



OVERVIEW OF GEZE WINDOW TECHNOLOGY NATURAL VENTILATION AND RWA



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GEZE electrical RWA and ventilation systems

Safety with air-moving power

GEZE has numerous solutions for automatic opening and closing of windows in all kinds of different applications. The wide range of products on offer extend from a large selection of drive systems for daily ventilation through to complete fresh and exhaust air solutions for safe and fast natural smoke extraction.

The GEZE product portfolio for electrically operated ventilation and the "RWA case" includes easy to install and use electrically operated chain drives as direct openers and powerful electric spindle drives which, as direct openers and flush-mounted on the frame profile, can also be used in an opening and locking system. Combined with electric linear drives, GEZE slimline fanlight scissors can also be operated electrically.

The smoke and heat extraction system (RWA) is actuated via the GEZE RWA emergency power control unit. GEZE also offers systems as fresh air solutions.

GEZE window technology for electrically operated ventilation and RWA at a glance

Chain drives



Slimchain

Spindle drives



E 250 NT

Locking drives



Power lock

Opening and locking systems



RWA 100 NT

Fresh air systems



K 600

RWA control units



MBZ 300

Overview table Electrically operated RWA and ventilation systems

	Chain drives				Spindle drives				Locking drives	Opening and locking systems			Electromagnetic	Linear drives + OL ⁹⁾	Scissor drives	Fresh air systems			
	ECchain	Slimchain	Powerchain	E 920 - E 990	E 250 NT	E 1500 N	E 1500 S	E 3000		Power lock ¹⁾ E 905/E 906 ²⁾	RWA 100 NT	RWA 105 NT				RWA 110 NT	RWA-EM	E 212 / E 205	E 170, E 170/2
Applications																			
Natural ventilation	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•	
Smoke and heat extraction system (RWA)		•	•	•	•	•	•	•	•	•	•	•	•	•	• ³⁾	• ³⁾	•	•	•
Natural smoke and heat exhaust ventilator (SHEV)		•	•	•	•		•	•	•	•	•	•	•				•		
Function																			
Exhaust air (as smoke exhaust (SHEV) or smoke removal)		•	•	•	•	•	•	•	•	•	•	•	•	•	• ³⁾	• ³⁾			
Fresh air		•	•	•	•	•			•	•	•	•	•	•	• ³⁾	• ³⁾	•	•	•
Location																			
Façade	•	•	•	•	•	•			•	•	•	•	•		•			•	
Roof			•		•	•	•	•										• ⁶⁾	
Door																	•	•	•
Casement types																			
Bottom-hung casement	•	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•	
Side-hung casement	•	•	•	•	•	•			•	•	•	•	•	•				•	
Top-hung casement	•	•	•		•	•			•	•	•	•	•	•				•	
Horizontally pivot-hung casement			•						•	•									
Vertically pivoted casement			•						•	•									
Roof casement			•		•	•	•	•									•		
Louvre window					•									•					
Type of opening																			
Inward opening	•	•	•	•	•	•			•	•				•	•	•	•	•	•
Outward opening	•	•	•		•	•	•	•				•		•	•		•	•	•
Installation options																			
Frame	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•	•	•
Casement		•	•		•	•			•			•		•			•	•	
Integrated		• ⁷⁾		•						•									
Opening width [mm] / Opening angle [°]																			
	200	300	600	200	100	300	300	300	22 ⁸⁾	18 ⁸⁾	58°	75°	56°				170		90°
	400	500	800	400	150	400	400	500											
		800	1200	500	200	500	500	750											
			700		230		600	1000											
			900		300		750												
					500		1000												
					750		1200												
					1000														
Connection to RWA control units																			
THZ		•	•	•	•	•			•	•	•	•	•	• ⁵⁾	• ³⁾	• ³⁾	•	•	• ⁴⁾
THZ Comfort		•	•	•	•	•			•	•	•	•	•	• ⁵⁾	• ³⁾	• ³⁾	•	•	• ⁴⁾
E 260 N		•	•	•	•	•	•	•	•	•	•	•	•		• ³⁾	• ³⁾	• ⁶⁾	•	• ⁴⁾
MBZ 300		•	•	•	•	•	•	•	•	•	•	•	•	• ⁵⁾	• ³⁾	• ³⁾	•	•	• ⁴⁾
Use for ventilation 230 V																			
with power supply and IQ gear		•	•	•	•				•	•	•	•	•						

1) As system solution for Slimchain, Powerchain and E 250 NT
 2) As system solution for E 920 - E 990
 3) 24 V version only
 4) No supply - only potential-free alarm contact
 5) Operating mode: "holding magnet"
 6) Depends on specific use
 7) Special variant, separate planning, depends on profile
 8) Locking stroke
 9) with fanlight opener

GEZE CHAIN DRIVES

GEZE chain drives

Brief description of the variants

Direct openers for ventilation and for smoke and heat exhaust

The electrically operated chain drives are designed for vertically installed, rectangular bottom-hung, top-hung and side-hung and horizontally and vertically pivoted windows in dry rooms. They are suitable for daily room ventilation, for smoke and heat extraction systems (RWA) and as natural smoke and heat exhaust ventilator (SHEV). The drives are positioned parallel to the window and, depending on the colouring chosen, harmoniously match the window architecture. They have a special chain which can transfer both pulling and pushing forces. When closed the chain is concealed, it is rolled up in the drive housing.



ECchain: simple automation options for ventilation (230 V)

- Cost effective and efficient starter model
- Universal use, especially in private housing
- Integrated stroke adjustment to 200 mm or 400 mm enables adaptation to different ventilation requirements as and when needed
- Universal fixtures and brackets for standard profile systems
- Different colour options for optimum attachment on existing window profiles
- Fast and easy installation with the drilling template (optionally available)



Slimchain: universal chain drive with attractive design

- Fulfills the highest design standards thanks to its slim and discrete look
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Intelligent electronics: continuously adjustable drive stroke and individual speeds for ventilation and RWA mode
- Integrated Syncro module for synchronising max. 3 drives without external control unit
- DIP switches for changing over the operating mode (Solo/Syncro, master/slave)
- Fast and easy installation with the GEZE Smart fix installation system



Powerchain: powerful chain drive for large and heavy window elements

- Fast opening speeds in the event of an RWA case, even for very heavy windows
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Intelligent electronics: continuously adjustable drive stroke and individual speeds for ventilation and RWA mode
- Integrated Syncro module for synchronising max. 3 drives without external control unit
- DIP switches for changing over the operating mode (Solo/Syncro, master/slave)
- Fast and easy installation with the GEZE Smart fix installation system



E 920 - E 990: integrated chain drives for puristic design on large windows

- Drive and fitting technology are not visible from the outside
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 (up to 900 mm stroke) and for natural ventilation (230 V in conjunction with a power supply)
- Intelligent electronics: continuously adjustable drive stroke and individual speeds for ventilation and RWA mode
- Integrated Syncro module for synchronising max. 3 drives without external control unit
- DIP switches for changing over the operating mode (Solo/Syncro, master/slave)
- Simple and time-saving installation (clamp mechanism) on standard window profiles

Overview table of GEZE chain drives

Technical data

	GEZE ECchain	GEZE Slimchain	GEZE Powerchain	GEZE E 920 - E 990
Length	with bracket 409 mm, without bracket 390 mm	Stroke 300: 560 mm, Stroke 500: 660 mm, Stroke 800: 810 mm (each with brackets)	Stroke 600: 756 mm, Stroke 800: 856 mm, Stroke 1200: 1056 mm (each with brackets)	Stroke 200: 450 mm, Stroke 400: 545 mm, Stroke 500: 595 mm, Stroke 700: 695 mm, Stroke 900: 790 mm
Height	44 mm	25 mm	36 mm	22 mm
Depth	63 mm	44 mm	51 mm	35 mm
Space required on frame (min.)	Frame installation INWARD OPENING: 55 mm, frame installation OUTWARD OPENING: 35 mm	Frame installation INWARD OPENING: 40 mm, casement installation INWARD OPENING: 16/21 mm, frame installation OUTWARD OPENING: 31 mm	Frame installation INWARD OPENING: 50/61 mm (for side-hung casement DIN L), casement installation INWARD OPENING: 30/41 mm (for side-hung casement DIN R), frame installation OUT- WARD OPENING: 50 mm	-
Space required on casement (min.)	Frame installation IN- WARD OPENING: 37 mm, frame installation OUTWARD OPENING: 20 mm	Frame installation INWARD OPENING: 40 mm, Casement installation INWARD OPENING: 34/29 mm, frame installation OUTWARD OPENING: 19 mm	Casement installation INWARD OPENING: 40 mm, Frame installation INWARD OPENING: 50 mm, frame installation OUTWARD OPENING: 30/41 mm (for side-hung casement DIN R)	-
Possible stroke lengths	200 mm, 400 mm	300 mm, 500 mm, 800 mm	600 mm, 800 mm, 1200 mm	200 mm, 400 mm, 500 mm, 700 mm, 900 mm
RWA function up to stroke (max.)		-		900 mm
RWA opening speed		15 mm/s		17 mm/s
Ventilation opening speed	9 mm/s		5 mm/s	
Closing speed	9 mm/s		5 mm/s	
Tensile force (max.)	250 N	300 N	600 N	400 N
Compressive force (max.)	250 N	200 N (depending on stroke)	600 N (depending on stroke)	-
Holding force (max.)		2000 N	3000 N	2000 N
Casement weight (max.)*	130 kg	150 kg*		Bottom-hung window 130 kg, side-hung window 130 kg
Operating voltage	230 V ± 10 %		24 V ± 25 %	24 V ± 25 %
Current consumption	0.13 A	Ventilation (24 V): 0.9 A; RWA (18 V): 1.1 A	Ventilation (24 V): 1.2 A; RWA (18 V): 1.5 A	Ventilation (24 V): 1.0 A; RWA (18 V): 1.3 A
Power consumption (max.)		20 W	36 W	22 W
Duty rating			30 %	
Connection cable length		2 m		-
Special length connection cable		5 m; 7.5 m		
Cable dimensions			4 x 0.75 mm ²	
Temperature range	-5 – 60 °C		-5 – 70 °C	
Enclosure rating / protection class	IP 30 / II		IP 40 / III	
Stroke length settable	-	•	•	•
Syncro function	-	•	•	•
Adjustable opening speed (ventilation)	-	•	•	•
Additional locking available	-	•	•	•
Type of additional locking			Locking drive	
Type of stroke reduction			Synchronising unit, factory setting	
End position cut-off extended	Limit switch		electronically via internal position sensor	
End position cut-off retracted			electrically, electronically via power consumption	
Overload cut-off	•	•	•	•
Complete opening within 60 s	-	yes, including locking drive	yes, up to 800 mm stroke, including locking drive	yes, including locking drive
SHEV tested	-	•	•	•
Synchronisation (max.)			3 drives	

• = YES

*) = THE TOTAL WEIGHT IS LIMITED BY THE HINGES AND DEPENDS ON THE DETAILS PROVIDED BY THE PROFILE SYSTEM MANUFACTURER.

GEZE SPINDLE DRIVES

GEZE spindle drives

Brief description of the variants

Direct openers for ventilation and for smoke and heat exhaust

The RWA electric spindle drives are suitable for the electromotive opening and closing of bottom-hung, top-hung and side-hung casements, roof windows and light domes. They are suitable for daily room ventilation, for smoke and heat extraction systems (RWA) and as natural smoke and heat exhaust ventilation (SHEV).



E 250 NT: compact design spindle drive with large range of uses

- For direct opening of heavy and wide windows
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Intelligent electronics: continuously adjustable drive stroke and individual speeds for ventilation and RWA mode
- Integrated Syncro module for synchronising max. 3 drives without external control unit
- DIP switches for changing over the operating mode (Solo/Syncro, master/slave)
- Range of brackets for bottom-hung, top-hung and pivot-hung casements, roof windows and skylight domes



E 1500 N: RWA spindle drive for heavy casements

- High-quality drive for heavy window elements in façades and roofs
- Narrow dimensions for the highest design standards
- Use as RWA (24 V) and for natural ventilation (230 V in conjunction with a power supply)
- Robust, corrosion-resistant design with built-in end-position damping
- Syncro set consisting of two E 1500 N with integrated synchronic control unit for particularly heavy and wide casements from 1200 mm primary closing edge
- Synchronisation of up to 3 drives



E 1500 S: fast spindle drive for heavy roof windows

- Convincingly large compressive force and high speed
- For outward-opening windows in the roof
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Robust, corrosion-resistant design with built-in end-position damping
- Full stroke (up to 1000 mm) in less than 60 seconds
- For casement widths over 1200 mm the E 1500 S synchro drives are available, which are controlled via the E 1500 S synchronic control unit



E 3000: spindle drive for particularly heavy roof windows

- High tensile and compressive forces (3000 N) open and close even very heavy roof windows up to 600 kg in synchronic mode
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Robust, corrosion-resistant design
- Use in Solo mode with overload cut-off E 3000
- Use in Syncro mode for casement widths larger than 1200 mm with E 3000 synchronic control unit

Overview table of GEZE spindle drives

Technical data

	GEZE E 250 NT	GEZE E 1500 N	GEZE E 1500 S	GEZE E 3000
Dimensions (W x H x D)	Stroke + 284 x 40 x 47 mm	Stroke + 302, Ø 36 mm	Stroke + 465, Ø 50 mm	
Possible stroke lengths	100 mm 150 mm 200 mm 230 mm 300 mm 500 mm 750 mm 1000 mm	300 mm 400 mm 500 mm 750 mm 1000 mm	300 mm 500 mm 750 mm 1000 mm 1200 mm	300 mm 500 mm 750 mm 1000 mm
RWA opening speed	5.7 mm/s, Stroke 500: 9.5 mm/s	4 mm/s	16 mm/s	7.8 mm/s
Ventilation opening speed	5 mm/s	4 mm/s	16 mm/s	7.8 mm/s
Tensile force (max.)	750 N	1500 N	1000 N	3000 N
Compressive force (max.)	750 N	1500 N		3000 N
Operating voltage	24 V DC			
Current consumption	Ventilation (24 V): 0.9 A; RWA (18 V): 1.0 A Stroke 500: Ventilation (24 V): 1.1 A; RWA (18 V): 1.3 A	0.8 A	4 A	5 A
Power consumption (max.)	20 W		75 W	
Duty rating	30 %			20 %
Connection cable length	2 m	2.5 m	3 m	
Special length connection cable	5 m, 7.5 m	-		
Cable dimensions	4 x 0.75 mm ²	3 x 1 mm ²		4 x 0.75 mm ²
Temperature range	-5 – 70 °C	-5 – 75 °C		
Enclosure rating / protection class	IP 65 / III		IP 54 / III	IP 54
Stroke length settable	•	-	-	-
Syncro function	•	-	-	-
Adjustable opening speed (ventilation)	•	-	-	-
Additional locking available	•	-	-	-
Type of additional locking	Locking drive			
Type of stroke reduction	Factory setting, synchronising unit	Factory setting		
End position cut-off extended	electronically via path and load	electronic		
End position cut-off retracted	electronically via path and load	electronic		
Overload cut-off	•	•	-	-
Complete opening within 60 s	yes, up to 500 mm stroke	-	yes, up to 1000 mm stroke	yes, up to 300 mm stroke
SHEV tested	yes, up to 500 mm stroke		yes, up to 1000 mm stroke	yes, up to 300 mm stroke

• = YES

GEZE LOCKING DRIVES

GEZE locking drives

Brief description of the variants

Additional safety and protection from the weather

The trend towards ever larger windows not only requires the retention force of the drive but also an additional locking unit at the locking point. In this way the performance classes defined in EN 14351-1, especially the wind load, sealing in the event of rain and airtightness, can be ensured. Therefore, additional locking should be provided for large windows. With the E 905 / E 906 and Power lock locking drives GEZE offers two locking drives that can be used for operation of additional locking points.



Power lock: drive in combination with Slimchain, Powerchain or E 250 NT

- The design of the drive matches the look of the new GEZE chain and spindle drives
- Can be used for frame and casement installation
- Flexible retrofitting in an existing system with the new chain and spindle drives
- Locking and unlocking in 5 seconds: In combination with the Slimchain, Powerchain and E 250 NT drives, the system can also be used as a SHEV in accordance with EN 12101-2
- Can be used with standard central locks
- Electronic end position cut-off provides protection against incorrect operation and overload



E 905 / E 906: drive in combination with E 920 - E990

- As a system solution for safe opening and locking of large window casements
- Locking and unlocking in less than 6 seconds: In combination with the E 920 - E 990 drives the E 905 / E 906 can also be used as a SHEV in accordance with EN 12101-2
- Can be used with standard central locks
- Intelligent solution for the cable routing in the casement saves time required for wiring and ensures a tidy appearance
- The electronic end position cut-off provides protection against incorrect operation and overload
- Fast and easy installation: the profiles need virtually no preparation

Overview table of GEZE locking drives

Technical data

	GEZE Power lock	GEZE E 905 / E 906
Dimensions (W x H x D)	422 x 34 x 36 mm	345 x 22 x 35 mm
Stroke length (max.)	22 mm	18 mm
Ventilation opening speed	3.6 mm/s	
Locking and unlocking time	6 s	5 s
Locking points (max.)	6	4
Tensile force (max.)	600 N	400 N
Compressive force (max.)	600 N	400 N
Operating voltage	24 V ± 25 %	
Current consumption	1.5 A	1 A
Power consumption (max.)	36 W	22 W
Duty rating	30 %	
Connection cable length	2 m	60 mm
Special length connection cable	5 m, 7.5 m	-
Cable dimensions	4 x 0.75 mm ²	4 x
Temperature range	-5 – 70 °C	-5 – 75 °C
Enclosure rating / protection class	IP 42 / III	IP 40 / III
Stroke length settable	•	-
Overload cut-off	-	•
Complete opening within 60 s	yes	
SHEV tested	•	•
Microprocessor control	integrated	

• = YES

GEZE opening and locking systems

Brief description of the variants

For natural smoke and heat exhaust ventilation and for ventilation

RWA 100 NT, RWA 105 NT and RWA 110 NT are opening and locking systems for RWA. They are suitable for daily room ventilation, for smoke and heat extraction systems (RWA) and as natural smoke and heat exhaust ventilator (SHEV). Due to the mechanical locking it is not necessary to use additional electrical locking drives. The systems consist of a mechanical bracket set combined with the high-quality RWA electric spindle drive E 250 NT.



RWA 100 NT: RWA system for bottom-hung, top-hung and side-hung windows inward opening

- Combination of an E 250 NT electric spindle drive flush-mounted on the frame profile in frame installation and a mechanical bracket set with locking
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Available in four stroke lengths for all standard vertically installed types of casement
- Mechanical locking on the primary closing edge, with the option of using a mechanical additional locking device on the secondary closing edge
- Large opening widths with small spindle stroke in less than 60 seconds
- Synchronic mode on wide casements by using two RWA 100 NTs



RWA 105 NT: RWA system for post-rail-constructions

- Combination of an E 250 NT electric spindle drive flush-mounted on the frame profile and a mechanical bracket set with double locking
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Available in three stroke lengths for vertically installed, inward-opening casements
- Double mechanical locking for burglar resistance and for high tightness
- Large opening widths with small spindle stroke in less than 60 seconds
- Synchronic mode on large casements by using the RWA 105 NT Syncro set



RWA 110 NT: RWA system for bottom-hung, top-hung and side-hung windows, outward opening

- Combination of an E 250 NT electric spindle drive flush-mounted on the frame profile in casement installation and a mechanical bracket set with locking
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- Available in three stroke lengths for all standard vertically installed types of casement
- Mechanical locking on the primary closing edge
- Large opening widths with small spindle stroke in less than 60 seconds
- Synchronic mode on wide casements by using two RWA 110 NT

GEZE OPENING AND LOCKING SYSTEMS

Overview table of GEZE opening and locking systems

Technical data

	GEZE RWA 100 NT	GEZE RWA 105 NT	GEZE RWA 110 NT
Space requirement (min.)	Locking side: 32 mm, motor side: 48 mm	Perimeter frame: 18 mm, casement: 38 mm, post-rail-construction height max. 125 mm	Casement frame: min. 33 mm, window frame: min. 45 mm
Allowable dimensions for Solo primary closing edge for wooden and metal frames	360 - 1200 mm	depending on stroke	430 - 1200 mm
Allowable dimensions for Solo primary closing edge for plastic frames	360 - 800 mm	depending on stroke	430 - 800 mm
Allowable dimensions for Syncro primary closing edge for wooden and metal frames	800 - 2400 mm	depending on stroke	850 - 2400 mm
Allowable dimensions for Syncro primary closing edge for plastic frames	800 - 1600 mm	depending on stroke	850 - 1600 mm
Casement heights for Solo and Syncro	520 - 1700 mm	depending on stroke	600 - 1600 mm
Possible stroke lengths	100 mm 150 mm 200 mm 300 mm	100 mm 150 mm 230 mm	150 mm 200 mm 300 mm
Tensile force (max.)	750 N		
Compressive force (max.)	750 N		
Panel weight (max.)	30 kg/m ²		
Operating voltage	24 V DC (+30 % to -20 %)		
Current consumption	Ventilation (24 V): 0.9 A RWA (18 V): 1.0 A		
Power consumption (max.)	20 W		
Residual ripple (max.)	30 %		
Cable dimensions	4 x 0.75 mm ²		
Temperature range	-5 - 75 °C		
Enclosure rating / protection class	IP 65 / III		
Syncro function	•	•	•
Locking and auxiliary bracket	•	•	•
End position cut-off extended	Internal path sensor		
End position cut-off retracted	Internal path sensor		
Overload cut-off	•	•	•

• = YES

GEZE ELECTROMAGNETIC RWA SYSTEMS AND LINEAR DRIVES

GEZE electromagnetic RWA systems

Brief description of the variants

**RWA EM "OPEN": simple solution for opening pure RWA windows**

- Secure locking of the windows through electromagnetic locking
- The magnetic primary lock and mechanical secondary lock keep the window casements securely closed against the pushing off force of the spring arms and the pressure of the wind.
- For casement widths of 300 - 1000 mm (top-hung casements) and 1200 mm (bottom-hung casements) the locking occurs via the magnetic primary lock
- For casement widths up to 2000 mm (top-hung casements) and up to 2400 mm (bottom-hung casements) the locking occurs via a magnetic primary lock, a connecting link arm and a secondary lock
- Retrofitting with minimum effort

GEZE electric linear drives

Brief description of the variants

For use in conjunction with slimline fanlight openers

The slimline fanlight openers (OL 320, OL 90 N and OL 95) can be actuated electrically in combination with the E 212 and E 205 electric linear drives and can be used for daily ventilation as well as for safe and reliable smoke extraction. Therefore, cost-effective and simple motorised solutions result for activating several scissors where several heavy windows exist.

**E 212 / E 205: for use in conjunction with slimline fanlight openers**

- For automating the GEZE fanlight openers OL 320, OL 90 N and OL 95
- Cost-effective and simple motorised solutions for actuating several scissors
- Natural ventilation, smoke and heat extraction system (RWA) in the 24 V version
- The narrow design allows unobtrusive adaptation to the appearance of window frontages
- The assembly group is completely preassembled, the limit switch and drive protection are already installed and adjustable
- Stroke with variable adjustment so that the opening width can be flexibly controlled on site

Technical data

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

GEZE SCISSOR DRIVES

GEZE scissor drives

Brief description of the variants

Design solutions for optimum ventilation

The scissor drive technology is flexible and can be used for daily ventilation as well as for safe and reliable smoke extraction. The scissor drive is suitable for vertically installed, inward-opening fanlights and moves wide and heavy casements, conveniently and safely. The integration of the scissors in the cover profile not only provides design advantages, but also additional protection from dirt.



E 170 and E 170/2: design solutions for optimum ventilation

- Linear drive in conjunction with slimline fanlight openers for activating windows in the façade
- Natural ventilation, smoke and heat extraction system (RWA) in the 24 V version
- Design advantages and additional protection against dirt due to the integration of the scissors in the cover profile
- Stroke with variable adjustment so that the opening width can be flexibly controlled on site
- The two-scissor version E 170/2 also moves wide and heavy casements conveniently and safely

Technical data

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

• = YES

GEZE fresh air systems

Brief description of the variants

Optimum interaction of fresh and exhaust air openings

Adequately dimensioned fresh air areas are always required for safe, reliable functioning of natural smoke and heat exhaust ventilation. Cold air flows in via the fresh air areas in the lower part of the building so that – due to the stack effect – any existing smoke rises and can be drawn out through the extraction areas in the upper part of the building. GEZE offers a range of several completely coordinated fresh air systems for the interaction between fresh and exhaust air openings.



RWA TÖ: RWA control unit in combination with inversely mounted door closer

- With the RWA TÖ doors can be used as an RWA fresh air supply or smoke extraction opening
- Simple system for creating large fresh air supply areas
- Released by the emergency power control unit, in the event of an RWA case the door is opened by the force of the inversely mounted door closer
- In conjunction with the RWA TÖ system the door can also be used as a smoke extraction opening
- Combination with the GEZE emergency exit system (RWS) enables its use on emergency exits



RWA K 600: retractable arm drive for opening doors and windows

- Universal use on windows and doors, on the hinge and on the opposite hinge side
- Enables opening angles of over 90 degrees at windows and doors
- Use as RWA (24 V), in SHEVs in accordance with DIN 12101-2 and for natural ventilation (230 V in conjunction with a power supply)
- The integrated control enables synchronised multiple operation and door closing selection without an additional module
- Integrated status contact for direct connection of a door opener

Technical data

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



RWA AUT: automatic opening of the doors in RWA case

- Use for automatically passable doors which, depending on their location in the building, are used as fresh air or exhaust air openings in case of an emergency.
- Due to the large opening widths of the GEZE automatic doors, large fresh air supply areas can be created
- Safeguarding the automatic door in accordance with DIN 18650 ensures comfort, convenience and safety
- Combination with the GEZE emergency exit system (RWS) enables its use on emergency exits

GEZE RWA CONTROL UNITS

GEZE RWA control units

Brief description of the variants

Central control units for control of individual components

Emergency power control units enable the coordinated actuation and release of fresh air supply and exhaust air openings, which are equipped with electromotive drives. Release in case of fire occurs through automatic smoke detectors, manual RWA buttons or external alarm signalling devices. Vent switches enable drives on the windows and smoke extraction openings to be controlled for normal ventilation. GEZE offers different types and sizes of control units, so that the right solution can be found for every RWA.



THZ: the complete RWA solution for staircases

- Safe supply and control of RWAs for compliance with the fire safety regulations
- In combination with the FT4 K RWA button it is an inexpensive solution for smaller RWAs, e.g. in a staircase
- Compact control unit with plain design for installation within the visible area
- Parameterisation options for individual adjustment, e.g. to automatic ventilation systems
- Combination with the GEZE emergency exit system (RWS) enables its use on emergency exits



THZ Comfort: the additional safety and convenience in staircases

- Illumination of the integrated RWA button results in improved detectability and therefore more safety
- Completely robust metal housing - suitable for use in public areas
- Time savings during installation, as the integrated RWA buttons and vent switches no longer have to be wired separately
- Stylish and with minimum dimensions, it can be installed in a space-saving way within the visible area, even in narrow staircases.
- Fast and easy commissioning with the ST 220 service tool



E 260 N2-32: central control units for small to medium-sized RWA solutions

- Tried and tested supply and control of RWAs for compliance with the fire safety regulations
- Suitable control unit can be selected depending on the number of RWA openings
- Several ventilator groups are available, as well as subdivision into 2 alarm groups
- The emergency power supply reliably ensures 72 hours of functional safety for smoke extraction and smoke removal devices
- Easy commissioning: Important settings can be easily set using jumpers or service buttons



MBZ 300: bus control unit for flexible adaptation to specific building or project requirements

- Modular design and diverse setting options make it possible to provide an RWA control unit for specific buildings or projects
- The control unit can be extended flexibly and easily thanks to the individual modules
- Fast hardware configuration possible by clicking on the modules
- PC software for enhanced configuration and control of the control unit for updates and for saving important operating states and the service settings
- Direct user interface and state display on the modules enables simple functional tests

Overview tables for GEZE THZ and THZ Comfort

General information

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

Electrical

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

Composition / variants (schematic diagram for any control unit)

	THZ	THZ Comfort
Structure	compact	
Alarm groups	1	
Ventilator groups	1	

GEZE RWA CONTROL UNITS

Overview tables for GEZE RWA emergency power units E 260 N

General information

	E 260 N2/1	E 260 N8/2	E 260 N12/2	E 260 N32/2 - N32/8
Outer dimensions	256 x 217 x 112 mm	362 x 319 x 131 mm		600 x 600 x 210 mm
Housing material	Plastic			painted sheet steel
Colour	grey			grey painted (RAL 7032)
Type of installation	Surface-mounted			
Cable insertion	from underneath, surface-mounted			from above, surface-mounted
Enclosure rating	IP54			
Ambient temperature	-5 - 40 °C, environmental class III			

Electrical

	E 260 N2/1	E 260 N8/2	E 260 N12/2	E 260 N32/2 - N32/8	
Operating voltage (primary)	Mains voltage	230 V AC ±10 %, 50 Hz			
	Power	80 VA	260 VA	480 VA	1400 VA
	Back-up fuse necessary on site	16 A			
Mains power cable connection cross-section	3 x 1.5 mm ² or 3 x 2.5 mm ²				
Output voltage for drives	For mains supply	24 V DC (20-30 V)			
	For rechargeable battery supply	24 V DC (20-30 V)			
	Residual ripple	20 %			
Output current for drives	Total	2 A	7.5 A	12 A	32 A
	Duty rating	for mains operation: 25 %, max. on period: 5 min			
	Per ventilator group	2 A	7.5 A (7.5 A in total)	12 A (12 A in total)	Ventilator group 1+2: max. 16 A Ventilator group 3-8: max. 8 A (32 A in total)
Connection cross-section	Drives	maximum 4.0 mm ²			
Emergency power supply	Nominal capacity of the rechargeable battery	1,2 Ah	6 - 7.2 A (lead battery)	6 - 7.2 A (lead battery)	17 Ah (lead battery)
	Rechargeable battery voltage (charge voltage temperature-compensated)	2 x 12 V			
	Rechargeable battery connection	Flat plug			Ring cable lug MS5
	Duration	72 h (max.) standby operation with subsequent motor operation for 180 s (2x open / 1x closed)			

Composition / variants (schematic diagram for any control unit)

	E 260 N2/1	E 260 N8/2	E 260 N12/2	E 260 N32/2 - N32/8
Structure	compact			modular
Alarm groups	1			1 - 2 (depending on the type), can be retrofitted via optional circuit board "2nd alarm group"
Ventilator groups	1 ventilator group	2 ventilator groups	2 ventilator groups	2 ventilator groups (E 260 N32/2) 4 ventilator groups (E 260 N32/4) 6 ventilator groups (E 260 N32/6) 8 ventilator groups (E 260 N32/8) (ventilator groups can be retrofitted)

Overview tables for GEZE RWA modular bus control unit MBZ 300

General information

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

Electrical

	MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable	
Operating voltage (primary)	Mains voltage	230 V AC ±10 %, 50...60 Hz				
	Power	240 W	480 W	960 W	1440 W	depending on type
	Back-up fuse necessary on site	16 A				
	Mains power cable connection cross-section	3 x 1.5 mm ² or 3 x 2.5 mm ²				
Output voltage for drives	For mains supply	24 V DC ±5 %				
	For rechargeable battery supply	24 V DC ±15 %				
	Residual ripple	2 %				
	Minimum output voltage	Minimum output voltages in accordance with EN 12101-10 Tab. 5: drives 19.3 V / detection circuits 18.2 V				
Output current for drives	Total	10 A	24 A	48 A (2x 24 A)	72 A (3x 24 A)	depending on type
	Duty rating	30 % duty rating				
	Per ventilator group	per DM 10 A per power supply 10 A	per DM 10 A per DME 20 A per power supply 24 A			depending on type
Connection cross-section	Drives	min. 1.5 mm ² / max. 2.5 mm ²				
Emergency power supply	Nominal capacity of the rechargeable battery	Standard rechargeable battery: 12 Ah	Standard rechargeable battery: 17 Ah alternatively: 24 Ah, 38 Ah	Standard rechargeable battery: 24 Ah alternatively: 38 Ah	Standard rechargeable battery: 38 Ah	depending on type
	Rechargeable battery voltage (charge voltage temperature-compensated)	2 x 12 V				
	Rechargeable battery connection	Flat plug 6.3 mm	Ring cable lug M55	Ring cable lug M55	Ring cable lug M55	depending on type
	Duration	72 h (max.) standby operation with subsequent motor operation for 180 s (2 x open / 1 x closed)				

Structure

Internal bus system for modular fitout

- The minimum fitout consists of 1 power supply adapter, 1 power module PM, 1 control module CM and 1 drive module DM
- The maximum fitout can contain up to 64 bus modules (depending on the control cabinet) with max. 72 A (3 switching-mode power supplies each with 24 A). If higher power is required, several linked control units can be configured as a single unit using the software.
- The following additional modules are possible: drive module DM or DME, sensor module SM, weather module WM, relay module ERM

Variants	MBZ 300 N10	MBZ 300 N24	MBZ 300 N48 K / G	MBZ 300 N72	MBZ 300 configurable
Installed power supplies	1 power supply adapter 10 A	1 power supply adapter 24 A	2 power supply adapters 24 A	3 power supply adapters 24 A	depending on type

Installed modules:

PME	-	-	1	2	Based on the basic control units sizes N10-N72, the number and order of the modules can be adapted for a specific property or project.
PM	1	1	1	1	
CM	1	1	1	1	
DM	1	3	6	9	
Space for additional modules	8	18	N48 K: 5 N48 G: 13	8	
Standard configuration	1 alarm group 1 ventilator group	1 alarm group 3 ventilator groups	1 alarm group 6 ventilator groups	1 alarm group 9 ventilator groups	

GEZE MANUAL VENTILATION SYSTEMS

GEZE manual ventilation systems

Daily ventilation made easy

The manual window opening systems are used for convenient daily ventilation. The fanlight opening systems offer large variant diversity and can be opened easily and reliably. The cranked turn and tilt hardware is the perfect solution for large, heavy windows. The range of applications includes rectangular vertically installed, inward-opening bottom-hung or top-hung casements and vertically installed outward-opening top-hung windows. Solutions are also available for special shapes, e.g. vertically installed, inward-opening angular, triangular, semicircular and segmental arch windows.

Overview table GEZE manual ventilation systems

	Fanlight opener systems				Cranked turn and tilt hardware systems
	OL 90 N	OL 90 N Top-hung windows outward opening	OL 95	OL 320	F 1200
Applications					
For vertically installed window casements made of wood, plastic or metal	•	•	•	•	
Large heavy windows					•
Window shape					
Rectangular	•	•	•	•	•
Angular	•		•	•	
Triangular	•		•	•	
Semicircular and segmental arch	•				
Type of opening					
Inward-opening	•		•	•	•
Outward-opening		•			
Technical data					
OL scissor length	242 mm	274 mm	305 mm	436 mm	
OL scissor depth	49 mm	54 mm	49 mm	65 mm	
OL scissor height	16 mm	61 mm	16 mm	26 mm	
Max. opening width	170 mm	170 mm	220 mm	320 mm	180 mm
Max. panel weight	40 kg/m ²	30 kg/m ²	30 kg/m ²	140 kg/m ²	150 kg/m ²
Max. casement weight	80 kg	80 kg	60 kg	250 kg	200 kg
Min. casement width	380 mm	600 mm	440 mm	680 mm	750 mm
Max. casement width					2000 mm
Max. casement width with one scissor	1200 mm	1200 mm	1200 mm	1200 mm	1400 mm
Max. casement width with two scissors	2400 mm	2400 mm	2400 mm	2400 mm	
Max. casement width with three scissors	3600 mm	–	3000 mm	3600 mm	
Min. casement height	250 mm	370 mm	350 mm	400 mm	750 mm
Max. casement height					2500 mm
Space requirement, min. to max.	19–27 mm	28–35 mm	21–27 mm	30–36 mm	
Functions					
Adjustable opening width (stroke reduction)	•	•	•	•	•
Casement lock integrated in the scissor	•	•	•	•	
Scissor unhooked by release button	•	•	•	•	
Burglary resisting lock (SKG)		•			
Lockable	•		•		•
Unhinging inhibitor	•		•	•	
Continuously adjustable ventilation					•

• = YES

GEZE manual ventilation systems

Brief description of the variants



OL 90 N: surface-mounted slimline fanlight opener with an opening width of 170 mm

- Large opening width of 170 mm
- The façade's appearance remains unchanged, because the flat scissor design and link arm require little space
- Problem-free installation: the scissors and the link arm can be installed from the front
- Safe casement locking thanks to locking in the scissor
- OL 90 N top-hung casement, outward opening: with burglar resistant locking (SKG certified)
- OL 90 N for special shapes: with the help of the extensive accessories, solutions can be implemented for different special window shapes



OL 95: surface-mounted slimline fanlight opener with an opening width of 220 mm

- Improved ventilation due to an opening width of 220 mm
- Inconspicuous installation in post-rail-construction due to small overall height
- Safe casement locking thanks to locking in the scissor
- Convenient window cleaning from the inside and outside by easily unhooking the scissor
- Small space requirement above and to the side of the casement



OL 320: surface-mounted slimline fanlight opener with an opening width of 320 mm

- Large opening width: approx. 320 mm (on request approx. 220 mm), for high casement widths up to 250 kg
- Locking device in the scissor
- Problem-free installation even in deep reveals, as the scissors and link arm can be installed from the front
- Only one casement bracket for all overlap heights and materials
- Small space requirement above and to the side of the casement



F 1200: crank turn and tilt hardware system for large and heavy windows

- Fulfills special robustness and stability requirements
- Continuously adjustable ventilation – from the gap ventilation to the tilted end position
- Functional safety due to weight-independent crank handle actuation with control display
- Additional protection against incorrect operation and overload friction coupling
- Secure locking due to the arrangement of virtually any number of bolt positions on all four sides
- Arrangement of all fitting parts on the inner casement shell

Reference photos of electrical RWA and ventilation systems



GEZE Slimchain and GEZE E 250 NT (Photo: Lazaros Filoglou)



GEZE ECchain with safety scissors
(Photo: Lazaros Filoglou)



GEZE Powerchain with safety scissors
(Photo: Lazaros Filoglou)



GEZE Slimchain (Photo: Lazaros Filoglou)



GEZE E 250 NT
(Photo: Lazaros Filoglou)



GEZE E 970, GEZE E 905 / E 906 and safety scissors
(Photo: Lazaros Filoglou)

Reference photos of GEZE manual ventilation systems



GEZE TS 5000 and OL 90 N with post-rail transmission, Nursing home Augustinum, Stuttgart, Germany (Photo: Dirk Wilhelmy)



GEZE OL 90 top-hung, outward opening, Stiftung Ecksberg, Mühlendorf, Germany (Photo: Robert Sprang)



GEZE OL 90 N, Hotel Amano, Berlin, Germany (Photo: Stefan Dauth)

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

Door technology

01	Overhead door closers ID 091593, ID 091594
02	Hold-open systems ID 091593, ID 091594
03	Integrated door closers ID 091609
04	Floor springs ID 091607
05	Sliding door gear systems and linear guides ID 123605, ID 008770, ID 000586

Automatic door systems

06	Swing doors ID 144785
07	Sliding, telescopic and folding doors ID 143639
08	Circular and semi-circular sliding doors ID 135772
09	Revolving doors ID 132050
10	Actuation devices and sensors ID 142655

Smoke and heat extraction and window technology

11	Fanlight opening systems ID 127787
12	Electric opening and locking systems ID 154851
13	Electrical spindle and linear drives ID 154851
14	Electric chain drives ID 154851
15	Smoke and heat extraction systems ID 154851

Safety technology

16	Emergency exit systems ID 132408
17	Access control systems ID 132158
18	Panic locks ID 132848
19	Electric strikes ID 148666
20	Building management system ID 132408

Glass systems

21	Manual sliding wall systems (MSW) ID 104377
22	Integrated all-glass systems (IGG) ID 104366
23	GEZE Patch fittings mono glass systems ID 122521



POTENTIAL APPLICATIONS OF GEZE PRODUCTS



Door technology

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

Automatic door systems

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

Smoke and heat extraction and window technology

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

Safety technology

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

Building systems

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

Glass systems

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

GEZE GmbH
P.O. Box 1363
71226 Leonberg
Germany

GEZE GmbH
Reinhold-Vöster-Straße 21-29
71229 Leonberg
Germany
Telefon +49 7152 203 0
Telefax +49 7152 203 310
www.geze.com

Germany
 GEZE GmbH
 Niederlassung Süd-West
 Breitwiesenstraße 8
 71229 Leonberg
 Tel. +49 7152 203 594
 Fax +49 7152 203 438
 leonberg.de@geze.com

GEZE GmbH
 Niederlassung Süd-Ost
 Parking 17
 85748 Garching bei München
 Tel. +49 7152 203 6440
 Fax +49 7152 203 77050
 muenchen.de@geze.com

GEZE GmbH
 Niederlassung Ost
 Bühringstraße 8
 13086 Berlin (Weißensee)
 Tel. +49 7152 203 6840
 Fax +49 7152 203 76849
 berlin.de@geze.com

GEZE GmbH
 Niederlassung Mitte/Luxemburg
 Adenauerallee 2
 61440 Oberursel (b. Frankfurt)
 Tel. +49 7152 203 6888
 Fax +49 7152 203 6891
 frankfurt.de@geze.com

GEZE GmbH
 Niederlassung West
 Heltorfer Straße 12
 40472 Düsseldorf
 Tel. +49 7152 203 6770
 Fax +49 7152 203 76770
 duesseldorf.de@geze.com

GEZE GmbH
 Niederlassung Nord
 Haus 11, 1. OG - Theodorstr. 42-90
 22761 Hamburg-Bahrenfeld
 Tel. +49 7152 203 6600
 Fax +49 7152 203 76608
 hamburg.de@geze.com

GEZE Service GmbH
 Niederlassung Süd-West
 Reinhold-Vöster-Straße 25
 71229 Leonberg
 Tel. +49 1802 923392
 Fax +49 7152 9233 359
 service-leonberg.de@geze.com

GEZE Service GmbH
 Niederlassung Süd
 Parking 17
 85748 Garching bei München
 Tel. +49 1802 923392
 Fax +49 7152 9233 859
 service-muenchen.de@geze.com

GEZE Service GmbH
 Niederlassung Mitte
 Oberurseler Str. 69
 61440 Oberursel
 Tel. +49 1802 923392
 Fax +49 7152 9233 659
 service-oberursel.de@geze.com

GEZE Service GmbH
 Niederlassung West
 Heltorfer Straße 12
 40472 Düsseldorf
 Tel. +49 1802 923392
 Fax +49 7152 9233 559
 service-duesseldorf.de@geze.com

GEZE Service GmbH
 Niederlassung Nord-Ost
 Bühringstraße 8
 13086 Berlin (Weißensee)
 Tel. +49 1802 923392
 Fax +49 7152 9233 759
 service-berlin.de@geze.com

GEZE Service GmbH
 Niederlassung Nord
 Theodorstr. 42-90, Haus 11
 22761 Hamburg
 Tel. +49 1802 923392
 Fax +49 7152 9233 459
 service-hamburg.de@geze.com

Austria
 GEZE Austria
 Wiener Bundesstrasse 85
 A-5300 Hallwang
 Tel: +43 6225 87180
 Fax: +43 6225 87180 299
 austria.at@geze.com

Baltic States
 GEZE GmbH Baltic States office
 Dzelzavas iela 120 S
 1021 Riga
 Tel. +371 678960 35
 Fax +371 678960 36
 office-latvia@geze.com

Benelux
 GEZE Benelux B.V.
 Industrierrein Kapelbeemd
 Steenoven 36
 5626 DK Eindhoven
 Tel. +31 4026290 80
 Fax +31 4026290 85
 benelux.nl@geze.com

Bulgaria
 GEZE Bulgaria - Trade
 Representative Office
 Nickolay Haitov 34 str., fl. 1
 1172 Sofia
 Tel. +359 247043 73
 Fax +359 247062 62
 office-bulgaria@geze.com

China
 GEZE Industries (Tianjin) Co., Ltd.
 Shuangchenzhong Road
 Beichen Economic Development
 Area (BEDA)
 Tianjin 300400, P.R. China
 Tel. +86 22 26973995
 Fax +86 22 26972702
 chinasales@geze.com.cn

GEZE Industries (Tianjin) Co., Ltd.
 Branch Office Shanghai
 Jia Little Exhibition Center
 Room C 2-102
 Shenzhuan Rd. 6000
 201619 Shanghai, P.R. China
 Tel. +86 21 52340960
 Fax +86 21 64472007
 chinasales@geze.com.cn

GEZE Industries (Tianjin) Co., Ltd.
 Branch Office Guangzhou
 Room 17 C 3
 Everbright Bank Building, No.689
 Tian He Bei Road
 510630 Guangzhou, P.R. China
 Tel. +86 20 38731842
 Fax +86 20 38731834
 chinasales@geze.com.cn

GEZE Industries (Tianjin) Co., Ltd
 Branch Office Beijing
 Room 1001, Tower D
 Sanlitun SOHO
 No. 8, Gongti North Road,
 Chaoyang District
 100027 Beijing, P.R.China
 Tel. +86 10 59359300
 Fax +86 10 59359322
 chinasales@geze.com.cn

France
 GEZE France S.A.R.L.
 ZAC de l'Orme Rond
 RN 19
 77170 Servon
 Tel. +33 1 606260 70
 Fax +33 1 606260 71
 france.fr@geze.com

Hungary
 GEZE Hungary Kft.
 Hungary-2051 Biatorbágy
 Vendel Park
 Huber u. 1.
 Tel. +36 23532 735
 Fax +36 23532 738
 office-hungary@geze.com

Iberia
 GEZE Iberia S.R.L.
 C/ Andorra 24
 08830 Sant Boi de Llobregat
 (Barcelona)
 Tel. +34 902194 036
 Fax +34 902194 035
 info@geze.es

India
 GEZE India Private Ltd.
 MF 2 & 3, Guindy Industrial Estate
 Ekkattuthangal
 Chennai 600 097
 Tamilnadu
 Tel. +91 44 406169 00
 Fax +91 44 406169 01
 office-india@geze.com

Italy
 GEZE Italia S.r.l
 Sede di Milano
 Via Giotto 4
 20040 Cambiago (MI)
 Tel. +39 0295069 511
 Fax +39 0295069 533
 italia.it@geze.com

Sede di Roma
 Via Lucrezia Romana, 91
 00178 Roma
 Tel. +39 06 726531 1
 Fax +39 06 726531 36
 roma@geze.biz

Poland
 GEZE Polska Sp.z o.o.
 ul. Annopol 21
 03-236 Warszawa
 Tel. +48 224 404 440
 Fax +48 224 404 400
 geze.pl@geze.com

Romania
 GEZE Romania S.R.L.
 IRIDE Business Park,
 Str. Dimitrie Pompeiu nr. 9-9a,
 Building 10, Level 2, Sector 2,
 020335 Bucharest
 Tel.: +40 212507 750
 Fax: +40 316201 258
 office-romania@geze.com

Russia
 OOO GEZE RUS
 Gamsonovskiy Per. 2
 115191 Moskau
 Tel. +7 495 93306 59
 Fax +7 495 93306 74
 office-russia@geze.com

Scandinavia – Sweden
 GEZE Scandinavia AB
 Mallslingan 10
 Box 7060
 18711 Täby, Sweden
 Tel. +46 87323 400
 Fax +46 87323 499
 sverige.se@geze.com

Scandinavia – Norway
 GEZE Scandinavia AB avd. Norge
 Industriveien 34 B
 2073 Dal
 Tel. +47 63957 200
 Fax +47 63957 173
 norge.se@geze.com

Scandinavia – Denmark
 GEZE Danmark
 Branch office of GEZE Scandinavia AB
 Mårkærvej 13 J-K
 2630 Taastrup
 Tel. +45 463233 24
 Fax +45 463233 26
 danmark.se@geze.com

Singapore
 GEZE (Asia Pacific) Pte. Ltd.
 21 Bukit Batok Crescent
 #23-75 Wcega Tower
 Singapore 658065
 Tel: +65 6846 1338
 Fax: +65 6846 9353
 gezessea@geze.com.sg

South Africa
 GEZE Distributors (Pty) Ltd.
 118 Richards Drive, Halfway House,
 Ext 111, P.O. Box 7934, Midrand 1685,
 South Africa
 Tel: + 27 113158 286
 Fax: + 27 113158 261
 info@gezesa.co.za

Switzerland
 GEZE Schweiz AG
 Zelglimatte 1A
 6260 Reiden
 Tel. +41 62 28554 00
 Fax +41 62 28554 01
 schweiz.ch@geze.com

Turkey
 GEZE Kapı ve Pencere Sistemleri
 San. ve Tic. Ltd. Sti.
 İstanbul Anadolu Yakası Organize
 Sanayi Bölgesi
 Gazi Bulvarı Caddesi 8.Sokak No:8
 Tuzla-İstanbul
 Tel. + 90 216 45543 15
 Fax + 90 216 45582 15
 office-turkey@geze.com

Ukraine
 LLC GEZE Ukraine
 ul. Viskoznaya, 17,
 Building 93-B, Office 12
 02660 Kiev
 Tel./Fax +38 445012225
 office-ukraine@geze.com

United Arab Emirates/GCC
 GEZE Middle East
 P.O. Box 17903
 Jebel Ali Free Zone
 Dubai
 Tel. +971 48833 112
 Fax +971 48833 240
 gezeme@geze.com

United Kingdom
 GEZE UK Ltd.
 Blenheim Way
 Fradley Park
 Lichfield
 Staffordshire WS13 8SY
 Tel. +44 15434430 00
 Fax +44 15434430 01
 info.uk@geze.com

GEZE REPRESENTATIVE