Installation instruction

AZU R0

614521-01

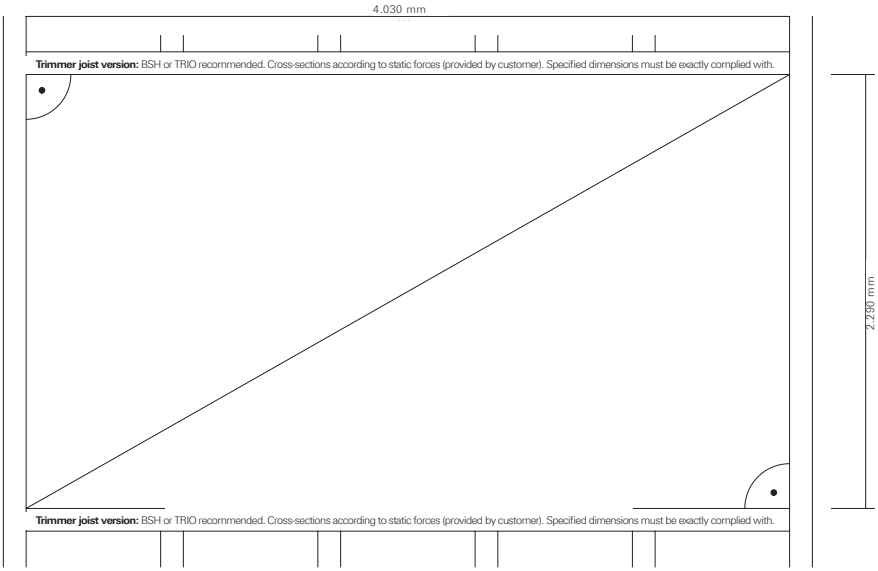
Great Britain
Safety advice/recommendations

- Observe the general regulations for prevention of accidents concerning work on the roof.
- Secure site against falling parts.
- Observe basics of building physics, as heat insulation, protection against moisture, rain shielding/ waterproofness, and noise protection.
- The numbers specify the assembly sequence.
- We reserve the right to make any amendement.

⚠ Work on the frame structure may only be performed by qualified personnel!

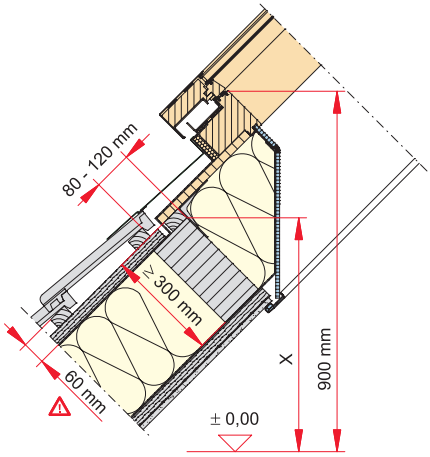
For sites where high snowfall can be expected, protection or a deflector should be provided above the window.

For installation laths, use wood of the grading class MS 13/C35 only. The thickness of the roof battens and the thickness of the installation laths have to be identical!



Static calculations for rafter and trimmer joist cross-sections must be provided by the customer.

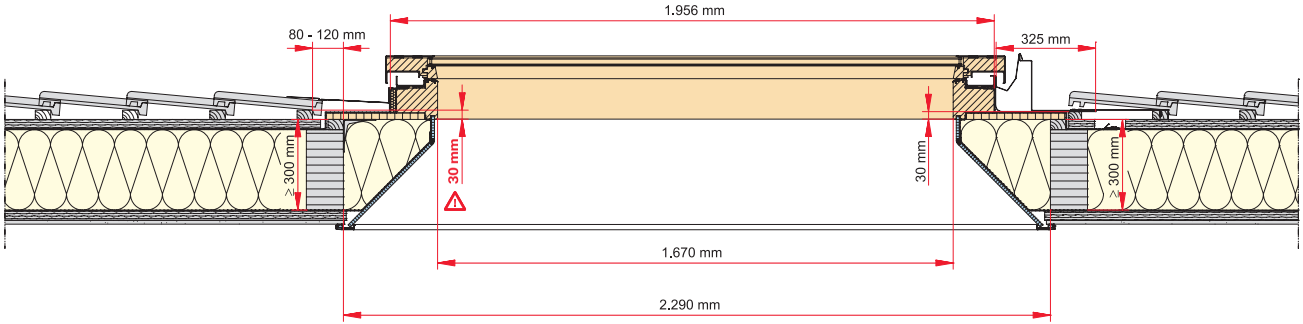
DN	25°	30°	35°	40°	45°	50°	55°	60°	65°
X mm	660	640	620	610	600	590	580	570	570



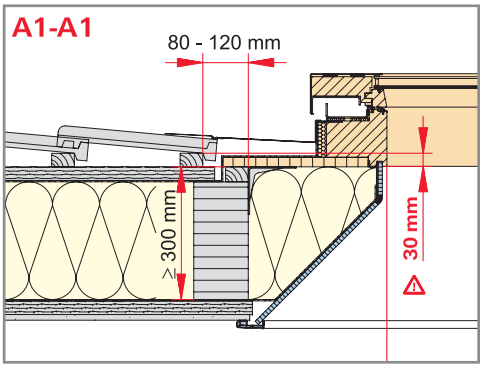
25° - 65°
Azuro

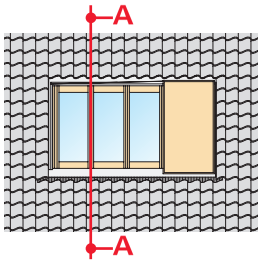
Static calculations for rafter and trimmer joist cross-sections must be provided by the customer.

A-A



A1-A1





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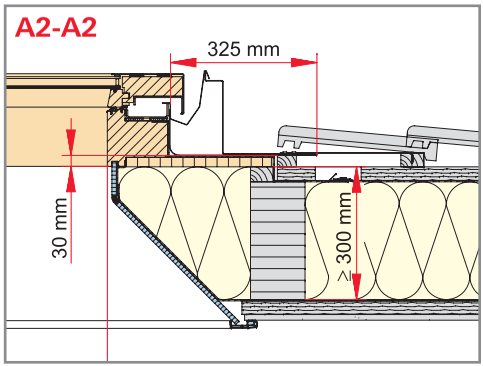
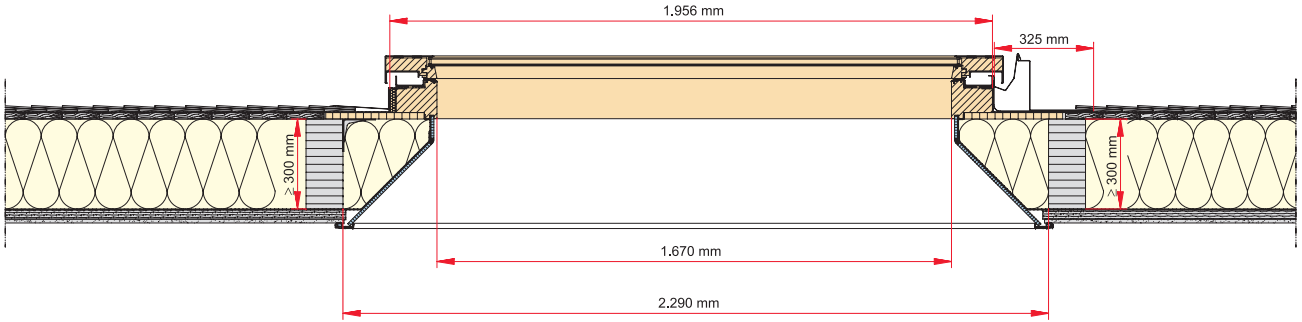


25° - 65°

Azuro

Static calculations for rafter and trimmer joist cross-sections must be provided by the customer.

A-A



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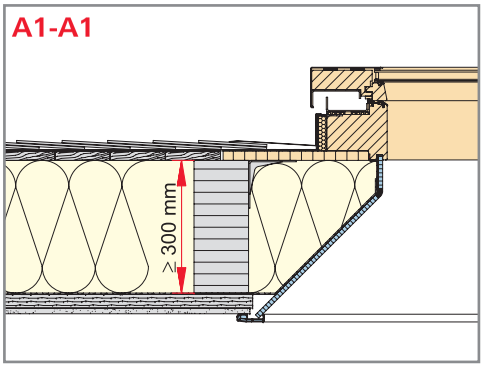

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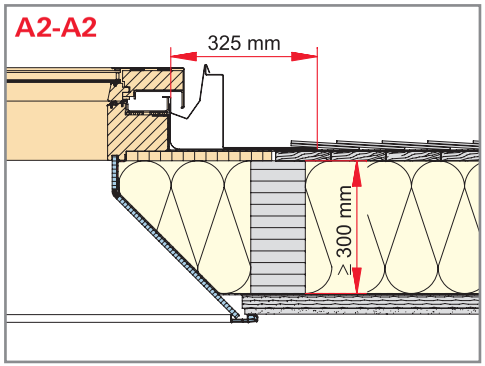
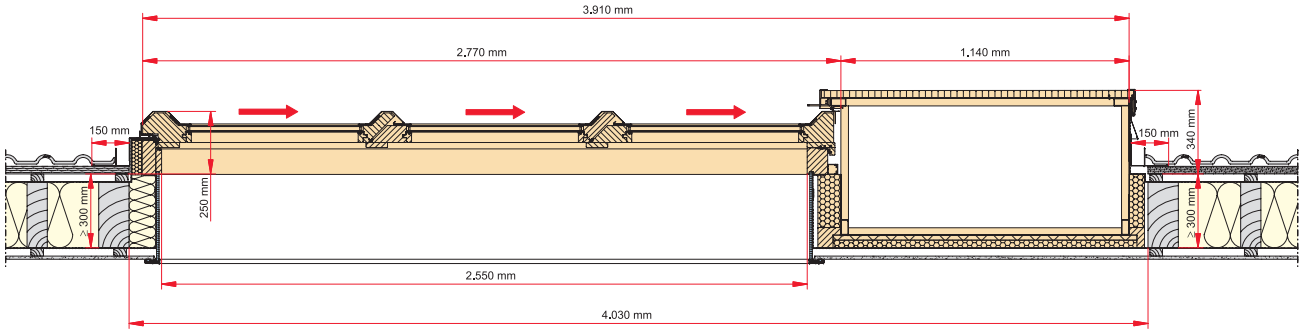


25° - 65°

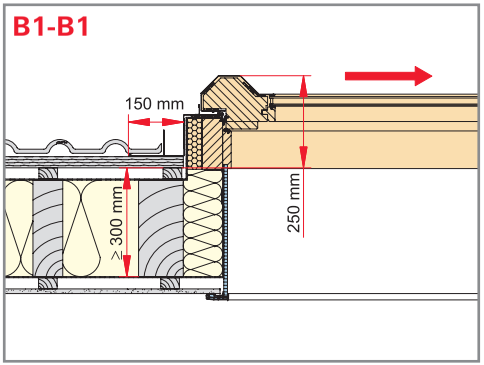
Azuro

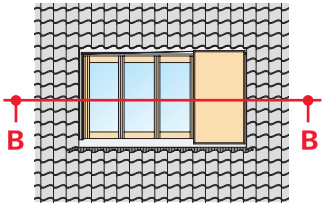
Static calculations for rafter and trimmer joist cross-sections must be provided by the customer.

B-B

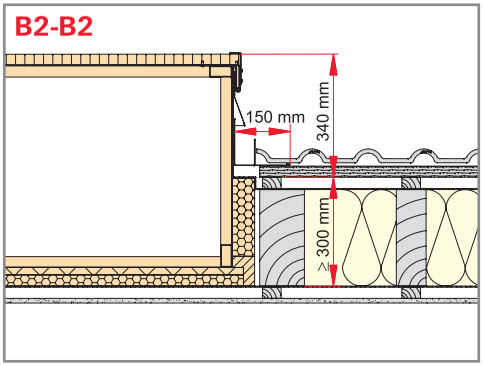


B1-B1





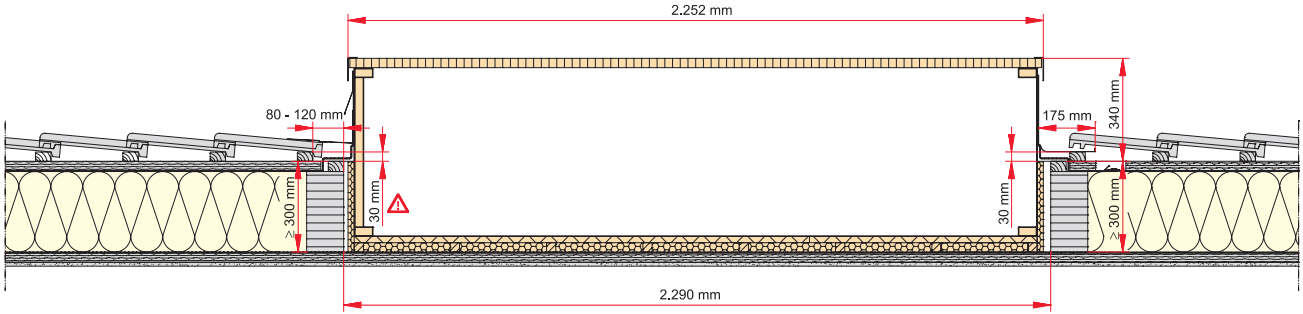
B2-B2



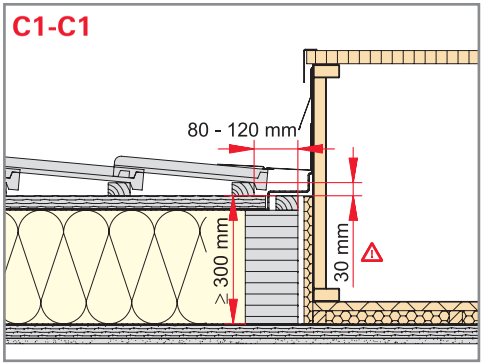
Azuro

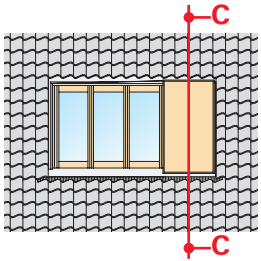
Static calculations for rafter and trimmer joist cross-sections must be provided by the customer.

C-C

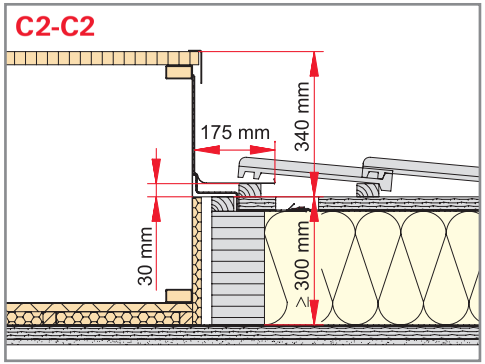


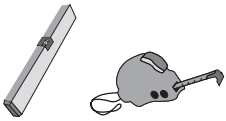
C1-C1





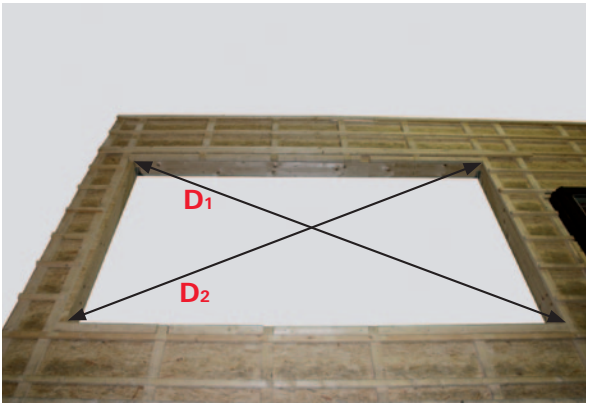
C2-C2





Roof preparation:

- Check diagonal dimension of trimmer joists with tape measure.



Diagonal dimension: D1 = Diagonal dimension: D2 ±10 mm

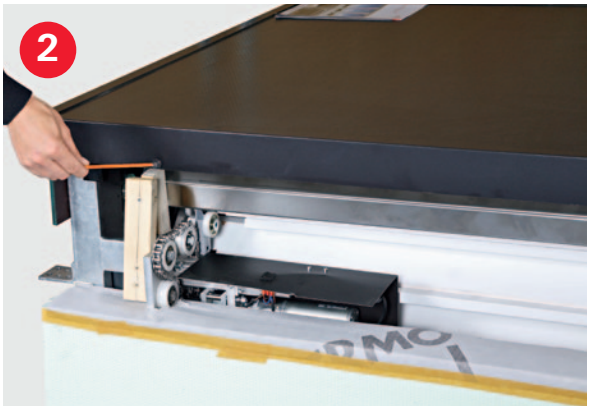
Installation of stack storage box

- Total weight of 500 kg or 85-100 kg per sash (depending on type of glazing)

- Remove packing materials

- Loosen locking screw on cover (2x)

- Open cover and pull out of hinges (at least 2 persons). Place cover aside.



Cover may be damaged.

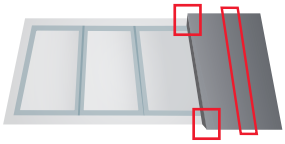
- Remove four ring bolts from the parts box and screw them in completely on the stack storage box.
- Hook the crane chain onto the crane via the four eyes after adjusting it to the roof slope.
- Lift the stack storage box into the installation opening.

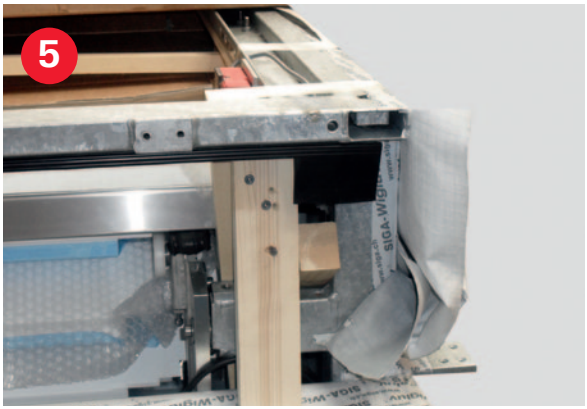
- Align the stack storage box at the bottom using a spirit level. The height can be adjusted by placing shims under the angle brackets if necessary.

The height can be adjusted by placing shims under the angle brackets if necessary.

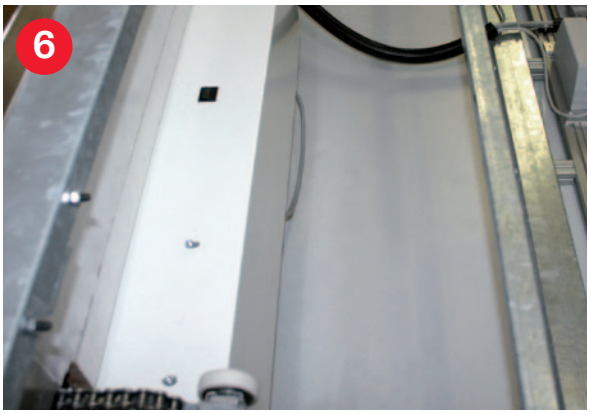
- Then only fix the lower angle brackets in place.

- Undo transport locks and remove.





- Remove the motor cover, having undone the screws.



Installing sash frame

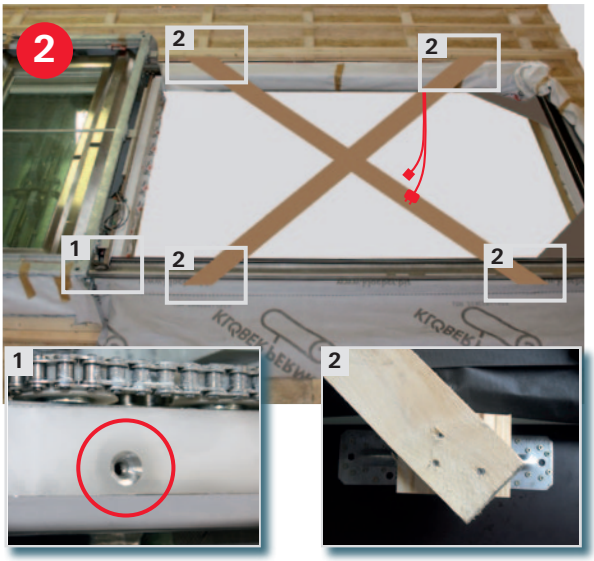
Set down the sash frame at the installation opening at the installation level with a crane and slide toward stack storage box.

- Remove packing materials

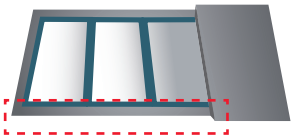
When hinging the stack storage box and the sash frame, the cable must be located in the cable duct as in the delivered state.

The connection cable and switch cable must be routed from the stack storage box into the room.

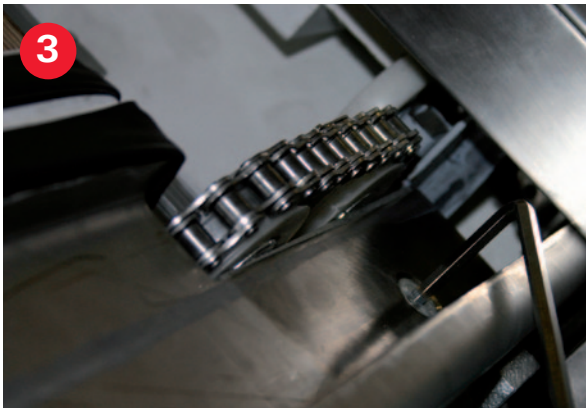
- Align the frame so that the countersunk hole is positioned over the hole of the stack storage box.



- Screw on both frames with Allen screws over the hole (see point 2). The situation is the same at the top and bottom.



- Align the bottom installation angle bracket to the trimmer joint.
- Then undo cross struts (see page 12 point 2).
- Use mounting angle for the cross struts for fixing the sash frame (see page 17 point 7).

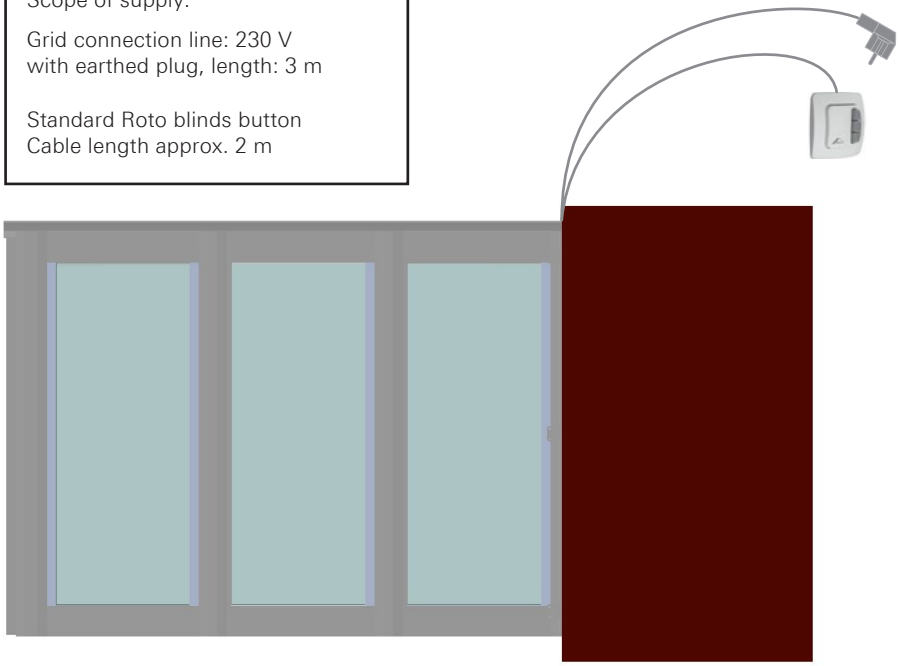


Electrical installation

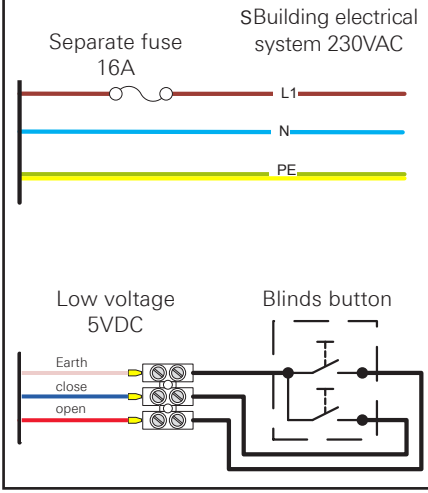
Scope of supply:

Grid connection line: 230 V
with earthed plug, length: 3 m

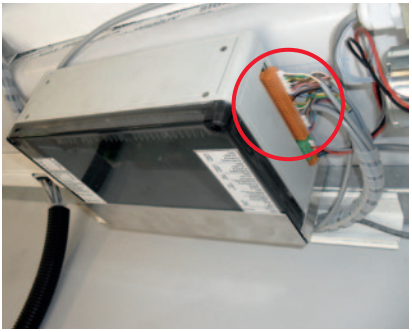
Standard Roto blinds button
Cable length approx. 2 m



Wiring



Connect 23-pin connector to controller



Size 10

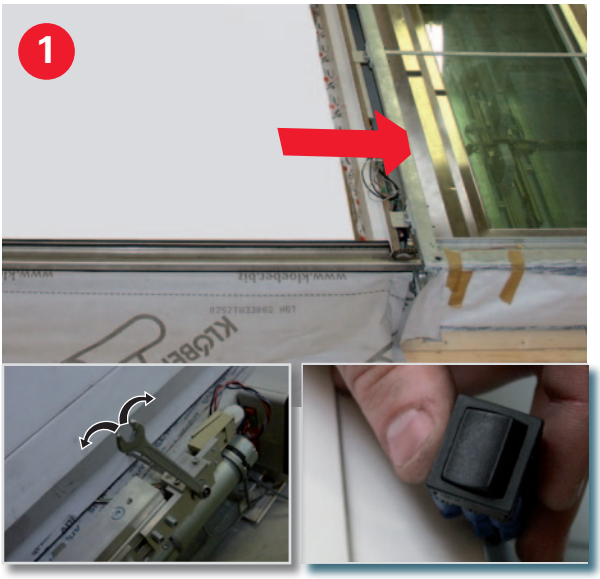
Testing smooth running of sashes

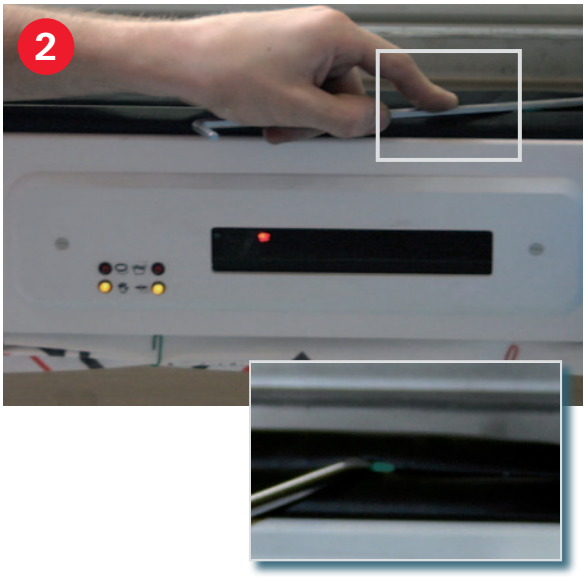
- All sashes must be in the stack storage box.
- Operate the loose switch for the motor cover.
- It must be ensured that the drive is decoupled.

Size 5

Be careful not to damage the seal

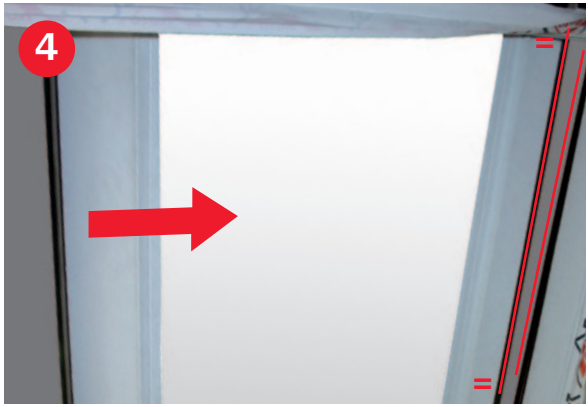
- Hold the Allen key or other metal against the sensor to tension the springs in the stack box.
- The spring mechanism in the stack storage box is activated.
- Wait until the motors have reached their end position.
- Pull out sash number 3 halfway, during this process lift slightly.



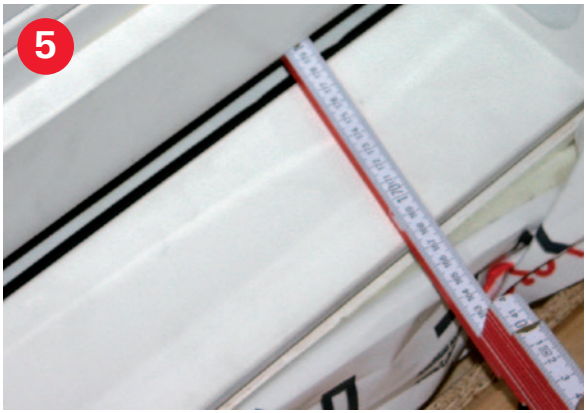


- Lift up sash number 3 and pull it out half way
- Remove packing materials

- Raise the sash and pull it out carefully.
  Make sure that all sashes are connected together and nothing jams or drags.

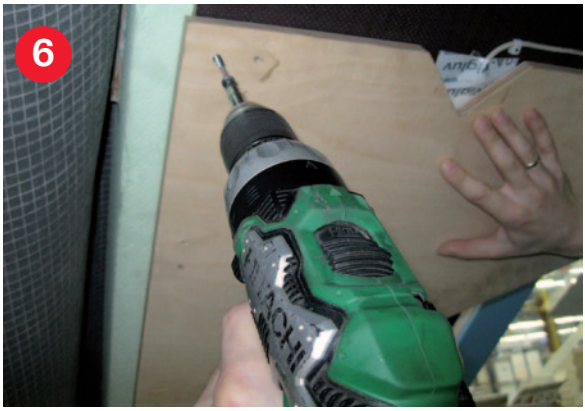


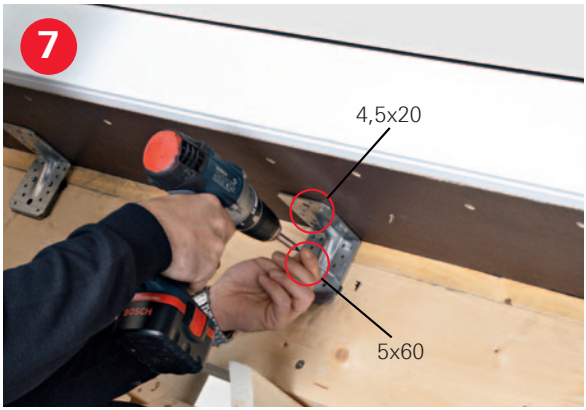
- Before fastening, check the gap dimension to the sash frame at the closing edge.
- Align the sash frame if necessary.



- Completely screw the sash frame to the trimmer joist from the outside through the frame strikers.
- Undo corner flashing.

- Fix the sash frame with mounting angle brackets (8 pieces from disassembly of the cross strut) at the top and bottom. Mount 5 angle brackets each at the top and bottom with equal spacing.
- Screw on the stack storage box.





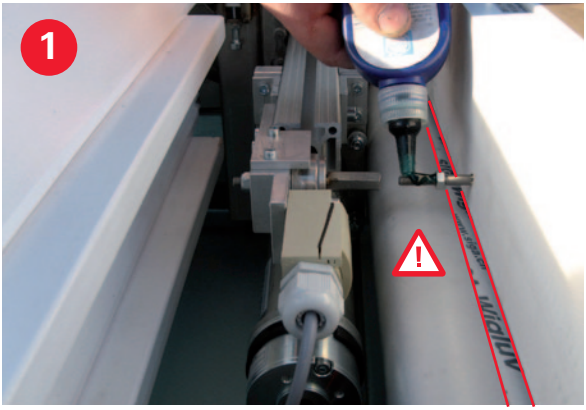
Emergency release

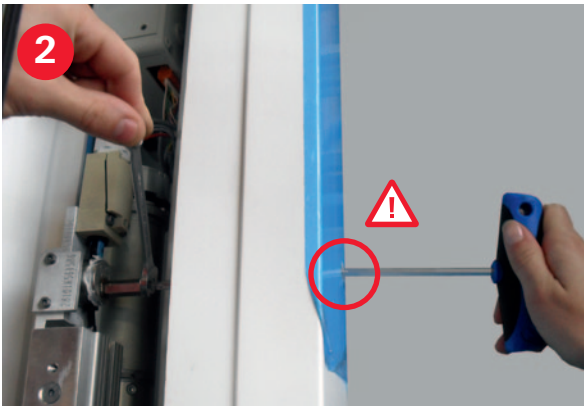
Connect the window and begin decoupling the motor.
Guide the screw into the hole. Apply screw locking compound from parts box so that nothing can come loose while adjusting the clearing lock.

Tighten the bolt and nut with an Allen key.

When doing so, make sure that the screw head is flush with the frame.

- Lock the nut against the hexagon.
- Remove the cover cap provided for this purpose from the parts box and press it on after completing work.

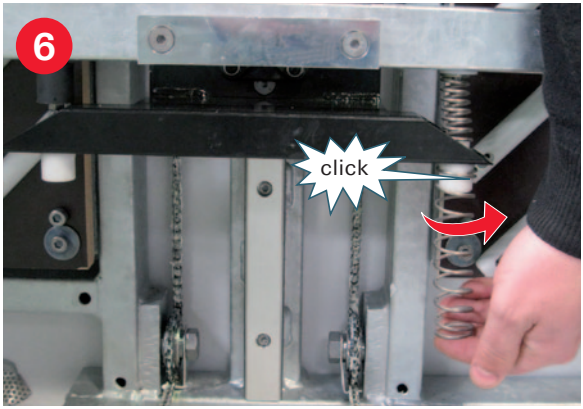




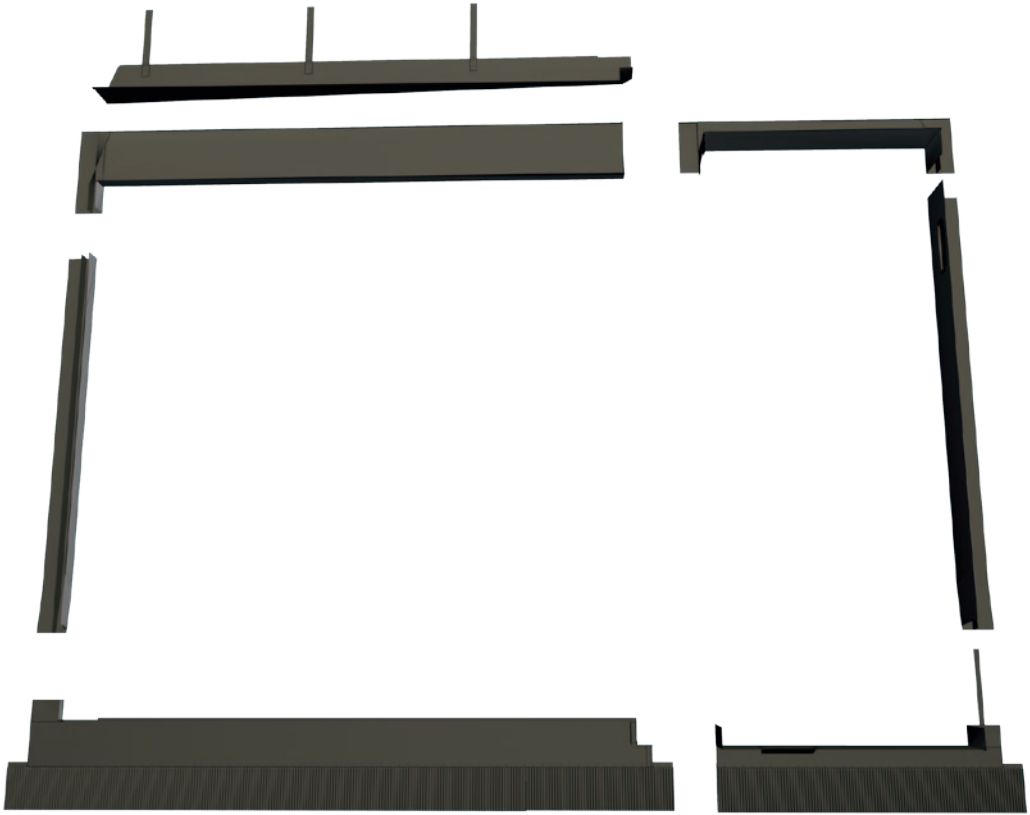
- All sashes must be in the stack storage box.

- Raise the sash and pull it out carefully.
  Make sure that all sashes are connected together and nothing jams or drags.

- Mount the springs.



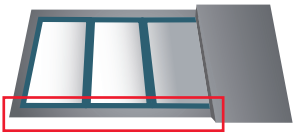
Installing roof flashing



- Connect or bond on the waterproof and windproof sub-roof in accordance with the requirements of the ZVDH.

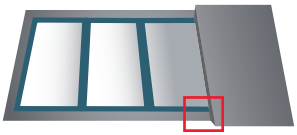
- Attach the water drain-off gutter and have it bonded on by the customer.

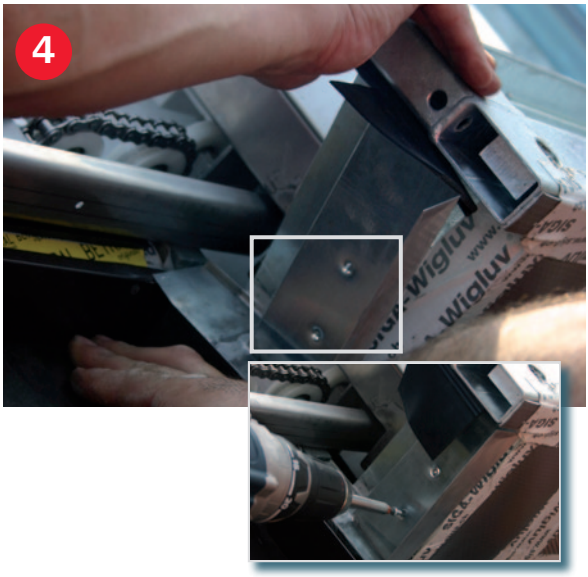
- Lay the lower flashing plate (UEB) on the sash frame at the bottom and fix it in place.



4,2x16
Self - tapping

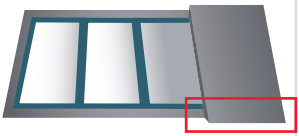
- Mount the sealing plate at the bottom on the stack storage box and fix it in place



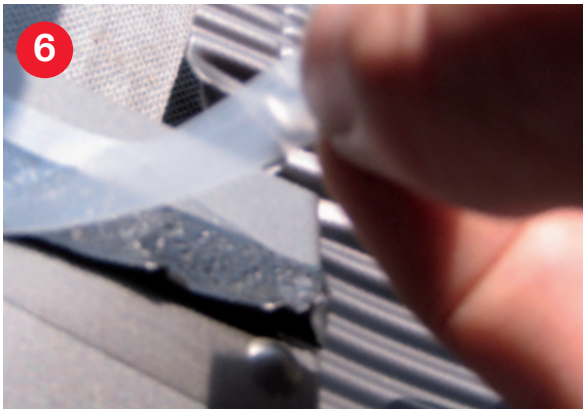


4,2x16
Self - tapping

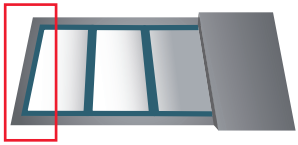
- Install the UEB stack storage box. Overlapping to right or left on the elbow seam of the UEB sash frame, then fix the UEB stack storage box in place.



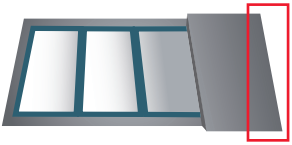
- Apply butyl between the plates as a seal.



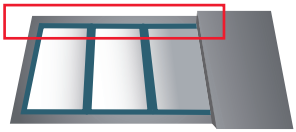
- Lay the side flashing plate (SEB) on the sash frame and slide it into the folded-down sheet-metal edge of the lower flashing plate.



- The side flashing plate of the stack storage box must be pushed under the hinges and folded-down sheet-metal edges of storage box.
- Guide the water drain hose through the opening on the side flashing plate.

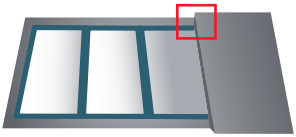


- Mount the upper flashing plate on the sash frame. Slide it into the folded-down sheet-metal edge on the side flashing plate.



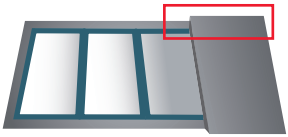
4,2x16
Self - tapping

- Mount the sealing plate on the stack storage box at the top and fix it in place.



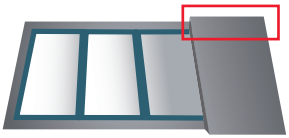
- Apply the butyl adhesive tape to fix the upper flashing plates in place on the upper flashing plate of the sash frame.

- Mount the upper flashing plate on the stack storage box and bond it to the upper flashing plate of the sash frame.



4,2x16
Self - tapping

- Screw the upper flashing plate to the stack storage box

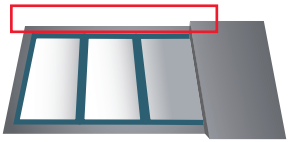


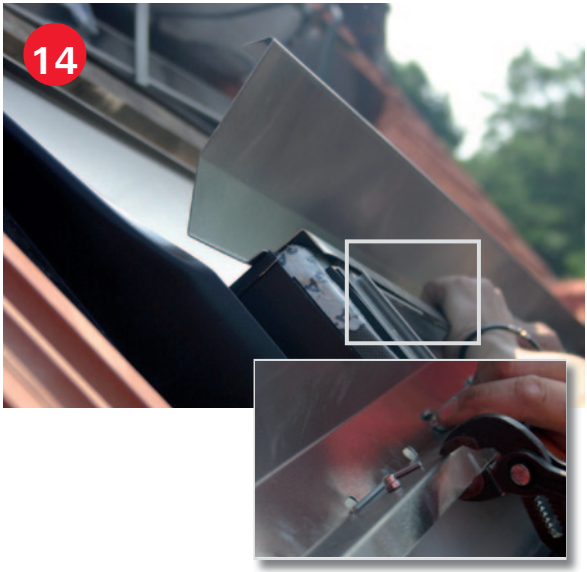
VA M4x10 with lock nut

Size 7

Size 5

- Fit the deflector plate at the top of the sash frame and secure it with VA M4x10 screws and lock nuts.





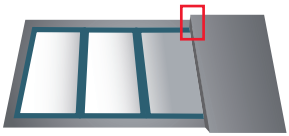
5x60

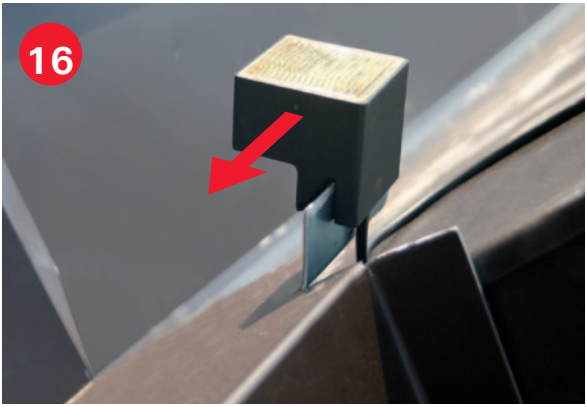
- Mount the additional deflector plate and at the same time the specified water guide on the deflector plate.
  Fix in place on the batten with the lugs.

The space between the upper cover plate of the stack storage box and the additional deflector plate must be sealed off with butyl tape.

In damp weather, the rain sensor must remain packed until installation is completed.

- Mount the rain sensor on the folded-down edge provided.



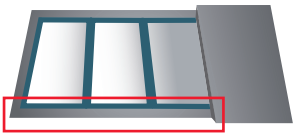


- After installation of the roof flashing is completed, the side flashing plates are also fixed in place with at least three sheet-metal bonders (top, centre, bottom).

VA M4x10
with lock
nut

Installing cover plates

Mount cover plate on roller track and fix in place with VA M4x10 bolts and lock nuts.

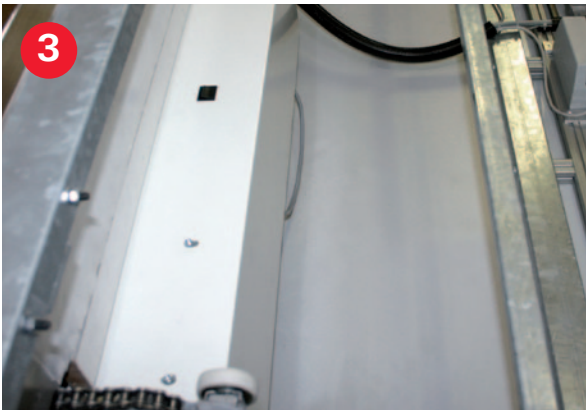


VA 4,9x35

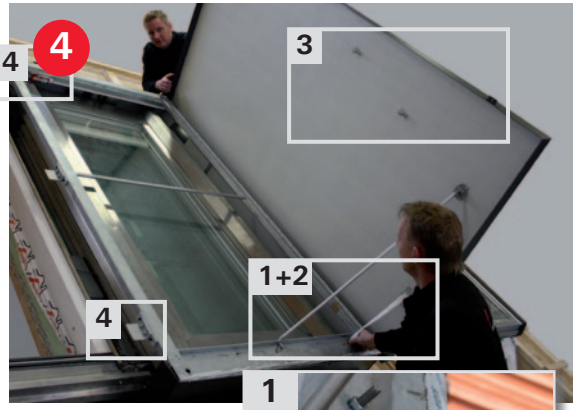
Mount the side cover on the sash frame and screw on six times on the side.

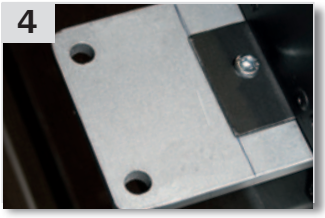
- Cover the window, e.g. with roof tiles. When doing so, make sure that the distance between the roof tiles and the additional deflector plate is at least 8 cm. This ensures safe water routing.

- Guide the switch cable through the opening provided. Clip in the switch from the outside and connect the cable. Mount the motor cover and fix in place.



- Place the cover on the stack storage box again.
- Hold in place with safety hooks and fasten the securing tape with 2 screws (screws are located in the stack storage box).
- Screw in the locking screw (page 9, point 2) again.

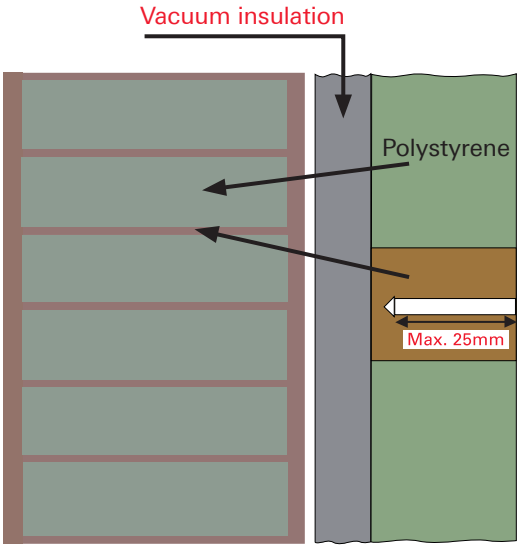




- Before commissioning, make sure that no dirt or objects has gotten into the roller tracks (see maintenance information in operating instructions).
- Carry out several test runs to check whether the window functions optimally.

If the foil collar of the window is not yet bonded to the moisture barrier following installation, it may be moved by a gust of wind and it may be detected as an obstacle by the sensor. Then the window stops.

- The back of the Azuro stack storage area is provided with a highly insulating vacuum insulation.



Never drill or screw deeper than **25 mm**!

Checklist: Mechanical system

No.	Work steps / Function	Value / Condition	Done
1.	Smooth movement of the limit switch (Open/Close)	Roller levers may not rub on the toothed rack of the sash and jam	
2.	Sash 1, 2 and 3	Must run in the chain without jerking (during manual advance)	
3.	Cleanliness of stack storage box	There may be no chips in the stack storage box	
4.	Cleanliness of guide rail	There may be no chips or objects in the roller track	
5.	Cleanliness of seals	There may be no dirt or dust on the seals	
6.	Glass panes	Must be clean	
7.	Cover for motor and controller	Is the cover mounted?	

Checklist: Electrical system

No.	Work steps / Function	Value / Condition	Done
1.	Check the left-hand/right-hand running of the window and conduct several test runs	-Must start off after button is pressed and stop after button is pressed again -Jerk-free opening and closing, switch-off at end positions -Sashes must stack or hook in reliably	
2.	Decouple the drive	-Hexagon spanner must meet eccen tric without application of additional force -Left-hand yellow LED must light up -Window must be easy to move	
3.	Slide the window into the separating position	-Right-hand yellow LED must light up	
4.	Lower rocker - cleaning position	-Sash separation must function -Switch pressed downward means rocker lowers	
5.	Presence detector Test switch-off	-If hand or object approaches, win dow must stop immediately (check while moving open and closed)	
6.	Test rain sensor	-Rain sensor in correct position? -Moisten rain sensor; window must close -Rain LED must light up	
7.	Test level sensor and pump	-Moisten level sensor -Level LED must light up -Pump must suck out of stack storage area -Is pump suction hose routed through roof flashing to outside?	
8.	Test safety switch in cover	-Open cover on stack storage area; window drive must stop	

Checklist for construction-site approval

Date:

General information Info:

Address of fabricator:
Name:
Street:
City:
Phone:
Mobile phone:

Address of construction site:
Name:
Street:
City:
Phone:

End customer:
Name:
Phone:

Vérification :

1) Was the window properly connected (wind and rain-proof)?
Yes: ☐ No*: ☐
*Reason : _____

2) Can the Azuro be operated manually?
Yes: ☐ No*: ☐
*Reason : _____

3) Are the guide rail and stack storage box clean?
Yes: ☐ No*: ☐
*Reason : _____

4) Was the roof flashing mounted properly and fault-free?
Yes: ☐ No*: ☐
*Reason : _____

5) Does the blind function properly?
Yes: ☐ No*: ☐
*Reason : _____

6) Was the left and right-hand running of the window checked and were test runs conducted?
Number: _____

7) Was the drive at least 2x decoupled?
Number: _____

8) Was the window pushed into the separation position?
Yes: ☐ No*: ☐
*Reason : _____

9) Was the rocker lowered and the window moved into the cleaning position?
Yes: ☐ No*: ☐
*Reason : _____

10) Was the switch-off of the presence detector tested?
Yes: ☐ No*: ☐
*Reason : _____

11) Was the limit switch checked?
Yes: ☐ No*: ☐
*Reason : _____

Specification of gap dimension for sashes:

Sash 1 bottom _____ mm
Sash 1 top _____ mm
Sash 2 bottom _____ mm
Sash 2 top _____ mm
Sash 3 bottom _____ mm
Sash 3 top _____ mm

Annual maintenance of the Azuro Panorama roof window is absolutely necessary!

Date, City _____ Signature of fabricator: _____

Date, City _____ Signature of end customer: _____

Date, City _____ Signature of Roto employee: _____

Fax: +49 7931 5490-242 **E-Mail:** otto.schmidt@roto-frank.com

Nameplate

AZU R08 WD HDW 26/17xVA xxxxx Hxx
www.roto-frank.com

Roto Frank
Bauelemente GmbH

EN 14351-1:2006

Roof windows for
construction applications

Resistance to wind load	Class C3/B3
Resistance to snow and permanent load	4/16/6
External fire performance	D,s2-d0/Broof(t1)
Watertightness	E 1200
Impact resistance	Class 5
Load-bearing capacity of safety devices	npd
Acoustic performance	37 (-1,-4) dB
Thermal transmission coefficient (Uw) without memory stack	1.4 W/(m²K)
Thermal transmission coefficient (Um) including memory stack	1.1 W/(m²K)
Total energy transmission rate (g)	48
Light transmittance rate (tv)	68
Air permeability	Class 3

www.roto-frank.com

Nameplate

AZU R09 WD HDW 26/17xVA xxxxx Hxx
www.roto-frank.com

Roto Frank
Bauelemente GmbH

EN 14351-1:2006

Roof windows for
construction applications

Restistance to wind load	Class C3/B3
Resistance to snow and permanent load	4/10/4/10/6
External fire performance	D,s2-d0/Broof(t1)
Watertightness	E 1200
Impact resistance	Class 5
Load-bearing capacity of safety devices	npd
Acoustic performance	38 (-2,-4) dB
Thermal transmission coefficient (Uw) without memory stack	1.0 W/(m²K)
Thermal transmission coefficient (Um) including memory stack	0,81 W/(m²K)
Total energy transmission rate (g)	44
Light transmittance rate (tv)	61
Air permeability	Class 3

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CE Declaration of Conformity
Roto AZU RO

Manufacturer:

Roto Frank Bauelemente GmbH
Wilhelm-Frank-Straße 38 – 40
97980 Bad Mergentheim
Germany

Hereby declares, that the products

Panorama sliding roof window, model Roto Azuro

is in accordance with the requirements listed below:
- Machinery Directive 2006/42/EU
- Low Voltage Directive (LVD) 2006/95/C
- Electromagnetic Compatibility Directive (EMC) 2004/108/EC

The following harmonised standards apply:

- EN 14351-1:2006
- EN 60335-1:2007
- EN 60335-2-103:2004
- EN 61000-6-1:2007
- EN 61000-6-3:2007
- EN 1279-5 (NB 0757)

The Azuro Panorama sliding roof window from Roto is to be considered as a machine that may only then be operated after having been installed in accordance with the instructions and regulations.

Bad Mergentheim, 16.07.2009

Hannes Katzschner
General Manager

Declaration of Conformity

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