



1 Key to symbols#

Warning
In these instructions, warnings are used to warn against material damage and injuries.

- Always read and observe these warnings.
- Observe all the measures that are marked with the warning symbol and warning word.

Warning symbol	Warning word	Meaning
	DANGER	Danger for people. Non-observance can result in death or serious injuries.
	CAUTION	Information on avoiding material damage, understanding a concept or optimising the processes.

Important information and technical notes are emphasised in order to illustrate the correct operation.

Symbol	Meaning
	means "important note"
	means "additional information"

Symbol for an action: Here you have to do something.
Observe the sequence if there are several action steps.

2 Safety instructions

To ensure personal safety, it is important to follow these safety instructions. These instructions are to be retained!

2.1 Product liability

- In accordance with the liability of the manufacturer for their products as defined in the German "Produkthaftungsgesetz" (Product Liability Act), the information contained in this brochure and in the corresponding mounting instructions and wiring diagrams of the product (product information and proper use, misuse, product performance, product maintenance, obligations to provide information and instructions) is to be observed. Non-compliance releases the manufacturer from his statutory liability.
- Only qualified personnel who are authorised by GEZE may carry out mounting, function check and maintenance. GEZE shall not be liable for injuries or damage resulting from unauthorised modification of the equipment.
- GEZE shall not be liable if devices from other manufacturers are used with GEZE equipment. Use only original GEZE parts for repair and maintenance work as well.

2.2 General safety instructions

- In accordance with Machine Directive 2006/42/EC, a risk analysis must be performed and the system identified with the CE marking in accordance with Appendix III of the EC Machine Directive before commissioning the system.
- Observe the latest versions of guidelines, standards and country-specific regulations, in particular:
 - BGV A1 "Accident-prevention regulations, General regulations"
 - BGV A3 "Electrical systems and equipment"
 - ASR A1.6 "Windows, Skylights, and Transparent Walls"
 - VDE 0100, Part 600 "Erection of low-voltage systems Part 6 Tests"
 - DIN EN 60335-1 "Safety of electrical devices for home use and similar purposes - Part 1: General requirements"
 - DIN EN 60335-2-103 "Safety of electrical devices for home use and similar purposes - Part 2-103: Special requirements for drives for gates, doors and windows"
- Do not allow children to play with control systems of all types and keep remote controls out of reach of children.
- Ensure that any access between the driven part and the surrounding parts due to the opening movement of the driven part is prevented.

CAUTION Important for assembly:

- For the bottom hung window, a suitable safety catch is required (e.g. GEZE safety scissor No. 35).
- Only original brackets must be used.
- Use suitable fixing materials for the installation. Make sure that the fixing materials in the profile hold the mounted parts securely.

2.3 Mounting information

- Read and observe the specifications in the mounting instructions and keep these for later use. All the dimensions specified have to be checked on site on own initiative and responsibility.
- The drive is designed solely for use in dry rooms and may not be subjected to highly corrosive environments (e.g. sea air or marine air).
- In order to avoid injuries protective caps are to be placed onto projecting threads of the fastening screws.
- Check whether the conditions specified on the information plate of the drive such as the ambient temperature and electrical data are observed at the planned installation site.
- Before mounting the driven part check whether it is in a good mechanical state, has a balanced weight and can be closed easily.

2.4 Cable layout and electrical connection (at electrical drives)

- The connection to the power supply (230 V AC or 24 V DC) has to be carried out by a qualified electrician, in accordance with the respective wiring diagram. Carry out the power connection and equipment earth conductor test in accordance with DIN VDE 0100 or in accordance with National Standards for countries other than Germany.
- Use a customer-accessible double-pole overload cut-out as the line-side disconnecting device in accordance with the permissible current carrying capacity of the cable.
- Use only cables prescribed in the wiring diagram. Implement the cable type, line length and cross-section in accordance with the technical specifications.
- Always use wire-end ferrules for wire cores.
- All the 230-V components have to be disconnected at all poles from the supply voltage for maintenance and repair work.
- Insulate unused wires.

2.5 Safety-conscious working and usage

- Protect the workplace from unauthorised entry.
- Take care to allow sufficient space for the movement of long components in the system.
- Before working on the electrical system interrupt the power supply and verify the safe isolation from supply. Note that the system will still be supplied with power, despite the fact that the power supply is disconnected, if an uninterruptible power supply (UPS) is used.
- During the setup actuate the drives only in inching mode.

DANGER

- Risk of injury when a drive is opened through moving parts (drawing in of hair, clothing, etc.)
- Risk of injury by trapping, knocking, shearing and hair etc. being pulled in at unsecured points.
- Risk of injury through breakage of glass.
- Touching the window unit can result in injuries during operation.

2.6 Checking the mounted system

- The measures for security and prevention of crushing, impact, shearing or drawing-in spots, in particular at a casement or drive height of less than 2.5 m are to be carried out and checked.
- A measure is for example the use of a switch with default off (e.g. GEZE fan switch LTA-LSA Mat. No. 118476).
- A key switch with default off must be used (e.g. GEZE Mat. No. 117996 for SCT, 090176 for cylinder) in places where there are children or people with limited ability to judge.
- After the installation has been completed, check that the system is set correctly and functions correctly and safely.
- Check all the functions by means of a trial run.
- The end user has to be instructed in all the important operating and handling steps after completion.

3 Disposal of the window unit

The window unit consists of materials that have to be recycled. The individual components have to be sorted in accordance with their material type.

- Aluminium (profiles)
- Iron (screws, chain, ...)
- Plastic
- Electronic components (motor, controller, transformer, relay, ...)
- Cables
- Battery

Dispose of the parts in accordance with the statutory regulations.

4 Maintenance

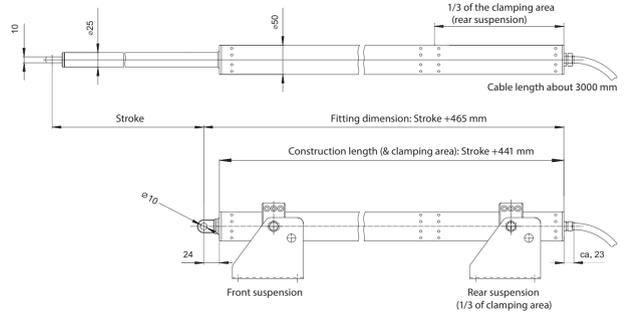
GEZE prescribes regular maintenance (at least once a year). This is to be carried out by a suitably qualified person. In the process the function as well as the state of the mechanical equipment (imbalance or signs of wear, damage to fastening parts) and the electrical connections are to be checked. The system may not be used during repair and setting work.

- Inspect the fixations and clamping screws for firm seating.
- Clean dirt and dust from the drive during maintenance.

DANGER Danger of Crushing and Clamping!
The Window Closes Automatically!
Before assembly read enclosed safety instruction and carry out during assembly and drive operation!
Warranty claims presuppose professional assembly, installation and maintenance according to the guidelines of the manufacturer.

The drive must be protected from construction dirt and water jets.

5 Main dimensions



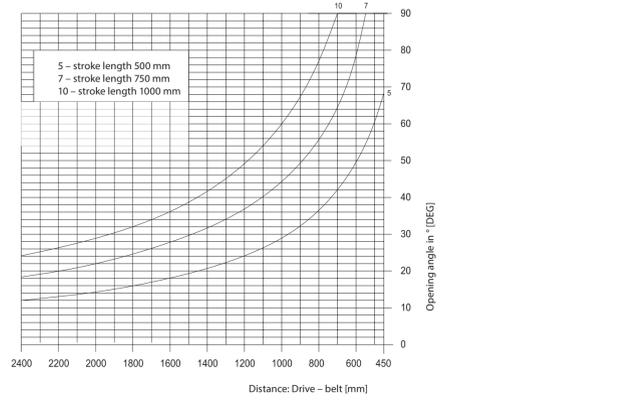
6 Calculation

General leaf size range

- Solo toe directly at primary closing edge
- Syncro toe directly at primary closing edge
- Syncro toe on side of primary closing edge

Figures are leaf outer dimensions FAB/FAH in mm
For other dimensions please enquire

6.1 Opening angle

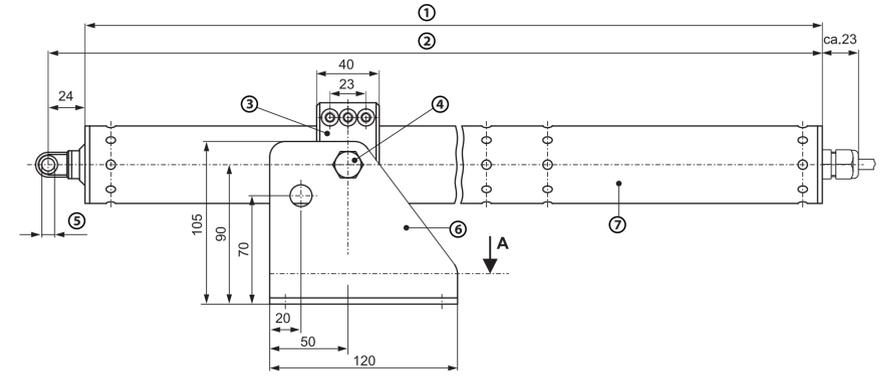


7 Fixing material

Wood profiles	Aluminium	Steel/stainless steel	Plastic
Wood screws of size 6 e.g. DIN 96 DIN 7996 DIN 571 With head type: domed slotted, domed Phillips, hexagon or special form	Treaded, thread forming or self-tapping screws of size M6 or ST4,8. e.g. ISO 4762, ISO 4017 ISO 7049, ISO 7085 DIN 7500 With head type: Cylinder head with hexagon socket, Torx, Phillips or hexagon head	Treaded, thread forming or self-tapping screws of size M6 or ST4,8. e.g. ISO 4762, ISO 4017 ISO 7049, ISO 7085 DIN 7500 With head type: Cylinder head with hexagon socket, Torx, Phillips or hexagon head	Plastic screws of size 6 or self-tapping screws in ST4,8. e.g. DIN 95406 DIN 95507 DIN 7049 ISO 7085 DIN 7500 With head type: Domed Phillips, hexagon head or special form with multi-point socket
Recommendation: Secure screws with wood glue against loosening	Blind riveting nut, size M6 e.g. with knurled countersunk head	Blind riveting nut, size M6 e.g. with knurled countersunk head	

8 Installation

Installation with roof window console E 3000, clamp ring and casement bracket E 3000



1 Clamping area = stroke + 441 mm (rear third of total length = rear suspension)

2 Installation dimension = stroke + 465 mm

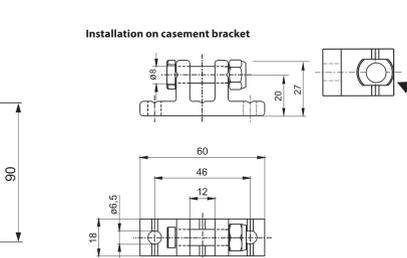
3 Casement bracket 14 mm

4 Collar screw 14 mm (2 x)

5 Eye 8 mm with insulating sleeves 10 mm without insulating sleeves (no thermal isolation)

6 Roof window console E 3000

7 Drive



Procedure

- Screw-fit roof window console to frame.
- Secure casement bracket to leaf.
- Engage drive and secure bolt with locking pin. If necessary, turn drive only to right (clockwise).
- Adjust the casement bracket to the console bore. To do this, fit a screw in the middle one of the three holes to stretch the casement bracket far enough to easily slide over the drive. Tighten the left and right collar screw and slide the roof window console into the desired position with the casement bracket. Now tighten the casement bracket.
- If necessary, the supplied cable duct can be glued onto the drive to take the cables.
- Install the electrical connection in compliance with the wiring diagram (ID 162884).

8.1 Drilling templates and installation examples

Primary closing edge (HSK)

10 Casement bracket E 3000

11 Console bracket E 3000 HSK

Additional examples:

Secondary closing edge (NSK)

12 Casement bracket NSK W-HU

13 Console bracket E 3000 NSK

14 Console E 3000 NSK

Additional examples:

15 Casement bracket E 3000 NSK S

16 Console E 3000 NSK S

Additional examples: