GEZE ELECTRIC RWA AND VENTILATION SYSTEMS

SAFETY WITH AIR-MOVING POWER

CONTENTS

GEZE window technology

Safety with air-moving power

When it comes to opening and closing windows, GEZE offers solutions for a wide range of different application cases. The complete solutions by GEZE combine a wide range of different requirements related to windows. The varied products on offer cover drive systems for daily ventilation, complete fresh and exhaust air solutions for safe and quick natural smoke exhaust in the event of a fire – also as SHEVs – and intelligent RWA control units. GEZE also offers a complete range of door systems as RWA fresh air openings.

GEZE 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						Electro-magnetic	Scissor drives	Fresh air systems		
	ECchain	**E 740**	**Slimchain**	**Powerchain**	**E 250 NT**	**E 350 N**	**E 1500 N**	**E 1500 S**	**E 3000**	**Power lock** [1]	**E 905/E 906**	**RWA 100 NT**	**OL 350 EN**	**RWA 105 NT**	**OL 370 EN**	**RWA 110 NT**	**OL 360 EN**	**RWA-EM**	**E 170 , E 170/2**	**RWA TÖ**	**RWA K 600**	**RWA AUT**
Area of application																						
Natural ventilation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•	
Smoke and heat extraction system (RWA)			•	•	•	•[2]	•	•	•	•	•	•		•		•		•	•[2]	•	•	•
Natural smoke and heat exhaust ventilator (SHEV)			•	•	•	•[2]		•	•	•	•	•		•		•					•	
Function																						
Exhaust air (as smoke vent (SHEV) or smoke dissipation)			•	•	•		•	•	•	•	•	•		•		•		•	•[2]			
Fresh air			•	•	•		•			•	•	•		•		•		•	•[2]	•	•	•
Application location																						
Façade	•	•	•	•	•		•			•	•	•	•	•	•	•	•	•	•		•	
Roof		•		•	•		•	•	•												•[5]	
Door																				•	•	•
Casement types																						
Bottom-hung casement	•	•	•	•	•		•			•	•	•	•	•	•	•	•	•	•	•	•	
Side-hung casement	•	•	•	•	•		•			•	•	•	•	•	•	•	•	•			•	
Top-hung casement	•	•	•	•	•		•			•	•	•	•	•	•	•	•	•			•	
Horizontally pivot-hung casement		•		•						•	•											
Vertically pivot-hung casement		•		•						•	•											
Skylight casement		•		•	•		•	•	•												•	
Louvre window					•																	
Type of opening																						
Inward-opening	•	•	•	•	•		•			•	•	•	•	•	•			•	•	•	•	•
Outward-opening	•	•	•	•	•		•	•	•							•	•	•		•	•	•
Installation options																						
Frame	•	•	•	•	•		•	•	•	•		•				•		•	•	•	•	•
Leaf		•	•	•	•		•			•				•				•		•	•	
Integrated			•[6]								•											
Opening width [mm] / Opening angle [°]	200	100	300	600	100		300	300	300	22[7]	18[7]	58°		75°		56°			170		90°	
	400	200	500	800	150		400	400	500													
		300	800	1200	200		500	500	750													
		400			230			600	1000													
					300			750														
					500			1000														
					750			1200														
					1000																	
Connection to RWA control units																						
THZ			•	•	•		•			•	•	•		•		•		•[4]	•[2]	•	•	•[3]
THZ Comfort			•	•	•		•			•	•	•		•		•		•[4]	•[2]	•	•	•[3]
E 260 N			•	•	•		•	•	•	•	•	•		•		•			•[2]	•[5]	•	•[3]
MBZ 300			•	•	•		•	•	•	•	•	•		•		•		•[4]	•[2]	•	•	•[3]
Use for ventilation 230 V																						
with power supply and IQ gear			•	•	•					•	•	•		•		•						
Page	11	18	28	42	53	60	63	69	72	76	80	83	87	90	95	98	102	107	112	119	122	135

[1] As as system solution for Slimchain, Powerchain and E 250 NT
[2] Only 24 V version
[3] No supply - only potential-free alarm contact
[4] Operating mode: "hold-open magnet"
[5] Depending on the application case
[6] Special variant, planned separately, depends on profile
[7] Locking stroke

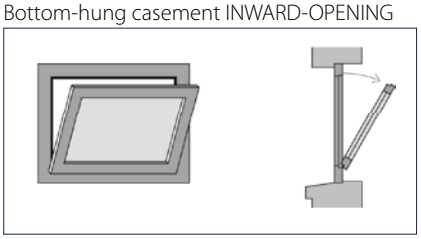
Overview of window types

Areas of use on different window shapes and types of casement

Overview of window types

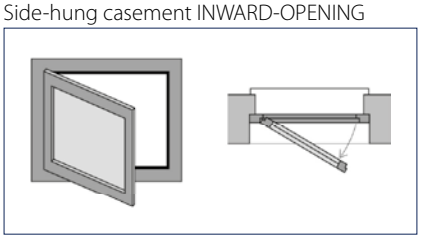
A wide range of different window shapes and casement types are used in exterior walls:

Bottom-hung casement INWARD-OPENING



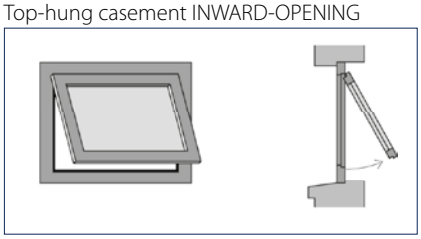
1 = ECchain, E 740, Slimchain, Powerchain
2 = E 250 NT, E 350 N, E 1500
3 = Power lock, E 905 / E 906
4 = RWA 100 NT, OL 350 EN
5 = E 170
6 = RWA K 600

Side-hung casement INWARD-OPENING



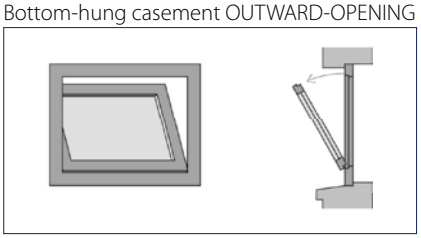
1 = ECchain, E 740, Slimchain, Powerchain
2 = E 250 NT, E 350 N, E 1500
3 = Power lock, E 905 / E 906
4 = RWA 100 NT, RWA 105 NT, OL 350 EN, OL 370 EN

Top-hung casement INWARD-OPENING



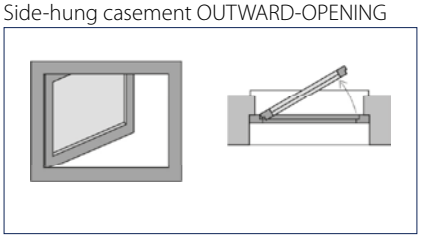
1 = E 740, Slimchain, Powerchain
2 = E 250 NT, E 350 N, E 1500
3 = Power lock
4 = RWA 100 NT / OL 350 EN
5 = RWA K 600

Bottom-hung casement OUTWARD-OPENING



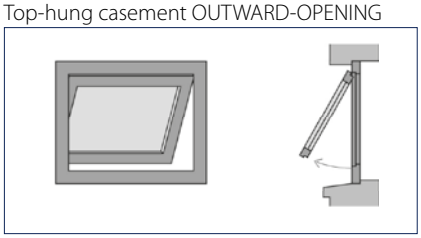
1 = E 740, Slimchain, Powerchain
2 = E 250 NT, E 350 N, E 1500
3 = RWA 110 NT / OL 360 EN
4 = RWA K 600

Side-hung casement OUTWARD-OPENING



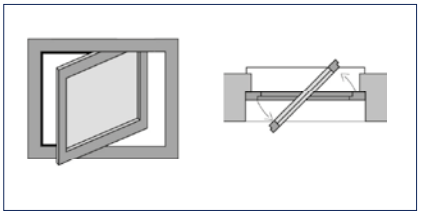
1 = ECchain, E 740, Slimchain, Powerchain
2 = E 250 NT, E 350 N, E 1500
3 = RWA 110 NT / OL 360 EN
4 = RWA K 600

Top-hung casement OUTWARD-OPENING



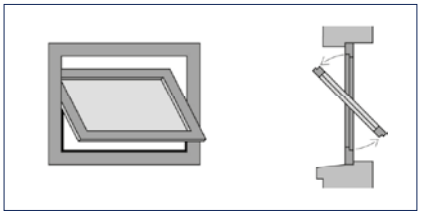
1 = ECchain, E 740, Slimchain, Powerchain
2 = E 250 NT, E 350 N, E 1500
3 = RWA 110 NT / OL 360 EN
4 = RWA K 600

Vertically pivot-hung casement INWARD-OPENING to the left



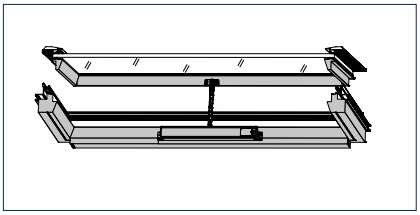
1 = E 740, Powerchain
2 = Power lock
3 = RWA K 600
(special windows on request)

Horizontally pivot-hung casement INWARD-OPENING at the bottom



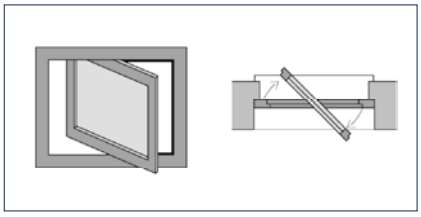
1 = E 740, Powerchain
2 = Power lock
3 = RWA K 600

Skylight casement OUTWARD-OPENING



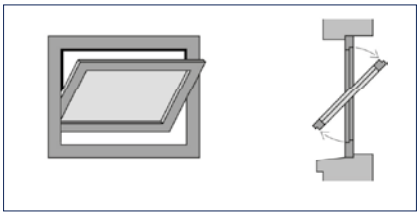
1 = E 740, Powerchain
2 = E 250 NT, E 350 N, E 1500, E 3000
3 = RWA K 600

Vertically pivot-hung casement INWARD-OPENING to the right



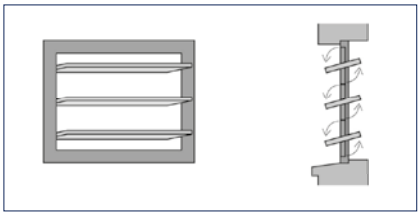
1 = E 740, Powerchain
2 = Power lock
3 = RWA K 600

Horizontally pivot-hung casement OUTWARD OPENING at the bottom



1 = E 740, Powerchain
2 = RWA K 600

Louvre window



1 = 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 combustion 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 completely with toxic smoke gases within a very short time. The risk for people trying to escape and for 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 smoke 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 the worst case.

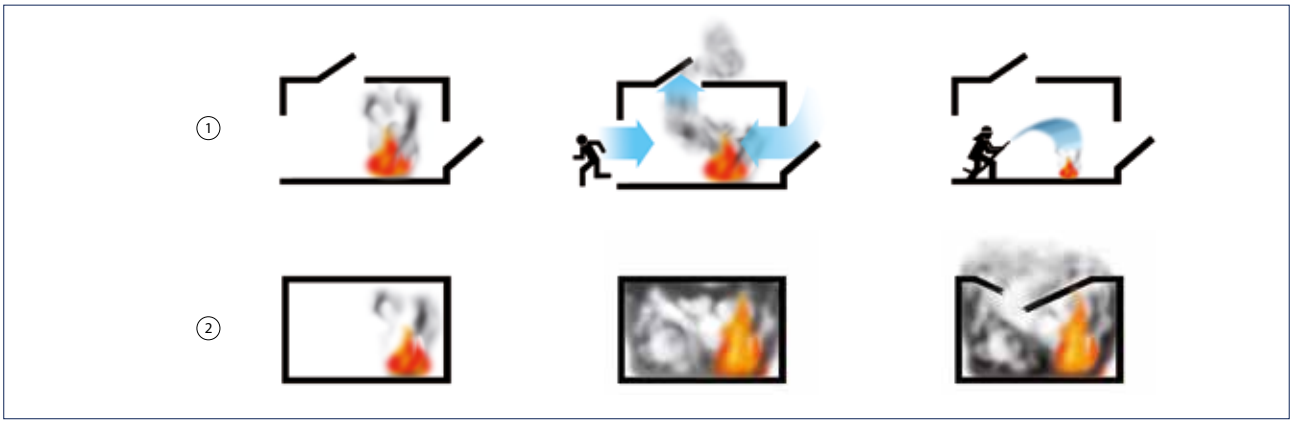
Conservation of the property structure is thus a major task for the RWA. This way people can escape from the building through their own efforts, and the rescue services can carry out active rescue – evacuation of the building – for longer.

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. Protection of property: 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 then escape through these openings even as they occur. The necessary fresh air openings in the lower part of the building assist this process by compensating 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. The requirements on an RWA are defined in the fire protection concept.

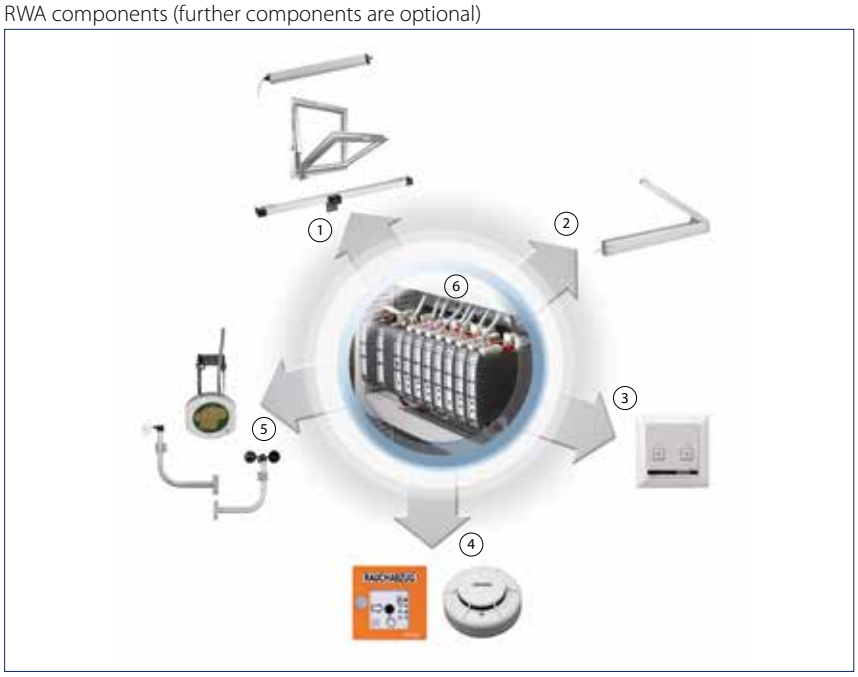
RWA components

A GEZE RWA system is used for the daily ventilation of rooms and also for smoke removal in the event of a fire (smoke dissipation or smoke exhaust). 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), activation via an external fire detector system (BMA) or manual activation (RWA button). Natural smoke and heat exhaust ventilation (SHEV) can be activated 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 the automatic activation of ventilation, contacts from temperature or CO_2 sensors can be connected. There are several comfort ventilation functions available.

If the building regulations, fire protection concept or building authorities require a natural smoke and heat exhaust ventilator (SHEV), special regulations apply for its planning, design and production.

SHEV
It is used to conduct smoke and hot gases out of a structure in the event of fire. In compliance 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 supplies drives which have been tested and certified in accordance with EN 12101 Part 2 in SHEV. This gives customers the possibility of putting together GEZE SHEV as system clients and assigning them the required CE marking. See SHEV system documents for further information.

RWA components (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:
- "Access for all": the electric 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 system is used, the drives used 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 230 V 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

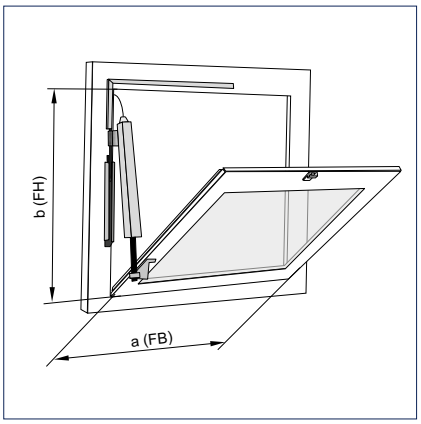
The right drive can be selected and the required accessories identified in just a few steps.

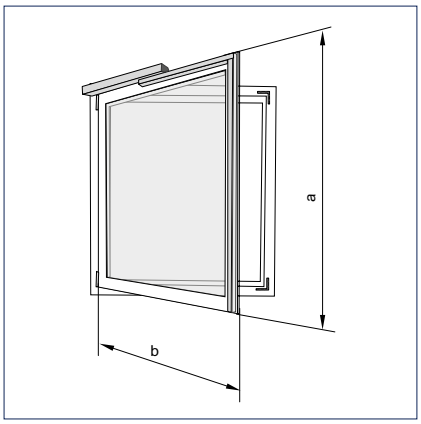
1. Overview table
The possible areas of application for each of the GEZE window drives are listed here.

2. Product features and areas of application
The most important product features, technical data and areas of application of each drive are described in detail on the next few pages. Tables, installation drawings, charts 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) HSK main closing edge (termed casement width for bottom-hung windows and as casement height for side-hung windows)
b) NSK secondary closing edge (termed casement height for bottom-hung windows and casement width for side-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 chain drive type ECchain.

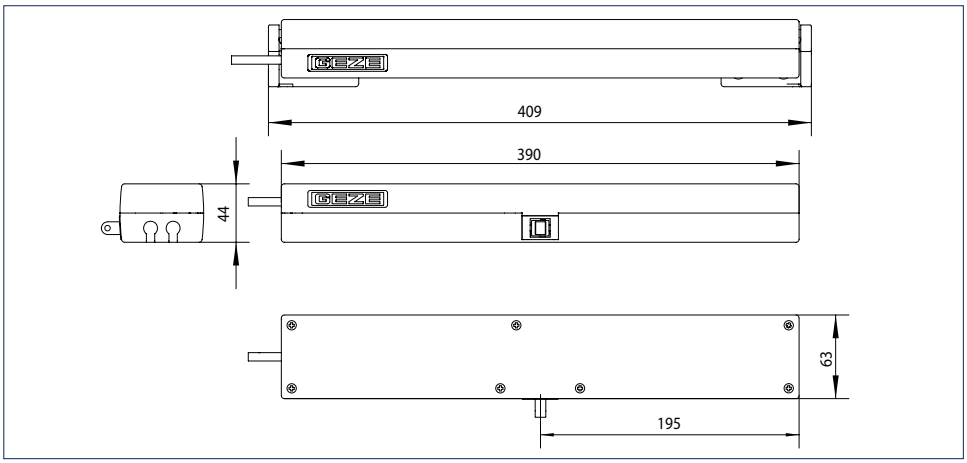
Power-driven windows
The use of electromechanical drives makes a window a "power-driven window" in the sense of the Machinery Directive. Depending on their installation situation, control or use, these drives can be the source of specific hazards, particularly mechanical. The GEZE safety analysis must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

GEZE chain drive ECchain

Simple automation options 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 leaf 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 matched to existing window profiles. The ECchain can be installed quickly and easily.

GEZE ECchain



Area of application

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

TECHNICAL DATA

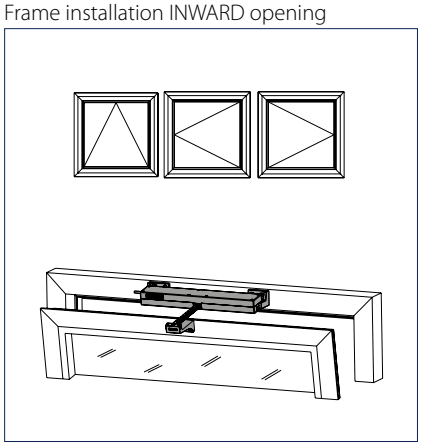
Product features		GEZE ECchain
General information		
Length		with console 409 mm, without console 390 mm
Height		44 mm
Depth		63 mm
Space requirement on frame (min.)		Frame installation inward-opening: 55 mm, Frame installation outward-opening: 35 mm
Space requirement on leaf (min.)		Frame installation inward-opening: 37 mm, Frame installation outward-opening: 20 mm
Specification		
Possible stroke lengths		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
Holding force (max.)		1800 N
Leaf weight (max.)		200 kg *)
Overlap range		10-23 mm
Electrical data		
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
IP rating / protection rating		IP 30 / II
Functions		
End position cut-off extended		Limit switch
End position cut-off retracted		electric, electronic via current consumption
Overload cut-off		●
Types of installation		
Bottom-hung window	inward-opening	Frame
Side-hung window	inward-opening	Frame
	outward-opening	Frame
Top-hung window	outward-opening	Frame

● = YES

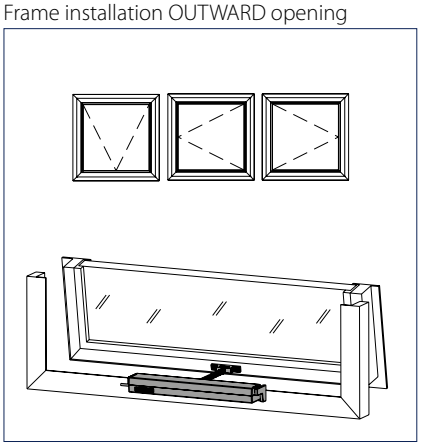
*) The overall weight is limited by the hinges and depends on the details provided by the profile system manufacturer

TYPES OF INSTALLATION

Frame installation INWARD opening

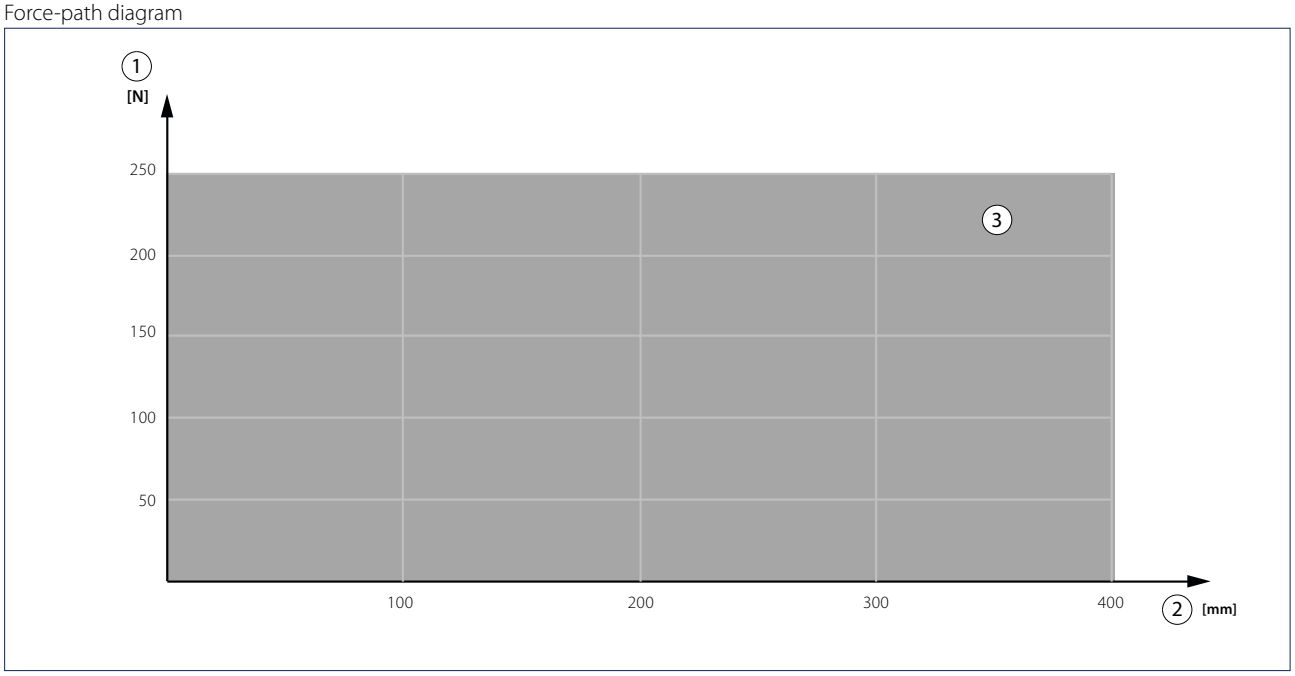


Frame installation OUTWARD opening



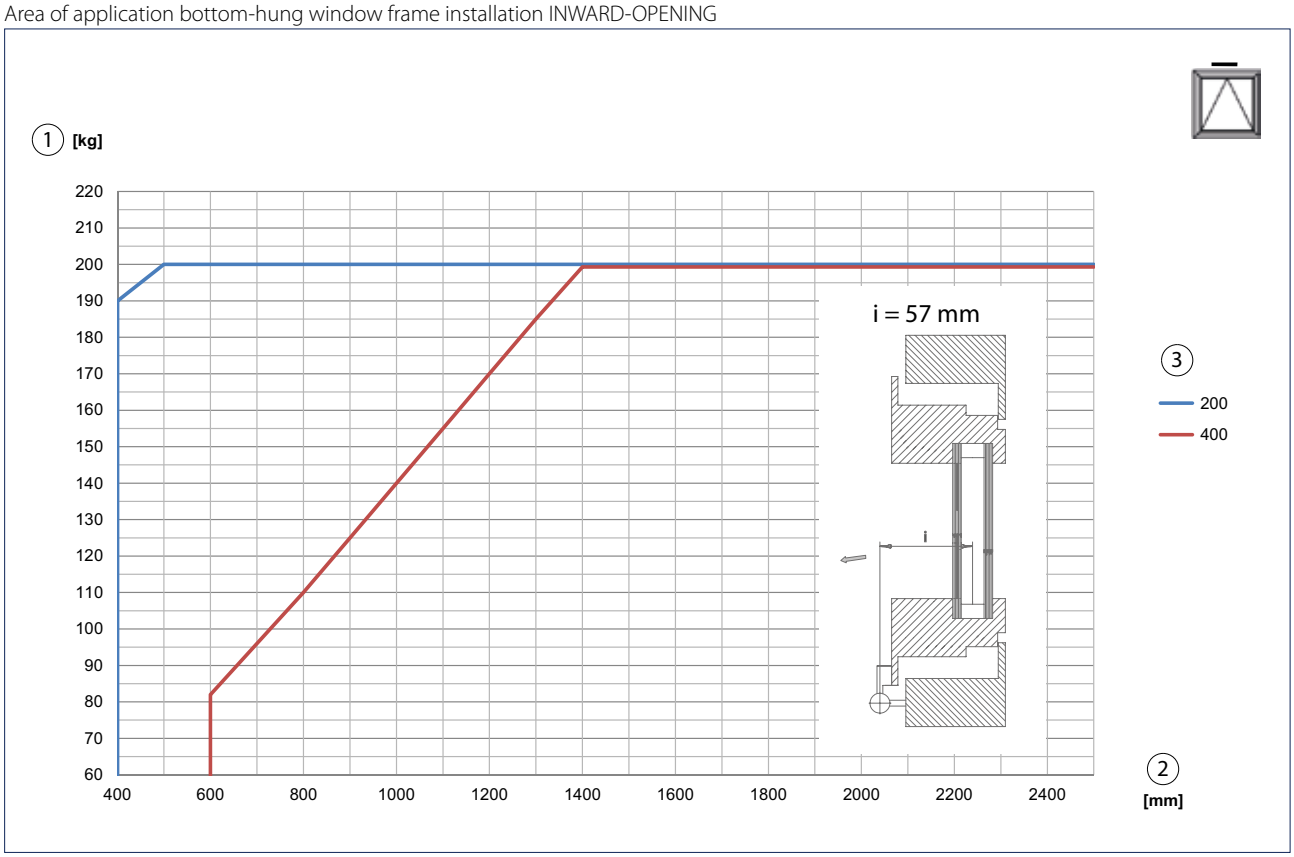
FORCE-PATH DIAGRAM

Force-path diagram



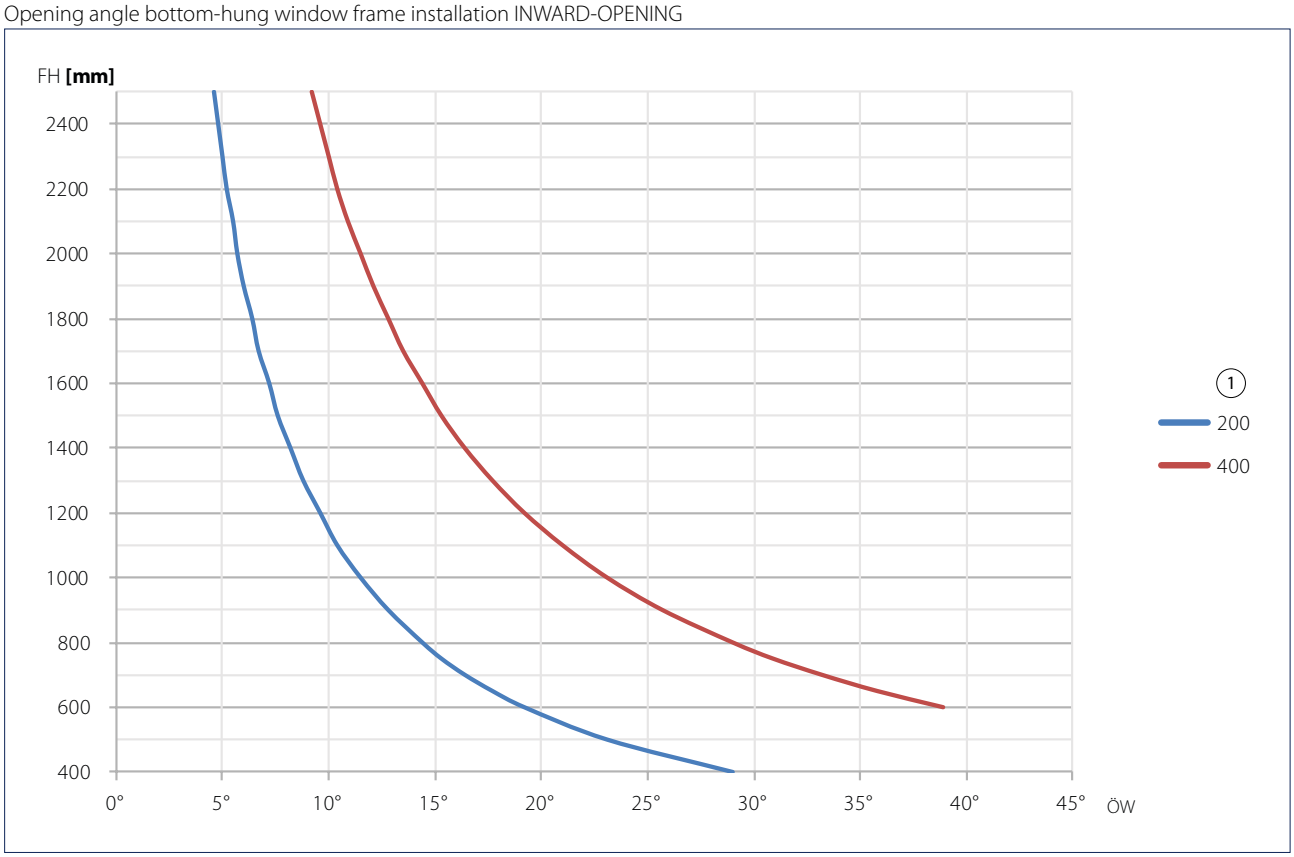
1 = Force
2 = Stroke
3 = Pull / pressure

Area of application bottom-hung window frame installation INWARD-OPENING



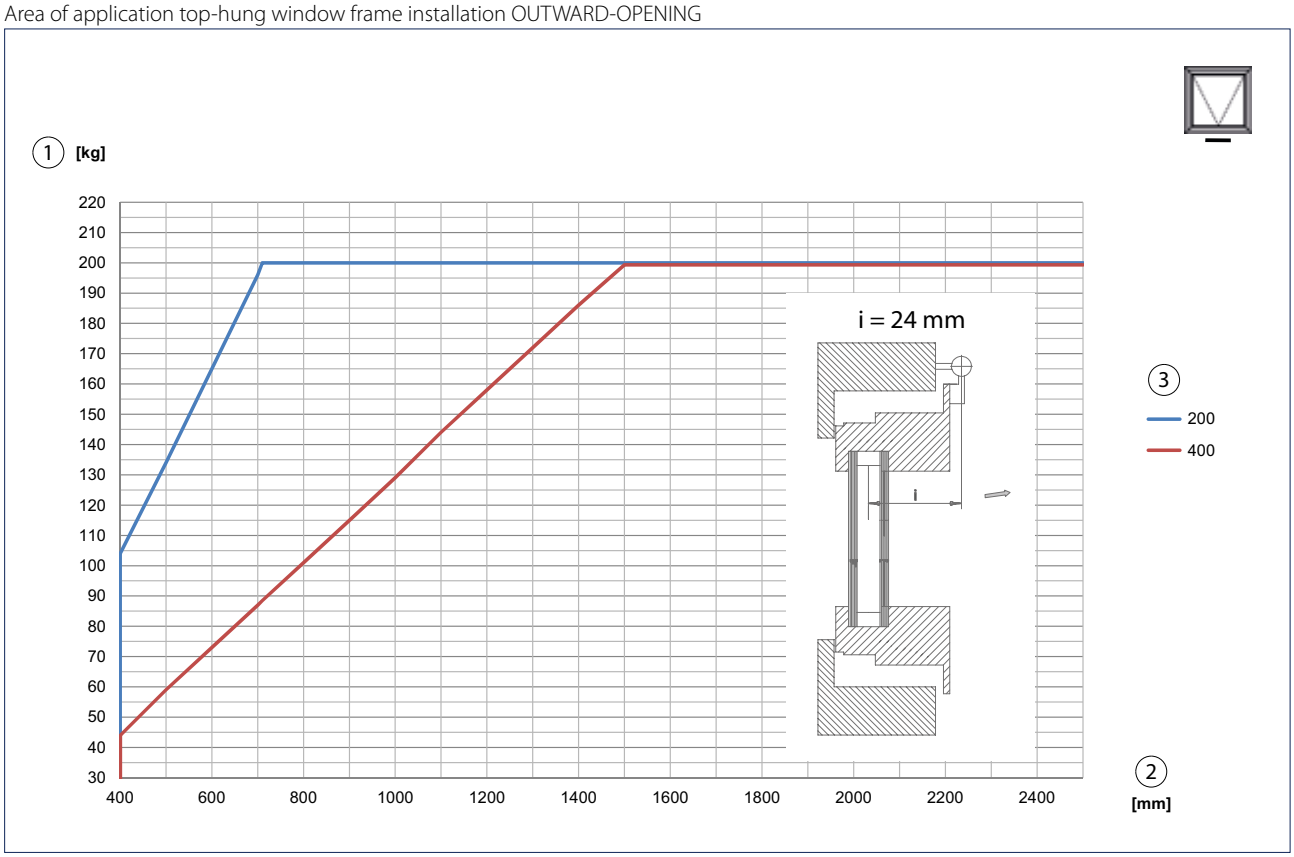
1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

Opening angle bottom-hung window frame installation INWARD-OPENING



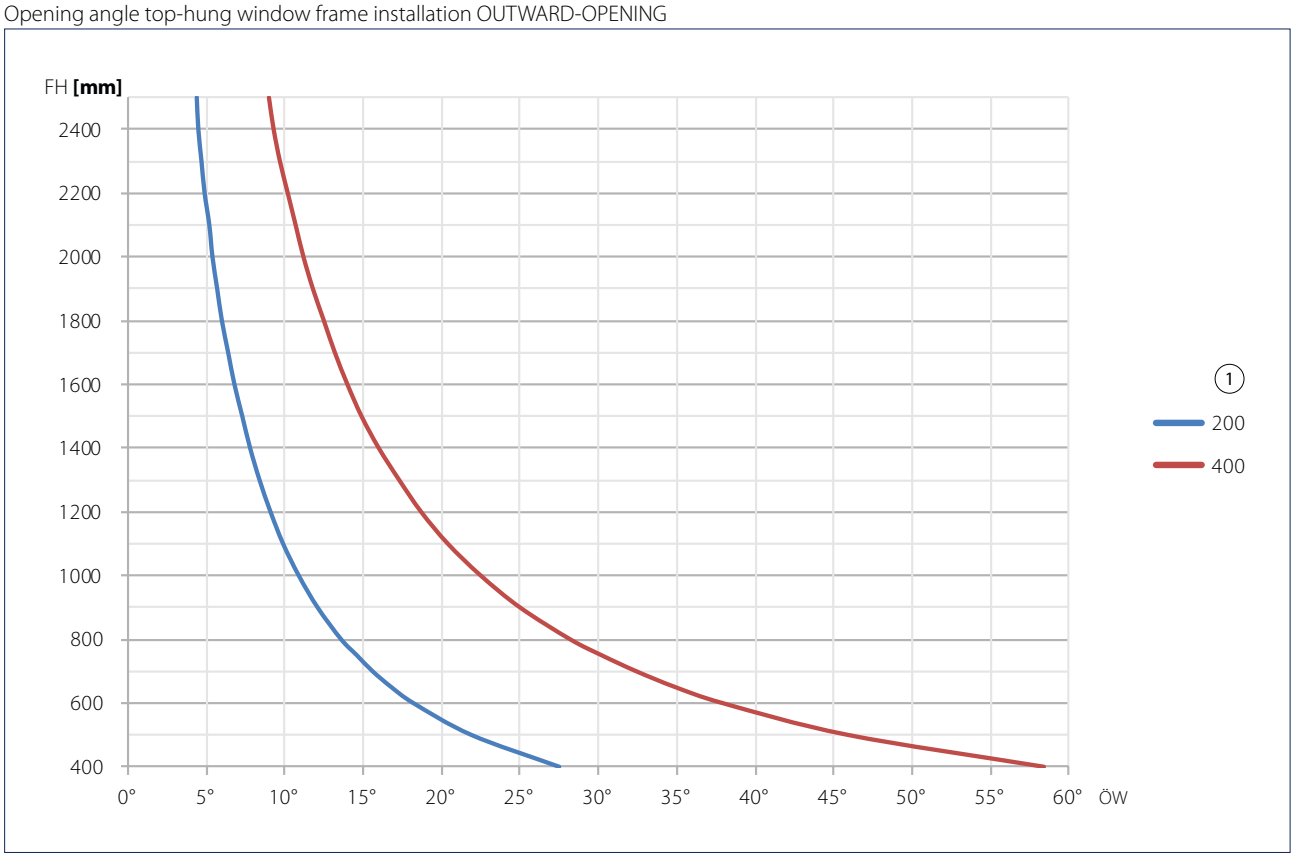
FH = Leaf height
ÖW = Opening angle
1 = Stroke

Area of application top-hung window frame installation OUTWARD-OPENING



1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

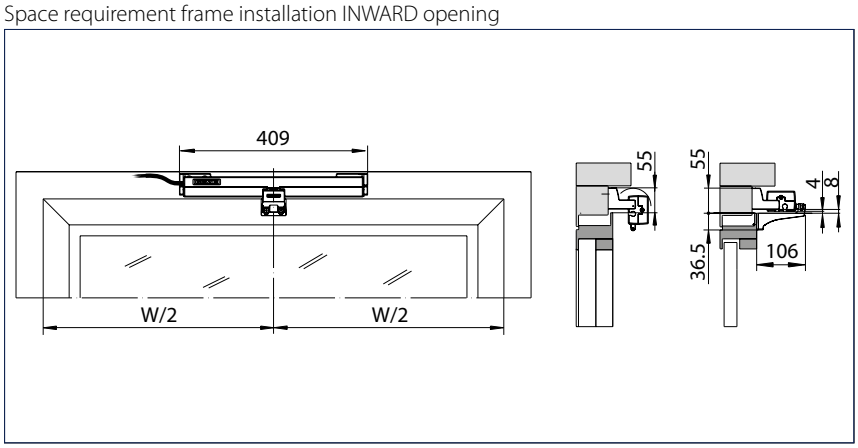
Opening angle top-hung window frame installation OUTWARD-OPENING



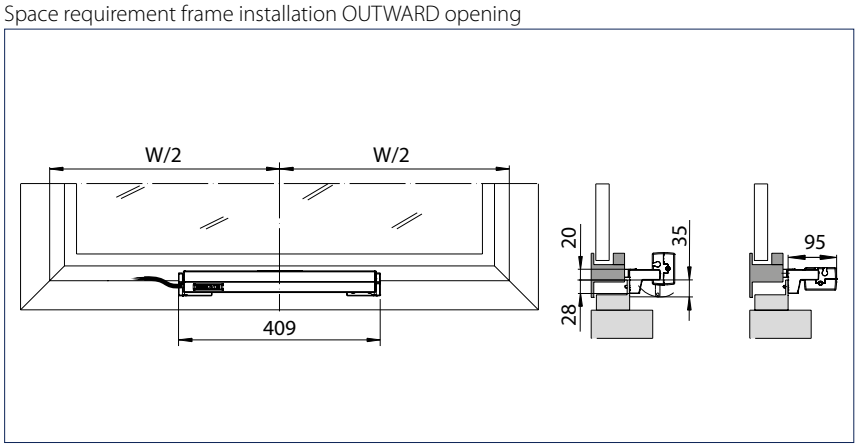
FH = Leaf height
ÖW = Opening angle
1 = Stroke

SPACE REQUIREMENT

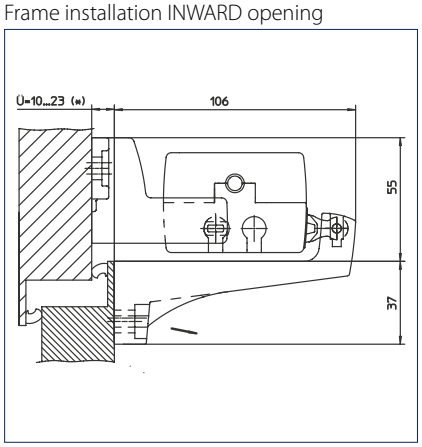
Space requirement frame installation INWARD opening



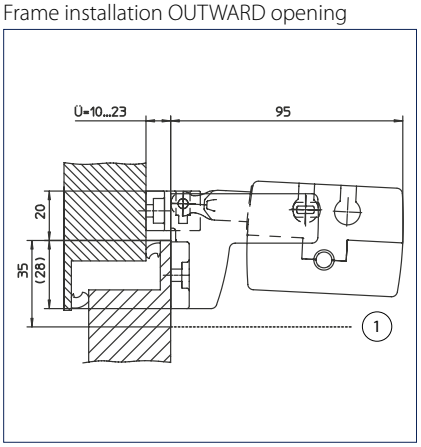
Space requirement frame installation OUTWARD opening



Frame installation INWARD opening



Frame installation OUTWARD opening



Note: The space requirement for the drive depends on the type of installation.
Ü = Overlap range
1 = Swivelling range

ORDER INFORMATION

Designation	Version	ID no.
GEZE ECchain including console for inward and outward opening	white	148260
	black	148258
	grey	148259

GEZE ECchain with safety scissors

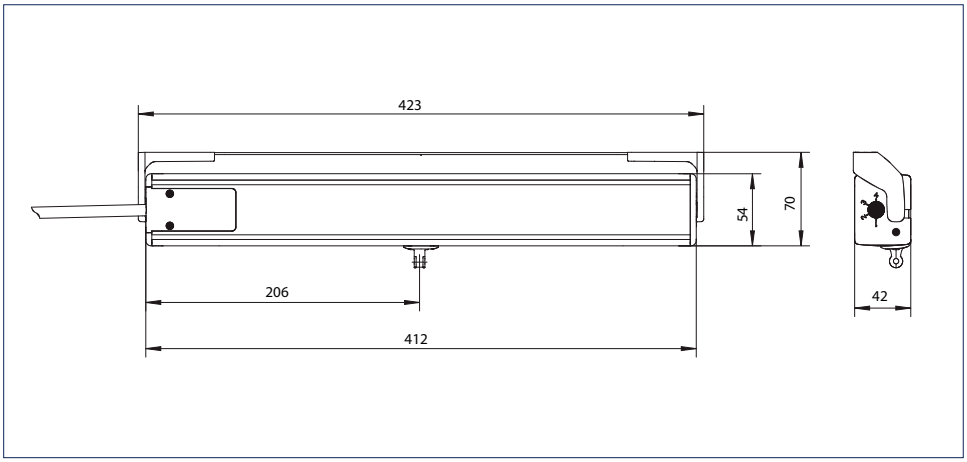
GEZE E 740

GEZE chain drive E 740

Automation option for ventilation operation

The chain drive E 740 can be used for the electric motor-driven opening and closing of bottom-hung, top-hung and side-hung casements, inward and outward opening, roof windows and skylight domes. The impressive features of the drive include its elegant aluminium housing and suitability for daily ventilation.
The high level of operating convenience is achieved through variable stroke adjustment via a rotary switch on the outside of the drive as well as by simple and fast installation from the front. The E 740 is available as a Solo version – for single use – and as a Synchro version – for the synchronised multiple use of up to four drives.

GEZE E 740



Area of application

- Straightforward automation for ventilation in the window and the façade area
- Bottom-hung, side-hung, top-hung and skylight windows
- Inward-opening and outward-opening casements
- Synchronisation of up to 4 drives
- Can be used on timber, plastic and aluminium profile systems
- Leaf and frame installation

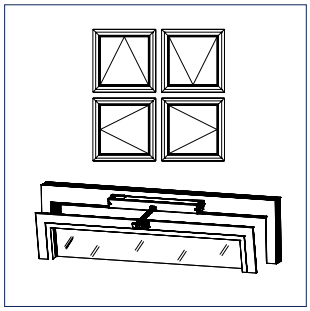
TECHNICAL DATA

Product features		GEZE E 740
General information		
Length		423 mm incl. console
Height		42 mm
Depth		54 mm
Specification		
Possible stroke lengths		100 mm, 200 mm, 300 mm, 400 mm
Opening speed ventilation		7 mm/s
Closing speed		7 mm/s
Tensile force (max.)		300 N
Force of pressure (max.)		250 N
Holding force (max.)		1800 N
Leaf weight (max.)		150 kg *)
Overlap range		8 - 25 mm
Electrical data		
Operating voltage		230 V +/- 10 %
Current consumption		0.13 A
Power consumption (max.)		30 W
Duty rating		30 %
Length of power supply cable		2 m
Cable dimensions		3 x 0.75 mm^2 / Syncro 5 x 0.75 mm^2
Temperature range		-5 to +70 °C
IP rating/protection rating		IP 42 / II
Functions		
Stroke length settable		Rotary switch on the drive
Syncro		●
Additional locking device available		●
End position cut-off extended		Internal path sensor
End position cut-off retracted		Current consumption
Overload cut-off		●
Types of installation		
Bottom-hung window	inward-opening	Frame/leaf
	outward-opening	Frame
Side-hung window	inward-opening	Frame/leaf
	outward-opening	Frame
Top-hung window	inward-opening	Frame/leaf
	outward-opening	Frame
Skylight window	outward-opening	Frame

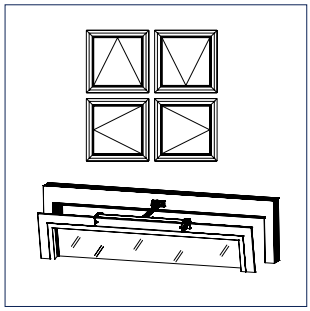
● = YES
The overall weight is limited by the hinges and depends on the details provided by the profile system manufacturer

TYPES OF INSTALLATION

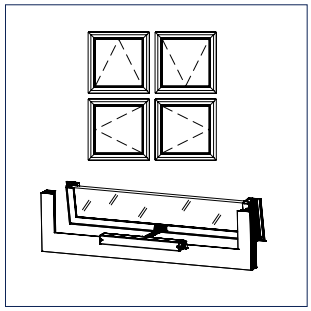
Frame installation INWARD opening



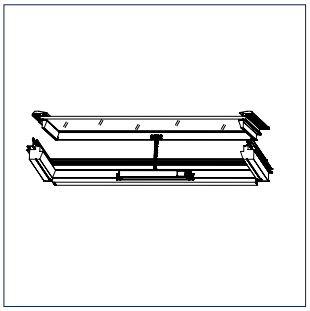
Leaf installation INWARD opening



Frame installation OUTWARD opening

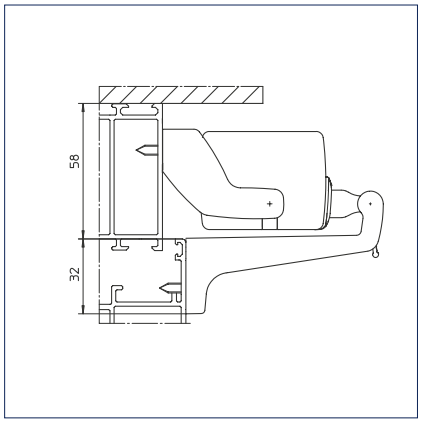


Skylight casement OUTWARD opening

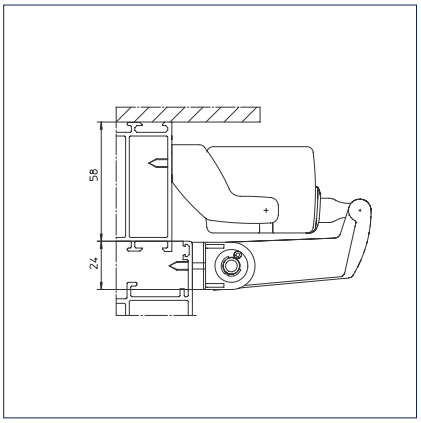


TYPES OF INSTALLATION

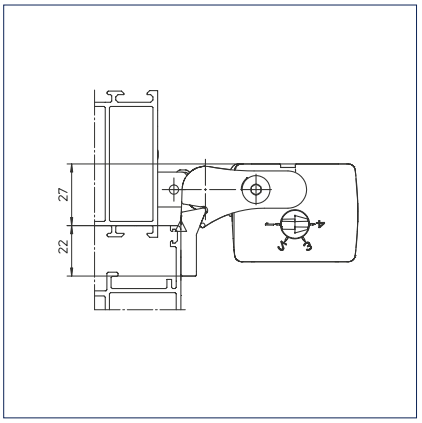
Frame installation INWARD opening



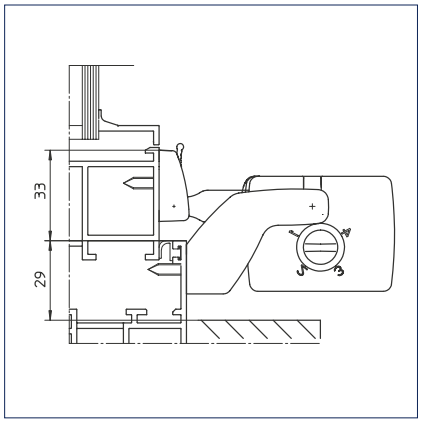
Frame installation INWARD opening with swivel console



Leaf installation INWARD opening

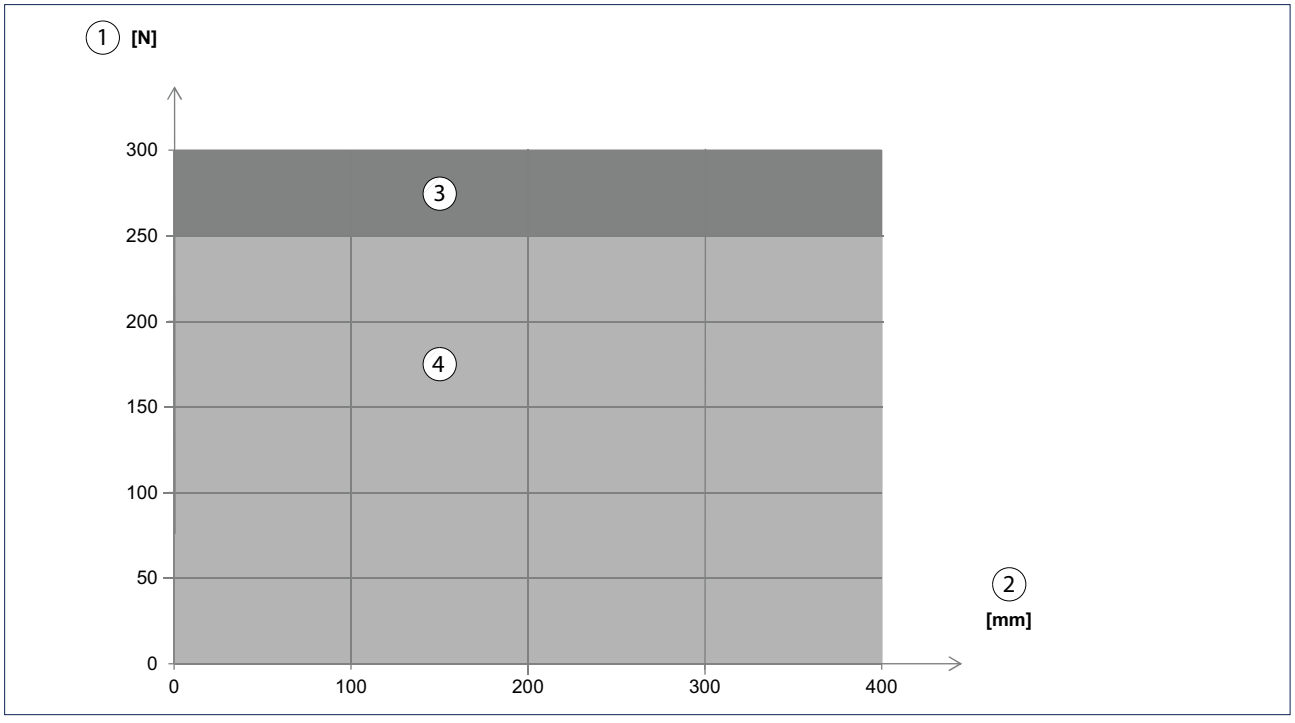


Frame installation OUTWARD opening



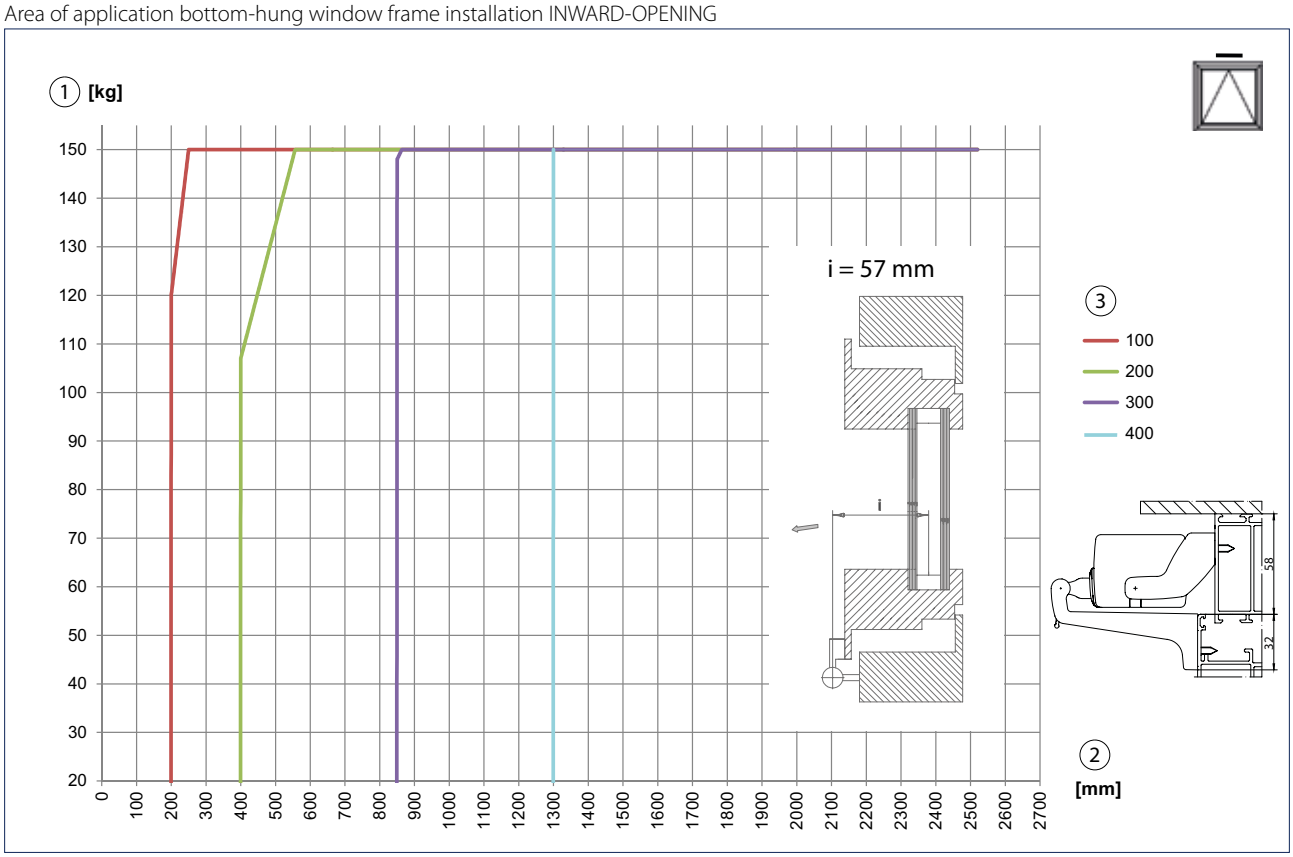
Note: The space requirement for the drive depends on the type of installation.

FORCE-PATH DIAGRAM



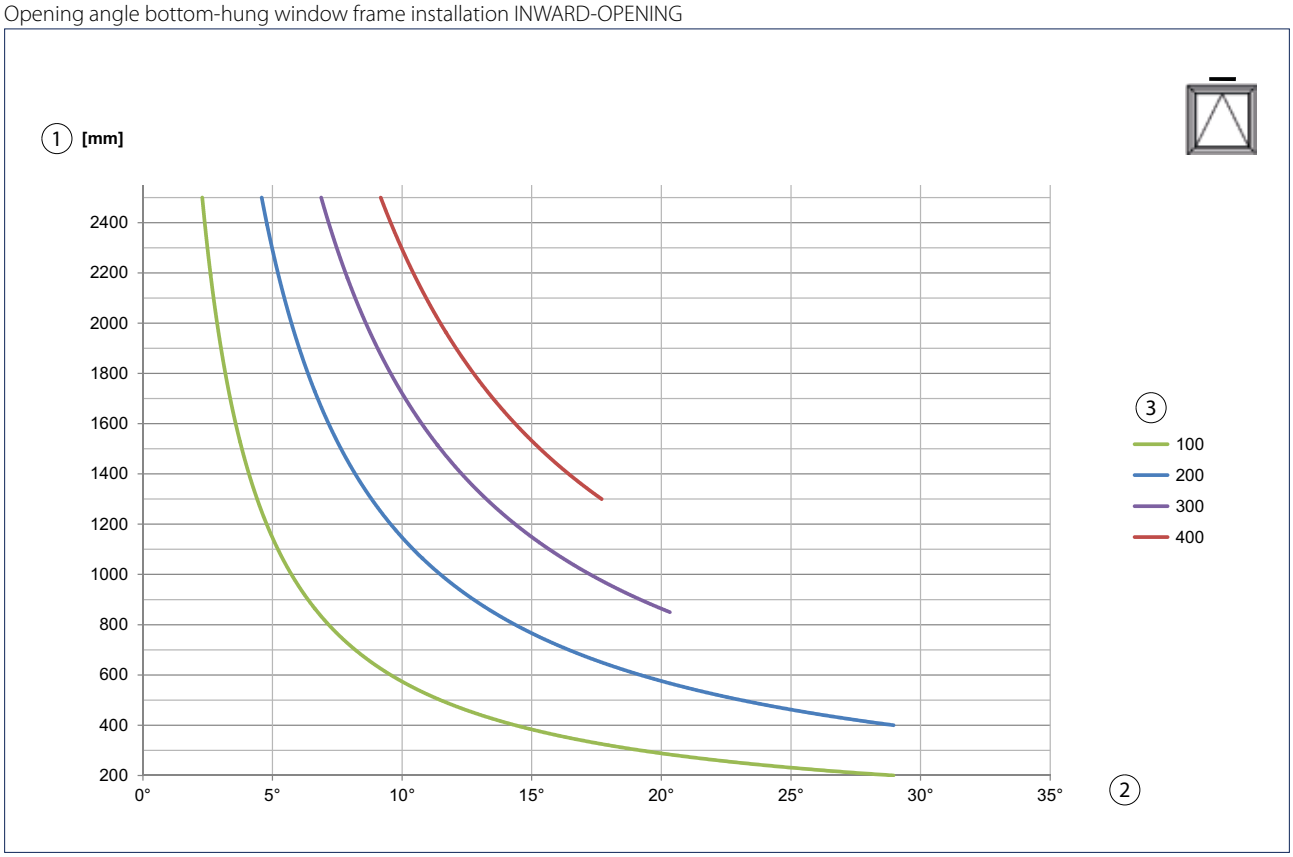
1 = Force 2 = Stroke 3 = Pull 4 = Pressure

Area of application bottom-hung window frame installation INWARD-OPENING



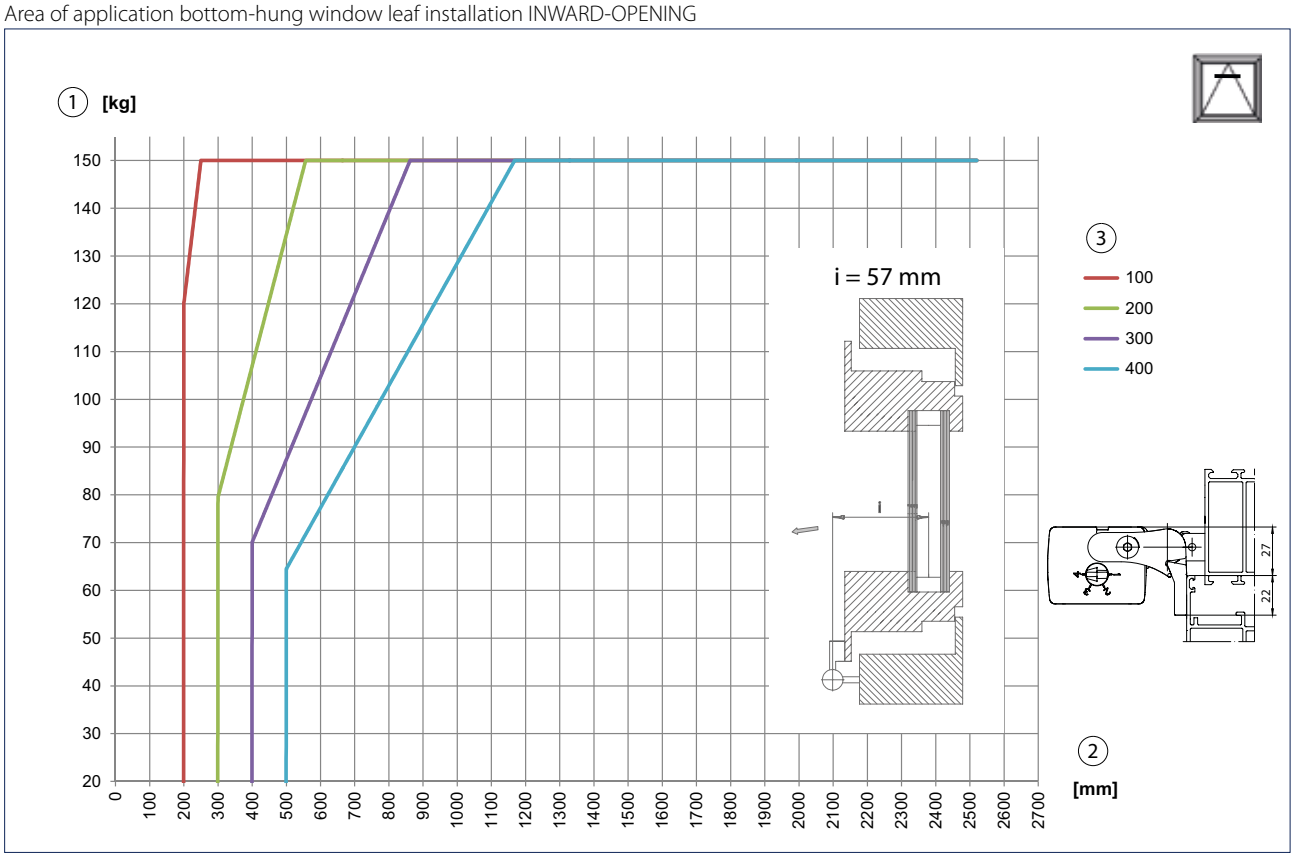
1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

Opening angle bottom-hung window frame installation INWARD-OPENING



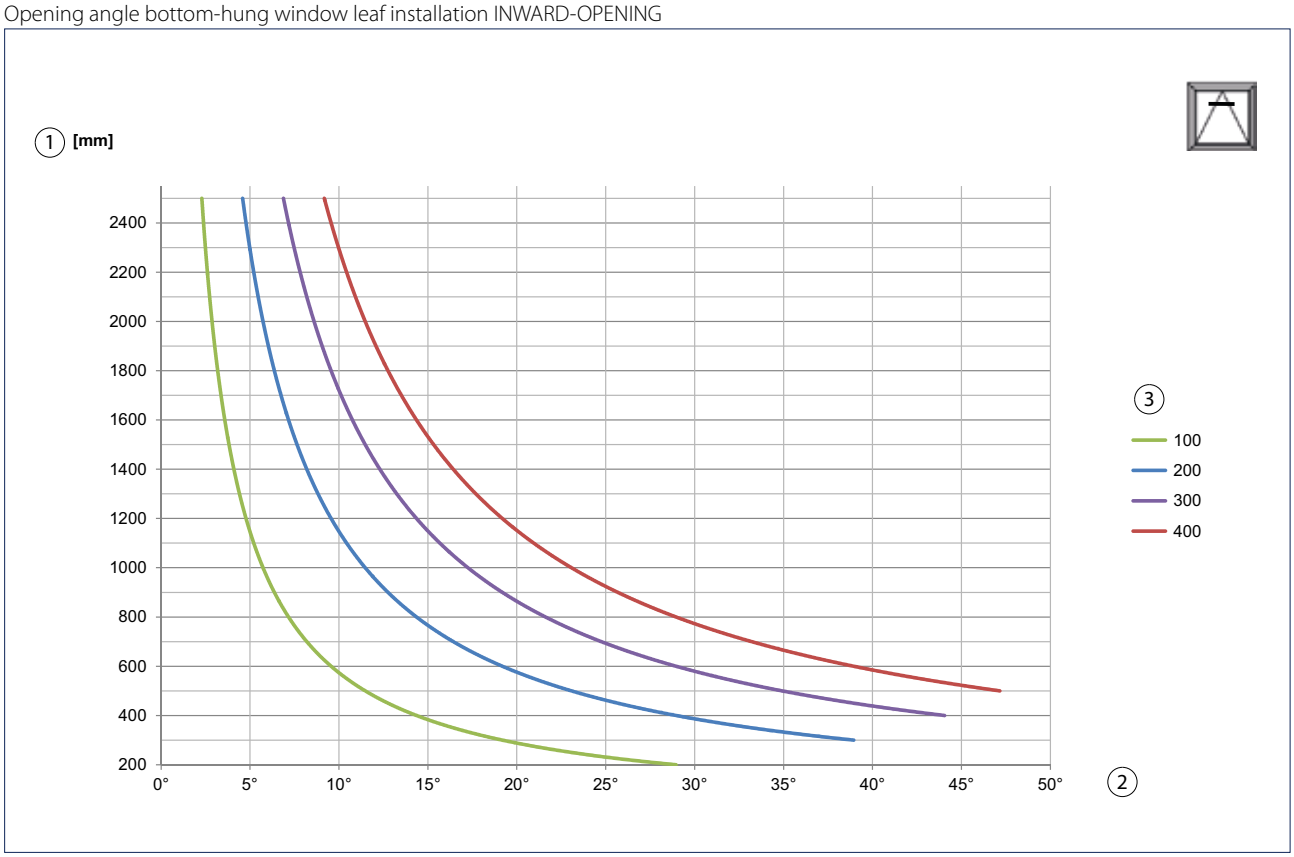
1 = Secondary closing edge
2 = Opening angle
3 = Stroke

Area of application bottom-hung window leaf installation INWARD-OPENING



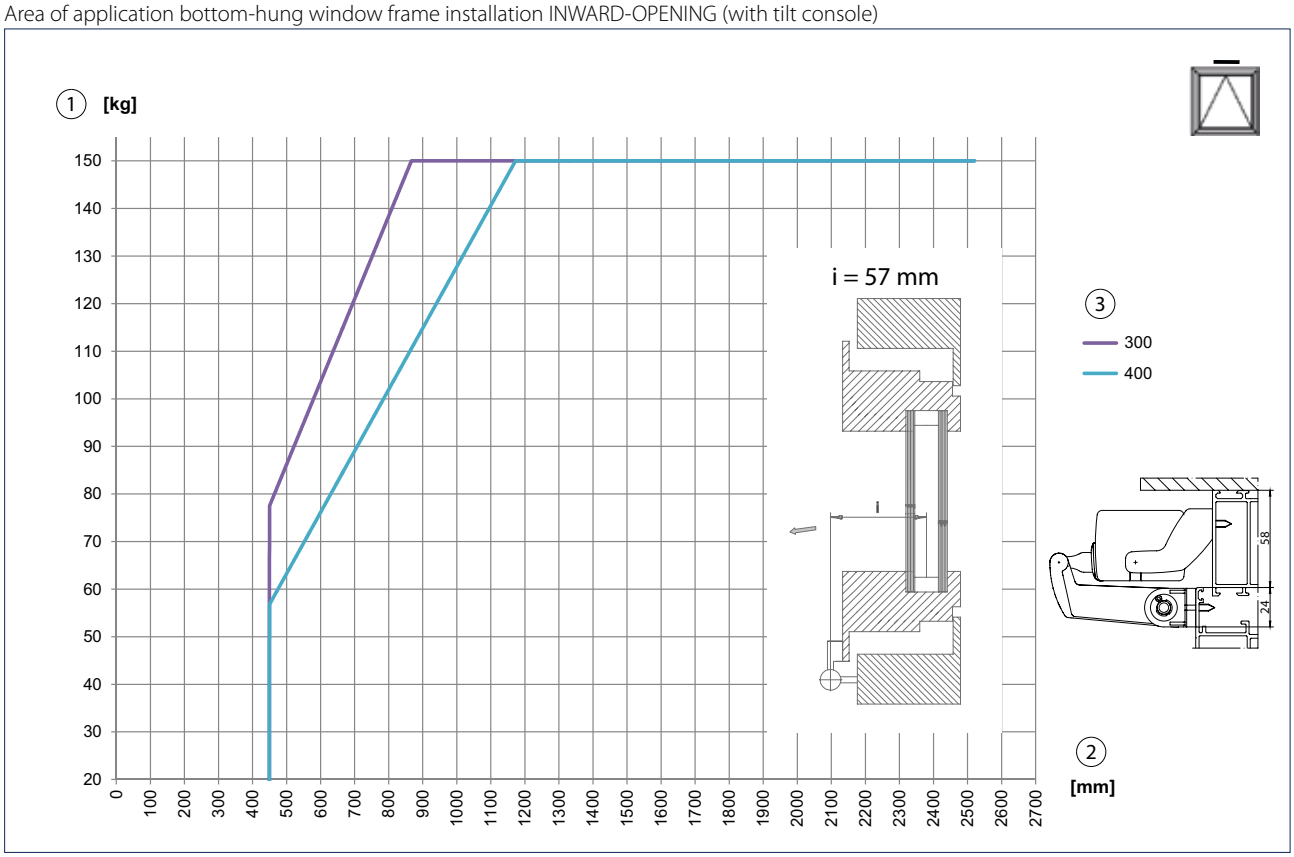
1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

Opening angle bottom-hung window leaf installation INWARD-OPENING



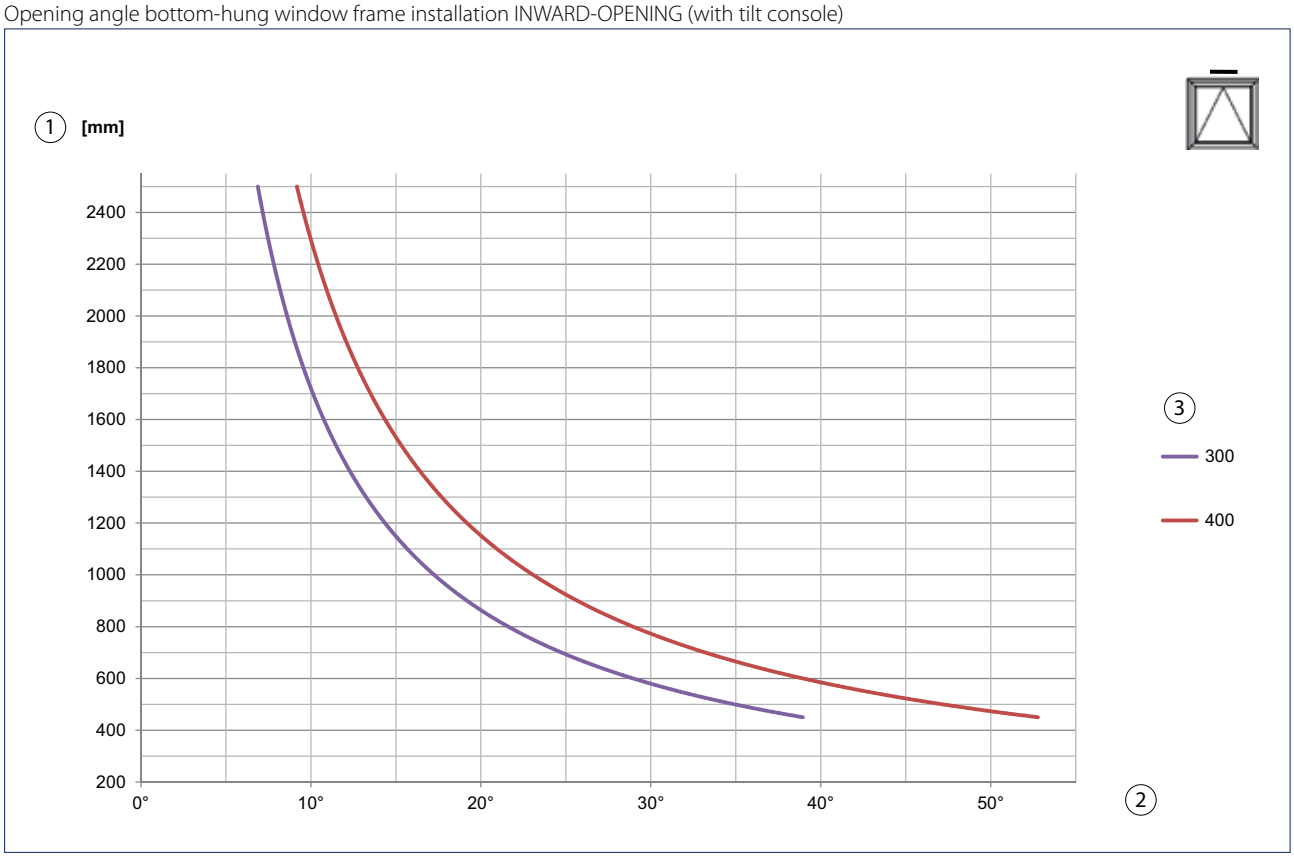
1 = Secondary closing edge
2 = Opening angle
3 = Stroke

Area of application bottom-hung window frame installation INWARD-OPENING (with tilt console)



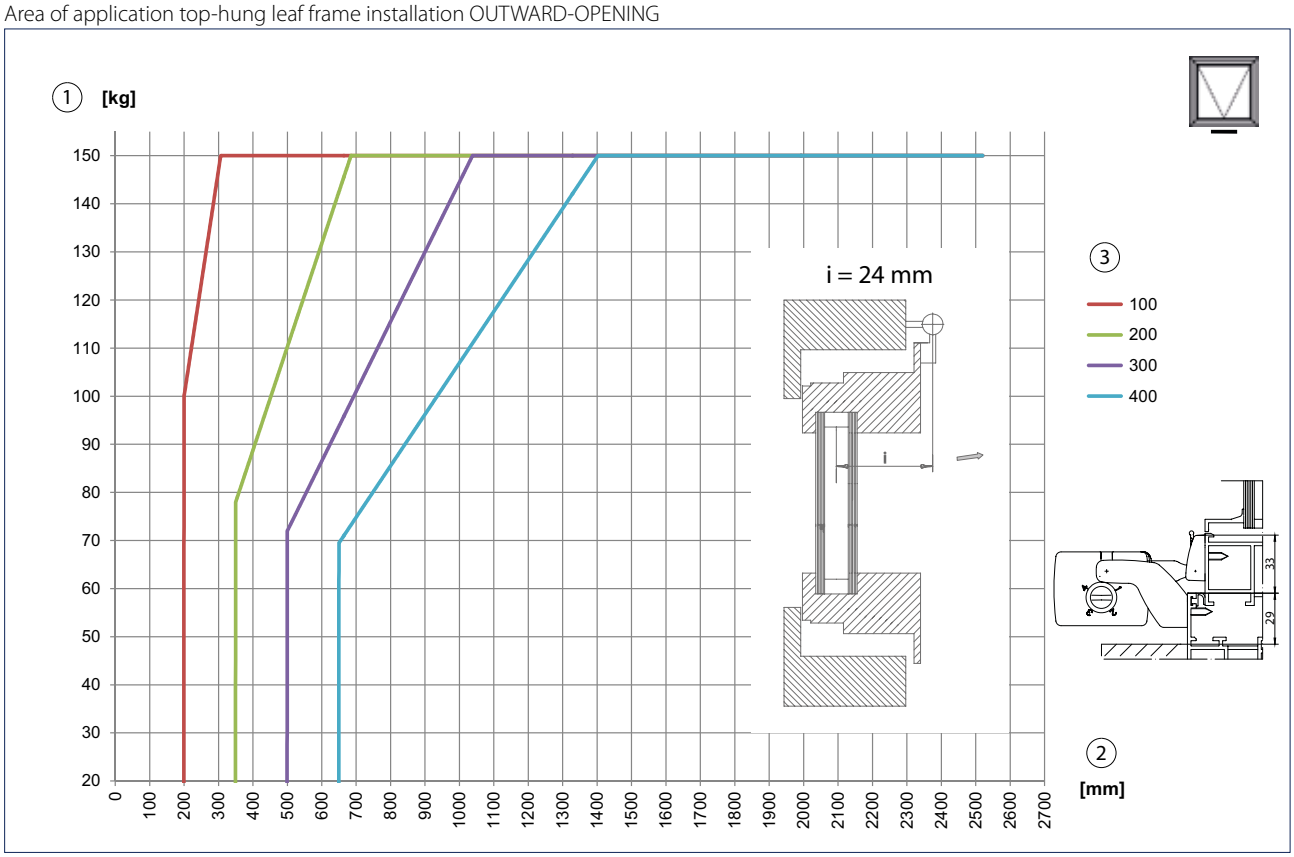
1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

Opening angle bottom-hung window frame installation INWARD-OPENING (with tilt console)



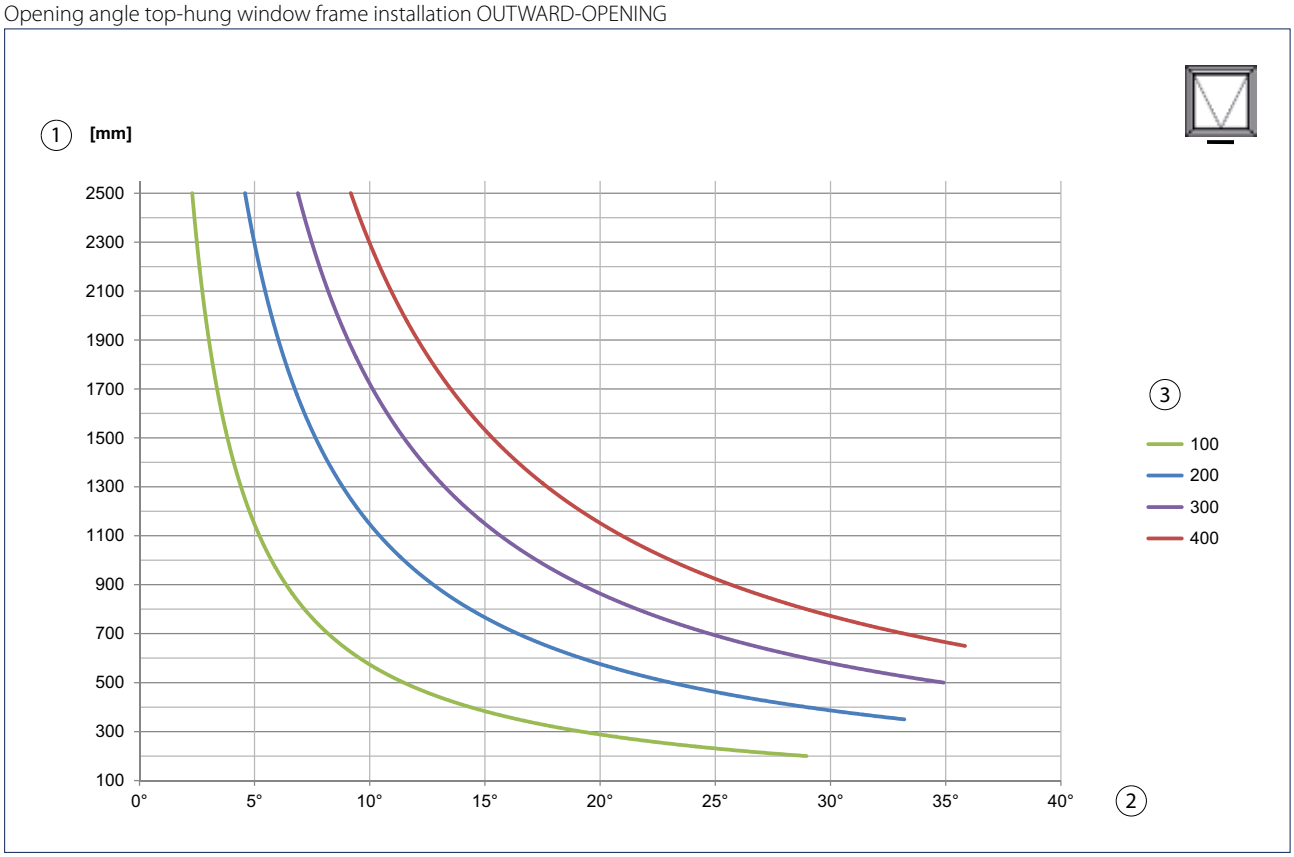
1 = Secondary closing edge
2 = Opening angle
3 = Stroke

Area of application top-hung leaf frame installation OUTWARD-OPENING



1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

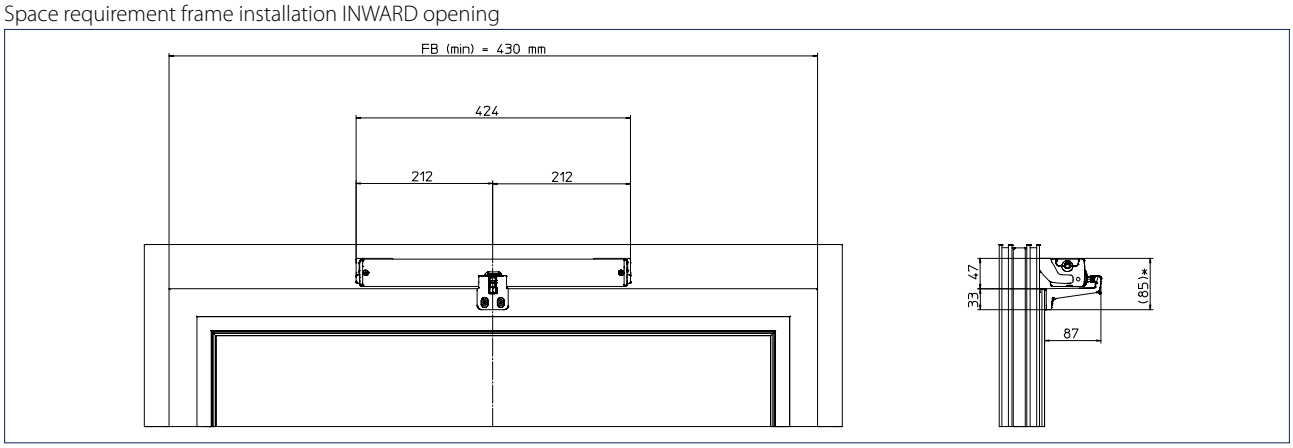
Opening angle top-hung window frame installation OUTWARD-OPENING



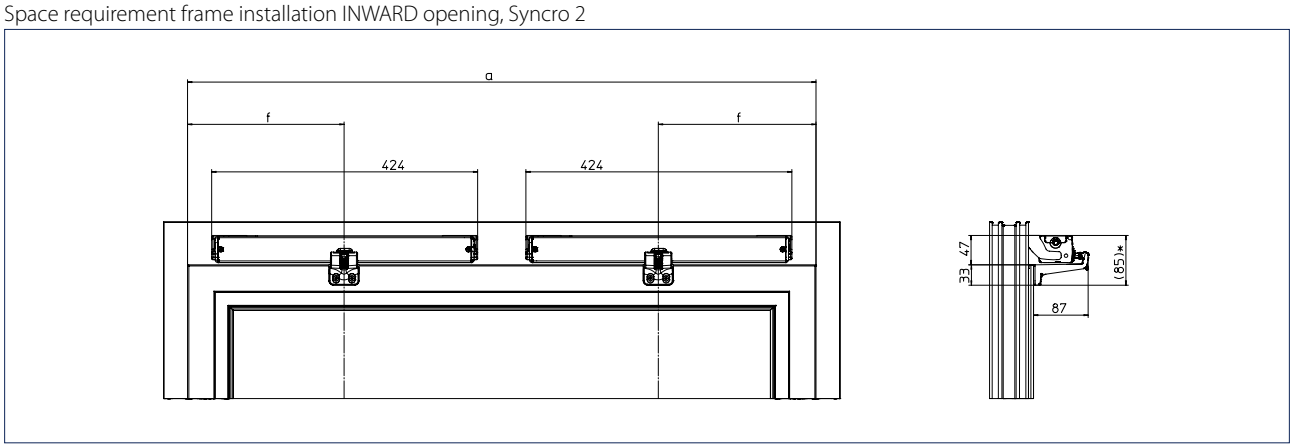
1 = Secondary closing edge
2 = Opening angle
3 = Stroke

SPACE REQUIREMENT

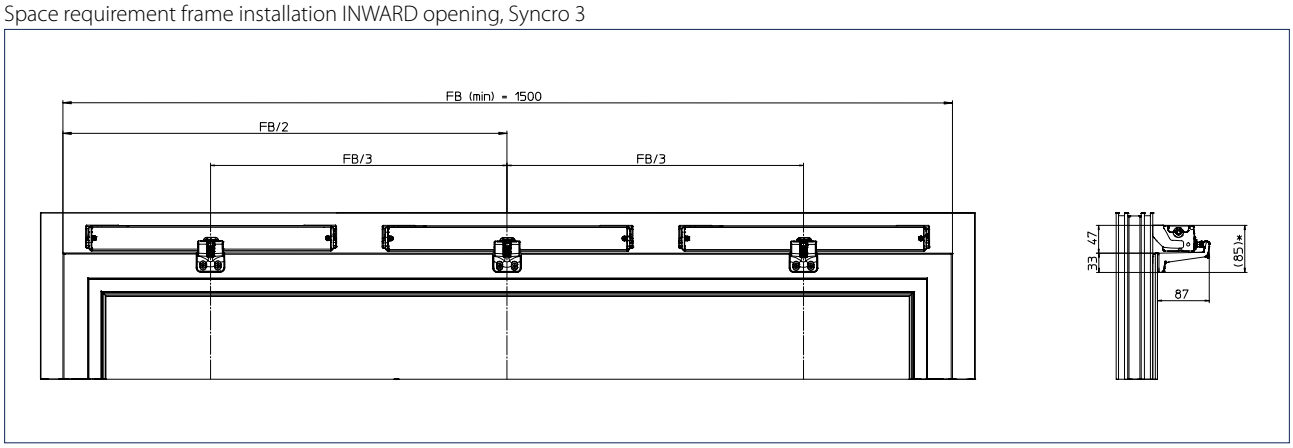
Space requirement frame installation INWARD opening



Space requirement frame installation INWARD opening, Syncro 2

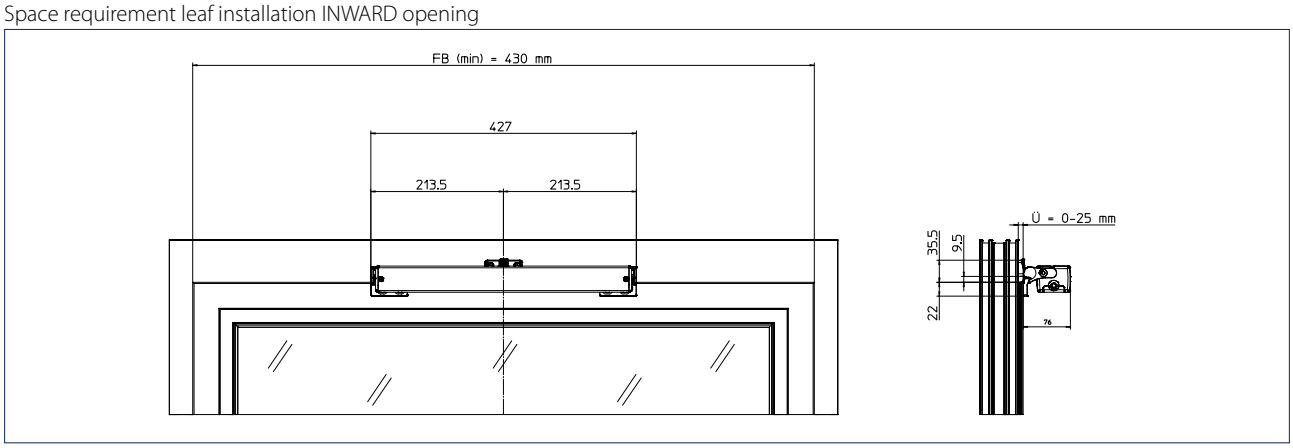


Space requirement frame installation INWARD opening, Syncro 3

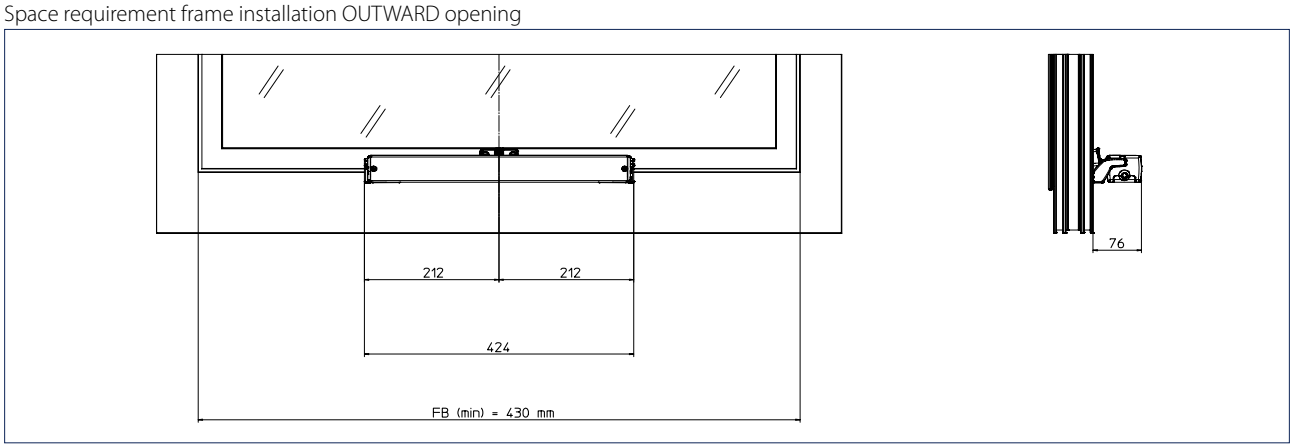


SPACE REQUIREMENT

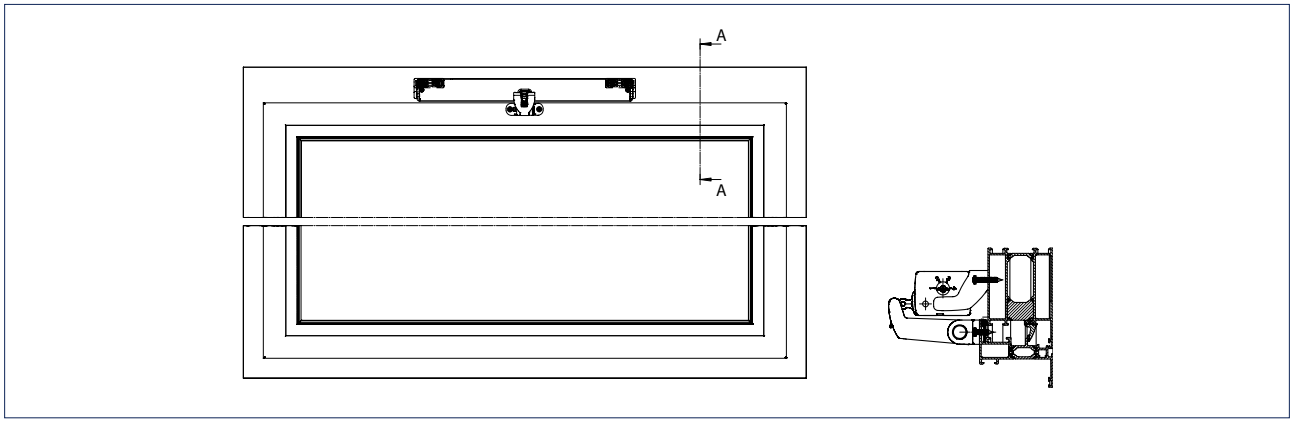
Space requirement leaf installation INWARD opening



Space requirement frame installation OUTWARD opening



Tilt console



ORDER INFORMATION

Designation	Version	ID no.
GEZE E 740 Adjustable stroke 100/200/300/400 mm	EV1	112340
	white RAL 9016	112341
	according to RAL	112342
GEZE E 740 SYNCRO Adjustable stroke 100/200/300/400 mm	EV1	112400
	white RAL 9016	112401
	according to RAL	112402
GEZE E 740 DUAL Adjustable stroke 100/200/300/400 mm, length 1000 mm	EV1	135575
	white RAL 9016	135576
GEZE E 740 DUAL Adjustable stroke 100/200/300/400 mm, length 1600 mm	EV1	135577
	white RAL 9016	135578
Accessories		
Drive bracket for skylight for E 740 for installation of the E 740 on roof windows and skylight domes		112360
Drive bracket for skylight for E 740 suitable for E 740 DUAL		135758
Console AW E 740 RM/FM for frame and leaf installation on outward-opening top-hung windows as well as roof windows and skylight domes		112365
Console EW E 740 RM for frame installation on inward-opening bottom-hung, top-hung and side-hung windows		112355
Console set EW E 740 FM for leaf installation on inward-opening bottom-hung and top-hung windows		125398
Swivel console EW E 740 RM for frame installation on inward-opening bottom-hung windows		122106
Console AW E 740 RM/FM Mini for frame and leaf installation on outward-opening top-hung windows as well as roof windows and skylight domes		133269

Drive bracket for skylight for E 740 (112360)

Console AW E 740 RM/FM (112365)

Console EW E 740 RM (112355)

Console set EW E 740 FM (125398)

Console set EW E 740 FM (125398)

Swivel console EW E 740 RM (122106)

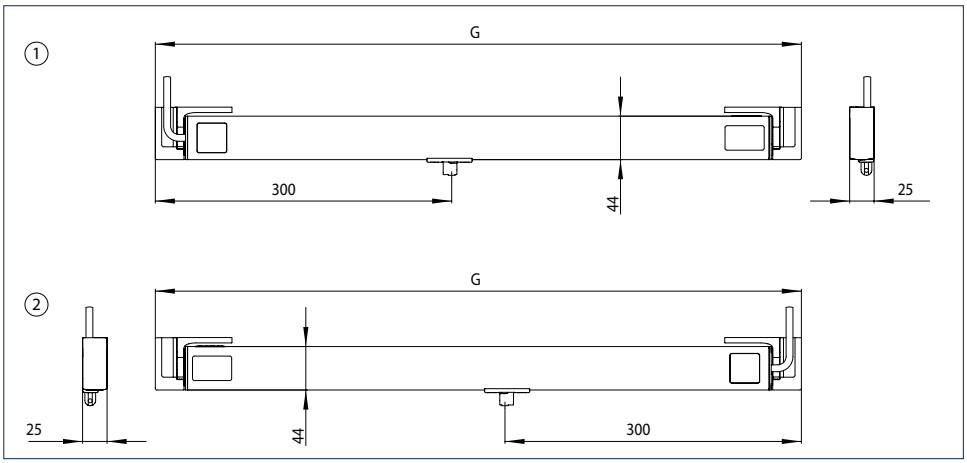
Console AW E 740 RM/FM Mini (133269)

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) is with variable adjustment. 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



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

Area of application

- Flexible application in the façade area with maximum design requirements
- Bottom-hung, side-hung and top-hung windows
- 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
- Leaf, frame or integrated installation
- A system solution in combination with the locking drive Power lock

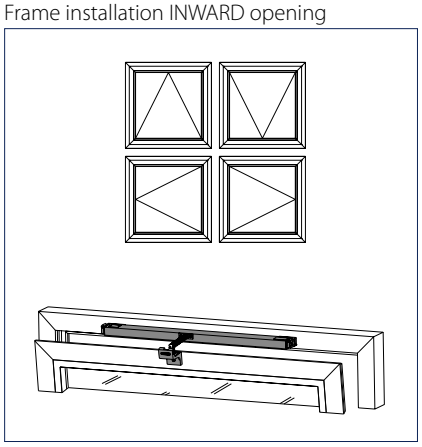
TECHNICAL DATA

Product features		GEZE Slimchain
General information		
Length		Stroke 300: 560 mm, stroke 500: 660 mm, stroke 800: 810 mm (each with consoles)
Height		25 mm
Depth		44 mm
Space requirement on frame (min.)		Frame installation inward-opening: 40 mm, leaf installation inward-opening: 16/21 mm, frame installation outward-opening: 31 mm
Space requirement on leaf (min.)		Frame installation inward-opening: 40 mm, leaf installation inward-opening: 34/29 mm, frame installation outward-opening: 19 mm
Specification		
Possible stroke lengths		300 mm, 500 mm, 800 mm
Factory presetting		Ventilation stroke 300 mm (slow speed), Alarm stroke full opening width (fast speed)
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
Leaf weight (max.) [1)]		200 kg [*)]
Overlap range		8-23 mm
Electrical data		
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 mm^2
Temperature range		-5 – 70 °C
IP rating / protection rating		IP 40 / III
Functions		
Stroke length settable		●
Syncro function		●
Opening speed settable (ventilation)		●
Additional locking device available		●
Type of additional locking device		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
Types of installation		
Bottom-hung window	inward-opening	Frame / leaf
	outward-opening	Frame
Side-hung window	inward-opening	Frame / leaf
	outward-opening	Frame
Top-hung window	outward-opening	Frame

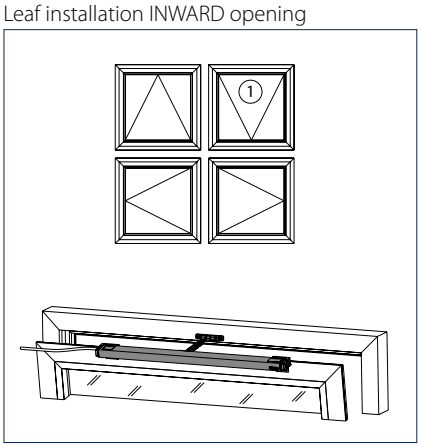
● = YES
The overall weight is limited by the hinges and depends on the details provided by the profile system manufacturer

TYPES OF INSTALLATION

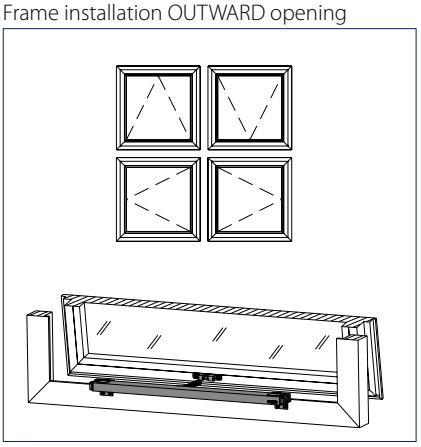
Frame installation INWARD opening



Leaf installation INWARD opening



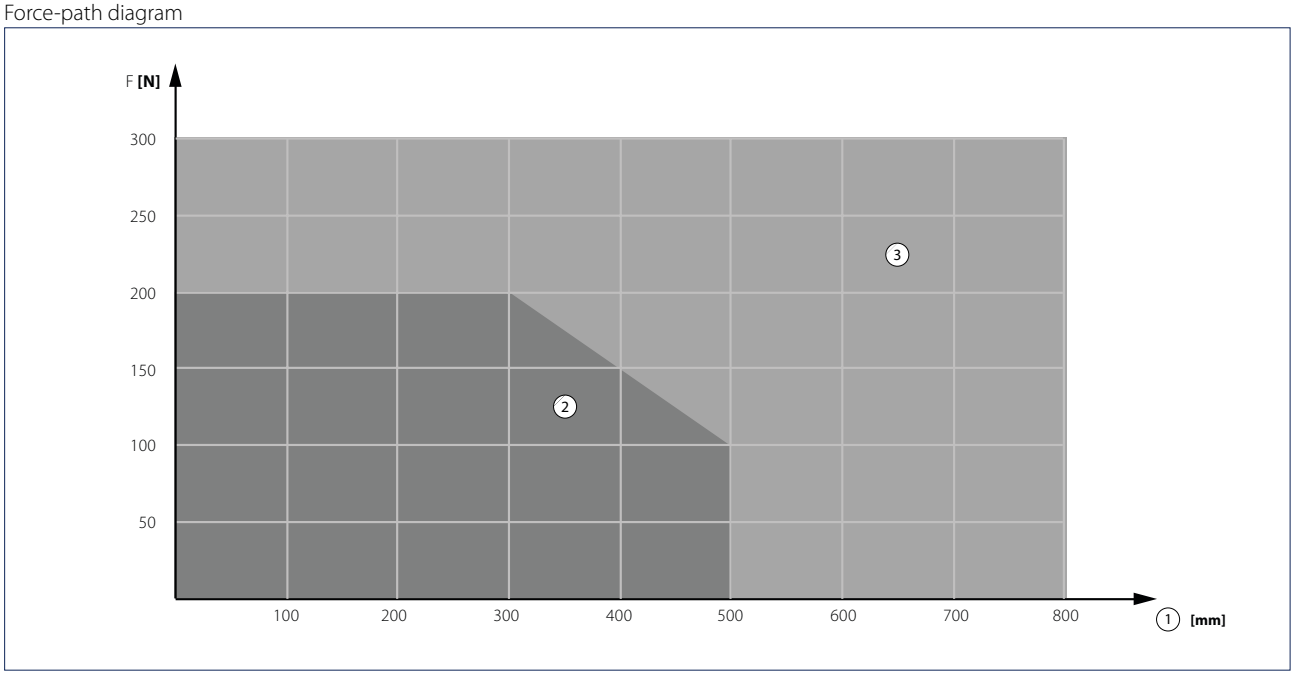
Frame installation OUTWARD opening



1 = On request

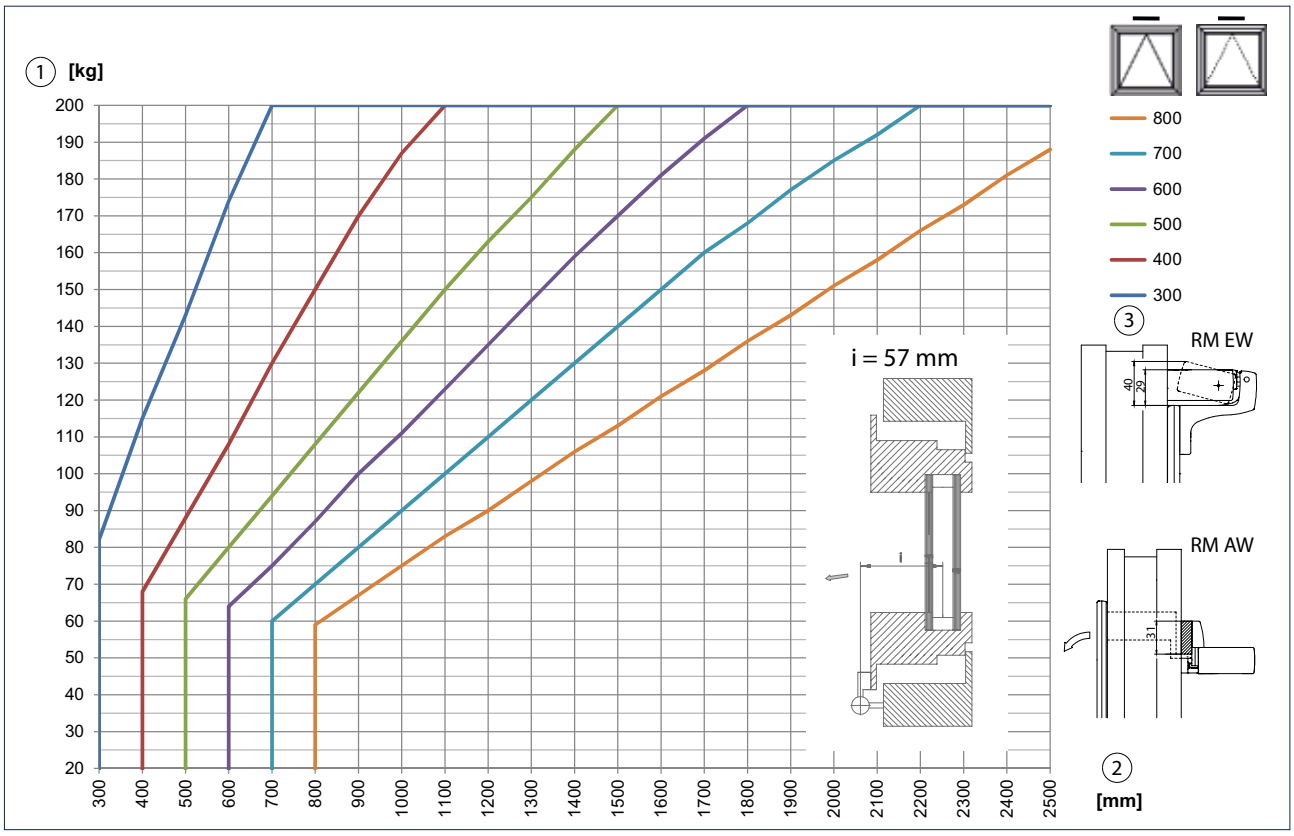
FORCE-PATH DIAGRAM

Force-path diagram



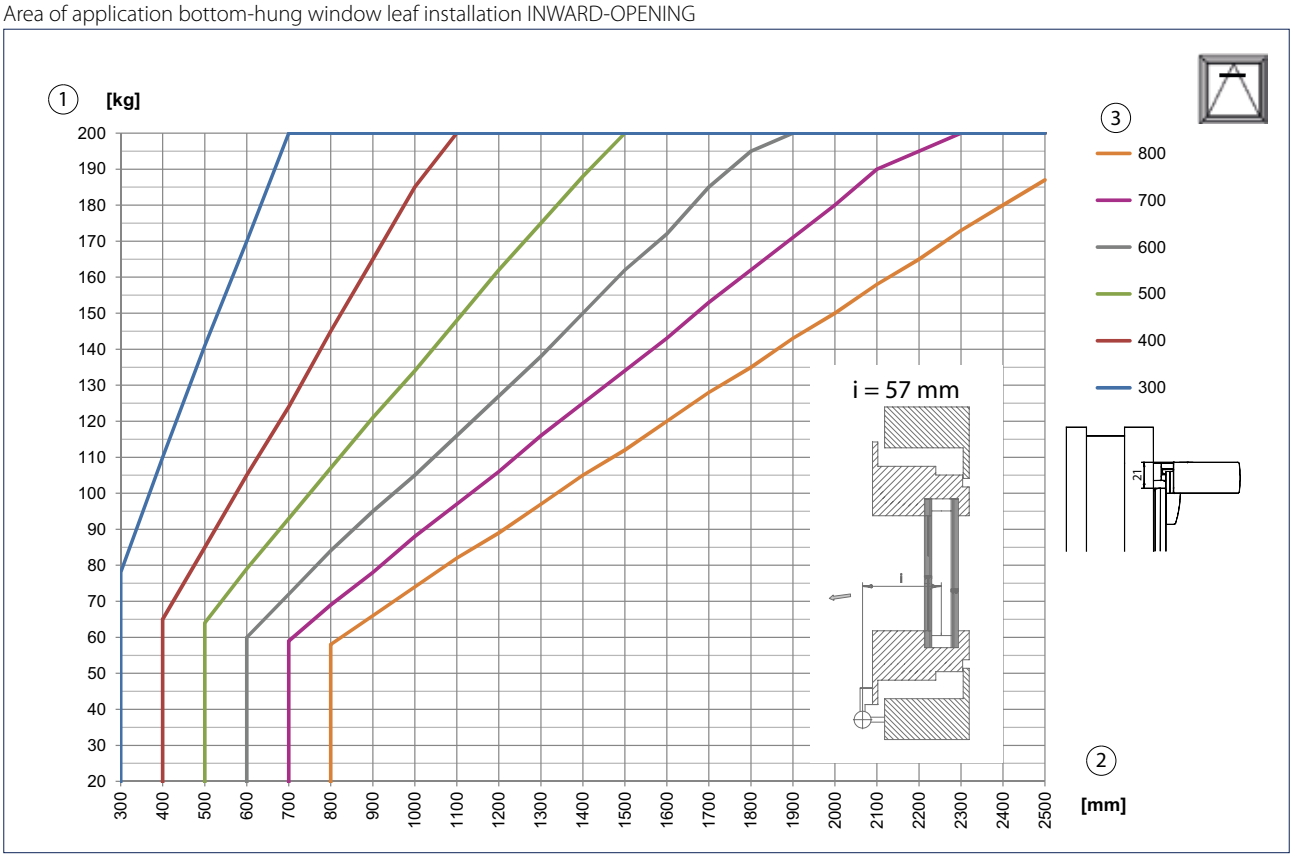
F = Force
1 = Stroke
2 = Pressure
3 = Pull

Area of application bottom-hung window frame installation INWARD-OPENING (drive can be swivelled) / bottom-hung window frame installation OUTWARD-OPENING (drive can be swivelled)



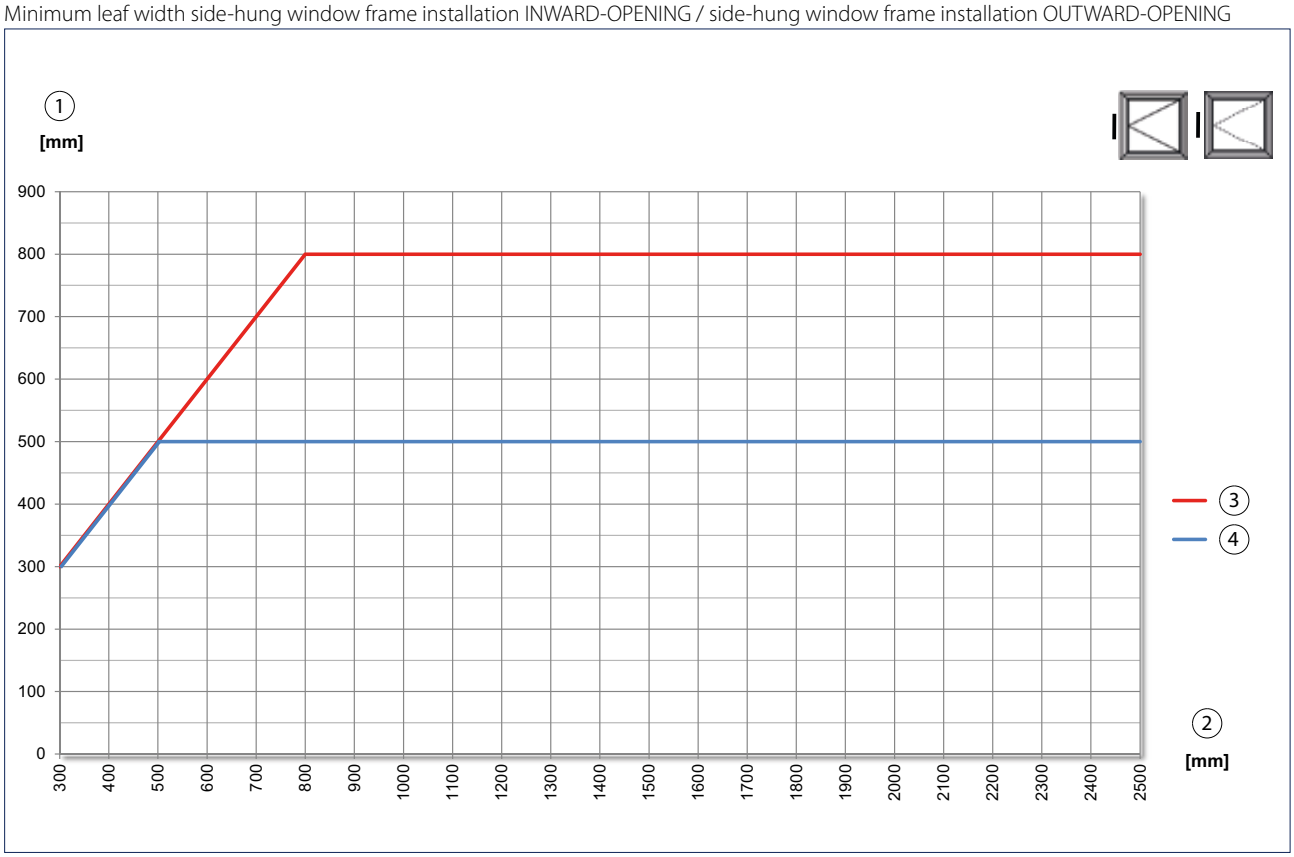
Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the leaf weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.
1 = Leaf weight 2 = Secondary closing edge 3 = Stroke
RM EW = Frame installation INWARD-OPENING RM AW = Frame installation OUTWARD-OPENING

Area of application bottom-hung window leaf installation INWARD-OPENING



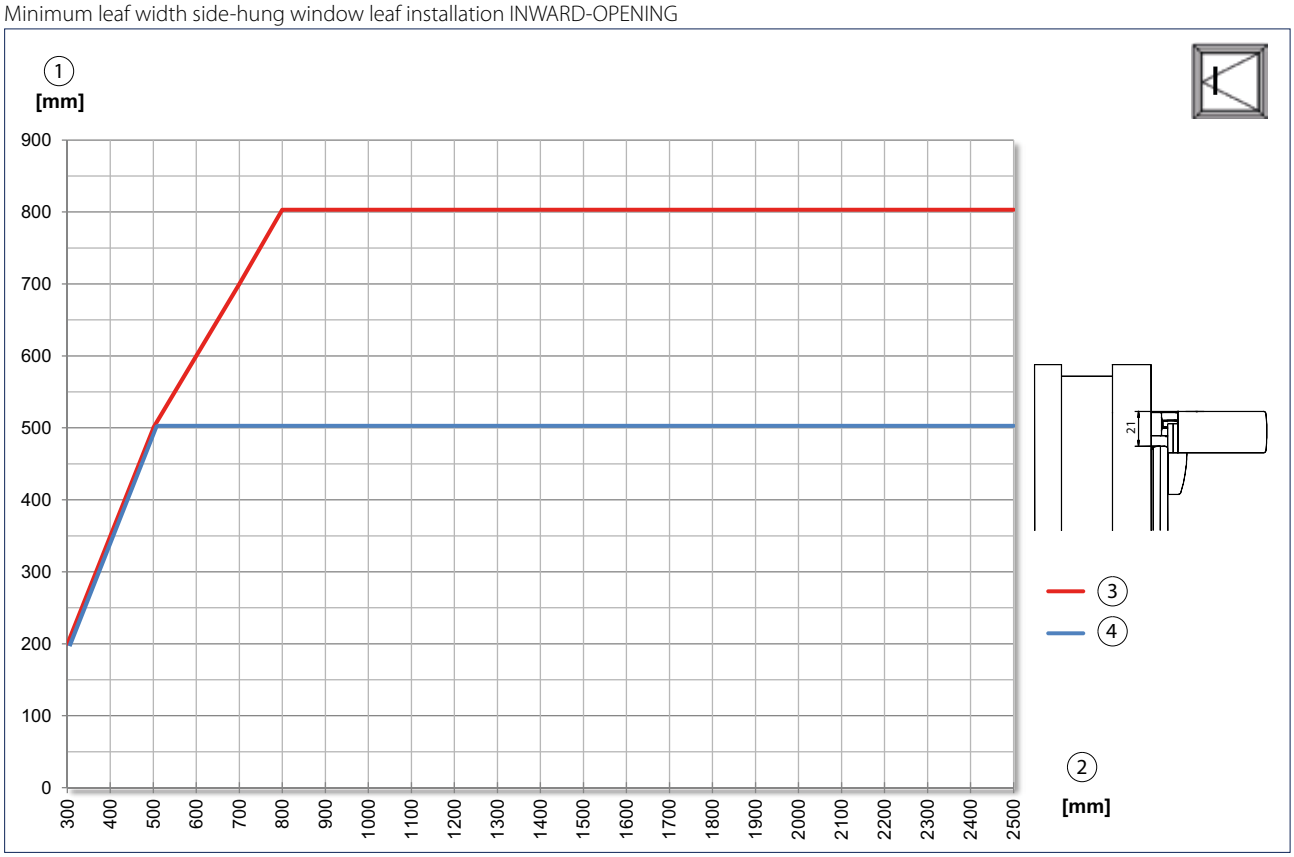
Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the leaf weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.
1 = Leaf weight 2 = Secondary closing edge 3 = Stroke

Minimum leaf width side-hung window frame installation INWARD-OPENING / side-hung window frame installation OUTWARD-OPENING



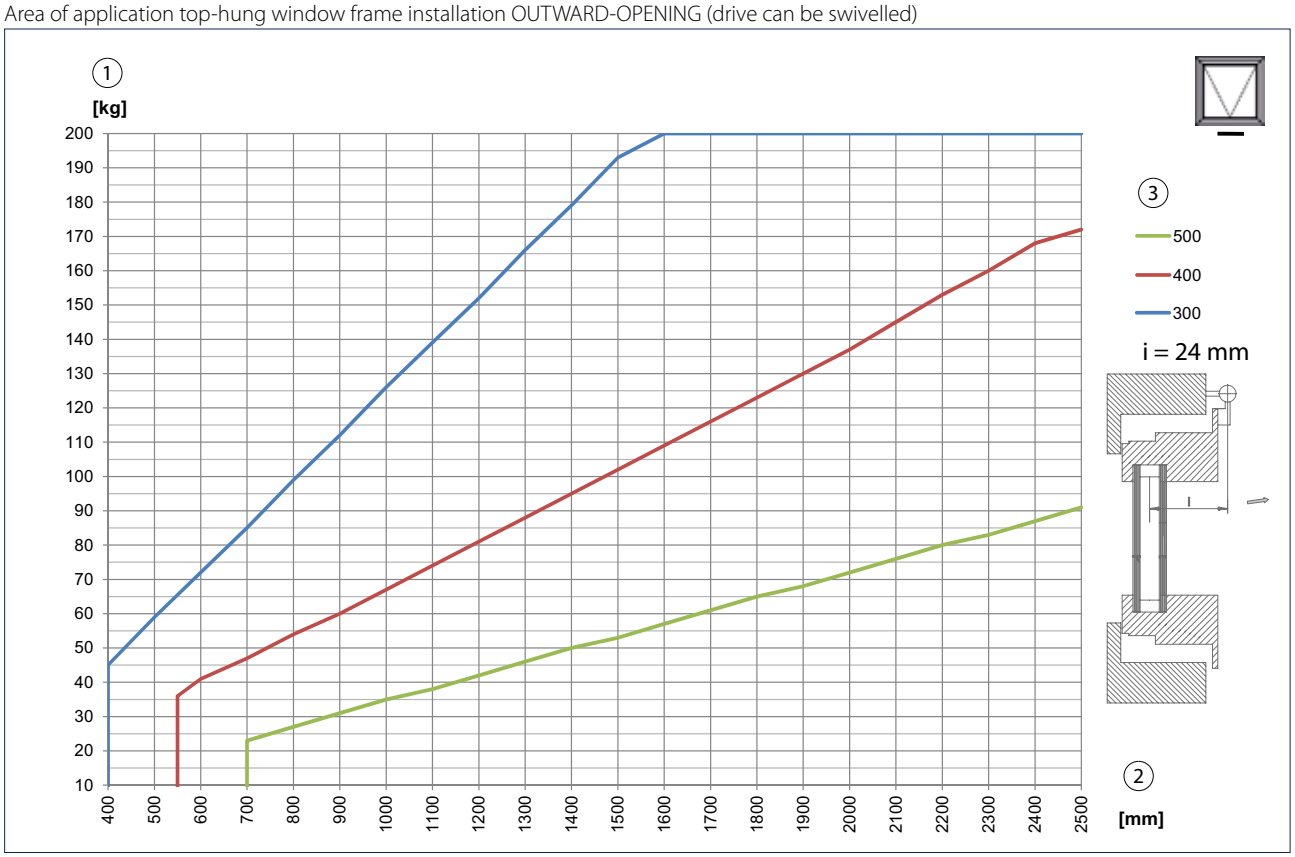
1 = Stroke
2 = Secondary closing edge
3 = Alarm
4 = Ventilation

Minimum leaf width side-hung window leaf installation INWARD-OPENING



1 = Stroke
2 = Secondary closing edge
3 = Alarm
4 = Ventilation

Area of application top-hung window frame installation OUTWARD-OPENING (drive can be swivelled)



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

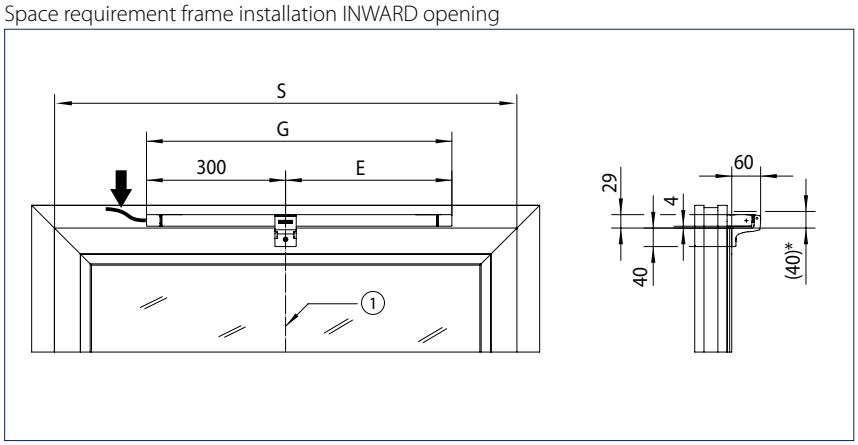
1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

SPACE REQUIREMENT

Stroke	E [mm]	G [mm]	S [mm]
300	260	560	600
500	360	660	720
800	510	810	1020

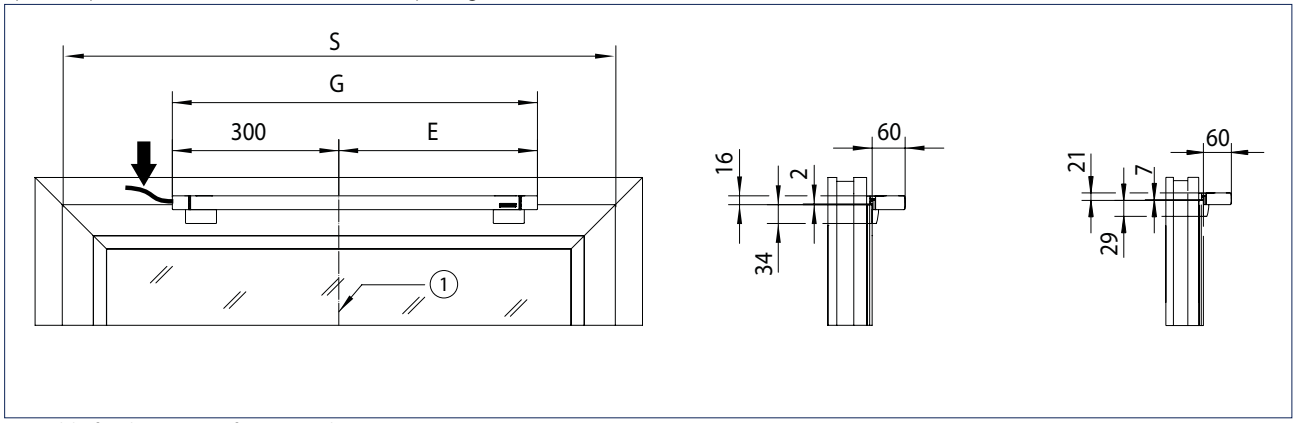
Note: Illustrations with cable side left, cable side right is mirrored

Space requirement frame installation INWARD opening



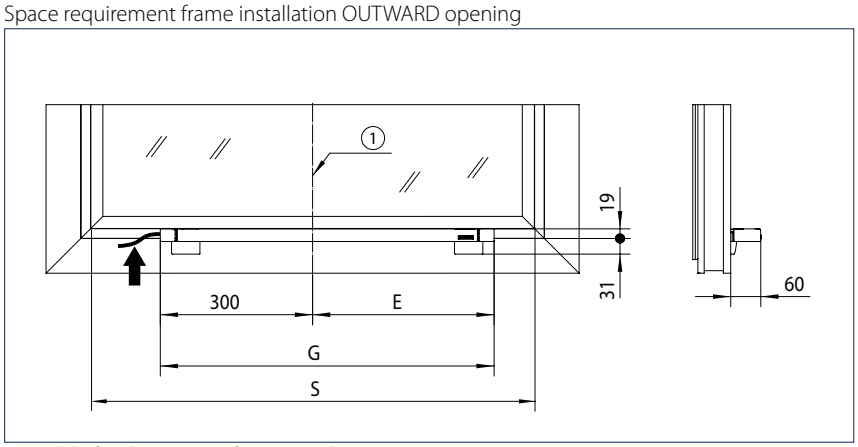
See table for dimensions for E, G and S
1 = Centre of window
* = Swivelling range

Space requirement leaf installation INWARD opening



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

Space requirement frame installation OUTWARD opening

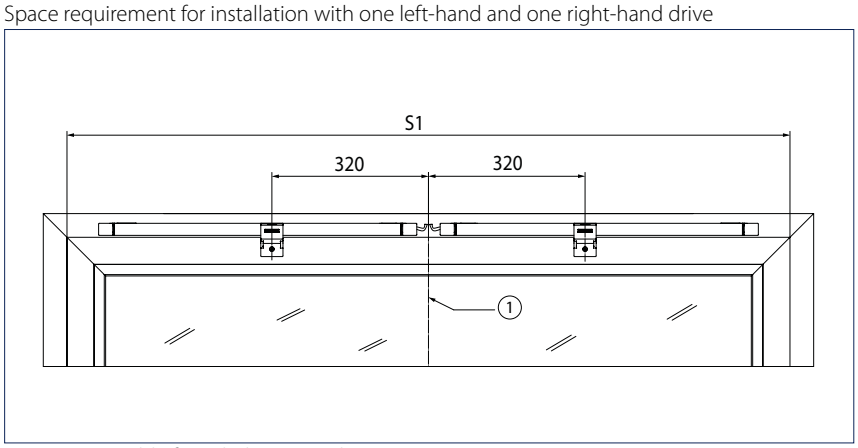


See table for dimensions for E, G and S
1 = Centre of window

SPACE REQUIREMENT - Syncro 2

Note: The illustrations apply for all installation possibilities.

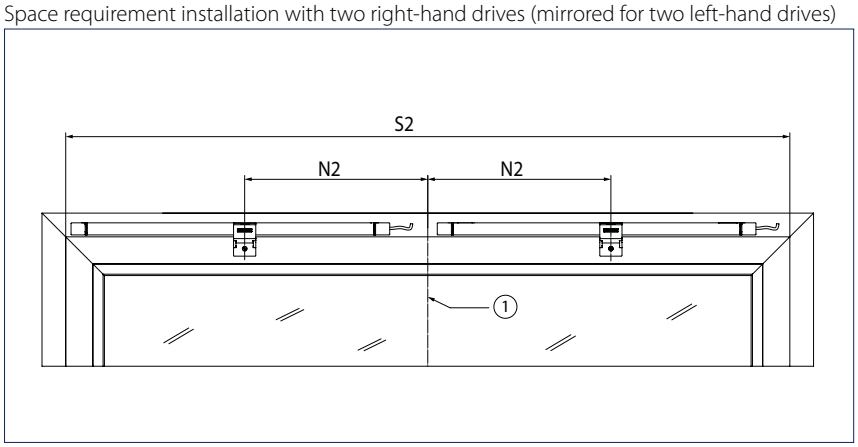
Space requirement for installation with one left-hand and one right-hand drive



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

Stroke	S1 [mm] min.	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 installation with two right-hand drives (mirrored for two left-hand drives)

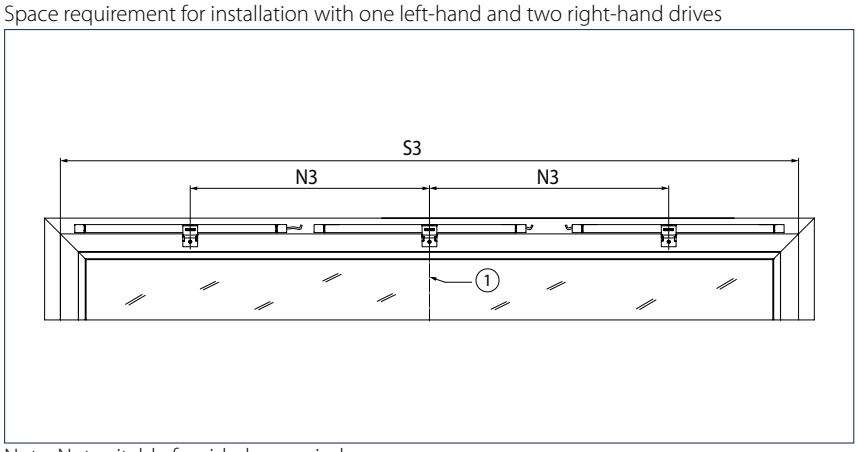


Note: Suitable for side-hung windows.
See table for dimensions for S2 and N2
1 = Centre of window

Stroke	N2 [mm]	S2 [mm] min.	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 - Syncro 3

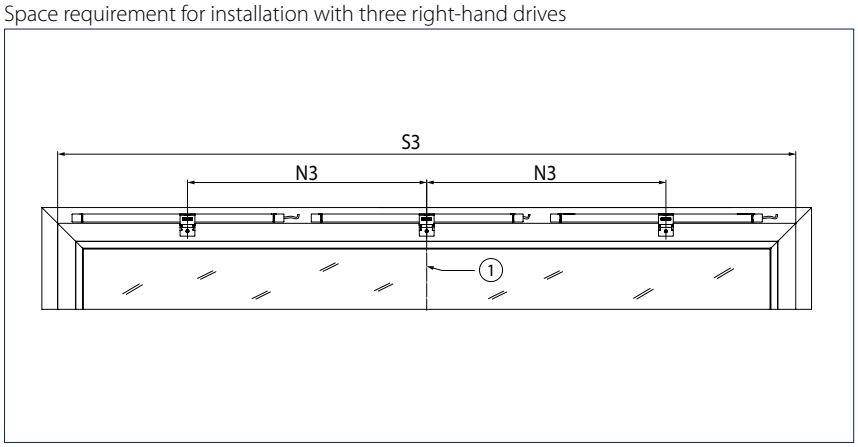
Space requirement for installation with one left-hand and two right-hand drives



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

Stroke	N3 [mm]	S3 [mm] min.	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

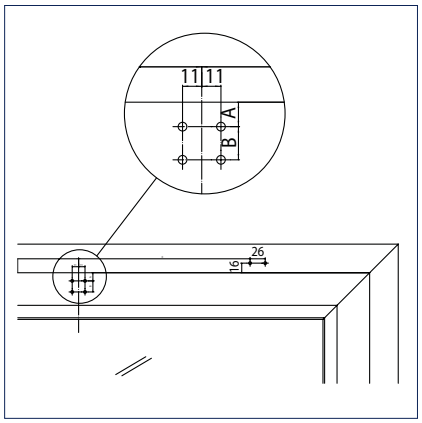


Note: Suitable for side-hung windows.
See table for dimensions for S3 and N3
1 = Centre of window

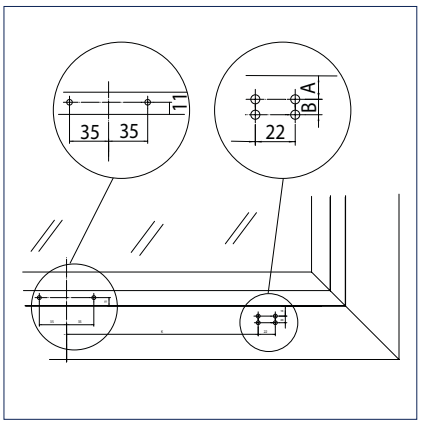
Stroke	N3 [mm]	S3 [mm] min.	ID no. EV1/white RAL 9016	Quantity	ID no. EV1/white RAL 9016	Quantity
300	600	1800	147030/147031 L, R	3	147030/147031 L, R	-
			147035/147036 L, R	-	147035/147036 L, R	3
500	700	2120	147040/147041 L, R	3	147040/147041 L, R	-
			147045/147046 L, R	-	147045/147046	3
800	850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

INSTALLATION DIMENSIONS - recommendation

frame installation INWARD-OPENING



leaf installation INWARD-OPENING,
frame installation OUTWARD-OPENING



Material	Manufacturer	Profile system	Frame installation INWARD-OPENING		Leaf installation INWARD-OPENING 21 mm 4 screws		with 2 screws with rivet nuts	Frame installation OUTWARD-OPENING		with 2 screws with rivet nuts
			A	**B**	**A**	**B**	**A**	**A**	**B**	**A**
Aluminium	Aluprof	MB-60	14	19	9	8	13			
		MB-70	14	19	9	8	13			
	Gutmann	S70	14	19	9	10	13			
	Heroal	065	14	19	9	11	13			16 [1]
		110ES	14	19	9	9	13			16 [1]
	Hueck	Lambda 65	14	19	9	11	13	11 [2), 3)]	9 [2, 3)]	15 [2)]
		Lambda 77	14	19	9	11	13	11 [2),3)]	9 [2.3)]	15 [2)]
	Raico	Frame+ 65 W	14	19	9	11	13	14 [1)]	17 [1)]	
		Frame+ 75 WB	14	19	9	11	13	14 [1)]	17 [1)]	
	Schueco	AWS 65	14	19	10	9	14	11	11	14
		AWS 75	14	19	10	9	14	11	11	14
	SAPA	1074	13 [5)6)]	18 [5)6)]			13			18 [2)7)]
		1086	13 [5)8)]	18 [8)]			13			
	Wicona	Wicline 65 EVO	14	11	10	10	14			14 [2)]
		Wicline 75 EVO	14	11	10	10	14			14 [2)]
Plastic	EgoKiefer	AS1	17	11	11	8	17			
	Profine	Kömmerling 88plus [4)]	18	14	11	8	11			
	Veka	Alphaline 90	15	18	10	8	15			
		Softline 82 MD	15	18	10	8	15			
Timber	Gutmann	Mira	22	11	8	10				
	Landgraf	IV79	22	11	8	10				
	Oertli	IV68/IV80	22	11	8	10				

All dimensions in mm.

1) Installation dimension chain rack 14 instead of 11

2) Installation dimension chain rack 13 instead of 11

3) Only with tapping screws

4) On-site supports required, since overlap 24 mm

5) Installation dimension chain drive 18 instead of 16

6) All profile combinations with profile numbers 74102, 74112, 74202 or 74203 permitted

7) All profile combinations with profile numbers 74052 or 68713; A = 16 mm / installation dimension chain rack 17 instead of 11

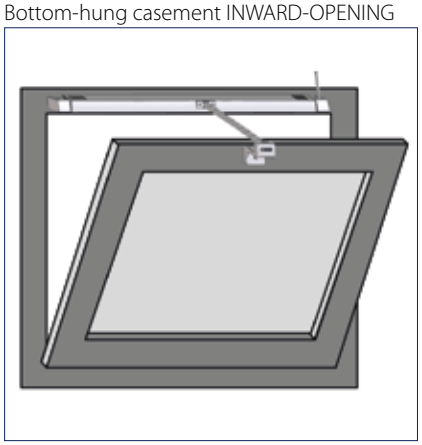
8) For all profile combinations with profile numbers 86102 or 86202; A = 16 mm / installation dimension chain rack 18 instead of 11

Further profile ranges on request.

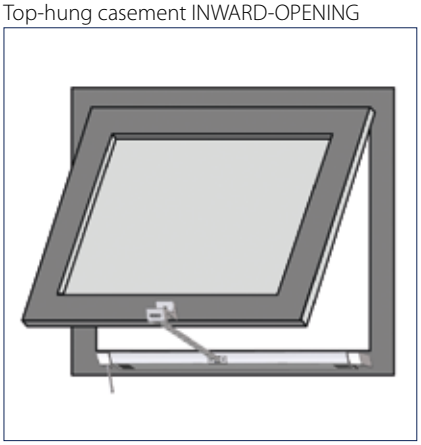
ORDERING AID

Casement INWARD opening frame installation

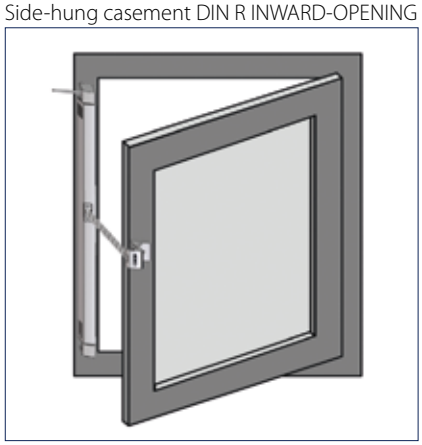
Bottom-hung casement INWARD-OPENING



Top-hung casement INWARD-OPENING



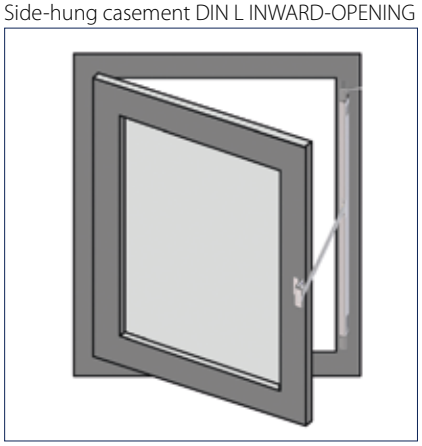
Side-hung casement DIN R INWARD-OPENING



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

Casement INWARD opening frame installation

Side-hung casement DIN L INWARD-OPENING

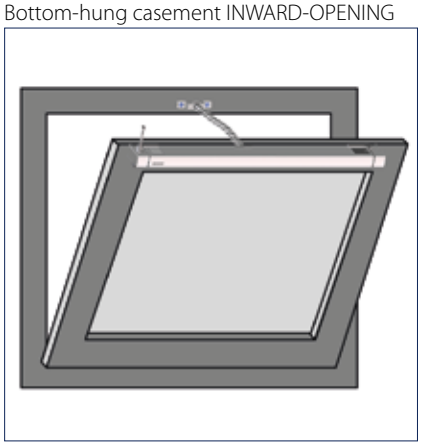


Stroke	Version	Drive	Accessories
300	EV1	147035 Left	147060
300	white RAL 9016	147036 Left	147061
500	EV1	147045 Left	147060
500	white RAL 9016	147046 Left	147061
800	EV1	147055 Left	147060
800	white RAL 9016	147056 Left	147061

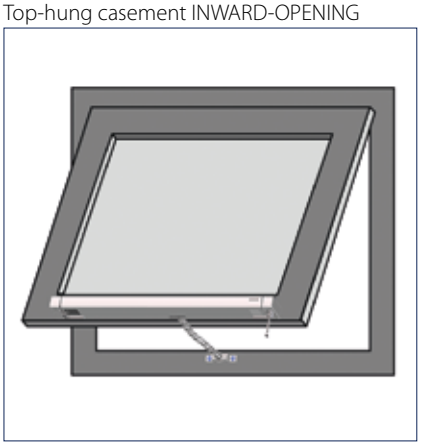
ORDERING AID

Casement INWARD opening leaf installation

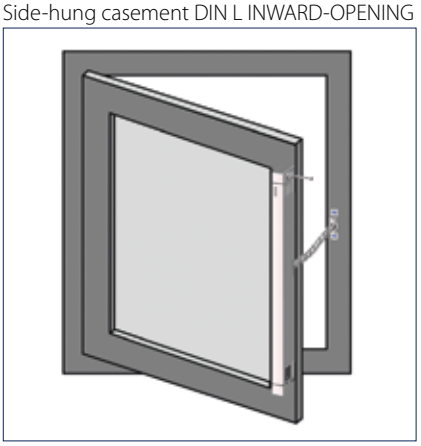
Bottom-hung casement INWARD-OPENING



Top-hung casement INWARD-OPENING



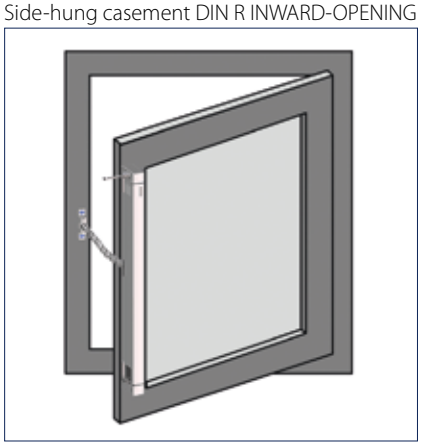
Side-hung casement DIN L INWARD-OPENING



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

Casement INWARD opening leaf installation

Side-hung casement DIN R INWARD-OPENING

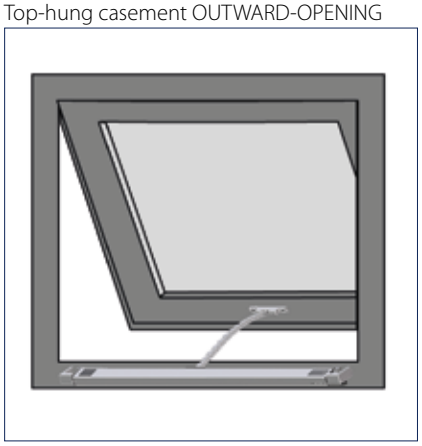


Stroke	Version	Drive	Accessories
300	EV1	147035 Left	147062
300	white RAL 9016	147036 Left	147063
500	EV1	147045 Left	147062
500	white RAL 9016	147046 Left	147063
800	EV1	147055 Left	147062
800	white RAL 9016	147056 Left	147063

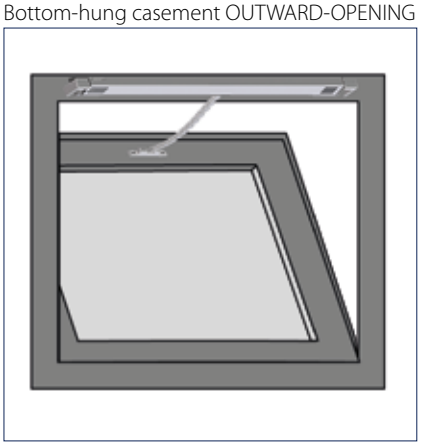
ORDERING AID

Casement OUTWARD opening frame installation

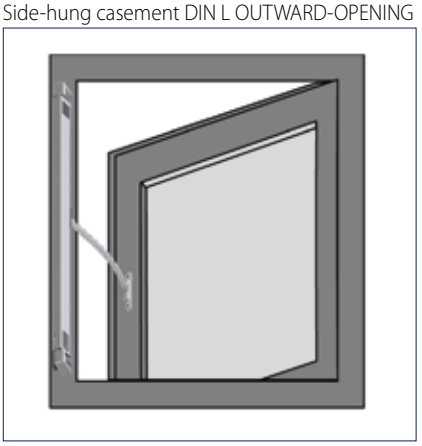
Top-hung casement OUTWARD-OPENING



Bottom-hung casement OUTWARD-OPENING



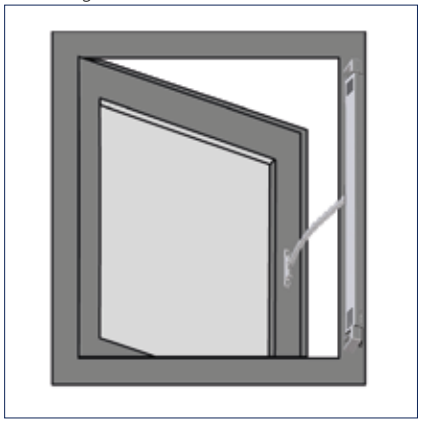
Side-hung casement DIN L OUTWARD-OPENING



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

Casement OUTWARD opening frame installation

Side-hung casement DIN R OUTWARD-OPENING



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

ORDER INFORMATION

Designation	Stroke	Version	ID no.
GEZE Slimchain L	300 mm	EV1	147035
	300 mm	white RAL 9016	147036
	500 mm	EV1	147045
	500 mm	white RAL 9016	147046
	800 mm	EV1	147055
	800 mm	white RAL 9016	147056
GEZE Slimchain R	300 mm	EV1	147030
	300 mm	white RAL 9016	147031
	500 mm	EV1	147040
	500 mm	white RAL 9016	147041
	800 mm	EV1	147050
	800 mm	white RAL 9016	147051
GEZE Slimchain - special version Can be configured: stroke, cable length, colour, version L/R			147070
Accessories			
Console set A Slimchain For bottom-hung, side-hung and top-hung windows, frame installation INWARD-OPENING		white RAL 9016	147061
		black	147060
Console set B Slimchain For bottom-hung, side-hung and top-hung windows, leaf installation INWARD-OPENING and frame installation OUTWARD-OPENING		white RAL 9016	147063
		black	147062
Console set C Slimchain For bottom-hung, side-hung windows, frame installation integrated INWARD-OPENING		silver-coloured	155878
Console set P Slimchain For profile-integrated installation, frame installation OUTWARD-OPENING		white RAL 9016	164396
		black	164394
		according to RAL	164397
Choice of consoles for Slimchain Can be configured: type of opening, colour		according to RAL	147071

Console set A Slimchain (147060)

Console set B Slimchain (147062)

Console set C Slimchain (155878)

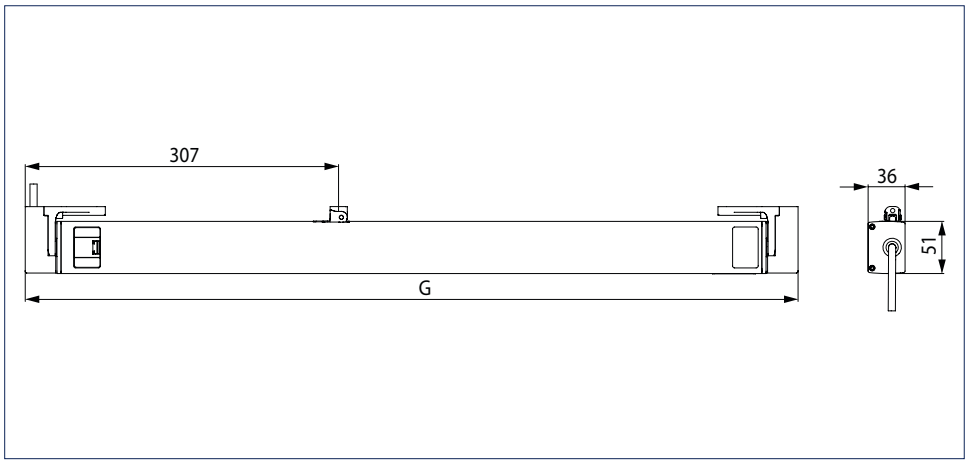
Console set P Slimchain (164394)

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) is with variable adjustment. 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



G = Length

Area of application

- 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 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
- Leaf or frame installation
- A system solution in combination with the locking drive Power lock

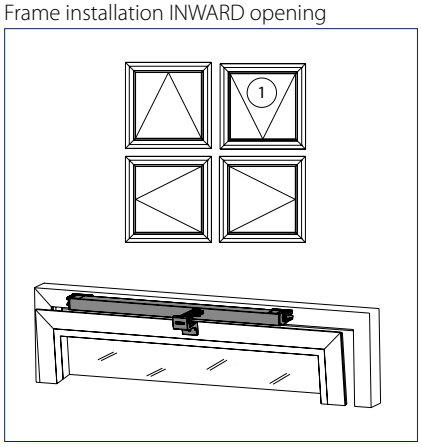
TECHNICAL DATA

Product features		GEZE Powerchain
General information		
Length		Stroke 600: 756 mm, stroke 800: 856 mm, stroke 1200: 1056 mm (each with consoles)
Height		36 mm
Depth		51 mm
Space requirement on frame (min.)		Frame installation inward-opening: 50/61 mm (for side-hung casement DIN L), leaf installation inward-opening: 30/41 mm (for side-hung casement DIN R), frame installation outward-opening: 50 mm
Space requirement on leaf (min.)		Frame installation inward-opening: 40 mm, leaf installation inward-opening: 50 mm Frame installation outward-opening 30/41 mm (for side-hung casement DIN R)
Specification		
Possible stroke lengths		600 mm, 800 mm, 1200 mm
Factory presetting		Ventilation stroke 300 mm (slow speed), Alarm stroke full opening width (fast speed)
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
Leaf weight (max.)		200 kg *
Overlap range		8-23 mm
Electrical data		
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
IP rating / protection rating		IP 40 / III
Functions		
Stroke length settable		●
Opening speed settable (ventilation)		●
Additional locking device available		●
Type of additional locking device		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, including locking drive
SHEV tested		●
Synchronisation (max.)		3 drives
Types of installation		
Bottom-hung window	inward-opening	Frame / leaf
	outward-opening	Frame
Side-hung window	inward-opening	Frame / leaf
	outward-opening	Frame
Top-hung window	inward-opening	Frame / leaf
	outward-opening	Frame
Skylight window	outward-opening	Frame

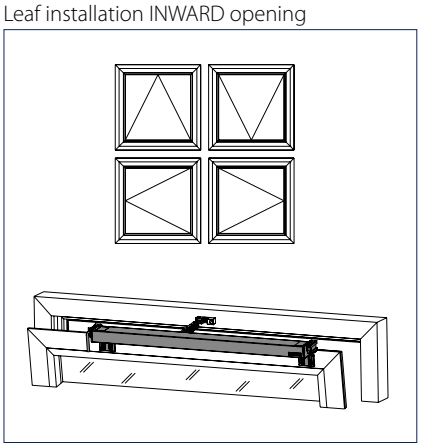
● = YES
*) The overall weight is limited by the hinges and depends on the details provided by the profile system manufacturer

TYPES OF INSTALLATION

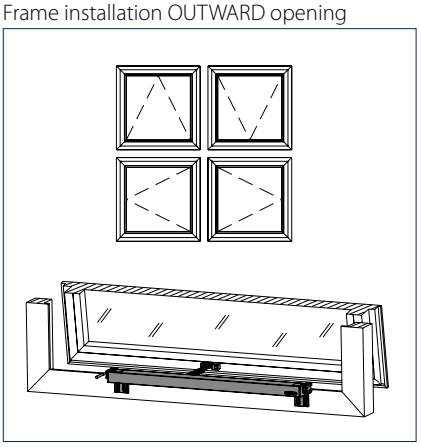
Frame installation INWARD opening



Leaf installation INWARD opening

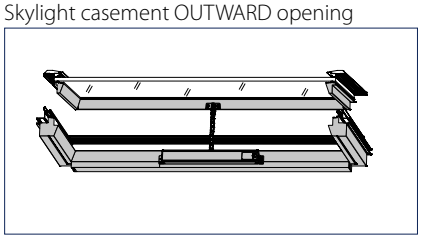


Frame installation OUTWARD opening

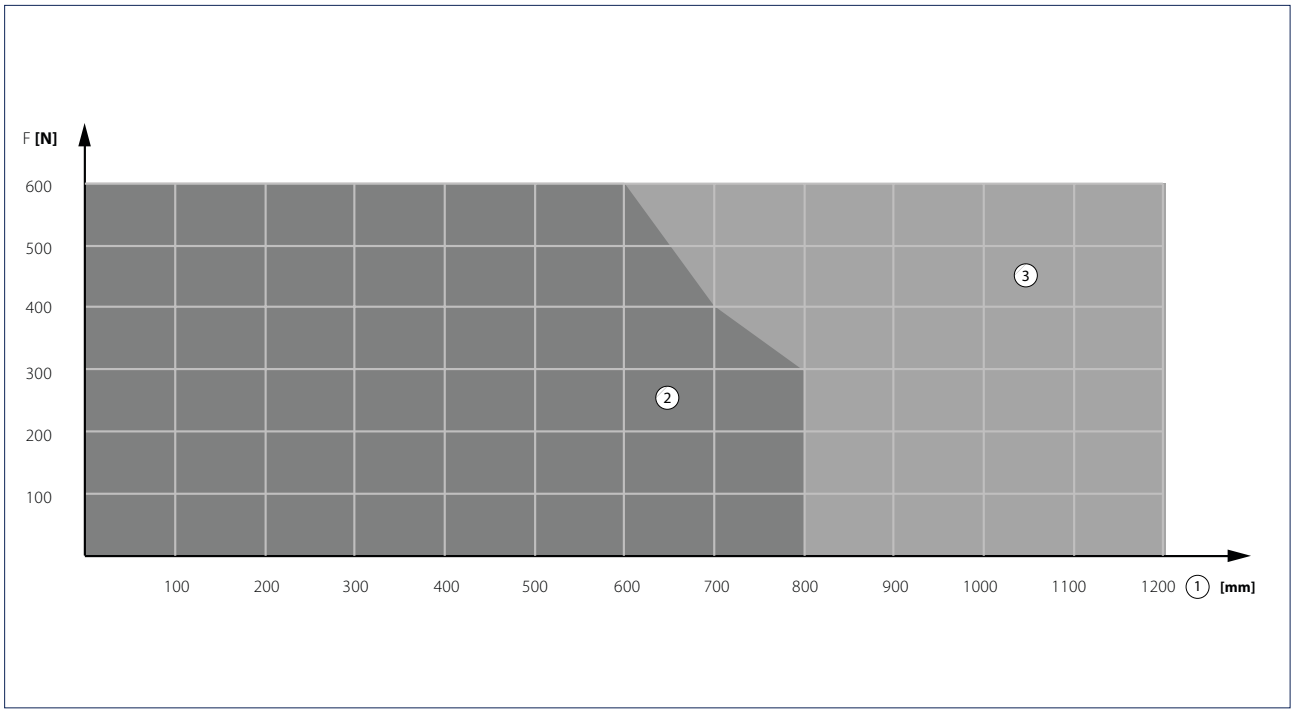


1 = With console set ET

Skylight casement OUTWARD opening

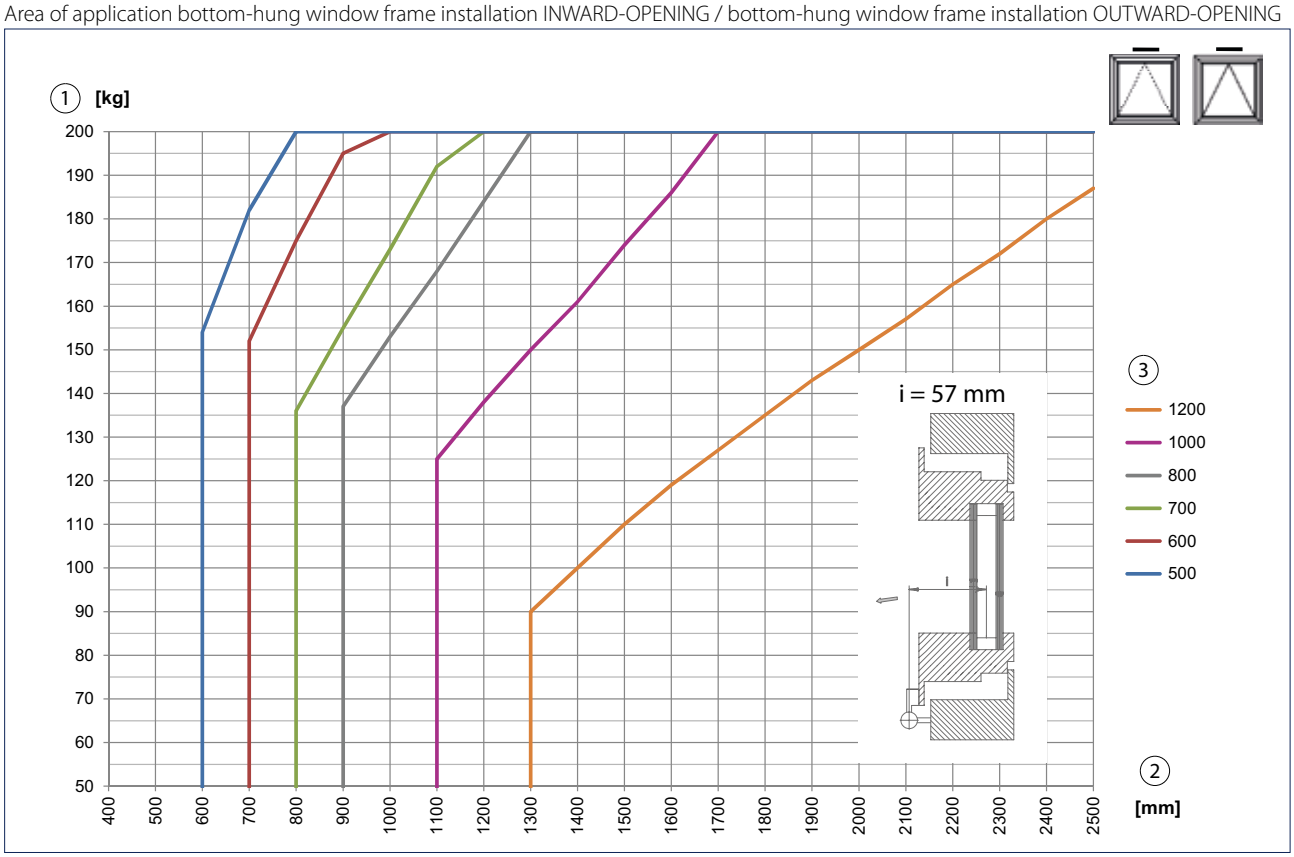


FORCE-PATH DIAGRAM



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

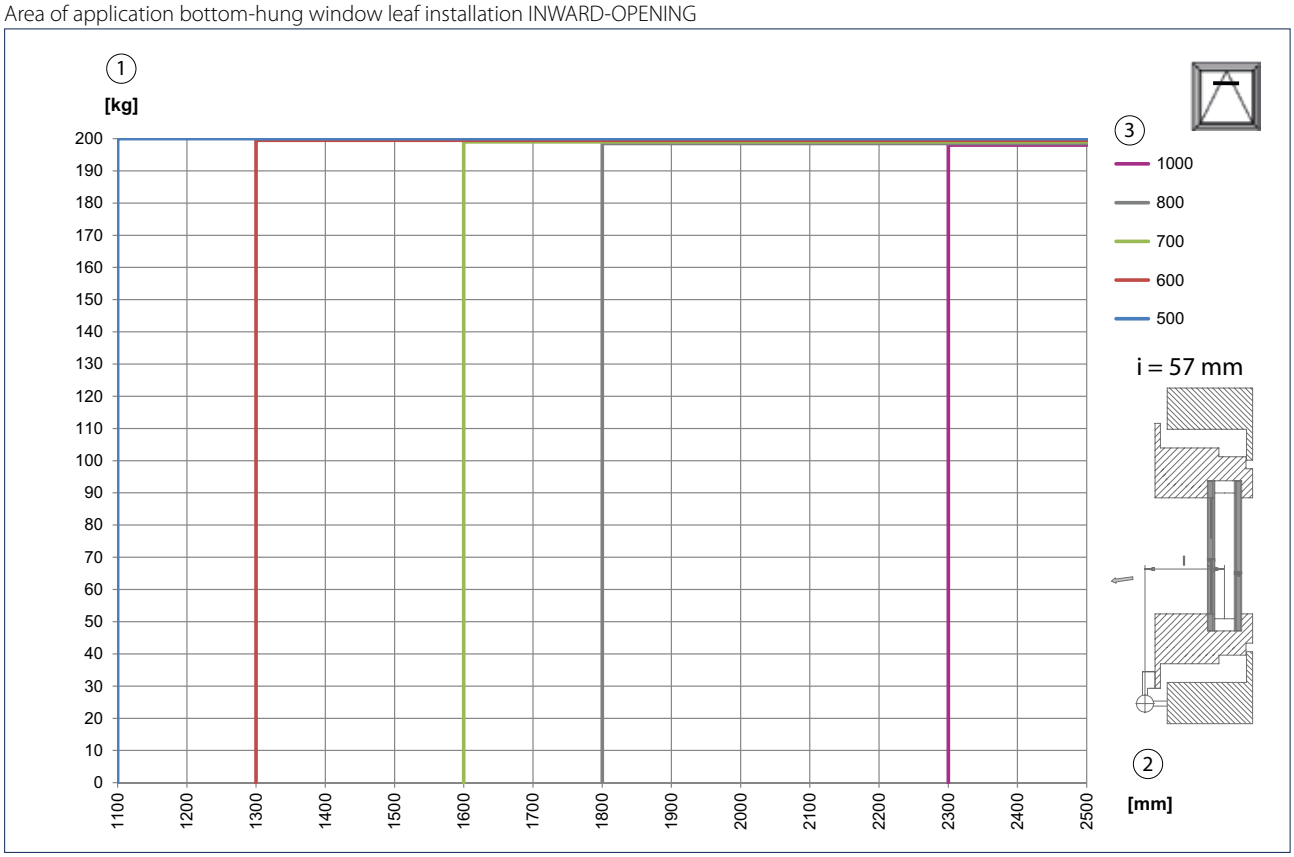
Area of application bottom-hung window frame installation INWARD-OPENING / bottom-hung window frame installation OUTWARD-OPENING



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

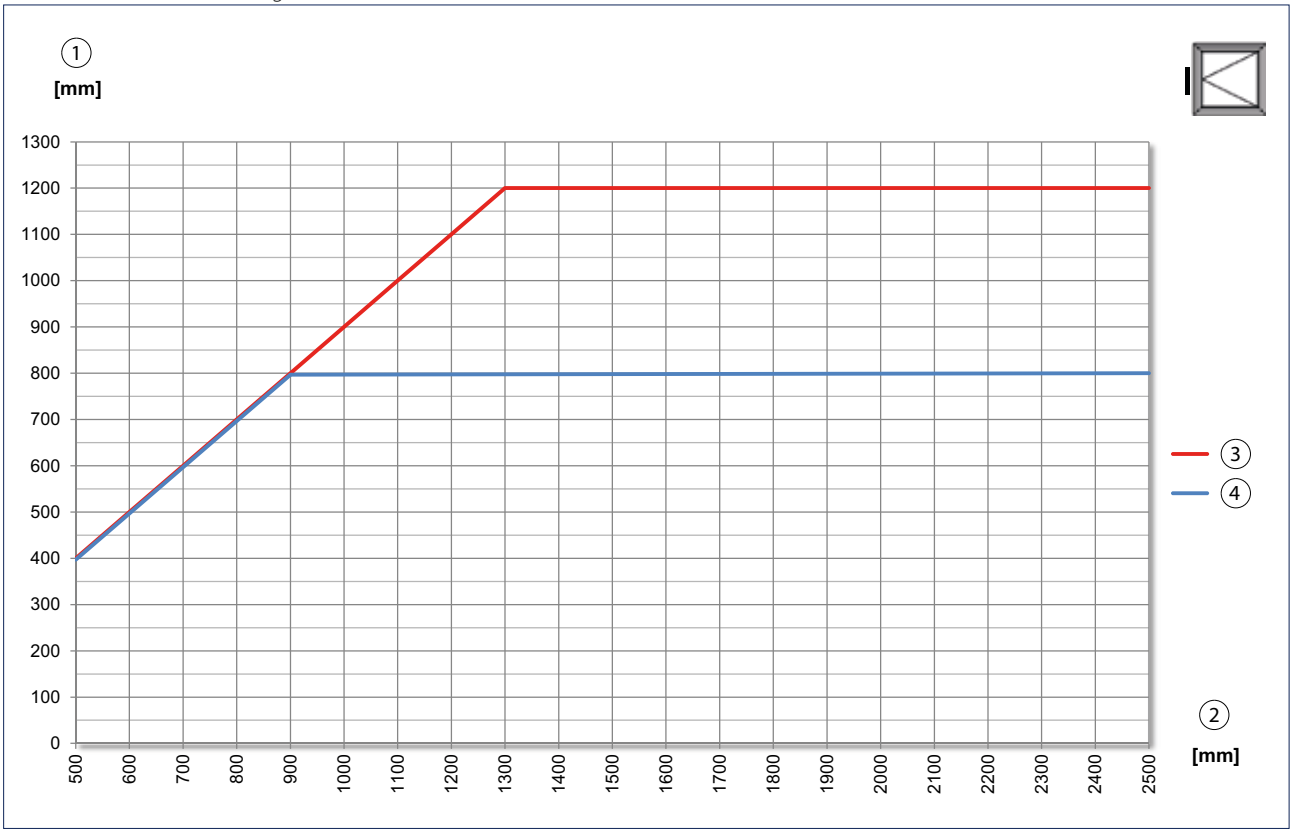
1 = Leaf weight 2 = Secondary closing edge 3 = Stroke

Area of application bottom-hung window leaf installation INWARD-OPENING



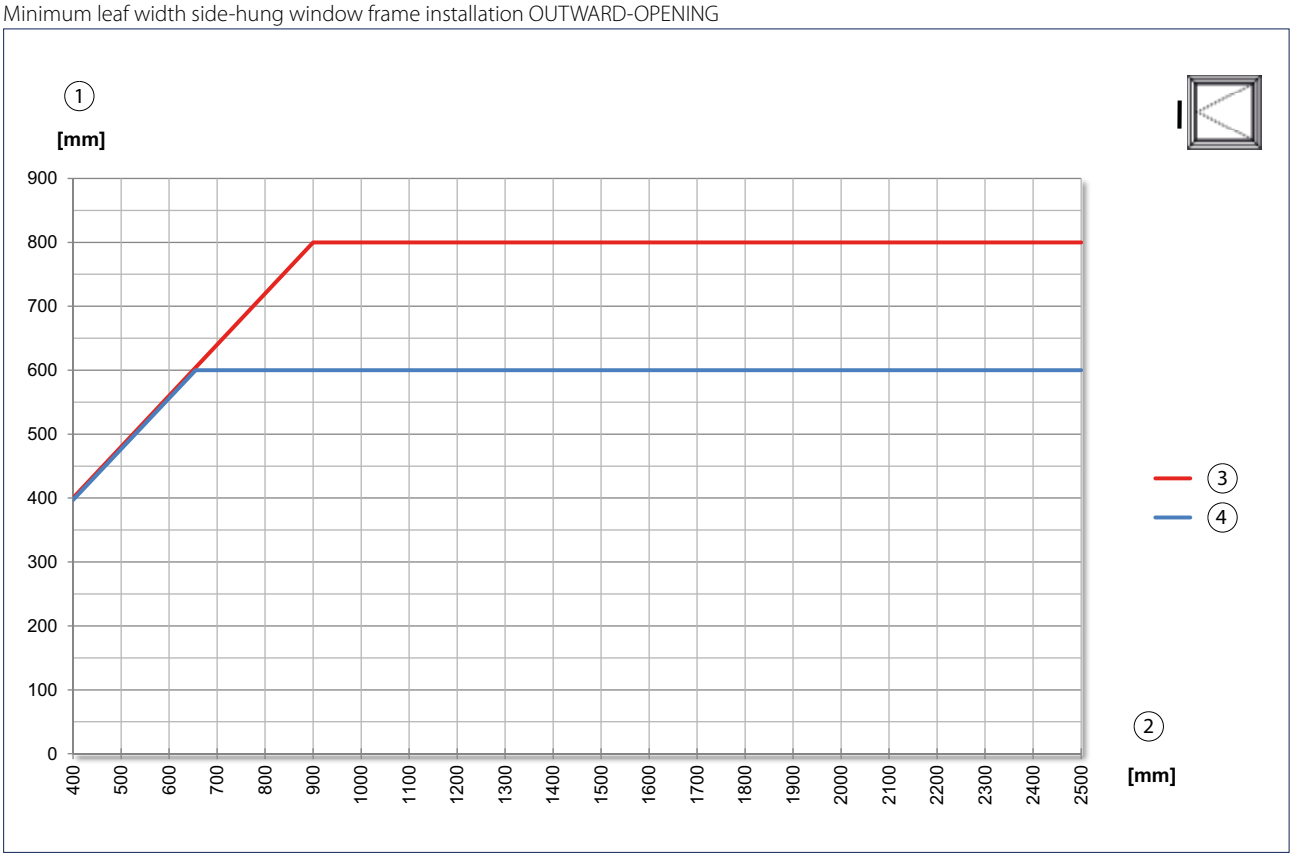
1 = Leaf weight
2 = Secondary closing edge
3 = Stroke

Minimum leaf width side-hung window frame installation INWARD-OPENING



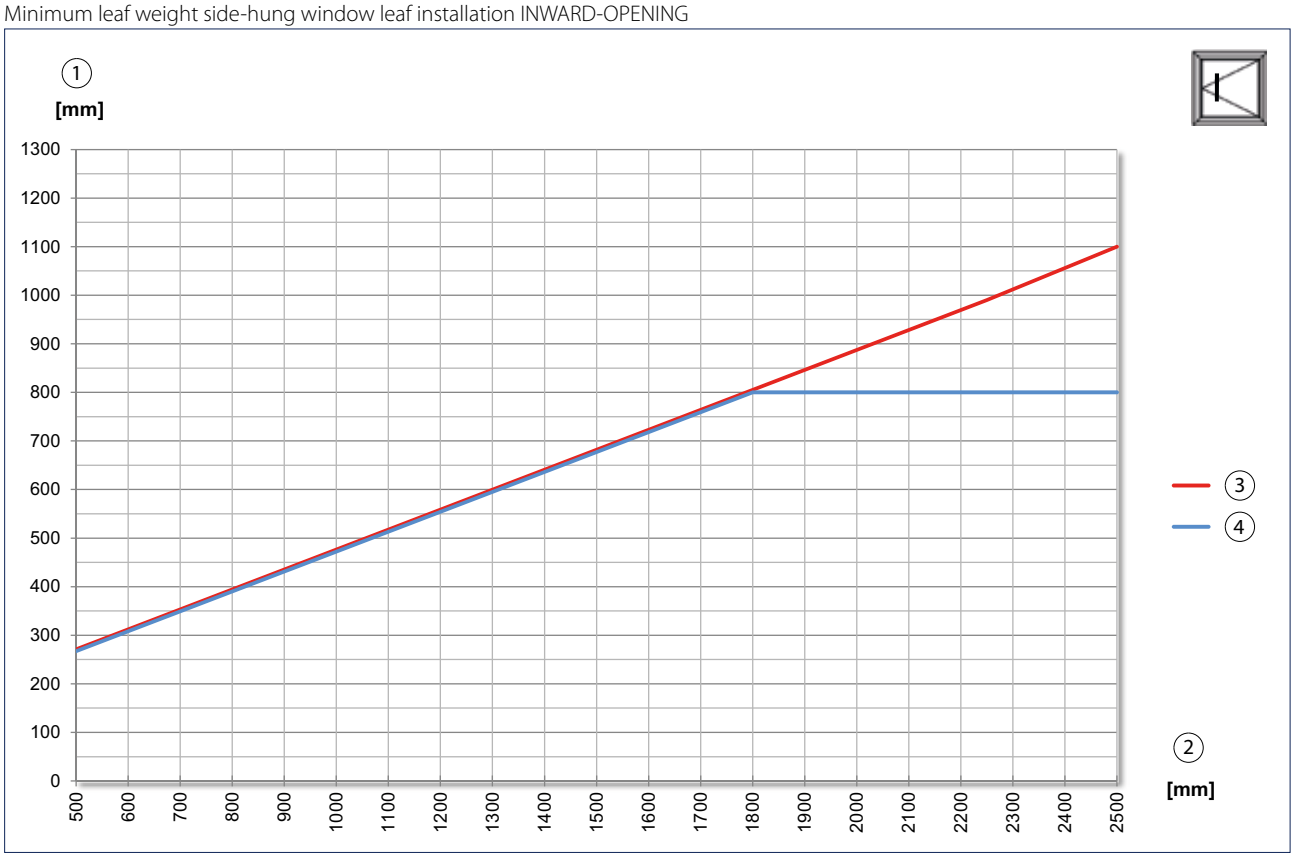
1 = Stroke
2 = Secondary closing edge
3 = Alarm
4 = Ventilation

Minimum leaf width side-hung window frame installation OUTWARD-OPENING



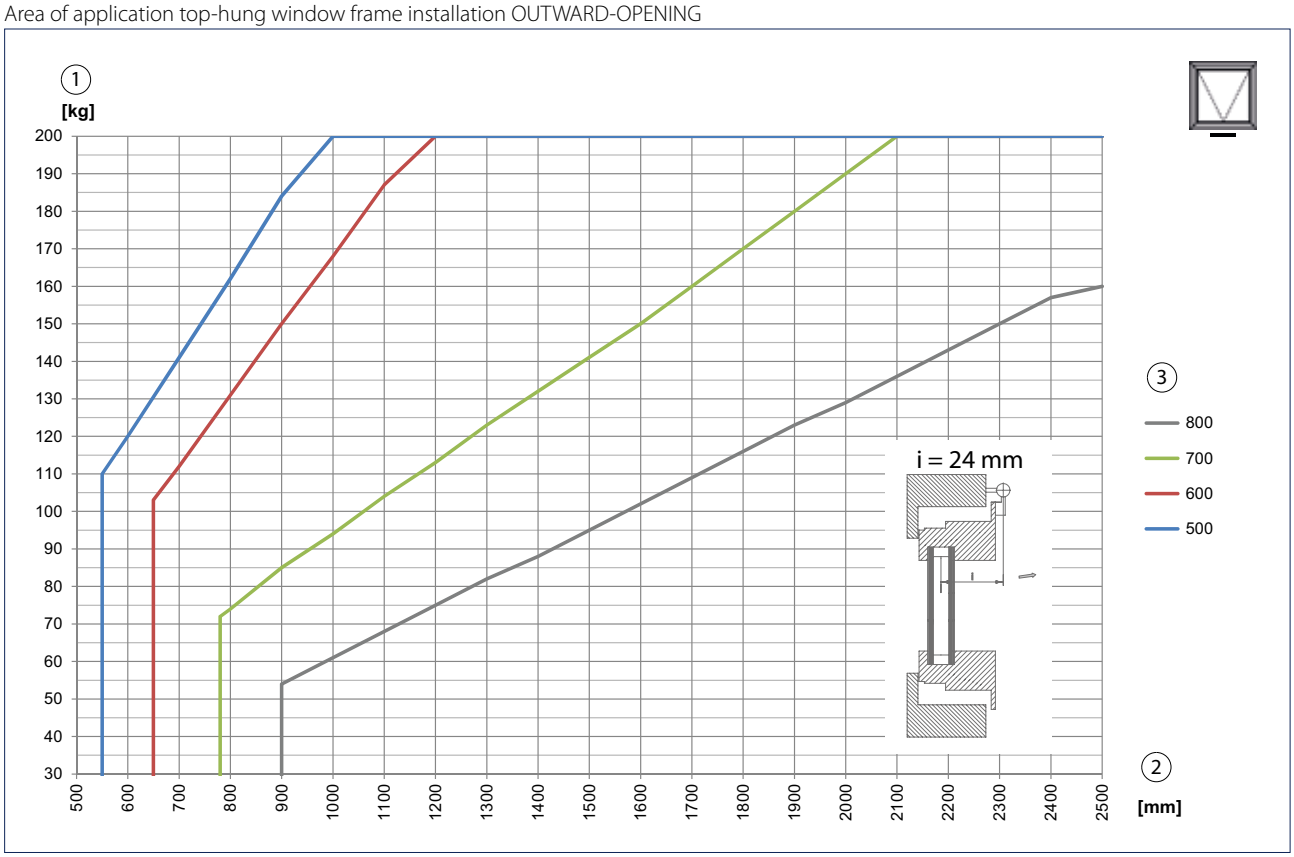
1 = Stroke
2 = Secondary closing edge
3 = Alarm
4 = Ventilation

Minimum leaf weight side-hung window leaf installation INWARD-OPENING



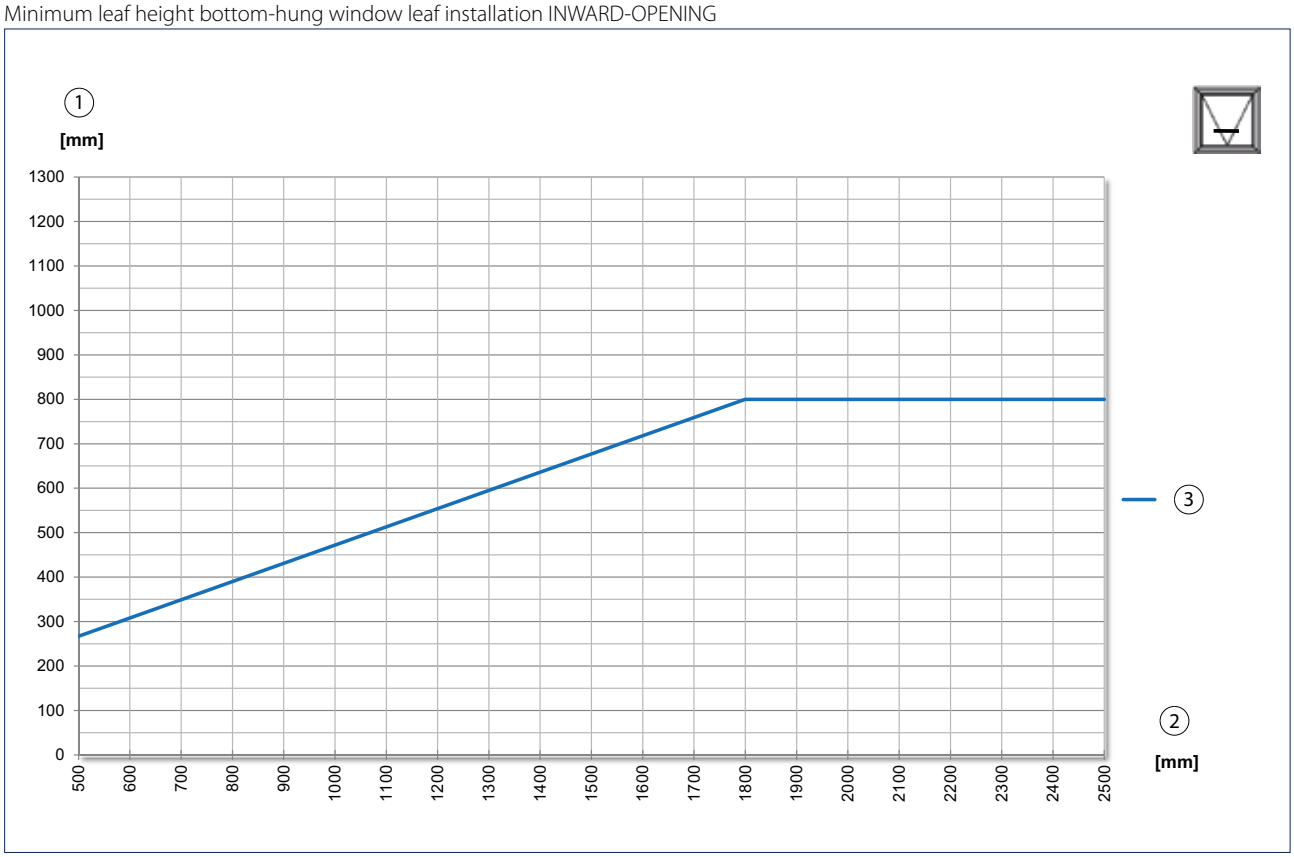
1 = Stroke
2 = Secondary closing edge
3 = Alarm
4 = Ventilation

Area of application top-hung window frame installation OUTWARD-OPENING



Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the leaf weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.
1 = Leaf weight 2 = Secondary closing edge 3 = Stroke

Minimum leaf height bottom-hung window leaf installation INWARD-OPENING

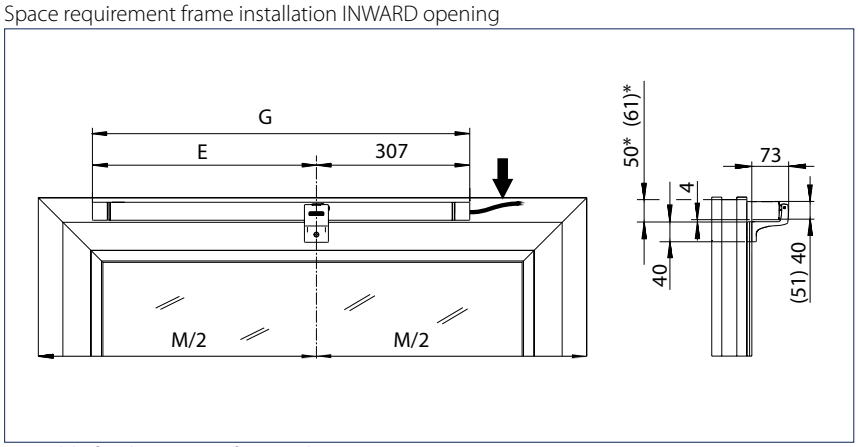


Area of application applies for one Solo drive, for Syncro 2 or Syncro 3 the leaf weight can be doubled or tripled.
The details provided by the profile system manufacturer must be heeded.
1 = Stroke 2 = Secondary closing edge 3 = Ventilation/alarm

SPACE REQUIREMENT

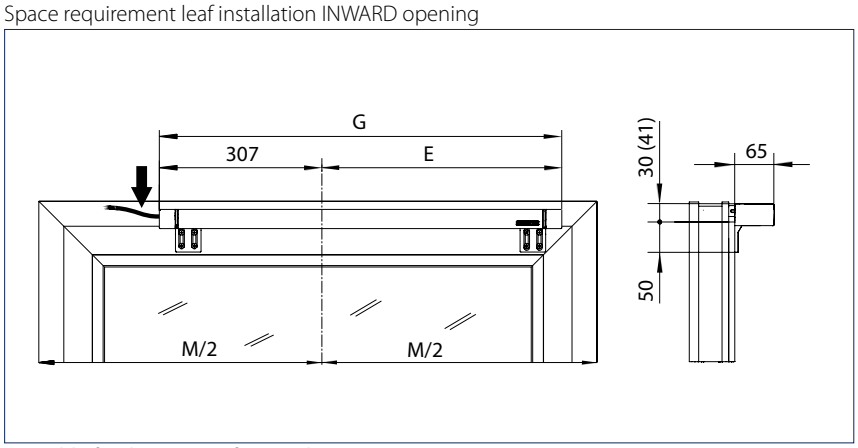
Stroke	E [mm]	G [mm]
600	449	756
800	549	856
1200	749	1056

Space requirement frame installation INWARD opening



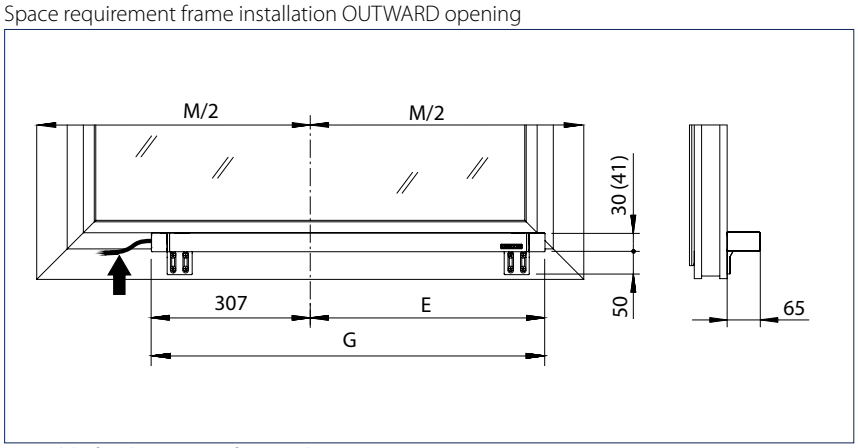
See table for dimensions for E and G
Dimensions in brackets apply for side-hung windows DIN left
* = Swivelling range

Space requirement leaf installation INWARD opening



See table for dimensions for E and G
Dimension in brackets applies for side-hung windows DIN right

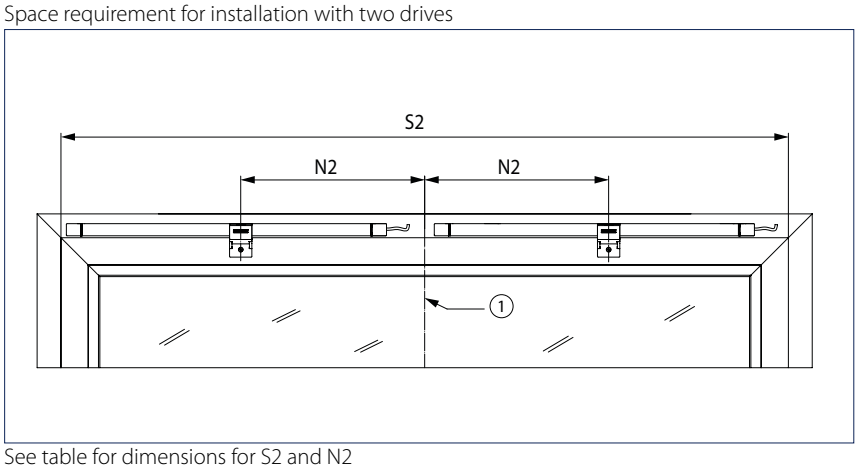
Space requirement frame installation OUTWARD opening



See table for dimensions for E and G
Dimension in brackets applies for side-hung windows DIN right

SPACE REQUIREMENT - Syncro 2

Space requirement for installation with two drives

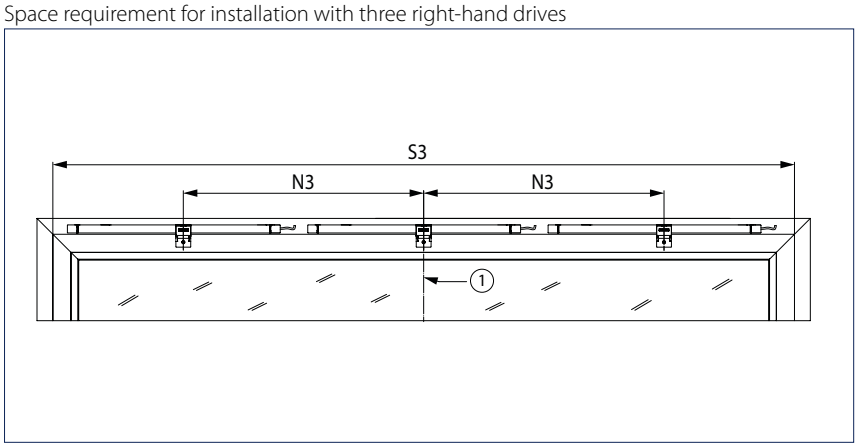


See table for dimensions for S2 and N2
1 = Centre of window

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 - Syncro 3

Space requirement for installation with three right-hand drives

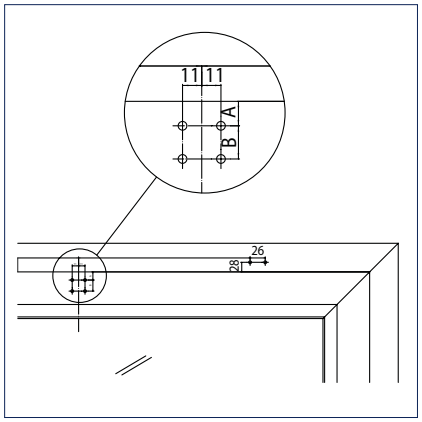


See table for dimensions for S3 and N3
1 = Centre of window

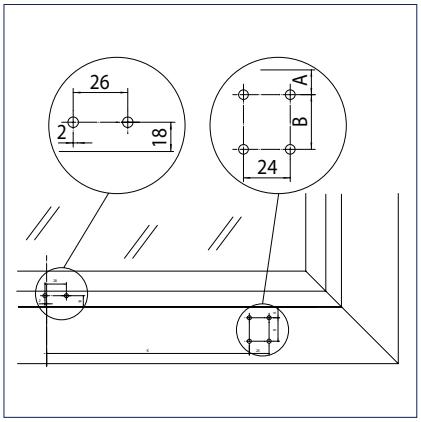
Stroke	N3 [mm]	S3 [mm]	ID no. EV1/white RAL 9016	Quantity
600	796	2490	147080/147081	3
800	896	2890	147090/147091	3
1200	1096	3690	147100/147101	3

GEZE Powerchain installation dimensions recommendation

frame installation INWARD-OPENING



leaf installation INWARD-OPENING,
frame installation OUTWARD-OPENING



Material	Manu-facturer	Profile system	Frame installation INWARD-OPENING		Leaf installation INWARD-OPENING		Frame installation OUTWARD-OPENING	
			A	**B**	**A**	**B**	**A**	**B**
Aluminium	Aluprof	MB-60	14	19	13	22		
		MB-70	14	19	13	22		
	Gutmann	S70	14	19	13	22		
	Heroal	065	14	19	13	22	16	22
		110ES	14	19	13	22	16	22
	Hueck	Lambda 65	14	19	13	22	15	17
		Lambda 77	14	19	13	22	15	17
	Raico	Frame+ 65 W	14	19	13	22	14	17
		Frame+ 75 WB	14	19	13	22	14	17
	Sapa	1074	14 [1]	19	13 [1]	20 [1]	19 [2]	14 [2]
		1086	14 [3]	19 [1]	13 [3]	19 [3]		
	Schueco	AWS 65	14	19	14	22	14	24
		AWS 75	14	19	14	22	14	24
	Wicona	Wicline 65 EVO	14	11	14	22	14	17
		Wicline 75 EVO	14	11	14	22	14	17
Plastic	EgoKiefer	AS1	17	11	17	23		
	Profine	Kömmerling 88plus [4]	18	14	11	19		
	Veka	Alphaline 90	15	18	15	20		
		Softline 82 MD	15	18	15	20		
Timber	Gutmann	Mira	22	11	22	17		
	Landgraf	IV79	22	11	22	17		
	Oertli	IV68 / IV80	22	11	22	17		

All dimensions in mm.

1) All profile combinations with profile numbers 74102, 74112, 74202 or 74203 permitted

2) All profile combinations with profile number 74052 permitted

3) All profile combinations with profile numbers 86102, 86112 or 86302 permitted

4) On-site supports required, since overlap 24 mm

Further profile ranges on request.

GEZE Powerchain

ORDER INFORMATION

Designation	Stroke	Version	ID no.
GEZE Powerchain	600 mm	EV1	147080
	600 mm	white RAL 9016	147081
	800 mm	EV1	147090
	800 mm	white RAL 9016	147091
	1200 mm	EV1	147100
	1200 mm	white RAL 9016	147101
GEZE Powerchain - special version Can be configured: stroke, cable length, colour			147120
Accessories			
Console set A Powerchain For bottom-hung, side-hung and top-hung windows, frame installation INWARD-OPENING		white RAL 9016	147111
		black	147110
Console set B Powerchain For bottom-hung, side-hung and top-hung windows, leaf installation INWARD-OPENING and frame installation OUTWARD-OPENING. Roof profile system: Aluprof MB-SR 50, Reynaers CW 50, Raico Wing 105 DI		white RAL 9016	147113
		black	147112
Choice of consoles for Powerchain Can be configured: type of opening, opening direction, installation type, colour		according to RAL	147121
Console set roof D1 For skylight frame installation OUTWARD-OPENING. For roof profile systems: Heroal C50, Hueck 85E, Wicona Wictec 50-60		black	154869
Console set roof D2 For skylight frame installation OUTWARD-OPENING. For roof profile systems: Akotherm AT 500F, Alcoa AA100, Heroal 180, Hueck VF50, MGlass		silver-coloured	154870
Console set roof D3 For skylight frame installation OUTWARD-OPENING. For roof profile systems: Schüco AWS 57RO		silver-coloured	158053
Choice of consoles roof Can be configured: profile system, colour		according to RAL	159901
Console set ET For top-hung windows, frame installation INWARD-OPENING		white	161139
		black	161140

Console set A Powerchain (147110)

Console set B Powerchain (147112)

Console set roof D1 (154869)

Console set roof D2 (154870)

Console set roof D3 (158053)

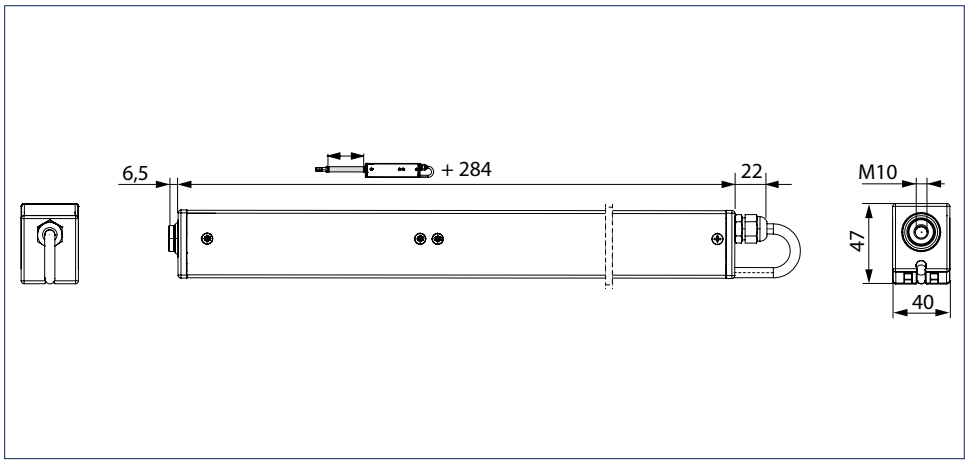
Console set ET (161140)

GEZE spindle drive E 250 NT

Drive in compact design with a large application range

The GEZE E 250 NT can be used to open and close windows in the façade and roof areas as well as skylight domes by electric motor. The drive stroke (stroke variants 100 - 1000 mm) is with variable adjustment. 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 compared to attachment with a comparable stroke on the main closing edge of the skylight window.
The version GEZE E 250 NT AB is suitable for use in protected outdoor areas and in moisture-prone areas. This drive has an additional venting element, self-sealing screws and electroncis (FSE) with special coating.

GEZE E 250 NT



Area of application

- 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 plus locking device
- Can be used on timber, plastic and aluminium profile systems
- Leaf or frame installation
- Version E 250 AB suitable for protected outdoor areas (e.g. winter gardens) and moisture-prone areas (e.g. swimming pools)

GEZE E 250 NT

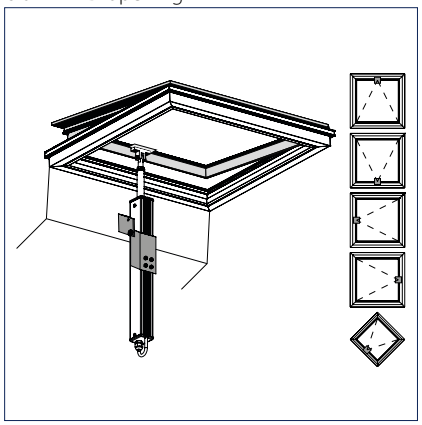
TECHNICAL DATA

Product features	GEZE E 250 NT
General information	
Dimensions (W x H x D)	Stroke + 284 x 40 x 47 mm
Specification	
Possible stroke lengths	100 mm, 150 mm, 200 mm, 230 mm, 300 mm, 500 mm, 750 mm, 1000 mm
Opening speed RWA	5.7 mm/s, stroke 500: 9.5 mm/s
Opening speed ventilation	5 mm/s
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Electrical data	
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 mm²
Temperature range	-5 – 70 °C
IP rating / protection rating	IP 65 / III
Functions	
Stroke length settable	●
Syncro function	●
Opening speed settable (ventilation)	●
Additional locking device available	●
Type of additional locking device	Locking drive
Type of stroke shortening	Factory setting, synchronising unit
End position cut-off extended	electronically via path and load
End position cut-off retracted	electronically 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

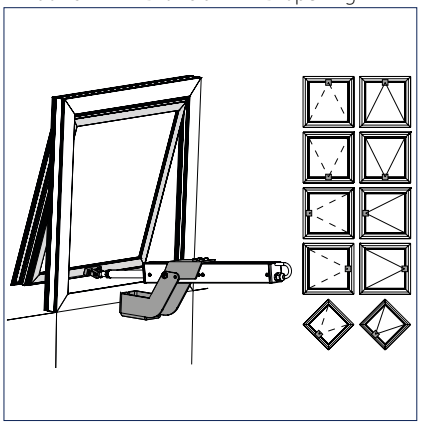
TYPES OF INSTALLATION

Skylights and light domes
OUTWARD opening



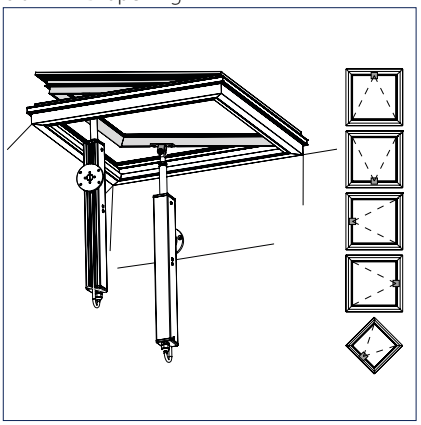
Standard console

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



INWARD-OPENING console

Skylights and light domes
OUTWARD opening



Swivelling console

INSTALLATION

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

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

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

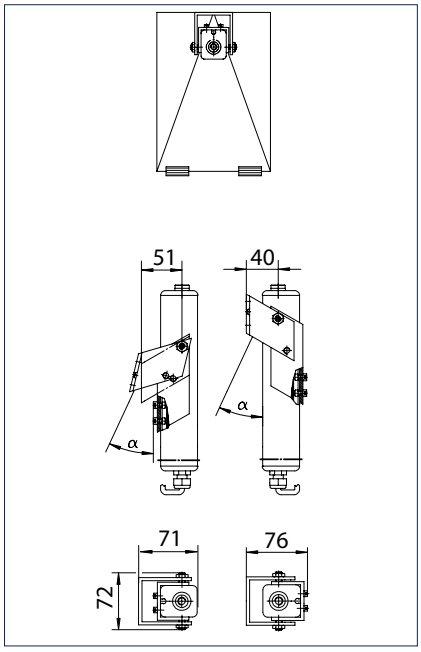
Stroke	Leaf height
100 - 300 mm	400 mm
500 mm	600 mm

Minimum leaf heights for skylights and skylight domes

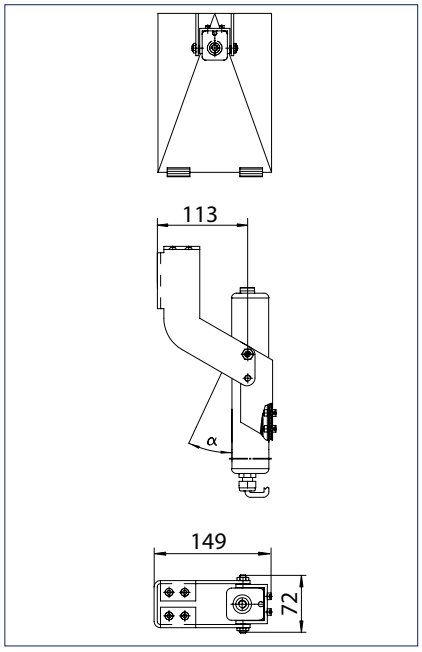
Stroke	Leaf height
100 mm	220 mm
150 mm	270 mm
200 mm	320 mm
230 mm	350 mm
300 mm	440 mm
500 mm	670 mm
700 mm	910 mm
750 mm	980 mm
1000 mm	1270 mm

Solo application at the main closing edge
Leaf weight max. 100 kg, leaf width < 1200 mm

Standard console



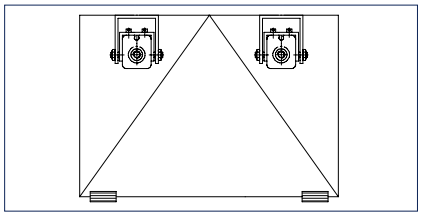
INWARD-OPENING console



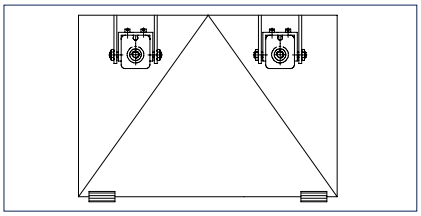
INSTALLATION - Syncro 2

Synchro application at the main closing edge
Leaf weight max. 200 kg, leaf width < 2400 mm

Standard console

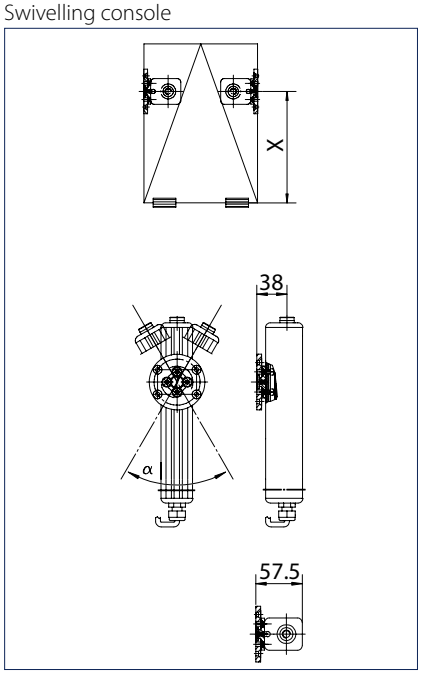


INWARD-OPENING console

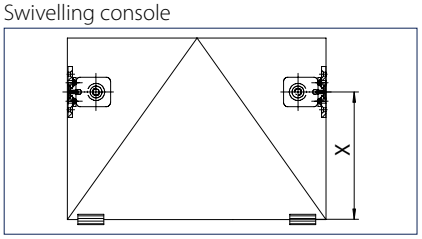


Synchro application at the secondary closing edge

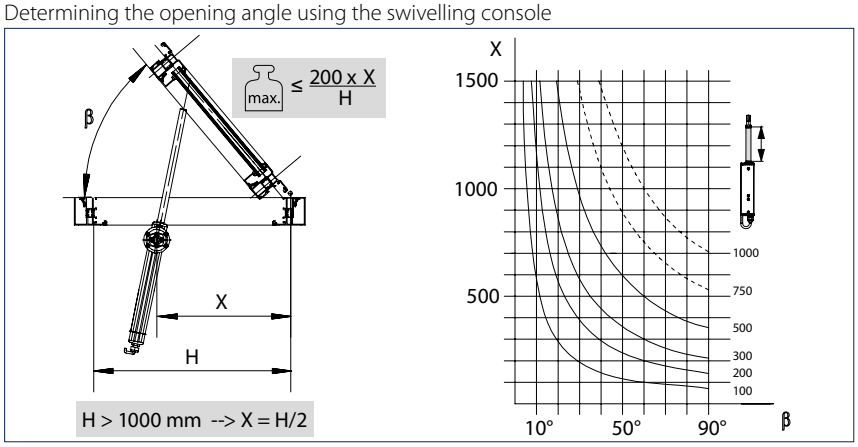
Swivelling console



Swivelling console



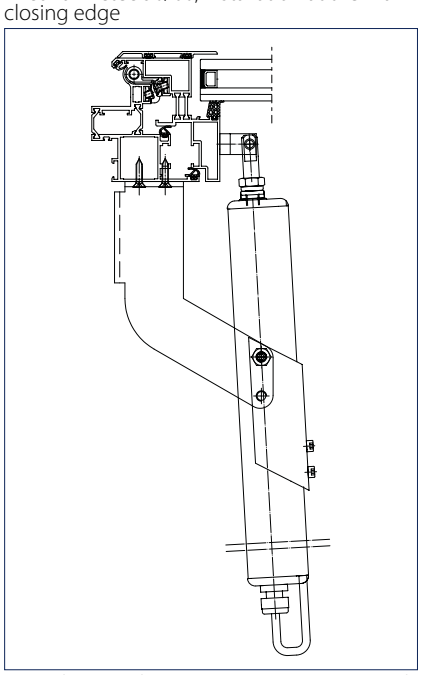
Determining the opening angle using the swivelling console



H = Secondary closing edge
X = Fitting dimension
β = Opening angle

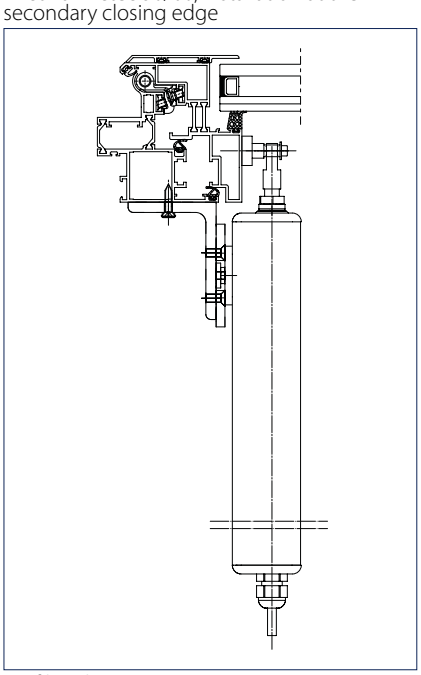
PROFILE SPECIFIC INSTALLATION

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



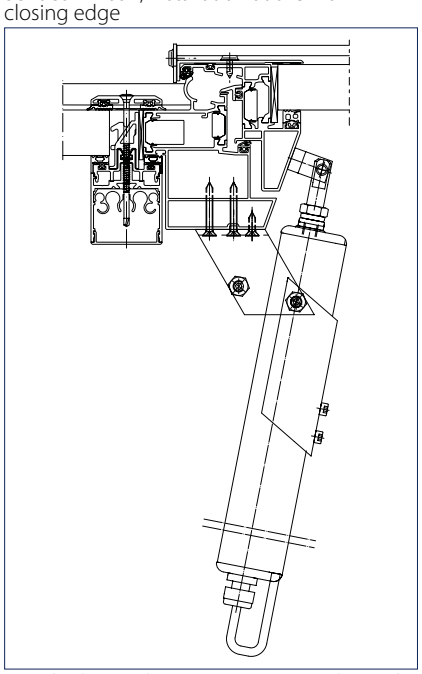
Console inward-opening E 250 / E 350 N, incl. standard leaf bracket (ID no. 027218)

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



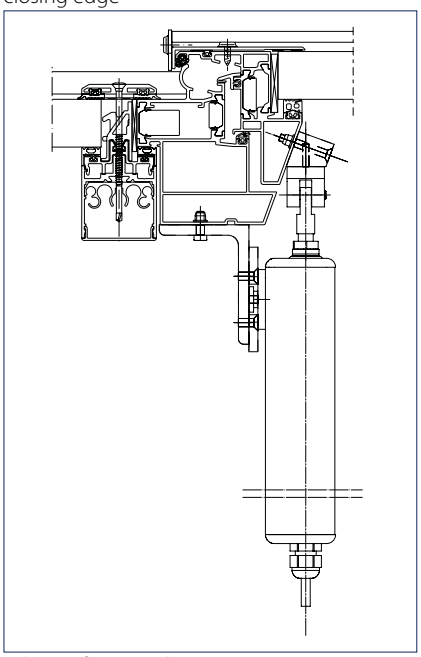
Leaf bracket E 1500 NSK W-HU (ID no. 136187)
Swivelling console E 250 NSK / E 350 N, incl. console bracket E 250 and eye bolt ø 8 mm (ID no. 138367)

Schüco AWS57, installation at the main closing edge



Standard console E 250 / E 350 N, incl. standard leaf 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 NT / E 350 N (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.

GEZE E 250 NT

ORDER INFORMATION

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

Designation	Stroke	Version	ID no.
Accessories			
Swivelling console E 250 NSK with eye bolts and console bracket suitable for installation on the secondary closing edge of skylights			138367
Swivelling console E 250 NT with eye bolts and leaf bracket		EV1	116112
		white RAL 9016	116113
		according to RAL	116114
Console INWARD-OPENING E 250 NT with eye bolts and leaf bracket		EV1	027218
		white RAL 9016	027223
		according to RAL	027222
Standard console E 250 NT with eye bolts and leaf bracket		EV1	019032
		white RAL 9016	020879
		according to RAL	020878
Adapter for console E 250 NT NSK-S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			138370
Eye bolt E 250 NT DRM suitable for installation on the secondary closing edge of skylights			138368
Bracket E 250 NT NSK suitable for installation on the secondary closing edge of skylights			138369
Leaf bracket E 1500 HSK HE suitable for installation on the main closing edge of skylights (Heroal), can also be used for E 250 NT			136190
Leaf 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
Leaf 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
Leaf 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
Leaf 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

Swivelling console E 250 NT (116112)

Console INWARD-OPENING E 250 NT (027218)

Standard console E 250 NT (019032)

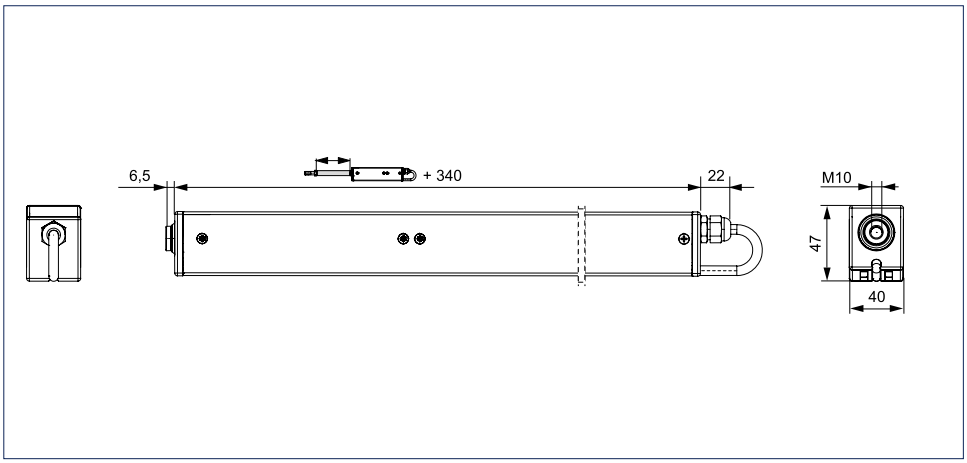
GEZE E 350 N

GEZE electric spindle drive E 350 N

Compact drive in 230 V version

This electrically operated spindle drive is a compact solution for electrical opening and closing of bottom-hung, top-hung and side-hung casements, skylights and light domes. It is suitable for daily ventilation. Thanks to its small dimensions and high-quality detail solutions, e.g. the internal cable routing and mechanical load cut-off, it is the ideal drive for the direct opening of windows for ventilation. In combination with the OL 350 EN, OL 360 EN and OL 370 EN opening and locking systems, the motor achieves large opening widths with small spindle stroke.

GEZE E 350 N



Area of application

- Suitable for use for natural ventilation (230 V)
- For the direct opening of windows in the façade and roof area as well as for skylight domes
- Inward-opening and outward-opening casements
- Only for Solo operation. For Synchro applications, the E 250 NT with power supply is available.

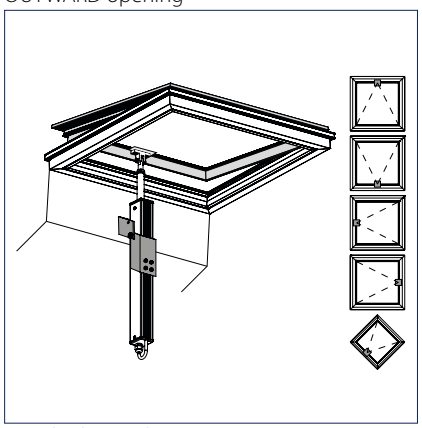
TECHNICAL DATA

Product features	GEZE E 350 N
Specification	
Possible stroke lengths	100 mm, 150 mm, 200 mm, 230 mm, 300 mm, 500 mm, 700 mm, 750 mm, 1000 mm
Opening speed ventilation	5 mm/s
Electrical data	
Operating voltage	230 V AC
Current consumption	0.15 A
Power consumption (max.)	35 W
Duty rating	50 %
Length of power supply cable	2.5 m
Cable dimensions	3 m 0.75 mm^2
Temperature range	-20 - 70 °C
IP rating / protection rating	IP 65 / II
Functions	
End position cut-off extended	mechanical overload cut-off
End position cut-off retracted	mechanical overload cut-off
Overload cut-off	●

● = YES

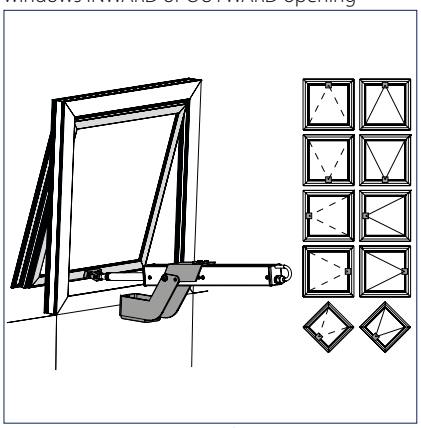
TYPES OF INSTALLATION

Skylights and light domes
OUTWARD opening



Standard console

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



INWARD-OPENING console

INSTALLATION

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

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

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

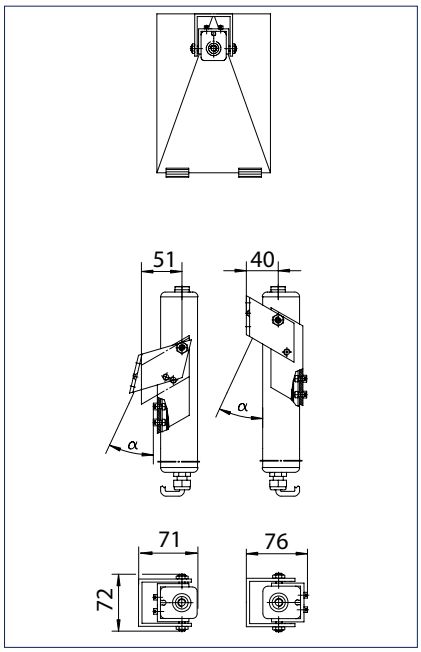
Stroke	Leaf height
100 - 300 mm	400 mm
500 mm	600 mm

Minimum leaf heights for skylights and skylight domes

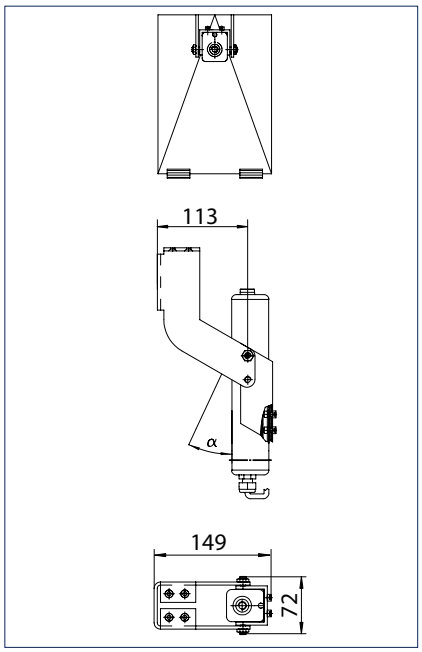
Stroke	Leaf height
100 mm	220 mm
150 mm	270 mm
200 mm	320 mm
230 mm	350 mm
300 mm	440 mm
500 mm	670 mm
700 mm	910 mm
750 mm	980 mm
1000 mm	1270 mm

Solo application at the main closing edge
Leaf weight max. 100 kg, leaf width < 1200 mm

Standard console

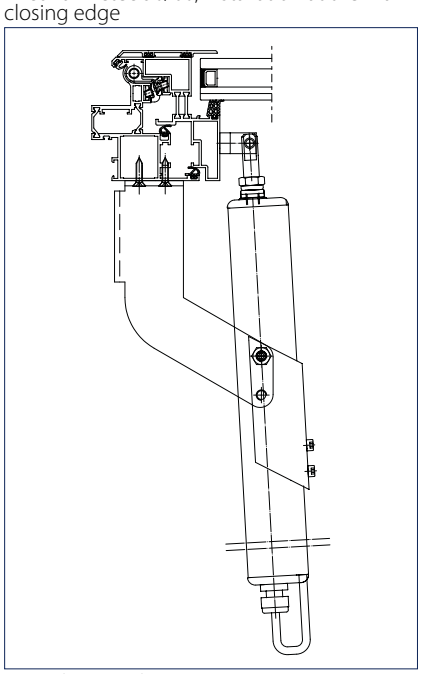


INWARD-OPENING console



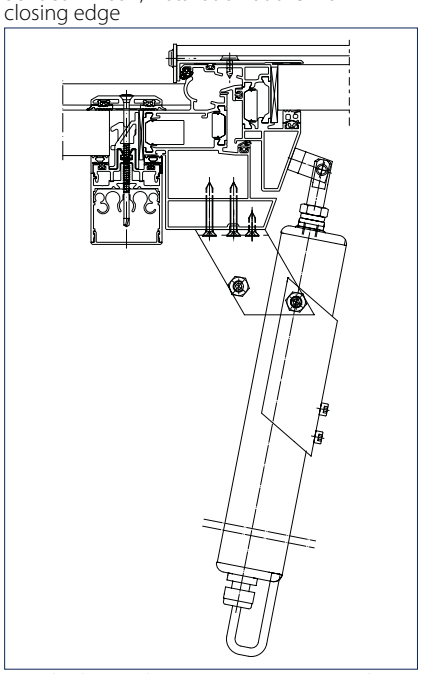
PROFILE SPECIFIC INSTALLATION

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



Console inward-opening E 250 NT / E 350 N, incl. standard leaf bracket (ID no. 027218)

Schüco AWS57, installation at the main closing edge



Standard console E 250 NT / E 350 N, incl. standard leaf bracket (ID no. 019032)

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

GEZE E 350 N

ORDER INFORMATION

Designation	Stroke	Version	ID no.
GEZE E 350 N	100 mm	EV1	086121
	100 mm	white RAL 9016	086124
	150 mm	EV1	086126
	150 mm	white RAL 9016	086129
	200 mm	EV1	086131
	200 mm	white RAL 9016	086134
	230 mm	EV1	086136
	230 mm	white RAL 9016	086139
	300 mm	EV1	086141
	300 mm	white RAL 9016	086144
	500 mm	EV1	086146
	500 mm	white RAL 9016	086149
	700 mm	EV1	086151
	700 mm	white RAL 9016	086154
	750 mm	EV1	086156
	750 mm	white RAL 9016	086159
	1000 mm	EV1	086161
	1000 mm	white RAL 9016	086164
Accessories			
Standard console E 250 NT / E 350 N with eye bolts and leaf bracket		EV1	019032
		white RAL 9016	020879
		according to RAL	020878
Console INWARD-OPENING E 250 NT / E 350 N with eye bolts and leaf bracket		EV1	027218
		white RAL 9016	027223
		according to RAL	027222
Stroke arresting device 230 V AC			084147
Position feedback for E 350 N			083941

Standard console E 250 NT / E 350 N (019032)

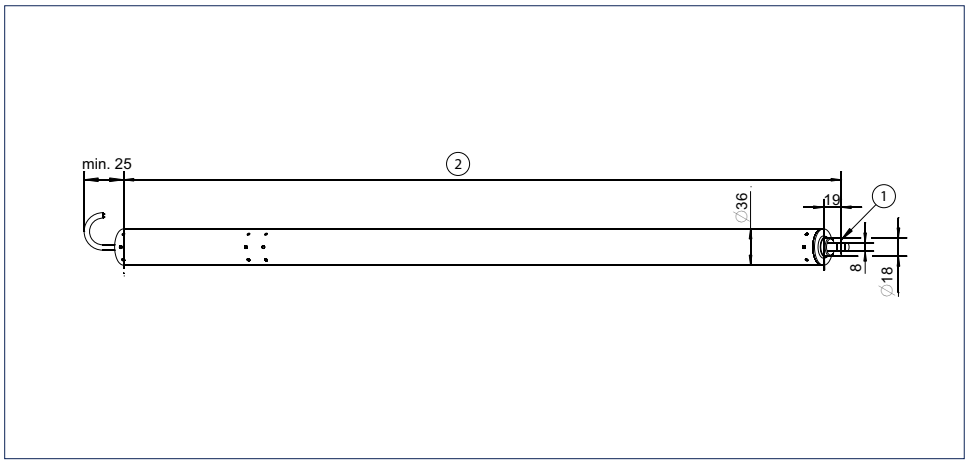
Console INWARD-OPENING E 250 NT / E 350 N (027218)

GEZE spindle drive E 1500 N

RWA electric spindle drive as Solo or Syncro solution for heavy leafs

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 leafs is recommended from a 1200 mm main closing edge. A Syncro set comprises two E 1500 N spindle drives with integrated synchronic control unit.

GEZE E 1500 N



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

Area of application

- Heavy window elements in the façade and roof area
- Bottom-hung, side-hung, top-hung and skylight windows
- 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 4 drives
- Timber, plastic and aluminium frames
- Leaf or frame installation

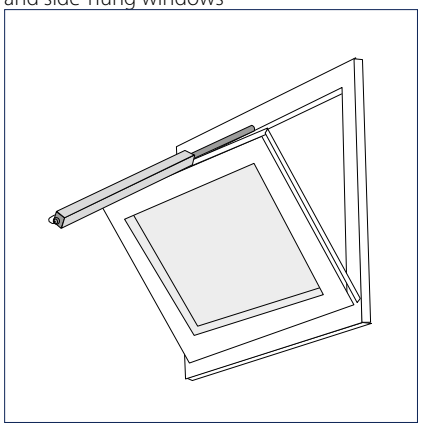
GEZE E 1500 N

TECHNICAL DATA

Product features	GEZE E 1500 N
General information	
Dimensions (W x H x D)	Stroke + 302, ø 36 mm
Specification	
Possible stroke lengths	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
Electrical data	
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
IP rating / protection rating	IP 65 / III
Functions	
Type of additional locking device	Locking drive
Type of stroke shortening	Factory setting
End position cut-off extended	electronic
End position cut-off retracted	electronic
Overload cut-off	●

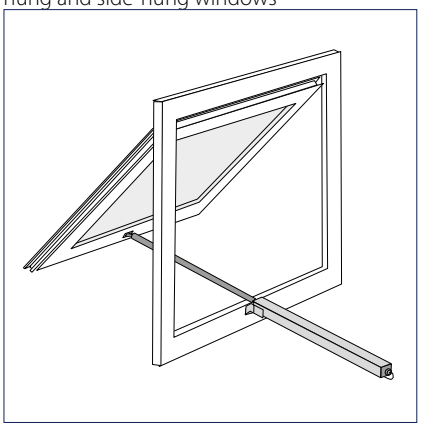
● = YES

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



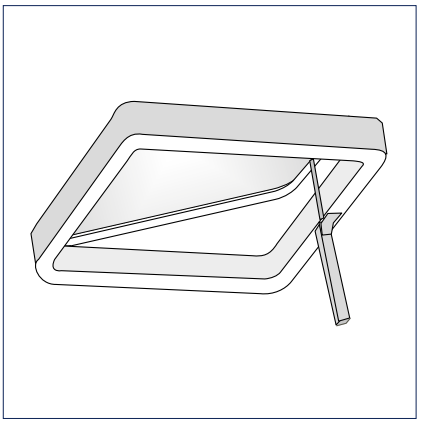
Max. permissible motor stroke: 500 mm

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



Max. permissible motor stroke: 500 mm

Skylights and light domes



Installation on main and secondary closing edge possible

Leaf dimensions for bottom-hung and top-hung windows

Type of window	Minimum leaf height		Maximum leaf 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

Leaf weight for bottom-hung and top-hung windows

Bottom-hung window	Stroke 300 mm		Stroke 500 mm	
Leaf 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

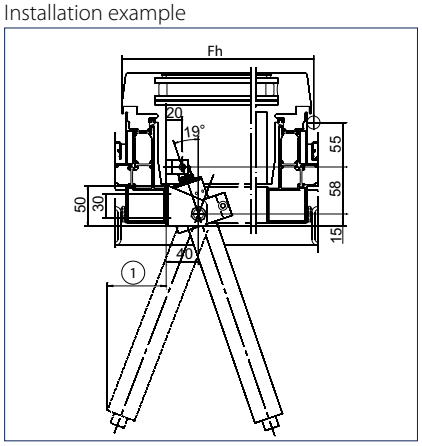
Top-hung window	Stroke 300 mm		Stroke 500 mm	
Leaf height	Solo	Syncro	Solo	Syncro
400- 650 mm	max. 180 kg	max. 360 kg	max. 150 kg	max. 300 kg
650-1200 mm	max. 200 kg	max. 400 kg	max. 170 kg	max. 340 kg
1200-1700 mm	max. 250 kg	max. 500 kg	max. 200 kg	max. 400 kg

INSTALLATION WITH SKYLIGHT CONSOLE H40

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

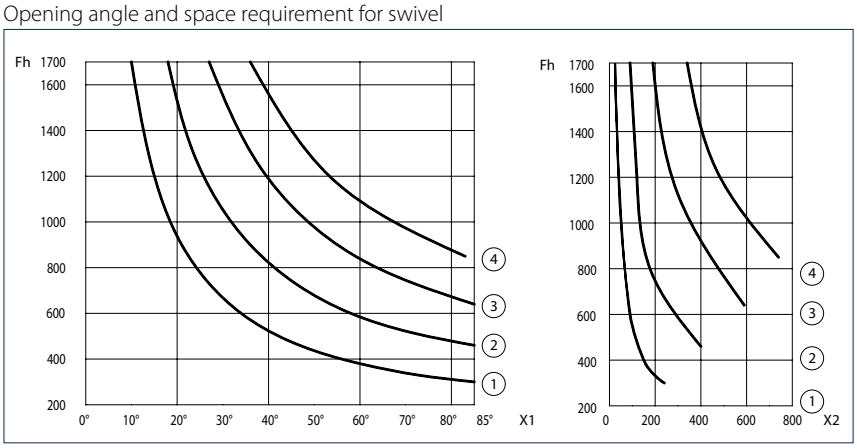
Note: Diagram and tables only contain orientation values and refer to the applications as illustrated below.
If the installation conditions differ, the values must be determined on site.

Installation example



Fh = Leaf height
1 = For the clearance under the window required 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 = Leaf height (mm)
1 = Stroke 300
2 = Stroke 500
3 = Stroke 750
4 = Stroke 1000

Minimum leaf height for E1500 N on the skylight (guideline values*)

E 1500 N stroke	Leaf 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°

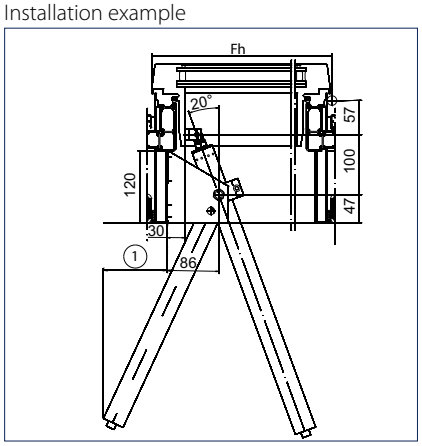
E 1500 N stroke	Leaf height Fh	Opening angle	Space requirement for drive swivel under the window
1000 mm	1100 mm	approx. 60°	min. 540 mm
750 mm	850 mm	approx. 60°	min. 410 mm
500 mm	600 mm	approx. 60°	min. 270 mm
300 mm	380 mm	approx. 60°	min. 160 mm
The space requirement under the skylight for the swivel movement of the drive depends on the leaf height (larger leaf height = smaller swivel).			

INSTALLATION WITH SKYLIGHT CONSOLE H86

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

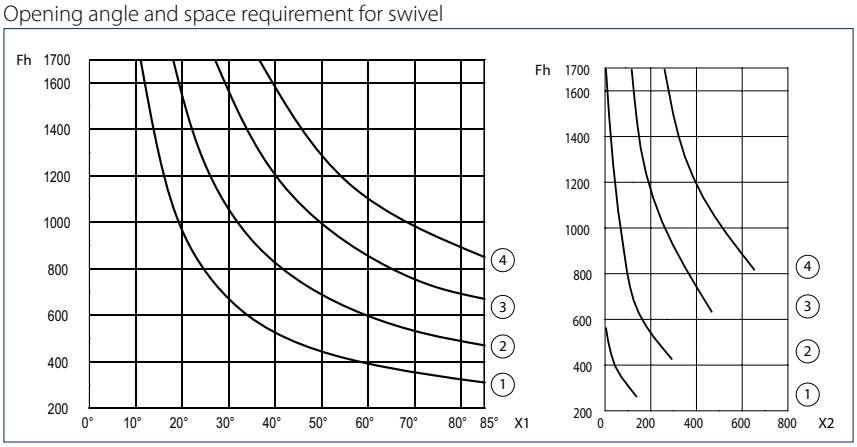
Note: Diagram and tables only contain orientation values and refer to the applications as shown below. If the installation conditions differ, the values must be determined on site.

Installation example



Fh = Leaf height
1 = For the clearance under the window required 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 = Leaf height (mm)
1 = Stroke 300
2 = Stroke 500
3 = Stroke 750
4 = Stroke 1000

Minimum leaf height for E1500 N on the skylight (guideline values*)

E 1500 N stroke	Leaf 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	Leaf 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 leaf height (larger leaf height = smaller swivel).			

ORDER INFORMATION

Designation	Stroke	Version	ID no.
GEZE E 1500 N	300 mm	EV1	141894
	300 mm	white RAL 9016	141895
	300 mm	according to RAL	141896
	400 mm	EV1	141897
	400 mm	white RAL 9016	141898
	400 mm	according to RAL	141899
	500 mm	EV1	141900
	500 mm	white RAL 9016	141911
	500 mm	according to RAL	141912
	750 mm	EV1	141913
	750 mm	white RAL 9016	141914
	750 mm	according to RAL	141915
	1000 mm	EV1	141916
	1000 mm	white RAL 9016	141917
	1000 mm	according to RAL	141918
GEZE E 1500 N special version Can be configured: stroke, connector, cable length, colour		EV1	141944
		according to RAL	141945
GEZE E 1500 N SYNCRO	300 mm	EV1	141919
	300 mm	white RAL 9016	141920
	300 mm	according to RAL	141931
	400 mm	EV1	141932
	400 mm	white RAL 9016	141933
	400 mm	according to RAL	141934
	500 mm	EV1	141935
	500 mm	white RAL 9016	141936
	500 mm	according to RAL	141937
	750 mm	EV1	141938
	750 mm	white RAL 9016	141939
	750 mm	according to RAL	141940
	1000 mm	EV1	141941
	1000 mm	white RAL 9016	141942
	1000 mm	according to RAL	141943
GEZE E 1500 N SYNCRO special version Comprising 2 drives with integrated Syncro control		EV1	141946
		according to RAL	141947
Accessories			
Console 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
Console E 1500 NSK suitable for installation on the secondary closing edge of skylights			130524
Console bracket E 1500 suitable for installation on the main closing edge of skylights			136201
Conical sleeve E 1500		silver-coloured	121215
		white RAL 9016	121216
		according to RAL	121217
Leaf bracket E 1500 FS		silver-coloured	123085
		white RAL 9016	123086
		according to RAL	123087

GEZE E 1500 N

Designation	Stroke	Version	ID no.
Leaf bracket E 1500 HSK HE suitable for installation on the main closing edge of skylights (Heroal), can also be used for E 250 NT			136190
Leaf 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
Leaf 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
Leaf 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
Leaf 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
Leaf bracket E 1500/ E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO)			136186
Skylight console H40 E 1500		silver-coloured	121221
		white RAL 9016	121222
		according to RAL	121223
Skylight console H86 E 1500		silver-coloured	121224
		white RAL 9016	121225
		according to RAL	121226

Leaf bracket E 1500

Leaf bracket E 1500 FS (123085)

Conical sleeve E 1500 (121215)

Console E 1500

Skylight console H40 E 1500 (121221)

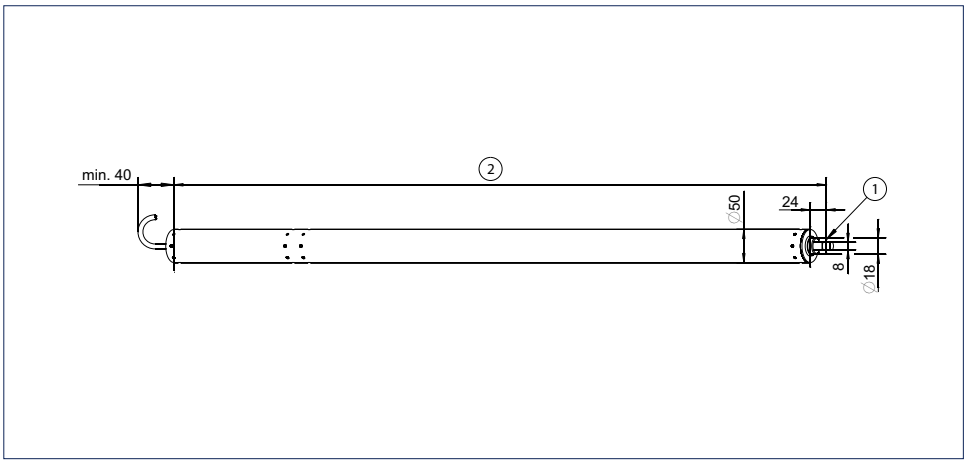
Skylight console H86 E 1500 (121224)

GEZE spindle drive E 1500 S

Fast spindle drive as Solo or Syncro solution for heavy skylight windows

The GEZE spindle drive E 1500 S convinces through large compressive force 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. The spindle drive E 1500 S can be used on particularly large and heavy skylight windows with leaf widths over 1200 mm as a real synchronous solution with integrated 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



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

Area of application

- 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 4 drives
- Timber, plastic and aluminium frames
- Frame installation

GEZE E 1500 S

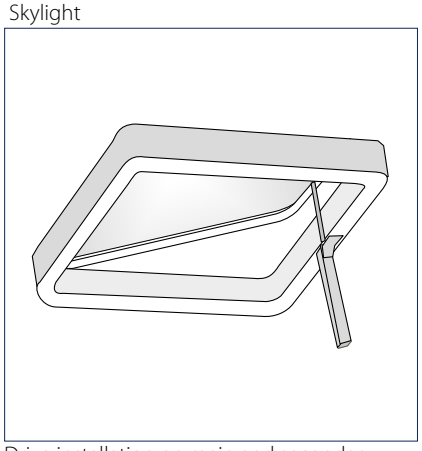
TECHNICAL DATA

Product features	GEZE E 1500 S
General information	
Dimensions (W x H x D)	Stroke + 465, ø 50 mm
Specification	
Possible stroke lengths	500 mm, 750 mm, 1000 mm
Opening speed RWA	16 mm/s
Opening speed ventilation	16 mm/s
Tensile force (max.)	1500 N
Force of pressure (max.)	1500 N
Electrical data	
Operating voltage	24 V DC
Current consumption	4 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
IP rating / protection rating	IP 54 / III
Functions	
Type of additional locking device	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 1000 mm stroke
SHEV tested	yes, up to 1000 mm stroke

• = YES

INSTALLATION

Skylight



Drive installation on main and secondary closing edge possible

Skylight	Solo	Syncro
Leaf weights for all strokes	max. 180 kg	max. 360 kg
Maximum leaf 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.

ORDER INFORMATION

Designation	Stroke	Version	ID no.
GEZE E 1500 S	500 mm	EV1	162381
	750 mm	EV1	162382
	1000 mm	EV1	162383
GEZE E 1500 S Can be configured: stroke, cable length, colour		according to RAL	162384
GEZE E 1500 S SYNCRO Comprising 2 drives with integrated Syncro control	500 mm	EV1	162385
	750 mm	EV1	162386
	1000 mm	EV1	162387
GEZE E 1500 S SYNCRO Can be configured: stroke, cable length, colour, Syncro 2-4		according to RAL	162388
Accessories			
Skylight console E 3000		silver-coloured	121280
		white RAL 9016	121291
		according to RAL	121292
Console E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO). Supplied by GEZE without conical sleeve ID no. 121274			136183
Console E 3000 NSK suitable for installation on the secondary closing edge of skylights. Supplied by GEZE without conical sleeve ID no. 121274			130525
Console bracket E 3000 HSK suitable for installation on the main 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
		according to RAL	121276
Leaf bracket E 3000		silver-coloured	121277
		white RAL 9016	121278
		according to RAL	121279
Leaf bracket E 3000 HSK HE suitable for installation on the main closing edge of skylights (Heroal 085 D)			136207
Leaf bracket E 3000 NSK A-HU suitable for installation on the secondary closing edge of skylights (Alcoa AA 100, Hueck VF 50/60)			136205
Leaf bracket E 3000 NSK W-HU suitable for installation on the secondary closing edge of skylights (Wicona WT 50/60, Hueck 85 E)			136204
Leaf bracket E 1500/ E 3000 NSK AP suitable for installation on the secondary closing edge of skylights			140715
Leaf bracket E 3000 NSK HE suitable for installation on the secondary closing edge of skylights (Heroal 85 D)			136206

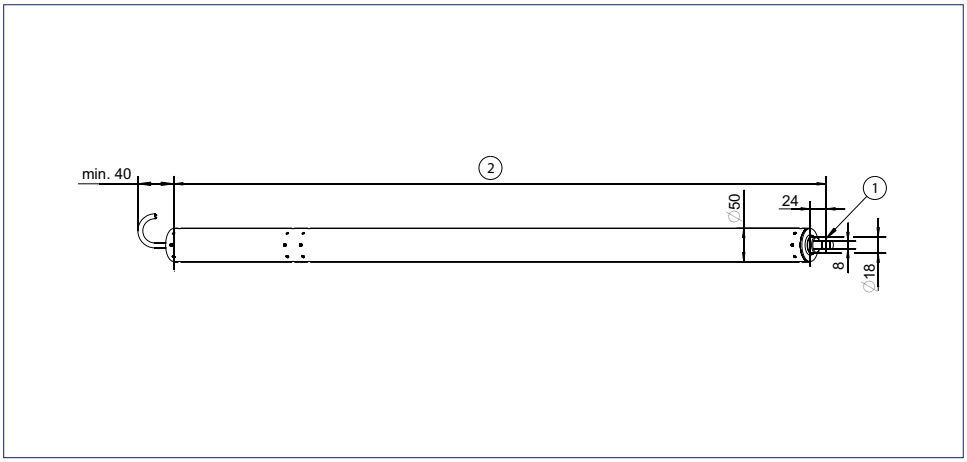
GEZE E 1500 S

GEZE spindle drive E 3000

Spindle drive for particularly heavy window elements

With its high tensile forces and forces of pressure of 3000 N, the GEZE spindle drive E 3000 is suitable for the electric motor opening and closing of very heavy skylight windows weighing up to 600 kg in synchronous operation. The spindle drive E 3000 S can be used on particularly large and heavy skylight windows with leaf widths over 1200 mm as a real synchronous solution with integrated 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



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

Area of application

- 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 4 drives
- Timber, plastic and aluminium frames
- Frame installation

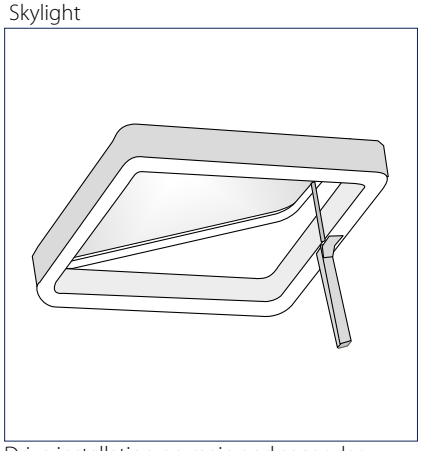
TECHNICAL DATA

Product features	GEZE E 3000
General information	
Dimensions (W x H x D)	Stroke + 465, ø 50 mm
Specification	
Possible stroke lengths	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
Electrical data	
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	3 x 1 mm^2
Temperature range	-5 – 75 °C
IP rating / protection rating	IP 54
Functions	
Type of additional locking device	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

• = YES

INSTALLATION

Skylight



Drive installation on main and secondary closing edge possible

Calculation of the swivelling range

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

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

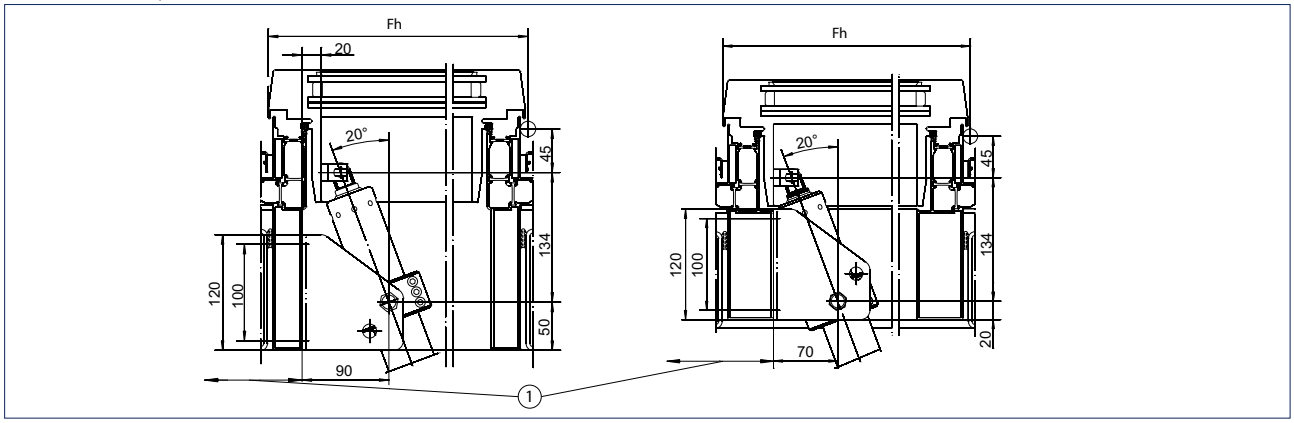
Note: For Solo operation, the external overload cut-off E 3000 is required. For Syncro operation, the external synchronic control unit E 3000 is required.

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

INSTALLATION WITH SKYLIGHT CONSOLE H86

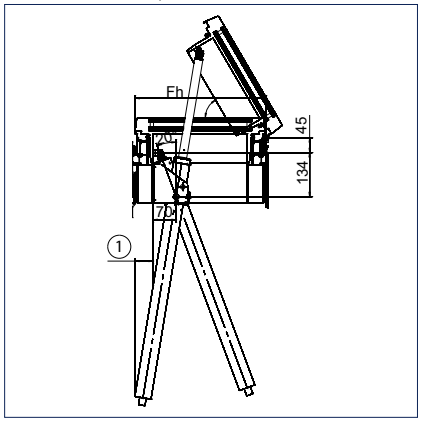
The skylight console E 3000 H86 is used to fix the drive to the frame of the skylight. This console can also be used for the E 1500 S.
Note: Diagram and tables only contain orientation values and refer to the applications as illustrated below. If the installation conditions differ, the values must be determined on site.

Installation examples



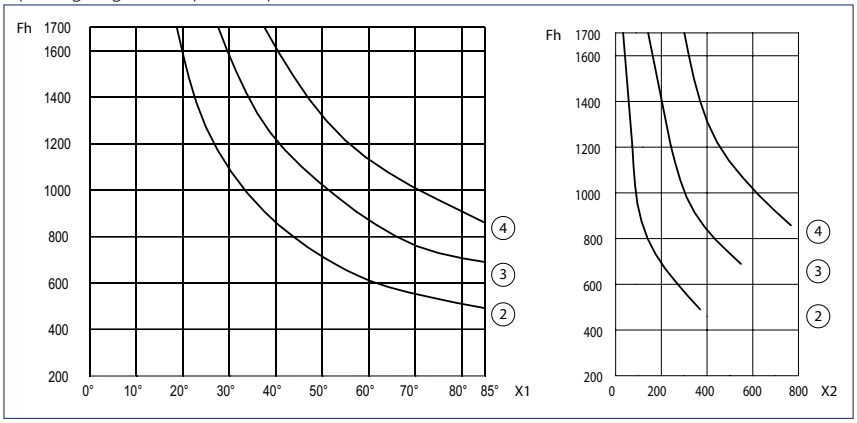
Fh = Leaf height
1 = For the clearance under the window required for swivel movement of the drive during the opening movement, see diagram

Installation example



Fh = Leaf height
1 = For the clearance under the window required 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 = Leaf height (mm)
2 = Stroke 500
3 = Stroke 750
4 = Stroke 1000

Minimum leaf height for skylight (guideline values)

E 1500 S / E 3000 stroke	Leaf 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

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

E 1500 S / E 3000 stroke	Leaf 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

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

ORDER INFORMATION

Designation	Stroke	Version	ID no.
GEZE E 3000	500 mm	EV1	162389
	750 mm	EV1	162390
	1000 mm	EV1	162391
GEZE E 3000 SYNCRO	500 mm	EV1	162393
	750 mm	EV1	162394
	1000 mm	EV1	162395
GEZE E 3000 special version Can be configured: stroke, cable length, colour		according to RAL	162392
GEZE E 3000 SYNCRO special version Can be configured: stroke, cable length, colour, Syncro 2-4		according to RAL	162396
Accessories			
Skylight console E 3000		silver-coloured	121280
		white RAL 9016	121291
		according to RAL	121292
Console E 3000 NSK S suitable for installation on the secondary closing edge of skylights (Schüco AWS57 RO). Supplied by GEZE without conical sleeve ID no. 121274			136183
Console E 3000 NSK suitable for installation on the secondary closing edge of skylights. Supplied by GEZE without conical sleeve ID no. 121274			130525
Console bracket E 3000 HSK suitable for installation on the main 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
		according to RAL	121276
Leaf bracket E 3000		silver-coloured	121277
		white RAL 9016	121278
		according to RAL	121279
Leaf bracket E 3000 HSK HE suitable for installation on the main closing edge of skylights (Heroal 085 D)			136207
Leaf bracket E 3000 NSK A-HU suitable for installation on the secondary closing edge of skylights (Alcoa AA 100, Hueck VF 50/60)			136205
Leaf bracket E 3000 NSK W-HU suitable for installation on the secondary closing edge of skylights (Wicona WT 50/60, Hueck 85 E)			136204
Leaf bracket E 1500/ E 3000 NSK AP suitable for installation on the secondary closing edge of skylights			140715
Leaf bracket E 3000 NSK HE suitable for installation on the secondary closing edge of skylights (Heroal 85 D)			136206

Conical sleeve E 3000 (121274)

Leaf bracket E 3000 (121277)

Skylight console E 3000 (121280)

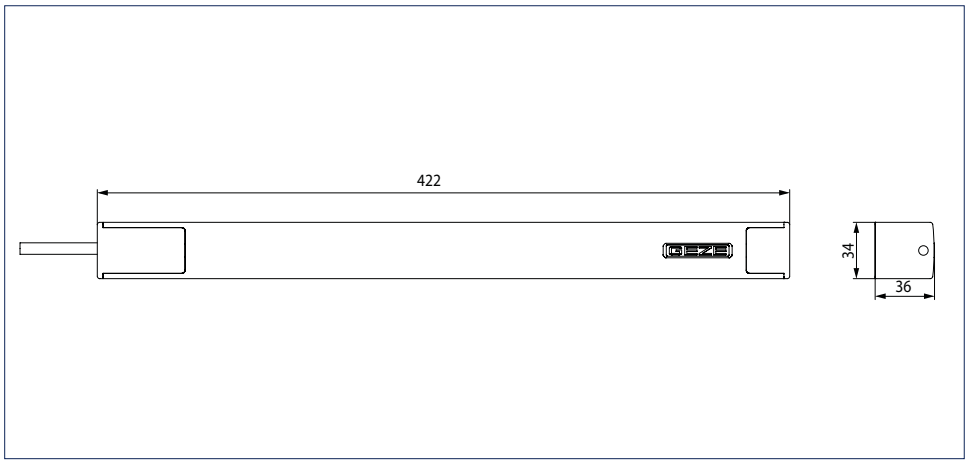
GEZE Power lock

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



Area of application

- Additional security and protection against weather conditions
- System solution for Slimchain, Powerchain and E 250 NT
- Inward-opening bottom-hung, side-hung, top-hung, horizontally and vertically pivot-hung windows
- 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
- Leaf or frame installation

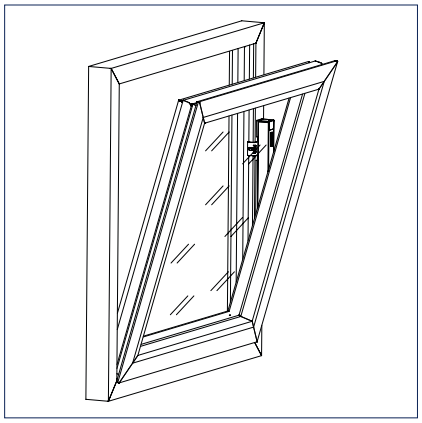
TECHNICAL DATA

Product features	GEZE Power lock
General information	
Dimensions (W x H x D)	422 mm x 34 mm x 36 mm
Specification	
Possible stroke lengths	22 mm
Opening speed ventilation	3.6 mm/s
Locking and unlocking time	6 s
Locking points (max.)	6
Tensile force (max.)	600 N
Force of pressure (max.)	600 N
Electrical data	
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 mm^2
Temperature range	-5 – 70 °C
IP rating / protection rating	IP 42 / III
Functions	
Stroke length settable	●
Complete opening within 60 s	yes
SHEV tested	●
Microprocessor control	integrated

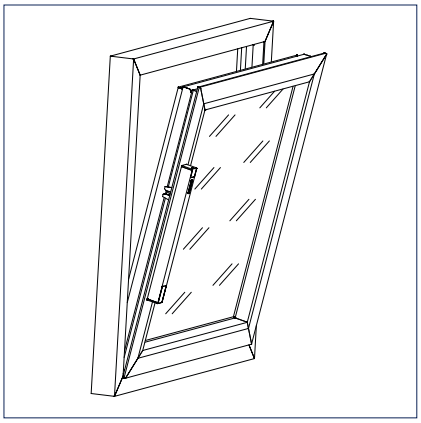
● = YES

INSTALLATION

Frame installation

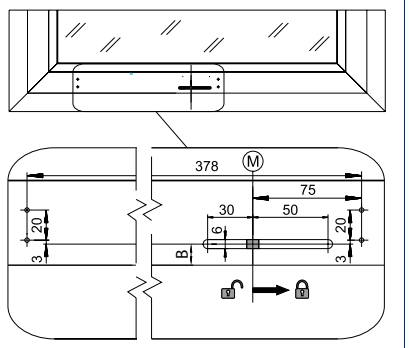


Leaf installation

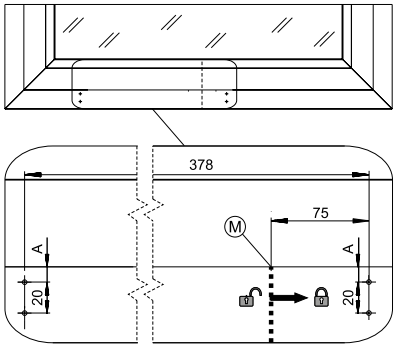


INSTALLATION DIMENSION RECOMMENDATION

Leaf installation



Frame installation



Material	Manufacturer	Profile system	Frame installation	Leaf installation
			A	**B**
Aluminium	Aluprof	MB-60	10	13 [3]
		MB-70	10	13 [3]
	Gutmann	S70	9	13 [3]
	Heroal	065	10	13 [3]
		110ES	10	13 [3]
	Hueck	Lambda 65	10	14
		Lambda 77	10	14
	Raico	Frame+ 65 W	10	13 [3]
		Frame+ 75 WB	10	13 [3]
	SAPA	1074		10
		1086		10
	Schüco	AWS 65	10	11
		AWS 75	10	11
	Wicona	Wicline65 EVO	10	13
		Wicline 75 EVO	10	13
Plastic	EgoKiefer	AS1	9	14
	Profine	Kömmerling 88plus	9	15
	Veka	Alphaline 90	9	
		Softline 82 MD	9	
Timber	Gutmann	Mira	9	
	Landgraf	IV79	9	
	Oertli	IV68 / IV80	9	

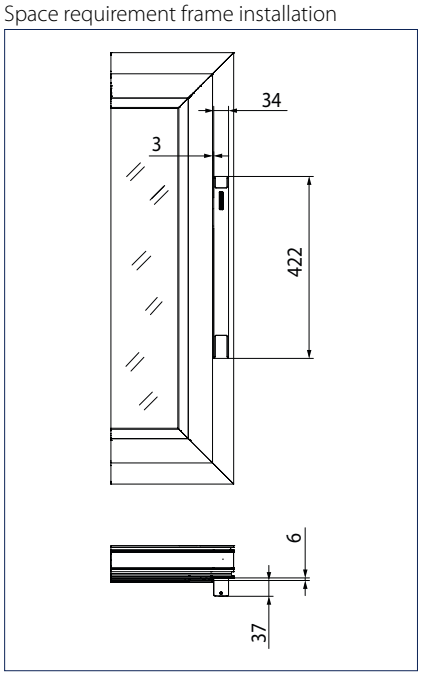
All dimensions in mm.

[3] only with tapping screws

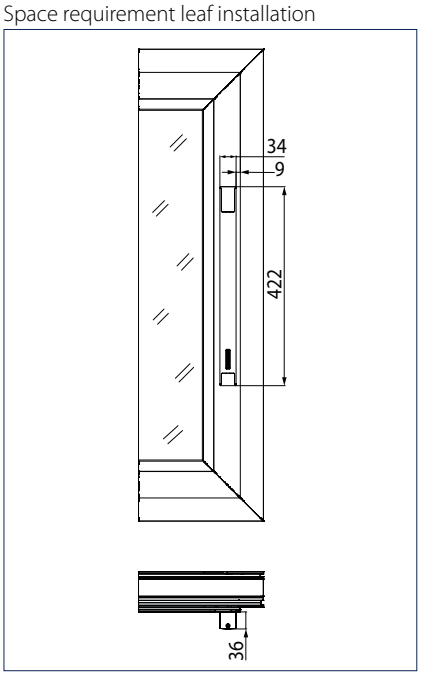
Further profile ranges on request.

SPACE REQUIREMENT

Space requirement frame installation



Space requirement leaf installation



ORDER INFORMATION

Designation	ø driver	Version	ID no.
GEZE Power lock Locking stroke max.: 22 mm		EV1	147020
		white RAL 9016	147021
GEZE Power lock Can be configured: cable length, colour		according to RAL	147022
Accessories			
Leaf installation set	11.5 mm		150505
	8.5 mm		147025
Leaf installation set for timber/plastic window	11.5 mm		158238
Frame installation set according to choice Can be configured: colour, driver= 8.5 mm / 11.5 mm		according 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

Leaf installation set (150505)

Frame installation set (150507)

GEZE locking drive E 905 / E 906

Additional safety and protection against weather conditions in combination with the GEZE IQ windowdrive

Completely integrated in the window profile, the locking drives E 905 / E 906 can be combined with the GEZE IQ windowdrive to form a system solution which can be used to open and lock even large leafs 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

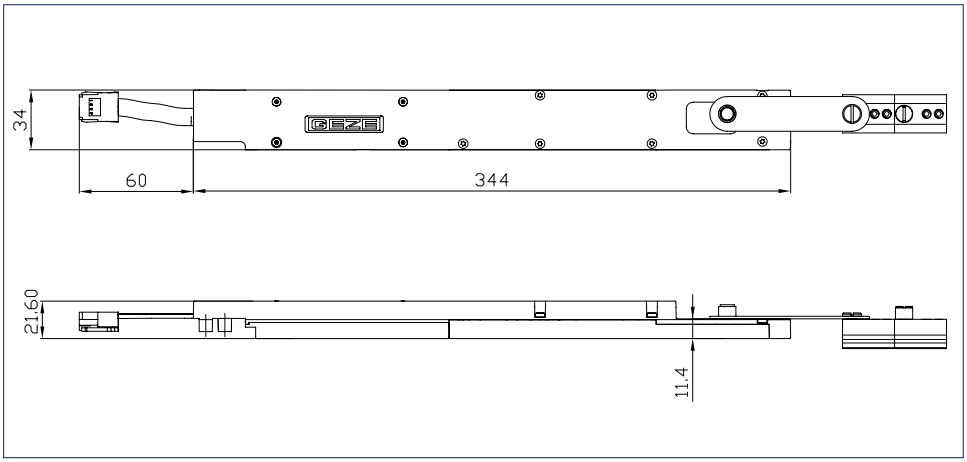


Illustration mirrored for GEZE E 906

Area of application

- Additional security and protection against weather conditions
- System solution with the GEZE IQ windowdrive
- 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

TECHNICAL DATA

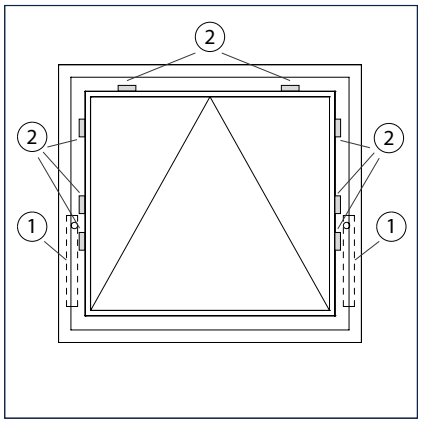
Product features	E 905 / E 906
General information	
Dimensions (W x H x D)	345 mm x 22 mm x 35 mm
Specification	
Possible stroke lengths	18 mm
Opening speed ventilation	3.6 mm/s
Locking and unlocking time	5 s
Locking points (max.)	4
Tensile force (max.)	400 N
Force of pressure (max.)	400 N
Electrical data	
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 0.75 mm^2
Temperature range	-5 – 75 °C
IP rating / protection rating	IP 40 / III
Functions	
Overload cut-off	●
Complete opening within 60 s	yes
SHEV tested	●
Microprocessor control	integrated

● = YES

INSTALLATION

If several locking devices are used, for patent law reasons, on each leaf, a separate electro-mechanical drive cannot be designated for each locking device.

- Minimum leaf height 850 mm
- Installation of max. 2 drives



1 = Possible installation variants E 905 / E 906
2 = Possible locking points via central closure

ORDER INFORMATION

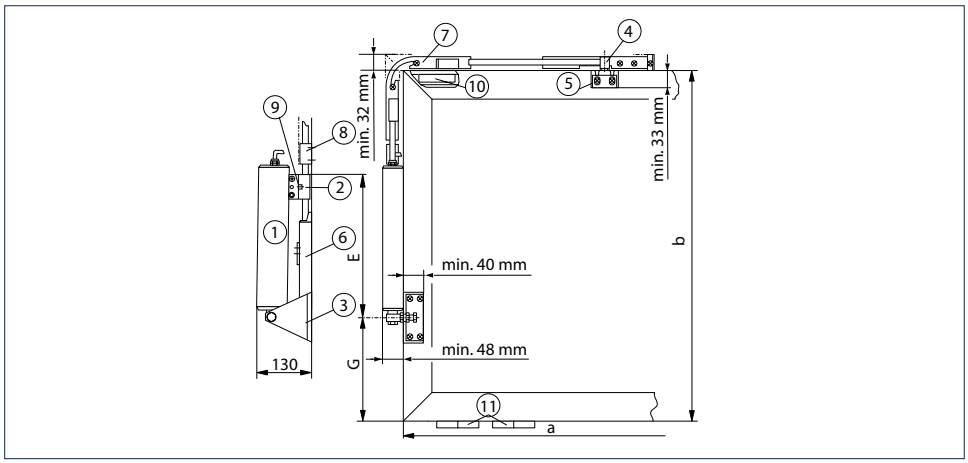
Designation	Stroke	Version	ID no.
E 905 two-point locking drive	18 mm	silver-coloured	143904
E 906 two-point locking drive mirrored version of E 905	18 mm	silver-coloured	143905
E 905 locking drive for central closure	18 mm	silver-coloured	161405
E 906 locking drive for central closure mirrored version of the E 905	18 mm	silver-coloured	161406
Accessories			
Drive bracket E 905		silver-coloured	143906
Drive bracket E 906		silver-coloured	143922
Additional locking device			151672
Connecting link arm 0.5 m			151673
Connecting link arm 1.0 m			151674
Connecting link arm 1.5 m			151675
Flat ribbon cable E 9x0 5 m			141614
Lat ribbon cable E 9x0 50 m			141615
Cable crossing MINI 9X0 24 V Schüco AWS			142570
Cable crossing 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 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 main 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



a = Leaf width
b = Leaf height
1 = Electric spindle drive E 250 NT
2 = Clamping piece
3 = Toe angle
4 = Additional locking device OL 320
5 = Auxiliary bracket complete
6 = Release spring OL 320
7 = Corner transmission OL 320
8 = Rod guide OL 320
9 = Tilt console E 250
10 = Abutting base (on site) - only required for plastic windows
11 = 2 hinges on the electric drive side (to be provided on site)

GEZE OPENING AND LOCKING SYSTEMS

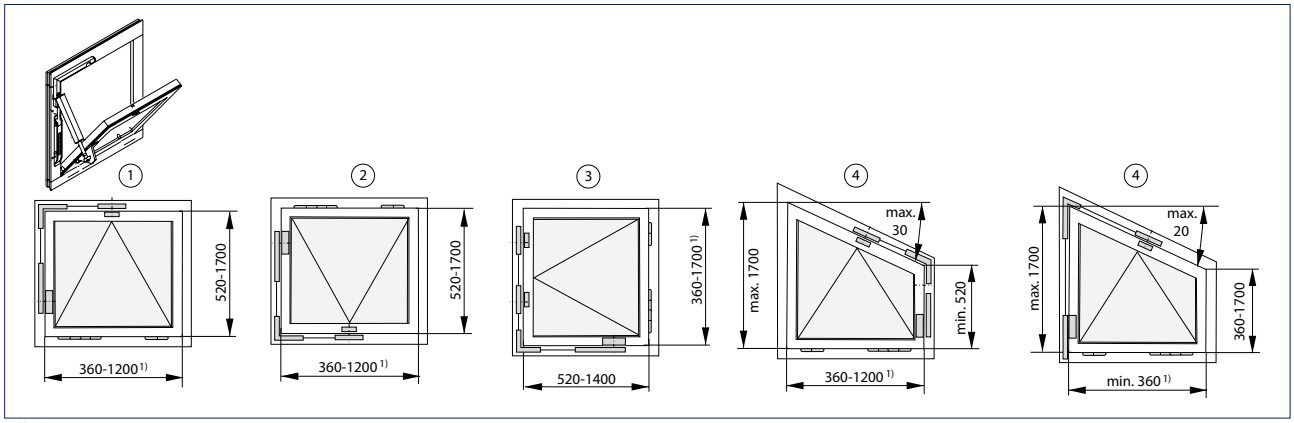
Area of application

- 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

INSTALLATION

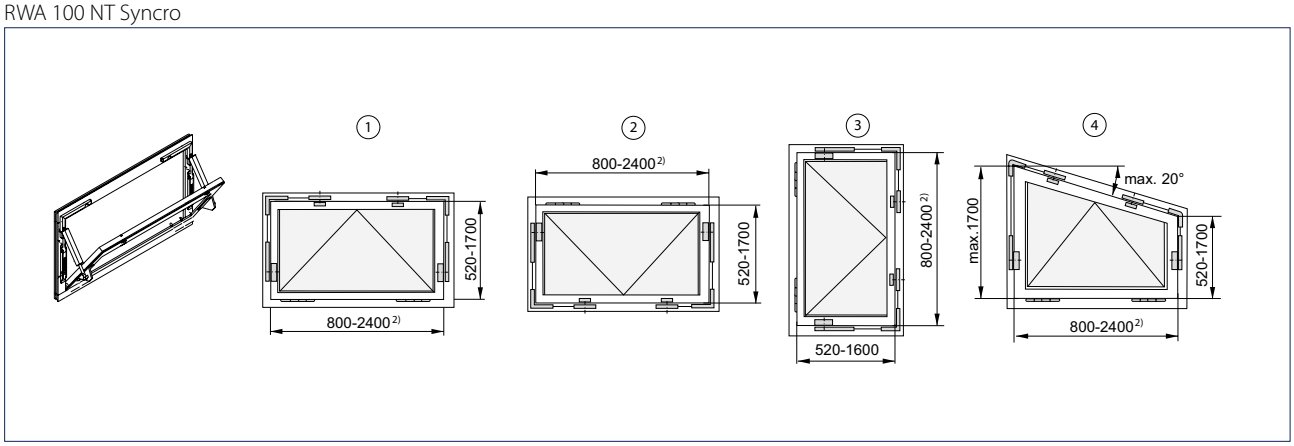
System flush to the profile for vertically installed inward-opening bottom-hung, top-hung, angular and side-hung windows
The given dimensions are standard; please contact GEZE if you require other dimensions.
Details for timber/aluminium windows

GEZE RWA 100 NT



All dimensions in mm
1 = Bottom-hung window
2 = Top-hung window
3 = Side-hung window
4 = Bottom-hung angular 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 Synchro max. 1600 mm

TECHNICAL DATA

Product features	GEZE RWA 100 NT
General information	
Space required (min.)	Locking side: 32 mm, Motor side: 48 mm
Permissible dimensions of main closing edge Solo for timber and aluminium frames	360 - 1200 mm
Permissible dimensions of main closing edge Solo for plastic frames	360 - 800 mm
Permissible dimensions of main closing edge Syncro for timber and aluminium frames	800 - 2400 mm
Permissible dimensions of main closing edge Syncro for plastic frames	800 - 1600 mm
Leaf heights for Solo and Syncro	520 - 1700 mm
Specification	
Possible stroke lengths	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
Electrical data	
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
IP rating / protection rating	IP 65 / III
Functions	
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											Spindle stroke [mm]
Leaf dimension (b) [mm]	520-600	600-700	700-800	800-850							100
G dimension [mm]	65	85	125	145							
Opening angle [°]	approx. 34	approx. 32	approx. 28	approx. 26							
Opening width [mm]	approx. 350	approx. 380	approx. 380	approx. 400							
Leaf dimension (b) [mm]	610-630	630-700	700-800	800-900	900-1000						150
G dimension [mm]	100	115	150	200	275						
Opening angle [°]	approx. 49	approx. 47	approx. 42	approx. 36	approx. 31						
Opening width [mm]	approx. 520	approx. 520	approx. 560	approx. 550	approx. 520						
Leaf dimension (b) [mm]	700-720	720-800	800-900	900-1000	1000-1100	1100-1200	1200-1300				200
G dimension [mm]	145	160	215	275	325	425	525				
Opening angle [°]	approx. 58	approx. 55	approx. 47	approx. 41	approx. 37	approx. 31	approx. 27				
Opening width [mm]	approx. 690	approx. 720	approx. 710	approx. 690	approx. 690	approx. 650	approx. 610				
Leaf dimension (b) [mm]	950-1000	1000-1050	1050-1100	1100-1150	1150-1250	1250-1320	1320-1400	1400-1500	1500-1600	1600-1700	300
G dimension [mm]	290	335	350	415	465	495	565	645	715	815	
Opening angle [°]	approx. 58	approx. 53	approx. 51	approx. 46	approx. 43	approx. 41	approx. 38	approx. 34	approx. 32	approx. 29	
Opening width [mm]	approx. 970	approx. 930	approx. 950	approx. 900	approx. 900	approx. 920	approx. 890	approx. 870	approx. 860	approx. 830	

ORDER INFORMATION

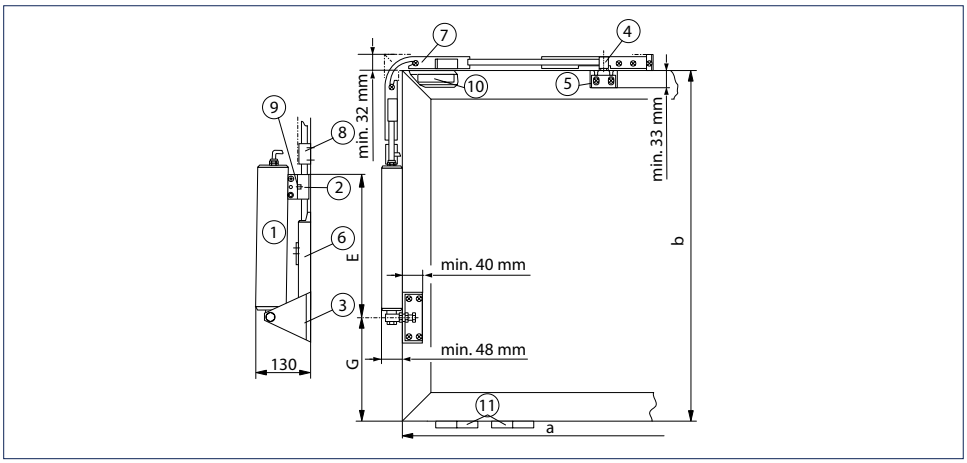
Designation	Length	Stroke	Version	ID no.
GEZE RWA 100 NT		100 mm	EV1	153187
		150 mm	EV1	153190
		200 mm	EV1	153213
		300 mm	EV1	153216
		100 mm	white RAL 9016	153188
		150 mm	white RAL 9016	153211
		200 mm	white RAL 9016	153214
		300 mm	white RAL 9016	153217
		100 mm	according to RAL	153189
		150 mm	according to RAL	153212
		200 mm	according to RAL	153215
		300 mm	according to RAL	153218
GEZE RWA 100 NT - special version			according 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
			according to RAL	014258
Cover profile OL 320, length 3000 mm Mitre-cut at both ends			EV1	058774
			white RAL 9016	018294
			according to RAL	014259
Cover profile OL 320 length 6000 mm Straight-cut at both ends			EV1	058630
			white RAL 9016	018251
			according to RAL	013814
Accessories				
Drilling template for RWA 100E				014740
Auxiliary bracket for overlap height 0-12 mm			EV1	050727
			white RAL 9016	015519
			according to RAL	013077
Additional locking device for OL 320 without additional angle bracket, overlap height 12-25 mm			EV1	063974
			white RAL 9016	018257
			according 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
			according to RAL	120299
Corner transmission suitable for OL 320			galvanised	058648

GEZE opening and locking system OL 350 EN

Opening and locking system for inward-opening bottom-hung, top-hung, angular and side-hung windows

The OL 350 EN system consists of the electrically operated spindle drive E 350 N, mounted on the profile surface, in combination with a mechanical console set. The universal installation system enables use of all standard, vertically installed types of casements. This system is offered with four different stroke lengths and is used for the ventilation of inward-opening rectangular windows. The OL 350 EN achieves very large opening widths with small spindle stroke.

GEZE OL 350 EN



For details of fitting dimensions G and E, see table

a = Leaf width
b = Leaf height
1 = Electric spindle drive E 350 N
2 = Clamping piece
3 = Toe angle
4 = Additional locking device OL 320
5 = Auxiliary bracket complete
6 = Release spring OL 320
7 = Corner transmission OL 320
8 = Rod guide OL 320
9 = Tilt console E 350 N
10 = Abutting base (on site) - only required for plastic windows
11 = 2 hinges on the electric drive side (to be provided on site)

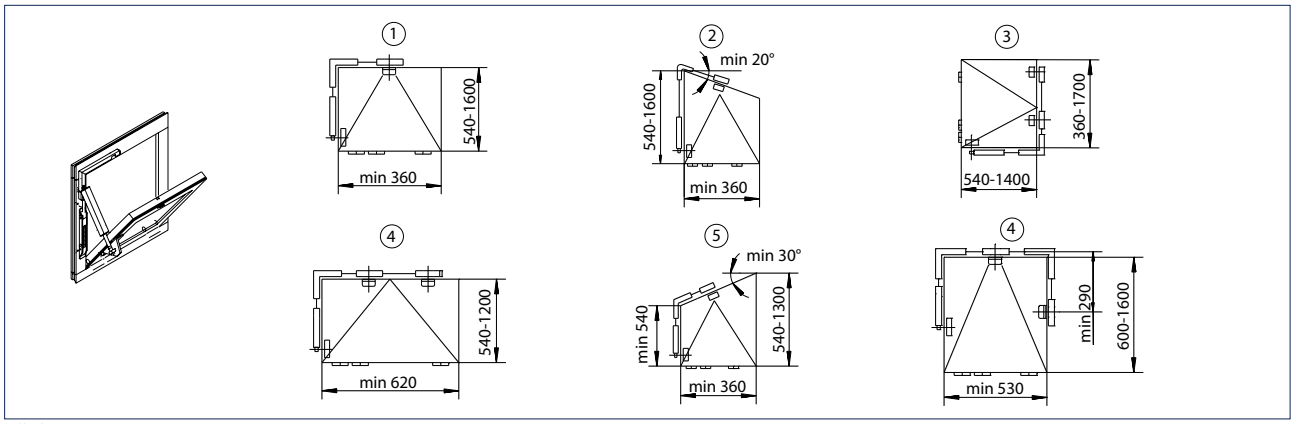
GEZE OPENING AND LOCKING SYSTEMS

Area of application

- Opening and locking of inward-opening windows
- Bottom-hung, side-hung and top-hung casements
- Natural ventilation
- Solo operation only
- Timber, plastic and aluminium frames
- Frame installation

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.



All dimensions in mm
1 = Bottom-hung window
2 = Bottom-hung angular window
3 = Side-hung window (>620 mm with 2 locks)
4 = Bottom-hung window
5 = Bottom-hung angular window (not with drive stroke 300 mm)
6 = Bottom-hung window

Fitting dimensions G and E depending on motor stroke and leaf heights

OL 350 EN Solo	Leaf height (b)	Dimension G	Dimension E	Opening angle	Opening width
Stroke 100 mm	540-650* mm	65 mm	367 mm	approx. 37°	approx. 380 mm
	650-750 mm	110 mm	367 mm	approx. 32°	approx. 380 mm
	750-850 mm	150 mm	367 mm	approx. 28°	approx. 390 mm
	850-950 mm	200 mm	367 mm	approx. 25°	approx. 390 mm
Stroke 150 mm	660-700* mm	125 mm	417 mm	approx. 47°	approx. 550 mm
	700-800* mm	170 mm	417 mm	approx. 41°	approx. 530 mm
	800-900 mm	230 mm	417 mm	approx. 36°	approx. 530 mm
	900-1000 mm	280 mm	417 mm	approx. 32°	approx. 530 mm
	1000-1500 mm	340 mm	417 mm	approx. 28°	approx. 530 mm
Stroke 200 mm	850-900* mm	250 mm	468 mm	approx. 45°	approx. 670 mm
	900-1000* mm	310 mm	468 mm	approx. 40°	approx. 640 mm
	1000-1100 mm	370 mm	468 mm	approx. 36°	approx. 640 mm
	1100-1200 mm	440 mm	468 mm	approx. 32°	approx. 630 mm
	1200-1300 mm	530 mm	468 mm	approx. 28°	approx. 610 mm
Stroke 300 mm	1150-1200* mm	470 mm	568 mm	approx. 43°	approx. 880 mm
	1200-1250* mm	525 mm	568 mm	approx. 41°	approx. 850 mm
	1250-1300* mm	575 mm	568 mm	approx. 38°	approx. 840 mm
	1300-1350* mm	625 mm	568 mm	approx. 36°	approx. 820 mm
	1350-1400* mm	675 mm	568 mm	approx. 34°	approx. 800 mm
	1400-1450* mm	725 mm	568 mm	approx. 32°	approx. 790 mm
	1450-1500* mm	775 mm	568 mm	approx. 30°	approx. 780 mm
	1500-1550* mm	825 mm	568 mm	approx. 29°	approx. 780 mm
	1550-1600* mm	875 mm	568 mm	approx. 28°	approx. 770 mm

* Shorten corner transmission by 50 mm

TECHNICAL DATA

Product features	GEZE OL 350 EN
General information	
Space required (min.)	Locking side: 32 mm, Motor side: 48 mm
Permissible dimensions of main closing edge Solo for timber and aluminium frames	360 - 1200 mm
Permissible dimensions of main closing edge Solo for plastic frames	360 - 800 mm
Leaf heights	520 - 1700 mm
Specification	
Possible stroke lengths	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
Electrical data	
Operating voltage	230 V AC
Current consumption	0.15 A
Power consumption (max.)	35 W
Cable dimensions	3 x 0.75 mm²
Temperature range	-20 – 70 °C
IP rating / protection rating	IP 65 / II
Functions	
Locking and additional angle bracket	•
End position cut-off extended	electromechanical
End position cut-off retracted	electromechanical
Overload cut-off	•

• = YES

ORDER INFORMATION

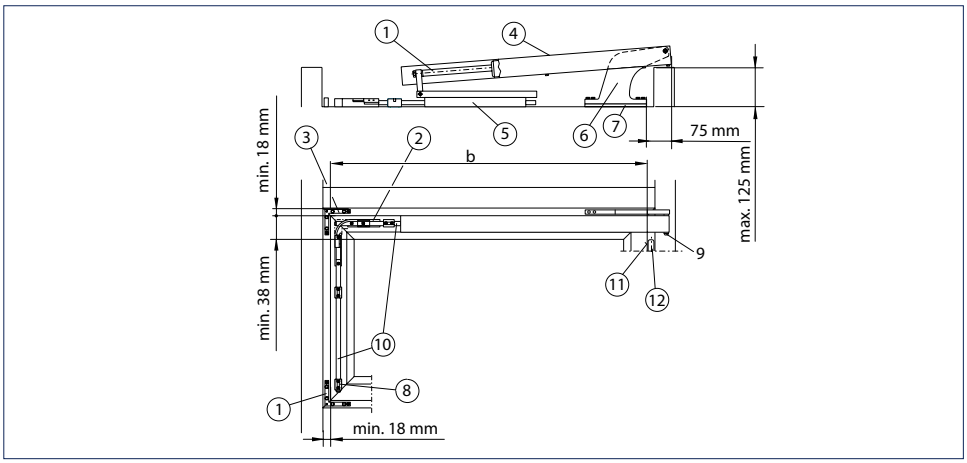
Designation	Stroke	Version	ID no.
GEZE opening and locking system OL 350 EN	100 mm	EV1	087920
	150 mm	EV1	087925
	200 mm	EV1	087930
	300 mm	EV1	087935
	100 mm	white RAL 9016	087923
	150 mm	white RAL 9016	087928
	200 mm	white RAL 9016	087933
	300 mm	white RAL 9016	087938

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. This 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 leafs.

GEZE RWA 105 NT



a = Leaf height
b = Leaf width
1 = Electric spindle drive E 250 NT
2 = Corner transmission RWA 105E
3 = Locking RWA 105E
4 = Cover rail RWA 105E, lift 230 mm
5 = Release spring RWA 105E
6 = Console RWA 105E
7 = Console support RWA 105E
8 = Rod guide
9 = Drive support pin
10 = Rod ø 12, galvanised
11 = Outer edge of leaf
12 = 2 hinges on the electric drive side (to be provided on site)

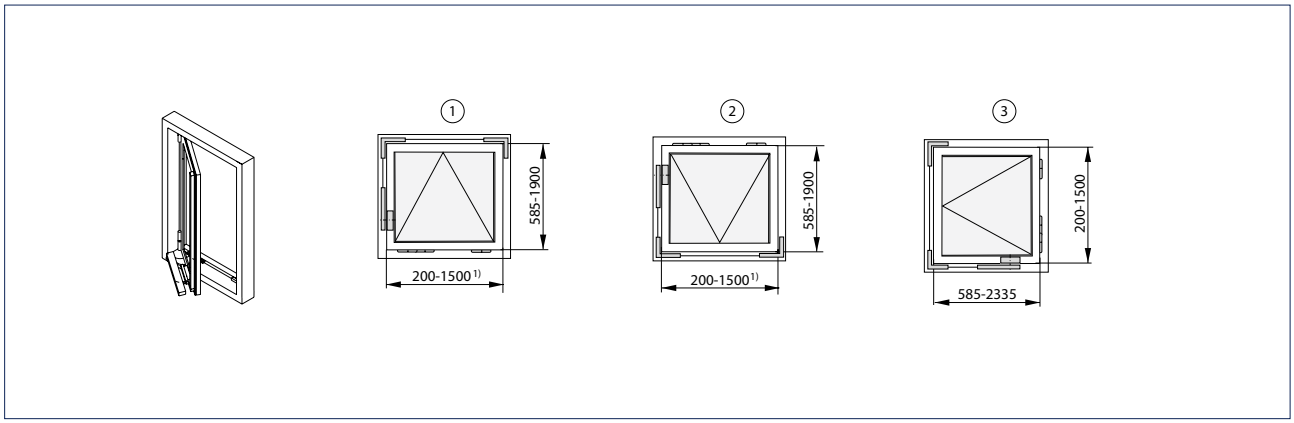
Area of application

- 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
- Leaf installation

INSTALLATION

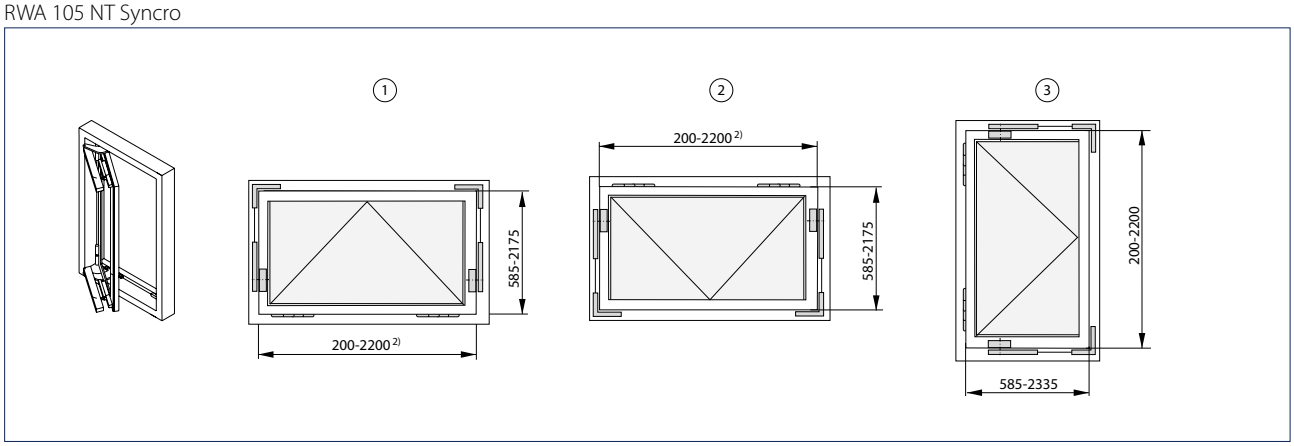
System flush to the profile for vertically installed, rectangular inward-opening bottom-hung, top-hung and side-hung windows
The given dimensions are standard; please contact GEZE if you require other dimensions.
Details for timber/aluminium windows

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



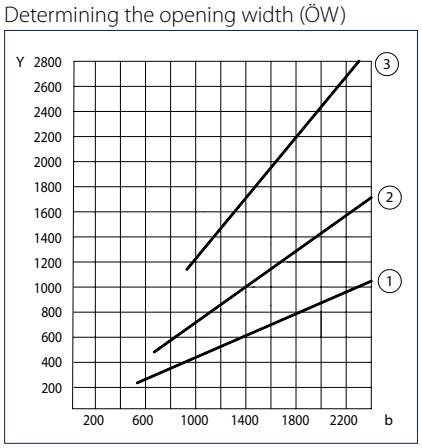
All dimensions in mm
1 = Bottom-hung window
2 = Top-hung window
3 = Side-hung window
2) For plastic windows Synchro max. 1600 mm

TECHNICAL DATA

Product features	GEZE RWA 105 NT
General information	
Space required (min.)	Cover frame: 18 mm, leaf: 38 mm, Post-rail construction height max. 125 mm
Permissible dimensions of main closing edge Solo for timber and aluminium frames	depending on stroke
Permissible dimensions of main closing edge Solo for plastic frames	depending on stroke
Permissible dimensions of main closing edge Syncro for timber and aluminium frames	depending on stroke
Permissible dimensions of main closing edge Syncro for plastic frames	depending on stroke
Leaf heights for Solo and Syncro	depending on stroke
Specification	
Possible stroke lengths	100 mm, 150 mm, 230 mm
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Panel weight (max.)	30 kg/m²
Electrical data	
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
IP rating / protection rating	IP 65 / III
Functions	
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	●

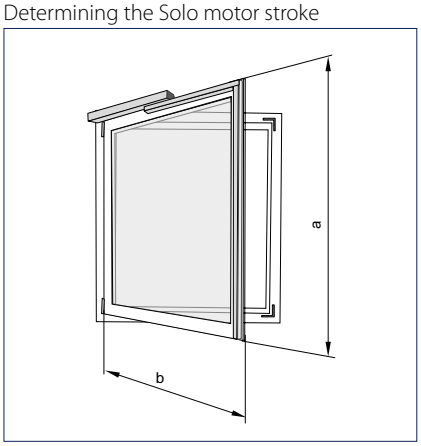
● = YES

Determining the opening width (ÖW)



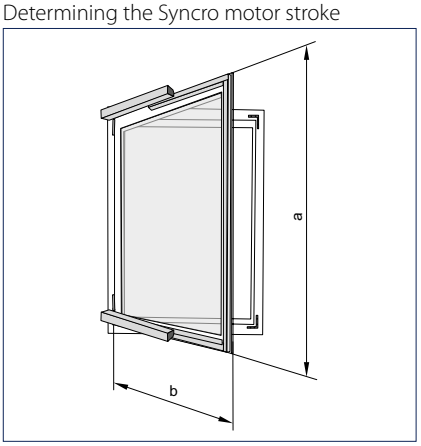
Y = Opening width (mm)
b = Leaf height (bottom-hung casement) / leaf width (side-hung window) (mm)
1 = Stroke 100 ÖW-25°
2 = Stroke 150 ÖW-40°
3 = Stroke 230 ÖW-75°

Determining the Solo motor stroke



a = Leaf height
b = Leaf width

Determining the Syncro motor stroke

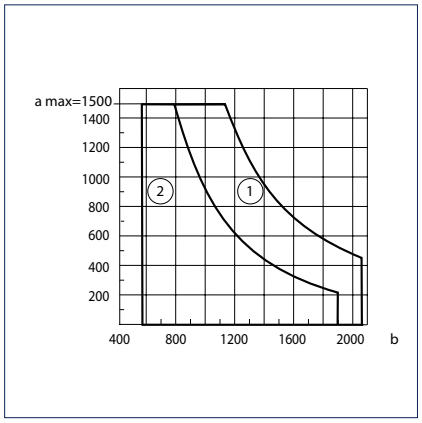


a = Leaf height
b = Leaf width

DETERMINATION OF THE MOTOR STROKE

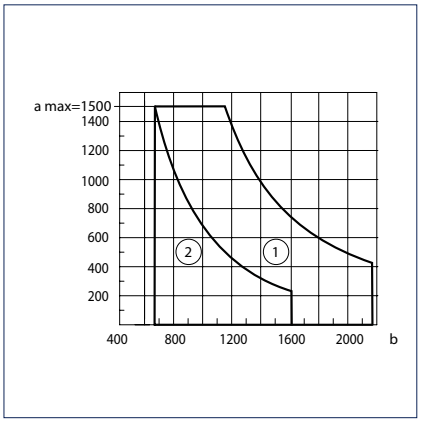
RWA 105 NT Solo

Permissible leaf format stroke 100 mm



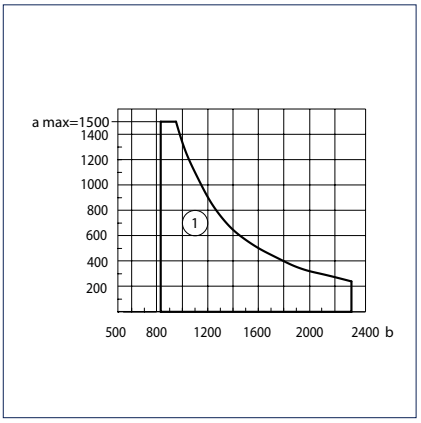
a max. = 1500 mm
b min. = 585 mm
b max. = 2075 mm
1 = Side-hung window
2 = Bottom-hung/top-hung window

Permissible leaf 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

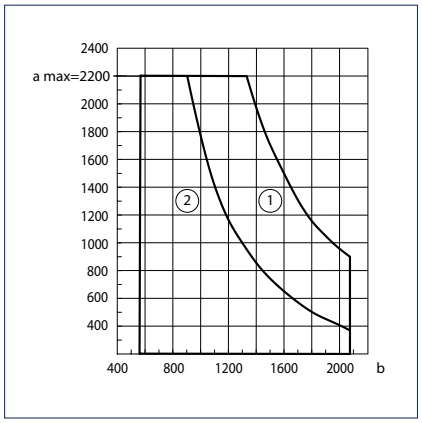
Permissible leaf format stroke 230 mm



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

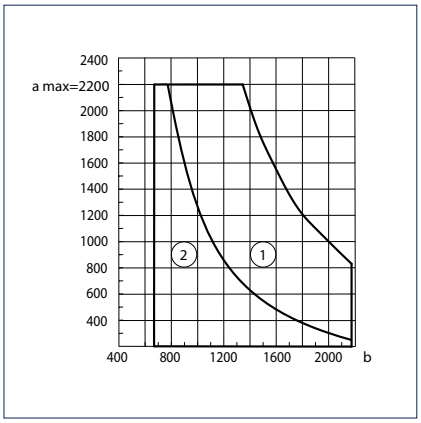
RWA 105 NT Syncro

Permissible leaf format stroke 100 mm



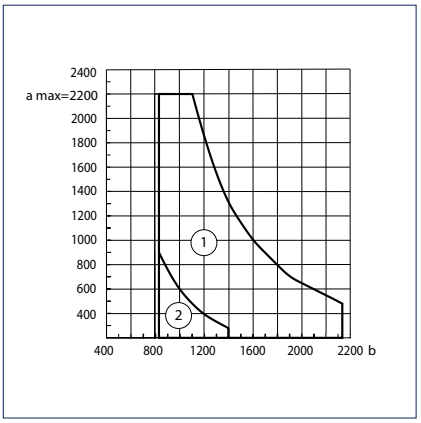
a max. = 2200 mm
b min. = 585 mm
b max. = 2075 mm
1 = Side-hung window
2 = Bottom-hung/top-hung window

Permissible leaf 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 leaf 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

ORDER INFORMATION

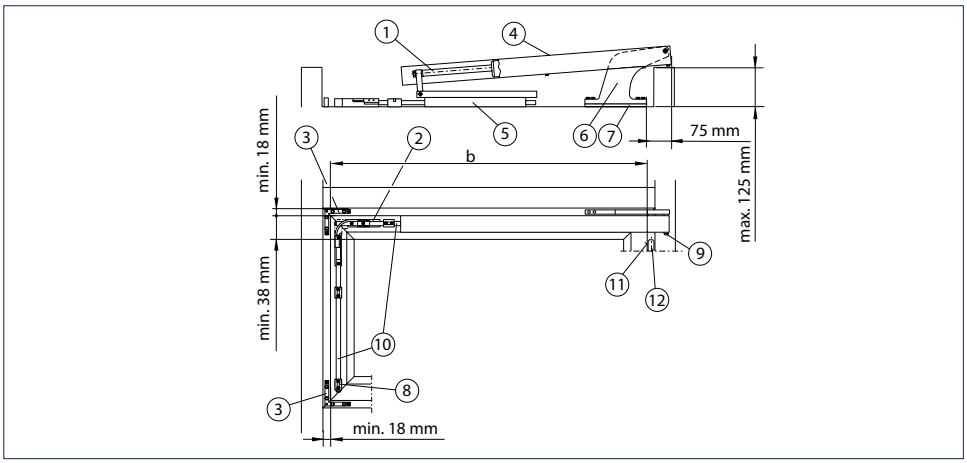
Designation	Length	Stroke	Version	ID no.
GEZE RWA 105 NT		100 mm	EV1	153230
		100 mm	white RAL 9016	153231
		100 mm	according to RAL	153232
		150 mm	EV1	153233
		150 mm	white RAL 9016	153234
		150 mm	according to RAL	153235
		230 mm	EV1	153236
		230 mm	white RAL 9016	153237
		230 mm	according to RAL	153238
GEZE RWA 105 NT - special version				153239
GEZE RWA 105 NT SYNCRO contains 2 E 250 NT drives		100 mm	EV1	153640
		100 mm	white RAL 9016	153661
		100 mm	according to RAL	153662
		150 mm	EV1	153663
		150 mm	white RAL 9016	153664
		150 mm	according to RAL	153665
		230 mm	EV1	153666
		230 mm	white RAL 9016	153667
		230 mm	according to RAL	153668
GEZE RWA 105 NT SYNCRO - special version Can be configured: stroke, cable length, colour; contains 2 E 250 NT drives				153669
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
			according to RAL	014258
Cover profile OL 320, length 3000 mm Mitre-cut at both ends			EV1	058774
			white RAL 9016	018294
			according to RAL	014259
Cover profile OL 320 length 6000 mm Straight-cut at both ends			EV1	058630
			white RAL 9016	018251
			according to RAL	013814
Accessories				
Rod guide				058653

GEZE opening and locking system OL 370 EN

Opening and locking system for post-rail constructions and side-hung windows

The OL 370 system is a combination of an electric spindle drive E 350 N mounted flush on a profile and a mechanical console set. The universal installation system enables use of all standard, vertically installed casement profiles in post-rail constructions. The GEZE OL 370 EN system is offered with three different stroke lengths and is used for the ventilation of inward-opening windows. The OL 370 EN achieves very large opening widths with small spindle stroke. A special advantage of this system is the double mechanical locking device (without additional cable guides), which increases air-tightness and protection against burglary.

GEZE OL 370 EN



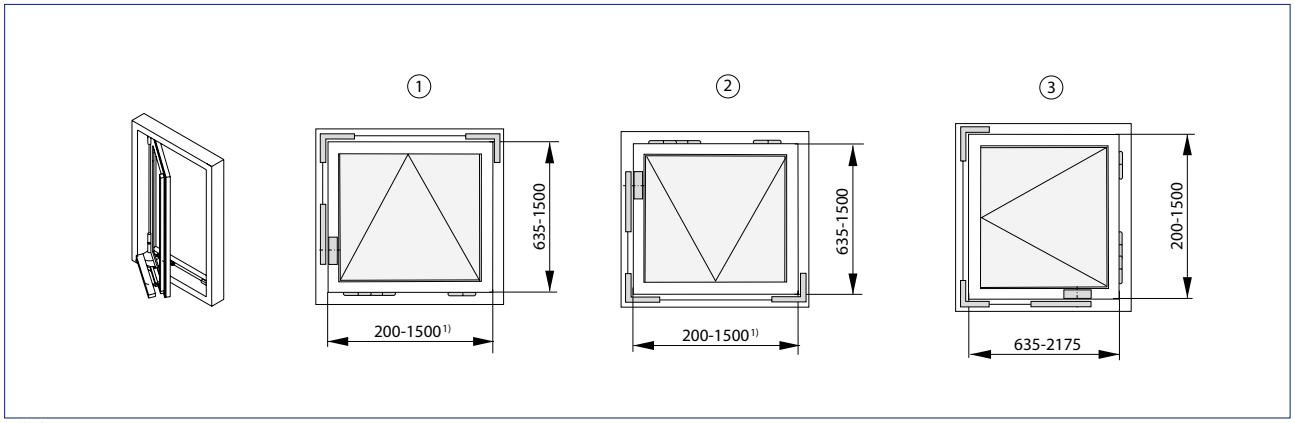
b = Leaf width
1 = Spindle drive E 350 N
2 = Corner transmission
3 = Lock
4 = Cover rail, stroke 230 mm
5 = Release spring
6 = Console
7 = Console support
8 = Rod guide
9 = Drive support pin
10 = Rod ø 12, galvanised
11 = Outer edge of leaf
12 = 2 hinges on the electric drive side (to be provided on site)

GEZE OPENING AND LOCKING SYSTEMS

Area of application

- Opening and locking of inward-opening windows in post-rail constructions
- Bottom-hung, side-hung and top-hung casements
- Natural ventilation
- Solo operation only
- Timber, plastic and aluminium frames
- Leaf installation

INSTALLATION



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

TECHNICAL DATA

Product features	GEZE OL 370 EN
General information	
Space required (min.)	Cover frame: 18 mm, leaf: 38 mm, Post-rail construction height max. 125 mm
Permissible dimensions of main closing edge Solo for timber and aluminium frames	depending on stroke
Permissible dimensions of main closing edge Solo for plastic frames	depending on stroke
Leaf heights	depending on stroke
Specification	
Possible stroke lengths	150 mm, 230 mm
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Panel weight (max.)	30 kg/m²
Electrical data	
Operating voltage	230 V AC
Current consumption	0.15 A
Power consumption (max.)	35 W
Cable dimensions	3 x 1.5 mm²
Temperature range	-20 – 70 °C
IP rating / protection rating	IP 65 / II
Functions	
Locking and additional angle bracket	•
End position cut-off extended	electromechanical
End position cut-off retracted	electromechanical
Overload cut-off	•

• = YES

ORDER INFORMATION

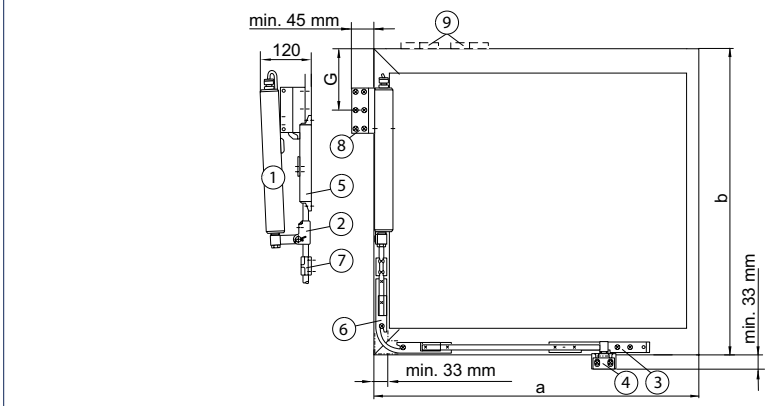
Designation	Stroke	Version	ID no.
GEZE OL 370 EN	150 mm	EV1	088139
	150 mm	white RAL 9016	088142
	230 mm	EV1	088144
	230 mm	white RAL 9016	088147

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 leafs. There is a mechanical locking device on the main closing edge. Two RWA 110 NT systems can be combined as a synchronous solution for wide leafs.

GEZE RWA 110 NT



a = Clear frame width
b = Clear frame height
1 = Electric spindle drive E 250 NT
2 = Rod transmission
3 = Additional locking device OL 320
4 = Auxiliary bracket complete
5 = Release spring
6 = Corner transmission OL 320
7 = Rod guide OL 320
8 = Frame bracket
9 = 2 hinges on the drive side (to be provided on site)

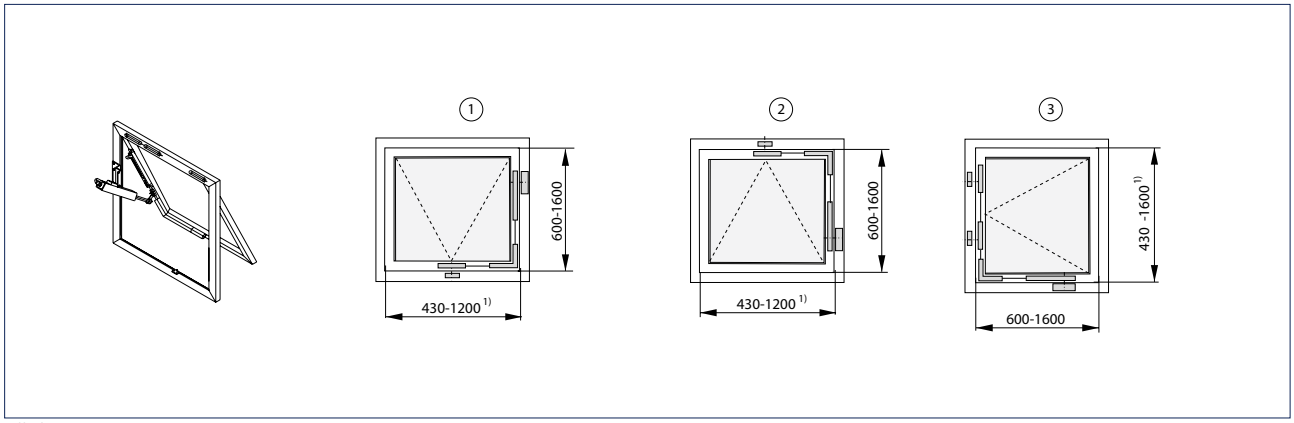
Area of application

- 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

INSTALLATION

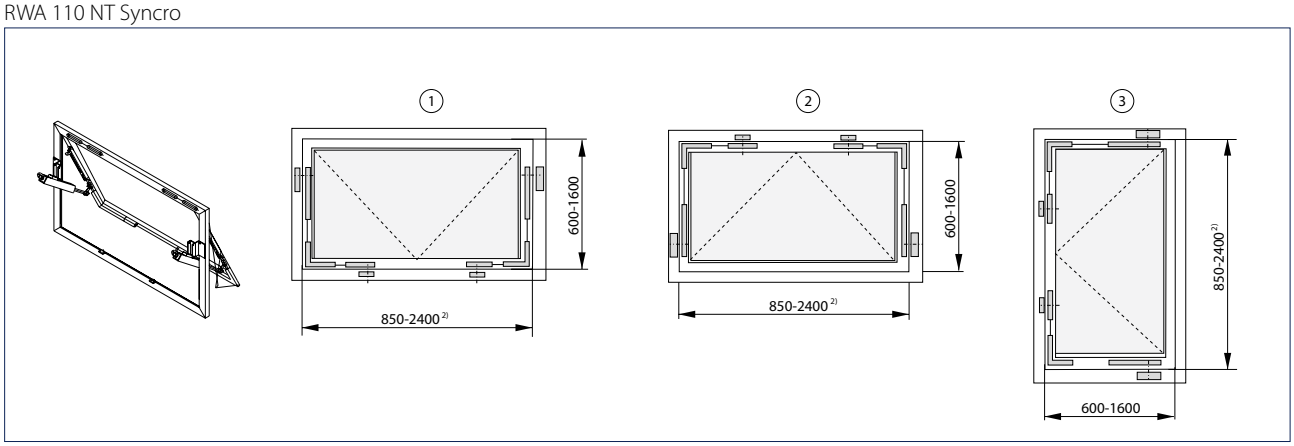
System flush to the profile for vertically installed, outward-opening bottom-hung, top-hung and side-hung windows
The given dimensions are standard; please contact GEZE if you require other dimensions.
Details for timber/aluminium windows

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 Synchro max. 1600 mm

TECHNICAL DATA

Product features	GEZE RWA 110 NT
General information	
Space required (min.)	Leaf frame: min. 33 mm, cover frame: min. 45 mm
Permissible dimensions of main closing edge Solo for timber and aluminium frames	430 - 1200 mm
Permissible dimensions of main closing edge Solo for plastic frames	430 - 800 mm
Permissible dimensions of main closing edge Syncro for timber and aluminium frames	850 - 2400 mm
Permissible dimensions of main closing edge Syncro for plastic frames	850 - 1600 mm
Clear frame height for Solo and Syncro	600 - 1600 mm
Specification	
Possible stroke lengths	150 mm, 200 mm, 300 mm
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Panel weight (max.)	30 kg/m²
Electrical data	
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
IP rating / protection rating	IP 65 / III
Functions	
Syncro function	●
Locking device and additional angle bracket	●
End position cut-off extended	Internal path sensor
End position cut-off retracted	Internal path sensor
Overload cut-off	●

● = YES

DETERMINATION OF THE MOTOR STROKE

RWA 110 NT and RWA 110 NT Syncro: Dimensions											Stroke
Leaf 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
Leaf 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
Leaf 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 fitting dimensions G.

ORDER INFORMATION

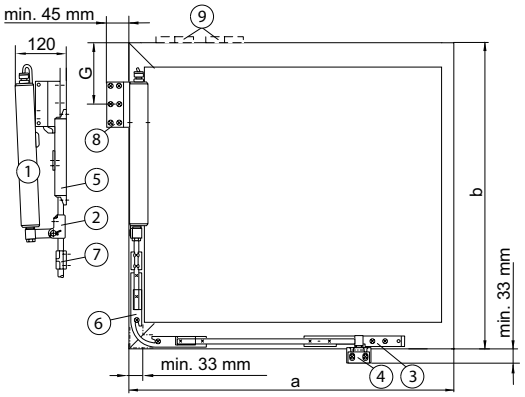
Designation	Length	Stroke	Version	ID no.
GEZE RWA 110 NT		150 mm	EV1	153220
		150 mm	white RAL 9016	153221
		150 mm	according to RAL	153222
		200 mm	EV1	153223
		200 mm	white RAL 9016	153224
		200 mm	according to RAL	153225
		300 mm	EV1	153226
		300 mm	white RAL 9016	153227
		300 mm	according to RAL	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
			according to RAL	014258
Cover profile OL 320, length 3000 mm Mitre-cut at both ends			EV1	058774
			white RAL 9016	018294
			according to RAL	014259
Cover profile OL 320 length 6000 mm Straight-cut at both ends			EV1	058630
			white RAL 9016	018251
			according to RAL	013814
Accessories				
Auxiliary bracket for overlap height 0 - 12 mm			EV1	050727
			white RAL 9016	015519
			according to RAL	013077
Corner transmission suitable for OL 320			galvanised	058648

GEZE opening and locking system OL 360 EN

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

The OL 360 EN system consists of the electrically operated spindle drive E 350 N, mounted flush to the profile surface, in combination with a mechanical console set. The universal installation system enables use of all standard, vertically installed types of leafs. This system is offered with three different stroke lengths and is used for the ventilation of outward-opening rectangular windows. The OL 360 EN achieves very large opening widths with small spindle stroke in a short time.

GEZE OL 360 EN



For details of fitting dimensions G and E, see table

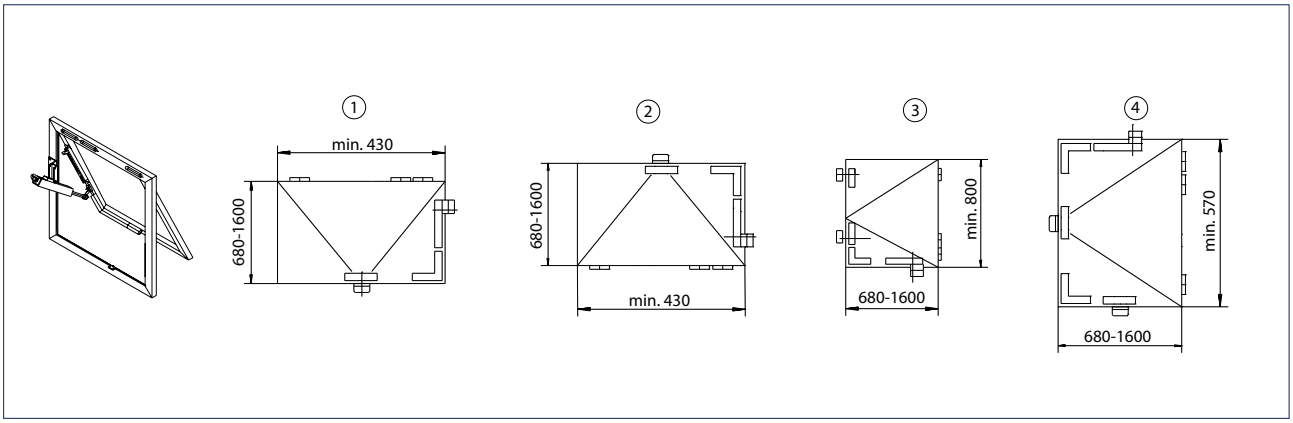
a = Leaf width
b = Leaf height
1 = Electric spindle drive E 350
2 = Rod transmission
3 = Additional locking device OL 320
4 = Auxiliary bracket complete
5 = Release spring
6 = Corner transmission OL 320
7 = Rod guide OL 320
8 = Frame bracket
9 = 2 hinges on the drive side (to be provided on site)

Area of application

- Opening and locking of outward-opening windows
- Bottom-hung, side-hung and top-hung casements
- Natural ventilation
- Solo operation only
- Timber, plastic and aluminium frames
- Frame installation

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.



All dimensions in mm
1 = Top-hung window
2 = Bottom-hung window
3 = Side-hung window (with 2 locks as required)
4 = Side-hung window

Fitting dimensions G and E depending on motor stroke and leaf heights

OL 360 EN Solo	Leaf height (b)	Dimension G	Opening angle	Opening width	Movement
Stroke 150 mm	680-700*) mm	80 mm	approx. 44°	approx. 530 mm	65 mm
	700-750*) mm	100 mm	approx. 42°	approx. 540 mm	75 mm
	750-800 mm	125 mm	approx. 39°	approx. 540 mm	100 mm
	800-850 mm	150 mm	approx. 37°	approx. 540 mm	132 mm
Stroke 200 mm	730-750*) mm	130 mm	approx. 51°	approx. 650 mm	110 mm
	750-800*) mm	155 mm	approx. 48°	approx. 650 mm	145 mm
	800-850 mm	175 mm	approx. 46°	approx. 670 mm	145 mm
	850-900 mm	200 mm	approx. 43°	approx. 670 mm	145 mm
	900-950 mm	225 mm	approx. 41°	approx. 670 mm	145 mm
	950-1000 mm	250 mm	approx. 39°	approx. 670 mm	145 mm
Stroke 300 mm	930-950*) mm	280 mm	approx. 54°	approx. 870 mm	175 mm
	950-1000*) mm	310 mm	approx. 51°	approx. 870 mm	175 mm
	1000-1050*) mm	330 mm	approx. 49°	approx. 880 mm	145 mm
	1050-1100*) mm	360 mm	approx. 47°	approx. 880 mm	145 mm
	110-1200*) mm	420 mm	approx. 43°	approx. 860 mm	145 mm
	1200-1300*) mm	500 mm	approx. 39°	approx. 860 mm	145 mm
	1300-1400 mm	580 mm	approx. 35°	approx. 830 mm	145 mm
	1400-1500 mm	630 mm	approx. 33°	approx. 840 mm	145 mm
	1500-1600 mm	700 mm	approx. 31°	approx. 840 mm	145 mm

* Shorten corner transmission by 50 mm

TECHNICAL DATA

Product features	GEZE OL 360 EN
General information	
Space required (min.)	Leaf frame: min. 33 mm, cover frame: min. 45 mm
Permissible dimensions of main closing edge Solo for timber and aluminium frames	430 - 1200 mm
Permissible dimensions of main closing edge Solo for plastic frames	430 - 800 mm
Clear frame height	600 - 1600 mm
Specification	
Possible stroke lengths	150 mm, 200 mm, 300 mm
Tensile force (max.)	750 N
Force of pressure (max.)	750 N
Panel weight (max.)	30 kg/m²
Electrical data	
Operating voltage	230 V AC
Current consumption	0.15 A
Power consumption (max.)	35 W
Cable dimensions	3 x 1.5 mm²
Temperature range	-20 – 70 °C
IP rating / protection rating	IP 65 / II
Functions	
Locking and additional angle bracket	●
End position cut-off extended	electromechanical
End position cut-off retracted	electromechanical
Overload cut-off	●

● = YES

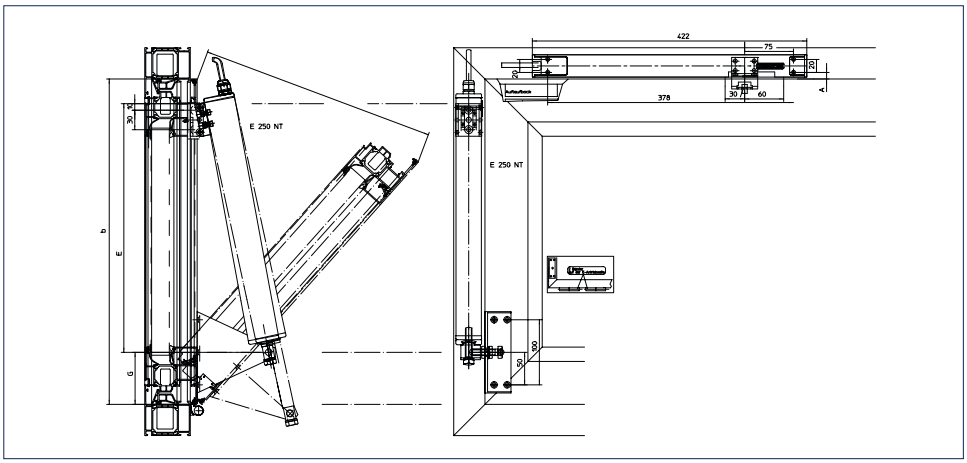
ORDER INFORMATION

Designation	Stroke	Version	ID no.
GEZE OL 360 EN	150 mm	EV1	088055
	150 mm	white RAL 9016	088058
	200 mm	EV1	088060
	200 mm	white RAL 9016	088064
	300 mm	EV1	088067
	300 mm	white RAL 9016	088070

RWA 100 in combination with Power lock

RWA system with locking drive for bottom-hung, top-hung and side-hung windows

The electric spindle drive E 250 NT (stroke lengths 100 – 300 mm) is installed flush to the profile on the frame using the tried-and-trusted RWA 100 consoles. Locking is achieved using the Power lock locking drive. In less than 60 seconds, the system achieves large opening widths with small spindle stroke.



GEZE OPENING AND LOCKING SYSTEMS

Area of application

- Opening and locking of inward-opening windows
- Bottom-hung, side-hung and top-hung casements
- Natural ventilation, smoke and heat extraction system (RWA)
- Synchronisation of 2 spindle drives E 250 NT on wide windows
- Up to 6 locking points
- Small minimum leaf heights enlarge the area of application

Determination of installation dimension, opening angle and drive stroke

									Stroke
Casement dimension (b) [mm] G dimension [mm] E-dimension [mm] Opening angle [°]	500-620 80 382 approx. 42°	550-750 130 382 approx. 34°	600-800 180 382 approx. 30°						100
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	650-800 180 433 approx. 43°	700-920 230 433 approx. 38°	750-1000 280 433 approx. 34°	800-1000 330 433 approx. 30°					150
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	800-1000 280 484 approx. 44°	850-1100 330 484 approx. 39°	900-1200 380 484 approx. 36°	950-1300 430 484 approx. 33°					200
Casement dimension (b) [mm] G dimension [mm] Opening angle [°] Opening width [mm]	1000-1100 380 586 approx. 51°	1050-1150 430 586 approx. 47°	1100-1250 480 586 approx. 43°	1150-1350 530 586 approx. 40°	1200-1450 580 586 approx. 38°	1250-1550 630 586 approx. 35°	1300-1600 680 586 approx. 33°	1350-1700 730 586 approx. 32°	300

See installation diagram EP 41521-EP-011 for more details

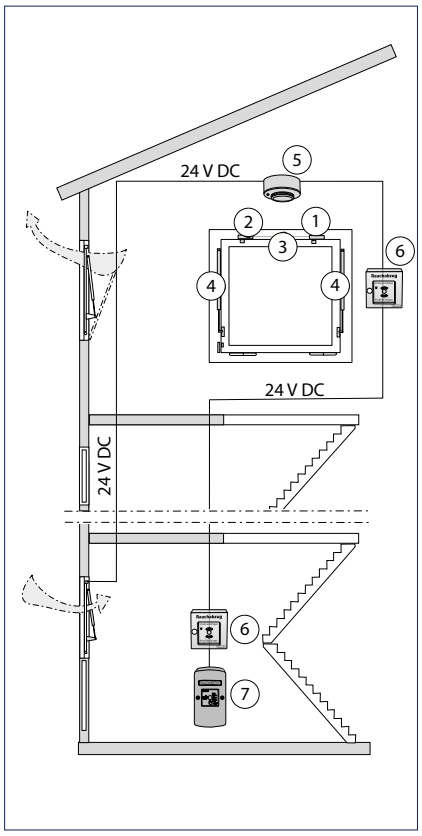
ORDER INFORMATION

Designation	ø driver	Stroke	Version	ID no.
GEZE E 250 NT		100 mm	EV1	146499
		100 mm	white RAL 9016	146500
		150 mm	EV1	146652
		150 mm	white RAL 9016	146653
		200 mm	EV1	146655
		200 mm	white RAL 9016	146656
		300 mm	EV1	146661
		300 mm	white RAL 9016	146662
GEZE Power lock max. locking stroke 22 mm			EV1	147020
			white RAL 9016	147021
Toe angle RWA 100			EV1	012812
			white RAL 9016	018561
Tilt console			EV1	019144
			white RAL 9016	019148
Accessories				
Frame installation set	8.5 mm		EV1	147026
	8.5 mm		white RAL 9016	150508
	11.5 mm		EV1	150507
	11.5 mm		white RAL 9016	150506

GEZE RWA EM "OPEN" – electro-magnetic

For INWARD-OPENING vertically installed bottom-hung, top-hung and side-hung windows as well as for swing sashes

The GEZE RWA EM "OPEN" system is a simple solution for opening windows used exclusively for RWA. With a leaf 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 leaf 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 leafs open.



System arrangement

1 = Magnetic primary lock E8/a for 24 V DC with leaf bracket for timber and metal frame windows
2 = Mechanical secondary lock C8/b with leaf bracket for overlap and flush-closing windows, for wide leafs
3 = Connecting link arm for mechanical connection of primary to secondary lock
4 = Spring arm, with frame and leaf 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 triggering
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

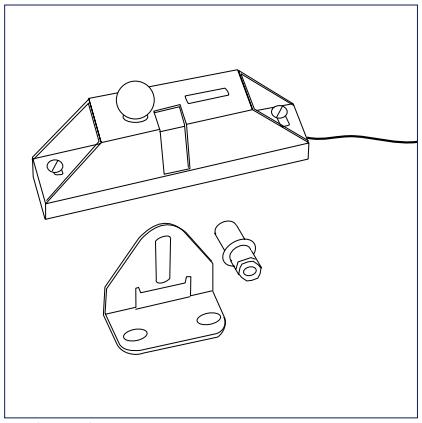
GEZE ELECTRO-MAGNETIC RWA SYSTEMS

Description of function

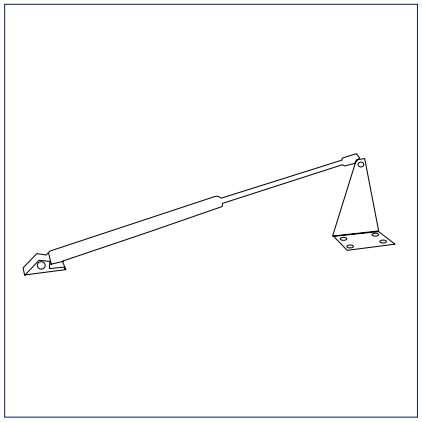
Opening of the windows by interrupting the closed-circuit current
Manually: By pressing the FT4 button or other devices for interrupting the current
Automatic: By triggering the smoke and heat switches and in the event of a mains power failure (only in version with mains rectifier)

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.

COMPONENTS



Locking device



Spring arm

Electro-magnetic locking device
- 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: Leaf height min. 1.5 x casement width

Secondary locking device
- 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/m² panel weight
- Stroke 150 – 300 mm
- Pressure force 150 – 250 N
- Opening angle up to 70° depending on stroke and leaf height

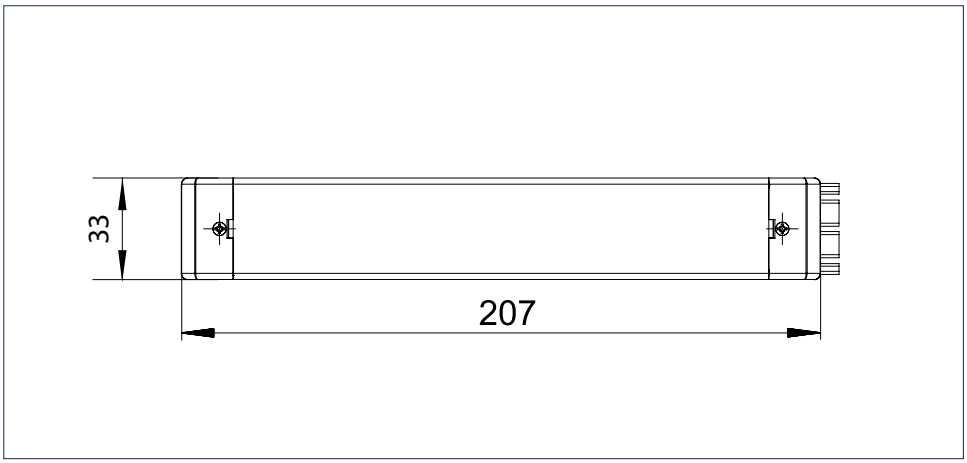
Designation	Stroke	Compressive force	ID no.
Magnetic lock E 8 A, 0.13A			010834
Secondary lock C 8 b			028092
Connecting link arm C 8/7, 6 x 1200			028125
Coupling sleeve C 8/12			052231
Spring arm	150 mm	150 N	057277
	200 mm	150 N	053049
	300 mm	150 N	057278
	400 mm	150 N	013436
	200 mm	250 N	053050
	300 mm	300 N	015934

GEZE electric linear drive E 212

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 drive E 212 and used for ventilation operation. In the case of several heavy windows these represent inexpensive and simple motorized solutions for operating several scissors. In addition, these 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 completely pre-assembled. Limit switch and drive protection have already been installed and are adjustable. The stroke is also variably adjustable so that the opening width can be flexibly regulated on site.

GEZE E 212



Area of application

- 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 window
- 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

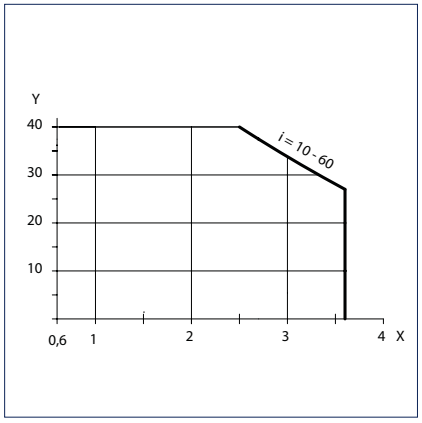
TECHNICAL DATA

	E 212
General information	
Dimensions (H x W x L)	30 x 80 x 210 mm
Specification	
Adjustable stroke	42 - 70 mm
Tensile force and force of pressure	1500 N
Running time (under load)	approx. 35 s for 52 mm stroke
Temperature range	-20 – 70 °C
Electrical data	
Power consumption	90 W
Current consumption	0.4 A
IP rating	IP 42
Operating voltage	230 V AC / 24 V DC
Cable/length	Connector version

INSTALLATION

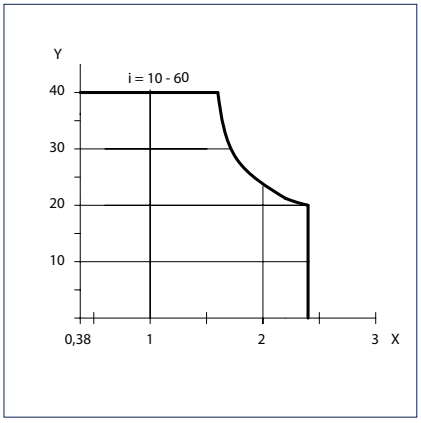
GEZE 212: Permissible leaf width and panel weight depending on the "i" dimension
(for installation with OL 90 N)

Horizontal installation

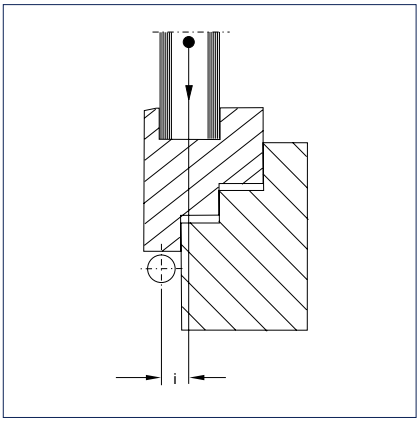


X = Overall leaf width (sum of all leaf widths) [m]
Y = Panel weight [kg/m²]

Vertical installation



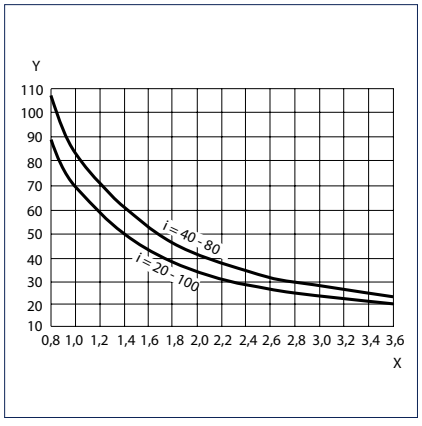
X = Overall leaf width (sum of all leaf widths) [m]
Y = Panel weight [kg/m²]



i = Clearance measurement between the leaf's centre of gravity and the hinge pivot point [mm]

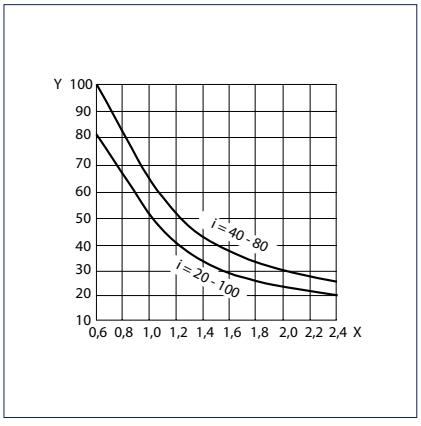
GEZE E 212: Permissible leaf width and panel weight depending on the "i" dimension
(for installation with OL 320)

Horizontal installation



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

Vertical installation



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

Possible leaf widths GEZE E 212

Number of scissor stays required	Leaf width a with horizontal installation	Leaf 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	-
	Leaf height b min. 400 mm [1]	Leaf 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

ORDER INFORMATION

Designation	Stroke	Version	ID no.
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	according 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	according 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	according to RAL	010915
Accessories			
GEZE safety scissor no. 35		galvanised	014499
GEZE safety scissor no. 60		galvanised	133814
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

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

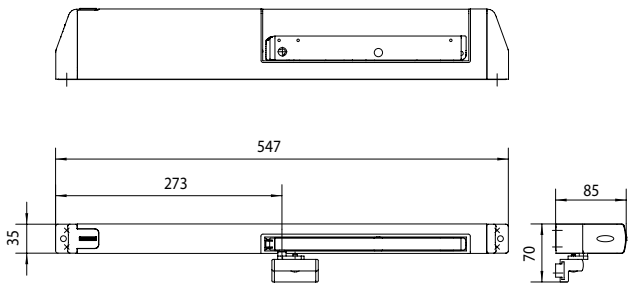
GEZE E 170 / E 170/2

GEZE scissor drives E 170 and E 170/2

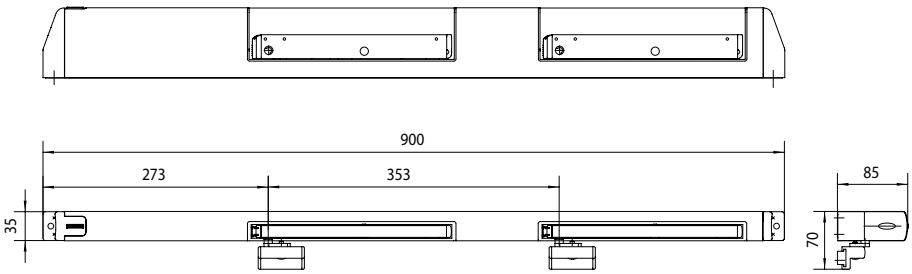
Design solutions for optimum ventilation

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 is variably adjustable so that the opening width can be flexibly regulated on site. The two-scissor version E170/2 also moves wide, heavy leafs, conveniently and safely.

GEZE E 170



GEZE E 170/2



Area of application

- Solution for activating 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

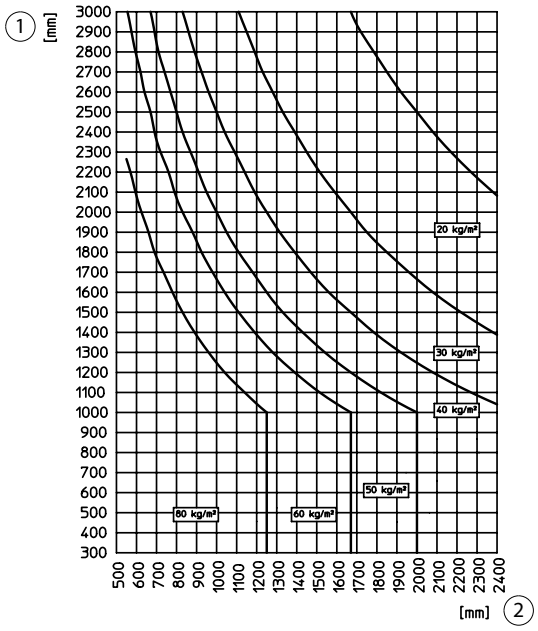
TECHNICAL DATA

Product features	GEZE E 170, E 170/2
General information	
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 requirement on frame (min.)	40 mm
Specification	
i dimension	10 - 60 mm
Projection height	0 - 25 mm
Leaf 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
Leaf weight (max.)	100 kg
Electrical data	
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
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
IP rating / protection rating	IP 42
Functions	
Stroke length settable	●
End position cut-off extended	Limit switch
End position cut-off retracted	Limit switch

● = YES

INSTALLATION

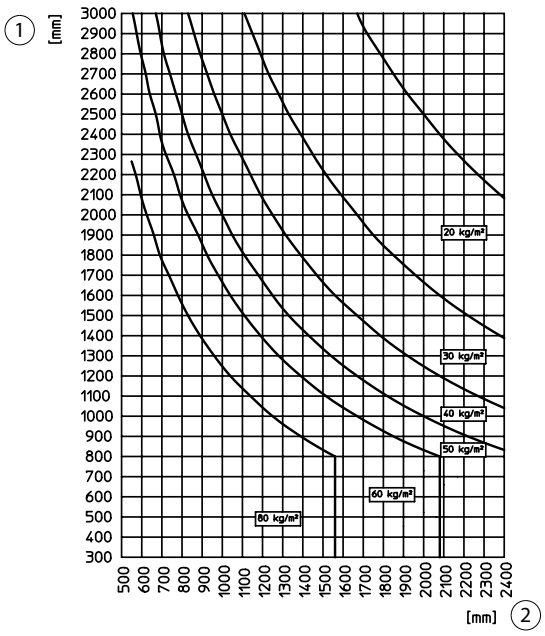
i dimension = 20 - 70



1 = Leaf height
2 = Leaf width

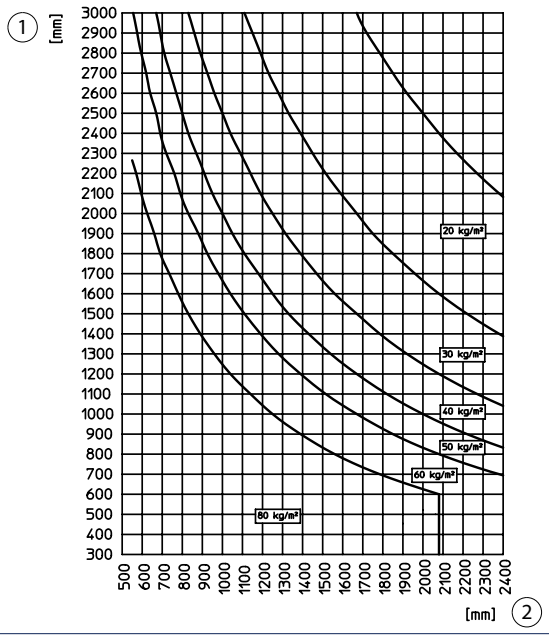
INSTALLATION

i dimension = 30 - 60



1 = Leaf height
2 = Leaf width

i dimension = 40 - 50



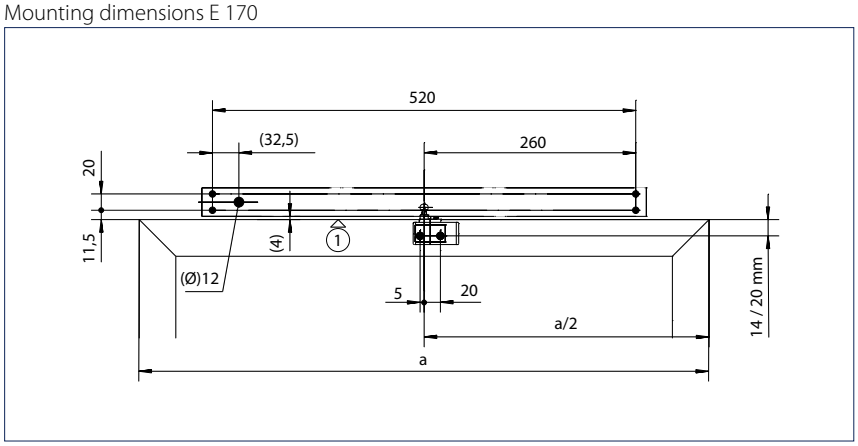
1 = Leaf height
2 = Leaf width

TYPES OF INSTALLATION

Scissor drives E 170 and 170/2 installation examples

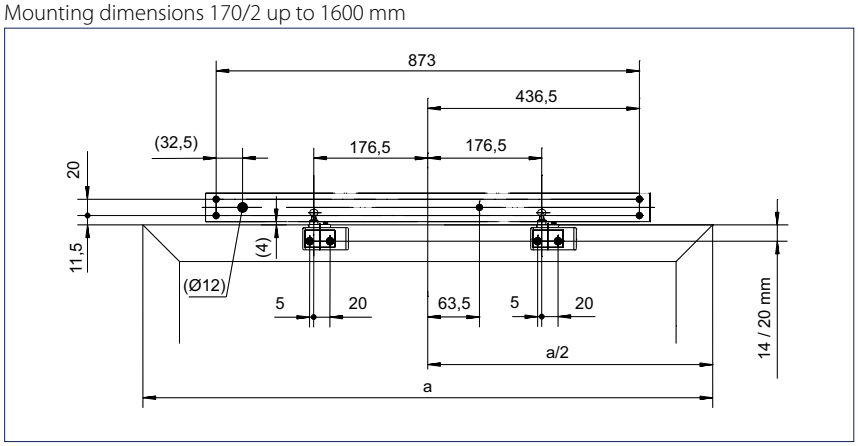
1 = E 170 for leaf width 550 - 1200 mm
2 = E 170/2 for leaf width 900 - 1600 (1600 - 2400) mm, 2-scissors

Mounting dimensions E 170

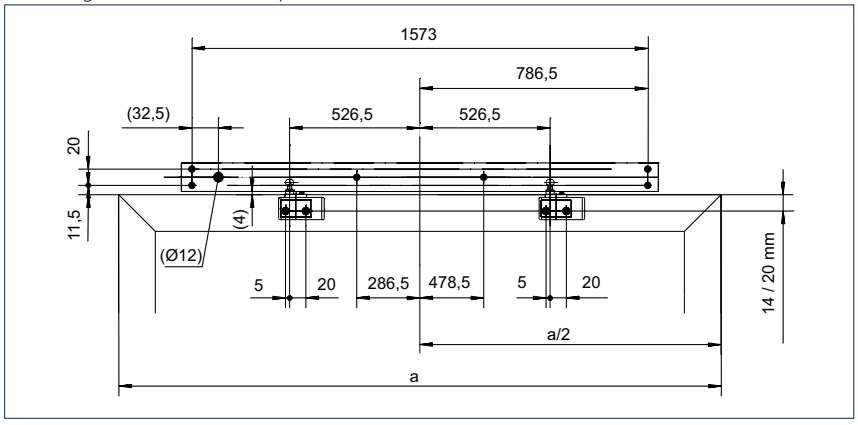


1 = Top edge leaf

Mounting dimensions 170/2 up to 1600 mm



Mounting dimensions 170/2 up to 2400 mm



GEZE E 170 / E 170/2

ORDER INFORMATION

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

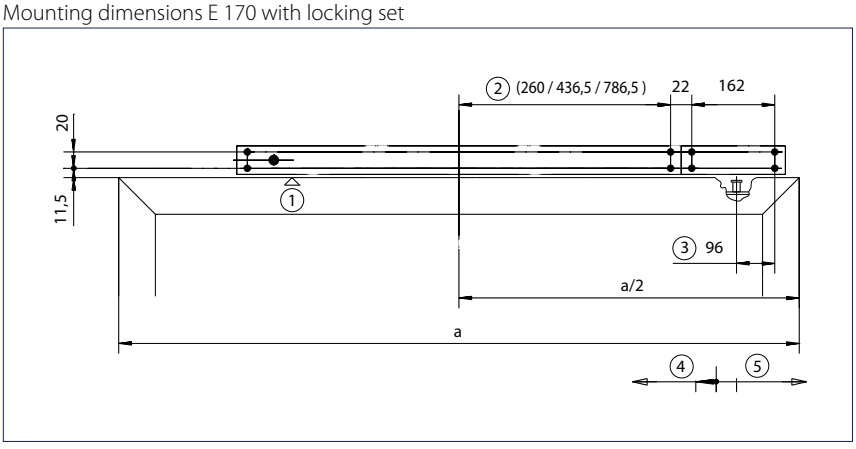
GEZE locking module for E 170

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. Three modules are 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.

Scissor drives E 170 with locking module

Mounting dimensions E 170 with locking set



1 = Top edge leaf
2 = Depending on drive
3 = Location of the driver bolt in locked state
4 = Unlocking
5 = Lock

GEZE variable cover for E 170

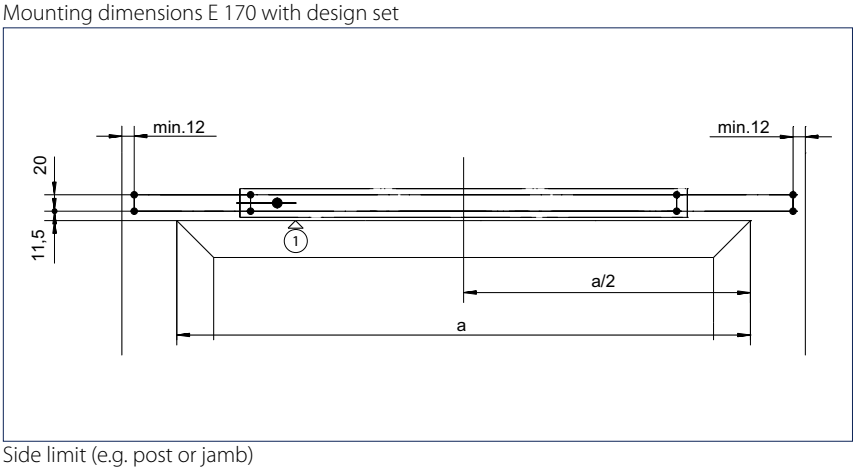
The design set for GEZE scissor drives

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.

Scissor drives E 170/2

With variable cover (design set)

Mounting dimensions E 170 with design set

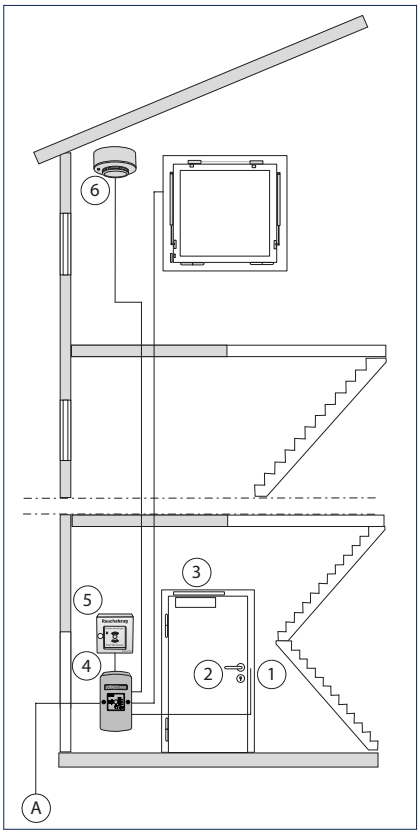


Side limit (e.g. post or jamb)
1 = Top edge leaf

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 quite 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.



A = Mains connection

System arrangement
The following components are required for this system:

In the lock area
1 = An electric door opener model 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 triggering

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.
Automatic:
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 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 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 electric strike is activated 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 case of an alarm causes activation every 2 minutes

RWA TÖ "OPEN" on a 2-leaf door
The functional options of the 2-leaf version are the same as those in the cases described above. The passive leaf must open later to ensure that both leaves of a 2-leaf door are not opened at the same time, causing them to get caught. This can 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. Inverse type door closers (with preloaded spring) and an electrical holding magnet (MA 500 with reed contact) are installed on the door. The holding magnet is continuously supplied with current and keeps the door closed against the spring force of the door closer (closed-circuit principle).
The holding 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 activated 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 switch. 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 the 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 free swing 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 the 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 or other pulse generator. The spring-tensioned door closer opens the door (free swing 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 (free swing 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.

ORDER INFORMATION

Designation	Version	ID no.
GEZE TS 4000 closer Closing force EN 5-7 with back check (without link arm)	silver-coloured	102837
Link arms TS 4000/2000 Standard	according to RAL	102425
GEZE TS 4000 EFS closer Closing force EN 1-6, door leaf installation hinge side, with electric hold-open device for free swing function and connector box (without free swing arm)	silver-coloured	105211
Link arms TS 4000 EFS/RFS with free swing function / free swing	silver-coloured	106460
GEZE TS 5000 closer Closing force EN 2-6, with back check (without guide rail and lever)		160320
Guide rail TS 5000/TS 3000 Standard, with lever	silver-coloured	068221
Accessories		
GEZE door stop buffer for floor-mounted installation	EV1	012921
GEZE THZ Compact staircase control unit with 3.4 A in one vent group and alarm group. Including rechargeable battery	white RAL 9016	139151
Diode 1N4007		115293
IQ eStrike A5000--E		145182

GEZE retractable arm drive RWA K 600

Folding 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 greater 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 surface-mounted installation with a pressure roller, the RWA K 600 can be combined with GEZE door closers and is therefore ideal for air inlet openings with high convenience. The combination of RWA K 600, motor lock and door closer is a complete solution from one source for air inlet openings with a lock according to 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

Area of application

- 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

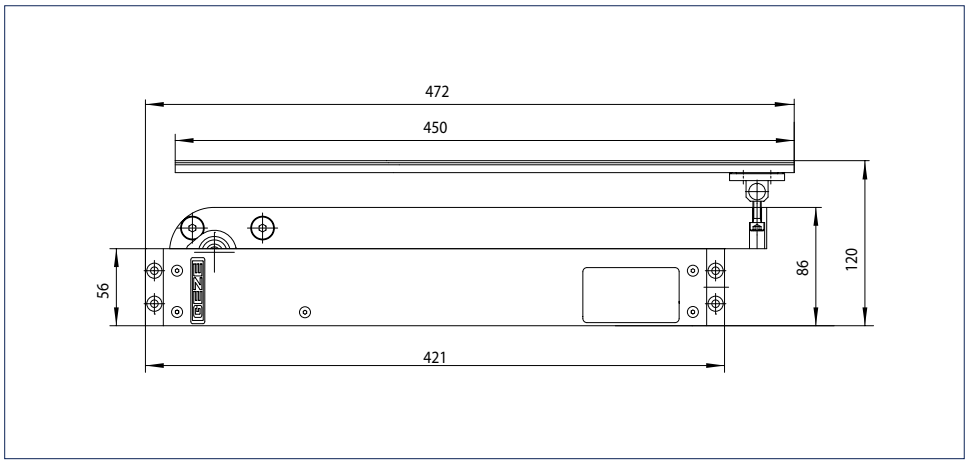
Technical data

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 guide rail.

RWA K 600 G

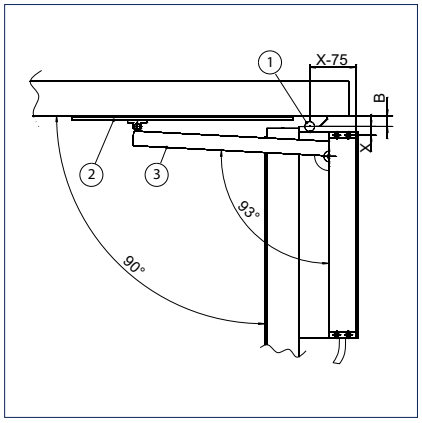


Type of installation	Window hinge side	Opposite hinge side	Door hinge side	Opposite hinge side
Leaf weight (min.)	30 kg/m²		250 kg[2)]	
Leaf width (max.) [1)] HSK	800 mm Solo, 1200 mm Syncro		1600 mm[2)]	
Leaf width (min.) HSK	-		470 mm	565 mm
Leaf height (max.) [2)] NSK	2x + 880 mm		-	
Leaf height (min.)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

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

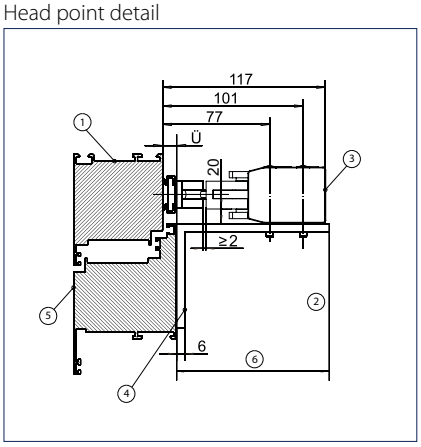
Hinge-side installation on the door – mounting dimensions

Plan view



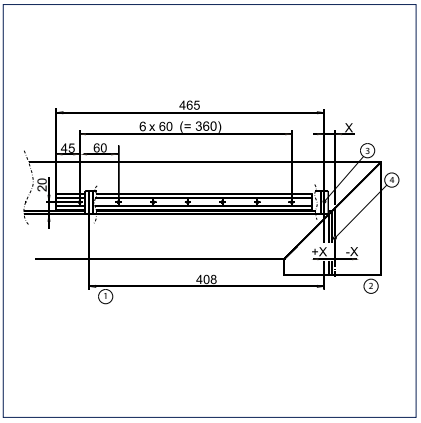
B = Hinge centre spacing
X = Distance between the door hinge and the drive attachment
1 = Door hinge
2 = Guide rail
3 = Retractable arm

Head point detail



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

Guide rail installation



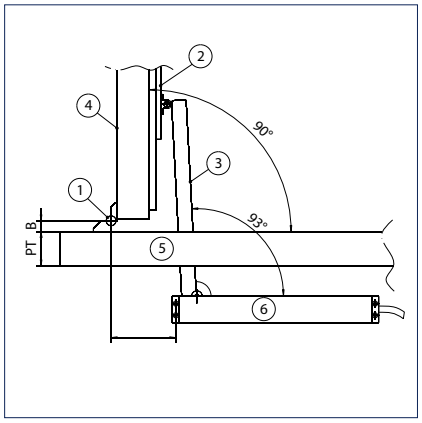
X = Distance between the door hinge and the drive attachment
1 = Console for articulated lever
2 = Door hinge
3 = Drive attachment
4 = Hinge axis

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	

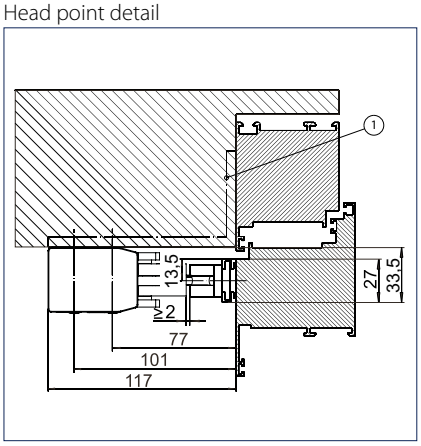
Opposite hinge-side installation on the door – mounting dimensions

Plan view



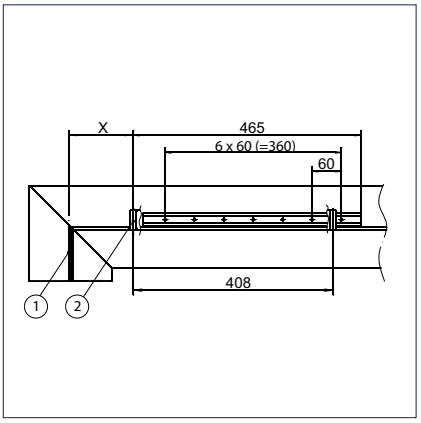
B = Hinge centre spacing
PT = Profile overall depth cover frame
1 = Door hinge
2 = Guide rail
3 = Retractable arm
4 = Door leaf
5 = Door frame
6 = Drive

Head point detail



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

Guide rail installation



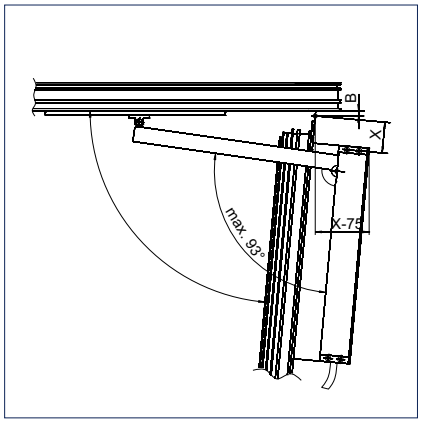
X = Distance between the door hinge and the drive attachment
1 = Hinge axis
2 = Drive attachment

Determination of the X dimension at 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		

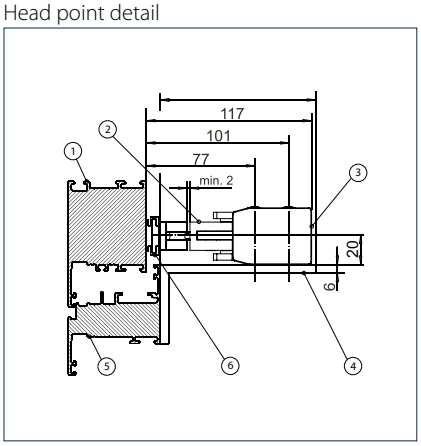
Hinge-side installation on window – mounting dimensions

Plan view



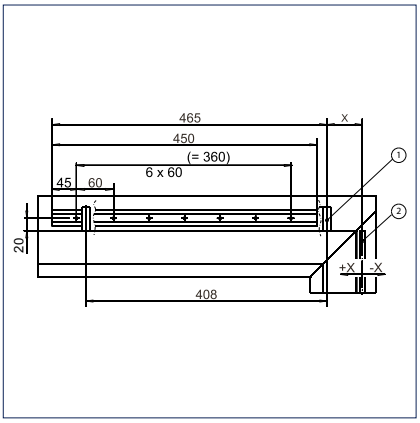
B = Hinge centre spacing
X = Distance between the window hinge and the drive attachment

Head point detail



1 = Frame
2 = Retractable arm
3 = Drive
4 = Mounting bracket console G
5 = Leaf
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.		

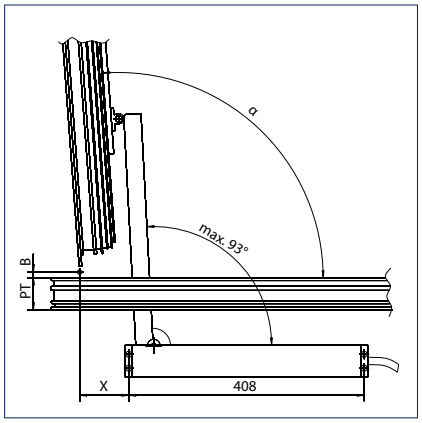
Examples of RWA K 600 hinge side for INWARD-opening bottom-hung and top-hung windows

Leaf 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 = main closing edge

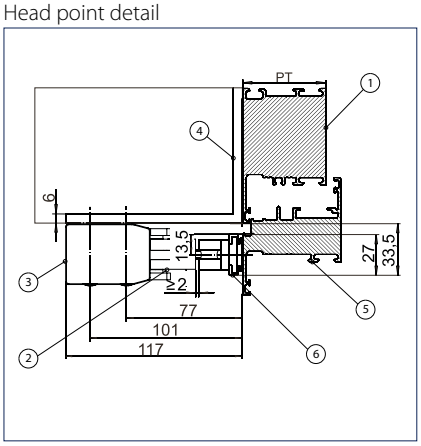
Opposite hinge-side installation on window – mounting dimensions

Plan view



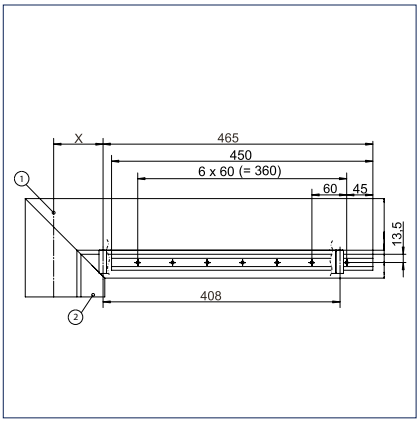
α = Opening angle
B = Hinge axis
PT = Profile overall depth cover frame
X = Distance between the window hinge and the drive attachment

Head point detail



PT = Profile overall depth cover frame
1 = Frame
2 = Retractable arm
3 = Drive
4 = Mounting bracket console G
5 = 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

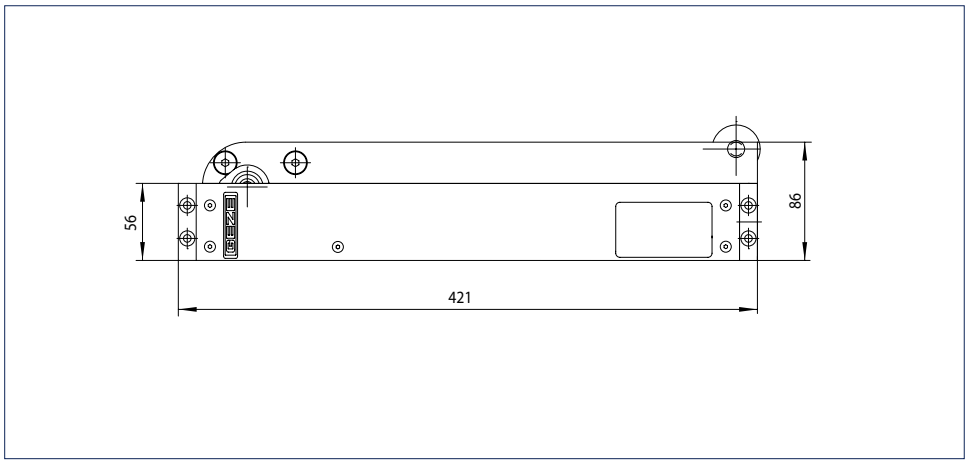
Leaf dimensions		Panel weight		Quantity drives
NSK	HSK	30 kg/m²	40 kg/m²	
800	800	x = 115 mm α = 90°	x = 115 mm α = 90°	Solo
800	1200	x = 115 mm α = 90°	x = 115 mm α = 90°	Syncro
1200	1200	x = 160 mm α = 80°	x = 160 mm α = 80°	Syncro

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

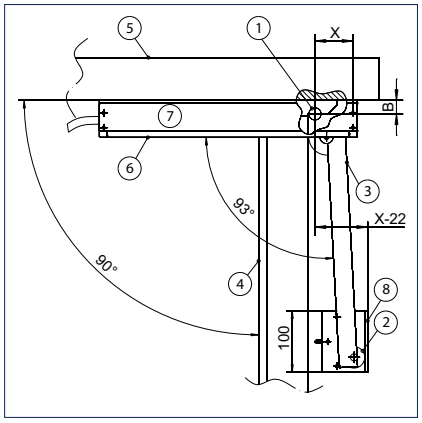


Type of installation	Window hinge side	Door hinge side
Leaf weight (max.)	250 kg [1)]	250 kg [1)]
Leaf width (max.)	1600 mm[1)]	1600 mm[1)]
Leaf width (min.)	470 + x mm	470 + x mm
Consoles	Console R, console T	-
Space requirement on the frame (min.)	at the side 145 mm	-
Space requirement on the leaf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

- = no
[1)] Higher values available on request

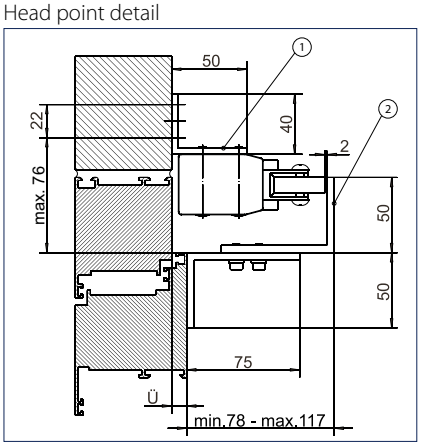
Hinge-side installation on the door – mounting dimensions

Plan view



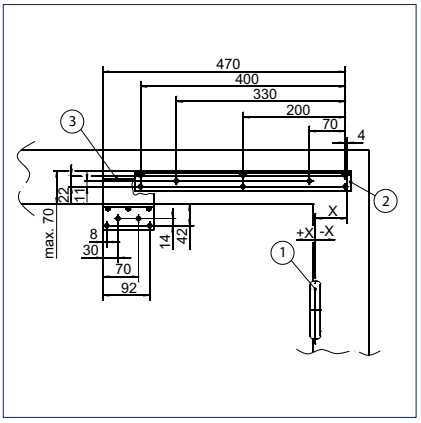
X = Distance between the door hinge and the drive attachment
1 = Door hinge
2 = Roller fitting
3 = Retractable arm
4 = Door leaf
5 = Door frame
6 = Drive
7 = Console R
8 = Console T

Head point detail



Ü = Overlap of the leaf beyond the frame
1 = Console R
2 = Console T

Console installation



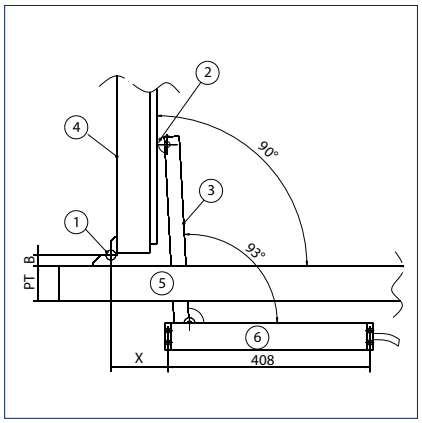
1 = Door hinge
2 = Console R
3 = Console T

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 the frame Ü = 0 mm	Overlap of the leaf beyond the frame Ü = 10 mm
13	-60	-70
22	-55	-60
36	-45	-45
Different opening angles / hinge centre spacings available on request		

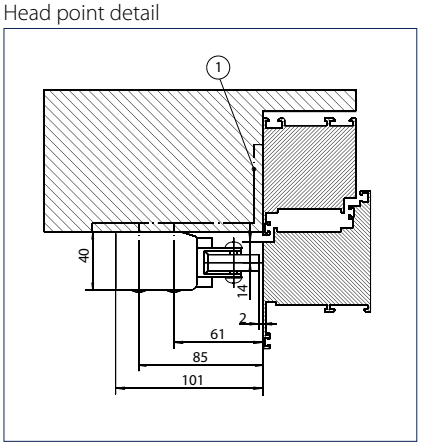
Opposite hinge-side installation on the door – mounting dimensions

Plan view



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

Head point detail



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

Determination of the X dimension at α = 90° (depending on B and PT)

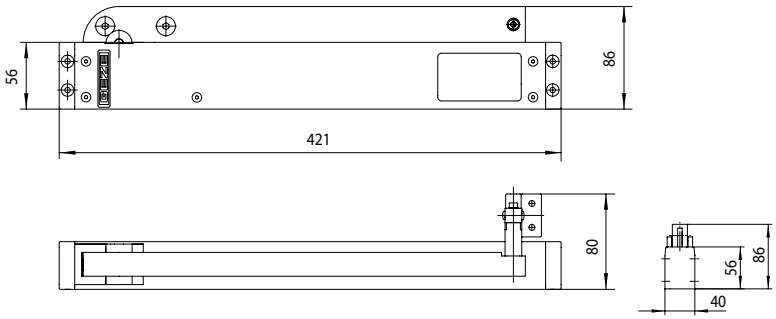
Hinge centre spacing B	Profile overall depth cover frame PT	Distance between the door hinge and the drive attachment (X dimension) with α = 90°
22	40	80
22	50	90
22	60	100
22	65	105
22	70	110
22	75	115
22	80	120
36	40	95
36	50	105
36	60	115
36	65	120
36	70	125
36	75	130
36	80	135
Different opening angles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

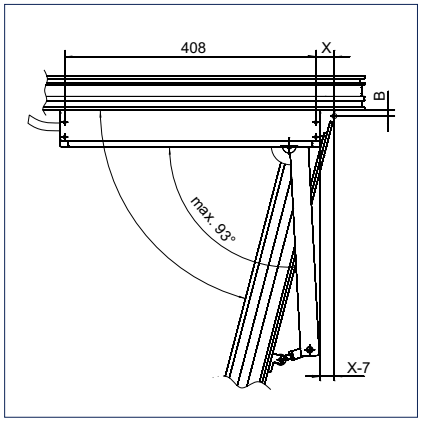


Type of installation	Window hinge side	Door hinge side
Leaf weight (min.)	30/40 kg/m²	250 kg[2)]
Leaf width (max.)[1)] HSK	800 mm Solo, 1200 mm Syncro	1600 mm[2)] Solo
Leaf width (min.) HSK	-	355 mm
Leaf height (max.) [2)] NSK	2x + 750 mm	-
Leaf height (min.) NSK	x + 420 mm	-
Consoles	Console R, console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

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

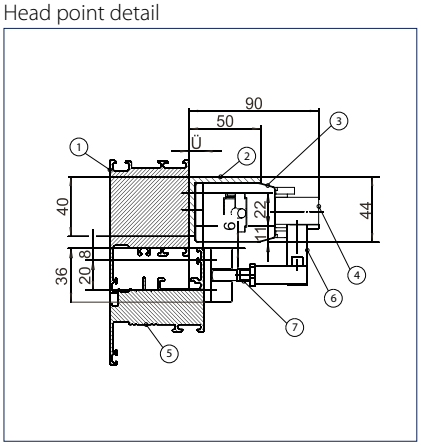
Hinge-side installation on window – mounting dimensions

Plan view



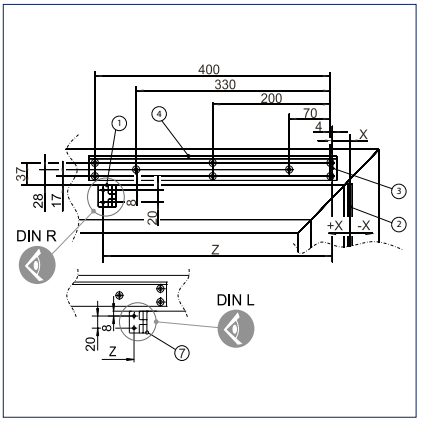
B = Hinge centre spacing
X = Distance between the window hinge and the drive attachment

Head point detail



Ü = Overlap of the leaf beyond the frame
1 = Frame
2 = Console R
3 = Drive
4 = Retractable arm
5 = 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

Leaf 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 leaf beyond frame Ü = 10 mm
Hinge centre spacing (B) = 10 mm
NSK = secondary closing edge
HSK = main closing edge

ORDER INFORMATION

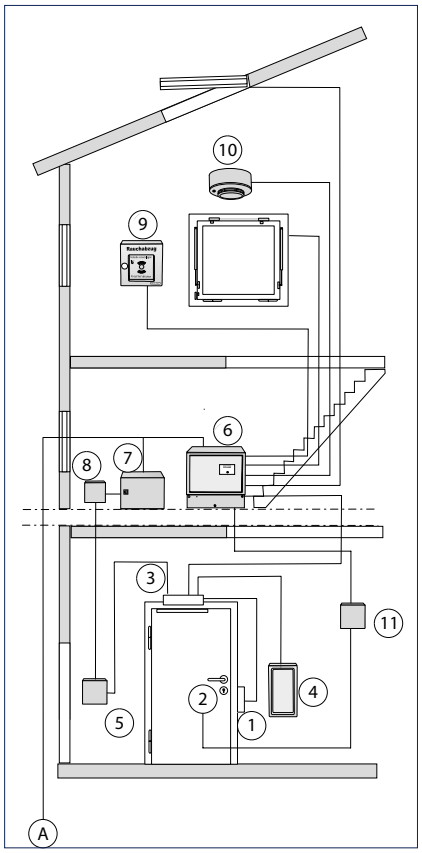
Designation	Version	ID no.
GEZE RWA K 600 G	EV1	130057
GEZE RWA K 600 G - SYNCRO	EV1	133119
GEZE RWA K 600 G 2-leaf with door closing sequence selector	EV1	137447
GEZE RWA K 600 G 2-leaf with door closing sequence selector - special version Can be configured: passive/active leaf, start-up delay, cable 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	according to RAL	130058
GEZE RWA K 600 T	EV1	130059
GEZE RWA K 600 T - SYNCRO	EV1	133120
GEZE RWA K 600 T 2-leaf with door closing sequence selector	EV1	137449
GEZE RWA K 600 T 2-leaf with door closing sequence selector - special version Can be configured: passive/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	according to RAL	130060
GEZE RWA K 600 F	EV1	130151
GEZE RWA K 600 F - SYNCRO	EV1	133221
GEZE RWA K 600 F 2-leaf with door closing sequence selector	EV1	137451
GEZE RWA K 600 F 2-leaf with door closing sequence selector - special version Can be configured: passive/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	according to RAL	130152
Accessories		
Console G for RWA K 600	EV1	130155
	according to RAL	140507
Console R for RWA K 600	EV1	130154
	according to RAL	140506
Console T for RWA K 600	EV1	130153
	according to RAL	140505

Console G for RWA K 600 (130155) Console R for RWA K 600 (130154) Console T for RWA K 600 (130153)

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. When combined 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 compliance with DIN 18650 / EN 16005 ensures convenience and safety. Combination with the GEZE emergency exit system (RWS) permits use on emergency exits.



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.

In the lock area

1 = Emergency exit opener 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 2-leaf doors.

Next to the door

4 = Elbow switch for opening the door in normal operation. Other types of activation, 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 triggering

11 = Additional motor lock control RWA MST 212 for activation of the IQ lock EL in the RWA case

Description of function with 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). This means the GEZE inverse drives (EMD Invers and TSA 160 NT Invers) open in the event of a fire or power failure by means of spring force – static current principle. It is therefore also necessary to use no-load door openers (or hold-open magnets); open circuit openers 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. This is not necessary with EMD Invers.

Manual passing through the door
A door equipped with an Invers drive cannot be simply passed through manually. With the TSA 160 NT Invers the door is held closed by the hydraulic solenoid valve as well as by the emergency exit opener. With the EMD Invers the door is held in the closed position by an emergency exit opener. Since manual passing through the door does not generate an activation 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 drive, 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 compliance with DIN 18650 / EN 16005.

Description of function with the motor lock IQ lock EL

The GEZE EMD Invers and 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 ock EL can only be used on single-leaf doors. The printed circuit board MST 212 is required in addition for the "RWA fresh air" function. If the RWA control is activated in an RWA case, it forwards the signal to the lock and switches the Invers drive off at the same time.

Opening the door in case of emergency
The additional board MST 212 is activated 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 Invers drive 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 / continuously open). The TSA 160 NT Invers must be reset. With the EMD Invers on the other hand, the drive changes to normal mode immediately after the alarm/fresh air status has been reversed.

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 be pressing the inner door handle or using a key via a cylinder.

GEZE fresh air RWA AUT with swing door drives EMD Invers and TSA 160 NT Invers and emergency exit system

System arrangement
Additional components for RWS control:
- Door control unit TZ 220
- Terminal box KL 220
- Additional opening contact for emergency push-button
- UPS (optional)

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 detector 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 switch.

Passing through door if RWS is locked – secured operation
By activating the key switch of the door control unit or other release elements (card reader, ext. key switch) the door opens automatically, and automatically closes and locks after the short-term unlocking has expired (max. five minutes). The release elements of the Invers drives 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. For security reasons, security sensors are also recommended here to secure the swivel range.

Passing through the door if RWS is unlocked – unsecured operation
By activating the release elements (elbow switch, radar detector) of the Invers drives 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.

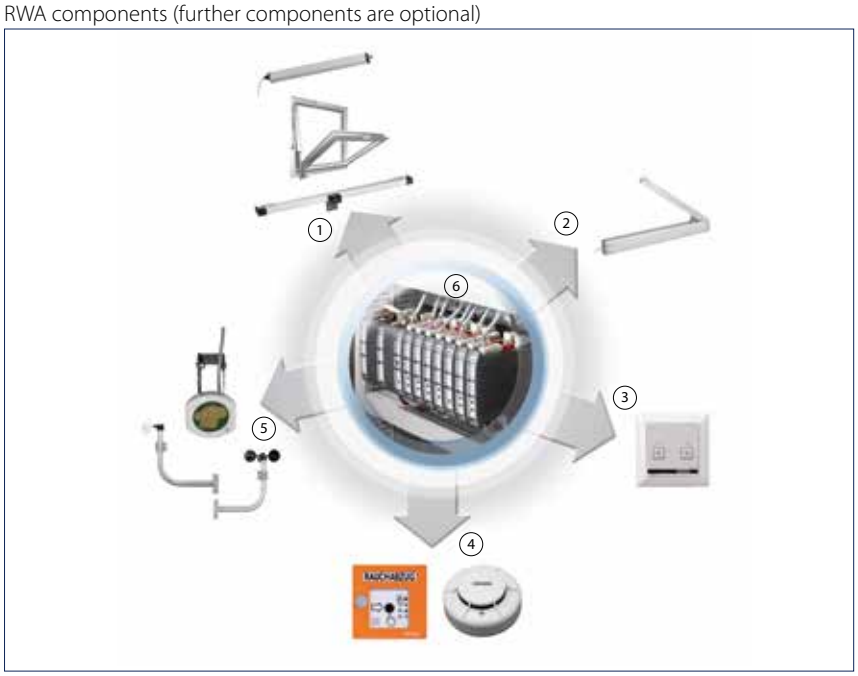
Control units

Emergency power control units make the coordinated activation 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 operation. GEZE offers various types and sizes of control unit, so that a suitable solution can be found for every RWA system.

GEZE emergency power control units

	THZ	THZ Comfort	E 260 N8/2	MBZ 300
Output current	3.4 A	3.4 A	7,5 A	10 - 72A*
Alarm groups	1	1	1	depending on configuration 1 - 10*
Vent groups	1	1	2	depending on configuration 1 - 21*
Flexibility**				
* even more flexibility by linking several control units				
** parameter setting ability, ease of service				

RWA components (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
6 = RWA control unit

Note:
Cable plans are in the GEZE download section at www.geze.com or can be created within GEZE WinCalc for the specific object.

GEZE THZ and THZ Comfort – the compact staircase control units

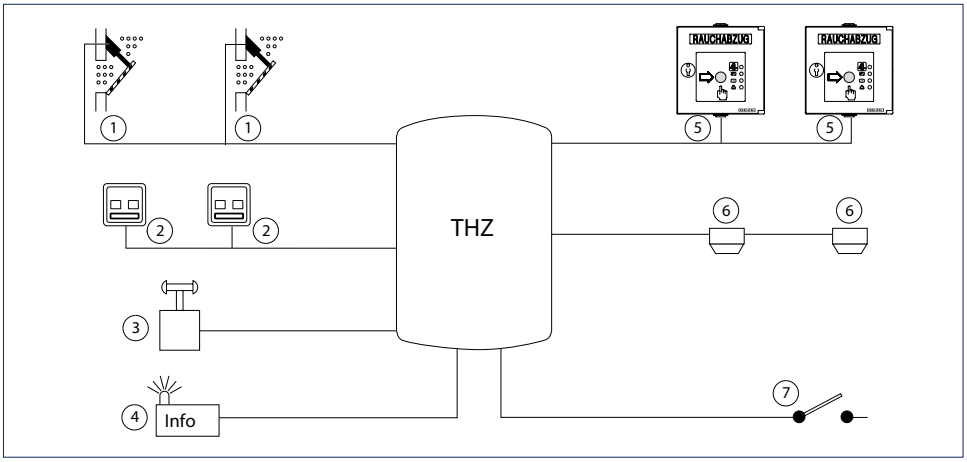
Additional safety with the RWA complete solution for staircases

The emergency power control units THZ and THZ Comfort represent compact and appealing solutions for safe smoke dissipation e.g. in staircases. The control units each enable the connection of a complete smoke dissipation 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.

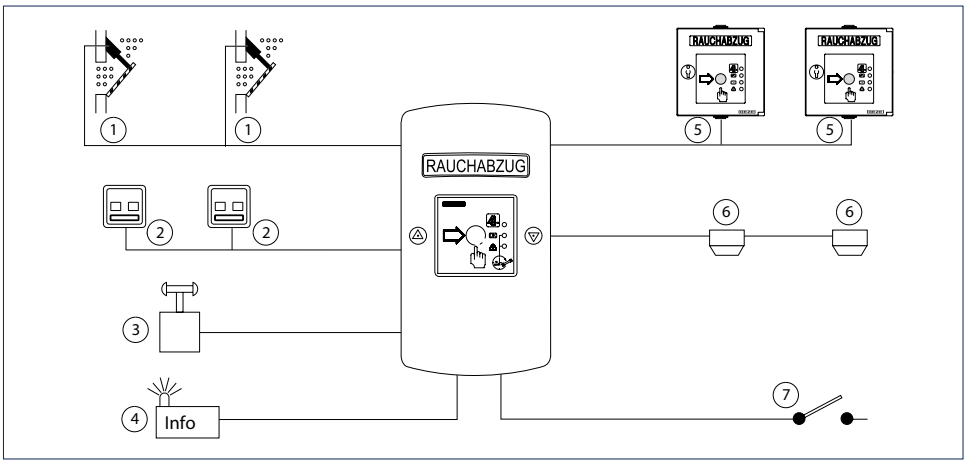
Left THZ, right THZ Comfort

1 = Drives for windows and smoke exhaust flaps
2 = Vent switches
3 = Rain/wind activation
4 = Alarm/error signals
5 = RWA buttons
6 = Smoke detectors and heat detectors
7 = Alarm from external fire detector central unit

THZ connecting possibilities for the components



THZ Comfort connecting possibilities for the components



Area of application

- 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 controlled natural ventilation

GEZE CONTROL UNITS

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	
Line-feed	from above, surface or flush-mounting possible	
IP rating	IP 30	
Ambient temperature	-5 to 40 °C	

Electrical

		THZ	THZ Comfort
Operating voltage (primary)	Mains supply voltage	230 V AC ±10 %, 50…60 Hz	
	Power	100 W	
	Pre-fuse required on site	16 A	
	Connection cross-section for feeder	3 x 1.5 mm^2	
Output voltage for drives	With mains supply	24 V DC ±5 %	
	With battery supply	24 V DC ±15 %	
	Residual ripple	2 %	
	Minimum output voltage	-	Minimum output voltages in compliance with EN 12101-10 Tab. 5: Drives 20 V / detector lines 19.5 V
Output current for drives	Total	3.4 A	
	Duty rating (ED)	20 % ED	30 % ED
	Per vent group	3.4 A	
Connection cross-sectiond	Drives	min. 1.5 mm^2 / max. 2.5 mm^2	
Emergency power supply	Nominal power of rechargeable battery	2.1 - 2.3 Ah (lead rechargeable battery)	
	Battery voltage (charge voltage temperature-compensated)	2 x 12 V	
	Battery connection	Flat connector	
	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
Composition	compact	
Alarm groups	1	
Vent groups	1	

Inputs / connecting possibilities

		THZ	THZ Comfort
Alarm activation 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 detector system)	
	Alarm line 3	10 smoke detectors / heat detectors or 1 x BMZ signal (external fire detector 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	Illuminated LED display for operating, fault and maintenance signal	
	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 hold-open 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 push 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 DIN EN 12101-10 E DIN EN 12101-9 VdS 2581 VdS 2593	TÜV-tested DIN EN 12101-10 E DIN EN 12101-9 VdS 2581 VdS 2593

ORDER INFORMATION

Designation	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
	according to RAL	140906
Accessories		
Spare key for THZ Comfort		142113
Terminal bag for THZ		140034
Replacement glass pane		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

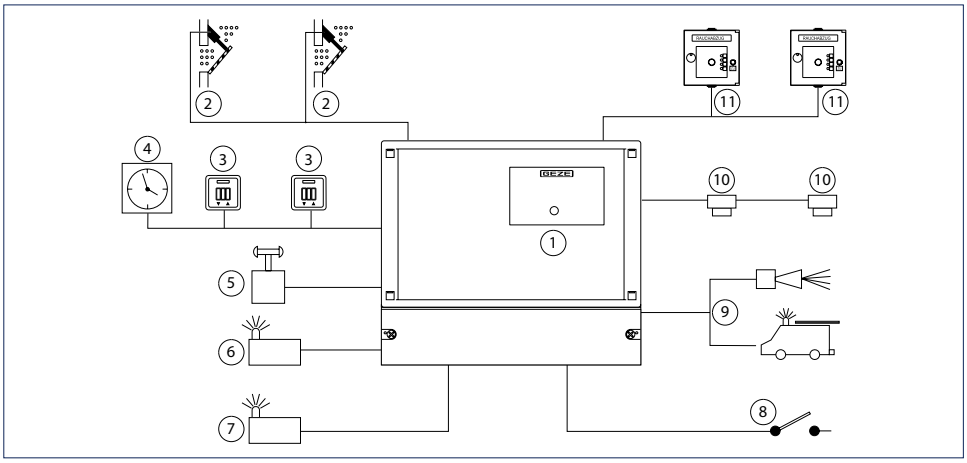
GEZE RWA emergency power control unit E 260 N8/2

Emergency power control unit for medium-sized RWA solutions

The RWA emergency power control unit E 260 N8/2 offers tried-and-trusted control unit technology with 7.5 A output power, 2 vent groups and one alarm group. The emergency power supply guarantees 72 hours of safe function for smoke vents and smoke dissipation in the event of a power failure.

GEZE E 260 N

Connecting possibilities for the components



1 = RWA emergency power control unit
2 = Drives for windows and smoke exhaust flaps
3 = Vent switches
4 = Timer
5 = Rain/wind activation
6 = Window OPEN signal (optional)
7 = Fault signal (optional)
8 = Alarm from external fire detector central unit
9 = Alarm signal (alarm forwarding) (optional)
10 = Smoke detectors and heat detectors
11 = RWA buttons

Area of application

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

TECHNICAL DATA

General information	E 260 N8/2
Dimensions	362 x 319 x 131 mm
Housing material	Plastic
Colour	grey
Type of installation	Surface
Line-feed	from below, surface
IP rating	IP54
Ambient temperature	-5 - 40 °C, environmental class III

Electrical data		E 260 N8/2
Operating voltage (primary)	Mains supply voltage	230 V AC ±10 %, 50 Hz
	Power	260 VA
	pre-fuse required on site	16 A
	Connection cross-section for feeder	3 x 1.5 mm^2 or 3 x 2.5 mm^2
Output voltage for drives	with mains supply	24 V DC (20-30 V)
	with battery supply	24 V DC (20-30 V)
	Residual ripple	20 %
Output current for drives	total	7.5 A
	Duty rating	with mains operation: 25 %, max. duty rating: 5 min
	per vent group	7.5 A (7.5 A in total)
Connection cross-section	Drives	maximum 4.0 mm^2
Emergency power supply	Nominal capacity of the rechargeable battery	6 - 7.2 A (lead rechargeable battery)
	Rechargeable battery voltage (charge voltage temperature-compensated)	2 x 12 V
	Battery connection	Flat connector
	Duration	72 h (max.) standby operation with subsequent motor operation for 180 s (2x open / 1x close)

Specification	E 260 N8/2
Composition	compact
Alarm groups	1
Vent groups	2 vent groups

Configuration		E 260 N8/2
Alarm activation per alarm group	Alarm line 1	10 RWA buttons
	Alarm line 2	10 smoke detectors / heat detectors
	Alarm line 3	1x BMZ signal (external fire detector 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
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: power failure
Status contacts (outputs)		optional additional PCB "status contacts": potential-free signal for alarm, fault, window OPEN
Networking of several control units		Forwarding of the alarm via additional PCB "status contacts" possible

Functions		E 260 N8/2
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	-
	Reaction with faults	-
	Vent switch	Latching. Dead-man operation possible using special wiring
Comfort functions	Automatic ventilation control	-
	Maintenance / service	-
	Other	-
RWA functions	Direction of alarm travel	Direction of motor rotation with alarm can be set (simple change of jumper)
	Smoke detector reset	Reset push button on the control unit
	BMZ function	BMZ signal in self-locking function
	Alarm re-initiation according to VdS 2581	Re-initiation always active

Certificates	E 260 N8/2
VdS certification	●
Tested in accordance with DIN EN 12101-10	●

ORDER INFORMATION

Designation	Version	ID no.
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
Accessories		
Status contacts for E 260 N2-N32 Status contacts for "Window OPEN", "Alarm", "Fault"		078111

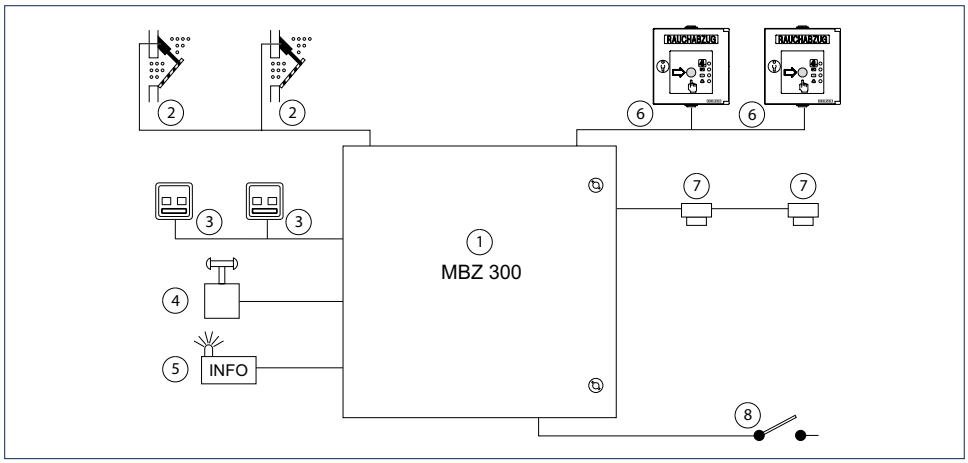
GEZE RWA modular bus control unit MBZ 300

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

Thanks 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. Standard settings are therefore automatically adapted, building-specific functions are set by software. Alongside the usual RWA safety functions, the MBZ 300 also has an option for the wind-direction dependant activation of the smoke vents (SHEV) according to 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

Connecting possibilities for the components



1 = RWA modular bus control unit MBZ 300
2 = Drives for windows and smoke exhaust flaps
3 = Vent switches
4 = Rain/wind activation
5 = Alarm-error signals
6 = RWA buttons
7 = Smoke detectors and heat detectors
8 = Alarm from external fire detector central unit

Area of application

- 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 controlled natural ventilation

General information

	MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 can be configured
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	Switch cabinet made of painted sheet steel				
Colour	painted grey (RAL 7035)				
Type of installation	Surface				
Line-feed	from above, surface				
IP 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 can be configured
Operating voltage (primary)	Mains supply voltage	230 V AC ±10 %, 50…60 Hz				
	Power	240 W	480 W	960 W	1440 W	depending on type
	Pre-fuse required on site	16 A				
	Connection cross-section for feeder	3 x 1.5 mm² or 3 x 2.5 mm²				
Output voltage for drives	With mains supply	24 V DC ±5 %				
	With battery supply	24 V DC ±15 %				
	Residual ripple	2 %				
	Minimum output voltage	Minimum output voltages in compliance with 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 (ED)	30 % ED				
	Per vent 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	Standard rechargeable battery: 38 Ah	depending on type
	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 (2 x open / 1 x closed)				

Composition

Internal bus system for modular equipping

- The minimum equipment consists of 1 switching power supply unit, 1 power module PM, 1 control module CM and 1 drive module DM
- The maximum equipment can contain up to 21 bus modules (depending on the standard variant switch cabinet) at a max. of 72 A (3 switching power supply units with 24 A each). If more power is required, several units can be configured via the software as a combined unit.
- The following additional modules are possible: driver module DM or DME, sensor module SM, weather module WM, relay module ERM

Variants

	MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 can be configured
Built-in power supplies	1 switching power supply 10 A	1 switching power supply 24 A	2 switching power supplies 24 A	3 switching power supplies 24 A	depending on type
Built-in modules:					
PME	-	-	1	2	Based on the basic control units sizes N10-N72, the number and order of the modules can be adapted for a specific property or project.
PM	1	1	1	1	
CM	1	1	1	1	
DM	1	3	6	9	
Space for further 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	

GEZE CONTROL UNITS

Inputs / connecting possibilities

		MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 can be configured
Alarm activation 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 detector system)				
	Alarm line 3	per CM / SM: 10 smoke detectors / heat detectors or 1 x BMZ signal (external fire detector 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 sensor 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 sequence (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 can be configured
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 can be configured
Operating modes for drive supply		- Standard drives - Hold-open 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 push 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				

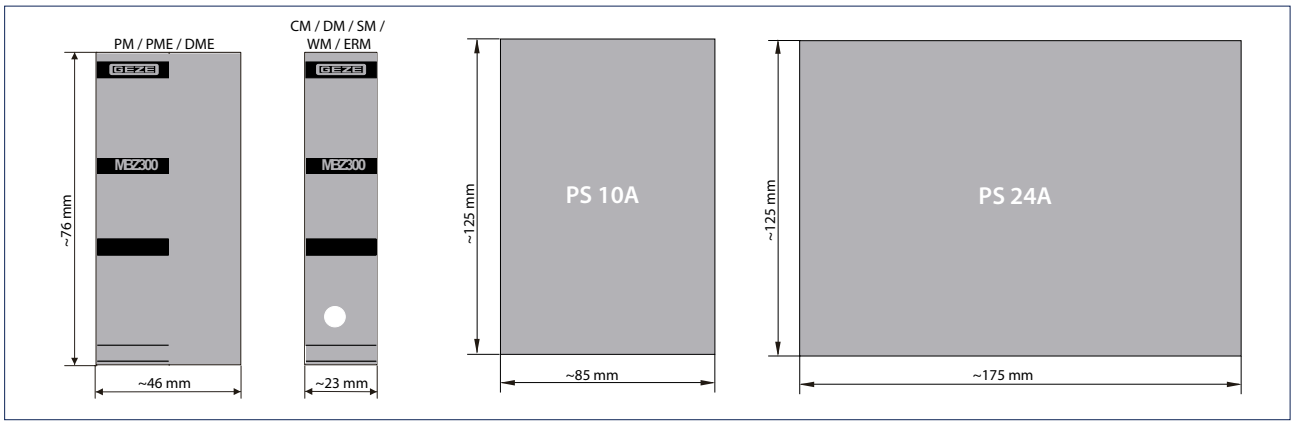
Certificates/tests

MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 can be configured
		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. Further fire sections (SM) and ventilation groups (DM, DME) are formed automatically (self-teaching function). Individual settings can be adapted for the ERM, WM and CAN modules using PC software. 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

Switching power supplies in 10 A or 24 A for power supply

PM

Power module PM for connection of the first switching power supply 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 switching power supply (max. 3 x 24 A switching power supplies 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 detectors 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 hold-open magnets can be triggered or supplied by corresponding programming.

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. There is an input for a central ventilation button for the fire section available.

WM and sensors

Weather module WM for operating wind and rain sensors and wind-direction-dependent 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. activation via a vent switch. The settings are made using the MBZ 300 software.

CAN

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

GEZE CONTROL UNITS

Power supply PS 10 A (134333)

Power supply PS 24 A (134334)

PM module (134320)

PME module (134331)

CM module (134316)

DM module (134317)

DME module (145790)

SM module (134318)

WM module (134332)

ERM module (149081)

CAN module (134319)

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 activation 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 (hold-open 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, 1 2 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 rechargeable 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 unit (by default the vent switch at the control module CM has a higher priority)
- Assigning, combining and prioritising fire compartments (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 hold-open magnets instead of drives to the drive module 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 CONTROL UNITS

ORDER INFORMATION

Designation	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 Switching power supply 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 Switching power supply 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 BMZ input, central button for the 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 Provides the same connection and adjustment options as a DM - but with a higher output power of 20 A - For connection of the drives a series terminal set (ID no. 150328) is required in addition per module		145790
SM module For forming a further fire section: for 10 RWA buttons, 10 smoke detectors, 1BMZ input, central button for the fire section		134318
WM module For weather-dependent 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 pack		134331
PM module As basic unit with charge controller in conjunction with a power pack		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 shade system

Depending on the constructional design, windows and shades may collide when both are activated 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 shading system to open this. The window drive can only begin (window opens) once the on-site limit switch on the shading system has signalised to the control that the shading 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 shading 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 shading system, the shading system remains open or 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 detector system/building management system

GEZE RWA systems can be connected to on-site systems via potential-free contacts. ***)
Examples:
Alarm function (a fire detector 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 activated 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, requirements and technical circumstances, different realisation options can result. (Coordination of the required potential-free contacts and shading 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, requirements and 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, requirements and 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.

GEZE IQ box KNX

Interface module for KNX building systems

The GEZE IQ box KNX is the interface between IQ windowdrives and the KNX building bus. The window drives Slimchain, Powerchain, E 250 NT as well as the locking systems Power lock and E 90X can be integrated directly in the KNX building bus using the IQ box KNX.

Area of application

- KNX interface for the window drives Slimchain, Powerchain and E 250 NT
- Can be used for natural ventilation
- Activation and feedback contact of the window drives via the KNX building bus
- One IQ box KNX per window (up to 4 window drives and 2 locking drives)
- Integrated switch interface for the connection of local vent switches

TECHNICAL DATA

Product features	**GEZE IQ box KNX**
General information	
Dimensions	50 x 45 x 19 mm (IQ box KNX UP) 98 x 62 x 18 mm (IQ box KNX HS)
Electrical data	
Operating voltage	24 V ± 25 %
Current consumption	0.02 A
Cable dimensions	max. 1.5 mm²
Temperature range	-5 – 70 °C
IP rating / protection rating	IP 20 / III
Specification	
Type of installation	Surface or flush-mounted housing
Max. cable length to push buttons	30 m
Max. cable length to window	50 m
Functions	
KNX movement commands	Open/close, step/stop, target position in %, speed in %, block
KNX status reports	Position in %, opened, closed, not closed, opening, closing, intermediate position
Ventilation	Timed ventilation, gap ventilation, wind alarm, rain alarm

IQ box KNX HS

IQ box KNX UP with GEZE chain drive Slimchain

System structure

ORDER INFORMATION

	Description	ID no.
	GEZE IQ box KNX UP Flush-mounting version for the installation in a flush-mounting branch box or electronic box	164443
	GEZE IQ box KNX HS Top hat rail version for installation on a TS35 top hat rail. Space requirement 18 mm (1 TE)	164437
	Accessories	
	GEZE surface-mounted housing Dimensions: WxHxD = 193 x 130 x 82 mm. For electronic top hat rail components	152010
	GEZE vent switch LTA-24-AZ with control keys „Open-Close" and LED function display (not suitable for 230 V)	129393
	GEZE vent switch LTA-LSA with rotary button for „open-close", can alternatively be used as a vent switch	118476
	Power supply NT 1.1 A-24 V UP Installation in flush-mounting socket	151426
	Power supply NT 1.5 A-24 V HS Output voltage 21.6 - 26.4 V DC, WxHxD: 78 x 93 x 56 mm, installation on top hat rail	151425
	Power supply NT 2,5 A-24 V HS Output voltage 21.6 - 26.4 V DC, WxHxD: 78 x 93 x 56 mm, installation on top hat rail	151424
	Power supply NT 4,2 A-24 V HS Output voltage 24 - 29 V DC, WxHxD: 100 x 93 x 56 mm, installation on top hat rail	151423

GEZE surface-mounted housing (152010)

GEZE vent switch LTA-24-AZ (129393)

GEZE vent switch LTA-LSA (118476)

ACCESSORIES

RWA accessories

Manual alarm activation

GEZE RWA button FT4/24 V DC-VdS

The RWA buttons FT4 with push-button locking are intended for manual alarm activation in case of fire. The surface-mounted housing is made from 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 activation in case 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 from floor 1.4 ± 20 cm. Easily visible in stairwell or corridor. The RWA button must not be concealed by door leaves

Automatic alarm activation

GEZE smoke detector RM 1003/24 V DC-VdS:

The automatic smoke detector type 1003 with VdS approval operates according to the principle of optical scattered light and is used for automatic triggering of the RWA in case 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 differential detectors should not be used if rapid temperature fluctuations are to be expected due to operating conditions.

ORDER INFORMATION

Designation	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 similar to RAL 2011	136232

SWITCHES

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 switch
- 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 switch SCT
- Supplied without profile cylinder
- Single or 2-pin version available

AS 500 vent switch LTA-24 (118473)

AS 500 vent switch LTA-24-SCT (127176)

AS 500 vent switch LTA-230-SCT (118475)

AS 500 vent switch LTA-230 (118474)

AS 500 vent switch LTA-LSA (118476)

AS 500 vent switch LTA-24-AZ (129393)

Key switch SCT (117996, 118478)

WIRELESS RANGE

The wireless activation of doors and windows using the GEZE wireless range makes connection to a power supply superfluous. Thanks 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 need 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 activation 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

Hand-held transmitter 2 channel (131210)

Hand-held transmitter 4 channel (131211)

Radio transmitter module WTM (131212)

Receiving module WRM

SWITCH/BUTTON RANGE

ID	Name	Description	24V supply				230 V supply		Wireless range (24 V / 230 V)
			MBZ 300	THZ / THZ Comfort	E 260 N	direct (IQ window-drives)	direct (conv. 230 V drives)	direct (IQ window-drives)	
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-pin	1-pin key switch	in connection with another pushbutton						
118478	SCT 2-pin	2-pin key switch	○	○	-	○	○	○	○

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

ORDER INFORMATION

Designation	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 switch 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 switch LTA-24-SCT with function keys "open-stop-close" and LED function display	alpine white	127176
Key switch SCT 1-pin without profile cylinder	alpine white	117996
Key switch SCT 2-pin without profile cylinder	alpine white	118478
Receiving module WRM-230 52 x 47 x 23 mm (W x H x D), for installation in a standard flush-mounted box		131215
Receiving module WRM-230B 130 x 80 x 35 mm (W x H x D), for surface-mounted installation with protection class IP 54		131216
Receiving module WRM-24 52 x 47 x 23 mm (W x H x D), for installation in a standard flush-mounted box		131213
Receiving module WRM-24B 130 x 80 x 35 mm (W x H x D), for surface-mounted installation with protection class IP 54		131214
Hand-held transmitter 2 channel with wall fixing and IP rating IP 54		131210
Hand-held transmitter 4 channel with wall fixing and IP rating IP 54		131211
Transmitting module WTM 44 x 30 x 11 mm (W x H x D), for optional integration in pushbutton		131212

SENSORS

Rain/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 15 m/s.

Control unit with evaluation electronics
The control includes the power supply device 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 make 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 (140226)

Wind sensor GC 402 WVS (140227)

Wind direction sensor GC 403 WDS (140228)

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 the 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 max. 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 dependent activation for SHEV (in the **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 control 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 (079087)

Order information

Designation	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 activation Comprising weather station and output control unit: 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 the activation of the 24 V IQ windowdrives. Depending on power requirements for the drives and their division into groups, different power supplies can be selected:

	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 mm^2			2 x 2 wire cores, 0.5 mm^2, approx. 90 mm long
Dimensions (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 (UP)
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 according to the equation: cable cross-section = cable length x total current of the drives / 73

Power supply NT 4.2 A - 24 V HS (151423)

Power supply NT 2.5 A - 24 V HS (151424)

Power supply NT 1.5 A - 24 V HS (151425)

Power supply NT 1.1 A - 24 V UP (151426)

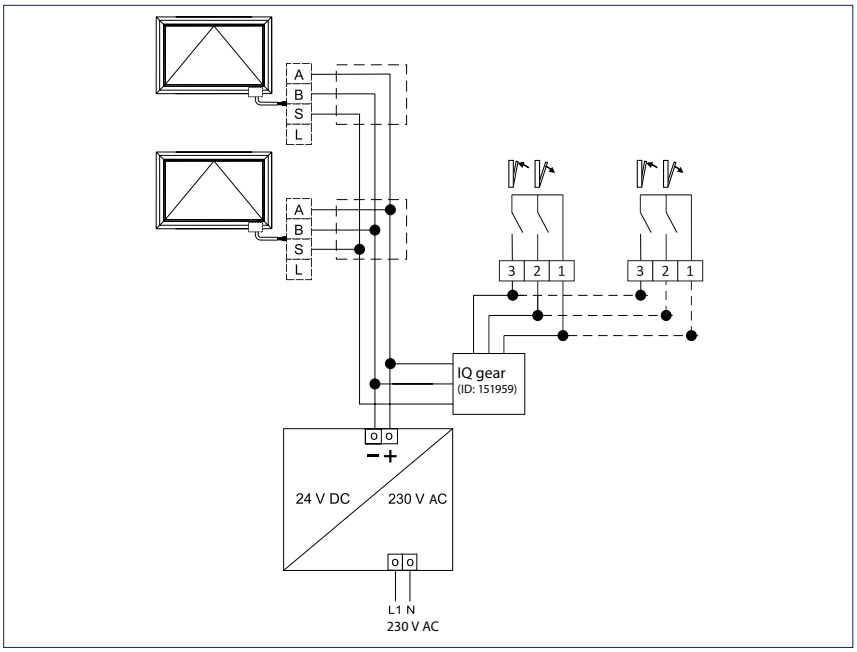
ACTIVATION OF GEZE IQ WINDOWDRIVES

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

TECHNICAL DATA

Product features	
Supply voltage	24 V DC (20 - 30 %)
Induced current intake	12 mA
Output signal	6 - 18 V, +-5 %, analogue voltage signal for activation of 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 (151959)



Components in the system

ORDER INFORMATION

Designation	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

GEZE SURFACE-MOUNTED HOUSING

The GEZE surface-mounted housing is an aesthetic alternative to a conventional surface-mounted installation box. It is white and has an attractive design, making it less conspicuous on the wall.

The housing is used to house electronic top hat rail components e.g. power supplies if these cannot be installed in switch cabinets in technical rooms or in flush-mounted boxes. The clever composition allows the four housing sections to be put together easily without tools. This way, several housings can be coupled together in order to house several components. For safety reasons, dismantling can only be done with a screwdriver.

TECHNICAL DATA

Product features	
Version	White plastic casing with pre-installed top hat rail
Line-feed	On surface with the aid of insertion plugs or flush mounting possible
Area of application	Dry rooms, installation on walls or ceilings
Dimensions (W x H x D)	193 x 130 x 82 mm
Ambient temperature	-5 to +70 °C
IP rating	IP 40
Examples of possible top hat rail components	GEZE power supply NT 1.5 A-24 V HS GEZE power supply NT 2.5 A-24 V HS GEZE power supply NT 4.2 A-24 V HS each with IQ gear or other top hat rail construction components with the max. dimensions (W x H x D) [mm]: 119 x 93 x 53

ORDER INFORMATION

Designation	ID no.
GEZE surface housing	152010

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 (072112)

Flashlight (089353)

Information labels

ORDER INFORMATION

Designation	Version	ID no.
"Ventilation" information label		025647
"Smoke exhaust" information label		005158
BLE 220 flashlight AP	red	089353
SLH 220 signal horn AP	white	072112

GEZE SAFETY SCISSORS

Area of application: 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 scissor stays is specified. These additional safety devices ensure permanent connection between the leaf 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 leaf 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 leaf after the opening scissor has been disengaged and prevent the leaf becoming a hazard during cleaning. For this purpose, GEZE supplies the "intelligent" gripping and cleaning scissor (gripping position) for vertically installed bottom-hung casement rectangular windows.

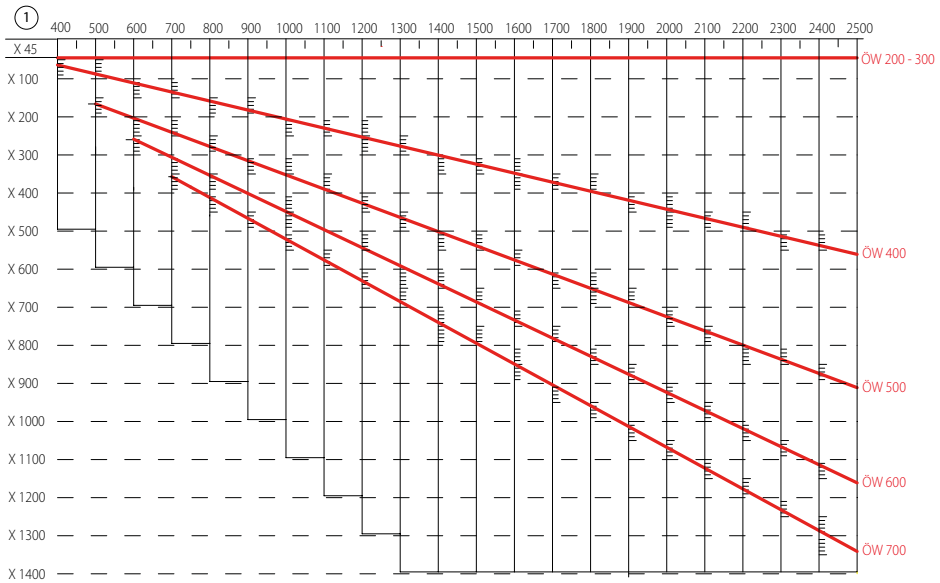
Safety scissor no. 35 (014499)

Safety scissor no. 60 (133814)

Gripping and cleaning scissor stay (FPS)

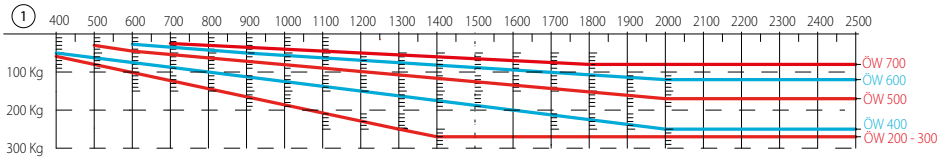
GEZE SAFETY SCISSORS - INSTALLATION

Determination of installation dimension X for safety scissor no. 35 for opening widths 200, 300, 400, 500, 600 and 700 mm



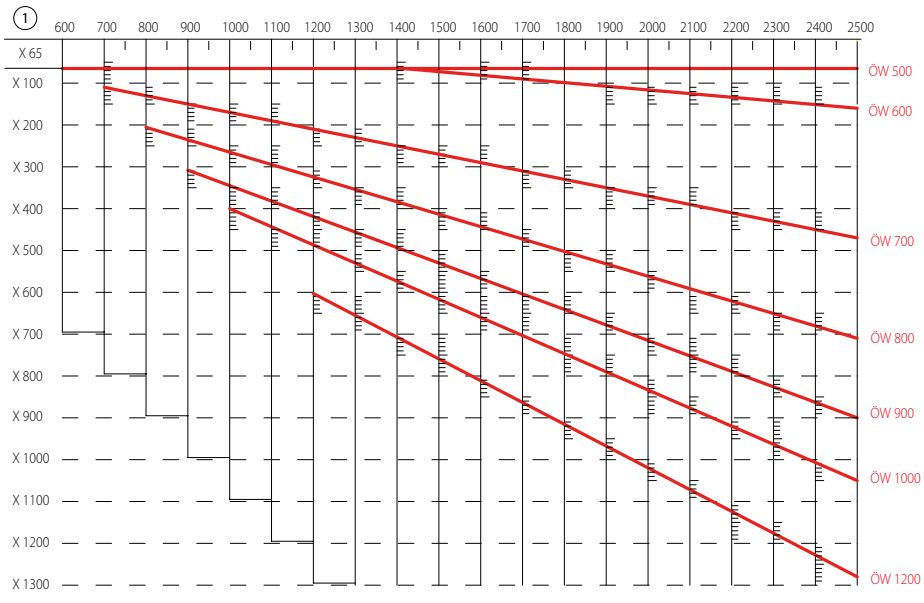
ÖW = Opening width
X = Installation dimension
1 = Leaf height

Leaf weight (max.) in kg for dimension X determined and given opening width for 2 safety scissors no. 35 per window



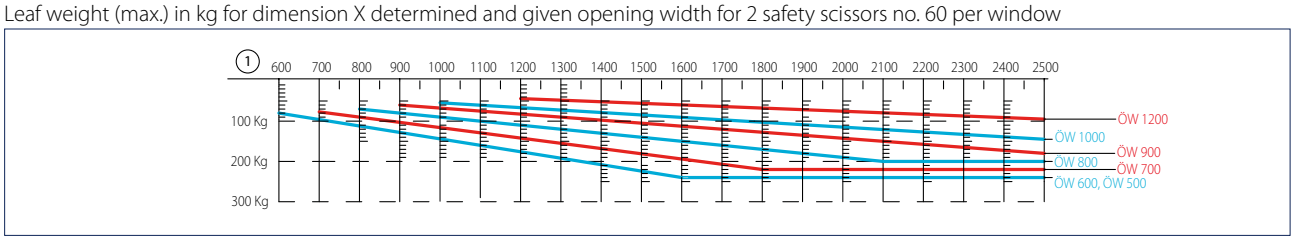
ÖW = Opening width
1 = Leaf height

Determination of installation dimension X for safety scissor no. 60 for opening widths 500, 600, 700, 800, 900, 1000 and 1200 mm



ÖW = Opening width
X = Installation dimension
1 = Leaf height

Leaf weight (max.) in kg for dimension X determined and given opening width for 2 safety scissors no. 60 per window



ÖW = Opening width
1 = Leaf height

ORDER INFORMATION

Designation	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 closing force 1	galvanised	030249
GEZE gripping and cleaning scissor stay (FPS) FPS 520 closing force 2	galvanised	030250
GEZE gripping and cleaning scissor stay (FPS) FPS 720 closing force 3	galvanised	030251
Accessories		
Mounting plates for gripping and cleaning scissor For light alloy windows (mounting fittings for leaf and frame)		030252
Mounting plates for gripping and cleaning scissor for plastic windows (mounting fittings for leaf with Euro groove and frame)	galvanised	070182
	white	030253
Frame shims for gripping and cleaning scissor for plastic windows	3 mm	029334
	5 mm	029335
Frame shims for gripping and cleaning scissor for plastic windows with inclined rebate		030383
Leaf shims for gripping and cleaning scissor	4 mm	009324
	5 mm	009325
	7 mm	013305
	8 mm	025635
	9 mm	009321
Frame shims for gripping and cleaning scissor for light alloy windows	3 mm	009326
	5 mm	009328
Stop gauges for gripping and cleaning scissor (FPS)		024741
Frame or leaf shim	7 mm	135013
	8 mm	135012
	9 mm	135011
	5 mm	135014
Leaf shim		135015
Frame shim	5 mm	135016
	3 mm	135017
	5 mm	135019
	3 mm	135018
Frame shim for inclined rebate		135020

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 service case
The service 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

Designation	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
Service 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

Synchronising unit 230 V (054371)

Synchronising unit 24 V (111198)

Synchronising unit E 212 R1 (026762)

Service case (142586)

Service Terminal ST 220 (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. Calculations are possible for ventilation and smoke dissipation windows operated manually or by an electric motor, 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 then performs all the calculations, such as drive load and opening areas and outputs all the applicable drive solutions.

With the help of the central 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 unit, possible MBZ 300 modules, alarm and ventilation groups, connection of the drives) is compiled 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.

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 and all-glass fittings ID 091607
05	Sliding fitting systems and linear guides ID 123605, ID 000586
Automatic door systems	
06	Swing doors ID 144785
07	Sliding, telescopic and folding doors ID 143639
08	Curved sliding doors ID 135772
09	Revolving doors ID 132050
10	Activation 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 127785, ID 127789
13	Electrical spindle and linear drives ID 127785, ID 127789
14	Electric chain drives ID 127785, ID 127789
15	Smoke and heat extraction systems ID 127785, ID 139075
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

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.

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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