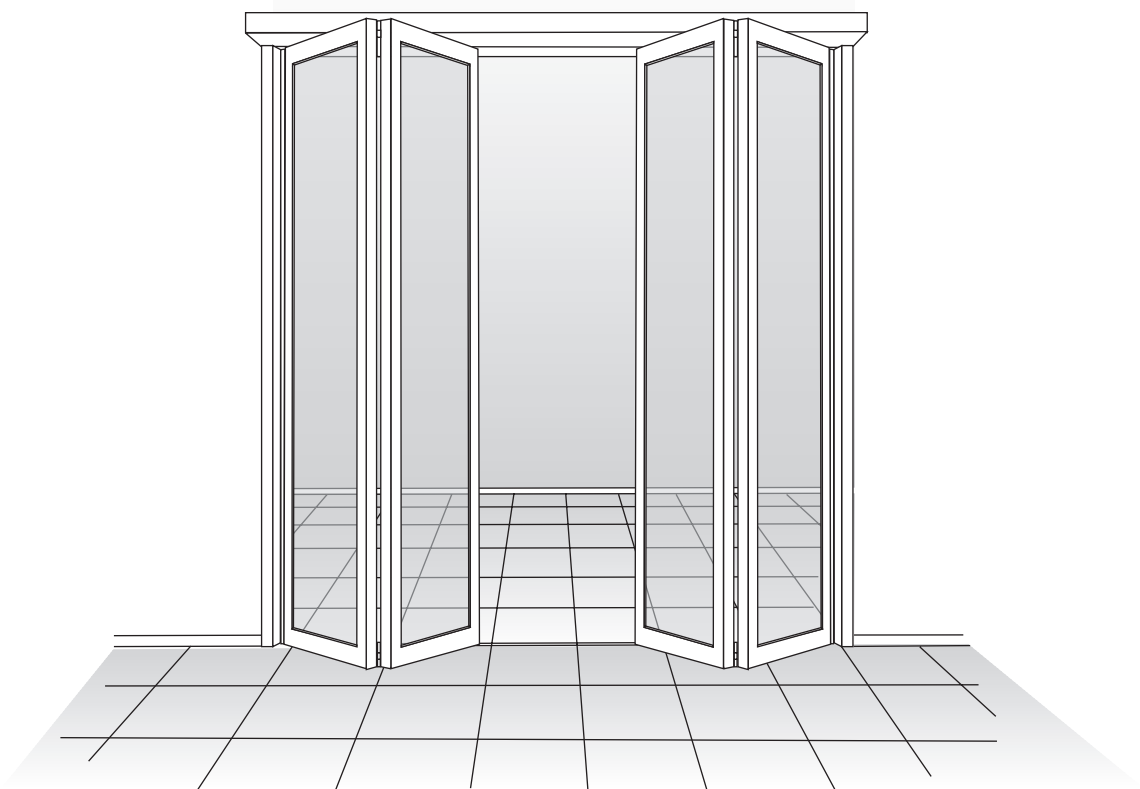


Slimdrive SF **Slimdrive SF-FR**

Automatic Folding Door
with an overall height of 70 mm

SF-FR suitable for escape routes



Planning document





Contents

Areas of application	4
Product features	5
System description	6
Safety functions	9
Components and profiles vertical cross section	10
Components and profiles horizontal cross section	11
Installation into lintel: vertical cross section	12
Installation into lintel: horizontal cross section	13
Calculation of the overall length of the complete system and glass dimensions	14
Function description	15
Control elements / actuation devices	17
Draught lobbies	18
Wiring diagram	19
Statement from the manufacturer	20
Certificates	22

Areas of application

GEZE folding door systems are used as automatic doors with horizontally sliding door leaves in dry, low and high usage areas. The folding door Slimdrive SF, featuring an extremely small drive, is suitable for areas with cramped conditions in particular:

- Shops
- Staff entrances and passageways
- Restaurants
- Hotel kitchens
- Cellar staircases
- Entries to terraces
- Landing doors
- For exterior and interior areas

Due to the low overall height it is particularly well suited for:

- Retro-fit installation into existing facades
- Modernisation
- Refurbishment

The advantages of a folding door are decisive in the case of

- Unsuitable entrance space / layout
- Small clear widths
- Precarious space situations

Product features

Slimdrive SF or SF-FR: for architects, planners, clients and operators

- Large opening widths but small clear widths
- Small space requirements in the depth
- Suitable for use when available space will not allow installation of sliding or swing doors
- Makes room owing to optional economy of space compared with hinged doors
- Extremely low building height, thus
 - Emphasised aesthetics and transparency
 - Larger clear passage heights
 - Easy and reasonably priced retrofitting to existing facade profiles
- High efficiency owing to high-quality materials and latest control technology
- Closed running profile, resulting in
 - Increasing quiet running properties
 - Optimised running properties
 - Longer service life

Slimdrive SF or SF-FR: for fabricators and partners

- Small number of profiles and modular construction
 - Allow fast production of all customer-specific opening widths
 - Reduces the storage costs
 - Allow pre-assembly of the mechanical drive components

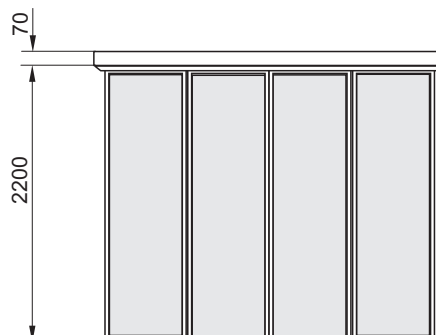
Slimdrive SF or SF-FR: for use on escape and rescue routes

- Dual-motor technology with maintenance-free motors
- The Slimdrive SF-FR has been approved for use in escape and rescue routes in accordance with the guidelines for automatic sliding doors in escape routes (AutSchR) In addition to this, the folding door drive has been tested in accordance with prEN 12650-1/2 and DIN V 18650-1/2 (2003).

System description

Type of door leaves

- Consisting of slim framed hardware system for glazings of toughened safety glass (10 mm), laminated glass (10 mm) or insulating glass (22 mm).
- Potential finger traps can be avoided by use of round profiles in the area of the hinges.
- Therefore the optical appearance of the profile system is not interrupted by broad rubber sealing strips in the folding gap.



Floor guides

To guarantee the stability of the folding doors e.g. in the case of strong wind load, we recommend and offer floor guides in general, which ensures the optimal function of the folding door. Floor guides are not required for standard systems on interior situations with an opening width of max. 1400 mm.

Dimensions / Weights

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Door leaf weight: | max. 4 x 40 kg |
| <input type="checkbox"/> Opening width: | 900 - 2000 mm (SF-FR as of 1000 mm) |
| <input type="checkbox"/> Door leaf height: | max. 2200 mm |
| <input type="checkbox"/> Opening speed: | programmable up to max. 0,7 m/s |
| <input type="checkbox"/> Closing speed: | programmable up to max. 0,5 m/s |

Drive

- Minimum space requirement: 70 mm high, 282 mm deep
- Maintenance-free DC motor
- Extremely quiet, enclosed running gear
- Power transmission via toothed belts at the main closing edge; deflection pulleys in precision bearings
- Integrated double pole mains switch

Only SF-FR:

- Duplicate processing system by means of dual-motor technology/accumulator in connection with a redundant control
- Lockable programme switch
The programme switch may only be operated by authorized persons. For that reason a key-operated switch is absolutely necessary. The operating mode selected must be clearly identifiable.
- Self-monitoring movement detector (redundance)
The functionality must be controlled constantly. If an error is indicated the door moves into the open position (repair required).
- Information for the locking of emergency exit doors (mode of operation „NIGHT“):
Automatic sliding doors for the use on escape routes may be locked, unless these doors are not required as emergency exit doors for this specific period of time. This is normally the case if there are no more people in the building or if another escape route is indicated.

Control

- Full digital control via high performance 16-bit micro processor
- All settings of the system as well as display of the function, error and maintenance parameters via programme switch
- Operating modes: automatic operation, permanent open, shop closing time (one-way), night
- Reduced opening width (winter opening) that can be set in the learning mode; for Slimdrive SF-FR the minimum escape route width (min. 30%) prescribed by the building authorities had been taken into consideration
- Different hold-open times for summer mode, winter mode and key operation
- Display of statistical data as well as fault indication via programme switch (number of openings, service interval display)
- Self-learning door control
- Hold-open time can be automatically adapted to the access frequency (can be activated)
- Connection to fire alarm system
- Electromotive break axle
- Opening and closing speed individually adjustable
- Fault indication safety sensor
- Fault indication radar movement sensor

Technical features

- Mains connection: 230 VAC; +6%/-10%; 50/60 Hz
- Power consumption max. 300 VA
- TÜV type tested

Control elements

The following forms of activation may be used:

- ☐ Radar movement detector where detection is independent of temperature
- ☐ Infrared movement sensor
- ☐ Buttons/switches
- ☐ Key-operated switch
- ☐ Code / card reader

Options

For version Slimdrive SF and SF-FR

- Stable electromotive break axle locking
- Connection to building management system via potential-free contacts
- Can be connected to fire alarm system
- Can be connected to burglar alarm system
Closing control via reed contact, locking control via micro switch
- Display of fault messages
- Sabotage contact for external key-operated switches

For version Slimdrive SF (not permitted for SF-FR)

- Draught lobby or interlocking function can be controlled with only 1 programme switch for 2 installations
- Fixed panel safeguarding via sensors
- Emergency locking
- Switching over to other modes of operation by means of timer
HINT:
conditioned switch-over for FR system (only between the modes: shop closing time, automatic and permanently open)

Safety functions

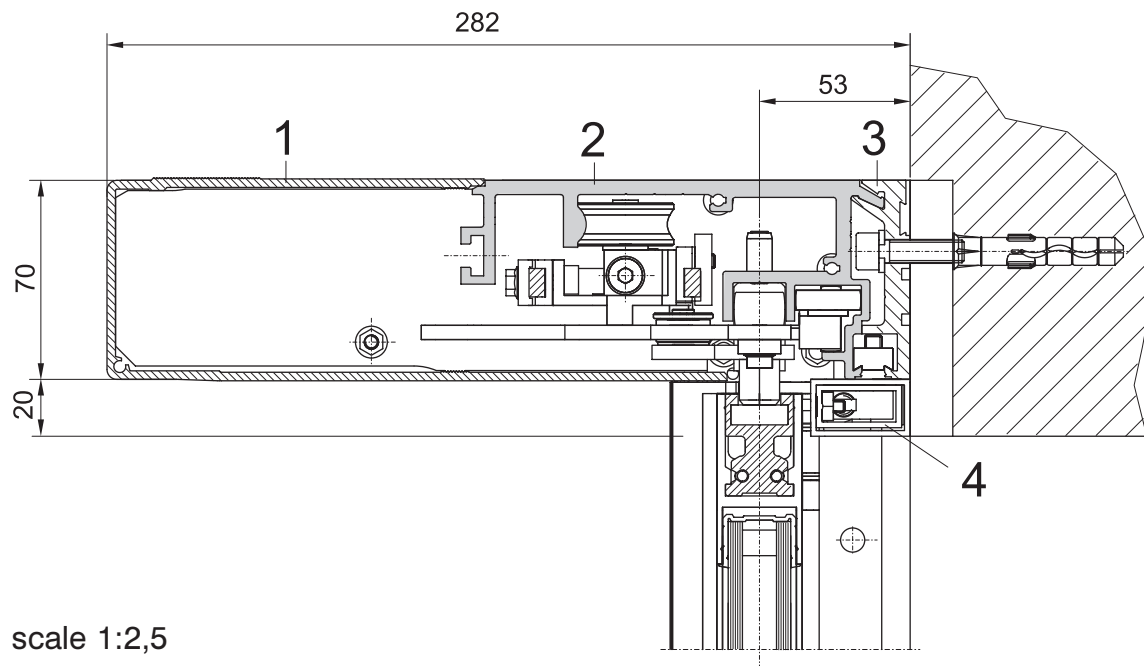
- Static closing force limited to <150 N
- Safety sensor with self-testing function
- Automatic reversing function. The door opens automatically, if it meets an obstacle during closure
- Electric emergency unlocking
- Battery pack to open and close the door in the case of power failure (no permanent operation)
- Integrated mains switch

For Slimdrive SF-FR the following will also apply:

- Automatic opening of the door from the mode of operation "AUT" and "Shop Closing" in the case of failure or emergency owing to a dual-motor technology in connection with a battery pack.

Components and profiles vertical cross section

Modular construction system in aluminium structure

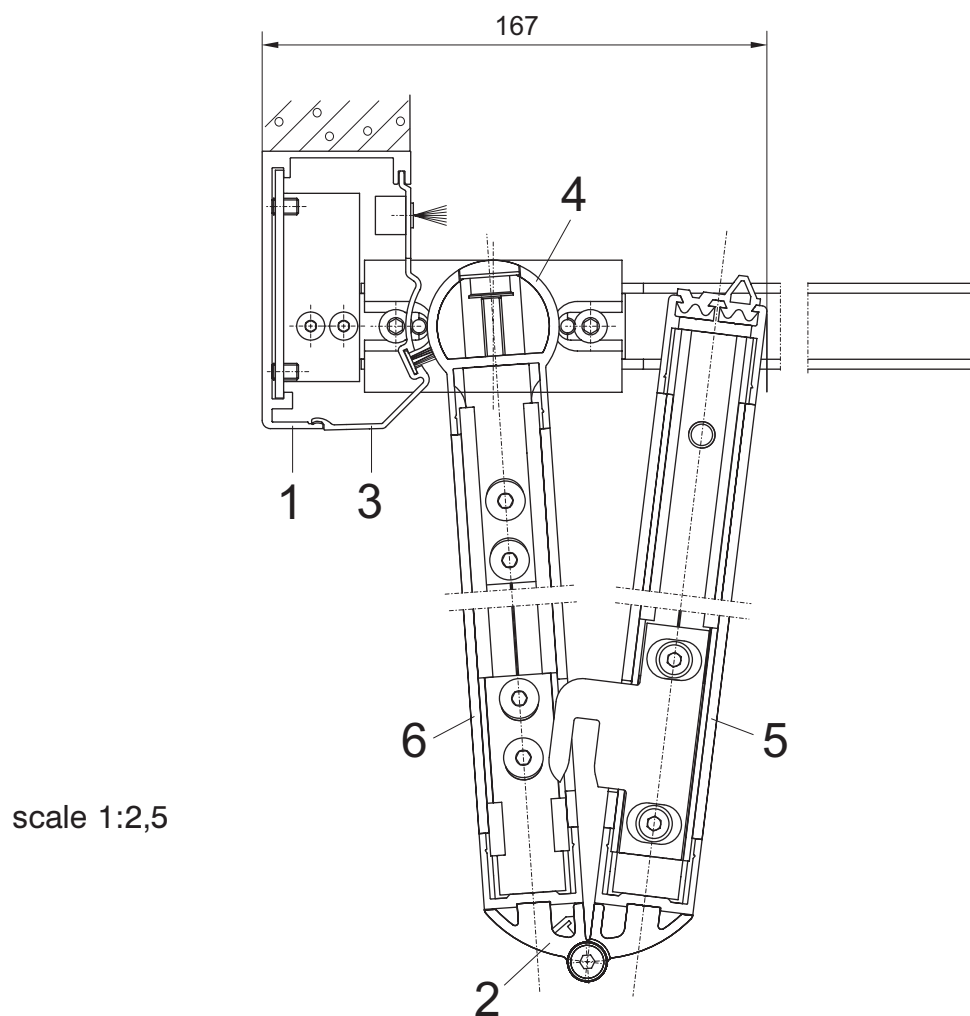


scale 1:2,5

- 1 Cover
- 2 Track

- 3 Mounting profile
- 4 Sealing strip

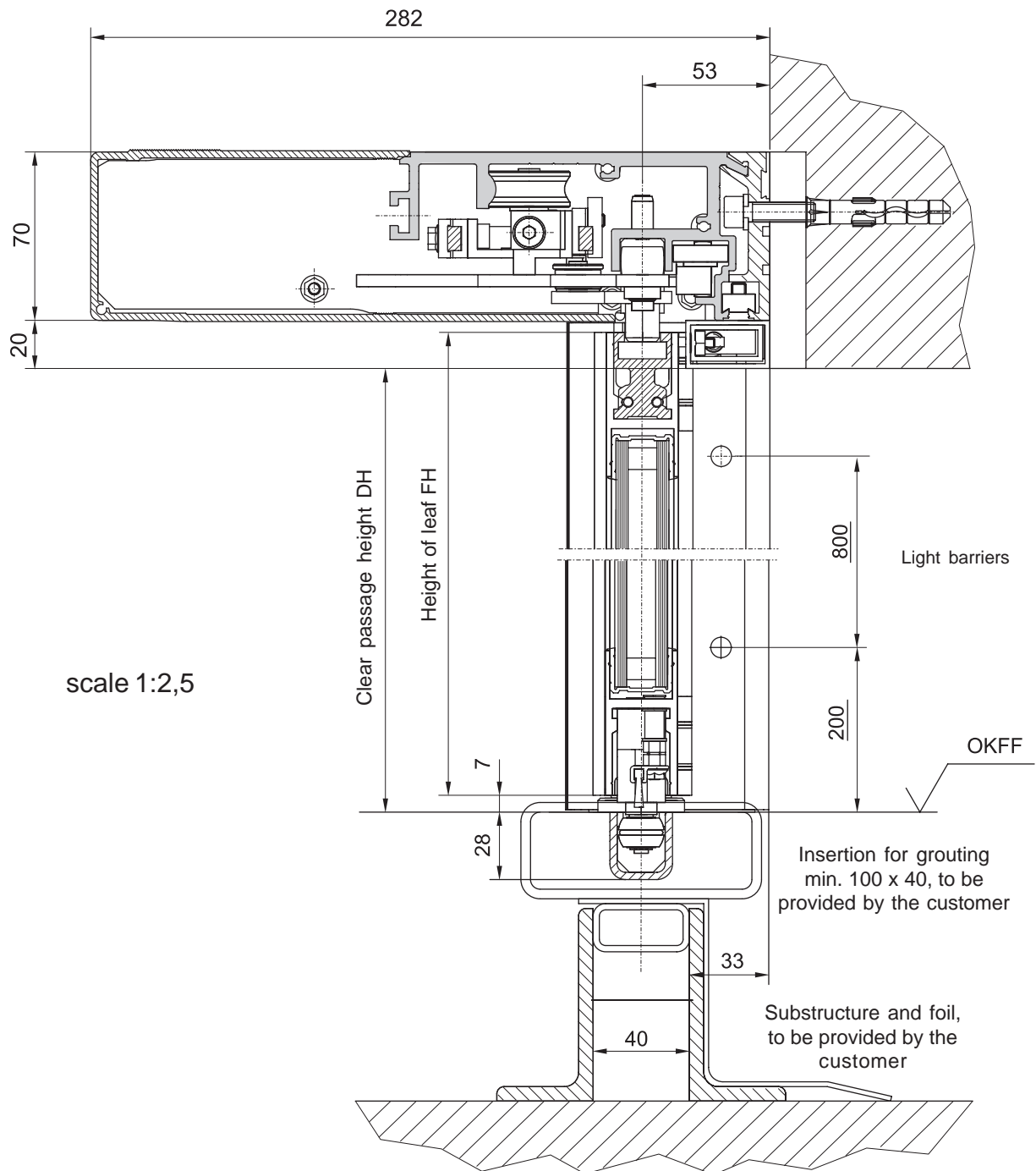
Components and profiles horizontal cross section



- 1 Post profile
- 2 Finger trap profile
- 3 Cover profile

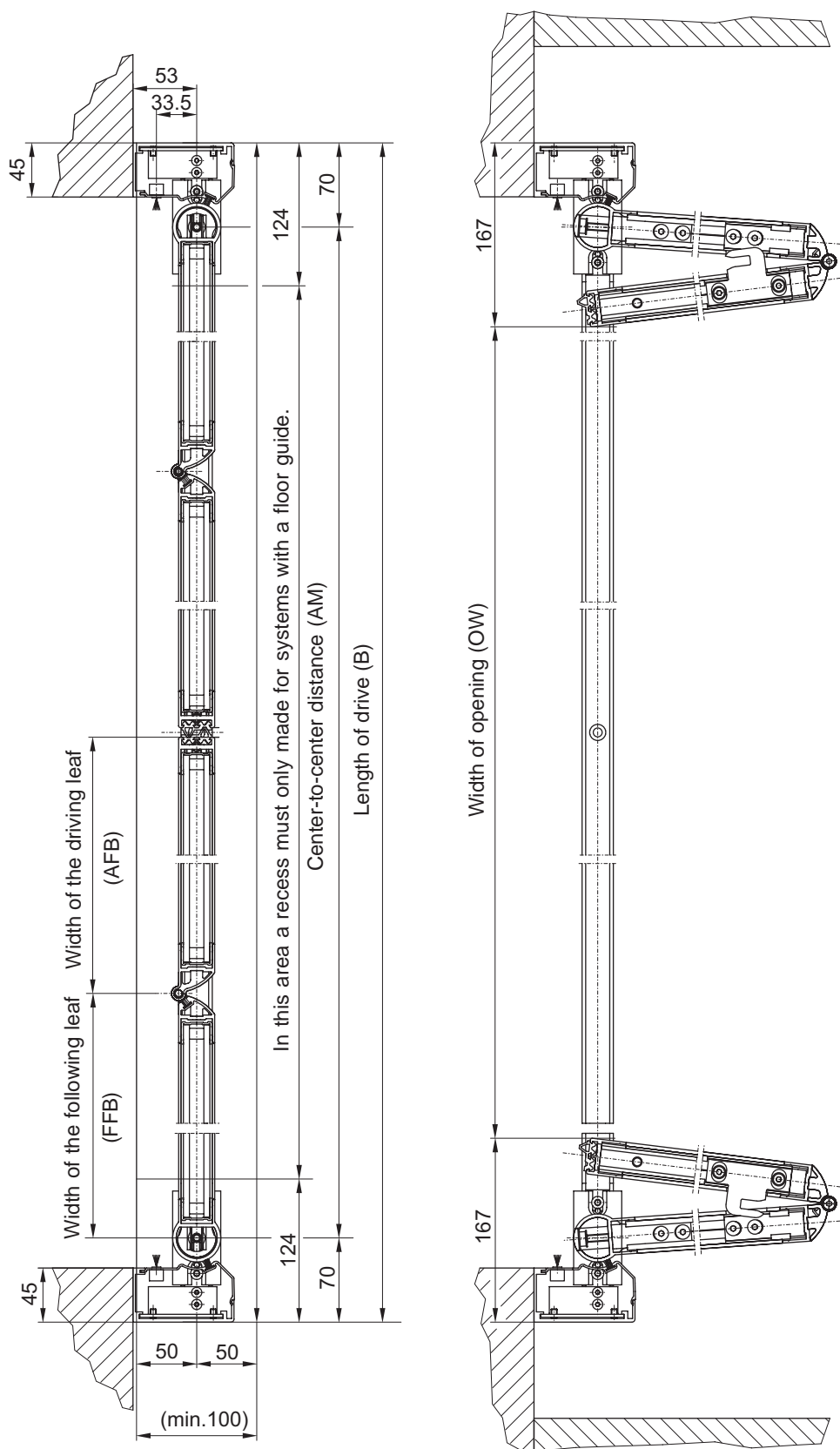
- 4 Rotation axis profile
- 5 Driven leaf
- 6 Passive leaf

Installation into lintel: vertical cross section



*) OKFF = Top edge of finished floor

Installation into lintel: horizontal cross section



Versions FR with floor guide only
 Standard interior doors (small wind loads) up to a max.
 opening width of 1400 mm do not require a floor guide.

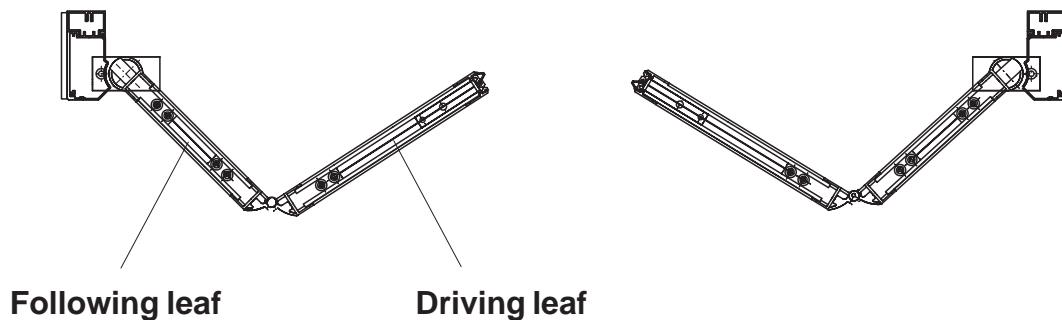
Calculation of the overall length of the complete system and glass dimensions

■ Overall length and opening width

Opening width OW: 900 - 2000 mm (SF-FR as of 1000 mm)
Overall length (installation into lintel): $B = \ddot{O}W + 334 \text{ mm}$

■ Calculation of glass dimensions (ISO-glass profile system)

Driving leaf Glass width = $\ddot{O}W / 4 + 10,5 \text{ mm}$
Following leaf Glass width = $\ddot{O}W / 4 - 1,5 \text{ mm}$
Glass height = headroom - 82 mm



Function description

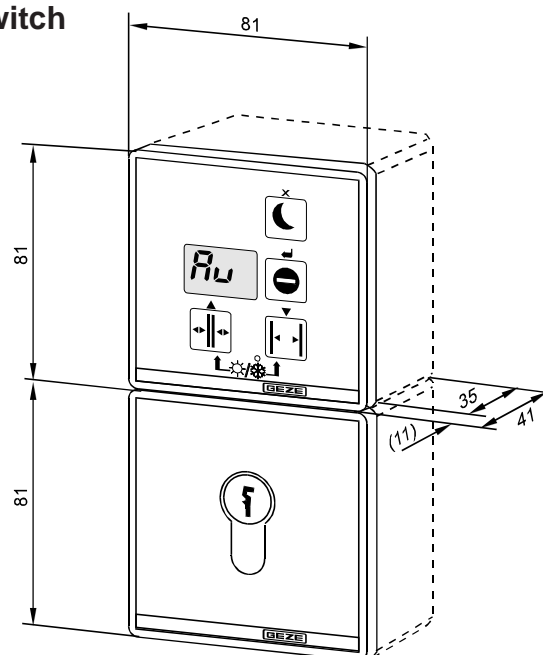
Display programme switch and key-operated reset switch

Slimdrive SF and SF-FR uses either a flush mounted or surface mounted programme switch with 7 segment display and membrane keypad. An additional key operated switch is mandatory for SF-FR type.

The display programme switch is used

- to select the mode of operation
- to view error messages
- to programme and service the system.

Dimensions: width x height = 81 x 81 (mm)
for the installation in standard flush-mounted
box (Ø 60 x 42 deep)



The following functions may be programmed via the programme switch:



Permanently

The door moves into the OPEN position and remains open. Movement detectors or opening pushbuttons are not active.



Night (Option):

The movement detectors are inactive, the door closes. Optional: the door leaves lock electro-magnetically to prevent unauthorised access.



Shop closing

The door opens and closes only, if someone is leaving. The exterior movement detector is not active, the interior (one-way): movement detector is active.



Automatic

The door opens as soon as it receives a signal from the movement detector or push buttons and closes again after a pre-set time. Photoelectric barriers scan the area the leaves are travelling. If a person stays within the doorway, the light barriers are interrupted and the door does not close.



Reduced opening width:

The settings determined in the learning mode can be activated or deactivated.



Key-operated

The programme switch can be locked using a key-operated switch (required for SF-FR)

■ Opening width

☐ Maximum opening width:

The door travels to its maximum opening width when signalled or while set to the permanently open position.

☐ Reduced opening width:

The door opens partially, even when set to automatic operation, permanently open, and to shop closing time position.

This means a reduced exchange of heat between the heated interior and cold air outside during the winter months. The opening width is infinitely variable by manually positioning the door in the learning mode.

HINT:

Please observe the minimum escape route width prescribed for version SF-FR

■ Hold open time

Describes the period of time in which the sliding doors are kept open before they close automatically. It may be adjusted freely from 0 to 60 seconds. Different hold-open times can be set for summer operation, winter operation and key-operated switch operation.

■ The hold-open time can be adapted to the access frequency

☐ The hold-open time is automatically extended when the door opens and closes frequently and cannot close completely in between openings. (can be activated)

☐ The hold-open time returns to its pre-set time as soon as the door closes completely once again.

■ Power failure:

☐ In the case of power failure the Slimdrive SF offers the following functions: either select "STOP" or the door is driven by a battery pack and runs to the "OPEN" or "CLOSED" position and remains in this position.

Type SF-FR will always move into the open position.

Control elements / actuation devices

Only approved radar movement detectors are permitted in the direction of the emergency exit.

- Radar movement detectors are activated by any kind of movement within the detection zone. The movement causes a delayed reflection of the beam transmitted by the radar unit. This shifted echo is measured, analysed and passed on in the form of an opening signal.
- Active infra-red movement detector are activated by people and objects based on the principle of short wave infra-red reflection. This provides a very precisely adjustable detection zone. It only analyses light transmitted by itself which means a very low level of interference. The opening signal is not only triggered by people and animals, but also by shopping trolleys, hospital beds etc.
(not permitted in escape routes).
- Passive infra-red movement detectors are activated by changes in temperature in conjunction with movement which makes them suitable for recognising people. A shopping trolley would not be detected due to the lack of heat emission.
(not permitted in escape routes).
- Switch, key-operated switch, etc.
- Remote controls

Please notice:

Radar or infra-red movement detectors have to be protected from rain, snow and sun by e.g. a customer provided roof.

Locking the door, leaving / entering the building

How to pass the locked door?

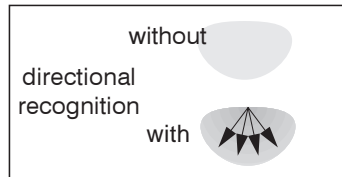
The programme switch is set to night-setting. The door is closed and locked mechanically.

- Leaving the room:
Operating the manual unlocking device opens the door -
It will close and lock automatically after you have left the room.
- Entering the room:
The door may be opened with a key-operated switch or any other electronic actuation device. The door is unlocked and opens.
After you have left the room, the door closes and locks automatically.
Now you can select the desired operation mode using the programme switch.

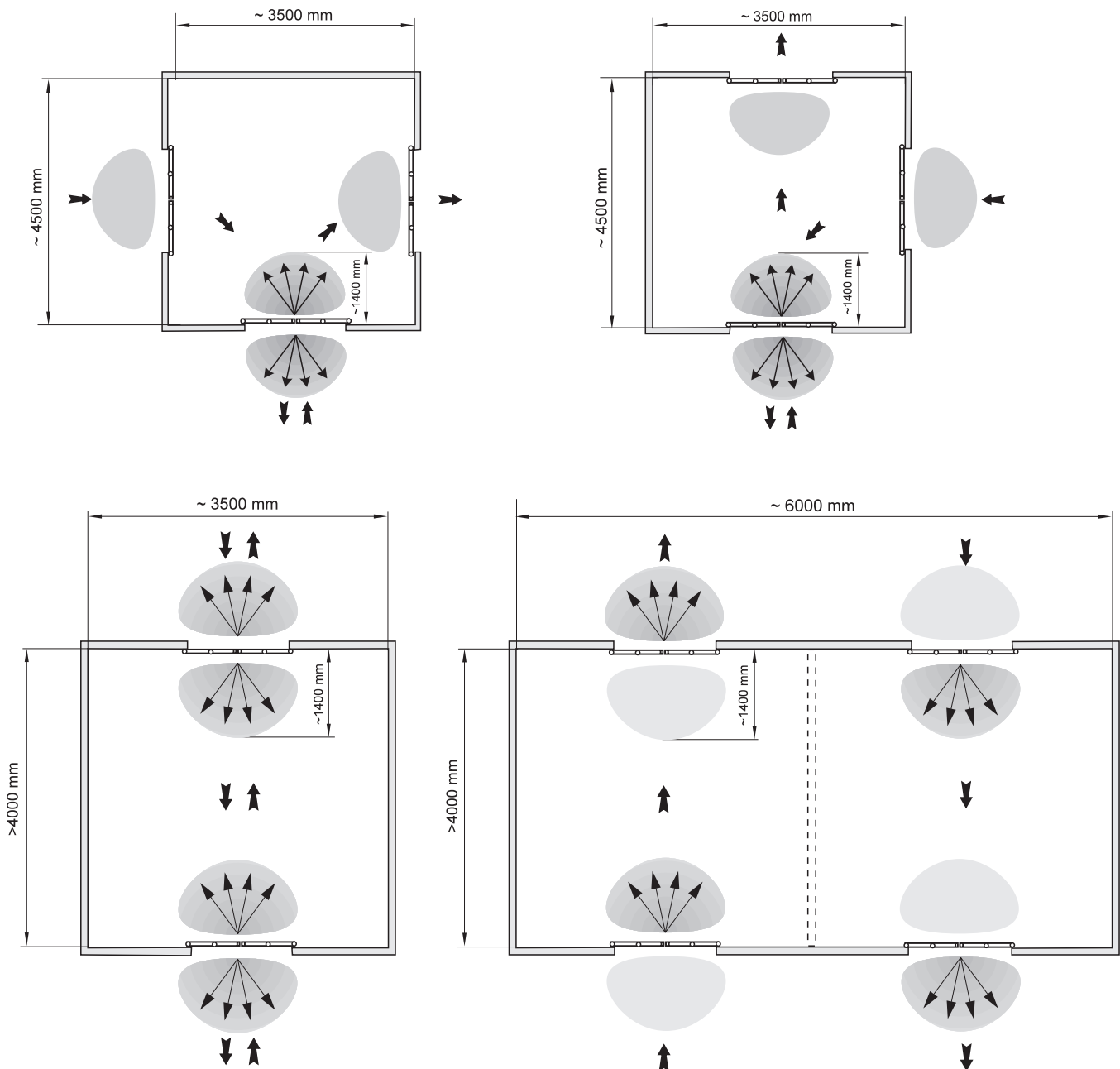
Draught lobbies

Draught lobbies are used to avoid draught and to reduce the exchange of heat. Ideally, only one door should be open.

Therefore the door closes sooner after the person has entered. A separate programme switch is required for each FR-door.



Examples for possible combinations:



Statement from the manufacturer

persuant to Appendix II Bof the Maschine Directive 89/392/EEC version 98/37/EC

Manufacturer: GEZE GmbH
Reinhold-Vöster-Straße 21-29
71229 Leonberg

Product designation: Drive GEZE Slimdrive SF

Statement :

This drive is developed, designed and produced in accordance with the Maschine Directive 89/392/EEC, version 98/37/EC and the Construction Products Directive 89/106/EEC, version 93/68/EC solely by GEZE GmbH and is not intended for use on its own.

Additional applicable EU directives:

- EMC Directive 89/336/EEC, version 93/31/EEC
- Low-Voltage Directive 73/23/EEC, version 93/68/EEC
- R & TTE-Directive 1999/9/EC

Applied harmonized standards :

- | | |
|------------------------|----------------|
| • EN 292 Parts 1 and 2 | • EN 60950 |
| • EN 50081-1 | • prEN 12650-1 |
| • EN 50082-2 | • prEN 12650-2 |
| • EN 60335-1 | |

Applied nationales standards and technical specifications :

- | | |
|------------|------------------|
| • ZH 1/494 | • DIN V VDE 0801 |
|------------|------------------|

Documentation operating instructions:

The delivery documentation, the statement from the manufacturer and the operating instructions are included with the drive.

Note:

Commisioning the described drive is not permissible until it has been determined that the door system which will accept this drive complies with the standards of the Maschine Directive and the Construction Products Directive.



Hermann Alber
Managing Director

Leonberg, 9 th. Sept. 2003

Statement from the manufacturer

persuant to Appendix II Bof the Maschine Directive 89/392/EEC version 98/37/EC

Manufacturer: GEZE GmbH
Reinhold-Vöster-Straße 21-29

71229 Leonberg

Product designation: Drive GEZE Slimdrive SF-FR 2M

Statement :

This drive is developed, designed and produced in accordance with the Maschine Directive 89/392/EEC, version 98/37/EC and the Construction Products Directive 89/106/EEC, version 93/68/EC solely by GEZE GmbH and is not intended for use on its own.

Additional applicable EU directives:

- EMC Directive 89/336/EEC, version 93/31/EEC
- Low-Voltage Directive 73/23/EEC, version 93/68/EEC
- R & TTE-Directive 1999/9/EC

Applied harmonized standards :

- EN 292 Parts 1 and 2
- EN 50081-1
- EN 50082-2
- EN 60335-1
- EN 60950
- prEN 12650-1
- prEN 12650-2

Applied nationales standards and technical specifications :

- ZH 1/494
- AutSchR
- DIN V VDE 0801

Documentation operating instructions:

The delivery documentation, the statement from the manufacturer and the operating instructions are included with the drive.

Note:

Commisioning the described drive is not permissible until it has been determined that the door system which will accept this drive complies with the standards of the Maschine Directive and the Construction Products Directive.



Hermann Alber
Managing Director

Leonberg, 9th. Sept. 2003



GEZE GmbH
P.O. Box 1363
71226 Leonberg
Germany
GEZE GmbH
Reinhold-Vöster-Str. 21-29
71229 Leonberg
Germany
Tel. +49 (0) 7152 - 203 - 0
Fax +49 (0) 7152 - 203 - 310

GEZE Online:
www.geze.com

GEZE Branches

Germany

GEZE GmbH

Niederlassung Nord/Ost
Bühningstr. 8
13086 Berlin (Weissensee)
Tel. +49 (0) 30 - 47 89 90 - 0
Fax +49 (0) 30 - 47 89 90 - 17
E-Mail: berlin.de@geze.com

GEZE GmbH

Niederlassung West
Nordsternstraße 65
45329 Essen
Tel. +49 (0) 2 01 - 8 30 82-0
Fax +49 (0) 2 01 - 8 30 82-20
E-Mail: essen.de@geze.com

GEZE GmbH

Niederlassung Mitte
Adenauerallee 2
61440 Oberursel
Tel. +49 (0) 6171 - 6 36 10 - 0
Fax +49 (0) 6171 - 6 36 10 - 1
E-Mail: frankfurt.de@geze.com

GEZE GmbH

Niederlassung Süd
Reinhold-Vöster-Straße 21-29
71229 Leonberg
Tel. +49 (0) 7152 - 203 - 5 94
Fax +49 (0) 7152 - 203 - 4 38
E-Mail: leonberg.de@geze.com

Subsidiaries

Germany

GEZE Sonderkonstruktionen GmbH

Planken 1
97944 Boxberg-Schweigern
Tel. +49 (0) 79 30- 92 94-0
Fax +49 (0) 7930- 92 94-10
E-mail: sk.de@geze.com

GEZE SERVICE GmbH

Reinhold-Vöster-Str. 25
71229 Leonberg
Te. +49 (0) 7152- 92 33-0
Fax +49 (0) 7152- 92 33-60
E-Mail: info@geze-service.com

GEZE SERVICE GmbH

Niederlassung Berlin
Bühningstraße 8
13086 Berlin (Weissensee)
Tel. +49 (0) 30- 47 02 17 30
Fax +49 (0) 30- 47 02 17 33

Asia

GEZE Asia Pacific Ltd.

Unit 630, Level 6, Tower 2
Grand Central Plaza
138 Shatin Rural Committee Road
Shatin, New Territories
Hong Kong
Tel. +852 (0)23 75 73 82
Fax +852 (0)23 75 79 36
E-Mail: info@geze.com.hk

GEZE Industries (Tianjin) Co., Ltd.

Shuangchenzhong Road
Beichen Economic Development Area (BEDA)
Tianjin 300400, P.R. China
Tel. +86 (0)22-26 97 39 95-0
Fax +86 (0)22-26 97 27 02
E-Mail: geze@public1.tpt.tj.cn

GEZE Industries (Tianjin) Co., Ltd.

Branch Office Shanghai
Dynasty Business Center
Room 401-402
No. 457 WuRuMuQi North Road
200040 Shanghai, P.R. China
Tel. +86 (0)21 52 34 09-60/-61/-62
Fax +86 (0)21 52 34 09-63
E-Mail: gezesh@geze.com.cn

GEZE Industries (Tianjin) Co., Ltd.

Branch Office Guangzhou
Room 1113 Jie Tai Plaza
218-222 Zhong Shan Liu Road
510180 Guangzhou, P.R. China
Tel. +86 (0)20 81 32 07 02
Fax +86 (0)20 81 32 07 05
E-Mail: gezegz@public2.sta.net.cn

GEZE Industries (Tianjin) Co., Ltd.

Branch Office Beijing
The Grand Pacific Building
B Tower Room 201
8A, Guanghua Road
Chaoyang District
100026 Beijing, P.R. China
Tel. +86 (0)10 65 81 57-32/-42/-43
Fax +86 (0)10 65 81 57-33
E-Mail: gezebj@geze.com.cn

GEZE Asia Sales Ltd.

No. 88-1-408, East Road
Free Trade Zone of Tianjin Port
Tianjin, P.R. China
Tel. +86 (0)22-26 97 39 95-0
Fax +86 (0)22 26 97 27 02
E-mail: geze@public1.tpt.tj.cn

GEZE Asia Pacific Ltd.

Branch Office Singapore
Level 4
177 Kaki Bukit Avenue 1
Shun Li Industrial Park
Singapore 416023
Tel. +65 6846 1338
Fax +65 6846 9353
E-mail: info@geze.com.hk

Middle East

U.A.E

GEZE Middle East
P.O. Box 17903
Jebel Ali Free Zone
Dubai, U.A.E.
Tel. +971 (0)4 88 33 112
Fax +971 (0)4 88 33 240
E-Mail:geze@emirates.net.ae

Europe

France

GEZE France S.A.R.L.
ZAC de l'Orme Rond
RN 19
77170 Servon
Tel. +33 1 60 62 60 70
Fax +33 1 60 62 60 71
E-mail: france.fr@geze.com

Great Britain

GEZE UK Ltd.

Blenheim Way
Fradley Park
Lichfield
Staffordshire, WS13 8SY
Tel. +44 (0) 1543-443000
Fax +44 (0) 1543-443001
E-Mail: info@geze-uk.com

Italy

GEZE Italia Srl

Via Giotto 4
20040 Cambiago (Mi)
Tel. +39 (0)02 95 06 95-11
Fax +39 (0)02 95 06 95-33
E-Mail: italia.it@geze.it

GEZE Engineering Roma Srl

Via Lucrezia Romana 91
00178 Roma
Tel. +39 (0)06 72 65 31 1
Fax +39 (0)06 72 65 31 36
E-Mail: gezeroma@libero.it

GEZE Engineering Bari Srl

Via Treviso 58
70022 Altamura (Bari)
Tel. +39-(0)80-31 15 21 9
Fax +39-(0)80-31 64 56 1
E-Mail: gezebari@libero.it

Benelux

GEZE Benelux B.V.

Industrieterrein, Kapelbeemd,
Leemkuil 1,
5626 EA Eindhoven
Tel. +31- 40 26 29 08 0
Fax +31 - 40 26 29 08 5
E-Mail: benelux.nl@geze.com

Austria

GEZE Austria GmbH

Mayrwiesstraße 12
5300 Hallwang b. Salzburg
Tel. +43 (0)662 66 31 42
Fax +43 (0)662 66 31 42-15
E-Mail: austria.at@geze.com

Poland

GEZE Polska Sp.z o.o.

ul. Annopol 3 (Zeran Park)
03-236 Warszawa
Tel. +48 (0) 22-814 22 11
Fax +48 (0) 22-614 25 40
E-mail: geze@geze.pl

Schweizerland

GEZE Schweiz AG

Bodenackerstr. 79
4657 Dulliken
Tel. +41 (0) 62-285 54 00
Fax +41 (0) 62-285 54 01
E-Mail: schweiz.ch@geze.com

Spain

GEZE Iberia S.R.L.

Pol. Ind.El Pla
C/ Comerc, 2-22, Nave 12
08980 Sant Feliu de Llobregat
(Barcelona)
Tel. +34 (0)9-02 19 40 36
Fax +34 (0)9-02 19 40 35
E-Mail: iberia.es@geze.com

Skandinavien

Sweden

GEZE Scandinavia AB

Mallslingan 10
Box 7060
18711 Täby
Tel. +46 (0) 8 - 732 34 - 00
Fax +46 (0) 8 - 732 34 - 99
E-Mail: sverige.se@geze.com

Norway

GEZE Scandinavia AB avd. Norge

Postboks 63
2081 Eidsvoll
Tel. +47 (0)639 572 00
Fax +47 (0)639 571 73
E-Mail: norge.se@geze.com

Finnland

GEZE Finland

Branch office of GEZE Scandinavia AB
Postbox 20
158 71 Hollola
Tel. +385 (0)10-400 5100
Fax +385 (0)10-400 5120
E-Mail: finland.se@geze.com

Your attention is drawn to the 'product liability law' defined liability to the manufacturer for this products which are contained in the main catalogue (product information, usage, misuses, product activity, product maintenance, the duty to inform and the duty to instruct). Non compliance with these conditions relieves the manufacturer from any liability.

GEZE Representative:

