GEZE ELECTRIC RWA AND VENTILATION SYSTEMS

SAFETY WITH AIR-MOVING POWER

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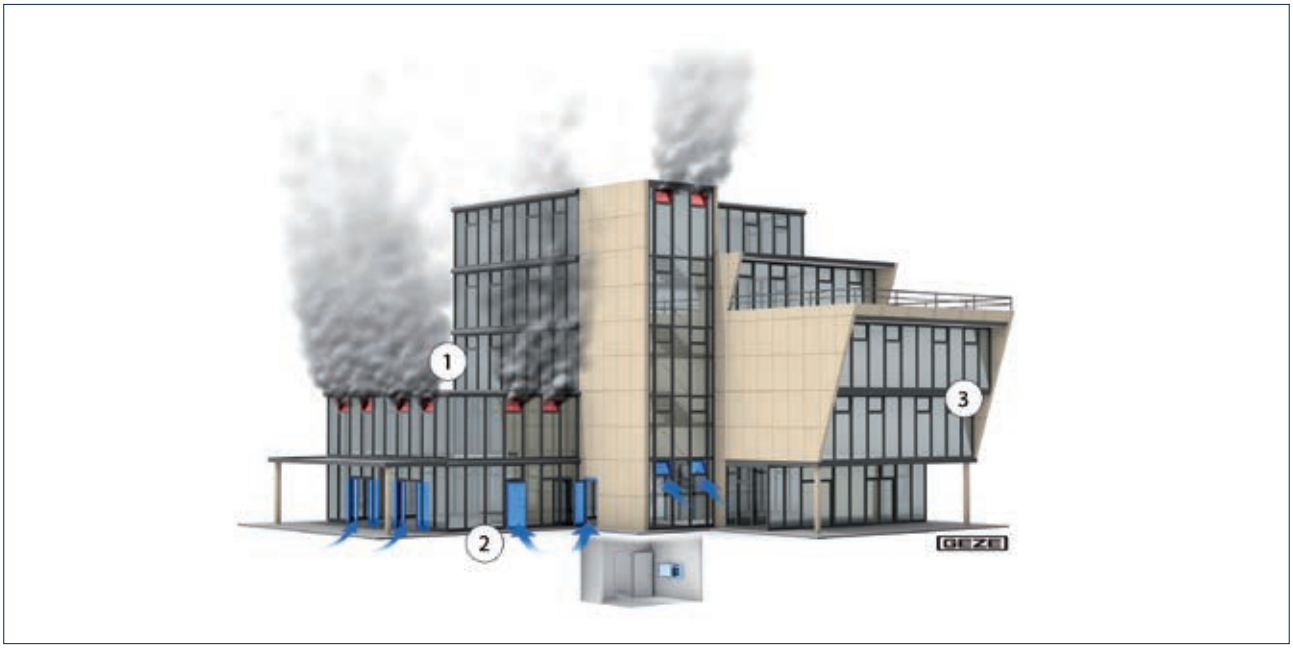
GEZE window technology

Safety with air-moving power

When it comes to opening and closing windows, GEZE offers solutions for a variety of different applications. The complete solutions by GEZE combine different requirements on windows. The large product range comprises drive systems for daily ventilation, complete fresh air and exhaust air solutions for a safe and quick natural smoke exhaust in the event of a fire - also as SHEVs - and intelligent RWA control central units. In addition, GEZE offers a complete range of door systems as RWA fresh air openings.

GEZT attaches great importance to a comprehensive support from project planning to support for the technical implementation and to service and maintenance.



1 = RWA exhaust air systems
2 = RWA fresh air systems
3 = Ventilation

GEZE Slimchain and GEZE Powerchain

Overview table for electric RWA and ventilation systems

	Chain drives				Spindle drives				Locking drives		Opening and locking systems			Electromagnetic	Scissor drives	Fresh air systems		
	ECchain	**Slimchain**	**Powerchain**	**E 920 - E 990**	**E 250 NT**	**E 1500 N**	**E 1500 S**	**E 3000**	**Power lock** [1]	**E 905/E 906** [2]	**RWA 100 NT**	**RWA 105 NT**	**RWA 110 NT**	**RWA-EM**	**E 170 , E 170/2**	**RWA TÖ**	**RWA K 600**	**RWA AUT**
Application range																		
Natural ventilation	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•	
Smoke and heat extraction system (RWA)		•	•	•	•	•	•	•	•	•	•	•	•	•	•[3]	•	•	•
Natural smoke and heat exhaust ventilator (NRWG)		•	•	•	•		•	•	•	•	•	•	•				•	
Function																		
Exhaust air (as smoke vent (NRWG) or smoke dissipation)		•	•	•	•	•	•	•	•	•	•	•	•	•	•[3]			
Fresh air		•	•	•	•	•			•	•	•	•	•	•	•[3]	•	•	•
Application location																		
Façade	•	•	•	•	•	•			•	•	•	•	•	•	•		•	
Roof			•		•	•	•	•									•[6]	
Door																•	•	•
Casement types																		
Bottom-hung casement	•	•	•	•	•	•			•	•	•	•	•	•	•	•	•	
Side-hung casement	•	•	•	•	•	•			•	•	•	•	•	•			•	
Top-hung casement	•	•	•		•	•			•	•	•	•	•	•			•	
Horizontally pivot-hung casement			•						•	•								
Vertically pivot-hung casement			•						•	•								
Skylight casement			•		•	•	•	•									•	
Louvre window					•													
Opening type																		
Inward-opening	•	•	•	•	•	•			•	•	•	•		•	•	•	•	•
Outward-opening	•	•	•		•	•	•	•	•				•	•		•	•	•
Installation options																		
Frame	•	•	•		•	•	•	•	•		•		•	•	•	•	•	•
Casement		•	•		•	•						•		•		•	•	
Integrated		•[7]		•						•								
Opening width [mm] / Opening angle [°]	200	300	600	200	100	300	300	300	22[8]	18[8]	58°	75°	56°		170		90°	
	400	500	800	400	150	400	400	500										
		800	1200	500	200	500	500	750										
				700	230		600	1000										
				900	300		750											
					500		1000											
					750		1200											
					1000													
Connection to RWA control units																		
THZ		•	•	•	•	•			•	•	•	•	•	•[5]	•[3]	•	•	•[4]
THZ Comfort		•	•	•	•	•			•	•	•	•	•	•[5]	•[3]	•	•	•[4]
E 260 N		•	•	•	•	•	•	•	•	•	•	•	•		•[3]	•[6]	•	•[4]
MBZ 300		•	•	•	•	•	•	•	•	•	•	•	•	•[5]	•[3]	•	•	•[4]
Use for ventilation 230 V																		
with power supply and IQ gear		•	•	•	•				•	•	•	•	•					
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1) As system solution for Slimchain, Powerchain and E 250 NT
2) As system solution for E 920 - E 990
3) Only 24 V version
4) No supply - only potential-free alarm contact
5) Operating mode „retention magnet"
6) Depends on application case
7) Special variant, planned separately, depends on profile
8) Locking stroke

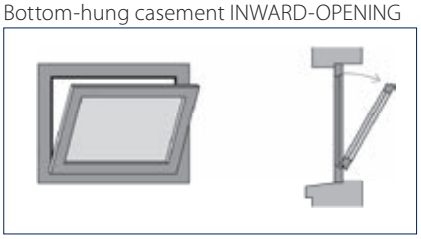
Overview of window types

Areas of application on different window shapes and types of casement

Overview of window types

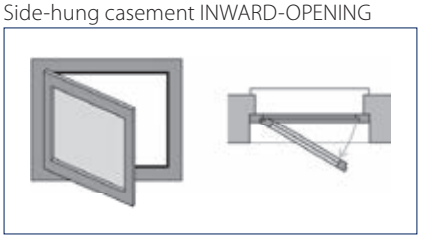
A wide range of different window and casement types are used in exterior walls:

Bottom-hung casement INWARD-OPENING



1 = ECchain
2 = Slimchain
3 = Powerchain
4 = Power lock
5 = E 250 NT
6 = E 920 - E 990
7 = E 905/6
8 = E 1500
9 = RWA 100 NT
10 = RWA K 600

Side-hung casement INWARD-OPENING



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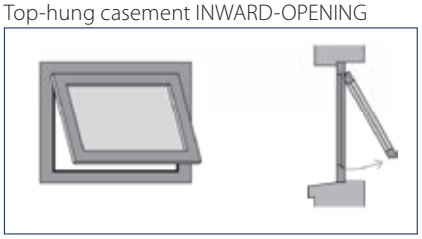
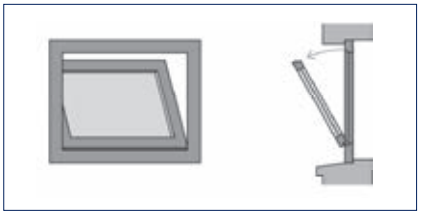
7 = E 905/6
8 = E 1500
9 = RWA 100 NT
10 = RWA 105 NT

Top-hung casement INWARD-OPENING



1 = Slimchain
2 = Powerchain
3 = Power lock
4 = E 250 NT
5 = E 1500
6 = RWA K 600

Bottom-hung casement OUTWARD-OPENING



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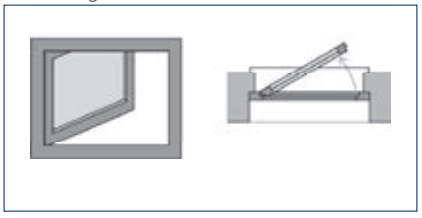
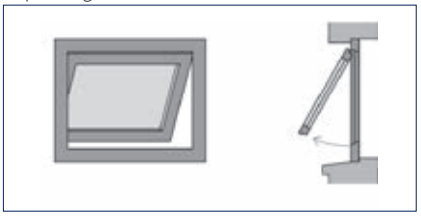
Side-hung casement OUTWARD OPENING



1 = ECchain
2 = Slimchain
3 = Powerchain
4 = Power lock
5 = E 250 NT
6 = E 1500
7 = RWA 110 NT
8 = RWA K 600

Top-hung casement OUTWARD-OPENING



1 = ECchain
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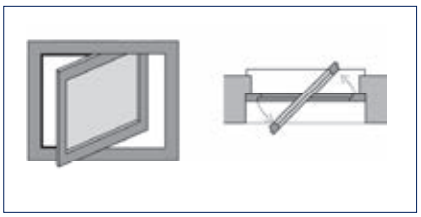
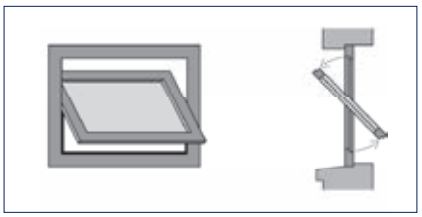
Vertically pivot-hung casement INWARD-OPENING to the left



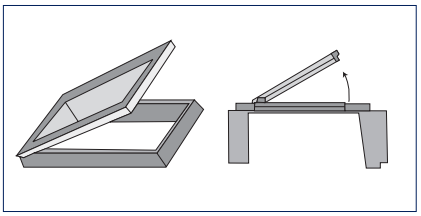
1 = Powerchain
2 = Power lock
3 = RWA K 600

Horizontally pivot-hung casement INWARD-OPENING at the bottom



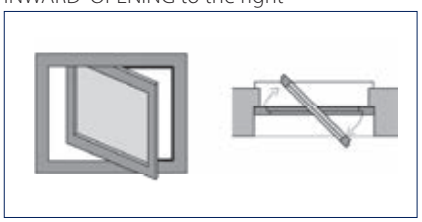
1 = Powerchain
2 = Power lock
3 = RWA K 600

Skylight OUTWARD-OPENING



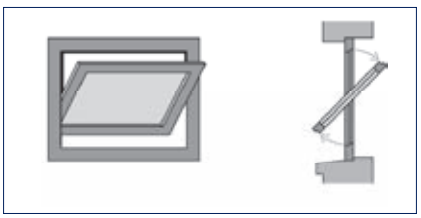
1 = Powerchain
2 = E 250 NT
3 = E 1500
4 = E 3000
5 = RWA K 600

Vertically pivot-hung casement INWARD-OPENING to the right



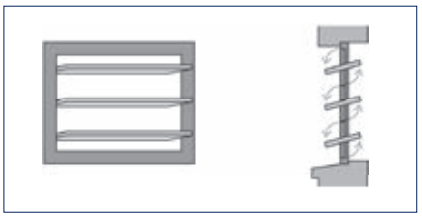
1 = Powerchain
2 = Power lock
3 = RWA K 600

Horizontally pivot-hung casement OUTWARD OPENING at the bottom



1 = Powerchain
2 = Power lock
3 = RWA K 600

Louvre window



1 = E 205
2 = E 212

GEZE RWA systems

Why is a smoke and heat extraction system so important?

The smoke and heat extraction system (RWA) is classed under "preventive fire protection" and will save life in the event of a fire.

During a fire considerable quantities of combustion products such as smoke and fire gases and heat energy are produced. The most important task of an RWA is to discharge the products of combustion from the building efficiently and quickly. Rooms and buildings without RWA fill up with toxic smoke gases within a very short time. The risk for people trying to escape and the rescue services is strongly increased in buildings without RWA since the lack of smoke and heat extraction leads to an uncontrolled blazing fire, and the thick smoke makes active and passive rescue impossible.

Fire victims caused by direct contact with fire only occur very rarely. Almost 90 % of all fatal fire accidents are due to suffocation caused by smoke gases. "Fire victims are smoke victims" – there are two reasons for this:
- Lethal constituents in smoky gas
- Corrosive components which burn the lung and airways when breathed in

Large amounts of smoke gas rise on account of thermal buoyancy and fill the room or the building with smoke. The high ambient temperature can lead to the building collapsing in worst cases.

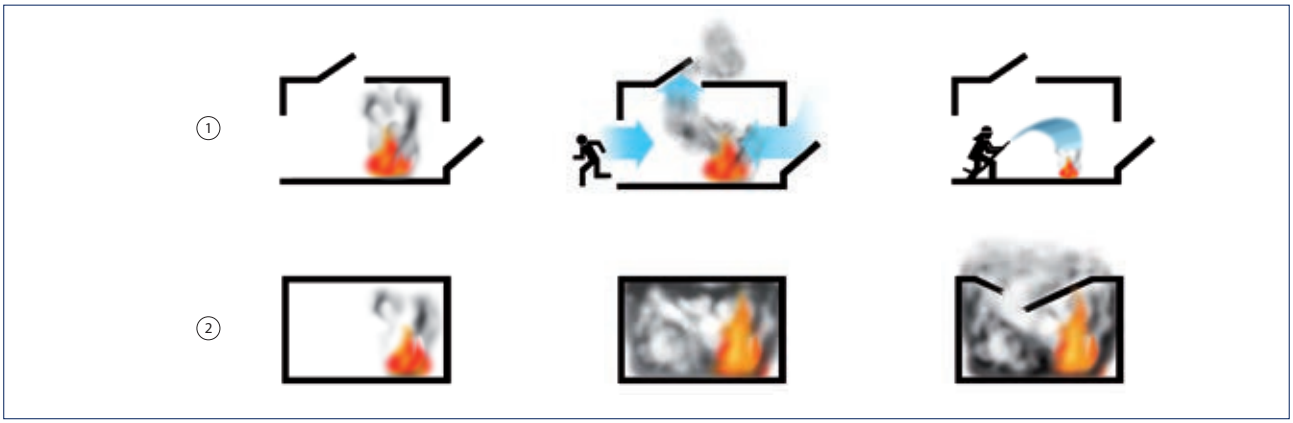
Conservation of the property structure is thus a major task for the RWA. This way people can escape from the building through their own efforts, and the rescue services can carry out active rescue – evacuation of the building – for longer.

In summary, the following objectives are achieved by the use of smoke and heat extraction systems in buildings:

1. Personal protection: keeping rescue routes smoke-free
- Active rescue
- Passive rescue
- Localisation of the fire

2. Environmental protection: reducing damage to the environment
- Minimising damage caused by fire extinguishing activities
- Minimum use of extinguishing agents

3. Property protection: conserving the building structure
- Support for fire-fighting
- Ventilation of the fire
- Minimisation of the thermal load



1 = Smoke spreading with RWA
2 = Smoke spreading without RWA

How natural smoke and heat extraction works

In the event of a fire, the RWA openings in the upper part of the building are opened. The hot ascending smoke gases can escape through these openings even during the initial phase. The necessary fresh air openings in the lower part of the building assist this process by balancing out the required mass flow.

Planning and design of RWA

The planning and design of RWA are subject to numerous European, national and regional regulations. For this reason, RWA systems should always be planned in agreement with local fire protection authorities. Major requirements which buildings have to meet are defined in the fire protection concept.

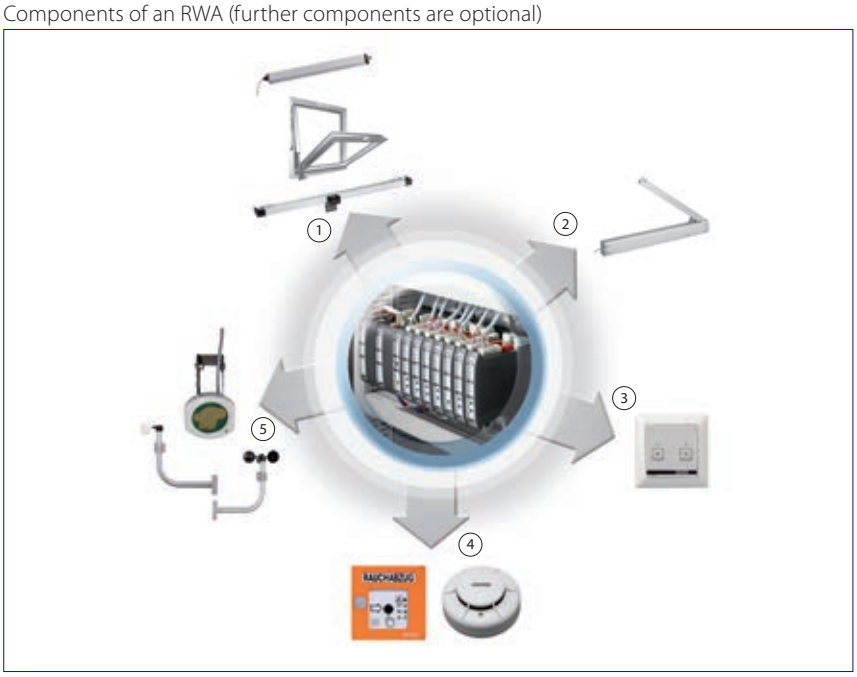
Components of an RWA

A GEZE RWA system is used for the daily ventilation of rooms and also for smoke extraction in the event of a fire. Windows, smoke flaps or skylight domes are equipped with electromechanical drives which open and close the fresh and exhaust air areas.
The control unit has two independent power supplies (mains and battery) which guarantee operation in any situation. The functional safety of the cables and trigger mechanisms is monitored. In the event of a fire, the system is triggered quickly through automatic detectors (smoke or heat detectors), actuation via an external fire alarm system (BMA) or manual actuation (RWA button). Natural smoke extraction ventilators (SHEVs) can be triggered depending on wind direction, so that in the event of a fire the building side away from the wind can be used for smoke dissipation.
If the system is to be used for ventilation as well, further components will be required, such as vent switches, rain and wind controls. For automatic ventilation control, contacts from temperature or CO_2 sensors can be connected. There are several standard plus ventilation functions available.

Special rules apply for planning, design and manufacturing if the building regulations, the fire protection concept or the building authorities require a natural smoke and heat exhaust ventilator (SHEV).

SHEV
It is used to extract smoke and hot gases from a building in the event of fire. In accordance with EN 12101 Part 2 this controlled building product comprises a window with the respective components (profiles, seals, fittings), the infill (glass, panels etc.) and the drive system with the respective components (drive, consoles, fittings).
GEZE offers drives which are tested and certified in accordance with EN 12101 Part 2 in SHEV. Customers have thus the possibility to manufacture SHEVs as system user and provide them with the necessary CE marking. See the SHEV system documents for further information.

Components of an RWA (further components are optional)



1 = Exhaust air system: e.g. spindle drive (E 250 NT), opening and locking system (RWA 100 NT), chain drive (Slimchain)
2 = Fresh air system: e.g. retractable arm drive (K 600)
3 = Ventilation signals
4 = Alarm signals
5 = Signal inputs: rain and wind control

Ventilation with GEZE drives

The aeration and ventilation with electromechanical drives has the following objectives:

- „Accessibility for all": the electrical ventilation drive systems are convenient and easy to operate.
- Controlled ventilation: with the aid of control technology that can be configured to match the individual ventilation requirements in a building, these systems permit „intelligent", coordinated and user-independent building ventilation.

GEZE window drives are excellently suitable for the automation of ventilation windows.
If an RWA is used, its drives can of course also be used for daily ventilation.

Ventilation components

There are different possibilities available – from simple solutions with single windows to more complex RWA and ventilation controls.
Examples:

- Direct 230V supply and manual vent switch:
  - Simple ventilation applications using the chain drive ECchain
  - In combination with 24 V power supplies the IQ windowdrives can be triggered easily in groups
- RWA and ventilation controls The 24 V RWA control units provide both safety and comfort functions for daily ventilation.

Selection aid for window drives

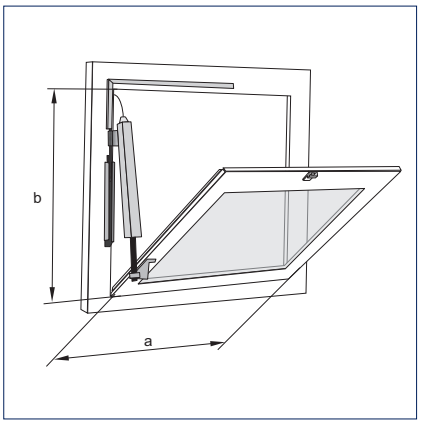
The right drive can be selected and the required accessories identified in just a few steps.

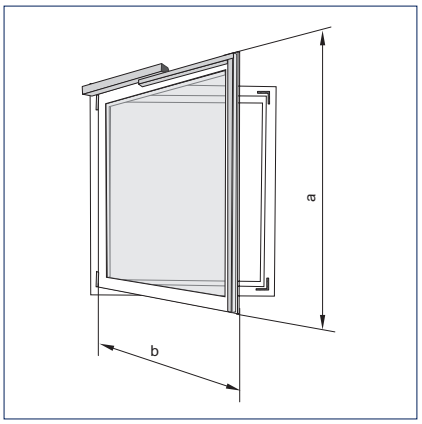
1. Overview table
The possible areas of application for each of the GEZE window drives are listed here.

2. Product features and application ranges
For each drive the most important product features, technical data and application ranges are described in detail on the next few pages. Tables, installation drawings, diagrams and order information allow suitable drives and the accessories required to be selected. The application limits for the drives specified in this catalogue refer to windows with a sufficiently sturdy composition (profiles, hinges etc.).

The following details must be available for drive selection:

- Casement dimensions (for checking the application limits)
- Weight of the casement or panel weight in kg/m^2 + any additional loads such as wind/snow (for comparison with the maximum drive load capacity)
- Required opening width or opening angle (for determining the stroke required)
- Frame dimensions (installation space)





a) Primary closing edge (termed casement width on bottom-hung windows)
b) Secondary closing edge (termed casement height on bottom-hung windows)

3. Selection of the accessories required
The consoles required must be chosen according to the notes and drawings, depending on the type of opening and installation. Consoles are only included in the packaging unit in the case of the ECchain chain drive.

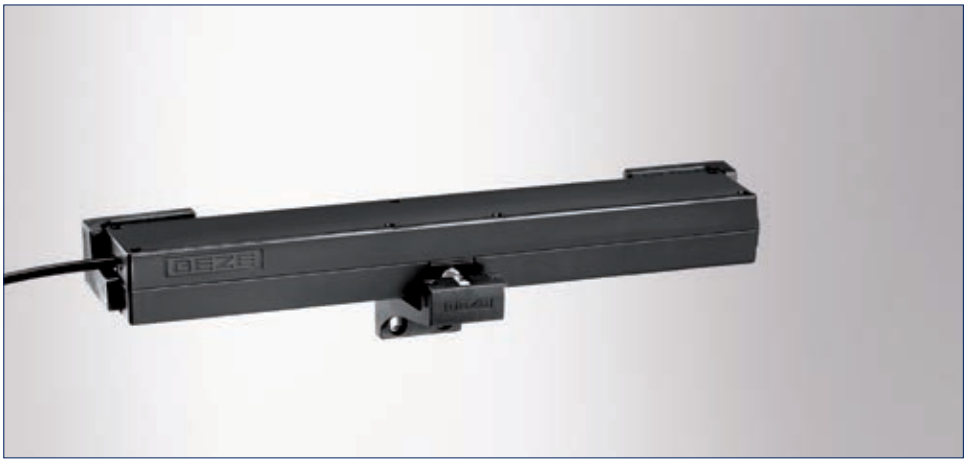
Power-driven windows
The use of electromechanical drives makes a window a „power-driven window" in the sense of the Machinery Directive. Depending on their installation situation, control or use, these drives can be the source of specific hazards, particularly mechanical. The GEZE safety analysis must be considered here.

GEZE chain drive ECchain

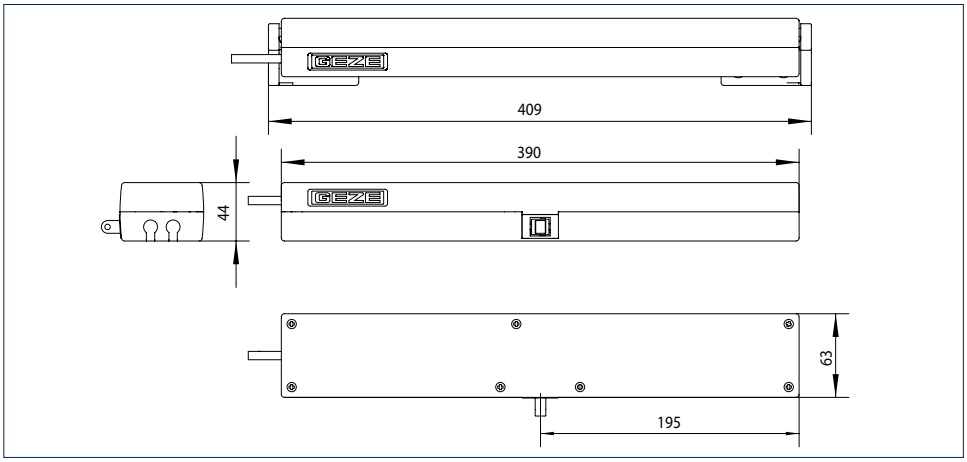
Simple automation possibilities for ventilation operation

The chain drive GEZE ECchain is suitable for straightforward ventilation automation (230 V). As a low-price and powerful entry-level model, it is also suitable for private residential buildings. The ECchain can also be used as a variant on small fanlights, since a maximum opening angle is reached with very low casement heights. The stroke length can be set to 200 mm or 400 mm. The integrated stroke setting option allows for adjustment in line with different ventilation requirements A range of colour variants allows the drive to be adapted to existing window profiles. The ECchain can be installed quickly and easily.

GEZE ECchain



GEZE ECchain



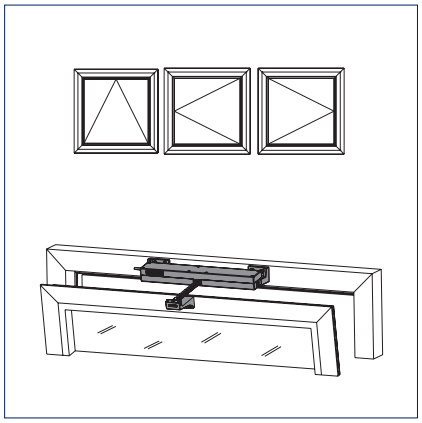
Application range

- Straightforward automation for ventilation windows and the façade area
- For universal use, particularly in private residential buildings
- Bottom-hung, side-hung and top-hung casements
- Inward-opening and outward-opening casements
- Can be used on timber, plastic and aluminium profile systems
- Frame installation

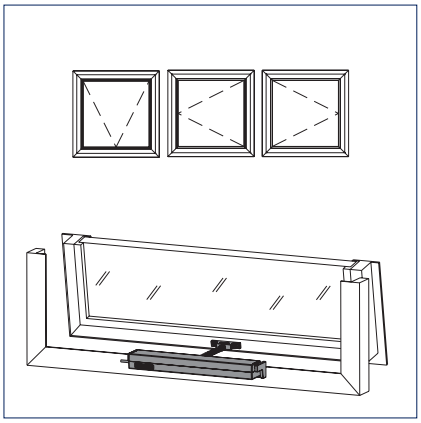
GEZE CHAIN DRIVES

Application range

INWARD-OPENING frame installation



OUTWARD-OPENING frame installation

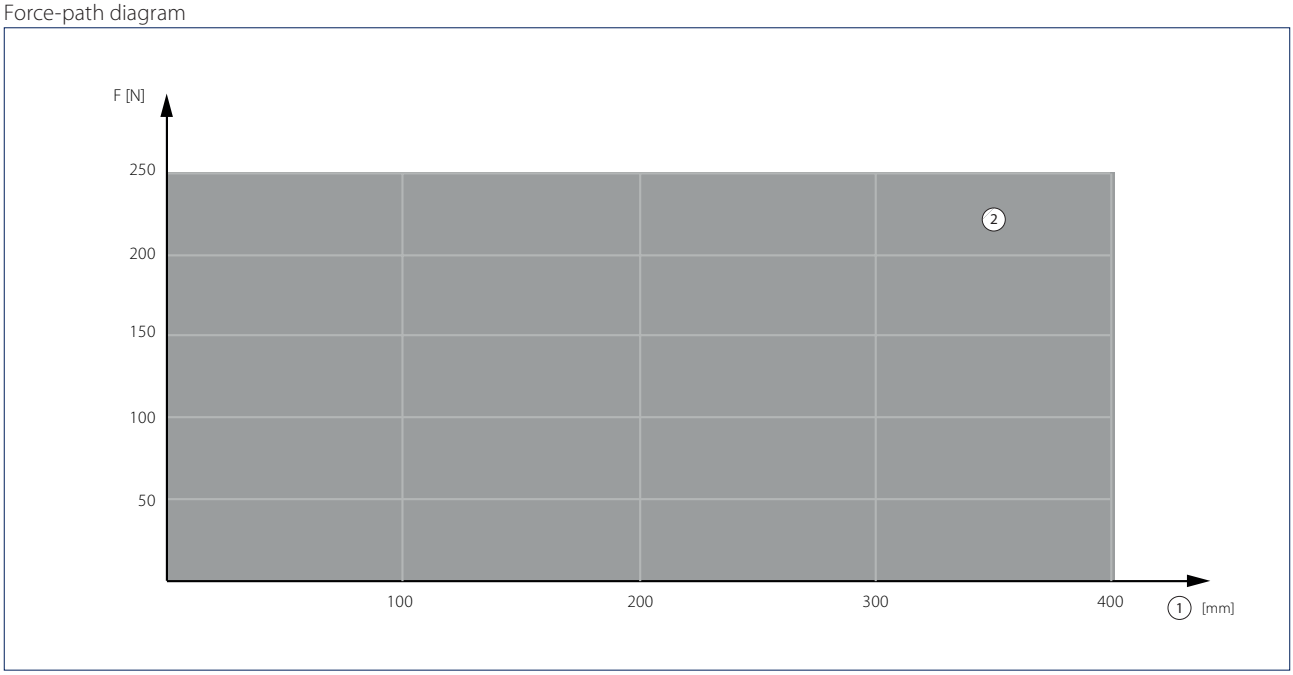


Technical data

Product features	GEZE ECchain
Length	with console 409 mm, without console 390 mm
Height	44 mm
Depth	63 mm
Space required on frame (min.)	Bottom-hung casement: 55 mm, top-hung casement: 35 mm
Possible stroke heights	200 mm, 400 mm
Stroke length selectable	yes, stroke 200 or stroke 400 mm depending on cable connection
Opening speed ventilation	9 mm/s
Closing speed	9 mm/s
Tensile force (max.)	250 N
Force of pressure (max.)	250 N
Casement weight (max.)	130 kg
Operating voltage	230 V ± 10 %
Current consumption	0.13 A
Length of power supply cable	2 m
Cable dimensions	4 x 0.75 mm^2
Temperature range	-5 – 60 °C
Enclosure rating / protection class	IP 30 / II
End position cut-off extended	Limit switches
End position cut-off retracted	electric, electronic via current consumption
Overload cut-off	●

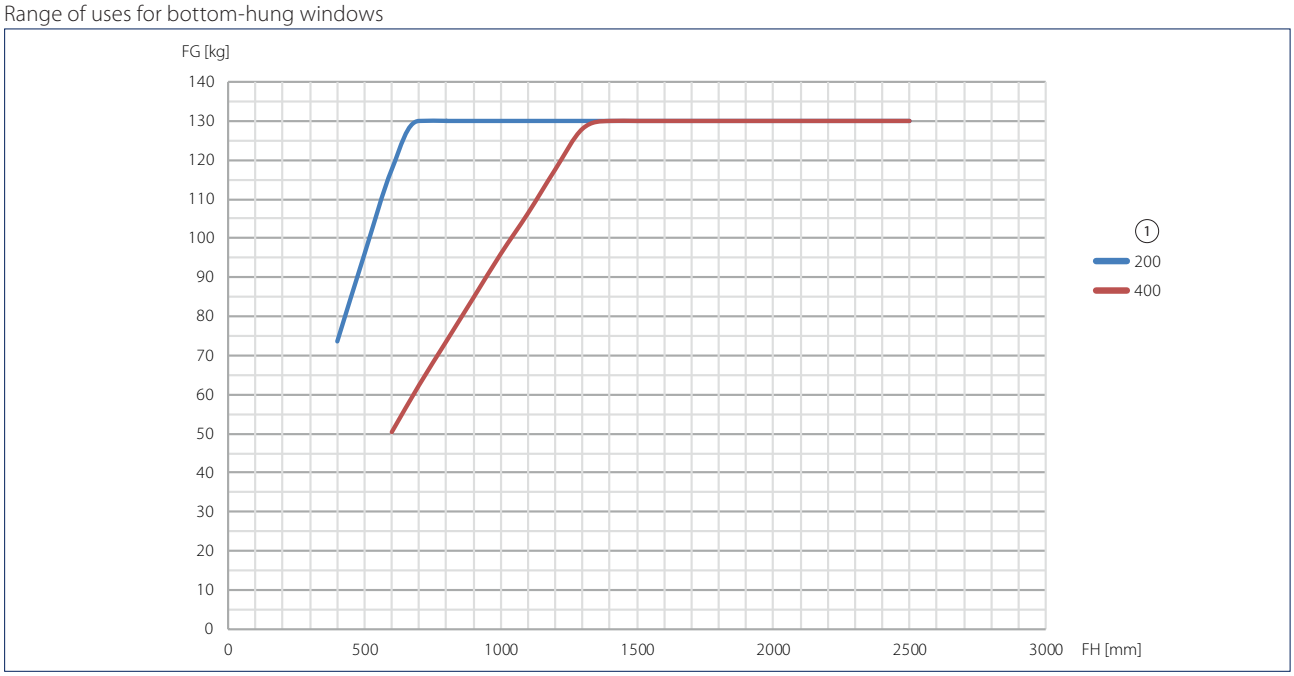
● = YES

Force-path diagram



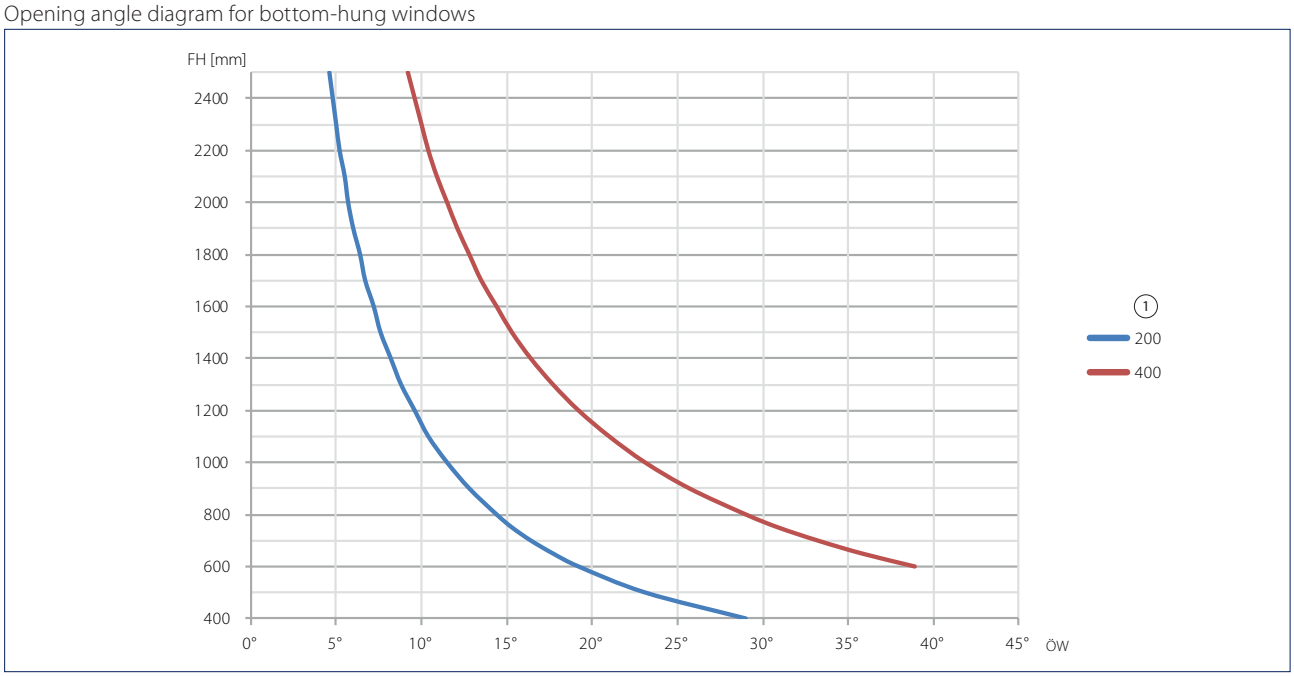
F = Force
1 = Stroke
2 = Pull / Pressure

Range of uses for bottom-hung windows



FG = Casement weight
FH = Casement height
1 = Stroke

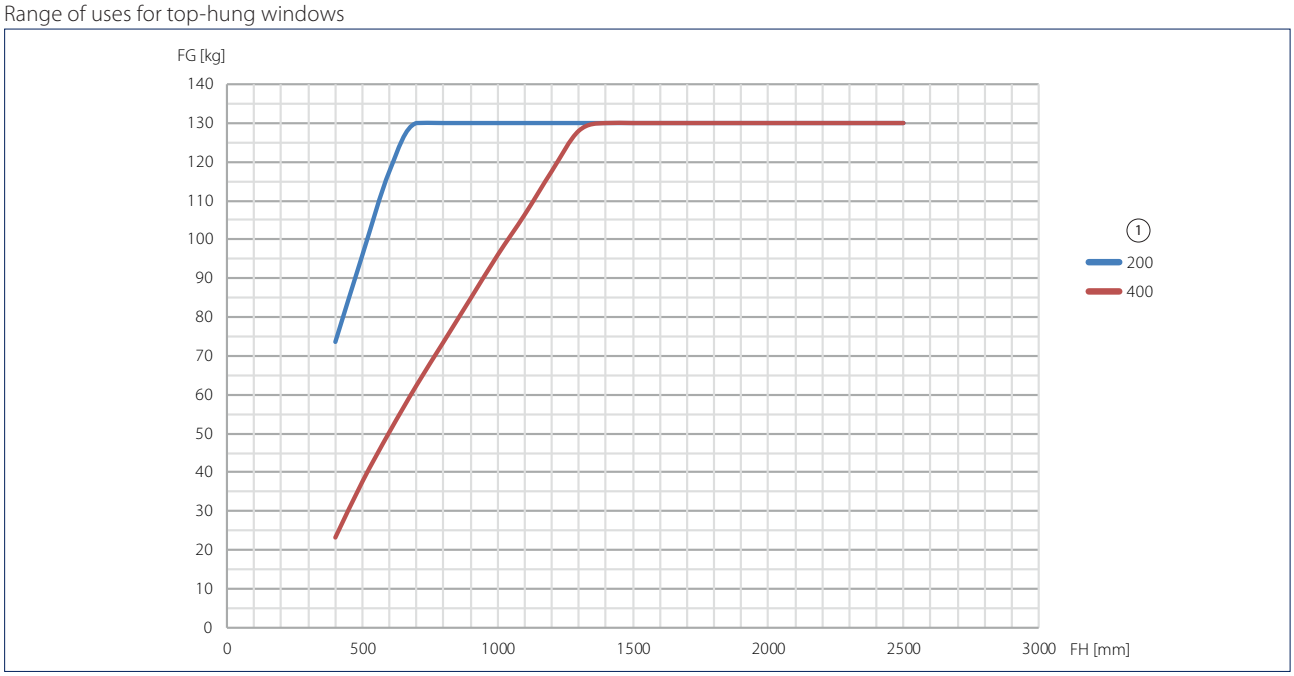
Opening angle diagram for bottom-hung windows



FH = Casement height
ÖW = Opening angle
1 = Stroke

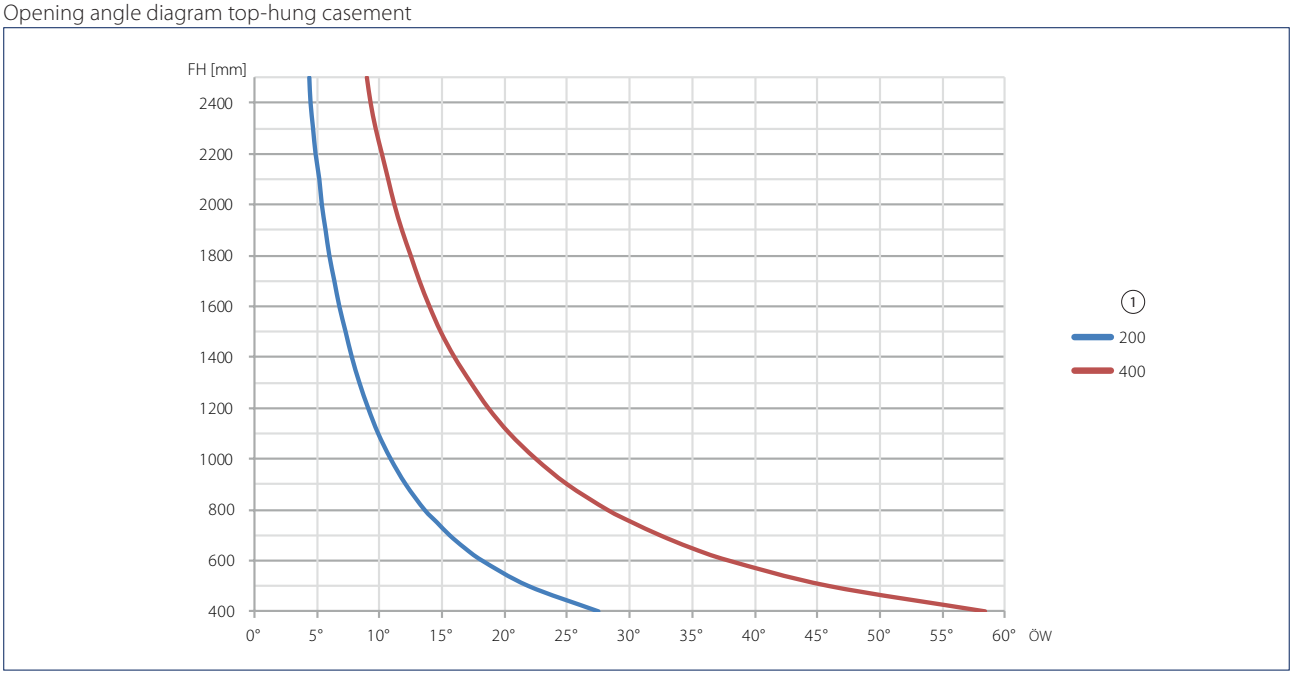
GEZE CHAIN DRIVES

Range of uses for top-hung windows



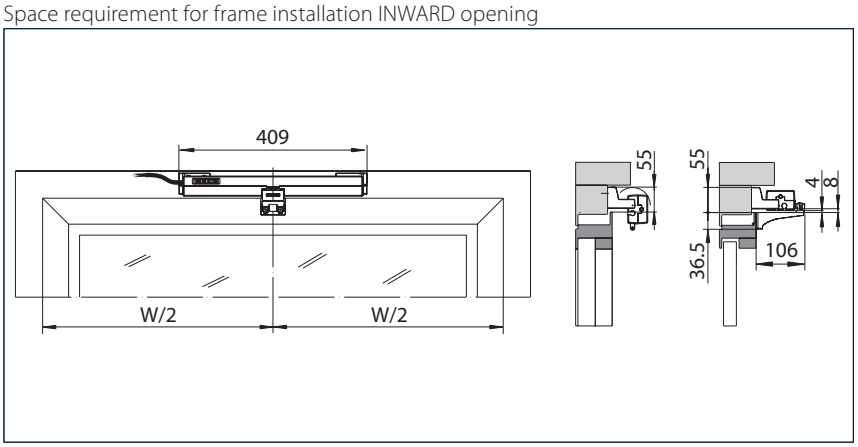
FG = Casement weight
FH = Casement height
1 = Stroke

Opening angle diagram top-hung casement

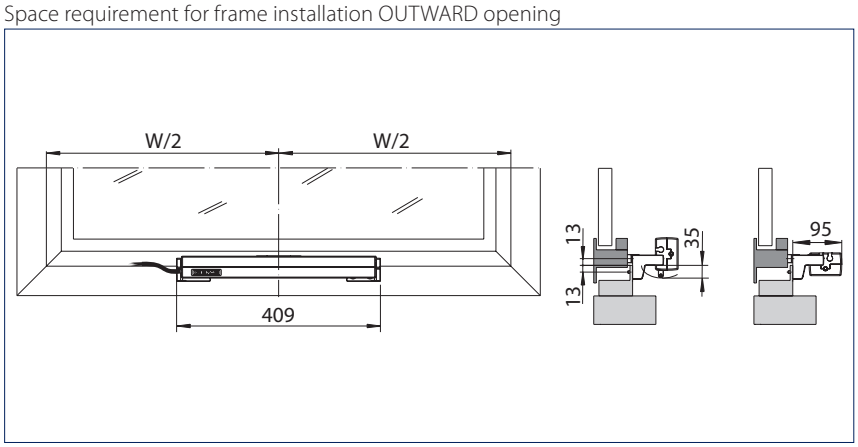


FH = Casement height
ÖW = Opening angle
1 = Stroke

Space requirement for frame installation INWARD opening



Space requirement for frame installation OUTWARD opening



GEZE ECchain - Order information

Description	Version	ID.No.
GEZE ECchain incl. console inward-opening and outwart-opening	white	148260
	black	148258
	grey	148259

GEZE ECchain with safety scissors

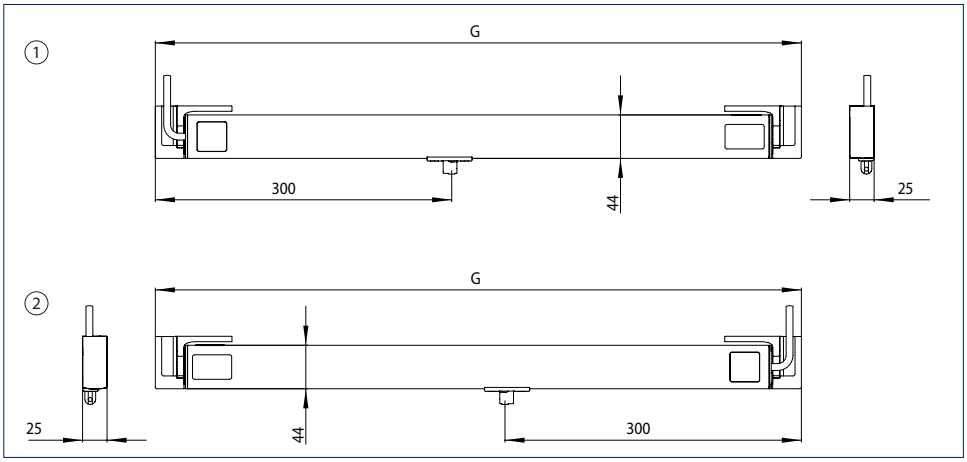
GEZE chain drive Slimchain

Universal chain drive with attractive design

The GEZE Slimchain is for universal use, since it offers a wide range of parameter setting possibilities e.g. stroke and speed. This chain drive can be integrated perfectly into the façade design thanks to its slim and discreet look. The drive stroke (stroke variants 300, 500, 800 mm) can be variably adjusted. Individual speeds can be set for ventilation and RWA mode. The integrated Syncro module allows up to 3 drives to be used even on large and heavy windows without an external control unit being necessary. The drive is equipped with a DIP switch for changing between the modes of operation (Solo/Syncro, Master/Slave). Installation can be carried out quickly and easily using the GEZE Smart fix installation system.

GEZE Slimchain

GEZE Slimchain



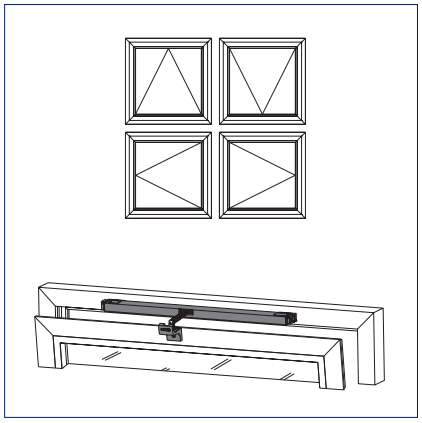
G = Length
1 = GEZE Slimchain L
2 = GEZE Slimchain R

Application range

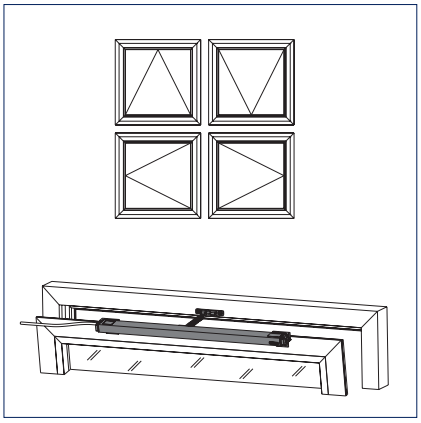
- Flexible application in the façade area with maximum design requirements
- Bottom-hung, side-hung and top-hung casements
- Inward-opening and outward-opening casements
- Natural ventilation, smoke and heat extraction system (RWA), smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Synchronisation of up to 3 drives
- Can be used on timber, plastic and aluminium profile systems
- Casement, frame or integrated installation
- A system solution in combination with the locking drive Power lock

Application range

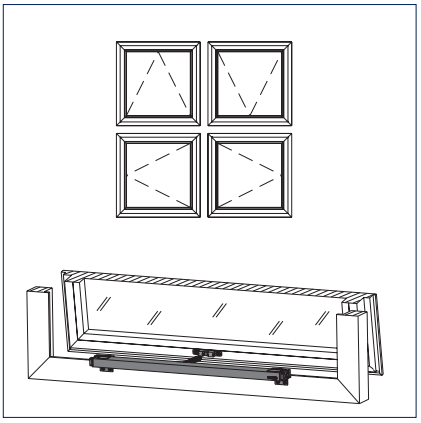
INWARD-OPENING frame installation



INWARD-OPENING casement installation



OUTWARD-OPENING frame installation



Technical data

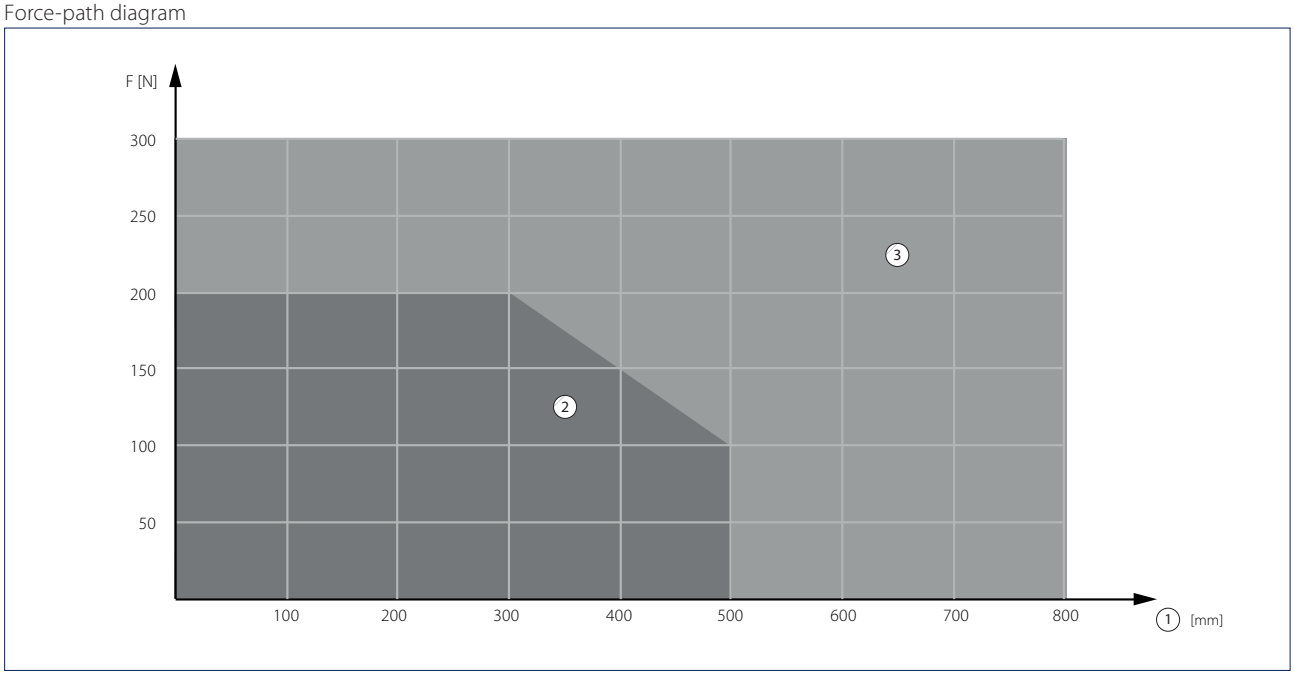
Product features	GEZE Slimchain
Length	Stroke 300: 560 mm, stroke 500: 660 mm, stroke 800: 810 mm (each with consoles)
Height	25 mm
Depth	44 mm
Space required on frame (min.)	Frame installation INWARD-OPENING: 30 mm, casement installation INWARD-OPENING: 16 mm, frame installation OUTWARD-OPENING: 31 mm
Possible stroke heights	300 mm, 500 mm, 800 mm
Opening speed RWA	15 mm/s
Opening speed ventilation	5 mm/s
Closing speed	5 mm/s
Tensile force (max.)	300 N
Force of pressure (max.)	200 N (depending on stroke), see force-path diagram
Holding force (max.)	2000 N
Casement weight (max.)	150 kg*
Operating voltage	24 V ± 25 %
Current consumption	Ventilation (24 V): 0.9 A; RWA (18 V): 1.1 A
Power consumption (max.)	20 W
Duty rating	30 %
Length of power supply cable	2 m
Special length of power supply cable	5 m, 7,5 m
Cable dimensions	4 x 0.75 mm²
Temperature range	-5 – 70 °C
Enclosure rating / protection class	IP 40 / III
Stroke length settable	●
Syncro function	●
Opening speed settable (ventilation)	●
Additional locking available	●
Type of additional locking	Locking drive
Type of stroke shortening	Synchronising unit, Factory setting
End position cut-off extended	electronic, via internal path sensor
End position cut-off retracted	electric, electronic via current consumption
Overload cut-off	●
Complete opening within 60 s	yes, including locking drive
SHEV tested	●
Synchronisation (max.)	3 drives

● = YES

*) Note on casement weight (max.):
The overall weight is limited by the hinges and depends on the details provided by the profile system manufacturer.

GEZE CHAIN DRIVES

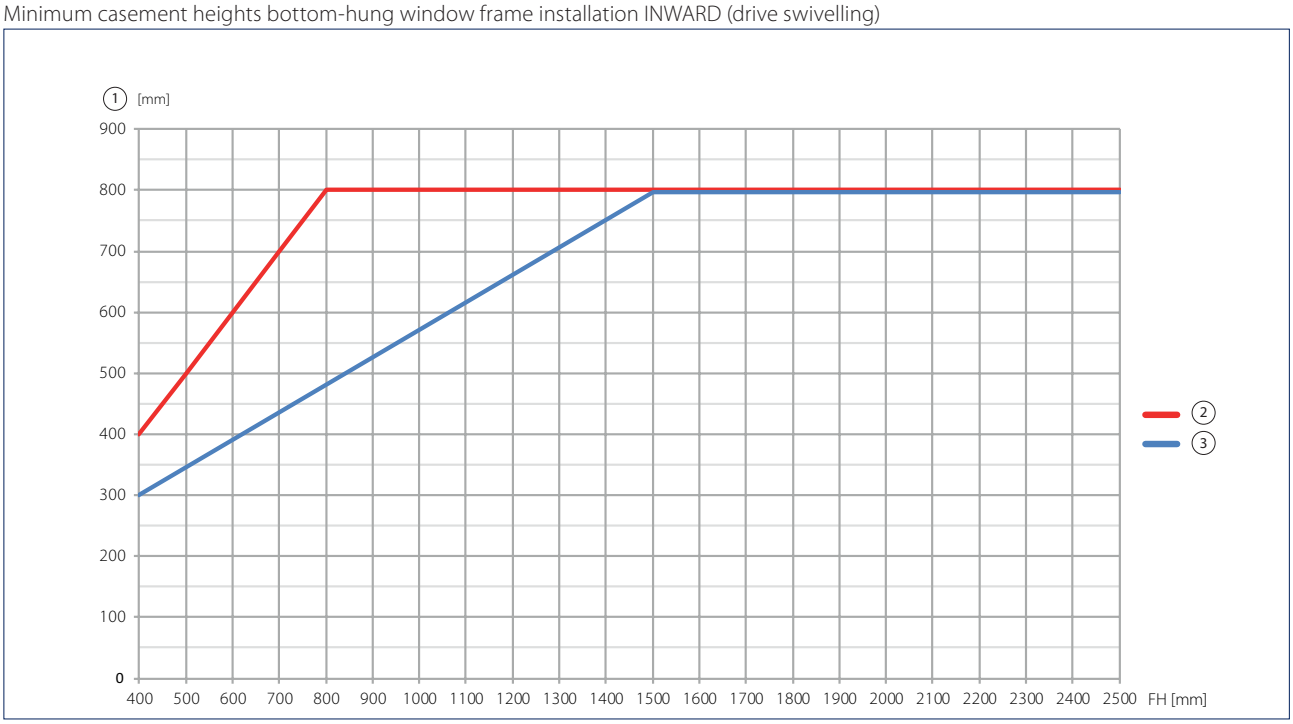
Force-path diagram



F = Force
1 = Stroke
2 = Pressure
3 = Pull

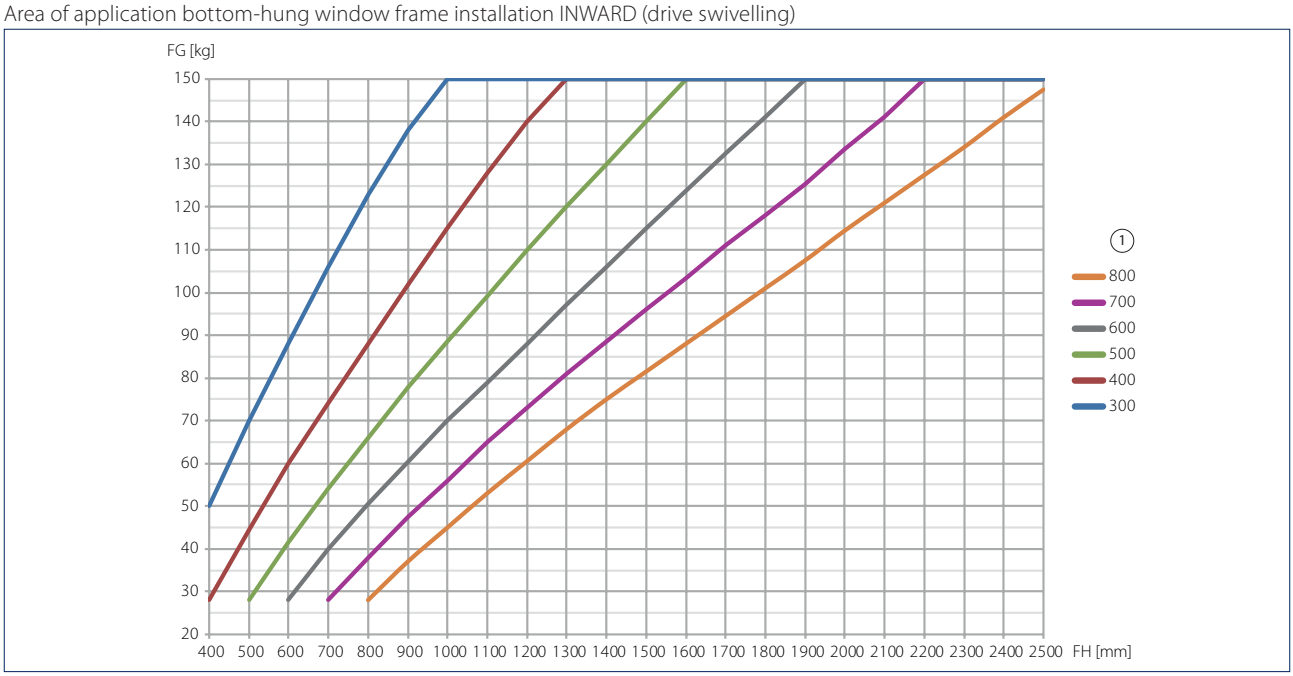
GEZE Slimchain, GEZE Power lock and safety scissors

Minimum casement heights bottom-hung window frame installation INWARD (drive swivelling)



FH = Casement height
1 = Stroke
2 = Alarm
3 = Ventilation

Area of application bottom-hung window frame installation INWARD (drive swivelling)

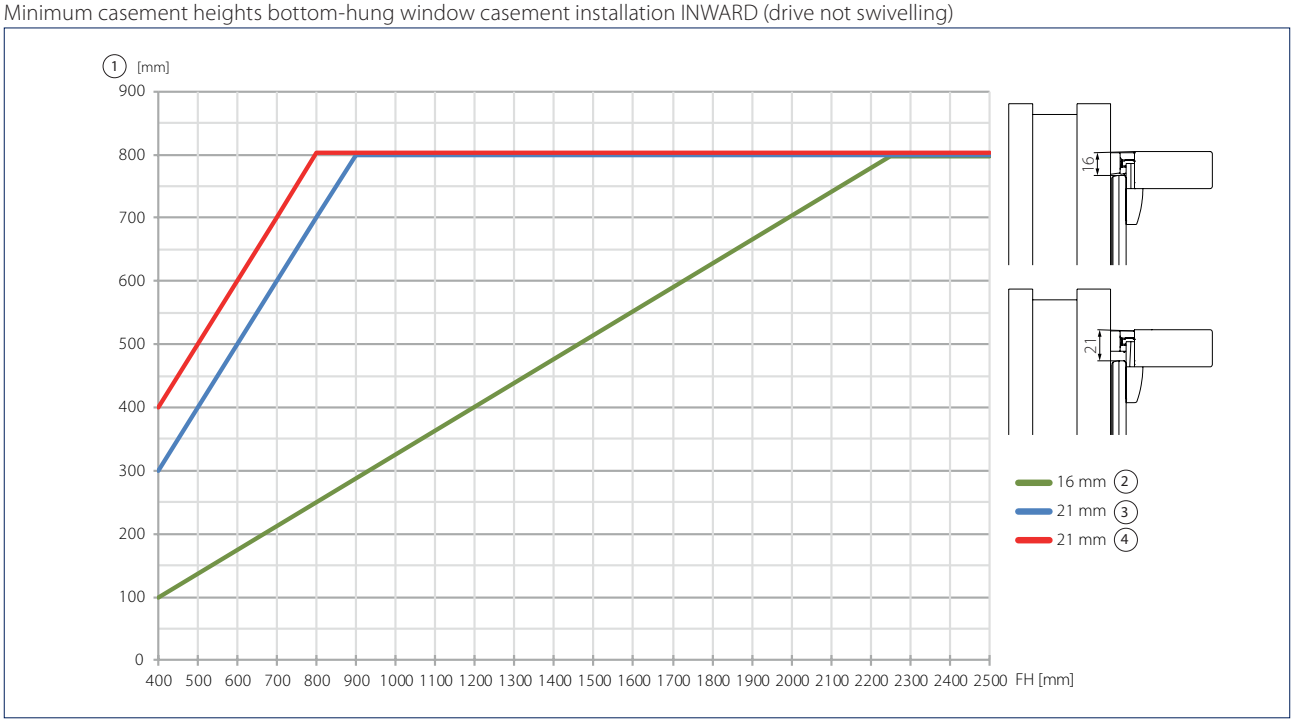


Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the casement weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.

FG = Casement weight
FH = Casement height
1 = Stroke

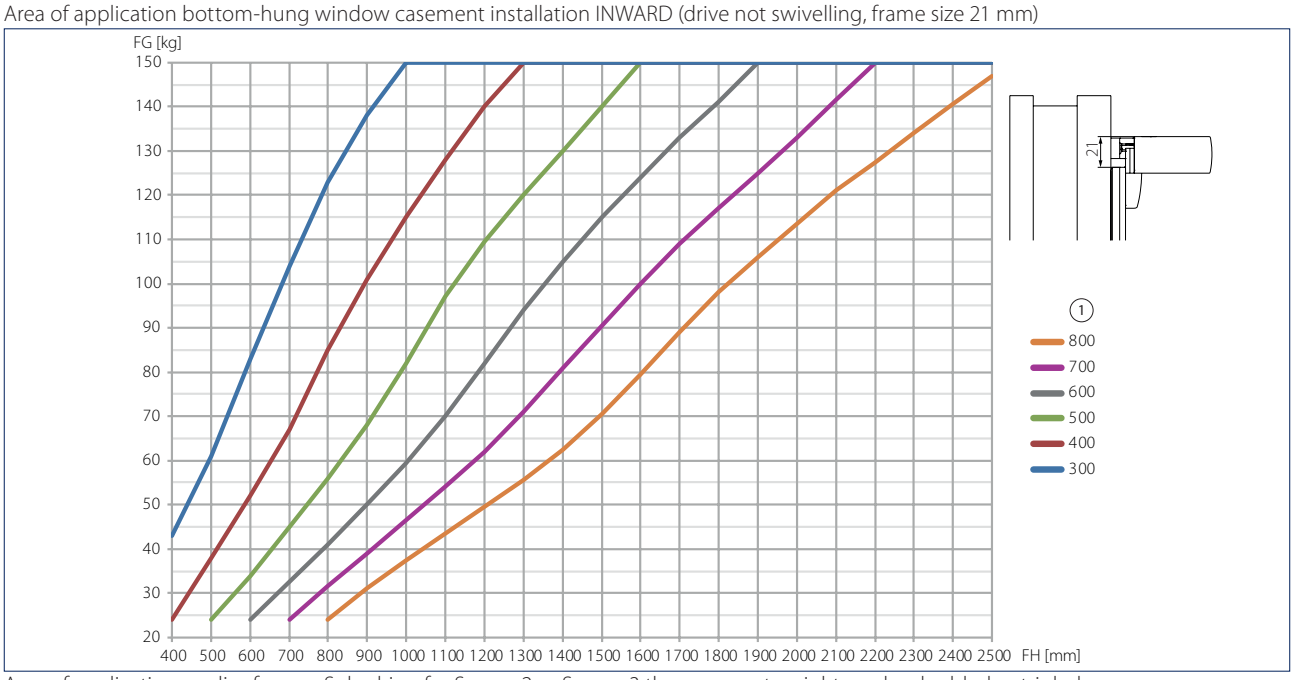
GEZE CHAIN DRIVES

Minimum casement heights bottom-hung window casement installation INWARD (drive not swivelling)



FH = Casement height
1 = Stroke
2 = Ventilation corresponds to alarm
3 = Ventilation
4 = Alarm

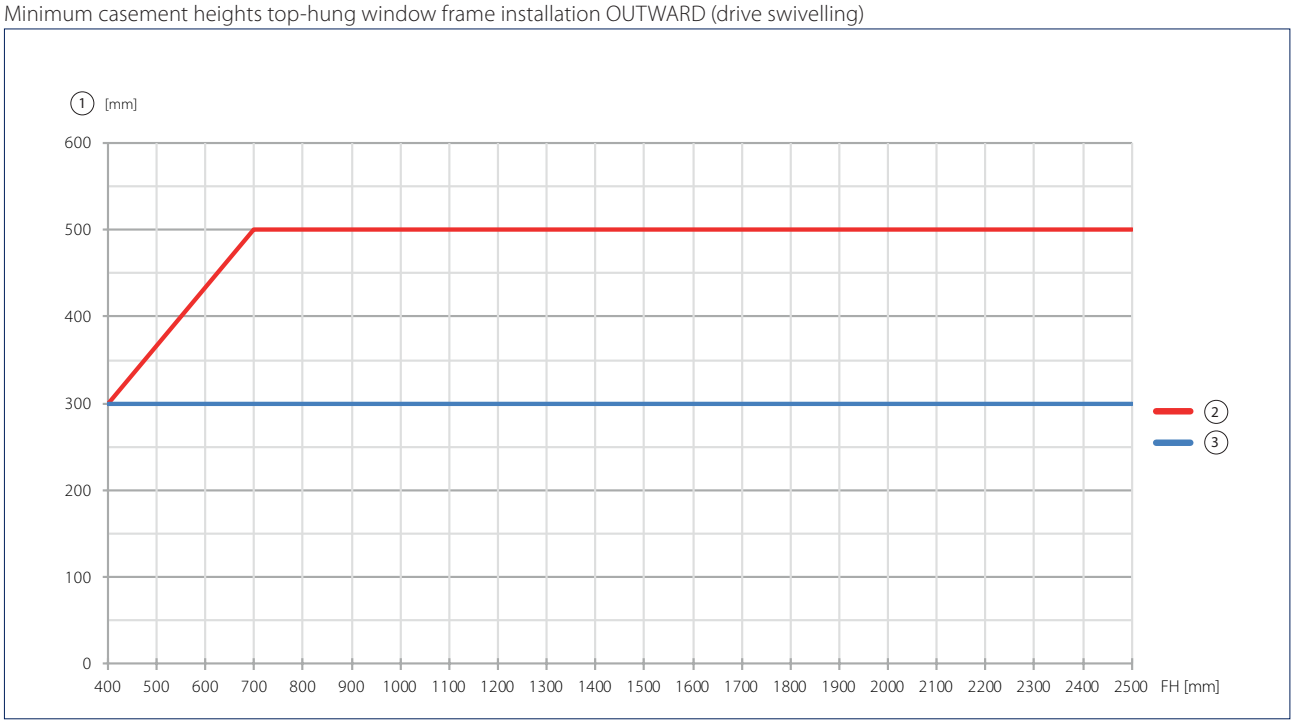
Area of application bottom-hung window casement installation INWARD (drive not swivelling, frame size 21 mm)



Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the casement weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.

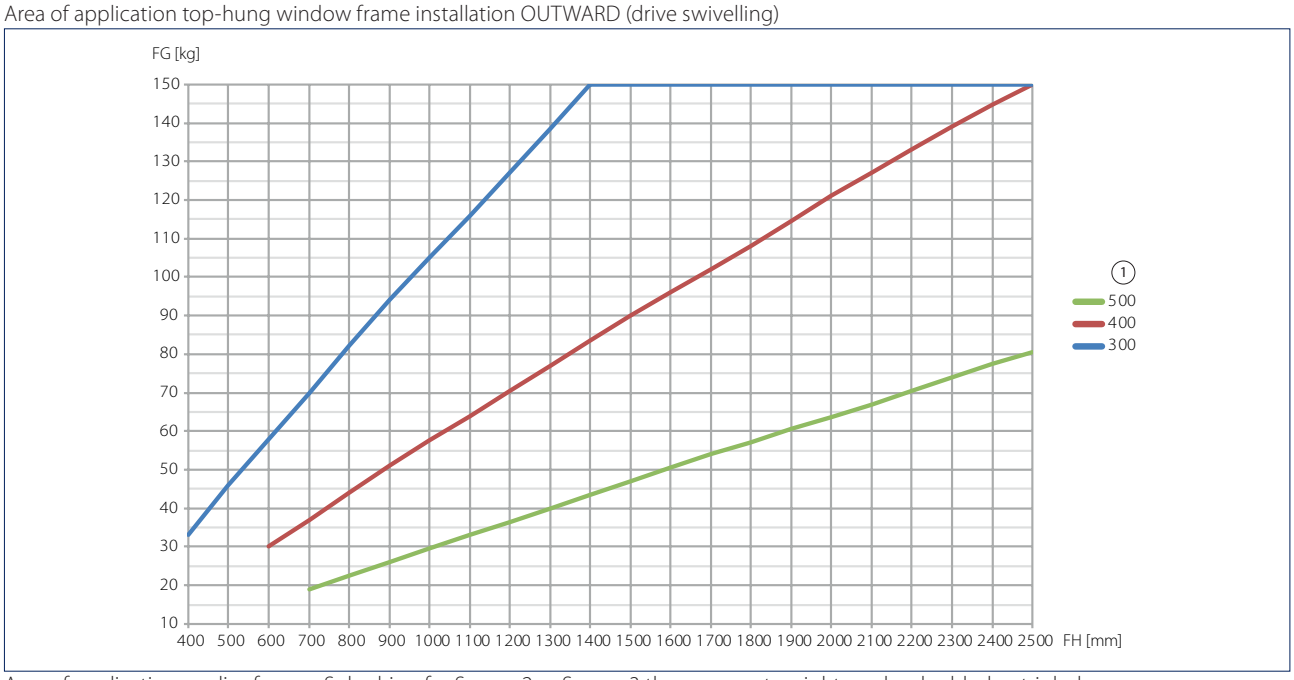
FG = Casement weight
FH = Casement height
1 = Stroke

Minimum casement heights top-hung window frame installation OUTWARD (drive swivelling)



FH = Casement height
1 = Stroke
2 = Alarm
3 = Ventilation

Area of application top-hung window frame installation OUTWARD (drive swivelling)



Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the casement weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.

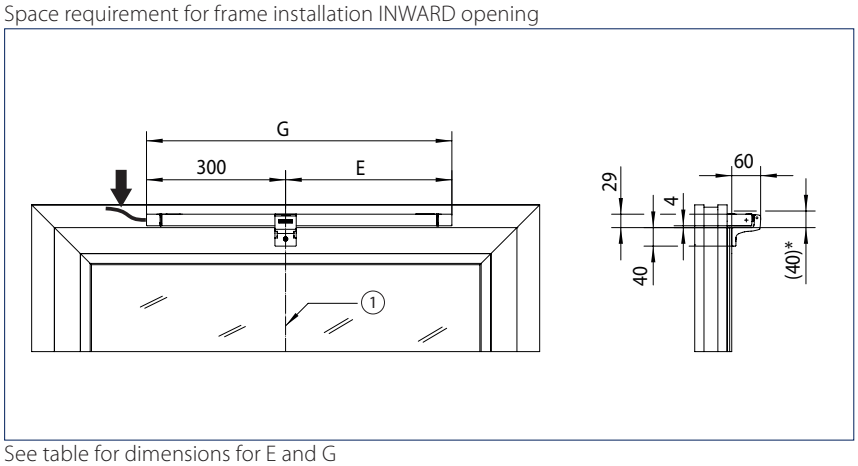
FG = Casement weight
FH = Casement height
1 = Stroke

Space requirement for Slimchain

Stroke	E [mm]	G [mm]
300	260	560
500	360	660
800	510	810

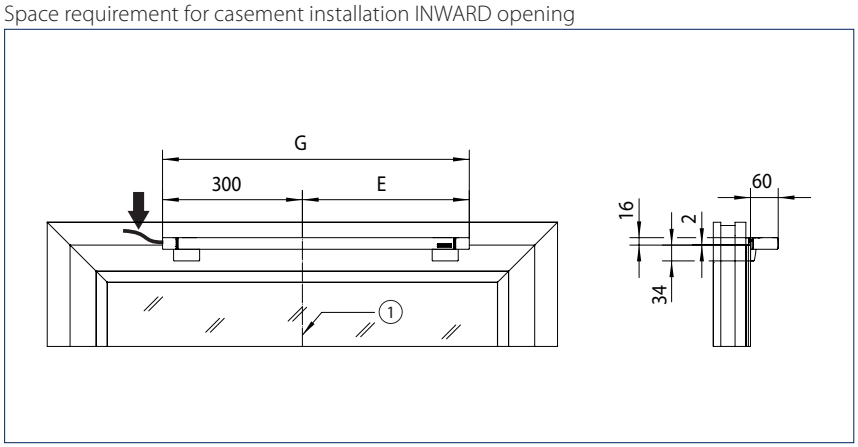
Note: Illustrations with cable side left, cable side right is reversed

Space requirement for frame installation INWARD opening



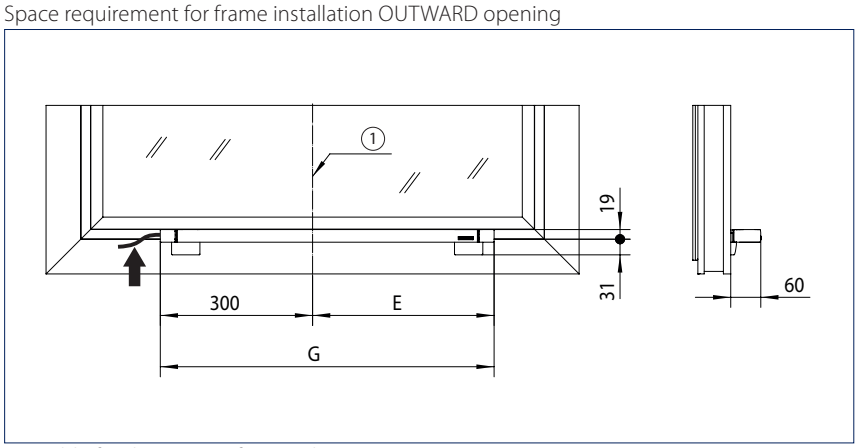
See table for dimensions for E and G
1 = Centre of window
* = Swivelling range

Space requirement for casement installation INWARD opening



See table for dimensions for E and G
1 = Centre of window

Space requirement for frame installation OUTWARD opening

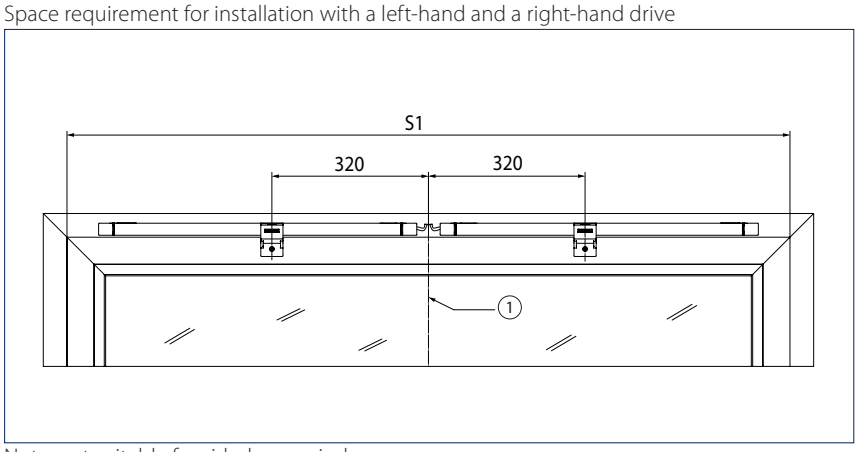


See table for dimensions for E and G
1 = Centre of window

Space requirement for Slimchain - Syncro 2

Note: The illustrations apply for all installation possibilities.

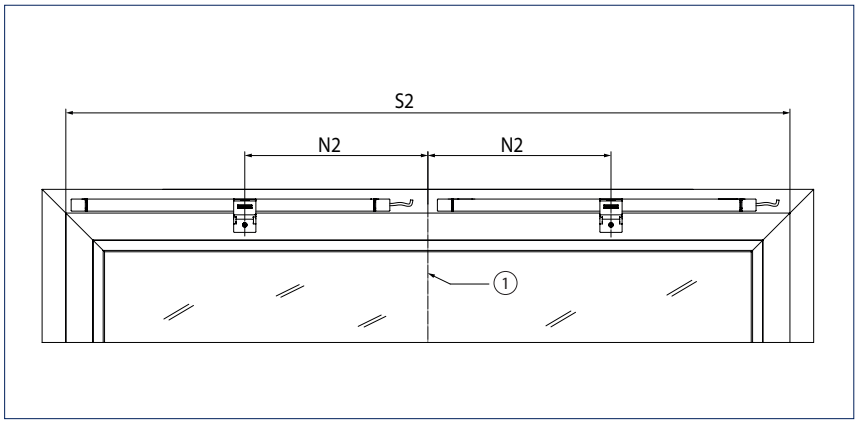
Space requirement for installation with a left-hand and a right-hand drive



Note: not suitable for side-hung windows
See table for dimensions for S1
1 = Centre of window

Stroke	S1 [mm]	ID no. EV1/white RAL 9016	Quantity
300	1160	147030/147031 R	1
		147035/147036 L	1
500	1360	147040/147041 R	1
		147045/147046 L	1
800	1660	147050/147051 R	1
		147055/147056 L	1

Space requirement for installation with two right-hand drives
(mirrored for tow left-hand drives)

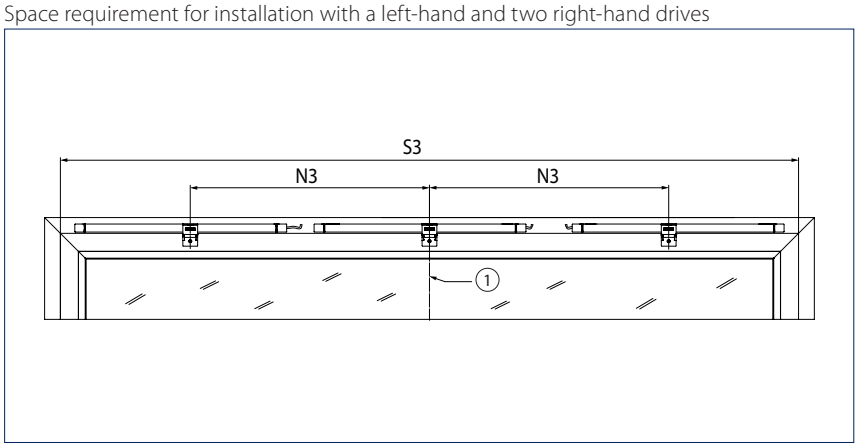


Note: suitable for side-hung windows
See table for dimensions for S2 and N2
1 = Centre of window

			Bracket set A		Bracket set B	
Stroke	N2 [mm]	S2 [mm]	ID no. EV1/ white RAL 9016	Quantity	ID no. EV1/ white RAL 9016	Quantity
300	300	1200	147030/147031 R	2	147030/147031 R	-
			147035/147036 L	-	147035/147036 L	2
500	350	1420	147040/147041 R	2	147040/147041 R	-
			147045/147046 L	-	147045/147046 L	2
800	425	1870	147050/147051 R	2	147050/147051 R	-
			147055/147056 L	-	147055/147056 L	2

Space requirement for Slimchain - Syncro 3

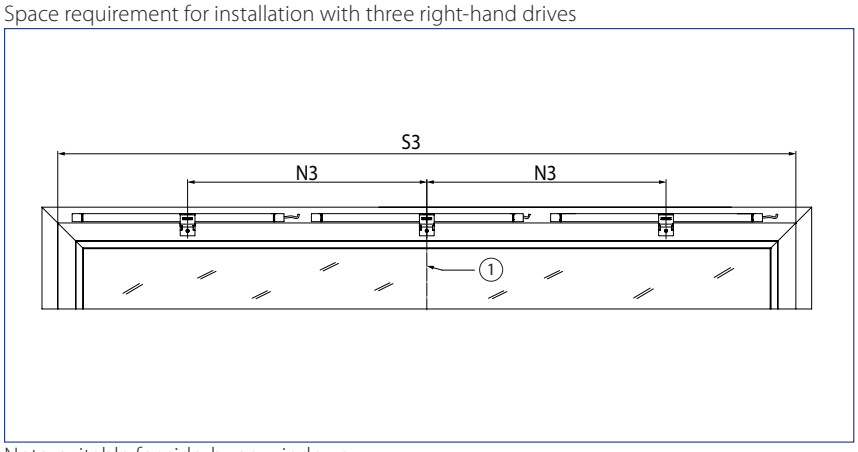
Space requirement for installation with a left-hand and two right-hand drives



Note: not suitable for side-hung windows
See table for dimensions for S3 and N3
1 = Centre of window

			Bracket set A		Bracket set B	
Stroke	**N3 [mm]**	**S3 [mm]**	**ID no. EV1/ white RAL 9016**	**Quantity**	**ID no. EV1/ white RAL 9016**	**Quantity**
300	640	1800	147030/147031 L, R	2	147030/147031 L, R	1
			147035/147036 L, R	1	147035/147036 L, R	2
500	700	2120	147040/147041 L, R	2	147040/147041 L, R	1
			147045/147046 L, R	1	147045/147046 L, R	2
800	850	2720	147050/147051 L, R	2	147050/147051 L, R	1
			147055/147056 L, R	1	147055/147056 L, R	2

Space requirement for installation with three right-hand drives



Note: suitable for side-hung windows
See table for dimensions for S3 and N3
1 = Centre of window

			Bracket set A		Bracket set B	
Stroke	**N3 [mm]**	**S3 [mm]**	**ID no. EV1/ white RAL 9016**	**Quantity**	**ID no. EV1/ white RAL 9016**	**Quantity**
300	600	1800	147030/147031 L, R	3	147030/147031 L, R	-
			147035/147036 L, R	-	147035/147036 L, R	3
500	700	2120	147040/147041 L, R	3	147040/147041 L, R	-
			147045/147046 L, R	-	147045/147046	3
800	850	2720	147050/147051 L, R	3	147050/147051 L, R	-
			147055/147056 L, R	-	147055/147056 L, R	3

Bracket set A
For bottom-hung, side-hung and top-hung windows, frame installation INWARD

Bracket set B
For bottom-hung, side-hung and top-hung windows, casement installation INWARD and frame installation OUTWARD

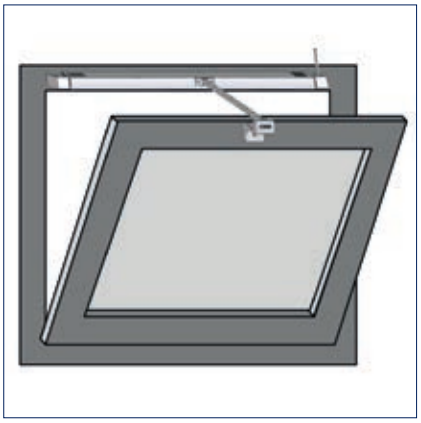
GEZE Slimchain - Order information

Description	Stroke	Version	ID.No.
GEZE Slimchain L	300 mm	EV1	147035
	500 mm	EV1	147045
	800 mm	EV1	147055
	300 mm	white RAL 9016	147036
	500 mm	white RAL 9016	147046
	800 mm	white RAL 9016	147056
GEZE Slimchain R	300 mm	EV1	147030
	500 mm	EV1	147040
	800 mm	EV1	147050
	300 mm	white RAL 9016	147031
	500 mm	white RAL 9016	147041
	800 mm	white RAL 9016	147051
GEZE Slimchain - special version Can be configured: stroke, cable length, colour, L/R alignment			147070
Accessories			
Bracket set A Slimchain		white RAL 9016	147061
		black	147060
Bracket set B Slimchain		white RAL 9016	147063
		black	147062
Choice of consoles for Slimchain Can be configured: type of opening, colour		acc. to RAL	147071

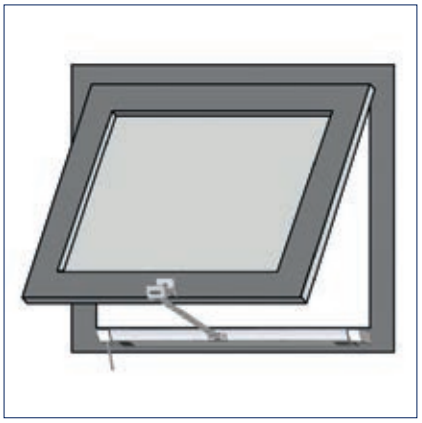
GEZE Slimchain ordering aid

Casement INWARD opening frame installation

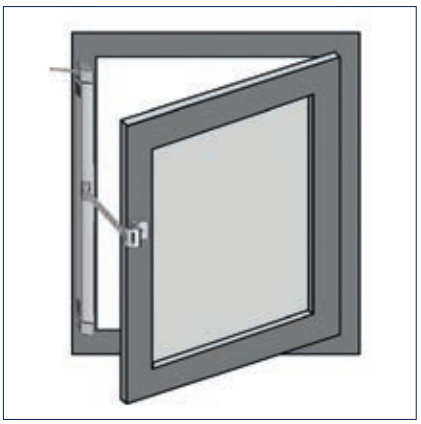
Bottom-hung casement INWARD-OPENING



Top-hung casement INWARD-OPENING



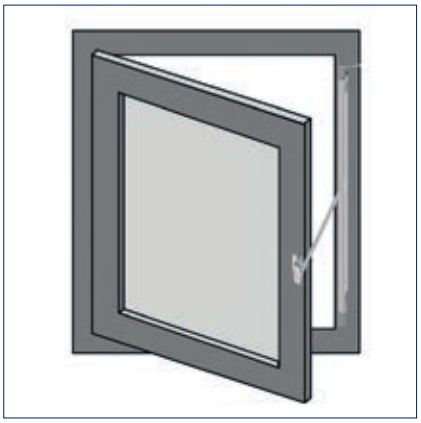
Side-hung casement DIN R
INWARD-OPENING



Stroke	Version	Drive	Accessories
300	EV1	147030	147060
300	White RAL 9016	147031	147061
500	EV1	147040	147060
500	White RAL 9016	147041	147061
800	EV1	147050	147060
800	White RAL 9016	147051	147061

Casement INWARD opening frame installation

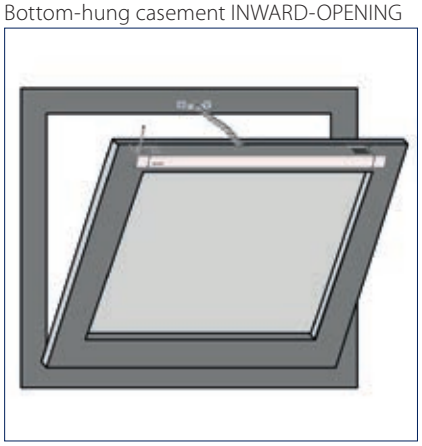
Side-hung casement DIN L
INWARD-OPENING



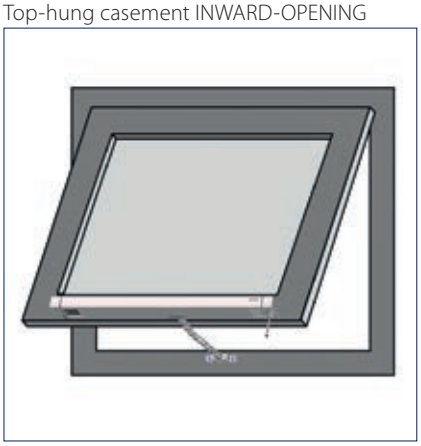
Stroke	Version	Drive	Accessories
300	EV1	147035	147060
300	White RAL 9016	147036	147061
500	EV1	147045	147060
500	White RAL 9016	147046	147061
800	EV1	147055	147060
800	White RAL 9016	147056	147061

Casement INWARD opening casement installation

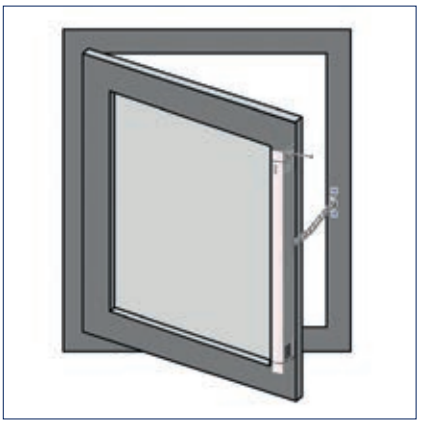
Bottom-hung casement INWARD-OPENING



Top-hung casement INWARD-OPENING



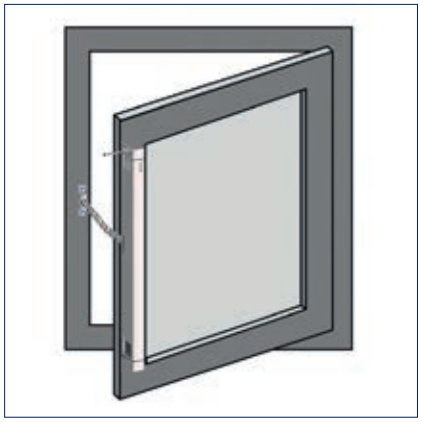
Side-hung casement DIN L INWARD-OPENING



Stroke	Version	Drive	Accessories
300	EV1	147030	147062
300	White RAL 9016	147031	147063
500	EV1	147040	147062
500	White RAL 9016	147041	147063
800	EV1	147050	147062
800	White RAL 9016	147051	147063

Casement INWARD opening casement installation

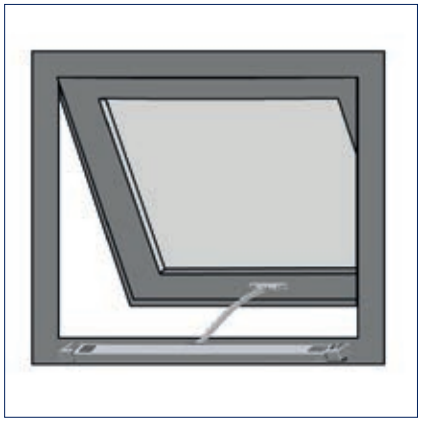
Side-hung casement DIN R INWARD-OPENING



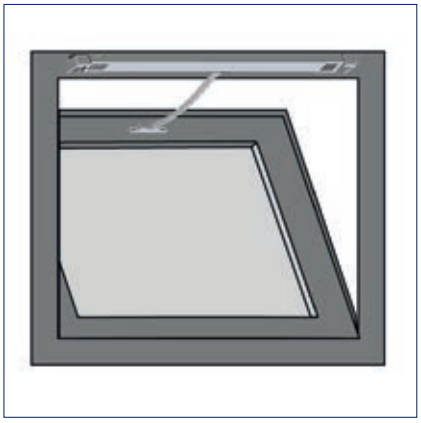
Stroke	Version	Drive	Accessories
300	EV1	147035	147062
300	White RAL 9016	147036	147063
500	EV1	147045	147062
500	White RAL 9016	147046	147063
800	EV1	147055	147062
800	White RAL 9016	147056	147063

Casement OUTWARD opening frame installation

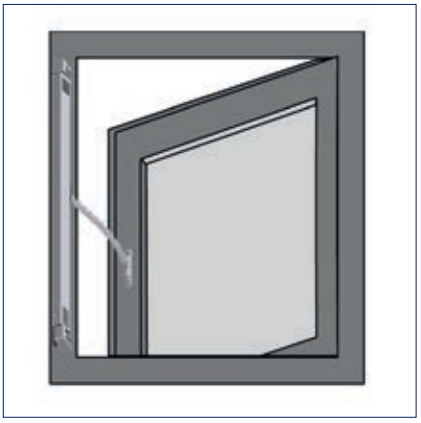
Top-hung casement OUTWARD-OPENING



Bottom-hung casement OUTWARD-OPENING



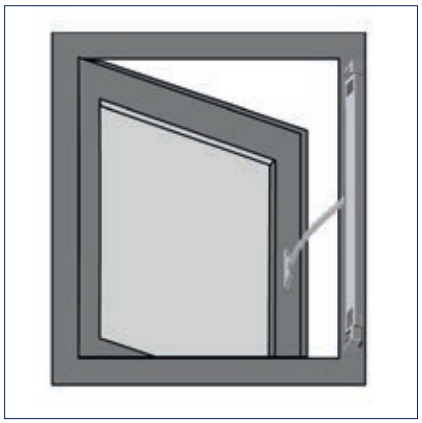
Side-hung casement DIN R OUTWARD-OPENING



Stroke	Version	Drive	Accessories
300	EV1	147030	147062
300	White RAL 9016	147031	147063
500	EV1	147040	147062
500	White RAL 9016	147041	147063
800	EV1	147050	147062
800	White RAL 9016	147051	147063

Casement OUTWARD opening frame installation

Side-hung casement DIN L OUTWARD-OPENING



Stroke	Version	Drive	Accessories
300	EV1	147035	147062
300	White RAL 9016	147036	147063
500	EV1	147045	147062
500	White RAL 9016	147046	147063
800	EV1	147055	147062
800	White RAL 9016	147056	147063

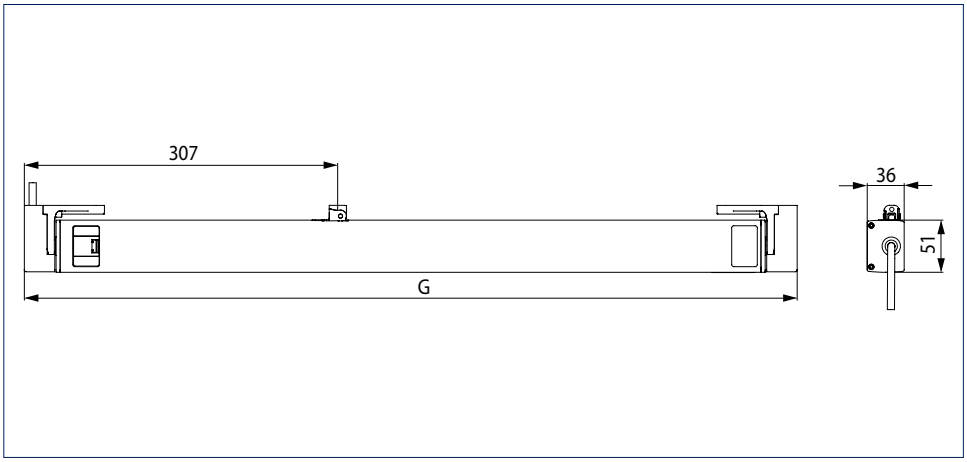
GEZE chain drive Powerchain

Powerful chain drive for large and heavy window elements

The GEZE Powerchain is suitable wherever large forces and very large opening widths are required. In addition, it facilitates fast opening speeds particularly for the RWA case, even with very heavy windows. The Powerchain offers a wide range of parameter setting possibilities e.g. for stroke and speed. The drive stroke (stroke variants 600, 800, 1200 mm) can be variably adjusted. Individual speeds can be set for ventilation and RWA mode. The integrated Syncro module allows up to 3 drives to be used without an external control unit being necessary. The drive is equipped with a DIP switch for changing between the modes of operation (Solo/Syncro, Master/Slave). Installation can be carried out quickly and easily using the GEZE Smart fix installation system.

GEZE Powerchain

GEZE Powerchain



G = Length

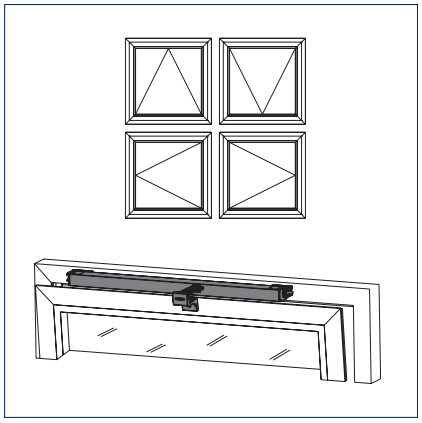
Application range

- Heavy and large window elements in the façade and roof area
- Bottom-hung, side-hung, top-hung, horizontally pivot-hung, vertically pivot-hung and skylight casements
- Inward-opening and outward-opening casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Synchronisation of up to 3 drives
- Can be used on timber, plastic and aluminium profile systems
- Casement or frame installation
- A system solution in combination with the locking drive Power lock

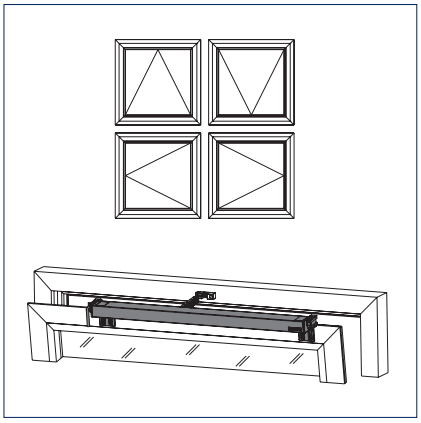
GEZE CHAIN DRIVES

Application range

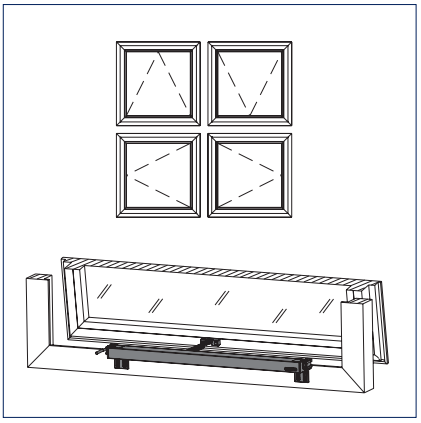
INWARD-OPENING frame installation



INWARD-OPENING casement installation



OUTWARD-OPENING frame installation



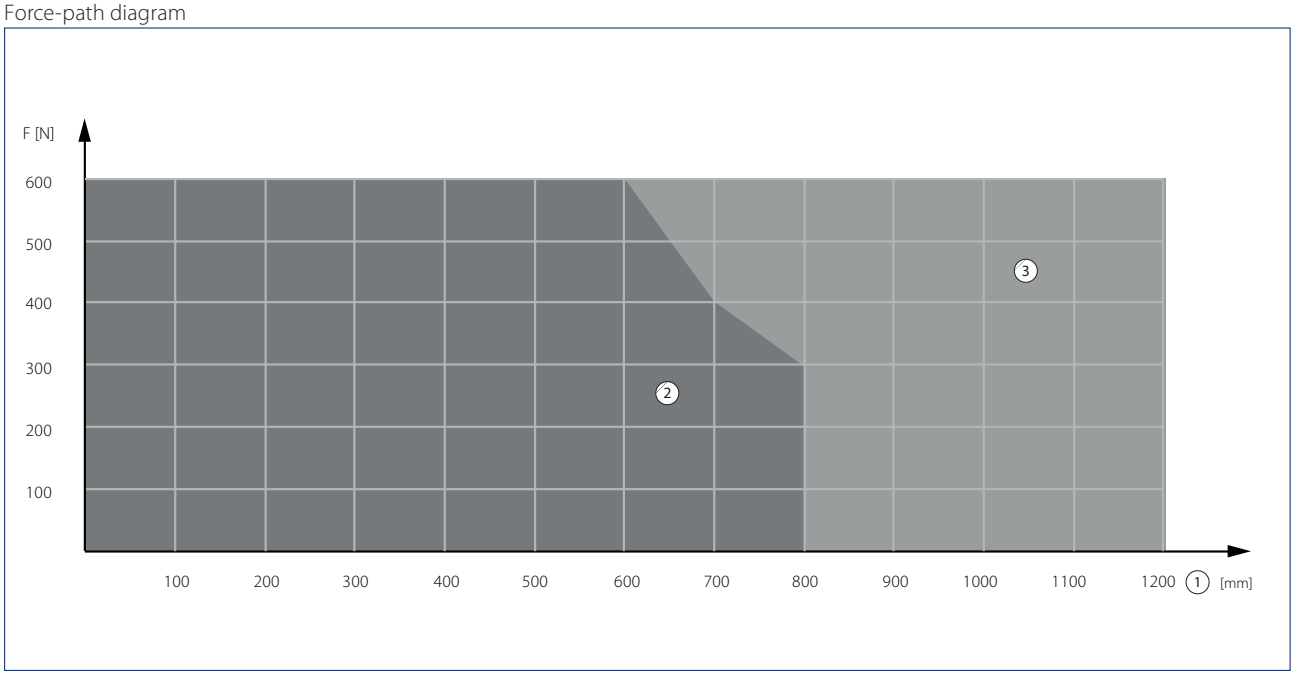
Technical data

Product features	GEZE Powerchain
Length	Stroke 600: 756 mm, stroke 800: 856 mm, stroke 1200: 1056 mm (each with consoles)
Height	36 mm
Depth	51 mm
Space required on frame (min.)	Frame installation INWARD-OPENING: 50 mm, casement installation INWARD-OPENING: 30 mm, frame installation OUTWARD-OPENING: 50 mm
Possible stroke heights	600 mm, 800 mm, 1200 mm
Opening speed RWA	15 mm/s
Opening speed ventilation	5 mm/s
Closing speed	5 mm/s
Tensile force (max.)	600 N
Force of pressure (max.)	600 N (depending on stroke), see force-path diagram
Holding force (max.)	3000 N
Casement weight (max.)	150 kg*
Operating voltage	24 V ± 25 %
Current consumption	Ventilation (24 V): 1.2 A; RWA (18 V): 1.5 A
Power consumption (max.)	36 W
Duty rating	30 %
Length of power supply cable	2 m
Special length of power supply cable	5 m, 7,5 m
Cable dimensions	4 x 0.75 mm^2
Temperature range	-5 – 70 °C
Enclosure rating / protection class	IP 40 / III
Stroke length settable	●
Opening speed settable (ventilation)	●
Additional locking available	●
Type of additional locking	Locking drive
Type of stroke shortening	Synchronising unit, Factory setting
End position cut-off extended	electronic, via internal path sensor
End position cut-off retracted	electric, electronic via current consumption
Overload cut-off	●
Complete opening within 60 s	yes, up to 800 mm stroke
SHEV tested	●
Synchronisation (max.)	3 drives

● = YES

*) Note on casement weight (max.):
The overall weight is limited by the hinges and depends on the details provided by the profile system manufacturer.

Force-path diagram

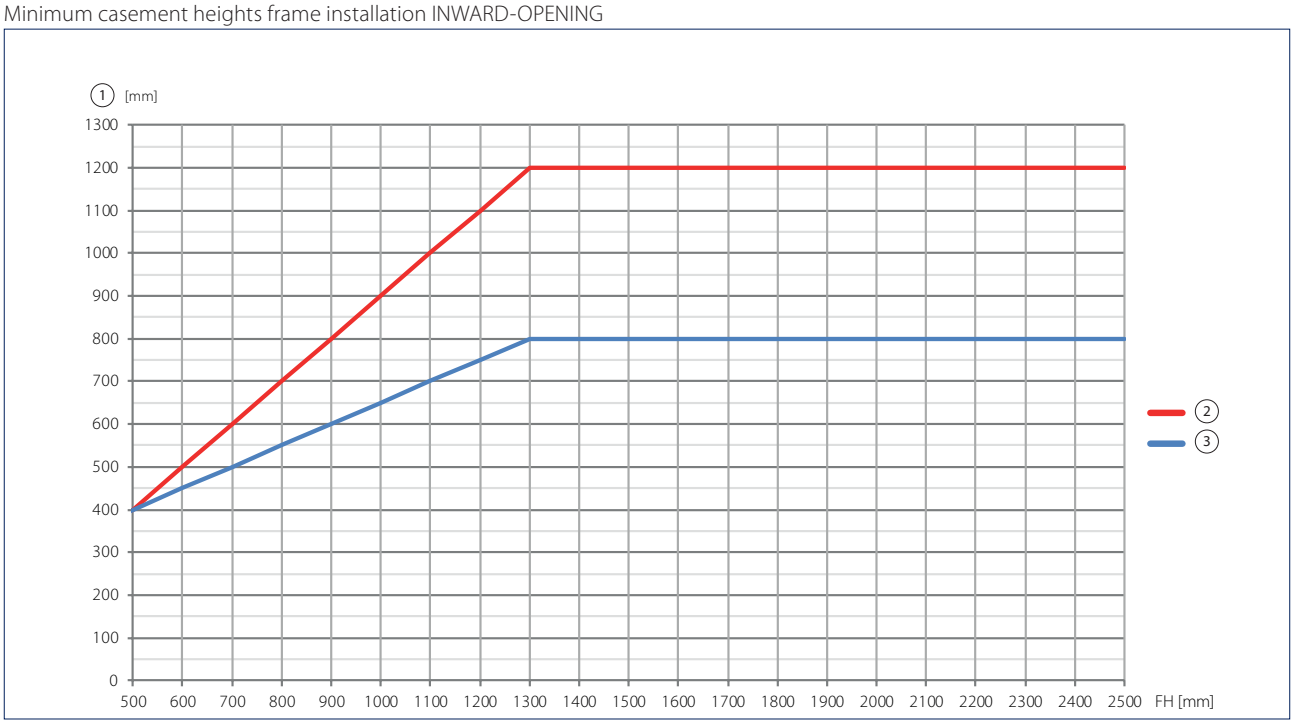


F = Force
1 = Stroke
2 = Pressure
3 = Pull

GEZE Powerchain with safety scissors

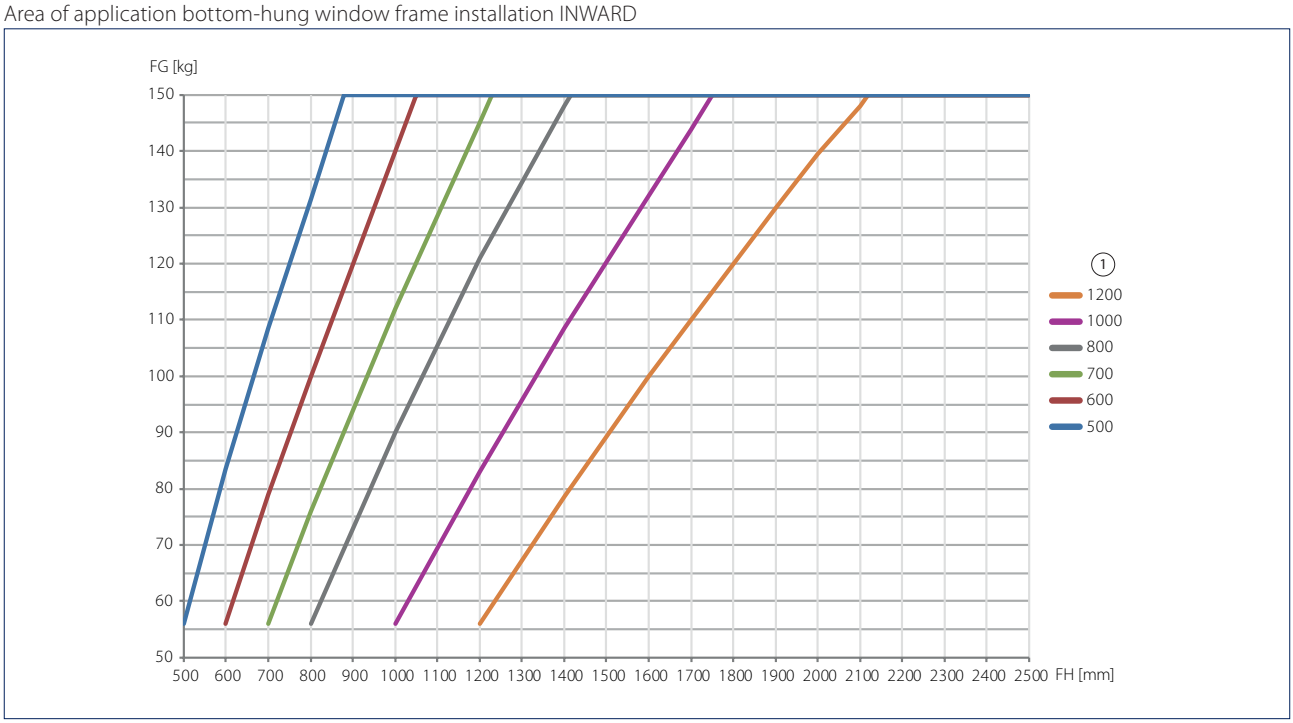
GEZE CHAIN DRIVES

Minimum casement heights frame installation INWARD-OPENING



FH = Casement height
1 = Stroke
2 = Alarm
3 = Ventilation

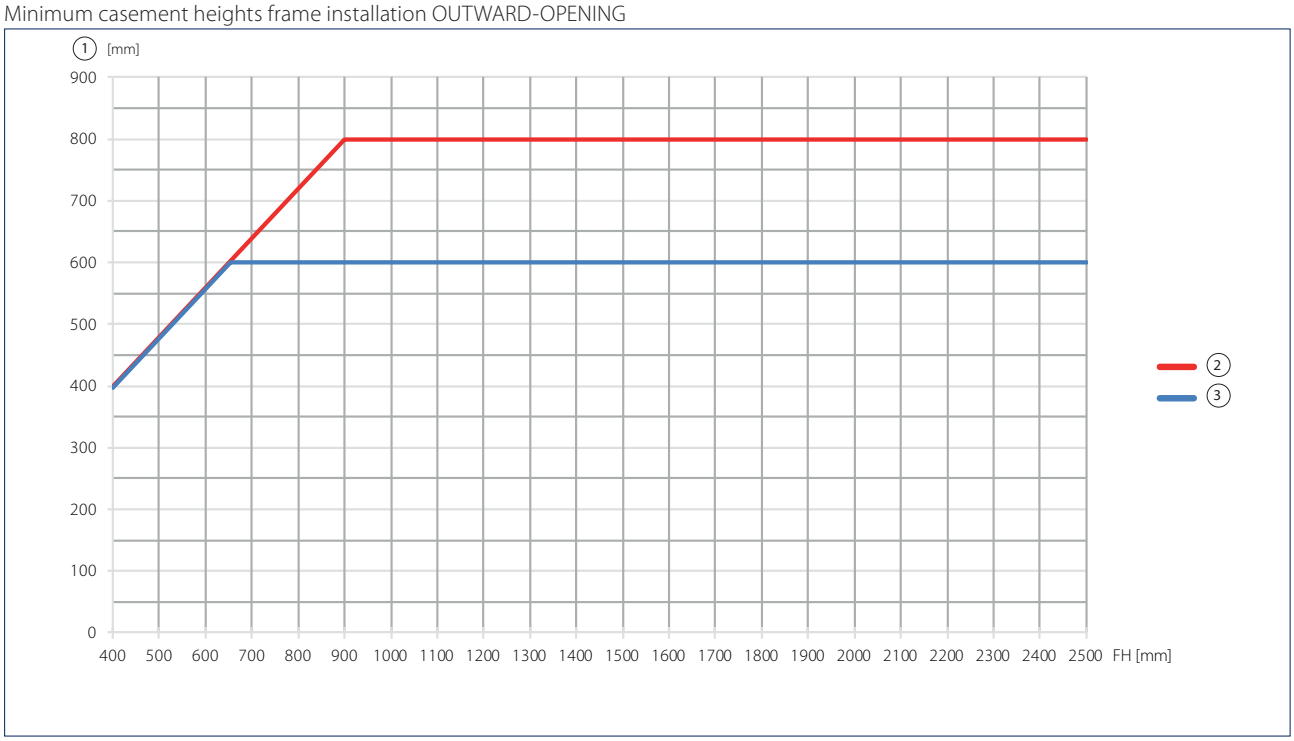
Area of application bottom-hung window frame installation INWARD



Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the casement weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.

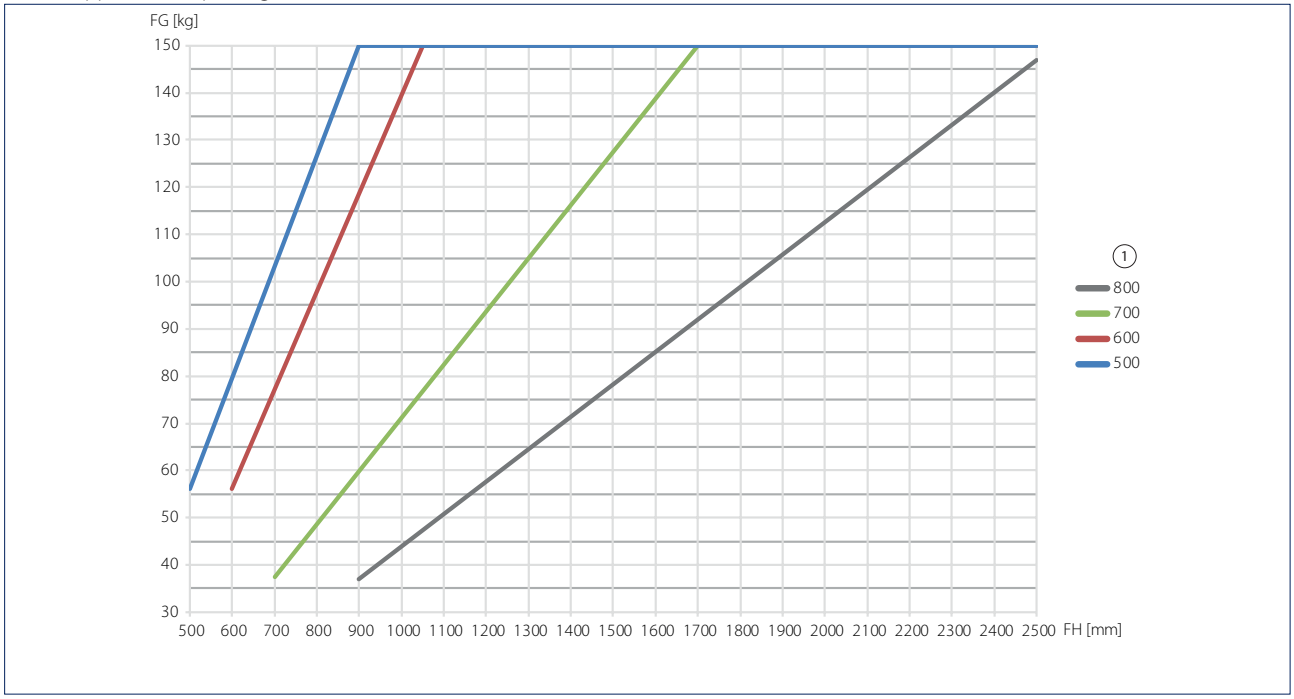
FG = Casement weight
FH = Casement height
1 = Stroke

Minimum casement heights frame installation OUTWARD-OPENING



FH = Casement height
1 = Stroke
2 = Alarm
3 = Ventilation

Area of application top-hung window frame installation OUTWARD



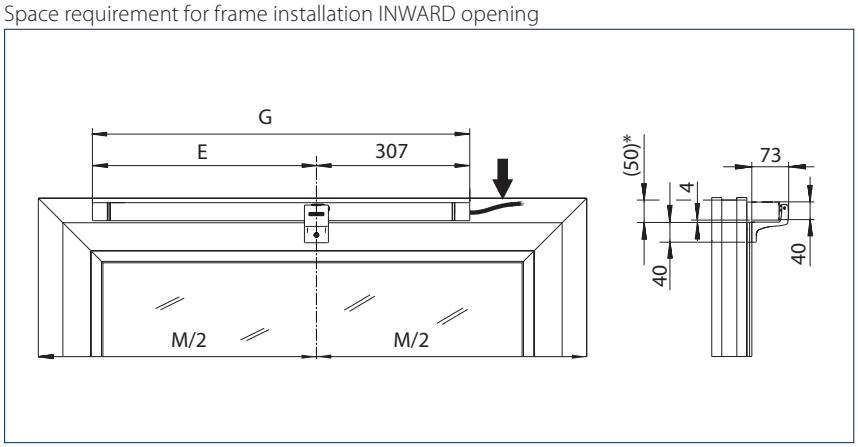
Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the casement weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.

FG = Casement weight
FH = Casement height
1 = Stroke

Space requirement for Powerchain

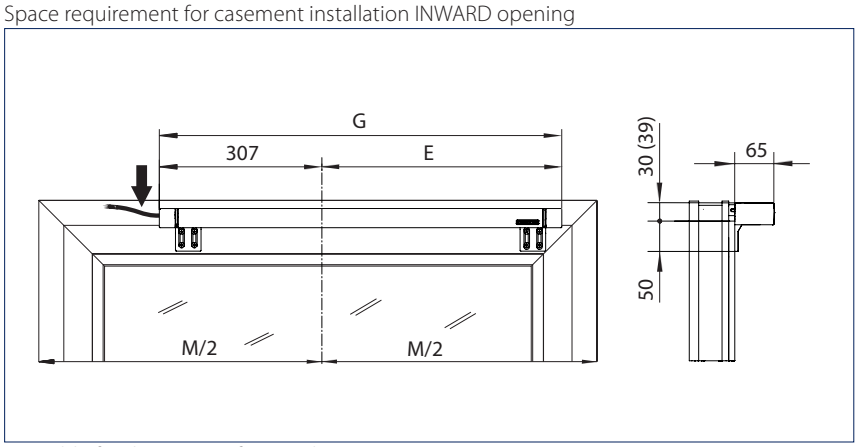
Stroke	E [mm]	G [mm]
600	449	756
800	549	856
1200	749	1056

Space requirement for frame installation INWARD opening



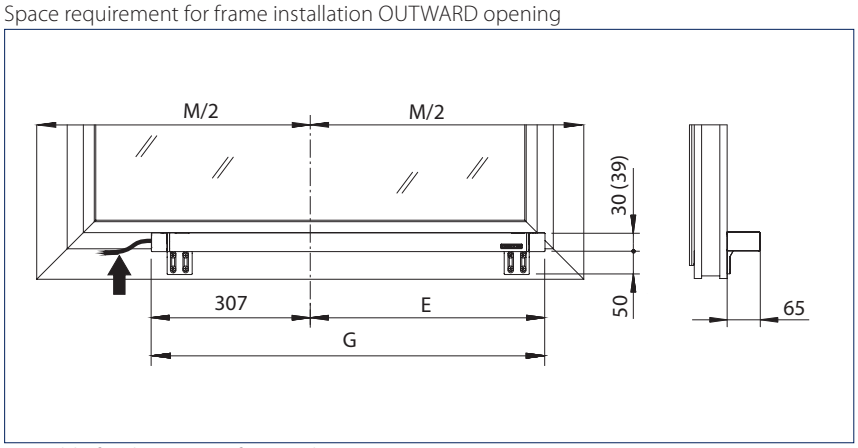
See table for dimensions for E and G
* = Swivelling range

Space requirement for casement installation INWARD opening



See table for dimensions for E and G

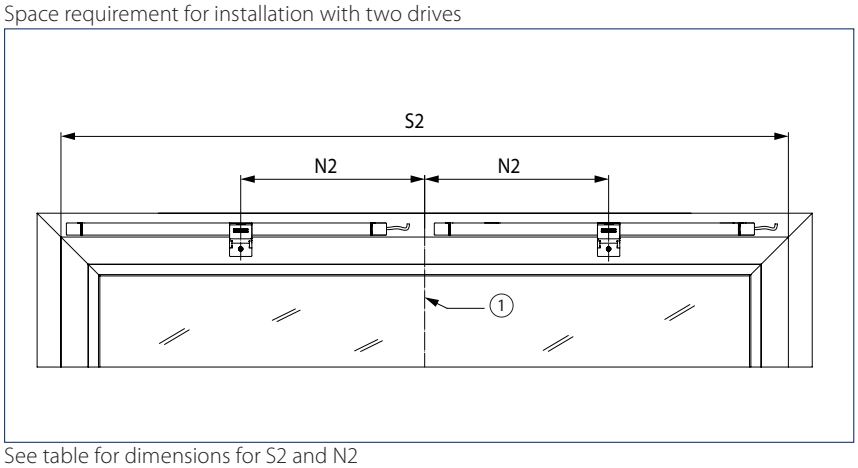
Space requirement for frame installation OUTWARD opening



See table for dimensions for E and G

Space requirement for Powerchain - Syncro 2

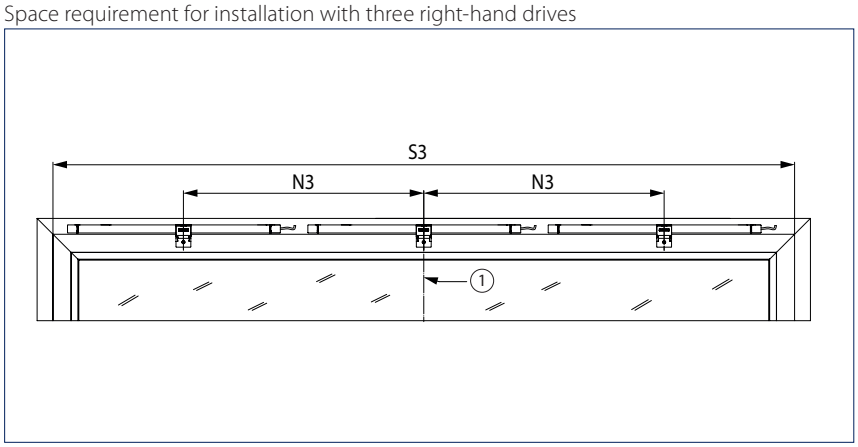
Space requirement for installation with two drives



See table for dimensions for S2 and N2
1 = Centre of window

Stroke	N2 [mm]	S2 [mm]	ID no. EV1/ white RAL 9016	Quantity
600	400	1700	147080/147081	2
800	450	2000	147090/147091	2
1200	550	2600	147100/147101	2

Space requirement for installation with three right-hand drives



See table for dimensions for S3 and N3
1 = Centre of window

Stroke	N3 [mm]	S3 [mm]	ID no. EV1/ white RAL 9016	Quantity
600	796	2490	147080/147081	3
800	896	2890	147090/147091	3
1200	1096	3690	147100/147101	3

GEZE CHAIN DRIVES

Bracket set A
For bottom-hung, side-hung and top-hung windows, frame installation INWARD

Bracket set B
For bottom-hung, side-hung and top-hung windows, casement installation INWARD and frame installation OUTWARD

GEZE Powerchain - Order information

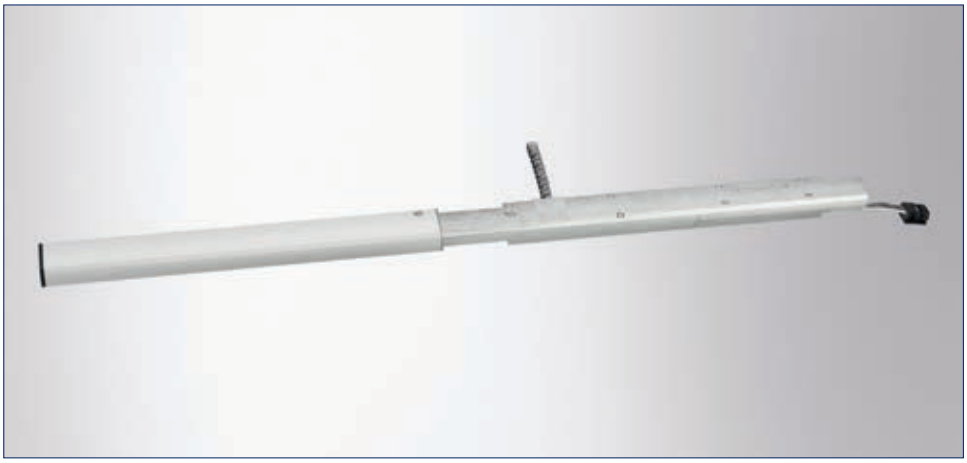
Description	Stroke	Version	ID.No.
GEZE Powerchain	600 mm	EV1	147080
	800 mm	EV1	147090
	1200 mm	EV1	147100
	600 mm	white RAL 9016	147081
	800 mm	white RAL 9016	147091
	1200 mm	white RAL 9016	147101
GEZE Powerchain - special version Can be configured: stroke, cable length, colour			147120
Accessories			
Bracket set A Powerchain		white RAL 9016	147111
		black	147110
Bracket set B Powerchain		white RAL 9016	147113
		black	147112
Choice of consoles for Powerchain Can be configured: type of opening, colour		acc. to RAL	147121

GEZE chain drives E 920 - E 990

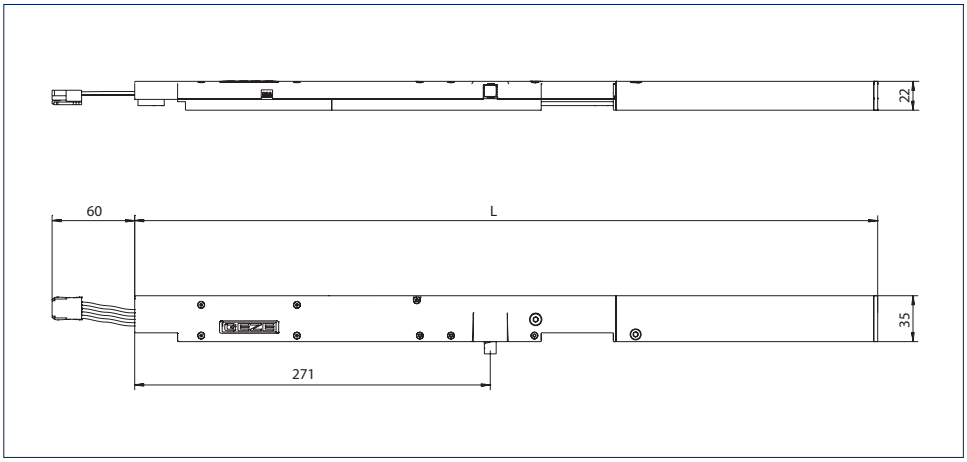
Integrated electrically-operated chain drives for purist design on large windows

An extremely no-frills look characterises the RWA and ventilation systems of the electrically-operated chain drive series E 920 - E 990. The drive and fitting technology disappears in the window. No parts can be seen from the exterior. This optimises window design and avoids soiling. The drive stroke (stroke variants 200 - 900 mm) can be variably adjusted. Individual speeds can be set for ventilation and RWA mode. An accessory tool can be used to unlock the drive from the outside, even when it is closed. The integrated Syncro module allows up to 3 drives to be used without an external control unit being necessary. The drive is equipped with a DIP switch for changing between the modes of operation (Solo/Syncro, Master/Slave). The drives can be installed with a minimum of mechanical preparation and a simple and time-saving method (clamping technique) on standard window profiles.

GEZE E 920 - E 990



GEZE E 920 - E 990



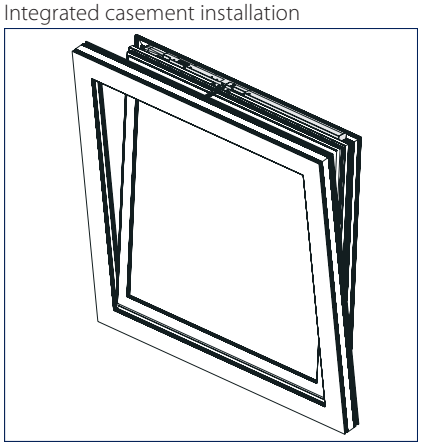
Application range

- Profile-integrated installation for purist design on large windows in the façade area
- Inward-opening bottom-hung and side-hung casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Synchronisation of up to 3 drives
- Suitable for Schüco AWS TT and Wicona Wicline EV0 profile systems and other standard profiles
- Integrated casement installation
- A system solution in combination with the locking drive E 905/E 906

GEZE CHAIN DRIVES

Application range

Integrated casement installation



Technical data

Product features	GEZE E 920 - E 990
Length	Stroke 200: 450 mm, stroke 400: 545 mm, stroke 500: 595 mm, stroke 700: 695 mm, stroke 900: 790 mm
Height	22 mm
Depth	35 mm
Possible stroke lengths	200 mm, 400 mm, 500 mm, 700 mm, 900 mm
RWA function up to stroke (max.)	900 mm
Opening speed RWA	17 mm/s
Opening speed ventilation	5 mm/s
Closing speed	5 mm/s
Tensile force (max.)	400 N
Holding force (max.)	2000 N
Casement weight (max.)	Bottom-hung window 130 kg, side-hung window 130 kg, see notes on casement weight*
Operating voltage	24 V ± 25 %
Current consumption	Ventilation (24 V): 1.0 A; RWA (18 V): 1.3 A
Power consumption (max.)	22 W
Duty rating	30 %
Cable dimensions	4 x 0.75 mm^2
Temperature range	-5 – 70 °C
Enclosure rating / protection class	IP 40 / III
Type of additional locking	Locking drive
Type of stroke shortening	Synchronising unit, Factory setting
End position cut-off extended	electronic, via internal path sensor
End position cut-off retracted	electric, electronic via current consumption
Complete opening within 60 s	yes
Synchronisation (max.)	3 drives

*) Note on casement weight (max.):
The overall weight is limited by the hinges and depends on the details provided by the profile system manufacturer.

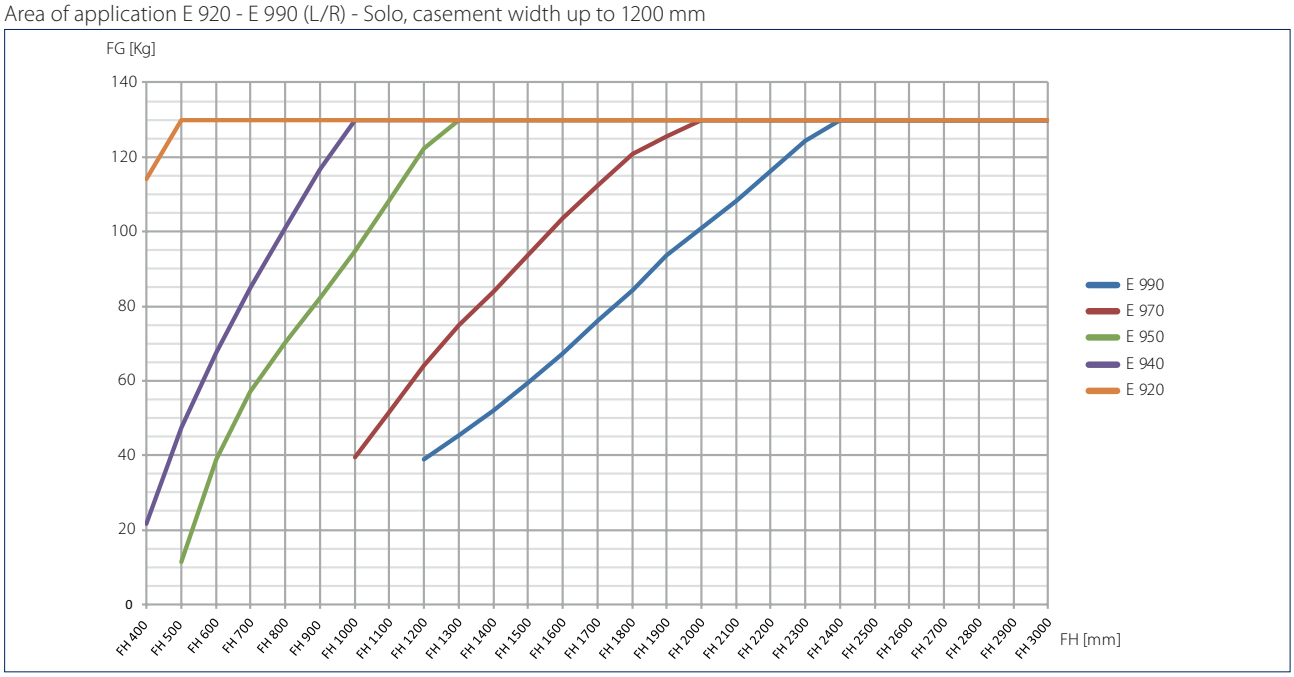
Forces and dimensions E 920 - E 990

Stroke [mm]	Pull [N]	Dimensions L x W x H [mm]	FH min. [mm]
200	400	450 x 35 x 22	400
400	400	545 x 35 x 22	400
500	400	595 x 35 x 22	500
700	400	695 x 35 x 22	1000
900	400	790 x 35 x 22	1200
for Schüco AWS system			

Forces and dimensions E 920 - E 990, Solo

Stroke [mm]	Minimum casement width [mm] asymmetrical installation	Minimum casement width [mm] symmetrical installation
200	605	790
400	700	790
500	745	790
700	850	905
900	945	1095
for Schüco AWS system		

Area of application E 920 - E 990 (L/R) - Solo, casement width up to 1200 mm

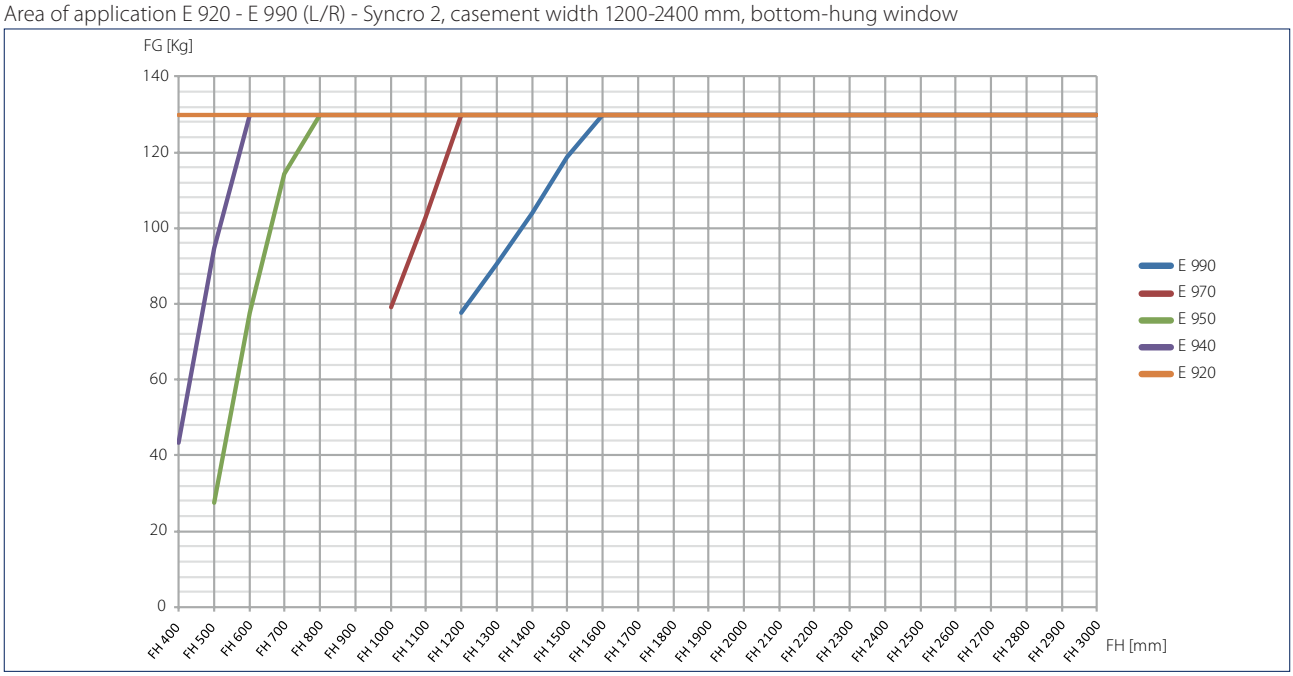


FG = Casement weight
FH = Casement height

Forces and dimensions E 920 - E 990, Syncro 2

Stroke [mm]	Minimum casement width [mm] asymmetrical installation	Minimum casement width [mm] symmetrical installation
200	1200	1385
400	1390	1480
500	1480	1525
700	1690	1745
900	1880	2030
for Schüco AWS system		

Area of application E 920 - E 990 (L/R) - Syncro 2, casement width 1200-2400 mm, bottom-hung window



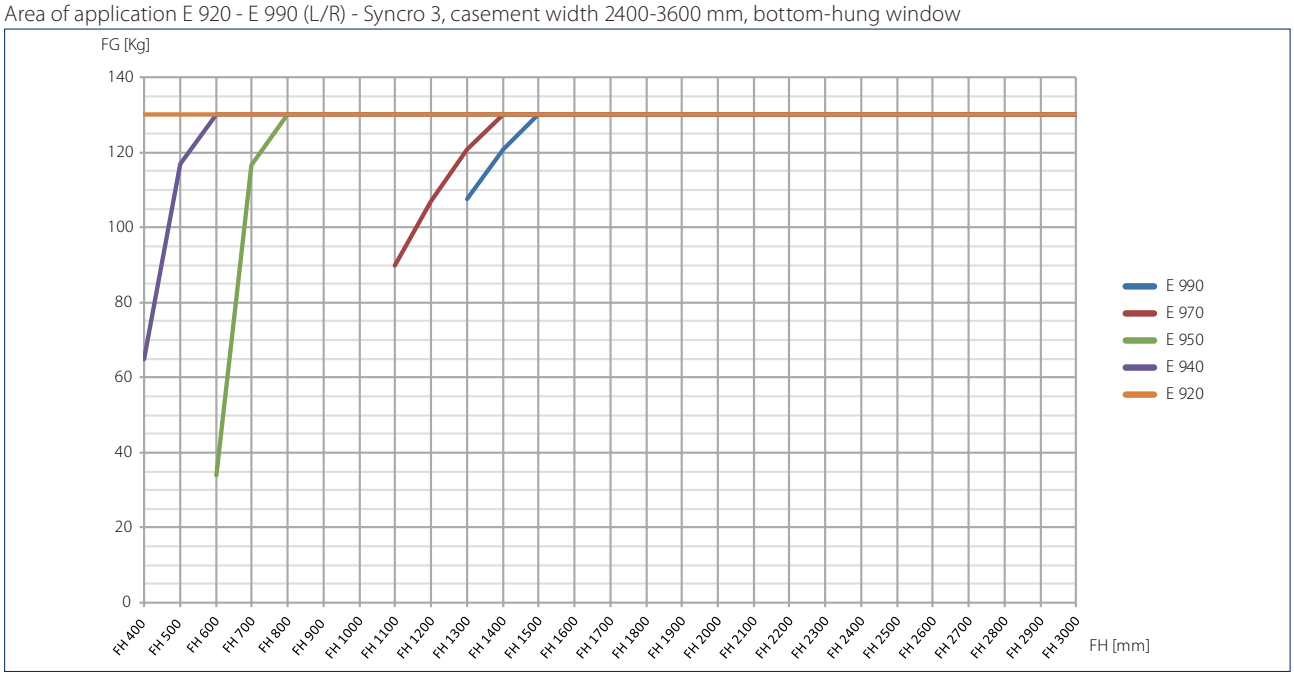
FG = Casement weight
FH = Casement height

GEZE E 970, GEZE E 905 / E 906 and safety scissors

Forces and dimensions E 920 - E 990, Syncro 3

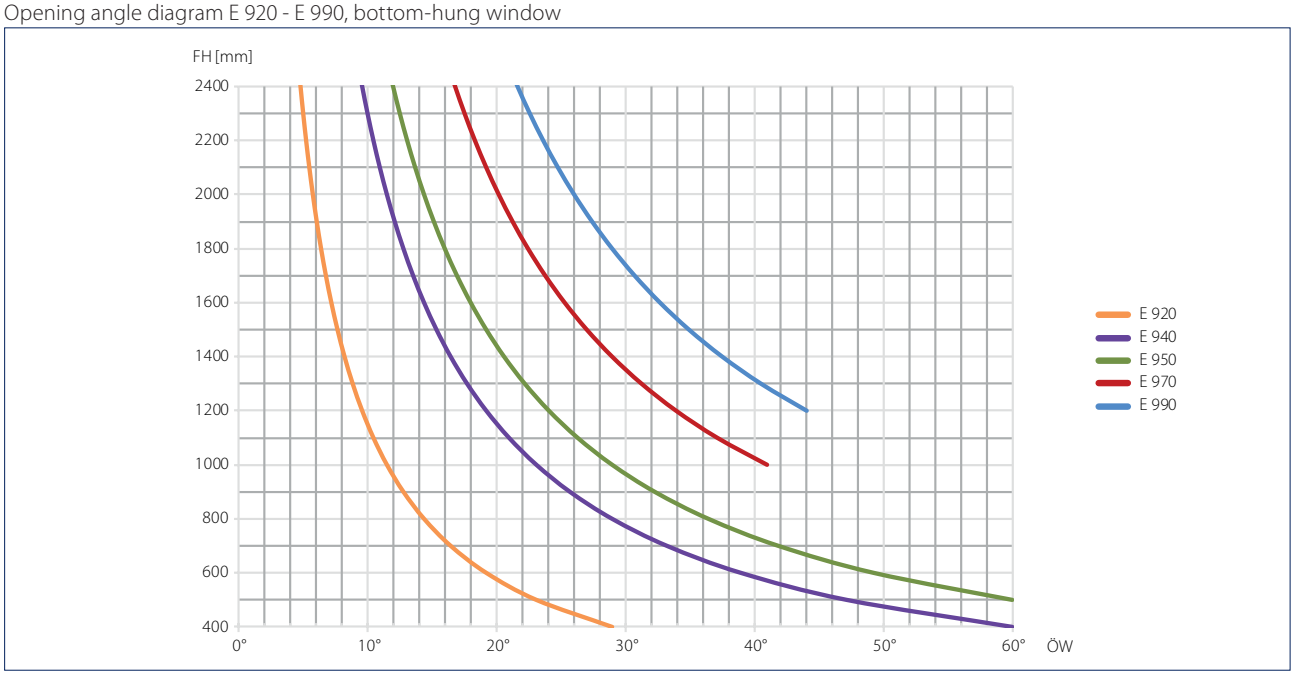
Stroke [mm]	Minimum casement width [mm] asymmetrical installation	Minimum casement width [mm] symmetrical installation
200	1795	1980
400	2080	2170
500	2215	2260
700	2530	2585
900	2815	2965
for Schüco AWS system		

Area of application E 920 - E 990 (L/R) - Syncro 3, casement width 2400-3600 mm, bottom-hung window



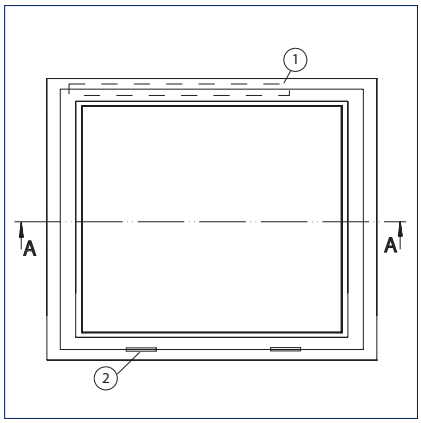
FG = Casement weight
FH = Casement height

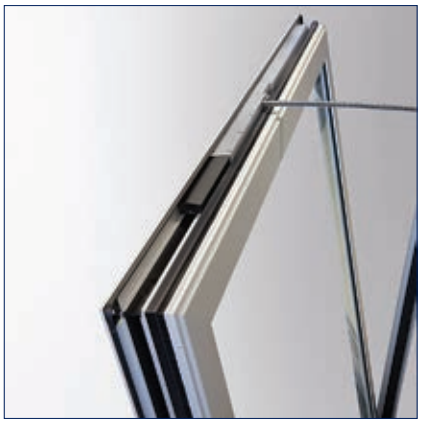
Opening angle diagram E 920 - E 990, bottom-hung window



FH = Casement height
ÖW = Opening angle

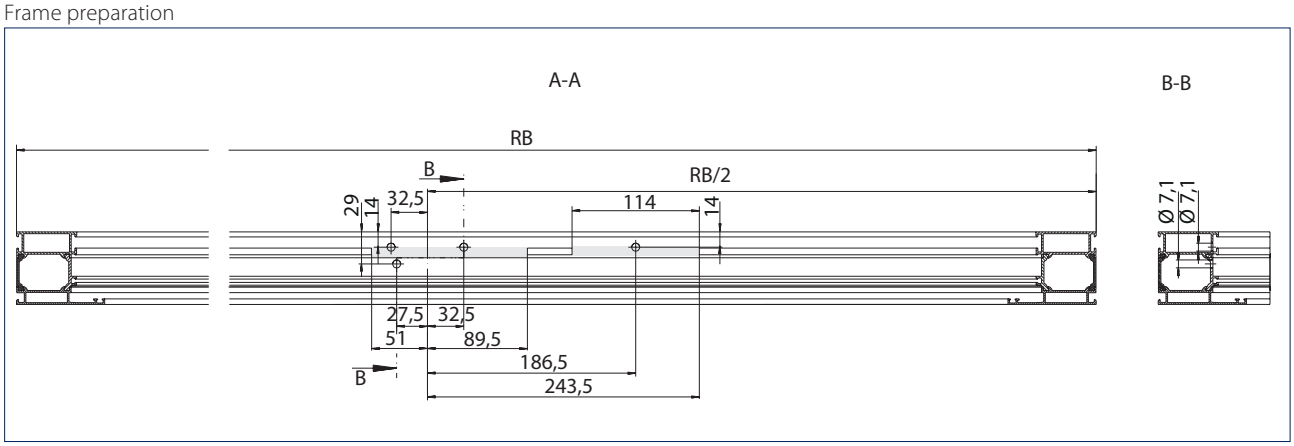
GEZE CHAIN DRIVES





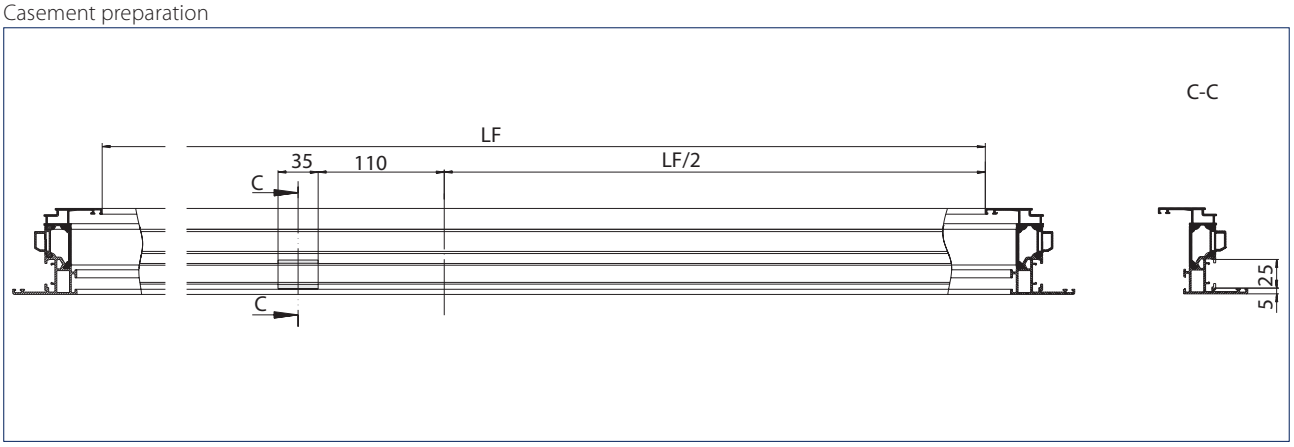
Window preparation
1 = Position of drive after installation
2 = Window hinge

Frame preparation



RB = Frame width

Casement preparation



LF = Clear casement dimension

GEZE E 920 - E 990 - Order information

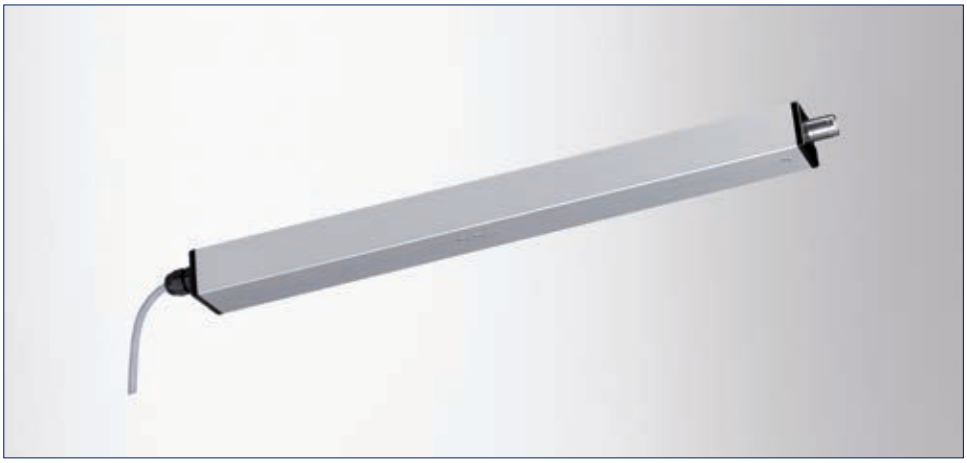
Description	Stroke	Version	ID.No.
GEZE E 920 L	200 mm	silver-coloured	149676
GEZE E 920 R	200 mm	silver-coloured	150837
GEZE E 940 L	400 mm	silver-coloured	149678
GEZE E 940 R	400 mm	silver-coloured	150838
GEZE E 950 L	500 mm	silver-coloured	149679
GEZE E 950 R	500 mm	silver-coloured	150839
GEZE E 970 L	700 mm	silver-coloured	149680
GEZE E 970 R	700 mm	silver-coloured	139574
GEZE E 990 L	900 mm	silver-coloured	149681
GEZE E 990 R	900 mm	silver-coloured	139575
GEZE E 9x0 R - special version Can be configured: stroke, type of chain, speed		silver-coloured	139576
GEZE E 9x0 L - special version Can be configured: stroke, type of chain, speed		silver-coloured	149875
Accessories			
GEZE safety scissor no. 35 Schüco AWS comprising 2 safety scissors with bracket sets for the Schüco AWS profile		galvanised	148546
GEZE safety scissor no. 60 Schüco AWS comprising 2 safety scissors with bracket sets for the Schüco AWS profile		galvanised	148545
Cover profile flat ribbon cable E 9x0 Schüco AWS 5 m			140750
Cover profile flat ribbon cable E 9x0 Schüco AWS 50 m			140761
Cover connector E 9x0 Schüco AWS R 5 pcs.			140748
Cover connector E 9x0 Schüco AWS R 50 pcs.			140749
Cover connector E 9x0 Schüco AWS L 5 pcs.			149684
Cover connector E 9x0 Schüco AWS L 50 pcs.			149685
Drive bracket INWARD E 9X0 Schüco AWS L			149683
Drive bracket INWARD E 9X0 Schüco AWS R		silver-coloured	140393
Chain rack INWARD E 9X0 Schüco AWS L			149682
Chain rack INWARD E 9X0 Schüco AWS R			140392
Flat ribbon cable E 9x0 5 m			141614
Flat ribbon cable E 9x0 50 m			141615
Door loop MINI 9X0 24 V Schüco AWS			142570
Door loop E 9X0 24 V Schüco AWS			140822
Connector for flat ribbon cable E 9x0 5 pcs.			140631
Connector for flat ribbon cable E 9x0 50 pcs.			140632

GEZE spindle drive E 250 NT

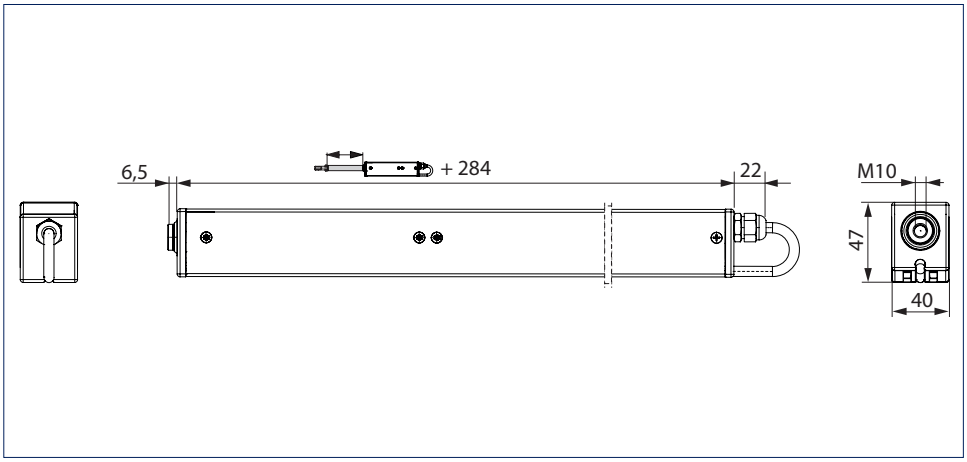
Drive in compact design with a large application range

Heavy and wide casements in particular can be opened and closed by the GEZE E 250 NT electric motor drive. The drive stroke (stroke variants 100 - 1000 mm) can be variably adjusted. Individual speeds can be set for ventilation mode. Its small dimensions and technically advanced detail solutions such as cables routed on the interior and the integrated, intelligent control make it the ideal drive for the direct opening of RWA windows. The integrated Syncro module allows up to 3 drives to be used without an external control unit being necessary. The drive is equipped with a DIP switch for changing between the modes of operation (Solo/Syncro, Master/Slave). With the swivelling console the spindle drive in Syncro version can be fitted directly to the secondary closing edge. A greater opening width is achieved in comparison with attachment on the primary closing edge of the skylight window with a comparable stroke.

GEZE E 250 NT



GEZE E 250 NT

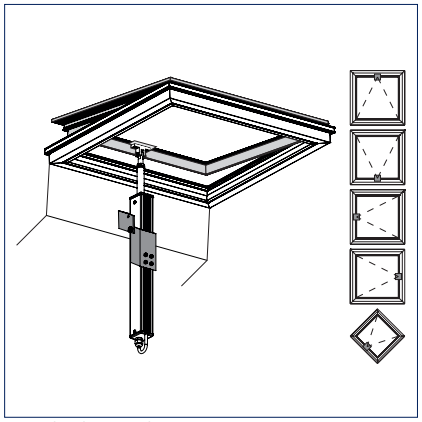


Application range

- For the direct opening of windows in the façade and roof area (skylight domes)
- Bottom-hung, side-hung, top-hung, skylight casements and louvre windows
- Inward-opening and outward-opening casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Synchronisation of up to 3 drives
- Can be used on timber, plastic and aluminium profile systems
- Casement or frame installation

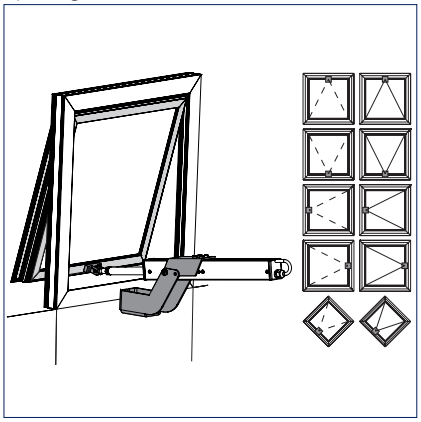
Application range

Skylights and skylight domes OUTWARD opening



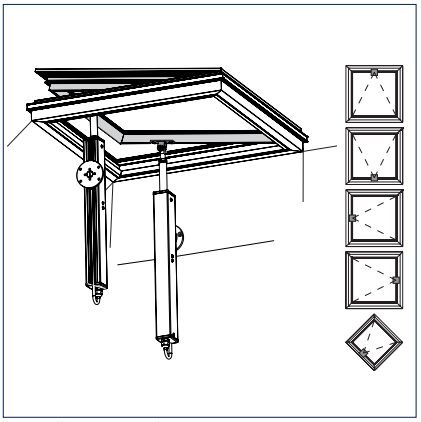
Standard console

Bottom-hung, top-hung, side-hung and skylight windows INWARD or OUTWARD opening



INWARD-OPENING console

Skylights and skylight domes OUTWARD opening



Swivelling console

Technical data

Product features	GEZE E 250 NT
Dimensions (W x H x D)	Stroke + 284 x 40 x 47
Possible stroke heights	100 mm, 150 mm, 200 mm, 230 mm, 300 mm, 500 mm, 750 mm, 1000 mm
Opening speed RWA	5.7 mm, stroke 500: 9.5 mm/s
Opening speed ventilation	5 mm/s
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Operating voltage	24 V DC
Current consumption	Ventilation (24 V): 0.9 A; RWA (18 V): 1.0 A Stroke 500: Ventilation (24 V): 1.1 A; RWA (18 V): 1.3 A
Power consumption (max.)	20 W
Duty rating	30 %
Length of power supply cable	2 m
Special length of power supply cable	5 m, 7.5 m
Cable dimensions	4 x 0.75 mm^2
Temperature range	-5 – 70 °C
Enclosure rating / protection class	IP 65 / III
Stroke length settable	●
Syncro function	●
Opening speed settable (ventilation)	●
Additional locking available	●
Type of additional locking	Locking drive
Type of stroke shortening	Factory setting, Synchronising unit
End position cut-off extended	electronic, via path and load
End position cut-off retracted	electronic, via path and load
Overload cut-off	●
Complete opening within 60 s	yes, up to 500 mm stroke
SHEV tested	yes, up to 500 mm stroke

● = YES

GEZE SPINDLE DRIVES

Minimum casement heights for INWARD opening bottom-hung, top-hung and side-hung windows

Stroke	Casement height
100 mm	
150 mm	
200 mm	200 mm
230 mm	230 mm
300 mm	300 mm
500 mm	600 mm

Minimum casement heights for OUTWARD opening bottom-hung, top-hung and side-hung windows

Stroke	Casement height
100 - 300 mm	400 mm
500 mm	600 mm

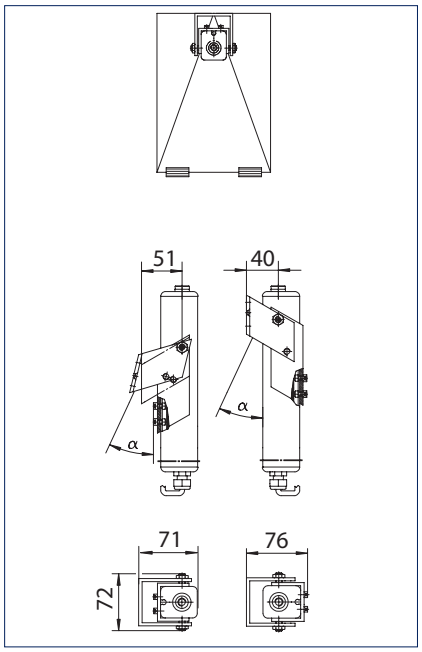
Minimum casement heights for skylights and skylight domes

Stroke	Casement height
100 mm	220 mm
150 mm	270 mm
200 mm	320 mm
230 mm	350 mm
300 mm	440 mm
500 mm	670 mm
700 mm	910 mm
750 mm	980 mm
1000 mm	1270 mm

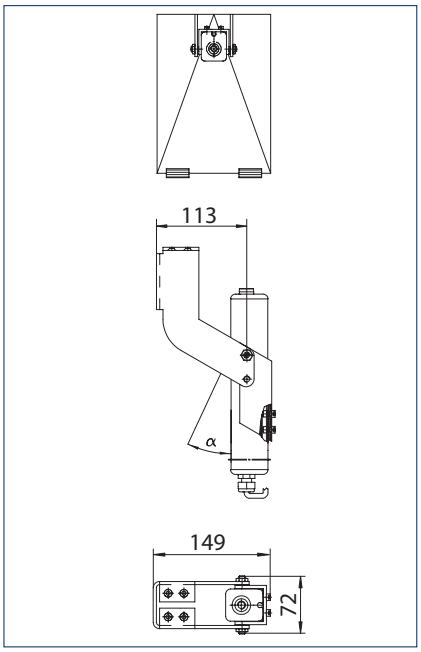
Solo application at the primary closing edge

Casement weight max. 100 kg, casement width < 1200 mm

Standard console



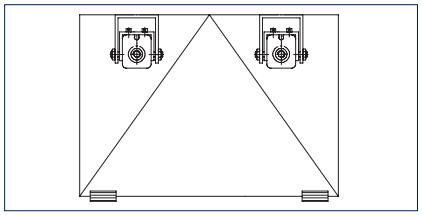
INWARD-OPENING console



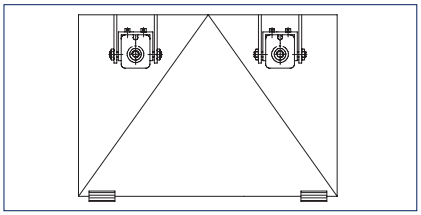
Synchronous application at the primary closing edge

Casement weight max. 200 kg, casement width < 2400 mm

Standard console

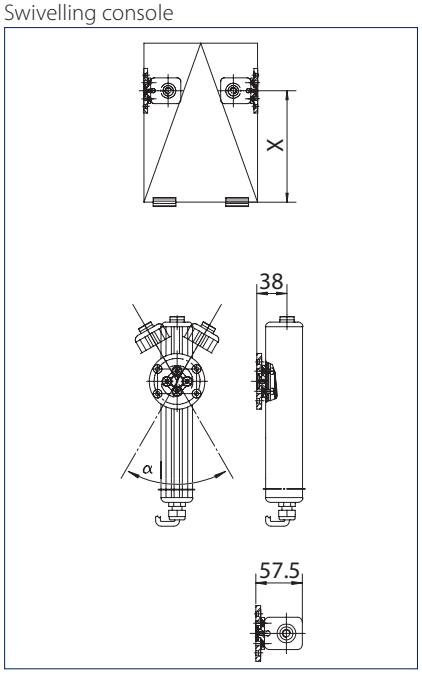


INWARD-OPENING console

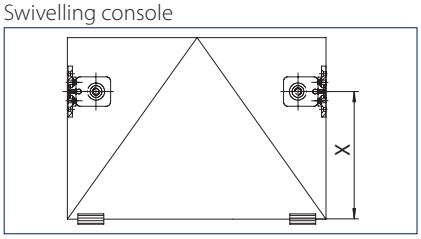


Synchronous application at the primary closing edge

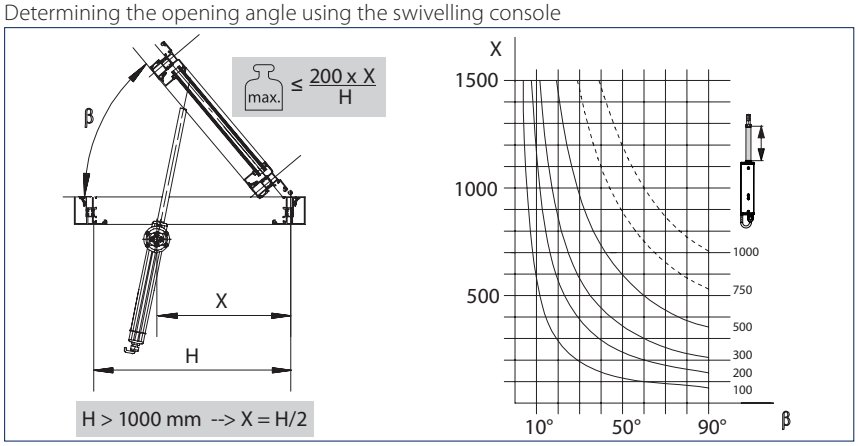
Swivelling console



Swivelling console



Determining the opening angle using the swivelling console



H = Side closing edge
X = Mounting dimension
β = Opening angle

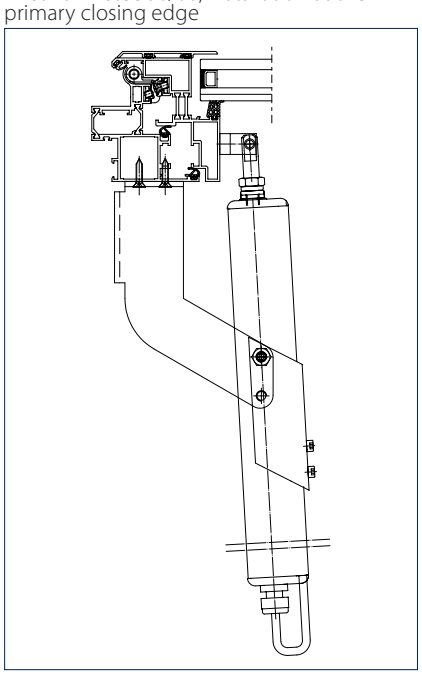
Example:
Stroke = 500 mm
Weight = 100 kg
Mounting dimension x = 700 mm
Opening angle = approx. 42°

Note:
Snow and wind loads must also be taken into consideration.

The minimum casement heights specified are only reference values, since they depend on the installation situation, mounting dimension and stroke.
The drive must not collide with a structure or any other obstacle in the swivelling range.

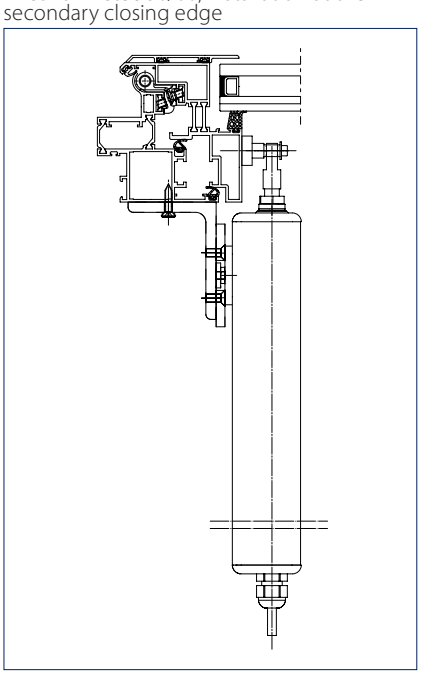
GEZE E 250 NT profile-specific installation on skylights

Wicona Wictec 50/60, installation at the primary closing edge



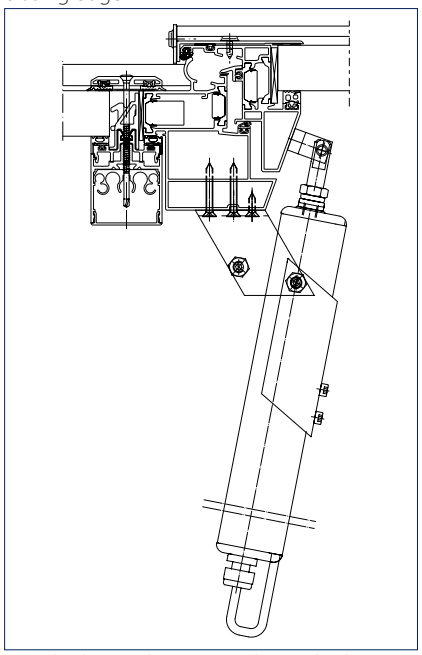
Console inward-opening E 250, incl. standard casement bracket (ID no. 027218)

Wicona Wictec 50/60, installation at the secondary closing edge



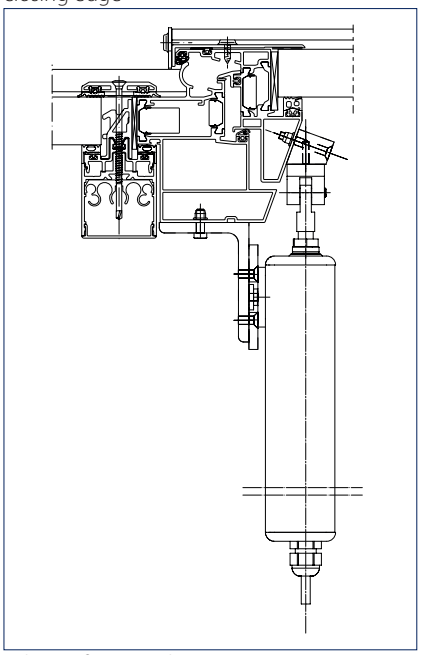
Casement bracket E 1500 NSK W-HU (ID no. 136187)
Swivelling console E 250 NSK, incl. console bracket E 250 and eye bolt ø 8 mm (ID no. 138367)

Schüco AWS57, installation at the primary closing edge



Standard console E 250, incl. standard casement bracket (ID no. 019032)

Schüco AWS57, installation at the secondary closing edge



Adapter for console E 250 NSK S (ID no. 138370)
Swivelling console E 250 NSK (ID no. 116112)
Bracket E 250 NSK (ID no. 138369)

For further profile-specific solutions for Heroal, Alcoa, Hueck and Aluprof see installation diagram 45130-EP-002.

Electric spindle drive E 250 NT accessories

Standard console
For direct opening of the E 250 NT. Eye bolt and casement bracket are supplied by GEZE.

Console ENWARD-OPENING
For direct opening of the E 250 NT on inward-opening casements Eye bolt and casement bracket are supplied by GEZE.

Swivelling console
For direct opening of the E 250 NT. Eye bolt, casement bracket and countersunk screws are supplied by GEZE.


Standard console


INWARD-OPENING console


Swivelling console

GEZE E 250 NT - Order information

Description	Stroke	Version	ID.No.
GEZE E 250 NT	100 mm	EV1	146499
	150 mm	EV1	146652
	200 mm	EV1	146655
	230 mm	EV1	146658
	300 mm	EV1	146661
	500 mm	EV1	146664
	750 mm	EV1	146670
	1000 mm	EV1	146673
	100 mm	white RAL 9016	146500
	150 mm	white RAL 9016	146653
	200 mm	white RAL 9016	146656
	230 mm	white RAL 9016	146659
	300 mm	white RAL 9016	146662
	500 mm	white RAL 9016	146665
	750 mm	white RAL 9016	146671
	1000 mm	white RAL 9016	146674
	100 mm	acc. to RAL	146651
	150 mm	acc. to RAL	146654
	200 mm	acc. to RAL	146657
	230 mm	acc. to RAL	146660
	300 mm	acc. to RAL	146663
	500 mm	acc. to RAL	146666
	750 mm	acc. to RAL	146672
	1000 mm	acc. to RAL	146675
GEZE E 250 NT - special version Can be configured: stroke, cable length, colour			146676

GEZE SPINDLE DRIVES

Description	Stroke	Version	ID.No.
Accessories			
Swivelling bracket E 250/E 350 N NSK with eye bolts suitable for installation on the secondary closing edge of skylights			138367
Swivelling bracket E 250/E 350 N with eye bolts and casement bracket		EV1	116112
		white RAL 9016	116113
		acc. to RAL	116114
Console INWARDS E 250/E 350 N with eye bolts and casement bracket		EV1	027218
		white RAL 9016	027223
		acc. to RAL	027222
Standard bracket E 250/E 350 N with eye bolts and casement bracket		EV1	019032
		white RAL 9016	020879
		acc. to RAL	020878
Adapter for bracket E 250/ E 350 N NSK-S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			138370
Eye bolt E 250/ E 350 N DRM suitable for installation on the secondary closing edge of skylights			138368
Bracket E 250/E 350 N NSK suitable for installation on the secondary closing edge of skylights			138369
Casement bracket E 1500 HSK HE suitable for installation on the primary closing edge of skylights (Heroal), can also be used for E 250 NT			136190
Casement bracket E 1500 NSK A-HU suitable for installation on the secondary closing edge of skylights (Alcoa AA 100, Hueck VF 50/60), can also be used for E 250 NT			136189
Casement bracket E 1500 NSK HE suitable for installation on the secondary closing edge of skylights (Heroal 85 D), also suitable for E 250 NT			136188
Casement bracket E 1500 NSK W-HU suitable for installation on the secondary closing edge of skylights (Wicona WT 50/60, Hueck 85 E), can also be used for E 250 NT			136187
Casement bracket E 1500/ E 3000 NSK AP suitable for installation on the secondary closing edge of skylights (Aluprof MB-SR50), can also be used for E 250 NT			140713

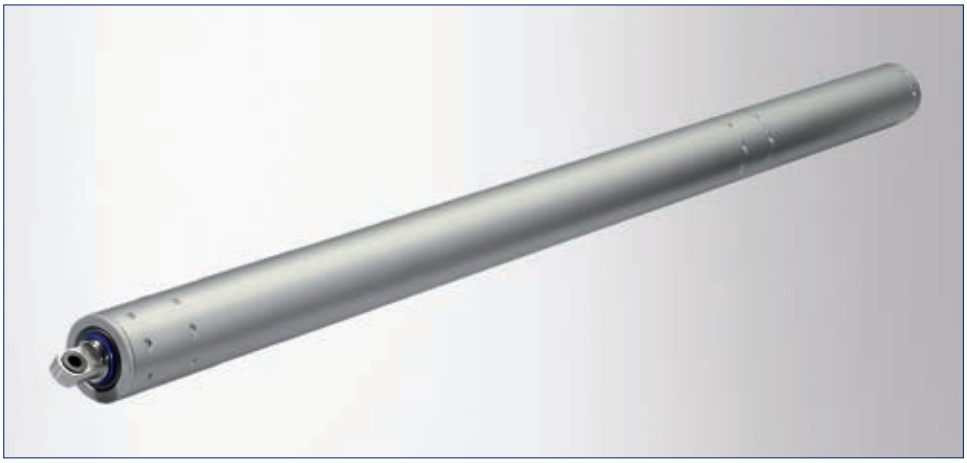
GEZE E 250 NT

GEZE spindle drive E 1500 N

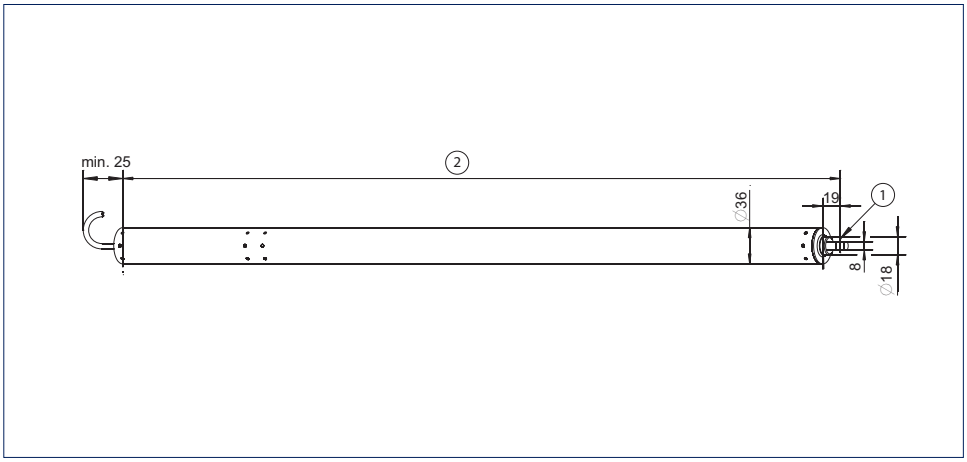
RWA electric spindle drive as solo or synchronous solution for heavy casements

The GEZE spindle drive E 1500 N is particularly suitable for heavy window elements in the façade or roof area. Its slim dimensions produce an attractive look. The robust, corrosion-resistant version, the built-in end-position damping, the aluminium housing and the silicone connection cable are the outstanding features of this high-quality electric spindle drive. The drives can be used variably for natural smoke and heat extraction as well as for smoke dissipation and daily ventilation. The Syncro version for especially heavy and wide casements is recommended from a 1200 mm primary closing edge. A Syncro set comprises two E 1500 N spindle drives with integrated synchronic control unit.

GEZE E 1500 N



GEZE E 1500 N



1 = ø 6 mm with bearing bush, ø 8 mm without bearing bush
2 = approx. 302 mm + stroke (Solo version) ca. 342 mm + stroke (Syncro version)

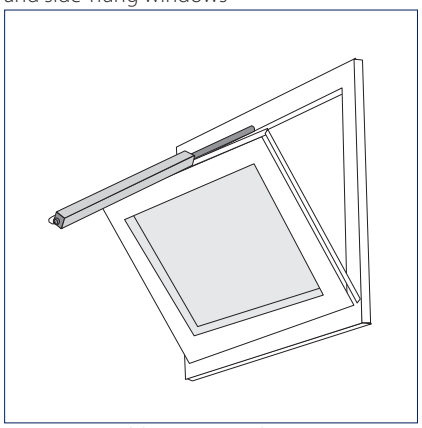
Application range

- Heavy window elements in the façade and roof area
- Bottom-hung, side-hung, top-hung and skylight casements
- Inward-opening and outward-opening casements
- Natural ventilation, smoke and heat extraction system (RWA)
- Can be used in the exhaust air and fresh air system
- Synchronisation of 2 drives
- Timber, plastic and aluminium frames
- Casement or frame installation

GEZE SPINDLE DRIVES

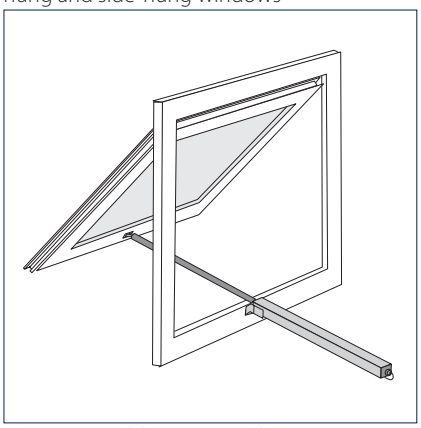
Application range

INWARD-OPENING bottom-hung, top-hung and side-hung windows



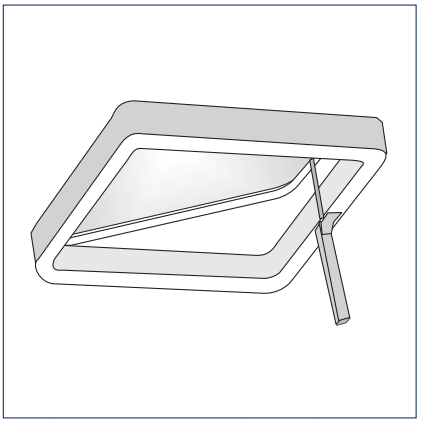
Max. permissible motor stroke: 500 mm

OUTWARD-OPENING bottom-hung, top-hung and side-hung windows



Max. permissible motor stroke: 500 mm

Skylights and skylight domes



Installation on primary and secondary closing edge possible

Calculation of the swivelling range

The space requirement under the window required for the swivel movement of the drive depends on the height of the casement,. (larger casement height - smaller swivel)

Technical data

Product features	GEZE E 1500 N
Dimensions (W x H x D)	Stroke + 302, ø 36
Possible stroke heights	300 mm, 400 mm, 500 mm, 750 mm, 1000 mm
Opening speed RWA	4 mm/s
Opening speed ventilation	4 mm/s
Tensile force (max.)	1500 N
Force of pressure (max.)	1500 N
Operating voltage	24 V DC
Current consumption	0.8 A
Power consumption (max.)	20 W
Duty rating	30 %
Length of power supply cable	2.5 m
Cable dimensions	3 x 1 mm²
Temperature range	-5 – 75 °C
Enclosure rating / protection class	IP 65 / III
Type of additional locking	Locking drive
Type of stroke shortening	Factory setting
End position cut-off extended	electronic
End position cut-off retracted	electronic
Overload cut-off	●

● = YES

Casement dimensions for bottom-hung and top-hung windows

Type of window	Minimum casement height		Maximum casement width	
	Stroke 300 mm	Stroke 500 mm	Solo	Syncro
Bottom-hung window inward-opening	650 mm	1200 mm	max. 1200 mm	max. 2400 mm
Top-hung window outward-opening	400 mm	400 mm	max. 1200 mm	max. 2400 mm

Casement weight for bottom-hung and top-hung windows

Bottom-hung window	Stroke 300 mm		Stroke 500 mm	
Casement height	Solo	Syncro	Solo	Syncro
650-1200 mm	max. 200 kg	max. 400 kg	max. 170 kg	max. 340 kg
1200-1700 mm	max. 250 kg	max. 500 kg	max. 200 kg	max. 400 kg

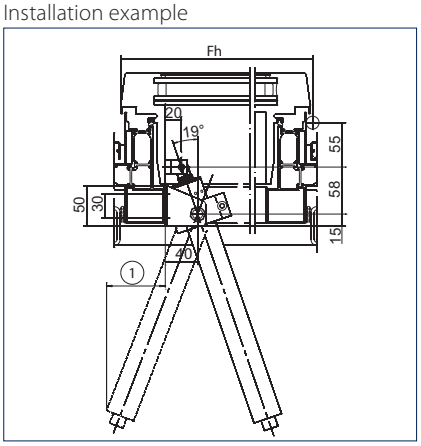
Top-hung window	Stroke 300 mm		Stroke 500 mm	
Casement height	Solo	Syncro	Solo	Syncro
400- 650 mm	max. 180 kg	max. 360 kg	max. 150 kg	max. 300 kg
650-1200 mm	max. 200 kg	max. 400 kg	max. 170 kg	max. 340 kg
1200-1700 mm	max. 250 kg	max. 500 kg	max. 200 kg	max. 400 kg

GEZE skylight console E 1500 H40

The skylight console E 1500 H40 is used to fix the drive to the frame of the skylight.

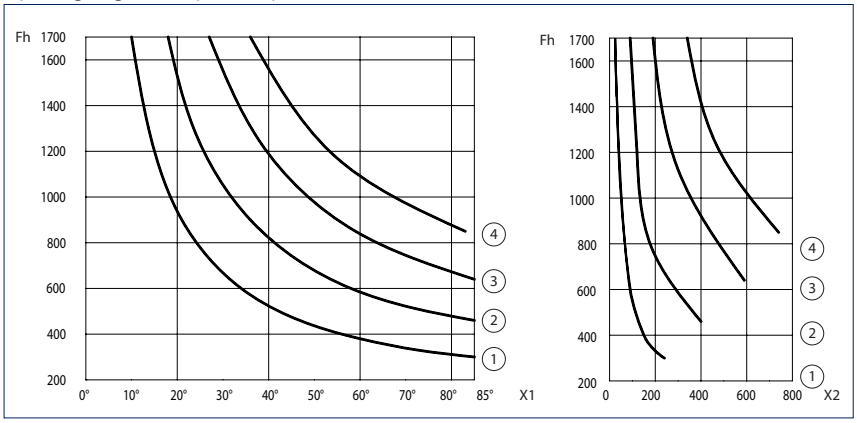
Note: Diagram and tables only contain orientation values and refer to the applications as illustrated below.
If the installation conditions differ, the values must be determined on site.

Installation example



Fh = Casement height
1 = For the clearance under the window for swivel movement of the drive during the opening movement, see diagram

Opening angle and space requirement for swivel



X1 = Opening angle
X2 = Space requirement for swivel (mm)
Fh = Casement height (mm)
1 = Stroke 300
2 = Stroke 500
3 = Stroke 750
4 = Stroke 1000

Minimum casement height for E 1500 N on the skylight (guideline values*)

E 1500 N stroke	Casement height Fh	Opening angle	Space requirement for drive swivel under the window
1000 mm	850 mm	approx. 85°	min. 740 mm
750 mm	640 mm	approx. 85°	min. 590 mm
500 mm	460 mm	approx. 85°	min. 400 mm
300 mm	300 mm	approx. 85°	min. 240 mm

*On account of the wide variety of window profiles and installation options available, it is only possible to list guideline values here. An examination of the installation situation is recommended with limit values.

Example: Space requirement for the drive swivel under the skylight at opening angle approx. 60°

E 1500 N stroke	Casement height Fh	Opening angle	Space requirement for drive swivel under the window
1000 mm	1100 mm	approx. 60°	min. 540 mm
750 mm	850 mm	approx. 60°	min. 410 mm
500 mm	600 mm	approx. 60°	min. 270 mm
300 mm	380 mm	approx. 60°	min. 160 mm

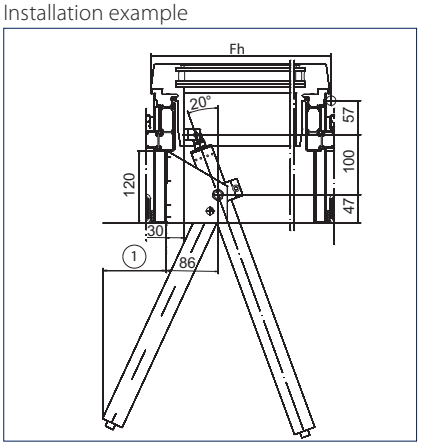
The space requirement under the skylight for the swivel movement of the drive depends on the casement height (larger casement height = smaller swivel).

GEZE skylight console E 1500 H86

The skylight console E 1500 H86 is used to fix the drive to the frame of the skylight.

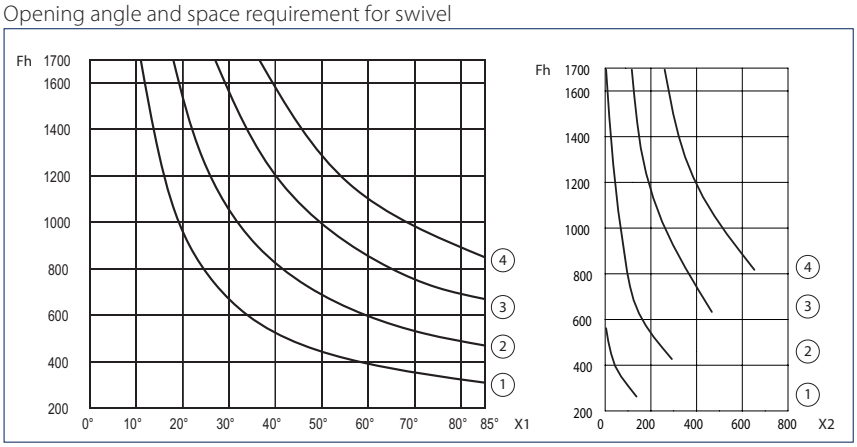
Note: Diagram and tables only contain orientation values and refer to the applications as shown below. If the installation conditions differ, the values must be determined on site.

Installation example



Fh = Casement height
1 = For the clearance under the window for swivel movement of the drive during the opening movement, see diagram

Opening angle and space requirement for swivel



X1 = Opening angle
X2 = Space requirement for swivel (mm)
Fh = Casement height (mm)
1 = Stroke 300
2 = Stroke 500
3 = Stroke 750
4 = Stroke 1000

Minimum casement height for E 1500 N on the skylight (guideline values*)

E 1500 N stroke	Casement height Fh	Opening angle	Space requirement for drive swivel under the window
1000 mm	850 mm	approx. 85°	min. 640 mm
750 mm	670 mm	approx. 85°	min. 460 mm
500 mm	470 mm	approx. 85°	min. 290 mm
300 mm	310 mm	approx. 85°	min. 140 mm

*On account of the wide variety of window profiles and installation options available, it is only possible to list guideline values here. An examination of the installation situation is recommended with limit values.

Example: Space requirement for the drive swivel under the skylight at opening angle approx. 60°

E 1500 N stroke	Casement height Fh	Opening angle	Space requirement for the drive swivel under the window
1000 mm	1100 mm	approx. 60°	min. 460 mm
750 mm	850 mm	approx. 60°	min. 320 mm
500 mm	600 mm	approx. 60°	min. 180 mm
300 mm	400 mm	approx. 60°	min. 70 mm

The space requirement under the skylight for the swivel movement of the drive depends on the casement height (larger casement height = smaller swivel).

Electric spindle drive E 1500 N accessories

Casement bracket E 1500
For fixing the spindle to the casement

Casement bracket E 1500 FS
Angled casement bracket for use where horizontal space is limited

Conical sleeve E 1500
Supplied by GEZE with DIN 912 screw and two collar screws

Console E 1500
For bottom-hung, top-hung and side-hung windows

Skylight console E 1500 H40
Mainly for flush-closing windows

Skylight console E 1500 H86
For windows with overlap


Casement bracket E 1500


Casement bracket E 1500 FS


Conical sleeve E 1500


Console E 1500


Skylight console E 1500 H40


Skylight console E 1500 H86

GEZE SPINDLE DRIVES

Order information

Description	Stroke	Version	ID.No.
GEZE E 1500 N	300 mm	EV1	141894
	400 mm	EV1	141897
	500 mm	EV1	141900
	750 mm	EV1	141913
	1000 mm	EV1	141916
	300 mm	white RAL 9016	141895
	400 mm	white RAL 9016	141898
	500 mm	white RAL 9016	141911
	750 mm	white RAL 9016	141914
	1000 mm	white RAL 9016	141917
	300 mm	acc. to RAL	141896
	400 mm	acc. to RAL	141899
	500 mm	acc. to RAL	141912
	750 mm	acc. to RAL	141915
	1000 mm	acc. to RAL	141918
GEZE E 1500 N special version Can be configured: stroke, connector, cable length, colour		EV1	141944
		acc. to RAL	141945
GEZE E 1500 N SYNCRO	300 mm	EV1	141919
	400 mm	EV1	141932
	500 mm	EV1	141935
	750 mm	EV1	141938
	1000 mm	EV1	141941
	300 mm	white RAL 9016	141920
	400 mm	white RAL 9016	141933
	500 mm	white RAL 9016	141936
	750 mm	white RAL 9016	141939
	1000 mm	white RAL 9016	141942
	300 mm	acc. to RAL	141931
	400 mm	acc. to RAL	141934
	500 mm	acc. to RAL	141937
	750 mm	acc. to RAL	141940
	1000 mm	acc. to RAL	141943
GEZE E 1500 N SYNCRO special version Comprising 2 drives with integrated Syncro control		EV1	141946
		acc. to RAL	141947
Accessories			
Bracket E 1500 NSK S-W-HU suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO, Wicona WT 50/60, Hueck VF 50/60)			136184
Bracket E 1500 NSK suitable for installation on the secondary closing edge of skylights			130524
Console bracket E 1500 suitable for installation on the primary closing edge of skylights			136201
Conical sleeve E 1500		silver-coloured	121215
		white RAL 9016	121216
		acc. to RAL	121217
Casement bracket E 1500 FS		silver-coloured	123085
		white RAL 9016	123086
		acc. to RAL	123087

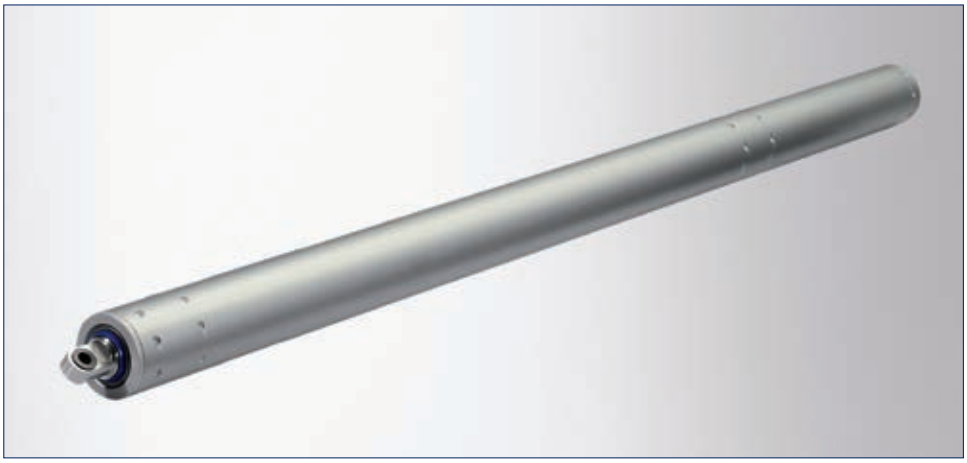
Description	Stroke	Version	ID.No.
Casement bracket E 1500 HSK HE suitable for installation on the primary closing edge of skylights (Heroal), can also be used for E 250 NT			136190
Casement bracket E 1500 NSK A-HU suitable for installation on the secondary closing edge of skylights (Alcoa AA 100, Hueck VF 50/60), can also be used for E 250 NT			136189
Casement bracket E 1500 NSK HE suitable for installation on the secondary closing edge of skylights (Heroal 85 D), also suitable for E 250 NT			136188
Casement bracket E 1500 NSK W-HU suitable for installation on the secondary closing edge of skylights (Wicona WT 50/60, Hueck 85 E), can also be used for E 250 NT			136187
Casement bracket E 1500/ E 3000 NSK AP suitable for installation on the secondary closing edge of skylights (Aluprof MB-SR50), can also be used for E 250 NT			140713
Casement bracket E 1500/ E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			136186
Skylight bracket H40 E 1500		silver-coloured	121221
		white RAL 9016	121222
		acc. to RAL	121223
Skylight bracket H86 E 1500		silver-coloured	121224
		white RAL 9016	121225
		acc. to RAL	121226

GEZE spindle drive E 1500 S

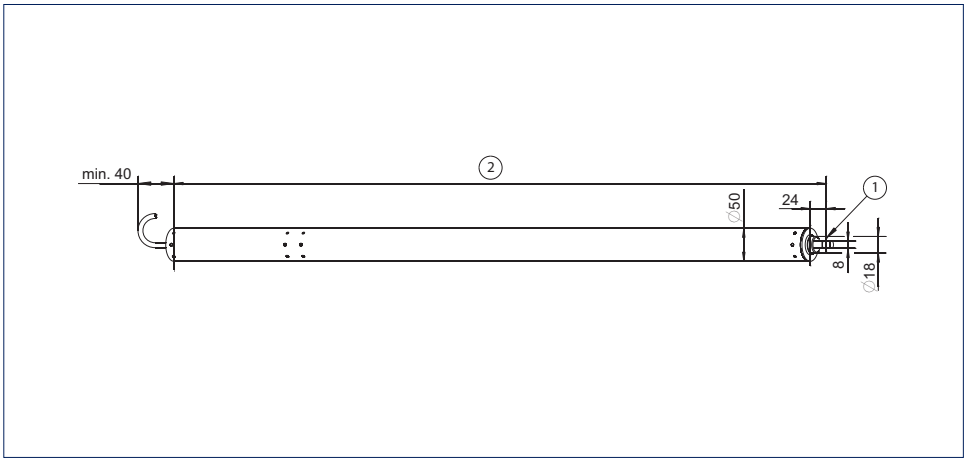
Fast spindle drive as solo or synchronous solution for heavy skylight windows

The GEZE spindle drive E 1500 S convinces through large force of pressure and high speed and is used for the electric motor driven opening and closing of skylight windows. It reaches full stroke (up to 1000 mm) in less than 60 seconds. Stroke lengths of up to 1200 mm are possible thanks to the sturdy design. The spindle drive E 1500 S can be used on particularly large and heavy skylight windows with casement widths over 1200 mm as a real synchronous solution with synchro control. The robust, corrosion-resistant version, the built-in end-position damping, the aluminium housing and the silicone connection cable are the outstanding features of this high-quality electric spindle drive.

GEZE E 1500 S



GEZE E 1500 S



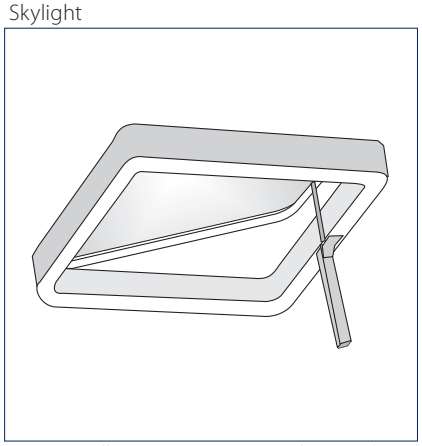
1 = ø 6 mm with bearing bush, ø 8 mm without bearing bush!
2 = approx. 465 mm + stroke

Application range

- Outward-opening windows in the roof area
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Use in the exhaust air system
- Synchronisation of 2 drives
- Timber, plastic and aluminium frames
- Frame installation

Application range

Skylight



Drive installation on primary and secondary closing edge possible

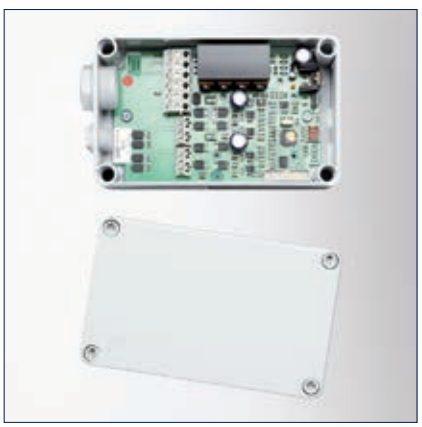
Technical data

Product features	GEZE E 1500 S
Dimensions (W x H x D)	Stroke + 465, ø 50
Possible stroke heights	300 mm, 500 mm, 750 mm, 1000 mm, 1200 mm
Opening speed RWA	16 mm/s
Opening speed ventilation	16 mm/s
Tensile force (max.)	1000 N
Force of pressure (max.)	1500 N
Operating voltage	24 V DC
Current consumption	3 A
Power consumption (max.)	75 W
Duty rating	30 %
Length of power supply cable	3 m
Cable dimensions	3 x 1 mm^2
Temperature range	-5 – 75 °C
Enclosure rating / protection class	IP 54 / III
Type of additional locking	electronic
Type of stroke shortening	Factory setting
End position cut-off extended	electronic
End position cut-off retracted	electronic
Complete opening within 60 s	yes, up to 1000 mm stroke
SHEV tested	yes, up to 1000 mm stroke

Skylight	Solo	Syncro
Casement weights for all strokes	max. 180 kg	max. 360 kg
Maximum casement width	max. 1200 mm	max. 2400 mm

Two GEZE E 1500 S Syncro drives and the external synchronic control unit E 1500 S are required for synchronous operation.

Electric spindle drive E 1500 S accessories



Synchronic control unit E 1500 S

GEZE SPINDLE DRIVES

Note on the order information: the same consoles are used for the E 1500 S as for the E 3000.

GEZE E 1500 S - Order information

Description	Stroke	Version	ID.No.
GEZE E 1500 S	300 mm	EV1	138428
	400 mm	EV1	138441
	500 mm	EV1	138444
	600 mm	EV1	138447
	750 mm	EV1	138450
	1000 mm	EV1	137184
	1200 mm	EV1	138455
	300 mm	white RAL 9016	138429
	400 mm	white RAL 9016	138442
	500 mm	white RAL 9016	138445
	600 mm	white RAL 9016	138448
	750 mm	white RAL 9016	138451
	1000 mm	white RAL 9016	138453
	1200 mm	white RAL 9016	138456
	300 mm	acc. to RAL	138430
	400 mm	acc. to RAL	138443
	500 mm	acc. to RAL	138446
	600 mm	acc. to RAL	138449
	750 mm	acc. to RAL	138452
	1000 mm	acc. to RAL	138454
	1200 mm	acc. to RAL	138457
GEZE E 1500 S SYNCRO	300 mm	EV1	138458
	400 mm	EV1	138461
	500 mm	EV1	138464
	600 mm	EV1	138467
	750 mm	EV1	138470
	1000 mm	EV1	137185
	1200 mm	EV1	138476
	300 mm	white RAL 9016	138459
	400 mm	white RAL 9016	138462
	500 mm	white RAL 9016	138465
	600 mm	white RAL 9016	138468
	750 mm	white RAL 9016	138471
	1000 mm	white RAL 9016	138474
	1200 mm	white RAL 9016	138477
	300 mm	acc. to RAL	138460
	400 mm	acc. to RAL	138463
	500 mm	acc. to RAL	138466
	600 mm	acc. to RAL	138469
	750 mm	acc. to RAL	138472
	1000 mm	acc. to RAL	138475
	1200 mm	acc. to RAL	138478

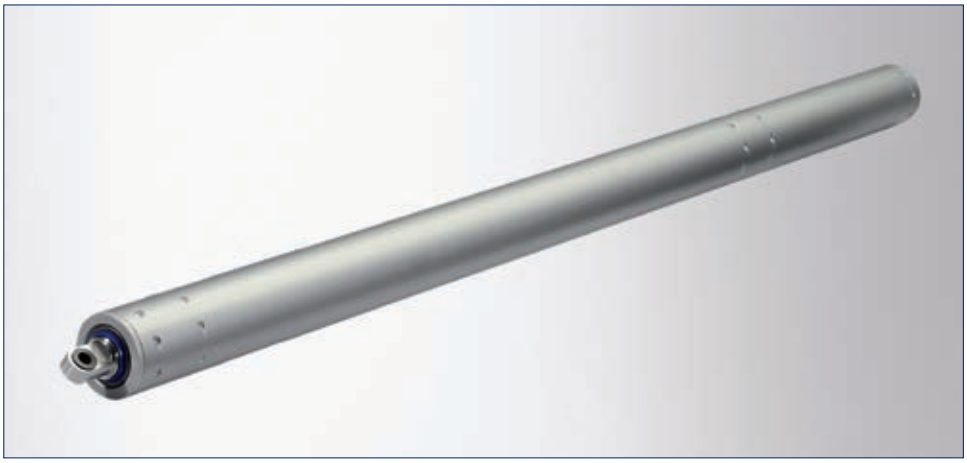
Description	Stroke	Version	ID.No.
Accessories			
Synchronic control unit E 1500 S Stroke 300 mm			137186
Synchronic control unit E 1500 S Stroke 400 mm			140794
Synchronic control unit E 1500 S Stroke 500 mm			140795
Synchronic control unit E 1500 S Stroke 600 mm			140796
Synchronic control unit E 1500 S Stroke 750 mm			140797
Synchronic control unit E 1500 S Stroke 1000 mm			140798
Synchronic control unit E 1500 S Stroke 1200 mm			140799
Casement bracket E 1500/ E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			136186
Skylight console E 3000		silver-coloured	121280
		white RAL 9016	121291
		acc. to RAL	121292
Bracket E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			136183
Bracket E 3000 NSK suitable for installation on the secondary closing edge of skylights			130525
Console bracket E 3000 HSK suitable for installation on the primary closing edge of skylights			136202
Console bracket E 3000 NSK suitable for installation on the secondary closing edge of skylights			136203
Console bracket E 3000 NSK AP suitable for installation on the secondary closing edge of skylights			140714
Conical sleeve E 3000		silver-coloured	121274
		white RAL 9016	121275
		acc. to RAL	121276
Casement bracket E 3000		silver-coloured	121277
		white RAL 9016	121278
		acc. to RAL	121279
Casement bracket E 3000 HSK HE suitable for installation on the primary closing edge of skylights (Heroal 085 D)			136207
Casement bracket E 3000 NSK A-HU suitable for installation on the secondary closing edge of skylights (Alcoa AA 100, Hueck VF 50/60)			136205
Casement bracket E 3000 NSK W-HU suitable for installation on the secondary closing edge of skylights (Wicona WT 50/60, Hueck 85 E)			136204
Casement bracket E 1500/ E 3000 NSK AP (surface-mounting) suitable for installation on the secondary closing edge of skylights			140715
Casement bracket E 3000 NSK HE suitable for installation on the secondary closing edge of skylights (Heroal 85 D)			136206

GEZE spindle drive E 3000

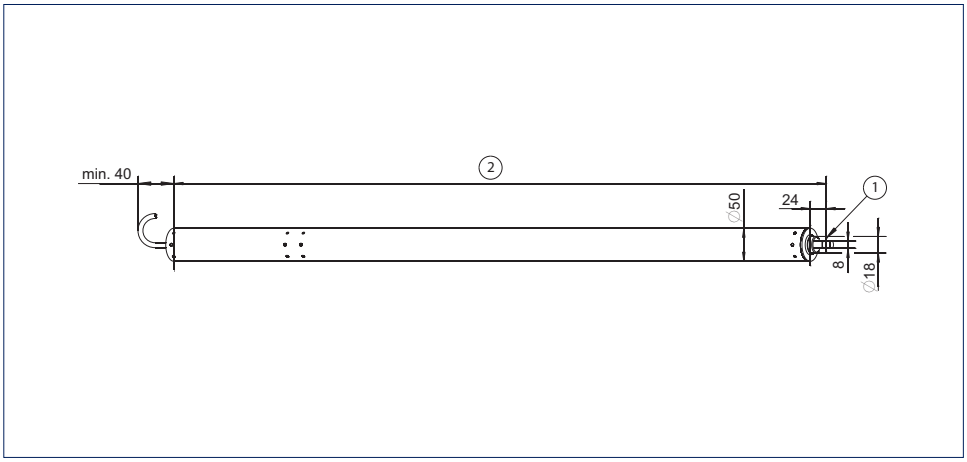
Spindle drive for particularly heavy skylights

With its high tensile forces and forces of pressure of 3000 N, the GEZE spindle drive E 3000 is suitable for the motor-driven opening and closing of very heavy skylights weighing up to 600 kg in synchronous operation. The spindle drive E 3000 can be used on particularly large and heavy skylight windows with casement widths over 1200 mm as a real synchronous solution with synchro control. The robust, corrosion-resistant design with integrated end-position damping, aluminium housing and silicone connecting cable are further advantages of this high-grade electric spindle drive.

GEZE E 3000



GEZE E 3000



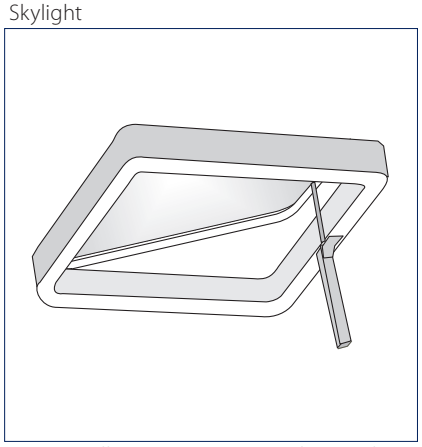
1 = ø 6 mm with bearing bush, ø 8 mm without bearing bush
2 = approx. 465 mm + stroke

Application range

- Heavy outward-opening windows in the roof area
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Use in the exhaust air system
- Synchronisation of 2 drives
- Timber, plastic and aluminium frames
- Frame installation

Application range

Skylight



Drive installation on primary and secondary closing edge possible

Technical data

Product features	GEZE E 3000
Dimensions (W x H x D)	Stroke + 465, ø 50
Possible stroke heights	300 mm, 500 mm, 750 mm, 1000 mm
Opening speed RWA	7.8 mm/s
Opening speed ventilation	7,8 mm/s
Tensile force (max.)	3000 N
Force of pressure (max.)	3000 N
Operating voltage	24 V DC
Current consumption	5 A
Power consumption (max.)	75 W
Duty rating	20 %
Length of power supply cable	3 m
Cable dimensions	4 x 0.75 mm^2
Temperature range	-5 – 75 °C
Enclosure rating / protection class	IP 54
Type of additional locking	Locking drive
Type of stroke shortening	Factory setting
End position cut-off extended	electronic
End position cut-off retracted	electronic
Complete opening within 60 s	yes, up to 300 mm stroke
SHEV tested	yes, up to 300 mm stroke

Calculation of the swivel range

The space requirement under the window for the swivel movement of the drive depends on the casement height. The larger the casement height, the smaller the swivel.

Application	Solo	Syncro
Casement weights for all strokes	max. 300 kg	max. 600 kg
Maximum casement width	max. 1200 mm	max. 2400 mm

Note: For Solo operation, the external overload cut-off E 3000 is required. For Syncro operation, the external synchronic control unit E 3000 is required.

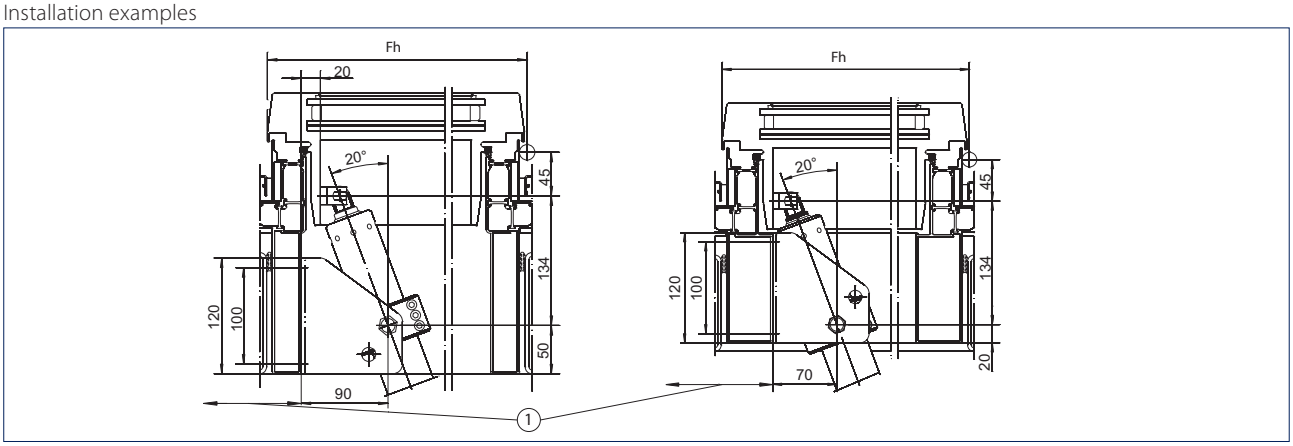
Important: The Syncro version is recommended from 1.2 m primary closing edge, depending on the profile system used.

GEZE skylight console E 3000 H86

The skylight console E 3000 H86 is used to fix the drive to the frame of the skylight. This console can also be used for the E 1500 S.

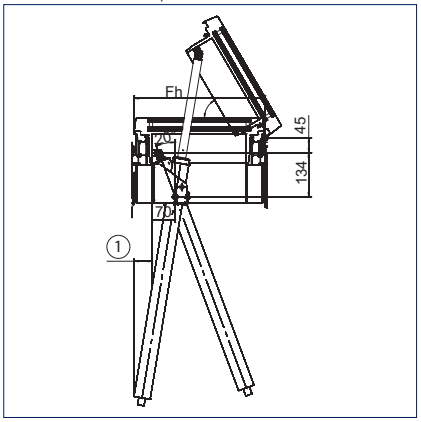
Note: Diagram and tables only contain orientation values and refer to the applications as illustrated below. If the installation conditions differ, the values must be determined on site.

Installation examples



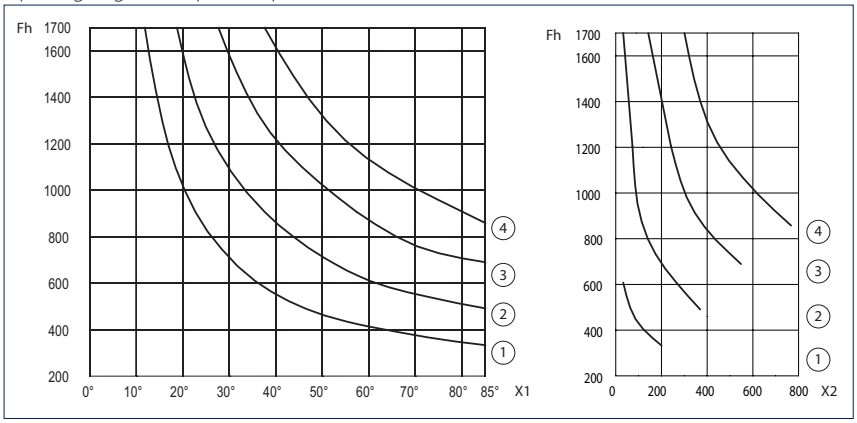
Fh = Casement height
1 = For the clearance under the window for swivel movement of the drive during the opening movement, see diagram

Installation example



Fh = Casement height
1 = For the clearance under the window for swivel movement of the drive during the opening movement, see diagram

Opening angle and space requirement for swivel



X1 = Opening angle
X2 = Space requirement for swivel (mm)
Fh = Casement height (mm)
1 = Stroke 300
2 = Stroke 500
3 = Stroke 750
4 = Stroke 1000

Minimum casement height for skylight (guideline values*)

E 1500 S / E 3000 stroke	Casement height Fh	Opening angle	Space requirement for drive swivel under the window
1000 mm	850 mm	approx. 85°	min. 770 mm
750 mm	680 mm	approx. 85°	min. 550 mm
500 mm	480 mm	approx. 85°	min. 370 mm
300 mm	320 mm	approx. 85°	min. 200 mm

*On account of the wide variety of window profiles and installation options available, it is only possible to list guideline values here. An examination of the installation situation is recommended with limit values.

Example: Space requirement for the drive swivel under the skylight at opening angle approx. 60°

E 1500 S / E 3000 stroke	Casement height Fh	Opening angle	Space requirement for drive swivel under the window
1000 mm	1100 mm	approx. 60°	min. 520 mm
750 mm	850 mm	approx. 60°	min. 380 mm
500 mm	600 mm	approx. 60°	min. 240 mm
300 mm	400 mm	approx. 60°	min. 110 mm
The space requirement under the skylight for the swivel movement of the drive depends on the casement height (larger casement height = smaller swivel)			

Electric spindle drive E 3000 accessories

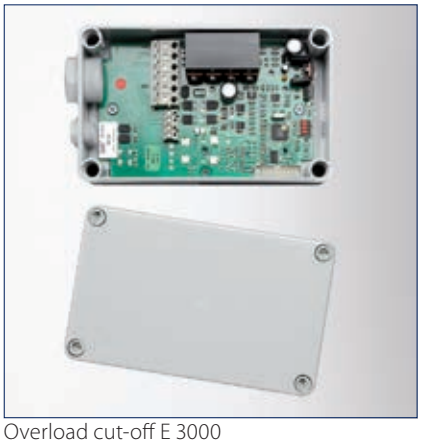
Overload cut-off E 3000
An additional E 3000 load cut-off is required for solo operation of the E 3000.

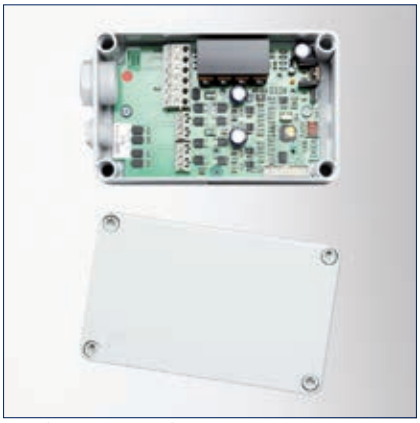
Synchronic control unit E 3000
An additional E 3000 synchronic control unit is required for synchronous operation of the E 3000 Syncro. An additional overload cut-off is not necessary as this is included in the external synchronic control unit.

Conical sleeve E 3000
Scope of supply with two collar screws

Casement bracket E 3000
For fixing the spindle to the casement

Skylight console E 3000
For fixing the E 3000 drive to the frame of the skylight


Overload cut-off E 3000


Synchronic control unit E 3000


Conical sleeve E 3000


Casement bracket E 3000


Skylight console E 3000

GEZE SPINDLE DRIVES

Description	Stroke	Version	ID.No.
GEZE E 3000	300 mm	EV1	121227
	500 mm	EV1	121230
	750 mm	EV1	121243
	1000 mm	EV1	121246
	300 mm	white RAL 9016	121228
	500 mm	white RAL 9016	121241
	750 mm	white RAL 9016	121244
	1000 mm	white RAL 9016	121247
	300 mm	acc. to RAL	121229
	500 mm	acc. to RAL	121242
	750 mm	acc. to RAL	121245
	1000 mm	acc. to RAL	121248
GEZE E 3000 - special version, can be configured: stroke, cable length, colour		acc. to RAL	121249
Accessories			
Overload cut-off E 3000	300 mm		121272
	500 mm		121889
	750 mm		121890
	1000 mm		121981
Overload cut-off E 3000 - special version, special stroke			121982
Synchronic control unit E 3000	300 mm		121273
	500 mm		121983
	750 mm		121984
	1000 mm		121985
Synchronic control unit E 3000 - special version, special stroke			121986
Casement bracket E 1500/ E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			136186
Skylight console E 3000		silver-coloured	121280
		white RAL 9016	121291
		acc. to RAL	121292
Bracket E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			136183
Bracket E 3000 NSK suitable for installation on the secondary closing edge of skylights			130525
Console bracket E 3000 HSK suitable for installation on the primary closing edge of skylights			136202
Console bracket E 3000 NSK suitable for installation on the secondary closing edge of skylights			136203
Console bracket E 3000 NSK AP (surface-mounted) suitable for installation on the secondary closing edge of skylights			140714
Conical sleeve E 3000		silver-coloured	121274
		white RAL 9016	121275
		acc. to RAL	121276
Casement bracket E 3000		silver-coloured	121277
		white RAL 9016	121278
		acc. to RAL	121279
Casement bracket E 3000 HSK HE suitable for installation on the primary closing edge of skylights (Heroal 085 D)			136207
Casement bracket E 3000 NSK A-HU suitable for installation on the secondary closing edge of skylights (Alcoa AA 100, Hueck VF 50/60)			136205
Casement bracket E 3000 NSK W-HU suitable for installation on the secondary closing edge of skylights (Wicona WT 50/60, Hueck 85 E)			136204
Casement bracket E 1500/ E 3000 NSK AP suitable for installation on the secondary closing edge of skylights			140715
Casement bracket E 3000 NSK HE suitable for installation on the secondary closing edge of skylights (Heroal 85 D)			136206

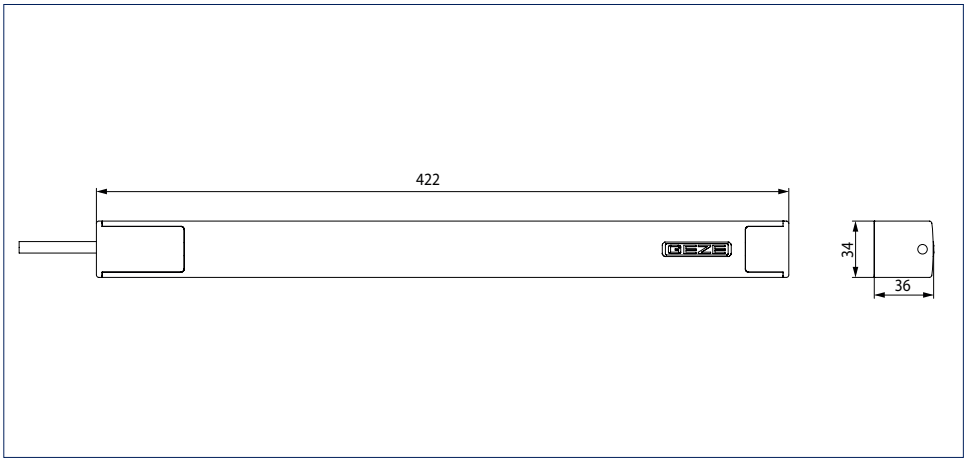
GEZE locking drive Power lock

Locking drive in combination with the Slimchain, Powerchain or E 250 NT drives

The locking drive GEZE Power lock can be used as a system solution with the Slimchain and Powerchain chain drives, as well as with the E 250 NT spindle drive. It makes additional security and protection against weather conditions possible. GEZE thus offers complete solutions for the secure opening and locking of large windows. The Power lock has been designed to match the look of the new chain and spindle drives. The electronic position identification prevents the opening of the chain drive as long as the locking drive remains locked, thus protecting against incorrect operation The electronic end-position cut-off guarantees protection against incorrect operation and overloading.

GEZE Power lock

GEZE Power lock

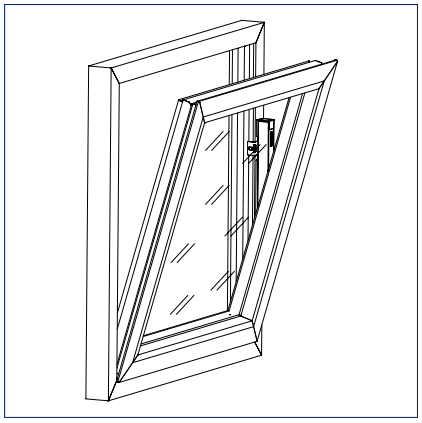


Application range

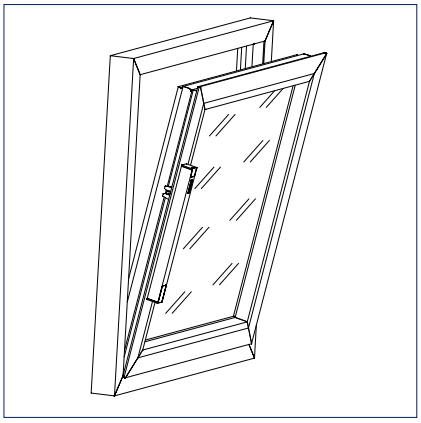
- Additional security and protection against weather conditions
- System solution for Slimchain, Powerchain and E 250 NT
- Bottom-hung, side-hung, top-hung, horizontally pivot-hung and vertically pivot-hung casements
- Inward-opening and outward-opening casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Timber, plastic and aluminium frames
- Casement or frame installation

Application range

Frame installation



Casement installation

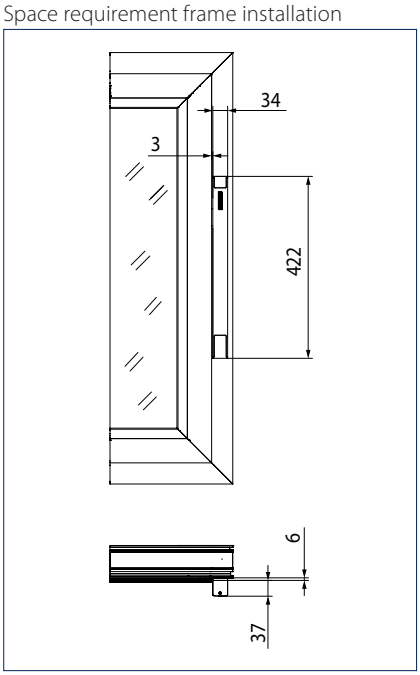


Technical data

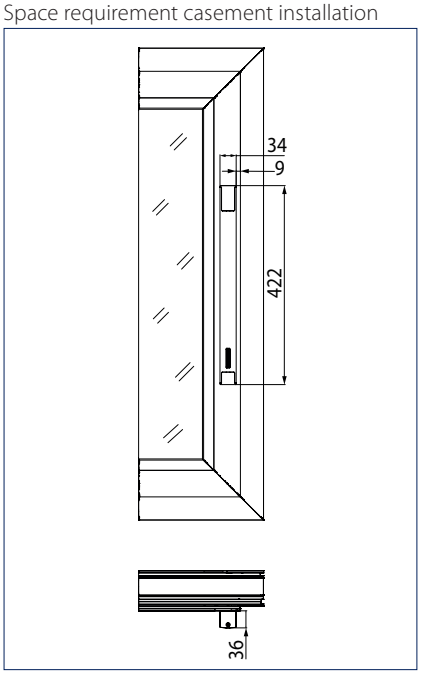
Product features	GEZE Power lock
Dimensions (W x H x D)	422 mm x 34 mm x 36 mm
Possible stroke heights	22 mm
Opening speed ventilation	3.6 mm/s
Locking and unlocking time	5 s
Locking points (max.)	6
Tensile force (max.)	600 N
Force of pressure (max.)	600 N
Operating voltage	24 V ± 25 %
Current consumption	1.5 A
Power consumption (max.)	36 W
Length of power supply cable	2 m
Special length of power supply cable	5 m, 7.5 m
Cable dimensions	4 x 0.75 mm²
Temperature range	-5 – 70 °C
Enclosure rating / protection class	IP 42 / III
Stroke length settable	●
Complete opening within 60 s	yes
SHEV tested	●
Microprocessor control	integrated

● = YES

Space requirement frame installation



Space requirement casement installation




Casement installation set


Frame installation set

GEZE Power lock - Order information

Description	ø driver	Version	ID.No.
GEZE Power lock Locking stroke 22 mm		EV1	147020
		white RAL 9016	147021
GEZE Power lock Can be configured: cable length, colour		acc. to RAL	147022
Accessories			
Casement installation set	11.5 mm		150505
	8.5 mm		147025
Frame installation set according to choice can be configured: colour, driver= 8.5 mm / 11.5 mm		acc. to RAL	150010
Frame installation set	11.5 mm	EV1	150507
	8.5 mm	EV1	147026
	11.5 mm	white RAL 9016	150506
	8.5 mm	white RAL 9016	150508

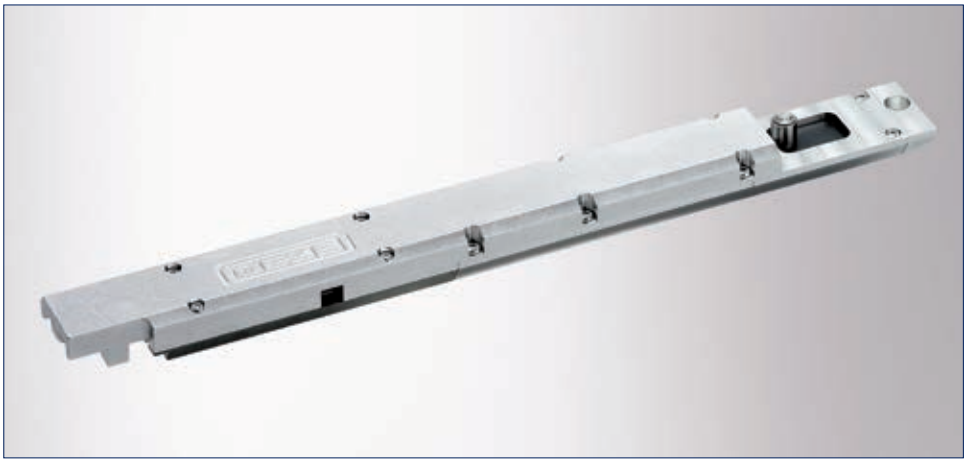

GEZE Slimchain, GEZE Power lock and safety scissors

GEZE locking drive E 905 / E 906

Additional safety and protection against weather conditions in combination with electrically-operated chain drives E 920 - 990

Completely integrated in the window profile, the locking drives E 905 / E 906 can be combined with the chain drives of the series E 920 – E 990 to form a system solution which can be used to open and lock even large casements safely. The complete drive and fitting technology disappears in the profile, without compromising the window's appearance. In addition, soiling of the drive is prevented. The electronic position identification prevents the opening of the chain drive as long as the locking drive remains locked, thus protecting against incorrect operation The electronic end-position cut-off offers protection against incorrect operation and overloading. The drive can be installed quickly and easily since almost no preparation is required for the profiles.

E 905 / E 906



E 905 / E 906

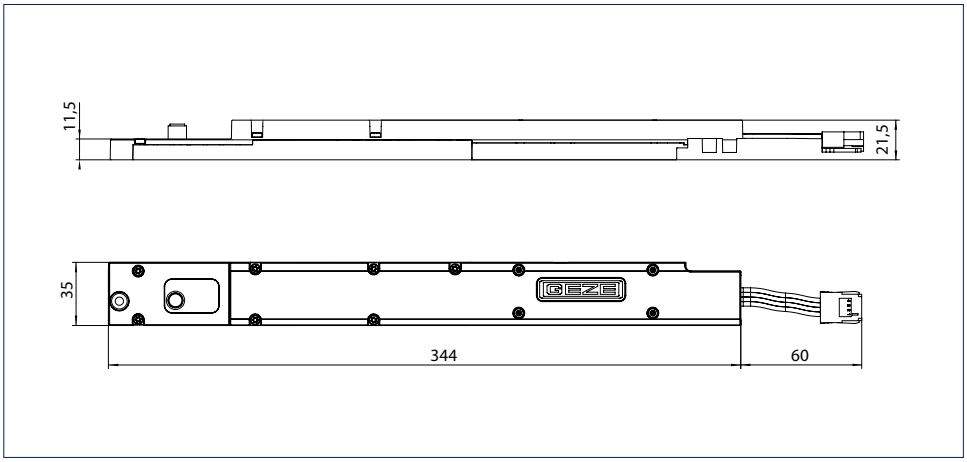


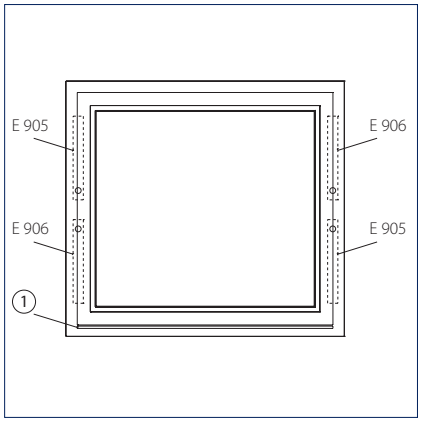
Illustration mirrored for GEZE E 906

Application range

- Additional security and protection against weather conditions
- System solution with the chain drives of the series E 920 - E 990
- Inward-opening bottom-hung and side-hung casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Suitable for Schüco AWS TT and Wicona Wicline EV0 profile systems and other standard profiles
- Integrated installation

Application range

Position of the drive in the window



1 = Window hinge

Technical data

Product features	E 905 / E 906
Dimensions (W x H x D)	345 mm x 22 mm x 35 mm
Possible stroke heights	18 mm
Opening speed ventilation	3.6 mm/s
Locking and unlocking time	5 s
Locking points (max.)	4
Tensile force (max.)	400 N
Force of pressure (max.)	400 N
Operating voltage	24 V ± 25 %
Current consumption	1 A
Power consumption (max.)	22 W
Duty rating	30 %
Length of power supply cable	60 mm
Cable dimensions	4 x
Temperature range	-5 – 75 °C
Enclosure rating / protection class	IP 40 / III
Overload cut-off	●
Complete opening within 60 s	yes
SHEV tested	●

● = YES

E 905 / E 906 - Order information

Description	Stroke	Version	ID.No.
GEZE E 905	18 mm	silver-coloured	143904
GEZE E 906 mirrored version of the E 905	18 mm	silver-coloured	143905
Accessories			
Drive bracket E 905		silver-coloured	143906
Drive bracket E 906		silver-coloured	143922

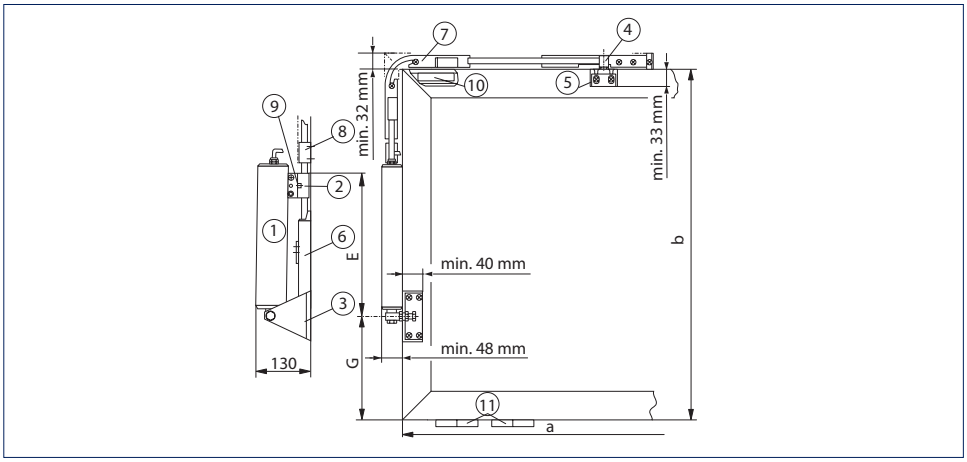
GEZE RWA 100 NT

RWA system for bottom-hung, top-hung and side-hung windows

The RWA 100 NT system is a combination of an electric spindle drive E 250 NT installed on the frame flush to the profile and a mechanical console set with locking mechanism. In less than 60 seconds, it achieves large opening widths with small spindle stroke. The all-purpose installation system (stroke lengths 100 - 300 mm) can be used on all standard vertically installed types of casement. There is a locking mechanism on the primary closing edge, an additional locking device is offered on the motor side for the secondary closing edge. Two RWA 100 NT systems can be combined as a synchronous solution for wide casements.

GEZE RWA 100 NT

GEZE RWA 100 NT



Mounting dimensions G and E see installation instructions in the packaging of RWA 100 NT

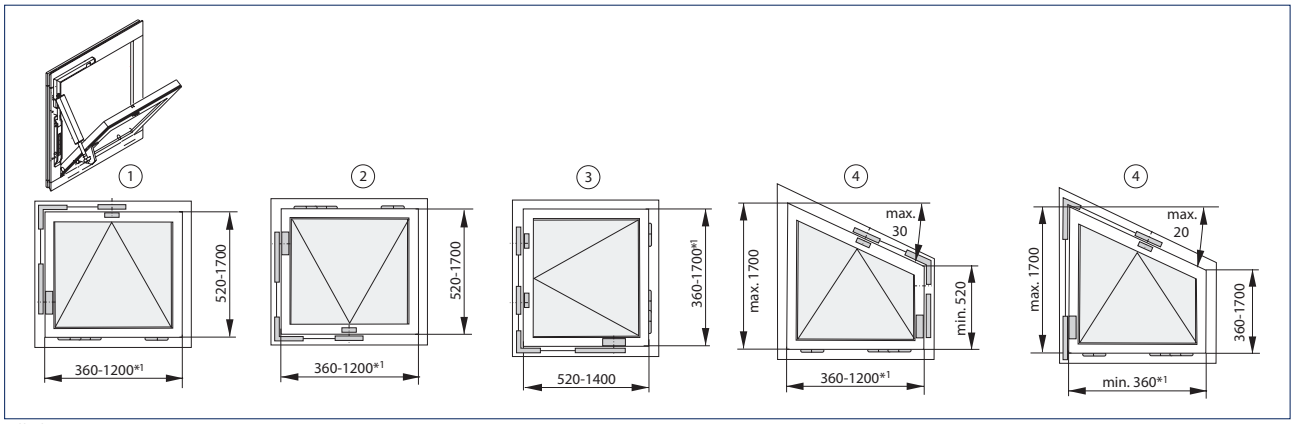
a = Casement width
b = Casement height
1 = Electric spindle drive E 250
2 = Clamping piece
3 = Toe angle bracket
4 = Additional locking device OL 320
5 = Complete additional bracket
6 = Release spring OL 320
7 = Corner transmission OL 320
8 = Rod guide OL 320
9 = Tilt bracket E 250
10 = Limiter (provided by customer) - only required for plastic windows
11 = 2 hinges on the electrical drive side (to be provided by the customer)

Application range

- Opening and locking of inward-opening windows
- Bottom-hung, side-hung and top-hung casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Synchronisation of 2 drives
- Timber, plastic and aluminium frames
- Frame installation

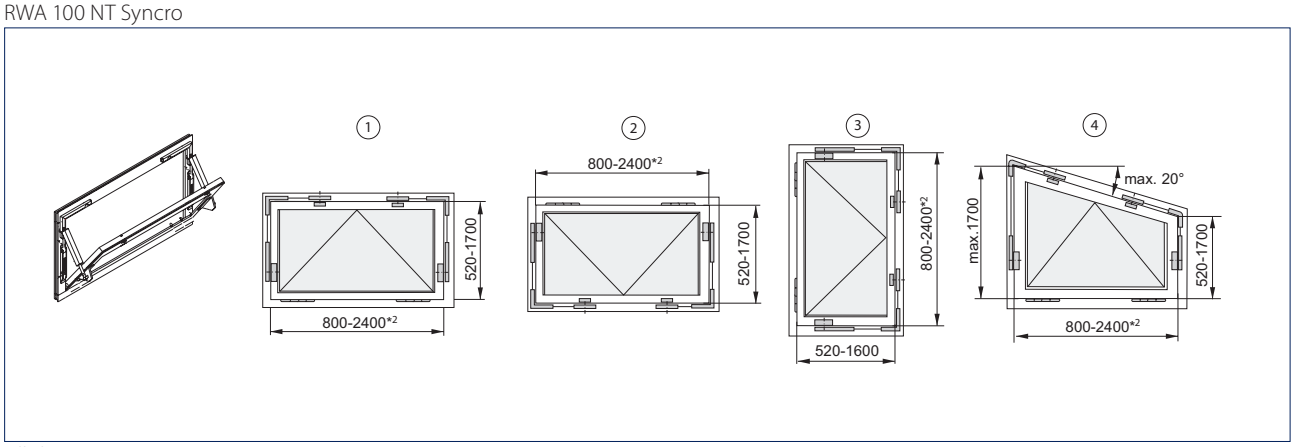
System flush to the profile for vertically installed inward-opening bottom-hung, top-hung, angular and side-hung windows.
The given dimensions are standard; please contact GEZE if you require other dimensions.
Details for timber/aluminium windows

GEZE RWA 100 NT



All dimensions in mm
1 = Bottom-hung window
2 = Top-hung window
3 = Side-hung window
4 = Angular bottom-hung window
*1 = For plastic windows Solo max. 800 mm

RWA 100 NT Syncro



All dimensions in mm
1 = Bottom-hung window
2 = Top-hung window
3 = Side-hung window
4 = Angular window
*2 = For plastic windows Syncro max. 1600 mm

Technical data

Product features	GEZE RWA 100 NT
Space required (min.)	Locking side: 32 mm, motor side: 48 mm
Permissible dimensions of primary closing edge Solo for timber and aluminium frames	360 - 1200 mm
Permissible dimensions of primary closing edge Solo for plastic frames	360 - 800 mm
Permissible dimensions of primary closing edge Syncro for timber and aluminium frames	800 - 2400 mm
Permissible dimensions of primary closing edge Syncro for plastic frames	800 - 1600 mm
Casement heights for Solo and Syncro	520 - 1700 mm
Possible stroke heights	100 mm, 150 mm, 200 mm, 300 mm
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Panel weight (max.)	30 kg/m²
Operating voltage	24 V DC (+30 % to -20 %)
Current consumption	Ventilation (24 V): 0.9 A, RWA (18 V): 1.0 A
Power consumption (max.)	20 W
Residual ripple (max.)	30 %
Cable dimensions	4 x 0.75 mm²
Temperature range	-5 - 75 °C
Enclosure rating / protection class	IP 65 / III
Syncro function	●
Locking and additional angle bracket	●
End position cut-off extended	Internal path sensor
End position cut-off retracted	Internal path sensor
Overload cut-off	●

● = YES

Determining the motor stroke RWA 100 NT

RWA 100 NT and RWA 100 NT Syncro: dimensions											Stroke
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	520-600 65 approx. 34 approx. 350	600-700 85 approx. 32 approx. 380	700-800 125 approx. 28 approx. 380	800-850 145 approx. 26 approx. 400							100
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	610-630 100 approx. 49 approx. 520	630-700 115 approx. 47 approx. 520	700-800 150 approx. 42 approx. 560	800-900 200 approx. 36 approx. 550	900-1000 275 approx. 31 approx. 520						150
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	700-720 145 approx. 58 approx. 690	720-800 160 approx. 55 approx. 720	800-900 215 approx. 47 approx. 710	900-1000 275 approx. 41 approx. 690	1000-1100 325 approx. 37 approx. 690	1100-1200 425 approx. 31 approx. 650	1200-1300 525 approx. 27 approx. 610				200
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	950-1000 290 approx. 58 approx. 970	1000-1050 335 approx. 53 approx. 930	1050-1100 350 approx. 51 approx. 950	1100-1150 415 approx. 46 approx. 900	1150-1250 465 approx. 43 approx. 900	1250-1320 495 approx. 41 approx. 920	1320-1400 565 approx. 38 approx. 890	1400-1500 645 approx. 34 approx. 870	1500-1600 715 approx. 32 approx. 860	1600-1700 815 approx. 29 approx. 830	300

GEZE RWA 100 NT - Order information

Description	Length	Stroke	Version	ID.No.
GEZE RWA 100 NT		100 mm	EV1	153187
		150 mm	EV1	153190
		200 mm	EV1	153213
		300 mm	EV1	153216
		100 mm	white RAL 9016	153188
		150 mm	white RAL 9016	153211
		200 mm	white RAL 9016	153214
		300 mm	white RAL 9016	153217
		100 mm	acc. to RAL	153189
		150 mm	acc. to RAL	153212
		200 mm	acc. to RAL	153215
		300 mm	acc. to RAL	153218
GEZE RWA 100 NT - special version			acc. to RAL	153219
Rod Ø 12 mm, without cover profile	2000 mm		galvanised	053198
	3000 mm		galvanised	053199
	6000 mm		galvanised	054116
Cover profile OL 320, length 2000 mm Mitre-cut at both ends			EV1	058771
			white RAL 9016	018293
			acc. to RAL	014258
Cover profile OL 320, length 3000 mm Mitre-cut at both ends			EV1	058774
			white RAL 9016	018294
			acc. to RAL	014259
Cover profile OL 320 length 6000 mm Straight-cut at both ends			EV1	058630
			white RAL 9016	018251
			acc. to RAL	013814
Accessories				
Drilling template for RWA 100E				014740
Auxiliary bracket for overlap height 0 - 12 mm			EV1	050727
			white RAL 9016	015519
			acc. to RAL	013077
Additional locking device for OL 320 without additional angle bracket, overlap height 12-25 mm			EV1	063974
			white RAL 9016	018257
			acc. to RAL	013080
Additional locking device for the secondary closing edge RWA 100E Can be used for OL 350 EN, OL 370 EN, RWA 100E, RWA 110E and OL 320			EV1	120297
			white RAL 9016	120298
			acc. to RAL	120299
Corner transmission suitable for OL 320			galvanised	058648

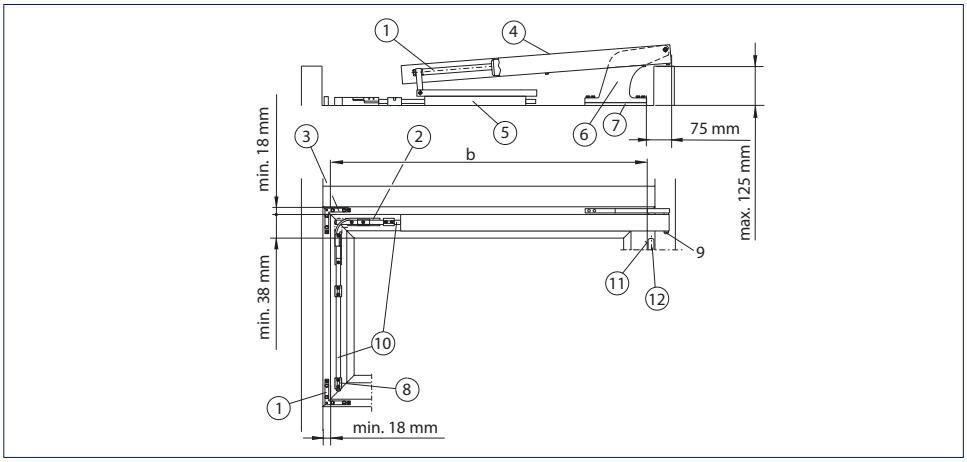
GEZE RWA 105 NT

RWA system for post-rail-constructions

The RWA 105 NT system is a combination of an electric spindle drive E 250 NT installed flush to the profile and a mechanical console set with double locking mechanism. This system achieves large opening widths with low spindle stroke in a maximum of 60 seconds. The all-purpose installation system (stroke lengths 100, 150, 230 mm) can be used on vertically installed post-rail-constructions and inward-opening side-hung windows, even in confined spaces. A special advantage of the RWA 105 NT system is the double locking mechanism. This increases air-tightness and protection against burglary. The system is available as a synchronous solution which combines two RWA 105 NT systems for wide casements.

GEZE RWA 105 NT

GEZE RWA 105 NT



a = Casement height
b = Casement width
1 = Eectric spindle drive E 250
2 = Corner transmission RWA 105E
3 = Locking device RWA 105E
4 = Cover strip RWA 105E, lift 230 mm
5 = Release spring RWA 105E
6 = Bracket RWA 105E
7 = Bracket baseplate RWA 105E
8 = Rod guide
9 = Drive support pin
10 = Rod ø 12, galvanised
11 = Outer casement edge
12 = 2 hinges on the electrical drive side (to be provided by the customer

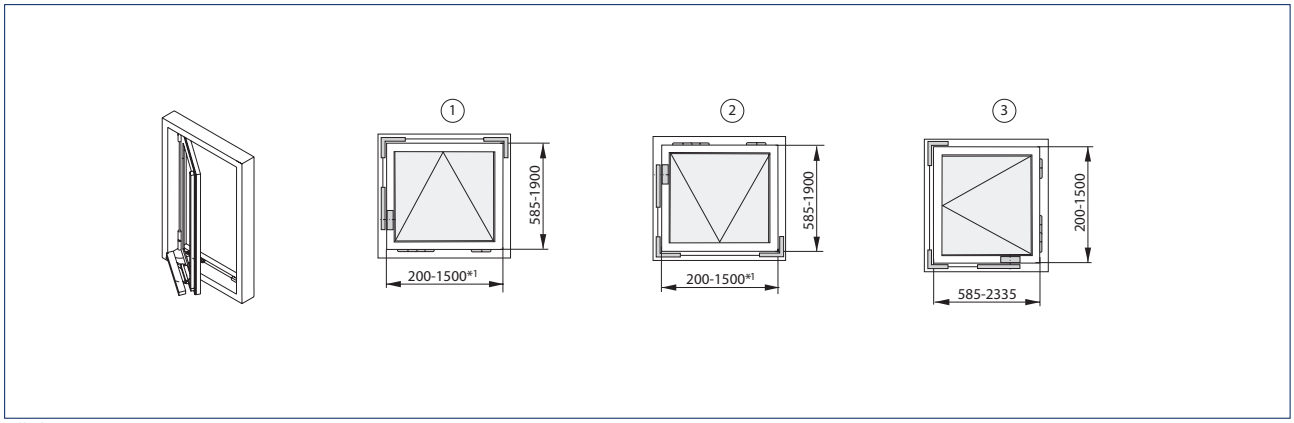
Application range

- Opening and locking of inward-opening windows in post-rail-constructions
- Bottom-hung, side-hung and top-hung casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Synchronisation of 2 drives
- Timber, plastic and aluminium frames
- Casement installation

System flush to the profile for vertically installed, rectangular inward-opening bottom-hung, top-hung and side-hung windows

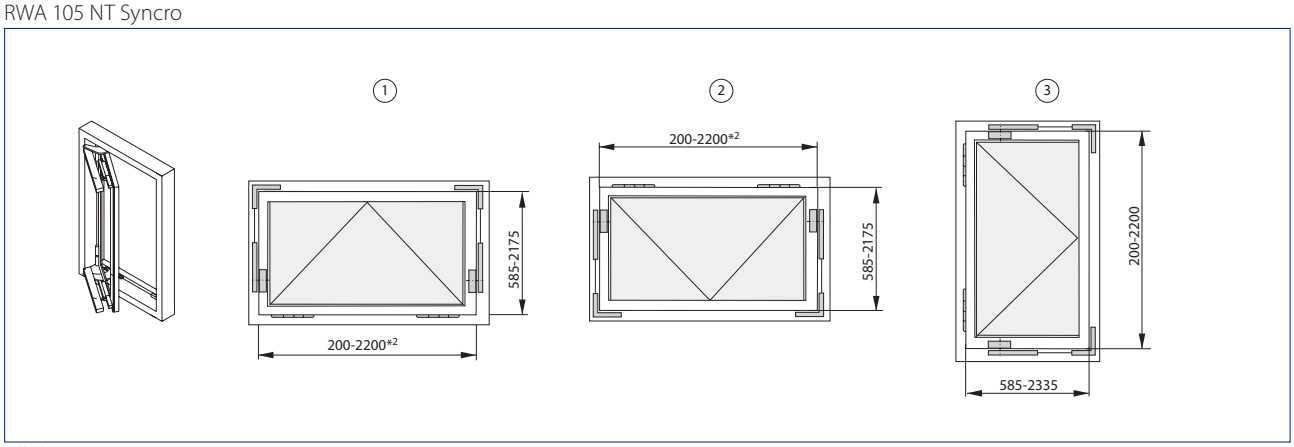
The given dimensions are standard; please contact GEZE if you require other dimensions.
Details for timber/aluminium windows

RWA 105 NT



All dimensions in mm
1 = Bottom-hung window
2 = Top-hung window
3 = Side-hung window
*1 = For plastic windows Solo max. 800 mm

RWA 105 NT Syncro



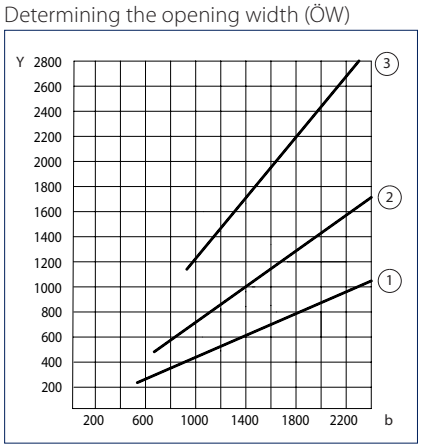
All dimensions in mm
1 = Bottom-hung window
2 = Top-hung window
3 = Side-hung window
*2 = For plastic windows Syncro max. 1600 mm

Technical data

Product features	GEZE RWA 105 NT
Space required (min.)	Cover frame: 18 mm, casement: 38 mm, post-rail height max. 125 mm
Permissible dimensions of primary closing edge Solo for timber and aluminium frames	depending on stroke
Permissible dimensions of primary closing edge Solo for plastic frames	depending on stroke
Permissible dimensions of primary closing edge Syncro for timber and aluminium frames	depending on stroke
Permissible dimensions of primary closing edge Syncro for plastic frames	depending on stroke
Casement heights for Solo and Syncro	depending on stroke
Possible stroke heights	100 mm, 150 mm, 230 mm
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Panel weight (max.)	30 kg/m²
Operating voltage	24 V DC (+30 % to -20 %)
Current consumption	Ventilation (24 V): 0.9 A, RWA (18 V): 1.0 A
Power consumption (max.)	20 W
Residual ripple (max.)	30 %
Cable dimensions	4 x 0.75 mm²
Temperature range	-5 - 75 °C
Enclosure rating / protection class	IP 65 / III
Syncro function	●
Locking and additional angle bracket	●
End position cut-off extended	Internal path sensor
End position cut-off retracted	Internal path sensor
Overload cut-off	●

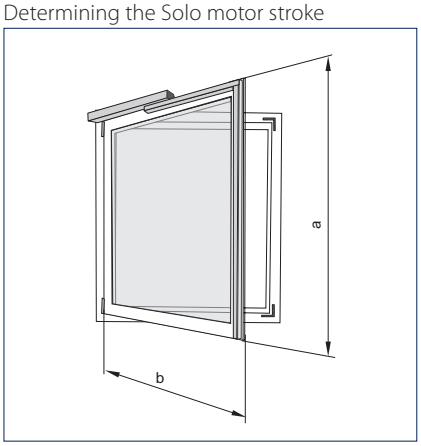
● = YES

Determining the opening width (ÖW)



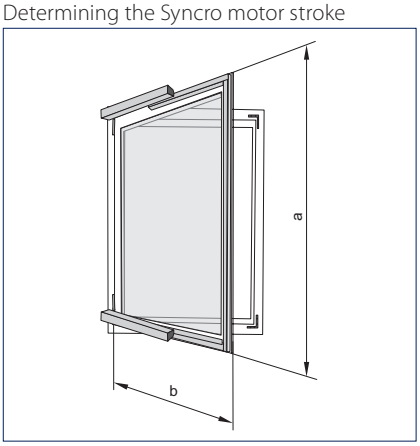
Y = Opening width (mm)
b = Casement height (bottom-hung casement) / casement width (side-hung window) (mm)
1 = Stroke 100 ÖW-25°
2 = Stroke 150 ÖW-40°
3 = Stroke 230 ÖW-75°

Determining the Solo motor stroke



a = Casement height
b = Casement width

Determining the Syncro motor stroke

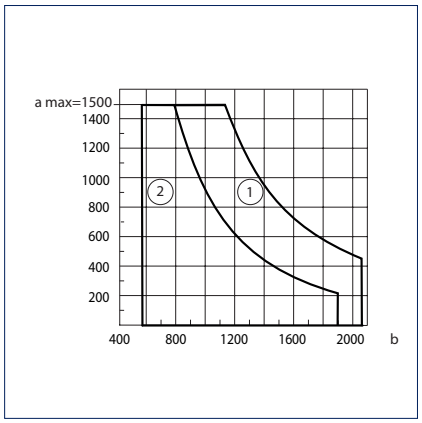


a = Casement height
b = Casement width

Determining the motor stroke

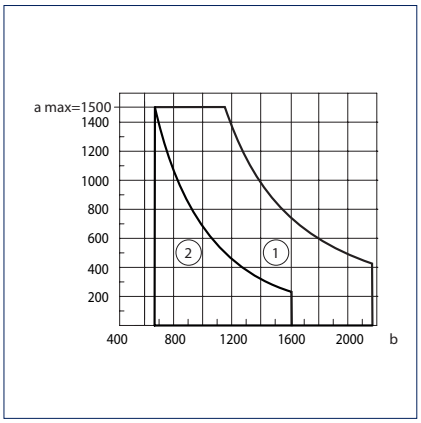
RWA 105 NT Solo

Permissible casement format stroke 100 mm



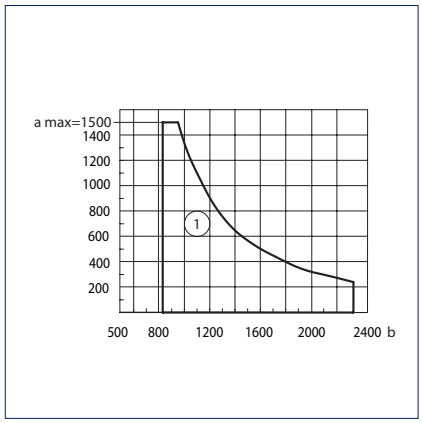
a max. = 1500 mm
b min. = 585 mm
b max. = 2075 mm
1 = Side-hung window
2 = Bottom-hung/top-hung window

Permissible casement format stroke 150 mm



a max. = 1500 mm
b min. = 685 mm
b max. = 2175 mm
1 = Side-hung window
2 = Bottom-hung/top-hung window

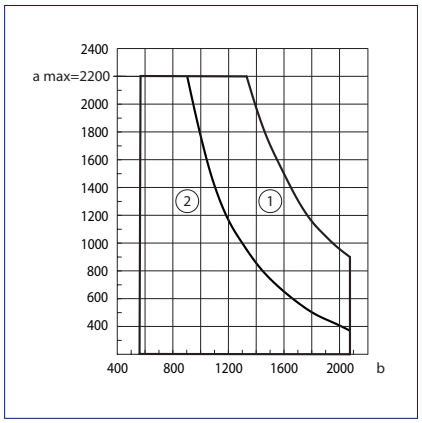
Permissible casement format stroke 230 mm



a max. = 1500 mm
b min. = 845 mm
b max. = 2335 mm
1 = Side-hung window

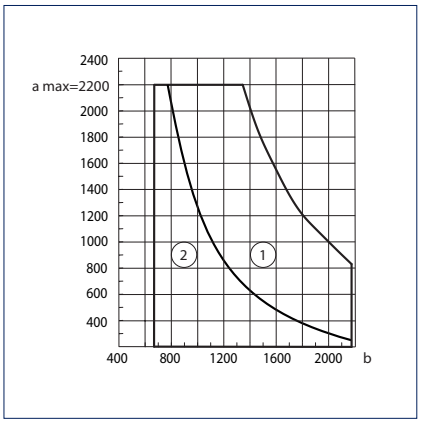
RWA 105 NT Syncro

Permissible casement format stroke 100 mm



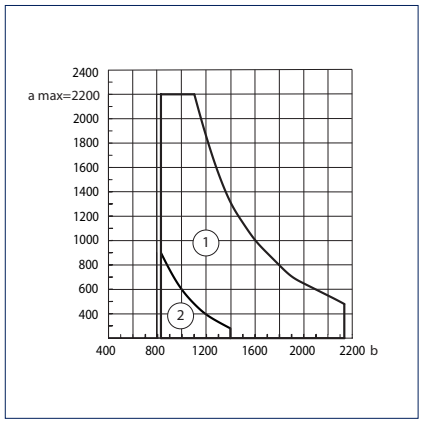
a max. = 2200 mm
b min. = 585 mm
b max. = 2075 mm
1 = Side-hung window
2 = Bottom-hung/top-hung window

Permissible casement format stroke 150 mm



a max. = 2200 mm
b min. = 685 mm
b max. = 2175 mm
1 = Side-hung window
2 = Bottom-hung/top-hung window

Permissible casement format stroke 230 mm



a max. = 2200 mm
b min. = 845 mm
b max. = 2335 mm
1 = Side-hung window
2 = Bottom-hung/top-hung window

GEZE RWA 105 NT - Order information

Description	Length	Stroke	Version	ID.No.
GEZE RWA 105 NT		100 mm	EV1	153230
		150 mm	EV1	153233
		230 mm	EV1	153236
		100 mm	white RAL 9016	153231
		150 mm	white RAL 9016	153234
		230 mm	white RAL 9016	153237
		100 mm	acc. to RAL	153232
		150 mm	acc. to RAL	153235
		230 mm	acc. to RAL	153238
GEZE RWA 105 NT - special version				153239
Rod Ø 12 mm, without cover profile	2000 mm		galvanised	053198
	3000 mm		galvanised	053199
	6000 mm		galvanised	054116
Cover profile OL 320, length 2000 mm Mitre-cut at both ends			EV1	058771
			white RAL 9016	018293
			acc. to RAL	014258
Cover profile OL 320, length 3000 mm Mitre-cut at both ends			EV1	058774
			white RAL 9016	018294
			acc. to RAL	014259
Cover profile OL 320 length 6000 mm Straight-cut at both ends			EV1	058630
			white RAL 9016	018251
			acc. to RAL	013814
Accessories				
Rod guide				058653

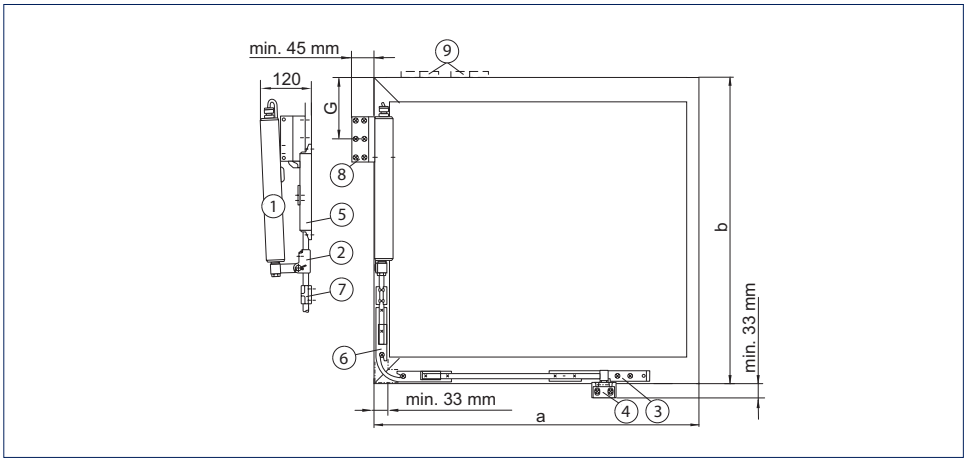
GEZE RWA 110 NT

RWA system for outward-opening bottom-hung, top-hung and side-hung windows

The RWA 110 NT system is a combination of an electric spindle drive E 250 NT installed in the casement flush to the profile and a mechanical console set with locking mechanism. This system achieves large opening widths with low spindle stroke in a maximum of 60 seconds. The all-purpose installation system (stroke lengths 150, 200, 300 mm) can be used on all standard vertically installed types of casement. There is a locking mechanism on the primary closing edge. Two RWA 110 NT systems can be combined as a synchronous solution for wide casements.

GEZE RWA 110 NT

GEZE RWA 110 NT



a = Casement width
b = Casement height
1 = Electric spindle drive E 250
2 = Rod transmission
3 = Additional locking device OL 320!
4 = Complete additional bracket
5 = Release spring
6 = Corner transmission OL 320
7 = Rod guide OL 320!
8 = Frame bracket
9 = 2 hinges on the electrical drive side (to be provided by the customer

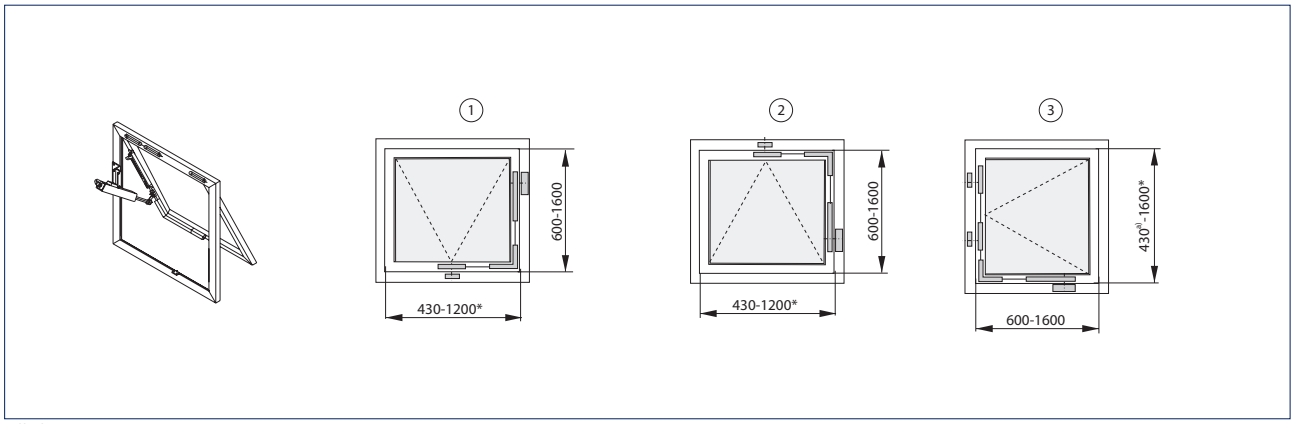
GEZE OPENING AND LOCKING SYSTEMS

Application range

- Opening and locking of outward-opening windows
- Bottom-hung, side-hung and top-hung casements
- Natural ventilation, smoke and heat extraction system (RWA), natural smoke and heat exhaust ventilator (SHEV)
- Can be used in the exhaust air and fresh air system
- Synchronisation of 2 drives
- Timber, plastic and aluminium frames
- Frame installation

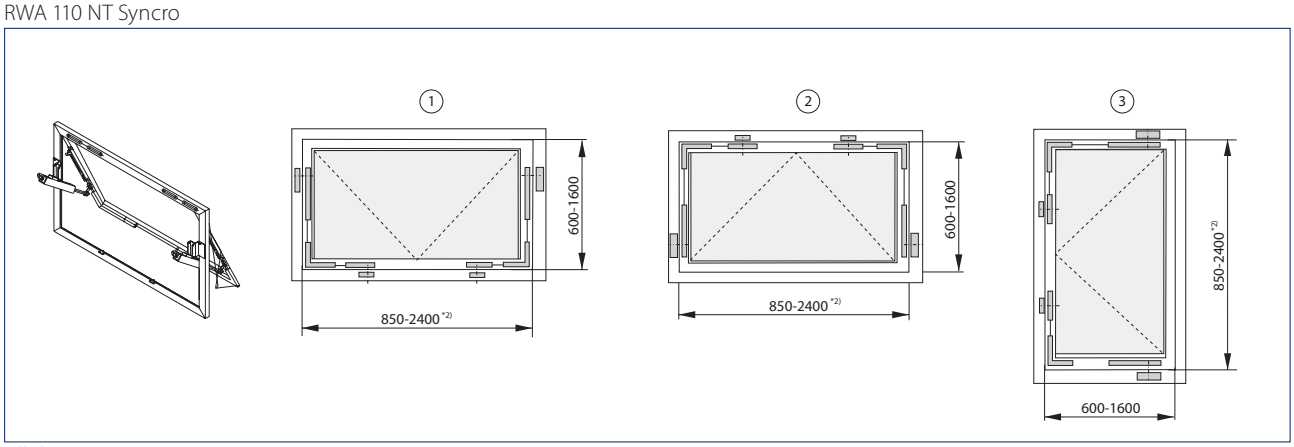
System flush to the profile for vertically installed, outward-opening bottom-hung, top-hung and side-hung windows
The given dimensions are standard; please contact GEZE if you require other dimensions.
Details for timber/aluminium windows

RWA 110 NT



All dimensions in mm
1 = Top-hung window
2 = Bottom-hung window
3 = Side-hung window
*1 = For plastic windows Solo max. 800 mm

RWA 110 NT Syncro



All dimensions in mm
1 = Top-hung window
2 = Bottom-hung window
3 = Side-hung window
*2 = For plastic windows Syncro max. 1600 mm

Technical data

Product features	GEZE RWA 110 NT
Space required (min.)	Casement frame: min. 33 mm, cover frame: min. 45 mm
Permissible dimensions of primary closing edge Solo for timber and aluminium frames	430 - 1200 mm
Permissible dimensions of primary closing edge Solo for plastic frames	430 - 800 mm
Permissible dimensions of primary closing edge Syncro for timber and aluminium frames	850 - 2400 mm
Permissible dimensions of primary closing edge Syncro for plastic frames	850 - 1600 mm
Casement heights for Solo and Syncro	600 - 1600 mm
Possible stroke heights	150 mm, 200 mm, 300 mm
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Panel weight (max.)	30 kg/m²
Operating voltage	24 V DC (+30 % to -20 %)
Current consumption	Ventilation (24 V): 0.9 A, RWA (18 V): 1.0 A
Power consumption (max.)	20 W
Residual ripple (max.)	30 %
Cable dimensions	4 x 0.75 mm²
Temperature range	-5 - 75 °C
Enclosure rating / protection class	IP 65 / III
Syncro function	●
Locking and additional angle bracket	●
End position cut-off extended	Internal path sensor
End position cut-off retracted	Internal path sensor
Overload cut-off	●

● = YES

Determining the motor stroke RWA 110 NT

RWA 110 NT and RWA 110 NT Syncro: dimensions											Stroke
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	600-650 70 approx. 46 approx. 510	650-700 80 approx. 44 approx. 530	700-750 100 approx. 42 approx. 540	750-800 125 approx. 39 approx. 540	800-850 150 approx. 37 approx. 540						150
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	650-700 115 approx. 53 approx. 640	700-750 130 approx. 51 approx. 650	750-800 155 approx. 48 approx. 650	800-850 175 approx. 46 approx. 670	850-900 200 approx. 43 approx. 670	900-950 225 approx. 41 approx. 670	950-1000 250 approx. 39 approx. 670				200
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	900-920 260 approx. 56 approx. 880	920-950 280 approx. 54 approx. 870	950-1000 310 approx. 51 approx. 870	1000-1050 330 approx. 49 approx. 880	1050-1100 360 approx. 47 approx. 880	1100-1200 420 approx. 43 approx. 860	1200-1300 500 approx. 39 approx. 860	1300-1400 580 approx. 35 approx. 830	1400-1500 630 approx. 33 approx. 840	1500-1600 700 approx. 31 approx. 840	300

The values given for the opening angle and opening width are guideline values only and can vary depending on the type of installation and mounting dimensions G.

GEZE RWA 110 NT - Order information

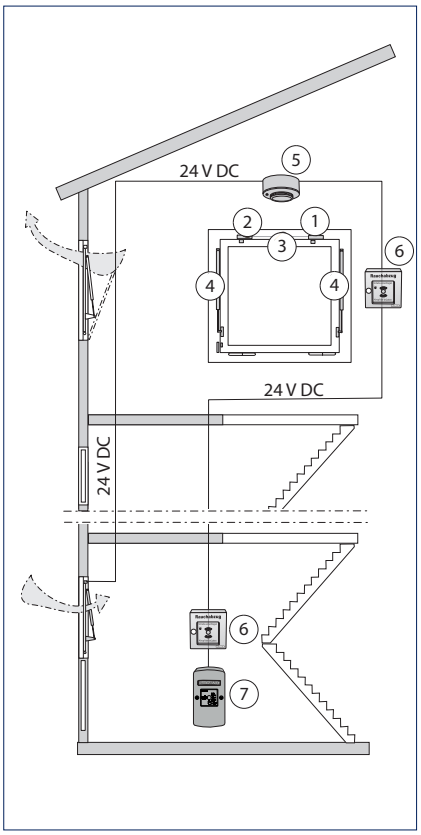
Description	Length	Stroke	Version	ID.No.
GEZE RWA 110 NT		150 mm	EV1	153220
		200 mm	EV1	153223
		300 mm	EV1	153226
		150 mm	white RAL 9016	153221
		200 mm	white RAL 9016	153224
		300 mm	white RAL 9016	153227
		150 mm	acc. to RAL	153222
		200 mm	acc. to RAL	153225
		300 mm	acc. to RAL	153228
GEZE RWA 110 NT - special version				153229
Rod Ø 12 mm, without cover profile	2000 mm		galvanised	053198
	3000 mm		galvanised	053199
	6000 mm		galvanised	054116
Cover profile OL 320, length 2000 mm Mitre-cut at both ends			EV1	058771
			white RAL 9016	018293
			acc. to RAL	014258
Cover profile OL 320, length 3000 mm Mitre-cut at both ends			EV1	058774
			white RAL 9016	018294
			acc. to RAL	014259
Cover profile OL 320 length 6000 mm Straight-cut at both ends			EV1	058630
			white RAL 9016	018251
			acc. to RAL	013814
Accessories				
Auxiliary bracket for overlap height 0 - 12 mm			EV1	050727
			white RAL 9016	015519
			acc. to RAL	013077
Corner transmission suitable for OL 320			galvanised	058648

GEZE RWA EM „OPEN“ – electromagnetic

For INWARD-OPENING vertically installed bottom-hung, top-hung, horizontally pivot-hung and side-hung windows

The GEZE RWA EM „OPEN“ system is a simple solution for opening windows used exclusively for RWA. With a casement width of 300 - 1000 mm (top-hung casement) or 1200 mm (bottom-hung casement) locking is by means of a magnetic primary lock. With a casement width of up to 2000 mm (top-hung casement) or up to 2400 mm (bottom-hung casement) locking is by means of a magnetic primary lock, a connecting link arm and a secondary lock. The magnetic primary lock and mechanical secondary lock keep the window casements securely closed against the pressure of the spring arms and the pressure of the wind. The magnet is continuously supplied with current and keeps the bolt in the closed position against a compression spring (closed-circuit principle). As soon as the current is interrupted (e.g. if an RWA case is detected), the magnetic locking is released and the spring arms push the casements open.

GEZE RWA EM „OPEN“



A = Version with mains rectifier
B = Version with emergency power supply

System arrangement

1 = Magnetic primary lock E8/a for 24 V DC with casement bracket for timber and metal frame windows
2 = Mechanical secondary lock C8/b with casement bracket for overlap and flush-closing windows, for wide casements
3 = Connecting link arm for mechanical connection of primary to secondary lock
4 = Spring arm, with frame and casement bracket, with opening damping
Spring pressure and spring stroke as well as spring force are matched to the window system
5 = One or several smoke and/or heat detectors (ceiling-mounted) for automatic activation
6 = RWA button FT4 for activation (number and layout depending on specifications from the building authorities)
7 = Emergency power control unit THZ, THZ Comfort or MBZ 300

GEZE ELECTROMAGNETIC RWA SYSTEMS

Description of function

Opening of the windows by interrupting the closed-circuit current
Manually: by pressing the FT4 button or other devices for interrupting the current
Automatically: by the smoke and heat switches triggering and in the event of a mains power failure (only in version with mains rectifier)

Manual closing of the window
The closed-circuit current flow must be re-established by resetting the buttons or smoke and heat detectors. The windows can be closed by hand against the pressure of the spring arms and by pressing the magnet in the magnetic primary lock.
Using an emergency power supply prevents unwanted opening of the windows in the event of short power failures by automatically switching to battery mode in this case.
This RWA system is not recommended for windows which can only be closed by climbing a ladder or scaffolding.
It must be possible to manually close the system – this must also be taken into account for the six-monthly functional test.

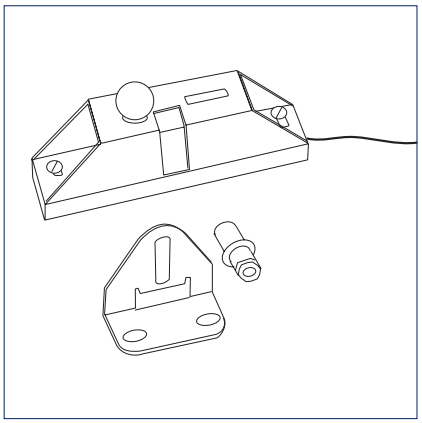
Technical data of the components

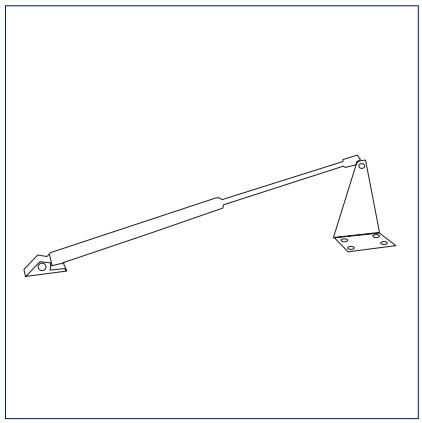
Electromagnetic lock
- Pre-assembled units
- Housing and baseplate buffer made from anodised lightweight metal EV1
- Power consumption per primary lock 0.13 A
- With side-hung casements: casement height min. 1.5 x casement width

Secondary lock
- Mechanical
- Can be coupled to primary lock via connecting link arm

Spring arm
- Safe, space-saving and dirt-protected unit
- Pre-assembled unit (EV1)
- With back check
- Up to max. 30 kg/m^2 panel weight
- Stroke 150 – 300 mm
- Pressure force 150 – 250 N
- Opening angle up to 70° depending on stroke and casement height

Components of the GEZE fresh air RWA AUT


Locking mechanism


Spring arm

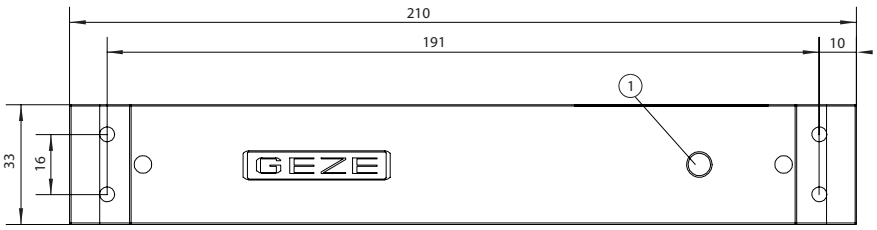
GEZE electric linear drives E 212 and E 205

For use in conjunction with slimline fanlight openers

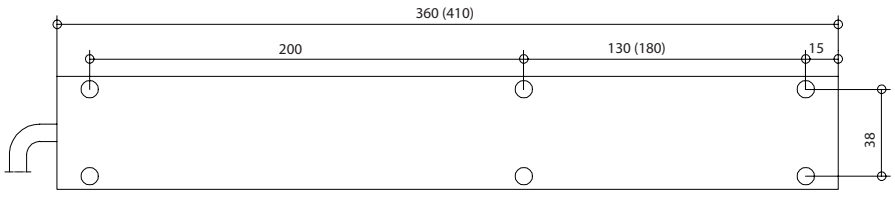
The GEZE slimline fanlight openers (OL 320, OL 90 N and OL 95) can be operated electrically in combination with the electric linear drives E 212 and E 205 and used for ventilation operation. In the case of several heavy windows these represent inexpensive and simple motorised solutions for operating several scissors. In addition, the drives are also ideally suited for the operation of louvre windows. The slim design allows discreet adaptation to the appearance of window frontages. The assembly group is completed pre-assembled. Limit switch and drive protection have already been installed and are adjustable. The stroke can be variably adjusted so that the opening width can be flexibly regulated on site.

On the left GEZE E 212, on the right GEZE E 205

GEZE E 212



GEZE E 205



Application range

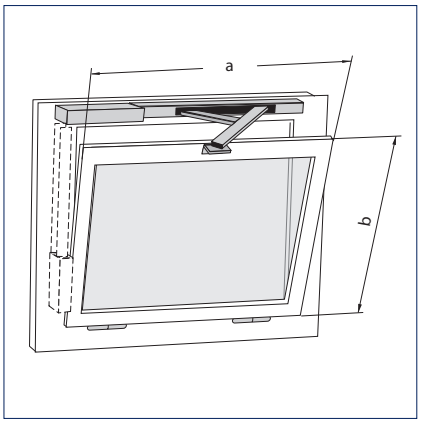
- For automatic operation of the GEZE slimline fanlight openers OL 320, OL 90 N and OL 95
- Suitable for inward-opening and outward-opening bottom-hung casements
- Louvre windows
- Natural ventilation, smoke and heat extraction system (RWA) in the 24 V version
- Can be used in the exhaust air and fresh air system
- Frame installation, horizontal and vertical

GEZE ELECTRIC LINEAR DRIVES

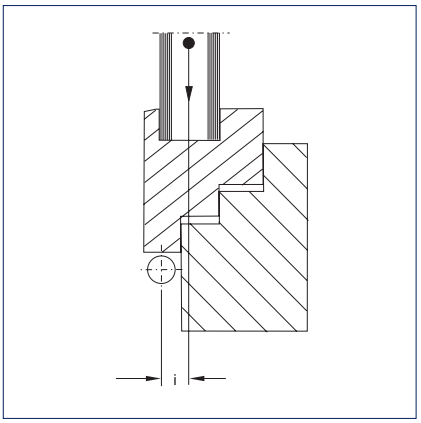
Technical data

	E 212	E 205
Dimensions (H x W x L)	30 x 80 x 210 mm	52 x 70 x 360 mm
Adjustable stroke	42 - 66 mm	42 - 70 mm
Tensile force and force of pressure	1500 N	2000 N
Running time (under load)	approx. 35 s for 52 mm stroke	approx. 45 s for 70 mm stroke
Temperature range	-20 – 70 °C	
Power consumption	90 W	138 W
Current consumption	0.4 A	0.6 A
Enclosure rating	IP 52	IP 54
Operating voltage	230 V AC / 24 V DC	
Cable/length	Plug-in version	5 x 0.75 mm² / 2 m

Electric linear drive E 212 with slimline fanlight opener OL 90 N



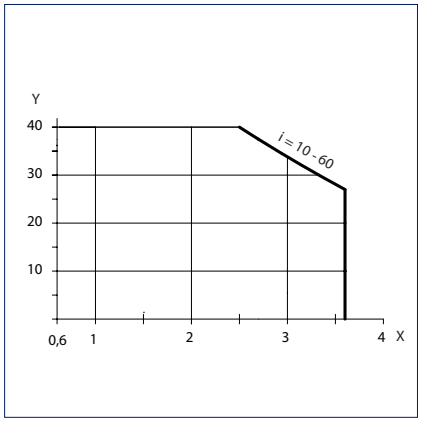
a = Casement width
b = Casement height



i = Clearance dimension between the casement centre of gravity and the hinge pivot point [mm]

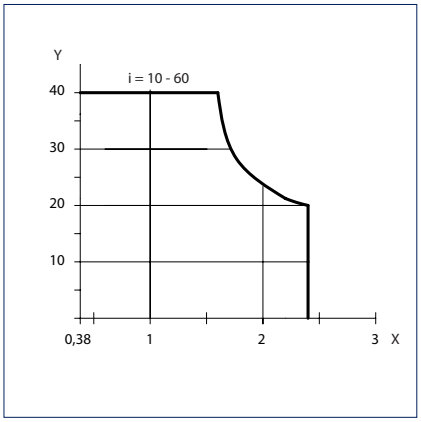
GEZE 212: Permissible casement width and panel weight depending on the „i“ dimension
(for installation with OL 90 N)

Horizontal installation



X = Overall casement width (sum of all casement widths) [m]
Y = Panel weight [kg/m²]

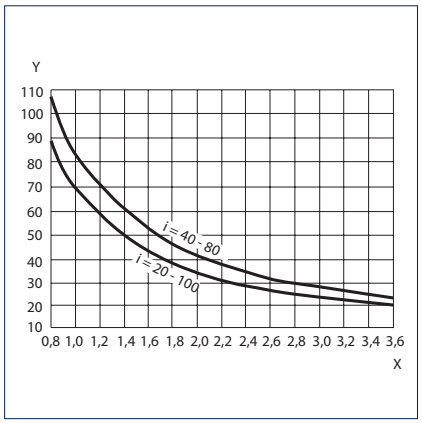
Vertical installation



X = Overall casement width (sum of all casement widths) [m]
Y = Panel weight [kg/m²]

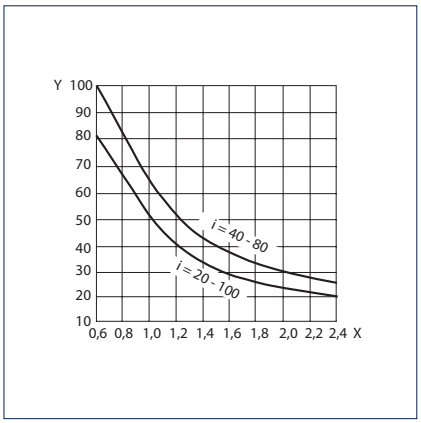
GEZE E 212: Permissible casement width and panel weight depending on the „i" dimension
(for installation with OL 320)

Horizontal installation



X = Overall casement width (sum of all casement widths) [m]
Y = Panel weight [kg/m²]

Vertical installation



X = Overall casement width (sum of all casement widths) [m]
Y = Panel weight [kg/m²]

Possible casement widths GEZE E 212

Number of scissors required	Casement width a with horizontal installation	Casement width b with vertical installation
1 scissor	800 - 1200 mm	600 - 1200 mm
2 scissors	1201 - 2400 mm	1201 - 2400 mm
3 scissors	2401 - 3600 mm	-
	Casement height b min. 400 mm [1]	Casement height b min. 500 mm [2]

- = no
[1] If the opening width is limited to 190 mm by the motor stroke, b min. = 290 mm
[2] If there is no bottom jamb, b min. = 400 mm

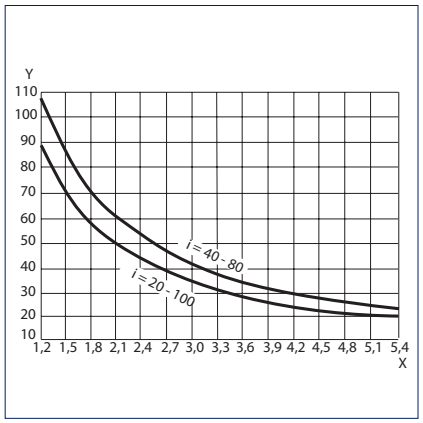
Possible casement widths GEZE E 205

Number of scissors required	Casement width a with horizontal installation	Casement width b with vertical installation
1 scissor	850 - 1350 mm	600 - 1200 mm
2 scissors	1351 - 2400 mm	1201 - 2400 mm
3 scissors	2401 - 3600 mm	2401 - 3600 mm
4 scissors	3600 - 4800 mm	-
5 scissors	4801 - 5400 mm	-
	Casement height b min. 400 mm [1]	Casement height b min. 540 mm [2]

- = no
[1] If the opening width is limited to 190 mm by the motor stroke, b min. = 290 mm
[2] If there is no bottom jamb, b min. = 400 mm

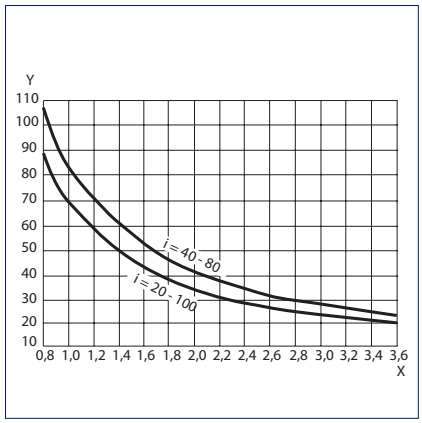
GEZE E 205: Permissible casement width and panel weight depending on the „i" dimension
(for installation with OL 320)

Horizontal installation



X = Overall casement width (sum of all casement widths) [m]
Y = Panel weight [kg/m²]

Vertical installation



X = Overall casement width (sum of all casement widths) [m]
Y = Panel weight [kg/m²]

GEZE ELECTRIC LINEAR DRIVES

Note:
Where installation is on a bottom-hung casement, the installation of separate safety scissors is prescribed for safety reasons. These are an additional safety device which guarantees permanent connection between the casement and frame, e.g. GEZE FPS gripping and cleaning scissor stay.

Order information

Description	Stroke	Version	ID.No.
GEZE electric linear drive E 205, 230 V	70 mm	silver-coloured	004825
	70 mm	white RAL 9016	027099
	70 mm	acc. to RAL	027098
GEZE electric linear drive E 205, 24 V Current consumption 1.9 A	70 mm	silver-coloured	056041
	70 mm	white RAL 9016	027096
	70 mm	acc. to RAL	027095
GEZE electric linear drive E 212 R1, 230 V With 1 relay, for group control via 1 selector switch	66 mm	silver-coloured	020835
	66 mm	dark bronze	020836
	66 mm	white RAL 9016	020839
	66 mm	acc. to RAL	020838
GEZE electric linear drive E 212 R, 230 V With 2 relays, for group control via any number of vent switches	66 mm	silver-coloured	005428
	66 mm	dark bronze	005429
	66 mm	white RAL 9016	015435
	66 mm	acc. to RAL	006683
GEZE electric linear drive E 212, 24 V Current consumption 1.2 A	66 mm	silver-coloured	010899
	66 mm	dark bronze	010901
	66 mm	white RAL 9016	015540
	66 mm	acc. to RAL	010915
Accessories			
GEZE safety scissor no. 35		galvanised	014499
GEZE safety scissor no. 60		galvanised	133814
Rod and coupling for connection of E 205 to OL 90 N			030870
Synchronising unit for GEZE electric drives with 24 V			111198
Synchronising unit for GEZE electric drives with 230 V			054371
Synchronising unit for GEZE electric drive E 212 R1 230 V			026762

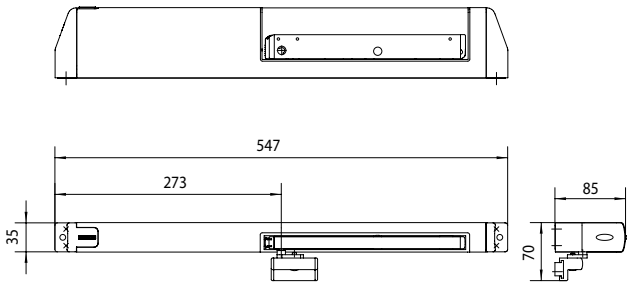
GEZE scissor drives E 170 and E 170/2

Design solutions for optimum ventilation

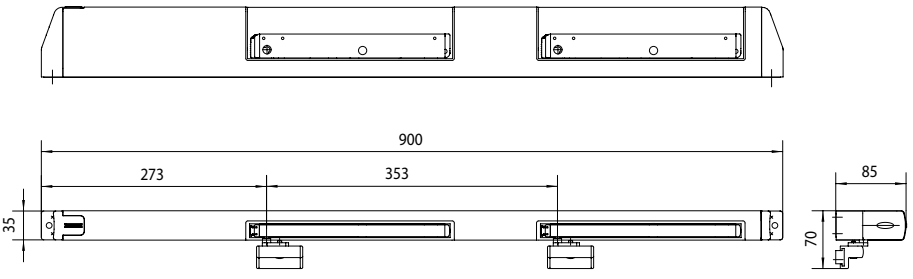
The linear drive in conjunction with slimline fanlight openers is an attractive solution for activating several windows. The system is flexible and can be used for daily aeration and ventilation as well as for safe smoke dissipation via fanlights. The scissor drive E 170 or E 170/2 combines the advantages of OL 90 N and E 212 and supplements these with an attractive appearance and ease of installation. The scissors are in the cover profile. Benefits include an improved design and additional soiling protection. The stroke can be variably adjusted so that the opening width can be flexibly regulated on site. The two-scissor version E170/2 also moves wide, heavy casements, conveniently and safely.

GEZE E 170, E 170/2

GEZE E 170



GEZE E 170/2



Application range

- Solution for actuating several windows in the façade area
- Inward-opening bottom-hung casements
- Natural ventilation, smoke and heat extraction system (RWA) in the 24 V version
- Use possible as exhaust air and fresh air system in the 24 V version
- Can be used on timber, plastic and aluminium profile systems
- Frame installation

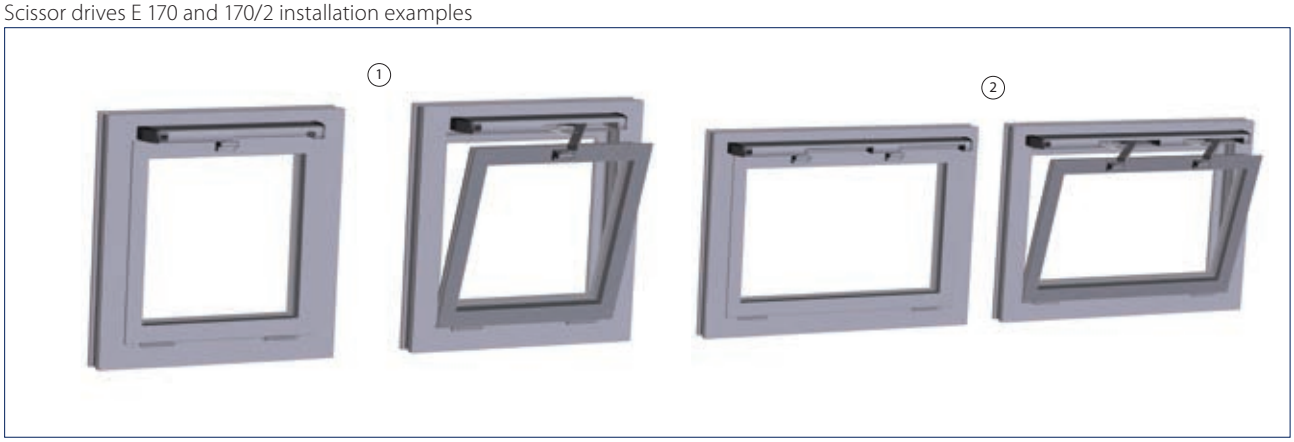
GEZE SCISSOR DRIVES

Technical data

Product features	GEZE E 170, E 170/2
Dimensions (W x H x D)	E 170: 547 x 35 x 85 mm, E 170/2 (length 900 mm): 900 x 35 x 85 mm, E 170/2 (length 1600 mm): 1600 x 35 x 85 mm
Height	85 mm
Depth	35 mm
Space required on frame (min.)	40 mm
i dimension	10 - 60 mm
Projection height	0 - 25 mm
Casement width	E 170: 550 - 1200 mm, E 170/2 (length 900 mm): 900 - 1600 mm, E 170/2 (length 1600 mm): 1600 - 2400 mm
Opening width	170 mm
Casement weight (max.)	80 kg
Operating voltage	with 230 V AC: 230 V (+60 %/-10 %), with 24 V DC: 24 V (20-30 V)
Current consumption	with 230 V AC: 0.4 A, with 24 V DC: 1.2 A
Current consumption	0.4 A
Power consumption	with 230 V AC: 90 W, with 24 V DC: 29 W
Power consumption (max.)	90 W
Residual ripple	with 24 V DC: 20 %
Frequency	with 230 V AC: 50 / 60 Hz
Duty rating	25 %
Temperature range	-5 – 60 °C
Enclosure rating / protection class	IP 52
Stroke length settable	●
End position cut-off extended	Limit switches
End position cut-off retracted	Limit switches

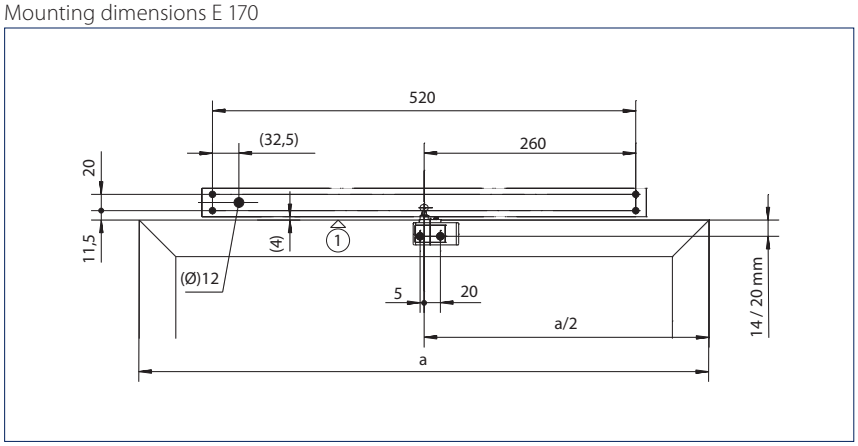
● = YES

Scissor drives E 170 and 170/2 installation examples



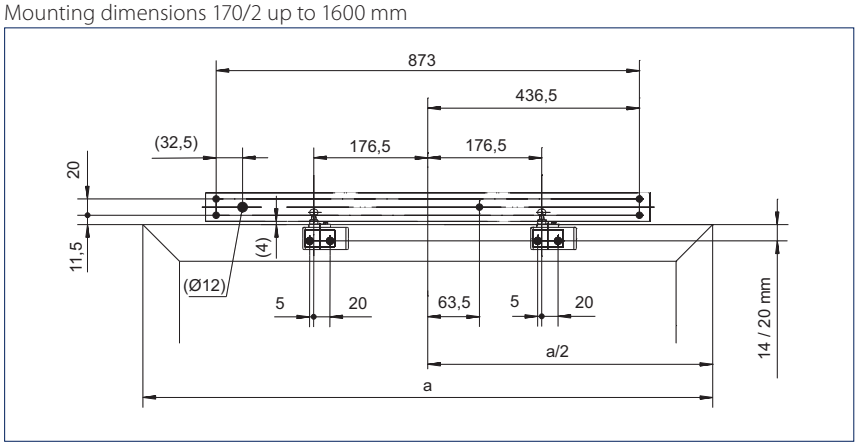
1 = E 170 for casement width 550 - 1200 mm
2 = E 170/2 for casement width 900 - 1600 (1600 - 2400) mm, 2-scissor

Mounting dimensions E 170

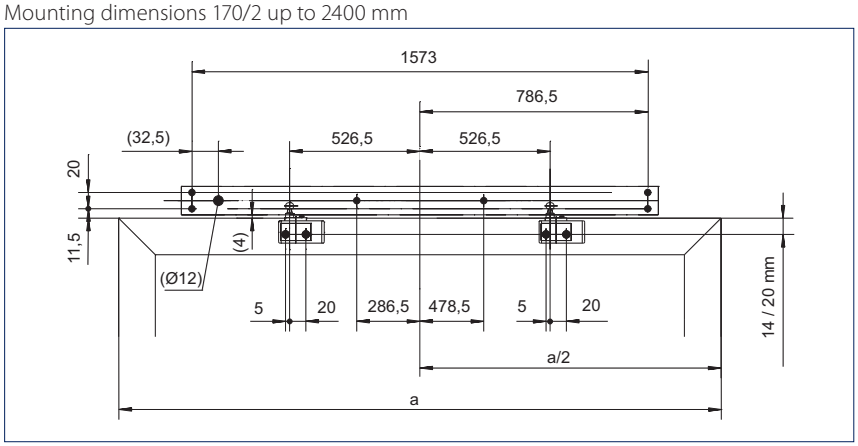


1 = Top of casement

Mounting dimensions 170/2 up to 1600 mm



Mounting dimensions 170/2 up to 2400 mm



GEZE E 170, E 170/2 - Order information

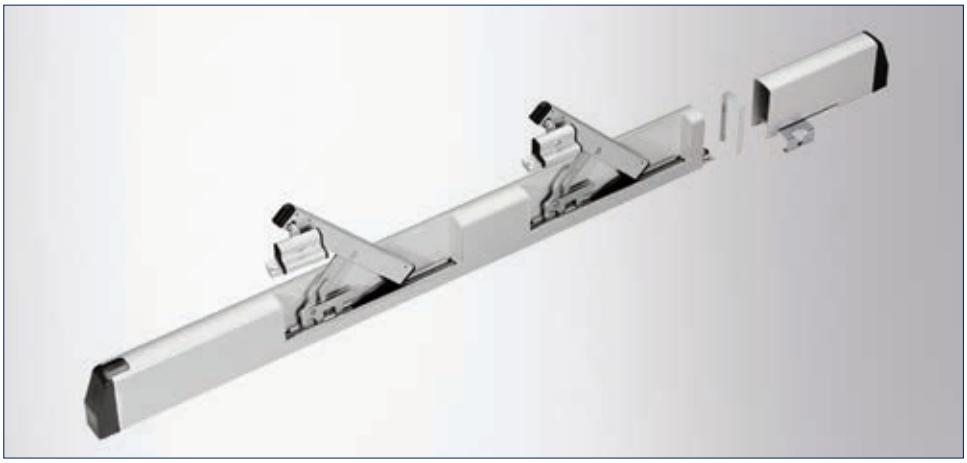
Description	Version	ID.No.
GEZE E 170, 230 V Including casement bracket	EV1	128707
	white RAL 9016	128708
	acc. to RAL	128709
GEZE E 170, 24 V Including casement bracket	EV1	128711
	white RAL 9016	128712
	acc. to RAL	128713
GEZE E 170/2, 230 V up to 2400 mm Including casement bracket	EV1	128720
	white RAL 9016	128721
	acc. to RAL	128722
GEZE E 170/2, 24 V up to 2400 mm Including casement bracket	EV1	128723
	white RAL 9016	128724
	acc. to RAL	128725
GEZE E 170/2, 230 V up to 1600 mm Including casement bracket	EV1	128714
	white RAL 9016	128715
	acc. to RAL	128716
GEZE E 170/2, 24 V up to 1600 mm Including casement bracket	EV1	128717
	white RAL 9016	128718
	acc. to RAL	128719
Accessories		
Standard casement bracket suitable for E 170	EV1	128925
	white RAL 9016	128926
	acc. to RAL	128927
Sliding casement bracket suitable for E 170	EV1	128928
	white RAL 9016	128929
	acc. to RAL	128930
Variable cover for E 170 The design set for GEZE scissor drives	EV1	128922
	white RAL 9016	128923
	acc. to RAL	128924
Locking module for E 170 A= 11.5 mm	EV1	128935
	white RAL 9016	128936
	acc. to RAL	128937
Locking module for E 170 A= 15.5 mm	EV1	128938
	white RAL 9016	128939
	acc. to RAL	128940
Locking module for E 170 A= 8.5 mm	EV1	128932
	white RAL 9016	128933
	acc. to RAL	128934

GEZE locking module for E 170

The modular lock set enables additional locking on site by means of access to the central locking. The optional set enables increased protection against burglary. There are three modules available for use with different central closure systems.

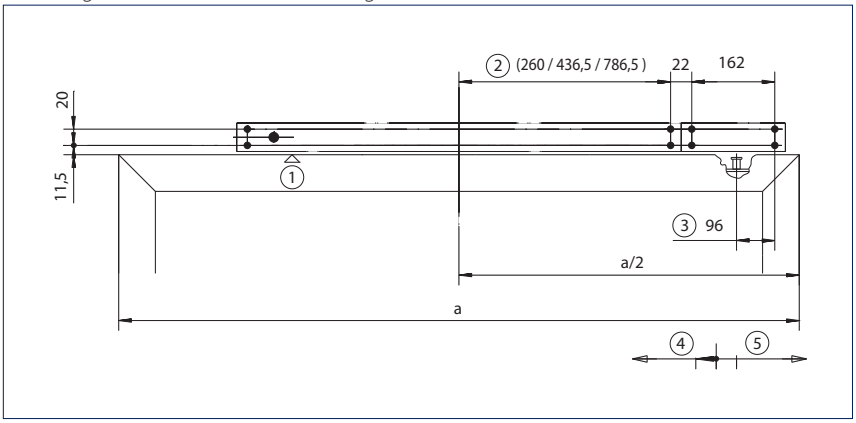
Note:
Where the locking module is used, an additional space requirement of at least 185 mm must be taken into account at the side. The locking set can only be used on windows which already have a locking mechanism (central closure). The position and diameter (dimension A) of the driver bolt must be noted here.

Locking module for E 170



Scissor drives E 170 with locking module

Mounting dimensions E 170 with locking set



1 = Top of casement
2 = Depending on drive
3 = Location of the driver bolt in locked state
4 = Unlocking
5 = Locking mechanism

GEZE variable cover for E 170

The design set for GEZE scissor drives

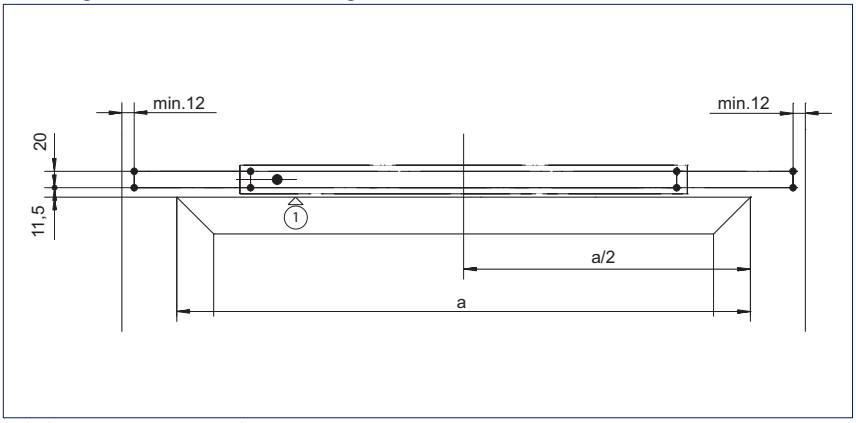
The optional design set for post-rail-constructions contains cover joints which can be individually adapted. They enable individually tailor-made and painted solutions and create a uniform appearance thanks to their continuous look. This makes it possible to extend standard drives individually. The dimensions (L x W x H) are 1000 x 35 x 85 mm. The continuous cover profile can be used on the left and right.

Variable cover for E 170

Scissor drives E 170/2

With variable cover (design set)

Mounting dimensions E 170 with design set



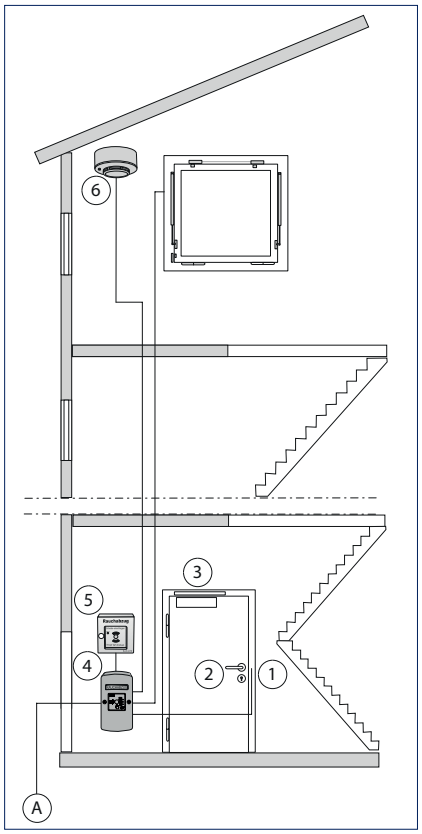
Side limit (e.g. post or jamb)
1 = Top of casement

GEZE fresh air RWA TÖ

RWA control unit in combination with inversely installed door closer

The RWA TÖ system combines a door closer with an RWA control unit and the corresponding accessories. This system provides the option of using a door as an RWA fresh air opening and therefore of creating a large fresh air inlet area relatively quickly. Released by the emergency power control unit, the door is opened by the force of the inversely mounted door closer in the RWA case. In rooms without windows or rooms where windows are too small should the RWA case occur or where there are only ventilation flaps available, the door can be used as a smoke extraction opening in combination with the RWA TÖ system. This solution can also be used as an emergency exit door in combination whit the GEZE emergency exit system.

GEZE RWA TÖ



A = Mains connection

System arrangement
The following components are required for this system:

In the lock area
1 = An electric strike IQ eStrike A5000--E
2 = Door lock and door handle (are not directly part of the RWA system and must be supplied by the door manufacturer)

On the door lintel
3 = A door closer TS 4000, TS 4000 EFS or TS 5000 in special installation

In the area of the door or in an ancillary room
4 = An emergency power control unit THZ, THZ Comfort, E 260 N 24 V DC, MBZ 300

In the staircase
5 = RWA button FT4 for activation of the alarm (number and layout depending on specifications from the building authorities)
6 = One or several smoke and/or heat detectors (ceiling-mounted) for automatic activation

Description of function

Opening the door / emergency

Manually:
The door opener is unlocked by pressing an RWA button FT4 or other pulse generator. The spring-tensioned door closer opens the door. The door can be opened with the door handle without activating the smoke and heat extraction systems.

Automatically:
When the smoke and heat detector responds, a pulse is sent to the door opener and it releases the door. The door opening angle is limited to approx. 90° (otherwise damage to the closer is possible).

Manual closing of the door / alarm reset

The alarm is reset using the reset button of the RWA button FT4 and the associated unlocking of the button or, if triggered via a smoke and heat detector, by resetting the detector. The door must then be closed by hand by pushing against the pressure of the door closer connected as a door opener. If the power supply is not backed up by an emergency power generator in the building, it has to be guaranteed by an emergency power supply.

Activation and supply via the emergency power control unit

It functions in the same way as the standard RWA with electric drive, i.e. connection via the required motor group. Taking the overall current requirement into account, the IQ eStrike electric strike is supplied with 24 V DC and via the emergency power control unit and triggered. In the event of an alarm (window OPEN), the IQ eStrike 5000--E electric strike is active (open-circuit principle).
The alarm of the door opener is actuated by the emergency power control unit:

- Manually using RWA button FT4 and/or
- Automatically via smoke detector RM 1003 or heat detector WM 1005
- Re-triggering in the event of an alarm causes activation every 2 minutes

RWA TÖ „OPEN“ on a double-leaf door

The functional options of the double-leaf version are the same as those in the cases described above. The fixed leaf must open later to ensure that both leaves of a double-leaf door are not opened at the same time, causing them to get caught. This can also be achieved by a time relay or the GEZE activation delay block LEV, upstream of the door opener.

Combination with the GEZE emergency exit system (RWS)

The function is similar to that of the standard version. An inverse type door closer (with preloaded spring) and an electrical retention magnet (MA 500 with reed contact) are installed on the door. The retention magnet is continuously supplied with current and keeps the door closed against the spring force of the door closer (closed-circuit principle).
The retention magnet is activated and supplied via an RWS door control unit. In a panic case, the door control unit is released directly by pressing the emergency button. The door control unit is connected to an RWA emergency power control unit (relay alarm) via a potential-free break contact. In the event of a fire, the alarm is actuated and the magnet is released by pressing an RWA button (manual release) or smoke switch (automatic release). The door is then opened by the spring force of the door closer.
With this system, the door control unit can also be unlocked and the door passed through using a key push button. After the door has been passed through it must be re-closed manually against the spring force of the door closer.
In the event of short-term release, automatic locking is possible after closing the door (a so-called discontinuation), i.e. the door only has to be pressed shut and locks automatically, as soon as the door leaf is closed.

Note: Further information about the RWS function and door control units can be found in the GEZE SecuLogic documentation.

Combination with TS 4000 EFS

(Invers version/for convenient passing through the door in normal operation)
The freeswing door closer TS 4000 EFS (in special installation for the RWA TÖ „OPEN“ system) in inverse activation enables the user to conveniently pass through the door in routine operation. In case of fire the door opens automatically (by manual or automatic activation), to ensure smoke extraction.

Manual alarm case:
The door opener is unlocked by pressing a push button switch or other pulse generator. The spring-tensioned door closer opens the door (freeswing function is deactivated).
Manual routine operation: the door can be opened with the door handle.

Automatic:
When the smoke and heat detector responds, a pulse is sent to the door opener and it releases the door. The door opens (freeswing function is deactivated).

Manual closing of the door:
Following an alarm case: the pressed button and/or smoke and heat switches must be reset. The door must then be closed by hand by pushing against the pressure of the door closer connected as a „door opener“.

Note: A combination with the GEZE IQ lock EL motor lock is possible. Please contact GEZE GmbH for details.

GEZE retractable arm drive RWA K 600

Retractable arm drive for opening doors and windows

The RWA K 600 retractable arm drive is suitable wherever large opening angles are required on doors and windows. It achieves opening angles of more than 90°. The integrated control permits synchronous multiple operation and closing sequence control without an additional module being necessary. In addition, the drive has an integrated status contact for the direct connection of a door opener. In the installation version fitted from the top with pressure roller, the RWA K600 can be combined with GEZE door closers and is therefore ideal for air inlet openings with high passage convenience. The combination of RWA K 600, motor lock and door closer is the single source solution for air inlet openings with lock suitable for insurance requirements. The GEZE retractable arm drive is available in three versions:

- RWA K 600 G: 40 mm x 120 mm x 472 mm
- RWA K 600 T: 40 mm x 98.5 mm x 530 mm
- RWA K 600 F: 40 mm x 86 mm x 421 mm

GEZE RWA K 600

Application range

- Doors: hinge and opposite hinge side installation for free passage or with fixed connection
- Windows: inward and outward-opening bottom-hung, top-hung and side-hung windows and skylights

RWA K 600 G

RWA K 600 T

RWA K 600 F

Technical data

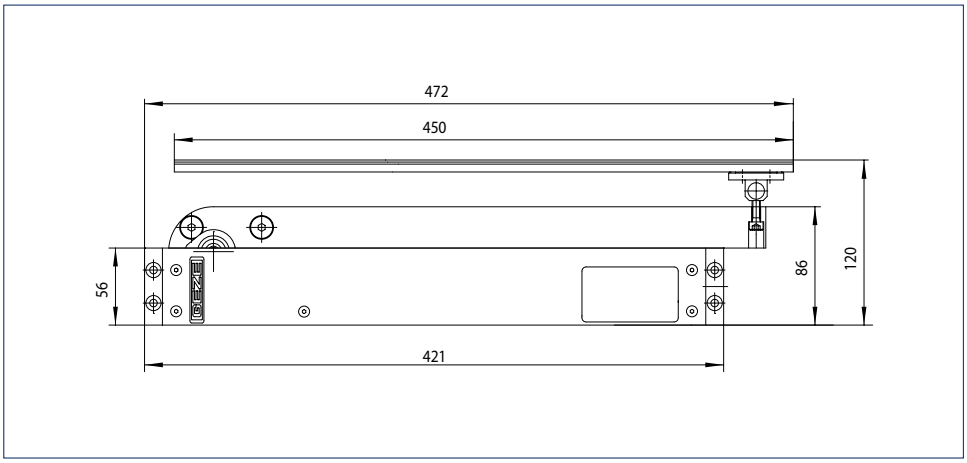
Product features	RWA K 600
Dimensions	RWA K 600 G: 40 x 120 x 472 mm, RWA K 600 T: 40 x 98.5 x 530 mm, RWA K 600 F: 40 x 86 x 421 mm
Current consumption (max.)	1.4 A
Torque	215 Nm
Tensile force (max.)	600 N
Force of pressure (max.)	600 N

GEZE retractable arm drive RWA K 600 G

The retractable arm drive RWA K 600 G can be used both on doors and on windows. In general it can be installed on the hinge side and on the opposite hinge side. The door cannot be passed through freely due to the fixed connection of the drive with one door leaf by means of a glide rail.

RWA K 600 G

RWA K 600 G



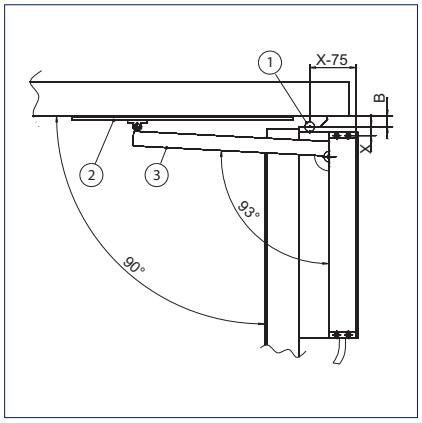
Application range

Type of installation	Window hinge side	Opposite hinge side	Door hinge side	Opposite hinge side
Casement/leaf weight (min.)	30 kg/m²		250 kg[2)]	
Casement/leaf width (max.) [1)] HSK	800 mm Solo, 1200 mm Syncro		1600 mm[2)]	
Casement/leaf width (min.) HSK	-		470 mm	565 mm
Casement/leaf height (max.) [2)] NSK	2x + 880 mm		-	
Casement/leaf height (min.) NSK	x + 465 mm		-	
Space requirement (min.) on the frame	45 mm		45 mm	
Space requirement (min.) on the casement/leaf	-	45 mm	-	45 mm

- = no
[1)] A lock is necessary for larger leaf/casement widths
[2)] Higher values available on request

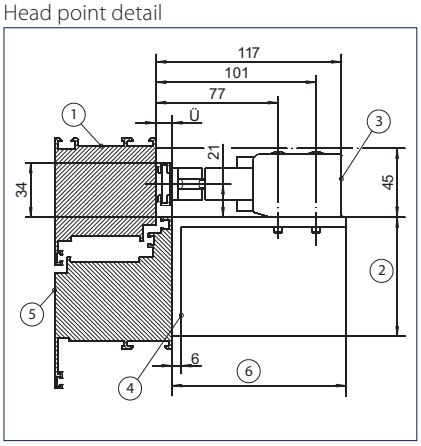
Hinge-side installation on the door – mounting dimensions

Plan view



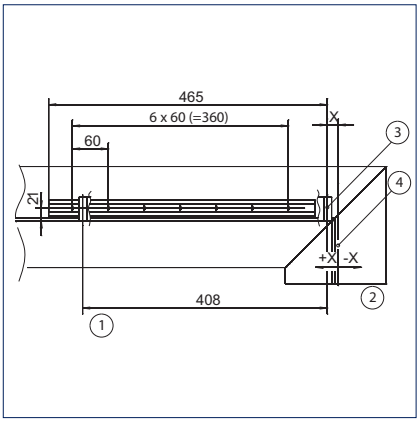
B = Hinge centre spacing
X = Distance between the door hinge and the drive attachment
1 = Door hinge
2 = Guide rail
3 = Retractable arm

Head point detail



Ü = Overlap of the leaf/casement beyond frame (Ü ≤ 20 mm)
1 = Door frame
2 = On-site
3 = Drive
4 = Mounting bracket console G
5 = Door leaves
6 = On-site (depending on Ü)

Guide rail installation



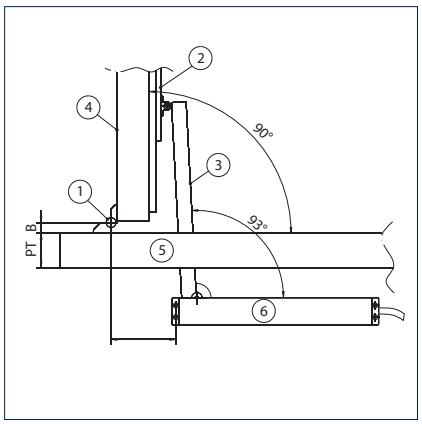
X = Distance between the door hinge and the drive attachment
1 = Console for articulated lever
2 = Door hinge
3 = Drive attachment
4 = Hinge axis

Determining the X dimension with α = 90°: Examples:

Hinge size B	Distance between the door hinge and the drive attachment (X dimension) with α = 90°
13	30
22	20
36	5
Different opening angles / hinge centre spacings available on request	

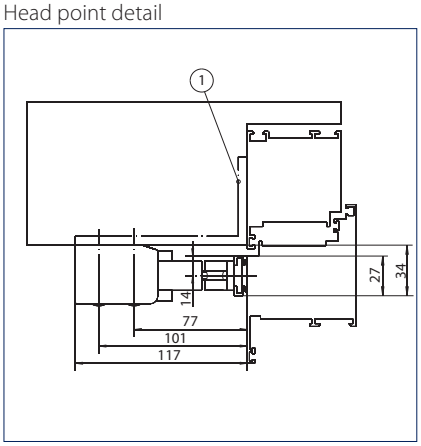
Opposite hinge-side installation on the door – mounting dimensions

Plan view



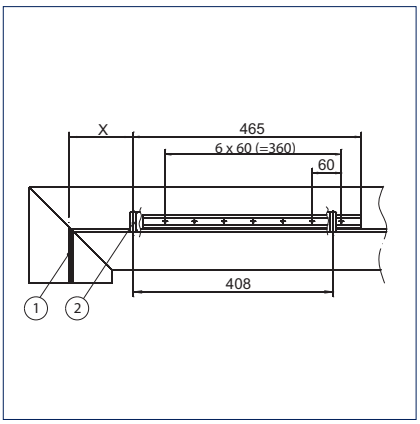
B = Hinge centre spacing
PT = Profile overall depth cover frame
1 = Door hinge
2 = Guide rail
3 = Retractable arm
4 = Door leaves
5 = Door frame
6 = Drive

Head point detail



1 = Fixing drive in lintel already available on site or with console G

Guide rail installation



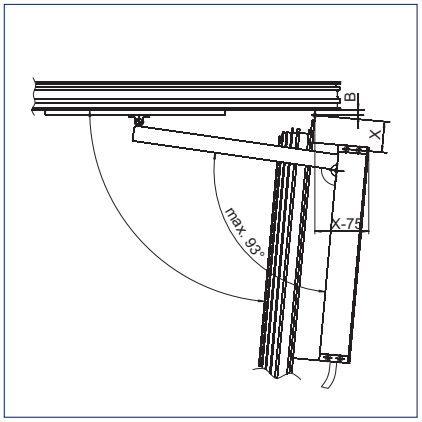
X = Distance between the door hinge and the drive attachment
1 = Hinge axis
2 = Drive attachment

Determining the X dimension with α = 90°: (depending on B and PT)

Hinge centre spacing B	Profile overall depth cover frame PT	Distance between the door hinge and the drive attachment (X dimension) with α = 90°
22	40	100
22	50	110
22	60	120
22	65	125
22	70	130
22	75	135
22	80	140
36	40	115
36	50	125
36	60	135
36	65	140
36	70	145
36	75	150
36	80	155
Different opening angles / hinge centre spacings available on request		

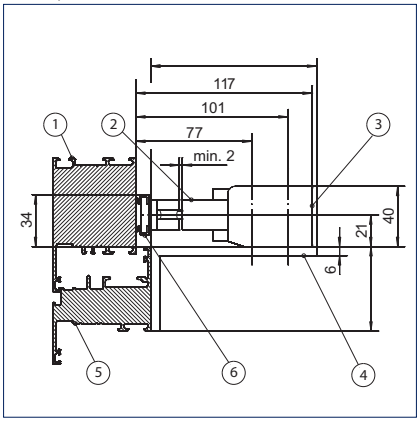
Hinge-side installation on window – mounting dimensions

Plan view



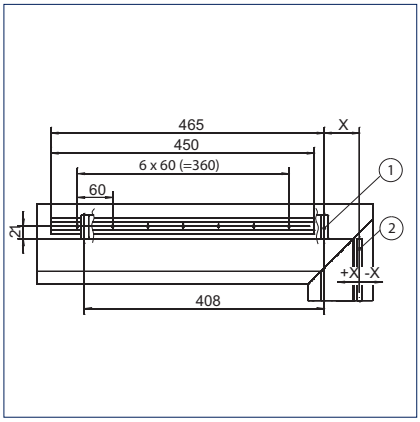
B = Hinge centre spacing
X = Distance between the window hinge and the drive attachment

Head point detail



1 = Frame
2 = Retractable arm
3 = Drive
4 = Mounting bracket console G
5 = Casement
6 = Guide rail

Guide rail installation



X = Distance between the window hinge and the drive attachment
1 = Drive attachment
2 = Hinge axis

Window opening angle α = 90° (depending on B and X)

Distance between the door hinge and the drive attachment X	Hinge centre spacing B	Opening angle α
30	10	90°
60	10	85°
90	10	80°
120	10	75°
150	10	71°
190	10	65°
230	10	60°
Different opening angles / hinge centre spacings available on request.		

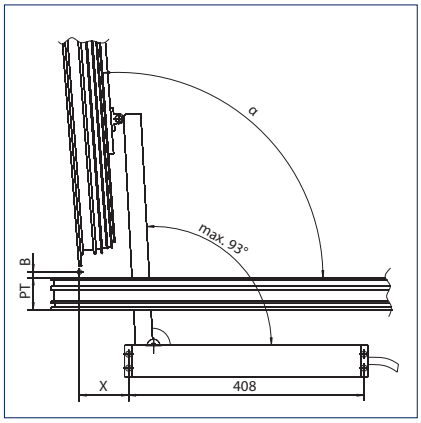
Examples of RWA K 600 hinge side for INWARD-opening bottom-hung and top-hung windows

Casement dimensions		Panel weight		Number of drives
NSK	HSK	30 kg/m²	40 kg/m²	
800	800	x = 30 mm / α = 90°	x = 30 mm / α = 90°	Solo
800	1200	x = 30 mm / α = 90°	x = 30 mm / α = 90°	Syncro
1200	1200	x = 160 mm / α = 70°	x = 160 mm / α = 70°	Syncro

NSK = secondary closing edge
HSK = primary closing edge

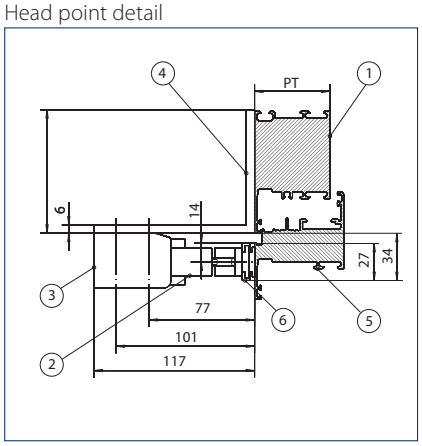
Opposite hinge-side installation on window – mounting dimensions

Plan view



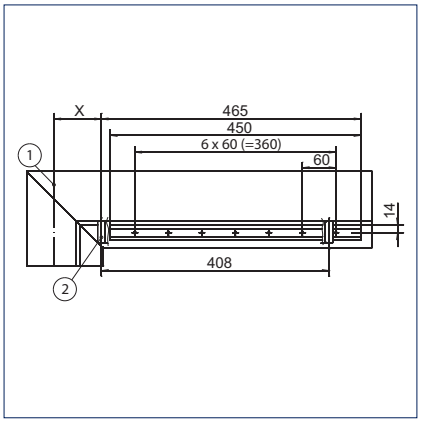
α = Opening angle
B = Hinge axis
PT = Profile overall depth cover frame
X = Distance between the window hinge and the drive attachment

Head point detail



PT = Profile overall depth cover frame
1 = Frame
2 = Retractable arm
3 = Drive
4 = Mounting bracket console G
5 = Casement/leaf
6 = Guide rail

Guide rail installation



X = Distance between the window hinge and the drive attachment
1 = Hinge axis
2 = Drive attachment

Window opening angle α (depending on X, B and PT)

Distance between the window hinge and the drive attachment X		Profile overall depth cover frame PT	Opening angle α
Hinge centre spacing B ≤ 10 mm	85	65	96°
	95	65	94°
	105	65	92°
	115	65	90°
	125	65	88°
	135	65	85°
	145	65	83°
	85	75	98°
	95	75	96°
	105	75	94°
	115	75	92°
	125	75	90°
	135	75	88°
	145	75	85°

Window opening angle α (depending on X, B and PT)

Distance between the window hinge and the drive attachment X		Profile overall depth cover frame PT	Opening angle α
10 mm ≤ hinge centre spacing B ≥ 22 mm	85	65	99°
	95	65	97°
	105	65	95°
	115	65	93°
	125	65	90°
	135	65	88°
	145	65	86°
	85	75	101°
	95	75	99°
	105	75	97°
	115	75	95°
	125	75	93°
	135	75	90°
	145	75	88°

Examples of RWA K 600 G opposite hinge side for OUTWARD-opening bottom-hung and top-hung windows

Casement dimensions		Panel weight		Number of drives
NSK	HSK	30 kg/m²	40 kg/m²	
800	800	x = 115 mm α = 90°	x = 115 mm α = 90°	Solo
800	1200	x = 115 mm α = 90°	x = 115 mm α = 90°	Syncro
1200	1200	x = 160 mm α = 80°	x = 160 mm α = 80°	Syncro

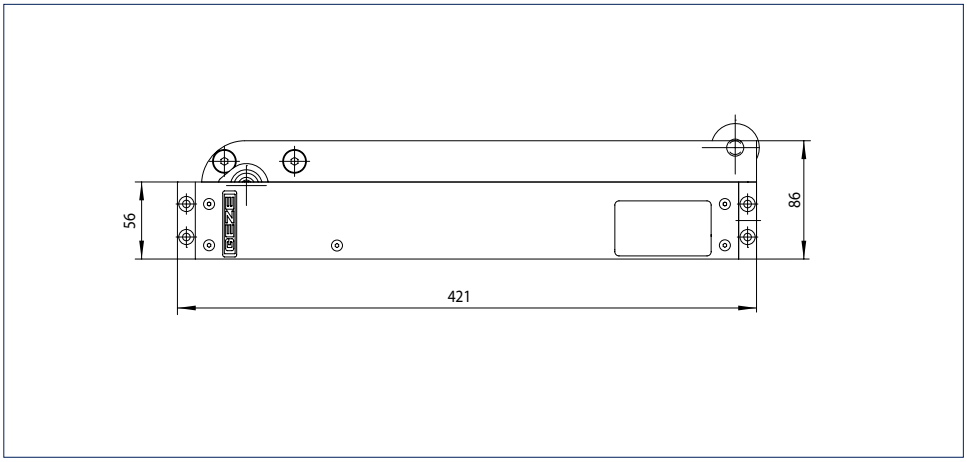
Profile overall depth (PT) cover frame = 65 mm
Hinge centre spacing B = 10 mm
NSK = secondary closing edge
HSK = primary closing edge

GEZE retractable arm drive RWA K 600 T

The retractable arm drive RWA K600 T has been designed for use on doors and is mounted on the hinge side or opposite hinge side. The door remains freely passable due to the activation of the lever by means of a pressure roll fitted from the top.

RWA K 600 T

RWA K 600 T

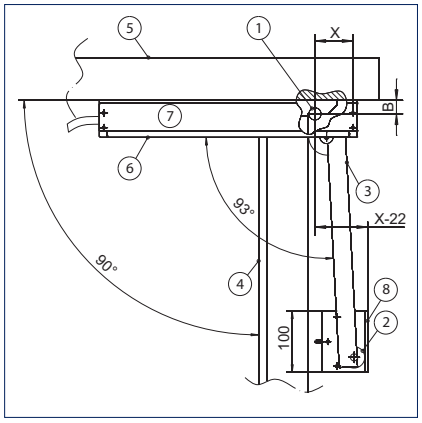


Type of installation	Window hinge side	Door hinge side
Casement weight (max.)	250 kg [1]	250 kg [1]
Casement/leaf width (max.)	1600 mm [1]	1600 mm [1]
Casement width (min.)	470 + x mm	470 + x mm
Consoles	Console R, console T	-
Space requirement on the frame (min.)	at the side 145 mm	-
Space requirement on the casement/leaf (min.)	50 mm	40 mm

- = no
[1] Higher values available on request

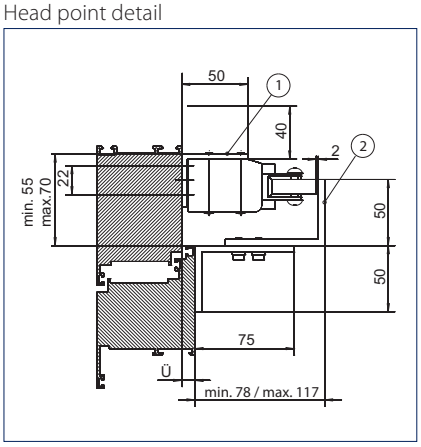
Hinge-side installation on the door – mounting dimensions

Plan view



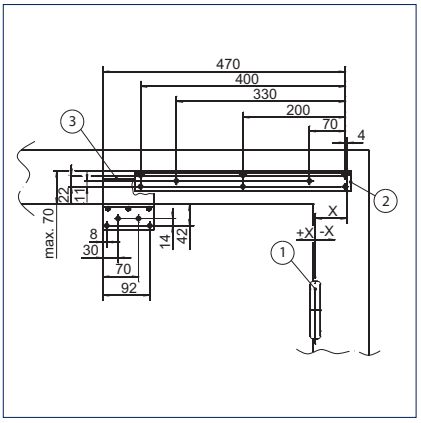
X = Distance between the door hinge and the drive attachment
1 = Door hinge
2 = Roller fitting
3 = Retractable arm
4 = Door leaves
5 = Door frame
6 = Drive
7 = Console R
8 = Console T

Head point detail



Ü = Projection of the casement beyond the frame
1 = Console R
2 = Console T

Guide rail installation



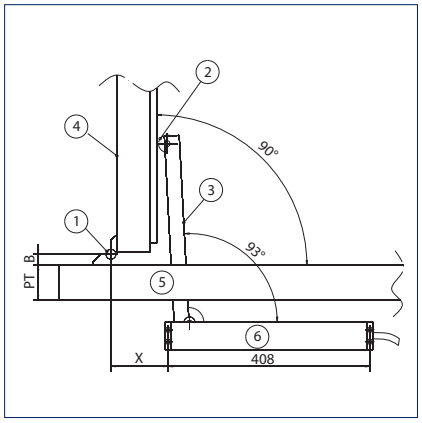
1 = Door hinge
2 = Console R
3 = Console T

Determining the X dimension with an opening angle α = 90°

Hinge centre spacing B	Distance between the door hinge and the drive attachment (X dimension) with α = 90°	
	Overlap of the leaf beyond frame Ü = 0 mm	Overlap of the leaf beyond frame Ü = 10 mm
13	-60	-70
22	-55	-60
36	-45	-45
Different opening angles / hinge centre spacings available on request		

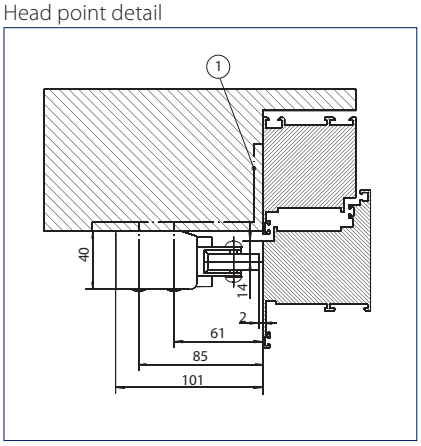
Opposite hinge-side installation on the door – mounting dimensions

Plan view



B = Hinge centre spacing
PT = Profile overall depth cover frame
1 = Door hinge
2 = Roller fitting
3 = Retractable arm
4 = Door leaves
5 = Door frame
6 = Drive

Head point detail



1 = Fixing drive in lintel already available on site or with console G

Determining the X dimension with α = 90°: (depending on B and PT)

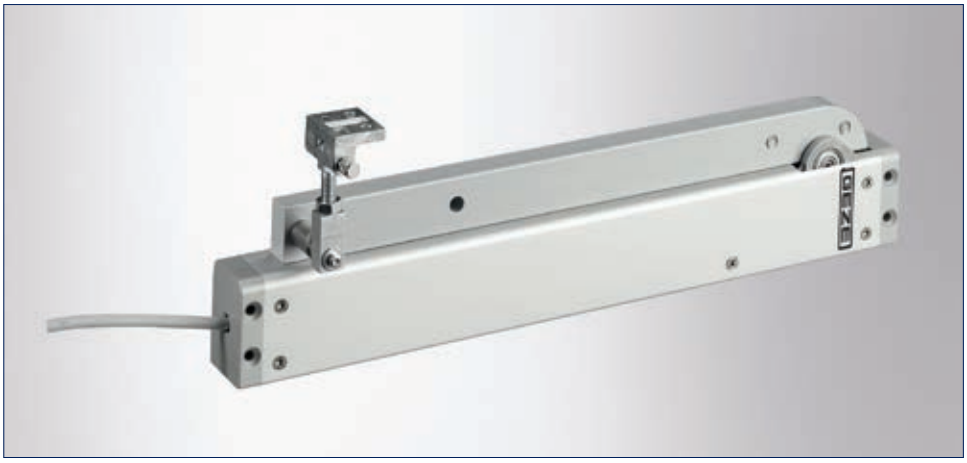
Hinge centre spacing B	Profile overall depth cover frame PT	Distance between the door hinge and the drive attachment (X dimension) with α = 90°
22	40	80
22	50	90
22	60	100
22	65	105
22	70	110
22	75	115
22	80	120
36	40	95
36	50	105
36	60	115
36	65	120
36	70	125
36	75	130
36	80	135
Different opening angles / hinge centre spacings available on request.		

Note:
When a door closer is used, the minimum closing speed of the door closer must be limited to 5 seconds.

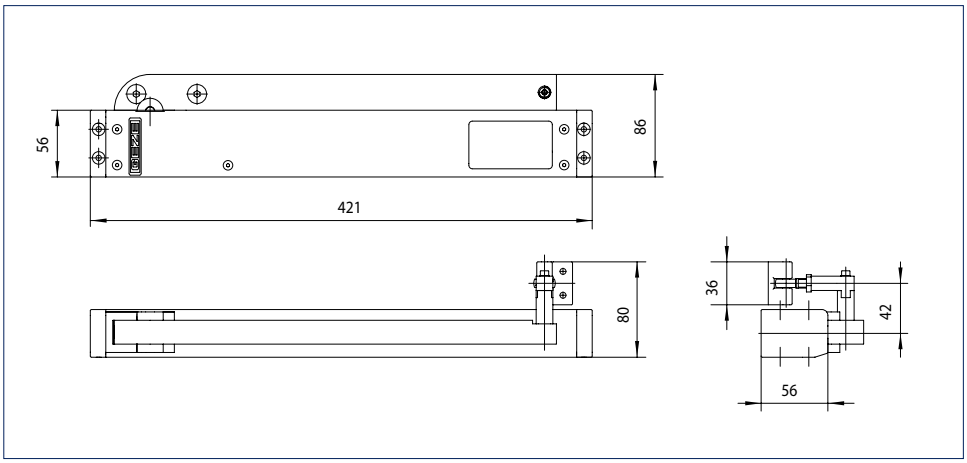
GEZE retractable arm drive RWA K 600 F

The retractable arm drive RWA K 600 F can be used both on doors and on windows. In general it can be installed on the hinge side, the opposite hinge side is possible on request. The door cannot be freely passed through due to the fixed connection of the drive with one door leaf.

RWA K 600 F



RWA K 600 F

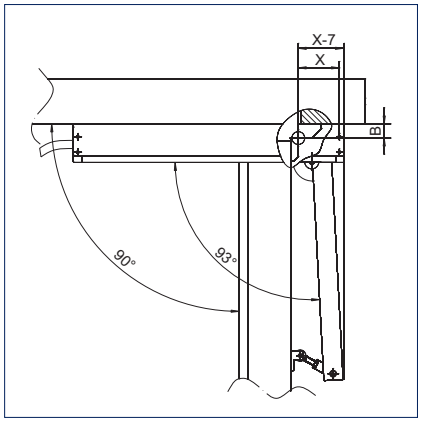


Type of installation	Window hinge side	Door hinge side
Casement/leaf weight (min.)	30/40 kg/m²	250 kg[2)]
Casement/leaf width (max.)[1)] HSK	800 mm Solo, 1200 mm Syncro	1600 mm[2)] Solo
Casement/leaf width (min.) HSK	-	355 mm
Casement/leaf height (max.)[2)] NSK	2x + 750 mm	-
Casement/leaf height (min.) NSK	x + 420 mm	-
Consoles	Console R, console for articulated lever	Console R, console for articulated lever
Space requirement (min.) on the frame	top 45 mm, side 55 mm	45 mm
Space requirement (min.) on the casement/leaf	depends on the hinge centre spacing	

- = no
[1)] A lock is necessary for larger leaf/casement widths
[2)] Higher values available on request

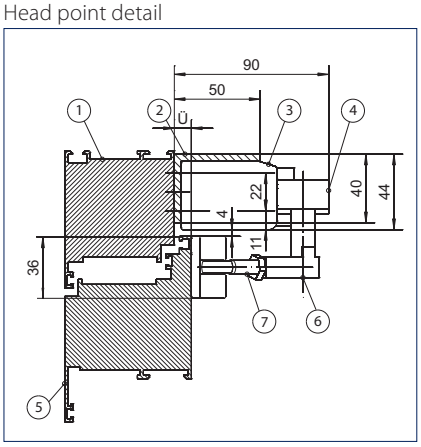
Hinge-side installation on the door – mounting dimensions

Plan view



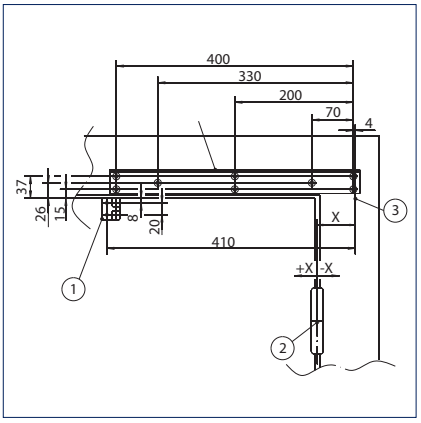
B = Hinge centre spacing
X = Distance between the door hinge and the drive attachment

Head point detail



Ü = Leaf/casement overlap beyond the frame (if Ü< 10 mm: support console for articulated lever = Ü + support = 10 mm)
1 = Frame
2 = Console R
3 = Drive
4 = Retractable arm
5 = Casement/leaf
6 = Articulated lever
7 = Setting depends on dimension Ü

Installation of console R / for articulated lever



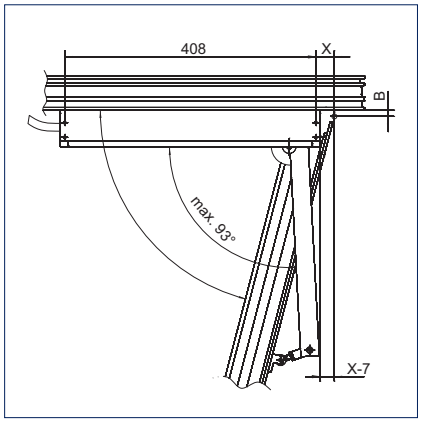
X = Distance between the door hinge and the drive attachment
1 = Console for articulated lever
2 = Door hinge
3 = Drive attachment

Determining the X dimension with an opening angle α = 90°: Examples:

Hinge centre spacing B	Distance between the door hinge and the drive attachment (X dimension) with α = 90°
22	-55
36	-50
Different opening angles / hinge centre spacings available on request	

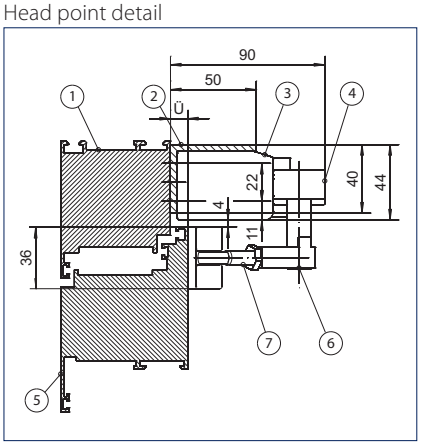
Hinge-side installation on window – mounting dimensions

Plan view



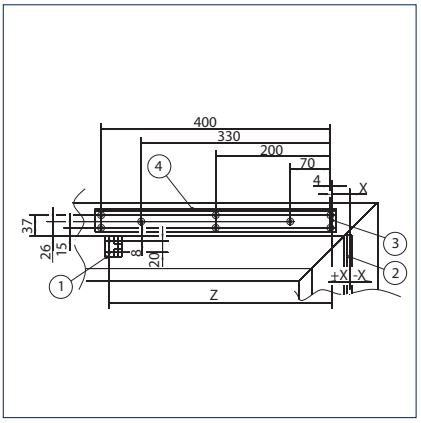
B = Hinge centre spacing
X = Distance between the window hinge and the drive attachment

Head point detail



Ü = Projection of the casement beyond the frame
1 = Frame
2 = Console R
3 = Drive
4 = Retractable arm
5 = Casement/leaf
6 = Articulated lever
7 = Setting depends on dimension Ü

Installation of console R / for articulated lever



X = Distance between the window hinge and the drive attachment
Z = Distance between drive attachment and console
1 = Console for drive lever
2 = Window hinge
3 = Drive attachment
4 = Console R

Window opening angle α (depending on B and X)

	Distance between the window hinge and the drive attachment X	Opening angle α	Z
Hinge centre spacing B = 10 ± 2	-35	84	410
	-30	83	410
	-20	82	410
	-15	81	390
	-10	81	390
	0	79	390
	10	77	370
	20	76	370
	30	75	370
Different opening angles / hinge centre spacings available on request			

Examples of RWA K 600 F hinge side for INWARD-opening bottom-hung and top-hung windows

Casement dimensions		Panel weight		Number of drives
NSK	HSK	30 kg/m²	40 kg/m²	
800	800	x = -30 mm α = 83°	x = -30 mm α = 83°	Solo
800	1200	x = -25 mm α = 75°	x = -25 mm α = 75°	Syncro

Overlap of the casement beyond frame Ü = 10 mm
Hinge centre spacing (B) = 10 mm
NSK = secondary closing edge
HSK = primary closing edge


Console G


Console R


Console T

Order information

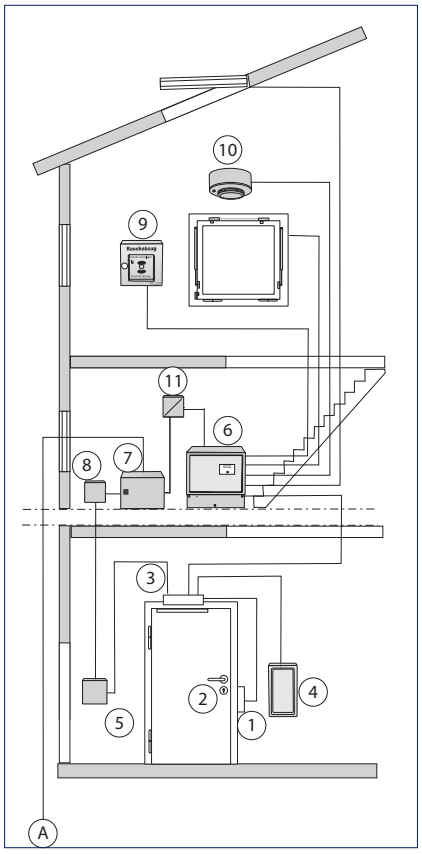
Description	Version	ID.No.
GEZE RWA K 600 G	EV1	130057
GEZE RWA K 600 G - SYNCRO	EV1	133119
GEZE RWA K 600 G double-leaf with door closing sequence selector	EV1	137447
RWA K 600 G double-leaf with door closing sequence selector - special version Can be configured: fixed/active leaf, start-up delay, cable length, status contact, colour		137448
GEZE RWA K 600 G - special version Can be configured: version master/slave, status contact, cable length, colour, opening angle, free programming	acc. to RAL	130058
GEZE RWA K 600 T	EV1	130059
GEZE RWA K 600 T - SYNCRO	EV1	133120
GEZE RWA K 600 T double-leaf with door closing sequence selector	EV1	137449
GEZE RWA K 600 T double-leaf with door closing sequence selector - special version Can be configured: fixed/active leaf, start-up delay, cable length, status contact, colour		137450
GEZE RWA K 600 T - special version Can be configured: version master/slave, status contact, cable length, colour, opening angle, free programming	acc. to RAL	130060
GEZE RWA K 600 F	EV1	130151
GEZE RWA K 600 F - SYNCRO	EV1	133221
GEZE RWA K 600 F double-leaf with door closing sequence selector	EV1	137451
GEZE RWA K 600 F double-leaf with door closing sequence selector - special version Can be configured: fixed/active leaf, start-up delay, cable length, status contact, colour		137452
GEZE RWA K 600 F - special version Can be configured: version master/slave, status contact, cable length, colour, opening angle, free programming	acc. to RAL	130152
Accessories		
Bracket G for RWA K 600	EV1	130155
	acc. to RAL	140507
Bracket R for RWA K 600	EV1	130154
	acc. to RAL	140506
Bracket T for RWA K 600	EV1	130153
	acc. to RAL	140505

GEZE fresh air RWA AUT

Automatic opening of the doors in RWA case

The system is used with automatically opening doors which in the event of an alarm and depending on their location in the building are used as fresh or exhaust air openings. In the RWA case, triggered via the emergency power control unit, the door automatically opens in a very short time. A large fresh air inlet surface is produced thanks to the large opening widths of the GEZE automatic doors. Through combination with automatic door systems, doors equipped with an RWA opening (RWA AUT door) can also be passed through extremely conveniently in everyday use. Securing the automatic door in accordance with DIN 18650 ensures convenience and safety. Combination with the GEZE emergency exit system (RWS) permits use on emergency exits.

GEZE RWA AUT



A = Mains connection

System arrangement

The system explained in the following is given as an example. Please contact GEZE for details of the options of other versions and variations.

In the lock area
1 = Emergency exit electric strike type 331
2 = Latch lock type 807-10

On the door lintel
3 = Swing door drive TSA 160 NT Invers or EMD Invers. The system can also be used for double-leaf doors.

Next to the door
4 = Elbow switch for opening the door in normal operation. Other types of actuation e.g. radar are also possible.
5 = Emergency-off switch (door opens without current)

In the building
6 = Emergency power control unit GEZE E 260 N, THZ, THZ Comfort, MBZ 300
7 = Emergency power supply USV 700 or 1000 (required if the door must not open in the event of power failure)
8 = Main switch

In the staircase
9 = RWA button FT4
10 = One or several smoke and/or heat detectors (ceiling-mounted) for automatic activation

11 = Power supply

Description of function with the FTÖ 331

Compared to swing door drive TSA 160 NT, which opens the door automatically and closes by spring force, the TSA 160 NT Invers drive inverts this function. In this case the closing action is automated, the opening takes place mechanically by means of spring force (advantage in the RWA case). I.e. the TSA 160 NT Invers opens by means of spring force in case of fire or in the event of a power failure – closed-circuit principle. It is therefore also necessary to use no-load electric strikes (or retention magnets); open circuit electric strikes would not release the door in the event of a power failure. An uninterruptible power supply (UPS) is required to prevent unwanted opening of the door in the event of a power failure (e.g. at night).

Opening the door in case of emergency
In the event of a fire button or smoke detector alarm the power supply to the drive and to the door opener is interrupted. The doors are immediately unlocked and mechanically opened to ensure reliable smoke removal. The doors remain open until the alarm is reset.

Opening the door in normal operation
The door opener is unlocked by pressing an elbow switch or other pulse generator. The spring-tensioned swing door drive opens the door mechanically by means of spring force.

Closing the door in normal operation
In normal operation the door automatically closes via the control of the swing door drive after the set hold-open time has expired.

Supply to the shut-down indicator board
The shut-down indicator board of the TSA 160 NT Invers must be supplied with an additional power supply.

Manual passing through the door
A door equipped with the TSA 160 NT Invers cannot be simply passed through manually. The door is kept closed not only by the emergency exit opener but also by the solenoid valve of the hydraulics. Since manual passing through the door does not generate an actuation signal, the drive attempts to close the door when it has been opened manually – this is comparable to the permanently open position of the (standard) TSA 160 NT, from which it cannot be closed manually.

Emergency power supply UPS
If the door must not open in the event of a power failure, the Invers must also be equipped with a UPS in addition to the additional power supply required.
Note: version with automatic swing door drive in accordance with DIN 18650.

Description of function with the motor lock IQ lock EL

The TSA 160 NT Invers can be combined with the GEZE motor lock. Since the lock operates according to the open-circuit principle, in the RWA case it is necessary to ensure that the lock is supplied with 24 V e.g. by an emergency power control unit. The GEZE motor lock IQ lock EL can only be used on single-leaf doors. The board MST212 is required in addition for the „RWA fresh air" function. If the RWA control unit is actuated in an RWA case, it forwards the signal to the lock and switches the TSA 160 NT Invers off at the same time.

Opening the door in case of emergency
The additional board MST 212 is actuated via a GEZE emergency power control unit. On the one hand, the MST 212 supplies the motor lock with voltage, on the other hand it activates the lock, which means the lock is reliably unlocked, i.e. even in the event of a power failure. The power supply to the drive TSA 160 NT Invers is interrupted via a contact on the MST 212. As soon as the lock has been unlocked the door is opened by the spring force of the drive.

Closing the door after an alarm:
After cancelling the alarm, activated RWA buttons and/or the smoke and heat detectors must be reset. If the door is closed, it is automatically locked again via the motor lock or switches to the operating mode set at the lock. The door is therefore locked again. After the alarm, the lock locks in precisely the same operating setting as the one set before the alarm (night / day / permanently open). The TSA 160 NT Invers must be reset.

Opening the door in normal operation
The GEZE IQ lock EL is unlocked by pressing an elbow switch or other pulse generator. The spring-tensioned swing door drive opens the door mechanically by means of spring force.

Closing the door in normal operation
In normal operation the door automatically closes via the control of the swing door drive after the set hold-open time has expired.
The shut-down indicator board is supplied via the power supply of the MST 212.

Manual passing through the door
The door can be opened manually by pressing the inner door handle or using a key via a cylinder.

GEZE fresh air RWA AUT with swing door drive TSA 160 NT Invers and RWS

System arrangement

Additional components for RWS control:

- Door control unit TZ 220
- Terminal box KL 220
- Additional opening contact for emergency push-button

Description of function

The shut-down indicator board of the TSA 160 NT Invers is supplied with voltage from the door control unit and in case of an emergency is disconnected from the power supply so that the door reliably opens. At the same time the fire alarm system or alarm contact of the emergency power supply control unit is connected to the door control unit. A separate power supply for supplying the shut-down indicator board is not required.
To prevent unwanted opening of the door in the event of a power failure and to secure them through the door control unit, TSA 160 Invers and door control unit must be buffered by means of an uninterruptible power supply.

Opening the door in case of emergency
If the emergency push-button of the door control unit is pressed and in the event of an alarm of a fire button or smoke detector, the TSA 160 NT Invers is disconnected from the power supply via the door control unit and at the same time the emergency door opener is unlocked. The door is immediately opened mechanically and remains open until the alarm is reset.

Closing the door after an alarm:
After an alarm has been cancelled, activated RWA buttons and / or the smoke and heat detectors and any activated emergency buttons of the door control units must be reset. In addition, the alarm must be acknowledged at the door control unit by means of a key push button.

Passing through door if RWS is locked – secured operation
By actuating the key push button of the door control unit or other release elements (card reader, external key push button) the door opens automatically, and automatically closes and locks after the short-term unlocking has expired (max. five minutes). The release elements of the TSA 160 NT Invers are not active here. If the short-term unlocking is exceeded, a pre-alarm is started, which switches to a door alarm after 3 minutes, this must be subsequently acknowledged at the door control unit using a key.

Passing through the door if RWS unlocked – unsecured operation
By activating the release elements (elbow switch, radar detector) of the TSA 160 NT Invers, the door automatically opens by means of spring force and closes after the hold-open time set at the swing door drive has expired. For security reasons, security sensors are also recommended here to secure the swivel range.

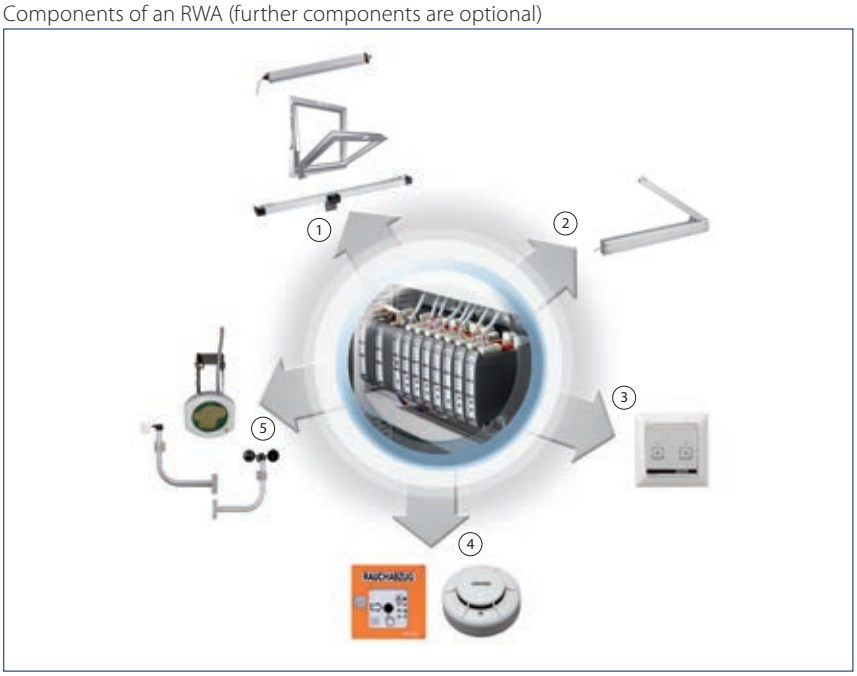
Control units

Emergency power control units make the coordinated actuation and release of fresh and exhaust air openings which are equipped with electromotive drives possible. Activation in the event of a fire is via automatic smoke detector, manual RWA switch or external alarms. By means of vent switches ,drives at the windows and smoke extraction openings can be controlled for normal ventilation. GEZE offers various types and sizes of control units, so that a suitable solution can be found for every RWA system.

GEZE emergency power control units

	THZ	THZ Comfort	E 260 N8-N32	MBZ 300 N10- N72
Output current	3.4 A	3.4 A	8-32 A	10-72A*
Alarm groups	1	1	1-2	depending on configuration 1-10*
Vent groups	1	1	1-8	depending on configuration 1-21*
Flexibility**				
* even more flexibility by linking several control units				
** parameter setting ability, ease of service				

Components of an RWA (further components are optional)



1 = Exhaust air system: e.g. spindle drive (E 250 NT), opening and locking system (RWA 100 NT), chain drive (Slimchain)
2 = Fresh air system: e.g. retractable arm drive (K 600)
3 = Ventilation signals
4 = Alarm signals
5 = Signal inputs: rain and wind control

GEZE THZ and THZ Comfort – the compact staircase control units

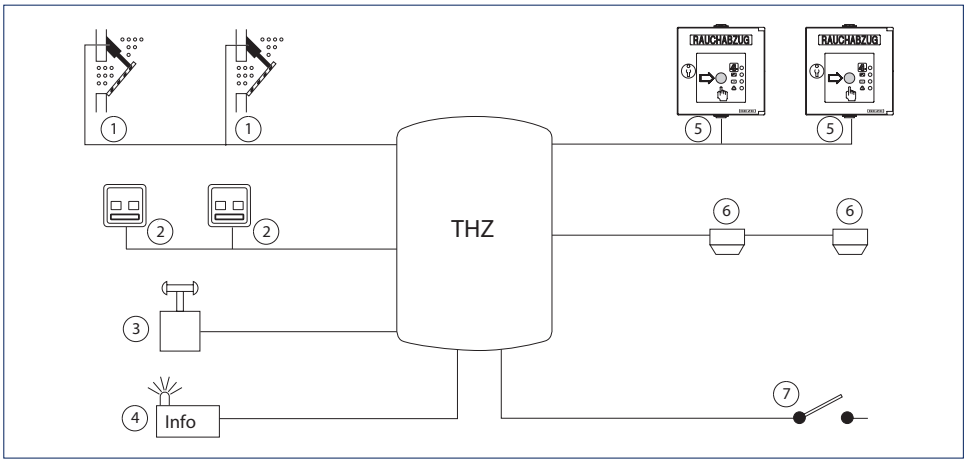
Additional safety with the RWA complete solution for staircases

The emergency power control units THZ and THZ Comfort represent compact and appealing solutions for safe smoke extraction e.g. in staircases. The control units each enable the connection of a complete smoke extraction solution, which may comprise two drives of a fresh air and exhaust air opening each with a power of 3.4 A, for example. Combined with the RWA button FT4 K, the THZ provides a low-cost solution for smaller RWAs. Attractive and extremely compact, the THZ Comfort can be installed in a space-saving, visible position even in narrow staircases. The extremely sturdy housing is made completely of metal and is suitable for use in public areas. The new integrated RWA and vent switches which no longer need separate cabling provide an extra degree of comfort. Buttons are illuminated, allowing them to be seen better and thus improving safety even further.

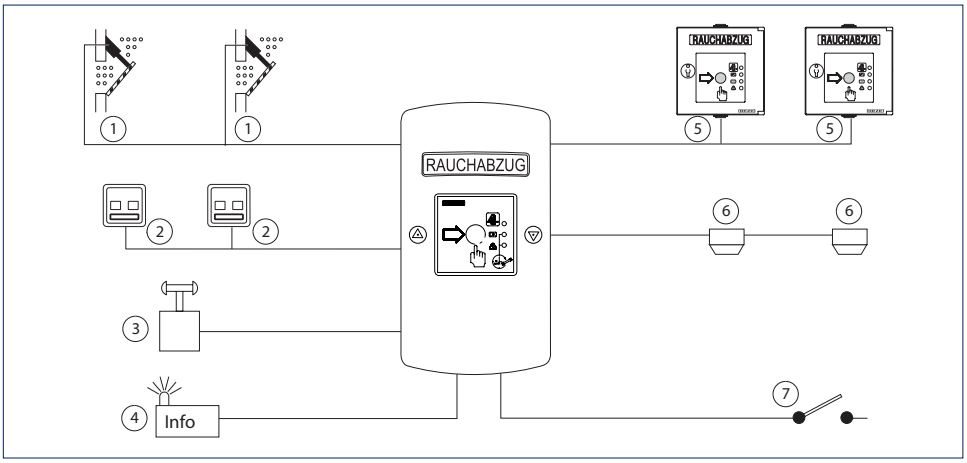
On the left: THZ, on the right: THZ Comfort

THZ connection options of the components

1 = Drives for windows and smoke flaps
2 = Vent switches
3 = Rain/wind control
4 = Alarm/fault signals
5 = RWA button
6 = Smoke detector and heat detector
7 = Alarm of external fire alarm central unit



THZ Comfort connection options of the components



Application range

- For RWA and ventilation e.g. in the staircase
- Controlling electromotive 24 V DC drives for smoke and heat extraction in the event of a fire
- Controlling of a controlled natural ventilation

General information

	THZ	THZ Comfort
Outer dimensions	193 x 285 x 89 mm	140 x 248 x 85 mm
Housing material	Plastic	Diecast aluminium
Colour	white	Lower part: grey, RAL 7035 Cover: orange, RAL 2011 or according to version (VdS approval only for the colour orange)
Type of installation	Surface, installation in visible area possible	
Cable insertion	from above, possible surface-mounting or flush-mounting	
Enclosure rating	IP 30	
Ambient temperature	-5 to 40 °C	

Electrical

		THZ	THZ Comfort
Operating voltage (primary)	Mains voltage	230 V AC ±10 %, 50…60 Hz	
	Power	100 W	
	Back-up fuse necessary on site	16 A	
	Connection cross-section for feeder	3 x 1.5 mm²	
Output voltage for drives	For mains supply	24 V DC ±5 %	
	For rechargeable battery supply	24 V DC ±15 %	
	Residual ripple	2 %	
	Minimum output voltage	-	Minimum output voltages in accordance with EN 12101-10 Tab. 5: drives 20 V / detector lines 19.5 V
Output current for drives	Total	3.4 A	
	Duty rating	20 % duty rating	30 % duty rating
	Per ventilator group	3.4 A	
Connection cross-section:	Drives	min. 1.5 mm² / max. 2.5 mm²	
Emergency power supply	Nominal capacity of the rechargeable battery	2.1 - 2.3 Ah (lead rechargeable battery)	
	Rechargeable battery voltage (charge voltage temperature-compensated)	2 x 12 V	
	Rechargeable battery connection	Flat plug	
	Duration	72 h (max.) standby operation with subsequent motor operation for 180 s (2x open / 1x close)	

Structure / variants (scheme for each control unit)

	THZ	THZ Comfort
Structure	compact	
Alarm groups	1	
Vent groups	1	

Inputs / connecting possibilities

		THZ	THZ Comfort
Alarm actuation per alarm group	Alarm line 1	8 RWA buttons	1 RWA button already integrated + 8 further RWA buttons can be connected
	Alarm line 2	10 smoke detectors / heat detectors or 1 x BMZ signal (external fire alarm system)	
	Alarm line 3	10 smoke detectors / heat detectors or 1 x BMZ signal (external fire alarm system)	
Ventilation control	Vent switch (example)	3 vent switches (LTA 24 AZ) with LED (or any number without LED connected)	1 vent switch already integrated + 3 vent switches (LTA 24 AZ) with LED (or any number without LED connected)
	Rain/wind	Sensor system (potential-free contact) can be connected without auxiliary module	
Parameter setting		Service buttons and 5 LEDs	Service buttons and 5 LEDs or ST220

Outputs / signals

		THZ	THZ Comfort
Display	on the control unit	LED display for operating, fault and maintenance signals as well as for displaying faults	
	on the control unit (visible from the outside)	-	through the integrated RWA and vent switch: displays for alarm, operation, fault and maintenance as well as window OPEN / CLOSE
Status contacts (outputs)		3 status contacts for which parameters can be set (e.g. fault, alarm, window OPEN)	
Networking of several control units		Forwarding of alarm and reset signals for linking up to 10 control units	

Other features

		THZ	THZ Comfort
Operating modes for drive supply		Standard drive or retention magnet operating mode (0.8 A)	
Safety functions	Line monitoring	Line monitoring for alarm and drive lines using line terminal resistors	
	Reaction at power failure	configurable (window OPEN, CLOSE or no reaction)	
	Reaction with faults	configurable (window OPEN, CLOSE or no reaction)	
	Vent switch	Self-locking or dead-man operation (adjustable)	
Comfort functions	Automatic ventilation control	adjustable running time, ventilation duration, automatic step control	
	Maintenance / service	adjustable maintenance timer, display of fault history possible	
	Other	-	**unique!** Background lighting of the RWA button (adjustable)
RWA functions	Direction of alarm travel	Direction of travel of the drives can be configured per alarm line	
	Smoke detector reset	Reset button in the control unit and remote resetting of smoke detectors via RWA button can be set	
	BMZ function	BMZ signal can be adjusted in dead-man or self-locking function	
	Alarm re-initiation according to VdS 2581	Deactivation possible	

Certificates/tests

THZ	THZ Comfort
TÜV-tested	TÜV-tested DIN EN 12101-10 E DIN EN 12101-9 VdS 2581 VdS 2593

Order information

Description	Version	ID.No.
GEZE THZ compact staircase control unit 3.4 A in one vent assembly and alarm assembly	white RAL 9016	139151
GEZE THZ Comfort - compact staircase control unit 3.4 A in one vent assembly and alarm assembly	white RAL 9016	140905
	blue RAL 5015	140902
	grey RAL 7035	140904
	orange RAL 2011	140900
	yellow RAL 1021	140903
	red RAL 3001	140901
	acc. to RAL	140906
Accessories		
Spare key for THZ Comfort		142113
Terminal bag for THZ		140034
Replacement glass cover		151777
Accessories bag THZ		140029
Rechargeable battery 2.3 Ah/12 V VdS suitable for THZ, THZ Comfort, E260 N4/1 and N4/2 VdS		028260

GEZE RWA emergency power control units E 260 N8 - N32

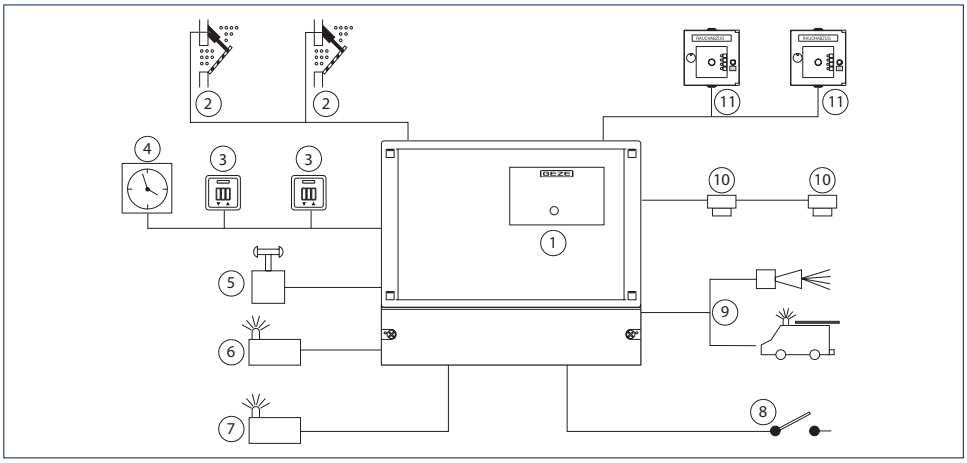
Central control units for small to medium-sized RWA solutions

The RWA emergency power control units offer tried-and-trusted control technology. The suitable control unit can be selected depending on the number of RWA openings. Alongside several vent groups, the E 260 N32 even offers the option of dividing into two alarm groups. Thus the E 260 N is the central control unit which reliably takes over the power supply to the RWA drives and coordination in the event of a fire and during normal ventilation operation. The emergency power supply guarantees 72 hours of safe function for smoke exhausts and smoke extraction in the event of a power failure. Important settings are easy to carry out via jumper or service button.

GEZE E 260 N

Connection options of the components

GEZE E 260 N



1 = RWA emergency power control unit
2 = Window and smoke vent flap drives
3 = Vent switch
4 = Timer
5 = Rain/wind control
6 = Window OPEN signal (optional)
7 = Fault signal (optional)
8 = Alarm from external fire alarm central unit
9 = Alarm signal (alarm retransmission) (optional)
10 = Smoke detector and heat detector
11 = RWA button

Application range

- Small to medium-sized RWA
- Controlling electromotive 24 V DC drives for smoke and heat extraction in the event of a fire
- Controlling of a controlled natural ventilation

GEZE CONTROL UNITS

General information

	E 260 N8/1 - N8/4	E 260 N12/2	E 260 N32/2 - N32/8
Outer dimensions	362 x 319 x 131 mm		600 x 600 x 210 mm
Housing material	Plastic		painted sheet steel
Colour	grey		painted grey (RAL 7032)
Type of installation	Surface-mounted version		
Cable insertion	from below, surface		from above, surface
Enclosure rating	IP54		
Ambient temperature	-5 to 40 °C, environment class III		

Electrical

		E 260 N8/1 - N8/4	E 260 N12/2	E 260 N32/2 - N32/8
Operating voltage (primary)	Mains voltage	230 V AC ±10 %, 50 Hz		
	Power	260 VA	480 VA	1400 VA
	Back-up fuse necessary on site	16 A		
	Connection cross-section for feeder	3 x 1.5 mm² or 3 x 2.5 mm²		
Output voltage for drives	For mains supply	24 V DC (20-30 V)		
	For rechargeable battery supply	24 V DC (20-30 V)		
	Residual ripple	20 %		
Output current for drives	Total	7.5 A	12 A	32 A
	Duty rating	With mains operation: 25 %, max. duty rating: 5 min		
	Per ventilator group	7.5 A (7.5 A in total)	12 A (12 A in total)	Vent group 1+2: max. 16 A Vent group 3-8: max. 8 A (32 A in total)
Conductor size	Drives	maximal 4.0 mm²		
Emergency power supply	Nominal capacity of the rechargeable battery	6 - 7.2 A (lead rechargeable battery)	6 - 7.2 A (lead rechargeable battery)	17 Ah (lead rechargeable battery)
	Rechargeable battery voltage (charge voltage temperature-compensated)	2 x 12 V		
	Battery connection	Flat connector		Ring cable lug MS5
	Duration	72 h (max.) standby operation with subsequent motor operation for 180 s (2x open / 1x close)		

Structure / variants (scheme for each control unit)

	E 260 N8/1 - N8/4	E 260 N12/2	E 260 N32/2 - N32/8
Structure	compact		modular
Alarm groups	1		1 - 2 (depending on type), can be retrofitted using optional board „2nd alarm group“
Vent groups	1 vent group (E 260 N8/1) 2 vent groups (E 260 N8/2) 3 vent groups (E 260 N8/3) 4 vent groups (E 260 N8/4)	1 vent group (E 260 N12/1) 2 vent groups (E 260 N12/2)	2 vent groups (E 260 N32/2) 4 vent groups (E 260 N32/4) 6 vent groups (E 260 N32/6) 8 vent groups (E 260 N32/8) (vent groups can be retrofitted)

Inputs / connecting possibilities

		E 260 N8/1 - N8/4	E 260 N12/2	E 260 N32/2 - N32/8
Alarm actuation per alarm group	Alarm line 1	10 RWA buttons		15 RWA buttons
	Alarm line 2	10 smoke detectors / heat detectors	20 smoke detectors / heat detectors	
	Alarm line 3	1x BMZ signal (external fire alarm system)		
Ventilation control	Vent switch (example)	per group: Vent switch LTA-24 (3 pcs) Vent switch LTA-230 (any number)		
	Rain/wind	Sensor system (potential-free contact) can be connected without auxiliary module		
Parameter setting		Jumper		System configuration via input buttons

Outputs / signals

		E 260 N8/1 - N8/4	E 260 N12/2	E 260 N32/2 - N32/8
Display	on the control unit	Status display via LED display		
	on the control unit (visible from the outside)	Illuminated display on the front of the housing: green: system ready for operation / yellow: fault / flashing yellow: mains power failure		-
Status contacts (outputs)		optional additional board „status contacts“: potential-free signal for alarm, fault, window OPEN		
Networking of several control units		Forwarding of alarm possible via additional board „status contacts“		optional: additional board „system connection“ of up to 30 control units

Other features

		E 260 N8/1 - N8/4	E 260 N12/2	E 260 N32/2 - N32/8
Operating modes for drive supply		Standard drive		
Safety functions	Line monitoring	Line monitoring for alarm and drive lines using line terminal resistors		
	Reaction at power failure	-		configurable (window OPEN, CLOSE or no reaction)
	Reaction with faults	-		configurable (window OPEN, CLOSE or no reaction)
	Vent switch	Latching. Dead-man operation possible using special wiring		Latching or dead-man operation (adjustable)
Comfort functions	Automatic ventilation control	-		Running time for ventilation can be set
	Maintenance / service	-		Maintenance interval display adjustable
	Other	-		Central ventilation sensor, ventilation groups can be switched in parallel
RWA functions	Direction of alarm travel	Direction of travel of the drives with alarm can be set (simple change of jumper)		Direction of travel of the drives can be configured per alarm line
	Smoke detector reset	Reset switch on the control unit		
	BMZ function	BMZ signal in self-locking function		
	Alarm re-initiation according to VdS 2581	Re-initiation always active		

Certificates/tests

E 260 N8/1 - N8/4	E 260 N12/2	E 260 N32/2 - N32/8
All E 260 N emergency power control units have been certified according to VdS and type-approved to DIN EN 12101-10.		

GEZE E 260 N - Order information

Description	Version	ID.No.
GEZE E 260 N8/1 Control of the individual components of an RWA system in a group with a maximum output power of 7.5 A	grey	100616
GEZE E 260 N8/2 Control of the individual components of an RWA system in max. two groups with a total output power of 7.5 A	grey	100617
GEZE E 260 N8/3 Control of the individual components of an RWA system in max. three groups with a total output power of 7.5 A	grey	100618
GEZE E 260 N8/4 Control of the individual components of an RWA system in max. four groups with a total output power of 7.5 A	grey	100619
GEZE E 260 N12/2 Control of the individual components of an RWA system in max. two groups with a total output power of 12 A	grey	110500
GEZE E 260 N32/2 Control of the individual components of an RWA system in max. two groups with a total output power of 32 A	grey	119629
GEZE E 260 N32/4 Control of the individual components of an RWA system in max. four groups with a total output power of 32 A	grey	119630
GEZE E 260 N32/6 Control of the individual components of an RWA system in max. six groups with a total output power of 32 A	grey	119631
GEZE E 260 N32/8 Control of the individual components of an RWA system in max. eight groups with a total output power of 32 A	grey	119632
Accessories		
System connection E 260 N32		110309
Line module for two vent assemblies E 260 N 32 VdS		110307
Status contacts for E 260 N2-N32 Status contacts for „Window OPEN“, „Alarm“, „Fault“		078111
2nd ALARM GROUP E 260 N32 - VdS		110308

GEZE RWA bus central control unit MBZ 300

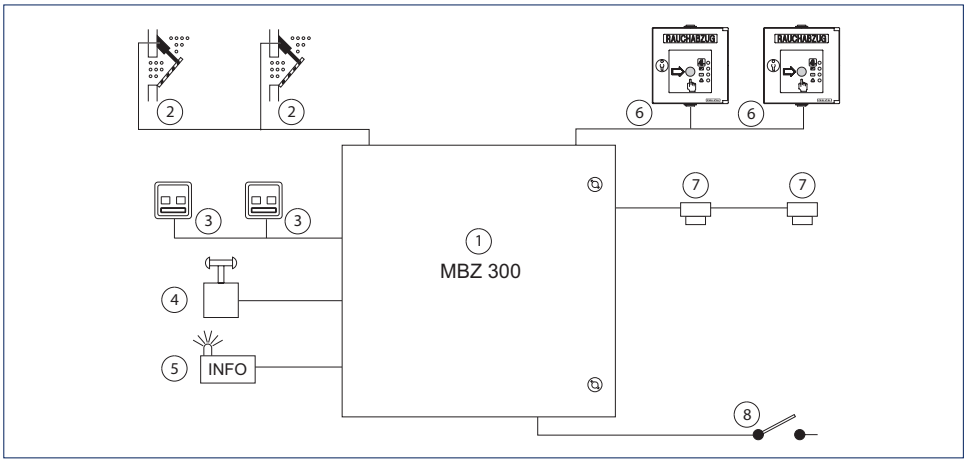
Modular bus control unit for the flexible adaptation to building-specific requirements

Due to its modular structure, the MBZ 300 can be adapted to building-specific RWA requirements and can be extended easily. The modules are simply clicked to the control unit. Alongside the usual RWA safety functions, the MBZ 300 also has an option for the wind direction dependant actuation of the smoke exhausts (SHEV) in accordance with EN 12101-2. With the MBZ 300, the drives on windows and smoke extraction openings can also be controlled for daily ventilation. Convenient ventilation settings permit individual day-to-day use. A comprehensive PC software allows configuration and control of the control unit, updates and the storage of important operating states and the service settings. The status display directly on the module makes installation and maintenance easier and allows simple functional tests to be carried out.

GEZE MBZ 300

Connection options of the components

GEZE MBZ 300



1 = RWA modular bus control unit MBZ 300
2 = Window and smoke vent flap drives
3 = Vent switch
4 = Rain/wind control
5 = Alarm/fault signals
6 = RWA button
7 = Smoke detector and heat detector
8 = Alarm from external fire alarm central unit

Application range

- Small to large and complex RWA systems
- Controlling electromotive 24 V DC drives for smoke and heat extraction in the event of a fire
- Controlling of a controlled natural ventilation

GEZE CONTROL UNITS

General information

	MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
Outer dimensions	400 x 500 x 200 mm	600 x 600 x 250 mm	600 x 600/ 800 x 250 mm	600 x 800 x 250 mm	depending on type
Housing material	Control cabinet made of painted sheet steel				
Colour	painted grey (RAL 7035)				
Type of installation	Surface-mounted version				
Cable insertion	from above, surface				
Enclosure rating	IP 30, in accordance with EN 12101-10 environment class 1				
Ambient temperature	-5 to 40°C, in accordance with EN 12101-10 environment class 1				

Electrical

		MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
Operating voltage (primary)	Mains voltage	230 V AC ±10 %, 50…60 Hz				
	Power	240 W	480 W	960 W	1440 W	depending on type
	Back-up fuse necessary on site	16 A				
	Connection cross-section for feeder	3 x 1.5 mm² or 3 x 2.5 mm²				
Output voltage for drives	For mains supply	24 V DC ±5 %				
	For rechargeable battery supply	24 V DC ±15 %				
	Residual ripple	2 %				
	Minimum output voltage	Minimum output voltages according to EN 12101-10 Tab. 5: Drives 19.3 V / detector lines 18.2 V				
Output current for drives	Total	10 A	24 A	48 A (2x 24 A)	72 A (3x 24 A)	depending on type
	Duty rating	30 % ED				
	Per ventilator group	per DM 10 A per power supply 10 A	per DM 10 A per DME 20 A per power supply 24 A			depending on type
Connection cross-section:	Drives	min. 1.5 mm² / max. 2.5 mm²				
Emergency power supply	Nominal capacity of the rechargeable battery	Standard rechargeable battery: 12 Ah	Standard rechargeable battery: 17 Ah alternatively: 24 Ah, 38 Ah	Standard rechargeable battery: 24 Ah alternatively: 38 Ah		depending on type
	Rechargeable battery voltage (charge voltage temperature-compensated)	2 x 12 V				
	Battery connection	Tab connector 6.3 mm	Ring cable lug MS5	Ring cable lug MS5	Ring cable lug MS5	depending on type
	Duration	72 h (max.) standby operation with subsequent motor operation for 180 s (2x open / 1x close)				

Structure

Internal bus system for modular equipping

- The minimum fitout consists of 1 power supply adapter, 1 power module PM, 1 control module CM and 1 drive module DM
- The maximum fitout can contain up to 64 bus modules (depending on the control cabinet) at a max. of 72 A (3 power supply adapters with 24 A each). If more power is required, several units can be configured via the software as a combined unit.

Variants

	MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
Installed power supplies	1 power supply adapter 10 A	1 power supply adapter 24 A	2 power supply adapters 24 A	3 power supply adapters 24 A	depending on type
Installed modules:					
PME	-	-	1	2	Based on the basic control units N10-N72, the number and oreder of modules can be adapted according for a specific property or project.
PM	1	1	1	1	
CM	1	1	1	1	
DM	1	3	6	9	
Space for additional modules	8	18	N48 K: 5 N48 G: 13	8	
Standard configuration	1 alarm group 1 vent group	1 alarm group 3 vent groups	1 alarm group 6 vent groups	1 alarm group 9 vent groups	

Inputs / connecting possibilities

		MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
Alarm actuation per alarm group	Alarm line 1	per CM / SM: 10 RWA buttons				
	Alarm line 2	per CM / SM: 10 smoke detectors / heat detectors or 1 x BMZ signal (external fire alarm system)				
	Alarm line 3	per CM / SM: 10 smoke detectors / heat detectors or 1 x BMZ signal (external fire alarm system)				
Ventilation control	Vent switch (example)	per DM / DME: 3 vent switches (LTA-24 AZ) with LED (or any number without LED connected)				
	Rain/wind	- Weather station (potential-free contact) can be connected to control module CM without additional module - Special rain/wind/wind direction sensors can be connected via additional weather module WM				
Other		- Further alarm group or alarm lines with additional sensor module SM - Further vent group with 10 A with additional drive module DM - Further vent group with 20 A with additional drive module DME (2 module slots) - 2 configurable signal inputs per DM				
Parameter setting		- Simple configuration of alarm groups and vent groups using module order (without PC) - Extended settings via MBZ 300 PC software (connection via USB mini)				

Outputs / signals

		MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
Display	on the control unit	- Optical operating and fault messages per module for fast localisation of faults - Direct operating level on the modules				
Status contacts (outputs)		- Potential-free message for alarm or fault on control module CM and sensor module SM - Optional additional relay module ERM with 6 potential-free status contacts for alarm, fault or window statuses				
Networking of several control units		Optional linking of 30 control units via the MBZ 300-CAN bus (additional CAN module per control unit required)				

Other features

		MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
Operating modes for drive supply		- Standard drives - Retention magnet operating mode (continuous current draw approx. 30 % of the nominal current) - Activation and supply of pressure gas generators				
Safety functions	Line monitoring	Line monitoring for alarm and drive lines using line terminal resistors				
	Reaction at power failure	Configurable (window OPEN, CLOSE or no reaction)				
	Reaction with faults	Configurable (window OPEN, CLOSE or no reaction)				
	Vent switch	Self-locking or dead-man operation (adjustable)				
Comfort functions	Automatic ventilation control	adjustable running time, ventilation duration, automatic step control				
	Maintenance / service	adjustable maintenance timer, display of fault history, log function				
	Other	building-specific settings can be made to the control unit using the MBZ 300 software (see configuration possibilities)				
RWA functions	Direction of alarm travel	Direction of travel of the drives can be configured per alarm group				
	Smoke detector reset	Reset button in the control unit and remote resetting of smoke detectors via RWA button can be set				
	BMZ function	BMZ signal can be adjusted in dead-man or self-locking function				
	Alarm re-initiation according to VdS 2581	Deactivation possible				

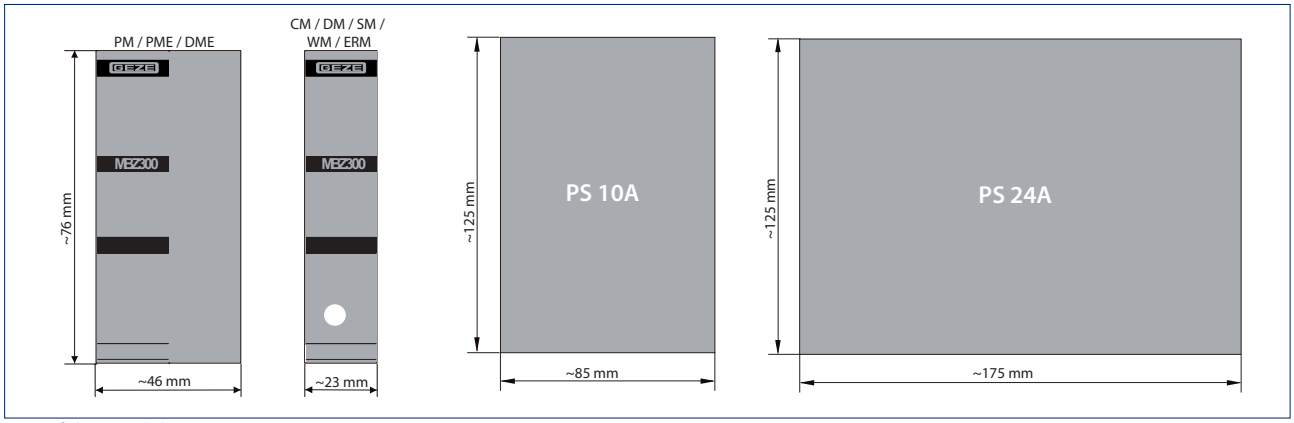
Certificates/tests

MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
		DIN EN 12101-10 E DIN EN 12101-9 VdS 2581 VdS 2593		

Modular principle of the GEZE MBZ 300

The possibility of software configuration and the comprehensive application range of the modules allow the control unit to be adapted to the individual RWA concept. The modules can be mounted on a standard top-hat rail (TS 35). After correct connection the module is recognised immediately by the internal bus and automatically integrated into the system. Faults and errors during connection are signalised through rapid flashing of the status displays or through the fault display. Fire sections and vent groups can be configured according to building requirements thanks to the modular system.

GEZE MBZ 300 modules



Size of the modules

Power supply

Power supply adapter in 10 A or 24 A for power supply

PM

Power module PM for connection of the first power supply adapter and the rechargeable battery. It controls and monitors the mains and battery voltage as well as the charging circuit and the automatic switchover of mains-battery operation.

PME

Power module extension PME for controlling and monitoring every further power supply adapter (max. 3 x 24 A power supply adapters for 72 A). It controls the automatic switchover of mains-battery operation.

CM

Control module CM

- For the connection of 3 alarm lines (manual and automatic fire alarms as well as external EMERGENCY-OPEN activation signals)
- Input central button ventilation for all vent groups
- Status contact for fault or alarm
- USB connection for MBZ 300 configuration software

DM

Drive module DM for max. 10 A drive current for connection of 24 V DC drives, push buttons and control units. Pressure-gas generators or retention magnets can be triggered or supplied by corresponding programming. Further connections:

- Two potential-free signal inputs for mapping e.g. sequence control or final position message.

DME

Drive module extension DME for max. 20 A working current (requires 2 module slots). The DME has the same features as the DM. Terminal blocks are required for the connection of the drives, so that cables with a larger cable cross section can also be connected.

SM

Sensor module SM with the same connection possibilities as control module CM. The sensor module requires a control module to be present. An input for a central ventilation button for the fire section is available.

WM and sensors

Weather module WM for operating wind and rain sensors and wind-direction-dependant opening and closing of smoke extraction units in the event of a fire. The special MBZ 300 weather sensors are used for this.

ERM

Relay module ERM with 6 potential-free changeover contacts which can indicate faults, alarm messages or ventilation signals i.e. actuation via a vent switch. The settings are made using the MBZ 300 software.

CAN

The CAN module is used for networking up to 30 MBZ 300. It is attached at the control module CM of every control unit to be networked.

Power supply 10 A


Power supply 24 A


Power module PM


Power module extension PME


Control module CM

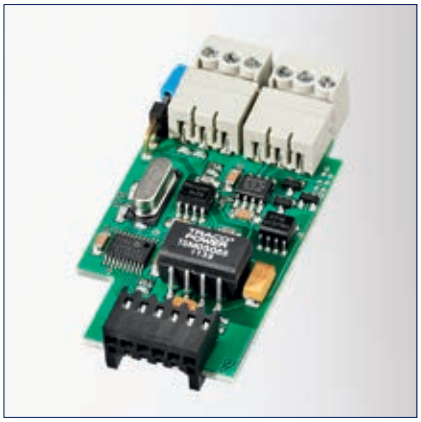

Drive module DM


Drive module extension DME


Sensor module SM


Weather module and weather sensors


Relay module ERM


CAN module

Determining the correct design (hardware)

1.) Determining the number and power requirements of the drives incl. their distribution in groups
- One drive module DM provides a max. of 10 A for the connection of drives.
- One DME provides a max. of 20 A for the connection of drives.
- At least one DM is required for each vent group.
- Depending on the output current, a corresponding number of DM is assigned to one power supply.
- The size of the control unit (MBZ 300 N10 to N72) is determined from the number of power supplies.

2.) Number of alarm groups and their actuation elements (number of RWA buttons, automatic detectors etc.)
- The first alarm group is covered by the control module CM. Sensor modules SM are required for further alarm groups.

3.) If e.g. weather sensors or other signal outputs are required, further modules must be added (WM, ERM).
- The housing size of the control unit selected is checked on the basis of the total number of modules.

The calculation program WinCalc in the GEZE partner portal provides support with the design.

Rechargeable batteries for emergency power supply

Observe the following when selecting the rechargeable batteries:
- Back-up time for emergency power operation in case of power failure
- Max. drive current
- Number and types of the modules
- Number of connected detectors

The emergency power supply has to be ensured for 72 hours and motor operation still has to be possible subsequently for 180 seconds at the maximum motor current. This is taken into account in the following examples.
If permanent consumers (retention magnet operating mode) are connected to the control unit, the rechargeable battery running time must be calculated separately.

Example for the selection of the required battery capacity with MBZ 300 standard control units:

Rechargeable battery capacity	N10	N24	N48K	N48G	N72
12 Ah	Motor current: 10 A, 1 x SM, 5 x DM, 20 x RWA button, 30 x smoke detector	-	-	-	-
17 Ah	-	Motor current: 24 A, 1 x SM, 8 x DM, 30 x RWA button, 30 x smoke detector	-	-	-
24 Ah	-	Motor current: 24 A, 4 x SM, 12 x DM, 40 x RWA button, 60 x smoke detector	Motor current: 48 A, 1 x SM, 9 x DM, 30 x RWA button, 40 x smoke detector	Motor current: 48 A, 1 x SM, 9 x DM, 30 x RWA button, 40 x smoke detector	-
38 Ah	-	Motor current: 24 A, 8 x SM, 24 x DM, 60 x RWA button, 60 x smoke detector	Motor current: 48 A, 5 x SM, 22 x DM, 60 x RWA button, 60 x smoke detector	Motor current: 48 A, 5 x SM, 22 x DM, 60 x RWA button, 60 x smoke detector	Motor current: 72 A, 3 x SM, 18 x DM, 40 x RWA button, 60 x smoke detector

- = no
The required capacity has to be calculated in the case of deviating combinations.

Dimensions of the batteries

Battery type	Nominal voltage	Capacity	Length	Width	Height	Weight	Pole type
NP 12-12	12 V	12 Ah	151 mm	98 mm	97.5 mm	4.09 kg	6.3 mm
NP 17-121	12 V	17 Ah	181 mm	76 mm	167 mm	5.97 kg	M5
NP 24-121	12 V	24 Ah	166 mm	175 mm	125 mm	8.92 kg	M5
NP 38-121	12 V	38 Ah	197 mm	165 mm	170 mm	13.93 kg	M5

The dimensions apply for 1 battery. Two rechargeable batteries are required per control unit.

Module configuration

The module sequence results in the standard settings for alarm and vent groups (hardware configuration).
The configuration can be modified by instructed qualified personnel using an optional software. Configuration is simply by means of PC via the USB connection integrated in the control module CM. A licence is required for the software.

The most important configuration possibilities (via software):

- Assigning and combining vent groups
- Self-locking or dead-man operation of the vent switches
- Priority of the ventilation control units (by default the vent switch at the control module CM has a higher priority)
- Assigning, combining and prioritising alarm groups (fire sections) (by default the drive modules DM subordinated to the control module CM or sensor module SM form one fire section)
- Connection of pressure-gas generators or retention magnets instead of drives to the drive module DM
- Mapping of sequence control with two end position evaluations (signal inputs) on the DM
- Setting for wind-direction-dependent opening and closing in case of fire
- Wind speed threshold for automatic closing during ventilation
- Storing and logging the settings during commissioning and maintenance
- Requesting stored faults and events

GEZE MBZ 300 - Order information

Description	Version	ID.No.
GEZE MBZ 300 special version complete Modular RWA emergency power control unit for the central control of individual RWA system components. Can be configured: modules and their sequence, special software, rechargeable battery etc.		137453
GEZE MBZ 300 N10 Modular RWA emergency power control unit for the central control of the individual components of an RWA system with an output power of 10 A	grey	137428
GEZE MBZ 300 N24 Modular RWA emergency power control unit for the central control of the individual components of an RWA system with an output power of 24 A	grey	137430
GEZE MBZ 300 N48K Modular RWA emergency power control unit for the central control of the individual components of an RWA system with an output power of 48 A	grey	137461
GEZE MBZ 300 N48G Modular RWA emergency power control unit for the central control of the individual components of an RWA system with an output power of 48 A	grey	137462
GEZE MBZ 300 N72 Modular RWA emergency power control unit for the central control of the individual components of an RWA system with an output power of 72 A	grey	137463
Accessories		
Rechargeable battery 12 Ah/12 V VdS suitable for MBZ 300 N10, E260 N12		020494
Rechargeable battery 17 Ah/12 V VdS suitable for MBZ 300 N24, E260 N32/2 - N32/8 VdS		111537
Rechargeable battery 24 Ah/12 V VdS suitable for MBZ 300 N24, MBZ 300 N48K, MBZ 300 N48G, E260 N32/2 - N32/8 VdS		020497
Power supply PS 10 A Power supply adapter as a basis or extension of the output current of an MBZ 300 in connection with a PM or PME		134333
Power supply PS 24 A Power supply adapter as a basis or extension of the output current of an MBZ 300 in connection with a PM or PME		134334
CM module Central control module for the RWA central control unit. For 10 RWA buttons, 10 smoke detectors, 1 fire alarm central unit input, central button for the first fire section and USB connection for the configuration software.		134316
DM module Vent group for connection of the RWA drives with 10 A switching capacity		134317
DME module Offers the same connection and setting possibilities as a DM but with the higher output power of 20 A		145790
SM module For forming a further fire section: for 10 RWA buttons, 10 smoke detectors, 1 fire alarm central unit input, central button for the fire section		134318

GEZE CONTROL UNITS

Description	Version	ID.No.
WM module For weather-dependant ventilation and wind direction-dependent control in the RWA case. In connection with weather sensors GC 401, GC 402, GC 403.		134332
ERM module 6 potential-free changeover contacts which can indicate faults, alarm signals or ventilation signals		149081
CAN module For connecting several MBZ 300 units		134319
Series terminal set For the connection of drive supply lines with larger cable diameter		150328
PME module To extend the output current in conjunction with a further power supply		134331
PM module As basic unit with charge controller in conjunction with a power supply		134320
Replacement fuses MBZ 300		137245
Replacement resistors MBZ 300, DM module		137246
Replacement resistors MBZ 300		136448
Rechargeable battery 38 Ah/12 V VdS		135694

General combination options for RWA control units E 260 N, MBZ 300 and THZ/THZ Comfort with on-site systems

RWA system combined with a shutter system

Depending on the constructional design, windows and shades may collide when both are actuated at the same time. A sequence control *) is required for this combination. This control guarantees that the windows do not open when the shades are closed and, vice versa, that the shades cannot be extended as long as the windows are opened.

The system could be configured as follows:
When the windows are opened in an alarm case the emergency power control unit sends an alarm signal to the shutter system to open it. The window drive can only start (window opens) once the on-site limit switch on the shutter system has signalised to the control that the shutter system has reached its open position. Equally, the windows cannot be opened for ventilation until the shading system has reached its open position. The situation is reversed for closing: the shutter system can only be extended after a limit switch on the window signalises to the control that the windows are closed. If no signals are sent to the window or shutter system, the shutter system remains open and the windows closed.

RWA system combined with mechanical smoke removal

Mechanical smoke removal works independently of a natural smoke extraction system. However, there are buildings which achieve smoke removal using ventilators and fresh air via natural RWA. For example, ventilators should only start up when the fresh air windows are open (to avoid partial vacuum). In this case, the RWA control unit sends a potential-free signal to the ventilators which can be delayed e.g. by a time relay. Alternatively, the limit switch contacts on the window can release the smoke removal. **)

Connection of RWA control units to a fire alarm system/building management system

GEZE RWA systems can be connected to on-site systems via potential-free contacts. ***)
Examples:
Alarm function (a fire alarm system triggers the RWA control unit)

- Fundamentally, there should always be at least one RWA button connected in addition.
- If required, smoke detectors can be connected to the RWA control unit in addition to the on-site system.
- For „ALARM OPEN“ a potential-free closer contact of the on-site system is connected to a signal line of the RWA control unit (pulse signal is sufficient, heed line monitoring and alarm resistance).
- For „CLOSE/RESET after alarm“ a potential-free closer contact is connected parallel to the „CLOSE button“ in series with the existing RWA buttons. (Pulse signal is sufficient, heed line monitoring and alarm resistance). Alternatively (except with E 260 N) automatic resetting of the alarm can be activated at the RWA control unit as soon as the signal line is at rest again. (Permanent signal necessary.)

Ventilation function (the building management system forwards ventilation signals to the RWA control unit)

- only OPEN/CLOSE without STOP: per vent group, a potential-free closer contact is connected to the vent switch input for the OPEN direction and CLOSE direction. A pulse signal is sufficient.
- OPEN/CLOSE and STOP: per vent group, a potential-free closer contact is connected to the vent switch input for the OPEN direction and CLOSE direction, and a potential-free opener contact is connected for STOP. The vent function STOP is only available with E 260 N.
- OPEN/CLOSE and STOP with dead-man function (configuration of control unit necessary): per vent group, a potential-free closer contact is connected to the vent switch input for the OPEN direction and CLOSE direction. The drives are actuated for the length of time the contact is closed and stopped when the contact is opened.

Rain/wind control (on-site weather signal)

- A potential-free closer contact is required for rain/wind control. As long as this signal is pending, the venting functions are without effect.

Feedback to the building management system
Depending on the RWA control unit used, an additional board „status contacts“ (E 260 N) or a relay module ERM (MBZ 300) incl. configuration by software can be necessary. This means the following signals are available potential-free as opener or closer contacts:

- Alarm, active after alarm has been triggered via RWA button, smoke detector or BMZ
- Fault, as a collective fault signal for all faults which can be recorded
- Window OPEN or vent signal OPEN

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*) Not a ready-made unit: depending on the RWA control unit, the requirements and the technical circumstances, different realisation options can result. (Coordination of the required potential-free contacts and shutter system control required. On-site wiring via relay may be necessary.) The reliability must be guaranteed. The system must be coordinated with the fire protection planner responsible.

**) Depending on the RWA control unit, the requirements and the technical circumstances, different realisation options can result. The reliability must be guaranteed. The system must be coordinated with the fire protection planner responsible.

***) Depending on the RWA control unit, the requirements and the technical circumstances, different realisation options can result. Individual adaptation possible through configuration (with THZ / THZ Comfort through service buttons / ST 220 or MBZ 300 via configuration software). The reliability must be guaranteed. The system must be coordinated with the fire protection planner responsible.

RWA accessories

Manual alarm actuation

GEZE RWA button FT4/24 V DC-VdS

The RWA buttons FT4 with push button locking are intended for manual alarm actuation in the event of fire. The surface-mounted housing is made of stable die-cast aluminium with a replaceable glass pane according to DIN 14655. Due to its considerably higher protection against vandalism, the housing offers clear quality advantages and is therefore particularly recommended for public buildings and facilities.

- Clearly traceable, identifiable release by engagement of the push button
- Reset button for resetting the alarm
- With LED operating state displays
- Surface installation

GEZE RWA button FT4 K

The RWA buttons FT4 K are intended for manual alarm actuation in the event of fire. The surface-mounted housing is made of sturdy plastic with a replaceable glass pane.

- Switching capacity max. 100 mA 24 V DC
- Reset button for resetting the alarm
- LED displays for: alarm, window OPEN/CLOSE, operation OK and fault

Recommended installation

- Distance of push button switch from floor 1.4 ± 20 cm
- Easily visible in staircases or corridor
- The RWA button must not be concealed by door leaves

RWA button FT 4

RWA button FT4, plastic casing

Automatic alarm actuation

GEZE smoke detector RM 1003/24 V DC-VdS:
The automatic smoke detector type 1003 with VdS approval operates according to the scattered light principle and is used for automatic triggering of the RWA in the event of fire. With VdS approval:
Dimensions: 42 mm x ø 102 mm, weight 120 g
- Air velocity in accordance with DIN EN 54 Part 7
- Operating voltage 8 V to 30 V
- Individual display with red LED
- Operating ambient temperature -20 to 60 °C

Note:
Smoke detectors should not be used if operating interference such as dust, smoke or vapour is to be expected.

GEZE heat detector WM 1005/24 V DC-VdS:
The heat detector type 1005 with VdS approval operates according to the functional principle of the semi-conductor temperature sensor. The response variables are temperature rise and temperature limit value of the ambient temperature. With VdS approval:
Dimensions: 42 mm x ø 102 mm, weight 120 g
- Operating voltage 8 V to 30 V
- Individual display with red LED
- Operating ambient temperature -20 to 60 °C

Note:
Heat detectors should not be used if rapid temperature fluctuations are to be expected due to operating conditions.


Smoke detector RM 1003


Heat differential detector WM 1005

Order information

Description	Version	ID.No.
Smoke detector RM 1003, 24 V DC with base	white RAL 9016	112877
Heat differential detector WM 1005, 24 V DC, with base	white RAL 9016	112878
RWA button FT 4, 24 V DC, VdS approved	orange RAL 2011	099561
RWA button FT 4, 24 V DC	red sim. to RAL 3000	106380
	blue RAL 5015	106381
	grey RAL 7035	106382
	yellow RAL 1021	106885
RWA button FT 4, plastic casing, 24 V DC	orange sim. to RAL 2011	136232

ACCESSORIES

Ventilation accessories

GEZE range of switches
- For flush-mounting
- IP 40

GEZE AS 500 vent switch LTA-24
- 24 V mains voltage
- Triple switch
- With function keys „open-stop-close“
- With LEDs to display „open-close“

GEZE AS 500 vent switch LTA-24-SCT
- 24 V mains voltage
- Triple switch
- With function keys „open-stop-close“
- With LEDs to display „open-close“
- Combined with key switch
- Double frame

GEZE AS 500 vent switch LTA-230
- 230 V
- Triple switch
- With function keys „open-stop-close“

GEZE AS 500 vent switch LTA-230-SCT
- 230 V
- 3 positions
- With function keys „open-stop-close“
- Combined with key push button
- Double frame

GEZE AS 500 vent switch LTA-LSA
- 230 V
- Triple switch
- With function keys „open-close“
- With optional touch or latching function

GEZE AS 500 vent switch LTA24-AZ
- 24 V mains voltage
- Double switch
- With function keys „open-close“

GEZE key push button SCT
- Supplied without profile cylinder
- Single or 2-pin version available


AS 500 vent switch LTA-24


AS 500 vent switch LTA-24-SCT


AS 500 vent switch LTA-230-SCT


AS 500 vent switch LTA-230


AS 500 vent switch LTA-LSA


AS 500 vent switch LTA-24-AZ


Key push button SCT

GEZE wireless programme

The wireless control of doors and windows using the GEZE wireless programme makes connection to a power supply superfluous. Due to the very small size of the radio modules, they can easily be integrated in the drive or in a flush-mounted box.

Examples of types of application:
- Retro-fitting without needing to lay cables and using existing switches/buttons
- Mounting without connection to power, for example, on glass
- Individual or group control of windows and doors
- Combined actuation of doors and windows using a remote control

GEZE wireless transmitter
For wireless activation of doors and windows, as multi-channel solution.
For each additional channel, another terminal can be switched by pressing a button.

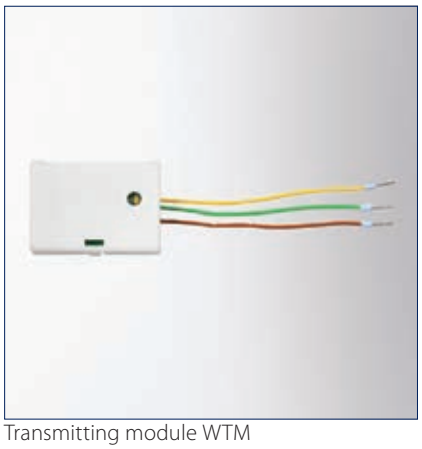
GEZE radio receiver
- Simple teach-in of the receiver with acoustic feedback
- Up to 85 radio receivers can be taught
- DIP switches for selecting operating mode of the radio receivers (pulse mode, pulse and continuous operation)
- 2 relay outputs for individual connection possibilities

Wireless programme

Wireless transmitter 1 channels

Wireless transmitter 2 channels

Wireless transmitter 3 channels


Transmitting module WTM


Transmitting module WRM

Range of switches for window technology

ID	Name	Descrip-tion	24 V supply				230 V supply		Wireless programme (24 V and 230 V)
			MBZ 300	THZ / THZ Comfort	E 260 N	direct (IQ win-dowdrives)	direct (conv. 230 V drives)	direct (IQ win-dowdrives)	
118473	LTA-24	with STOP and LEDs	-	-	●	-	-	-	-
118474	LTA-230	with STOP	-	-	●	-	●***	-	-
127176	LTA-24-SCT	with STOP and LEDs + key	-	-	●	-	-	-	-
118475	LTA-230-SCT	with STOP + key	-	-	●	-	●***	-	-
118476	LTA-LSA	Switch or push button	o**	o**	-	o** + IQ gear	● (as switch)	o ** (+ IQ gear + NT)	o **
129393	LTA-24-AZ	OPEN, CLOSE with LED	●	●	-	●* + IQ gear	-	●* (+ IQ gear + NT)	●*
117996	SCT 1-pole	Key push button SCT single-pin	in connection with another push-button						
118478	SCT 2-pole	Key push button 2-pin	○	○	-	○	○	○	○

● = Standard solution
o = Use restricted
* = Without use of LEDs
** = As a push button without stop function
*** = With self-locking module or E 212R
NT = Power supply

Order information

Description	Version	ID.No.
GEZE vent switch, convertible to vent switch LTA-LSA with rotary button for „open-close“, can alternatively be used as a vent switch	alpine white	118476
GEZE vent switch LTA-230 with function keys „open-stop-close“	alpine white	118474
GEZE vent switch combined with key push button LTA-230-SCT with function keys „open-stop-close“	alpine white	118475
GEZE vent switch LTA-24 with function keys „open-stop-close“ and LED function display (only suitable in connection with E 260 N)	alpine white	118473
GEZE vent switch LTA-24-AZ with function keys “Open-Close” and LED function display	alpine white	129393
GEZE vent switch combined with key push button LTA-24-SCT with function keys „open-stop-close“ and LED function display	alpine white	127176
Receiving module WRM-230 52 x 47 x 23 mm (W x H x D), for installation in a standard flush-mounted box		131215
Wireless transmitter, 1 channel with wall fixing and degree of protection IP 54		131209
Wireless transmitter 2 channels with wall fixing and degree of protection IP 54		131210
Wireless transmitter 4 channels with wall fixing and degree of protection IP 54		131211
Transmitting module WTM 44 x 30 x 11 mm (W x H x D), for optional integration in push button		131212

Sensors

Rain and wind control

Weather station
The weather station unit contains the rain and wind sensors. Wind measurement is carried out electrically by means of a heated ceramic wire, thereby doing away with conventional measurement by anemometer scoops. The rain is measured by the gold-plated printed conductors on the surface, which measure even the finest rain. If the rain-wind control is released, the connected vent switches are disabled and all the connected drives are activated to „CLOSE". But an alarm has precedence over the rain-wind control, i.e. in the event of an alarm, the windows will be opened even if the rain-wind control is active (the windows are not closed). The switching point of the wind speed sensor can be set between 1 and 115 m/s.

Control unit with evaluation electronics
The control includes the power supply and the potential-free switching contacts with microcontroller control of the rain-wind signals. The evaluation takes place individually or jointly. The weather station is supplied with 24 V DC/GND/signal input.

The rain-wind control can be connected to several control units without an additional relay (loop through signal). A rain-wind control unit provided on site by the customer can also be used; this requires a potential-free closer contact, also installed on site by the customer.


Rain/wind control with weather station

Visual display unit

GEZE MBZ 300 weather sensors

The weather sensors can be used for
- Automatic rain/wind control of ventilation operation
- Wind-direction dependant control for SHEVs in the RWA case in accordance with DIN 18232-2 and EN 12101-2

They are connected to the GEZE MBZ 300 weather module WM. The required values (wind thresholds, weather groups, wind directions for drive groups) are set using the MBZ 300 software.


Rain sensor GC 401 RS


Wind sensor GC 402 WVS


Wind direction sensor GC 403 WDS

ACCESSORIES

GEZE controls and weather station

Control unit	Connection	Weather station	Rain sensor GC 401 RS and wind sensor GC 402 WVS	Rain sensor GC 401 RS and wind sensor GC 402 WVS and wind direction sensor GC 403 WDS
		091529	140229	140229 + 140228
MBZ 300	Potential-free input on CM or SM	for **ventilation**	-	-
MBZ 300	On the weather module WM	Potential-free inputs for rain/wind for **ventilation** (Programming via MBZ 300 software with licence required)	with setting of maximum wind speed for **ventilation** Connection without programming possible. Pre-setting of the wind threshold: 2 m/s (Change with software in view mode to 4 m/s or 6 m/s possible). Other settings via software with licence	for **ventilation** and as wind direction dependant actuation for SHEV (in **RWA**case) (Programming via MBZ 300 software with licence required)
THZ / THZ Comfort	Potential-free input	for **ventilation**	-	-
E 260 N	Potential-free input	for **ventilation**	-	-
E 202 Z1 (230 V)	Potential-free input	for **ventilation**	-	-
230 V direct	Potential-free input	for **ventilation**	-	-

GEZE room temperature regulator E 70

The E 70 room temperature regulator is used for control in interior rooms. The temperature switching point can be individually set between 5 and 30 °C.

Room temperature regulator E 70

Order information

Description	ID.No.
GC 401 RS - rain sensor For use with the MBZ 300 weather module	140226
GC 402 WVS - wind speed sensor For use with the MBZ 300 weather module	140227
GC 401 RS + 402 WVS - wind and rain sensor set For use with the MBZ 300 weather module	140229
GC 403 WDS - wind direction sensor For use with the MBZ 300 weather module	140228
Rain/wind display module	029238
Room thermostat E 70 for dry, closed rooms Setting of two switching points	079087
Rain/wind control Comprising weather station and control unit Output: potential-free contacts for rain/wind	091529
Accessories	
Relay with base 230 V	008276
Switching protection E 204 G 230 V	021338

Power supplies

GEZE power supplies are suitable for 230 V ventilation applications with IQ windowdrives. A corresponding power supply, an IQ gear and a vent switch are required for triggering the 24 V IQ windowdrives. Depending on power requirements for the drives and their division into groups, different power supplies can be selected:

Power supplies

	GEZE POWER SUPPLY NT 4.2 A - 24 V HS	GEZE POWER SUPPLY NT 2.5 A-24 V HS	GEZE POWER SUPPLY NT 1.5 A-24 V HS	GEZE POWER SUPPLY NT 1.1 A-24 V UP
Supply voltage	230 V AC			
Power	100.8 W	60 W	36 W	26.4 W
Output voltage	24 - 29 V DC ±1 % adjustable	21.6 - 26.4 V DC ±1 % adjustable		24 V DC ±5 % fixed
Output current	4.2 A	2.5 A	1.5 A	1.1 A
Connection	Screw terminals 2.5 mm²			2 x 2 cords, 0.5 mm², approx. 90 mm long
Size (W x H x D)	100 x 93 x 56 mm	78 x 93 x 56 mm	78 x 93 x 56 mm	Diameter 54 mm, 32.5 mm high
Operating temperature	-10 to 50 °C			
Version	Top hat rail casing			Flush-mounted casing for installation in a deep flush-mounted installation box

Assignment table: Number of windows per power supply for ventilation applications

Opening system	NT 4.2	NT 2.5	NT 1.5	NT 1.1 (flush-mounted)
Slimchain SO	5	3	1	1
Slimchain SO + Power lock	3	1	1	
Slimchain SY	2	1		
Slimchain SY + Power lock	2	1		
Slimchain SY3	1	1		
Slimchain SY3 + Power lock	1	1		
Powerchain SO	3	2	1	
Powerchain SO + Power lock	3	1	1	
Powerchain SY	2	1		
Powerchain SY + Power lock	2	1		
Powerchain SY3	1			
Powerchain SY3 + Power lock	1			
E 9xx SO	4	2	1	1
E 9xx SO + E 905 + E 906	2	1		
E 9xx SY	2	1		
E 9xx SY + E 905 + E 906	1	1		
E 9xx SY3	1			
E 9xx SY3 + E 905 + E 906	1			
E 250 NT SO	5	3	1	1
E 250 NT SO, stroke 500	3	1	1	1
E 250 NT SO + Power lock	3	1	1	
E 250 NT SY	2	1		
E 250 NT SY, stroke 500	2	1		
E 250 NT SY + Power lock	2	1		
E 250 NT SY3	1	1		
E 250 NT SY3, stroke 500	1			

Note: The cable cross-section between drive and power supply is calculated using the equation „cable cross-section = cable length x total current of the drives)/73

ACCESSORIES

Power supply NT 4.2 A - 24 V HS

Power supply NT 2.5 A - 24 V HS

Power supply NT 1.5 A - 24 V HS

Power supply NT 1.1 A - 24 V UP

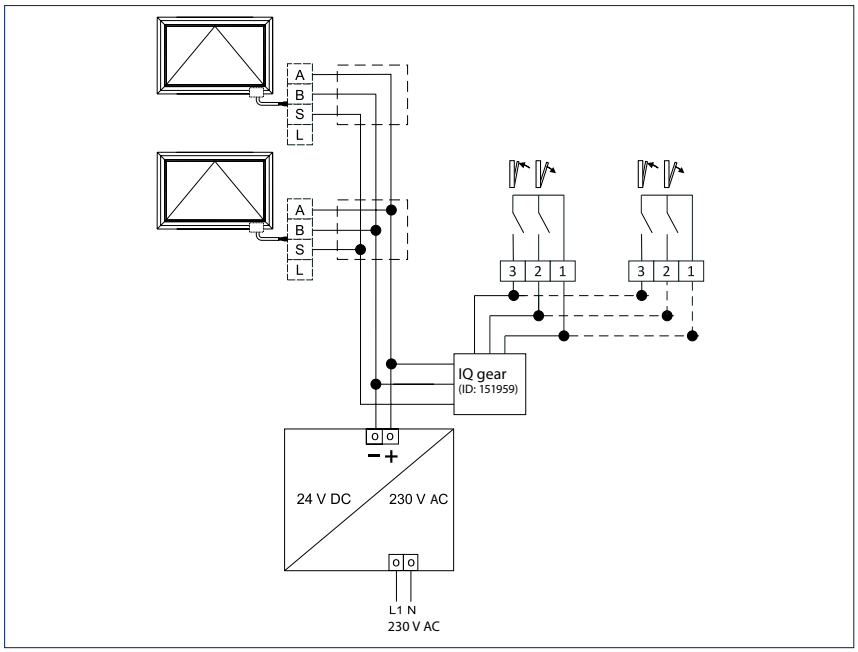
GEZE IQ gear

The IQ gear is an interface for controlling GEZE IQ windowdrives in ventilation mode in combination with power supplies and push buttons. The IQ gear converts the switching signals of the push button into an analogue voltage. This analogue voltage is evaluated by the drive actuations. The opening, closing and stop actuations are then executed depending on configuration.

Technical data

GEZE IQ gear	
Supply voltage	24 V DC (20 - 30 %)
Induced current intake	12 mA
Output signal	6 - 18 V, +-5 %, analogue voltage signal for actuating IQ windowdrives
Connection wires	0.25 mm², PVC length approx. 150 mm
Dimensions (W x H x D) [mm]	29 x 25 x 8
Operating temperature	-10 to 60 °C
Version	Board with cast

IQ gear



Components in the system

Order information

Description	ID.No.
IQ gear	151959
Power supply NT 1.1 A-24 V UP	151426
Power supply NT 1.5 A-24 V HS	151425
Power supply NT 2.5 A-24 V HS	151424
Power supply NT 4.2 A-24 V HS	151423

Marking / signalisation

GEZE signal horn

- For acoustic alarm indication
- Surface-mounted or flush-mounted installation
- Dimensions for surface-mounting (ø x H) 111 x 25.5 mm
- Dimensions for flush mounting 81 x 81 x 62.5 mm
- 26 settings for signal tone
- Signal horn 24 V DC

GEZE flashlight

- For optical alarm indication
- Surface-mounted installation
- Dimensions (ø x H) 93 x 72 mm

GEZE information labels

- Dimensions (H x B x D) 52 x 148 x 1 mm
- Plastic, not adhesive

Signal horn

Flashlight

Information labels

Order information

Description	Version	ID.No.
„Ventilation“ information label		025647
„Smoke extraction“ information label (in German language: Rauchabzug)		005158
BLE 220 flashlight AP (surface-mounting)	red	089353
SLH 220 signal horn AP (surface-mounting)	white	072112

Safety scissors

Application range: for securing and limiting the bottom-hung casement

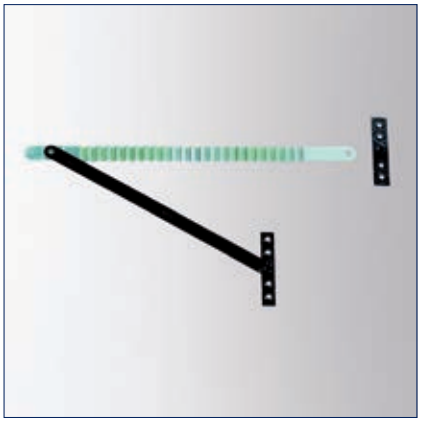
GEZE safety scissor no. 35
If installed on bottom-hung casements, for product liability reasons, installation of separate safety scissors is specified. These additional safety devices ensure permanent connection between the casement and frame, e.g. GEZE safety scissor no. 35.

GEZE safety scissor no. 60
Safety scissor as protection against falling for vertically installed bottom-hung windows made from aluminium, PVC or wood.

Note:
- Two scissors must always be installed!
- The relevant supports must be used to ensure secure fixing.
- For details of the permissible casement weights (max. 250 kg) and mounting dimensions, please refer to installation instructions no. 134433 and installation drawing 41314-EP-001

GEZE gripping and cleaning scissor stay (FPS)
In the case of bottom-hung windows, safety scissors must be used in addition to the fanlight opener. These limit the tilting movement of the casement after the opening scissor has been disengaged and prevent the casement becoming a hazard during cleaning. For this purpose, GEZE supplies the „intelligent" gripping and cleaning scissor stay (gripping position) for vertically installed bottom-hung casement rectangular windows.


Safety scissor no. 35


Safety scissor no. 60


Gripping and cleaning scissor stay (FPS)

Order information

Description	Version	ID.No.
GEZE safety scissor no. 35	galvanised	014499
GEZE safety scissor no. 60	galvanised	133814
GEZE gripping and cleaning scissor stay (FPS) FPS 340 Size 1	galvanised	030249
GEZE gripping and cleaning scissor stay (FPS) FPS 520 Size 2	galvanised	030250
GEZE gripping and cleaning scissor stay (FPS) FPS 720 Size 3	galvanised	030251
Accessories		
Fixing plates for gripping and cleaning scissor stay For light alloy windows (mounting fittings for casement and frame)		030252
Fixing plates for gripping and cleaning scissor stay for plastic windows (mounting fittings for casement with Euro groove and frame)	white	030253
	galvanised	070182
Frame shims for gripping and cleaning scissor stay for plastic windows	3 mm	029334
	5 mm	029335

Description	Version	ID.No.
Frame shims for gripping and cleaning scissor stay for plastic windows with inclined rebate		030383
Casement shims for gripping and cleaning scissor stay	4 mm	009324
	5 mm	009325
	7 mm	013305
	8 mm	025635
	9 mm	009321
Frame shims for gripping and cleaning scissor stay for light alloy windows	3 mm	009326
	5 mm	009328
Stop gauges for gripping and cleaning scissor stay (FPS)		024741
Frame or casement shim	7 mm	135013
	8 mm	135012
	9 mm	135011
	5 mm	135014
Casement shim		135015
Frame shim	5 mm	135016
	3 mm	135017
	5 mm	135019
	3 mm	135018
Frame shim for inclined rebate		135020

GEZE E 990 and GEZE E 905 with safety scissor

Synchronising units

GEZE synchronising unit 230 V
This synchronising unit is suitable for all GEZE electric drives with 230 V.

GEZE synchronising unit 24 V
This synchronising unit is suitable for all GEZE electric drives with max. 24 V and 2 A.

GEZE synchronising unit E 212 R1
This synchronising unit is suitable for GEZE electric linear drives E 212 R1 and the scissor drive E 170.

GEZE commissioning case
The commissioning case has been designed especially for the simple and fast commissioning and parameter setting of the IQ windowdrives.
Product features:

- Compact stand-alone solution in a handy case
- Integrated rechargeable batteries for simple commissioning of the drives even without on-site current connection
- 230 V connection for charging and permanent operation
- Alarm and ventilation mode for early „approval" of automated windows on site
- Connection possibility for the service terminal ST 220 for simple parameter setting for the IQ windowdrives
- Maximum output current of 5.5 A makes the commissioning of Syncro sets with several drives possible
- Ammeter for diagnosis
- Can also be used for 24 V drives without LIN bus


Synchronising unit 230 V


Synchronising unit 24 V


Synchronising unit E 212 R1


Commissioning case

	Description	ID.No.
	Synchronising unit for GEZE electric drives with 24 V	111198
	Synchronising unit for GEZE electric drives with 230 V	054371
	Synchronising unit for GEZE electric drive E 212 R1 230 V	026762
	Commissioning case GEZE IQ windowdrives	142586
	Accessories	
	Connection cable ST 220 mini DIN	142581
	Service Terminal ST 220 Parameter setting and diagnosis for TZ 320, TE 220, automatic sliding and swing door systems from DCU software V3.0 and IQ windowdrives, battery operation with 4xAA cells (not supplied by GEZE), plain text display on illuminated panel, keypad for operation	087261

GEZE WinCalc

The calculation programme for window technology

With the calculation program WinCalc, GEZE provides an additional service tool. WinCalc „completes" the complicated calculations relating to the system design for a window, and makes it easy for processors and planners to find the ideal drive solution for a window. Saves time, is user-friendly and convenient. Automatic calculations and dimensioning, the option of simply comparing results and the clear presentation of results and parts lists all make it easier to handle GEZE window technology products. It is possible make calculations for manual and electrically operated ventilation and smoke dissipation windows, as well as for SHEVs. When it comes to the SHEV calculations, all of the relevant window components and combinations, which have been tested by GEZE in line with EN 12101-2, are stored in the program. The only thing that WinCalc requires the user to do is to enter the dimensions of the desired window. The program completes all calculations, such as drive load and opening areas, and provides all applicable drive solutions.

With the help of the control unit configuration, it is also possible to ascertain an appropriate RWA emergency power control unit for a specific window list. The composition of the control unit (type of control, any MBZ 300 modules, alarm and vent groups, drive connections) is put together automatically. The complete RWA can be shown with the accessories selected. An interface to the GEZE system shop allows simple inquiries and ordering of the components calculated from the drive solution to RWA control unit. WinCalc can be found on the GEZE partner portal.

GEZE WinCalc

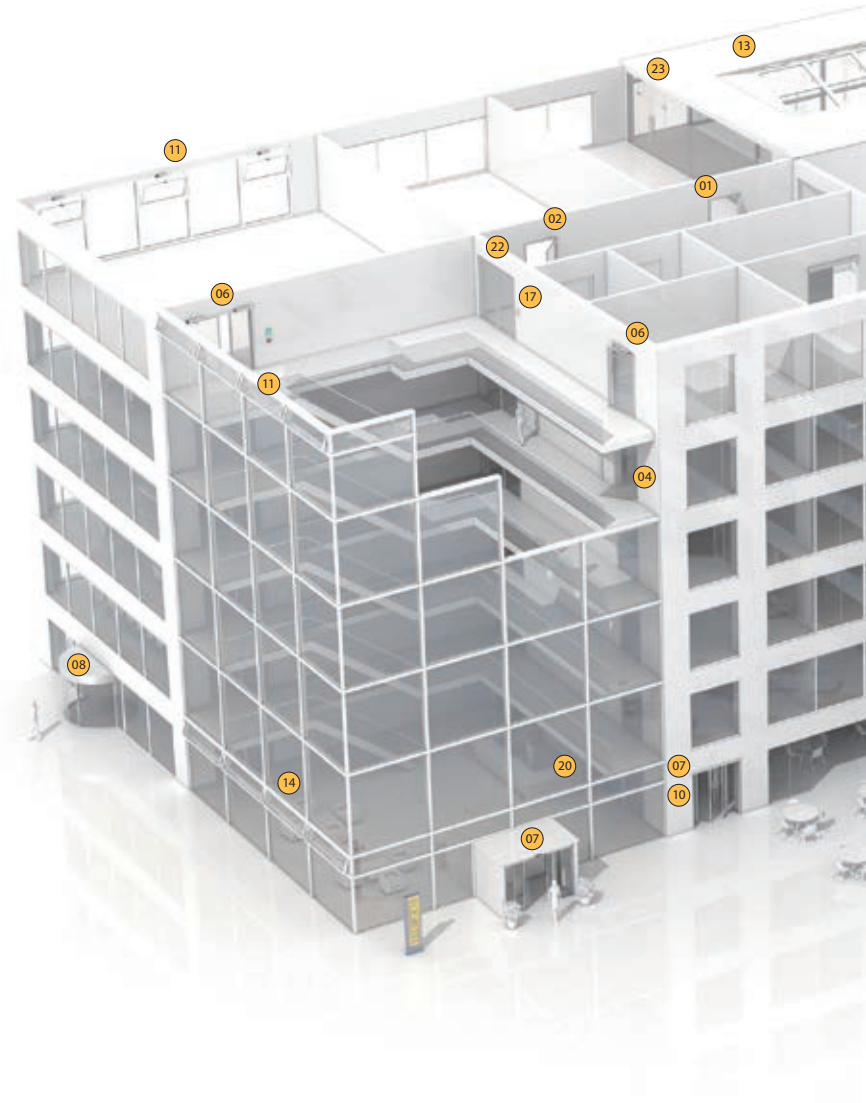
Servicing and maintenance

Professional maintenance and care of the products delivered and installed is essential to secure useful life and value long-term, as well as to avoid personal and property damage. This requires regular checks, servicing and maybe repairs to all the elements in the system. The details in the log book must be heeded.

POTENTIAL APPLICATIONS OF GEZE PRODUCTS

You will find more product information in the relevant brochures, see ID numbers.

Door technology	
01	Overhead door closers ID 091593, ID 091594
02	Hold-open systems ID 091593, ID 091594
03	Integrated door closers ID 091609
04	Floor springs ID 091607
05	Sliding door gear systems and linear guides ID 123605, ID 008770, ID 000586
Automatic door systems	
06	Swing doors ID 144785
07	Sliding, telescopic and folding doors ID 143639
08	Circular and semi-circular sliding doors ID 135772
09	Revolving doors ID 132050
10	Actuation devices and sensors ID 142655
Smoke and heat extraction and window technology	
11	Fanlight opening systems ID 127787
12	Electric opening and locking systems ID 154851
13	Electrical spindle and linear drives ID 154851
14	Electric chain drives ID 154851
15	Smoke and heat extraction systems ID 154851
Safety technology	
16	Emergency exit systems ID 132408
17	Access control systems ID 132158
18	Panic locks ID 132848
19	Electric strikes ID 148666
20	Building management system ID 132408
Glass systems	
21	Manual sliding wall systems (MSW) ID 104377
22	Integrated all-glass systems (IGG) ID 104366
23	GEZE Patch fittings mono glass systems ID 122521



POTENTIAL APPLICATIONS OF GEZE PRODUCTS

Door technology

The functionality, superior performance and reliability of GEZE door closers are impressive. A common design across the range, the ability to use them on all common door leaf widths and weights, and the fact that they can be individually adjusted makes their selection simple. They are continually being improved and enhanced with up-to-date features. For example, the requirements of fire protection and accessibility are fulfilled with a door closer system.

Automatic door systems

GEZE automatic door systems open up a huge variety of options in door design. The latest, innovative high-performance drive technology, safety, ease of accessibility and first class universal drive design set them apart. GEZE offers complete solutions for individual requirements. A dedicated division is responsible for the development and construction of individual special designs.

Smoke and heat extraction and window technology

GEZE smoke and heat extraction systems and ventilation technology provide complete systems solutions combining the many requirements of different types of windows. We supply a full range from energy efficient drive systems to natural ventilation and complete solutions for supplying and extracting air, also as certified SHEVs.

Safety technology

GEZE safety technology sets the standards where preventative fire protection, access control and anti-theft security in emergency exits are concerned. For each of these objectives GEZE offers tailored solutions, which combine the individual safety requirements in one intelligent system and close doors and windows in case of danger in a coordinated manner.

Building systems

In GEZE's Building Management System GEZE door, window and safety products can be integrated in to the security and control systems of the building. A central control and visualisation system monitors various automation components in the building and offers security through many different networking capabilities.

Glass systems

GEZE glass systems stand for open and transparent interior design. They can either blend discreetly into the architecture of the building or stand out as an accentuated feature. GEZE offers a wide variety of technologies for functional, reliable and aesthetic sliding wall or sliding door systems providing security with lots of design scope.

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