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Manual

Instructions for use. Maintenance, care and warranties.

Nothing compares to
Internorm
Windows – Doors

Internorm

Your personal order number

Date	Stamp, signature

Warranties

Warranty 10 YEARS

- On weather resistance against unnatural change of colour and cracks in surfaces of white UPVC window and door profiles, except for mitre cracks.
- On weather resistance, against unnatural change of colour and cracks of interior surfaces of uPVC window and door profiles with foil finish and I-tec Decor surfaces, except for mitre cracks.
- On weather resistance against unnatural change of colour and cracks in surfaces of anodised or powder-coated aluminium window and door profiles.
- Against condensation between the sealed panes of insulating glass.
- On the glue connection of glued Georgian/feature bars.
- On the function of the material compound timber, thermal foam and aluminium profiles in all Internorm timber-aluminium composite window systems.
- On the function of the glued connection and sealing of the insulating glass panes with window profiles in timber-aluminium composite window systems.
- Where Goods are supplied with marine grade aluminium finish.

Warranty 5 YEARS

- For PVD coated entrance door handles against corrosion, if no mechanical damage is apparent.
- Against weathering, unnatural colour changes, and cracking on the surface of door panels.
- The SD10 real wood surface is excluded from this 5-year warranty.

Warranty 3 YEARS

- On weather resistance against unnatural change of colour and cracks in surfaces of anodised or powder coated aluminium roller shutters, blinds and window shutter profiles.
- On weather resistance against unnatural change of colour and cracks in surfaces of UPVC roller shutter profiles.
- On the function of window and door hardware when the Internorm fitting and maintenance guidelines have been followed.

Product Availability Warranty 30 YEARS

Internorm guarantees that our Goods manufactured from 1999 onwards are capable of being repaired by our specialists in such a way that their full functionality is guaranteed to subsist or be retained over a time period of 30 years. However, this is subject to the construction (i.e. frames and sashes) remaining undamaged and subject to the customer paying our costs of repair, where applicable. The 30-year period begins with the Internorm production date. It is important to emphasise that electronic components are excluded from this warranty.

Content

Thank you for chosing an Internorm product, which has been manufactured to the highest standards in technology as well as design. Internorm's wealth of experience and focus on innovative technical solutions in window construction goes back 95 years. By choosing Internorm you have the assurance of dealing with Europe's largest window brand.

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You have made the right choice by buying quality products from Internorm.

Thank you again for your confidence in our products. Useful information and helpful tips on how best to clean and take care of your product can be found by scanning the **QR code** in the rebate of your window or, in the case of doors, in the frame (note: timber/aluminium doors do not have a QR code). If you have further questions that have not been answered in this booklet, please contact us and one of our staff will be happy to assist you.

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Or send us an email: office@internorm.co.uk
More information is also available on **uk.internorm.com**

MANUAL

INSTRUCTIONS FOR USE.
MAINTENANCE, CARE AND WARRANTIES.

https://www.internorm.com/en-uk/information/downloads/user-manuals

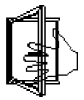
uk.internorm.com

www.internorm.com

GENERAL INFORMATION

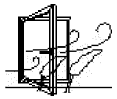
Internorm windows, doors, sun protection elements and accessories are high-quality products.
In order to ensure long term serviceability and value retention as well as to prevent personal injury and damage to property, professional service and maintenance is essential.
The information contained in this booklet forms the basis for this. Disregarding this information can lead to exclusion from warranty and product liability claims.
Functional impairments or wear and tear of parts that usually occur within the limits of normal and proper use are not covered by warranty provisions or obligations.
Excluded is also any damage which is the result of incorrect or improper use of the product and repair attempts by unqualified persons. The intended use of window and door products is understood to mean the opening and closing of sashes on vertically installed elements. When closing the sash, the counterforce of gaskets must be overcome. Any other kind of use does not correspond to the intended use.

Please note the following points:

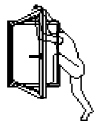


The open gap between the sash and the frame can pose a risk of injury through trapping.

When the window is open, there is a risk of falling out - particularly in households with children.



When the window sash is open, there is a risk of injury through the effects of wind and storms.



Avoid additional loads on the sash (e.g. it is not intended to be a coat hanger or stepladder).

Please take care that no object can get between the sash and the frame and that no object is trapped when closing the window.

Please avoid sashes being pressed against window frames contrary to normal use or in an uncontrolled manner (e.g. due to wind), in such a way that the hardware, the frame materials or other individual parts of the window or door are damaged or destroyed or consequential damage can occur.

In the event of wind and draughts, window and door sashes must be closed and locked.

Open and tilted sashes do not fulfil any requirements in terms of the tightness of joint gaskets, driving rain tightness, sound insulation, thermal insulation and burglary protection.

Closed windows do not meet the requirements for the minimum ventilation necessary for maintaining good health and heating. If windows are used for ventilating rooms, this should be done on a regular basis.

Standard glass does not meet any requirements in terms of increased risk of breakage, burglary protection and fire protection.

Standard glass can break easily. Resulting sharp glass edges and glass splinters pose a risk of injury.

Glazing that prevents falling (e.g. Juliette balcony, ...) which exhibits damage to the edges of the glass (flat chips) or cracks, must be exchanged immediately as the necessary safety requirements can no longer be fulfilled.

Incorrectly locked entrance doors (e.g. locked only via the latch) do not meet requirements for burglary protection and airtightness!

Safety-related hardware parts must be checked for tight fitting and wear and tear at least once a year. Tighten the fastening screws or replace parts as required.

Loose glass panes supplied must be stored in a dry place --> Moisture destroys the edge seals.

All window and door elements which are designed to be opened, closed and locked must be operated at least once a month in order to avoid damage due to “dormant wear and tear“ (particularly corrosion and stiffness).

During the construction phase, windows and doors are exposed to a variety of mechanical, climatic and chemical stresses, so protect construction elements by covering or masking them and ensure sufficient ventilation to remove the excess moisture.

Pay attention to the indoor climate to avoid damage to windows and sensitive components (e.g. hardware, electronics) caused by condensation during the cold season. Avoid pooling condensation in the window recess and on the window as well. Levels above 8 g/m³ absolute humidity indicate seriously elevated air humidity. Humidity levels fall below this figure at a room temperature of 22 °C and an air humidity of 41%.

Please use appropriate adhesive tapes for protecting surfaces. Adhesive tapes must be compatible with timber, plastic and aluminium surfaces. Adhesive tapes must be removed as soon as possible, when they are no longer needed. Use Schuller SunCore Pro masking tape on all I-tec Decor surfaces when decorating or performing other work.

Should any stains remain on construction elements despite careful handling, these stains must be removed promptly and completely using mild detergents.

Alkaline leachates from the façade and walls can cause irreversible damage on powder-coated and anodised aluminium surfaces. To avoid this, the window and door frames must be cleaned and preserved in good time.

It is the responsibility of the customer to proof suitability of any products provided by him for tested burglar proof elements.

Insect excrement, pollen, soot particles, iron dust (abrasion from railway tracks), etc., in combination with rain water and intensive UV radiation, can cause very stubborn deposits on UPVC surfaces, which cannot be removed with regular household cleaners. Therefore, the contact time of such deposits should be kept as short as possible. Frame profiles must be cleaned as soon as possible in the event of such deposits. The affected profiles must be preserved by suitable means.

Sharp edges of functional elements can lead to injury when door and window elements are handled wrongly, especially when someone sits or stands partially or fully under an opened sash.

Please ensure that within concealed hardware the turn restrictor engages in the corner hinge bolt.

If doors have been fitted with turning hinges that are screwed into the sash protrusion, the sash must be protected against “reveal impact“ by means of a stopper fitted on site. Otherwise, the forces acting on the turning hinges may cause damage.

Safety components such as turn limiters and stay arms must only be unlocked by qualified personnel in order to adjust or unhinge a sash.

Increased thermal stress and heat build-up on glass can lead to spontaneous glass breakages. Avoid partial shading of glass, which is caused e.g. by external sun protection installations. Heat build-up on the glass results from heat sources (radiators, lights) and, during sunlight, from very dark objects that are too near the glass on the inside or outside. Avoid applying foils and paints to the glass subsequently.

Panel fillings in sound protection versions have insulating glass built into the core. These panels must not be machined in any way (drilling, cutting) and must be protected from excessive shock and impact forces.

Do not drill into door profiles or designer fillings yourself (e.g. for door spy holes), knockers, etc.). In some cases there is insulating glazing behind the cover layers.
This may result in the destruction of the door sash.

Before using the windows, security-related hardware and hardware accessories must be checked for safe functioning (e.g. lockable window handle, turn stop, rebate and stay arm, turn and opening limiter, etc.) and if necessary must be adjusted by qualified personnel.
Non-observance can lead to material damage or personal injury.

Material surrounding the window or door element which is not waterproof (especially sills or timber floors) must be protected from possible condensation.

Avoid contact between aluminium surfaces and cosmetic products, especially sunscreen products such as sun tan lotion, oil and creams. This can lead to staining on the surface.

All electrical and electronic components bought in connection w window and door elements must be recycled at the end of their useful lives and must not be placed into general household waste.

Handles and levers must not be used as carrying aids.

In particular the moveable parts of bearing components of very frequently operated window and door elements must be lubricated more frequently than once a year!
Failure to observe the lubrication or maintenance intervals can lead to the window or door sash falling and result in material damage or personal injury!

To ensure that driving rain can run off the frame rebate, the weatherstrip on the upper frame is partially replaced by a ventilation seal (also for fixed glazing).

Dark surfaces heat up considerably more than light ones. They can therefore become very hot when exposed to direct sunlight. It is therefore recommended to only touch such elements with caution.

Due to their extremely impractical format, cleaning turn sashes place an extraordinary strain on the hardware. They should therefore only be opened for cleaning purposes and then closed again. Leaving the sash open and unattended is prohibited. Never apply additional loading to the sash. A second person is needed to secure the sash.
The sash sags on the handle side when it is opened and must be lifted into the frame to close (supported by guiding wedges in the window frame).

SPECIAL WARNINGS for timber-aluminium windows.

Please protect timber/aluminium elements from humidity, rain and snow during construction work. There are openings between the aluminium and timber profiles to equalise the vapour pressure of the profiles.
Please protect these joints from humidity until the building connection is established.

Moisture, mortar, concrete and plastering materials cause permanent discolouration, especially with oak and larch. This is caused by a chemical reaction with the wood components (tannic acid). Protect your wooden surfaces during the construction phase by masking them with suitable materials.

Please avoid the formation of excessive humidity (max. 50 % at 20 °C). This leads to damage, such as the swelling of timber parts, damage to painted surfaces (door panels), deformation of components, corrosion damage to hardware parts, formation of mould and an unhealthy living environment. The effects of excessive humidity must also be prevented in certain construction phases (interior plastering or screed work).

What causes excessive humidity?
Dense construction, use of living spaces and the resulting insufficient fresh air supply or inadequately adjusted domestic ventilation systems.
What causes condensation?
Air can store different amounts of water at different temperatures. In a saturated state (at 100 % relative humidity) the stored amount of water in $1m^3$ is 17.3 g at an air temperature of 20 °C.
Timber absorbs humidity from the room air and also releases it again. Therefore a high air humidity leads to a high timber moisture content.
An excessive timber moisture content over a longer period of time leads to expansion (swelling of the timber scantlings) and causes damage to the product.

In the picture you can clearly see condensation on the inside pane in the lower mullion area of a lift-sliding door.
The cause is stagnant, cool room air in the lower corner area. Insufficient temperatures in the threshold area reduce air circulation. Condensation can form and mould can also develop as a result.

Signs of excessive humidity are:
Gaskets are no longer tight against the product, joints larger than 1 mm become visible; in fixed elements - heavy warpage of fixed glazing beads, mould, condensation on room side on glass pane mostly in lower area or panes are misted up over a longer period of time.
If condensation is forming in the flying mullion area on the centre gasket or rebate, this is also a sign of excessive humidity in the room.
Severe damage to windows can be expected if water drips from the panes and window sashes regularly or rust becomes visible on hardware parts.

Condensation on the outer pane (especially in winter) and in the outer window rebate are normal and permissible. This does not lead to damage on timber/aluminium windows.

Detection of excessive air/timber humidity:
In case of doubt, timber moisture content and room humidity must be determined using suitable humidity measuring devices. The humidity must be measured in the top reveal of the window (e.g. with a hook on the window handle). If the relative humidity at approx. 20°C over a longer period of time is more than 70%, it will lead to irreparable damage to timber/aluminium windows.

Parameters for the moisture content of timber:

13% ±2	Delivery status Lannach factory with 13% ±2.
15-17%	Critical level; measures for drying should be initiated (ventilation, careful heating,...).
22%	If the timber moisture content is 22% and more over a longer period of time, expect permanent and irreparable damage to the timber/aluminium window.

The timber moisture content can be reduced again by slowly drying out the timber.

1. PRODUCT LIABILITY | WARNINGS

Ensure free air circulation in the room all around your timber/aluminium windows and window soffit. Windows and panels must not be covered or obstructed by other components (e.g. bath tub, kitchen units or furniture in front of panels, ...).

Possible measures in case of increased water entry into the building: Render (especially loam rendering) and floating screed, ... bring huge amounts of water into the room air. Do not keep windows completely shut during the drying phase of render and screed!
Check with your Internorm distribution partner about possible measures before using floating screeds and loam render. To protect your windows, you could e.g. unhinge your window sashes until the render and screed has dried and replace the sash with timber sheets.

Air permeability of Internorm timber/aluminium windows:
Your windows are designed to be airtight in accordance with European standards. The class for driving rain tightness, air tightness and further requirements obtained through independent tests is documented in the CE declaration and the value declaration for your windows.
Air tightness e.g. specifies that in the highest achievable class 4, the air intake may be a maximum of 3 $m^3/(h*m^2)$.

INCORRECT OPERATION

If the upper corner bearing mount has unintentionally become released from the lock when the sash is open, please proceed as follows to avoid injury or damage.

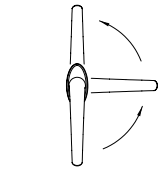
Leave or move the window handle into the tilt position and press the sash on the stay-arm side against the frame and turn the handle (90°) to the turn position.

Then close the window and turn the window handle into the closed position (turn 90°). Now you can tilt or open the window sash again without any problems.

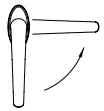
2. OPERATION

2.1. WINDOWS AND WINDOW SYSTEM DOORS

Turn-tilt version
The sash can be turned with the handle positioned horizontally and tilted with the handle positioned vertically.
With I-tec Secure hardware, turn the window handle upwards as far as the stopper (exerting force on the handle) to ensure that the faulty safety device is securely engaged.

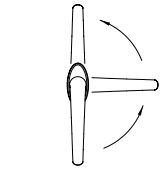


Turn version
A vertically upward handle position is not possible.



Tilt version (KGO)
The handle is mounted in the centre at the top.
A vertically upward handle position is not possible.

Tilt version (KG)
The sash can be tilted by positioning the handle vertically and horizontally.
For technical reasons, the handle can only be turned horizontally to tilt sashes of certain sizes.

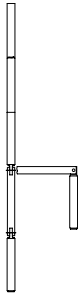


Fanlight version (KAZ)
The sash is operated via a pull rod. When the pull rod is pressed down, the sash is brought into the tilt position.

Close and lock window

Tilt window

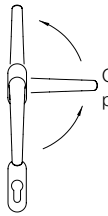
Fanlight version (KAK)
The sash is operated via a crank handle. To open the sash, the crank handle is taken out of the wall bracket, folded (as shown in the drawing) and positioned into the tilt position by turning the crank handle.



Folded crank handle for opening and closing

Lockable turn/turn-tilt door
The door can be turned by positioning the handle horizontally and tilted by positioning the handle vertically. In this version, the drive stroke is locked by the cylinder, i.e. the handle can no longer be operated. The door can be locked in the closing as well as in the tilt position.

Tilt door

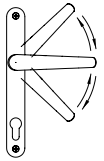


Open door, turn position

Close and lock door

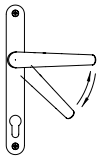
Multi-point locking turn door
By pressing the lever handle down, the latch is retracted and the door can be opened. The lever handle springs back. To lock the door, the lever handle must be pressed upwards by 45°- all locking elements lock and the profile cylinder can be locked. To open the door, the cylinder must be operated first and only then can the lever handle be pressed down and the door opened.

Press up to lock door



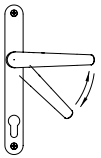
Press down to open door

Dead bolt lock turn door
By pushing the lever handle down or operating the cylinder (in the opposite direction to locking), the latch is retracted and the door can be opened.
The handle springs back. The door is locked by a bolt, which is operated via the locking cylinder (extending bolt). The handle can also be operated when the lock is locked.



Press down, open door

Side entrance door
By pressing the lever handle down or operating the cylinder (in the opposite direction to locking), the latch is retracted and the door can be opened. The handle springs back. The door is locked via a bolt and locking pins, which are operated via the locking cylinder (two full turns)



Press down, open door

3-sash window without mullion (model 50)

Adhere to opening sequence to avoid damage to sashes.

To open: first both end sashes, then centre sash!
To close: first centre sash, then both end sashes!

Flying mullion sash drive

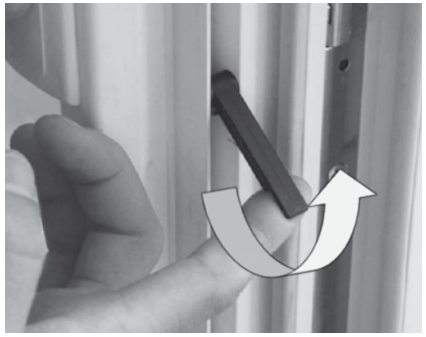
The flying mullion lever is folded flush in the closed position.

Release flying mullion lever by pressing blue button.

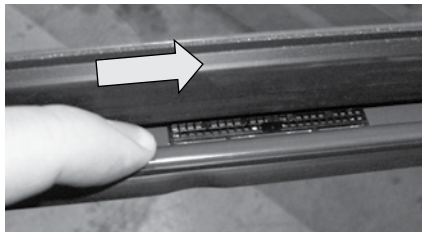
Flying mullion lever unlocked

Press lever down to open sash.

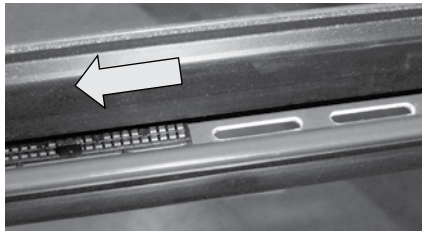
Attachment sash of window with integrated blinds
The locks of the attachment sash are only accessible when the window sash is open. Locks are positioned on the inside of the drive between the window sash and the attachment sash. Pull out the locking latches by 90° and open the attachment sash. Please ensure that all locking latches have been locked into place before locking the sash again.



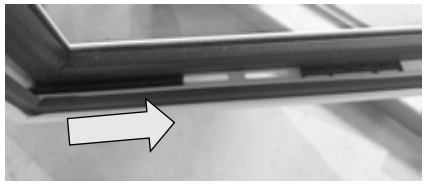
By closing the vent slots with a grid you can prevent insect ingress during summer.



Open the vents again in winter to ensure good ventilation.
This should help prevent misting up and condensation.

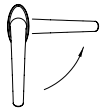


Closing the vents with the gaskets can ensure increased sound reduction (HV 450).

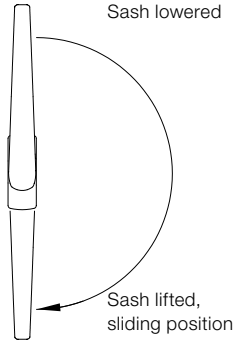


2.2. SLIDING ELEMENTS

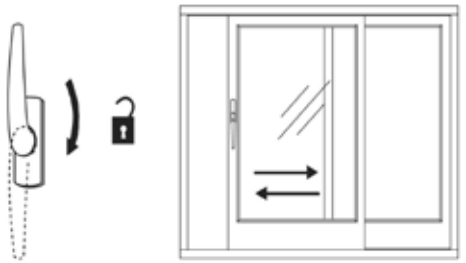
Parallel sliding window/door
Turn the handle horizontal for the sliding function, then position the sash parallel by pulling the handle and sliding to the side. To close, push the sash so far until it swerves back into the locking position again.



Lift-sliding door
Turn the handle right down to open and slide the sash. The sash can be lowered either into the locked position or any other open position. It is then secured against sliding.



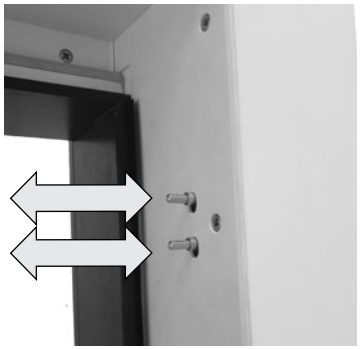
Turn handle downwards, sash is lifted:
= sliding position



Always turn the handle completely downwards (6 o‘clock position) to open and slide the sash, otherwise automatic unintentional lowering of the sash might occur. This raises a potential risk of locking oneself out (incorrect operation)!

Only lower the sliding sash when not in operation!
If the sash is lowered while sliding, damage can occur to the bottom sash gaskets: incorrect operation!

Carry out the following checks regularly (at least every 2 years):
a. Correct position of visible gaskets.
b. All covers present and free from damage.
c. Dead bolt optimally adjusted (see adjustments).
e. Stopper buffer tightly fitted.
f. Spring contacts move smoothly and free from dirt and corrosion. (only with Comfort Drive)



Lift-sliding door with Comfort Drive:

The lift-sliding door must not be used as a fire, smoke or escape door.

The drive is connected via a cable that exits the frame to 230V AC and must be installed by licensed specialists. Otherwise - danger to life!

Non-observance of working steps can lead to the destruction of the drive. Incorrect handling endangers the material. Do not allow liquid to enter inside the device! Keep the running rail clear of dirt and any objects.

Danger of crushing and trapping! Risk assessment is required at the installation site in accordance with machinery directive 2006/42/EC to prevent misuse. Apply protective measures in accordance with EN 60335-2-103/2016-05.

Danger of crushing and trapping! The drive opens and closes windows automatically. It stops via a load cutoff. The compression force is nevertheless still high enough to crush fingers if you are not careful. Never reach into the passing area while the drive is operating and never reach into the drive!

The lift-sliding door can be used by children 8 years old and above as well as by persons with reduced physical, sensory or mental capabilities or with lack of experience or knowledge, if supervised or instructed how to safely use the device and understand the dangers resulting from it. Children must not play with the lift-sliding door. Ensure that no person or object is in the movement area of the lift-sliding door and that the door sash can be seen when opening and closing. Cleaning and user maintenance must only be carried out by persons who have been instructed.

Check all functions through a test-run after installation and after each change to equipment.

Observe the regular inspections according to Page 19

When using the ekey dLine fingerprint scanner, the ‘Local Mode’ should be used (ekey bionyx App) for security reasons. In this mode, the time control is disabled, making it virtually impossible to accidentally lock yourself out. Furthermore, the smart home connectivity, the use of the voice assistant and remote opening are disabled. Unintentional opening and closing from a distance without a direct view of the lift & slide sash is thereby largely avoided.

Only operate the lift & slide door with the Comfort Drive WIFI box when you have a direct view of the lift & slide sash and make sure that no persons or objects are within the operational area of the lift & slide door.

The WIFI box provides the option of operating and configuring the lift & slide door via smartphone or tablet. The device is connected directly to the WIFI box or via an on-site WIFI router with prior WPS login. You will need the Hautau “ConfigTool” app to set up the Comfort Drive Wi-Fi box (Hautau Wi-Fi box).

Basic functions:

a) To open the door, the button (or optional fingerprint ekey dLine, ekey bionyx app, Hautau Config Tool app, etc.) is pressed briefly (approx. 0.5s). The door opens completely. If the door is moving, the next press of a button always results in STOP. When stopping, the system saves the last direction of movement.

The response time for an optional fingerprint scanner (relay switching time) is set to 3 s as a default and should be changed to 0.5 s (see ekey bionyx app - Device Settings)
Further information on the fingerprint scanner can be found on the ekey website under bionyx-faq!

b) If the door is standing and the button is operated, the door moves in the opposite direction to the last recorded movement.
c) Faults are reported by a flash code (1 sec. on – 1 sec off) on the LED (permanently). Every function is stopped when a fault occurs; this means that the door will stop. The next press of the button is recognised as a STOP button and the error status is reset. If the fault persists, the door cannot be moved electrically.
d) The LED is unlit when at rest.
e) When the door is moving, the LED is illuminated constantly.
f) After the door has finished moving, the LED goes out.
g) Random pressing in quick succession: commands are ignored, to protect the element.

h) Anti-tampering control:
When the window is closed, the Comfort Drive System continuously monitors any attempts to tamper with the lift & slide door. If the sliding sash is opened from a locked state, this is detected as an unauthorised attempt to open it and an acoustic and visual warning is emitted.

Acoustic: the buzzer on the control electronics issues a warning - at an interval of 1 second on, 1 second off - for a total of 60 seconds.

Visual: the light of the push-button in the frame flashes simultaneously.

To reset: the dropped sash needs to be lifted again after a tampering attempt (see chapter: Manual unlocking/locking in the event of a power failure) and reset by a factory reset (see chapter: Factory reset; 2. Door open).

Button with LED light

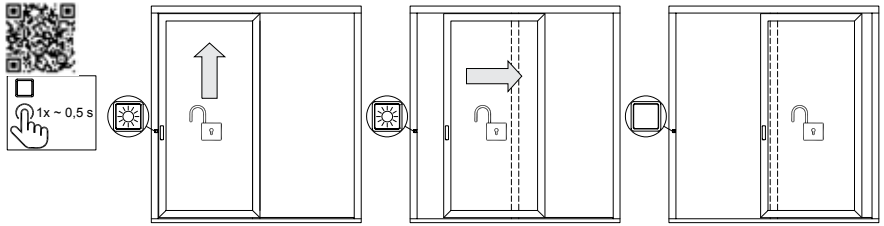
Legend:

LED off (not illuminated)

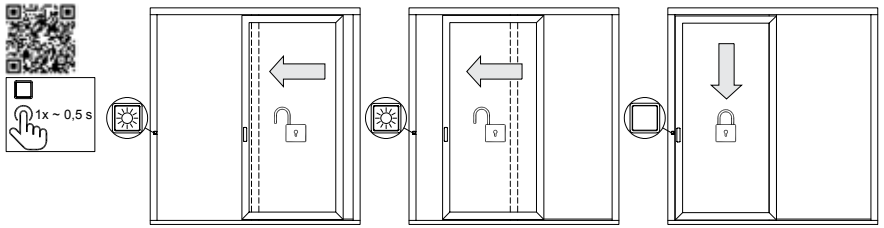
LED illuminated white

LED flashes white

To open the sash:



To close the sash:



Extended functions:

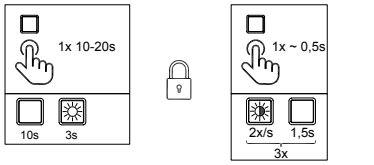
Child safety lock:
Press and hold the button for 10 to max. 20 seconds to switch the child safety lock on or off. After 10 seconds, the LED lights up for 3 seconds. Release the button.

After activation of the child safety lock, no operations are available. If the button is pressed for 0.5 seconds, the LED double-flashes 3x (child safety lock active). This indicates that the lock is active.

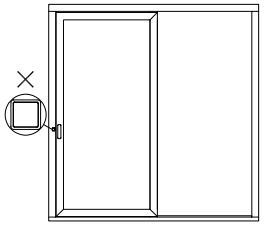
Operating the ekey dLine operating unit:
If there is a stored fingerprint, the lift & slide door can be operated via the ekey despite the childproof lock being activated (safety function to prevent accidental lock out). The door can also be stopped when the fingerprint is activated. The childproof lock on the button remains active.

An active child safety lock is automatically deactivated in the following scenarios:
Power cut
Software reset
Factory reset

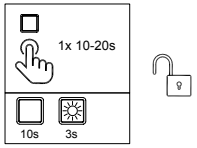
To activate the child safety lock:

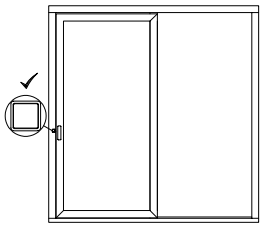


Child safety lock
is active



To deactivate the child safety lock:

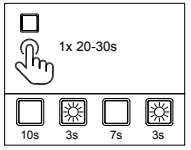


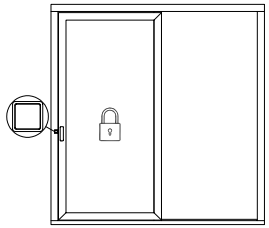


Software reset:
Press and hold the button for 20 to max. 30 seconds to trigger the software reset. After 10 seconds, the LED illuminates for 3 seconds. Keep the button pressed! After 20 seconds, the LED illuminates for 3 seconds. Now release the button.

There are two types of software reset operation:

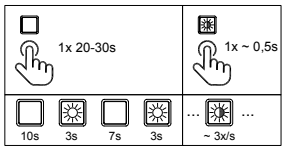
1. Door closed and locked:
A software reset is carried out, e.g. errors are deleted, but the door still recognises all its parameters. The door remains locked and is ready immediately.

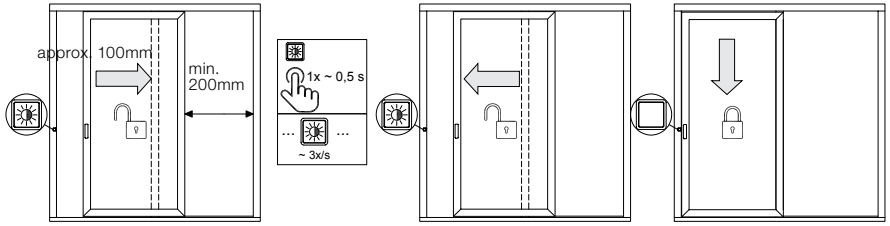




2. Door open:
The LED flashes about 3x per second constantly. When the button is pressed for about 0.5 seconds, the door slowly opens to about 100 mm. For this function, the door has to be at least 200 mm before the maximum open position. If this measurement is not reached, the sash needs to be closed manually before reset by about 200 mm.
After the button is pressed once more, the door slowly closes and locks. The door is ready and the LED goes out.

Do not interfere under any circumstances during the software reset!
Safety devices are deactivated!



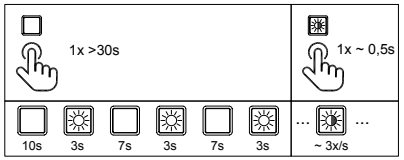


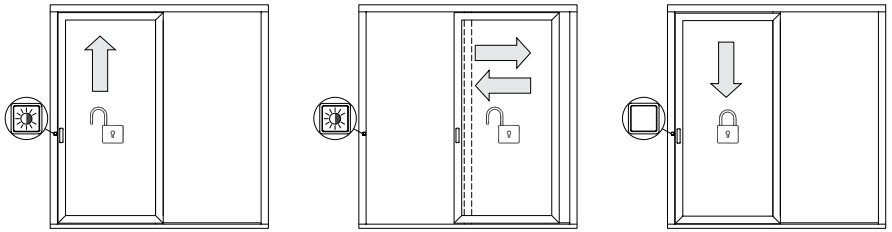
Factory reset:
Pressing and holding the button for more than 30 seconds triggers a factory reset.
After 10 seconds, the LED illuminates for 3 seconds. Keep the button pressed!
After 20 seconds, the LED illuminates for 3 seconds. Keep the button pressed!
After 30 seconds, the LED illuminates for 3 seconds. Now release the button.

There are two types of factory reset:

1. Door closed and locked:
The LED flashes about 3x a second constantly. When the button is pressed for about 0.5 seconds, the door is unlocked and the factory reset is carried out automatically (without any further press of a button). At the end of the factory reset, the door remains in a locked position and returns to the normal operating function, the LED goes out.

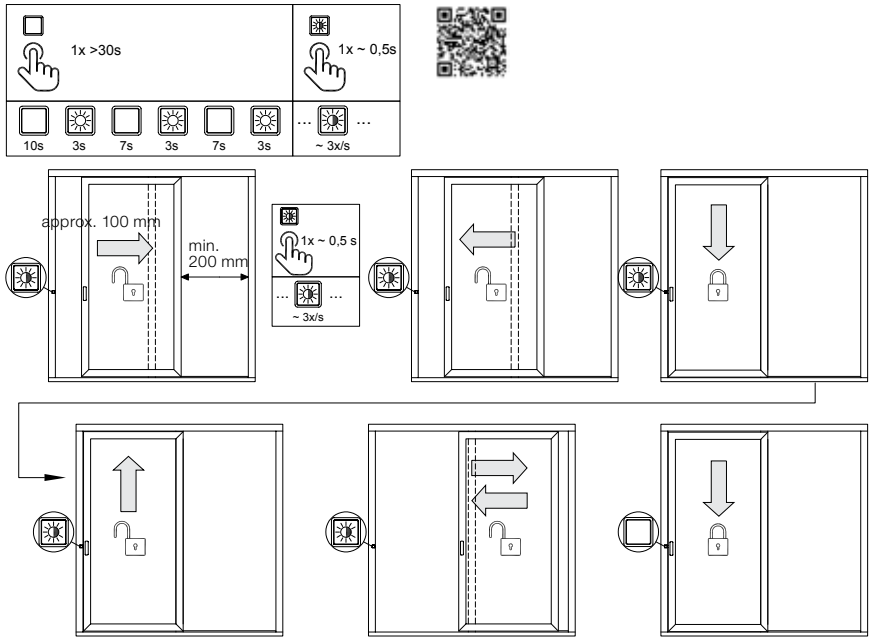
Do not interfere under any circumstances during a factory reset!
Safety devices are deactivated!
For an HS330, when opening, place a cushioning insert, e.g. 5 mm corrugated cardboard, before the end stop to protect the surface between the sash and the frame.





2. Door open:
The LED flashes about 3x a second constantly. When the button is pressed for about 0.5 seconds, the door slowly opens to about 100 mm. For this function, the door must be at least 200 mm before the maximum open position. If this measurement is not reached, the sash must be closed manually by about 200 mm before the reset.
After the button is pressed again, the door slowly closes automatically (without any further press of a button), locks and carries out the factory reset as described above.

Do not interfere under any circumstances for the duration of the factory reset! Safety devices are deactivated!
For an HS330, when opening, place a cushioning insert, e.g. 5 mm corrugated cardboard, before the end stop to protect the surface between the sash and the frame.



Fault messages:

Power cut:

An active child safety lock is automatically deactivated by a power cut, software reset or factory reset!

1. Door closed and locked:
The door remains locked and is ready immediately after power is restored.
2. Door open:
After power is restored, the LED flashes constantly about 3x a second. When the button is pressed for about 0.5 seconds, the door slowly opens to about 100 mm. For this function, the door has to be at least 200 mm before the maximum open position. If this measurement is not reached, the sash needs to be closed manually by about 200 mm before the reset.
After the button is pressed again, the door slowly closes and locks. The door is ready and the LED goes out.

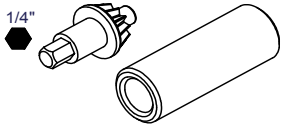
Power cut:
After a power cut (hitting an obstacle or after a mechanical defect), the door goes into fault mode. A fault is reported by a permanent LED flash code (1 second on - 1 second off). All functions are stopped when a fault occurs, this means the door stops and moves about 100mm in the opposite direction. The next press of a button is recognised as a STOP button and the fault state is reset. If the fault persists, the door cannot be moved electrically. In this case, a software reset can be carried out or subsequently a factory reset. If the fault still persists, lock the door manually and contact customer service.

Manual unlocking/locking during power cut:

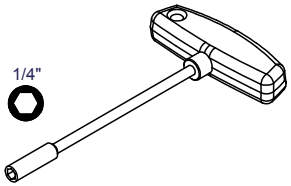
In the event of a power failure, the sliding sash can be raised/lowered with a cog, guide sleeve and box spanner. This enables unlocking/locking in the closed/open position.

1. Disconnect the power supply from the mains, switch off the circuit breaker

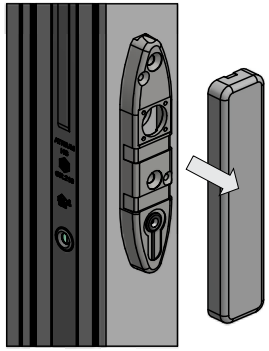
CD_Set emergency unlocking
Part No.: 24486



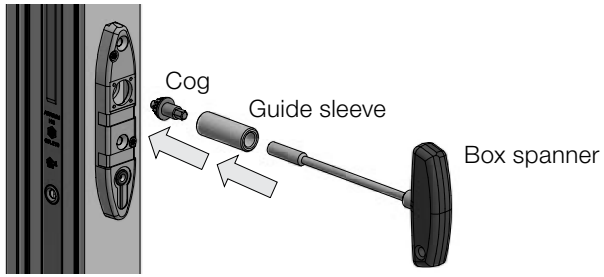
Wiha bit holder 388 1/4"-150 mm
Part No.: 24477



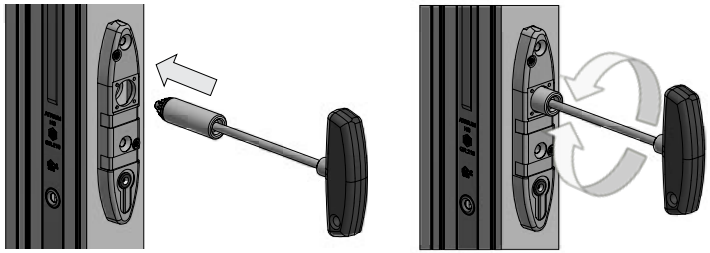
2. Remove the cover for emergency unlocking
(do not damage the surface!)



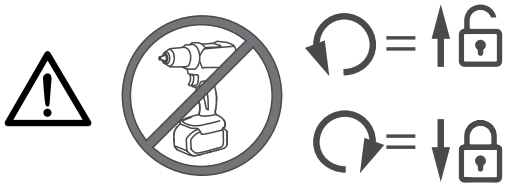
3. Attach the cog and guide sleeve to the box spanner.



4. Insert cog, guide sleeve and box spanner into the drilled handle hole. The cog must fully engage with the lift drive! This can be ensured by wiggling it slightly (right/left turn). As soon as you feel a resistance while turning and hear a rumbling sound, the emergency unlocking engages.

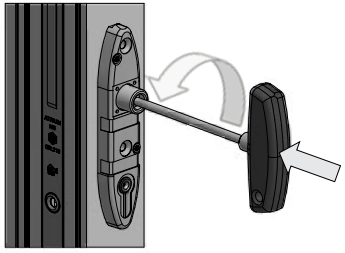


Do not use a cordless screwdriver

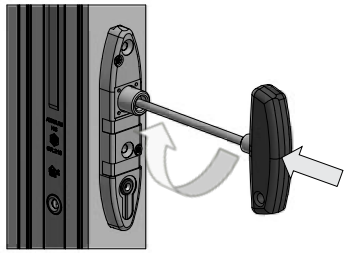


5. Use light pressure on the emergency unlocking in the direction of the sash and use max. 15 full turns to **lift the sash (turn counterclockwise)** or **lower it (turn clockwise).** This applies to both left and right sliding doors. If the cog "skips", increase the pressure in the direction of the sash.

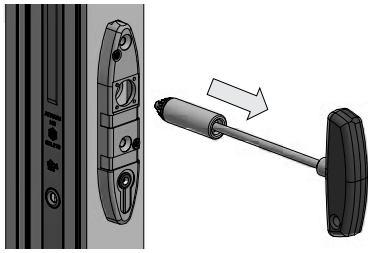
Raising



Lowering

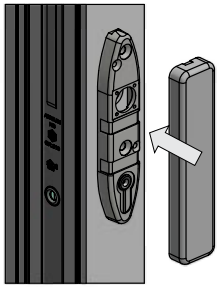


6. Remove the cog, guide sleeve and box spanner and store them for possible later use.



After emergency unlocking, it is imperative to remove the cog and guide sleeve from the sliding sash! Otherwise, the lift drive or the emergency unlocking may be damaged.

7. Re-attach the cover for emergency unlocking.



2.3. FRONT ENTRANCE DOORS

Internorm front entrance doors are available with a variety of lock types, which differ in their operational capabilities.

Below an overview of basic functions of the locking systems.

Lock types for aluminium front entrance doors:

	Locking points	Closing process	Opening process	Evaluations	Day operation *)
MVB	Main bolt + 2 bolts	manual mechanical	manual mechanical	no	-
MV	Main bolt + 2 bolts-hook bolts	manual mechanical	manual mechanical	no	-
MV with TSH	Main bolt + 2 bolts-hook bolts	manual mechanical	manual mechanical	no	-
MVC	Main bolt + 2 bolts-hook bolts	manual mechanical	manual mechanical/ **inside lever**	no	-
MVAM	Main bolt + 2 bolts-hook bolts	**automatic mechanical**	manual mechanical/ **inside lever**	no	mechanical
EE	Main bolt + 2 bolts-hook bolts	**automatic mechanical**	automatic **electrical** / inside lever	no	mechanical
EVE	Main bolt + 2 bolts-hook bolts	automatic **electrical**	automatic **electrical**	yes	electrical
EVC	Main bolt + 2 bolts-hook bolts	automatic **electrical**	automatic **electrical** / inside lever	yes	electrical
FRS **)	Main bolt	manual mechanical	manual mechanical	no	-

*) Daytime operation: no automatic locking when closing (switchable)
**) Spring-loaded bolt latch is only for secondary application purposes

Emergency door locks acc. to EN179 and EN1125:
User manuals for emergency door locks are not included in this booklet; these will be described in separate special instructions!

Lock types for timber/aluminium front entrance doors:

	Locking points	Closing process	Opening process	Evaluations	Day operation *)
MVB	Main bolt + 2 bolts	manual mechanical	manual mechanical	no	-
MV	Main bolt + 2 bolts-hook bolts	manual mechanical	manual mechanical	no	-
MV with TSH	Main bolt + 2 bolts-hook bolts	manual mechanical	manual mechanical	no	-
MVAM	Main bolt + 2 bolts-hook bolts	**automatic mechanical**	manual mechanical/ **inside lever**	no	mechanical
EE	Main bolt + 2 bolts-hook bolts	**automatic mechanical**	automatic **electrical** / inside lever	no	mechanical
EVE	Main bolt + 2 bolts-hook bolts	automatic **electrical**	automatic **electrical**	yes	electrical
EVC	Main bolt + 2 bolts-hook bolts	automatic **electrical**	automatic **electrical** / inside lever	yes	electrical

*) Daytime operation: no automatic locking when closing (switchable)

Only a locked door will provide security!

Locking, unlocking and opening – manual

Locking the door manually
Full turn (s) (1 or 2 turns) of the key in locking direction
➔ all locking elements engage.

Unlocking the door manually (from a locked state)
Full turn(s) (1 or 2 turns) of the key in the opposite direction to locking
➔ all locking elements retract.

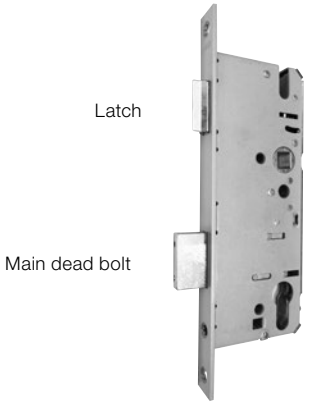
Opening the door – lever handle
(from an unlocked state)
Lever handle present – push the lever handle ➔ the latch retracts, the door opens.

Opening the door – static handle
(from an unlocked state)
No lever handle present – turn the key in the opposite direction to the locking direction for a full turn. This retracts the latch. Push the door sash in the opposite direction to the opening direction
➔ This releases the load on the latch, the door opens.

FRS (Dead bolt lock)
Type: Mortise lock with latch and bolt

Locking element:
1 main bolt

Locking, unlocking:
1 full turn of the key
(Detailed description page 37)



MVB (Multi-point locking “bolt“– manual)
Type: 3-point locking

Locking elements:
1 main dead bolt, 2 bolts

Locking, unlocking:
2 full turns of the key
(Detailed description page 37)

MV (Multi-point locking – manual)
Type: 5-point locking

Locking elements:
1 main dead bolt, 2 bolts, 2 hook locks

Locking, unlocking:
2 full turns of the key
(Detailed description page 37)

MVC (multi-point locking - manual - comfort opening)
Type: 5-point lock

Locking elements:
1 main dead bolt, 2 hook locks, 2 trigger bolts

Locking:
2 turns of the key
(Detailed description page 37)

Unlocking:
Outside: manually with key
Inside: manually with lever

The door does not comply with EN179
(Emergency exit function)

MVAM (multi-point lock – automatic-mechanical)
Type: 5-point lock

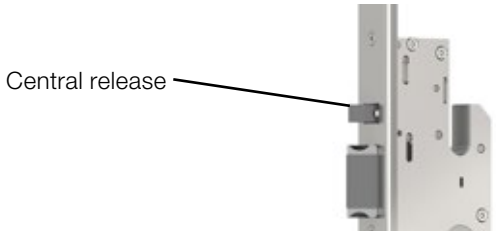
Locking elements:
1 main deadbolt , 2 swivel latches, 2 bolts

Locking:
Automatically mechanically after the door closes
Central release is actuated.
2 swivel latches, 2 bolts and the main deadbolt extend.

Unlocking:
Outside: manually with key
Inside: manually with lever

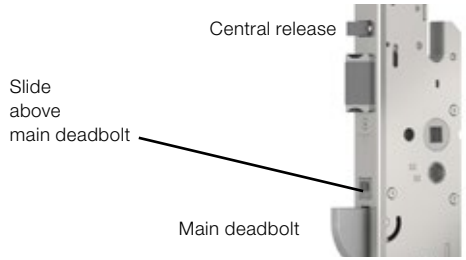
Re-locking:
In a locked state, it can be re-locked using the key.
➔ additional security
The inside lever is blocked in this position.

A tested
burglar-proof state RC2 is only achieved by re-locking!



Day mode
Using a slide that is attached to the main deadbolt, the multi-point lock can be set to day mode. In this state, extension of the locking elements is prevented when closing the door sash.
The door can now only be fixed in place with the lock latch.
This enables operation of an electric door opener or a mechanical day latch.

To change the switch position – day mode on or off – the latch must be pulled back at the same time via the lever or cylinder.
Without simultaneous retraction of the latch, the switch position cannot be changed or the mechanism will be damaged!



Check the open door sash to see if the desired switch position – normal or day mode – has been set before closing the door sash, otherwise you could lock yourself out!

Press the central release to do so.
Normal mode: bolt, swivel latch and main deadbolt extend
Note: Press the lever before closing the door, to prevent the locking elements from touching the door frame.

Day mode: all locking elements remain retracted.

To achieve mechanical permanent opening: imperative to activate day unlocking on a frame-sided ETÖ / MTOE.
(ETÖ or MTOE are optional accessory parts)

Slider on electric door opener (ETÖ)
or mechanical day latch (MTOE)

Burglary protection and airtightness requirements are not met in day time mode.

When you switch from day mode back to normal mode, do not forget to change the electric door opener/mechanical day latch to normal mode (night status) as well.

EE (multi-point lock – semi-motorised)
Type: 5-point lock

Locking elements:
1 main deadbolt , 2 swivel latches, 2 bolts

Locking:
Automatically mechanically after the door closes
Central release is actuated.
2 swivel latches, 2 bolts and the main deadbolt extend.

Unlocking:
Outside: via the access control system (fingerprint, keypad, ...)
Inside: manually with lever

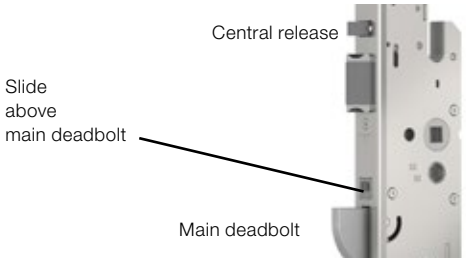
Re-locking:
In a locked state it can be re-locked using the key
➔ additional security
The inside lever and the access control system are blocked in this position.

A tested
burglar-proof state RC2 is only achieved by re-locking!

Central release

Day mode
Using a slide that is attached to the main deadbolt, the multi-point lock can be set to day mode. In this state, extension of the locking elements is prevented when closing the door sash.
The door can now only be fixed in place with the lock latch.
This enables operation of an electric door opener or a mechanical day latch.

To change the switch position – day mode on or off – the latch must be pulled back at the same time via the lever or cylinder.
Without simultaneous retraction of the latch, the switch position cannot be changed or the mechanism will be damaged!

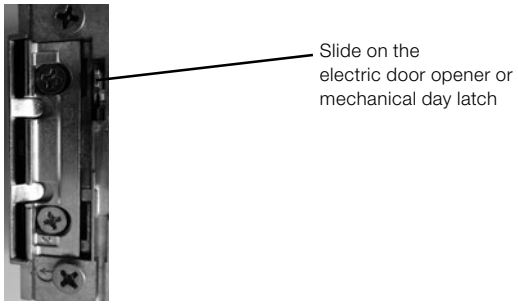


Check the open door sash to see if the desired switch position – normal or day mode – has been set before closing the door sash, otherwise you could lock yourself out!

Press the central release to do so.
Normal mode: bolt, swivel latch and main deadbolt extend
Note: Press the lever before closing the door, to prevent the locking elements from touching the door frame.

Day mode: all locking elements remain retracted.

In order to achieve permanent mechanical opening, the day release must also be activated on the frame-side electric door opener/mechanical day latch.
(Electric door opener and mechanical day latch are optional accessories)



When you switch from day mode back to normal mode, do not forget to change the electric door opener/mechanical day latch to normal mode (night status) as well.

Notes:

No burglary protection or sealing requirements are met in day mode!

Do NOT leave a key inserted.

Never use the lever during a motorised unlocking operation. This could damage the key!

EVE and EVC (multi-point locking - fully motorised)
Type: 5-point locking

Locking elements:
1 main dead bolt - 2 bolts - 2 hook locks

Locking: automatically by electric motor after the door is closed (all 5 locking elements)

Unlocking:
Outside: via the access control system (fingerprint, keypad, ...)
All locking elements and the latch are retracted for max. 7 seconds. If the door is not opened during this period, it is locked automatically.

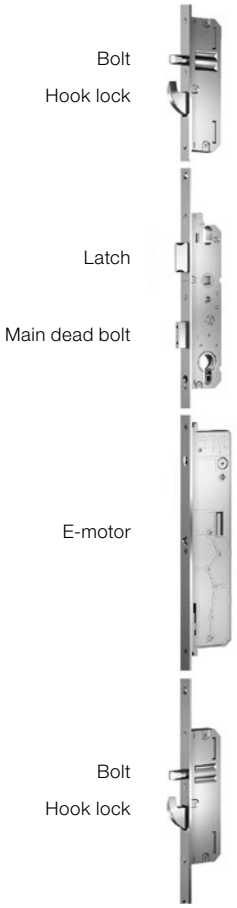
Inside: EVE: via electric push button
EVC: additionally possible from a locked state via the inside lever handle (comfort)

Emergency operation is possible using the key!

Day operation - can be switched mechanically and electrically:
In this position, no automatic locking takes place.
The door is only kept closed via the lock latch.

➔ This enables use of an electrical door opener (ETÖ) or a mechanical day latch (MTOE).

➔ Description of operation for switching, see Chapter 3.4 Adjustments and adjustment possibilities.



Please note:

A door, which is kept in position via the additional latch or door closer only, is NOT considered locked. Only when the door is fully locked does it provide secure burglary protection and airtightness!

DO NOT leave keys in the lock.

Do not use lever during the motorised locking or unlocking process. Danger of damage to the lock!

ACCESSORIES (OPTIONAL)

Integrated door block TSH:

Integrated door block (MV with TSH)
1. Door limiter – integrated into striking bead

2. Bolt – integrated into MV

3. Turn knob – on inside of door sash

To open the door from outside when the TSH (integrated door block) is activated:

1. When the door is locked, 2 full turns of the key in the opposite direction to locking.
2. One full turn of the key in the locking direction
   ➔ the bolt of the TSH retracts
3. One full turn of the key in the opposite direction to locking.
   The lock latch is retracted and the door can be opened

To activate/deactivate the TSH door block from the inside:
Use the turn knob on the inside of the door sash. (approx. 90° turn)

Door limiter in operation

Electric door opener (ETÖ)

Slider for switching between normal position and day unlocking

Only for doors with a static handle (no lever handle) on the outside.

Normal position: The door is kept closed via the latch. When released by the electric signal, the door can be opened by simply pushing against it.
(only if the door is not locked)

Day unlocking: The door can be pushed open any time (only if the door is not locked).

ETOE: The door can only be opened during the electrical contact time.

ETOA: The door stays open after contact has been made once, until the door sash is opened once.

Technical data:
10- 24 Volt
Direct and alternating current (DC/AC)
Mechanical day unlocking

The ETÖ is suitable for 100% power on between 10V and 13V DC (direct current).

A door, which is kept in position via the additional latch or door closer only, is NOT considered locked. Only when the door is fully locked does it provide secure burglary protection and airtightness!

Only professional personnel are allowed to install electrical connections!

Emergency doors feature different electric door openers.

If the door is only kept on the latch (ETÖ operation), always check after closing of the door sash that the door sash is properly engaged (cannot be opened without the lever handle or key).

Mechanical day latch (MTOE)
Only for doors with a static handle (no lever) on the outside

Day latch activated:
The door can be opened by simply pushing against it if it is not locked.

Day latch not activated:
The door holds via the lock latch if it is not locked.

Please note:
The door should be equipped with an additional catch or door closer, as the pressure of the gasket could push the door open of its own accord!

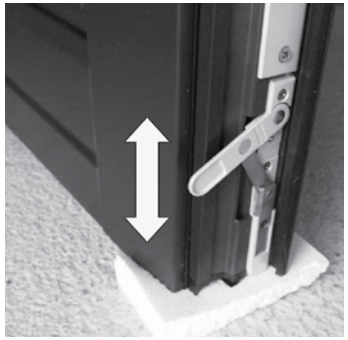
A door, which is kept in position via the additional latch or door closer only, is NOT considered locked. Only when the door is fully locked does it provide secure burglary protection and airtightness!

If the door is only kept on the latch (MTOE operation), always check after closing the door sash that the door sash is properly engaged (cannot be opened without a lever handle or key).

Shoot bolts (only with 2-sash elements)

Locking the slave sash: via shoot bolts which are positioned at the top and bottom in the slave sash rebate.

Opening and closing is done via the lever on the shoot bolt.



Operating instructions for any existing **access control** (fingerprint scanner, keypad...) are not part of this guide, but are described in their own special instructions.

These instructions are included with the delivery of the door. The latest version can also be found on the ekey homepage in the download centre www.ekey.net/downloadcenter.

Types used:

Fingerprint scanner dLine in the door sash:	ekey dLine fingerprint scanner ekey dLine controller
Fingerprint scanner dLine in handle bar:	ekey dLine fingerprint scanner ekey dLine controller
Keypad in the door sash:	ekey home – Keypad Integra control unit micro 1
ekey Gateway:	ekey Gateway Controller

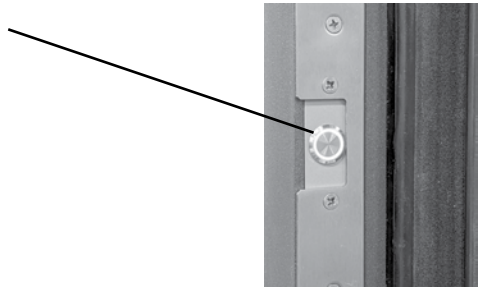
Please note that the access control is already wired to the motorised lock and only the Internorm circuit diagrams included in the delivery are valid.

I-tec Open

I-tec Open is a convenient daytime function that allows you to open the door without a key.
A major advantage is that the door hangs securely in the latch and is not, for example, unintentionally opened by the wind.

when the I-tec Open module is activated, the door is considered unlocked - no burglary protection at all!

Function:
A concealed electronic module is installed and wired into the frame profile. A button in the frame (lock side) at a height of approximately 850 mm activates or deactivates the module. The status is indicated by a LED light ring.
LED lights up = active



When the module is activated, the opening pulse is triggered by a **double knock** on the door sash. Depending on the version, the module sends the signal to the electric door opener or to the motor lock and the door can be opened.

a) I-tec Open controls the electric door opener:
If you wish to use the I-tec Open for day operation:
- a mechanical multi-point lock MV or MVC must not be locked.
- a mechanic automatic multi-point lock MVAM must be set to daytime mode

b) I-tec Open controls a motor lock:
If a door is equipped with an EVE or EVC motor lock, the opening signal of the I-tec Open module is sent to the motor lock.
(even if the door is additionally equipped with an electric door opener)

When I-tec Open day mode is activated:
The motor lock and any electric door openers/mechanical day latches must be in night mode/normal position.

2.4. SUN AND INSECT PROTECTION

Aluminium window shutter

Ensure that open window shutter sashes are correctly fixed in the wall holders. Close the window shutters during storms (wind speeds over 35 mph). Otherwise, resulting stresses can damage or destroy hardware parts. This can lead to subsequent damage.

To open and close the shutter

In order to **open**, engage the latch of the closing lever and turn the lever. Then turn the shutter open until it engages in the wall shutter catch.

In order to **close** the shutter, press down the shutter catch and turn the shutter inwards. Then turn the locking lever until the turn bar lock engages by itself.

Operating the hinge locking mechanism

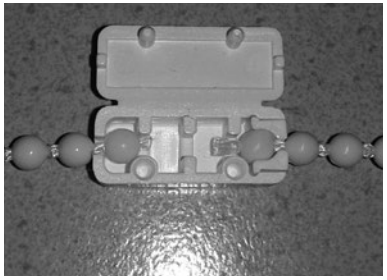
When closing the shutter, press the hinge locking mechanism and turn the shutter inwards. When opening the shutter, the hinge locking mechanism engages automatically. The shutter can be unhinged or hinged at approx. 15° opening angle.

Adjustment of slats

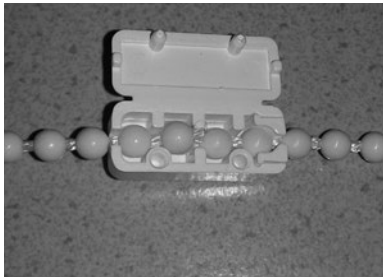
Adjustable slats are adjusted via a thumbscrew. Loosen it and move it up or down until the slats are in your desired position. After reaching this position, carefully tighten the thumbscrew again.

Blinds

Protection from strangulation hazards EN 13120
Buildings with ball chain-driven blinds to which children between 0 and 42 months have access or can stay in, such as homes, hotels, hospitals, churches, shops, schools, nurseries and public buildings, have to be equipped with a “child safety device“ on the inner end (blind with ball chain). Protection from strangulation hazards also applies if the place of use is unknown.
Protection from strangulation hazards does not apply to buildings to which children generally have no access, such as offices, factories, laboratories etc.



Child-proof version: with tear-off system of 6 kg within 5 sec. Connection with 1 ball



Non-child-proof version:
Connection with 2 balls

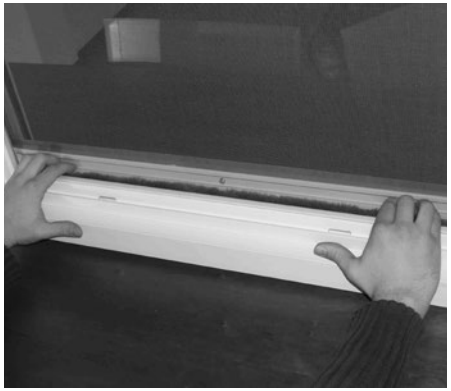
1. To **lift, lower** or **turn** the blinds, unfasten the ball chain from the ball chain holder.

2. Then bring the blind into the desired position by pulling downwards - as straight as possible - on the ball chain above the ball chain connector. Finally, re-fasten the ball chain in the ball chain holder.

Wired integrated Venetian blind

To manually set the upper end position, the Venetian blind must be pulled up fully. Within 2 seconds, move the blind slightly down and then immediately up again. The Venetian blind will move to the upper end position and the cord will relax. The upper end position is now set.

Insect protection



Pull-down flyscreen

To close the pull-down flyscreen

Pull the screen down with both hands until it engages in the catch.

To open the pull-down flyscreen from the inside or outside

Push down with both hands until the catch disengages.

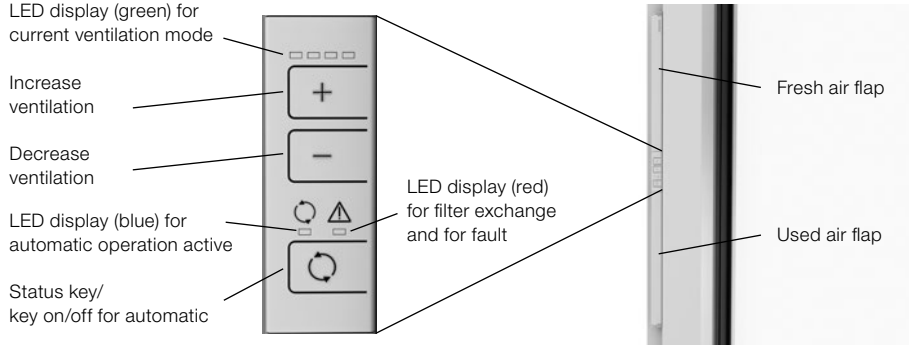
Friction-fit frame

1. Open the window. Hold the friction-fit frame on plastic clips and put it into the frame clearance on the outside. Position the bottom brackets first between the window frame and gasket.

2. Pull the friction-fit frame into the frame clearance so that the top brackets can also be positioned into the window frame by moving the plastic clip up. Afterwards fold the plastic clips down.

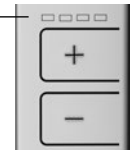
2.5 I-TEC VENTILATION IV40

Operation



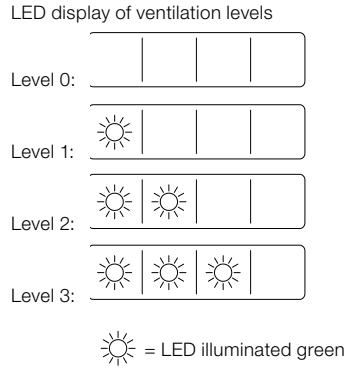
Respective ventilation mode is displayed with green LEDs in the display field.

LED display goes out after 1 minute.



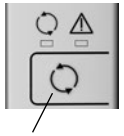
Level 1-3:
By pressing the + or – key, the ventilation is increased or decreased by one level.

Level 0 (ventilator switched off):
ventilator on level 1 and press the – key for 2 seconds.
The ventilator can also be switched off by closing at least one air flap (fresh air, used air). After opening both air flaps, the ventilator runs again at its previous setting.



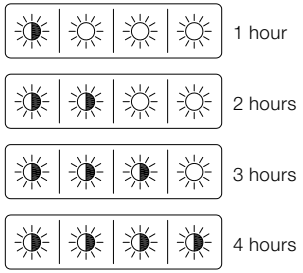
Note:
Even if both air flaps are closed, depending on the wind load, air can be pressed into the ventilator.

Status key / automatic On/Off:
If the LEDs have gone out, the current status can be displayed again for 1 minute by pressing the status key/ automatic key.


Status key/automatic key

Turbo mode (level 4):
Pressing the + key for at least 2 seconds to activate the turbo mode (level 4).
Within 15 seconds, you can select the desired running time between 1 and 4 hours by pressing the + or – key.
Pressing the + key increases the running time, pressing the – key decreases the running time.
After selection time of 15 seconds, all 4 LEDs illuminate green for 2 seconds and the running time can no longer be changed.
Once the running time is completed or the turbo mode has been deactivated by pressing any key, the I-tec ventilator automatically returns to the previously set ventilation level.

Turbo mode



= LED illuminated green

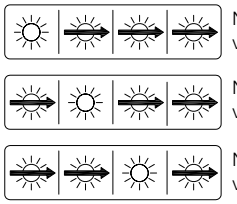
= LED flashing green

Automatic mode:
While the operation mode is displayed, by pressing the status key/automatic key, the automatic mode can be switched on or off (blue LED is illuminated when automatic is ON). Air humidity is measured in automatic mode and this ventilator is controlled in such a way that always a healthy room environment always prevails. The ventilator switches off below approx. 35% humidity. Once the humidity rises, the ventilator switches on again.
Depending on humidity levels, the corresponding ventilation level is selected automatically.
Also, the LED for automatic operation goes out after 1 minute, again - by pressing the status key, it is displayed again if the automatic operation is active.

Status key/automatic key

Night cooling:
Night cooling serves to prevent overheating of living areas during the summer months. In addition, the fresh air ventilator or used air ventilator can be deactivated. This overrides the function of the heat exchanger and cooler outside air is blown directly into the room (night cooling fresh air) or warm room air is blown to the outside (night cooling used air). The best effect is achieved if two ventilators opposite each other in the house are set in such a way that one ventilator is in fresh air mode and the other one in used air mode. This causes cross-ventilation in the building without the need for opening or tilting windows. If only one ventilator is available, we recommend tilting a window on the opposite side of the house, otherwise the desired effect can only be partially achieved.

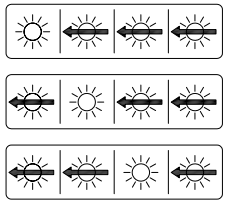
Night cooling - fresh air:
With this, only the fresh air ventilator is in operation, the used air ventilator is switched off.
By simultaneously pressing the + key and the status key, night cooling fresh air is activated.
Within 15 seconds, the desired ventilation level can be selected by pressing the + or – key.
Pressing the + key increases the ventilation level, pressing the – key decreases the ventilation level.
After a selection time of 15 seconds all 4 LEDs illuminate green for 2 seconds and the ventilation level can no longer be changed.
Pressing any key will deactivate night cooling. The ventilator returns to its previously set ventilation level.



= LED illuminated green

= LED green chase light to the right

Night cooling - used air:
With this, only the used air ventilator is in operation, the fresh air ventilator is switched off.
Within 15 seconds, the desired ventilation level can be selected by pressing the + or – key.
Pressing the + key increases the ventilation level, pressing the – key decreases the ventilation level.
After a selection time of 15 seconds all 4 LEDs illuminate green for 2 seconds and the ventilation level can no longer be changed.
Pressing any key will deactivate night cooling. The ventilator returns to its previously set ventilation level.



Night cooling - used air ventilation level 1

Night cooling - used air ventilation level 2

Night cooling - used air ventilation level 3

= LED illuminated green

= LED green chase light left

Automatic switch-off function during automatic mode or night cooling:
If outside temperature exceeds room temperature, ventilator automatically switches off. Every hour, ventilator checks temperature conditions by switching both ventilator motors on for a short time. If outside temperature is still higher than room temperature, ventilator switches off again. If outside temperature falls below room temperature, ventilator automatically returns to night cooling mode.
Temperature monitoring takes place with sensors which are built into the inside of the ventilator. Detected values for inside and outside temperatures can therefore deviate from externally measured temperatures.

Warning/fault:
A red LED appears if a filter change is required
(the display is time-controlled)

Cancel the display “filter change“:
Press the + and – key simultaneously for at least 5 seconds.

The red LED flashes if there is a fault in the appliance. If the fault has only occurred for a short time, the display can be cancelled as follows:
Press the + and – keys at the same time; shortly afterwards additionally press the status key/automatic key and keep all three buttons pressed.
If the fault message is displayed again after 1 minute, please contact your window distributor.

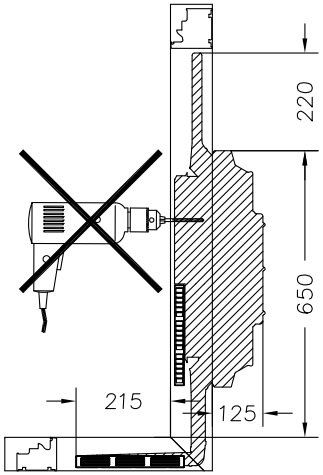
Pressure conditions in the room when operating the ventilator:
In principle, ventilation control works in a balanced way and works to avoid over-pressure in the room, however the speed of the used air ventilator is slightly raised compared to the fresh air ventilator. The pressure in the room is massively influenced by the pressure conditions in the building or the pressure/suction conditions due to wind loads.
If you would like to have an open fireplace, please be in contact with your chimney sweep. For complete protection when operating open fires, an additional pressure controller might need to be installed in the room.

Visible and invisible control of the wireless module:
The I-tec ventilator can be conveniently controlled using the handheld transmitter for the I-tec Shading or the I-tec SmartWindow app on a mobile phone or tablet. To avoid having to find the I-tec ventilator again with a new search after it has already been listed in the handheld transmitter or gateway, the wireless module can be ‘hidden‘ via the handheld transmitter or the SmartWindow app. This does not affect control of the ventilator.
To ‘show‘ the wireless module again in the operating unit on the window:
Switch the ventilator into standby mode. By pressing the + and status keys simultaneously for a minimum of 10 seconds, all LEDs will start to flash green.
Press the - key briefly within 15 seconds and this shows the wireless module again for the gateway or handheld transmitter.

Frost protection device:
To prevent danger of heat exchangers icing up when the ventilators are in operation, the ventilation system has been equipped with a frost protection device. The electronic device continuously monitors the extracted air temperature (after the heat exchanger).
If this falls below a certain value, the speed of the fresh air ventilator is decreased step by step. If there is still a danger of icing up, the ventilator is switched off for 2 hours.
After this, the ventilator starts again automatically, checks the temperature conditions once more and starts after 10 minutes either again in the frost protection mode or returns to normal operation.

Functioning in cold rooms:
If the room temperature falls below +8°C (e.g. on the building site), the ventilator is switched off. Operation is still possible at any time: pressing the + or - key switches on the ventilator again for 10 minutes. In this time, the ventilator checks the temperature conditions and either switches off again or returns to normal operation.

Installation of add-on elements:
If add-on elements are retro-fitted (e.g.: guide rails), please note that drilling and screwing is not allowed in the ventilator area (shaded area)!



A note on maintenance:
For hygienic reasons, please change both filters at least once a year.
The time-controlled LED display only serves as a reminder and does not take possible contaminated outside air into consideration.

Very dirty filters will also considerably impair the desired air exchange.

Autumn is an ideal time for exchanging the filters as generally air in winter is more polluted than in summer and therefore the filter would be most effective.

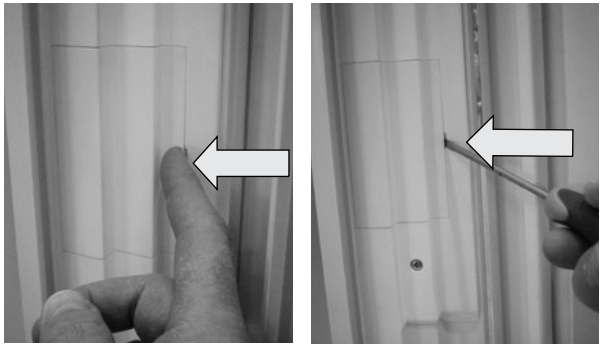
ATTENTION:
Danger of mould forming in the ventilation housing through condensation in a switched-off ventilator!

I-tec ventilation IV40 must not be used for dehumidifying construction shells or for drying out rooms with high humidity. This can lead to considerable damage to the ventilator.

Exchange air filter:

When the sash is open, the two filter lids for fresh and used air are visible.

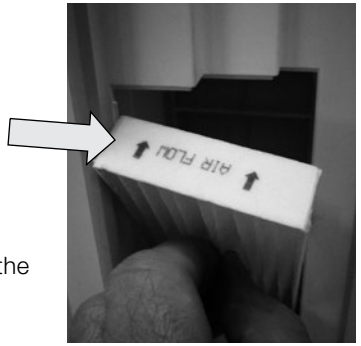
Open the filter lids either with a fingernail or carefully with a flat screw driver. Gently push towards the outside of the frame.



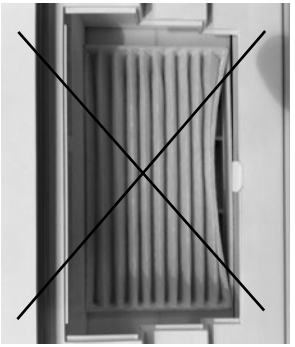
Take the filter lids off and pull the filter out.

The ventilator is not suitable for dehumidifying construction shells or for drying out rooms with high humidity.

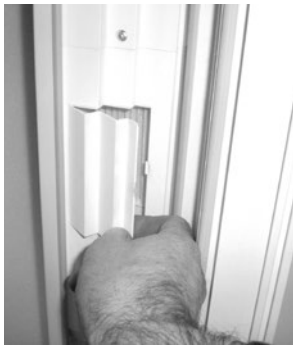
Insert the new filter in the direction of the arrow.



Ensure the filter fits properly!

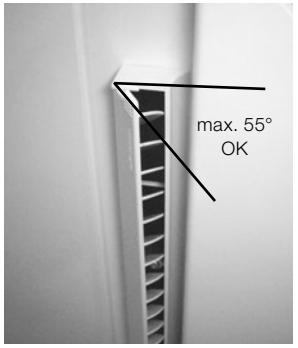


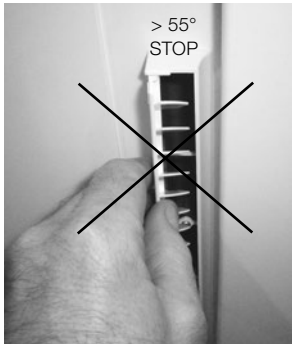
Put the filter lid back and press till it clicks into place.



If air flaps have been accidentally released.

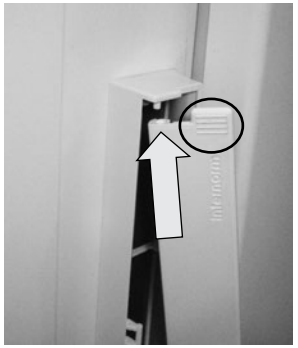
The air flaps can be opened without restriction to about 55°. If the flaps are pushed any further, they detach from the air vent frame.

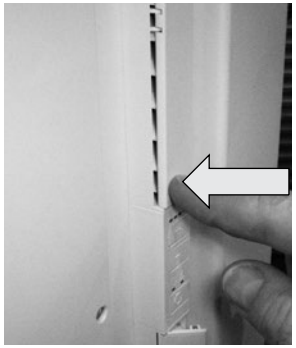




If the flap has come out, slide the flap end with the finger lug on to the bolt and close the flap.

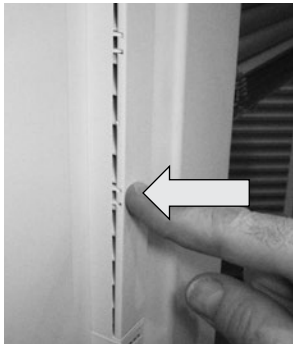
First, engage the end of the flap nearer the operation unit with a bit of pressure.

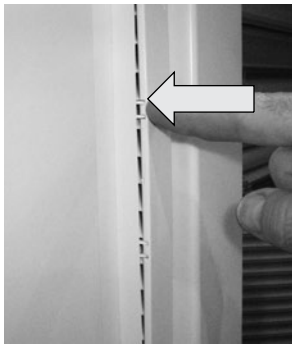




Then engage both middle bearing points with a bit of pressure.

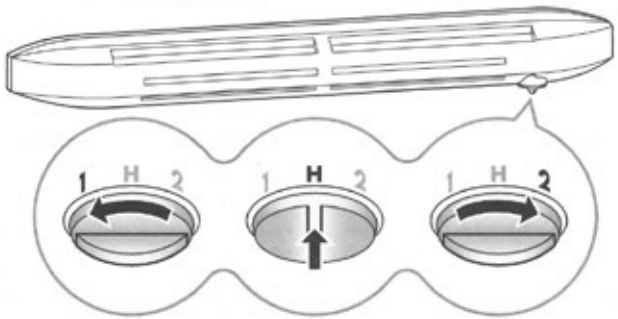
Now the air flap can be operated again as usual.





2.6. PERMANENT VENTILATOR AEROMAT MIDI HY F3

Operation



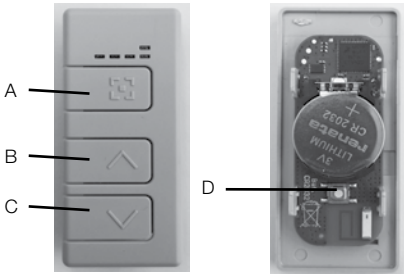
The Aeromat midi HY permanent ventilator is a humidity-controlled ventilator. Model F3 also has a control with the following setting options:

1... Closer lock while maintaining minimum ventilation
H... Control dependent on humidity
2... Lock of maximum air volume flow

2.7. I-TEC SHADING

Operation

Key description:
A: Selection key
B: Key Up
C: Key Down
D: Program key



To move the blind: press the Up ∧ or Down ∨ key briefly to move the blind to the top or bottom end position.
press the Up ∧ or Down ∨ key briefly to stop the blind.
Adjusting the slats:
press the Up ∧ or Down ∨ key longer to adjust the slats to the desired angle.
Channel selection:
press the Selection key briefly to select the desired channel.
The selected channel is displayed by constantly lit LEDs. ■ ■ ■ ■

Individual fixed position:
press the Up and Down key at the same time ∧∨, to move the blind to the programmed individual position.
An overview of all functions can be found in the enclosed programming instructions.

⚠ Intensive solar irradiation on dark façade colours or window colours can lead to temperatures of over 80°C in the gap between the panes.
To increase the life of the batteries, the electronics are equipped with overheating protection. With temperatures of about 70 to 80 degrees this will only allow the blind to move down and the slats to turn. Over 80 degrees no operation of the shading is possible until temperatures have cooled down again.

Excessive shade or darkening in the area of the photovoltaics module can cause a reduction in energy gain.

E.g.: Balcony on top, awning, narrow town lanes, etc.

As this system is based on wireless control, wireless communication and range can be affected by local circumstances.

E.g.: Stone walls, steel beams, etc.

I-tec Shading automatic functions
Heat protection mode: If this mode is active, and depending on the temperature, the blinds will automatically lower in strong sunlight conditions. If the temperature drops again, the blinds return to the open position.
Seasonal heat protection mode: If heat protection mode is only required when the temperature is warm, this function can be activated.
Should the temperature fall below a specific temperature over a period of seven days, heat protection mode is interrupted. If the temperature increases again for three consecutive days, heat protection mode is resumed.
Sunrise & sunset mode: Depending on the light intensity, the system detects sunrise and sunset.
Windows with heavy external shading may delay the blinds from moving at the actual sunrise or sunset times.

I-tec Smart Bridge
The bridge makes the Internorm I-tec Shading 3.0, I-tec Shading 1.0, radio opening sensor and I-tec fan IV-40 radio-equipped devices compatible with the 'Matter' universal smart home standard.

This gives you a free choice between using Apple Home, Google Home, Amazon Alexa, Samsung SmartThings, or even all of these in parallel.

The free Connect app is used to commission the bridge and program the devices.
The app can also be used to control the programmed devices.
Detailed instructions for the I-tec Smart Bridge can be found here:

https://matter-bridge.com/en/faq-en

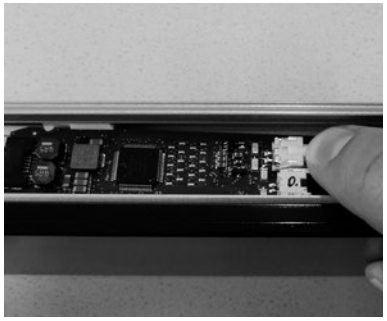
GET IT ON Google Play

Download on the App Store

Changing the battery

First, move the blind to the top. Turn the handle to open the window. Undo plastic latches/clips to open external pane.

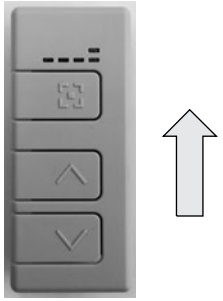
Support blind and undo top latch/ thumb turns. Remove integrated blind.



Disconnect the connector between the battery and the circuit board so that the battery can be removed.

Remove the battery from the mount. Fit the new battery and plug the connector into the circuit board. Please ensure that the cable does not come into contact with the side of the rotating shaft.

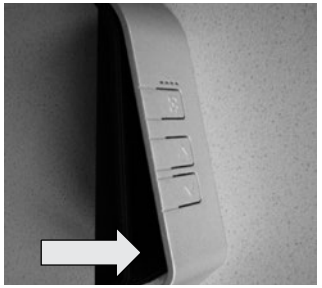
Changing the battery on the integrated operating unit



Slide open the cover of the operating unit to the top and take out the operating unit.

Remove the battery from the operating unit, insert a new one, replace the cover and slide it down.

Changing the battery on the handheld transmitter



Push the cover at the bottom to the side to open the clip connection.

Remove the old battery, insert a new one and replace the cover.

Please dispose of used batteries in an environmentally friendly manner!

I-tec Shading integrated blind recharging function

1. Plug the USB-C cable into the charging socket
2. Plug in the charger
3. Once charging is complete, disconnect the charger from the power and remove the USB-C cable.

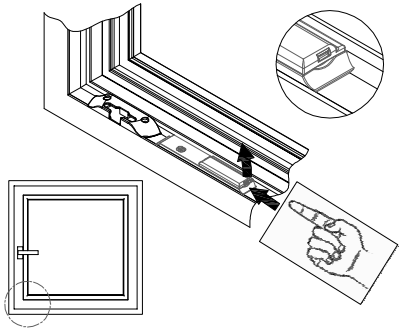
A commercially available USB charger (5 volts) can be used for charging.

2.8 OPENING CONTROL (WIRELESS)

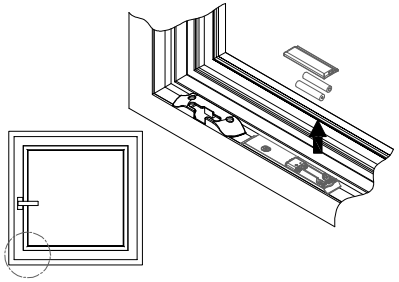
Operation

The signal (868 Mhz) is sent to the smart home system for wireless monitoring. The status of the window can be confirmed with the respective smart home system (sash locked, open, tilted and battery status). You can check which smart home systems are compatible with wireless window monitoring under I-tec Connect on our website. To connect the wireless opening monitoring, please follow the instructions of the smart home system or associated software or App.

To pair the opening control, re-insert the batteries. Two batteries (type AAAA) have already been inserted in the factory. Take off the battery cover first before removing the batteries.

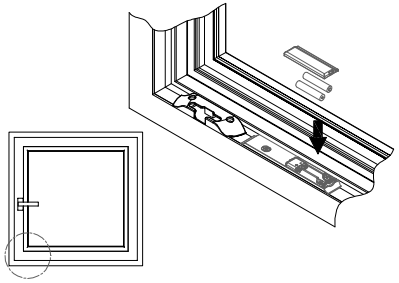


Remove the batteries and wait for 10 seconds.



Re-insert the batteries.
Watch for correct polarity!
Replace the battery cover.
The learning process can now be completed.

To reactivate the learning mode repeat the process.

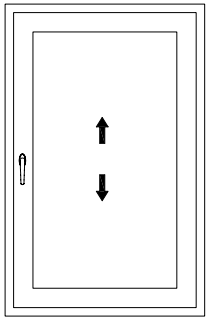


Possible adjustments on windows and window system doors

Ensure that adjustment ranges are only used to an extent that does not impair functionality!
Black or red distance wedges that were pressed into closing elements and are possibly still present, must be removed.

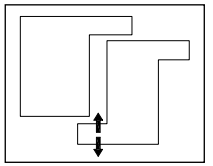
Height adjustment

Used to raise or lower the sash.

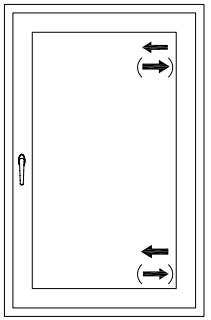


Closing pressure adjustment

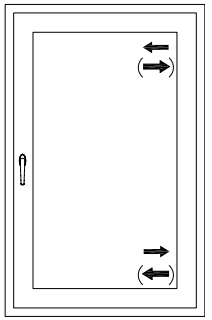
Used to regulate gasket pressure.



Side adjustments



If hinged parts are adjusted in the same direction, the sash may be adjusted horizontally.



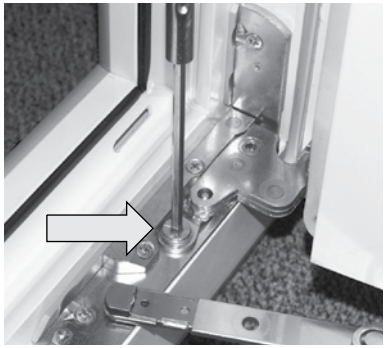
If hinges are adjusted in the opposite direction, this leads to the raising or lowering of the sash on the lock side.

3.1. CONCEALED HARDWARE

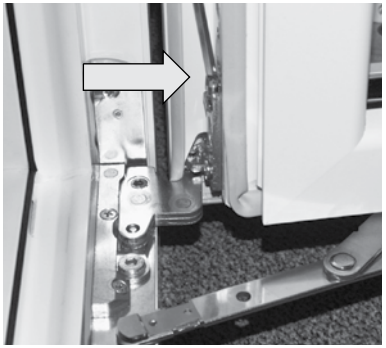
In order to prevent damage and to retain full functionality of the window, we recommend that all adjustment works are carried out by authorised personnel.

3.1.1 VV HARDWARE (CONCEALED STANDARD)

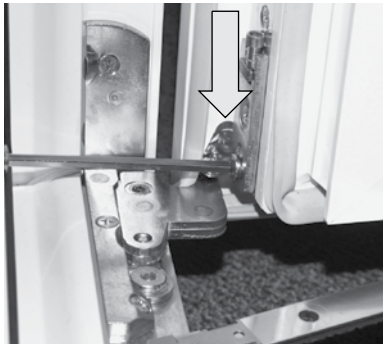
Corner / sash bearing on rectangular window (hinge side - at the bottom)



Adjust towards the hinge or the handle side with a 4 mm Allen key.

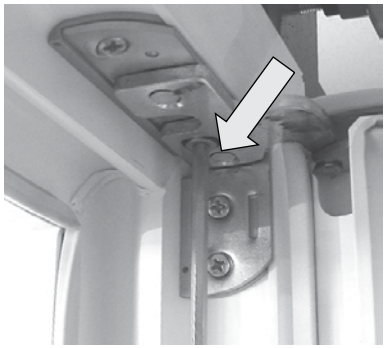


Raise or lower the sash with a 4 mm Allen key; for heavy-duty hardware use a torx T25.

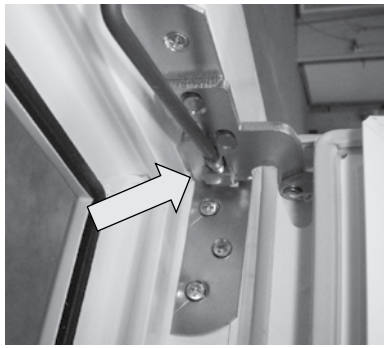


Adjust the closing pressure with a 4 mm Allen key.

Stay arm bearing / turn bearing on rectangular window (hinge side top)



Adjust towards the hinge or drive side with a 4mm Allen key.



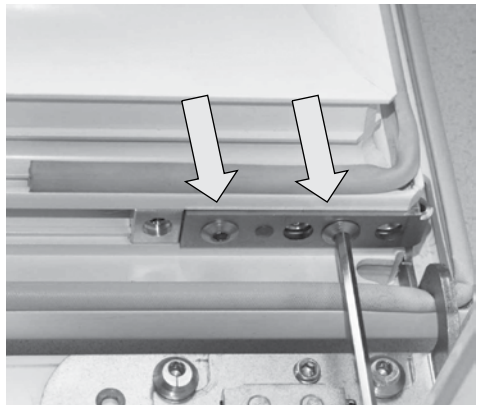
For heavy-duty hardware use a torx T25.

Pressure adjustment on locking parts
Adjust the required closing pressure with an 11 mm spanner. Adjustments can be made in steps of 22.5°.

Tilt sash

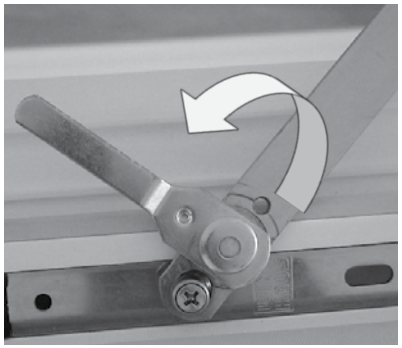
Vertical adjustment, version a

Tilt the sash. Raise or lower the sash with a 4 mm Allen key.



Vertical adjustment, version b

Open the sash to max. 90°. Raise and lower the sash alternately with a 4 mm Allen key.

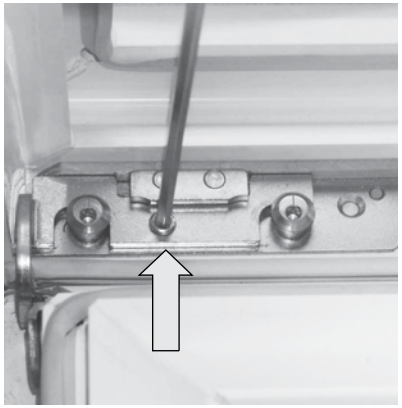


1. Horizontal adjustment

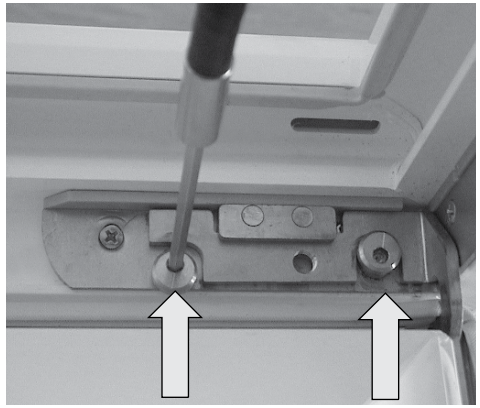
Open the rebate stay arm lock, unhinge the rebate stay arm and bring the sash into the cleaning position.

2. Horizontal adjustment

Unlock and unhinge the cleaning stay arm.
ATTENTION: the sash is now unsecured and must be secured by a second person!
Tilt the sash by no more than 90°!



Loosen the locking screw on the tilt hinge with a 4mm Allen key.



Turn the security bolt on both tilt hinges by 180° with a 5 mm Allen key.

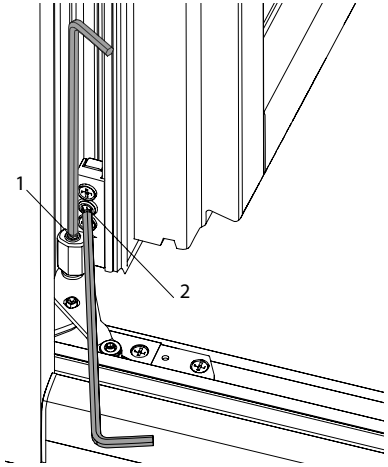
ATTENTION: The sash is no longer secured against unhinging! Danger of falling out!
Adjust the sash horizontally and perform all steps again in reverse order.

3.1.2 VV HARDWARE (CONCEALED TOPSTAR)

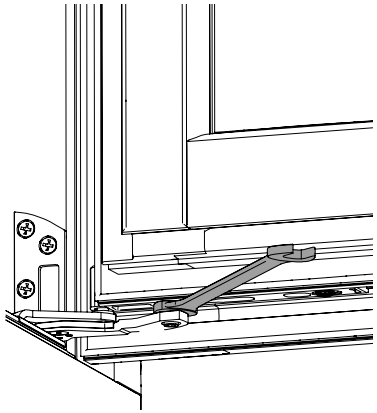
Corner / sash bearing on rectangular window (hinge side bottom)

Raising and lowering the sash with a 4 mm Allen key (1).

Adjusting the direction of the hinge or drive side with a 4 mm Allen key (2).

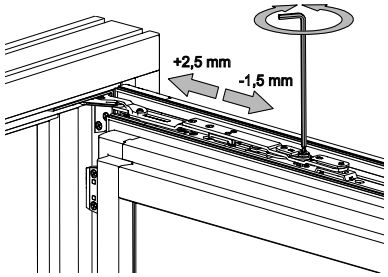


Closing pressure adjustment with a 10 mm spanner.



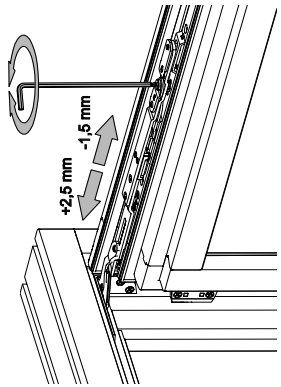
Stay arm bearing/turn bearing with rectangular window (hinge side top)

Adjustment in the direction of the hinge or drive side with a 4 mm Allen key.



Tilt the sash

Tilt the sash. Lift and raise the sash with a 4 mm Allen key.



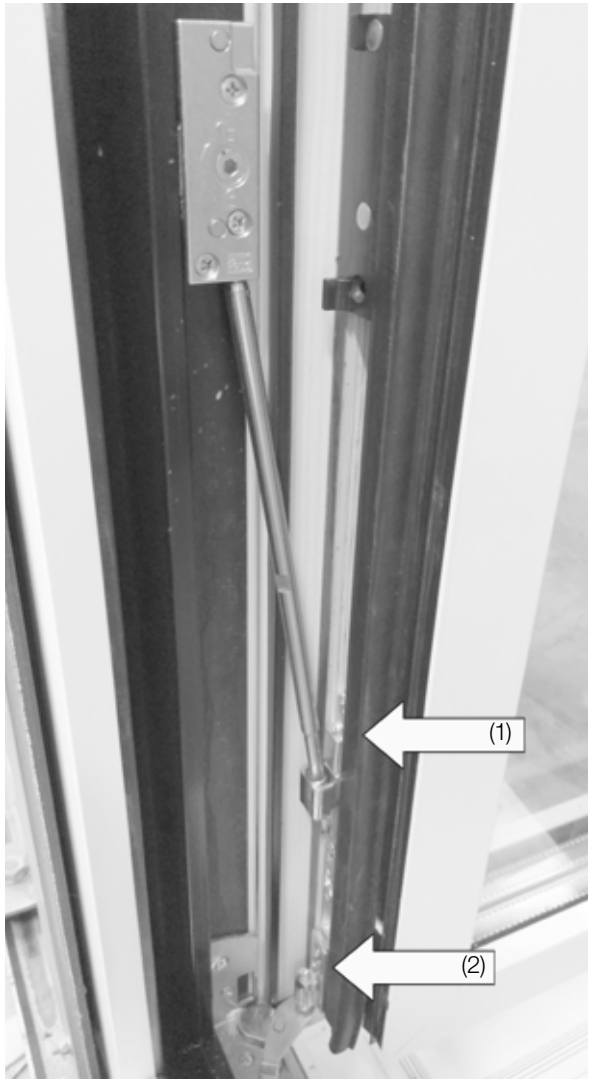
For information on adjusting the closing pressure and on hinging and unhinging of the rebate and cleaning stay arms, see chapter 3.3.3 VV hardware (concealed standard).

Adjust the sash with the sash support rod

If a sash support rod is installed, the factory setting is matched to the rod and sash bearing.

Always carry out height adjustment with both parts equal / parallel! (E.g.: sash support rod (1) 1/2 turns = sash bearing (2) 1/2 turns.

Otherwise the corner bearing bolt might not engage.

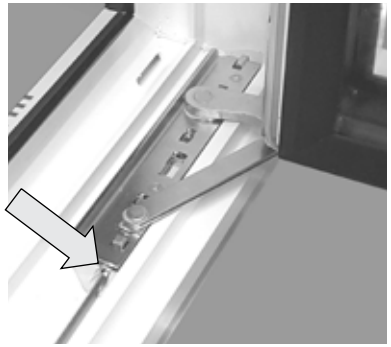


Raise and lower the sash via the sash support rod with a 4 mm Allen key.

Parallel (same number of turns as with the sash support rod!!!) raising and lowering of the sash bearing with a 4 mm Allen key.

3.1.3 I-TEC SECURE (CONCEALED FLAP LOCKING)

Corner / sash bearing on rectangular window (hinge side - at the bottom)



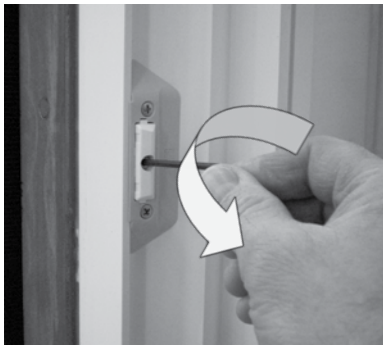
Adjust towards the hinge or drive side with a 4 mm Allen key.

Raise or lower the sash with a 4 mm Allen key.

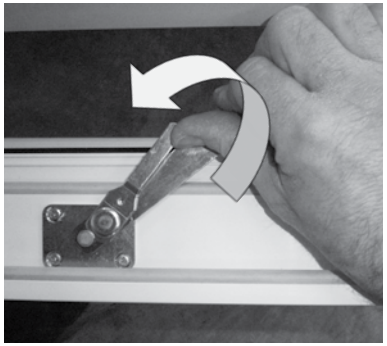
Stay arm / turn bearing on rectangular window (hinge side top)

Adjust towards the hinge or drive side with a 4 mm Allen key.

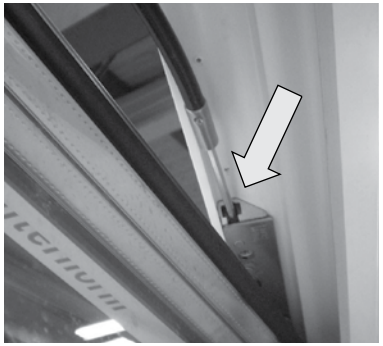
Catch at doors



Adjust the catch with a 3 mm Allen key.



Open the rebate stay arm lock, unhinge the rebate stay arm and bring the sash into the cleaning position.
Further information on unhinging the rebate stay arm can be found in point 4.2 (Cleaning/Care/Maintenance)



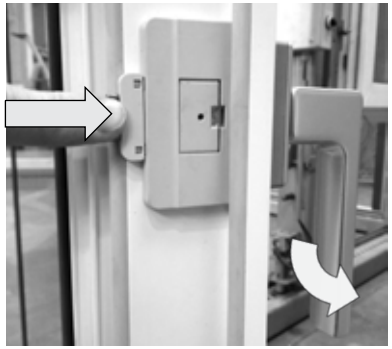
Raise and lower the sash with a 4 mm Allen key.

If the height adjusting screw cannot be accessed in the cleaning position, the cleaning stay arm must be unhinged additionally, as well.

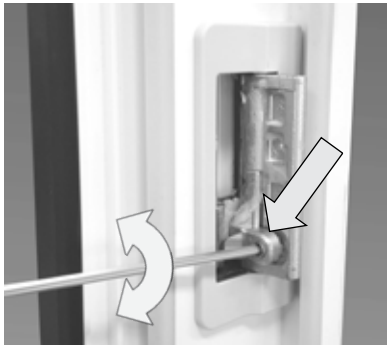
ATTENTION: The sash is now unsecured and must be secured by a second person! Tilt the sash by no more than 90°!

Open cleaning stay arm lock with flat screw driver and unhinge cleaning stay arm.
Secure sash!!

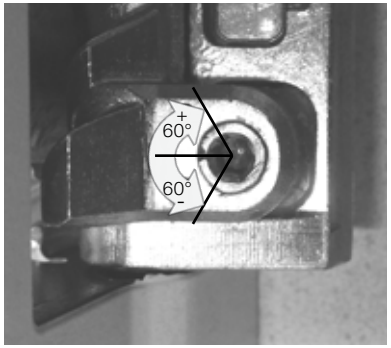
Closing pressure adjustment



Press the faulty operation safety device when the sash is open and turn the window handle into the locking position.



Adjust the closing pressure on the opened flap with a 2.5 mm Allen key.



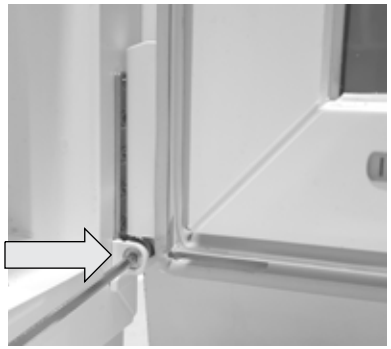
Closing pressure adjustment is possible from the middle position with a turn angle of about +/- 60° (+/- 1 mm sash adjustment)

Should locking be difficult with three-dimensional adjustable turn hinges, then reduce contact pressure on the hinge-side flaps, or increase contact pressure on the hinges. Three-dimensionally adjustable turn hinges (standard hinge).

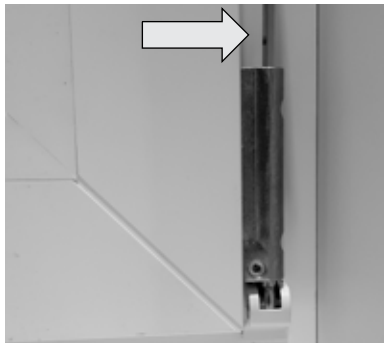
3.2. SURFACE-MOUNTED HARDWARE

It may be necessary to first remove cover caps fitted for some adjustments.

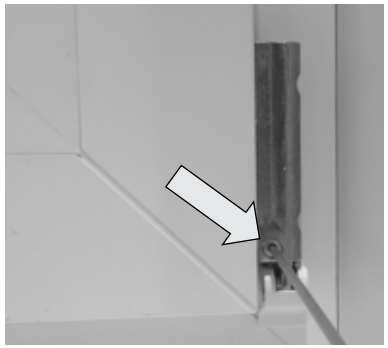
Sash and corner bearings (bottom hinge side)



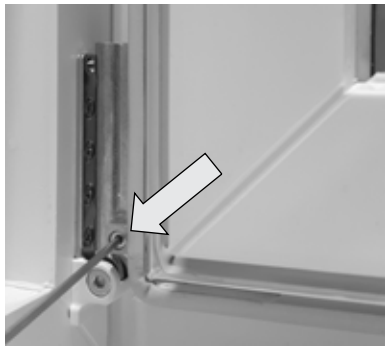
Adjust the hinge or gear mechanism side with an AF4 Allen key.



Lift and lower the sash with an AF4 Allen key.

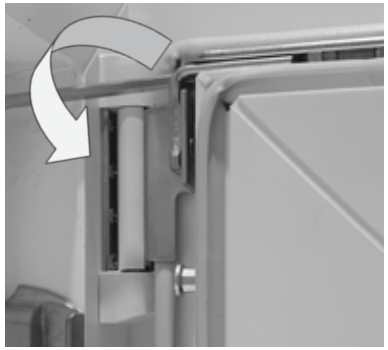


Adjust the contact pressure with an AF2.5 Allen key.



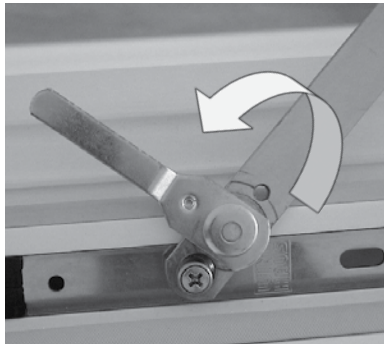
Alternatively, the contact pressure can also be adjusted with the sash open.

Stay arm bearing and turn bearing on a rectangular window (hinge side top)



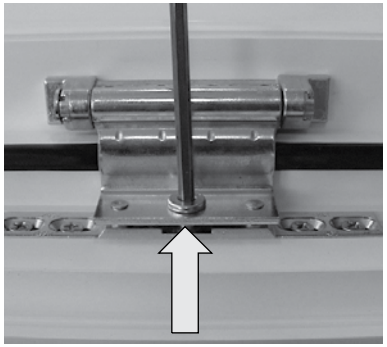
Adjust towards the hinge or drive side with a 4 mm Allen key.

Tilt sash

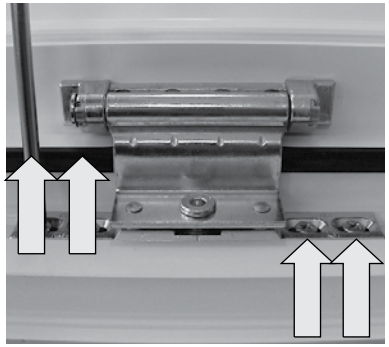


1. Vertical adjustment
Unlock the rebate stay arm and unhinge, then position the sash carefully in the window reveal.

2. Vertical adjustment
Unlock cleaning stay arm and unhinge.
ATTENTION: The sash is now unsecured and must be secured by a second person!

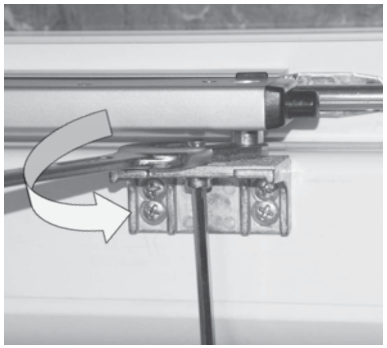


Raise and lower the sash with a 4 mm Allen key.



Horizontal adjustment
Unhinge the rebate stay arm and cleaning stay arm, as described above. Loosen the screws with a screwdriver, adjust the sash horizontally and tighten the screws again. Mount the cleaning stay arm and the rebate stay arm again and lock.

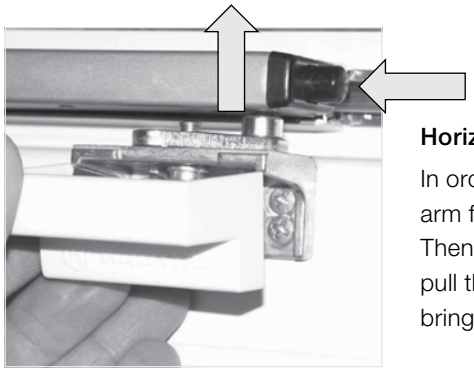
3.3. MORE HARDWARE VERSIONS



Fanlight hardware

Closing pressure adjustment
Remove the covering cap from the front. Loosen the screw at the bottom with a 4 mm Allen key, adjust the pressure with a 14 mm spanner and tighten the screw again.

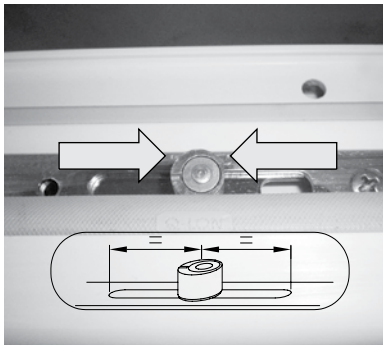
Measures to adjust sashes, as described in previous chapters.



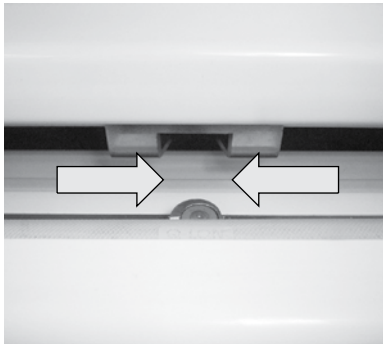
Horizontal and vertical adjustment
In order to be able to separate the stay arm from the bracket, first tilt the sash. Then press the safety knob on the stay arm, pull the stay arm upwards off the bolt and bring the sash into a secure position.

To open the sash completely for adjustment, undo the locking mechanism on the side-mounted safety stay arms.

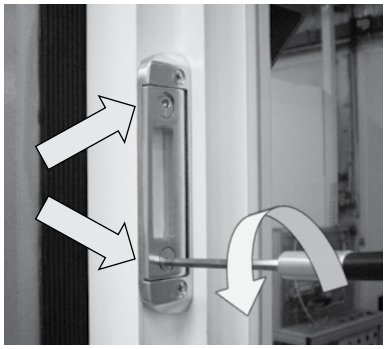
For further measures for adjusting the sash, see descriptions in previous chapters (tilt sash).



If a bolt of the fanlight hardware engages with the sash hardware, it is crucial to centre the locking bolt of the sash hardware which might have been moved to the side by accident, otherwise the sash cannot be closed.



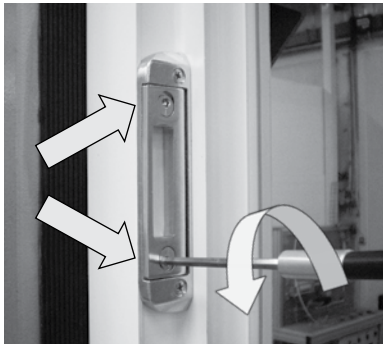
When closing the sash, the bolt of the fanlight hardware must re-engage with the locking bolt.



Multi-point lock and dead bolt lock

Closing pressure adjustment for latch:
Adjust the eccentric bolts of the closing element with a 4mm Allen key to adjust the closing pressure.

Measures for sash adjustments, as described in previous chapters.



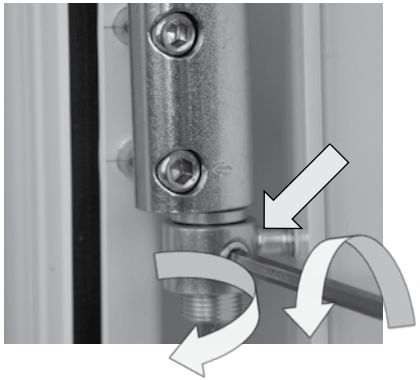
Side entrance door

Closing pressure adjustment for latch:

To adjust the closing pressure, adjust the eccentric bolts of the locking element with a 4 mm Allen key.

Closing pressure adjustment for locking bolt:

To adjust the closing pressure, adjust the eccentric bolts of the drive with a torx T15.

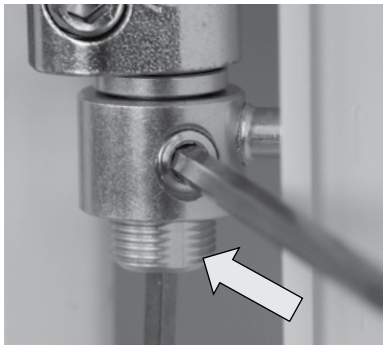


Three-dimensionally adjustable turn hinges (standard hinge)

Height adjustment

Loosen the safety screw for height adjustment with a 4 mm Allen key. This is only accessible with the sash open.

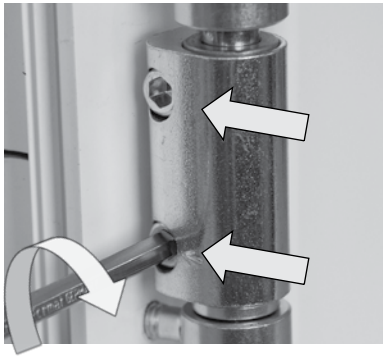
Then adjust the height adjustment screw from below with a 4 mm Allen key.



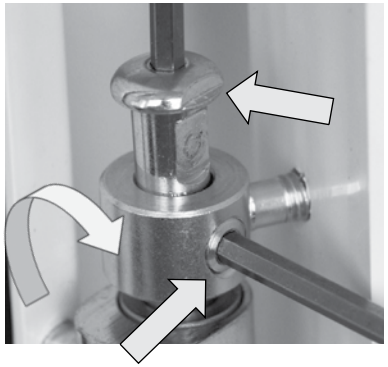
Before tightening the safety screw, ensure that it attaches to the flattened side of the height adjustment screw, otherwise the thread will be damaged.

Side adjustment

The screws for side adjustment are accessible from the reveal (soffit) side when the sash is closed and from the rebate side when the sash is open.
ATTENTION: the screw position indicated by the arrow is fixed to the centre part of the hinge. In order to avoid damage to the thread, loosen the other screw before adjustment!



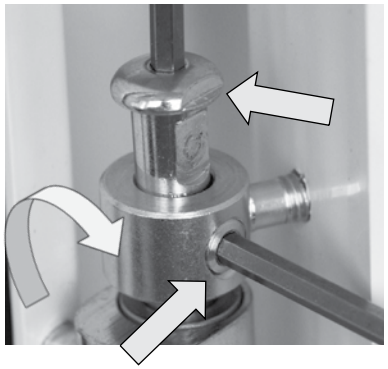
Side adjustment is carried out by adjusting both screws on the centre part of the turn hinge with a 5 mm Allen key.



Closing pressure adjustment
Loosen the pin with a 4 mm Allen key. This is only accessible when the sash is open. Pull the pin upwards and unhinge the sash. Turn parts remaining on the door frame inwards or outwards.

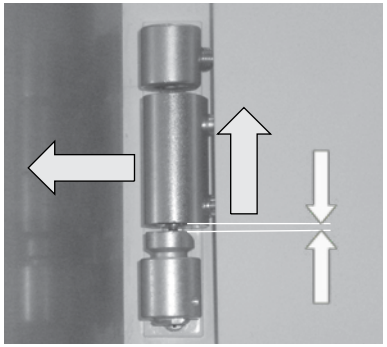
ATTENTION: When re-fitting the sash, insert the pin so that flattened side faces the safety mechanism.

Lifting hinge with barrier-free threshold



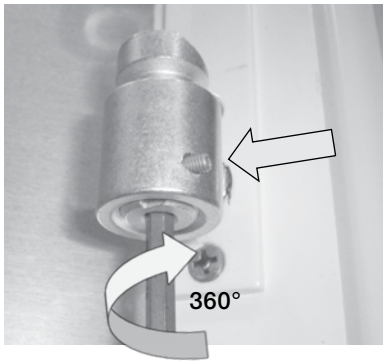
Height adjustment
The sash needs to be unhinged in order to adjust the height.
Loosen the pin safety device with a 4 mm Allen key. This is only accessible with the sash open. Pull the pin out towards the top.

ATTENTION: When re-mounting the sash, insert the pin so that the flattened side points to the side of the pin safety device.

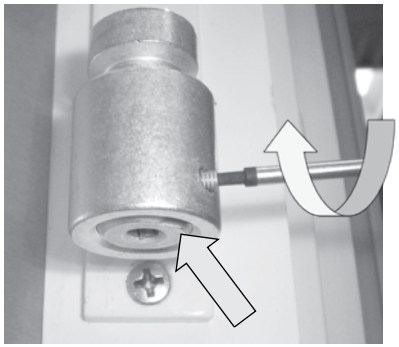


Lift the sash up until you can take it out.

ATTENTION: Do not stand the sash on its bottom gaskets! Risk of damage!



Loosen the securing screw with a 1.5 mm Allen key and turn the height adjuster through 360°.



Please note that the notch on the height adjuster lies in the position shown.
Tighten the securing screws again. This puts the height adjuster exactly in the desired position.
ATTENTION: the securing screw must not be too tight when screwing it in!

Side adjustment and closing pressure adjustment
Side and closing pressure are adjusted in the same way as standard hinges.

X-band for timber-aluminium elements

Height adjustment (+3/-2 mm)
Loosen the locking screws for adjusting the height with an SW4 Allen key. This is only possible when the sash is open.

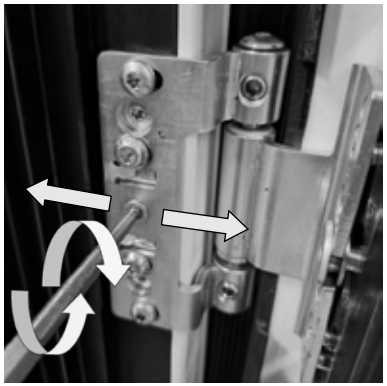
Then adjust the height adjustment screw with the SW4 Allen key from the bottom.

Before tightening the locking screws, make sure that it contacts the flattened area of the height adjustment screw, otherwise the thread will be damaged.

Side adjustment (+3/-2 mm)
Loosen the locking screws.

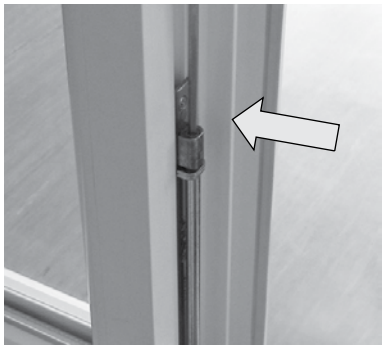
Side adjustment
Adjust the adjustment screw, if necessary, loosen the locking screws further. After adjustment, re-tighten the two locking screws on the hinge strap.

Contact pressure (1/-2 mm)
Loosen the four locking screws for the contact pressure adjustment (SW4/TX20 Allen key). This is only possible when the sash is open.



Then adjust the eccentrically mounted contact pressure adjustment screw with the SW4 Allen key.

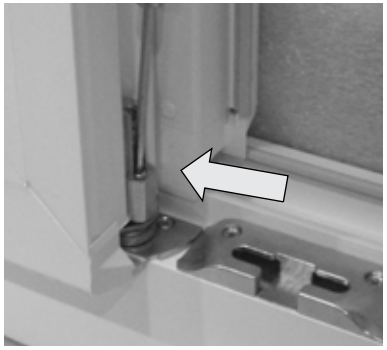
Finally, re-tighten the four loosened locking screws.



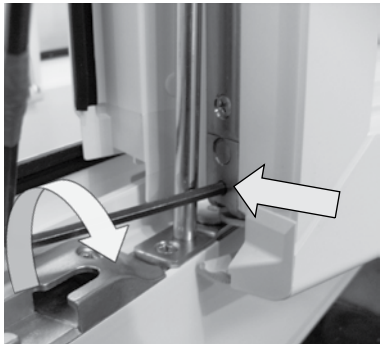
3-sash window without mullion, centre sash

Adjust the side sashes as described in previous chapters.

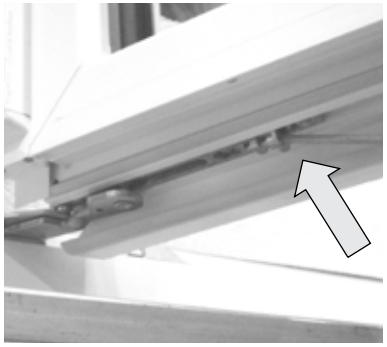
Height adjustment
First, open the side sashes. Adjustment is carried out on the support bar of the centre sash with a 4 mm Allen key.



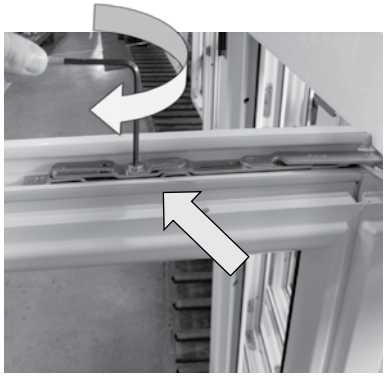
Depending on the window system, the height is adjusted directly on the sash bearing with a 4 mm Allen key.



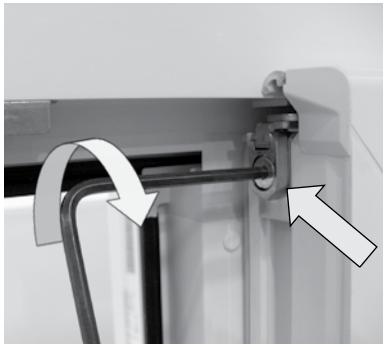
Side adjustment of corner bearing
Open the centre sash so far that the Allen screw is no longer covered by the support bar. Adjust with a 2.5 mm Allen key.



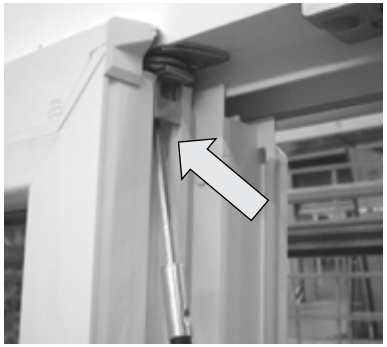
Depending on the window system, side adjustment with an opened sash is carried out horizontally at the bottom with a 4 mm Allen key.



Side adjustment of turn bearing
Open the centre sash. Adjust it with a 4 mm Allen key.



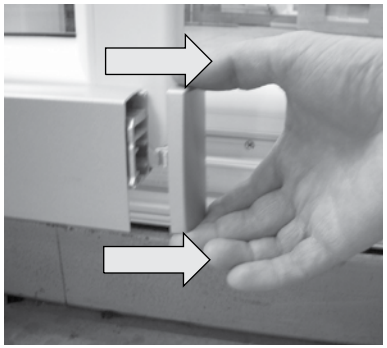
Closing pressure adjustment of turn bearing
Adjust with a 4 mm Allen key.



Depending on the window system, the closing pressure can be adjusted inside the hardware groove. Use a 4 mm Allen key with a spherical head.

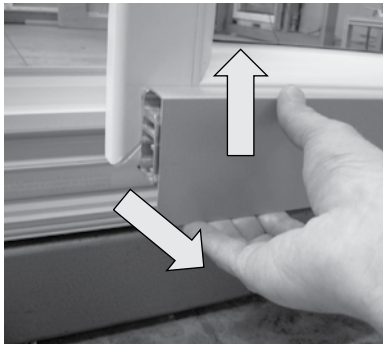
Closing pressure adjustment, corner bearing
Open the sash fully. Adjust with a 4 mm Allen key.

Depending on the window system, no closing pressure adjustment is provided on the corner bearing.

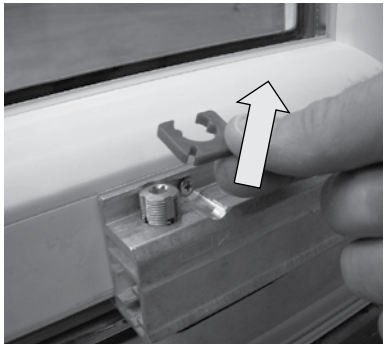


Parallel sliding window, height adjustment

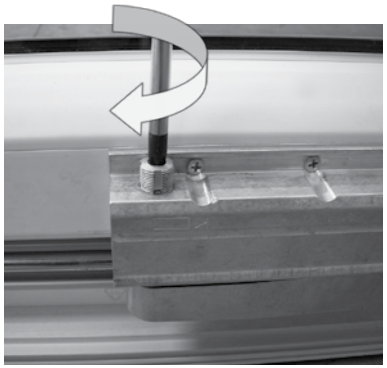
Pull the covering cap off from the runner, sideways.



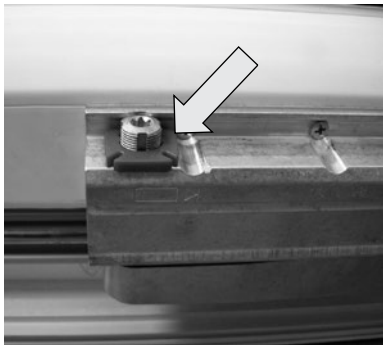
Remove the cover profile from the holding clips at the bottom and lift off towards the top.



Remove the turn stop from the height adjustment screw.

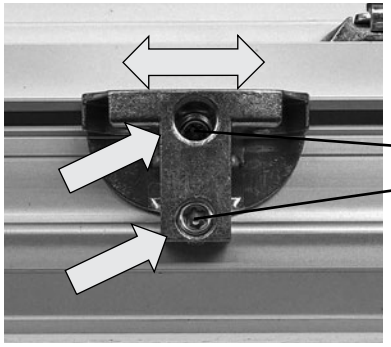


Adjust the sash with a torx T40.



Replace the turn stop.

Re-attach the cover profile and press on tightly at the bottom. Replace the side cover caps.

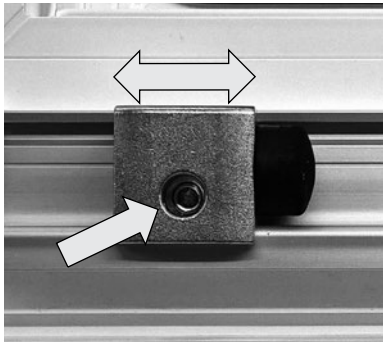


4-5 Nm

2-3 Nm

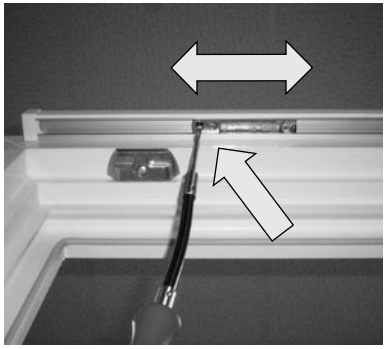
Bottom stopper sliding direction “CLOSED“

Loosen the screw with a torx T25, move the control block sideways and tighten the screw again.



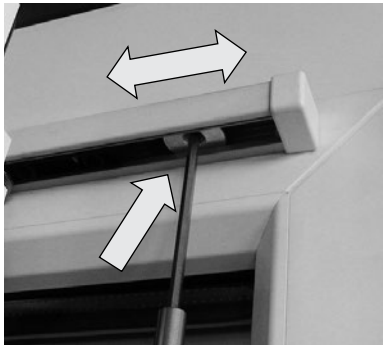
Bottom stopper sliding direction “OPEN“

Loosen the screw with a torx T25, move the buffer sideways and tighten the screw again (4 – 5 Nm).



Top stopper sliding direction “CLOSED“

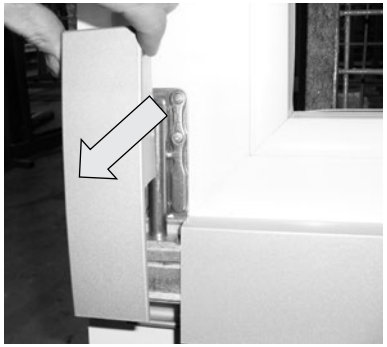
When adjusting the bottom stopper or changing the height adjustment, this might also necessitate adjusting the top stopper. Loosen the screw with a torx T25, move the stopper sideways and tighten the screws again (3 – 4 Nm).



Top stopper sliding direction “OPEN“

In addition to the running rail, also at the buffer in the guiding rail. Loosen the screw with a torx T25, slide the buffer to the side and tighten the screws again (3 – 4 Nm).

Stopper buffers serve to limit the opening and must not be used for abrupt stopping of the sliding sash!

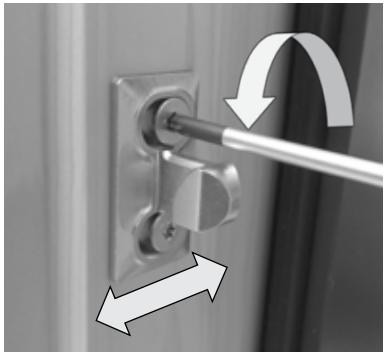


Parallel sliding door

Any adjustment possibilities are the same as for parallel sliding windows.

Height adjustment

Pull the cover cap off towards the front. Remove the cover profile and adjust the height as described under “parallel sliding windows“.

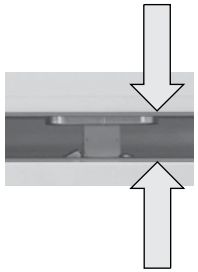


Lift & slide door

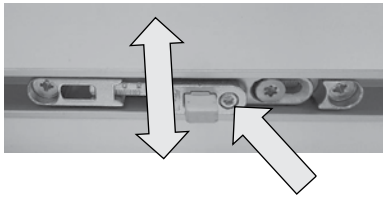
Side adjustment dead bolts
To avoid possible collisions of the dead bolts with the drive, side adjustment of the dead bolts is possible.
(only applies to schemes A and C)

To do this, loosen both screws, slide the dead bolt parallel and tighten the screws again.

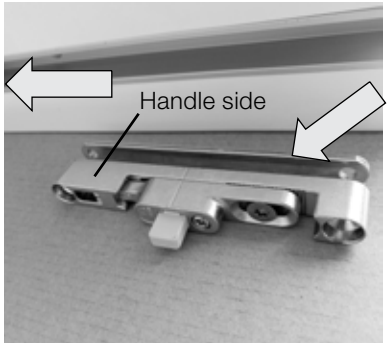
Comfort Close (optional)
The Comfort Close slows down the sash in the closing direction approx. 100 mm before the end position and then gently pulls it towards the closed position. The force required to open the sash increases slightly (45 N).



The gap between the sliding sash (lifted) and the frame can vary due to various influences (assembly, tolerances, wear and tear, ceiling dropping). The height adjustment of the Comfort Close must be aligned accordingly.



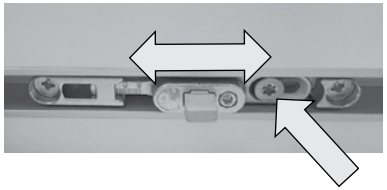
Height adjustment
Height adjustment with Torx 15
Adjustment screw flush on delivery.
For a maximum setting of +3 mm, the screw is unscrewed by 6 rotations.



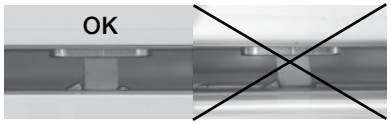
If the adjustment track is no longer sufficient for the Comfort Close to function effectively due to the gap size, the 3-mm thick packer can also be removed. To do this, unscrew Comfort Close from frame and reassemble it in the same mounting position.

If installed incorrectly, the Comfort Close could be damaged!

Distance between sliding sash and frame (sash elevated)	Packer frame element 3 mm	Adjustment of height of slider Frame element (Torx 15)
4 mm	remove	0 mm (delivered state)
5 mm	remove	1 mm (= 2 turns)
6 mm (= theoretical distance for HS330)	remove	2 mm (= 4 turns)
7 mm (= theoretical distance for KS430)	built-in	0 mm (delivered state)
8 mm	built-in	1 mm (= 2 turns)
9 mm	built-in	2 mm (= 4 turns)
10 mm	built-in	3 mm (= 6 turns)



Side adjustment
Side adjustment with Torx 25. Loosen the screw, move the functional part and tighten the screw again (max. 3 Nm).



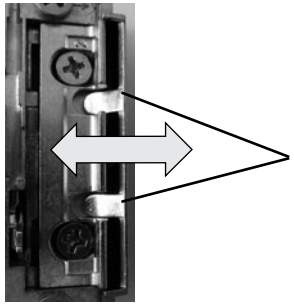
To do this, first close/lock the sash and unlock it again (lift the sash).The sliding sash should now easily fit within frame. Carry out visual inspection.

3.4. FRONT ENTRANCE DOORS

Adjustments on the lock side apply to aluminium and timber/aluminium front entrance doors.

Adjustment of the latch locking part also applies to:

- AT piece
- Electric door opener (ETÖ)
- Mechanical day latch (MTOE)



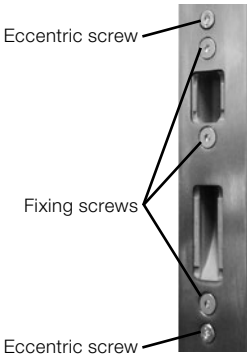
It controls the closing pressure from the lock side for dead bolt locks and multi-point locks.

1. Remove both fixing screws.

2. Adjust the latch locking part (adjustment via raster).

3. Replace the fixing screws.

Lock casing for multi-point locking types MV, MVB, MVC, EVC and EVE
Regulates the contact pressure on the lock side



To adjust, first loosen the 3 fixing screws. Then make the adjustment using the two eccentric screws.
The position is indicated by the marked point on the screws.
Then clamp with the fixing screws.

Lock cases for bolt / hook bolt for multi-point locking types MVAM and EE
Fixed lock cases - NO adjustments can be made.

Lock cases are designed in such a way that the swivel hooks can automatically and securely retract and the bolts independently adjust the contact pressure.

Additional catch for aluminium front entrance doors
With this part, the hold for the door sash can be adjusted, if it is not fixed through the lock latch:

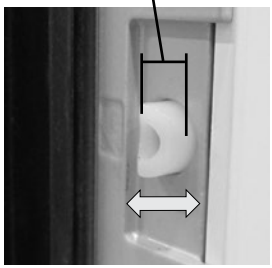
- Electric door opener (ETÖ) in unlocking position
- Mechanical day latch (MTOE) in unlocking position
- Latch retracted (manual or electrical)
- Latch fixed in retracted position.

The catch peg is installed on the striking bead (frame side);
the counterpart where it engages is installed on the lock flying mullion.

Adjusting:
To adjust the torque: use a small slotted screw driver and adjust on the protrusion of the catch peg which is spring-operated.

Catch peg further out: larger torque
Catch peg further in: smaller torque

Adjustment screw for catch peg



Counter part on lock flying mullion

The additional catch in timber/aluminium front entrance doors cannot be adjusted.

Multi-point locks EVE and EVC (fully motorised)
The following types of operation can be set:

- Night operation (basic setting):
  If the door is closed, the locking process occurs automatically
- Day operation:
  No automatic locking occurs; the door is only kept closed via the lock latch.
- Conversion:
  electrically via terminals 0 – 1 (E-switch on customer‘s premises) or via the button on the lock mullion.

Day/night button / LED button for motor adjustments
This button has 2 basic functions:

a) For fast switching between day (white) and night operation (blue) by pressing the LED-button very briefly (1 sec.)
b) To change motor adjustments
   Pressing the LED-button for longer (8 sec.) brings you to a menu where different settings can be changed:

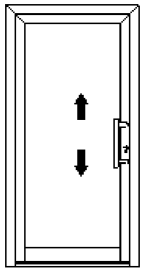
- Volume of motor hum
- Status output of feedback contact (terminal 7 - “Alarm systems“)
- Day/night/detailed settings (interaction between LED-button and electrical terminal 0-1)
- System services (reset to factory settings, sensor sensitivity,..)

Menu options and adjustment values are indicated by different colours of the LEDs. Usually no changes need to be made from the factory setting. However, if other parameter values are required, adjust them according to the GENIUS (Type 2.2 B) operating instructions:
http://downloads.siegenia.com/de/tuersysteme/genius2.2

Magnetic sensor / status LED
Serves to recognise a closed door sash position (=start of locking process).
In addition, the status display for locking occurs according to the traffic light principle:
green: all OK
flashing green: all OK, one electrical opening impulse currently present
yellow or red: electrical or mechanical fault - reason or solution see link shown above

Available adjustments for door hinges
Ensure that the adjustment ranges are only used to an extent that does not impair the functionality of the door!

Please note, especially with possible hinge safety mechanism
➔ “risk of tension“



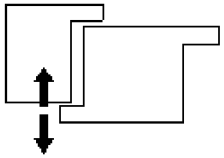
Height adjustment

Used to raise or lower the door sash.

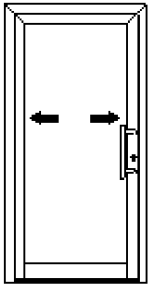
Is carried out in such a way that the weight of the door sash is evenly distributed over all hinges or washers.

Closing pressure adjustment

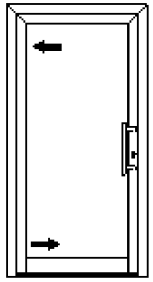
Used to regulate how far the sash projects and therefore, adjusts the pressure placed on gaskets in the hinge area.



Side adjustment



If all hinges are adjusted in the same direction, the rebate clearance (distance from lock mullion to locking plate) can be regulated.



If the hinges are adjusted in opposite directions, this leads to the raising or lowering of the door sash on the lock side.

Adjustment process for aluminium front entrance doors

Surface-mounted door hinge on aluminium entrance doors
All adjustments must be carried out with a 4mm Allen key!

When adjusting three hinges, the centre hinge must be adjusted in such a way that no tension is created!

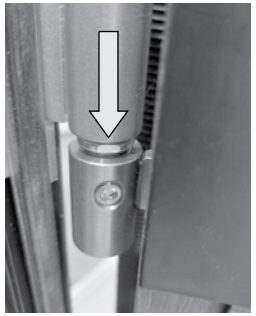
Process: remove the axle bolt of the centre hinge. Adjust the door sash with the top and bottom hinges. Adjust the centre hinge so that the axle bolt can be moved back in without applying force!

Height adjustment (–2/+3 mm)

Stainless-steel hinge
(without cover caps)

Loosen fixing screw.

Bring the height plate to the desired position with a turn to the right or left.



When fastening, the milled surface of the height plate must be parallel to the clamping screw.

Adjust the closing pressure (–1/+3 mm)

Remove the UPVC cover.

Loosen both locking screws.

Set contact pressure so that the gasket does not have too much pressure in the hinge area (sash overlap with AT500: 14 – 15 mm,
with AT535: 16.5 – 17.5 mm
with AT540: 0 – 1 mm).

Counter both locking screws.

Re-attach UPVC cover.

Side adjustments (+/–2 mm)

Loosen both tension screws as far as possible.

Carry out the adjustment, ensure that there is sufficient distance between lock forend and locking plate: approx. 4 mm.

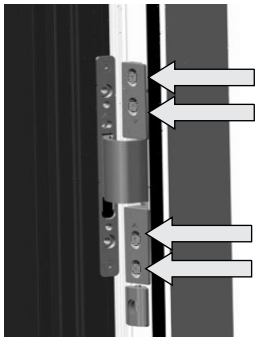
Counter both locking screws.

Re-attach UPVC cover.

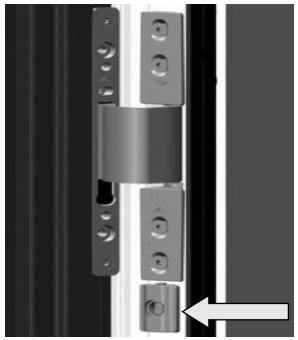
For hinges that have the 3-part UPVC hinge cover caps (black, white, etc.), the lower cap parts must be removed to adjust the height.

Adjustment process - concealed door hinge on aluminium front entrance doors

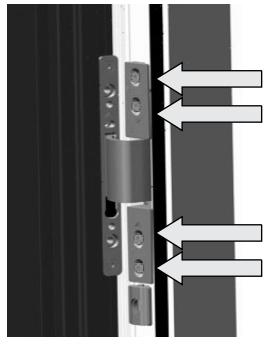
To adjust the sash height (+ 4 mm/– 2 mm)



1. Loosen the countersunk screws (arrows) lightly on the frame on all hinges.
Tool:
Torx 30 screwdriver

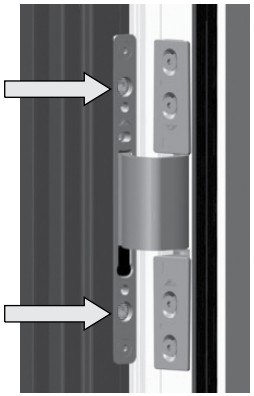


2. Bring the sash to the required height via the threaded pin (arrow)
Tool:
4 mm Allen key



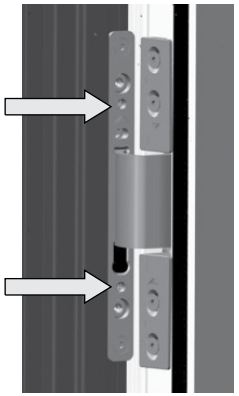
3. Tighten countersunk screws (arrows) again on frame on all hinges.

To adjust the closing pressure (+/– 1.2 mm)



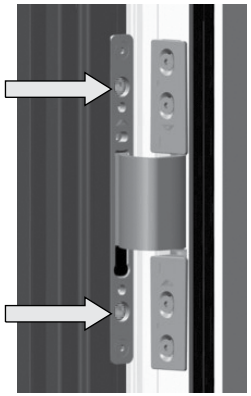
1. Loosen the countersunk screws (arrows) lightly on the sash hinge.

Tool:
6 mm Allen key with short arm



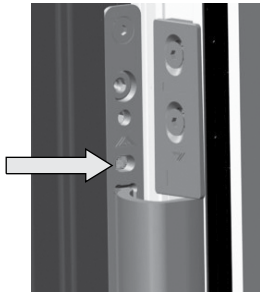
2. Adjust the required closing pressure via the eccentric screw (arrow).

Tool:
6 mm Allen key with short arm



3. Tighten countersunk screws (arrows) again on the sash hinge.

Side adjustments (+3/–2.3 mm)



1. Turn screw (arrow) into respective direction for adjusting function clearance (rebate clearance).
Tool: 6 mm Allen key with short arm

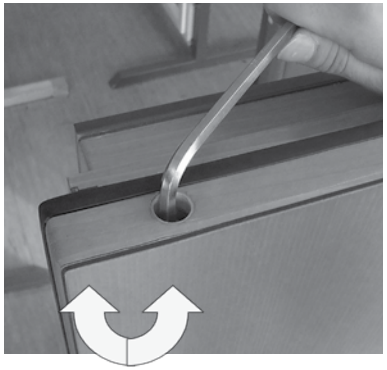
Adjust the middle hinge of three hinges in such a way that no tensions occur.

Specifically for timber/aluminium doors:

Adjust the bottom and top closing pressure and correct any warping on the lock side

In the outer rebate area (overlap) on the lock side, there is a tension rod which can be used to correct warping in the door leaf of up to 4 mm in both directions.

1. Remove the cover cap.



2. Adjust the tension rod with a 6 mm Allen key. By turning clockwise, the rod is tensioned and the sash ends are bent towards the inside, by turning anti-clockwise, the rod is lengthened and the sash ends are bent towards the outside.

ATTENTION: do not exceed a torque of 35 Nm! Danger of damage to door leaf.

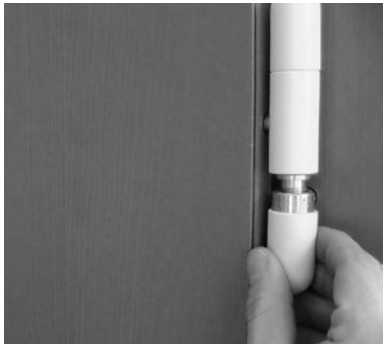
3. Replace the cover cap.

Adjustment process for a door hinge for timber/aluminium front entrance doors with exposed hinges

Carry out all adjustments with a 4 mm Allen key!

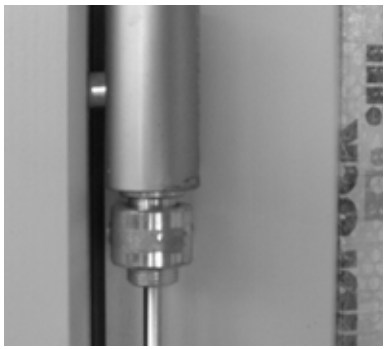
Adjust the centre hinge in such a way that no tension is created!

Height adjustment (–2/+3 mm)

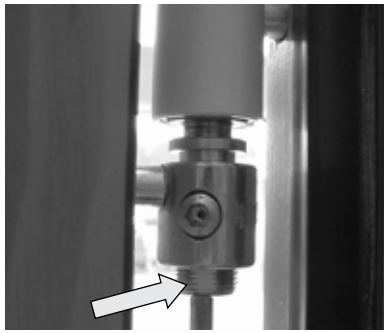


Remove the bottom cover caps.

Loosen the fixing screws.



Bring the adjustable support to the desired height by turning to the left or to the right and correct the other hinges too.



When attaching, always use the milled surface of the adjustable support!

Closing pressure and side adjustment

On rare occasions, side adjustments or adjustments to the closing pressure of a sash or the gaskets are necessary. Unhinging the door sash is necessary.

To unhinge the door sash

1. Loosen the fixing screw for the hinge bolts (top Allen screw) on all hinges.

2. Press the hinge bolt out from underneath with a 4mm Allen key. Start at the bottom hinge. Unhinge the door sash and put aside.

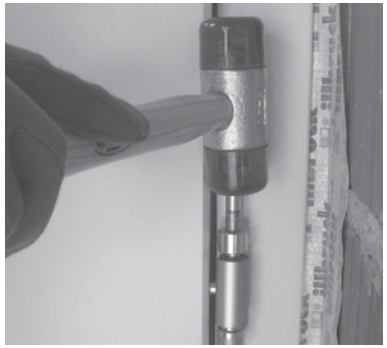
Be careful when lifting! The element may weigh over 100 kg possible!

3. Put the unhinged door sash carefully on to a pressure-resistant, soft surface (e.g. polystyrene from packaging) to avoid damage!
When leaning it, ensure it stands securely and also use some padding towards e.g. a wall!

To adjust the closing pressure

To change the closing pressure of the door sash on the hinge side, the hinge parts on the frame are adjusted when turning. Ensure that hinges are adjusted evenly, otherwise bolts will be subjected to tension and high wear and tear and creaking sounds will result.
Both hinge parts always need to be turned a full 360° inwards or outwards, otherwise they will be wrongly positioned.

Side adjustment
To carry out side adjustments to the door sash, the hinge parts of the sash must be turned inwards or outwards with a screwdriver or similar. This moves the position of the door sash to the side. Ensure that hinges are adjusted evenly, otherwise the bolts will be subjected to tension and high wear and tear and creaking sounds will result.



Mounting the door sash
Bring the door sash into position and re-insert hinge bolts at the bottom, top and centre. It is best to begin with the bottom hinge bolt, then insert the top and the centre one tension-free.

When inserting the hinge bolt, ensure correct orientation. The flattened part must be in the area of the Allen screw.

Tighten all Allen screws again and attach the cover caps.

Adjustment process for door hinges in timber/aluminium front entrance doors with concealed hinges
All adjustments must be carried out with a torx T20 or a 4 mm Allen key!

Adjust the centre hinge in such a way that no tension is created! The door panel does not need to be unhinged for adjustments!

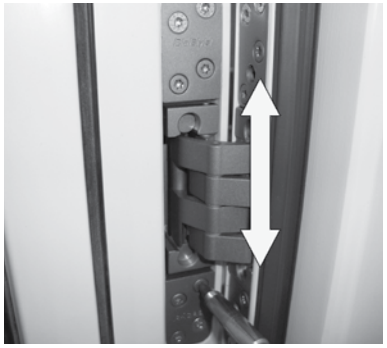
Mount door panel

Fixing screws in unhinged delivered sashes are screwed into the frame; remove these.

Bring the door hinges into a 90° position and lift the sash to the frame.
Attention - heavy elements!

Slide the hinges without tensioning into retaining pockets and fasten each hinge for the moment with a fixing screw.

Use the remaining three fixing screws for each hinge.



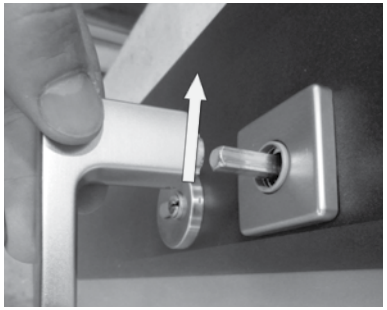
Height adjustment
Frame parts of hinges at the back are equipped with a tooth system. If all fixing screws (4 per hinge) are loosened far enough with a torx T20, the height of the sash can be adjusted. Put the door at the desired height and fasten all the fixing screws. Do not subject hinges to tension, to avoid creaking sounds and heavy wear and tear.

To adjust the closing pressure
If the fixing screws (4 per hinge) are only loosened slightly, the closing pressure on the hinge side of the sash can be increased or decreased on the height adjusting tooth system.
Fully loosen the screws on the centre hinge and carry out the desired adjustments on the top and bottom hinges. Tighten all the fixing screws again.

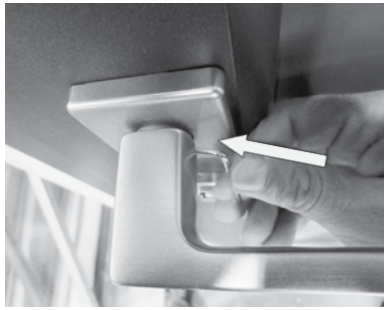
Side adjustment
To adapt the gap size between the frame and the sash, adjust the hinge with a 4 mm Allen key. No fixing screws need to be loosened for this. Two screws must be readjusted for each hinge. Operate the screws alternately to avoid tensioning the hinges.

Mounting and dismounting lever handles (for aluminium and timber/aluminium front entrance doors)

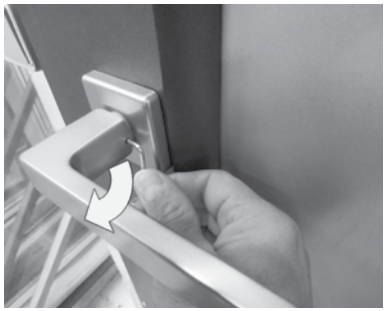
Lever handle sets PD
The new generation of Hoppe handle sets is attached to the square handle pin using an integrated clamping system (Hoppe quick-release pin).



To attach the lever handle:
Put the cover plate in place and slide the lever on to the spindle until it sits tightly. The lever handle is kept in place via a preloaded metal spring on the spindle.



To remove the lever handle:
1. Insert the special tool supplied fully into the side hole at a slight angle to the cover plate.



2. Turn the special tool by about 90° to loosen the clamping system.

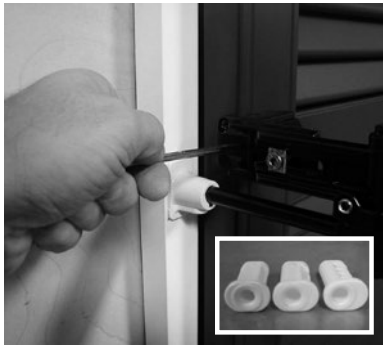
3. Pull the lever off the spindle.

The protection sets (PSD.., PZD.., PSK.., PZK..) have also been converted to the quick-release system. Disassembly of the handle also with an Allen key.

3.5. ADJUSTMENT POSSIBILITIES, WINDOW SHUTTER

Adjustment of the reveal (soffit) depth

The reveal depth is adjusted via the hinge for a reveal depth of 60 - 230 mm.



Side adjustment
(mounting of window shutters)

Side adjustment is carried out via hinge casings 1.5 and 3 mm. Side adjustment is only possible via the spindle for a reveal depth of 190 - 230 mm.

Adjustment of the hinge stabiliser

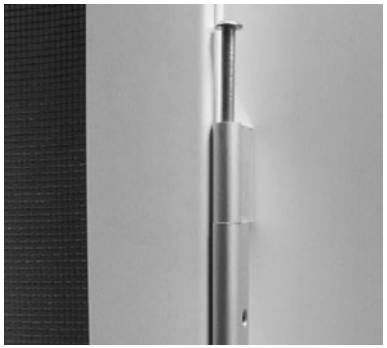
The adjustment screw must be used to press the window shutter against the stopper buffer/wall, then the clamping screw at the top must be tightened.

3.6. INSECT PROTECTION

Sliding frame

1. To mount, press the sliding frame so far upwards into the top sliding rail, until the sliding frame can be positioned into the lower sliding rail.

2. Then push the fixing part up and attach it with screws on both sides.



Turn frame

Before unhinging, lift the pins and remove them, then the sash can be taken off towards the front.

Internorm products are low-maintenance and easy to clean and care for. Regular maintenance conserves value and extends the life span of windows and doors.
In Austria, these necessary measures are documented in the ÖNORM B 5305.
This ÖNORM contains criteria for assessing the state of a window as well as details and specifications concerning the implementation and instigation of maintenance.
If you adhere to the following cleaning, care and maintenance tips, you will be able to enjoy your Internorm products for a long time. In order to retain an immaculate surface, smooth-running hardware and well-closing gaskets, please take note of the following care tips.

4.1. GENERAL INFORMATION

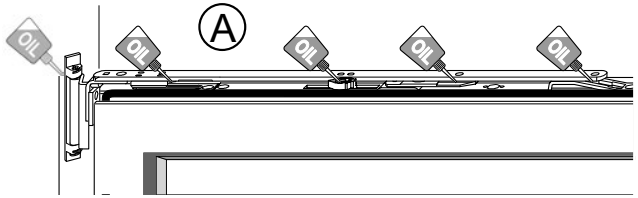
Do not use cleaning products of unknown composition. If you are uncertain about the effects of a cleaning agent, test it on an inconspicuous, concealed area.
Please be aware that cleaning agents which cause surprising cleaning results without any special effort might often lead to long term damages.
Outside surfaces are not only exposed to the weather, but also to the increased effects of smoke, industrial fumes and aggressive flying dust. Deposits of these substances combined with rain or condensation can impair surfaces and alter the decorative appearance. We recommend regular cleaning of the outside surfaces, depending on the degree of staining, in order to prevent long term settling of deposits. The sooner stains are removed from the surface, the easier it will be to clean them.

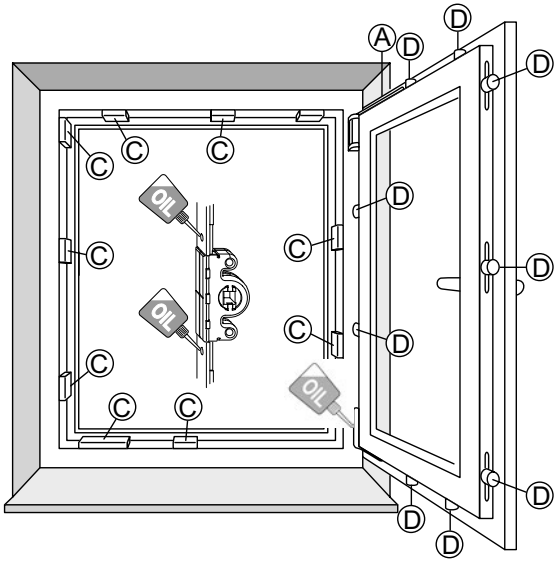
Micro-fibre cloths contain substances and fibre parts which can destroy the surfaces of glass, profiles and gaskets. Micro-fibre cloths are therefore unsuitable for cleaning windows.

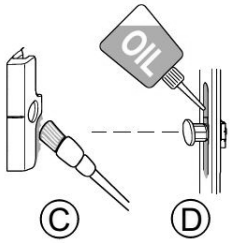
4.2. HARDWARE

All hardware parts must be checked at least once a year for tight fitting and wear and tear. If necessary, fixing screws must be tightened or faulty parts replaced by authorised personnel.
Furthermore, all gliding parts and moveable hardware parts must be lubricated once a year (acid and resin-free grease or oil). Very frequently operated window or door elements must be lubricated more often!
Non-observance of these instructions can cause damage to property or injury to persons.
Hardware should only come in contact with those care and cleaning agents that do not impede corrosion protection of hardware parts.

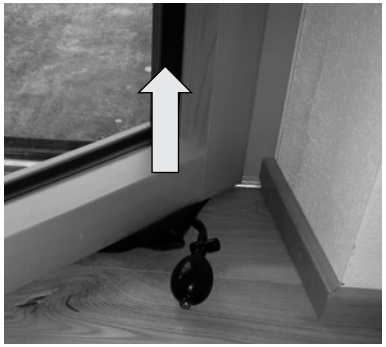
Lubricating points for windows and window system doors:







Lubricating the sash bearing of fully concealed hardware:



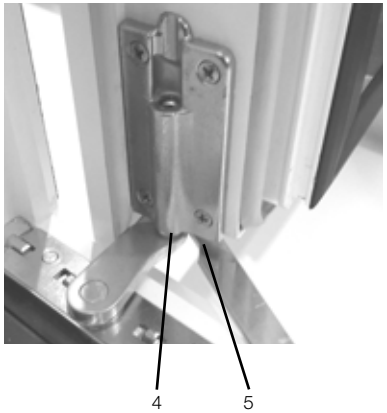
Lift the opened sash e.g. with an air wedge packer until the lower bearing point bears no weight.

Lubricate the bearing point between the sliding surfaces with high-quality lubricant (e.g. Teflon oil).

Maintenance of I-tec Secure

All joints of bearing parts, top and bottom, must be lubricated.

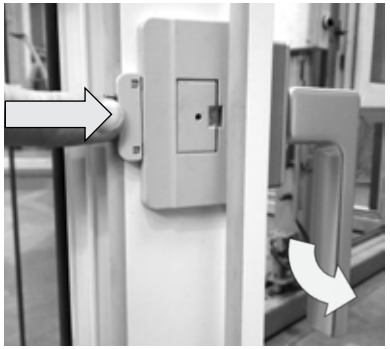
Corner bearing bottom



Bottom sash bearing

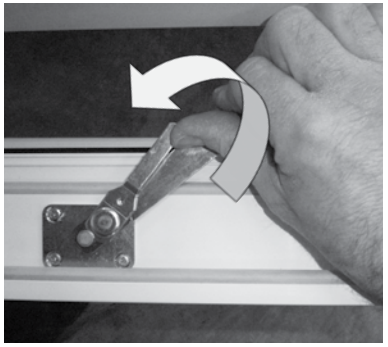
Stay arm, turn bearing top

If necessary, lubricate sliding areas of locking flaps.



Open the sashes, press the faulty safety device on the gear mechanism, and move the handle in the locking position.
This will open the locking flaps.

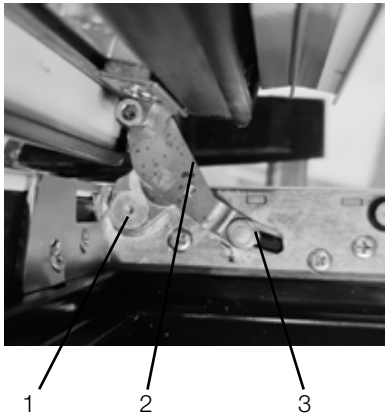
If necessary, lubricate the sliding areas.

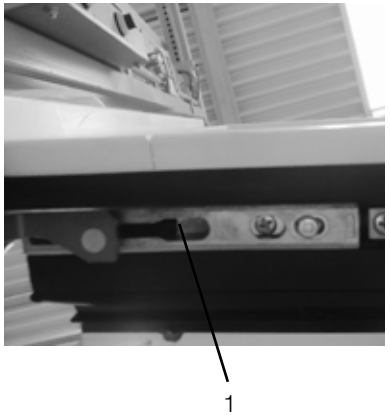


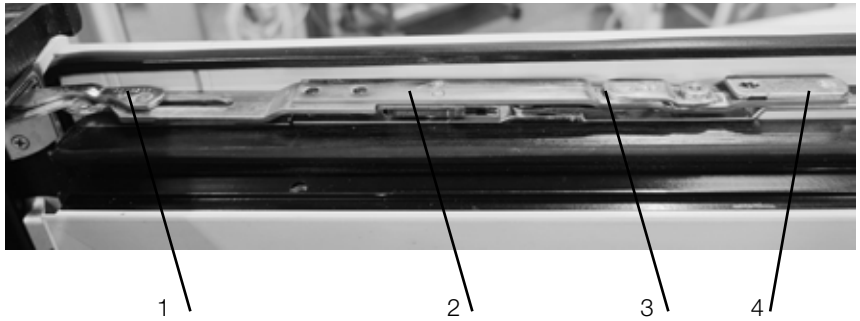
Very low sashes can result in tension of the rebate stay arm on the sash-side mounting bolt, making it difficult to unlock when the sash is fully tilted. We therefore recommend only tilting the sash slightly and at this stage unlocking or re-hinging the rebate stay arm.

Maintenance of the concealed hardware (Top-Star)

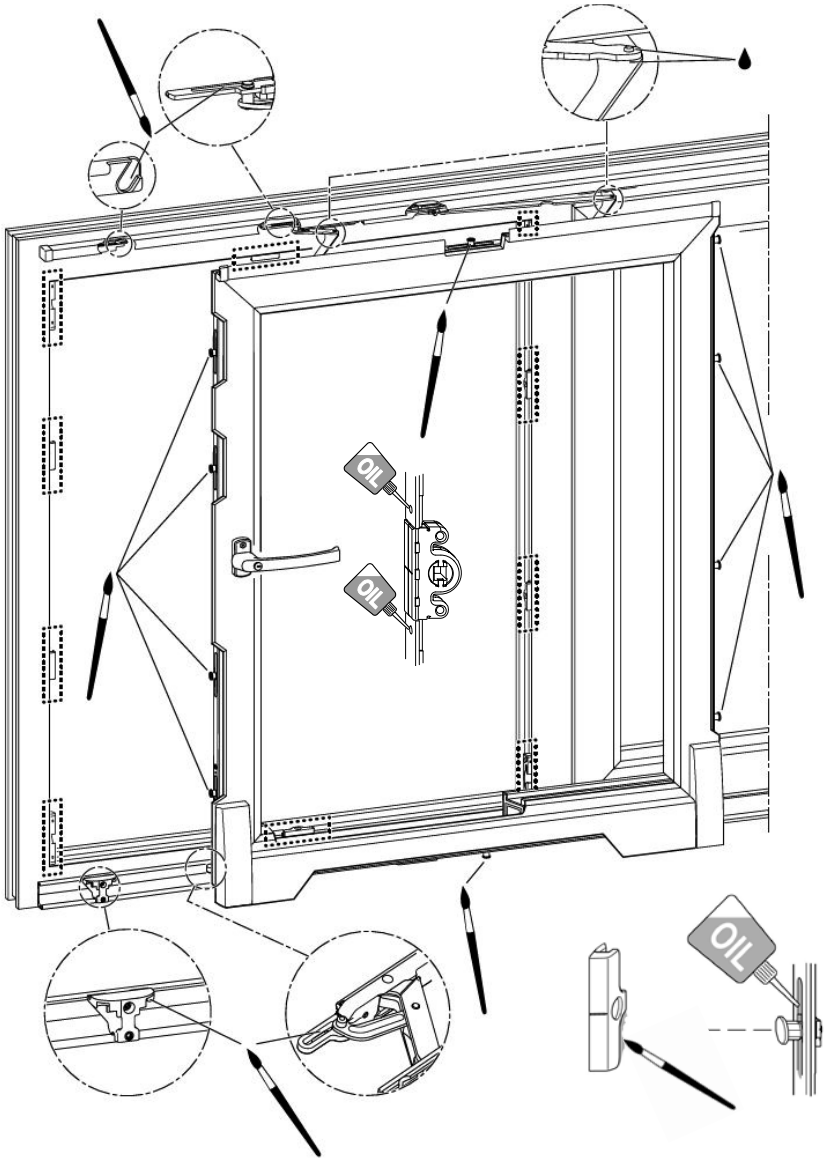
Stay-arm and corner bearings must be greased at least once a year at all joint points and friction surfaces. The lubrication points should be coated with resin-free and acid-free grease.





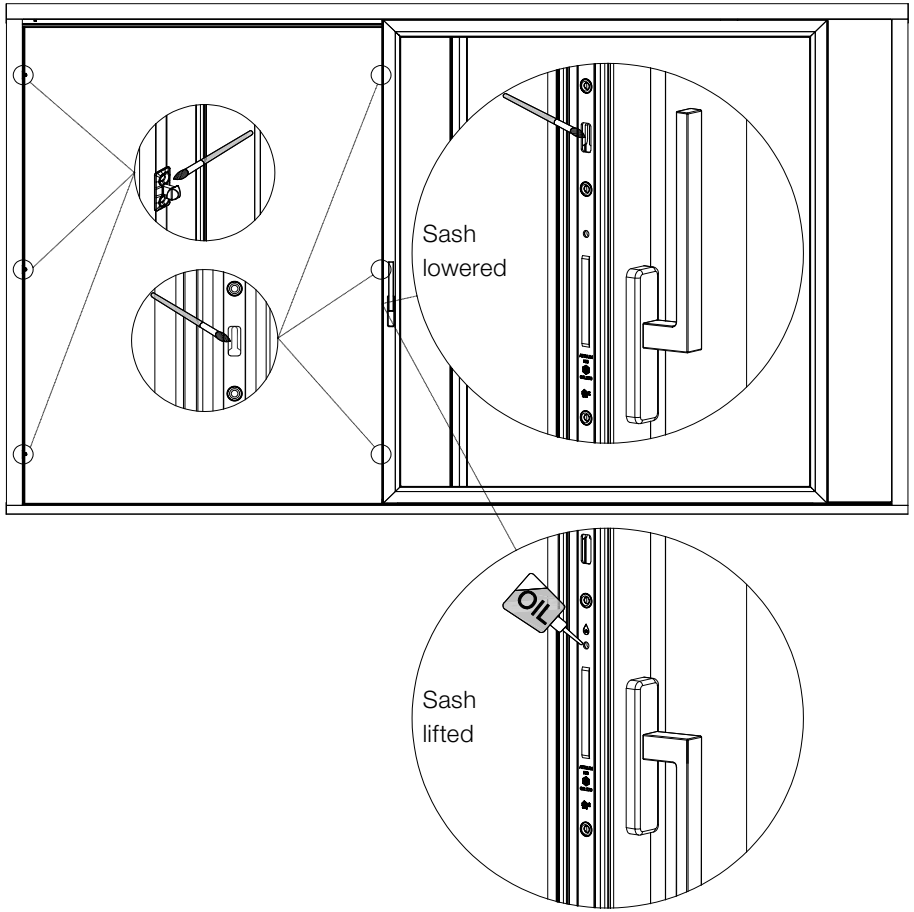


Lubrication points for parallel sliding elements:



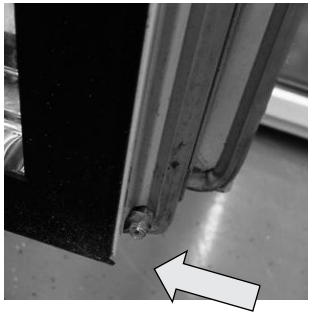
4. CLEANING | CARE | MAINTENANCE

Lubrication points for lift-sliding doors:



Particular care must be taken when cleaning electronic hardware parts (e.g. the window control or the plug connection between the sash and the frame of electric blinds). These parts need to be protected from dirt and kept clean to avoid disruptions in signal transmission, especially during the construction phase, but also during regular use of the window.

With I-tec Secure, locking corner drives are additionally secured with a pin (grub screw) which lies under the middle gasket. Due to the alternating load when locking the sash this pin can come out through the middle gasket and needs to be screwed in flush to the bottom of the gasket groove using a 2.5 mm Allen key.
Otherwise the window frame might be damaged.



Maintenance of hardware parts on front entrance doors

As with windows, check all hardware parts of front entrance doors at least once a year for tight fitting and wear and tear. Depending on need, fixing screws must be tightened or faulty parts replaced by qualified personnel.

Entrance door locks must be lubricated at least once a year (permissible lubricants are listed below).

The heavily used roller latch must be replaced every 50,000 operations (maintenance part – part no. 85425).
To do so, the closing bead must be unscrewed.
With an assumed average use of 20 door openings per day, this corresponds to a maintenance interval of 7 years.

Stiffness of locks is to be avoided. This leads to increased loads on the multi-point lock which can considerably reduce its life span.

How to determine stiffness:

a) for mechanical locks MV, MVB, MVC, MVAM

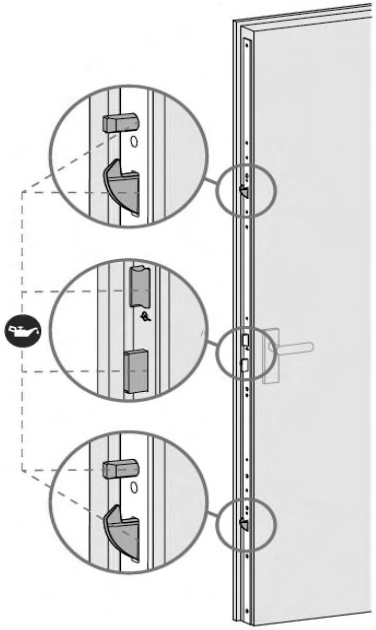
Stiffness can be determined with each operation using the key.

b) with motorised locks EE, EVC, EVE

Check the electromechanical locking for stiffness at least twice a year with the key.

If stiffness is determined, firstly check the door adjustment - see chapter 3. Adjustments and Adjustment possibilities

If the door has been adjusted correctly, but is still stiff to operate, then lubricate all locking points. Use 1 - 2 bursts of PTFE spray on all locking points on the sash and frame.



An additional way to reduce stiffness is to lubricate the UPVC support at the back on the frame side with a light spray (1 spray).

Only use oil-based PTFE sprays H1!

The following spray greases are recommended:
- Internorm HARDWARE FIT
- HIGH-TEF OiL INNOTEC
- Staloc PTFE-Spray
- Presto PTFE Lubrifiant
- Ballistol Universal Oil
- Nigrin PTFE
- Bauhaus Profi DEPOT
- E-COLL PTFE SPRAY with NSF H1 approval

4.3. CLEANING TIPS FOR GLASS SURFACES/GLASS JOINTS AND GLASS CORNERS

Dirty glass surfaces/glass joints/glass corners can be wet cleaned using water, a sponge, a cloth, etc.
Common glass cleaners without scouring agents may be added to the water.
Persistent stains such as paints or tar droplets should be removed with methylated spirits, acetone or petroleum ether. Glass surfaces should then be wet cleaned again.
Metallic and abrasive items (e.g. razor blades, steel wool, cleaning fleeces ...) must not be used!

Do not use alkaline cleaning lye, acids or cleaning agents containing fluoride to clean glass surfaces.

Protect the glass surface with suitable cover foils from

- plaster splatters, cement, untreated concrete surfaces, fibre cement boards
- flying sparks or welding beads from angle grinders

4.4. GASKETS

All gasket profiles must be cleaned and lubricated at least once a year to retain functionality. We recommend the care product for gaskets.
This care product for gaskets preserves the pliability of the gasket and prevents it from becoming prematurely brittle. Please ensure gasket profiles are not damaged and do not come into contact with solvents.
Generally, gaskets should only be cleaned with water and possibly a little drop of dishwashing liquid.

Permitted cleaning agents

- Alkaline cleaning agents (soapy solutions)
- Mixtures of water and alcohol

However, concentration, exposure time and ambient temperature play an important role which means that the material can possibly be affected by the cleaner if the concentration is too high.

Prohibited cleaning agents

- Cleaners containing chlorine or cleaners with peroxides can damage the material over a longer period of time or could lead to discolouration.
- Oils, greases, substances containing oil and grease and petrol can lead to a cracked and unsightly appearance.

4.5. UPVC SURFACES

Two types of Internorm care products are available for cleaning uPVC surfaces. One cleaning agent for hard uPVC surfaces, and one for décor and I-tec Decor finishes. Harsh, aggressive and dissolving cleaning agents, as well as direct sunlight during cleaning, must be avoided.
For persistent dirt, use standard domestic cleaning agents based on tensides.

Intensive cleaner

Decor cleaner

Suitable agents:
Washing-up liquid; mild, neutral universal cleaner; alcohol-free glass cleaner; clear water.

Unsuitable agents:
Abrasive agents or chemicals such as acetone, petrol, acetic acid, nail varnish remover, alcohol or similar (also not as ingredients in cleaners); cleaners with orange / lemon aroma; ammoniac or sulphurous agents.

Rinse window frames, including gaskets, with clear water! If a mix of dirt, cleaner and water stays behind on the frame, water evaporates and the remaining cleaner-dirt-combination can burn into the surface.

Do not use adhesive tapes or films containing plasticisers on I-tec Decor surfaces. Protective films must be removed immediately after delivery.

4.6. TIMBER SURFACES WITH TIMBER/ALUMINIUM ELEMENTS

We recommend using mild cleaning products such as diluted washing-up liquid or soapy water to clean **inside** timber surfaces. As timber surfaces on the inside are not exposed to weather (wear through rain and sunlight), coating is not necessary. Avoid scouring, acidic and solvent cleaning products. Only use soft cleaning cloths to avoid scratching the paint surface.

Window cleaning products contain small traces of alcohol and ammonia.
These products are suitable for cleaning glass panes as well as the internal timber frame. After cleaning, dry timber with a dry, soft cloth - long exposure to alcohol can soften the varnished surfaces.

4.7. TIMBER FINISHES (SD10) FOR ENTRANCE DOOR DECORATIVE ELEMENTS

The real-timber surface on the outer surface of the decorative element has been treated with a special hard wax made by Remmers.

In order to maintain the look of the timber surface, it is essential to treat it on a regular basis.
Depending on the installation position, this should be done between 6 and 15 months, and then at least once a year.
However, the required maintenance interval can be significantly shorter if exposed to extreme weather conditions.
A suitable care product is: Remmers Aqua Hard Wax Seal
HWS-712
(manufacturer's Item No. 529101)

Tannic acid problems
When timber containing tannin, such as the SD10 Antique Wood real oak panel, is exposed to outside moisture, there is a risk that the natural tannic acid contained in the timber will leak and cause staining.
Variable weather conditions or exposure to iron dust (from nearby railway lines or construction sites) increase the risk of tannin staining.
It is only an impairment on the appearance, not damage to the timber - **therefore no cause for complaint!**

A timber surface altered by tannic acid should be treated quickly with a suitable stain remover, which will significantly improve the appearance. Many tannin stain removers are available in specialist stores, e.g. Woca tannin spot remover etc.

A pH neutral soapy water solution diluted 1:5 is also suitable for a periodic clean. Lightly dampen a cloth in the solution and gently wipe the timber surfaces.

4.8. ANODISED OR POWDER-COATED ALUMINIUM SURFACES

Anodising and powder coating are considered refinements of exterior aluminium surfaces which are especially durable and decorative. In order to retain the decorative appearance of these construction parts for decades and to reduce corrosion impact, surfaces need to be looked after at least twice a year with adequate cleaning and surface conservation products.
Depending on the degree of staining (strong stains), care and cleaning intervals should be shortened accordingly. In the outsourced cleaning and care of buildings, processes are necessary that comply with the current quality guidelines for façade cleaning (GRM).

4.8.1. REQUIREMENTS AND PROCESS OF CLEANING ALUMINIUM SURFACES

Object conditions
Do not clean surfaces in direct sunlight. The temperature of the surface to be cleaned must be between +10 °C and +25 °C. Use suitable cloths for cleaning, which do not scratch the surface. Refrain from tough scrubbing.

Pre-cleaning
Pre-clean any dirt before applying any special cleaner or preserver. Use only clean water for this, possibly with small amounts of neutral cleaning agents (only pH neutral cleaning agents with a pH value between 5 and 8), e.g. washing-up liquid in normal concentration. These cleaning products should not be warmer than 25°C. Do not use steam cleaners.

Heavy/stubborn dirt
We recommend removing this with isopropyl alcohol (IPA).
Leave it on for only a short time and rinse with clean water.

CLEANING / PRESERVATION
So-called **cleaning preservers** should be used for improved cleaning including preservation. In addition to cleaning, they form a film on the surface of anodised or coated aluminium parts, providing dirt and water repellence for a longer period of time. Nonetheless, this preservation needs to be renewed from time to time.

Metal Polish Cleaner MP-2011 for anodised aluminium surfaces
Aluminium Preserver PU for smooth, powder-coated aluminium surfaces

Only use cleaning preservers after pre-cleaning.

4.8.2 METAL POLISH CLEANER MP-2011 -FOR ANODISED ALUMINIUM SURFACES

This **cleaning preserver** is suitable for basic cleaning of newly installed, anodised surfaces and slightly dirty, anodised aluminium parts.
The preservative is used to apply a temporary film to the surface with a dirt and water-repellent effect.
This also improves the appearance of the surface.
It is also suitable to use where several cleans are required each year for decorative reasons.

How to use
Shake the product well before use. Using a soft cloth, thinly apply the cleaning preserver to the entire surface. Even out the appearance of various areas of dirt and also dark anodised parts using polishing movements.

Part no. 36916

4.8.3. ALUMINIUM PRESERVER PU - FOR POWDER-COATED SURFACES.

This **cleaning preserver** is suitable for the basic cleaning of newly installed, anodised surfaces and slightly dirty, powder-coated aluminium parts. The preservative is used to apply a temporary film to the surface with a dirt and water-repellent effect. This also improves the appearance of the surface. The care product for powder-coated aluminium surfaces is also suitable for **wet-painted surfaces** (e.g. **surface of HT 310**).

The use of this care product on surfaces with a fine structural coating (HF, HFM) is not recommended, as polish residue could remain in the recesses. Cleaning with pure water and washing agent additives is sufficient as these surfaces are made of a high-weather resistant powder coating. The specialty cleaner cl-360.110 is suitable for this. (200 ml) Part no. 36856

How to use

Shake the product well before use. Using a soft cloth, thinly apply the cleaning preserver to the entire surface. Even out the appearance of various areas of dirt and also dark coated parts using polishing movements.

Part no. 36919

4.9. CLEANING INSTRUCTIONS FOR STAINLESS STEEL

Stainless steel is used in the building industry primarily where aesthetics and hygiene are the main focus.

As it cannot be avoided that a rust film or flash rust may deposit on the surface, this often leads to the erroneous assumption that stainless steel has rusted.

We recommend treating surfaces with visible stains or corrosion using standard stainless steel cleaners. These can be obtained in respective specialist shops.

4.10. CARE AND MAINTENANCE OF I-TEC VENTILATION

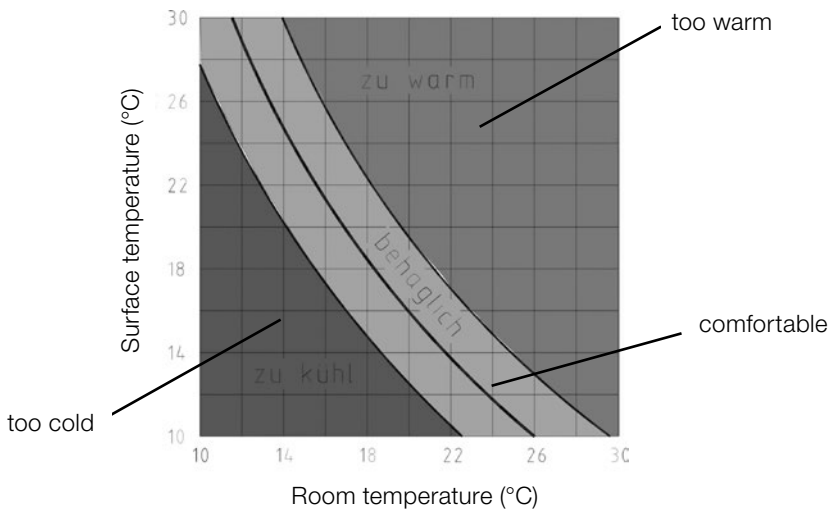
The ventilator should be regularly checked and maintained. Free machine from dirt and check clamping screws for tight fitting. Test the ventilator with a test run. Maintenance and repair of parts inside the ventilation housing are to be carried out exclusively by authorised personnel. Opening the ventilation housing which lies under the cover leads to loss of warranty and exclusion of liability.

Please use a soft, slightly damp cloth to clean housing parts and the ventilation grid. Please do not use corrosive chemicals, aggressive cleaning solutions or solvents, to prevent damage to the surface. Protect your ventilator permanently from water and dirt.

4.11. SPECIFIC WARNINGS FOR TIMBER/ALUMINIUM ELEMENTS

Natural timber always tends to adapt to its surrounding humidity. This characteristic remains the same throughout the entire life cycle, from the living tree to the processed timber element. Protect your windows from excess construction humidity, especially during the construction phase. This applies especially to winter construction sites, where large amounts of water occur due to plastering and screed works in closed buildings. Ensure sufficient ventilation during the construction phase. Excessive humidity over a longer period of time can cause severe damage to corner connections and on the surface through the swelling of timber profiles.

5. COMFORT



Not only room temperature and air humidity determine how comfortable and cosy a room appears.

Temperature differences between room air and surfaces enclosing the room, as well as corresponding radiation asymmetries and air movements (room air turnover), are also related to this.

Example: if a wall surface has a temperature of 18°C and the room air temperature is 20°C, an average person will feel more comfortable than with a wall temperature of 15°C and an air temperature of 24°C. This means that the temperature difference between room air and enclosing surfaces should not exceed 2°C.

In rooms with relatively large temperature differences between walls and room air, the warm air cools down at the walls, sinks down to the floor, and results in a pool of cold air. This constant air movement results in the impression of a draught (room air turnover).

Therefore, good thermal insulation of enclosing surfaces is important!

6. VENTILATION

CORRECT VENTILATION!

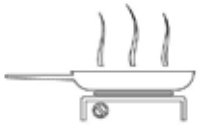
The minimum oxygen demand for humans is approx. 1.8m^3/h per person. In order to accommodate pollutants and odours, the amount of fresh air needed hygienically is 10 to 25 m^3/h per person.
The amount of air inflow necessary to remove moisture depends on the amount of moisture occurring, the indoor climate, the outdoor climate and the size of the room.

People in living and work spaces create water vapour. The water vapour occurring originates from the breath of the people present, evaporating from watering flowers, bathing, showering, cooking and similiar processes.

The amount of water vapour that may occur is demonstrated in the explanation below.
Therefore, a 3-person household accumulates approx. 180 litres of water per month; this is more than one bathtub full of water.

Breathing air: daily 1-2 litres of water

Bathing, washing, laundry, watering flowers: daily up to 3 litres of water in a 3-person household



Cooking: daily up to 2 litres of water in a 3-person household

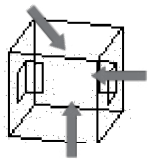
The humidity rises further if laundry is hung up to dry in the room.

If the water cannot get outside sufficiently through ventilation, the humidity level in the air rises, which leads to condensation and can then lead to mould.

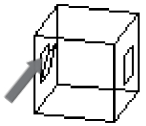
Internorm windows have very good thermal insulation characteristics and good air tightness. This protects you from bothersome draughts, cuts down on heating costs and keeps out disturbing noise. However, it also necessitates more conscious ventilation.

Correct ventilation is immensely important. It ensures constant oxygen supply for breathing air as well as carrying off pollutants which accumulate when ventilated insufficiently. Furthermore, with correct ventilation you can avoid condensation as well as the danger of mould developing.

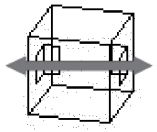
Which ventilation options are there?



Self-ventilation:
“Ventilation“ with closed windows and doors due to permeability of the building shell.



Constant ventilation:
Constantly slightly opened windows due to gap ventilation or via tilt hardware.



Maximum ventilation for a short time:
Ventilation with fully open windows on opposite sides of a room.

It is recommended to carry out maximum ventilation for 5 minutes several times during the day.
This is most effective if windows on opposite sides of the room can be used for ventilation.

This maximum ventilation, several times a day, will ensure the desired air exchange and take out humidity without affecting the comfort. The room temperature will fall for a few minutes, but the “heat storage“ in walls, ceiling and floor will cool down only minimally in this short time. The fresh air will heat up again quickly, the energy loss is minimal.

WHAT DO I NEED TO KNOW?

Air exchange through gaps in closed windows is not sufficient for adequate reduction of humidity and hygienically necessary fresh air supply.

Depending on the usage of the room and on the amount of humidity produced, it is recommended to ventilate regularly through constant ventilation or maximum ventilation for a short time.

Transporting humidity into cooler rooms within the building should generally be avoided. If this is not possible, please take this into consideration when ventilating.

In rooms with open fireplaces (boilers, open fireplaces, oil stove, gas stove etc.) a constant supply of fresh air must be ensured.

Construction moisture leads to increased strain on window profiles. In order to avoid surface damage or swelling of timber profiles, ensure sufficient ventilation!

Under extreme demands, e.g. in wet rooms, indoor swimming pools or rooms with chemicals, adapted heating and ventilation systems might become necessary.

Please read this section carefully – it sets out the warranties that Internorm offer relating to our standard sized windows and doors, and in particular includes details of when these warranty services do and do not apply.
The warranties set out in this booklet complement the legal rights granted to you by law (statutory rights), for example, against the entity from whom you purchased the Goods, regarding the quality and fitness for purpose of the Goods. Your statutory rights are contained in consumer regulations, including in the UK: the Consumer Rights Act 2015, the Sale of Goods Act 1979 (as amended), the Consumer Protection Act 1987 and the Consumer Protection from Unfair Trading Regulations 2008; and in the Republic of Ireland: the Sale of Goods and Supply of Services Act 1980, the Consumer Protection Act 2007 and the European Union (Consumer Information, Cancellation and Other Rights) Regulations 2013. These warranties do not replace or diminish your statutory rights but may provide additional benefits or coverage. If there is a conflict between these warranties and your statutory rights, your statutory rights will take precedence.

Please be aware that the warranties in this handbook do NOT apply, unless Internorm expressly agrees in writing which (if any) warranties apply, to non-standard Goods that you order, particularly over-sized windows or doors, as such Goods will not have been subject to Internorm's rigorous testing and quality assurance procedures that all Goods within our standard range undergo. If you are ordering any such non-standard or over-sized Goods and would like to know which warranties apply, please first ask the Distributor or supplier for details. Otherwise, please get in touch with Internorm directly.

Please be aware that the warranties in this handbook also do NOT apply in respect of Goods which are installed outside of the following areas:

- **For UK customers - outside of mainland United Kingdom (such as the Channel Islands, the Isle of Wight, Orkney Islands, Shetland Islands, the Hebrides, Isles of Scilly and The Isle of Man); and**
- **For Republic of Ireland customers - outside of mainland Republic of Ireland (such as coastal islands)**

Your statutory rights – Nothing in this warranty affects your legal rights under the **Consumer Rights Act 2015**. In particular, the goods must be of **satisfactory quality, as described**, and **fit for purpose**. If they are not, your statutory rights and remedies are primarily **against the Internorm Distributor (seller)** from whom you purchased the goods. Our manufacturer's warranty is **additional** to those rights and, where it applies, **our sole remedy** is (at our discretion) **repair or replacement** of the affected goods. **Further information:** UK – www.gov.uk/consumer protection rights; Republic of Ireland – www.ccpc.ie/consumers

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10-year warranty on weather resistance against unnatural change of colour and cracks in surfaces of white UPVC window and door profiles, except for mitre cracks. When assessing weather resistance, the change in colour, according to test system corresponding to EN 513, must not be greater than level 3 on the greyscale according to EN 20105-A02. There is no warranty on the change of appearance of surfaces as a result of dirt and/or lack of care.

10-year warranty on weather resistance, against unnatural change of colour and cracks of interior surfaces of uPVC window and door profiles with foil finish and I-tec Decor surfaces, except for mitre cracks. When assessing weather resistance, the change in colour, according to test system corresponding to EN 513, must not be greater than level 4 on the greyscale according to ISO 105-A02. There is no warranty on the change of appearance of surfaces as a result of dirt and/or lack of care.

10-year warranty on weather resistance against unnatural change of colour and cracks in surfaces of anodised or powder-coated aluminium window and door profiles. Minimum value for remaining gloss is the gloss level determined according to EN ISO 2813, which is at least 30% of the original value.
Excluded from this warranty are corrosions:

(1) due to fitting window and door elements at a property situated:

a) near the sea, causing there to be, in Internorm's sole opinion (acting reasonably), abnormally high levels of salt in the atmosphere; or

b) near roads with gritting which, in Internorm's sole opinion (acting reasonably), contains abnormally high levels of salt; or

c) in an atmosphere polluted with heavy industry pollutants; or

(2) due to other environmental impacts. There is no warranty on the change of appearance of surfaces as a result of dirt and/or lack of care.

The above three warranties only apply to surfaces listed in the Internorm aluminium colour swatch, the Internorm RAL colour swatch or the Internorm hi-rest colour swatch.

10-year warranty against condensation between the sealed panes of insulating glass. **EN 1279-1** applies to general visual inspections of insulating glass made from mirror glass. Exceptions are condensation on both sides of single panes or insulating glass on the room and/or weather side. This condensation is physical in nature and can occur under certain climatic conditions.

10-year warranty on the glue connection of glued Georgian/feature bars.

10-year warranty on the function of the material compound timber, thermal foam and aluminium profiles in all Internorm timber-aluminium composite window systems, when adhering to the Internorm fitting and maintenance guidelines.

10-year warranty on the function of the glued connection and sealing of the insulating glass panes with window profiles in timber-aluminium composite window systems, when adhering to the Internorm fitting and maintenance guidelines.

10-year warranty where Goods are supplied with marine grade aluminium finish. The validity of this warranty is at all times conditional upon the following:

a) compliance with all relevant requirements of this warranty document; and
b) in addition, the Goods being professionally cleaned (with clean water) every 6 months; and
c) on each and every occasion on which the Goods are cleaned, the end customer promptly providing to Internorm after cleaning has occurred, with evidence in the form of a copy of an invoice or receipt of the professional window cleaners, demonstrating that cleaning of the Goods has been completed and showing the date on which they were cleaned.
   Such receipts to be provided by recorded delivery post to:
   Unit D, Colindale Business Park, 2-10 Carlisle Road, London NW9 0HW; or you can send us a scanned version to the following email address: service@internorm.com.
   We reiterate that, if you fail to send us this evidence of the continued cleaning promptly after each and every time the Goods are professionally cleaned, the warranty will not be valid.

d) The warranty is also conditional upon the end customer providing Internorm with access to the Property at which the Goods are installed in order to verify compliance with the above requirements.

5-year warranty for PVD coated entrance door handles against corrosion, if no mechanical damage is apparent.

5-year warranty against weathering, unnatural colour changes, and cracking on the surface of door panels. There is no warranty for changes to the appearance of the surface due to dirt and/or lack of care. The SD10 real wood surface is excluded from this 5-year warranty.

3-year warranty on weather resistance against unnatural change of colour and cracks in surfaces of anodised or powder coated aluminium roller shutters, blinds and window shutter profiles.

3-year warranty on weather resistance against unnatural change of colour and cracks in surfaces of UPVC roller shutter profiles. When assessing weather resistance, the change in colour, according to test systems corresponding to EN 513, must not be greater than level 3 on the greyscale according to EN 20105-A02. There is no warranty on the change of appearance of surfaces as a result of dirt.

3-year warranty on the function of window and door hardware when the Internorm fitting and maintenance guidelines have been followed.

30-year product availability warranty (from construction year 1999)
Internorm guarantees that our Goods manufactured from 1999 onwards are capable of being repaired by our specialists in such a way that their full functionality is guaranteed to subsist or be retained over a time period of 30 years. However, this is subject to the construction (i.e. frames and sashes) remaining undamaged and subject to the customer paying our costs of repair, where applicable. The 30-year period begins with the Internorm production date.

It is important to emphasise that electronic components are excluded from this warranty.

Please note that if the system is too worn or damaged, it may only be possible to replace the entire system (affected element). All services, materials and labour required for maintenance will be invoiced according to the current rates in the respective country. We would be pleased to discuss all details with you to ensure that you are fully informed about the costs associated with our service. Please do not hesitate to contact us if you have any further questions. Thank you for your confidence in our products.

7.1. GENERAL INFORMATION
If you become aware of faults of any kind affecting the Goods, you should bring these to the attention of your Internorm Distributor immediately after the Goods have been delivered to you.

This means that as soon as you receive the Goods, you should examine the thoroughly to check for any faults or damage.

Your complaint will not be processed until you have notified the Internorm Distributor in writing about the reported fault, and they have expressly agreed in writing to address the issue.

General circumstances where the warranties are invalid
In addition to your rights which you have in relation to your arrangement with the Internorm Distributor, we also offer warranties relating to the Goods. You should follow the conditions below to ensure that the warranties are not invalidated. Please also see section 7.3 below, regarding the technical limitations of the warranties.

Warranties become invalid due to the following:
a) the warranties do not apply if you deliberately or negligently damage the Goods, or if a third party does so (for example a burglar when forcing entry into the premises).
b) warranties relating to the surface of the Goods will be invalidated to the extent that surface damages have been caused to the Goods either deliberately or because of negligence or by neglecting to take the necessary care of the Goods. This applies especially to difficult to remove, ingrained and persistent stains.
c) if the faults have been caused by other parts of the building in which they are installed (e.g. if your roof is faulty, or if your building or part of it is affected by subsidence).
d) warranties which we offer relating to the Goods operating properly (i.e. regarding their functionality) will become invalid if:
   - the Goods have not been fitted either by an Internorm Distributor or a party authorised by Internorm or a party who has been trained in how to carry out the installation of Internorm Goods;
   - our fitting and maintenance guidelines in this warranty booklet have not been followed correctly;

- the assembly and fitting have not been carried out in a professional and correct manner according to our guidelines; and/or
- there is a fault with the functionality of the Goods which is due to the Goods being adjusted incorrectly during the fitting.

e) if you make a warranty claim after the deadline indicated in the warranty certificate.
f) if you appoint a party other than Internorm (or an Internorm Distributor) to carry out the complete or partial replacement of the Goods or for repair or improvement works under a warranty claim.

How to make a warranty claim
When to make a warranty claim? You should make a warranty claim as soon as you become aware of a fault with the Goods.

The earliest point when a warranty claim can be made is from the date on which the Goods are delivered, and this warranty claim period continues until the applicable deadline.

The warranty period deadline only applies to your original order – therefore if you receive replacement Goods under the warranty service, this does not result in a new warranty period deadline or the original one being extended.

If you delay making the claim beyond the warranty claim deadline, this may affect the validity of the warranty.

Who to make a warranty claim to? You should first raise the warranty claim with the Internorm Distributor that has delivered the items to you.

If this is not possible, then you should raise the warranty claim with us. To do so, you should contact our office in England, the contact details for which are: Unit D, Colindale Business Park, 2-10 Carlisle Road, London NW9 0HW.

Can I make the warranty claim by phone? No, all warranty claims have to be made in writing by email to service@internorm.com, but not text message or social media.

The warranty consists, at Internorm's sole discretion, of the complete or partial provision of the product or element, or the performance of improvement work on the product itself. The warranty services are limited to a maximum of the original purchase price paid for the affected product or element covered by the warranty.

Consequential damages and (consequential) expenses beyond this are not covered by the warranty (e.g., labels affixed to glass elements to be replaced under warranty; loss of earnings; loss of profit; compensation for the inability to use the premises affected by warranty work, etc.).Similarly, ancillary costs and installation costs, material and labour costs, travel time, loss of rent, additions, additional expenses due to scaffolding, cranes, etc.

The same applies to ancillary costs and installation costs, material and labour costs, travel times, loss of rent, additions, additional expenses due to scaffolding, cranes, etc.

Other claims and third-party claims are not covered by this warranty and will not be compensated by Internorm under the warranty.

The warranty services are provided free of charge.

Warranty services performed do not extend the originally promised warranty period.

For sale items that are marked as such on the Internorm invoice, the warranty services do not apply at all.

7.2. FITTING ADVICE

All Goods will likely require 'fine adjustments' when being fitted. These fine adjustments are to be carried out as part of the fitting service provided by the Internorm Distributor (or other approved fitting company).

The Internorm fitting and adjustment guidelines, available from the Distributor upon request, must be followed in each case, regardless of who fits the Goods. Any subsequent necessary adjustment works, maintenance or changes to the Goods will be charged for.

Faults in fitting and any faulty functions resulting from incorrect fitting are to be covered by the respective fitting company and are not part of Internorm warranties.

7.3 TECHNICAL LIMITATIONS OF THE WARRANTY

Loads - The warranty applies, provided that the loads specified in the relevant technical standards and norms, are not exceeded.

Use - The warranty shall be void in its entirety in the event of unusual product use or application.

Connecting Goods together - The warranty services which we offer only apply where a single Goods are installed. If two or more Goods are connected to form continuous window/door surfaces, separate written approval from Internorm is necessary. In addition, all warranties will be invalid, if the connection of single Goods is not carried out professionally or does not comply with technical standards set out in this booklet.

Surface damage - Surface damage caused by aggressive or scouring cleaning agents is not covered by the warranties. Internorm recommends regular cleaning with the Internorm care set.

Surface changes caused by chemical reactions, e.g. zinc particles, leachates from the facade (cement asbestos or other) and cement asbestos window sills on white aluminium-clad UPVC profiles, glass surfaces and on powder coated or anodised surfaces, are not covered under the warranty.

There is no warranty on the change of appearance of surfaces as a result of dirt.

Different colour changes in different elements caused by the fitting location between elements exposed to weather (e.g. south-facing) and elements in a protected position (e.g. north-facing) are not covered under the warranty.

For timber elements it is clearly indicated that aggressive cleaning agents (containing ammonium chloride, alcohol, as well as acidic or scouring cleaning agents) will damage the timber surface and will invalidate the warranty. Timber elements are to be regularly checked for damage (hail damage, natural cracks in timber, scratches etc.) and possibly

repaired for the short term according to the Internorm maintenance guidelines in this booklet. Any failure to do so may invalidate the warranty.

The surface warranty does not apply to fitting material.

Mould - Deposits of dust, pollen, dirt etc. on gaskets, profiles and glass surfaces in connection with humidity cause the formation of microorganisms and therefore mould. This is a natural process and does not reflect a lack of quality in the Goods. Formation of mould, therefore, is excluded from the warranties.

Condensation on glass surfaces - under certain conditions, condensation may form on the outer glass surfaces of insulating glass on the room or weather side. In the case of insulating glass with particularly high thermal insulation, condensation may also form temporarily on the weather side glass surface if the outside humidity (relative humidity) is very high and the air temperature is higher than the temperature of the pane surface. In the case of very extreme temperature differences, icing cannot be ruled out either. This can be remedied by shading (e.g., with roller shutters, roof overhangs, etc.) the window and door elements.

Condensation on glass is excluded from the warranty for composite windows with integrated blinds, as physical reasons may cause condensation to form in the space between the panes (where the optional sun protection is located) under certain climatic conditions.

The wetting properties of glass surfaces on the outside of insulating glass may differ due to, e.g. marks from rollers, fingers, labels, paper structure, vacuum suckers, sealing remains, smoothing agents, sliding agents or environmental impact. On wet surfaces due to rain, dew or cleaning water, differing wettability may be observed. Therefore, these marks do not represent defects and are not covered under the warranties.

Glass breakage due to thermal stress:
When glass panes, especially insulating glass panes, break for no apparent reason, severe thermal stress may be the cause.

Compared to other materials, glass is a very poor heat conductor. A glass pane can heat up locally due to solar radiation, partial shading of the pane, adhesive films, etc., without the heat being dissipated or distributed evenly.

The heated areas in the glass therefore expand, while the colder areas remain unchanged in their structure. These different expansions lead to local tensile stresses, which can result in glass breakage.

Possible causes for different heating of individual zones of a glass pane can be:
- Partial shading due to semi-closed blinds (pleated blinds, roller blinds, etc.)
- Partial shading due to furniture (sofas, interior blinds) or furniture placed too close to the window, especially dark furniture
- Partial shading due to very deep window reveals, roof overhangs, or trees and shrubs
- Local heating, e.g., from radiators placed in front of the window

Thermal glass breakage often manifests itself in a crack originating from the edge of the glass at a 90° angle, which can then branch out further.
Thermal glass breakage cannot be influenced by the manufacturer and does not constitute grounds for complaint. For further assessment, more detailed investigations of the installation position, the breakage pattern, etc. are necessary.

YOUR NOTES

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