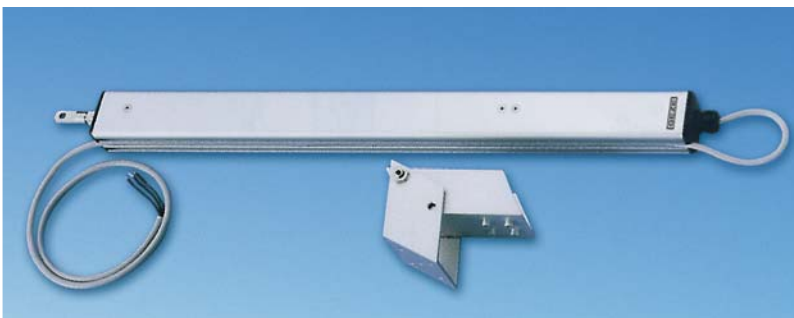


Drives, central control stations and actuation elements for smoke and heat extraction systems

GEZE RWA systems



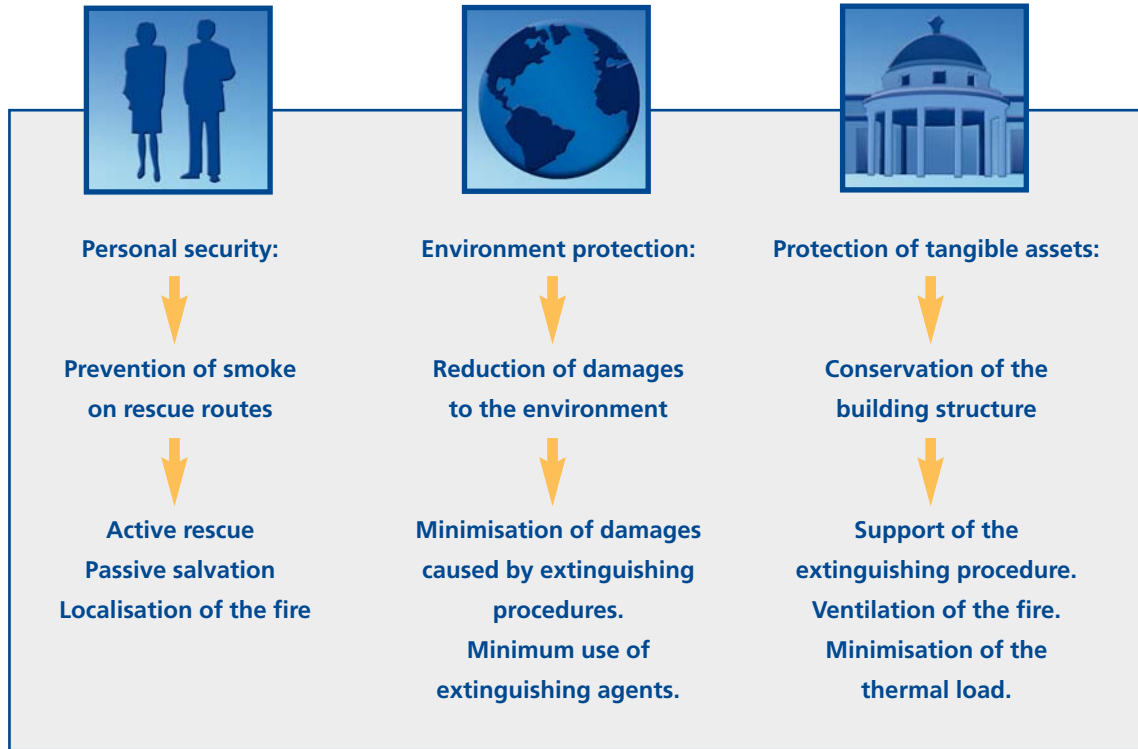
Page	Contents
3	RWA targets, scope of applications
4	Elements and design by the example GEZE RWA 100 E
5	System construction and functional description of GEZE RWA systems
6	GEZE emergency power supply units E 260 N
9	GEZE RWA opening and locking systems
10	RWA 100 E and RWA 100 E Tandem for bottom-hung, top-hung and side-hung inward-opening windows
13	RWA 105 E and RWA 100 E Tandem for inward-opening side-hung windows, in post-rail structures
17	RWA 110 E and RWA 110 E Tandem for bottom-hung, top-hung and side-hung outward-opening windows
20	GEZE electrically operated spindle drives E 250 and E 250 AB
24	GEZE chain drives E 600 – E 680
27	Mechanical locking bracket for GEZE chain drives
28	GEZE electric motors E 212 and E 205 for RWA systems in connection with GEZE fanlight opening system OL 100
30	GEZE RWA accessories for 24 V DC systems RWA switch FT4 / 24 V DC-Vds Smoke detector type 138 / 24 V DC-Vds Heat difference detector type 258 / 24 V DC-Vds Vent switch E 50/... Synchronised cut-off E 102 / 24 V DC Room temperature control E 70 GEZE rain/wind control
32	GEZE RWA special versions RWA-EL TÖ "OPEN" for doors RWA – with swing operator GEZE TSA 160 Invers RWA-EM – electromagnetic RWA-CO ₂ "OPEN"

For detailed technical description please refer to the GEZE RWA system documents Id. no 102297.



Targets of smoke and heat extraction

Since fire within buildings cannot be prevented in general the smoke and heat extraction has a central meaning for preventive fire protection.



The targets reached through smoke and heat extraction systems.

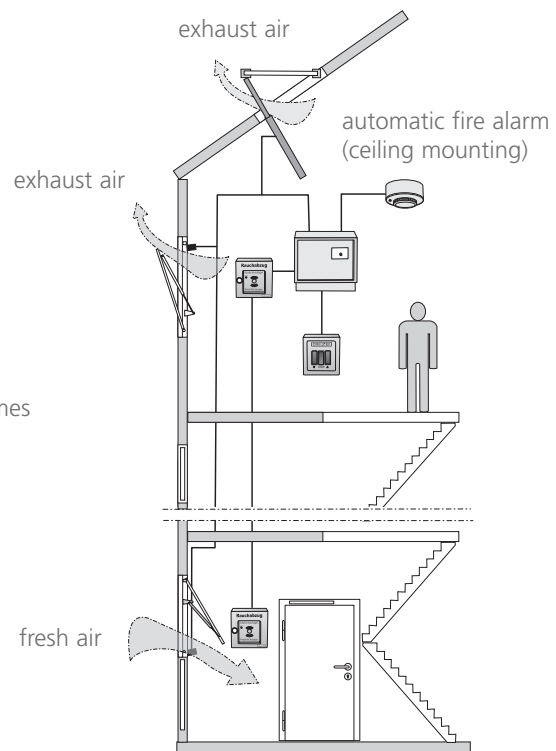
Scope of applications

Designed for the use in:

- ▶ hospitals
- ▶ office and industrial buildings
- ▶ shopping malls
- ▶ warehouses
- ▶ business locations
- ▶ public buildings
- ▶ assembly halls
- ▶ banks
- ▶ hotels and restaurants
- ▶ administration buildings
- ▶ homes for the handicapped and retirement homes
- ▶ airports and railway stations
- ▶ car dealers

and in general:

- ▶ in rescue and escape routes (staircases and corridors)



systematic scheme of a RWA system



Elements and design by the example GEZE RWA 100 E

Example: GEZE RWA 100 E



- ① Opening and locking system RWA 100 E
- ② Motor / electrically operated spindle drive E 250 (stroke) -...
- ③ Emergency power supply unit E 260 N - VdS
- ④ Smoke detector RM 1003 / 24 V DC
- ⑤ Heat difference detector WM 1005 / 24 V DC
- ⑥ RWA switch FT 4 / 24 V DC-VdS
- ⑦ Vent switch E 50/...
- ⑧ GEZE rain-wind control / weather station

GEZE RWA systems

System construction - functional description

The control system of the electrically operated GEZE RWA in general consists of the components as shown in the system illustration.

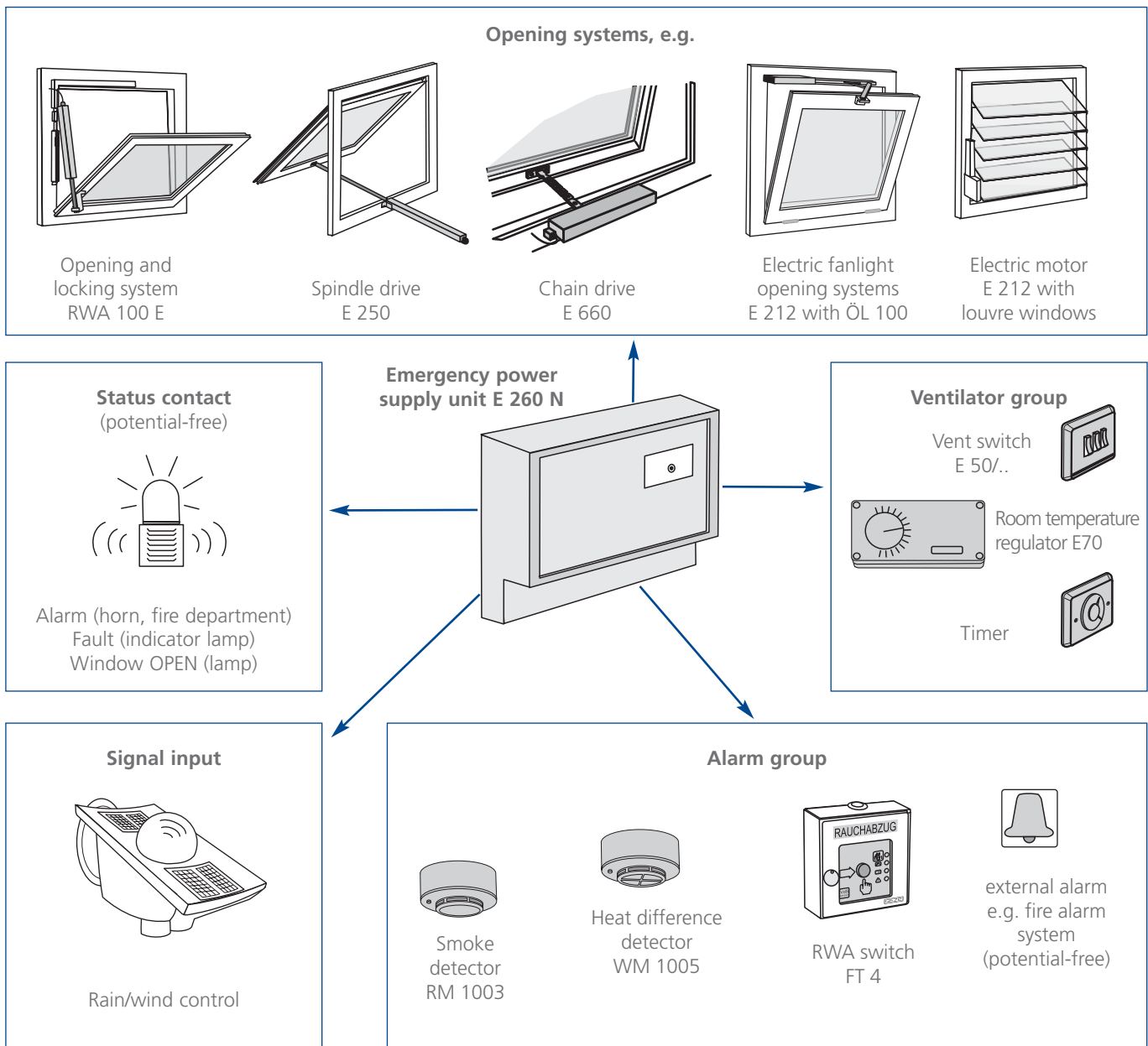
The system covers two big tasks:
the emergency case and daily ventilation.

The control for the smoke and heat extraction is made by the emergency power supply unit.

The windows, smoke flaps and light domes are opened and closed via electric drives.

For ventilation purposes, the control is made via vent switch, rain/wind control or timer and in an emergency manually via RWA switch or automatically via smoke and heat detectors.

Optional alarm signals can be connected in addition.



GEZE RWA systems

GEZE RWA systems consisting of at least:

- ▶ one opening system
- ▶ one emergency power supply unit E 260 N
- ▶ two RWA switches
- ▶ further components as an option, however, smoke and heat detectors are urgently recommended

If the system is to be used for ventilation purposes, too, further components such as vent switches are required.

In an emergency the windows open to their full opening angle. In this case the vent switches are out of order. The windows are closed via the reset pushbutton integrated in the RWA switch or via an alarm reset in the central master station.

The control of these different functions is made by the RWA master station E 260 N which also supplies the current and bridges power failures.

GEZE emergency power supply units E 260 N

Product features

- ▶ mains voltage 230 V AC 50 Hz
- ▶ output voltage 24 V DC, residual ripple < 20% max. 30 V
- ▶ integrated emergency power supply for at least 72 h
- ▶ all functions even in the case of power failure
- ▶ battery control (break, low voltage, fault)
- ▶ individual fuses for each motor group
- ▶ line control
- ▶ LED indication for operating and fault indication
- ▶ enclosure ratings IP 54
- ▶ ambient temperature +5° C to + 40° C


Connecting possibilities as shown in the schematic overview.

Housing

- ▶ E 260 N2/1 surface mounted: plastic housing
- ▶ E 260 N2/1 flush mounted: plastic housing incl. door, optional: door lockable
- ▶ E 260 N 12/2: plastic housing
- ▶ E 260 N 32/2 - 32/8: steel cabinet, lockable

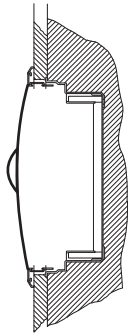
For further information on the emergency power supply units please refer to the technical data on the following page or the mounting and operating instructions.

E 260 N2/1 UP


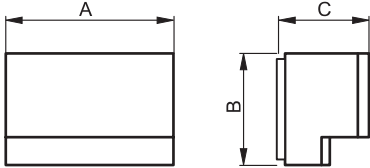


Outer dimensions of the trough		
height	width	depth
305	293	84,5

Recess dimensions Flush mounted distributor		
height	width	depth
320	320	84,5


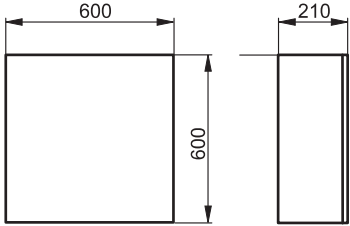


E 260 N2/... - N12/...

	A	B	C
E 260 N2/...	256	217	112
E 260 N4/...	295	261	112
E 260 N8/...	362	318	130
E 260 N12/...	362	318	130

E 260 N32/2 - N32/8

Technical data – emergency power supply systems E 260 N

	E260 N2/...	E260 N4/...	E260 N8/...	E260 N12/...	E260 N32/...
Dimensions in mm (width x height x depth)	256x217x112	295x261x112	362x318x130	600x600x210	600x600x210
Max. number ventilator groups/switches E50/...	1	1-2	1-4	1-2	1-8
Max. output current	2,0A	4,0A	7,5A	12A	32A
Max. RWA switches FT4	4 pcs. in line	10 pcs. in line	10 pcs. in line	10 pcs. in line	15 pcs. in line
Max. smoke detectors RM 1003 Heat difference detectors WM 1005	10 pcs.			20 pcs.	
Max. vent switches	3 pcs. with LED per group / in any amount without LED				
Max. wire size control line motor line	4 x 2 x 0,8 max. 2,5 mm ² max. 4,0 mm ²				
Available signal inputs	rain/wind control – external fire alarm system (potential-free)				
Potential-free status contact	3 contacts: - alarm (horn) - fault (indicating lamp)			3 contacts: - alarm (horn) - fault (indicating lamp)	
Optional retrofitting	- window OPEN (additional circuit board)			- second alarm group (15 RWA switches / 20 smoke detectors) - system connection (up to 10 systems) - window OPEN (additional circuit board)	

For systems with several ventilator groups the number of drives is additionally limited because of the maximum output current of x A per ventilator group.

Explanation:



GEZE Emergency power supply units – order information

Designation	MO/GR	A	Id.no.
Emergency power supply unit E 260 N2/1 – VdS			
fluch mounted plastic housing grey	2/1	2.0	100613
surface mounted plastic housing grey	2/1	2.0	100612
Emergency power supply unit E 260 N4/1 - N8/4 – VdS			
surface mounted plastic housing grey	4/1	4.0	100614
	4/2	4.0	100615
	8/1	7.5	100616
	8/2	7.5	100617
	8/3	7.5	100618
	8/4	7.5	100619
Additional circuit board 260 N2-N8 Status contact "window OPEN", "alarm", "fault"			078111
Emergency power supply E 260 N12/2 – VdS	12/2	4.0	100614
Emergency power supply E 260 N32/2 - N32/8 – VdS			
	32/2	7.5	119629
	32/4	7.5	119630
	32/6	7.5	119631
	32/8	7.5	119632
Circuit board for E 260 N32, for secondary alarm group			110308
Connection systems E 260 N32			110309

MO = benchmark on how many motors E 250 can be connected as a total

GR = information on how many ventilator groups can be controlled as a total



GEZE RWA opening and locking systems

The GEZE RWA opening and locking systems consist of the systems RWA 100 E, RWA 105 E and RWA 110 E.

General product features

- ▶ for aluminium, timber and plastic windows
- ▶ large opening width
- ▶ safe mechanical locking
(for very high and wide windows it is possible to install several locking devices)
- ▶ fitting closely to the profile – the motor is mounted directly on the casement and does not jut into the room
- ▶ low operating noise
- ▶ control via emergency power supply unit E 260 N
- ▶ **all systems are equipped with an electric spindle drive GEZE E 250 / 24 V DC-Vds**
(for technical data see page 20)

Main field of application

▶ GEZE RWA 100 E

bottom-hung, top-hung and side-hung inward-opening windows



bottom-hung,
inward-opening



top-hung,
inward-opening



side-hung,
inward-opening



▶ GEZE RWA 105 E

post-rail structures and side-hung windows, inward-opening; even for applications with limited space



side-hung,
inward-opening



▶ GEZE RWA 110 E

bottom-hung, top-hung and side-hung outward-opening windows



bottom-hung,
outward-opening



top-hung,
outward-opening



side-hung,
outward-opening

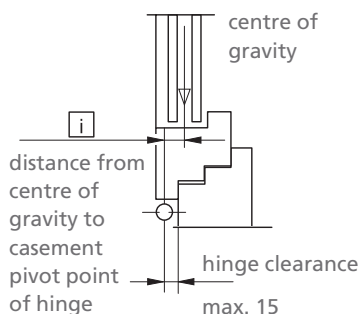


GEZE RWA 100 E and 100 E Tandem

For bottom-hung, top-hung and side-hung, inward-opening windows



GEZE RWA 100 E / 24 V DC



- ▶ motor fitting closely to the profile, available with 4 different strokes

Range of application *)

- ▶ for inward-opening bottom-hung, top-hung and side-hung windows
- ▶ for aluminium, plastic and timber-framed windows
- ▶ width of casement: 360 – 1200 mm (for plastic casements max. 800 mm)
- ▶ height of casement: 470 – 1700 mm

For extremely wide casements it is possible to use the drive in tandem configuration with 2 motors and special synchronised cut-off E 102.

Installation

- ▶ space requirement on the locking side = min. 32 mm
- ▶ space requirement on the motor side = min. 48 mm
- ▶ hinge clearance max. 70 mm
- ▶ hinge distance max. 15 mm
- ▶ from 1.2 m² window surface: 2 additional locking devices
- ▶ motor can be mounted on either left or right side

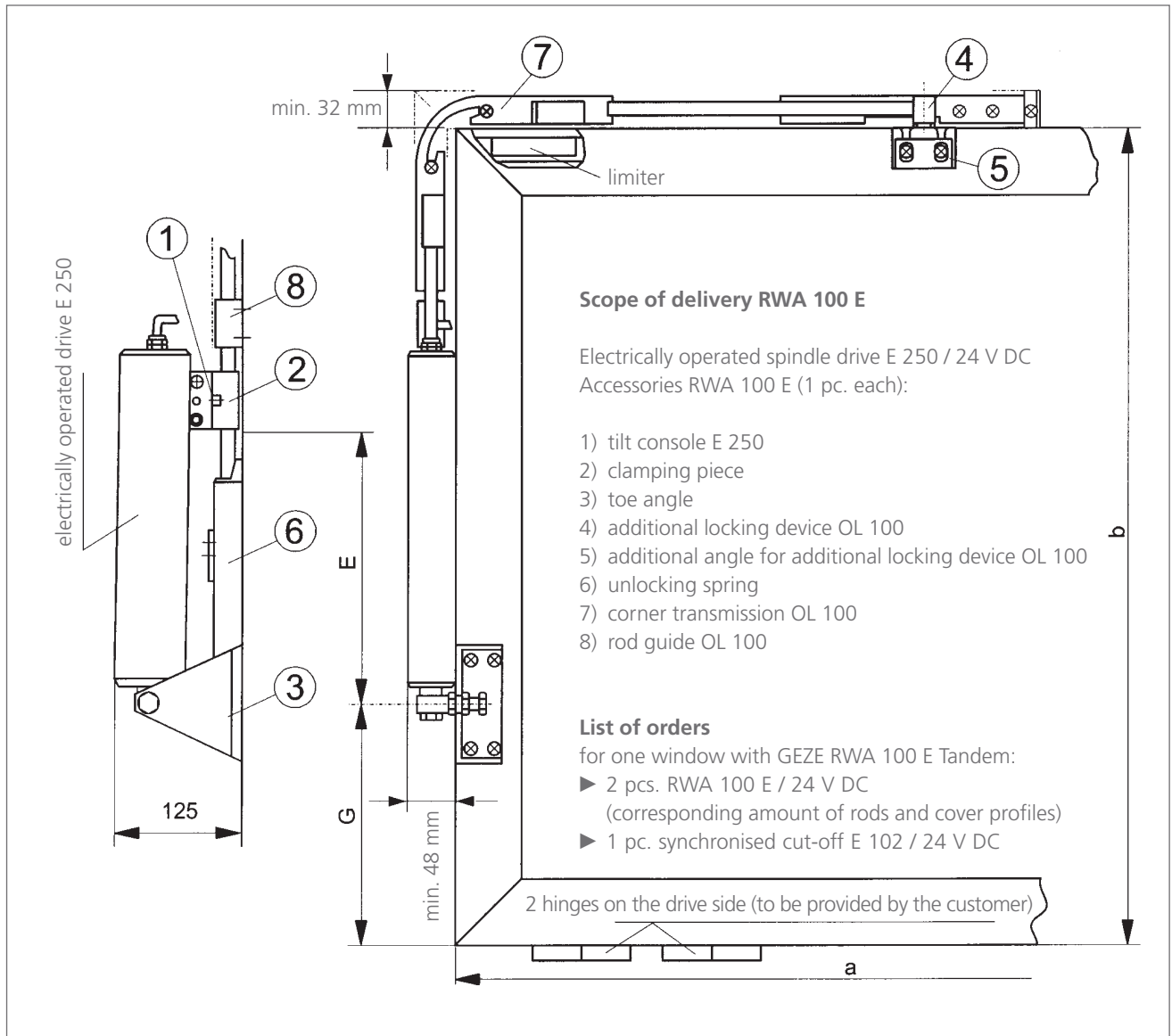
Installation drawing: 41521-9-0995-1

Range of application – determination of motor stroke

RWA 100 E and RWA 100 E Tandem										Stroke	
	Dimensions in (mm)										
Height of casement (b)	950-1000	1000-1050	1050-1100	1100-1150	1150-1250	1250-1320	1320-1400	1400-1500	1500-1600	1600-1700	300
Opening angle (°)	ca. 52	ca. 48	ca. 48	ca. 44	ca. 40	ca. 38	ca. 35	ca. 32	ca. 29	ca. 27	
Opening width	ca. 860	ca. 820	ca. 860	ca. 840	ca. 830	ca. 850	ca. 820	ca. 800	ca. 780	ca. 750	
Height of casement (b)	700-800		800-900	900-1000	1000-1100	1100-1200	1200-1300				200
Opening angle (°)	ca. 50		ca. 44	ca. 40	ca. 33	ca. 28	ca. 25				
Opening width	ca. 640		ca. 640	ca. 650	ca. 600	ca. 570	ca. 540				
Height of casement (b)	560-630		630-700	700-800	800-900	900-1000					150
Opening angle (°)	ca. 51		ca. 46	ca. 37	ca. 35	ca. 27					
Opening width	ca. 520		ca. 520	ca. 490	ca. 490	ca. 450					
Height of casement (b)	470-520		520-600	600-700	700-800	800-850					100
Opening angle (°)	ca. 36		ca. 36	ca. 34	ca. 30	ca. 28					
Opening width	ca. 320		ca. 350	ca. 380	ca. 380	ca. 400					

*) The values stated for the opening angle and the opening width are for your information and may vary depending on the type of installation and the mounting dimensions G, the ratio of width/height of casement and the casement weight.

GEZE RWA 100 E system design



For mounting dimensions G and E see enclosed mounting instructions GEZE RWA 100 E.

GEZE RWA 100 E – order information

Designation	Finish	Id.no.
GEZE RWA 100 E , stroke 300 mm	silver	021291
	white RAL 9016	021296
	RAL colour	021295
GEZE RWA 100 E , stroke 200 mm	silver	019724
	white RAL 9016	019743
	RAL colour	019740
GEZE RWA 100 E , stroke 150 mm	silver	019725
	white RAL 9016	019744
	RAL colour	019741
GEZE RWA 100 E , stroke 100 mm	silver	019726
	white RAL 9016	019745
	RAL colour	019742
Rod \varnothing 12, L = 2000 mm	galvanised	053198
Rod \varnothing 12, L = 3000 mm	galvanised	053199
Rod \varnothing 12, L = 6000 mm	galvanised	054116
Cover profile (mitred on both sides), L = 2000 mm	silver	058771
	white RAL 9016	018293
	RAL colour	014258
Cover profile (mitred on both sides), L = 3000 mm	silver	058774
	white RAL 9016	018294
	RAL colour	014259
Cover profile, L = 6000 mm	silver	058630
	white RAL 9016	018251
	RAL colour	013814
Synchronising unit 12/24 V		002754
Drilling pattern		014740
Corner transmission OL 100		058648
Additional locking device OL 100	silver	063974
	white RAL 9016	018257
	RAL colour	013080
Additional angle for additional locking device OL 100	silver	050727
	white RAL 9016	015519
	RAL colour	013077
Synchronised cut-off E 102 / 24 V DC		101323



GEZE RWA 105 E / 105 E Tandem

For inward-opening side-hung windows, in post-rail constructions



GEZE RWA 105 E / 24 V DC

- ▶ Additional double mechanical locking device
- ▶ Motor with 3 different stroke lengths
- ▶ Low space requirements (min. 18 mm)

Scope of application *)

- ▶ for vertically installed, inward-opening side-hung, bottom-hung and top-hung windows
- ▶ main field of application:
side-hung windows in post-rail structures
- ▶ for aluminium, plastic and timber-framed windows

For extremely wide casements it is possible to use the drive in tandem configuration with two motors and special synchronised cut-off E 102.

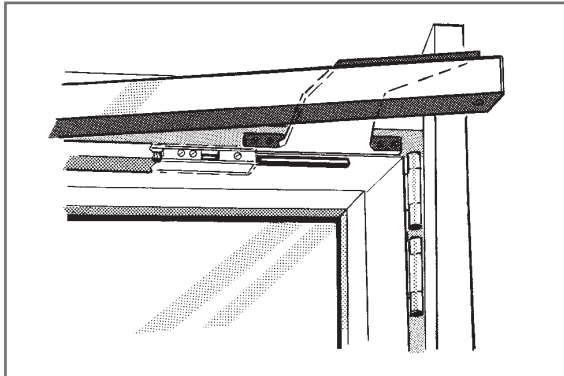
Installation

- ▶ overlap height 0 – 25 mm
- ▶ space requirements on the casement = min. 38 mm
- ▶ max. post or rail height = 125 mm
- ▶ space requirements on the wall frame = min. 18 mm
- ▶ i-dimensions max. 70 mm
- ▶ max. panel weight 30 kg/m²

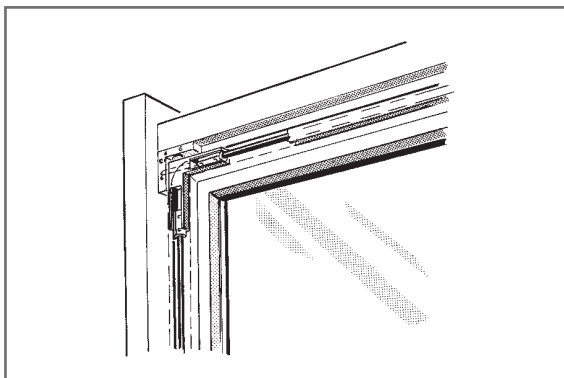
Installation drawing:

41523-9-0970-1 (RWA 105 E)

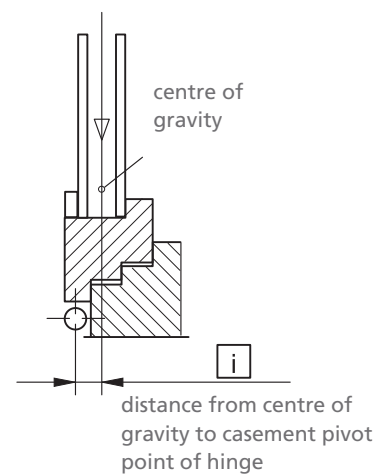
41523-9-0971-1 (RWA 105 E Tandem)



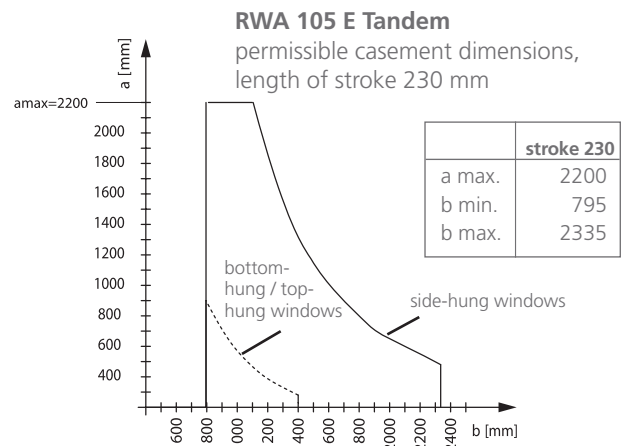
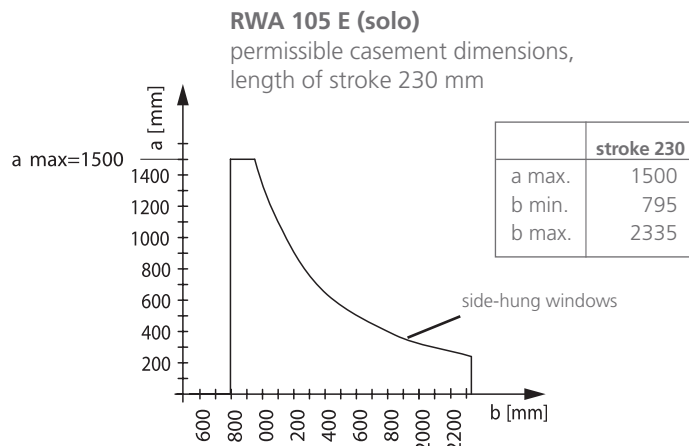
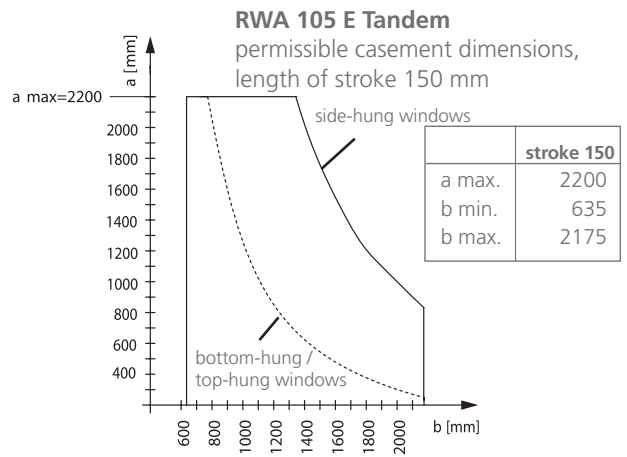
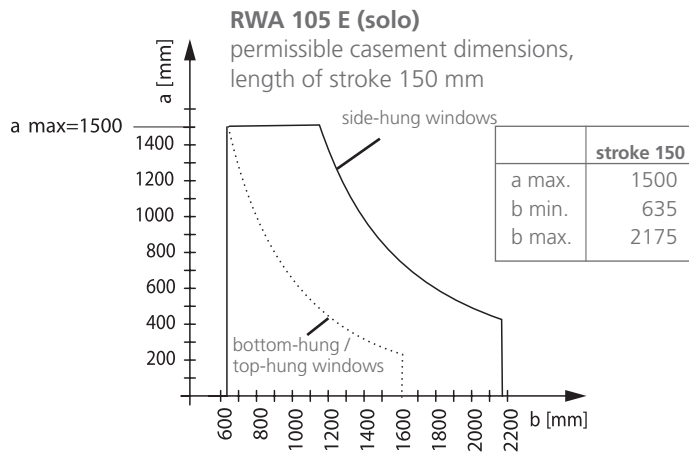
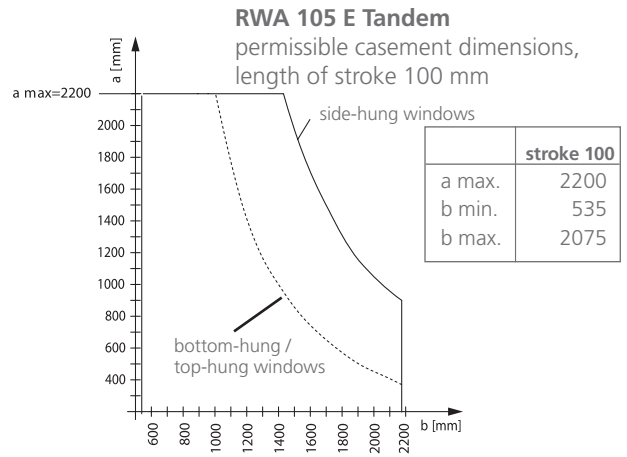
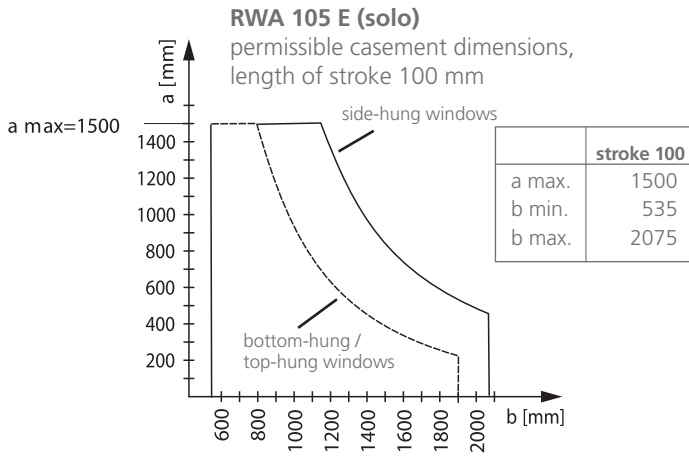
actuation of the drive at the frame
(cover at the casement partly open)



locking device (cover at the casement partly open)

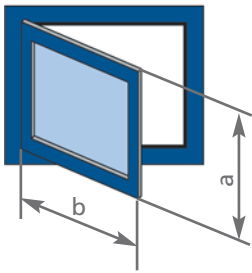


Scope of application – determination of the motor stroke

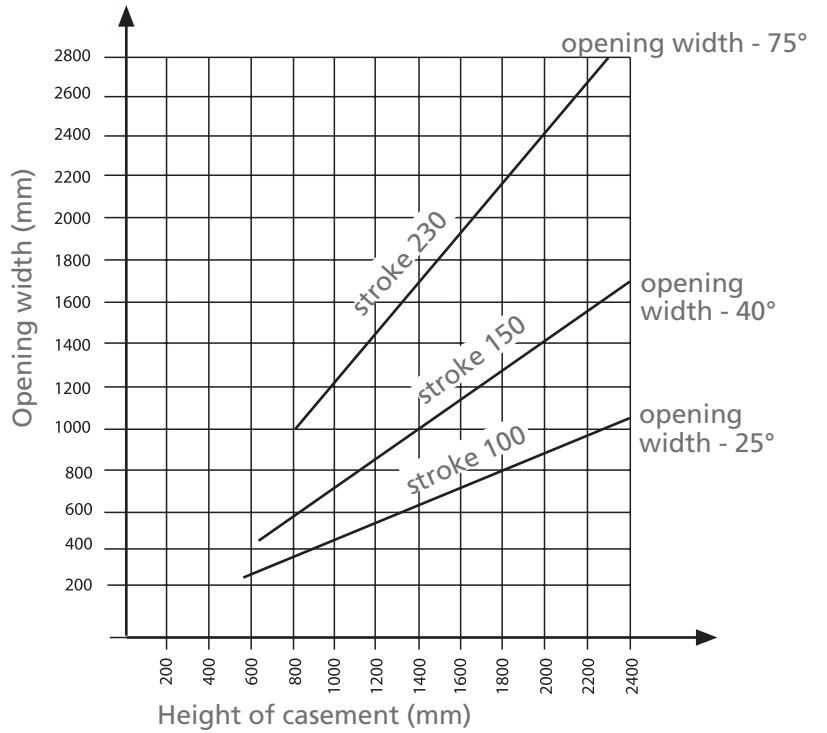
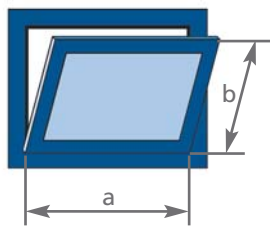


Determination of the opening width

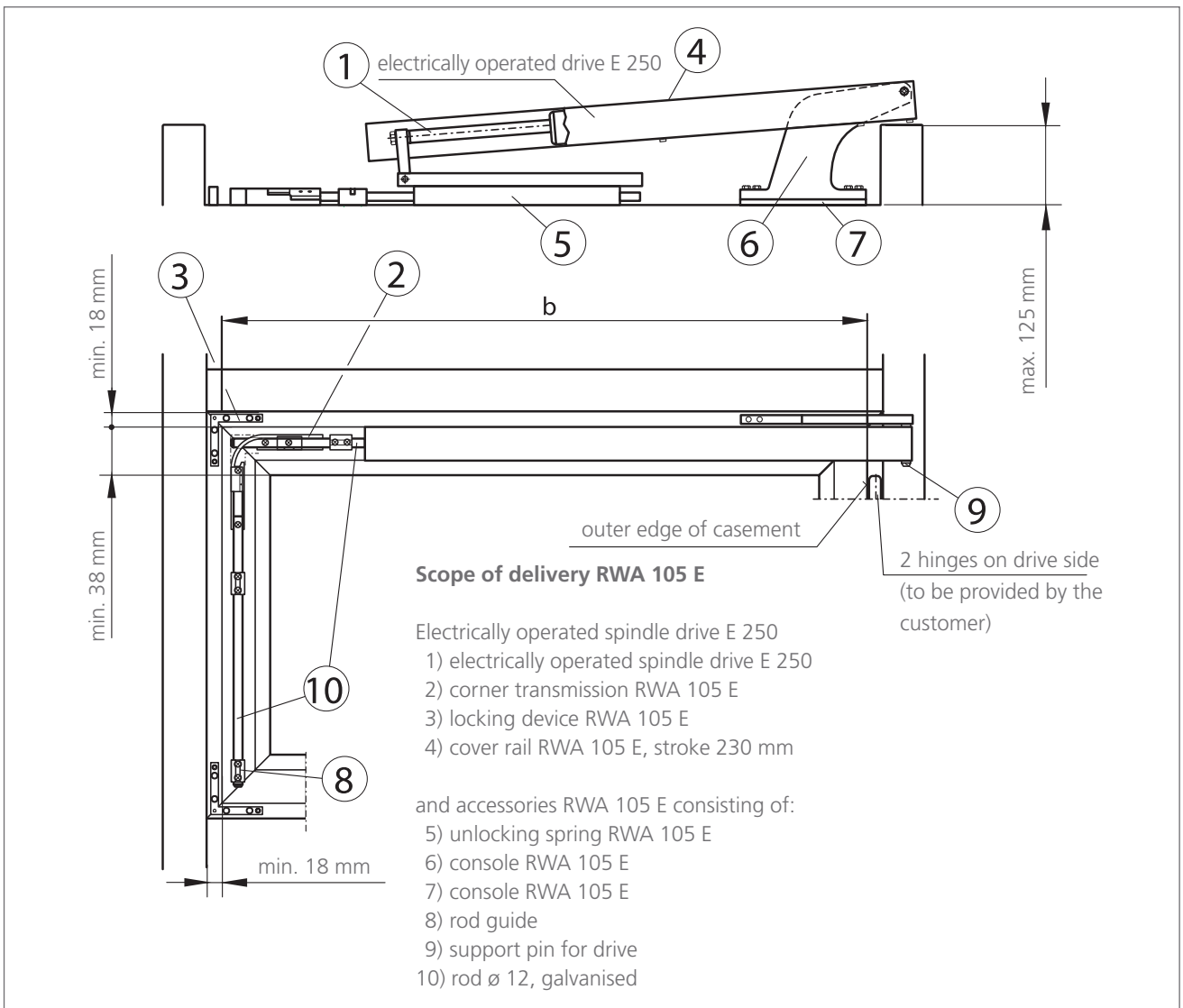
side-hung windows



bottom-hung / top-hung windows



GEZE RWA 105 E – system design



GEZE RWA 105 E – order information

Designation	Finish	Id.no.
GEZE RWA 105 E , stroke 100 mm	silver	072657
	white RAL 9016	072661
	RAL colour	072660
GEZE RWA 105 E , stroke 150 mm	silver	073094
	white RAL 9016	073098
	RAL colour	073097
GEZE RWA 105 E , stroke 230 mm	silver	072652
	white RAL 9016	072655
	RAL colour	072656
Rods and cover profiles		
Rod ø12, L = 2000 mm	galvanised	053198
Rod ø12, L = 3000 mm	galvanised	053199
Rod ø12, L = 6000 mm	galvanised	054116
Cover profile (mitred on both sides), L = 2000 mm	silver	058771
	white RAL 9016	018293
	RAL colour	014258
Cover profile (mitred on both sides), L = 3000 mm	silver	058774
	white RAL 9016	018294
	RAL colour	014259
Cover profile, L = 6000 mm	silver	058630
	white RAL 9016	018251
Synchronising unit for spindle drive 24 V		002754
Rod guide		058653
RWA 105 E Tandem , stroke 100 mm	silver	072667
	white RAL 9016	072671
	RAL colour	072670
RWA 105 E Tandem , stroke 150 mm	silver	073099
	white RAL 9016	073103
	RAL colour	073102
RWA 105 E Tandem , stroke 200 mm	silver	072662
	white RAL 9016	072666
	RAL colour	072665
Synchronised cut-off E 102 / 24 V DC		101323

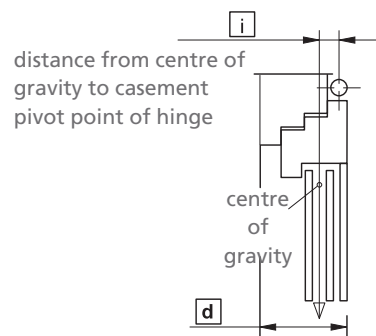


GEZE RWA 110 E / 110 E Tandem

For vertically installed windows, outward-opening



GEZE RWA 110 E / 24 V DC



► Motor with 3 different strokes

Scope of application *)

- for rectangular, vertically installed, outward-opening bottom-hung, top-hung and side-hung windows
- for aluminium, plastic and timber-framed windows
- width of casement: 403 – 1200 mm (for plastic windows max. 800 mm)
- height of casement: 600 – 1600 mm

For extremely wide casements it is possible to use the drive in tandem configuration with two motors and special synchronised cut-off E 102.

Installation

- space requirements on the locking side = min. 33 mm
- space requirements on the wall frame = min. 45 mm
- space requirements on the casement = min. 33 mm
- max. panel weight 30 kg/m²
- i-dimensions max. 70 mm
- motor can be mounted on either right or left side

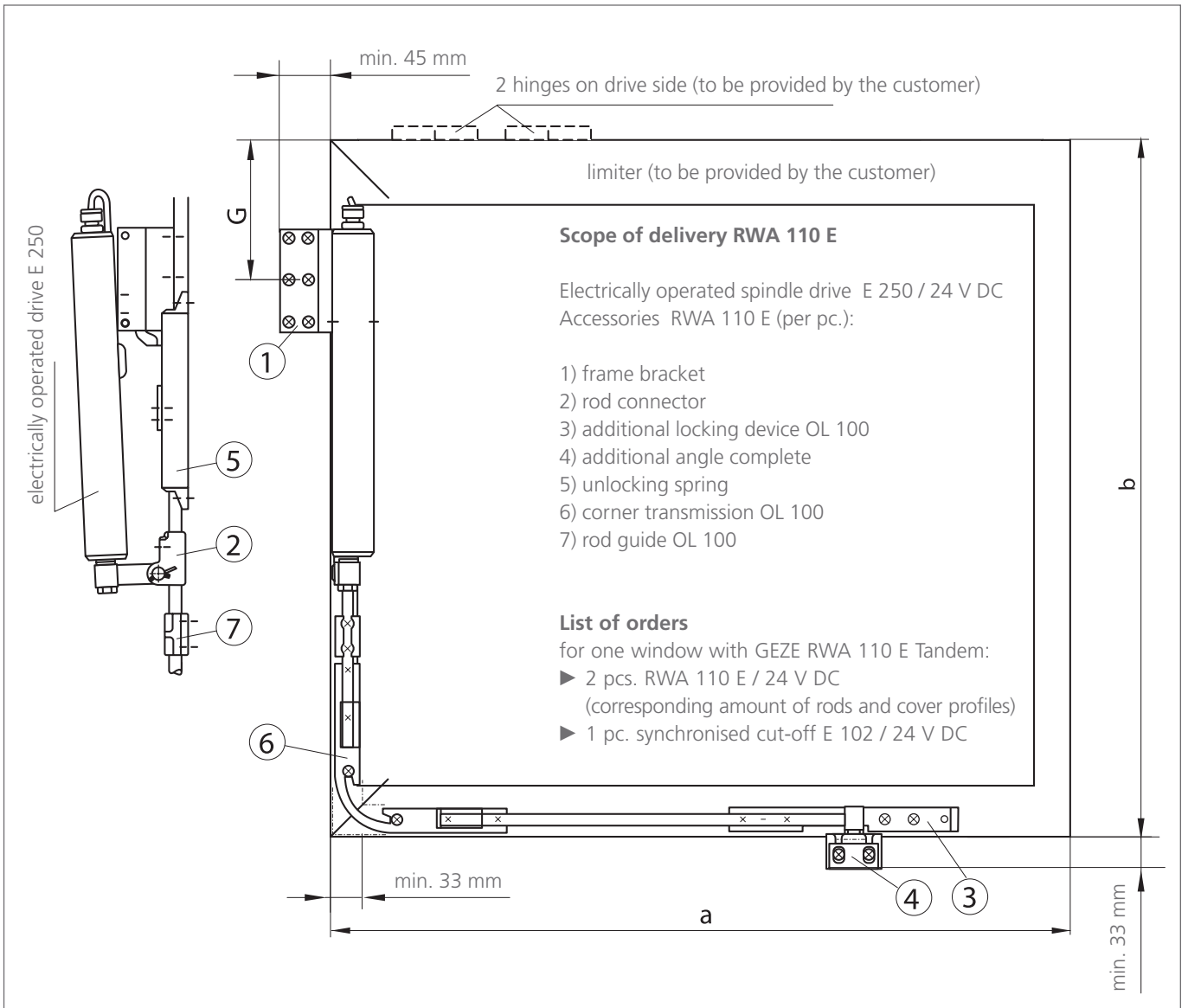
Installation drawing: 41521-4-0996-1

Range of application – determination of motor stroke

RWA 110 E and RWA 110 E Tandem										stroke	
Dimensions in (mm)											
Height of casement (b)	900-920	920-950	950-1000	1000-1050	1050-1100	1100-1200	1200-1300	1300-1400	1400-1500	1500-1600	E250/ E300
Opening angle (°)	ca. 56	ca. 54	ca. 51	ca. 49	ca. 47	ca. 43	ca. 39	ca. 35	ca. 33	ca. 31	
Opening width	ca. 880	ca. 870	ca. 870	ca. 880	ca. 880	ca. 860	ca. 860	ca. 830	ca. 840	ca. 840	
Height of casement (b)	650-700	700-750	750-800	800-850	850-900	900-950	950-1000				E250/ E200
Opening angle (°)	ca. 55	ca. 51	ca. 48	ca. 46	ca. 43	ca. 41	ca. 39				
Opening width	ca. 640	ca. 650	ca. 650	ca. 670	ca. 670	ca. 670	ca. 670				
Height of casement (b)	600-650	650-700	700-750	750-800	800-850						E250/ E150
Opening angle (°)	ca. 45	ca. 44	ca. 42	ca. 39	ca. 37						
Opening width	ca. 510	ca. 530	ca. 540	ca. 540	ca. 540						

*) The values stated for the opening angle and of the opening width are for your information and may vary depending on the type of installation and the mounting dimensions G, the ratio of width/height of casement and the casement weight.

GEZE RWA 110 E – System design



GEZE RWA 110 E – order information

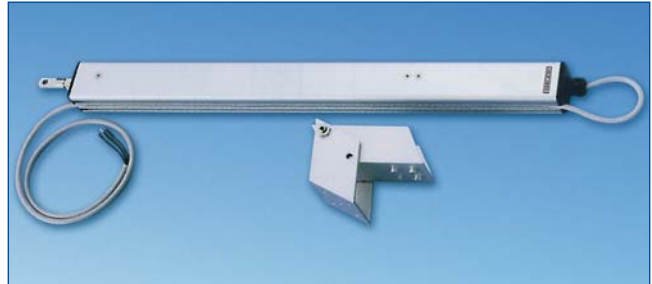
Designation	Finish	Id.no.
GEZE RWA 110 E, stroke 300 mm	silver	021303
	white RAL 9016	021311
	RAL colour	021310
GEZE RWA 110 E, stroke 200 mm	silver	020552
	white RAL 9016	020558
	RAL colour	020556
GEZE RWA 110 E, stroke 150 mm	silver	020559
	white RAL 9016	020567
	RAL colour	020564
Rod ø12, L = 2000 mm	galvanised	053198
Rod ø12, L = 3000 mm	galvanised	053199
Rod ø12, L = 6000 mm	galvanised	054116
Cover profile (mitred on both sides), L = 2000 mm	silver	058771
	white RAL 9016	018293
	RAL colour	014258
Cover profile (mitred on both sides), L = 3000 mm	silver	058774
	white RAL 9016	018294
	RAL colour	014259
Cover profile, L = 6000 mm	silver	058630
	white RAL 9016	018251
	RAL colour	013814
Synchronising unit 12/24 V		002754
Corner transmission OL 100		058648
Additional locking device OL 100	silver	063974
	white RAL 9016	018257
	RAL colour	013080
Additional angle for additional locking device OL 100	silver	050727
	dunkelbronze	050728
	white RAL 9010	050729
	white RAL 9016	015519
	RAL colour	013077
Synchronised cut-off E 102 / 24 V DC		101323

GEZE E 250 / 24 V DC

RWA drive for direct opening of side-hung, bottom-hung and top-hung inward and outward opening windows, skylights, light domes

If the drive is mounted to the wall frame it must be fixed with aluminium brackets that can be slid alongside. The control is made via emergency power supply units E 260 N in connection with RWA switches FT 4 and vent switches E 50.

In the case of very large and wide casements it is possible to mount 2 drives on either the left or the right side in tandem configuration. The connection is made via the synchronised cut-off E 102 / 24 V DC.



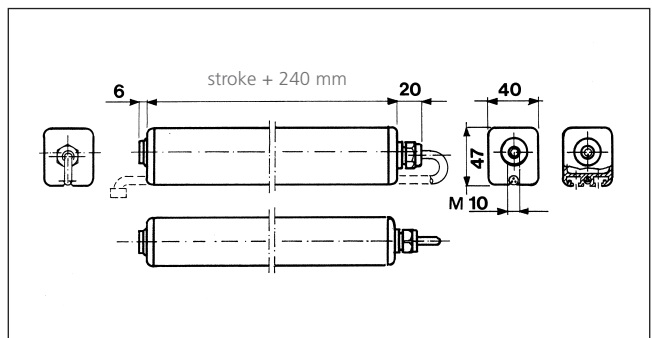
GEZE E 250 / 24 V DC

Product features

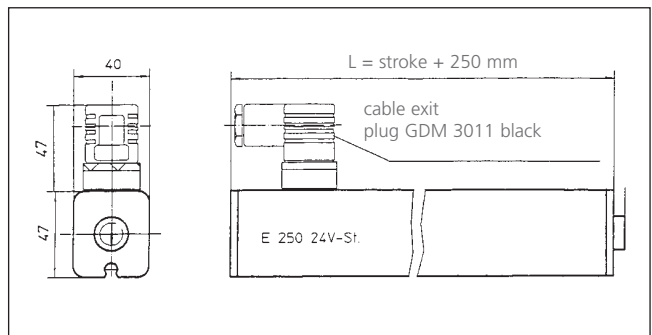
- ▶ electrically operated spindle drive in stylish housing
- ▶ small dimensions: 40 x 47 mm
- ▶ cables within the housing
- ▶ mechanical overload cut-out to protect the planet gear assembly and the spindle drive
- ▶ Low operating noise
- ▶ VdS certificate
- ▶ integrated in RWA opening and locking systems 100 E, 105 E and 110 E

optional:

- ▶ stroke limitation possible
- ▶ remote position indication to control the end positions
- ▶ GEZE E 250 / 24 V DC in special design: special strokes, colours, cable length and plugs.



Electrically operated spindle drive GEZE E 250/24 V DC



special version with connecting plug

Technical data	
Possible strokes	100, 150, 200, 300, 500, 700 und 750 mm Special strokes up to 1000 mm on request
Enclosure ratings	IP 65 (for dry rooms only)
Cable	3 x 0,75 mm ² , 2m
Operating voltage	24 V DC
Min. voltage for cut-out	20 V DC
Power consumption	0,9 A / 1,7 A (stroke length 500 mm - VdS)
Continuous duty	100 %
Temperature range	-5° bis +70° C
Lifting force at the spindle	for all strokes 750 N
Operating time (idle running / nominal load)	100 mm stroke length corresponds to 20 s.

Information:

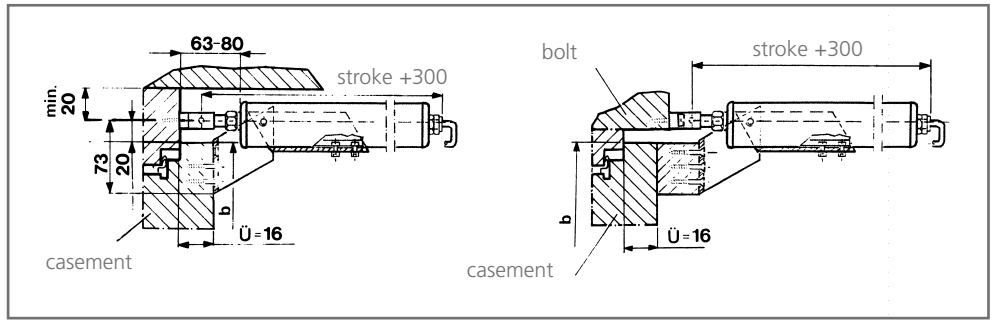
- ▶ Secure the window against tilting and slamming during installation and disassembly of the drive!
- ▶ The local building regulations as well as the generally valid accident prevention regulations, DIN standards and VDE directive must be observed.
- ▶ In addition, the guidelines for power-operated windows, doors and gates BGR 232 (formerly ZH 1/494) issued by the German Federation of trade associations, the central agency for safety prevention and health at work will apply.
- ▶ All mounting and installation works must be carried out by a specialist.
Mounting (mech.): window manufacturer or metal worker
Installation (elect.): qualified electricians
- ▶ For further information on mounting, commissioning, maintenance etc. please refer to the installation drawings and the wiring diagrams.

Installation drawings:

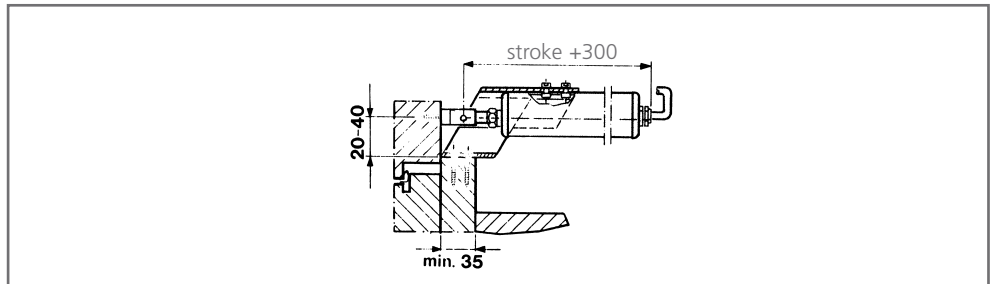
- ▶ Skylights, with frame bracket: 45130-9-1000
- ▶ Skylights, general: 45130-0-001
- ▶ Bottom-hung, top-hung, side-hung windows, inward opening: 45130-0-002
- ▶ Bottom-hung, top-hung, side-hung windows, outward opening: 45130-0-003

Wiring diagram: 45130-9-0950

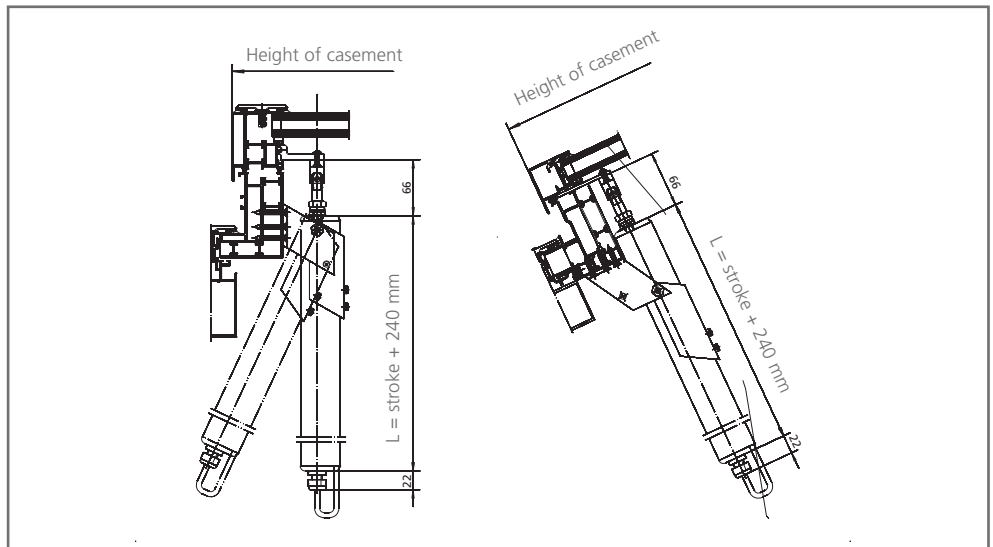
Installation examples



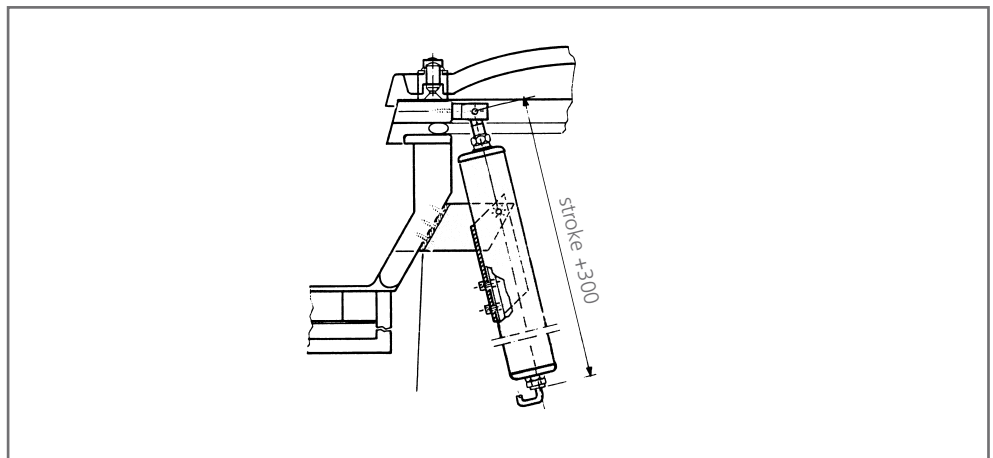
Bottom-hung window, inward opening



Bottom-hung window, outward opening



Skylight



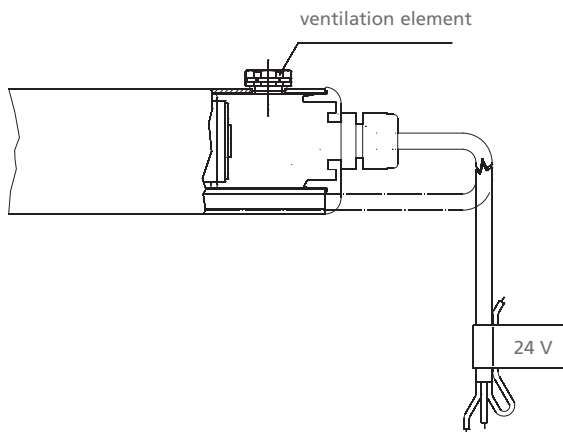
Lightdome

GEZE E 250 AB / 24 V DC

Spindle drive with ventilation element



GEZE E 250 AB / 24 V DC



Common drives with enclosure ratings IP 65 are protected against splash-water. It can, however, not be excluded that humidity penetrates into the housing (air pump effect) which may lead to condensed water due to temperature differences which in turn may damage the drive.

Solutions by GEZE:

Electrically operated spindle drive E 250 AB / 24 V DC with ventilation element, for application in

- ▶ wet rooms
- ▶ areas with large variations in temperature
- ▶ protected exterior areas

Function

A component with breathable membrane integrated in the electrically operated spindle drive GEZE E 250 AB / 24 V DC effects that:

- ▶ the housing is depressurised and a pressure compensation is carried through, which prevents the penetration of dust and splash water.
- ▶ the formation of condensed water is minimised due to noticeable ventilation as well a low suction effect. The humidity is conducted outwards.



GEZE Electrically operated spindle drive – order information

Stroke	Finish	E 250 / 24 V-VdS	E 250 / 24 V	E 250 AB / 24 V
		Id.no.	Id.no.	Id.no.
Stroke 100 mm	EV1	098900		100330
	white RAL 9016	098904		100334
	RAL colour	098903		100333
Stroke 150 mm	EV1	098905		100335
	white RAL 9016	098909		100338
	RAL colour	098908		100339
Stroke 200 mm	EV1	098910		100340
	white RAL 9016	098914		100344
	RAL colour	098913		100343
Stroke 230 mm	EV1	098915		100345
	white RAL 9016	098919		100349
	RAL colour	098918		100348
Stroke 300 mm	EV1	098920		100350
	white RAL 9016	098924		100354
	RAL colour	098923		100353
Stroke 500 mm	EV1	098925	016458	100355
	white RAL 9016	098929	016472	100359
	RAL colour	098928	016471	100358
Stroke 700 mm	EV1		021063	100360
	white RAL 9016		021066	100364
	RAL colour		021067	100363
Stroke 750 mm	EV1		021068	100365
	white RAL 9016		021071	100369
	RAL colour		021072	100368
Special version	EV1 / white RAL 9016	111173	111173	111262
	RAL colour	111174	111174	111263

Designation	Finish	Id.no.
Standard bracket for direct opening incl. jack rings and casement bracket	EV1	019032
	white RAL 9016	020879
	RAL colour	020878
Bracket inward opening incl. jack rings and casement bracket	EV1	027218
	white RAL 9016	027223
	RAL colour	027222
Swiveling bracket for spindle drives	EV1	116112
	white RAL 9016	116113
	RAL colour	116114
Basic unit for stroke limitation (and remote position indication)		083941
Circuit board stroke limitation 24 V DC		084125
Additional circuit board remote position indication for 1-4 ventilator group		084171



GEZE E 600 - E 680

Chain drives for RWA systems

Product features

The GEZE chain drives are slimline electrically operated drives for direct opening of bottom-hung, top-hung and side-hung and vertically pivoted windows. The drives are fitted parallel to the window and their corresponding colour matches the colour of the windows. All GEZE chain drives have a special chain, which transmits both tensile and tractive force. This chain precisely and safely operates the window casements. In closed position the chain is invisibly rolled up within the drive housing. In closed position the chain is invisibly rolled up inside the drive housing.

Scope of application

The GEZE chain drives are intended for vertically installed rectangular window in dry rooms. The drives GEZE E 640 and E 660 are also suited for angled windows (skylights) and light domes.

Tandem configuration

For extremely wide or heavy casements it is possible to use 2 drives in tandem configuration, with corresponding synchronised cut-off E 102.

Pivoting brackets

Owing to the pivoting brackets inward/outward the above-mentioned drive can be fitted to windows with small casement heights which considerably increases the scope of application.

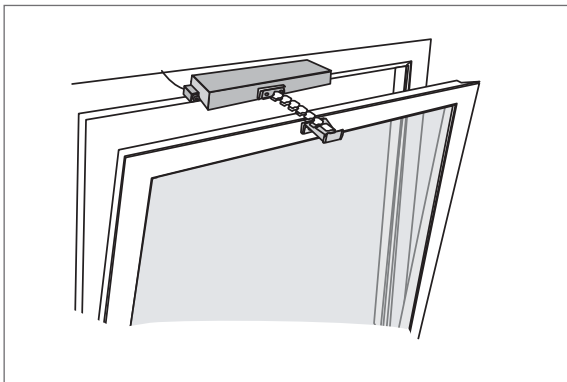
Depending on the casement overlap mounting plates are partly required.



GEZE E 680

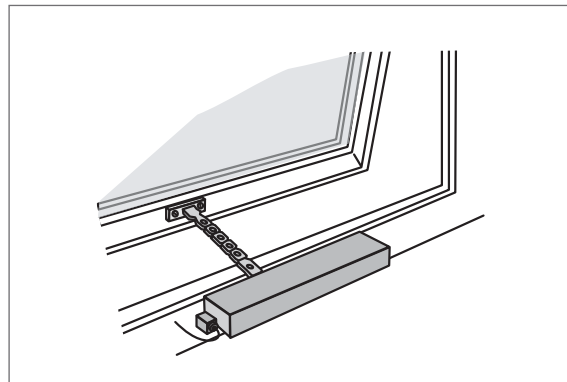


GEZE E 660



Example for application:

Bottom-hung inward opening window, electrically operated drive fitted onto the frame



Example for application:

Bottom-hung outward opening window, electrically operated drive fitted onto the frame

GEZE Chain drives – technical data

	E 600	E 620	E 640 ¹⁾	E 660 ¹⁾	E 680 ¹⁾
Min. casement width (mm)	min. 430 max. 1500	min. 450 max. 1500	min. 540 (stroke 280) min. 660 (stroke 380)	min. 780 (stroke 420) min. 960 (stroke 600)	min. 1195
Casement height ²⁾ (mm)	min. 500 (bottom-hung, stroke 250) min. 800 (bottom-hung, stroke 370) min. 500 (top-hung, stroke 370)	min. 600	min. 900 (bottom-hung) min. 500 (top-hung)	min. 1100	min. 1100
Overlap (mm)	0 - 20	0 - 25	0 - 20 (bottom-hung) 0 - 18 (top-hung)	0 - 20	0 - 20
Casement area (m²)	max. 1,5	max. 1,5	max. 1,5	max. 1,65	max. 1,65
Space required on the frame (mm)	52 (27)	35 (25)	44 (35)	54 (35)	54 (35)
Installation drawing	45139-9-0950	45139-9-0951	45139-9-0952	45139-9-0953	45139-9-9508
Wiring diagram	45139-9-0959	45139-9-0961	45139-9-0962	45139-9-0964	45139-9-9509

¹⁾ also available in special stroke length

²⁾ smaller casement heights can also be realised with GEZE pivoting brackets

	E 600 stroke 250/370	E 620 stroke 200 (250)	E 640 stroke 280 (380)	E 660 stroke 420 (600)	E 680 stroke 835
Dimensions (mm) (wxhxl)	86x50x269	49x29x262 (49x29x286)	62x40x373 (62x40x423)	86x50x478 (86x50x573)	86x50x687
Tensile force (N)	150	200	350	400	200
Tractive force (N)	300	200	350	400	400
Length of stroke (mm)	250/370	200 (250)	280 (380)	420 (600)	835
Travel speed (mm/s)	40	10	15	20	17
Power consumption (W)	50	20	25	50	50
Power input (A)	2,3	0,85	1,0	2,0	2,3
Ambient temperature (°C)	-20/+40	-5/+50	-5/+50	-10/+50	-10/+50
Enclosure ratings/protection class (IP)	20/III	20/III	22/III	22/III	22/III
Control unit	GEZE RWA - emergency power supply units E 260 N				

Information:

For reasons of product liability we prescribe the installation of separate safety scissors if bottom-hung casements are used. These additional scissors guarantee a permanent connection between casement and frame, e.g. GEZE safety scissors no. 35.

GEZE Chain drives E 640, E 660 and E 680 in special length of stroke

Designation	Special length of stroke										Id.no.
	265	255	240	230	215	205	190	180	165	150	
Chain drive E 640 / 265 - 165 mm											106853
Chain drive E 640 / 365 - 290 mm	365	355	340	330	315	305	290	-	-		106854
Chain drive E 660 / 400 - 250 mm	400	380	365	345	325	305	285	270	250		106867
Chain drive E 660 / 580 - 430 mm	580	560	545	525	505	485	465	450	430		106868
Chain drive E 680 / 815 - 435 mm	815 to 435 mm in steps of 20 mm										109855

GEZE Chain drives – order information

Designation	Finish	Id.no.
Chain drive GEZE E 600 / 24 V DC stroke 250/370 mm (selectable) without connecting cable	silver	071628
	white RAL 9016	071632
	RAL colour	071631
Casement bracket E 600 for inward opening windows		072033
Casement plate E 600 for outward opening windows		072034
Chain drive GEZE E 620 / 24 V DC stroke 200 mm incl. connecting cable	silver	071648
	white RAL 9016	071652
	RAL colour	072407
Chain drive GEZE E 620 / 24 V DC stroke 250 mm incl. connecting cable	silver	072403
	white RAL 9016	072408
	RAL colour	072407
Casement bracket E 620 for inward opening windows		072035
Casement plate E 620 for outward opening windows		072036
Pivoting bracket E 620 inward		102765
Pivoting bracket E 620 outward		102684
Chain drive GEZE E 640 / 24 V DC stroke 280 mm incl. connecting cable	silver	072415
	white RAL 9016	072419
	RAL colour	072418
Chain drive GEZE E 640 / 24 V DC stroke 380 mm incl. connecting cable	silver	071653
	white RAL 9016	071657
	RAL colour	071656
Casement bracket E 640 for inward opening windows		072037
Casement plate E 640 for outward opening windows		072038
Chain drive GEZE E 660 / 24 V DC stroke 420 mm incl. connecting cable	silver	071662
	white RAL 9016	071666
	RAL colour	071665
Chain drive GEZE E 660 / 24 V DC stroke 600 mm incl. connecting cable	silver	071672
	white RAL 9016	071676
	RAL colour	071675
Chain drive GEZE E 680 / 24 V DC stroke 835 mm incl. connecting cable	silver	107614
	white RAL 9016	107615
	RAL colour	107616
Casement bracket E 660 + E 680 for inward opening windows		072039
Casement plate E 660 + E 680 for outward opening windows		072040
Pivoting bracket E 660 + E 680 outward		084966
Joint E 660 + E 680 outward		088512
Mounting plate E 600 outward		086335
Pivoting bracket E 600, E 640, E 660, E 680 inward		084838
Bearing block		090872
Mounting plate for timber		086336
Synchronised cut-off E 102 / 24 V DC		101323

Order information GEZE chain drives E 640, E 660 and E 680 in special lengths of stroke see page 25



Mechanical locking bracket for GEZE chain drives

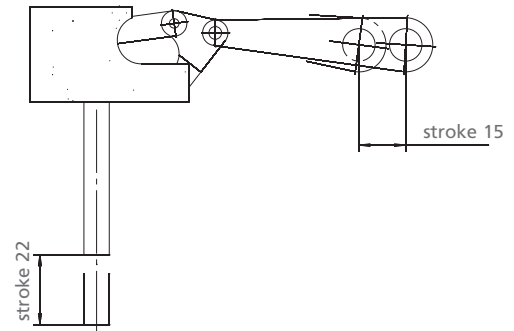
For windows with large casement areas it is often not sufficient to lock the casement via the drive only.

The solution: **Mechanical locking bracket**

- ▶ for all GEZE chain drives (E 600 - E 680)
- ▶ no additional follow-up control required
- ▶ no additional cables required
- ▶ for inward opening bottom-hung, top-hung and side-hung windows
- ▶ for all usual profile systems
- ▶ simple mounting using template
- ▶ increased tightness
- ▶ increased burglar resistance

Functions

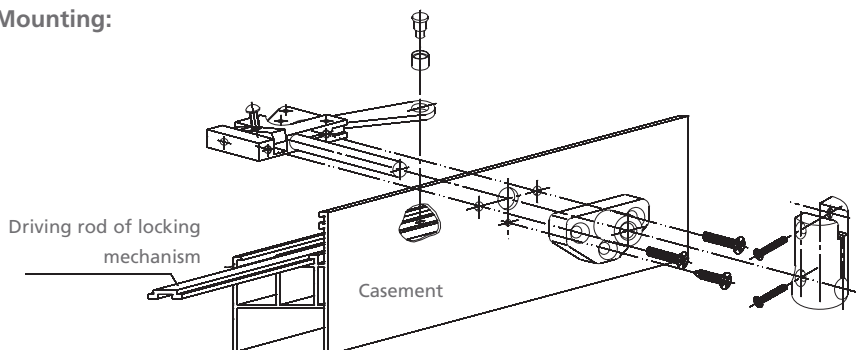
- ▶ When retracting or extending the chain drive the casement is electromechanically unlocked or locked – concealed via internal central locking device.
- ▶ The casement bracket of the concealed allround locking device takes effect on the driving rod which results in an arresting of the locking parts.



Order information

Locking bracket	Id.no.
for GEZE E 600	107970
for GEZE E 620	107971
for GEZE E 640	107972
for GEZE E 660 / E 680	107973

Mounting:





GEZE E 212 and E 205 / 24 V DC

Electric motors for the use in RWA systems in connection with slimline fanlight openers GEZE OL 100

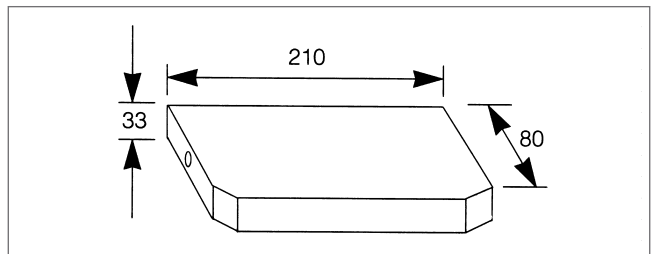
Owing to this fanlight opening system several scissors can be actuated via one drive. The electrically operated drive GEZE E 212 distinguishes itself by an extremely narrow design. With a construction height of only 33 mm it can be used everywhere.

General product features

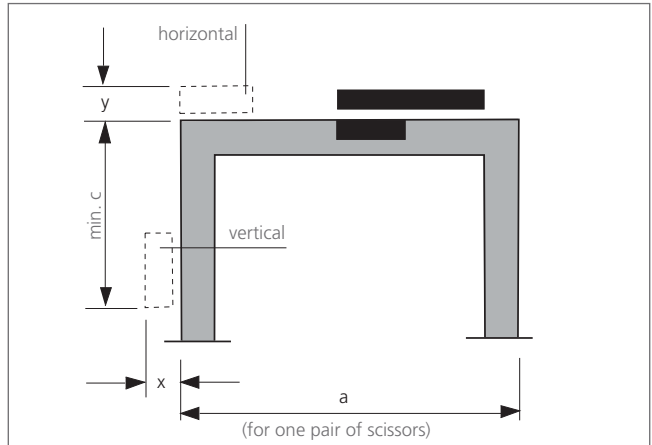
- ▶ suitable for mounting on left or right side, for vertical and horizontal mounting
- ▶ completely pre-fabricated modules, therefore less fittings
- ▶ simple mounting with exterior, coverable screw
- ▶ only one casement bracket for all overlap heights and materials, i.e. easy mounting
- ▶ small space required above and at the sides of the casements
- ▶ integrated, adjustable limit switches
- ▶ integrated motor protection (thermal latch integrated in winding)
- ▶ adjustable length of spindle stroke
- ▶ drives can also be used for louvre windows
- ▶ actuation via emergency power supply unit E 260 N



GEZE E 212 / 24 V DC with slimline fanlight opener OL 100



Dimensions: GEZE E 212



Installation (mm) dimensions	E 212	E 205
y	min. 36	min. 55
x	min. 36	min. 55
c	min. 500	min. 620
a horizontal mounting	min. 600	min. 775
a vertical mounting	min. 380	min. 380

based on casement heights of min. 300 mm

Technical data	E 212	E 205
Dimensions (w x h x l)	33 x 80 x 210	52 x 70 x 360
Stroke, adjustable	42-66 mm	42-70 mm
Tensile force and force of pressure	1400 N	2000 N
Running time (under load)	approx. 35 s for a stroke length of 52 mm	approx. 45 s for a stroke length of 70 mm
Temperature range	-20° bis +70° C	-20° bis +70° C
Power consumption	29 W	30 W
Power consumption	1,2 A	1,25 A
Enclosure ratings	IP 52 (for dry rooms only)	IP 54 (for dry rooms only)
Operating voltage	24 V DC	24 V DC
Cable	with plug	3 x 1,5 mm ²

Installation drawings

GEZE slimline fanlight opening system OL 100 with electric motor E 212 / 24 V DC

- ▶ horizontal mounting: 40408-0-030
- ▶ vertical mounting: 40408-0-029

Wiring diagram: 45109-9-0956

Information:

For reasons of product liability we prescribe the installation of separate safety scissors if bottom-hung casements are used. These additional scissors guarantee a permanent connection between casement and frame, e.g. GEZE FSP gripping and cleaning scissors.

Installations drawings

GEZE slimline fanlight opening system OL 100 with electric motor E 205 / 24 V DC

- ▶ horizontal mounting: 40408-0-003
- ▶ vertical mounting: 40408-0-002
- ▶ Mounting in post-rail construction: 40408-031

Wiring diagram: 45106-9-0955

GEZE Electric motors – order information

Designation	Finish	Id.no.
Electric drive GEZE E 212 / 24 V DC	EV1	010899
	white RAL 9016	015540
	RAL colour	010915
Synchronising unit GEZE E 212 / 24 V DC		002754
Electric drive GEZE E 205 / 24 V DC	EV1	056041
	white RAL 9016	027096
	RAL colour	027095

GEZE RWA – accessories for 24 V DC systems

RWA switch FT 4 / 24V DC

For manual alarm in the case of fire via a pushbutton lock.

Surface-mounted diecast lock housing, with exchangeable glass pane in accordance with DIN 14655.

Switching power max. 100 mA, 24 V DC

Reset button to reset the alarm

Including LED status indicator

(fire alarm, operation, window open, fault)



Dimensions (h x w x l):
125 x 125 x 32,5 mm

► VdS Certification
Id.no. 099561
orange (RAL 2011)

► Id.no. 009892
red (RAL 3001)

► Id.no. 020120
grey (RAL 7035)

► Id.no. 009893
blue (RAL 5015)

► Id.no. 020119
yellow (RAL 1021)

Smoke detector RM 1003 / 24 V DC

Automatic alarm release

The smoke detector works in accordance with the

scattered light principle, quick smoke detection

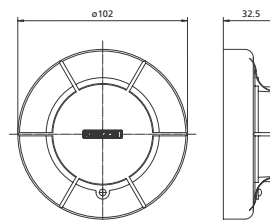
Enclosure ratings IP 42

Ambient operative temp.: -20° bis +60° C

► VdS Certification, Id.no. 112877



Dimensions:



Heat differential detector WM 1005 / 24 V DC

The heat differential detector function is based on the principle of the semi-conductor temperature gauge.

The alarm is triggered through rise in temperature and temperature limit of the ambient temperature.

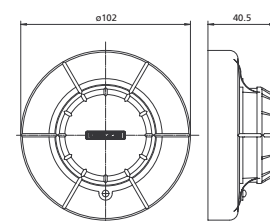
Triggered at 58° C

Ambient operative temp.: -20° bis +60° C

► VdS Certification, Id.no. 112878



Dimensions:



Vent switch E 50/...

Double and triple pushbutton with pulse generator.

All vent switches are suited for surface-mounted or concealed mounting. For concealed mounting suitable standard/DIN switch boxes 55 mm with "screwed connection" available. Connection using terminal screws up to 2,5 mm²



E 50/1



E 50/7

► Id.no. 006575 E 50/1: OPEN/STOP/CLOSED
without LED

► Id.no. 006591 E 50/7: OPEN/STOP/CLOSED
with LED

► Id.no. 006586 E 50/3: OPEN/CLOSED without LED

► Id.no. 006589 E 50/5: OPEN/CLOSED with LED

► Id.no. 006576 receiver catch for E 50m red
(surface-mounted)

► Id.no. 006577 receiver catch for E 50m red
(concealed)

Synchronised cut-off E 102 / 24 V DC

to switch off 2 drives, which are mounted to one window element. If one motor fails, both motors switch off in principle to avoid excessive warping of the window element.

► Id.no. 101323



dimensions (h x w x d):
113 x 113 x 58 mm

Room temperature regulator E 70

the temperature switching point can be adjusted from 5° C to 30°C. The upper and lower value is freely selectable via dial switch.

► Id.no. 079087



GEZE Rain/wind control

consisting of the following components:

Actuation device with evaluation electronics consists of the power pack and the potential-free switching contacts with micro-processor supported control of the rain/wind signals.

The evaluation is made either individually or as a whole.

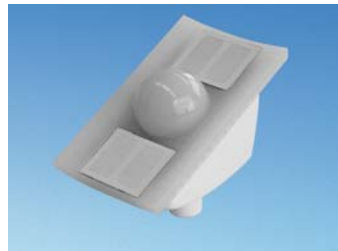
Supply of the weather station with 24 V DC / GND / signal input



and

Weather station

consists of the sensors: rain, wind and temperature sensors. Wind measurement is made electrically by means of a heated ceramic wire. The rain is measured by the gold-plated conductor paths on the surface – even drizzling rain can be measured.



► Id.no. 091529

Optical display

for optical signals in the case of wind and rain.

► Id.no. 029238



Sounder

► Id.no. 072112



Information signs

Dimensions: 52 x 148 mm

- Id.no. 025647 (Lüftung) ventilation
- Id.no. 005158 (Rauchabzug) smoke extraction

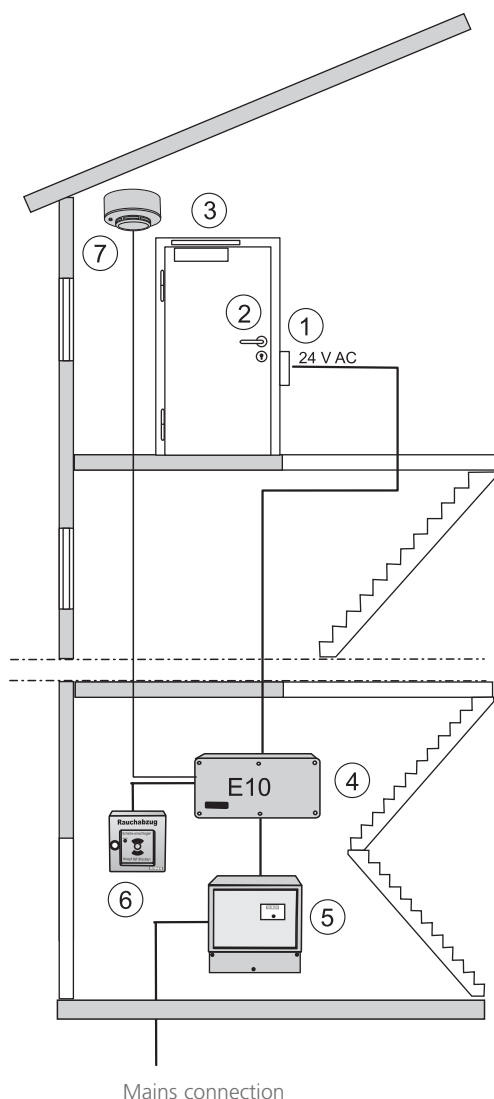


GEZE RWA Special versions

RWA-EL TÖ "OPEN" for doors

The system GEZE RWA-EL TÖ was designed for small rooms which only have small or no windows but a door, e.g. leading to a roof garden, a terrace or a balcony.

In this case the door can be used as smoke extraction opening in connection with the system GEZE RWA-EL TÖ "OPEN".



System configuration

The following components are required for this system:

For the lock:

- 1) electric door opener Fafix KL 24V AC, Id.no. 005431
- 2) door lock and door handle (the components are not part of the RWA system and have to be provided by the door manufacturer)

At the door lintel

- 3) 2. a door closer GEZE TS 4000, Id.no. 102871 (silver) with guide rail and lever for door leaf mounting on the hinge side and transom mounting on the opposite hinge side

Alternatively: TS 4000 EFS or GEZE TS 5000 in special mounting

In the area of the door or in a secondary room

- 4) one synchronising unit E10 / 24 V Id.no. 006636
- 5) one emergency power supply unit E 250 / 24 V DC, 1,2A Id.no. 067445

In the staircase

- 6) 5. one pushbutton E 45 for alarm release Id.no. 100898 (orange)
- 7) one or several smoke detectors (ceiling mounting) and heat switches with plinth for automatic alarm, Id.no. 091273

In special cases this system can even be used as fresh air opening.



GEZE RWA Special versions

RWA – with swing door drive GEZE TSA 160 Invers

The system is used for doors which are simultaneously used as fresh air or smoke vent openings in an emergency.

System configuration

The following system is an exemplary description. For further versions please refer to GEZE.

For the lock

- 1) escape door opener type 331
- 2) catch lock type 807-10

At the door lintel

- 3) swing door drive GEZE TSA 160 Invers; the system can also be used for double-leaf doors

Next to the door:

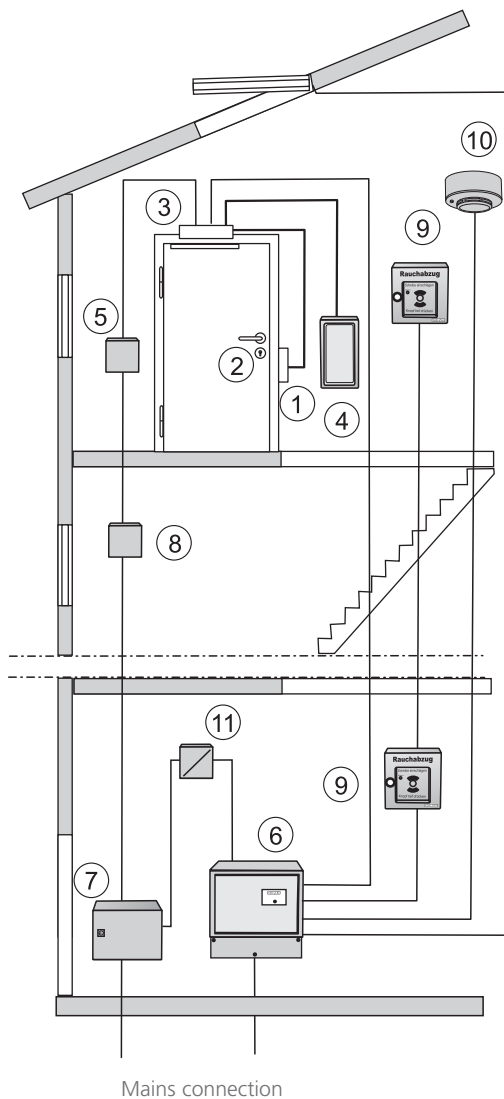
- 4) switch pad to open the door in the standard mode; other types of actuation e.g. radar are also possible
- 5) emergency-off switch (emergency door opens without current)

In the area of the door or in a secondary room

- 6) emergency power supply unit E 260 N
- 7) emergency power supply unit USV 700 or 1000 (required if the door must not open in the case of power failure)
- 8) main switch

In the staircase

- 9) RWA switch FT4
- 10) one or several smoke and/or heat detectors (ceiling mounting) for automatic release
- 11) power pack



GEZE RWA Special versions

RWA-EM "OPEN" – electromagnetic

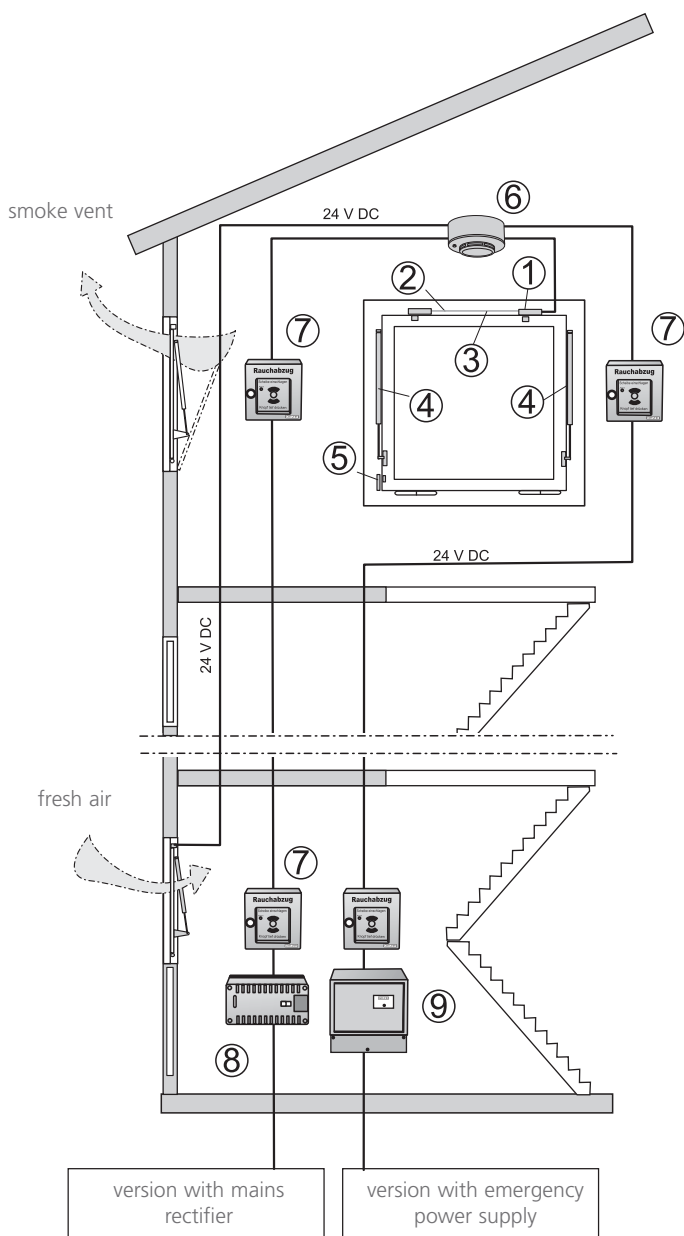
For vertically installed bottom-hung, top-hung, centre-hung and side-hung windows, inward opening.

With GEZE RWA-EM "OPEN" opening widths of up to 80° can be obtained.

- ▶ Casement width of 300 mm to 1000 mm (top-hung casement) or 1200 mm (bottom-hung casement) with magnetic primary lock
- ▶ Casement width up to 2000 mm (top-hung casement) or 2400 mm (bottom-hung casement) with magnetic primary lock, connecting rod and secondary lock

System configuration

- 1) Magnetic primary locking device E8/a for 24 V DC including casement bracket for overlapping and flush-faced windows
Id.no. 010834
- 2) Mechanical secondary locking device C8/b including casement bracket for overlapping and flush-faced windows, for casement widths of more than 1000 mm
Id.no. 028092
- 3) Connecting rod for mechanical connection of primary and secondary locking device
Id.no. 028125
- 4) Spring arm complete, incl. frame and casement bracket with back check, spring pressure, spring stroke and elastic force are adapted to the window system
Id.no. 057277 (150 N, stroke 150 mm)
Id.no. 053049 (150 N, stroke 200 mm)
Id.no. 057278 (150 N, stroke 300 mm)
Id.no. 013436 (150 N, stroke 400 mm)
Id.no. 053050 (250 N, stroke 200 mm)
Id.no. 015934 (300 N, stroke 300 mm)
- 5) Contact switch (to be provided by the customer) for indication of "window open" if the window has opened unintentionally in the case of power failure
- 6) Smoke and heat switch (ceiling mounting) type 142 with plinth for automatic release
Id.no. 091273
- 7) Pushbutton E 45 "OPEN with light", including pane, lockable. To be installed on the first and upper floor, in addition at other places
Id.no. 100897 (orange)
in connection with rectifier
- 8) Mains rectifier E8g/24 V DC capacity in accordance with the number of magnetic locks and smoke switches
Id.no. 050767 (for 2 MV)
Id.no. 103403 (for 1-7 MV)
- 9) Emergency power supply unit E 250/24 V DC with integrated accumulator, to bridge short-term power failures
Id.no. 067445



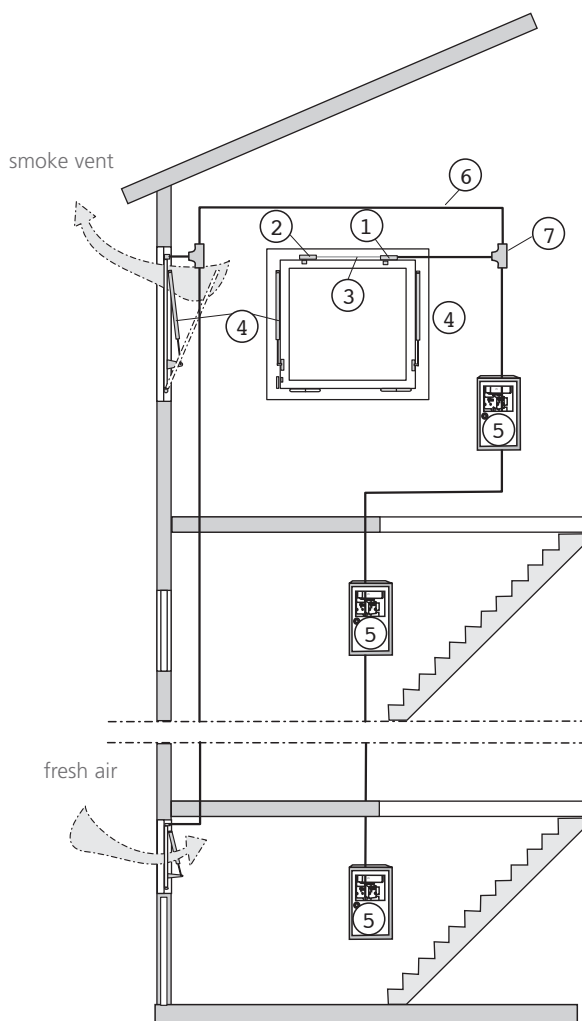


GEZE RWA Special versions

RWA-CO₂ "OPEN"

For vertically installed bottom-hung, top-hung, and centre-hung windows, inward opening.

- ▶ Casement widths up to 1000 mm (top-hung casement) or 1200 mm (bottom-hung casement) with CO₂ primary lock
- ▶ Casement widths up to 2000 mm (top-hung casement) or 2400 mm (bottom-hung casement) with CO₂ primary locking device, connecting rod and secondary locking device



System configuration CO₂ "OPEN"

System with manual release

- 1) CO₂ primary lock for pressure gas or pressure air, with two casement brackets for inward and outward opening casements
Id.no. 028035
- 2) Connecting rod for mechanical connection of primary and secondary locking device
Id.no. 028092
- 3) Link rod for mechanical linkage of primary and secondary locking
Id.no. 028125
- 4) Spring arm complete, incl. frame and casement bracket with back check, spring pressure, spring stroke and elastic force are adapted to the window system
Id.no. 057277 (150 N, stroke 150 mm)
Id.no. 053049 (150 N, stroke 200 mm)
Id.no. 057278 (150 N, stroke 300 mm)
Id.no. 013436 (150 N, stroke 400 mm)
Id.no. 053050 (250 N, stroke 200 mm)
Id.no. 015934 (300 N, stroke 300 mm)
- 5) Alarm box with integrated flap valve, for manual release
a) without inspection pane, Id.no. 053141
b) with inspection pane, Id.no. 053140
- 6) Copper tube 6 x 1 mm
Id.no. 105811
- 7) T-2. T-fitting for copper tube 6 x 1 mm
Id.no. 004269

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