly alkaline). Remove old, peeling paint with coarse sandpaper/sponge or steel brush. Sand the areas between existing paint and exposed wood smooth and dim the intact paint coat around the area. Before painting, remove dust and crust formed by sanding.

2.4.1.1. Painting

Paint the parts with a paint that suits for painting windows (i.e. alkyd paint). If there is a lot of exposed wood, it is recommended to protect it with neutral or colourless finish or primer before painting. Apply wood putty for outdoor use to fill possible cracks in the wood before painting. The paint dealer can help you choose appropriate substances and give you product specific practical advice on painting with the brands he represent.

2.4.1.2. After painting

New paint colour differs slightly always from the existing, probably faded, coat of paint exposed to different elements for years. Even if the new paint is matched with the old colour, its shade still alters with time compared to the older one. If needed, ask further instructions from the manufacturer. Our most common colours are listed below:

- The factory shade for standard white wooden parts is NCS-S-0502-Y
- The factory shade for the standard white aluminium parts is RAL 9010
- See instruction card RT 29–10870 for further information on the quality requirements of industrial surface finish for windows.
- The colour of the standard white ventilation grille is RR20.

2.5. Accessories

Accessories are designed to increase the windows' comfort of use and above all else, living comfort.

2.5.1. Mosquito net sash

Clean the net of the mosquito net sash with lukewarm soapy water. It is recommended to remove the mosquito net sash for winter. If you prefer to keep it on, clean the net and make sure there are no plant seeds or insects. The net might get damaged as birds look for feed and possibly peck at insects that have been caught in the net.

NOTE! Lammin Ikkuna Oy's warranty does not cover damage caused by external (e.g., birds, frozen water) or indirect factors.

2.5.2. Blinds

The blinds need only little maintenance. You can lightly dust the blinds to clean any gathered dust. Use general detergents to wash the blinds. The detergent must not contain any abrasive ingredients. If the blinds creak, you can add a drop of oil in the head rail.

2.5.3. Fresh Air Valves

If your window is equipped with a Biobe fresh air valve:

- Clean the filter tape of Biobe Duo or Biobe VS model twice a year
- See more detailed Biobe products maintenance instructions further down the manual.

2.5.4. Supply Air Ventilated Window

If your window is equipped with a Biobe ThermoPlus supply air window valve:

- It is recommended to replace this model filter twice a year.
- For further details, see page 18.

If your window is equipped with an Air Termico supply air valve:

- Vacuum clean this model filter 2-4 times a year and change the filter once a year.
- For further details, see pages 19-20.

2.6. Maintenance of glass surfaces

2.6.1. Washing windows

2.6.1.1. Before washing

Before starting to wash the windows, protect the inner wall and floor structures under the window so that the dripping grey water does not damage them. Avoid washing windows in rainy or windy weather; rainwater coming through the open window can damage windows or surrounding structures.

In addition, wind might slam open windows sashes with force and cause the window structures to break or get damaged.

Practice special caution when opening and closing windows; the whole weight of the frame is only supported by hinges while washing. Further information below:

- Place a special support for washing under frames that are over 1,500 mm wide.
- Support the frames taller than 1,400 mm from the top/upper edge (with one hand or with the help of another person holding the frame in place) to avoid twisting and thus damaging the frame.
- Open the connecting latches (in ventilation windows) to separate the sashes from each other so that you are able to wash the glass surfaces between them.

If the frame has been closed for a long time, it may become jammed from somewhere. In this case, pull the frames apart gently, in particular when pulling from the point where it is stuck. Pulling the frame unevenly from one corner might twist the frame so that the glass breaks.

NOTE! Handle the window frames and sashes always with great care. Excessive stress may cause cracks on the glass edges and over time lead glass to fracture.

NOTE! Never open the window frame so wide that the interior sash touches the casing or the exterior sash touches the frame since even the smallest force on the opening side of the frame multiplies the stress on the hinge; this in turn might damage the hinge attachment and in the worst case break the window altogether.

2.6.2. Important information about washing Lammin windows

- Do not use strong solvents or corrosive substances as they may damage painted surfaces and glazing materials.
- We recommend washing windows with products like chamois leather, lint-free cloth and squeegee.
- Change the grey water often enough, as sand in the water easily leaves scratches on the glazing.

- Do not use a steel scraper since it might leave permanent scratches on the glass. Scratches might cause fractures and/or break the glass.
- Wash alkaline stains (i.e. cement and lime based substances, bird excrement) immediately off since they can easily corrode the glazing.
- Washing the windows with cold weather, the grey water must also be cold. Warm water causes intense tensions in the glass which may break the glass. If needed, add anti-freeze into the grey water.
- Self-cleaning glazing (Activ glass) can in general just be rinsed with water. If this does not get rid of the stains, you can also use window washing liquid. Make sure to carefully rinse off the liquid at the end. We do not recommend the use of a squeegee as the rubber may contain silicones harmful to the active coating. The window does not need any drying after rinsing. Do not use any metal items for washing the Active glass.
- Avoid all metal contact with anti-condensation, k-glass and g-glass, (e.g., rings, buttons, belt buckles). Avoid using metal spatulas and other metal items, steel wool or other scrapers.
- Clean the wooden parts of the window by wiping with a cloth dampened with mild detergent. It is important that the cleaned surfaces dry quickly.
- Wash aluminium parts with a mild detergent and a lot of water; however, do not spray with water.
- Pay special attention next to open windows to avoid risk of falling. Under no circumstances lean out of an open window unless safety is ensured with appropriate measures.
- After washing, make sure to lock all fittings properly. Failing to do so might cause damage to the window.
- Check seals, fittings, surface finish and window frame air valve filters during washing. If needed, perform maintenance on faulty parts previously specified in this manual.

2.6.3. Washing Windows in Figures



1. Required detergents:
2. Wipe the window sill and the shutters clean.
3. Wipe the removable grids clean as well, if any.
4. Apply the detergent to the glasses.
5. Dry the glazing with a squeegee.
6. Wipe the squeegee dry as well.
7. Finally, wipe the removable grids and window frames clean.

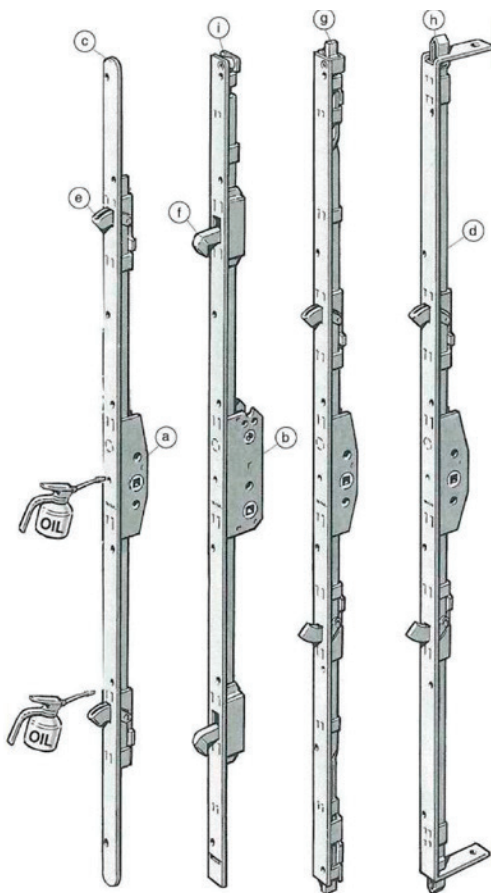
3. ESPAGNOLETTE WINDOW MAINTENANCE INSTRUCTIONS

Structure:

- a) Cylinder, non-lockable.
- b) Cylinder, lockable.
- c) Front strip.
- d) Shift rod.
- e) Side bar, wedge bar.
- f) Side bar, milling bar.
- g) End bar, milling bar.
- h) End bar, wedge bar.
- i) Transmission window rod.

Espagnolette maintenance instructions:

During maintenance, lubricate espagnolettes and make sure they work. To ensure that the window latches work correctly, lubricate their cylinders and bars with a few drops of oil once a year.



4. WINDOW STAYS: OPERATING AND MAINTENANCE

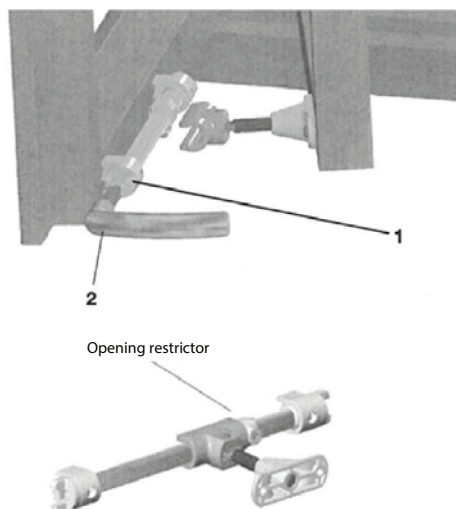
4.1. Window stay ABLOY WF250

The ABLOY WF250 is installed in the ventilation window, connects the interior and exterior window sashes together and keeps the window open without a hook.

Operating the window stay:

Both window sashes and frames open conveniently in the venting position with one grip. Opening window is limited by the opening restrictor. Ensure child safety: adjust the restrictor so that the window opens at a maximum of 10 cm. The stay restrictor can also lock the window in the ventilation position.

Wanting to open the window completely for washing, turn the body of the window stay from its top in a horizontal position and separate the sashes (1). You can also use a window key to turn the body (2). NOTE! Do not turn the body of the window stay when the window is locked in the ventilation position.



After washing, connect the sashes following the previous steps in reverse. Do not force the window to open more than the restrictor allows.

Window Stay Maintenance:

The window stay is easy to service when you wash the window. Wipe off dirt with a damp cloth and detergent. Lubrication is not recommended.

NOTE! Remember to connect the sashes with the stay again after washing and maintenance for safety reasons!

4.2. Autolock Window Hook



Locking and Releasing the Window Hook

To release the window hook, e.g., window autolock for washing, for instance, open the sashes while at the same time press the release button. Two simultaneous operations makes the product also safer for children. The sashes lock automatically back together when you place the ball head back into the locking carriage.

Useful tip: The most convenient way to release the locking is by pressing the release button of the window hook at the bottom of the interior sash and at the same time pushing the sashes to each other. The locking arm then disengages from its housing when you push the sashes slightly away from each other.

The window stay has a scaled restrictor that enables to adjust window openability to the desired position.

This restrictor is designed to increase child safety. It also prevents the ventilation window to move freely due to possible draft and and wind pressure fluctuations.

Assure the child safety by installing a window stay both to the upper and lower sash. If you do so, it won't allow the window to open accidentally.

Cleaning the Autolock Window Hook

The window hook is made of anodized aluminium, steel and plastic. Clean the lock with a damp cloth and a mild detergent.

Lubrication is not recommended.



5. REPLACEMENT AIR VALVES: OPERATING AND MAINTENANCE

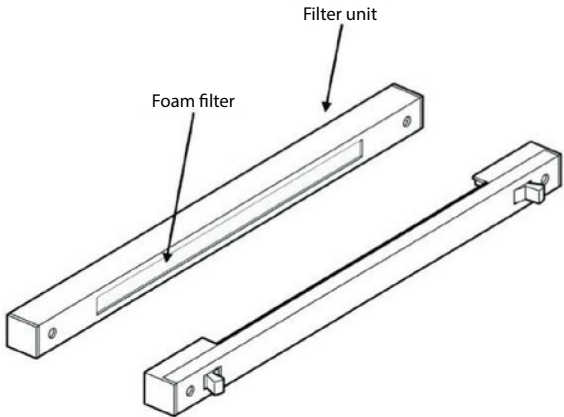


5.1. Biobe VS -Replacement Air Valve

A fresh air duct is built at the top of the window frame, on top of which a Biobe valve and possibly a filter unit are installed. To ensure proper and functional ventilation see that the room has adequate access to fresh air intake from the outside of the apartment. Keep the valve at least partially open which allows to prevent uncontrolled airflow to move from under doors, mail slots or other holes, for example. Failing to remove efficiently the moisture caused by breathing, cooking and washing from the apartment would develop a favourable breeding ground for harmful microbes and mould. Smell that transfers through vents or through the staircase from one apartment to another is one of the symptoms of lacking ventilation.

Biobe valve is completely open when both handles point outwards and closed when the handles point inward. To leave the vent partially open, set one of the handles to face outwards and the other one to face inwards.

Clean the Biobe filter strip twice a year. Remove the valve by loosening the screws that attach it to the window frame. Clean a foam filter inside the filter housing by washing it in a soap solution. Vacuum clean the air duct and put the strip back in place. Install the filter housing so that its smaller vent is towards the valve closing system.



	valve open	
	valve closed	
	valve half-open	
	valve half-open	

6. SUPPLY AIR VALVES: OPERATING AND MAINTENANCE



6.1. Biobe ThermoPlus supply air window

Adjusting summer-closed-winter settings

Adjust the summer-closed-winter setting using a lever on the end of the valve. You will find the summer position on the left, the closed position in the middle and winter position on the right.

Replacing the valve filter

The valve is equipped with cellular Biobe allergy filters. Replace this model filter twice a year. To remove the valve, loosen the screws that attach it to the window frame. Push the adjustment lever gently until the adjustment bar behind the valve comes off. Take off the old filter from the notched gap of the valve, replace the new allergy filter and put the adjustment bar back in its place.



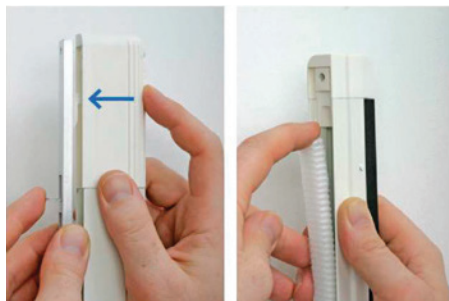
Push the new filter against the filter restrictors to create a gap between the filter and the adjustment bar. The gap ensures that the air spreads evenly to the whole filter.



Do not remove the silencer while cleaning the filter. Use for ex. a vacuum cleaner to clean the silencer air ducts. After this, set the valve back in place in a way that the summer-closed-winter controller stays on the left.

Replacing the valve filter of the air gap

Open the sash and take off the old filter through the milled gap in the exterior upper window frame.



Insert the coarse filter in the milled gap by pressing lightly. Make sure the filter is on the same level as the surface of the upper frame. The filter material is non-washable. Other plastic and aluminium surfaces should be wiped with cloth dampened with mild detergent. Do not use solutions.



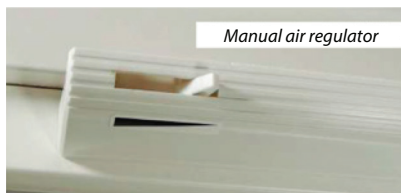
6.2. Biobe ThermoMax A

Adjustment of air volumes

The air volumes of the valve are manually adjustable by the air volume control on the left end of the valve. The air flow decreases when turned right and increases when turned left. Do not close the valve for sufficient replacement air.

Adjusting summer-winter settings

The Biobe ThermoMax A supply air window valve is equipped with a sensitive thermostat that detects temperatures in air gap as well outdoor air temperatures. The valve automatically takes care of the air channel routing of the replacement air. During the heating season (winter position), the replacement air circulates between the window glazing to utilise waste heating energy for the preheating of the replacement air before it is inlet. In the summer position, the replacement air is directed through the valve filter into the room along the route separated from the air gap. The valve filter takes care of filtering the replacement air to be taken in.



Replacing the valve filter and cleaning the air intake ducts

The valve filter is located in the filter frame attached to the window casing behind the valve unit. The valve unit is attached to its socket with a quick fastener. To release the fastener, move the small release lever on the right edge to the right and gently pull the valve unit out of its filter frame.

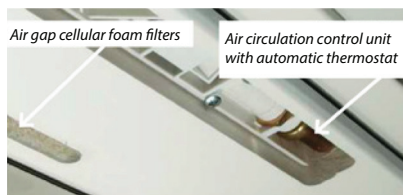
Clean the air intake ducts at the same time as you replace the filter. The window casing behind the filter frame has 1 to 2 silencers/air deflectors. Vacuum these to ensure air circulation. To clean the ducts, remove the old filter from its frame and vacuum the ducts through the filter frame.



The valve is equipped with an electrostatic allergen filter that collects efficiently without allergens. The filtration power is based on an electrostatic phenomenon that absorbs airborne pollutants into the filter. Replace the filter 1-2 times a year, preferably at least in the spring before the pollen season begins. NOTE! Since the HAF filter is electrostatic, its filtration efficiency changes during operation according to the size of the particles collected and the filtration conditions. If you want the filter to vacuum instead of replacing it, note that its performance will not return to the original level.

Replacing the valve filter of the air gap

The milled groove on the exterior upper frame of the air gap has a cellular foam filter that keeps the air gap free of trash. Open the sash and take off the old filter from the milled groove. Wash the filter with mild soapy water or replace the filter, if necessary. Insert the coarse filter in the milled groove by pressing lightly. Make sure the filter is on the same level as the surface of the upper frame.



Other surfaces

Wipe other plastic and aluminium surfaces with cloth dampened with mild detergent. Do not use solutions.

Call to our sales department to order replacement filters at +358 9-7743270 or contact us by email to myynti@scancerco.fi

6.3. Air Termico PRV/PRSX



Maintenance manual

- Valve part Air Termico® PRV (cleaning with a damp cloth)
- Filter bar Air Termico® PRSX (cleaning with a damp cloth)
- Filters (2 pcs) HAF cell allergy filters (replacement interval 1 year)

Remember to assure sufficient fresh air intake which is important for health.

Do keep the valves always open!

Replacing the filter

1. Open the sashes and pull the filter bar off from the magnetic fastener.



2. Remove the old filters (2 pieces) and replace them accordingly. The filters come off easily when you pull them with your fingers. Put the filter bar back in place as shown in the figure.



3. Close the sashes.

Please note!

Remove the filter bar first when you wash or open the exterior window.

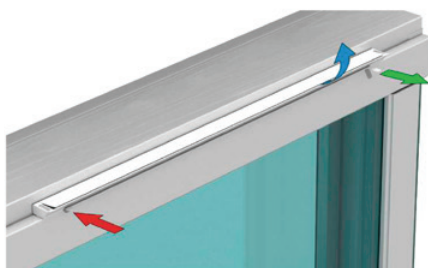
Operating the valve

The air flow is adjustable by metal strips on the front edge of the valve. The air flow decreases by pressing the strip inwards and increases when you pull the strip towards the room. You can direct the airflow to the left or right by closing one strip and pulling the other open.

Remember to assure sufficient fresh air intake which is important for health. It is recommended to keep the valves open so that the amount of carbon dioxide in the apartment remains low and there is oxygen sufficiently in the air. Replace the filters once a year, at least in the spring before the pollen season begins.

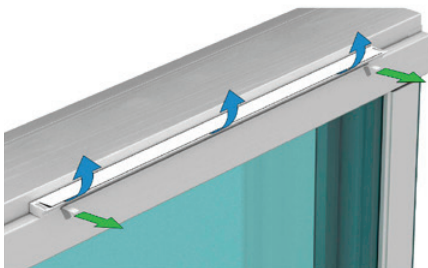
Airflow control:

Pull one strip open and close the other one.



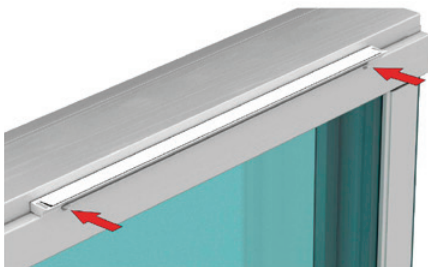
Opening the valve:

Pull one of the strips towards the room



To close the valve:

Push the strips all the way in.



The Air Termico supply air valve is designed to operate at -2 to 20 underpressure (Pascal).

* Adjust the underpressure in the apartment to -5-15 kPa level, higher underpressure level increases energy costs. We recommend using -10 kPa.

* The guidelines laid down in the Decree on Housing Health by the Ministry of Social Affairs and Health of Finland expresses that if the underpressure level is higher than 15 kPa, the cause of the underpressure must be determined and the underpressure reduced.

7. FAQ - WINDOWS

7.1. What causes the inside of the exterior glass to fog up?

- Are all window locks on the frame closed?

Close window locks with a detachable, removable or espag/cockspur window handle. If you have difficulties closing the window, check if the ventilation window stay is installed correctly.

- Is the air gap between windows well-ventilated?

If needed, improve air gap ventilation by removing a strip of sealing on both ends of the upper part of the covering strip.

- Is the extract ventilation working properly?

Check if the extract ventilation conditioning system is functioning. Set the extract air conditioning in a way that it develops sufficient underpressure in the room.

- Are seals intact and placed correctly? Are the openings (the gaps between door and frames) even?

If the seal has clearly come off from the seal ring groove, push it back in place. Check the openings (the gaps between window and frames) and, if necessary, adjust the window frame to fit.

- Check water extraction in aluminium profiles on the lower frame.

The water extraction holes can easily get blocked due to snow on the exterior window sill.

- At what height are the windows located?

The inner surface of exterior glass often fogs up in block of flats. This is due to the pressure difference between lower and upper floors. Lower floors tend to have underpressure whereas upper floors might have overpressure. This is called the thermal differential pressure (the so-called chimney effect).

7.2. What causes the outer surface of the exterior window glass to fog up?

- The exterior of the outer glazing often fogs up when windows have good thermal insulation.

7.3. What causes the inner surface of the interior glass to fog up?

- Is the air conditioner switched on?

Check if the extract ventilation conditioning system is functioning. Make sure the extract air conditioning is set in a way that it develops sufficient underpressure in the room.

- Is the apartment ventilated sufficiently?

Replacement air valves need to be open to ensure sufficient ventilation.

- Is heating switched on and is the window area heated sufficiently?

Check if the thermostat has been adjusted to changed conditions. Previous settings might cause the thermostat to estimate that there is enough heat in the room while the new window eliminates chill. Adjust the thermostat so that it is more sensitive to changed conditions and produces enough heat.

- Are there objects near the windows that block ventilation?

It is not recommended to keep very large or too many items in front of the window since they could affect ventilation. A window bench might also prevent flushing air flows from entering the glass surface. The deep from wall installed windows also fog up more easily because air cannot flow onto the glass surface.

NOTE! When determining the cause of fogginess, always check the relative air humidity in the room.

7.4. Why can I feel a draught?

- Are all window locks on the frame closed?

Close window locks with a detachable, removable or espag/cockspur window handle. If you have difficulties closing the window, check if the ventilation window stay is installed correctly.

- Are seals intact and placed correctly? Are the openings (gaps between window and frames) sashes even?

If the seal has clearly come off from the seal ring groove, push it back in place. Check the openings (the gaps between window and frames) and, if necessary, adjust the window frame to fit.

- Where does the cold air flow from?

Check if the draught comes from between the wall and the window frame. If so, cover the gaps with sealing putty. In this situation, the crevices can be covered with a suitable mass. If too much air comes out of the replacement air vent, the ventilation must be adjusted.

- Is heating switched on and is the window area heated sufficiently?

Check if the thermostat has been adjusted to changed conditions. Previous settings might cause the thermostat to estimate that there is enough heat in the room while the new window eliminates chill. Adjust the thermostat so that it is more sensitive to changed conditions and produces enough heat.

7.5. The window frame does not close properly, what is wrong?

- Is the window cross-measured?

Check the cross-measure of the frame by measuring the distance between the upper right and lower left corner from the inner surface of the frame. After this, measure the distance between the upper-left and the lower-right corner. If these measurement differ by more than a few millimetres, the window has been installed wrong.

- Does the interior sash touch the window frame?

Adjust hinges until the sash is centred. Depending on the centring, adjust either the upper or the lower hinge. For instance, if the hinges are on the right hand side and the lower left corner of the sash rubs against the frame, remove first hinge pins from bottom to top and then place the sash to the floor. After this, turn the sash hinge a few times to loosen the hinge. Then turn the middle hinge of the sash half the number of times that you turned the lower hinge. Finally, fasten the hinge pins back in place from the top to the bottom, e.g., in the reverse order.

7.6. The blinds do not go all the way down, what is wrong?

Make sure the strings are neither broken nor tangled, do not rotate around the axis of the top housing and that strings are running straight.

7.7. Why does the window air gap collect dust and insects?

This is not technically the fault of the window but is due to its structure. The air gap between windows has been designed for ventilation which also allows dust and insects to enter the gap.

7.8. Why do the windows “click”?

This is due to the thermal expansion of the various parts of the window.

7.9. Why are there air bubbles and streaks on the glass?

A certain amount of faults are allowed in glazing. Air bubbles might originate from the factory. Glazing does not need to be 100% faultless. Exterior and interior glazing have different quality regulations. Read more on glazing faults on i.e. On the warranty conditions of the Finnish Float Glass Association Ry.

8. LAMMIN FRONT DOOR MAINTENANCE

8.1. Door Maintenance

The door requires regular maintenance in order to maintain its correct operational quality. At least twice a year, inspect the door openings (the gaps between door and

frames), the condition of the seals, the fittings work and the door panels for possible damage. The Lammin doors have adjustable hinges and the exterior doors are equipped with an adjustable strike plate, which allows to adjust how the door is moving.

It is easy to wipe the seals clean with a soft cloth dampened with a diluted detergent solution.

Lubricate the locks once a year with a lock oil: a drop of oil at the base of the thumb turn, lock bolt and cylinder is enough. At the same time, check the tightness of the fastening screws of the lock, surface fittings and hinges.

If necessary, lubricate also the hinges with oil. However, avoid excessive lubricant. Check at least once a year that the weight of the door rests on all hinges.

8.2. Instructions for adjustment hinge:

- Height adjustment +4mm
- Lateral adjustment +3mm

8.3. Lifting the door plate

- Remove the knob screw on one hinge in the rolling door leaf (1)
- Turn the Allen screw on the rolling hinge (2) clockwise so that the door rises to the desired height (one turn lifts the door 1.25mm)
- Adjust all the door hinges so that they begin to carry the door weight
- Finally, turn the knob screw (1) on each hinge back into place Required tool: Allen wrench AV5

8.4. Lateral adjustment of the door plate

To increase the openings (the gaps between door and frames) between the door and the door frame on the hinge side:

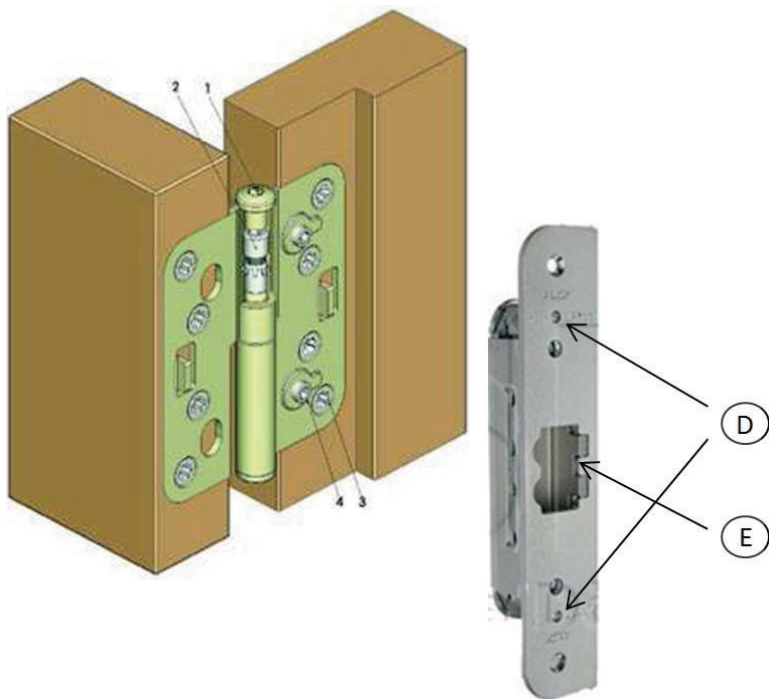
- Loosen all the fastening screws (3) at the frame length on the two bottom hinges by a few turns
- Turn both hinge adjusting screws (4) clockwise as required (one turn moves the door leaf approx. 2mm toward the lock side)
- Tighten the fastening screws (3).
- If necessary, act the same way on the top hinge

Tools required: Allen wrench AV4 and suitable tool for fastening screws.

8.5. LP711 Adjusting the striker plate

To tighten the door more, turn screws (D) clockwise.

The adjustment mechanism (E) must remain parallel to the front edge of the striker plate. Do not resort to force.



9. EXTERIOR DOOR SURFACE MAINTENANCE

9.1. Painted doors

Wood is living material. It moves, swells and shrinks due to moisture fluctuations.

Under normal conditions, intact and good quality paint film provides good protection against moisture preventing moisture from penetrating the wood. Therefore, check the treated surface regularly for possible cracks and defects at the earliest possible stage.

The maintenance interval varies greatly depending on the door load. Weather, installation height, direction of air, environment, etc. affect the durability of the surface treatment.

Structural factors, such as the installation type, eaves, etc. also affect durability. It is important to treat exposed end surfaces during maintenance.

Clean doors regularly a few times a year if they are exposed to rain and dirt. Clean with lukewarm water or water with a small amount of dishwashing detergent added. Avoid any strong detergents containing ammonia or solvents.

Coloured doors are, for ex. more sensitive to UV rays of direct sunlight and may require more maintenance than doors painted white.

9.1.1. Surface Coating and Maintenance Painting

Make sure the door structure is dry before starting any maintenance work. The moisture in the wood must be less than 15% and the relative air humidity less than 80%. Surface treatment at the wrong time and in a bad weather is a big risk for the end result. Never conduct any maintenance painting in the rain or direct sunlight. Instructions:

- Remove any loose paint and scrape off the possibly extruded resin.
- Sand the surface matte looking with fine paper (for ex. 240) and clean the dust.
- If necessary, apply paint/colour wash or mild alkaline detergent. Rinse the washed surfaces with water, dry the surface and allow it to dry.
- Prime bare wooden surfaces with a base absorbant wood preservative suitable for outdoor use.
- Paint the primed surfaces with an exterior primer paint.
- Repair any cracks with an elastic paintable filler or seam compound used in the corner joints, for example.
- Top coat 1 to 2 times with a surface paint suitable for outdoor use.
- Follow the paint manufacturer's instructions.

9.1.2. Maintenance of translucent surfaces

- Prime, paint and possibly repair the surfaces as described above.
- Treat the bare wood surfaces with the desired shade of wood preservative (stain).
- Treat all surfaces with a tinted wood varnish suitable for outdoor use (add about 5% stain colour to the varnish. NOTE! The varnish and the stain should be miscible with each other (= the same thinner).

9.2. The aluminium clad doors

9.2.1. Pre-treatment

Before painting, clean the base always thoroughly from grease and dirt with an emulsifying detergent (for ex. PELTIPELU designed for metal-sheeted and steel surfaces). To ensure the adhesion of the topcoat, we recommend beside washing to sand the surface to have a matte looking finish.

Remove the detergents and abrasive dust by rinsing the surface with clean water. Instructions:

- Remove the rust and loosening paint by grinding.
- Bevel the coating edges by grinding also.
- Depending on the structure of the door, delimit the patchable area so that it is naturally integrated into its environment.
- Roughen the intact coating to be patch painted by grinding.
- Wipe the entire patching area with a thinner.

9.2.2. Painting

- Use epoxy paint for priming damaged areas.
- No need to resort to primer when you only change shades or repair smaller scratches.
- Surface coat with polyurethane paint.

You can paint with a brush or spray. You will find the more detailed directions for use in the product descriptions of these particular products.

9.3. Painted thermal doors and fading paint

Lammin painted thermal doors outer surfaces are made of well weatherproof HDF board which is painted with two-component polyurethane coating.

The coat of paint loses colour and shine fades over time due to sunlight, which is a normal phenomenon. As paint deteriorates, the binder disintegrates gradually. This creates over time a white powdery substance on the painted surface and the

surface becomes chalky and loses and changes colour. The powdery substance is a paint pigment or paint filler. Paint dimming and colour fading begin sooner if the paint is dark-coloured and exposed to the sun.

Chalking or fading does not reduce the protective properties of the paint, the phenomenon is merely aesthetic. As different parts of the building are exposed to different weathering, the maintenance interval of the painted surface varies between the south side exposed to the sun and the more protected parts.

Treat the faded paint for ex. with Sikkens Wax and Grease Remover -wipe as follows:

- Remove rough dirt (e.g., sand, dust) with a damp microfibre cloth. Fold the cloth so that you can use the entire cloth to clean the surface and avoid scratching the surface. You can also use a mild detergent solution to remove difficult dirt (do not use strong detergents that dissolve paint and avoid rubbing patches that are clearly visible on the surface).
- Having surface cleaned and dried, wipe the entire faded door surface with a Sikkens Wax and Grease Remover -wipe. Turn and fold the cloth to use the entire surface of the wipe. One wipe is sufficient to treat one door from both sides.
- Allow the surface to dry for about 30 minutes and, if necessary, polish the surface with a soft lint-free cloth.

Please note! Make sure the door surface is not hot, maintenance in direct sunlight is forbidden. The outside temperature should be in range of +10° to 20°C degrees. Store the waxing treatment wipe out of the reach of children as well protected from freezing. Dispose the used wipe as hazardous waste.

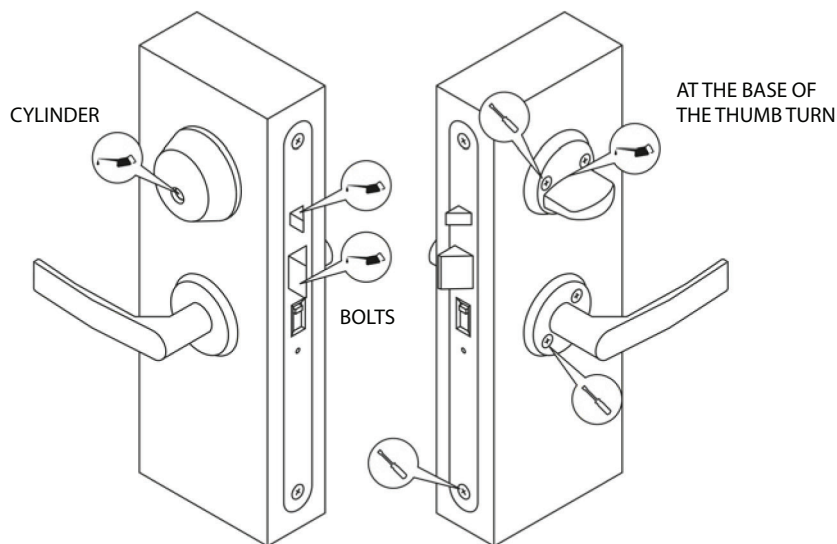
You can purchase Sikkens wooden door treatment wipes from well-equipped paint shops or by contacting us at: palaute@lammin.fi.

Alternatively, after cleaning the faded coating, you can also use clear car or boat wax. When selecting wax, it is best to choose wax that does not contain silicone which would make difficult to paint the surface later. Follow the instructions supplied by the manufacturer.

10. OPERATIONS AND MAINTENANCE OF LOCKS

10.1. Maintenance of the Abloy lock

Technical equipment needs regular care to function properly. So is the case with the ABLOY® locks of your home door. It is quite easy and effortless to maintain the locks on your own: simply a drop of sewing machine or lock oil to the critical points of the locks, i.e.:



Check the tightness of the handle, lock and lock cylinder screws periodically, at least once a year

Lubricate all lock bolts and cylinders (apartment locks, deadlocks, safety locks and espagnolettes) once a year. Check also that all fastening screws are properly attached and fastened. Remember that the locks only work when the door is securely closed. Ensure always the door locking by pushing the door - especially if the door has tight seals. When the apartment lock deadlocks you hear a small but significant click: it indicates that the door is securely locked. You can also easily check if the deadlock its locked by pressing the handle.

Always keep in mind that if you lose your key or you move into a new apartment, you should let rekey your locks of your apartment. By rekeying you are able to ensure that the previous occupants do not have a key to your apartment.

When carrying out all lockworks at an ABLOY® Authorised Locksmith, you can be sure that your locking safety is in competent hands.

10.2. Operating the Abloy lock

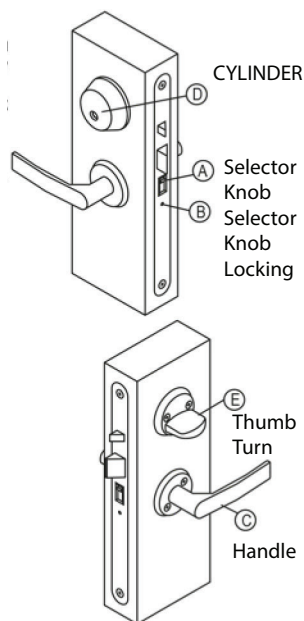
In the event of an emergency, the entrance doors to the apartments must be openable from the inside at all times without the key, either with the thumb turn or handle while in the apartment. For this reason select for the deadlock of your apartment door a locking device equipped with an external lock cylinder and an internal thumb turn

Specially designed for the exterior doors of apartments, the ABLOY® PRIVAT apartment lock (lock case ABLOY® LC100/LC102) has two operating modes: a locking mode and a daytime mode which you can choose with the help of the selector knob (A) in the so called strike plate on the front surface of the lock case. You can prevent the use of the selector knob by locking it. Turn the Allen screw (B) about two turns counterclockwise until the screw stops. Do not tighten the screw too much.

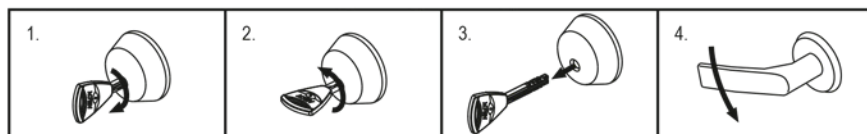
The lock is in the lock mode with the selector knob upright. The lock latch will automatically deadlock when the door closes. Check the locking by pushing down the handle (C). The door is opened outside by turning the key (D) and inside the thumb turn (E).

The lock is in daytime mode with the selector knob and snib in the down position. The lock will not lock but you can always open it by using the handle. Use this function only when you are in the apartment and want to walk through the door without a key.

With ABLOY® LC100/LC102 lock case you must always use a handle equipped with a return spring.



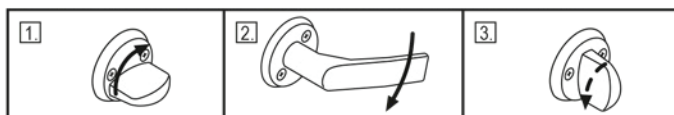
UNLOCKING THE LOCK WITH THE KEY



1. Turn the key clockwise until the key stops.
2. Turn the key counterclockwise back to its original position.
3. Take the key out of the lock.
4. Open the door with the handle.

The lock will lock when the door closes. Do not forget the key in the lock!

UNLOCKING THE LOCK WITH THE THUMB TURN



1. Turn the thumbturn lock clockwise until the thumb turnb stops in the upright position.
2. Open the door with the handle.
3. The thumb turn will automatically return to its horizontal position and the lock will lock when the door closes.

10.3. Lockable Espagnolette Instructions for Use

Lammin Fitting Set 6 (bolt through door handle, thumb turn and wind stopper).



Figure 1:

The door is closed and locked when the thumb turn and handle are in the upright position. The door is also locked from the outside.

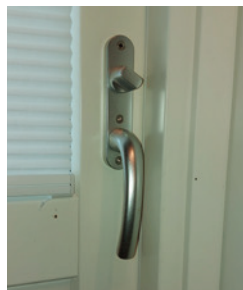


Figure 2:

The door is closed but unlocked when the thumb turn is in the diagonal position and the handle in the upright position. You can open the door from the inside as well from the outside.



Figure 3:

You are able to operate the door when the handle is turned to the horizontal position and the thumb turn is in the diagonal position.

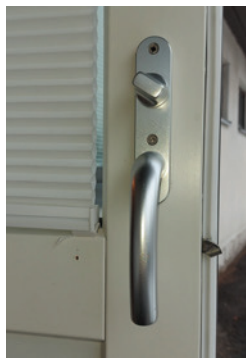


Figure 4.

When the door is open and the handles as shown in the figure, the wind stopper is in the locking position. In this position, it is strictly forbidden to push the door open or pull the door closed.

A wind stopper is a friction brake that keeps the open door in place preventing the door from slamming by the airflow. Damage caused by improper use is not covered by the warranty.

10.4. FIX 150 S Door Stay operation and maintenance

The instruction applies to balcony and terrace doors equipped with a FIX 150 S door stay.

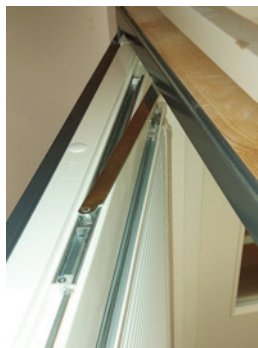


Figure 1:

The door stay allows to adjust the door to open continuously to the desired ventilation position.



Figure 2:

The door stay functions through the door handle. Open the door to the desired ventilation position and turn the handle to the locked (e.g., down) position. The door locks in place and will not slam close even by strong wind.



Figure 3:

If the handle is in the open (horizontal) position, the door moves freely. Please note! Do not move the door or window in the ventilation position. It may prematurely reduce the friction force of the door stay.

To service the door stay, follow these steps:

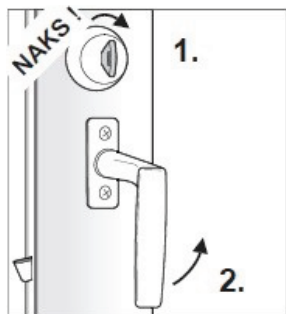
- If necessary, wipe the door stay with a damp cloth.
- Do not use lubricants as they will reduce the holding force of the door stay.

10.5. FIX S3105 Espagnolette Operation

This instruction applies to patio doors equipped with a FIX S3105 espagnolette with an external lock cylinder.

This instruction applies to patio doors equipped with a FIX S3105 espagnolette with an external lock cylinder.

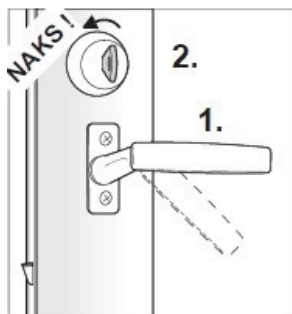
1. Unlocking



Insert the key into the lock and turn the key (or thumb turn) clockwise until it clicks. After this, You can turn the handle to the horizontal position to open the door.

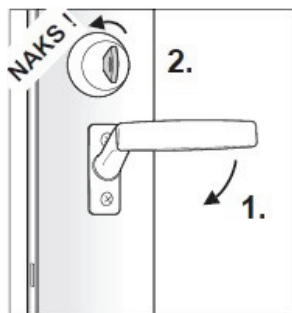
Please note that it is impossible to remove the key from the lock - see daytime position.

2. Daytime Position



To be able to pull the key from the lock, turn the handle to the horizontal position and then turn the key counterclockwise until it clicks, and after this turn the key back to the upright position where you can pull the key from the lock. In this so-called daytime position, the handle turns only partially down.

3. Locking



To lock the door, turn the handle down and then the key (or thumb turn) counterclockwise until the lock locks with a click. Turn the key further to the upright position to be able to pull it from the lock.

If the lock is in the daytime position, first insert the key into the lock and release the lock from the daytime position by turning the key clockwise until it clicks. After this, you can lock the door as described above.

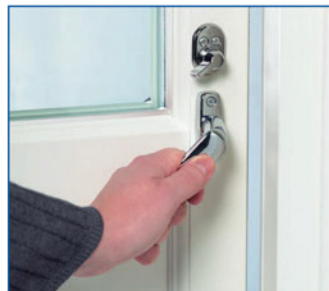
10.6. Using the FIX S4117/S4118 Multi-Functional Door Shutter

The DAYTIME POSITION

The locking bolt has a so-called daytime mode -function which operates as follows:



1. When the door is locked, turn the thumb turn as far as it will turn (or the key from the outside, leaving the key in the door).



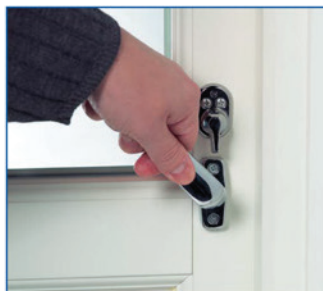
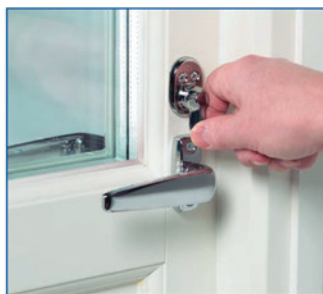
2. Push the handle down to open the door. The door is now operating normally when you use the handle.



3. The door stay operates also in this mode by lifting the handle up while the door remains in the desired position.

LUKITUS SISÄPUOLELTA

Kun ovi halutaan lukita päiväkäyttöasennossa, suljetaan ovi, väännetään vääntönuppi (tai avain) takaisin ja nostetaan painike ylös.



LOCKING FROM OUTSIDE

The door locks automatically when you proceed as follows:



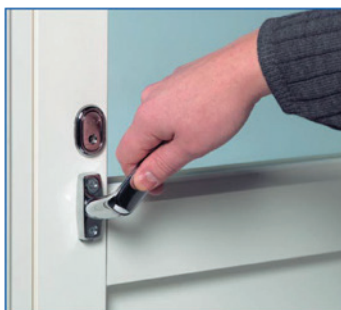
1. When the door is locked, turn the key as far as it turns.



2. Push the handle down to open the door.



3. Turn the key back and pull it out from the door.



4. When you now close the door and turn the handle up, the door locks automatically.

Please note! The exterior lock cylinder shown in the figures is an accessory that is not included in the standard delivery. If the door does not have an exterior cylinder, the locked door cannot be opened from the outside. Check the size of the delivery content in the order confirmation.

11. FAQ - Frequently Asked Questions - DOORS

11.1. Why does the door not deadlock?

Check the door opening (the gaps between door and frame) at the striker plate. If the door opening is greater than 5 mm, the deadlock latch of the lock case will not sink deep enough in and thus will not release the deadlocking. Adjust the door hinges so that they are closer to the striker plate (see Lammin exterior door maintenance instructions). Check the striker plate adjustment at the same time: the striker plate adjusted too tight prevents the deadlocking and requires a lot of closing force.

11.2. How do I order additional keys or a new rekeyed cylinder?

Additional keys for ABLOY Easy and Sento cylinder included in the delivery of Lammin doors and new cylinders can be ordered from ABLOY authorised lock stores. A key card is supplied with the door delivery which you will need beside to your ID card when visiting an authorised Abloy lock store.

11.3. Why do dark colours fade with time?

The coat of paint loses colour and shine fades over time due to sunlight, which is a normal phenomenon. As paint deteriorates, the binder disintegrates gradually. Chalking or fading does not reduce the protective properties of the paint, the phenomenon is merely aesthetic. For more information on this topic and the maintenance instructions, see section 9.3. Painted surface fading.

11.4. Why is my door stay making noise?

The door stay used for the patio and balcony doors is a mechanical device. When you move the door, it is important to lift the handle horizontally to release the brake completely. It is advisable to clean the brake bar with a damp cloth if the sound is too loud. Avoid lubricating the bar to avoid too much loss of brake force.

11.5. The door glass is broken. Can I replace the glass and where can I purchase it?

In thermally structured doors, the glass replacement is easier and can be done when the door glass inserts are replaced on both sides of the door at the same time. We recommend ordering the glass directly from us at palaute@lammin.fi. To determine the glass structure, you need an order confirmation number for the door delivery or a door identification number marked on the top of the door leaf.

In frame-structured doors, glass replacement is more difficult and usually requires a professional to replace the glass. The easiest solution is often to ask for a quote for a new door leaf. The fastest way to get a new door leaf is to contact us with an order confirmation number at myynti@lammin.fi.

11.6. The seals are broken. Where can I order new seals?

The best way to ask for new seals is to send us an email at palaute@lammin.fi. Do look up for the order confirmation number of the door which makes it easy to find quickly the right type of the door seal in the factory.

12. MORE INFORMATION ABOUT THE COMPANY, PRODUCTS AND PARTNERS

Lammin Windows and Doors:

Lammin Window Factory and Sales Exhibition

Paarmamäentie 2, 16900 Lammi, Finland

+358 10 8411 700 / myynti@lammin.fi

Espoo office and sales exhibition

Vallikallionkatu 1, 02650 Espoo, Finland

+358 10 8411 700 / myynti@lammin.fi

Kangasniemi door factory (Virepuu Oy)

Hallitie 5, 51200 Kangasniemi, Finland

+358 10 8411 700 / myynti@lammin.fi

Please arrange a meeting at the factories or sales exhibitions in advance.

Regional Sales Representation:

Lammin windows and doors are represented by more than 30 sales representatives around Finland. You can meet the sales representatives closest to you and ask them to show you the products in more detail. Contact information for the Regional Sales Office can be found here: www.lammin.fi/contact information

For more information on the web and on social media:

www.lammin.fi

www.scancerco.fi

www.abloy.fi

www.dir-air.fi

Finnish Float Glass Association: www.tasolasiyhdistys.fi

Conditions and regulations

RYHT 2000	General terms and conditions of purchase and delivery of construction products.
RT	29-10870 Industrial surface treatment and quality requirements for wooden windows, wooden aluminium windows and balcony doors.
RT 38-10901	Building glass, float glass

Cover photos: Lammin Windows and Doors

Manual updated May the 23rd, 2022. We reserve the rights to change these Terms and Conditions at any time.

NOTES

NOTES



Ikkunat ja ovet

Lammin Windows and Doors

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myynti@lammin.fi
www.lammin.fi

