



CONVENIENT AND SAFE OPENING
GEZE ELECTRICALLY OPERATED VENTILATION SYSTEMS



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Comfort & convenience for everyday ventilation – GEZE electrically operated ventilation systems

FOREWORD

The intelligent way to open windows, conveniently and controlled



The 230 V version electrical ventilation drive systems are convenient and easy to operate. They are used for daily ventilation.

The GEZE range of products includes easy to install and use electrically operated chain drives as direct openers and powerful electrically operated spindle drives which, as direct openers and mounted on the surface of the profile, can also be used in an opening and locking system.

Combined with electrical linear drives, GEZE slimline fanlight scissor stays (see GEZE skylight opener systems) can also be electrically operated.

The following opening systems can be used:



Electrically operated spindle drive



Electrically operated chain drive

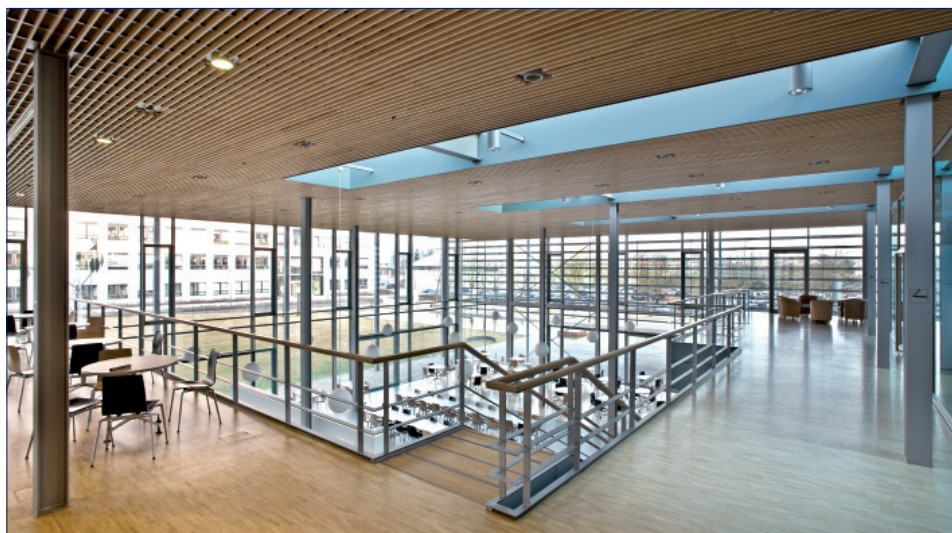


Opening and locking system



Fanlight opener system with electric linear drive

- **Electrically operated chain drives** and **spindle drives** ensures uncomplicated and effortless opening and closing of windows
- The **opening and locking systems**, mounted on the surface of the profile with 230 V operating voltage, small stroke lengths and large opening widths are an elegant solution for fast and wide opening and closing of windows.
- The tried and tested **fanlight opener range** around the OL 90 N, OL 95 and OL 320 systems offers different variations. Whether with hand lever, crank or in combination **with electrically operated linear drives**, GEZE slimline fanlight openers are quick and easy to install. The E 170 scissors drive combines the advantages of the OL 90 N and the tried and tested E 212 electrically operated linear drive under one housing.



Merckle ratiopharm, Ulm

FOREWORD



Servicing and maintenance

According to the MBO, owners and clients are obliged to ensure proper maintenance, as “buildings and structures ...() shall be arranged, built, modified and maintained so that public safety and order, especially life, health and natural habitats and livelihoods are not endangered”. Construction products may not be used without proper maintenance (cf. §3 Para. 1 and 2 MBO).

The client or owner shall independently ensure servicing, maintenance and inspection. All structural members and components shall be regularly checked for damage or deformation. The owner/operator of a ventilation system is obliged to take all necessary safety precautions to avert hazards endangering people and property in the building.

By ensuring the function of the ventilation systems through regular maintenance, they decisively reduce the actual risk of damage and injuries and also reduce the risk of liability in the event of an incident or claim.

GEZE ventilation drives must be serviced by an authorised specialist firm, taking into account the particular operating conditions – however, at least annually.

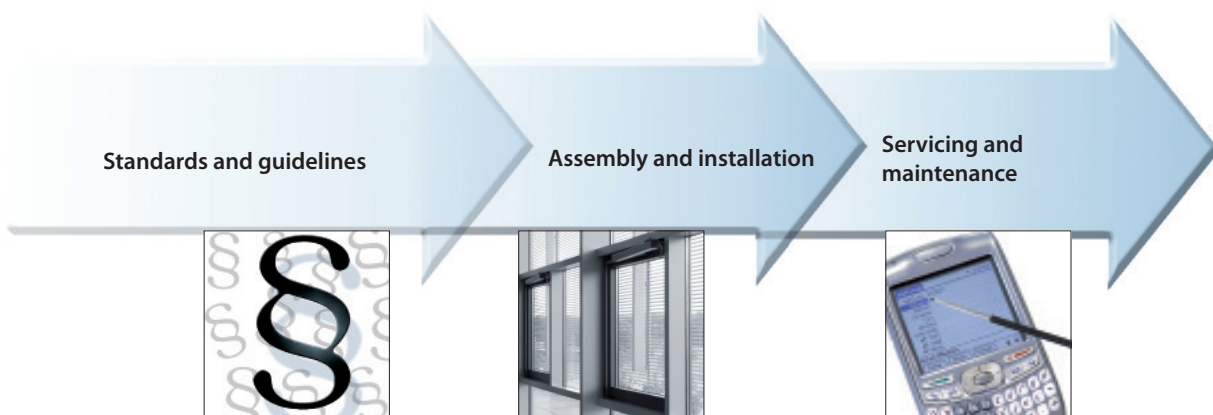
A selection of regulations and laws

Constitutional law Art. 2

“Each person has the right to freedom from bodily harm.”

MBO § 39, Para. 1 (Version November 2002)

“Facilities shall be arranged, built, modified and maintained so that public safety and order, especially life, health or natural habitat and livelihood are not endangered.”



Important notes

- On mounting and dismantling the drive, the window is not secured against tilting or slamming shut!
- It is necessary to ensure compliance with the local building regulations and the generally applicable health & safety/accident prevention regulations, DIN standards and VDE provisions.
- In addition, the BGR 232 guidelines for power-operated windows, doors and gates, published by the main association of German trade associations responsible for industrial safety also apply (Hauptverband der gewerblichen Berufsgenossenschaften, Zentralstelle für Unfallverhütung und Arbeitsmedizin).
- All assembly and installation work must be carried out by qualified personnel.
Installation (mechanical) by qualified, competent window builder or metal worker and installation (electrical) by qualified electrical form.
- For further notes on installation, starting up, maintenance, etc., please refer to our installation drawings and wiring diagrams.
- If used on bottom hung casements, for product liability reasons, we specify the installation of separate safety scissor stays. These are an additional safety device which ensures permanent connection between the casement and frame, e.g. GEZE safety scissor stay No. 60 and No. 35.

Selection aid for determining the right drive

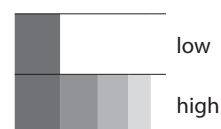
① Use as ventilation or RWA?

② Use in the facade or in the roof area?

Drive	Product	Requirement		Type of use		Max. pushing and pulling force	Max. opening width
		RWA	Ventilation	Facade	Roof		
Spindle	RWA 100E	●	●	●	○		
	RWA 105E	●	●	●	○		
	RWA 110E	●	●	●	○		
	E 250	●	●	●	●		
	E 250-AB	●	●	●	●		
	E 250 VdS	●	●	●	●		
	E 1500 N	●	●	●	●		
	E 1500 S	●	●	●	●		
	E 3000	●	●	○	●		
	OL 350 EN	●	●	●	○		
	OL 360 EN	●	●	●	○		
	OL 370 EN	●	●	●	○		
	E 350 N	●	●	●	●		
	E 740 (24 V)	●	●	●	●		
Chain	E 820	●	●	●	○		
	E 860	●	●	●	●		
	E 580	●	●	●	○		
	E 740 (230 V)	●	●	●	●		
	E 840	○	●	●	○		
Scissor	E 170	●	●	●	○		
Fresh air	RWA TÖ	●	●	●	○		
	RWA K 600	●	●	●	○		
	RWA AUT	●	●	●	○		

Legend:

- = suitable
- = suitable with limitations
- = not suitable



GEZE Electrically operated chain drives

Electrically operated chain drives as direct openers



The GEZE electrically operated chain drives are slimline electrical drives intended for use to directly open vertically installed, rectangular bottom hung, top hung, horizontally pivot hung windows, skylights and vertically-pivoted windows. They are suitable for natural smoke and heat extraction as well as smoke dissipation and ventilation. The drives are fitted parallel to the window and can be matched to the corresponding window colour. They have a special chain which can transmit both pulling and pushing forces. When closed, the chain is rolled up in the drive housing and cannot be seen.



Electrically operated chain drives	E 740 (syncro)	E 740 Dual	E 580	E 840
Dimensions (H x D x L):	42 x 54 x 423 mm	42 x 63 x 1000/1600 mm	31 x 31 x 311 mm (drive) 32 x 32 x 108 mm (power supply)	30 x 42 x 560 mm
Stroke 100 mm	●	●	○	○
Stroke 200 mm	●	●	●	●
Stroke 300 mm	●	●	○	●
Stroke 400 mm	●	●	○	●
Max. pushing/pulling force	250/300 N	500/600 N	200/200 N	250/250 N
Running speed (at 2/3 load)	7 mm/s	7 mm/s	10 mm/s	8 mm/s
End position extended	integrated path sensor	integrated path sensor	Limit switches	integrated path sensor
cut-off contracted	Current consumption	Current consumption		
Overload cut-off	through power consumption	through power consumption	through power consumption	through power consumption
Voltage	230 V AC	230 V AC	24 V AC (drive) 230 V AC (power supply)	230 V AC
Current consumption	0.9 A (0.95 A)	1.9 A	0.5 A (drive) Starting current: 0.8 A (power supply)	0.4 A
ON period	30%	30%	50%	30%
Ambient temperature	-5 °C to +70 °C	-5 °C to +70 °C	-5 °C to +75 °C (drive) -5 °C to +70 °C (power supply)	-5 °C to +75 °C
Enclosure rating / protection class	IP42 / II	IP42 / II	IP42 / I (drive) IP54 / II (power supply)	IP32 / II
Cable	2 m (5 m) silicone	2 m (5 m) silicone	2.5 m (power supply)	3 m silicone
Weight	approx. 1.7 kg	approx. 3.5 kg	approx. 0.8 kg (drive) approx. 0.3 kg (power supply)	approx. 2.7 kg
Area of application	Dry rooms	Dry rooms	Dry rooms	Dry rooms

● = yes ○ = no

GEZE chain drive E 740 / 230 V**Elegant direct opener with operator-friendly stroke setting**

The chain drive E 740 is an electrical motor-driven solution for the opening and closing of bottom hung, top hung and side hung windows opening both inwards and outwards, skylights and light domes. The drive impresses through its elegant aluminium housing and can be used for daily ventilation.

The high level of operating convenience is achieved through variable stroke setting 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 Synchro version – for the synchronised multiple use of up to four drives.

GEZE E 740**PRODUCT FEATURES**

- Stroke length can be set variably to 100, 200, 300 or 400 mm through rotary switch
- All fixing parts made of metal
- Simple and fast installation from the front with the aid of an innovative chain connection
- Two-piece profile with additional interior plastic shells guarantees low-noise function as well as high enclosure rating and protection class.
- Controlled by microprocessor, constant speeds independent of the casement weights
- Up to four drives can be used in synchronised version
- Projection compensation from 0 to 25 mm

ORDER INFORMATION – GEZE ELECTRICALLY OPERATED CHAIN DRIVE E 740 / 230 V

Description	Version	Id. No.
Electrically operated chain drive E 740 / 230 V	EV1	112340
	white RAL 9016	112341
	to RAL	112342
Electrically operated chain drive E 740 / 230 V Synchro	EV1	112400
	white RAL 9016	112401
	to RAL	112402
Drive fixture skylight E 740		112360
Bracket EW E 740 RM		112355
Bracket AW E 740 RM/FM		112365
Swivel bracket EW E 740 RM		122106
Bracket set EW E 740 RM		125398
Bracket AW E 740 RM/FM Mini		133269

Accessories for GEZE electrically operated chain drives E 740



Drive fixture for skylights

GEZE drive fixture for skylights

for installation the E 740 on skylights and light domes



Bracket EW RM

GEZE bracket EW RM

for installation on the frame of bottom hung windows that open inwards



Bracket AW RM/FM

GEZE bracket AW RM/FM

for installation on the frame and casement of top hung windows that open outwards as well as skylights and light domes



Bracket AW RM/FM Mini

GEZE bracket AW RM/FM Mini

for installation on the frame and casement of top hung windows that open outwards as well as skylights and light domes



Swivel bracket EW RM

GEZE swivel bracket EW RM

for installation on the frame of bottom hung windows that open inwards

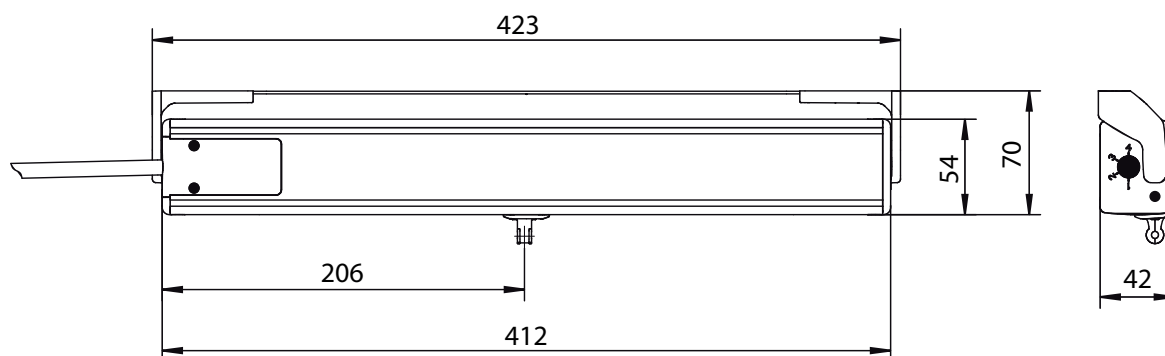


Bracket set EW FM

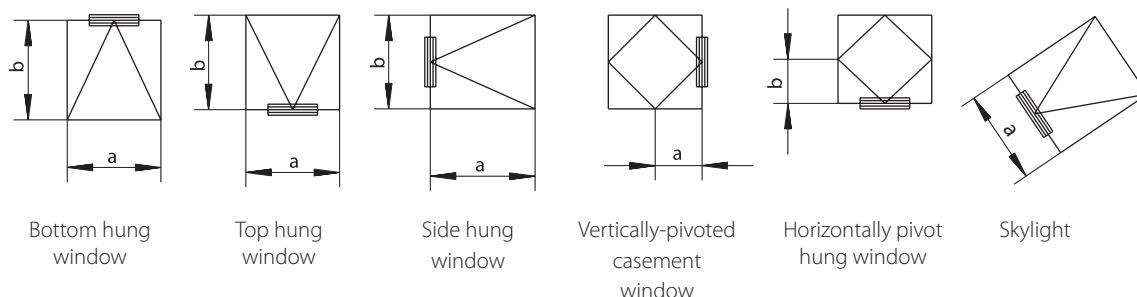
GEZE bracket set EW FM

for installation on the casement of bottom hung and top hung windows that open inwards

Dimensional drawing – electrically operated chain drive E 740



General installation possibilities



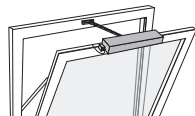
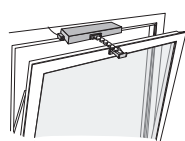
General application data

	Individual operation	Synchronous operation (2 drives)
Max. casement area	1.5 m ²	3 m ²
Min. casement width (a)	430 mm	950 mm
Max. casement width (a)	1200 mm	2400 mm
Projection height	0–25 mm	0–25 mm
Max. casement weight	See the respective application for the calculation equation	
Min. casement height (b)	depending on the type of installation and bracket	

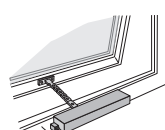
- Use in casement installation with separate bracket set possible
- Use on small casement heights with separate swivel bracket possible
- With larger casement areas, an additional locking bracket is required (can only be used for bottom hung casements that are opened inwards)
- Where space is limited, the bracket AW E 740 RM/FM Mini can be used on windows that open outwards, space requirement 25 mm
- Smaller casement widths are possible, the drives then project beyond the edge of the casement

Fitting variations

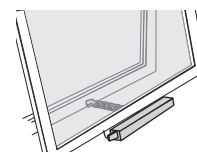
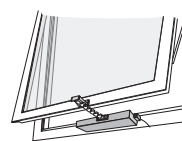
Bottom hung INWARD-OPENING (EW)



Top hung OUTWARD-OPENING (AW)



Top hung INWARD-OPENING (EW)



Frame installation (RM)

Casement installation (FM)

Frame installation (RM)

Frame installation (RM)

Casement installation (FM)

Combination of brackets/type of installation

	Bracket EW RM	Bracket AW RM/FM	Swivel bracket EW RM	Bracket set EW FM	Drive fixtures Standard	Skylight
Bottom hung casement, inward opening	●	○	●	●	●	○
Top hung casement, outward opening	○	●	○	○	●	○
Top hung casement, inward opening	●	○	○	●	●	○
Skylight	○	●	○	○	○	●

● = yes ○ = no

Electrically operated chain drive E 740 on bottom hung and top hung windows, inward and outward-opening

Calculation of the area of application depending on casement weight and casement dimensions

Permissible wind loads must be taken into consideration!

Equation for calculating opening and closing force:

$$F = \frac{p \times \text{stroke} \times 0.68}{b}$$

Example for E 740 in individual operation:

P = 25 kg = approx. 250 N

Stroke = 300 mm

b = 1000 mm

$$F = \frac{250 \times 300 \times 0.68}{1000} \quad F = 51 \text{ N}$$

Example for two drives E 740 Syncro:

P = 150 kg = approx. 1500 N

Stroke = 300 mm

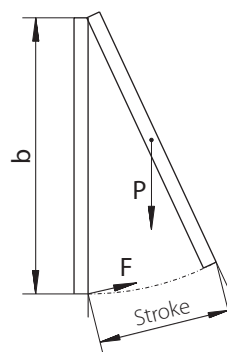
b = 1000 mm

$$F = \frac{1500 \times 300 \times 0.68}{1000} \quad F = 306 \text{ N}$$

Legend

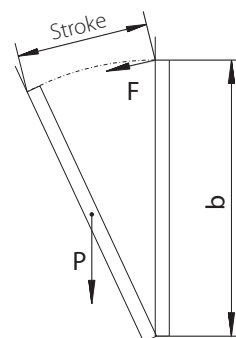
F	Opening and closing force required (N)
P	Casement weight (kg)
Stroke	Casement path/drive stroke (mm)
b	Casement height (mm)

Top hung window



F max. = 250 N
(individual operation)
F max. = 500 N
(synchronous operation)

Bottom hung window



F max. = 300 N
(individual operation)
F max. = 600 N
(synchronous operation)

Minimum casement dimensions

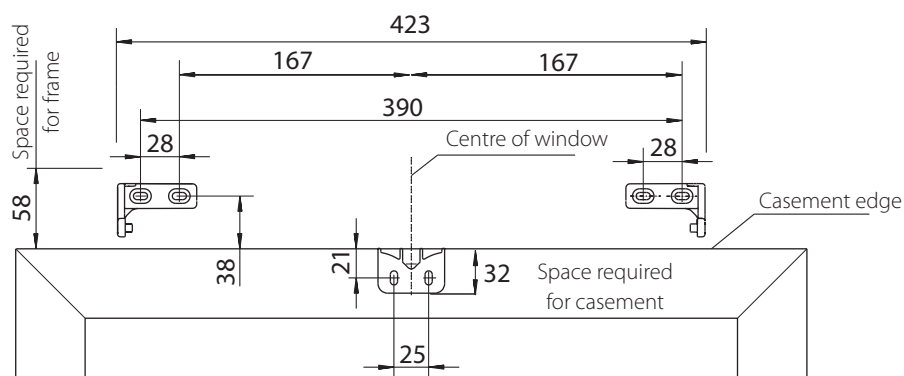
		Bracket EW RM	Bracket AW RM/FM	Bracket AW RM/FM Mini	Swivel bracket EW RM	Bracket set EW FM
Min. casement height	Stroke 100 mm	200 mm	200 mm	200 mm	○	200 mm
	Stroke 200 mm	400 mm	350 mm	350 mm	○	300 mm
	Stroke 300 mm	850 mm	500 mm	500 mm	450 mm	400 mm
	Stroke 400 mm	1300 mm	650 mm	650 mm	450 mm	500 mm
Min. casement width	Individual operation	430 mm	430 mm	430 mm	430 mm	430 mm
	Synchronous operation	950 mm	950 mm	950 mm	950 mm	950 mm
Projection range		0–25 mm	0–25 mm	0–25 mm	0–25 mm	0–25 mm
Min. space requirement	on the frame	58 mm	29 mm	29 mm	58 mm	30 mm
	on the casement	32 mm	35 mm	25 mm	23 mm	22 mm

On horizontally and vertically pivot hung windows, FH corresponds to the distance from the main closing edge to the hinge axis.

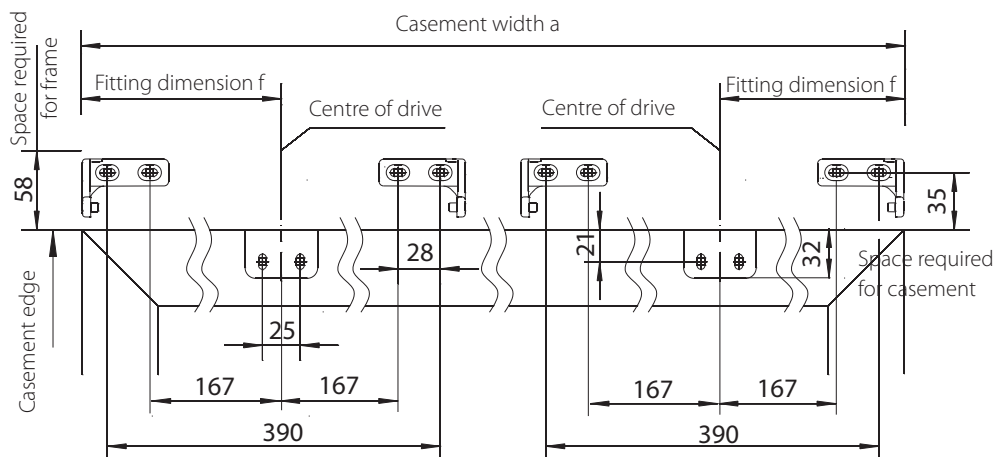
○ = no

Drilling pattern for
Bracket EW RM

For individual operation



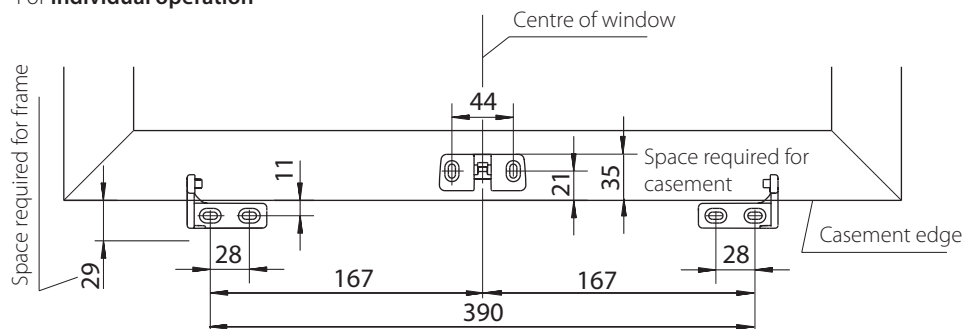
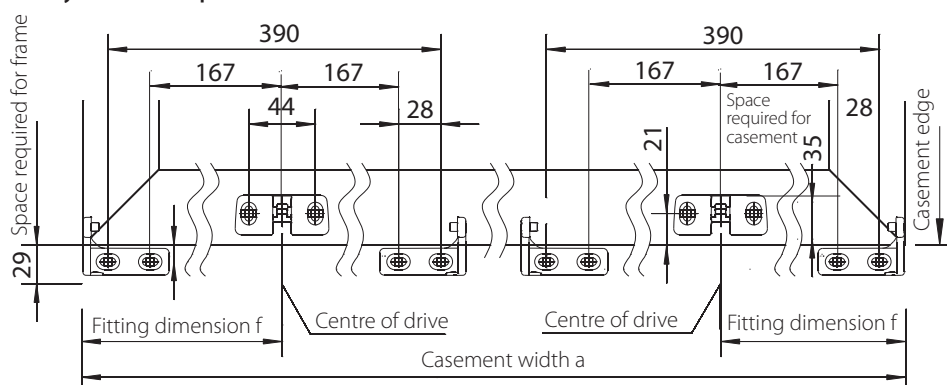
For synchronous operation



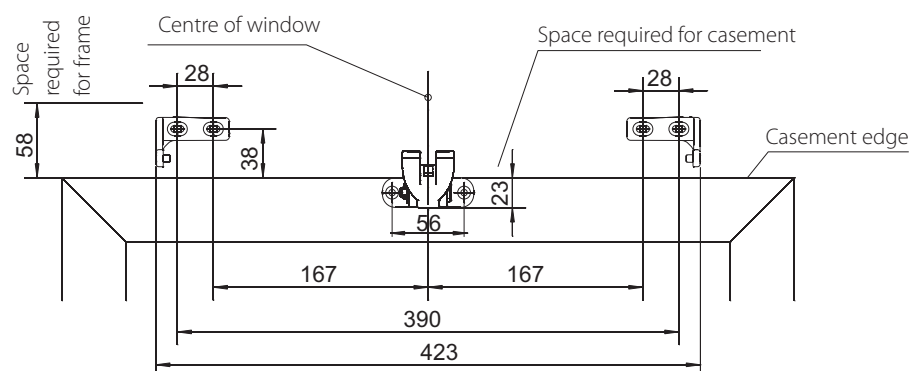
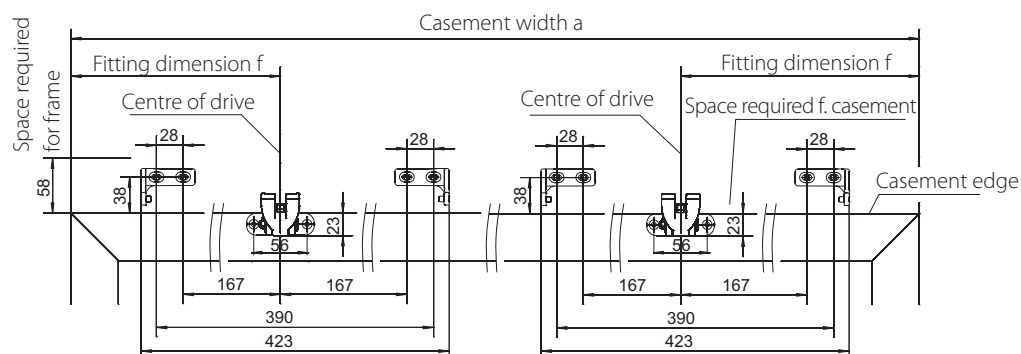
Area of application

Casement width a	Fitting dimension f
950 – 999 mm	212 mm
1000 – 2400 mm	1/4 a

GEZE ELECTRICALLY OPERATED VENTILATION

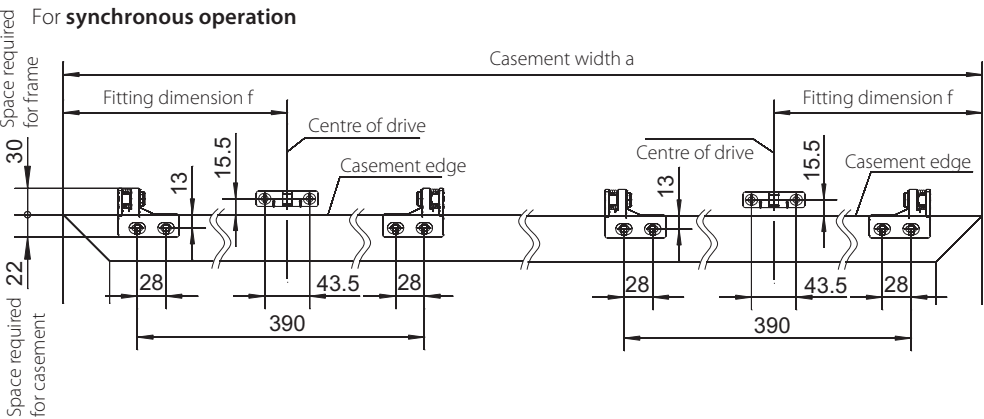
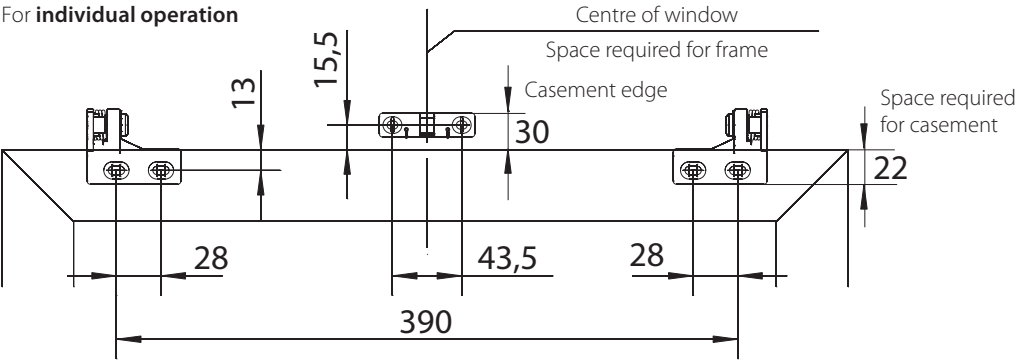
**Drilling pattern for
Bracket AW RM/FM****For individual operation****For synchronous operation****Area of application**

Casement width a	Fitting dimension f
950 – 999 mm	212 mm
1000 – 2400 mm	1/4 a

**Drilling pattern for
Swivel bracket EW RM****For individual operation****For synchronous operation**

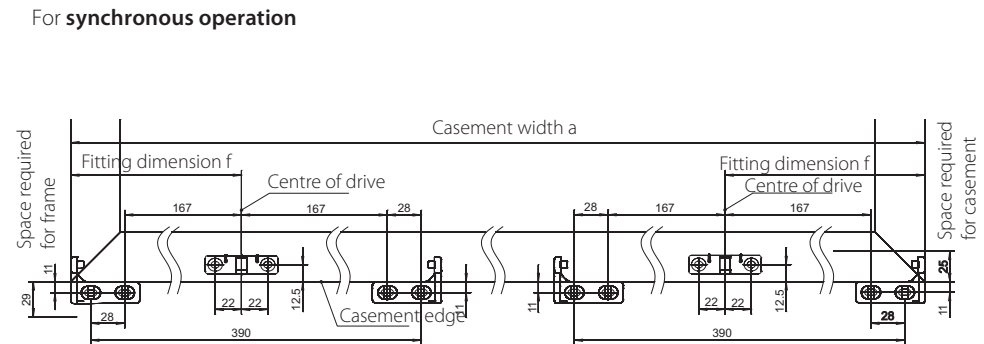
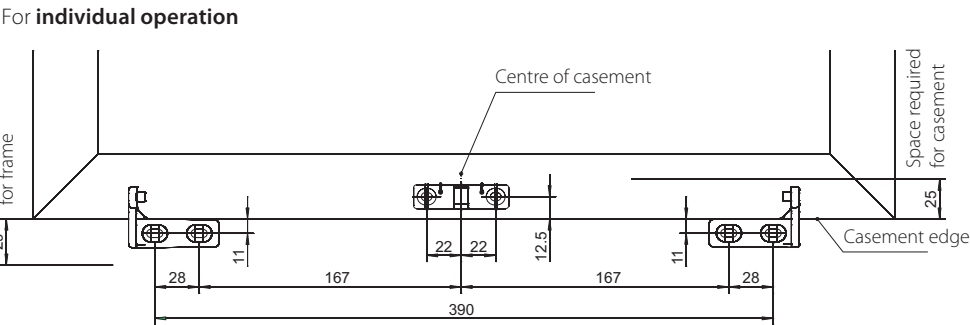
GEZE ELECTRICALLY OPERATED VENTILATION

Drilling pattern for Bracket set EW FM



Area of application	
Casement width a	Fitting dimension f
950 – 999 mm	212 mm
1000 – 2400 mm	1/4 a

Drilling pattern for Bracket AW RM/FM Mini



Electrically operated chain drive E 740 on skylight**Calculation of the area of application depending on casement weight and casement dimensions**

Permissible wind loads must be taken into consideration!

Equation for calculating opening and closing force:

$$F = P \times 0.68$$

Example for E 740 in individual operation:

$$P = 25 \text{ kg} = \text{approx. } 250 \text{ N}$$

$$F = 250 \times 0.68 \quad \mathbf{F = 170 \text{ N}}$$

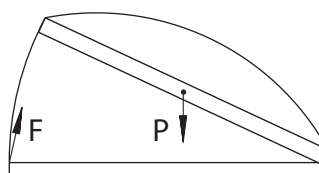
Example for two drives E 740 Syncro:

$$P = 60 \text{ kg} = \text{approx. } 600 \text{ N}$$

$$F = 600 \times 0.68 \quad \mathbf{F = 408 \text{ N}}$$

Legend

F	Drive force required for opening (N)
P	Casement weight (kg)

Horizontal windows and light domes

F max. = 250 N (individual operation)

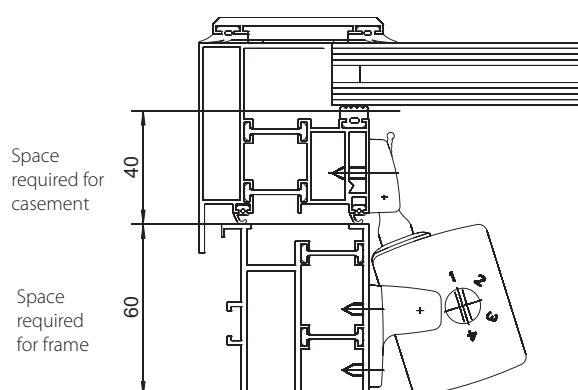
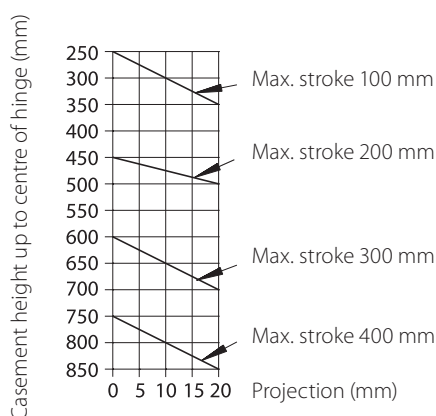
F max. = 500 N (synchronous operation)

Minimum casement dimensions

		Bracket AW RM/FM
Min. casement height	Stroke 100 mm	250 mm
	Stroke 200 mm	450 mm
	Stroke 300 mm	600 mm
	Stroke 400 mm	750 mm
Min. casement width	Individual operation	450 mm
	Synchronous operation	1000 mm
Projection range		0-20 mm
Min. space requirement	on the frame	60 mm
	on the casement	42 mm

Min. casement heights depending on projection

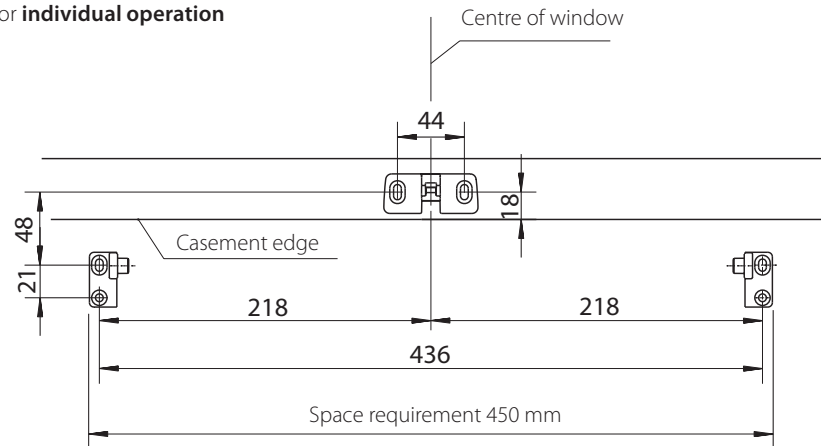
- Min. casement height depends on projection and increases as projection increases
- Guideline values: Installation can vary depending on the type of window



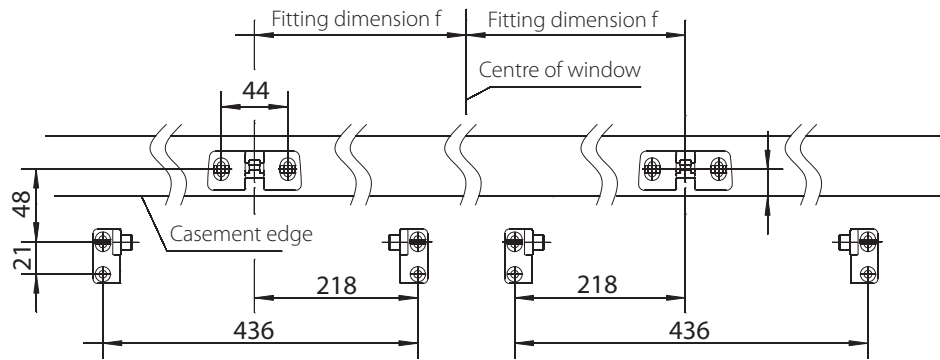
Electrically operated chain drive E 740 on skylight

Drilling pattern for bracket AW RM/FM

For **individual operation**



For **synchronous operation**



Fitting dimension $f = 1/4$ window width

GEZE chain drive E 740 DUAL / 230 V

Double power in one housing – for real synchronised multiple operation

The electrically operated chain drive E 740 DUAL is made up of two drives that can be integrated inconspicuously in the building architecture in a design aluminium housing. Like the Solo variation, the E 740 DUAL was developed for use inward and outward-opening bottom hung, top hung and side hung casements, skylights and light domes. With twice the power, it ensures the effortless movement of heavy windows – with swivel bracket even on small casement heights. The real synchronised operation goes easy on window profiles and hinges, increasing their service life.

The E 740 DUAL can also be used for natural smoke and heat extraction, smoke dissipation and daily ventilation.

GEZE E 740 DUAL



PRODUCT FEATURES

- Variable stroke setting to 100, 200, 300 or 400 mm through rotary switch
- All fixing parts made of metal
- Simple and fast installation from the front with the aid of an innovative chain connection
- Installation times have been significantly reduced thanks to the completely pre-assembled unit
- Controlled by microprocessor, constant speeds independent of the casement weights
- Both chains run synchronously
- Two standard versions in the lengths 1000 mm and 1600 mm
Special lengths available on request

ORDER INFORMATION – GEZE ELECTRICALLY OPERATED CHAIN DRIVE E 740 DUAL / 24 V DC

Description	Version	Id. No.
Electrically operated chain drive E 740 DUAL / 230 V	Standard version, length 1000 mm	EV1 135575
	white RAL 9016	135576
	Standard version, length 1600 mm	EV1 135577
	white RAL 9016	135578
	Special version	135579
Drive fixture skylight E 740 DUAL		135758
Bracket EW E 740 RM		112355
Bracket AW E 740 RM/FM		112365
Swivel bracket EW E 740 RM		122106
Bracket AW E 740 RM/FM Mini		133269

Accessories for GEZE electrically operated chain drives E 740 DUAL



Drive fixture for skylights

GEZE drive fixture for skylights

for installation the E 740 on skylights and light domes



Bracket EW RM

GEZE bracket EW RM

for installation on the frame of bottom hung windows that open inwards



Bracket AW RM/FM

GEZE bracket AW RM/FM

for installation on the frame and casement of top hung windows that open outwards as well as skylights and light domes



Bracket AW RM/FM Mini

GEZE bracket AW RM/FM Mini

for installation on the frame and casement of top hung windows that open outwards as well as skylights and light domes

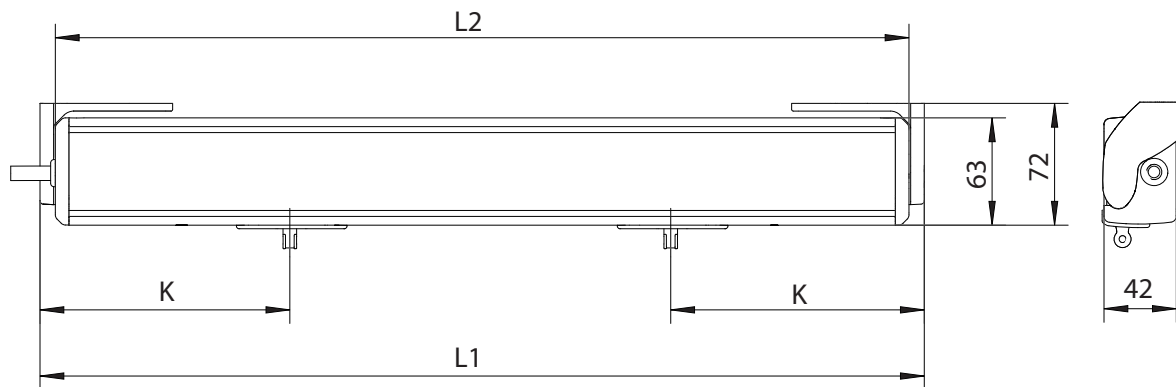


Swivel bracket EW RM

GEZE swivel bracket EW RM

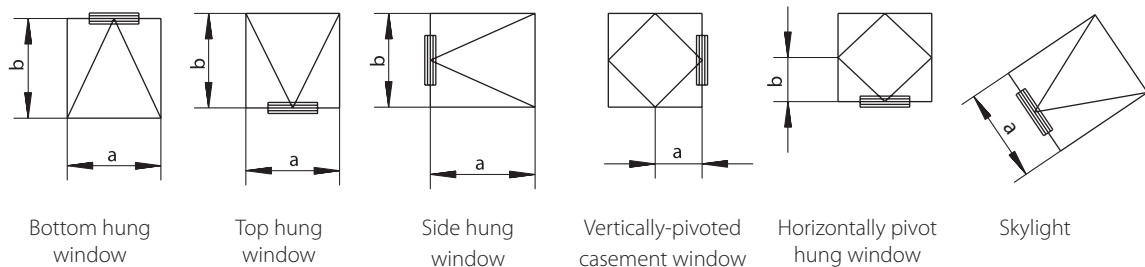
for installation on the frame of bottom hung windows that open inwards

Dimensional drawing – electrically operated chain drive E 740 DUAL



Drive length	Dimension L1	Dimension L2	Dimension L3	Dimension K	Dimension N (Skylight)
1000 mm	1000 mm	982 mm	1020 mm	280 mm	K + 10 mm
1600 mm	1600 mm	1582 mm	1620 mm	280 mm	K + 10 mm
Special length	min. 1000 mm max. 2000 mm	$L2 = L1 - 18 \text{ mm}$	$L3 = L1 + 20 \text{ mm}$	up to $L1 \leq 1800$: 280 mm from $L1 > 1800$: $280 + ((L1 - 1800)/2) \text{ mm}$	K + 10 mm

General installation possibilities



General application data

Max. casement area	3 m ²
Min. casement width (a)	1000 mm
Max. casement width (a)	2000 mm
Projection height	0–25 mm
Max. casement weight	See the respective application for the calculation equation
Min. casement height (b)	depending on the type of installation and bracket

- Use on small casement heights with separate swivel bracket possible
- With larger casement areas, an additional locking bracket is required (can only be used for bottom hung casements that are opened inwards)
- Where space is limited, the bracket AW E 740 RM/FM Mini can be used on windows that open outwards, space requirement 25 mm
- Smaller casement widths are possible, the drives then project beyond the edge of the casement

Combination of brackets/type of installation

	Bracket EW RM	Bracket AW RM/FM	Swivel bracket EW FM	Drive fixtures Standard	Skylight
Bottom hung casement, inward opening	●	○	●	●	○
Top hung casement, outward opening	○	●	○	●	○
Top hung casement, inward opening	●	○	○	●	○
Skylight	○	●	○	○	●

● = yes ○ = no

RWA chain drive E 740 DUAL on bottom hung windows that open inwards and top hung windows that open outwards

Calculation of the area of application depending on casement weight and casement dimensions

Permissible wind loads must be taken into consideration!

Equation for calculating opening and closing force:

$$F = \frac{p \times \text{stroke} \times 0.68}{b}$$

Example for two drives E 740 Syncro:

P = 150 kg = approx. 1500 N

Stroke = 300 mm

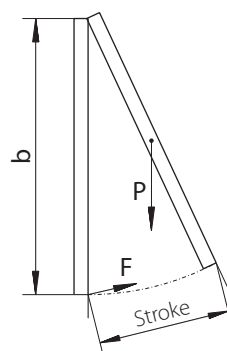
b = 1000 mm

$$F = \frac{1500 \times 300 \times 0.68}{1000} \quad \mathbf{F = 306 \text{ N}}$$

Legend

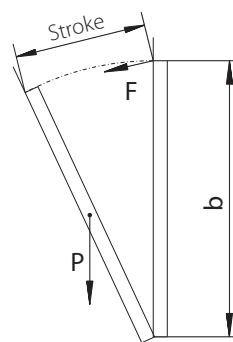
F	Opening and closing force required (N)
P	Casement weight (kg)
Stroke	Casement path/drive stroke (mm)
b	Casement height (mm)

Top hung window



F max. = 500 N

Bottom hung window



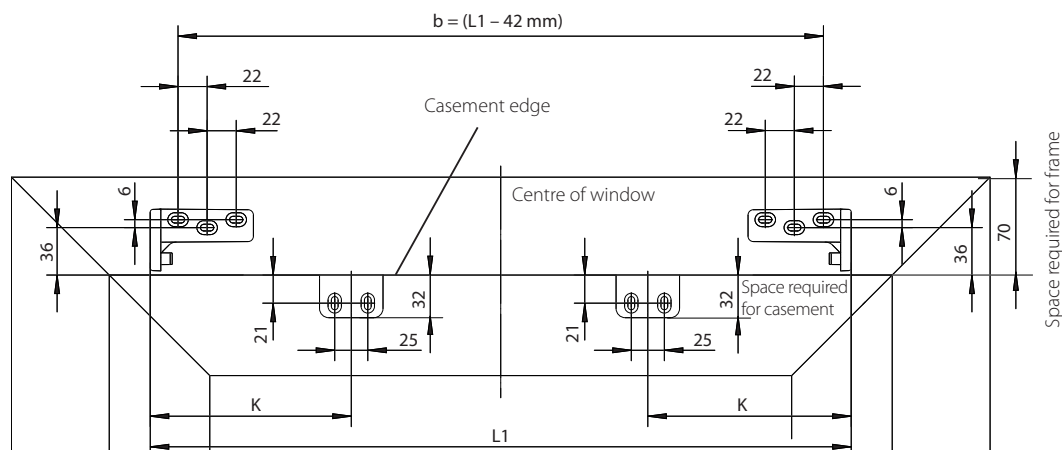
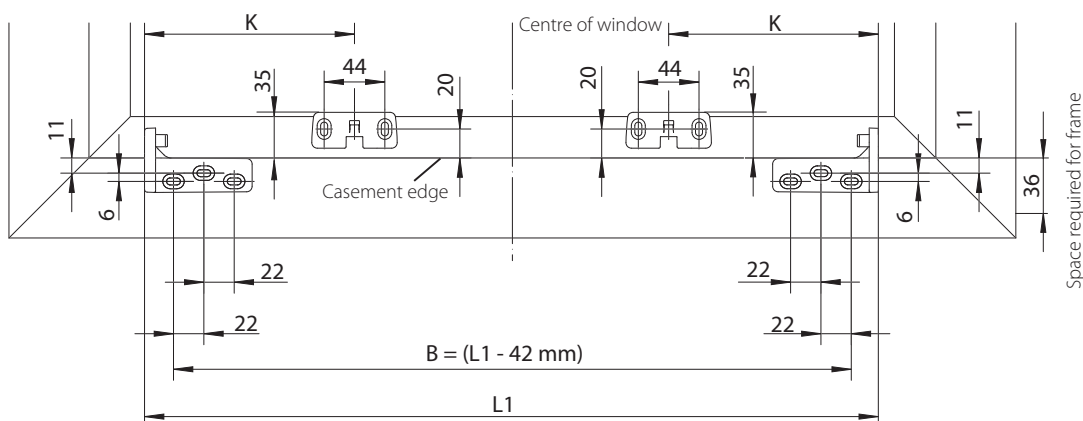
F max. = 600 N

Electrically operated chain drive E 740 DUAL on inward-opening bottom hung windows and outward-opening top hung windows**Minimum casement dimensions**

		Bracket EW RM	Bracket AW RM/FM	Bracket AW RM/FM Mini	Swivel bracket EW RM
Min. casement height	Stroke 100 mm	200 mm	200 mm	200 mm	○
	Stroke 200 mm	400 mm	350 mm	350 mm	○
	Stroke 300 mm	850 mm	500 mm	500 mm	450 mm
	Stroke 400 mm	1300 mm	650 mm	650 mm	450 mm
Min. casement width		1000 mm	1000 mm	1000 mm	1000 mm
Projection range		0–25 mm	0–25 mm	0–25 mm	0–25 mm
Min. space requirement	on the frame	70 mm	36 mm	36 mm	70 mm
	on the casement	32 mm	35 mm	25 mm	23 mm

○ = no

On horizontally and vertically pivot hung windows, FH corresponds to the distance from the main closing edge to the hinge axis.

Drilling pattern for Bracket EW RM**Drilling pattern for Bracket AW RM/FM**

Technical drawing of a Mini casement window frame. The drawing shows the frame with dimensions and labels for various parts.

Labels:

- Space required for casement
- Casement edge
- Centre of casement

Dimensions:

- K : Distance from the center of the casement to the edge of the frame.
- 22 : Width of the frame.
- 12.5 : Distance from the center of the casement to the edge of the frame.
- 25 : Distance from the center of the casement to the edge of the frame.
- 11 : Distance from the center of the casement to the edge of the frame.
- 6 : Distance from the center of the casement to the edge of the frame.
- 36 : Total width of the frame.
- $B (=L1 - 42mm)$: Width of the frame.
- $L1$: Total length of the frame.

Technical drawing of a window frame showing dimensions and labels. The drawing includes the following elements:

- Dimensions:**
 - $B (=L1 - 42mm)$: Total width of the frame.
 - $L1$: Total length of the frame.
 - K : Distance from the center of the casement to the side edge.
 - 22 : Distance from the center of the casement to the side edge (multiple instances).
 - 23 : Distance from the center of the casement to the bottom edge.
 - 28 : Distance from the center of the casement to the bottom edge (multiple instances).
 - 36 : Distance from the center of the casement to the side edge (multiple instances).
 - 6 : Distance from the center of the casement to the bottom edge (multiple instances).
 - 70 : Total height of the frame.
- Labels:**
 - Centre of casement
 - Space required for casement
 - Space required for frame

Drive length	Dimension L1	Dimension L2	Dimension L3	Dimension K	Dimension N
1000 mm	1000 mm	982 mm	1020 mm	280 mm	K + 10 mm
1600 mm	1600 mm	1582 mm	1620 mm	280 mm	K + 10 mm
Special length	min. 1000 mm max. 2000 mm	L2 = L1 - 18 mm	L3 = L1 + 20 mm	up to L1 ≤ 1800: 280 mm from L1 > 1800: 280 + ((L1 - 1800)/2) mm	K + 10 mm

Electrically operated chain drive E 740 DUAL on skylight**Calculation of the area of application depending on casement weight and casement dimensions**

Permissible wind loads must be taken into consideration!

Equation for calculating opening and closing force:

$$F = P \times 0.68$$

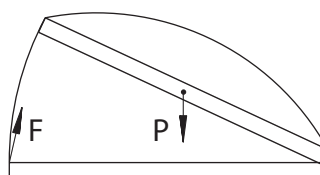
Example for two drives E 740 Syncro:

$$P = 60 \text{ kg} = \text{approx. } 600 \text{ N}$$

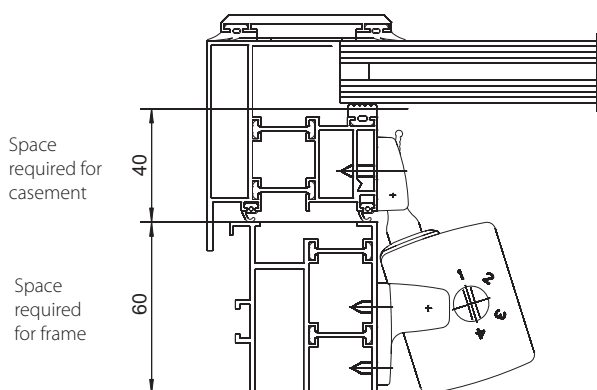
$$F = 600 \times 0.68 \quad \mathbf{F = 408 \text{ N}}$$

Legend

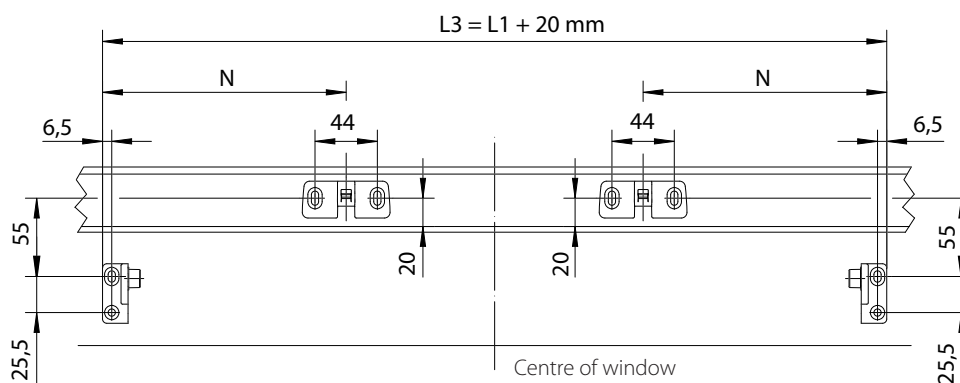
F	Drive force required for opening (N)
P	Casement weight (kg)

Horizontal windows and light domes

F max. = 500 N (synchronous operation)

**Minimum casement dimensions**

		Bracket AW RM/FM
Min. casement height	Stroke 100 mm	250 mm
	Stroke 200 mm	250 mm
	Stroke 300 mm	325 mm
	Stroke 400 mm	400 mm
Min. casement width		1000 mm
Projection range		0-20 mm
Min. space requirement	on the frame	68 mm
	on the casement	42 mm

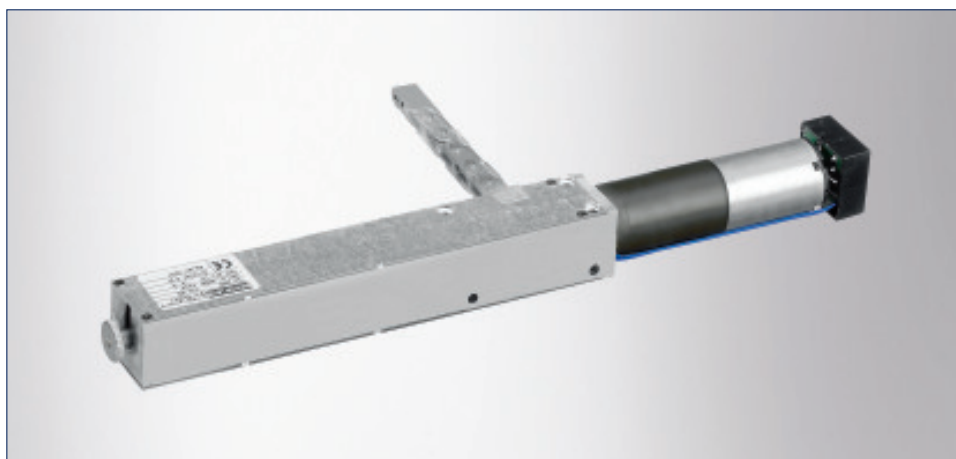
**Drilling pattern for
Bracket AW RM/FM**

GEZE chain drive E 580

Integrated electrically operated chain drive as direct opener

The profile-integrated, electrically operated chain drive with its small dimensions of only 31 x 31 x 311 mm can be installed in all conventional frame profiles. They are installed in the perimeter frame for vertically installed rectangular windows with bottom hung and top hung casement, inward and outward-opening.

GEZE E580



PRODUCT FEATURES

- Profile-integrated electrically operated chain drive with small dimensions
- Tandem operation possible with separate synchronised cut-off E102 and tandem power supply E 48, synchronised cut-off and tandem power supply surface mounted
- Equipped with automatic end position cut-off and overload protection
- A separate E 580 power supply 230 V AC / 24 V DC is available for connection to 230 V mains voltage (can also be integrated in the frame profile)
- For dry rooms, enclosure rating IP 42

ORDER INFORMATION – GEZE ELECTRICALLY OPERATED CHAIN DRIVE E 580

Description	Version	Id. No.
Electrically operated chain drive E 580	for metal and plastic windows	082606
	for wooden windows	104855
Power supply E 580		082607
E 580 accessories, inward-opening	EV1	082597
	white RAL 9016	082605
	to RAL	082604
Tandem power supply E 48		087776
Synchronised cut-off E102		101323

For tandem operation: order 2 E 580/24 V DC drives + 1 tandem power supply E 48 + 1 E102 synchronous cut-off.

Accessories for GEZE electrically operated chain drives E 580



Power supply E 580

GEZE power supply E 580

for integrated installation with 230 V AC / 24 V DC



E 580 accessories for inward-opening windows

GEZE E 580 accessories for inward-opening windows

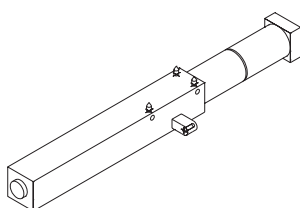
Scope of supply includes bolt, E 580 casement bracket, protective caps, wire pin and masking plate



E 580 accessories for outward-opening windows

GEZE E 580 accessories for outward-opening windows

Scope of supply includes fixing strip, countersunk screws DIN 79991 and hexagon nuts DIN 985 – M3, chain connection, two plugs and a cylinder head screw DIN A8 – M3 x 30

Area of application

- For vertically installed inward and outward-opening bottom hung and top hung windows made of lightweight metal, wood and plastic
- A façade inclination of max. $\pm 5^\circ$ is allowed

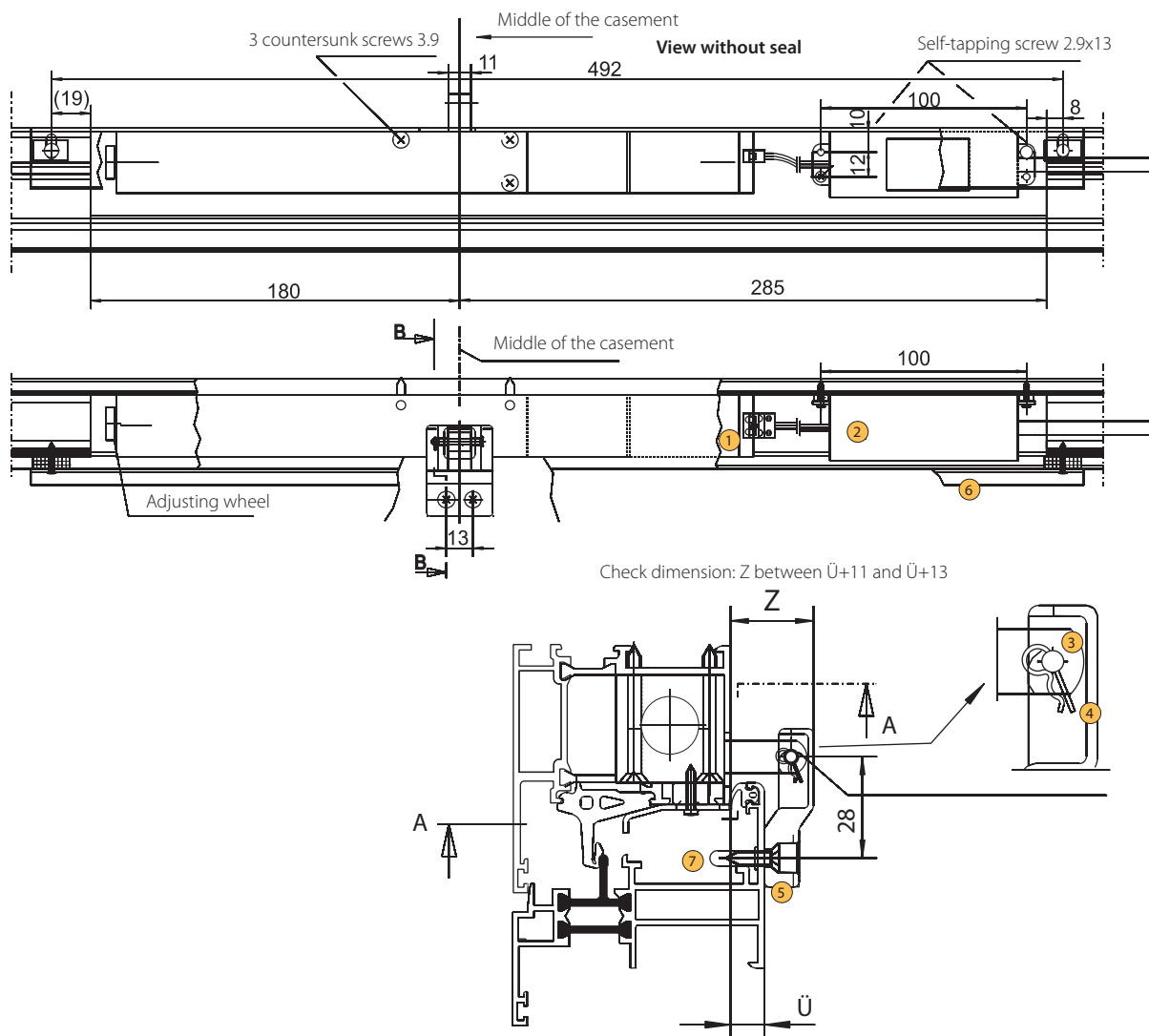
General application data

	E 580	E 580 with power supply
Max. casement area	1.5 m ²	1.5 m ²
Min. casement width	400 mm	600 mm
Max. casement width	1500 mm	1500 mm
Projection height	0–13.5 mm for metal and plastic windows 0–30 mm for wooden windows	
Max. casement weight	50 kg	50 kg
Max. panel weight	30 kg/m ²	30 kg/m ²
Min. casement height	350 mm for inward-opening bottom hung windows 600 mm for outward-opening top hung windows	
Space required in the frame	43 x 38 mm for inward-opening bottom hung windows 65 x 31 mm for outward-opening top hung windows	

GEZE ELECTRICALLY OPERATED VENTILATION

E 580 fitting dimensions in inward-opening bottom hung window

Inward-opening bottom hung casement in lightweight metal window



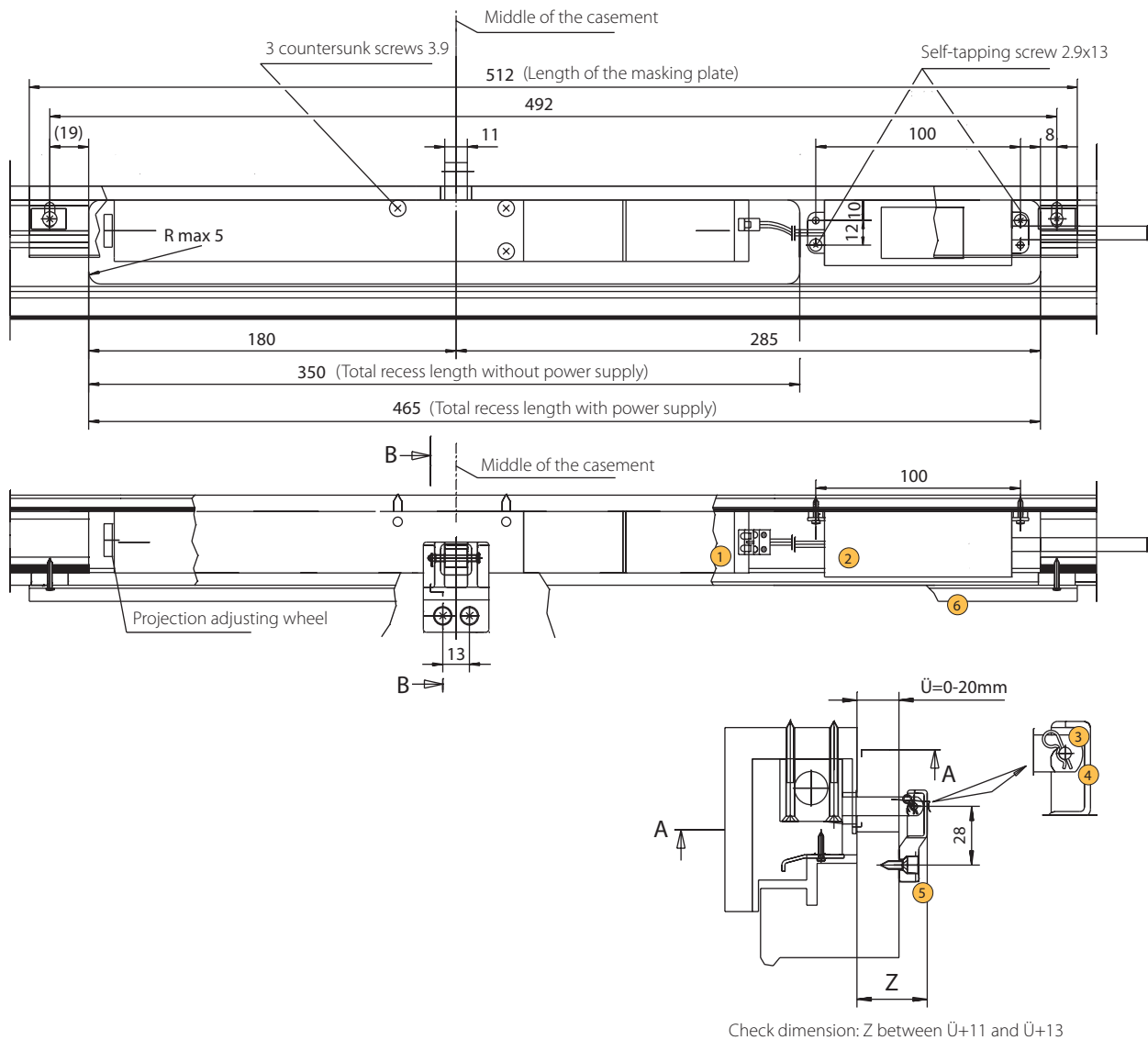
Components

- ① Chain drive E 580
- ② Power supply E 580
- ③ Bolt
- ④ Wire pin
- ⑤ Casement bracket
- ⑥ Masking plate
- ⑦ Protective cap

GEZE ELECTRICALLY OPERATED VENTILATION

E 580 fitting dimensions in inward-opening bottom hung window

Inward-opening bottom hung casement in wooden window

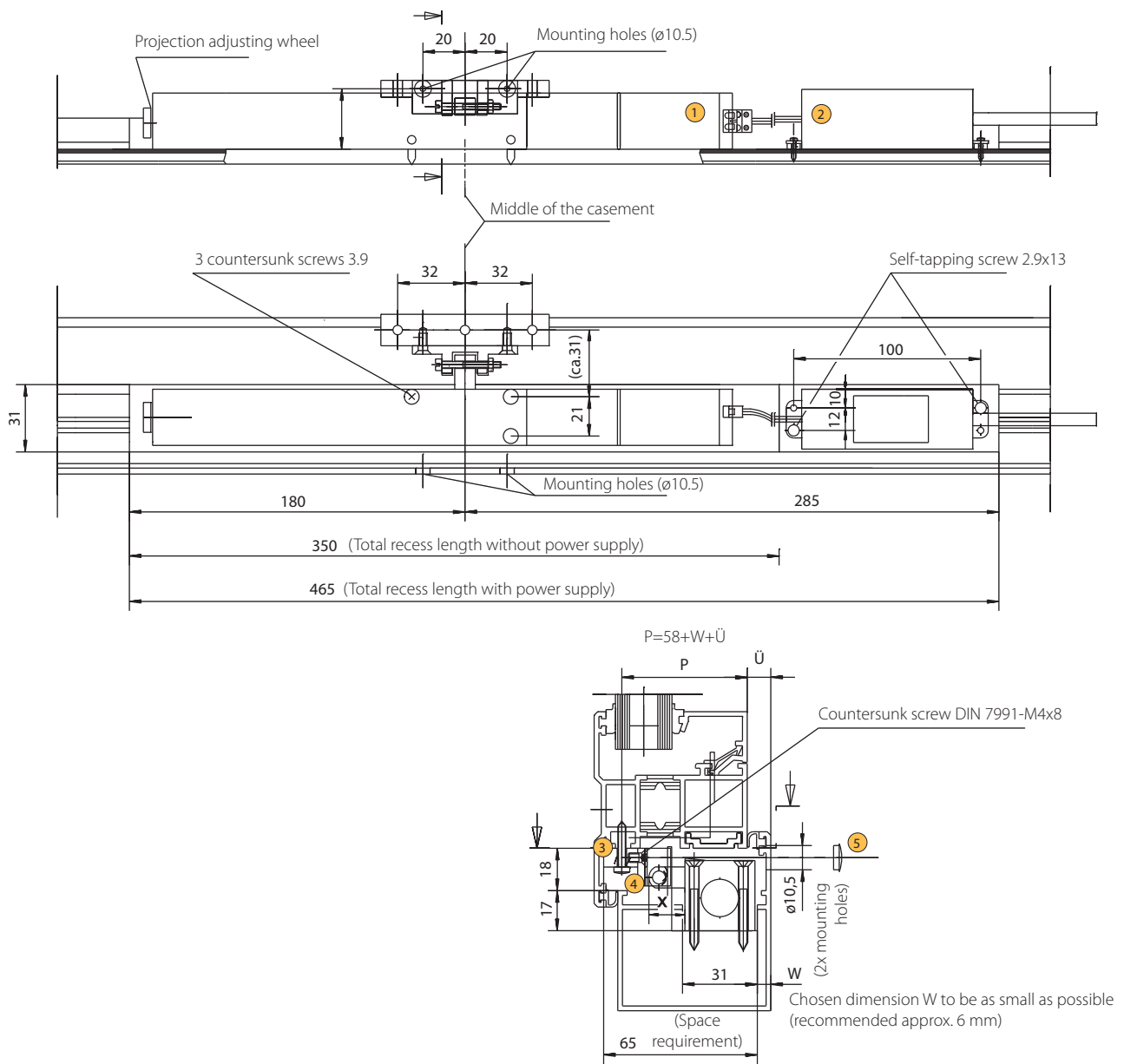
**Components**

- ① Chain drive E 580
- ② Power supply E 580
- ③ Bolt
- ④ Wire pin
- ⑤ Casement bracket
- ⑥ Masking plate

GEZE ELECTRICALLY OPERATED VENTILATION

E 580 fitting dimensions in outward-opening top hung window

Outward-opening top hung casement in lightweight metal window



Components

- ① Chain drive E 580
- ② Power supply E 580
- ③ Fixing strip
- ④ Chain connection
- ⑤ Plug

GEZE chain drive E 840 / 230 V AC

Microprocessor controlled drive for surface-mounted or concealed installation

The E 840 electrically operated chain drive is an elegant and technically perfected solution for the direct opening of bottom hung, top hung and side hung windows for daily ventilation.

GEZE E840



PRODUCT FEATURES

- Elegant diecast zinc housing with very sophisticated design
- Suitable for mounting on the surface of the profile and concealed interior installation
- Microprocessor controlled drive, available as Solo and Synchronous version with real synchronised control
- Electrically controlled soft start and soft stop

ORDER INFORMATION – GEZE ELECTRICALLY OPERATED CHAIN DRIVE E 840 / 230 V

Description	Version	Id. No.	Id. No.
			Syncro set
Electrically operated chain drive E 840 / 230 V AC	Stroke 200 mm	EV1	129645
		to RAL	129646
	Stroke 300 mm	EV1	129655
		to RAL	129656
	Stroke 400 mm	EV1	129665
		to RAL	129666
Electrically operated chain drive E 840 Syncro3 Set 230 V AC			132613
Electrically operated chain drive E 840 Syncro4 Set 230 V AC			132614
Electrically operated chain drive E 840 24 V DC special version			132615
Drive fixture type A E820/E 840			129430
Bracket type A E820/E 840			129675
Drive fixture type B E820/E 840			129676
Bracket type B E820/E 840			129677

Accessories for GEZE electrically operated chain drives E 840



Drive fitting type A E 820/E 840

GEZE drive fitting type A E 820/E 840

for installation on frames and casements of bottom hung, top hung and side hung windows that open inwards and outwards



Bracket type A E 820/E 840

GEZE bracket type A E 820/E 840

combined with drive fitting type A
for installation on frames and casements of bottom hung, top hung and side hung windows that open inwards and outwards



Drive fitting type B E 820/E 840

GEZE drive fitting type B E 820/E 840

for installation on the frame of bottom hung windows that open inwards



Bracket type B E 820/E 840

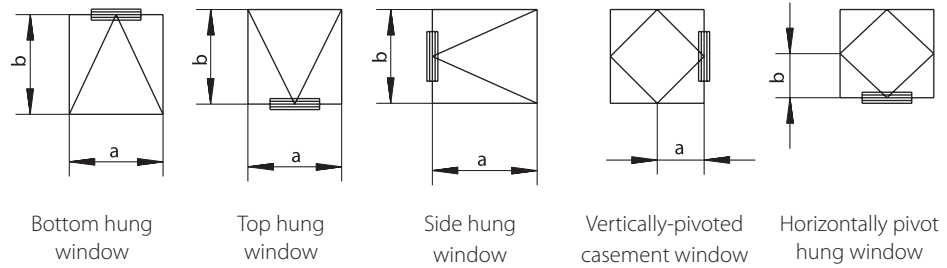
GEZE bracket type B E 820/E 840

combined with drive fitting type B for frame installation on bottom hung windows that open inwards
without drive fitting for frame installation on inward-opening bottom hung and top hung windows and outward-opening side hung windows

GEZE ELECTRICALLY OPERATED VENTILATION

Area of application

- For inward and outward-opening bottom hung, top hung, side hung, vertically pivoted and horizontally pivot hung windows made of lightweight metal, wood and plastic



General application data

	Individual operation	Synchronous operation (2 drives)
Max. casement area	1.5 m ²	3 m ²
Min. casement width (a)	565 mm	1230 mm
Max. casement width (a)	1230 mm	2400 mm
Projection height	0-21 mm	0-21 mm
Max. casement weight	See the respective application for the calculation equation	
Min. casement height (b)	depending on the type of installation and bracket	

- With larger casement areas, an additional locking bracket is required (can only be used for bottom hung casements)
- Smaller casement widths are possible, the drives then project beyond the edge of the casement
- 2 Syncro drives, 3 or 4 Syncro drives on request

Calculation of the area of application depending on casement weight and casement dimensions

Permissible wind loads must be taken into consideration!

Equation for calculating opening and closing force:

$$F = \frac{p \times \text{stroke} \times 0.54}{b} \quad F_{\text{max.}} = 250 \text{ N per drive}$$

Example for E820 in individual operation:

P = 25 kg = approx. 250 N

Stroke = 400 mm

b = 1000 mm

$$F = \frac{250 \times 400 \times 0.54}{1000} \quad F = 54 \text{ N}$$

Casement panel weight:

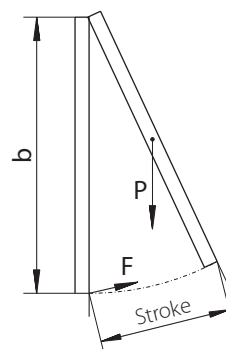
max. 30 kg/m² (drive cannot be swivelled)

max. 40 kg/m² (drive can be swivelled)

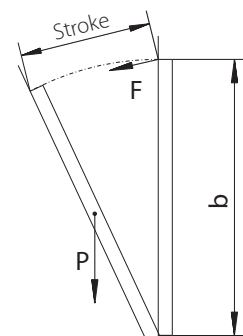
Legend

F	Opening and closing force required (N)
P	Casement weight (kg)
Stroke	Casement path/drive stroke (mm)
b	Casement height (mm)

Top hung window



Bottom hung window



Combination of brackets/type of installation

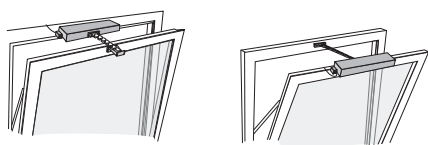
Bracket for	bottom hung window INWARD-OPENING Frame-Installation	bottom hung window OUTWARD-OPENING Frame-Installation	bottom hung window INWARD-OPENING Casement Installation	Top hung window INWARD-OPENING Frame-Installation	Top hung window OUTWARD-OPENING Frame-Installation	Top hung window INWARD-OPENING Casement Installation	Side hung window INWARD-OPENING Frame-Installation	Side hung window OUTWARD-OPENING Frame-Installation	Side hung window INWARD-OPENING Casement Installation
Drive fitting type A	○	● type A	● type A	○	● type A	● type A	○	● type A	● type A
Drive fitting type B	● type B	○	○	○	○	○	○	○	○
without drive fitting	● type B	○	○	● type B	○	○	● type B	○	○

Where there are several alternatives available, selection depends on the window size, structural circumstances and chain stroke chosen.

● = yes ○ = no

Fitting variations

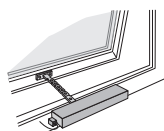
Bottom hung INWARD-OPENING (EW)



Frame installation (RM)

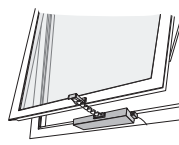
Casement installation (FM)

Top hung OUTWARD-OPENING (AW)

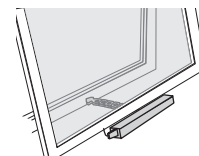


Frame installation (RM)

Top hung INWARD-OPENING (EW)



Frame installation (RM)



Casement installation (FM)

Electrically operated chain drive E 840 – minimum casement heights

Depending on the type of installation and the drive fittings and brackets to be used, the following minimum casement heights can be achieved (depending on the projection (Ü))

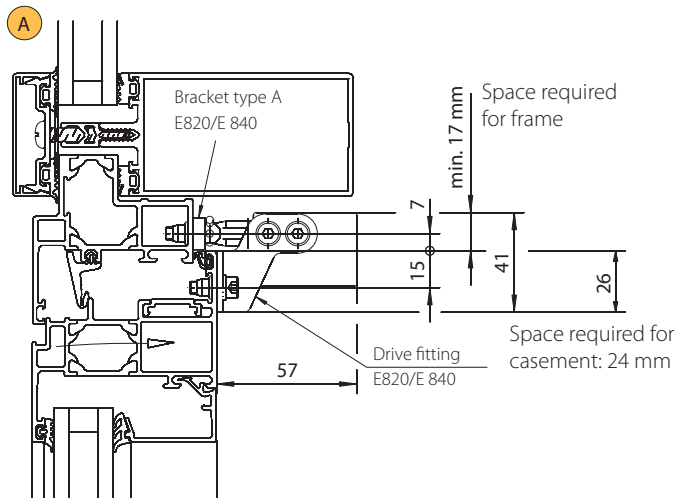
Stroke (mm)	Bottom hung/side hung EW RM				Bottom hung/side hung AW FM				Bottom hung/side hung EW FM				Top hung EW RM				Top hung AW RM				Top hung EW FM			
	C		Side hung = D		A		B		A		B		D		A		B		A		B			
Ü (mm)	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21	≤10	≤21
200	500	550	350	400	350	400	350	400	350	400	350	400	350	400	700	750	350	400	350	400	700	750	700	750
300	500	550	350	400	350	400	350	400	350	400	350	400	350	400	700	750	350	400	350	400	700	750	700	750
400	500	550	350	400	350	400	350	400	350	400	350	400	350	400	700	750	350	400	350	400	700	750	700	750

● = yes ○ = no

Minimum casement heights are applicable for bottom, top and side hung windows. On horizontally and vertically pivot hung windows, FH corresponds to the distance from the main closing edge to the hinge axis. For the assignment of A, B, C and D see the following fitting dimensions.

GEZE ELECTRICALLY OPERATED VENTILATION

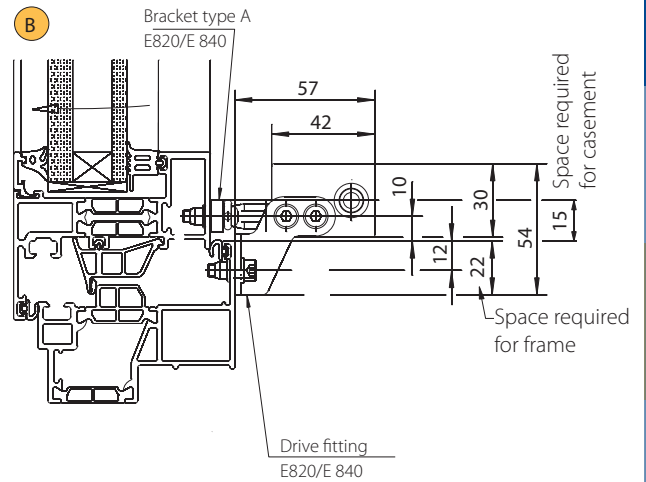
Fitting dimensions drive fitting type A with bracket type A



Drive standard installation

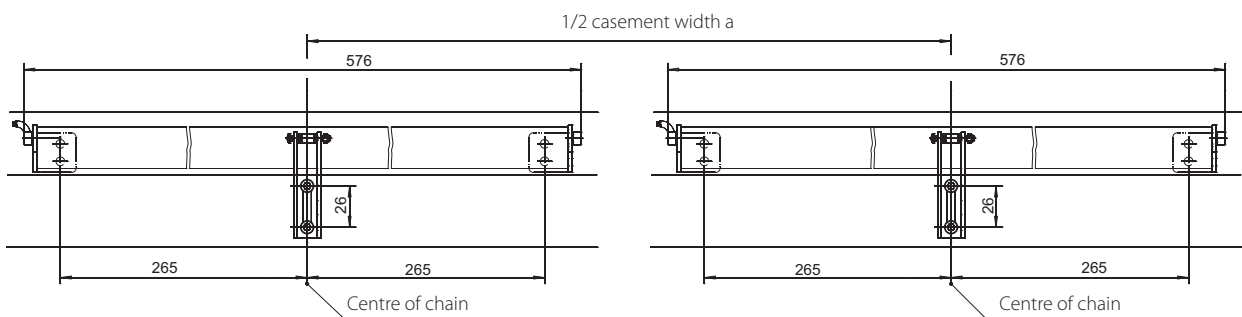
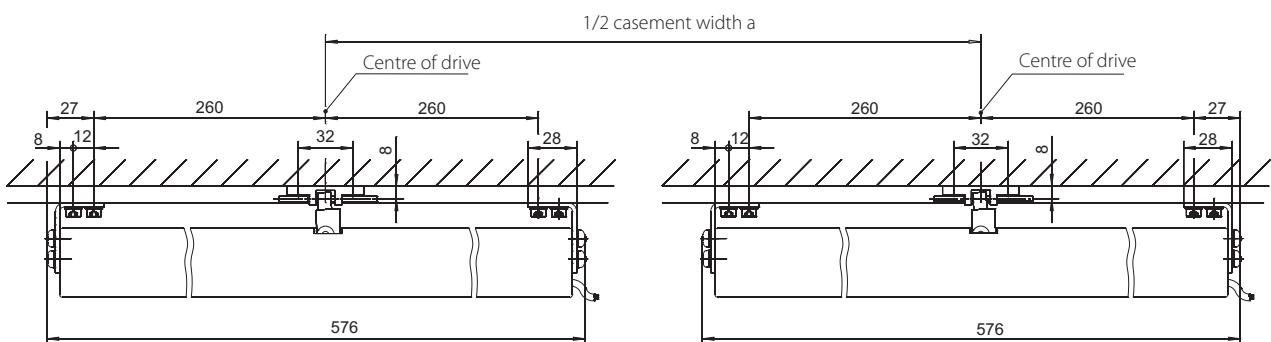
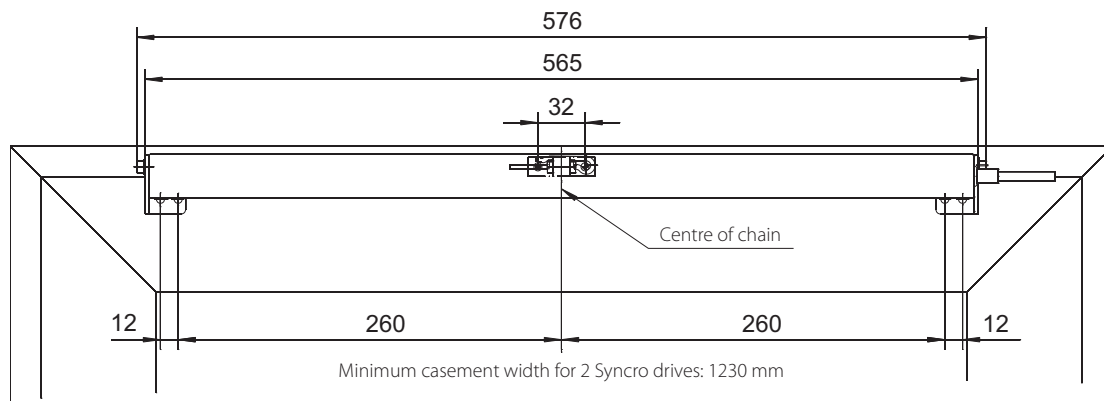
Example: Casement installation on bottom hung window that opens inwards

Fitting dimensions drive fitting type A with bracket type A



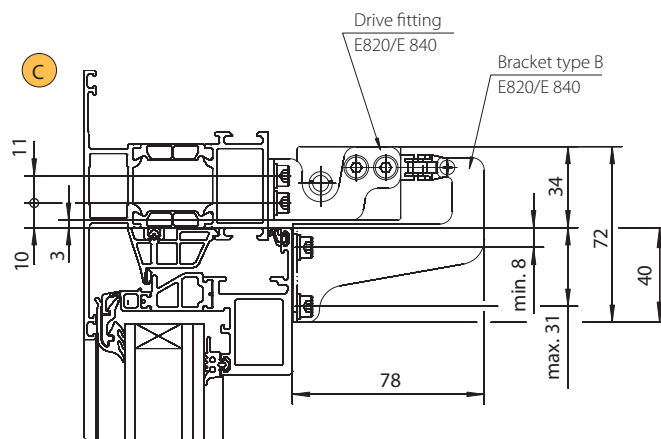
Drive turned

Example: Frame installation on top hung window that opens outwards



ELECTRICALLY OPERATED CHAIN DRIVE GEZE E 840

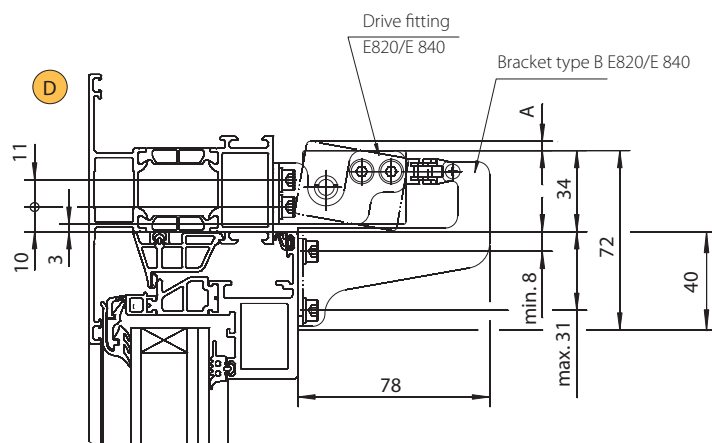
Fitting dimensions drive fitting type B with bracket type B



Fixed drive

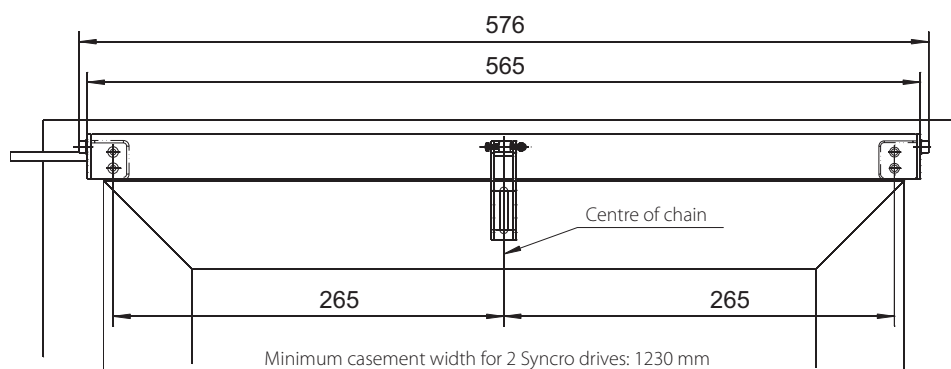
Example: Frame installation on bottom hung window that opens inwards

Fitting dimensions drive fitting type B with bracket type B



Drive can be swivelled on the frame

Example: Frame installation on bottom hung window that opens inwards

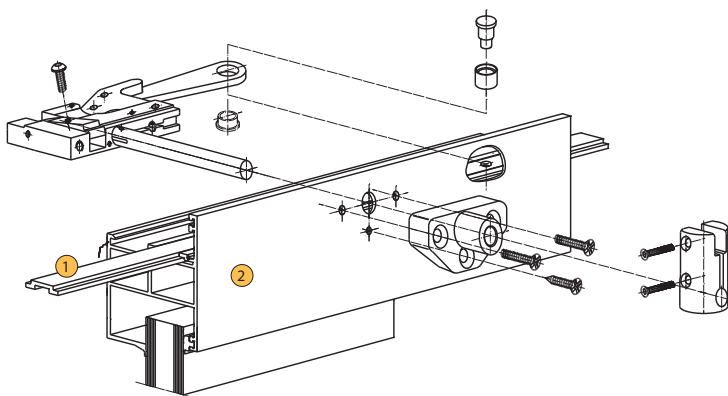


Minimum casement width for 2 Syncro drives: 1230 mm

Mechanical locking bracket for GEZE electrically operated chain drives

For windows with large casement areas, it is often not sufficient to lock the casement using the drive alone. As a solution for such cases, GEZE offers the possibility of using an additional mechanically operated locking bracket.

The additional locking bracket is easy to install. It is also very inexpensive since it is operated mechanically and therefore improves the window sealing and provides better protection against intruders. It is suitable for use with all GEZE electrically operated chain drives E 740 and E8x0 on common profile systems and vertically installed bottom, top or side hung function.



- ① Driving rod of the locking mechanism (fitting side)
- ② Casement



PRODUCT ADVANTAGES

- No additional follow-up control required
- No additional cables necessary since locking takes place mechanically
- Simple installation using template

FUNCTION

- When the chain drive extends or retracts, the window casement is locked or unlocked mechanically, with the mechanism concealed in an internal central locking device.
- The concealed all-round locking in the window casement is effected when the casement bracket engages the driving rod and thus latches the locking components.

ORDER INFORMATION – GEZE LOCKING BRACKETS FOR ELECTRICALLY OPERATED CHAIN DRIVES

Description		Version	Id. No.
Locking bracket E 740	Stroke 15 mm	EV1	125399
		to RAL	125403
	Stroke 18 mm	EV1	125400
		to RAL	125404
Locking bracket set E 740 Synchro/Dual			135803
Locking bracket E820/E 840	Stroke 15 mm	EV1	124367
		to RAL	134368
	Stroke 18 mm	EV1	134369
		to RAL	134370
Locking bracket set E820/E 840 Synchro/Dual			135804

GEZE ELECTRICALLY OPERATED VENTILATION

General application data

- The stroke of the locking mechanism required for locking must not exceed 15 mm or 18 mm.
The respective locking bracket must be used according to stroke 15 mm or 18 mm.
- The larger the number of locking points and length of driving rod, the greater the force required for locking and unlocking.

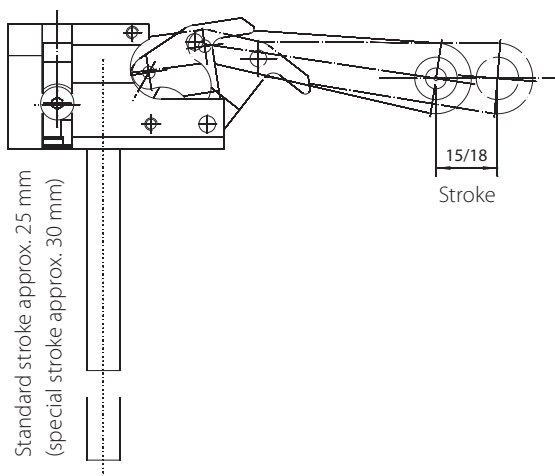
For standard setting of the locking elements, the following is recommended per chain drive:

Electrically operated chain drive E 740 max. 4 locking points for aluminium, plastic and wooden windows

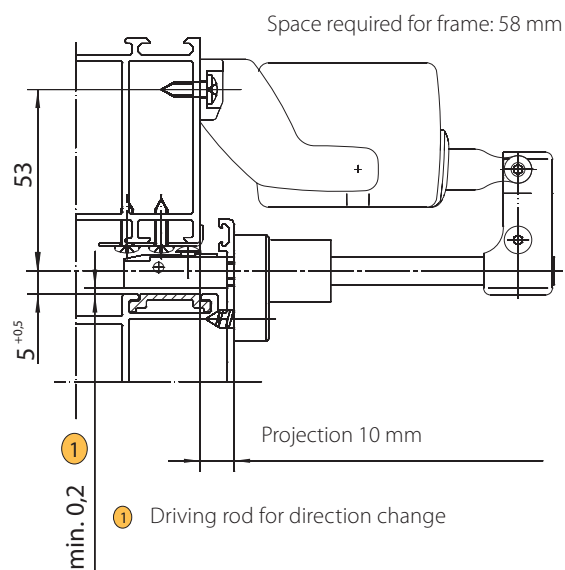
Electrically operated chain drive E 840 max. 2 locking points for aluminium, plastic and wooden windows

- All drives: Space required for casement: 36 mm

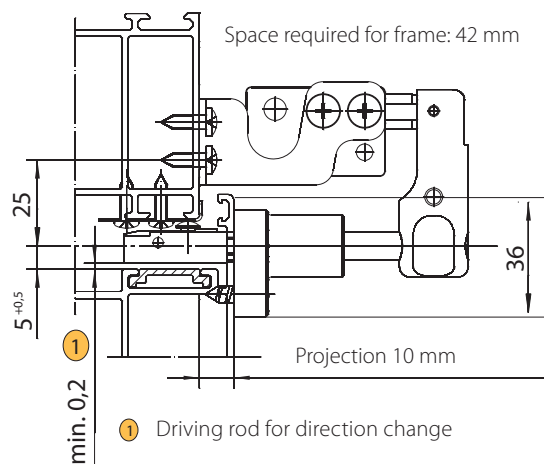
Mechanical locking bracket



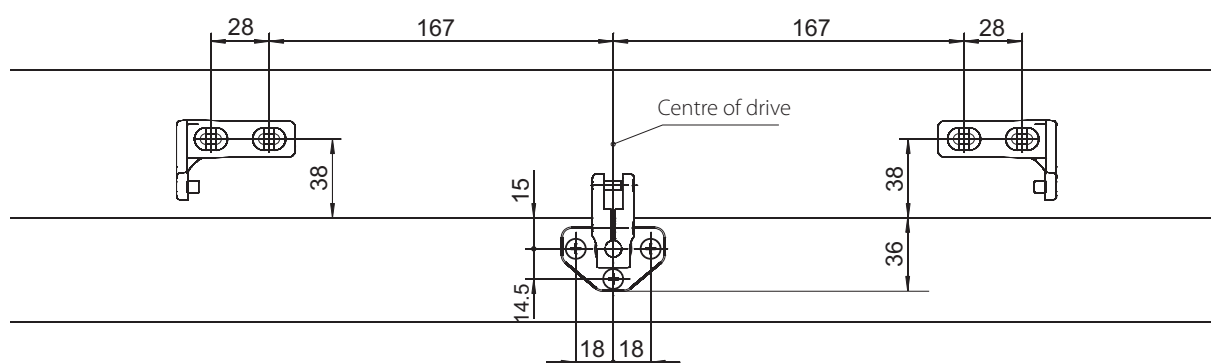
Fitting dimensions E 740



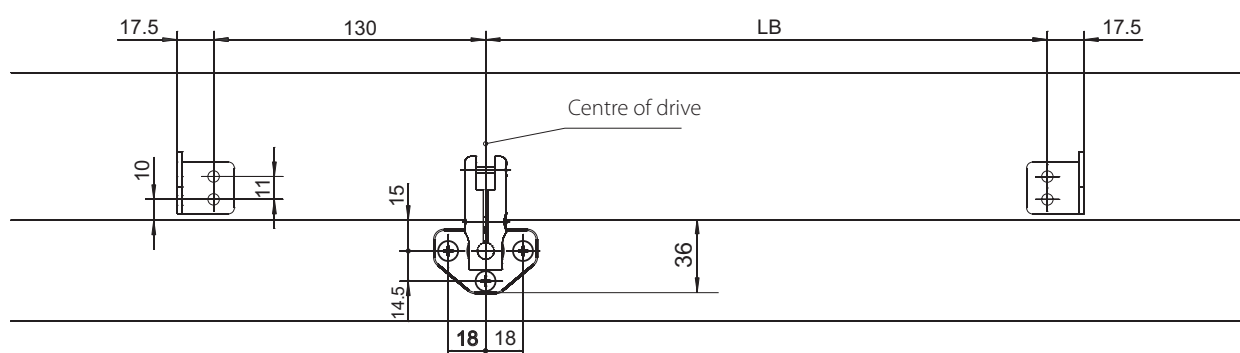
Fitting dimensions E820/E 840



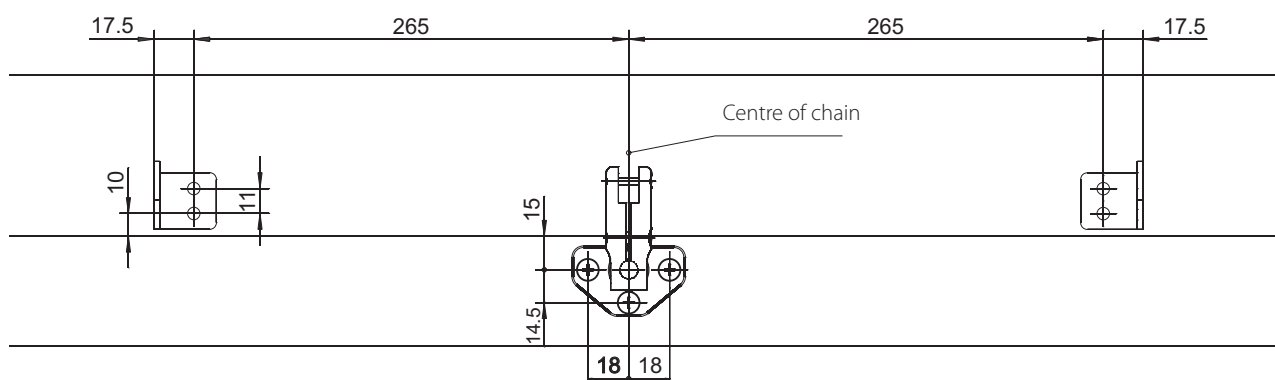
Front view of locking bracket E 740



Front view of locking bracket E820/840



Front view of locking bracket E 840



GEZE ELECTRICALLY OPERATED VENTILATION

GEZE spindle drive E 350 N

Compact drive as direct opener for small windows

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.

GEZE E 350 N



PRODUCT FEATURES

- Tandem solution for particularly heavy and wide casements: E250 / 24 V with synchronised cut-off E102 and tandem power supply E 48 **Important:** Tandem version is recommended from 1.2 m main closing edge HSK
- Group control of up to ten drives in one group
- Optional stroke limiter and position indicator to monitor end positions
- 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

ORDER INFORMATION – GEZE ELECTRICALLY OPERATED SPINDLE DRIVES E 350 N

Description		Id. No.	Id. No.	Id. No.	Id. No.
Electrically operated spindle drive E 350 N		EV1	white RAL 9016	to RAL	
	Stroke 100 mm	086121	086124	086125	
	Stroke 150 mm	086126	086129	086130	
	Stroke 200 mm	086131	086134	086135	
	Stroke 230 mm	086136	086139	086140	
	Stroke 300 mm	086141	086144	086145	
	Stroke 500 mm	086146	086149	086150	
	Stroke 700 mm	086151	086154	086155	
	Stroke 750 mm	086156	086159	086160	
	Stroke 1000 mm	086161	086164	086165	
Electrically operated spindle drive E250 VdS	Stroke 100 mm	098900	098904	098903	
	Stroke 150 mm	098905	098909	098908	
	Stroke 200 mm	098910	098914	098913	
	Stroke 230 mm	098915	098919	098918	
	Stroke 300 mm	098920	098924	098923	
	Stroke 500 mm	098925	098929	098928	
Special version		111196	111196	111197	
Standard bracket with casement bracket and eye bolt		019032	020879	020878	
Inward-opening bracket with casement bracket and eye bolt		027218	027223	027222	
Swivel bracket for spindle drives		116112	116113	116114	
Basic unit for stroke limitation and position indication					083941
Stroke limitation circuit board 230 V AC					084147
Position indication circuit board for 1-4 groups					084171
Tandem power supply E 48					087776
Synchronised cut-off E102					101323

For tandem operation: order 2 E250/24 V DC drives + 1 tandem power supply E 48 + 1 E102 synchronous cut-off.

Accessories for GEZE electrically operated spindle drive E 350 N



Standard bracket E 350 N

GEZE standard bracket

for direct opening of the E 350 N electrically operated spindle drive
Scope of supply with jack rings and casement bracket



Inward-opening bracket E 350 N

GEZE inward-opening bracket

for direct opening of the E 350 N electrically operated spindle drive on inward-opening casements
Scope of supply with jack rings and casement bracket



Swivel bracket E 350 N

GEZE swivel bracket

for direct opening of the E 350 N electrically operated spindle drive
Scope of supply with jack rings and casement bracket



Basic unit for stroke limitation

GEZE basic unit for stroke limitation (and position indication)

Scope of supply with reed switch, cable tie and cable run



Stroke limitation circuit board

GEZE stroke limitation circuit board

for stroke limitation, a basic unit should be fitted in addition to the stroke limitation circuit board (see Drawing No. 45130-9-0990)



Additional circuit board for position indication

GEZE additional circuit board for position indication for 1-4 ventilator assemblies

for stroke limitation, in addition to the position indication circuit board, one or two basic units should be installed depending on the application (see drawing no. 45130-9-0990)

GEZE ELECTRICALLY OPERATED VENTILATION

GEZE E 350 N

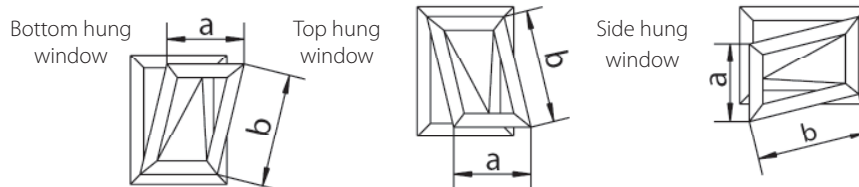


Technical data		E 350 N	
Dimensions (height x depth x length)		47 x 40 x stroke + 340 mm	
E 350 N	100 mm ●	E 350 N	500 mm ●
stroke:	150 mm ●	stroke	700 mm ●
	200 mm ●		750 mm ●
	230 mm ●		1000 mm ● Special stroke on request
	300 mm ●		
Max. pushing/pulling force		750/750 N	
Running speed		approx. 5 mm/s	
End position cut-off	retracted/extended	integrated electromechanical cut-off	
Overload cut-off		integrated electromechanical cut-off	
Voltage		230 V 50 Hz	
Current consumption		0.15 A	
Power consumption		35 W	
Max. operating period		15 min.	
ON period		50%	
Ambient temperature		-20 °C to +70 °C	
Enclosure rating / protection class		IP65 / II	
Cable		2.5 m PVC	
Area of application		Dry rooms	

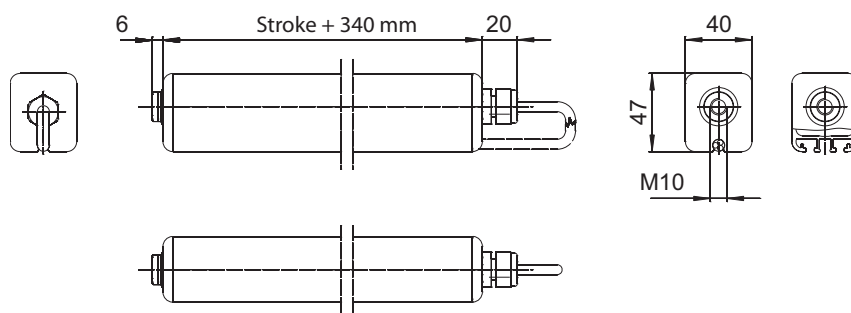
● = yes ○ = no

Area of application

- For outward-opening bottom hung, top hung windows and skylights with standard bracket (installation on main closing edge HSK) and swivel bracket (mounting on the secondary closing edge NSK) as direct opener
- For inward-opening bottom hung and top hung windows with inward-opening bracket as direct opener



Dimensioned drawing



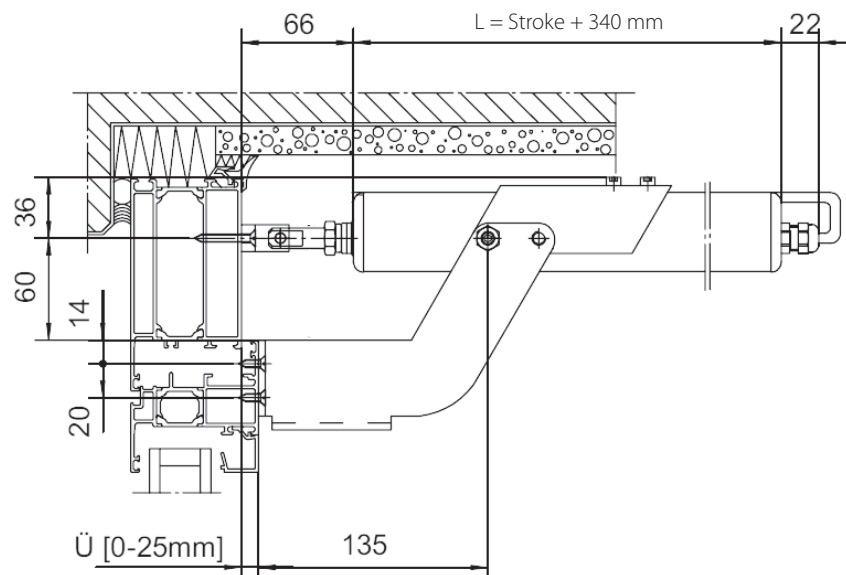
Installation options

Combination of brackets/type of installation

Type of installation		Standard bracket	Bracket Inward-opening bracket	Swivel bracket
Bottom hung casement	inward-opening	○	⑤	○
	outward-opening	①	⑥	○
Top hung casement	outward-opening	②	⑦	○
Skylight		③	○	⑨
Side hung window	inward-opening	○	⑧	○
	outward-opening	④	○	○

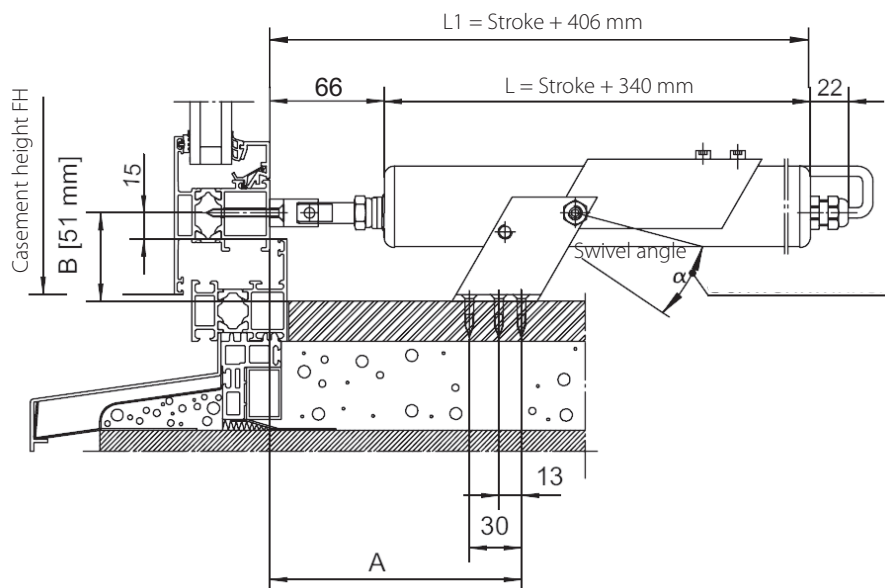
● = yes ○ = no

GEZE E 350 N – inward-opening bottom hung casement fitting dimensions, inward-opening bracket



Note motor swivel range and application area!

GEZE E 350 N – outward-opening top hung casement fitting dimensions, standard bracket



Note:

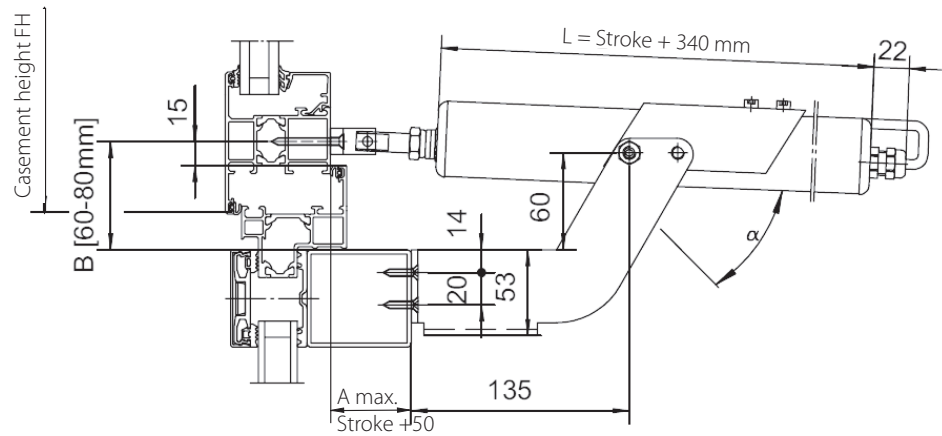
Chosen dimension A to be as large as possible, however

A max. = L1 - 150 mm

A min. = 70 mm

Note motor swivel range and application area!

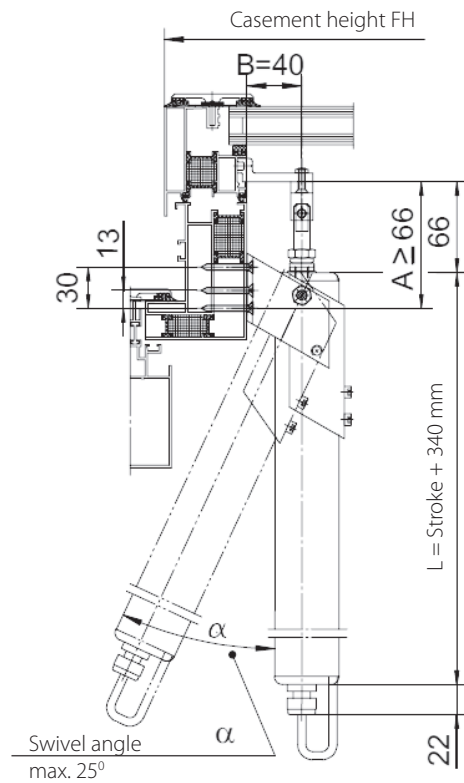
GEZE E 350 N – outward-opening top hung casement with inward-opening bracket

**Note:**

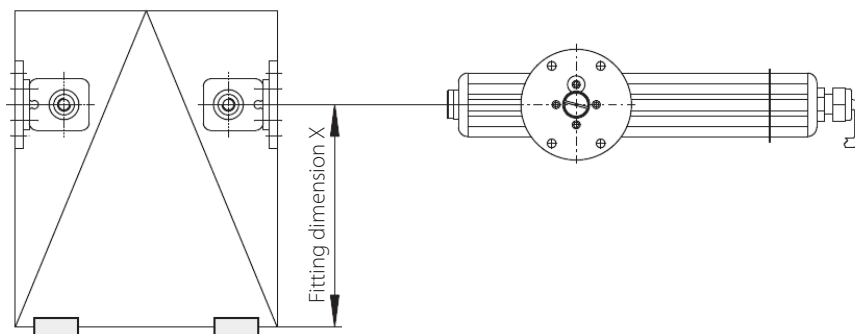
With this type of fitting, due to the motor length, attention must be paid to the dimension A max.

Note motor swivel range and application area!

GEZE E 350 N – fitting dimensions on skylight, standard bracket



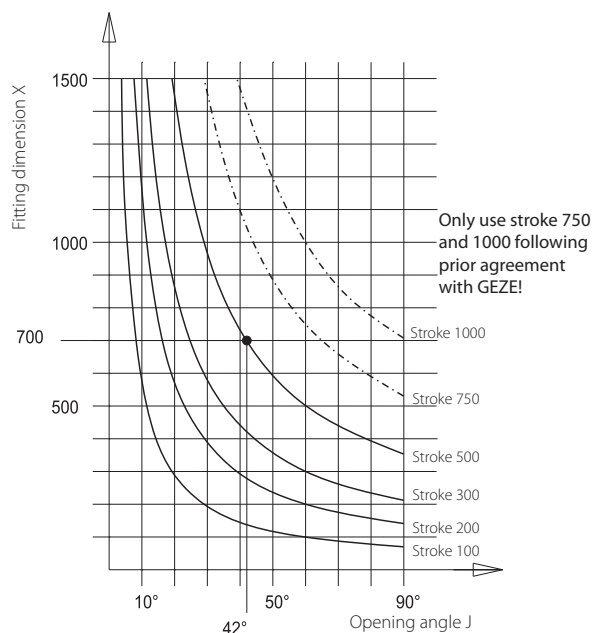
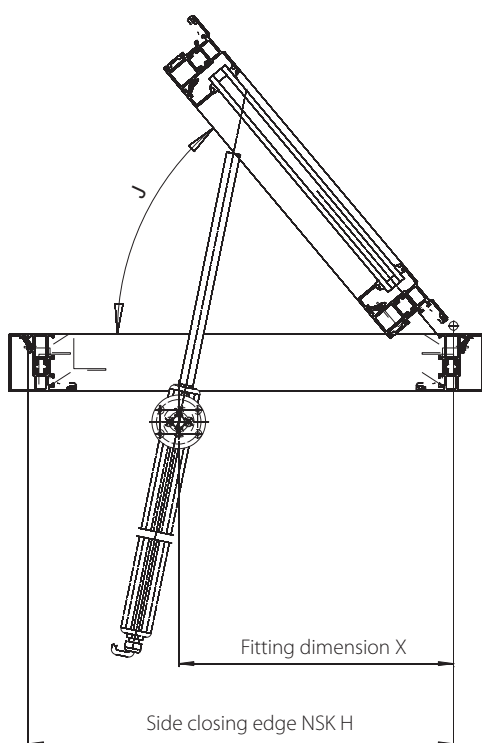
GEZE E 350 N – fitting dimensions of outward-opening skylight casement with swivel drive



Opening angle depending on fitting dimension X and drive stroke

Diagram for determining opening angle J depending on stroke and fitting dimension X.

(With casement heights H greater 1000 mm, the following applies: dimension X should be at least 1/2 H.)



Example:

Stroke = 500 mm
Fitting dimension x = 700 mm
→ Opening angle = approx. 42°

Determination of max. casement weight

Permissible casement weight with swivel brackets

Calculation of the max. permissible

Total casement weight F_G max. (in kg):

$$F_G \text{ max.} = \frac{200 \times X}{H}$$

For daily ventilation

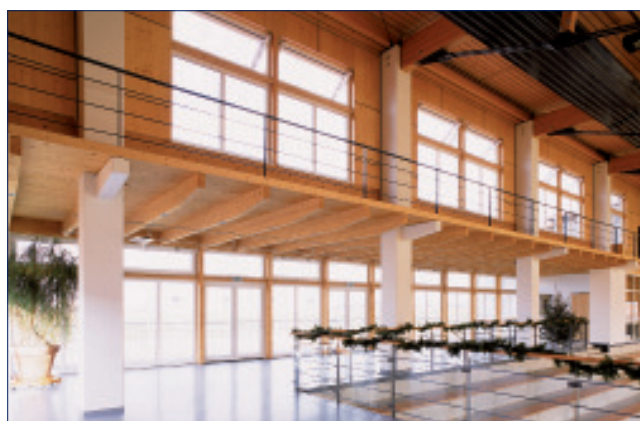
GEZE opening and locking systems



The OL 350 EN, OL 360 EN and OL 370 EN systems are the opening and locking systems for ventilation windows.

As tandem versions, they are offered with two E250 drives in combination with the E102 synchronised cut-off and the E 48 tandem power supply. The OL 350 EN, OL 360 EN and OL 370 EN systems consist of a mechanical bracket kit in combination with the high-quality electrically operated spindle drive E 350 N.

Thanks to the mechanical locking it is not necessary to use additional electrical locking drives.



HWA Affalterbach

Opening and locking systems		OL 350 EN Solo/Tandem	OL 360 EN Solo/Tandem	OL 370 EN Solo/Tandem
Main area of use		Inward-opening bottom hung, top hung and side hung windows	Bottom hung, top hung and side hung windows outward-opening	Post & rail constructions and inward-opening side hung windows
Stroke length	100 mm	●	○	●
	150 mm	●	●	●
	200 mm	●	●	○
	230 mm	○	●	●
	300 mm	●	○	○
Max. pushing/pulling force		750 N/2 x 750 N	750 N/2 x 750 N	750 N/2 x 750 N
Running speed		Solo: 5 mm/s Tandem: 4 mm/s	Solo: 5 mm/s Tandem: 4 mm/s	Solo: 5 mm/s Tandem: 4 mm/s
Overload cut-off		electromechanical	electromechanical	electromechanical
Voltage		230 V ±10%	230 V ±10%	230 V ±10%
Power consumption		Solo: 35 W Tandem: 2 x 20 W	Solo: 35 W Tandem: 2 x 20 W	Solo: 35 W Tandem: 2 x 20 W
Ambient temperature		Solo: -20 °C to +70 °C Tandem: -5 °C to +75 °C	Solo: -20 °C to +70 °C Tandem: -5 °C to +75 °C	Solo: -20 °C to +70 °C Tandem: -5 °C to +75 °C
Protection class		IP65	IP65	IP65
Cable		2.5/2 m	2.5/2 m	2.5/2 m
Area of application		Dry rooms	Dry rooms	Dry rooms

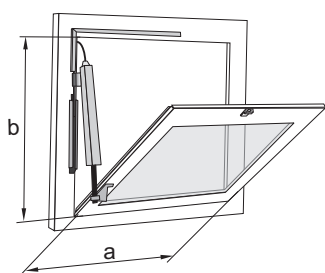
● = yes ○ = no

Overview of the systems

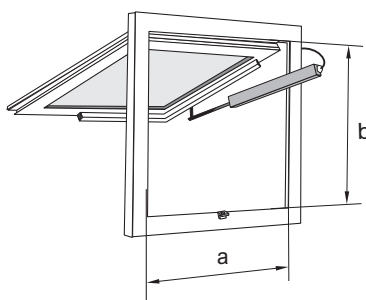
Opening and locking system	OL 350 EN	OL 360 EN	OL 370 EN
Main area of use	Bottom hung, top hung and side hung windows inward-opening	Bottom hung and top hung windows outward-opening	Post & rail constructions side hung windows inward-opening
vertical, inward-opening windows	●	○	●
vertical, outward-opening windows	○	●	○
Max. Solo casement width (HSK):			
for wood and aluminium	1200 mm	1200 mm	1500 mm
for plastic	800 mm	800 mm	800 mm
Max. Tandem casement width (HSK):			
for wood and aluminium	2400 mm	2400 mm	2200 mm
for plastic	1600 mm	1600 mm	1600 mm
Max. Solo/Tandem casement height (HSK)	depending on stroke	depending on stroke	depending on stroke
Max. panel weight	30 kg/m ²	30 kg/m ² (bottom hung 25 kg/m ²)	30 kg/m ²
Space requirement	Locking side: min. 32 mm Motor side: min. 48 mm	Casement frame: min. 33 mm Perimeter frame: min. 45 mm	Perimeter frame: 18 mm Casement: 38 mm Hinge spacing: 15 mm
Tandem operation	● with synchronised cut-off E102	● with synchronised cut-off E102	● with synchronised cut-off E102
Locking and additional angle bracket	● from 1.2 m ² window area, in total 2 locking devices required (standard and additional lock)	● from 1.2 m ² window area, in total 2 locking devices required (standard and additional lock)	● with 2 locking brackets
i dimension max.	70 mm	70 mm	70 mm

● = yes ○ = no

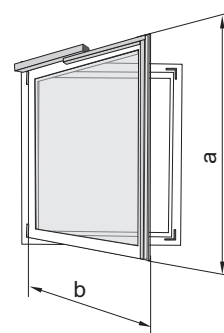
OL 350 EN on bottom hung window



OL 360 EN on top hung window



OL 370 EN on side hung window



a = main closing edge HSK

b = secondary closing edge NSK

GEZE OL 350 EN/Tandem opening and locking system

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

The GEZE OL 350 EN system is offered with four different stroke lengths and is used for ventilation of inward-opening rectangular windows. The universal installation system enables use of all standard, vertically installed types of casements. High-quality components ensure a long life.

GEZE OL 350 EN



PRODUCT FEATURES

- 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 bracket kit
- Suitable as a solo solution and as a tandem solution for wide casements – use of two RWA 100Es with the synchronised cut-off E102 and a tandem power supply E 48
- The OL 350 EN achieves very large opening widths with small spindle stroke.

ORDER INFORMATION – GEZE OL 350 EN/TANDEM

Description	Version	Id. No.	Id. No.	Id. No.	Id. No.	Id. No.
		Stroke 100 mm	Stroke 150 mm	Stroke 200 mm	Stroke 300 mm	
OL 350 EN	silver	087920	087925	087930	087935	
	white RAL 9016	087923	087928	087933	087938	
	to RAL	087924	087929	087934	087939	
RWA 100E ^{*)}	silver	019726	019725	019724	021291	
	white RAL 9016	019745	019744	019743	021296	
	to RAL	019742	019741	019740	021295	
		L = 2000 mm L = 3000 mm L = 6000 mm				
Rod ø 12 mm	galvanised	053198	053199	054116		
Cover profile	silver	058771	058774	058630		
(Lengths 2000 mm and 3000 mm, both sides mitre cut)	white RAL 9016	018293	018294	018251		
	to RAL	014258	014259	013814		
Rod guide						058653
Rod coupling						059729
Drilling template						014740
Corner transmission OL 320						058648
Additional lock OL 320	silver					063974
	white RAL 9016					018257
	to RAL					013080
Additional angle bracket for additional lock OL 320	silver					050727
	white RAL 9016					015519
	to RAL					013077
Synchronised cut-off E102 / 24 V DC						101323
Tandem power supply E 48						087776

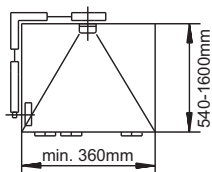
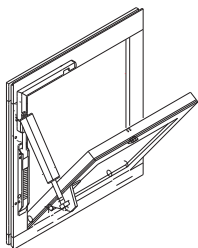
^{*)}For a tandem solution, please order 2 x RWA 100E plus 1 x synchronised cut-off E102 and 1 x tandem power supply E 48

GEZE ELECTRICALLY OPERATED VENTILATION

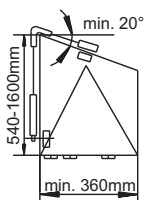
System OL 350 EN and tandem OL 350 EN – application areas

Profile-mounted system for vertically installed inward-opening bottom hung, top hung, angular and side hung windows. The main area of use is for inward-opening bottom hung windows.

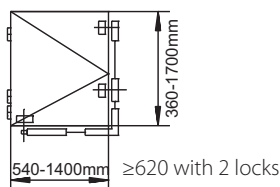
OL 350 EN



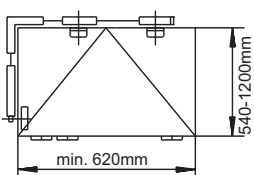
Bottom hung window



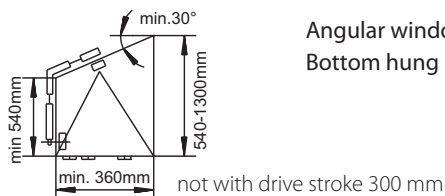
Angular window
Bottom hung



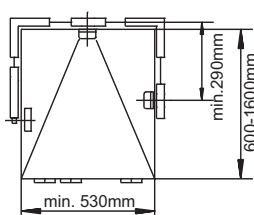
Side hung window



Bottom hung window

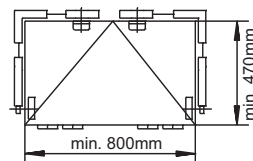
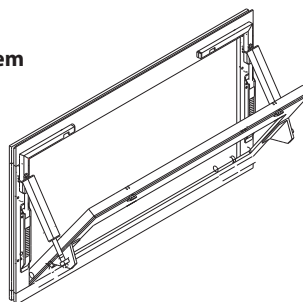


Angular window
Bottom hung

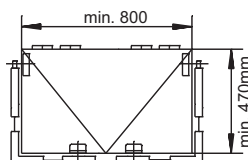


Bottom hung window

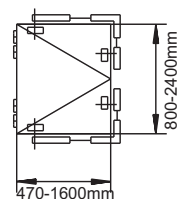
OL 350 EN Tandem



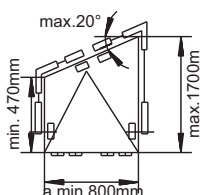
Bottom hung window



Top hung window



Side hung window



Angular window

The given dimensions are standard; please contact GEZE if you require other dimensions.

System OL 350 EN – system layout



	OL 350 EN	Drawing No.
Installation drawings	Solo version	40430-EP-001
	Tandem	40430-EP-002

GEZE ELECTRICALLY OPERATED VENTILATION

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

OL 350 EN Solo	Casement 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

OL 350 EN Tandem	Casement height (b)	Dimension G	Dimension E	Opening angle	Opening width
Stroke 100 mm	470-520 ^{*)} mm	65 mm	315 mm	approx. 36°	approx. 320 mm
	520-600 ^{*)} mm	65 mm	315 mm	approx. 36°	approx. 350 mm
	600-700 mm	85 mm	365 mm	approx. 34°	approx. 380 mm
	700-800 mm	125 mm	365 mm	approx. 30°	approx. 380 mm
	800-850 mm	145 mm	365 mm	approx. 28°	approx. 400 mm
Stroke 150 mm	560-630 ^{*)} mm	100 mm	365 mm	approx. 51°	approx. 520 mm
	630-700 ^{*)} mm	125 mm	365 mm	approx. 46°	approx. 520 mm
	700-800 ^{*)} mm	195 mm	365 mm	approx. 37°	approx. 490 mm
	800-900 mm	245 mm	415 mm	approx. 35°	approx. 490 mm
	900-1000 mm	345 mm	415 mm	approx. 27°	approx. 450 mm
Stroke 200 mm	700-800 ^{*)} mm	195 mm	415 mm	approx. 50°	approx. 640 mm
	800-900 ^{*)} mm	245 mm	415 mm	approx. 44°	approx. 640 mm
	900-1000 mm	295 mm	465 mm	approx. 40°	approx. 650 mm
	1000-1100 mm	395 mm	465 mm	approx. 33°	approx. 600 mm
	1100-1200 mm	495 mm	465 mm	approx. 28°	approx. 570 mm
	1200-1300 mm	595 mm	465 mm	approx. 25°	approx. 540 mm
Stroke 300 mm	950-1000 ^{*)} mm	345 mm	515 mm	approx. 52°	approx. 860 mm
	1000-1050 ^{*)} mm	395 mm	515 mm	approx. 48°	approx. 820 mm
	1050-1100 ^{*)} mm	395 mm	515 mm	approx. 48°	approx. 860 mm
	1100-1150 ^{*)} mm	445 mm	515 mm	approx. 44°	approx. 840 mm
	1150-1250 ^{*)} mm	495 mm	515 mm	approx. 40°	approx. 830 mm
	1250-1320 mm	545 mm	565 mm	approx. 38°	approx. 850 mm
	1320-1400 mm	615 mm	565 mm	approx. 35°	approx. 820 mm
	1400-1500 mm	695 mm	565 mm	approx. 32°	approx. 800 mm
	1500-1600 mm	795 mm	565 mm	approx. 29°	approx. 780 mm
	1600-1700 mm	900 mm	565 mm	approx. 27°	approx. 750 mm

^{*)} Mount tilt bracket with 50 mm shift at the electric drive **and** shorten corner transmission by 50 mm

^{**)} Mount tilt bracket with 50 mm shift at the electric drive

^{***)} Shorten corner transmission by 50 mm

GEZE OL 360 EN/Tandem opening and locking system

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

The GEZE OL 360 EN system is offered with three different stroke lengths and is used for ventilation of outward-opening rectangular windows. The universal installation system enables use of all standard, vertically installed casement profiles. High-quality components ensure a long life.

GEZE OL360 EN



PRODUCT FEATURES

- The OL 360 EN system consists of the electrically operated spindle drive E 350 N, mounted on the profile surface, in combination with a mechanical bracket kit
- Suitable as a solo solution and as a tandem solution for wide casements – use of two RWA 110Es with the synchronised cut-off E102 and a tandem power supply E 48.
- The OL 360 EN achieves very large opening widths with small spindle stroke.

ORDER INFORMATION – GEZE OL 360 EN/TANDEM

Description	Version	Id. No.	Id. No.	Id. No.	Id. No.
		Stroke 150 mm	Stroke 200 mm	Stroke 300 mm	
OL 360 EN	silver	088055	088060	088067	
	white RAL 9016	088058	088064	088070	
	to RAL	088059	088065	088071	
RWA 110E	silver	020559	020552	021303	
	white RAL 9016	020567	020558	021311	
	to RAL	020564	020556	021310	
		L = 2000 mm	L = 3000 mm	L = 6000 mm	
Rod ø 12 mm	galvanised	053198	053199	054116	
Cover profile (2000 mm and 3000 mm lengths, mitred on both sides)	silver	058771	058774	058630	
	white RAL 9016	018293	018294	018251	
	to RAL	014258	014259	013814	
Rod guide					058653
Rod coupling					059729
Corner transmission OL 320					058648
Additional lock OL 320	silver				063974
	white RAL 9016				018257
	to RAL				013080
Additional angle bracket for additional lock OL 320	silver				050727
	white RAL 9016				015519
	to RAL				013077
Synchronised cut-off E102 / 24 V DC					101323
Tandem power supply E 48					087776

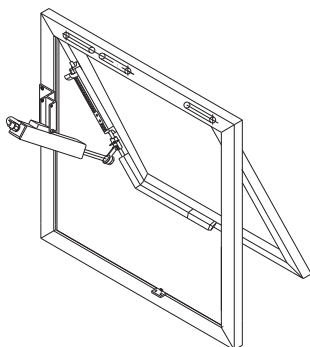
^{*)} For a tandem solution, please order 2 x RWA 110E plus 1 x synchronised cut-off E102 and 1 x tandem power supply E 48

GEZE ELECTRICALLY OPERATED VENTILATION

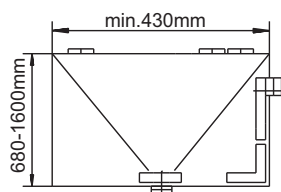
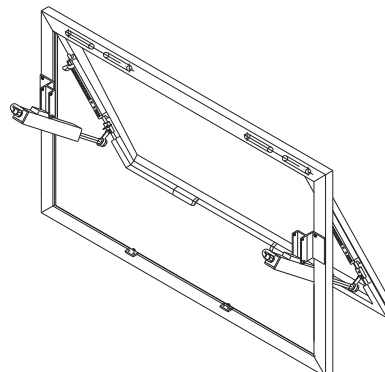
System OL 360 and OL 350 EN Tandem – application areas

Profile-mounted system for vertically installed, outward-opening bottom hung, top hung and side hung windows.

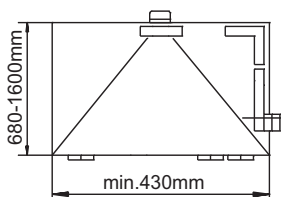
OL 360 EN



OL 360 EN Tandem

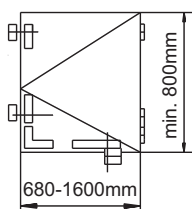


Top hung window

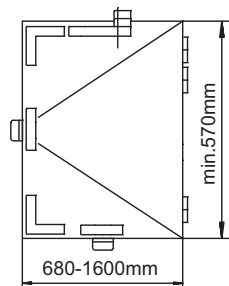


Bottom hung window

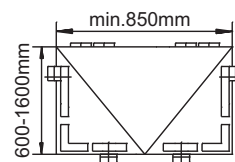
If necessary with 2 locks:



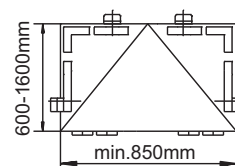
Side hung window



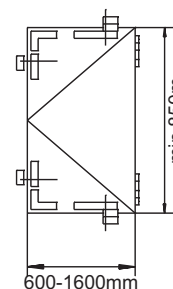
Side hung window



Top hung window



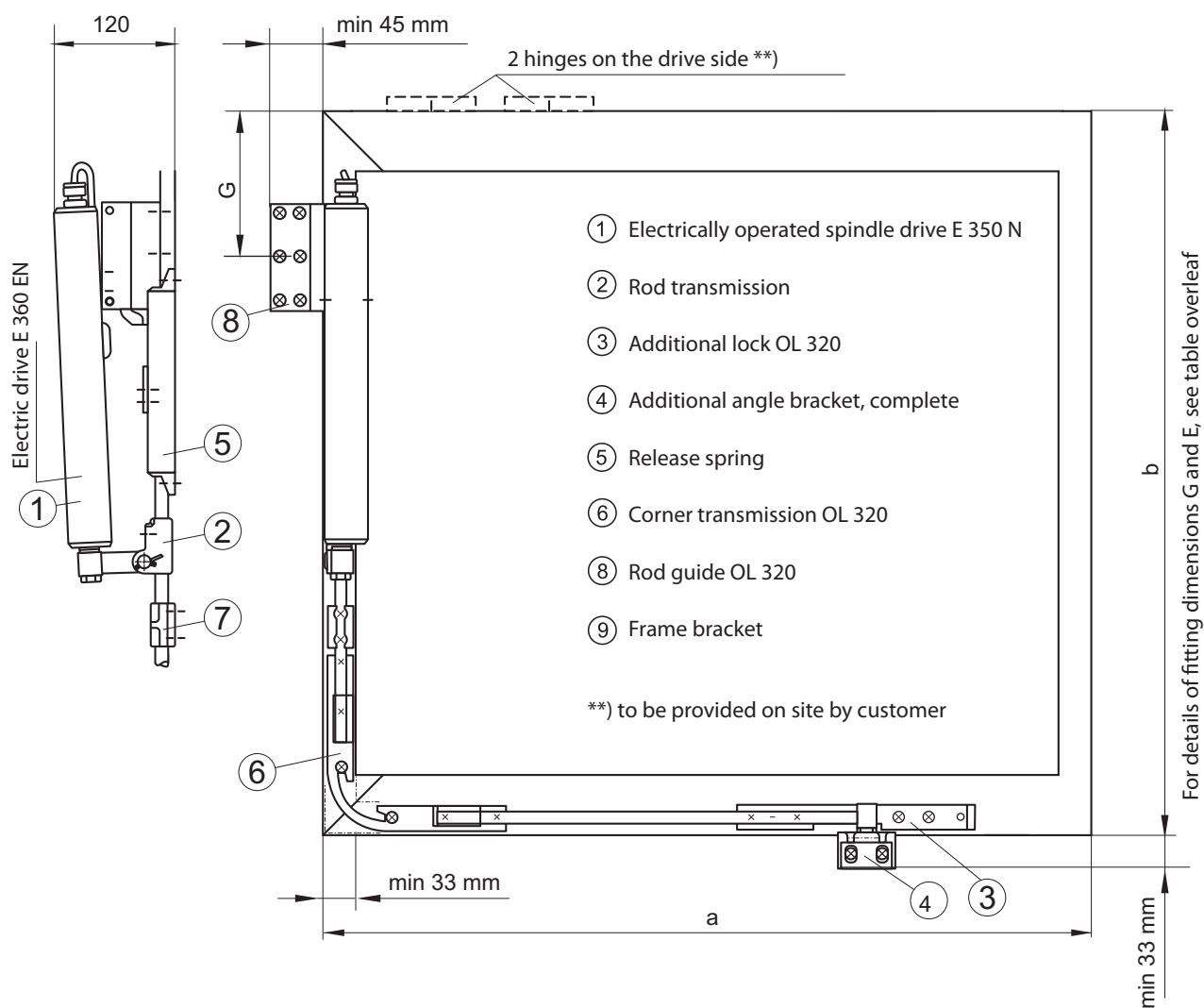
Bottom hung window



Side hung window

The given dimensions are standard; please contact GEZE if you require other dimensions.

System OL 360 EN – system layout



Identification numbers of the installation drawings and wiring diagrams

	OL 360 EN	Drawing No.
Installation drawings	Solo version	41521-9-0970
	Tandem	41521-9-0996

GEZE ELECTRICALLY OPERATED VENTILATION

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

OL 360 EN Solo	Casement height (b)	Dimension G	Opening angle	Opening width	Shift (mV)
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
	1100-1200 ^{*)} 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
OL 360 EN Tandem	Casement height (b)	Dimension G	Opening angle	Opening width	Shift (mV)
Stroke 150 mm	600-650 ^{*)} mm	65 mm	approx. 45°	approx. 510 mm	32 mm
	650-700 ^{*)} mm	80 mm	approx. 44°	approx. 530 mm	32 mm
	700-750 mm	100 mm	approx. 42°	approx. 540 mm	32 mm
	750-800 mm	125 mm	approx. 39°	approx. 540 mm	32 mm
	800-850 mm	150 mm	approx. 37°	approx. 540 mm	32 mm
Stroke 200 mm	650-700 ^{*)} mm	110 mm	approx. 55°	approx. 640 mm	75 mm
	700-750 ^{*)} mm	130 mm	approx. 51°	approx. 650 mm	45 mm
	750-800 ^{*)} mm	155 mm	approx. 48°	approx. 650 mm	45 mm
	800-850 mm	175 mm	approx. 46°	approx. 670 mm	45 mm
	850-900 mm	200 mm	approx. 43°	approx. 670 mm	45 mm
	900-950 mm	225 mm	approx. 41°	approx. 670 mm	45 mm
	950-1000 mm	250 mm	approx. 39°	approx. 670 mm	45 mm
Stroke 300 mm	900-920 ^{*)} mm	260 mm	approx. 56°	approx. 880 mm	75 mm
	920-950 ^{*)} mm	280 mm	approx. 54°	approx. 870 mm	75 mm
	950-1000 ^{*)} mm	310 mm	approx. 51°	approx. 870 mm	75 mm
	1000-1050 ^{*)} mm	330 mm	approx. 49°	approx. 880 mm	45 mm
	1050-1100 ^{*)} mm	360 mm	approx. 47°	approx. 880 mm	45 mm
	1100-1200 ^{*)} mm	420 mm	approx. 43°	approx. 860 mm	45 mm
	1200-1300 ^{*)} mm	500 mm	approx. 39°	approx. 860 mm	45 mm
	1300-1400 mm	580 mm	approx. 35°	approx. 830 mm	45 mm
	1400-1500 mm	630 mm	approx. 33°	approx. 840 mm	45 mm
	1500-1600 mm	700 mm	approx. 31°	approx. 840 mm	45 mm

^{*)} Shorten corner transmission by 50 mm

GEZE OL 370 EN/Tandem opening and locking system

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

The GEZE OL 370 EN system is offered with three different stroke lengths and is used for ventilation of inward-opening windows. The universal installation system enables use of all standard, vertically installed casement profiles in post & rail constructions. High-quality components ensure a long life.

GEZE OL370 EN



PRODUCT FEATURES

- The OL 370 EN system consists of the electrically operated spindle drive E 350 N, mounted on the profile surface, in combination with a mechanical bracket kit
- Suitable as a solo solution and as a tandem solution for wide casements – use of two RWA 105Es with the synchronised cut-off E102 and a tandem power supply E 48.
- The OL 370 EN achieves very large opening widths with small spindle stroke, mounted on profile surface.
- Double mechanical locking without additional cable routing

ORDER INFORMATION – GEZE OL 370 EN/TANDEM

Description	Version	Id. No.	Id. No.	Id. No.	Id. No.
		Stroke 100 mm	Stroke 150 mm	Stroke 230 mm	
OL 370 EN	silver	088131	088139	088144	
	white RAL 9016	088137	088142	088147	
	to RAL	088138	088143	088148	
OL 370 EN Tandem ^{*)}	silver	088169	088176	088181	
	white RAL 9016	088174	088179	088185	
	to RAL	088175	088180	088186	
		L = 2000 mm	L = 3000 mm	L = 6000 mm	
Rod ø 12 mm	galvanised	053198	053199	054116	
Cover profile (2000 mm and 3000 mm lengths, mitred on both sides)	silver	058771	058774	058630	
	white RAL 9016	018293	018294	018251	
	to RAL	014258	014259	013814	
Rod guide					058653
Rod coupling					059729
Synchronised cut-off E102 / 24 V DC					101323
Tandem power supply E 48					087776

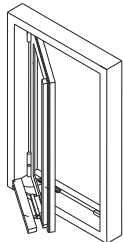
^{*)} Complete set consisting of 2 x E250 spindle drive plus brackets, 1 x synchronous cut-off E102 and 1 x tandem power supply E 48

GEZE ELECTRICALLY OPERATED VENTILATION

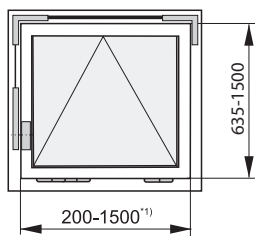
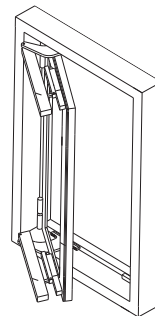
System OL 370 and OL 370 EN Tandem – application areas

Profile-mounted system for vertically installed, rectangular inward-opening bottom hung, top hung and side hung windows. The main area of use is for side hung windows in curtain walling.

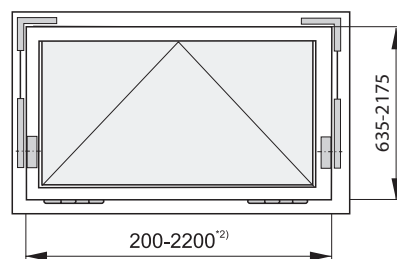
OL 370 EN



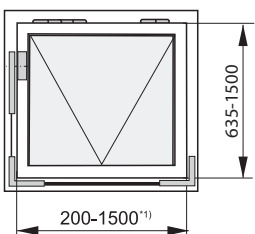
OL 370 EN Tandem



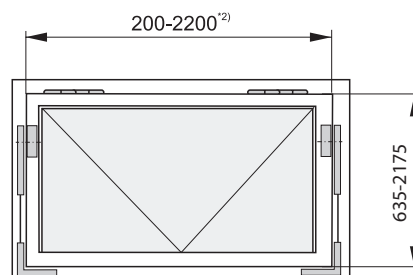
Bottom hung window



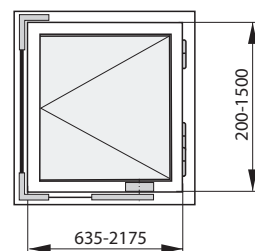
Bottom hung window



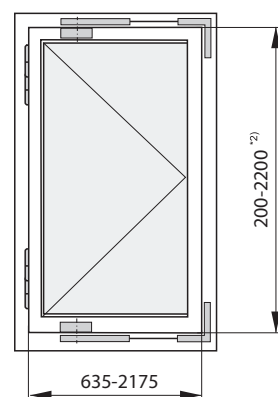
Top hung window



Top hung window



Side hung window

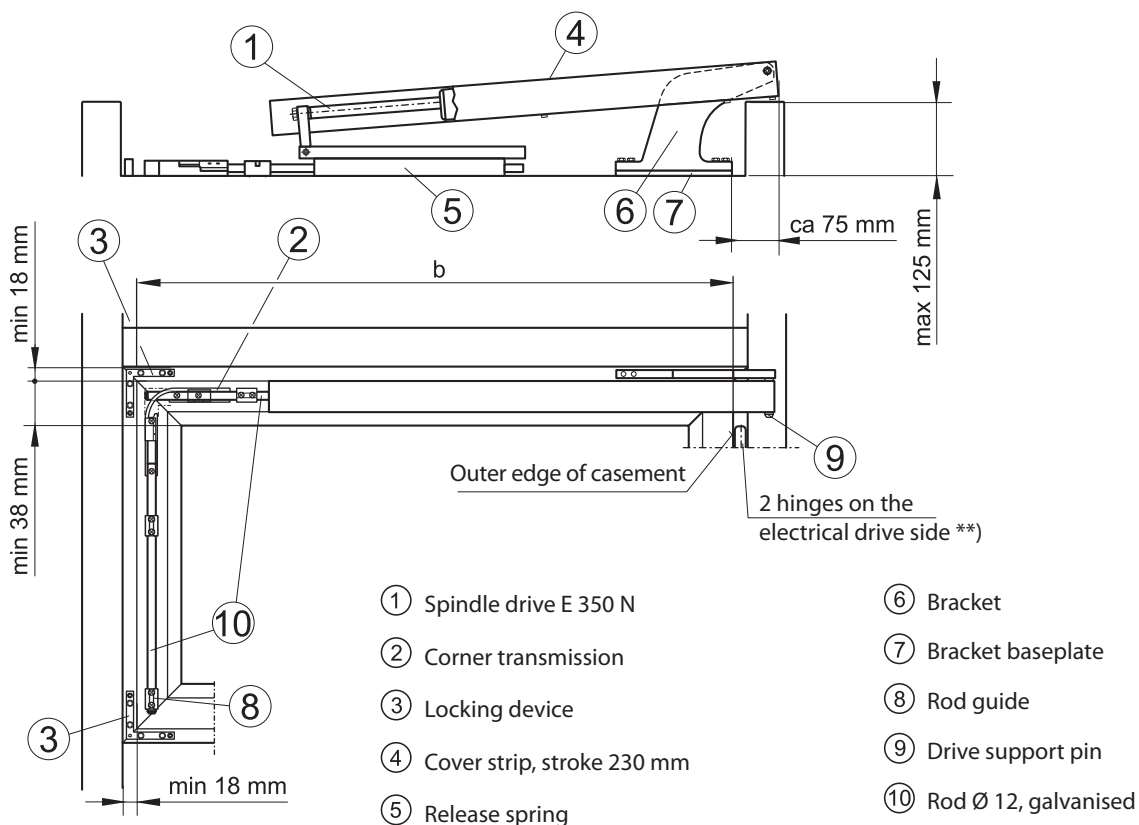


Side hung window

Dimensions in mm as standard; please contact GEZE if you require other dimensions

The details given are for wooden/aluminium windows; the following applies to plastic windows: ¹⁾ max 800 mm (Solo), max. 1600 mm (Tandem)

System OL 370 EN – system layout

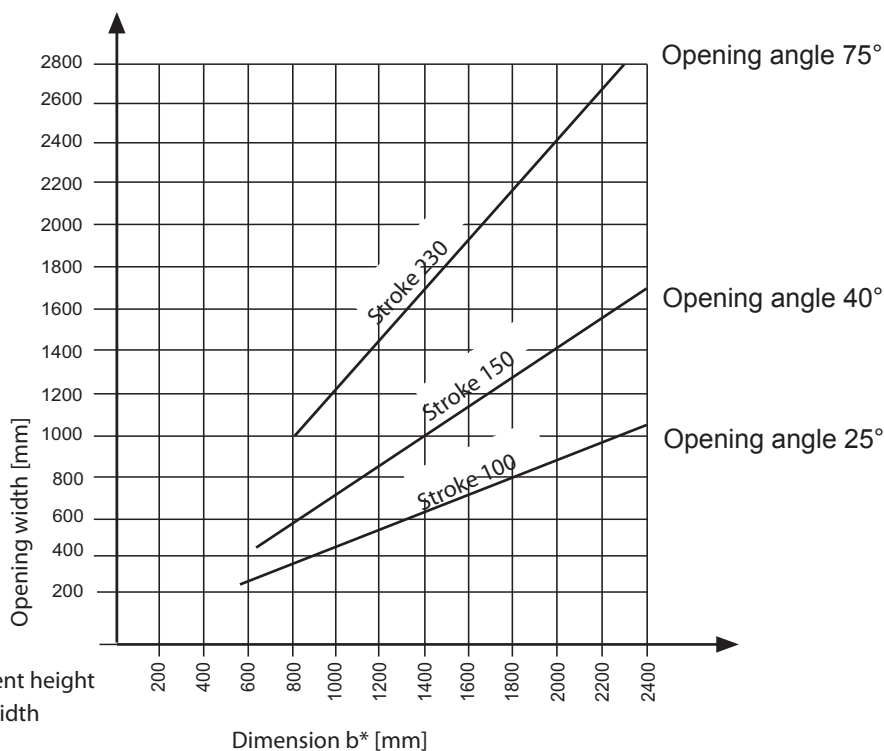


**) to be provided on site by customer

Identification numbers of the installation drawings and wiring diagrams

	OL 370 EN	Drawing No.
Installation drawings	Solo version	41523-9-0970
	Tandem	41523-9-0971

System OL 370 EN – determination of the opening width

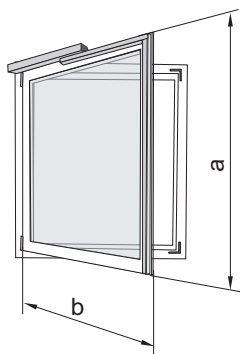


* Bottom hung casement: b = casement height

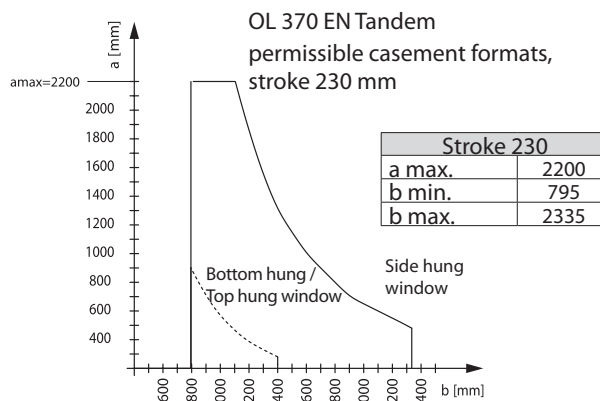
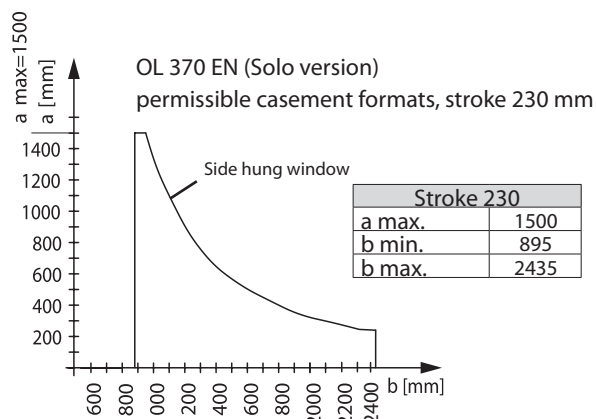
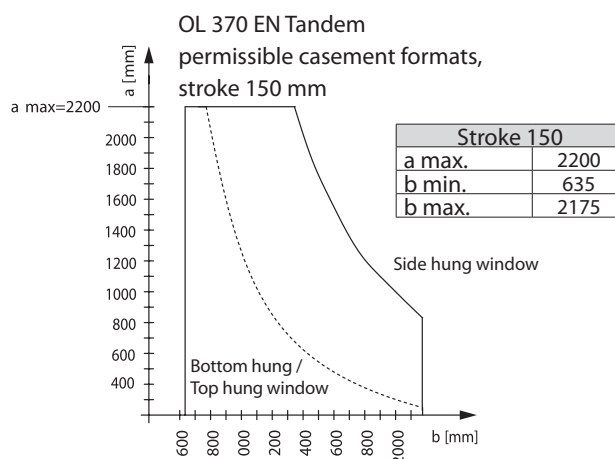
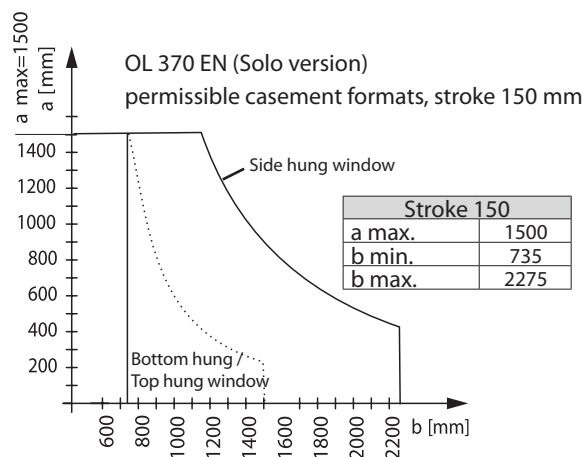
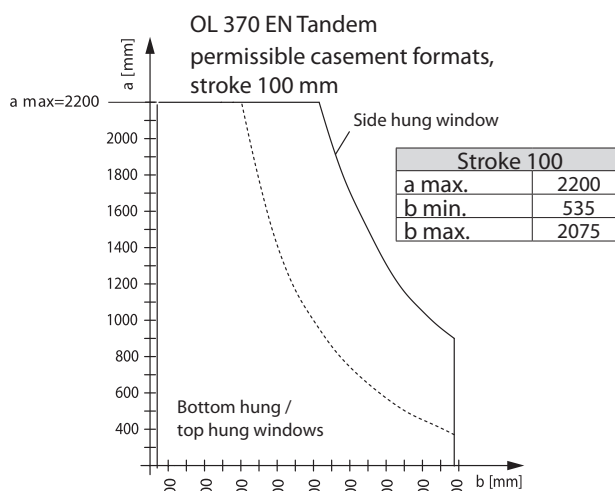
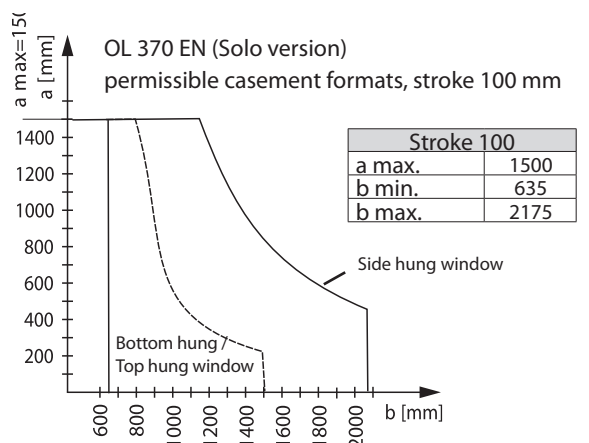
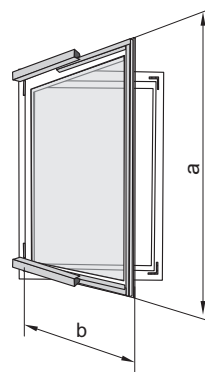
* Side hung window: b = casement width

System OL 370 EN – determination of the motor stroke

OL 370 EN Solo



OL 370 EN Tandem



GEZE electric linear drives E 212 R, E 212 R1 and E 205

Electric linear drives for use in conjunction with slimline fanlight openers

The GEZE flat fanlight openers can be electrically operated in conjunction with the E 212 and E 205 electric motors. Therefore, cost-effective and simple motorised solutions result for operating several scissor stays where several heavy windows exist. In addition, the drives are also ideally suited for the operation of louvre windows. The narrow design allows elegant adaptation to window frontages.

GEZE E 212/E 205

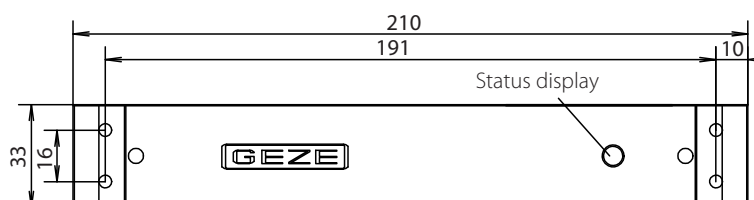


GEZE electric linear drive E 212

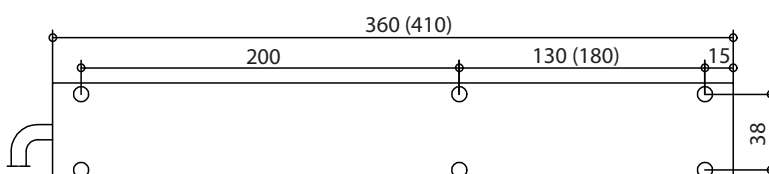


GEZE electric linear drive E 205

Dimensioned drawing E 212



Dimensioned drawing E 205



PRODUCT FEATURES

- In combination with the slimline fanlight opener OL 320, the electric linear drives can be used for ventilation
- Completely pre-assembled assembly group; simple installation on the left, right, horizontally and vertically with external, concealable screws
- Small space requirement above the casements and to the side of them
- Limit switch and drive protection (self-locking thermal latch integrated in the winding) installed and adjustable
- Adjustable spindle stroke
- The electric linear drives are also suitable for louvre windows

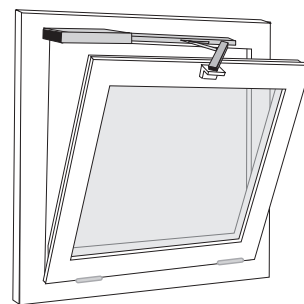
ORDER INFORMATION – GEZE ELECTRIC LINEAR DRIVES

Description	Version	Id. No.
Electric linear drive E 212 R with 2 relays for group actuation with various number of vent switches	silver	005428
	dark bronze	005429
	white RAL 9016	015435
	to RAL	006683
Electric linear drive E 212 R1 with relays for group actuation with 1 selector switch	silver	020835
	dark bronze	020836
	white RAL 9016	020839
	to RAL	020838
Electric linear drive E 205	silver	004825
	white RAL 9016	027099
	to RAL	027098
Connecting parts for E 205, rod and coupling with OL 90 N		030870
Synchronising unit for electric drives 24 V		111198
Safety scissor stay No. 60		133814
Safety scissor stay No. 35	Galvanised steel	014499
Drilling template for metal and plastic		010881

Fanlight opener system with electric linear drive E 212 or E 205

Application area – slimline fanlight opener OL 320

- Surface-mounted slimline fanlight opener for vertically installed bottom hung, top hung and horizontally pivot hung casements
- Inward-opening casements, can be used on the left and right
- Casement weights according to the application diagrams
- Locking device in the scissor stay
- Only one casement bracket for all projection sizes and materials, i.e. simple installation
- Completely pre-assembled assembly groups, therefore few fitting parts
- Small space requirement above the casements and to the side of them
- All visible parts made from lightweight metal
- Opening width approx. 300 mm with stroke 66 mm (standard), approx. 220 mm with stroke 42 mm (on request)



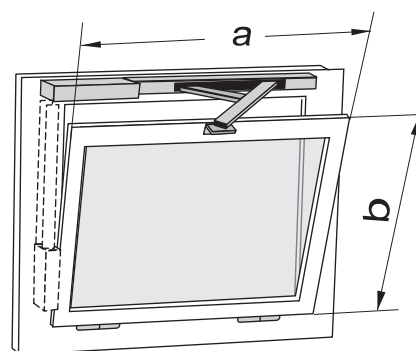
Technical data	E 212	E 205
Dimensions (height x width x length)	30 x 80 x 210 mm	52 x 70 x 360 mm
Adjustable stroke	42 – 66 mm	42 – 70 mm
Tensile and compressive force	1400 N	2000 N
Running time (under load)	approx. 35 sec for 52 mm stroke	approx. 45 sec for 70 mm stroke
Temperature range	-20° to +70° C	-20° to +70° C
Power consumption	90 W	138 W
Current consumption	0.4 A	0.6 A
Enclosure rating	IP 52	IP 54
Operating voltage	230 V DC	230 V DC
Cable / Length	Plug-in version	5 x 0.75 mm ² / 2m

Area of application

- Can be used vertically or horizontally, on the left or right of the window
- Electrically operated spindle drive suitable for dry rooms only
- Permissible casement projection height 0–25 mm



Drives can also be used for louvre windows.
Further information available on request.



Number of scissor stays required	E 212		E 205	
	Casement width a for horizontal installation	Casement width a for vertical installation	Casement width a for horizontal installation	Casement width a for vertical installation
1 scissor stay	800-1200 mm	600-1200 mm	850-1350 mm	600-1200 mm
2 scissor stays	1201-2400 mm	1201-2400 mm	1351-2400 mm	1201-2400 mm
3 scissor stays	2401-3600 mm	○	2401-3600 mm	2401-3600 mm
4 scissor stays	○	○	3600-4800 mm	○
5 scissor stays	○	○	4801-5400 mm	○
	Casement height b min. 400 mm ¹⁾	Casement height b min. 500 mm ²⁾	Casement height b min. 400 mm ¹⁾	Casement height b min. 540 mm ²⁾

○ = no

¹⁾ If the opening width is limited to 190 mm by the motor stroke, b min. = 290 mm

²⁾ If there is no bottom reveal, b min. = 400 mm

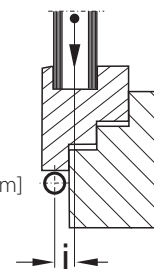
Note:

If installed on bottom hung casements, for product liability reasons, we specify the installation of separate safety scissor stays. These are an additional safety device which ensures permanent connection between the casement and frame, e.g. GEZE FPS gripping and cleaning scissor stay.

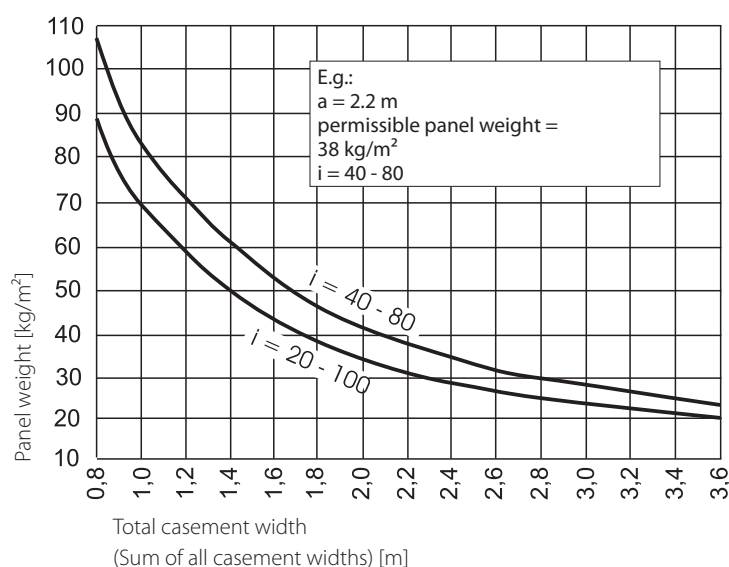
Permissible casement width and panel weight depending on the "i" dimension

(for installation with OL 320)

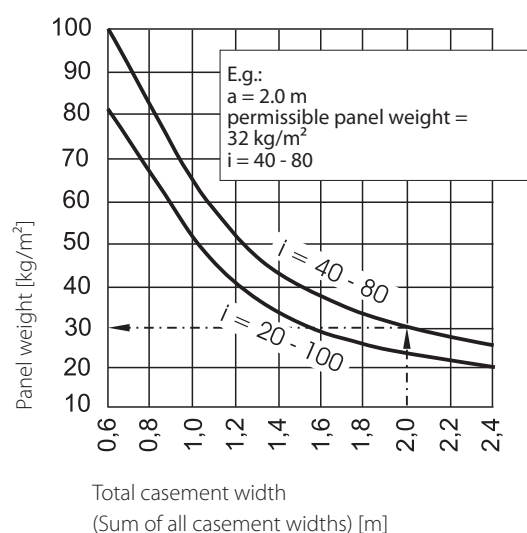
i = Distance between the casement centre of gravity and the hinge pivot point [mm]



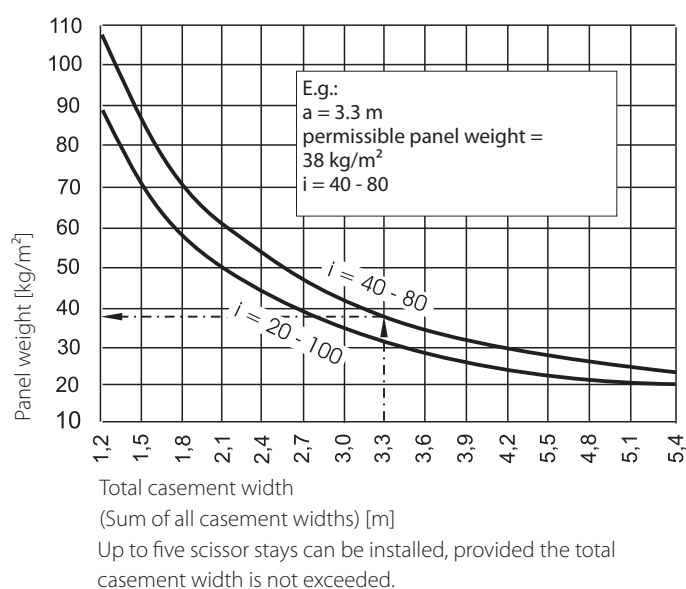
Horizontal installation - E 212



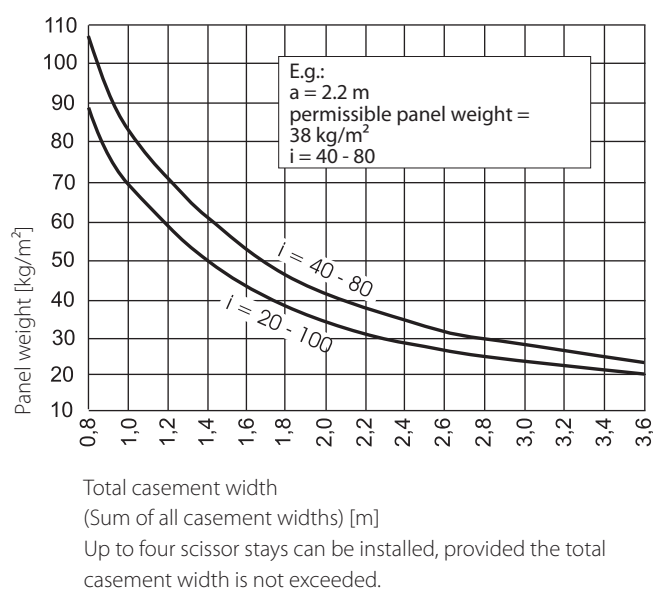
Vertical installation - E 212



Horizontal installation - E 205



Vertical installation - E 205



Identification numbers of the installation drawings and wiring diagrams

	Electric linear drive E 212	Drawing No.	Electric linear drive E 212	Drawing No.
Installation drawings	Horizontal installation	40408-EP-030	Horizontal installation	40408-EP-003
	Vertical installation	40408-EP-029	Vertical installation	40408-EP-002
Wiring diagrams			Installation on post & rail construction	40408-0-031
		45109-9-0956		45109-9-0955

GEZE scissor stay drives E 170 and E 170/2

Design solutions for optimum ventilation



The spindle drive in conjunction with slimline fanlight openers is an attractive solution for activating several windows. The flexible system can be used for daily ventilation and for safe, reliable smoke dissipation from vertically installed, inward-opening fanlights. The two-scissor stay version E107/2 also moves wide, heavy casements, conveniently and safely.

GEZE E170, E170/2



AREA OF APPLICATION

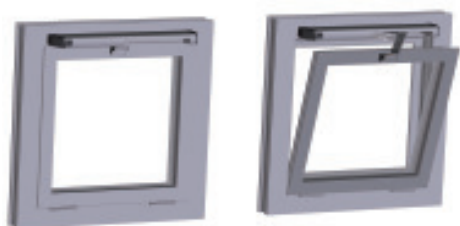
Inward-opening bottom hung, top hung, side hung, vertically pivoted and horizontally pivot hung windows

PRODUCT FEATURES

- The scissor drives E 170 and E 170/2 combine the advantages of the OL 90 N with those of the E 212 and supplement them with an even more attractive look and optimised easy installation.
 - Integration of the scissor stays in the cover profile
 - Design advantages and additional protection against dirt
 - Uniform look thanks to continuous cover
- Two scissor stay version E107/2 for wide, heavy casements
- Casement hung with locking button, safety catch in the scissor stay
- Design set for post/rail constructions: Modular system with optional, variable cover for a continuous cover profile and uniform look
- Lock set for increased protection against burglary: Modular system with optional lock module for locking on site by means of access to the central locking
- Reduced installation times thanks to completely pre-assembled units
- Easy adjustment of the casement contact pressure
- Stroke variably adjustable so that the opening width can be flexibly regulated on site

Scissor stay drives	E 170	E 170/2, length 900 mm	E 170/2, length 1600 mm
Dimensions (L x B x H):	547 x 35 x 85 mm	900 x 35 x 85 mm	1600 x 35 x 85 mm
Casement width	min. 550 mm	min. 900 mm	min. 1600 mm
	max. 1200 mm	max. 1600 mm	max. 2400 mm
Casement height	min. 300 mm	min. 300 mm	min. 300 mm
Casement weight	max. 80 kg	max. 80 kg	max. 80 kg
i dimension	10 to 60 mm	10 to 60 mm	10 to 60 mm
Projection height	0–25 mm	0–25 mm	0–25 mm
Space required at top	min. 40 mm	min. 40 mm	min. 40 mm

GEZE ELECTRICALLY OPERATED VENTILATION

Installation example GEZE scissor drive E 170

for casement width 550 - 1200 mm

Installation example GEZE scissor drive E 170/2

2-scissor stays, for casement width 900 - 1600 (1600 - 2400) mm

Technical product description**Mechanical data**

Max. opening width	170 mm
Ambient temperature	-5° C to +60° C
Enclosure rating	IP 52
End position cut-off extended	Limit switches
End position cut-off retracted	Limit switches

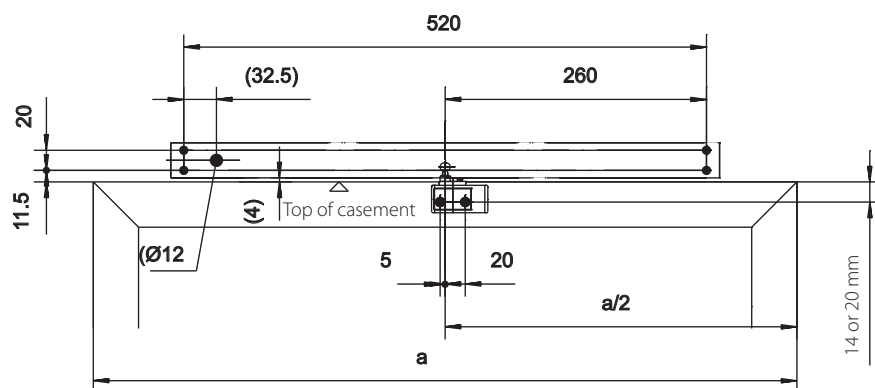
Electrical data

	230 V AC	24 V DC
Voltage	230 V (+6% / -10%)	24 V (20-30 V)
Frequency	50 / 60 Hz	---
Max. residual ripple	---	20%
Power consumption	90 W	29 W
Current consumption	0.4 A	1.2 A
Short-time operation	2.5 minutes	---
ON period	---	25%

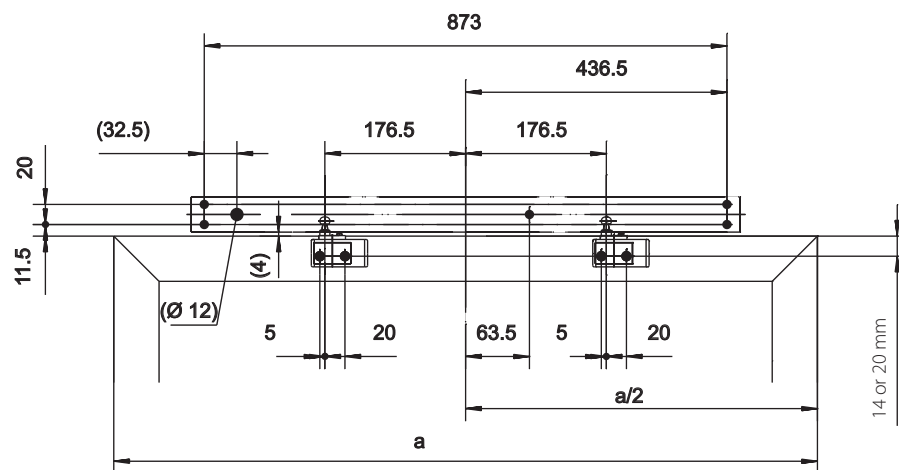
ORDER INFORMATION – GEZE SCISSOR DRIVES E 170 AND E 170/2

Description	Version	Id. No.
GEZE E 170 scissor drive 230 V incl. casement bracket	EV1	128707
	white RAL 9016	128708
	to RAL	128709
GEZE E 170 scissor drive 24 V incl. casement bracket	EV1	128711
	white RAL 9016	128712
	to RAL	128713
GEZE E 170/2 scissor drive up to 1600 mm 230 V incl. casement bracket	EV1	128714
	white RAL 9016	128715
	to RAL	128716
GEZE E 170/2 scissor drive up to 1600 mm 24 V incl. casement bracket	EV1	128717
	white RAL 9016	128718
	to RAL	128719
GEZE E 170/2 scissor drive up to 2400 mm 230 V incl. casement bracket	EV1	128720
	white RAL 9016	128721
	to RAL	128722
GEZE E 170/2 scissor drive up to 2400 mm 24 V incl. casement bracket	EV1	128723
	white RAL 9016	128724
	to RAL	128725
Locking module for scissor drive A 8.5	EV1	128932
	white RAL 9016	128933
	to RAL	128934
Locking module for scissor drive A 11.5	EV1	128935
	white RAL 9016	128936
	to RAL	128937
Locking module for scissor drive A 15.5	EV1	128938
	white RAL 9016	128939
	to RAL	128940
Variable cover (design set) for scissor drive	EV1	128922
	white RAL 9016	128923
	to RAL	128924

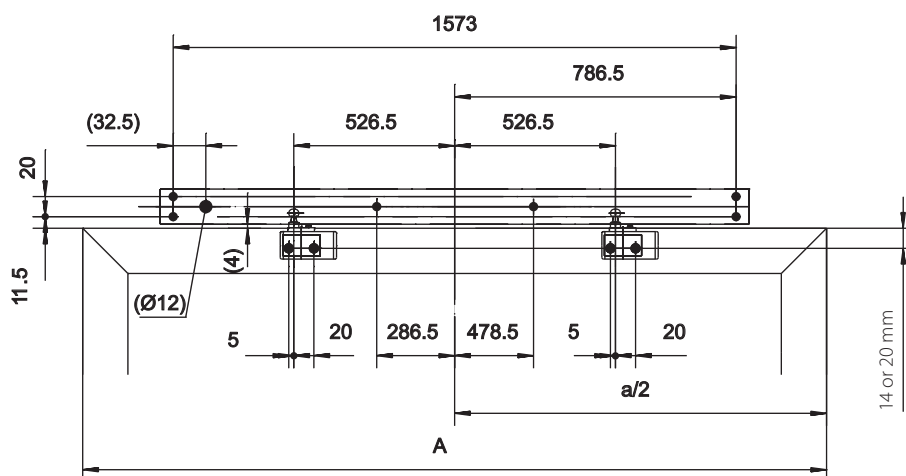
Fitting dimensions E 170



Fitting dimensions E 170/2 up to 1600 mm



Fitting dimensions E 170/2 up to 2400 mm



The lock set for GEZE scissor drives

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.

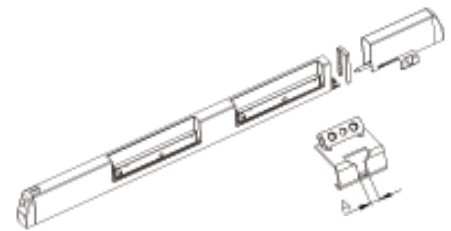
GEZE E 170 with lock set



Installation example GEZE scissor drive E 170



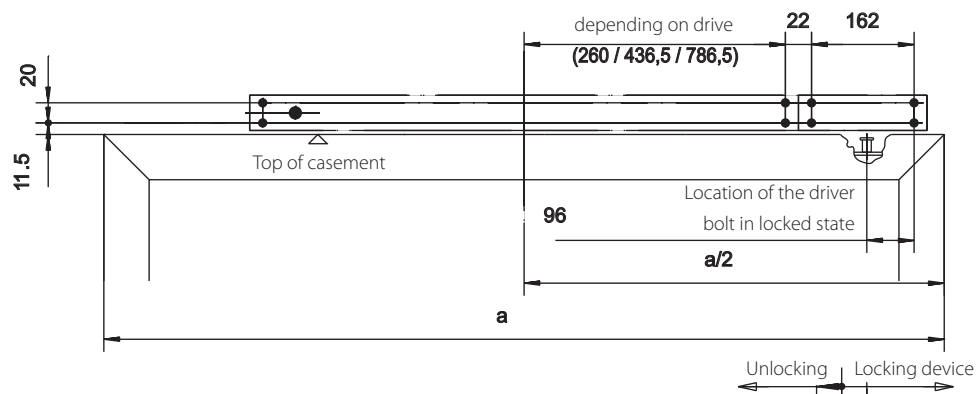
with lock module



PRODUCT FEATURES

- Modular system with optional lock module for locking on site through access to the window's central locking
- If necessary, protection against burglary can be increased by using the modules
- Three modules for use with all kinds of different central locking devices
- If using the lock module, an additional space at the side is required of at least 185 mm.
- For use on windows with existing locking mechanism only (central locking). Please note the position and diameter (dimension A) of the driver bolt

Fitting dimensions E 170 with lock set



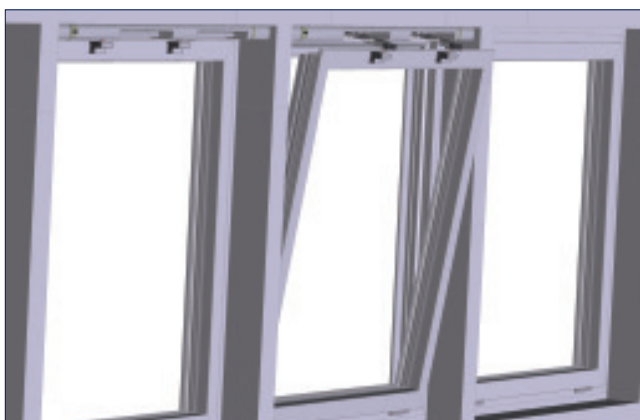
The design set for GEZE scissor drives

The optional design set for post & rail constructions contains cover joints which can be individually cut to size. They enable individually tailored and painted solutions and with their continuous look they create a uniform appearance.

GEZE E 170 with design set



Installation example GEZE scissor drive E 170/2

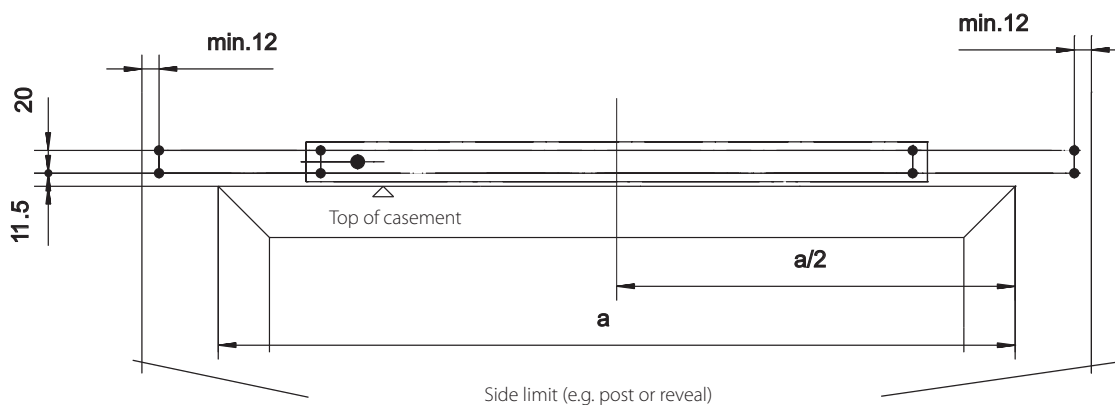


with variable cover (design set)

PRODUCT FEATURES

- Modular system with optional variable cover, especially for post & rail constructions
- Dimensions (L x B x H) 1000 x 35 x 85 mm
- Continuous cover profile, left/right
- Thanks to the cover joints, a uniform appearance can be achieved even in a post & rail construction
- Individual lengthening of standard drives

Fitting dimensions E 170 with design set



Accessories for GEZE electrical ventilation systems

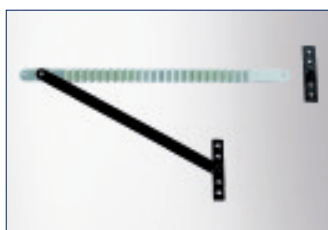


GEZE safety scissor stay No. 35

GEZE safety scissor stay 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 casement and frame, e.g. GEZE safety scissor stay No. 35.

Description	Id. No.
GEZE safety scissor stay No. 35	014499



GEZE safety scissor stay No. 60

GEZE safety scissor stay No. 60

Safety scissor stay as protection against falling for vertically installed bottom hung windows made from aluminium, PVC or wood.

Note:

- Two scissor stays must always be installed!
- The relevant baseplates must be used to ensure secure fixing.
- For details of the permissible casement weights (max. 250 kg) and fitting dimensions, please refer to installation instructions No. 134433 and installation drawing 41314-EP-001

Description	Id. No.
GEZE safety scissor stay No. 60	133814



GEZE gripping and cleaning scissor stay FPS

GEZE gripping and cleaning scissor stay FPS

For bottom hung casements, safeguards must be provided in addition to the fanlight opener, which limit the tilting movement of the casement after unhooking it from the opening scissor stay (grip position), so that the casements do not become a source of danger during cleaning. GEZE FPS is the "intelligent" gripping and cleaning scissor stay for vertically installed bottom hung rectangular windows.

Description		Id. No.
GEZE gripping and cleaning scissor stay	FPS 340 Size 1	030249
	FPS 520 Size 2	030250
	FPS 720 Size 3	030251



Synchronising unit E 212 R1 and E 350 N

GEZE synchronising unit 230 V

This synchronising unit is for GEZE electrical linear drives E 212 R1 and electrically operated spindle drive E 350 N only

Description	Id. No.
Synchronising unit E 212 R1, E 350 N, E 170	026762



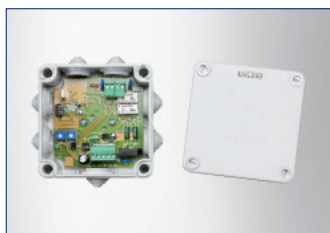
Synchronising unit 230 V

GEZE synchronising unit 230 V

This synchronising unit is suitable for all GEZE electrically operated spindle and chain drives with 230 V.

Description	Id. No.
Synchronising unit 230 V	054371

Accessories for GEZE electrical ventilation systems



Synchronised cut-off E 102

GEZE synchronised cut-off E 102

The tandem switch is used for the simultaneous switching of two electrically operated spindle drives 24 V DC mounted on one window element. Adjustable run-on time ensures that running time differences between the two drives in the end position can be compensated to give equal contact pressure on the casement.

- Supply voltage 24 V DC, min. 16 V DC, max. 40 V DC, residual ripple max. 25%
- Connectable motors two 24 V DC drives with integrated load cut-off
- Motor current per motor max. 2.2 A
- Time delay can be set between 0 to 10 sec., default setting approx. 0 sec.
- Opening time limit can be set between 5 and 60 sec., default setting approx. 5 sec.
- Connection cross-section max. 2.5 mm²
- Enclosure rating IP 54
- Dimensions (H x B x D) 113 x 113 x 58 mm

Description	Id. No.
Synchronised cut-off E 102	101323



Tandem power supply E 48

GEZE tandem power supply E 48

Tandem power supply with 24 V output voltage

The polarity of the 24 V output voltage is switched on the 230 V side.

- Supply voltage 230 V AC, 50 Hz
- Current consumption 0.4 A
- Output current max. 2 A
- Connection cross-section max. 1.5 mm²
- Dimensions (H x B x D) 113 x 113 x 58 mm

Description	Id. No.
Tandem power supply	087776

Accessories for GEZE electrical ventilation systems



Vent switch LTA-230

GEZE AS 500 vent switch LTA-230

- 230 V
- Triple switch
- With "Open-Stop-Closed" function keys
- Flush mounting

Description	Id. No.
AS 500 vent switch LTA-230	118474
Self-locking module	029393



Vent switch LTA-230-SCT

GEZE AS 500 vent switch LTA-230-SCT

- 230 V
- Triple switch
- With "Open-Stop-Closed" function keys
- Combined with key-operated switch
- Double frame
- Flush mounting

Description	Id. No.
AS 500 vent switch LTA-230-SCT	118475
Self-locking module	029393



Vent switch LTA-LSA

GEZE AS 500 vent switch LTA-LSA

- 230 V
- Triple switch
- With "Open-Closed" function keys
- With optional switch or latching function
- Flush mounting

Description	Id. No.
AS 500 vent switch LTA-LSA	118476

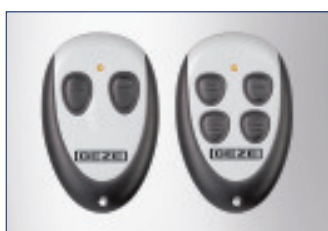


Vent switch LTA-24-AZ

GEZE AS500 vent switch LTA-24-AZ

- 24 V
- With "Open-Closed" function keys and opposite stop button
- Battery life cycle approx. 50,000 operations
- Flush mounting

Description	Id. No.
AS500 vent switch LTA-24-AZ	129393



Hand-held radio transmitter WTH-2

GEZE hand-held radio transmitter WTH

- Optionally with 2 or 4 channels
- With wall bracket
- Battery life cycle approx. 10,000 operations
- IP 54 enclosure rating

Description	Id. No.
Hand-held radio transmitter WTH-2	131210
Hand-held radio transmitter WTH-4	131211

Accessories for GEZE electrical ventilation systems



Wireless Receiver Module WRM

GEZE Wireless Receiver Module WRM

- 230 V
- Dead-man's or self-locking mode can be set
- Up to 85 radio vent switches or hand-held radio transmitters can be taught
- 2 relay contact outputs 5 A
- IP 54 surface-mounted version for protected outdoor areas

Description	Id. No.
Radio receiver module WRM-230	131215
Radio receiver module WRM-230B in IP 54 housing	131216



Information labels

GEZE information labels

- Dimensions (H x B) 52 x 148 mm

Description	Id. No.
Ventilation information label	025647
Smoke extraction information label	005158



Room thermostat E70

GEZE Room thermostat E70

The E70 room thermostat is used for control in interior rooms.

The temperature switching point can be individually set between 5 °C and 30 °C.

Description	Id. No.
Room temperature regulator E70	079087



Timer

Timer

If a timer is connected, windows are opened or closed at preselectable times. Optionally, a timer can be connected to each vent switch line, whereby these must be set to pulse signal, not continuous signal. The timer and vent switches are equal ranked control elements, i.e. the RWA emergency power supply unit takes into account the last signal.

Description	Id. No.
Timer	058158

Accessories for GEZE electrical ventilation systems



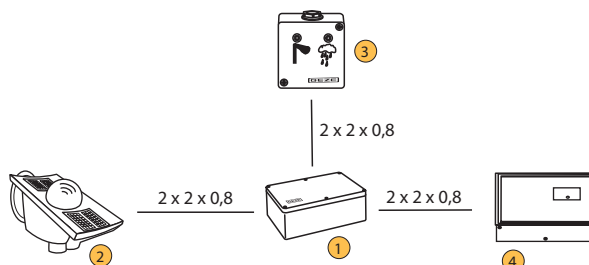
Control unit with evaluation electronics, weather station



Visual display unit

GEZE rain-wind control

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.

**Components**

- | | |
|---|---|
| ① | Control unit with evaluation electronics |
| ② | Weather station |
| ③ | Visual display unit |
| ④ | Transfer to the emergency power control unit with potential-free switch contact |

Control unit with evaluation electronics

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

Weather station

The weather station unit contains the rain, wind and temperature sensors. The wind is measured electrically by means of a heated ceramic wire; this removes the need for the usual mechanical measurement using wind 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 "CLOSED". However, 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 1-15 m/s.

Description	Id. No.
Rain-wind control (weather station plus evaluation electronics)	091529
Visual display for optical signals in case of rain and wind activity	029238

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