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Instructions

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Original instructions for Sliding windows



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1 About this document



These instructions contain all the information regarding the intended use of the Sliding windows.

The following should be noted:

- The Instructions are part of the product.
- The Instructions must always be available to the operator.
- The Instructions must be stored nearby for the entire service life of the Sliding windows.
- The Instructions must also be passed on if the Sliding windows is transferred to other owners.

1.1 Applicability

These Instructions describe the automatically and manually operated Sliding windows from Air-Lux Technik AG in various product and installation versions (see Chagpter 6.8 "Product and installation versions" on page 23).

They include basic details on how to operate, inspect, maintain and clean the product.

NOTICE The scope excludes transport, installation, assembly, commissioning and disassembly. For this information, please refer to the separate details from the manufacturer.

Standardised illustrations

The illustrations in these instructions correspond to the described product as closely as possible. Some illustrations are standardised and may differ slightly from the actual product.

1.2 Manufacturer

Air-Lux Technik AG Breitschachenstraße 52 9032 Engelburg, Switzerland Phone: +41 71 272 26 00 Fax: +41 71 272 26 01 Website: www.air-lux.ch Email: info@air-lux.ch

1.3 Target group

These instructions are intended for everyone coming into contact with the Sliding windows, especially operators.

1.4 Conventions

The following chapters explain the text design elements used in these instructions and the layout of the warnings.

1.4.1 Typographical conventions

	Table 1: Typographical conventions
Representation	Meaning
Italics	Warnings that could lead to environmental or property damage if not followed.
Bold	Important information that should be particular- ly highlighted, as well as operating and display elements.
Marginal notes	Brief information to guide the reader's attention to a specific portion of the text.

1.4.2 Warnings and other information

When using these instructions, follow the safety warnings. The following symbols and signal words are used:

	Table 2: Warnings
Symbol/signal word	Meaning
DANGER	Warning Imminent danger. This will result in death or serious injury.
WARNING	Warning Potentially dangerous situation. This may result in death or serious injury.
	Warning Potentially dangerous situation. This could result in slight or minor injury.
NOTICE	Note Information that must be taken into account to ensure safe operation of the system.
i	Additional information and important chap- ters.

Structure of warnings

- Signal word

 Indicates the set
 - Indicates the severity of the danger.
- Type and source of danger Describes the danger being warned against and where it can occur.
- Result of danger Describes the potential consequences of ignoring the warning.
- Escape to safety
 Describes how to prevent the danger from occurring and instructs
 on safety measures to be taken if the danger occurs.

Example warning

<u> A</u> DANGER

Risk of injury from improper use

Improper use of the machine may result in personal injury or property damage.

- Only use the machine as intended and described below.

Instructions

Instructions are numbered consecutively to indicate the sequence of the individual steps. The results of actions are listed directly below, if present. e.g.:

- 1. This is the first step.
- 2. This is the second step.
 - ▶ This is the result of the second step.

Operating and display elements

Operating and display elements, e.g. keys, switches or indicator lights, are highlighted in **bold**.

e.g.: The **button** is located on the frame.

2 General product information

The following chapters detail the guarantee and warranty provided by the manufacturer and general information about the product.

2.1 Guarantee

The statutory guarantee obligation applies. Damage due to operational wear and tear is excluded from the guarantee. Air-Lux Technik AG disclaims responsibility or guarantee liability and is hereby exempt from potential claims by third parties, in the event of personal injury or property damage caused by the owner or a third party due to one or more of the following causes:

- Improper use of the machine,
- Non-observance of the warnings in these instructions,
- Non-compliance with the specified limitations of use and conditions,
- Improper commissioning, operation, inspection or maintenance,
- Non-compliance with the specified inspection and maintenance intervals as well as regular care,
- Modification of the product or individual components when not explicitly approved by Air-Lux Technik AG, or
- Use of non-approved accessories or non-approved replacement parts.

2.2 Warranty

If the manufacturer or an authorised sales partner provides a product warranty that goes beyond the statutory warranty obligation, this will be set out in the service contract.

2.3 Product identification

A type plate is attached to the sliding window to identify the product precisely. Replace the type plate if damaged or lost.

2.4 Scope of delivery

The product is delivered with the complete, operation-ready Sliding windows, including:

- Control with operating button
- Instructions
- Quick reference guide

NOTICE

Information on optional product components and product versions can be found in Chagpter 6 "Structure and function" on page 18.

3 Information for your safety



In this chapter you will find all safety-relevant information. Before using the Sliding windows, read all safety information carefully and follow it during use. The safety warnings focus on the dangers of possible personal injury, property damage and damage to the environment and contain information on how to prevent and avoid such dangers.

3.1 Intended use

Operate the Sliding windows only if the operating conditions are taken into consideration (see Chagpter 5 "Operating conditions" on page 17).

The Sliding windows is intended only for opening and closing the moveable section of the window (see Chagpter 6 "Structure and function" on page 18).

The Sliding windows is not suitable for operation with explosive vapours or dust (ATEX) or operation within an ATEX area. Any other use of the Sliding windows beyond the scope described here is considered improper. The service life is approx. 20 years, following which a refurbishment (and possibly a general overhaul) by the manufacturer or a specialist company is necessary.

3.2 Improper use

Improper use is considered to have occurred if the Sliding windows is used for any purpose other than that described in Chagpter 3.1 "Intended use" on page 11.

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NOTICE
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For damages resulting from improper use, the manufacturer disclaims all liability. The owner therefore assumes sole responsibility for the same.

3.3 General rules of conduct

When using the Sliding windows, always adhere to the following rules of conduct:

- Only use the Sliding windows as instructed.
- Always ensure your own safety and that of others.
- Do not use the Sliding windows if damage or obstructions are visible. If necessary, notify the manufacturer or an authorised specialist.

3.4 Personnel qualifications – Who does what?

The following chapters explain the various groups of people who come into contact with the Sliding windows.

3.4.1 Operators

An operator can be any person who is fully mentally and physically capable of operating the machine.

Obligations of the operator

- Read and follow the operating and safety information in these Instructions completely.
- Only operate the Sliding windows if no damage is visible and the operating conditions are met.
- In the event of errors, malfunctions or visible damage, inform the owner or contact the manufacturer's customer service.
- Keep the Sliding windows clean (see Chagpter 8 "Cleaning and care" on page 31).

Operation by children

 Teach children proper operation and supervise them during operation.

3.4.2 Installation and maintenance personnel

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NOTICE
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All assembly, disassembly, modifications (i.e. integration into household technology) as well as inspection and maintenance are performed exclusively by the manufacturer or authorised specialists.

Installation and maintenance personnel are defined as follows:

- Trained specialist in electronics and metal construction.
- Receives ongoing training on technical innovations and has the necessary specialist knowledge of the installed technology (training at the manufacturer's headquarters in Engelburg, Switzerland).
- Has been briefed on the following topics through training from the manufacturer:
 - Functional description of the system,
 - Adjusting features and integration into household technology,
 - Explanation of the individual components,
 - Explanation of danger sources,
 - Use of the system,
 - Recognising and resolving malfunctions,

3.4.3 Overview – Who does what?

The following table assigns the individual groups described above to their corresponding tasks.

	Table 3: Overview – Who does what?	
Activity	Operator	Installation/ maintenance personnel
Operation	Yes	
Cleaning/care	Yes	
Visual inspection for external dam- age	Yes	
Error and malfunction resolution		Yes
Releasing blockages		Yes
Maintenance		Yes
Repair		Yes
Assembly/modification/transport/ disassembly/disposal	In coordination fac	n with the manu- cturer

3.5 Signs and warnings

Signs and warnings mark locations at which, under certain circumstances, potential dangers could occur. Do not remove the warning and information signs. Replace damaged or missing warning and information signs immediately.

		Tabl	e 4: Signs and warnings
Symbol	Meaning	Symbol	Meaning
	Dangerous electrical volt- age warning		Hand injury warning

3.6 Residual dangers during operation

The following residual dangers exist during use of the Sliding windows.

Mechanical hazards

The Sliding windows consists of moving and heavy components. Observe the following safety instructions to avoid personal injury and property damage due to crushing:

- Only move the sliding elements when sure that no people, pets or objects are in the way.
- Do not rush through the Sliding windows as it is closing.
- Always keep the Sliding windows in view as it is moving (visual contact with the sliding element must also be ensured during external operation).
- Do not operate the Sliding windows if external damage is visible or usual noises can be heard during operation.
- Do not accelerate the Sliding windows too quickly during manual opening and closing to ensure that it can be slowed at any time.
- Do not step into the guide rails when the Sliding windows is open.
- Do not step into the movement area of the automatic bottom flap (optional).

3.7 Safety devices and functions

The following chapters describe the standard and optional safety devices installed on the Sliding windows.

Safety devices cannot protect persons and property properly unless they are in proper working order. Therefore, observe the following:

- Ensure the safety devices are in faultless condition and adhere to the specified maintenance intervals.
- Do not use the system if the safety devices are defective or missing.
- Do not modify the function of safety devices or disable them.
- Have defective safety devices replaced or repaired immediately by qualified specialists.

3.7.1 Protective covers

A solid protective cover is attached to the upper and lower guide rails to protect against ingress and entry. The lower guide rail is constructively inset into the floor so that that the protective cover is flush with the floor.

3.7.2 Power threshold reverse function

The automatic Sliding windows has a power threshold reverse feature. If the sliding element comes into contact with an obstruction during closing, the movement stops once a predefined force is reached.

3.7.3 Obstruction recognition (optional)

The automatic obstruction recognition feature stops the closing movement of the automatic Sliding windows as soon as an obstruction is detected.

3.7.4 Protective cover for the lower guide rail

The lower recess for the guide rail can optionally be covered by a bar slider or an automatic bottom flap.

Automatic bottom flap

The automatic bottom flap covers the lower guide rail when the Sliding windows is open. As soon as the Sliding windows has been fully opened, the bottom flap automatically lifts up and covers the lower guide rail. For more information, see Chagpter 6.6 "Automatic bottom flap (optional, closed)" on page 23.

Bar slider

The bar slider is fixed to the sliding element and slides over the guide rail as the sliding element is opened. For more information, see Chagpter 6.7 "Bar slider (optional)" on page 23.

4 Technical data

The following table lists the key system-wide technical data.

	Table 5: Technical data
Technical data	Value/designations
Designation/type	Sliding windows
Serial number	Series 173
Personal installation number	See sliding window documenta- tion and construction drawing
Dimensions L x W x H	Various, see construction draw- ing
Total weight	Various, see construction draw- ing
Electrical connection	100–240 V (AC), 50–60 Hz
Power (P _{max})	16 W
Air pressure (p _{max})	0.9 bar
Opening/closing speed	Various (set individually accord- ing to customer's request)
Noise emission	< 70 dB (A)

5 Operating conditions

Comply with the operating conditions to ensure safe operation. The following table lists the key operating conditions for the Sliding windows.

5.1 General operating conditions

	Table 6: Operating conditions
Technical data	Value/designations
Ambient temperature	-20 to 50°C
Relative humidity	15 to 85%, non-condensing
Required space	Interval space of at least 30 cm on all sides

In addition, the following conditions apply:

- Do not disable the protective devices or other components.
- Only operate the Sliding windows when in perfect working order.
- Keep the lower guide rail free of contaminants. See Chagpter 8 "Cleaning and care" on page 31.
- Do not operate the Sliding windows in areas with explosive vapours or dust (ATEX) or in an ATEX area.

5.2 Protecting the glass

Do not place furniture or other large objects directly behind or in front of the glass. To prevent thermal breakage, maintain a distance of at least 30 cm:



Fig. 1: Protecting the glass

6 Structure and function

The following chapters explain the Sliding windows using an exemplary version with a sliding element with standard equipment. The optional components are marked as such.



Fig. 2: Entire structure

- **A** Electric drive (optional)
- **B** Non-sliding window element
- **C** Sliding window element (sliding element)
- **D** Non-sliding window element
- E Button
- **F** Automatic bottom flap (optional, closed)
- **G** Lower guide rail slide mechanism on roller guides (section view without protective cover)

6.1 Functional description

The Sliding windows is a room-height wall installation and serves to move one (or more) sliding window element(s). Optionally, the Sliding windows can be moved automatically. In the automatic version, the sliding element is driven by an electric drive. Depending on the version, multiple electric drives move the installed sliding elements (1 motor per sliding element). The direction of movement is horizontal (or vertical, depending on the version) and the movement proceeds automatically until the element is either fully open or fully closed.

All automatic functions are controlled by a built-in control unit. The system is operated by pressing the **button** Optionally, the control can be adapted to allow system operation via operating elements of the household control system.

The following chapters describe the individual components and additional features of the Sliding windows.

NOTICE

Chapter 6.8 on page 23 provides an overview of the product and installation versions of the Sliding windows.

6.2 Control unit

The control unit is installed in the area of the upper guide rail and controls and monitors all functions. It monitors the position using magnet contacts to determine if the system is open or closed. The system is designed so that individual functions can be programmed and operation implemented via the household control system. The system also has alarm contacts to the Sliding windows to be integrated into the household alarm system. Optionally, VDS contacts can also be used for the alarm system.

6.3 Guides

The sliding elements are integrated into the ceiling construction on the top and into the floor on the bottom so that no functional components are visible.



Fig. 4: Sliding window element - bottom

6.4 Electromechanical lock

The Sliding windows has a locking system with an electrically actuated closing piston. The locking system also works in the event of a power failure if you slowly push the sliding element closed by hand. The following figure shows the closure points:



Fig. 5: Closure points

The locking system electrically holds back the locking bolt when the sliding element is open. When the **button** is pressed, the sliding element closes the locking bolt automatically.



Fig. 6: Locking system

- A Closing piston in the sliding element
- B Locking bolt
- C Frame

NOTICE

In the event of a power failure, the locking bolts are closed.

6.5 Pneumatic sealing system

The Sliding windows has a circumferential air seal that is inflated when the sliding window is closed and is thereby pressed against the leaf profile. This seals the Sliding windows so that it is air-tight and insulated against noise from all sides.



Fig. 7: Sealing system

- A Sliding element
- B Frame
- **C** Inflatable seal, inactive (deflated)
- **D** Inflatable seal, active (inflated)

6.6 Automatic bottom flap (optional, closed)

The automatic bottom flap (also optionally available in multiple parts) has its own drive and covers the lower guide rail after opening. The following figure shows the open Sliding windows before and after the automatic bottom flap has been closed.



Fig. 8: Automatic bottom flap

- **A** Sliding element (open)
- **B** Lower guide rail (open)
- **C** Automatic bottom flap (after lifting up)

6.7 Bar slider (optional)

To cover the lower guide rail, a bar slider can also be optionally installed. With this system, the sliding element pulls the cover with it during opening.



Fig. 9: Bar slider

- A Sliding element
- B Bar slider

6.8 **Product and installation versions**

The Sliding windows is available in various product and installation versions with optional product components. Optional product components include:

- Automatic sliding element(s)
- Automatic bottom flap(s)
- Bar slider
- Resistance class RC2/RC3

NOTICE Due to the number of optional components, only the most important are listed here. A complete overview can be found in the list "Optional additional services" from Air-Lux Technik AG.

The following table shows the various installation versions.



Version overview



Structure and function

Version overview Central sliders, "outward curve" (vertically abutting fully glazed pane, "inward curve") Slider with fixed pane, "inward curve" Image: the state of the state of

7 Operation

The system is operated using the **button** on the frame of the sliding window (see Fig. 2 "Entire structure" on page 18).

NOTICEIf the Sliding windows is integrated into the functional scope of the house-
hold control system, it can optionally be operated using the correspond-
ing operating elements of the household control system. These operating
elements are not explained in these Instructions. See the instructions
from the manufacturer of the corresponding system for this information.

7.1 Button

The **button** is the central operating and indicator element and simultaneously serves the following purposes:

- General:
 - ¬ Status, error and malfunction indicator (LED in the **button**)
- Manual:
 - Unlocking and deflating (deflating air seal),
 - Locking and sealing (inflating air seal),
- Automated:
 - [¬] Unlocking, deflating and opening
 - Stopping, continuing opening, reclosing
 - Closing, locking and sealing (inflating air seal)

7.2 Unlocking

Press the **button**.



- ► The electromechanical lock retracts audibly and the seal deflates.
- Once the LED in the button turns red (status: unlocked/deflated), the sliding element can be opened manually.

7.3 Manual opening/closing

Crushing danger! Ensure that no people are in the way.

Slide the sliding element open or closed with the **window handle** (directly next to the button).



In the open position, the button is non-functional.

7.3.1 Locking

- 1. Ensure that the Sliding windows has been slid closed and rests completely against the stop.
- 2. Press the button.



- ► The locking bolts lock audibly and the seal is inflated.
- ► The LED in the button goes out (status: locked and sealed).

7.4 Automatic opening and closing

7.4.1 Automatic opening (complete)

Press and hold the **button** for approx. 1 second.



- ► The electromechanical lock retracts audibly and the seal deflates.
- ► The LED in the button turns red (status: unlocked/deflated) and the sliding element slides open.

7.4.2 Automatic closing (complete)

Press and hold the **button** for approx. 1 second.



- ► The sliding element slides closed.
- When the sliding element is completely closed, the locking bolts lock audibly and the seal is inflated.
- ► The LED goes out (status: locked and sealed).

7.5 Stopping

Press and hold the **button** once for approx. 1 second.

► The movement of the sliding element stops.

7.6 Continue opening

Press and hold the **button** once for approx. 3 seconds.

► The sliding element continues to open.

7.7 Reclosing

Press and hold the **button** once for approx. 1 second.

► The sliding element slides closed again.

7.8 Control with external operating device (household control system)

Crushing danger! Ensure that no people are in the way. Always keep the sliding window within view when controlling it with an external operating device.

Observe the instructions from the manufacturer of the corresponding system. The operating elements of devices that may be connected are not explained in this Instructions.

8 Cleaning and care

The following chapters contain important information on how to clean and care for the Sliding windows. Observe the cleaning and care instructions to ensure the product continues to function properly.

8.1 Care products

Do not use abrasive cleaning agents or solvents for cleaning and care. Observe the specific instructions for the surface and those of the cleaning and care product provider or the SZFF guideline 61.01 "Maintenance and cleaning of façades".

8.2 Guide rail

- 1. Clean contaminants in the guide rail with a vacuum cleaner.
- 2. Remove course residue from the chromium steel with water and a brush. Be sure not to scratch the surface.



Fig. 10:Cleaning the guide rail

8.3 Glass

Clean the glass only with clean water, commercially available glass cleaner and suitable glass cloths. For more information, see the SIGAB guideline 102 "Cleaning glass".

8.4 Profile

In general, clean surfaces as mildly as possible and rinse them thoroughly with water. In the event of stubborn stains, contact a cleaning specialist.

8.5 Seals

The seals have a permanent coating and must be protected from mechanical damage.

Do not clean or treat the seals.



Fig. 11:Do not clean seals

9 Errors and malfunctions

The **LED** in the **button** additionally serves as an error indicator. The following table describes possible errors and malfunctions and provides information on how to proceed for the specific product versions.

		Table 8: Errors and malfunctions
Incident/indica- tor	Meaning	Remedy
Manual and autom	nated	
1 × short flash	The seal is inflated but has a small leak.	Contact Air-Lux customer service.
2 × short flashes	The seal cannot be inflated and has a large leak.	Contact Air-Lux customer service.
3 × short flashes	Lock or alarm con- tacts are inactive.	Reopen/reclose the slid- ing element. Then press the button.
The sliding ele- ment is stuck		Check if there are objects in the guide rail that are blocking the sliding element.
Automated		
Constant flashing	The drive is malfunc- tioning.	Press and hold the button for 20 seconds (reset – possible in any posi- tion). If the button is still flashing, close the sliding element by hand (it will lock automatically) and contact Air-Lux customer service.
Power failure when the sliding element is open		Close the sliding element slowly. The sliding ele- ment will lock automati- cally without electricity.

10 Inspection and maintenance

To maintain functionality and prevent damage, yearly inspection and maintenance must be performed.

If you have a service contract, the manufacturer (or authorised sales partner) inspects and maintains the equipment properly and punctually. For more information, contact Air-Lux customer service.

NOTICE Do not attempt to maintain or repair the equipment yourself. Instead, have this done by qualified installation and maintenance personnel.

10.1 Commissioning a specialist

If you do not have a service contract, commission a qualified specialist to inspect and maintain the equipment. Ensure that the equipment is inspected and maintained once a year. A commissioned specialist must fulfil the requirements for installation and maintenance personnel (for more information, see Chagpter 3.4.2 "Installation and maintenance personnel" on page 12) and is obliged to acquire the necessary information regarding inspection and maintenance from the manufacturer.

10.2 Keeping inspection records

Inspections and maintenance must be documented. Ensure that all inspection, maintenance and repair work done on the sliding windows as well as expansions and modernisations are entered into your records by the specialist performing the work. This is a prerequisite when asserting possible compensation claims in the event of damages.

11 Disassembly and disposal

NOTICE

Do not perform attempt to disassemble the equipment yourself. Instead, have this done by appropriately qualified personnel.

Dispose of components properly and in an environmentally friendly manner. In the process, comply with all legal regulations. Ensure that dismantled components are provided for reuse wherever possible:

- Scrap metallic components.
- Bring plastic parts for recycling.
- Dispose of remaining components according to the nature of the material (e.g. electrical waste).

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Air-Lux Technik AG Breitschachenstraße 52 9032 Engelburg, Switzerland

+41 71 272 26 00 www.air-lux.ch info@air-lux.ch

