GEZE ...introducing the company







GEZE GmbH

Industry Metal-working industry.

Product program Door technology, automatic door systems,

smoke and heat extraction systems and

ventilation technology, safety technology,

transport technology, glass systems

Turnover year 2002/2003 260 Mio E (due date 30.06.03)

Employees 1.350 worldwide

Apprentices At present 35

Subsidiaries 13

Patents Germany approx. 90 Abroad appox. 185 (in May

2004)

Website www.geze.com





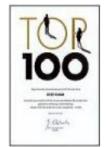




Development of GEZE GmbH

- ▶ 1863 Foundation of the ironworks factory
- ▶ 1898 Beginning of the ski-bindings production
- ▶ 1938 Introduction of transport technology production
- ▶ 1959 Relocation to Leonberg
- ▶ 1968 Mrs Brigitte Voster-Alber inherits the company
- ▶ 1985 Profitability reasons force the spin-off of the GEZE binding production
- ▶ 1996 Foundation of the production plan in Tianjin/Chine
- ▶ 1997 Introduction of the Slimdrive automatic door systems
- ▶ 1997 Foundation of GEZE Service GmbH
- ▶ 1998 Foundation of GEZE Sonderkonstruktionen GmbH
- ▶ 1998 Foundation of the GEZE International GmbH with 11 subsideries
- ▶ 1998 New building of the GEZE science park with an effective area of 1300m2
- ▶ 1999 Introduction of integrated glass hardware
- ▶ 2002 New building of GEZE Service with an effective area of 1000m2
- 2002 GEZE receives the TOP 100 Award and the mention "TOP Job"







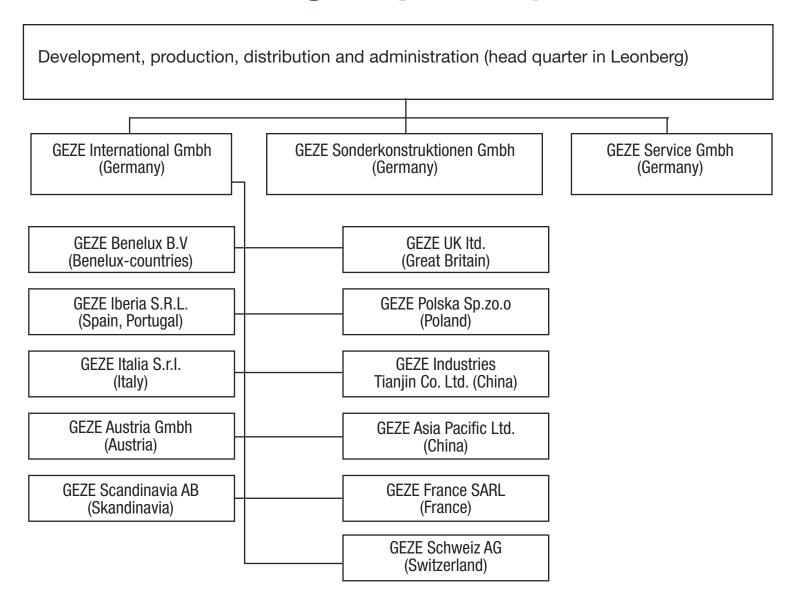
TOP 100/TOP Award

- ▶ Innovation, idead and investment the ingredients which make GEZE successful competitors against other medium sized companies in Germany to qualify for inclusion in the TOP 100.
- ▶ Trend-setting developments within the range of door, window and safety technology and the recognition of current needs in the market, are the main elements.
- With the mention TOP Job GEZE has been elected into the circle of the best employers in the German middle class.
- The following management areas had been analysed: strategy and vision, personnel development, communication, personnel recruitment, family orientation and remuneration.
- We will of course be tested again in 2004.





GEZE - group today





GEZE reference projects

Administrative buildings

Banking/Insurance establishments Industrial companies

Public buildings

Airports/Stations

Homes for the elderly and disabled/hospitals
Schools/nursery schools

Cultural buildings

Congress centres/theatres/museums Leisure/sports centres

Other buildings

Shopping centres/shop-fittings Hotels/restaurants Gas Stations



Children Science City, Dubai



Red Bull Hangar, salzburg



Domaquaree, Berlin





- Overhead door closers
- ▶ Integrated door closers
- Linear guides
- **▶** Floor springs



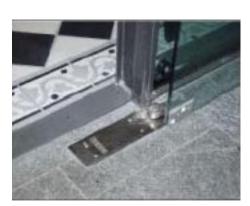
Integrated door closer - Boxer



Overhead door closer - TS 5000 R



Linear guides



Floor springs - TS 550



GEZE - safety technology

- ▶ GEZE-SecuLogic emergency exit system
- **▶** GEZE-SecuLogic Access (biometry)
- Smoke and heat extraction systems (RWA)
- Closing systems for smoke and fire doors



GEZE - SecuLogic RWS Door control unit TZ220





GEZE - SecuLogic Access



GEZE - RWA 100E





- **▶ GEZE-IGG** integrated al-glass systems
- ▶ GEZE-MGG mono all-glass systems
- ▶ GEZE-MSW manual sliding wall systems



Integrated all glass system-IGG





Mono all glass system-MGG



Manual sliding glass wall system-MSW





Overhead rack and pinion door closer with delayed closing action and guide rail, EN 1154 A, size range 2-6

5000



500005

Product features

- ► Closing force adjustable from front
- Optical size indicator
- ► With adjustable delayed closing up to 30 s in approx. angle range 110-80°
- Adjustable, hydraulic latching action
- Adjustable, thermoconstant closing speed
- ► All functions adjustable from front
- ► Streamlined
- ► Housing and guide rail available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- ► For doors for which longer passage times are required
- ► For single action doors
- Can be used for right and left hand doors without adjustment
- ► For smoke and fire doors with provision for DIN closer with mounting plate
- Leaf width up to 1400 mm

Standard version/ package

GEZE *TS 5000 S* closer with delayed closing complete with guide rail, mounting material, and fitting template (mounting plate not included).

The **GEZE** *TS* 5000 *S* with delayed closing is also available as an *IS* version with integrated door selector for 2 leaf doors.

TS 5500 S version

A cover cap with the following finishes is available for the closer:

silver, dark bronze, white, polished brass, stainless steel, RAL colours on request. Guide rails and lever arms are available with the following finishes: silver, dark bronze, white, brass effect, stainless steel effect, RAL colours on request.

Closer dimensions and mounting identical to GEZE TS 5000.

* Delayed closing action is not effective for transom mounting

Door closer size EN	Door leaf width to EN (mm)	
Size 2 ²⁾	up to 850	
Size 3	over 850 to 950	
Size 4	over 950 to 1100	
Size 5	over 1100 to 1250	
Size 6	over 1250 to 1400	

In accordance with EN, these sizes must not be set for fire doors.

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** *TS 5000* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

With visual size indicator.

Overhead rack and pinion door closer **GEZE** TS 5000 S

Ordering text

Description	Finish	ID No.
F GEZE <i>TS 5000 S</i> , Size 2–6	silver	027338
Closer with delayed closing action,	dark bronze	027340
without guide trail, without lever	white RAL 9010	031204
-	white RAL 9016	027343
	RAL colour	027345
Guide rail with lever	silver	068221
	dark bronze	068222
	white RAL 9010	031216
	white RAL 9016	015695
	brass effect	067985
	stainless steel effect	014945
	RAL colour	000773

Mounting material

Description	Finish	ID No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors to which the	dark bronze	052351
closer cannot be directly mounted	white RAL 9010	031236
	whiteRAL 9016	068627
	galvanized steel	057956
	RAL colour	029176
Mounting plate for guide rail	enamelled steel	001512
Drilling template	_	053134

TS 5000 S

Accessories

Description	Finish	ID No.
Cover caps ¹⁾	silver	067724
for version	dark bronze	067725
GEZE TS 5500 S	white RAL 9010	031212
	white RAL 9016	067726
	polished brass	072698
	stainless steel	072696
	RAL colour	000756

¹⁾ Cover caps only suitable for direct installation

Feature

Overhead door closer **GEZE** *TS 5000 S*, size 2-4 as per EN 1154A with delayed closing action up to a maximum of 30 seconds at an opening angle between 100° and 80°. Closing force and closing speed adjustable from the front, with visual size indicator and mounting plate.

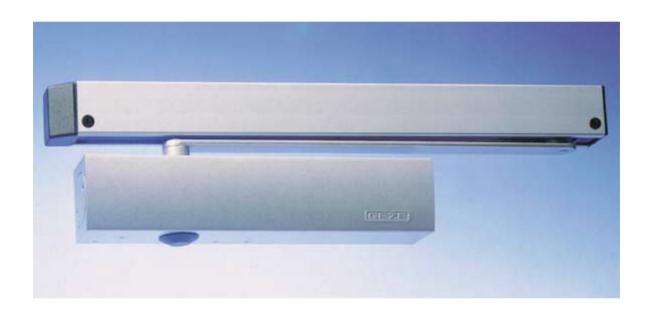
Finish:

- () silver
- () dark bronze
- () white
- () RAL



GEZE TS 5000 E

Overhead rack and pinion door closer with guide rail and electromechanical fixing device, EN 1155, size range 2-6



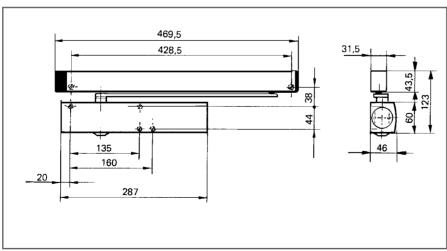


Fig. 55

Approved with well known smoke detectors by the Institute of Building Technology, Berlin (current state of approval on request).

50000 E

Product features

- ► Electromechanical hold-open in guide rail, hold-open angle infinitely variable between 80°-130°
- Closing force adjustabe from front
- Optical size indicator (EP patent)
- ► Adjustable backcheck
- Adjustable, hydraulic latching action
- Adjustable, thermoconstant closing speed
- ► All functions adjustable from front
- ► Streamlined
- ► Housing and guide rail available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- ► For single action doors
- Can be used for right and left hand doors without adjustment
- ► For smoke and fire doors with provision for DIN closer
- ► If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- Leaf width up to 1400 mm

Standard version/ package

GEZE TS 5000 E comprising:
Basic TS 5000 closer and guide rail with lever arm and electromechanical hold-open, complete with mounting material and fitting template (mounting plate not included).

TS 5500 E version

A cover cap with the following finishes is available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

Guide rails and lever arms are also available with the following finishes: silver, dark bronze, white, brass effect, stainless steel effect, RAL colours on request.



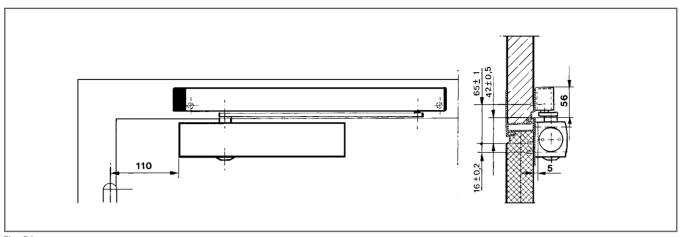


Fig. 56

Standard mounting

Example showing the mounting of a **GEZE** *TS 5000 E* with mounting plate to a fire door (Steel door) see Fig. 56

Mounting plate, 5 mm thick with drill-hole pattern to DIN EN 1154, for doors without direct closer mounting, see Fig. 57

Mounting dimensions for left hand door, see Fig. 58 for right hand door, see Fig. 59

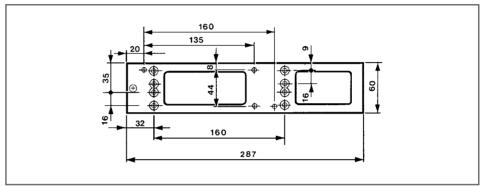


Fig. 57

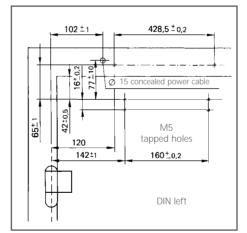


Fig. 58

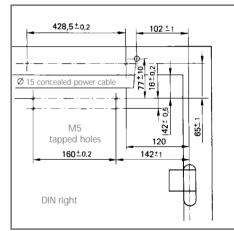


Fig. 59

TS 5000 E

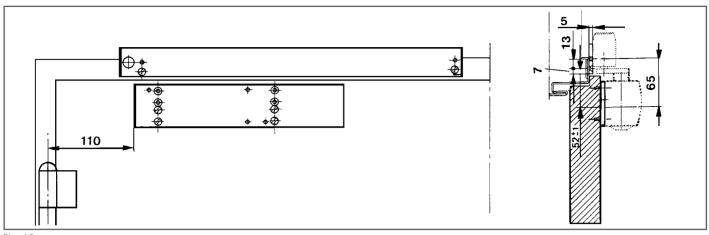


Fig. 60

Installation on narrow frames

see Fig 60

Mounting plate for closer, see Fig. 57

Mounting plate for E-guide rail, see Fig. 61

Hinge dimensions for left-hand door, see Fig. 62

Hinge dimensions for right-hand door, see Fig. 63

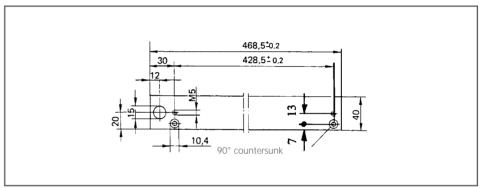
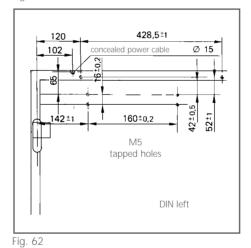
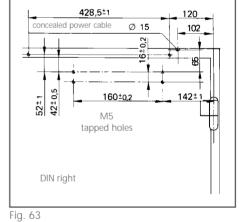


Fig. 61





oor)	leaf	width	to

Door closer size EN	Door leaf width to EN (mm)	
Size 2 ¹⁾	up to 850	
Size 3	over 850 to 950	
Size 4	over 950 to 1100	
Size 5	over 1100 to 1250	
Size 6	over 1250 to 1400	

1) In accordance with EN, these sizes must not be set for

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

Explanations

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** TS 5000 covers several door closer sizes in one housing.

These sizes can be adjusted using an adjustment screw.

Electrical installation

The **GEZE** *TS* 5000 *E* must be connected to a 24 V DC direct voltage supply to allow the door to be held open.

Functioning

- Voltage applied to closer = door held open
- No voltage applied or switched off = door not held open and closes automatically
- ► The door can be closed manually at any time regardless of whether or not voltage is being applied

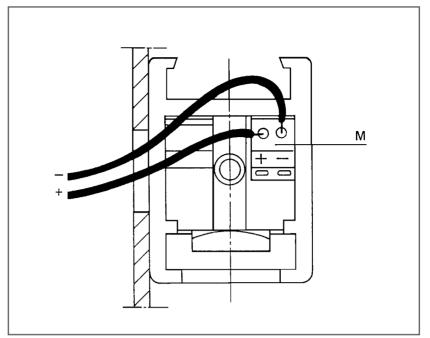


Fig. 64

Electrical data

- ► Operating voltage 24 V DC ± 10%
- ► Connected load 100 mA
- ► Max. permissible residual ripple 20%
- ► Rating 100%
- ► Enclosure rating IP 43 (for interior use only)

Connection

The power supply cable (max. cross section 0.8 mm²) from the fire detector control unit (24 V DC) is connected to terminal »M« in the guide rail, see Fig. 64

Flush-mounted power supply cable, see Fig. 64

Surface-mounted power supply cables are guided through the cover cap at the side of the guide rail.

For direct connection of a smoke switch without a recovery diode a diode 1N4007 should be connected to terminal »M«.

All **GEZE** smoke switches are equipped with a recovery diode, with the exception of the direct connection *ORS 132*.

TS 5000 E

Overhead rack and pinion door closer GEZE TS 5000 E

Ordering text

Description	Finish	ID No.
E GEZE <i>TS 5000</i> , Size 2–6	silver	027333
Closer without guide rail, without lever	dark bronze	027334
	white RAL 9010	031203
	white RAL 9016	027335
	RAL colour	027336
Guide rail with lever and electromechanical	silver	068254
nold-open unit	dark bronze	068255
	white RAL 9010	031217
	white RAL 9016	015723
	stainless steel effect	014947
	RAL colour	000785

Mounting material

Description	Finish	ID No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors	dark bronze	052351
to which the closer cannot be directly mounted	white RAL 9010	031236
*	white RAL 9016	068627
	galvanized steel	057956
	RAL colour	029176
Mounting plate for guide rail	enamelled steel	001512
Drilling template	_	053134

Accessories

Description	Finish	ID No.
Cover caps ¹⁾	silver	067724
for version	dark bronze	067725
GEZE TS 5500 E	white RAL 9010	031212
	white RAL 9016	067726
	polished brass	072698
	stainless steel	072696
	RAL colour	000756

1) Cover caps only suitable for direct installation

Feature

Overhead door closer **GEZE** *TS* 5000 E, 24V DC with guide rail, electromechanical hold-open device, continuously and precisely adjustable between 80° and 130°. Closing force size 2-6 as per EN 1155 and latching action adjustable from the front. With visual size indicator and mounting plate.

Finish:

- () silver
- () dark bronze
- () white
- () RAL



GEZE TS 5000 R

Overhead rack and pinion door closer with guide rail, with electromechanical hold-open, DIN EN 1155 and smoke switch control unit Size range 2-6



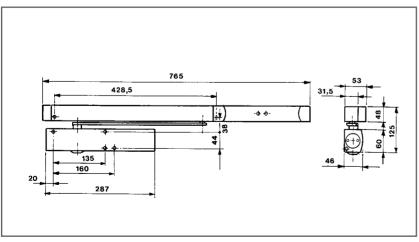


Fig. 65

TS 5000 R

Product features

- ► Electromechanical hold-open in guide rail, hold-open angle infinitely variable between 80° - 130°
- Closing force adjustable from front
- Optical size indicator (EP patent)
- ► Adjustable backcheck
- Adjustable, hydraulic latching action
- Adjustable, thermoconstant closing speed
- ► All functions adjustable from front
- ► Stream line
- Smoke switch with integrated electronics to control closer
- Additional smoke switches can be connected
- Power supply, mains voltage 230 V
- Housing, guide rail, and smoke switch available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- ► For single action doors
- Can be used for right and left hand doors without adjustment
- ► For smoke and fire doors with provision for DIN closer
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► Leaf width up to 1400 mm

Standard version/ package

GEZE TS 5000 R comprising:
Basic TS 5000 closer and guide rail with lever arm, electromechanical holdopen, and smoke switch control unit, complete with mounting material and fitting template (mounting plate not included).

TS 5500 R version

A cover cap with the following finishes is available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

Guide rails and levers are also available with the following finishes: silver, dark bronze, white, brass effect, stainless steel effect, RAL colours on request.

Door closer size EN	Door leaf width to EN (mm)
Size 2 ¹⁾	up to 850
Size 3	over 850 to 950
Size 4	over 950 to 1100
Size 5	over 1100 to 1250
Size 6	over 1250 to 1400

¹⁾ In accordance with EN, these sizes must not be set for fire doors.

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary. The **GEZE** *TS 5000* (either *TS 5000*) covers several door closer sizes in one housing.

These sizes can be adjusted using an adjustment screw.

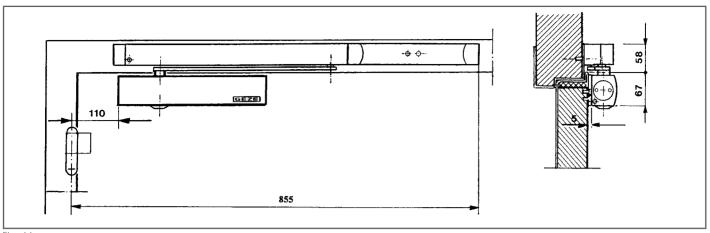


Fig. 66

Standard mounting

Example showing the mounting **GEZE** *TS* 5000 *R* with mounting plate to a fire door (steel door *T30*), with drill-hole pattern to DIN EN 1154, see Fig. 66

Mounting plate, 5 mm thick, for doors with drillhole pattern to DIN EN 1154, part 2, see Fig. 67

Mounting dimensions for left hand door with mounting plate, see Fig. 68

Mounting dimensions for right hand door with mounting plate, see Fig. 69

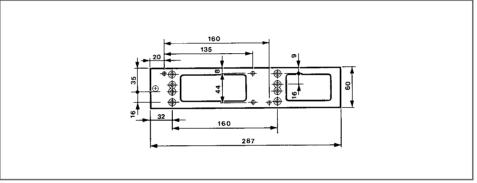


Fig. 67

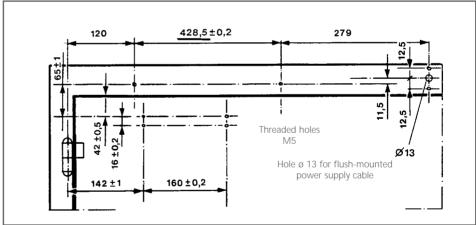


Fig. 68

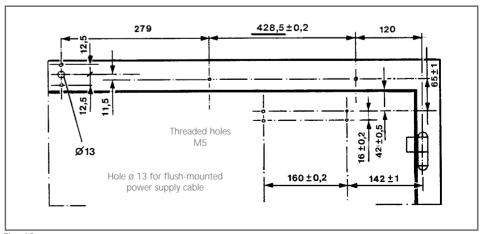


Fig. 69

Mounting to narrow door frames see Fig. 70

Mounting plate for closer, see Fig. 67

Mounting plate for *E*-rail, see **GEZE** *TS 5000 E*

Mounting plate for smoke switch control unit, see Fig. 71

Mounting dimensions for left hand door with mounting plate, see Fig. 72

Mounting dimensions for right hand door with mounting plate, see Fig. 73

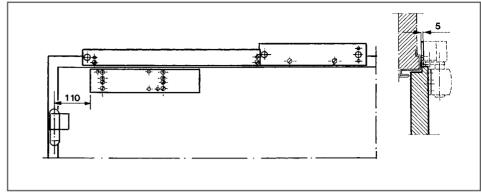


Fig. 70

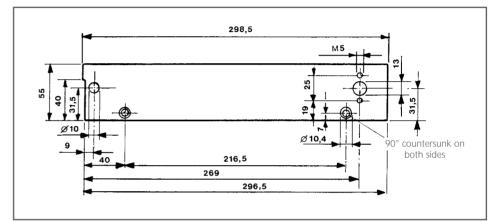


Fig. 71

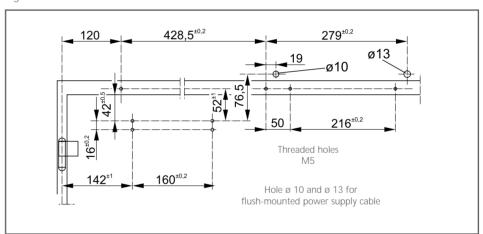


Fig. 72

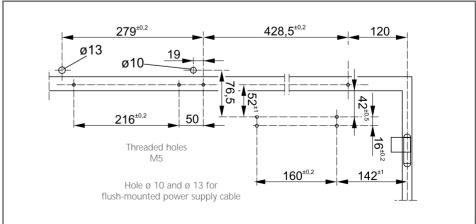


Fig. 73

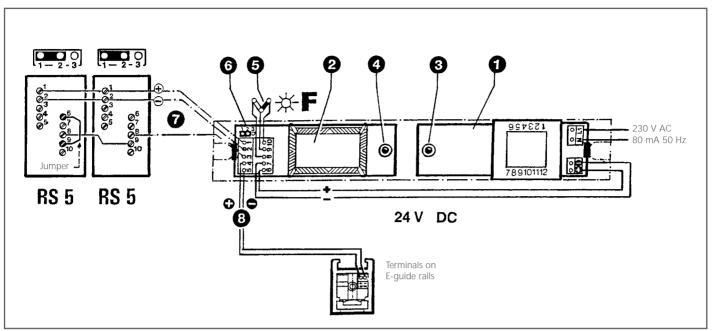


Fig. 74

Electrical installation

The **GEZE** *TS* 5000 *R* system is connected to the 230 V mains voltage via the smoke switch control unit. The system is fully functional once the smoke switch control unit and guide rail have been interconnected.

Function

- ► Voltage applied to closer = door held open
- In the event of fire, the installed smoke switch responds and the door closes automatically
- No voltage applied or switched off = door not held open and closes automatically
- ► The door can be closed manually at any time regardless of whether or not voltage is being applied

Electrical data

for smoke switch control unit *RSZ 5*:

- ► Smoke detection optical scattered light principle
- ► Operating voltage 230 V AC, 80 mA, 50 Hz
- ► Total connected load max. 230 mA
- ► Ambient temperature: -5°C up to +50°C
- ► Fuse: T 315 mA »L«
- ► Enclosure rating: IP 20

- ① Power supply unit
- 2 Smoke detection unit
- ③ Status display, LED green
- Alarm display, LED red
- ⑤ Potential-free contact to external smoke detection display; max. 30 V DC/1 A/30 W
- 6 Plug-in jumper
- Connection of additional smoke switches (max. 2 units), GEZE RSZ 5 or Hekatron ORS 132
- ® Door closer connection to terminal on E-guide rail (100 mA)

Overhead and pinion door closer GEZE TS 5000 R

Ordering text

Description	Finish	ID-No.
E GEZE <i>TS 5000</i> , size 2–6,	silver	027333
Closer without guide rail, without lever	dark bronze	027334
	white RAL 9010	031203
	white RAL 9016	027335
	RAL colour	027336
Guide rail with lever and electromechanical	silver	068254
nold-open unit	dark bronze	068255
·	white RAL 9010	031217
	white RAL 9016	015723
	stainless steel effect	014947
	RAL colour	000785
Smoke switch control unit GEZE RSZ 5	silver	028357
	dark bronze	028960
	white RAL 9010	031200
	white RAL 9016	028961
	stainless steel effect	028963
	RAL colour	028962

Mounting material

Description	Finish	ID-No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors	dark bronze	052351
to which the closer cannot be directly mounted	white RAL 9010	031236
*	white RAL 9016	068627
	galvanized steel	057956
	RAL colour	029176
Mounting plate for <i>E</i> -guide rail	steel, lacquered	001514
Mounting plate for GEZE <i>RSZ 5</i> smoke switch control unit	steel, lacquered	001526

Accessories

Description	Finish	ID No.
Cover caps ¹⁾	silver	067724
for version	dark bronze	067725
GEZE TS 5500 R	white RAL 9010	031212
	white RAL 9016	067726
	polished brass	072698
	stainless steel	072696
	RAL colour	000756
Trip switch	_	073927
(for smoke switch control		
unit GEZE RSZ 5)		

Feature

Overhead door closer **GEZE** *TS* 5000 *R*, with guide rail, electromechanical hold-open device, continuously and precisely adjustable between 80° and 130°, with integrated smoke switch. Closing force size 2-6 as per EN 1155 closing speed and latching action adjustable from the front.

With visual size indicator and mounting plate.

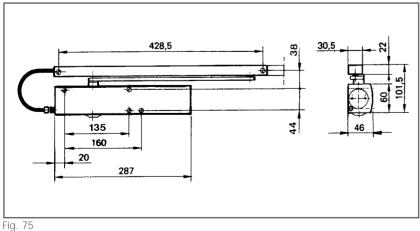
Finish:

- () silver
- () dark bronze
- () white
- () RAL

GEZE TS 5000 IS

Overhead rack and pinion door closer with guide rail, with integrated concealed sequential closing in continuous guide rail, DIN EN 1154, size range 2-6





IS

The **GEZE** *TS* 5000 *IS* is controlled hydraulically via the Bowden cable and mechanical control system in the guide rail. The sequential closing *IS* function is provided by the moving leaf being held-open (it *waits*) until the fixed leaf is closed. As a result, a conventional door selector is no longer necessary.

Product features

- ► The door's appearance is not detrimentally affected by the sequential closing
- ► IS-functions integrated in the required
 GEZE TS 5000 IS door closer
- No additional modifications to the door frame required
- ▶ All benefits of the basic **GEZE** *TS 5000*, model, such as a closing force adjustment, optical size indicator, backcheck, and the same mounting dimensions, are retained.

Applications

- ► For double leaf doors with leaf widths up to 1400 mm
- ► Can be used for right and left hand doors without adjustment
- ➤ Smallest door width hinge clearance »b« =1200 mm
 Largest door width hinge clearance »b« =2700 mm
 (where an continuous guide rail is used »b« max = 2800mm for fire doors or 3200 mm for non-fire doors)
- ► Also suitable for leaves of differing widths. Minimum width of fixed leaf 400 mm
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ➤ The **GEZE** *TS* 5000 *IS* must be mounted to the moving leaf

Standard version/ package

GEZE TS 5000 IS comprising: Basic TS 5000 IS and TS 5000, closer, continuous guide rail with 2 levers and integrated door selector via Bowden cable and mechanical control system, complete with mounting material and fitting template (mounting plate not included).

A **GEZE** *TS 3000 V* can be fitted to the fixed leaf up to a leaf width of 1100 mm.

The *TS 5000 IS*-system is also available with delayed closing.

TS 5500 IS version

A cover cap with the following finishes is available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL-colours on request.

Guide rails and levers are also available with the following finishes: silver, dark bronze, white, brass effect, stainless steel effect, RAL colours on request.

TS 5000 IS

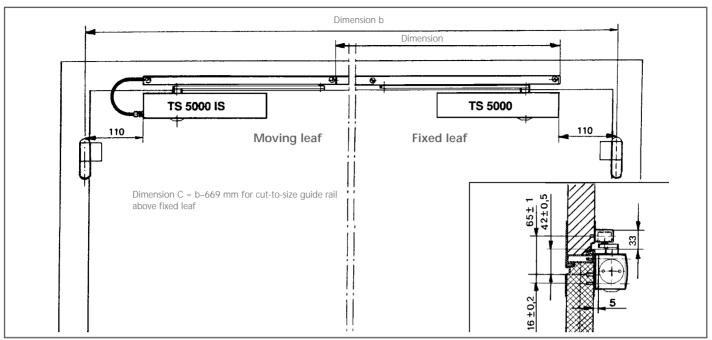


Fig. 76

Standard mounting

Example shows the mounting of the **GEZE** *TS 5000 IS* with mounting plate to a fire door (steel door *T30*), see Fig. 76

Mounting plate, 5 mm thick, with drill-hole pattern to DIN EN 1154, see Fig. 77

Mounting dimensions see Fig. 78

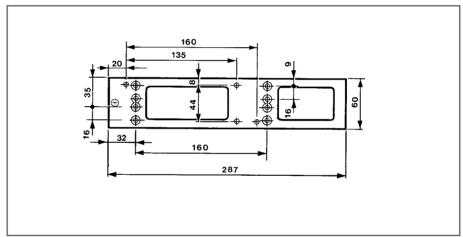


Fig. 77

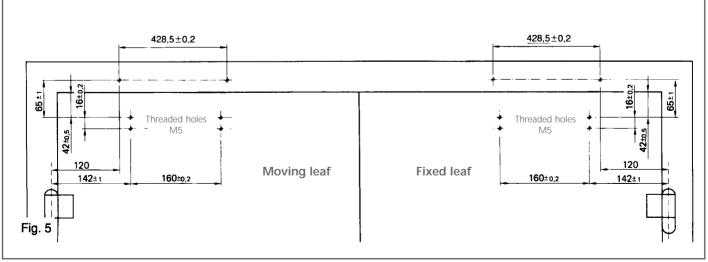


Fig. 78

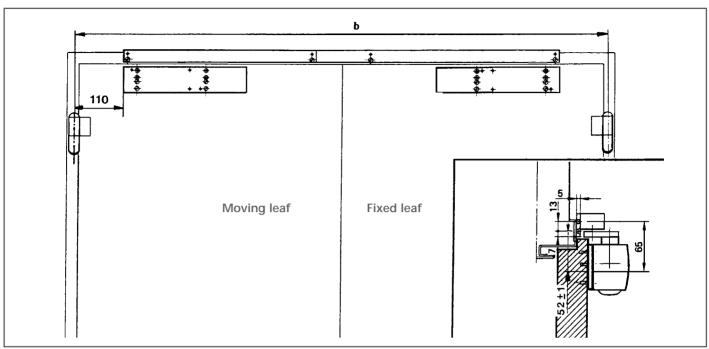


Fig. 79

Mounting to narrow door frames see Fig. 79

Mounting plate for closer, see Fig. 77

Mounting plate for guide, see **GEZE** TS 5000, Fig. 37 (page 18)

Mounting plate for IS-rail, see Fig. 80

Mounting dimensions, see Fig. 81

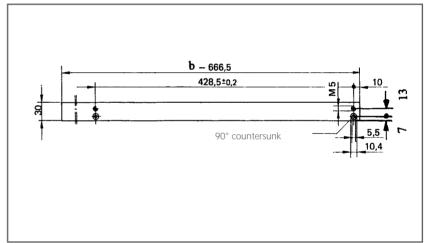


Fig. 80

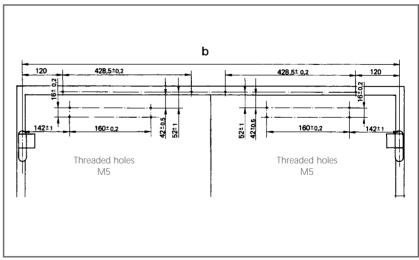


Fig. 81

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local

conditions (wind influence) make this necessary.

The **GEZE** *TS 5000* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

Door closer size EN	Door leaf width to EN (mm)	
Size 2 ¹⁾	up to 850	
Size 3	over 850 to 950	
Size 4	over 950 to 1100	
Size 5	over 1100 to 1250	
Size 6	over 1250 to 1400	

1) In accordance with EN, these sizes must not be set for fire doors

Overhead rack and pinion door closer GEZE TS 5000 IS

Ordering text

Description	Finish	ID No.
F GEZE <i>TS 5000</i> , Size 2-6	silver	027333
Closer without guide rail, without lever arm	dark bronze	027334
<u> </u>	white RAL 9010	031203
	white RAL 9016	027335
	RAL colour	027336
F GEZE <i>TS 5000 IS</i> , Size 2-6	silver	027320
Closer without guide rail, without lever arm	dark bronze	027321
,	white RAL 9010	031205
	white RAL 9016	027322
	RAL colour	027326
IS-guide rail, continuous for cutting to size,	silver	067542
with integrated Bowden cable	dark bronze	067567
and 2 levers (Hinge clearance »b« up to 2700mm)	white RAL 9010	031218
	white RAL 9016	015727
	stainless steel effect	026799
	RAL colour	008633
Is quide reil, continuous length to be cut to size	cilvor	074251
IS-guide rail, continuous length to be cut to size	silver	076351
with integrated Bowden cable and 2 levers (Hinge clearance »b« over 2700mm)	RAL colour	076352

TS 5000 IS

Mounting material

Description	Finish	ID No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors	dark bronze	052351
to which the closer cannot be directly mounted	white RAL 9010	031236
	white RAL 9016	068627
	galvanized steel	057956
	RAL colour	029176
Mounting plate for guide rail	steel, lacquered	001512
Mounting plate for <i>IS</i> -guide rail	steel, lacquered	001518

Accessories

	Closer	CloserTS 5500 IS,
	TS 5000	TS 5500 L-IS
Finish	ID No.	ID No.
silver	067724	068092
dark bronze	067725	068093
white RAL 9010	031212	031213
white RAL 9016	067726	068094
polished brass	072698	072699
stainless steel	072696	072697
RAL colour	000756	001499

Feature

Overhead door closer **GEZE** *TS 5000 IS*, size 2-6 as per EN 1154A with continuous guide rail, integrated sequential closing. Closing force, closing speed, backcheck and latching action adjustable from the front.

With visual size indicator and mounting plate.

Finish:

- () silver
- () dark bronze
- () white
- () RAL

TS 5000



GEZE TS 5000 R-IS

Overhead rack and pinion door closer with guide rail, with integrated concealed sequential closing in continuous guide rail with electromechanical hold-open on both sides, DIN EN 1155, and smoke switch control unit, size range 2-6



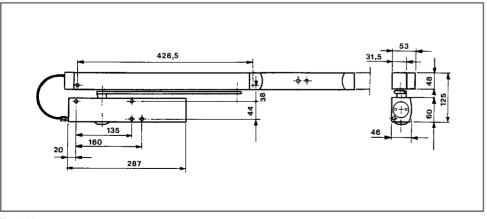


Fig. 103

R-IS

The **GEZE** *TS* 5000 *R-IS* is controlled hydraulically via the Bowden cable and mechanical control system in the guide rail. The sequential closing function is provided by the moving leaf being held-open (it »waits«) until the fixed leaf is closed. As a result, a conventional door selector is no longer necessary..

Product features

- ► Smoke switch with integrated electronics to control closer
- Additional smoke switches can be connected
- ► Power supply, mains voltage 230 V
- No additional modifications to the door frame required
- Electromechanical hold-open in guide rail, hold-open angle infinitely variable between 80° - 130°

Applications

- ► For double leaf doors with leaf widths up to 1400 mm
- Smallest door width
 Hinge gap

 »b«=1200 mm
 Largest door width
 Hinge gap

 »b«=2700 mm
 (where a continuous
 guide rail is used »b«
 max = 2800mm for
 fire doors or 3200 mm
 for non-fire doors)
- ► Can be used for right and left hand doors without adjustment
- ► Also suitable for leaves of differing widths. Minimum width of fixed leaf 400 mm
- ► If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► The GEZE TS 5000 IS must be mounted to the moving leaf

Standard version/ package

GEZE TS 5000 R-IS comprising: Basic TS 5000 IS and TS 5000 closer, continuous guide rail with 2 lever arms, and integrated door selector via Bowden cable and mechanical control system, and electromechanical hold-open on both sides, smoke switch control unit complete with mounting material and fitting template (mounting plate not included).

A **GEZE** *TS* 3000 *V* can be fitted to the fixed leaf up to a leaf width of 1100 mm.

TS 5500 R-IS version

Cover caps with the following finishes are available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

Guide rails and lever arms, and smoke switches are available with the following finishes: silver, dark bronze, white, brass effect, stainless steel effect, RAL colours on request.

TS 5000 R-IS

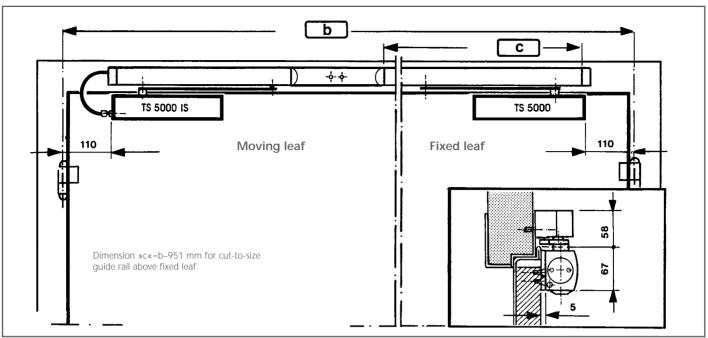


Fig. 104

Standard mounting

Example showing the mounting of the **GEZE** *TS 5000 R-IS* with mounting plate on a fire door (steel door *T30*), see Fig. 104

Mounting plate, 5 mm thick, drill-hole pattern to DIN EN 1154, see Fig. 105

Mounting dimensions see Fig. 106

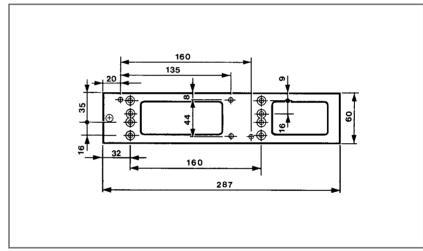


Fig. 105

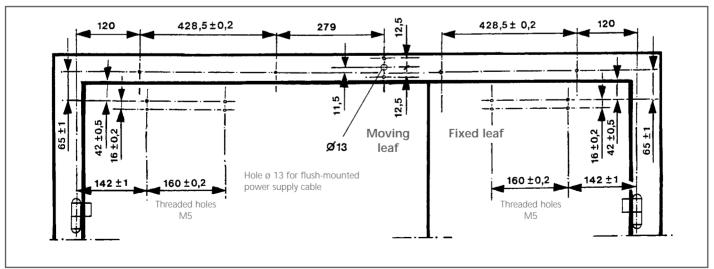


Fig. 106

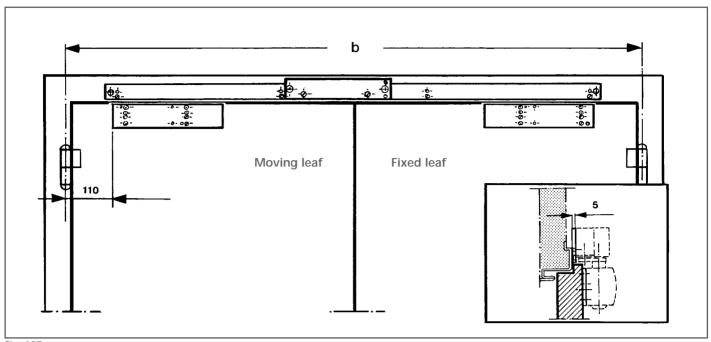


Fig. 107

Mounting to narrow door frames

see Fig. 107

Mounting plate for closer, see Fig. 105

Mounting plate for *E*-rail, see **GEZE** *TS 5000 E* Fig. 61 (page 35)

Mounting plate for smoke switch control unit, see **GEZE** *TS* 5000 *R*, see Fig. 71 (page 41)

Mounting plate for *E-IS*-rail (used with *TS 5000 R-IS*), see Fig. 108

Mounting dimensions, see Fig. 109

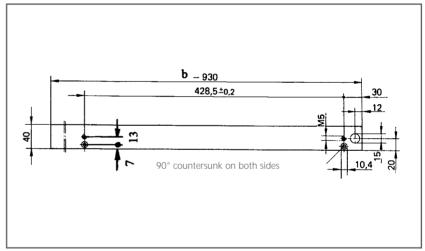


Fig. 108

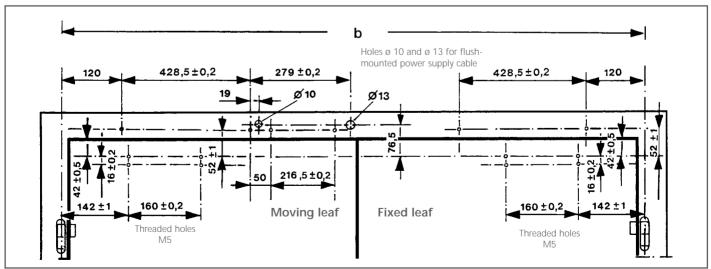


Fig. 109

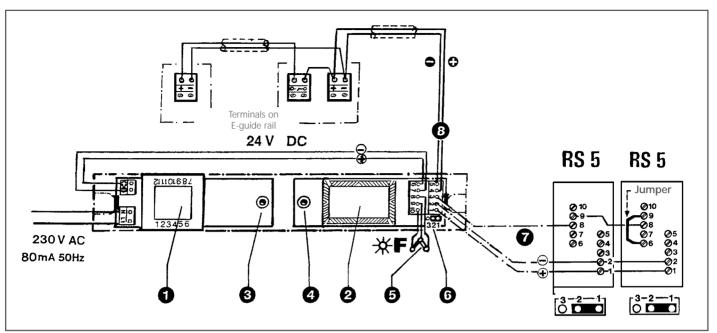


Fig. 110

Electrical installation

The **GEZE** TS 5000 R-IS system is connected to the 230 V mains voltage via the smoke switch control unit. The system is fully functional once the smoke switch control unit and guide rail have been interconnected.

Function

- ► Voltage applied to closer = door held open
- ► In the event of fire, the installed smoke switch responds and the door closes automatically
- No voltage applied or switched off = door not held open and closes automatically
- ► The door can be closed manually at any time regardless of whether or not voltage is being applied

Electrical data

for smoke switch control unit *RSZ 5*:

- ➤ Smoke detection optical scattered light principle
- ➤ Operating voltage 230 V AC, 80 mA, 50 Hz
- ► Total connected load max. 230 mA
- ► Ambient temperature: -5°C up to +50°C
- ► Fuse: »L«
- ► Enclosure rating: IP 20

- ① Power supply unit
- 2 Smoke détector unit3 Status display.
- Status displa LED green
- Alarm display, LED red
- ⑤ Potential-free contact to external smoke detection diesplay; max. 30 V DC/1 A/30 W
- 6 Plug-in jumper
- Connection of additional smoke switches (max. 2 units)

GEZE RSZ 5

® Door closer connection to terminal on *E-IS*guide rail (200 mA)

Door closer size EN	Door leaf width to EN (mm)
Size 2 ¹⁾	up to 850
Size 3	over 850 to 950
Size 4	over 950 to 1100
Size 5	over 1100 to 1250
Size 6	over 1250 to 1400

In accordance with EN, these sizes must not be set for fire doors.

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** *TS 5000* (and *TS 5000 IS*) covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

TS 5000 R-IS

Ordering text

Description	Finish	ID No.
POETE TO 5000 Circ 0 /	-!!	007000
E GEZE <i>TS 5000</i> , Size 2-6	silver	027333
Closer without guide rail, without lever arm	dark bronze	027334
	white RAL 9010	031203
	white RAL 9016	027335
	RAL colour	024336
F GEZE <i>TS 5000 IS</i> , Size 2-6	silver	027320
Closer without guide rail, without lever arm	dark bronze	027321
g g,	white RAL 9010	031205
	white RAL 9016	027322
	RAL-Farbe	027326
E-IS guide rail, continuous for cutting to size, with integrated	silver	068748
Bowden cable, with electromechanical hold-open on both sides	dark bronze	068749
and 2 lever arms (Hinge clearance »b« up to 2700mm)	white RAL 9010	031219
	white RAL 9016	015728
	stainless steel effect	026802
	RAL colour	008634
E-IS guide rail, continuous length to be cut to size with	silver	076353
integrated Bowden cable, with electromechanical hold-open on both sides	RAL colour	076354
and 2 lever arms (Hinge clearance »b« up to 2700mm)	TO LE GOTOGI	070001
0. 1. 1. 1. 1. 0. 0. 7. 5.		000057
Smoke switch control unit GEZE RSZ 5	silver	028357
	dark bronze	028960
	white RAL 9010	031200
	white RAL 9016	028961
	stainless steel effect	028963
	RAL colour	028962

Mounting material

Description	Finish	ID No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors	dark bronze	052351
to which the closer cannot be	white RAL 9010	031236
directly mounted	white RAL 9016	068627
	steel, lacquered	057956
	RAL colour	029176
Mounting plate for <i>E</i> -guide rail	steel, lacquered	001514
Mounting plate for <i>E-IS</i> -guide rail	steel, lacquered	001520
Mounting plate for smoke switch control unit	steel, lacquered	001526

Feature

Overhead door closer **GEZE** *TS 5000 R-IS*, with continuous guide rail, integrated sequential closing and eletromechanical continuously

and precisely adjustable hold-open mechanism between 80° and 130° as per EN 1155. Closing force size 2-6, closing speed and backcheck adjustable from the front. With visual size indicator and mounting plate.

Accessories

	Closer	Closer
	TS 5000	TS 5000 IS
Finish	ID-No.	ID-No.
		12 1101
silver	067724	068092
dark bronze	067725	068093
white RAL 9010	031212	031213
white RAL 9016	067726	068094
polished brass	072698	072699
stainless steel	072696	072697
RAL colour	000756	001499
Description	Finish	ID-No.
T' '1 C		070007
Trip switch for smoke switch control	_	073927

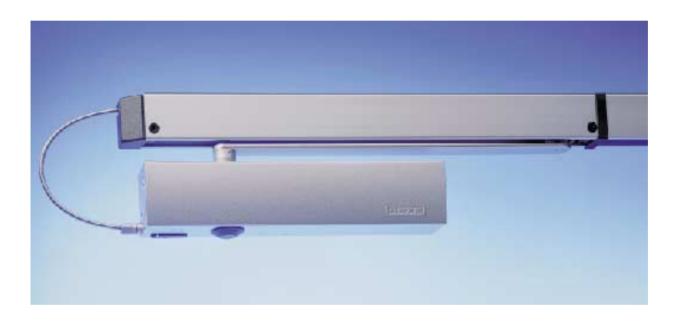
1) Cover caps only suitable for direct installation

TS 5000



GEZE TS 5000 E-IS/G

Overhead rack and pinion door closer with guide rail, with integrated concealed sequential closing in continuous guide rail with electromechanical hold-open on moving leaf only, DIN EN 1155, size range 2-6



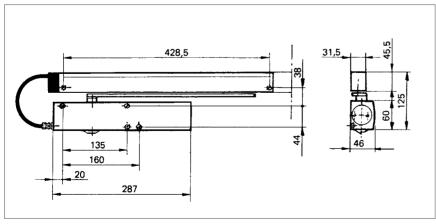


Fig. 95

Inspected and quality-tested by the association of property insurance companies (registered association), Cologne. Approved for well-known smoke detection systems by the institute for civil engineering, Berlin. (Latest approval list available on request.)

E-IS/G

The **GEZE** TS 5000 E-IS/G is controlled hydraulically via the Bowden cable and mechanical control system in the moving leaf guide rail. The sequential closing function is provided by the moving leaf being held-open (it »waits«) until the fixed leaf is closed. As a result, a conventional door selector is no longer necessary.

Product features

- ► The door's appearance is not detrimentally affected by the sequential closing
- ► IS-functions integrated in the required

 GEZE TS 5000 IS

 door closer
- ▶ All benefits of the basic **GEZE** *TS 5000* model, such as closing force adjustment, optical size indicator, backcheck, and the same mounting dimensions, are retained
- ► Electromechanical hold-open in guide rail, hold-open angle infinitely variable between 80°-130°
- No additional modifications to the door frame required

Applications

- ► For double leaf doors with leaf widths up to 1400 mm
- ► Smallest door width Hinge gap »b«=1200 mm Largest door width Hinge gap »b«=2700 mm
- Can be used for right and left hand doors without adjustment
- Also suitable for leaves of differing widths. Minimum width of fixed leaf 400 mm
- ► If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► The **GEZE** TS 5000 IS must be mounted to the moving leaf

Standard version/ package

GEZE TS 5000 E-IS/G comprising: Basic TS 5000 IS and TS 5000 closer, continuous guide rail with 2 lever arms, and integrated door selector via Bowden cable and mechanical control system, and electromechanical hold-open on moving leaf only, complete with mounting material and fitting template (mounting plate not included.

A **GEZE** TS 3000 V can be fitted to the fixed leaf up to a leaf width of 1100 mm.

TS 5500 E-IS/G version

Cover caps with the following finishes are available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

Guide rails and lever arms are available with the following finishes: silver, dark bronze, white, RAL colours on request.

TS 5000 E-IS/G

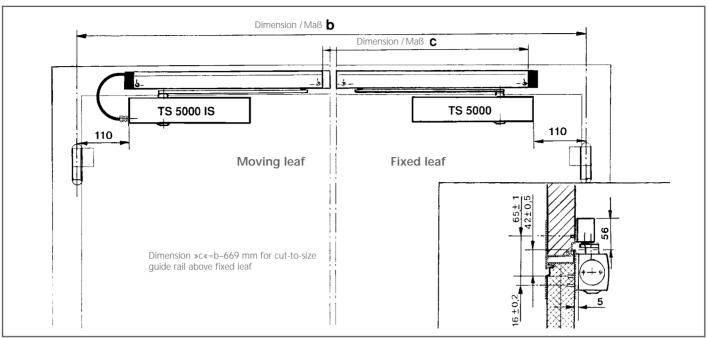


Fig. 96

Standard mounting

Example showing the mounting of the **GEZE** *TS 5000 E-IS/G* with mounting plate on a fire door (steel door *T30*), see Fig. 96

Mounting plate, 5 mm thick, drill-hole pattern to DIN EN 1154, see Fig. 97

Mounting dimensions see Fig. 98

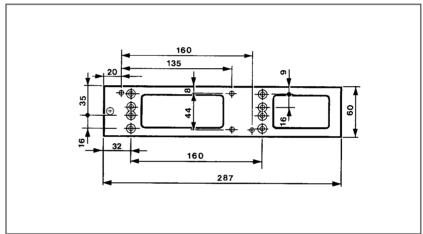


Fig. 97

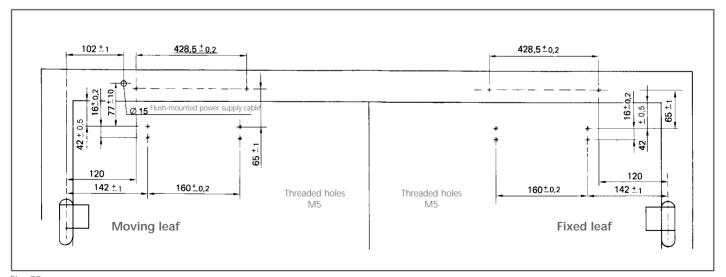


Fig. 98

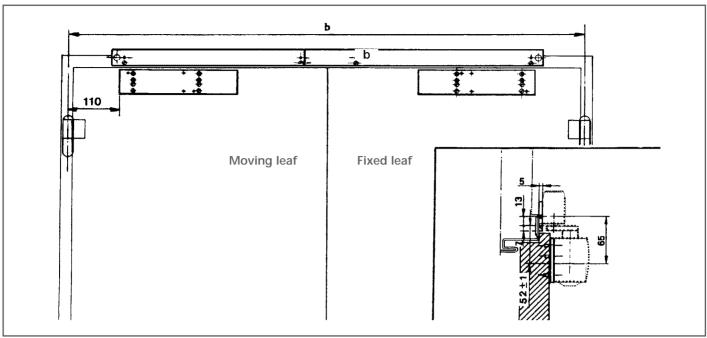


Fig. 99

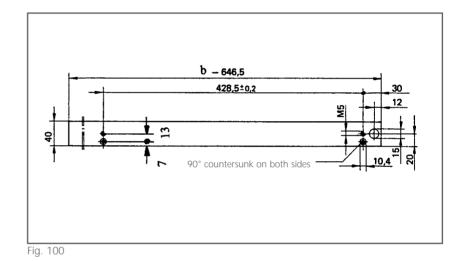
Mounting to narrow door frames see Fig. 99

Mounting plate for closer, see Fig. 97

Mounting plate for *E*-rail, see **GEZE** *TS 5000 E*, Fig. 61 (page 35)

Mounting plate for *E-IS*-rail, see Fig. 100

Mounting dimensions, see Fig. 101



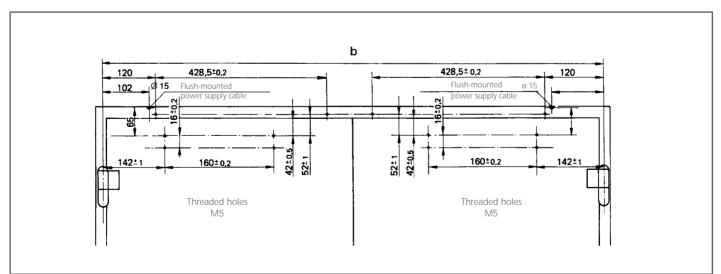


Fig. 101

Electrical installation

The **GEZE** *TS* 5000 E-IS/G must be connected to a 24 V DC direct voltage supply to allow the door to be held open.

Functioning

- Voltage applied to closer = door held open
- No voltage applied or switched off = door not held open and closes automatically
- ► The door can be closed manually at any time regardless of whether or not voltage is being applied

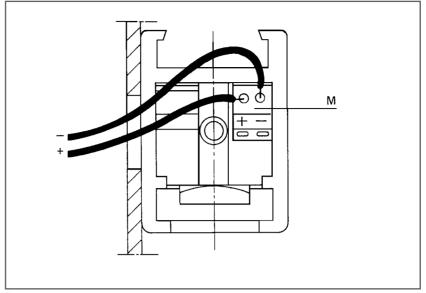


Fig. 102

Electrical data

- ► Operating voltage 24 V DC ± 10%
- ► Connected load 100 mA
- ► Max. permissible residual ripple 20%
- ► Rating 100%
- ► Enclosure rating IP 43 (for interior use only)

Connection

The power supply cable (max. cross section 0.8 mm²) is fixed in the terminal of the guide rail with the microswitch for the moving leaf. See the terminal diagram (Fig. 102) for the connection to the guide rail of the fixed leaf.

Surface-mounted power supply cables are guided through the cover cap at the side of the guide rail. For direct connection of a smoke switch without a recovery diode a diode 1N4007 should be connected to terminal »M«.

All **GEZE** smoke switches are equipped with a recovery diode, with the exception of the direct connection *ORS 132*.

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** *TS* 5000 (and *TS* 5000 *IS*) covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

Door leaf width to EN (mm)	
to 850	
over 850 to 950	
over 950 to 1100	
over 1100 to 1250	
over 1250 to 1400	

¹⁾ In accordance with EN, these sizes must not be set for fire doors.

TS 5000 E-IS/G

Overhead rack and pinion door closer GEZE TS 5000 E-IS/G

Ordering text

Description	Finish	ID-No.
F GEZE <i>TS 5000</i> , Size 2-6	silver	027333
Closer without guide rail, without lever arm	dark bronze	027334
	white RAL 9010	031203
	white RAL 9016	027335
	RAL colour	027336
F GEZE <i>TS 5000 IS</i> , Size 2-6	silver	027320
Closer without guide rail, without lever arm	dark bronze	027321
	white RAL 9010	031205
	white RAL 9016	027322
	RAL colour	027326
E-IS/G-Guide rail	silver	008160
continuous for cutting to size, with integrated Bowden cable,	dark bronze	008161
cut-to-size with electromechanical hold-open	white RAL9010	031220
on moving side only and 2 lever arms	white RAL 9016	015729
	RAL colour	008562

Mounting material

Description	Finish	ID-No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors	dark bronze	052351
to which the closer cannot be directly mounted	white RAL 9010	031236
	white RAL 9016	068627
	galvanised steel	057956
	RAL colour	029176
Mounting plates for <i>E</i> -guide rail	steel lacquered	001514
Mounting plates for <i>E-IS</i> -guide rail	steel lacquered	001520
J . J	1	!

Accessories

	01	01
	Closer	Closer
	TS 5000	TS 5000 IS
Finish	ID-No.	ID-No.
silver	067724	068092
dark bronze	067725	068093
white RAL 9010	031212	031213
whiteRAL 9016	067726	068094
polished brass	072698	072699
stainless steel	072696	072697
RAL colour	000756	001499

Feature

Overhead door closer **GEZE** *TS* 5000 E-IS/G, with continuous guide rail, integrated sequential closing, continuously and precisely adjustable electromechanical holdopen of the moving leaf between 80° and 130°. Closing force size 2-6 as per EN 1155, closing speed and latching action adjustable from the front.

With visual size indicator and mounting plate.

Finish:

- () silver
- () dark bronze
- () white
- () RAL

TS 5000



GEZE TS 5000 R-IS/G

Overhead rack and pinion door closer with guide rail, with integrated concealed sequential closing in continuous guide rail with electromechanical hold-open on moving leaf only, DIN EN 1155, and smoke switch control unit, size range 2-6



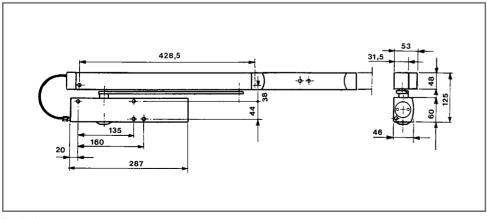


Fig. 111

The **GEZE** TS 5000 R-IS/G **Product features** is controlled hydraulically via the Bowden cable and mechanical control system in the guide rail. The sequential closing function is provided by the moving leaf being held-open (it »waits«) until the fixed leaf is closed. As a result, a conventional door selector is no longer necessary.

- ► Smoke switch with integrated electronics to control closer
- ► Additional smoke switches can be connected
- ► Power supply, mains voltage 230 V
- No additional modifications to the door frame required
- ► Electromechanical hold-open in guide rail, hold-open angle infinitely variable between 80° - 130°

Applications

- ► For double leaf doors with leaf widths up to 1400 mm
- Smallest door width hinge gap: »b«=1475 mm Largest door width hinge gap: »b«=2700 mm
- ► Can be used for right and left hand doors without adjustment
- ► Also suitable for leaves of differing widths (minimum width of fixed leaf 400 mm)
- If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- The **GEZE** TS 5000 IS must be mounted to the moving leaf

Standard version/ package

GEZE TS 5000 R-IS/G comprising: Basic TS 5000 IS and TS 5000 closer, continuous guide rail with 2 lever arms, and integrated door selector via Bowden cable and mechanical control system. Electromechanical hold-open on moving leaf, smoke switch control unit complete with mounting material and fitting template (mounting plate not included).

A GEZE TS 3000 V can be fitted to the fixed leaf up to a leaf width of 1100 mm.

TS 5500 R-IS/G version

Cover caps with the following finishes are available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

Guide rails and lever arms, and smoke switches are available with the following finishes: silver, dark bronze, white, RAL colours on request.

000 R-IS/G

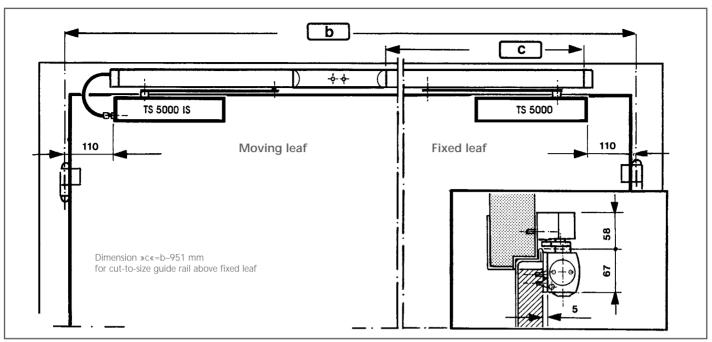


Fig. 112

Standard mounting

Example showing the mounting of the **GEZE** *TS 5000 R-IS/G* with mounting plate on a fire door (steel door *T30*), see Fig. 112

Mounting plate, 5 mm thick, drill-hole pattern to DIN EN 1154, see Fig. 113

Mounting dimensions see Fig. 114

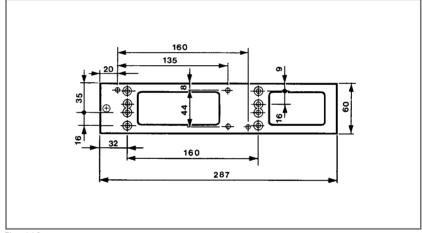


Fig. 113

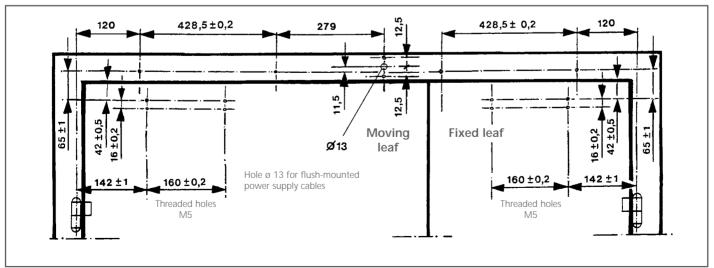


Fig. 114

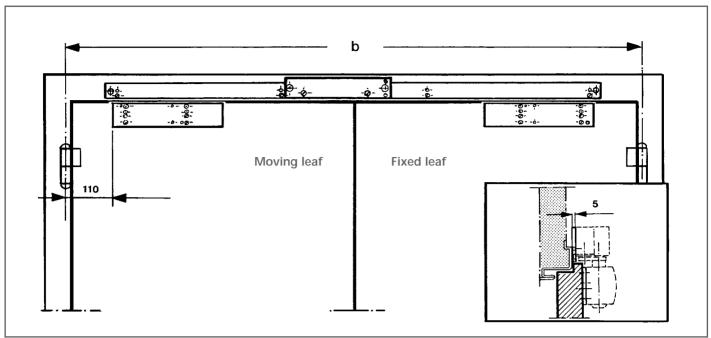


Fig. 115

Mounting to narrow door frames see Fig. 115

Mounting plate for closer, see Fig. 113

Mounting plate for E-rail, see **GEZE** TS 5000 E, Fig. 61 (page 35)

Mounting plate for smoke switch control unit, see

GEZE TS 5000 R, Fig. 71 (page 41)

Mounting plate for E-IS-rail, (used with TS 5000 R-IS/G), see Fig. 116

Mounting dimensions, see Fig. 117

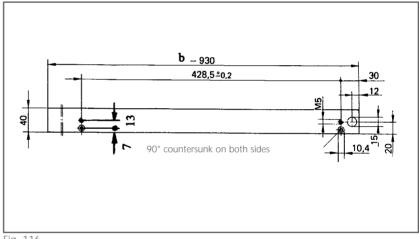


Fig. 116

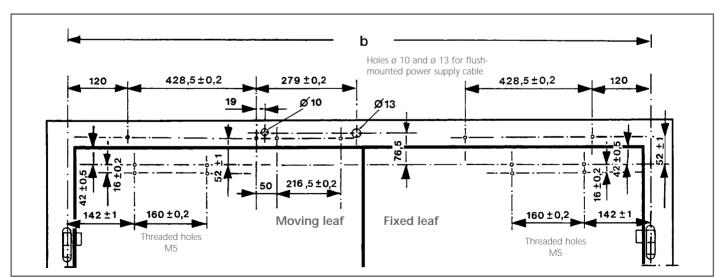


Fig. 117

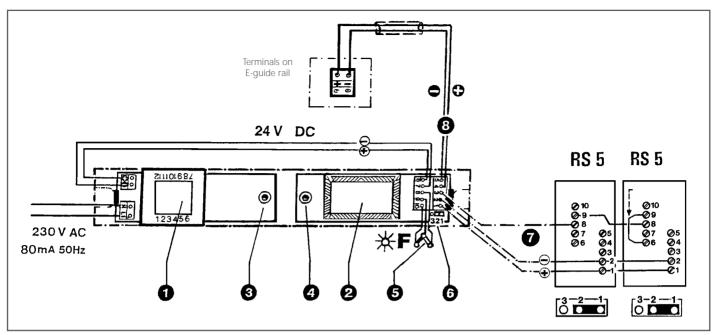


Fig. 118

Electrical installation

The TS 5000 R-IS/G system is connected to the 230 V mains voltage via the smoke switch control unit. The system is fully functional once the smoke switch control unit and guide rail have been interconnected.

Functioning

- ► Voltage applied to closer = door held open
- ► In the event of fire, the installed smoke switch responds and the door closes automatically
- No voltage applied or switched off=door not held open and closes automatically
- ► The door can be closed manually at any time regardless of whether or not voltage is being applied

Electrical data

for smoke switch control unit *RSZ 5*:

- Smoke detection optical scattered light principle
- ➤ Operating voltage 230 V AC, 80 mA, 50 Hz
- ► Max. total connected load 230 mA
- ► Ambient temperature -5°C to +50°C
- ► Fuse T 315 mA »L«
- ► Enclosure rating: IP 20
- ① Power supply unit
- 2 Smoke detection unit

- ③ Status display, LED green
- 4 Alarm display, LED red
- ⑤ Potential-free contact to external smoke detection display; max. 30 VD/1 A/30W
- 6 Plug-in jumper
- Connection of additional smoke switches (max. 2 units)

GEZE RSZ 5

® Door closer connection to terminal on *E-IS*-guide rail (100 mA)

Door leaf width to EN (mm)
to 850
over 850 to 950
over 950 to 1100
over 1100 to 1250
over 1250 to 1400

¹⁾ In accordance with EN, these sizes must not be set for fire doors.

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** *TS* 5000 (and *TS* 5000 *IS*) covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

TS 5000 R-IS/G

Overhead rack and pinion door closer GEZE TS 5000 R-IS/G

Ordering text

Description	Finish	ID No.
F GEZE <i>TS 5000</i> , Size 2-6	silver	027333
Closer without guide rail, without lever arm	dark bronze	027334
<u> </u>	white RAL 9010	031203
	white RAL 9016	027335
	RAL colour	024336
F GEZE <i>TS 5000 IS</i> , Size 2-6	silver	027320
Closer without guide rail, without lever arm	dark bronze	027321
	white RAL 9010	031205
	white RAL 9016	027322
	RAL colour	027326
E-IS/G guide rail, continuous for cutting to size, with integrated	silver	008160
Bowden cable, with electromechanical hold-open on both sides	dark bronze	008161
and 2 lever arms	white RAL 9010	031220
	white RAL 9016	015729
	RAL colour	008562
Smoke switch control unit GEZE <i>RSZ</i> 5	silver	028357
	dark bronze	028960
	white RAL 9010	031200
	white RAL 9016	028961
	stainless steel effect	028963
	RAL colour	028962

Mounting material

Description	Finish	ID No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors	dark bronze	052351
to which the closer cannot be	white RAL 9010	031236
directly mounted	white RAL 9016	068627
	steel, lacquered	057956
	RAL colour	029176
Mounting plate for <i>E</i> -guide rail	steel, lacquered	001514
Mounting plate for <i>E-IS</i> -guide rail	steel, lacquered	001520
Mounting plate for smoke switch control unit	steel, lacquered	001526

Feature

Overhead door closer **GEZE** *TS* 5000 *R-IS/G*, with continuous guide rail, integrated sequential closing and eletromechanical hold-open mechanism for the moving leaf, continuously and precisely adjustable between 80° and 130°

as per EN 1155. Closing force size 2-6, closing speed and backcheck adjustable from the front. With visual size indicator and mounting plate. Finish:

() silver

() dark bronze

() white

() RALL

Accessories

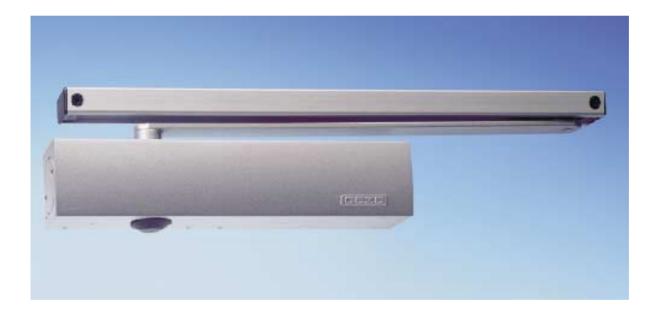
	Closer	Closer
	TS 5000	TS 5000 IS
Finish	ID No.	ID No.
silver	067724	068092
dark bronze	067725	068093
white RAL 9010	031212	031213
white RAL 9016	067726	068094
polished brass	072698	072699
stainless steel	072696	072697
RAL colour	000756	001499
Description	Finish	ID No.
Trip switch for smoke	_	073927
switch control unit		
GEZE RSZ 5		

TS 5000



GEZE TS 5000 L

Overhead rack and pinion door closer with guide rail, DIN EN 1154, mounting on side opposite hinge (with lintel angle bracket) or transom mounting on hinge side, size range 2-6



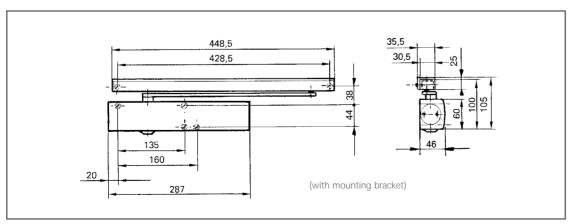


Fig. 40

Product features

- Closing force adjustable at front
- ▶ Optical size indicator
- Adjustable, hydraulic latching action
- Adjustable, thermoconstant closing speed
- All functions adjustable from front
- ► Streamlined
- Housing and guide rail available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- ► For single action doors
- ► Can be used for right and left hand doors without adjustment
- ► For smoke and fire doors with provision for DIN closer 1)
- ► If the door closer is to be fitted to smoke and fire doors, a mounting plate must be used
- ► Leaf width up to 1400 mm

Standard version/ package

GEZE *TS 5000 L* closer complete with guide rail; with mounting material (mounting plate not included).

Version with mechanical hold-open²⁾

Installation of the holdopen unit in the appropriate guide rail allows infinitely variable door hold-open. The retaining force for the hold-open can be adjusted. The hold-open can therefore be disabled.

Further versions

If the door closer is to be mounted to the door leaf on the side opposite the hinge without lintel angle bracket, the *E*-guide rail *OH* with electromechanical holdopen plus the smoke switch control unit *RSZ 5* can also be mounted. The electrical connections are identical to those specified for *TS 5000 E* and *TS 5000 R*.

TS 5500 L version

A cover cap with the following finishes is available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

1 0 2 0 0 1 1 1

¹⁾ Only permitted for use with smoke and fire doors if the door is officially approved for this mounting method.

²⁾ Not permitted for use with smoke and fire doors.

Mounting, door leaf with guide rail OH

Example showing the mounting of **GEZE** TS 5000 L, see Fig. 41

Section A: Mounting with mounting plate and mounting angle

Section B: Mounting with mounting plate, flush door

Mounting with mounting plate

Mounting plate, 5 mm thick with drill-hole pattern to DIN EN 1154, for doors without direct closer mounting, see Fig. 42

Mounting dimensions for left hand door, see Fig. 43 for left hand door, see Fig. 44

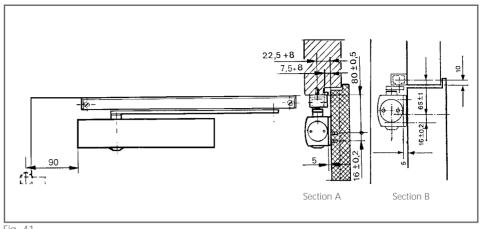


Fig. 41

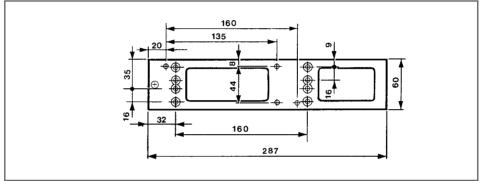
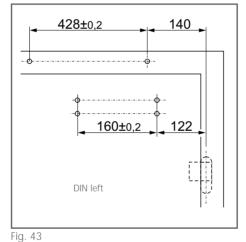


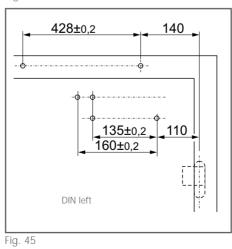
Fig. 42

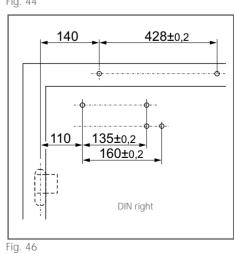


428±0,2 140 160±0,2 DIN right Fig. 44

Direct mounting¹⁾

Mounting dimensions for left hand door, see Fig. 45 for right hand door, see Fig. 46





1) Not permitted for use with smoke and fire doors.

Mounting dimension E-guide rail OH and R-guide rail OH

for right hand door. see Fig. 47

for left hand door, see Fig. 48

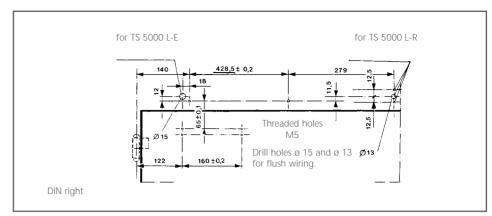


Fig. 47

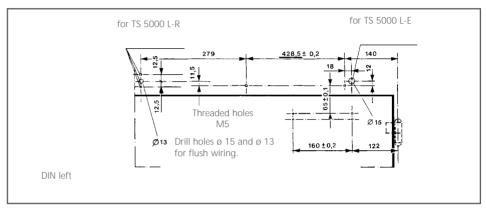
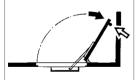


Fig. 48

Door opening angle relative to "x"

The x-dimension is a combination of leaf depth, pivot point clearance of a maximum of 36 mm and possibly transom. See fig. 35

Attention!
Restrict the max. door opening angle with a door stop!



Door leaf mounting of the DIN closer **GEZE** *TS 5000 L* on the side opposite the hinge is possible with smoke and fire doors provided that the following conditions are satisfied (see Report No. 12 0339 1 88 from MPA Dortmund):

- ► Compliance with the maximum permitted dimensions regarding door leaf depth, pivot point clearance and transom
- Restriction of the maximum opening angle
- Installation according to Fig. 43 or 44 and cross section A with mounting plate
- ► The door must carry an official approval certificate for this type of installation.

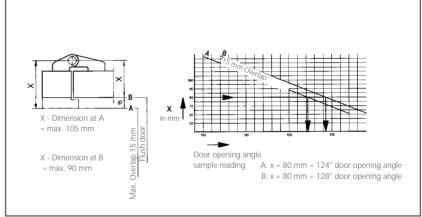
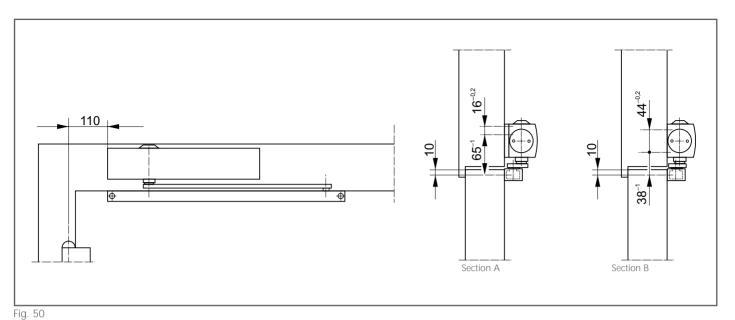


Fig. 49



Transom mounting

on hinge side

Example showing the transom mounting of a **GEZE** *TS* 5000 L, see Fig. 50

Section A: mounting with mounting plate (Dimensions of mounting plate see Fig. 42)

Section B: mounting without mounting plate

142 ± 1 160 ± 0,2 120 428,5 ± 0,2

Fig. 51

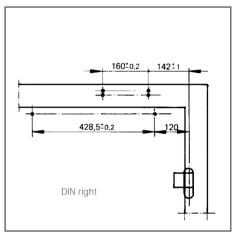


Fig. 52

Mounting with mounting plate

Mounting dimensions for left hand door, see Fig. 51 for right hand door, see Fig. 52

Direct mounting¹⁾

Mounting dimensions for left hand door, see Fig. 53 for right hand door, see Fig. 54

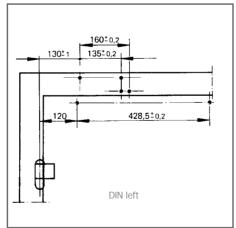


Fig. 53

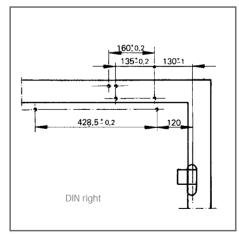


Fig. 54

¹⁾ Not permitted for use with smoke and fire doors.

The transom mounting of the DIN closer **GEZE** *TS 5000 L* on the hinge side is possible with smoke and fire doors provided that the following conditions are satisfied (see Report No. 120 339 1 88 of MPA, Dortmund):

- ► The maximum permissible dimensions for pivot point offset is maintained
- ► Mounting as per Fig. 11 or 12 and Section A with mounting plate
- Official approval of the door for this mounting method

Door closer size EN	Door leaf width to EN (mm)	
Size 2 ¹⁾	to 850	
Size 3	over 850 to 950	
Size 4	over 950 to 1100	
Size 5	over 1100 to 1250	
Size 6	over 1250 to 1400	

¹⁾ In accordance with EN, these sizes must not be set for fire doors.

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** *TS 5000 L* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

TS 5000 L

Overhead rack and pinion door closer **GEZE** TS 5000 L

Ordering text

Description	Finish	ID No.
E GEZE <i>TS 5000 L</i> , Size 2–6	silver	027351
Closer without guide rail,	dark bronze	029399
without lever	white RAL 9010	031206
	white RAL 9016	029400
	RAL colour	027352
Guide rail OH with lever	silver	025655
(for mounting of door leaf)	dark bronze	029403
on side opposite hinge	white RAL 9010	031221
J.	white RAL 9016	029404
	brass effect	_
	stainless steel effect	028732
	RAL colour	025656
Guide rail (standard version)	silver	068221
with lever (for transom mounting)	dark bronze	068222
on hinge side	white RAL 9010	031216
	white RAL 9016	015695
	brass effect	067985
	stainless steel effect	014945
	RAL colour	000773
Hold-open unit ¹⁾		071924

Mounting material

Description	Finish	ID No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors to which the	dark bronze	052351
closer cannot be directly mounted	white RAL 9010	031236
	white RAL 9016	068627
	enamelled steel	057956
	RAL colour	029176
Mounting angle bracket	silver	025657

¹⁾ Not permitted for use with smoke and fire doors.

Accessories

Description	Finish	ID No.
Cover caps for version	silver	067724
GEZE TS 5500 L ¹⁾	dark bronze	067725
	white RAL 9010	031212
	white RAL 9016	067726
	polished brass	072698
	stainless steel	072696
	RAL colour	000756
E-sliding rail BG	silver	025659
with electromechanical	dark bronze	029409
hold-open, with lever	white RAL 9010	031222
	white RAL 9016	029410
	brass effect	_
	stainless steel effect	028734
	RAL colour	025660
GEZE RSZ 5	silver	028357
smoke switch central unit	dark bronze	028960
	white RAL 9010	031200
	white RAL 9016	028961
	stainless steel effect	028963
	RAL colour	028962
Hold-open unit 2)	-	071924

- Cover caps only suitable for direct installation
 Not permitted for use with smoke and fire doors.

Feature

Overhead rack and pinion door closer GEZE TS 5000 L, as per EN 1154A, size 2 – 6. With guide rail BG, closing force adjustable at front, closing speed, and latching action. Direct installation on opposite hinge side possible, with visual size indicator.

Finish:

- () silver
- () dark bronze
- () white
- () RAL

TS 5000



GEZE TS 5000 L-IS

Overhead and pinion door closer with guide rail, with integrated concealed sequential closing in continuous guide rail, mounting on side opposite hinge, DIN EN 1154 A, size range 2-6



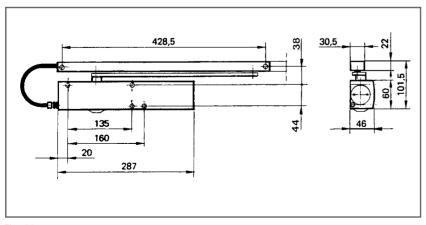


Fig. 82

L-IS

The **GEZE** *TS* 5000 *L-IS* is controlled hydraulically via the Bowden cable and mechanical control system in the guide rail. The sequential closing function is provided by the moving leaf being held-open (it "waits") until the fixed leaf is closed. As a result, a conventional door selector is no longer necessary.

Product features

- ► The door's appearance is not detrimentally affected by the door selector
- ► IS-funtions integrated in the required GEZE
 TS 5000 L-IS door
- ► No additional modifications to the door frame required
- ▶ All benefits of the basic **GEZE** *TS 5000*, model, such as a closing force adjustment, optical size indicator, and the same mounting dimensions, are retained.

Applications

- ► For double leaf doors with leaf widths up to 1400 mm
- ► Smallest door width hinge clearance »b« =1200 mm Largest door width hinge clearance »b« =2800 mm
- Can be used for right and left hand doors without adjustment
- ► Also suitable for leaves of differing widths. Minimum width of fixed leaf 400 mm
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► The TS 5000 L-IS must be mounted to the moving leaf

Standard version/ package

GEZE *TS 5000 L-IS* comprising:

Basic TS 5000 L-IS and TS 5000 L, continuous guide rail with 2 lever arms and integrated door selector via Bowden cable and mechanical control system, complete with mounting material and fitting template (mounting plate not included).

Further versions

If the door closer is to be mounted to the door leaf on the side opposite the hinge, the *E-IS* guide rail *OH* with electromechanical hold-open plus the smoke switch control unit *RSZ* 5 can also be mounted.

The electrical connections are identical to those specified for *TS 5000 E-IS* and *TS 5000 R-IS*.

TS 5500 L-IS version

Cover caps with the following finishes are available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

Guide rails and lever arms are also available with the following finishes: silver, dark bronze, white, brass effect, stainless steel effect, RAL colours on request.

TS 5000 L-IS

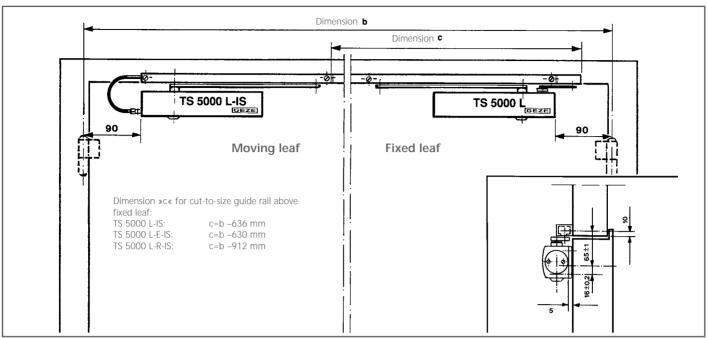


Fig. 83

Standard mounting

Example showing the mounting of the **GEZE** *TS 5000 L-IS* with mounting plate on a fire door (steel door *T30*), see Fig. 83

Mounting plate, 5 mm thick, drill-hole pattern to DIN EN 1154, see Fig. 84

Mounting dimensions see Fig. 85

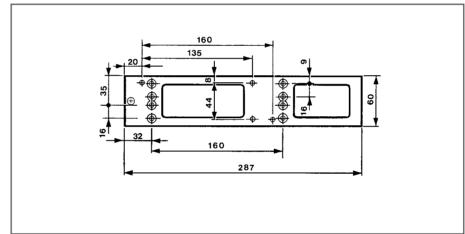


Fig. 84

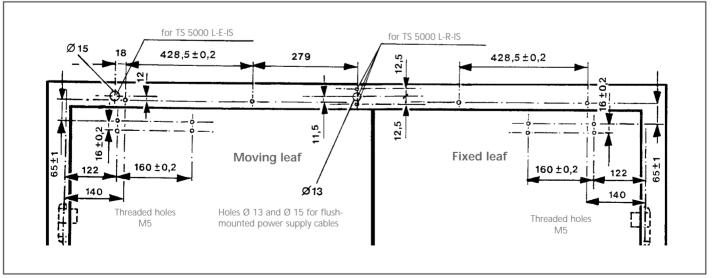


Fig. 85

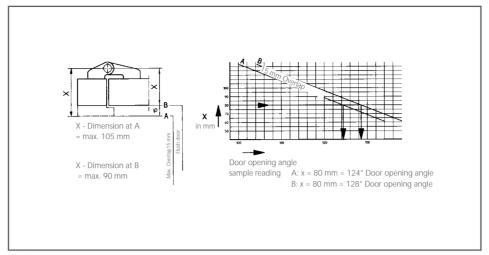


Fig. 86

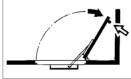
Door opening angle relative to "x"

The x-dimension is a combination of leaf depth, pivot point clearance of a maximum of 36 mm and possibly transom. See fig. 86

Door leaf mounting of the DIN closer **GEZE** *TS 5000 L* on the side opposite the hinge is possible with smoke and fire doors provided that the following conditions are satisfied:

Attention!Restrict the max. door

opening angle with a door stop!



- ► Compliance with the maximum permitted dimensions regarding door leaf depth, pivot point clearance and transom
- Restriction of the maximum opening angle
- Installation with mounting plate
- The door must carry an official approval certificate for this type of installation.

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary. The **GEZE** *TS* 5000 *L* (and *TS* 5000 *L-IS*) covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

Door closer size EN	Door leaf width to EN (mm)
Size 2 ¹⁾	to 850
Size 3	over 850 to 950
Size 4	over 950 to 1100
Size 5	over 1100 to 1250
Size 6	over 1250 to 1400

1) In accordance with EN, these sizes must not be set for fire doors.

Overhead rack and pinion door closer GEZE TS 5000 L-IS

Ordering text

Description	Finish	ID No.
F GEZE <i>TS 5000 L</i> , Size 2-6	silver	027351
Closer without guide rail, without lever arm	dark bronze	029399
	white RAL 9010	031206
	white RAL 9016	029400
	RAL colour	027352
F GEZE <i>TS 5000 L-IS</i> , Size 2-6,	silver	027331
Closer without guide rail, without lever arm	dark bronze	029401
	white RAL 9010	031207
	white RAL 9016	029402
	RAL colour	027332
IS-guide rail OH, continuous for cutting to size,	silver	025850
with integrated Bowden cable and 2 lever arms	dark bronze	029413
	white RAL 9010	031223
	white RAL 9016	029414
	stainless steel effect	029597
	RAL colour	029596

TS 5000 L-IS

Mounting material

Description	Finish	ID-No.
Mounting plate to DIN 18263, Part 2,	silver	049185
for smoke and fire doors or for doors	dark bronze	052351
to which the closer cannot be directly mounted	white RAL 9010	031236
	white RAL 9016	068627
	galvanised steel	057956
	RAL colour	029176

Accessories

Cover caps for GEZE <i>TS 5500 L-IS</i> see version GEZE <i>TS 5500 IS</i> (page 49)		
Description	Finish	ID-No.
E-IS guide rail OH with	silver	025847
electromechanical hold-open	dark bronze	031224
and 2 lever arms	white RAL 9010	031225
	white RAL 9016	031226
	stainless steel effect	029560
	RAL colour	029557
GEZE <i>RSZ 5</i> smoke switch control unit	silver	028357
	dark bronze	028960
	white RAL 9010	031200
	white RAL 9016	028961
	stainless steel effect	028963
	RAL colour	028962

Feature

Overhead door closer GEZE TS 5000 L-IS, size 2-6 as per EN 1154A () dark bronze with continuous guide rail OH, integrated sequential closing. Closing force closing speed, latching action adjustable from the front.

With visual size indicator and mounting plate for installation on opposite hinge side.

Finish:

() silver

() white

() RAL

TS 5000 EFS

GEZE TS 5000 EFS and TS 5000 RFS

Free-Swing Technology with Guide Rail

The door closer **GEZE** TS 5000 is one of the best-selling door closers on the market. It now features an additional function:

the versions TS 5000 EFS and TS 5000 RFS are equipped for the so-called 'free-swing' function.

The 'free-swing' function is activated by opening the door once to approximately 90° (typically in the morning). This will ensure that the closer spindle is held in that position in the door closer through the electro-hydraulic holdopen mechanism.

This function makes it possible to use the door without the resistance from the closer, for closing and opening. In case of fire, the door closes automatically, irrespective of the current angle of opening.

This function is particularly important in hospitals, kindergartens and sheltered accommodation for the elderly or handicapped persons.

Free-swing door closer TS 5000 EFS and TS 5000 RFS

Door closer *TS 5000 E* with electro-hydraulic hold-open device 24V DC

- ➤ Size 2-5 in accordance with EN 1155
- ► Width of door panel up to 1250 mm
- ► For doors with hinges on left-hand or righthand side
- ► For installation on the door panel or the transom, hinged side
- ► The closing speed, closing force and latching action can be adjusted from the front

EFS guide rail

RFS guide rail

► With integrated mains unit and smoke alarm with adjustment of the alarm threshold and soiling indicator.

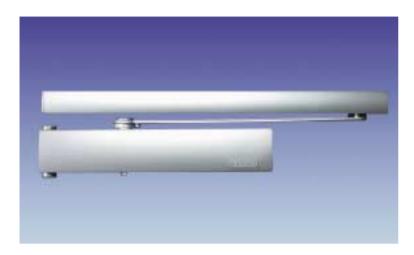
The free-swing door closers TS 5000 EFS and TS 5000 RFS are available in the colour silver as well as all RAL colours.



Free-swing door closer TS 5000 RFS

^{*)} Submitted to DIBt for building control approval.

and RFS



Free-swing door closer TS 5000 EFS



Free-swing door closer TS 5000 RFS

Ordering information

Description	Finish	ld. no.	
Free-swing door closer consisting of: Door closer TS 5000 R and free-swing guide rail			
GEZE TS 5000 RFS	Silver	093546	
Door panel installation	RAL colour	098328	
GEZE TS 5000 EFS	Silver	095076	
Door panel installation	RAL colour	098326	
GEZE TS 5000 EFS	Silver	093556	
Transom installation on hinge side	RAL colour	098327	
Mounting plate, hole pattern as	Silver	059107	
per DIN EN 1154, appendix 1			

Specification text

GEZE overhead door closer TS 5000 EFS 24 V DC for installation on fire and smoke protection doors, with guide rail and free swing action, which can be activated by opening the door once to approx. 90°, via the electro-hydraulic hold-open device; closing force size 2-5 in accordance with EN 1155, adjustable from the front, closing speed and latching action with visual indicator;

- () door panel installation on hinge side
- () transom installation on hinge side, with mounting plate.

Colour:

- () silver
- () dark bronze
- () white
- () colour acc. to RAL

GEZE smoke switch centre RSZ 5 Connection: 230 V AC, 250 mA output voltage: 24 V DC (1 no.)

Colour:

- () silver
- () dark bronze
- () white
- () colour acc. to RAL

GEZE smoke switch RS 5 24 V DC, for connection to RSZ 5, (2 no.)

GEZE circuit breaker () surface mounted () flush mounted

Acceptance test of the hold-open mechanism and permanent fixing of the approval plate.

GEZE overhead door closer TS 5000 RFS 230V AC for installation on fire and smoke protection doors, with guide rail and free swing action, which can be activated by opening the door once to approx. 90°, via the electro-hydraulic hold-open device; mains unit and smoke switch with adjustment of alarm threshold and soiling display integrated in the guide rail. Closing force, size 2-5 in accordance with EN 1155, closing speed and latching action (with visual indicator) can be adjusted from the front. For installation with mounting plate on the door panel on the hinge side.

Colour:

- () silver
- () dark bronze
- () white
- () colour acc. to RAL

GEZE smoke switch RS 5 24 V, for connection to TS 5000 RFS (2 no.)

GEZE circuit breaker

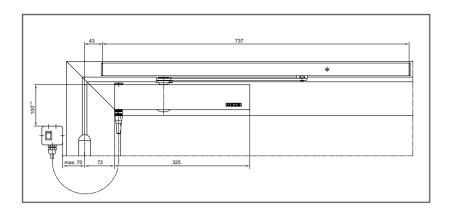
- () surface mounted
- () flush mounted

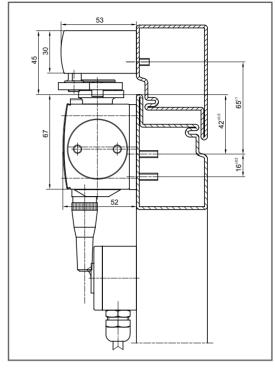
Acceptance test of the hold-open mechanism and permanent fixing of the approval plate.

Please enquire about the state of approval.

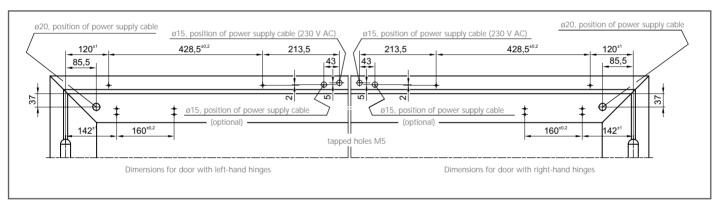
Submitted to DIBt for building control approval.

TS 5000 RFS door panel installation on hinge side

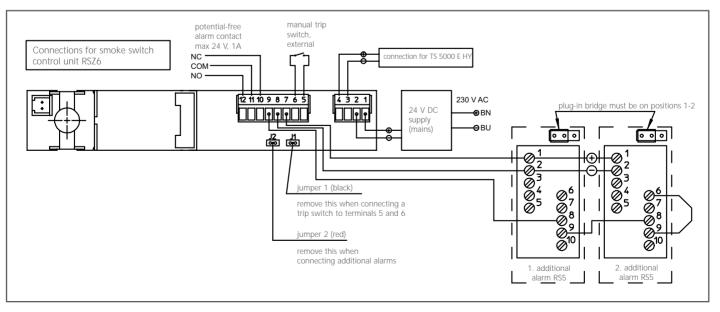




Section through door: installation with mounting plate

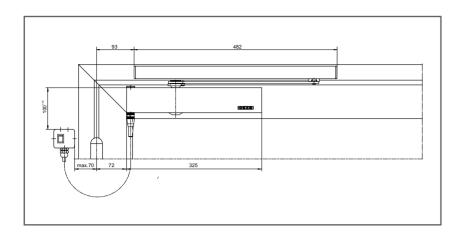


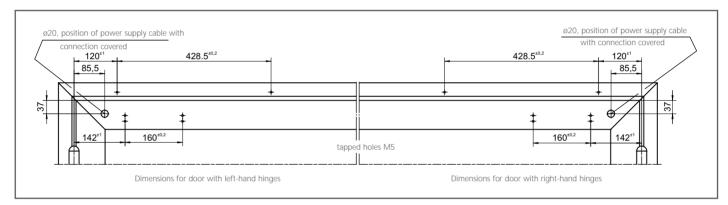
Installation with mounting plate



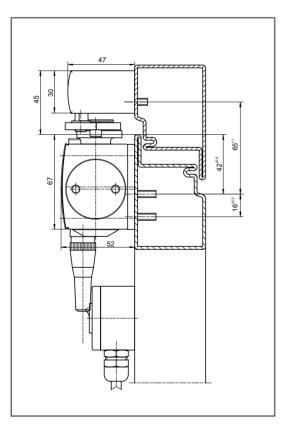
Wiring diagram for RFS guide rail

TS 5000 EFS door panel installation on hinge side



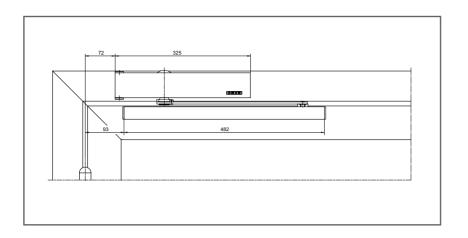


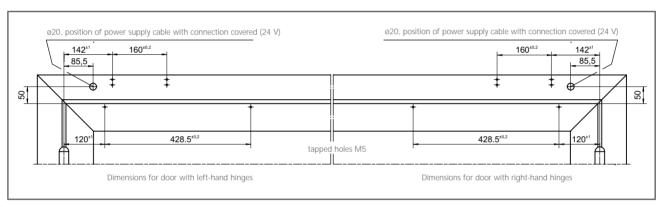
Installation with mounting plate



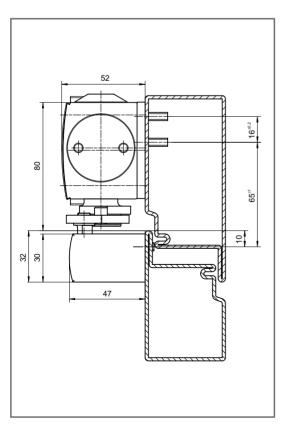
Section through door: installation with mounting plate

TS 5000 EFS transom installation on hinge side





Installation with mounting plate



Section through door: installation with mounting plate

Product information for door closers

The following information concerning door closers for hinged leaf doors must be observed. Failure to observe the information exonerates the manufacturer from liability or obligation.

1. Product information and intended use

Door closers in terms of this definition shall be used to close hinged leaf doors again after they have been manually opened. The closing operation is performed with adjustable hydraulic damping. The necessary closing force relative to the leaf widths is defined in EN 1154. The information from the manufacturers must be observed in the case of areas of application other than conduit intended. Door closers shall be used on installed hinged-leaf doors made of metal, wood, or UPVC and any combinations of these materials. The mounting method and position are precisely prescribed for smoke and fire doors or other standardised selfclosing doors. Mounting methods and positions other than conduit intended do not conform to the intended use.

Vertical, smoothly operating doors with correctly mounted door closers are prerequisites for the intended use of door closers. Mounting and adjustment must be performed by qualified personnel according to the specifications from the manufacturer. Door closers with greater closing forces must be used in the case of particularly unfavourable installation conditions (effects of wind).

Door closers with backcheck must be used, especially in the case of hinged-leaf doors which are opened against wind The backcheck contributes to protecting personnel, door elements, surrounding walls and objects without restricting the door opening angle. If, owing to the structural characteristics of the door, it is necessary to mount the door leaf to the frame at the door's pivot axis, a stop which restricts the maximum door opening angle of the door must be used. Hinged leaf doors can only be held open at a specific position using additional special fittings or integrated construction elements. With smoke and fire doors, the equipment must be approved by an inspector from the responsible institute for structural engineering (documents supporting suitability must be observed).

Door closers are not suitable for the unprotected external installation into single-action doors and for use in environments with aggressive corrosion-promoting air contents as well as extremely low or high temperatures.

Fitting boxes for floor springs must be protected against dirt penetration after their installation. If floor mounted door closers are exposed to water penetration (e.g. damp locations or exterior doors without rain protection), the cavity between the cement box and door closer housing must be filled with a suitable sealing compound.

Before the door closers (including any additional equipment) are installed, any mandatory legal directives must be observed.

2. Improper use

Improper use (i.e. utilisation of the product in a way differing from the intended use) for hinge leaf door may result in damage or injury in particular:

- ▶ if obstacles in the closing radius, dragging doors, jamming seals, wood wedges etc. prevent the closing operation
- ▶ if door closers have been incorrectly or unprofessionally fitted and/or adjusted
- ▶ if parts of the body are placed between the frame and leaf (risk of injury)
- ▶ if correct functioning is expected beyond the specified characteristics, e.g. in storm conditions, with extraordinary negative pressure or positive pressure acting on the door
- ► if door closers are used for purposes other than closing doors
- ▶ if the selected door closer size does not correspond to the recommendations of the manufacturer

3. Product characteristics

If the product characteristics are not described in the catalogues, brochures, instructions etc., any special requirements must be discussed with and then approved by the manufacturer.

Reference should be made to the standard DIN 18 263, parts 1, 2, 3 and 5 "Door closers with hydraulic damping". Virtually all basic requirements and additional requirements are defined in this standard. The suitability of use for door closers depends on factors such as frequency of actuation, actuation principle, environmental influences, and care and maintenance. Door closers must be replaced as soon as correct and reliable closing operation can no longer be guaranteed.

4. Product maintenance

Safety elements of door closers must be checked regularly, according to requirements, for wear and to ensure that they are fitted correctly and securely. Fixing screws must be tightened and any faulty components must be changed. Furthermore, the following maintenance work must be performed at least once per year (depending on the type of hinged leaf doors and their application):

- ► All moving parts on the link arm must be greased
- ► The closer settings (e.g. closing speed) must be checked.
- Smooth operation of the door must be checked
- ▶ In the case of door closers with special functions (hold-open devices/hold-open systems), the legal checks, monitoring, and maintenance procedures must be observed.

Only cleaning agents not containing any corrosive and damaging components should be used.

5. Obligations regarding information and instruction

The following media are available to the planner, specialist trader, manufacturer, building owner, and user:

- ► Catalogues, brochures
- ► Tender documents
- ► Mounting instructions, installation drawings, operating instructions, standards
- ► Consultation with field service personnel

The following points are essential for the correct use, reliable functioning, maintenance, and care of door closers for hinged-leaf doors:

- architects and planners must request and observe the necessary product information,
- ▶ specialist dealers and manufacturers must observe the product information and information in the price lists, and especially request all necessary instructions and pass them on to the customer, installer or end user
- manufacturers must observe product information and pass it on to the customers and users.

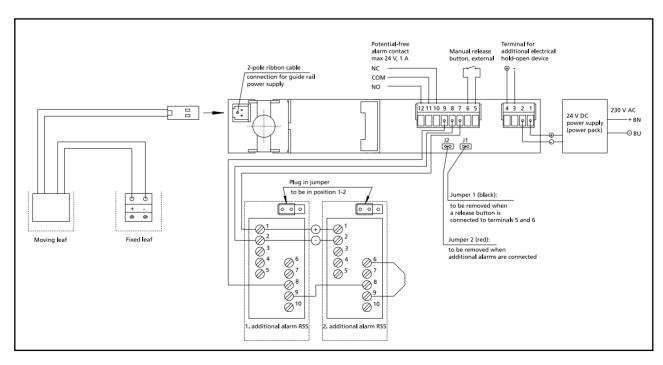
TS 5000

GEZE TS 5000 with slim Guide Rail

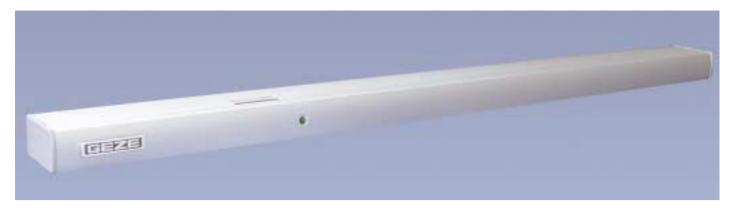
Range of guide rails with electromechanical hold-open device, overall height 30 mm



TS 5000 with R-IS Guide Rail, overall height 30 mm



Wiring and connection diagram for R-IS Guide Rail



R Guide Rail, overall height 30 mm

GEZE *TS* 5000 is one of the best-known door closers on the market. Now the *TS* 5000 is available with a new guide rail:

- The new guide rail with its tried and tested magnetic holdopen device has an overall height of only 30 mm
- ► The hold-open angle is infinitely variable from 80° to 130°. In addition, it is possible to override the hold-open position and open the door up to 180°.

- Bolted sliding pad
- Unified drilling pattern
- Concealed fixing screws
- ► For fire and smoke protection doors¹¹ the smoke switch control unit and the power pack are integrated into the guide rail. As soon as the smoke switch control unit is activated, the door closes automatically
- ¹⁾ Please enquire about the current status of the test and approval procedure.

- ▶ Optical smoke alarm with adaption of the alarm threshold, soiling indicator, integral test button, potential-free contact and terminal for external circuit breaker.
- ► The guide rail can be supplied in single-leaf version:
 - E guide rail TS 5000 and TS 3000 V
 - R guide rail TS 5000 and TS 3000 V

and in double-leaf version:

- E-IS guide rail TS 5000
- R-IS guide rail TS 5000

(both versions optionally with holdopen device on one side only on moving leaf).

Available colours are silver, dark bronze, white as well as RAL colours.



The compact electronic arrangement

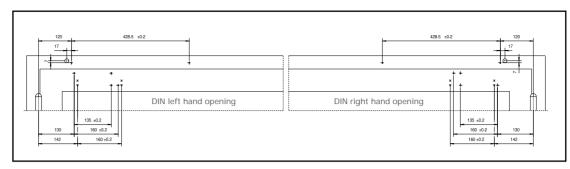


Appealing design and concealed fixing technology

Versions

E Guide Rail

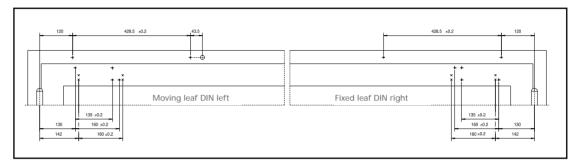
- ▶ 24 V DC
- Connection to power supply / release devices by others



E Guide Rail

E-IS Guide Rail

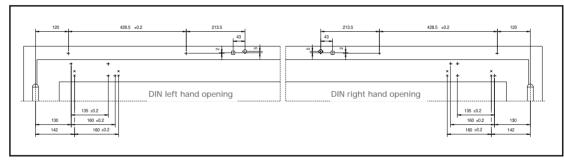
- ▶ 24 V DC
- Connection to power supply / release device by others
- ► Minimum door width 1290 mm
- Guide rail for fixed leaf and moving leaf
- Centre part can be cut to fit



E-IS Guide Rail

R Guide Rail

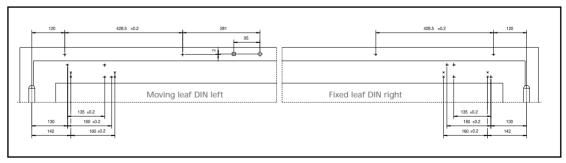
- Fully integrated power pack and smoke switch
- ► Ready for operation after connection of mains power
- ➤ Space requirement on door frame 783 mm



R Guide Rail

R-IS Guide Rail

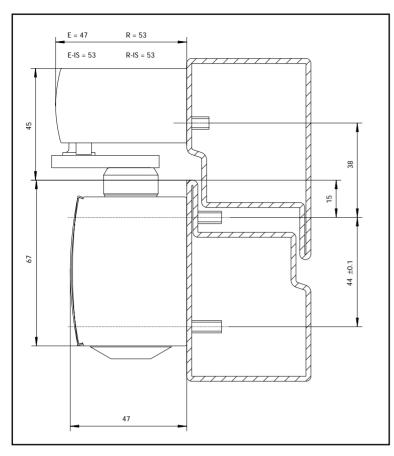
- ► Minimum door width 1450 mm
- Guide rail for fixed leaf and for moving leaf
- ► Centre part can be cut to fit and includes integrated power pack and smoke switch.



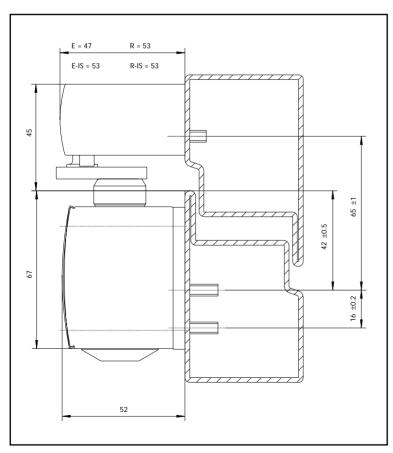
R-IS Guide Rail

Legend:

- Direct fixing
- × Fastening with fixing plate
- o Position of 24 V supply
- ♦ Position of 230 V supply
- ☐ Position of supply cable for additional connections



Cross section through door: direct fixing



Cross section through door: fixed with fixing plate

Specification Text

GEZE overhead door closer TS 5000 E 24 V DC, with guide rail, overall height 30 mm, with electromechanical hold-open device which is infinitely variable from 80° to 130° to exact point, in accordance with EN 1155, overriding for hold-open point; closing force EN size 2-6, closing speed and latching action can be adjusted from the front, with adjustable back check, with optical size indicator, normal mounting on door leaf/hinged side with fixing plate.

Colour:

- () silver
- () dark bronze
- () white
- () acc. to RAL ...

GEZE overhead door closer TS 5000 E-IS 24 V DC. with continuous guide rail, overall height 30 mm, integrated closing sequence control with electromechanical hold-open device which is infinitely variable from 80° to 130° to exact point, in accordance with EN 1155, overriding of hold-open point, closing force EN size 2-6, closing speed and latching action can be adjusted from the front with adjustable back check, with optical size indicator, normal mounting on door leaf/hinged side with fixing plate.

Colour:

- () silver
- () dark bronze
- () white
- () acc. to RAL ...

GEZE overhead door closer TS 5000 R 230 V AC, with guide rail, overall height 30 mm, with electromechanical hold-open device which is infinitely variable from 80° to 130° to exact point, in accordance with EN 1155, overriding for hold-open point; closing force EN size 2-6, with smoke switch integrated into the guide rail, not visible from the front, closing speed and latching action can be adjusted from the front, with adjustable back check, with optical size indicator, normal mounting on door leaf/hinged side with fixing plate.

Colour:

- () silver
- () dark bronze
- () white
- () acc. to RAL ...

GEZE overhead door closer TS 5000 R-IS 230 V AC, with continuous guide rail, overall height 30 mm, integrated closing sequence control with electromechanical hold-open device which is infinitely variable from 80° to 130° to exact point, with smoke switch integrated into the guide rail, not visible from the front, closing force EN size 2-6, closing speed and latching action can be adjusted from the front, with optical size indicator, normal mounting on door leaf/hinged side with fixing plate.

Colour:

- () silver
- () dark bronze
- () white
- () acc. to RAL ...

TS 5000

GEZE TS 5000 range of guide rails with electromechanical hold-open device, overall height 30 mm

Ordering Information

Description	Finish	ID No
E Guide Rail, single-leaf	silver	086431
hinge side	dark bronze	086430
g- 0.0.0	white RAL 9016	086432
	stainless steel	086434
	acc. to RAL	086428
R Guide Rail, single-leaf	silver	088014
hinge side	dark bronze	088013
	white RAL 9016	088015
	stainless steel	088017
	acc. to RAL	088011
E-IS Guide Rail	silver	093991
ninge side	dark bronze	098665
	white RAL 9016	098666
	stainless steel	098667
	acc. to RAL	098668
E-IS/G Guide Rail 1)	silver	098669
hinge side	acc. to RAL	098670
R-IS Guide Rail	silver	093949
hinge side	dark bronze	098671
	white RAL 9016	098672
	stainless steel	098673
	acc. to RAL	098674
R-IS/G Guide Rail 1)	silver	098675
hinge side	acc. to RAL	098676

^{1) .../}G hold-open only on side of moving leaf

Product Information for Door Closers

The following information concerning door closers for hinged leaf doors must be observed. Failure to observe the information exonerates the manufacturer from liability or obligation.

1. Product information and intended use

Door closers in terms of this definition shall be used to close hinged leaf doors again after they have been manually opened. The closing operation is performed with adjustable hydraulic damping. The necessary closing force relative to the leaf widths is defined in EN 1154. The information from the manufacturers must be observed in the case of areas of application other than purpose intended. Door closers shall be used on installed hinged-leaf doors made of metal, wood, or UPVC and any combinations of these materials. The mounting method and position are precisely prescribed for smoke and fire doors or other standardised selfclosing doors. Mounting methods and positions other than those specifed do not confrom to requirements.

Vertical, smoothly operating doors with correctly mounted door closers are prerequisites for the intended use of door closers. Mounting and adjustment must be performed by qualified personnel according to the specifications from the manufacturer. Door closers with greater closing forces must be used in the case of particularly unfavourable installation conditions (effects of wind).

Door closers with backcheck must be used in the case of hinged-leaf doors which are opened against wind The backcheck contributes to protecting personnel, door elements, surrounding walls and objects without restricting the door opening angle. If, owing to the structural characteristics of the door, it is necessary to mount the door leaf to the frame at the door's pivot axis, a stop which restricts the maximum door opening angle of the door must be used. Hinged leaf doors can only be held open at a specific position using additional special fittings or integrated construction elements. With smoke and fire doors, the equipment must be approved by an inspector from the responsible institute for structural engineering (documents supporting suitability must be observed).

Door closers are not suitable for the unprotected external installation into single-action doors and for use in environments with aggressive corrosion-promoting air contents as well as extremely low or high temperatures.

Fitting boxes for floor springs must be protected against dirt penetration after their installation. If floor mounted door closers are exposed to water penetration (e.g. damp locations or exterior doors without rain protection), the cavity between the cement box and door closer housing must be filled with a suitable sealing compound.

Before the door closers (including any additional equipment) are installed, any mandatory legal directives must be observed.

2. Improper use

Improper use (i.e. utilisation of the product in a way differing from the intended use) of hinge leaf doors may result in damage or injury in particular:

- ▶ if obstacles in the closing radius, dragging doors, jamming seals, wood wedges etc. prevent the closing operation
- ► if door closers have been incorrectly or unprofessionally fitted and/or adjusted
- ▶ if parts of the body are placed between the frame and leaf (risk of injury)
- ▶ if correct functioning is expected beyond the specified characteristics, e.g. in storm conditions, with extraordinary negative pressure or positive pressure acting on the door
- ▶ if door closers are used for purposes other than closing doors
- ▶ if the selected door closer size does not correspond to the recommendations of the manufacturer

3. Product characteristics

If the product characteristics are not described in the catalogues, brochures, instructions etc., any special requirements must be discussed with and then approved by the manufacturer.

Reference should be

made to the standard DIN 18 263, parts 1, 2, 3 and 5 "Door closers with hydraulic damping" Virtually all basic requirements and additional requirements are defined in this standard. The suitability of use for door closers depends on factors such as frequency of actuation, actuation principle, environmental influences, and care and maintenance. Door closers must be replaced as soon as correct and reliable closing operation can no longer be guaranteed.

4. Product maintenance

Safety elements of door closers must be checked regularly, according to requirements, for wear and to ensure that they are fitted correctly and securely. Fixing screws must be tightened and any faulty components must be changed. Furthermore, the following maintenance work must be performed at least once per year (depending on the type of hinged leaf doors and their application):

- ► All moving parts on the link arm must be greased
- ► The closer settings (e.g. closing speed) must be checked.
- Smooth operation of the door must be checked
- ▶ In the case of door closers with special functions (hold-open devices/hold-open systems), the legal checks, monitoring, and maintenance procedures must be observed.

Only cleaning agents not containing any corrosive and damaging components should be used.

5. Obligations regarding information and instruction

The following media are available to the planner, specialist trader, manufacturer, building owner, and user:

- ► Catalogues, brochures
- ► Tender documents
- ► Mounting instructions, installation drawings, operating instructions, standards
- Consultation with field service personnel

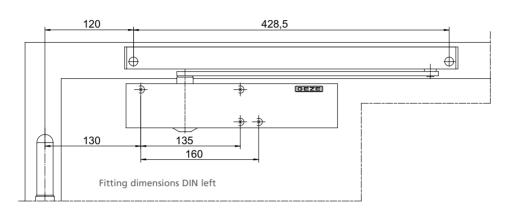
The following points are essential for the correct use, reliable functioning, maintenance, and care of door closers for hinged-leaf doors:

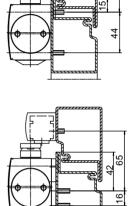
- architects and planners must request and observe the necessary product information,
- ▶ specialist dealers and manufacturers must observe the product information and information in the price lists, and especially request all necessary instructions and pass them on to the customer, installer or end user
- manufacturers must observe product information and pass it on to the customers and users.



GEZE T-Stop-Guide Rail

with **Integrated** Opening Restrictor

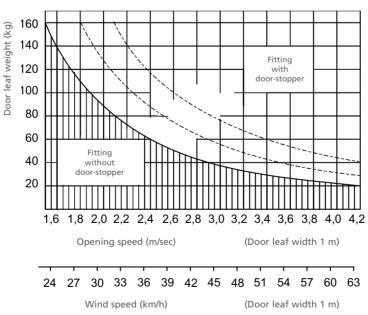




The **GEZE T-Stop-Guide rail** for *TS 5000* makes the implementation of doors without a door-stoppers troublesom side-effect possible. Stumbling-blocks and dirty marks - depending on installation of door-stoppers on the floor - are all in the past now. The entrance will gain in aesthetics.

Benefits of product

Due to the integrated opening restrictor there is no need for installation of a door-stopper on the floor $\!\!\!\!^*$



^{*} lots of applications may be realised without using additional door-stopper

Feature

Overhead rack and pinion door closer **GEZE** *TS 5000*, EN 1154 A, size range 2-6, with T-Stop-guide rail with integrated opening restrictor. Closing speed adjustable at the closer, adjustable back check and latching force with optical size indicator. Alternatively mounting plate. Finish:

- () silver
- () RAL colours

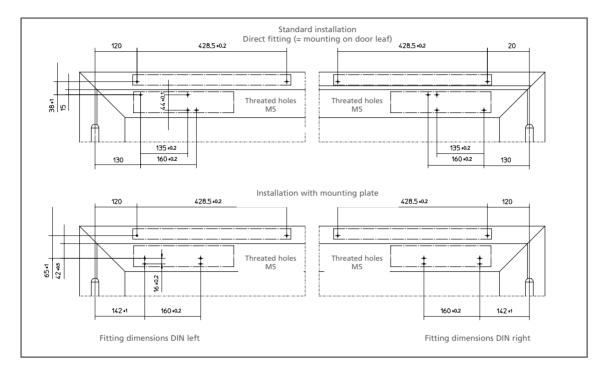


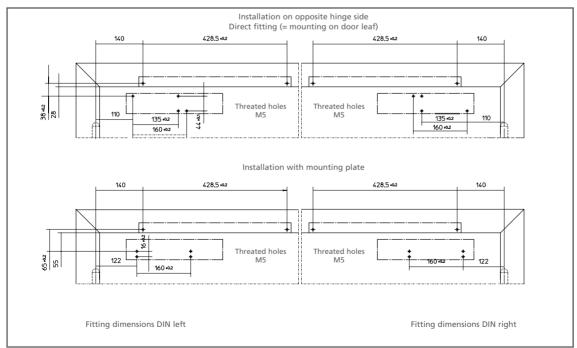
Application range

- ► For single action doors
- ► For right and left hand doors
- ► For standard installation on hinge side and oppsite hinge side
- ► For **GEZE** *TS 5000*

Specification text

Description	Finish	ld. no.
GEZE T-Stop-guide rail	silver	102363
	stainless steel	102364
	RAL colour	102365
GEZE T-Stop-guide rail BG	silver	102366
for installation on	stainless steel	102367
opposite hinge side	RAL colour	102368







As at 12/02 · Subject to alternations Id.nr 104375



GEZE *TS* 4000

Overhead rack and pinion door closer, to EN 1154 A, size range 1-6, size 7



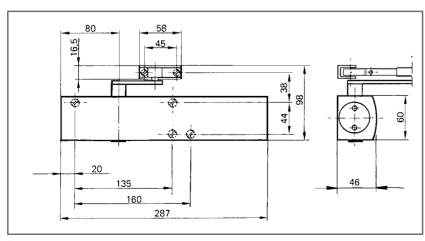


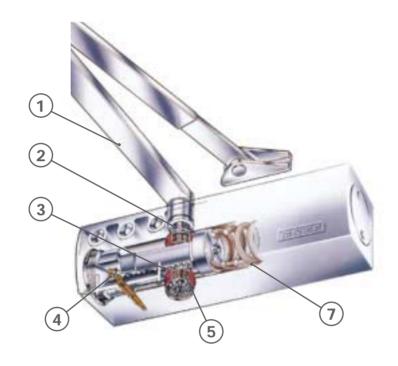
Fig. 10

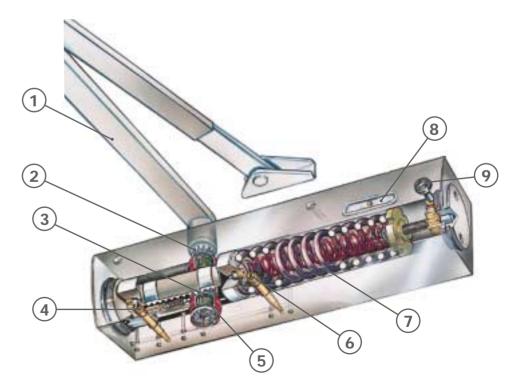
Technology

GEZE TS 2000 V and **GEZE** TS 4000 door closers

- 1 Link arm
- 2 Toothed spindle
- 3 Rack and pinion gear
- 4 Closing speed adjuster
- 5 Needle bearing
- 6 Backcheck adjuster
- **7** Spring
- 8 Closing force indicator
- **9** Closing force adjuster

TS 2000 V





Product features

- Closing force (size range 1-6) adjustable from front size 7
- ► Closer in only one construction size
- Optical size indicator (size 1-6)
- ► Adjustable backcheck (size 1-6)
- Adjustable, thermoconstant closing speed
- ► All functions adjustable at front
- ► Latching action adjusted via link arm
- Safety valve in open and close direction
- Body and link arm available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- ► For single action doors
- Suitable for right and left closing doors, adjustment not necessary
- ► For smoke and fire doors with provision for DIN closer
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► Leaf width: Size 1-6 up to 1400 mm, Size 7 1400 to 1600 mm

Standard version/ package

GEZE *TS* 4000 closer complete with link arm, screw accessories, fitting template (mounting plate not included)

TS 4500 version

A cover cap with the following finishes is available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request

Link arms are also available with the following finishes: silver, dark bronze, white, stainless steel effect, RAL colours on request

Special versions (Size range 1-6) only

GEZE *TS* 4000 With hold-arm link arm¹⁾ effective for door opening angles up to max. 150°

GEZE *TS 4000* With delayed closing

Door closer size EN	Door leaf width to EN (mm)
1*)	to 750
2*)	up 750 to 850
3	up 850 to 950
4	up 950 to 1100
5	up 1100 to 1250
6	up 1250 to 1400
7	up 1400 to 1600

Explanations

Building standards stipulate that the appropriate closer size (closing force) must be chosen corresponding to the width of the door.

A higher size must be selected if required due

*) According to EN these sizes must not be used for fire doors

to structural (height and / or weight of door) or local conditions

The **GEZE** *TS* 4000 covers several door closer sizes in one housing. These sizes can

be adjusted using an adjustment screw

The selected size can be read on the indicator

¹⁾ Not permitted for use on fire or smoke protection doors.

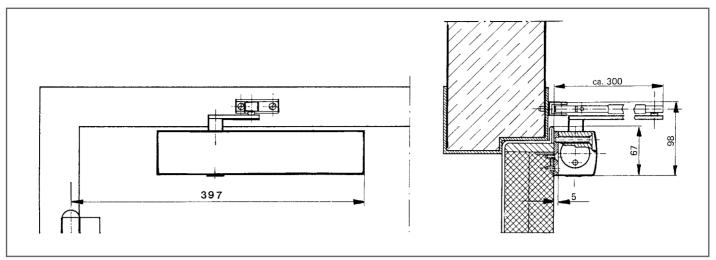


Fig. 11

Standard installation

Sample installation of GEZE TS 4000 with mounting plate. See fig.11

Installation with mounting plate

Mounting plate, 5 mm deep, hole pattern as per DIN EN 1154, appendix 1 for doors where direct installation is not possible. See fig 12.

Mounting dimensions for left closing door as per fig. 13

Mounting dimensions for right closing door as per fig. 14

Direct installation¹⁾

Mounting dimensions for left closing door as per fig. 15

Mounting dimensions for right closing door as per fig. 16

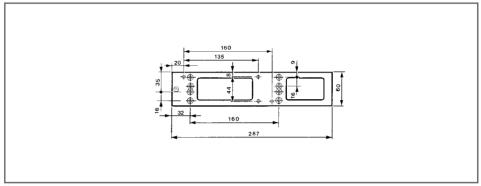


Fig. 12

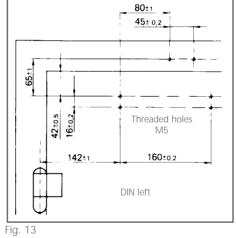
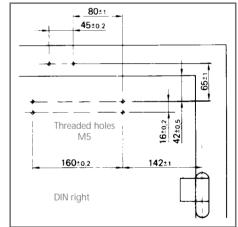
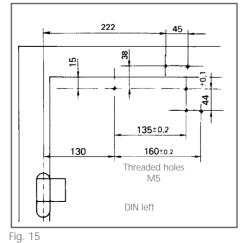


Fig. 14



222 38 ±0,1 44 135±0,2 160±0.2 130 Threaded holes M5 DIN right Fig. 16



¹⁾ Not permitted for use on fire or smoke protection doors

GEZE *TS 4000*

Ordering text

Description	Finish	ID No.
F GEZE <i>TS</i> 4000	silver	027835
size 1-6, without link arm	dark bronze	027836
	white RAL 9010	031229
	white RAL 9016	027837
	RAL colour	027838
F GEZE <i>TS 4000</i> , size 7 ³⁾	silver	027776
with standard link arm	dark bronze	027779
	white RAL 9010	031235
	white RAL 9016	027781
GEZE <i>TS 4000</i> , size 1–6,	silver	027763
version for use in wet con-	RAL colour	_
ditions with standard link 3)		
Standard link	silver	009464
	dark bronze	009465
	white RAL 9010	031231
	white RAL 9016	009466
	stainless steel effect	027131
	RAL colour	009467
Extended arm	silver	059950
	dark bronze	059951
	white RAL 9010	031232
	white RAL 9016	008960
Hold open arm 1)	silver	028777
can be enabled / disabled	dark bronze	028778
	white RAL 9010	031233
	white RAL 9016	028779
	RAL colour	028780

Mounting material

Description	Finish.	ID No
Description	Finish	ID No.
	.,	0.404.05
Mounting plate,	silver	049185
hole pattern as per DIN EN 1154,	dark bronze	052351
appendix 1 for fire and smoke	white RAL 9010	031236
protection doors or doors	white RAL 9016	068627
where direct installation is	galvanised steel	057956
not possible.	RAL colour	029176
Lintel angle bracket for	silver	049240
transom mounting on side	dark bronze	052352
opposite hinge with deep soffit		
Clamping plate for plate	silver	057126
glass doors	dark bronze	057127
	white RAL 9016	009491
	RAL colour	009494
Frame plate for parallel	silver	053318
arm mounting	dark bronze	053319
Mounting plate for segmental	silver	058782
arch door	dark bronze	058783
(max. arch height 130 mm)		
Drilling template	_	053134

Accessories

Description	Length (mm)	Finish	ID No.
Cover caps to		silver	067724
F GEZE TS 4500		dark bronze	067725
		white RAL 9010	031212
		white RAL 9016	067726
		polished brass	072698
		stainless steel	072696
		RAL colour	000756
Serrated	5	galvanised	052332
spindle extensions 2)	10	galvanised	052333
	15	galvanised	052334
	20	galvanised	052335
	5	black chromated	052494
	10	black chromated	052495
	15	black chromated	052496
	20	black chromated	052497

Product description

Overhead door closer **GEZE** *TS* 4000, size 1–6, size 7 as per EN 1154 A Closing force, closing speed and backcheck adjustable from the front. With visual size indicator and mounting plate With visual size indicator for closing speed and backcheck, alternatively with mounting plate

Finish:
() silver
() dark bronze
() white
() RAL

¹⁾ Not permitted for use on fire or smoke protection doors

²⁾ Only permitted for smoke and fire doors if the intended use is listed in the approval notification of the door.

³⁾ Cannot be used with hold-open arm.





Overhead rack and pinion door closer with delayed closing

EN 1154 A, size range 1-6



Closer dimensions and mounting identical to GEZE *TS* 4000

4000S

Product features

- ► Closing force (size range 1-6) adjustable from front
- Closer in only one construction size
- ► Optical size indicator
- With adjustable delayed closing 0-30 s
- ► Adjustable backcheck
- Adjustable thermoconstant closing speed
- ► All functions adjustable from front
- ► Latching action adjusted via link arm
- ► Safety valve in open and close direction
- ► Housing and link arm available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- ► For doors for which longer passage times are required
- ► For single action doors
- ► Suitable for right and left closing doors, adjustment not necessary
- ► For smoke and fire doors with provision for DIN closer
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► With leaf width up to 1400 mm

Standard version/ package

GEZE TS 4000 S closer with delayed closing complete with link arm, screw accessories, fitting template (mounting plate not included)

TS 4500 S version

A cover cap with the following finishes are available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request Link arms are also available with the following finishes: silver, dark bronze, white, stainless steel effect, RAL colours on request

TS 4000 S

Door closer size EN	Door leaf width to EN (mm)
1*)	to 750
2*)	up 750 to 850
3	up 850 to 950
4	up 950 to 1100
5	up 1100 to 1250
6	up 1250 to 1400

^{*)} According to EN these sizes must not be used for fire doors.

Explanations

Building standards stipulate that the appropriate closer size (closing force) must be chosen corresponding to the width of the door.

A higher size must be selected if required due to structural (height and/or weight of door) or local conditions

The **GEZE** *TS* 4000 *S* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw

The selected size can be read on the indicator

Overhead rack and pinion door closer **GEZE** TS 4000 S

Ordering text

Description	Finish	ID No.
E GEZE <i>TS 4000 S</i> , size 1–6,	silver	027839
with delayed-action closing, without arm	dark bronze	027840
*	white RAL 9010	031230
	white RAL 9016	027841
Standard arm	silver	009464
	dark bronze	009465
	white RAL 9010	031231
	white RAL 9016	009466
	stainless steel effect	027131
	RAL colour	009467

^{*} Delayed-action closing is not effective for transom mounting.

Mounting material

Description	Finish	ID No.
■ Mounting plates in accordance with DIN EN 1154	silver	049185
Part 1, for fire and smoke protection doors	dark bronze	052351
or doors where a direct installation of the	white RAL 9010	031236
closer is not possible	white RAL 9016	068627
·	galvanised steel	057956
Drill gauge	_	053134

Accessories

Description	Length (mm)	Finish	ID No.
Cover caps for version		silver	067724
F GEZE <i>TS 4500 S</i>		dark bronze	067725
		white RAL 9010	031212
		white RAL 9016	067726
		polished brass	072698
		stainless steel	072696
		RAL colour	000756
Serrated spindle extensions ¹⁾	5	galvanised	052332
·	10	galvanised	052333
	15	galvanised	052334
	20	galvanised	052335
	5	black chromated	052494
	10	black chromated	052495
	15	black chromated	052496
	20	black chromated	052497

Product description

Overhead door closer **GEZE** *TS* 4000 *S*, nach EN 1154 A, size 1-6 as per EN 1154A, with delayed closing action up to a maximum of 30 seconds at an angle between 110° and 80°. Closing force, closing speed and backcheck adjustable from the front, with visual size indicator and mounting plate

Finish:
() silver
() dark bronze
() white
() RAL

¹⁾ Only permitted for smoke and fire doors if the intended use is listed in the approval notification of the door.

TS 40



GEZE TS 4000 E

Overhead rack and pinion door closer with electrohydraulic hold-open EN 1155, size range 1-6



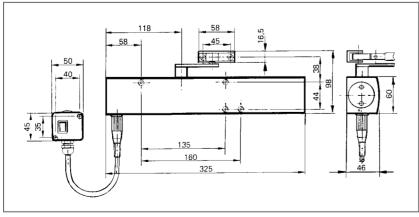


Fig. 17

Approved for recognised smoke detection systems by the Institut fuer Bautechnik, Berlin. (Current certification summary on request)

00 E

Product features

- ► Infinitely variable hold-open angle between 80°-180°
- ► Operating voltage 24 V DC
- ► Low power consumption, approx. 1 Watt
- Closer in only one construction size
- Adjustable closing force
- ► Optical size indicator
- Adjustable, thermoconstant closing speed
- ► All functions adjustable from front
- Latching action adjusted via link arm
- Same fitting hole pattern as all
 GEZE TS 4000 closers

Applications:

- ► For single action doors
- ► Suitable for right and left closing doors, adjustment not necessary
- ► For smoke and fire doors with provision for DIN closer
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► With leaf width up to 1400 mm

Standard version/ package

GEZE TS 4000 E for standard 24 V DC mounting, complete with link arm, screw accessories, electrical terminal box, and fitting template (mounting plate not included)

Special versions

GEZE TS 4000 E for transom installation – 24 V DC special design, which may only be fitted to fire and smoke protection doors if transom installation has been approved for the respective door in the official approval certificate

Door closer size EN	Door leaf width to EN (mm)
1*)	to 750
2*)	up 750 to 850
3	up 850 to 950
4	up 950 to 1100
5	up 1100 to 1250
6	up 1250 to 1400

^{*)} According to EN these sizes must not be used for fire doors.

Explanations

Building standards stipulate that the appropriate closer size (closing force) must be chosen corresponding to the width of the door. A higher size must be selected if required due to structural (height and /or weight of door) or local conditions

The **GEZE** *TS* 4000 *E* comprises several door closer sizes in one housing, which can be adjusted by means of an adjustment screw

The chosen size is displayed on a visual indicator

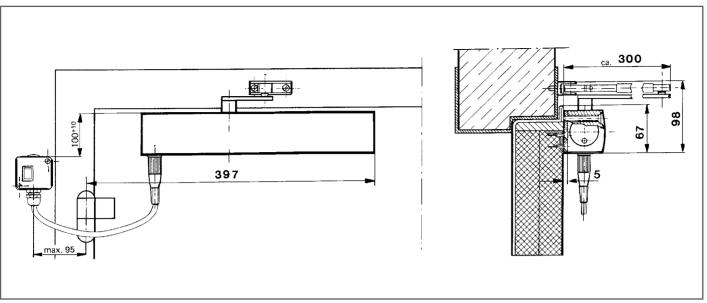


Fig. 18

Standard installation

Sample showing the mounting of the **GEZE** *TS 4000 E* with mounting plate to a fire door (steel door) as per fig. 18

Mounting plate, 5 mm deep, hole pattern as per DIN EN 1154, as per fig. 19

Mounting dimensions for left closing door, as per fig. 20

Mounting dimensions for right closing door, as per fig. 21

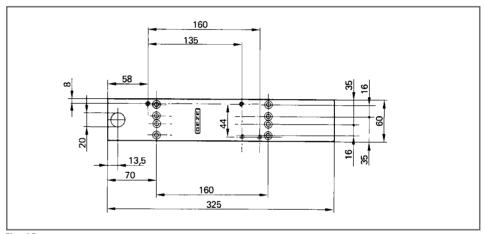


Fig. 19

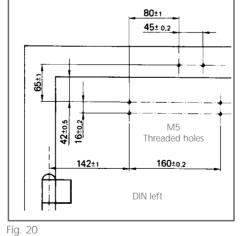
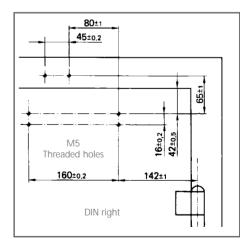


Fig. 21



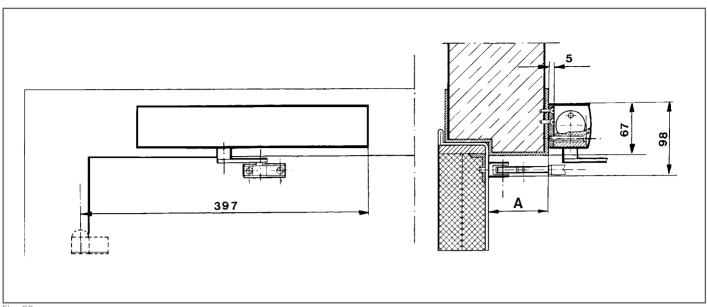


Fig. 22

Transom mounting on opposite hinge side¹⁾

Example showing the transom mounting of the **GEZE** *TS* 4000 *E*, with mounting plate, to a fire door (steel door), as per fig. 22

For smoke and fire doors, the lintel depth A should not exceed 70 mm

Mounting plate, 5 mm deep, with drill-hole pattern to DIN EN 1154, as per fig. 23

Mounting dimensions for left closing door, as per fig. 24

Mounting dimensions for right closing door, as per fig. 25

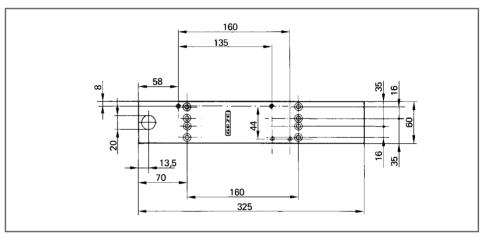


Fig. 23

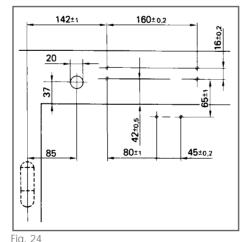
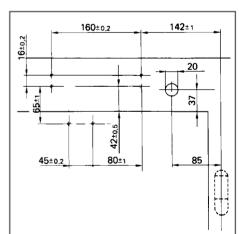


Fig. 25



¹⁾ Transom installation of a door closer to fire and smoke protection doors is only permitted if transom installation has been approved for the respective door in the official approval certificate.

Electrical installation

The **GEZE** *TS* 4000 *E* must be connected to a 24 V DC direct voltage supply to allow the door to be held open.

Function

- ➤ Voltage applied to closer = door held open
- ► No voltage applied or switched off = door not held open; door closes automatically
- ► The door can be closed manually at any time regardless of whether or not voltage is being applied

Electrical data

- ➤ Operating voltage 24 V CD Voltage tolerance ±10%
- ► Max. permissible residual ripple 20%
- Connected load 45 mA
- ► Enclosure rating IP 54 (for interior use only)

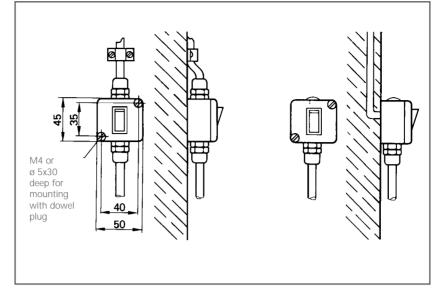


Fig. 26

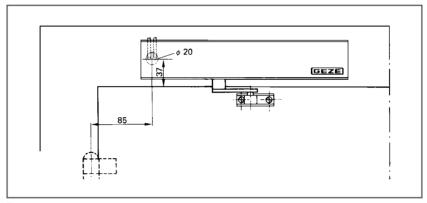


Fig. 27

Power supply cable, standard mounting

The power supply cable can be either surface- or flushmounted, see Fig. 26

Power is supplied from the terminal box to the closer via a cable with a threaded circular connector. To prevent the closer, terminal box, and cable from being damaged, the terminal box must be mounted within the area shown on the illustration, see Fig. 18

Power supply cable, transom mounting 1)

The power supply cable to the closer is flush-mounted. The cables are connected to special terminals in the closer

¹⁾ The transom mounting of a door closer for smoke and fire doors is only permitted if transom mounting is explicitly permitted in the approval certificate for the repective smoke and fire door.

TS 4000 EFS



GEZE TS 4000 EFS

Overhead rack and pinion door closer with electrohydraulic hold-open and free-swing arm, EN 1155, size range 1-6



Free-swing function

- ▶ Door can be used without any resistance in opening and closing direction (e.g. homes for the elderly, hospitals) after initial opening of the door (e.g. in morning)
- Reliable automatic closing of door in event of fire, irrespective of door position

Product features

- ► Free-swing function provided by simply replacing standard link arm with freeswing link arm
- ► Same closer features as **GEZE** *TS* 4000 *E*
- Same mounting dimensions and same hole pattern for GEZE free-swing link arm as for standard link arm

Applications

- For single action doors
- ► For right and left hand doors
- ► For smoke and fire doors with provision for DIN closer
- Only the moving leaf of double leaf doors should be fitted with a free-swing closer
- ► If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- ► With leaf width up to 1400 mm

Standard version/ package

GEZE TS 4000 EFS for standard mounting – 24 V DC, complete with free-swing link arm, screw accessories, electrical terminal box, and fitting template (mounting plate not included)

Special design

GEZE TS 4000 EFS
for transom installation –
24 V DC special design,
which may only be fitted
to fire and smoke protection doors if transom
installation has been
approved of for the
respective door in
the official approval
certificate

Closer dimensions and installation identical to those of **GEZE** *TS* 4000 *E*

Overhead rack and pinion door closer **GEZE** TS 4000 E and **GEZE** TS 4000 EFS

Ordering text

Description	Voltage	Door	Finish	ID No.
F GEZE TS 4000 E	24 V DC		silver	089375
for normal installation	24 V DC	_	RAL colour	089376
with terminal box, without arm				
E GEZE <i>TS</i> 4000 <i>E</i>	24 V DC	_	silver	089377
for frame installation ²⁾ ,	24 V DC	_	RAL colour	089378
without terminal box, without arm				
GEZE TS 4000 E	24 V DC		silver	089379
for transom mounting on hinge side ¹⁾	24 V DC		RAL colour	089380
without terminal box, without guide rail	24 V DC		TO LE COTOGI	007300
standard arm			silver	009464
Stariuaru arri		_	RAL colour	009464
	_	_	KAL COIOUI	009407
Freeswing arm	_	DIN left	silver	056862
for GEZE TS 4000 EFS	_	DIN right	silver	056861
		DIN left	RAL colour	089868
		DIN right	RAL colour	089867
Guide rail			silver	007565
Guide Full	_	_	RAL colour	007568
Francische aufde reit		DIN loft	allyer	020/05
Freeswing guide rail	_	DIN left	silver	028695
for GEZE TS 4000 EFS		DIN right	silver	028696
		DIN left	RAL colour	089870
		DIN right	RAL colour	089871

¹⁾ Only in conjunction with standard or Freeswing guide rail, arm not possible.

Mounting material

Description	Finish	ID No.
Mounting plate with drill-hole pattern acc. to DIN EN 1154,	silver	059107
supplement 1	RAL colour	100044

TS 40000

²⁾ Transom installation of a door closer to fire and smoke protection doors is only permitted if transom installation has been approved for the respective door in the official approval certificate.

³⁾ At the moment not permitted for use with smoke and fire doors, size 3 acc. To EN, leaf width up to 950 mm

Accessories

Description	Length (mm)	Finish	ID No.
Serrated	5	galvanised	052332
spindle extensions 1)	10	galvanised	052333
	15	galvanised	052334
	20	galvanised	052335
	5	black chromated	052494
	10	black chromated	052495
	15	black chromated	052496
	20	black chromated	052497

¹⁾ Only permitted if transom installation has been approved for fire and smoke doors in the official approval certification of the door.

Product description

GEZE *TS 4000 E*

Overhead door closer **GEZE** *TS* 4000 *E*, with electro-hydraulic hold-open device, infinitely variable between 80° and 180° as per EN 1155, closing force size 1-6 and closing speed adjustable from the front, with visual size indicator and mounting plate

Finish: () silver () RAL

GEZE TS 4000 EFS

Overhead door closer **GEZE** *TS* 4000 *EFS*, 24 V DC with Free-swing function, electrohydraulic hold-open device, infinitely variable between 80° and 180° as per EN 1155, closing force size 1-6 and closing speed adjustable from the front, with visual size indicator and mounting plate

Finish:
() silver
() RAL

1) Only permitted for use with fire and smoke doors if the door is officially approved for this mounting method.



TS4

Overhead rack and pinion door closer with electrohydraulic hold-open EN 1155 and integrated smoke detector, certification No.Z-6.5-1068, size range 1–6



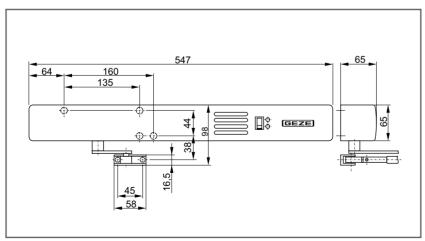


Fig. 28

000R

Product features

- ► Infinitely variable hold-open angle between 80°–180°
- ► Power supply, mains voltage 230 V
- Apart from power supply, no other installation work is required
- Smoke detector (optical system) with integrated electronics inside closer housing
- ► Additional smoke detectors can be connected (max. 2 units)
- Closer in only one construction size
- Adjustable closing force
- ► Optical size indicator
- Adjustable, thermoconstant closing speed
- ► All functions adjustable from front
- ▶ With double leaf doors, a second GEZE TS 4000 R device or a GEZE TS 4000 E device can also be connected, the power supply and electric control are provided by the electronics of the GEZE TS 4000 R

Applications

- ► For single action doors with leaf width up to 1400 mm
- Suitable for right and left closing doors, adjustment not necessary
- ▶ The mounting of a door closer for smoke and fire doors is only permitted if the transom mounting of a DIN closer on the side opposite the hinge is explicitly permitted in the approval certificate for the respective smoke and fire door
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- With double leaf doors, the GEZE TS 4000 R must always be mounted above the moving leaf

Standard version/ package

GEZE *TS* 4000 *R* for transom mounting, functional unit comprising: door closer, smoke detector, electronic evaluation system, cover, and link arm, with screw accessories and mounting instructions (mounting plate not included)

Size of door closer EN	Leaf width as per EN (mm)
1*)	to 750
2*)	up 750 to 850
3	up 850 to 950
4	up 950 to 1100
5	up 1100 to 1250
6	up 1250 to 1400

^{*)} According to EN these sizes must not be used for fire doors

Explanations

Building standards stipulate that the appropriate closer size (closing force) must be chosen corresponding to the width of the door. A higher size must be selected if required due to structural (height and / or weight of door) or local conditions

GEZE TS 4000 R comprises several door closer sizes in one housing, which can be adjusted by means of an adjustment screw.

The chosen size is displayed on a visual indicator.

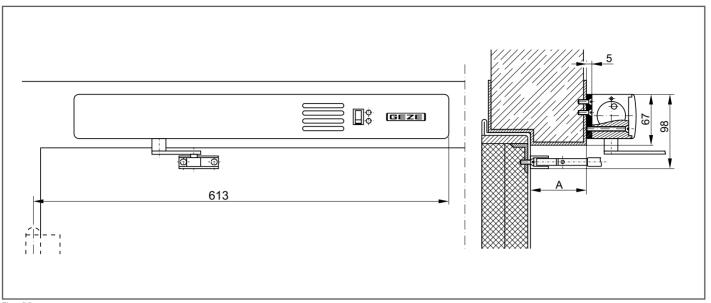


Fig. 29

Standard mounting

Transom installation only! This type of installation is only permitted for fire and smoke protection doors if transom installation on the opposite hinge side has been approved of for the respective door in the official approval certificate

Sample installation of a **GEZE** *TS* 4000 *R* to a fire door (steel door) see fig. 29

For smoke and fire doors, the lintel depth A should not exceed 70 mm

Mounting plate, 5 mm deep, for doors with a drill-hole pattern to DIN EN 1154 see fig. 31

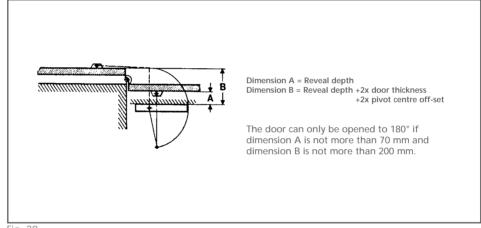


Fig. 30

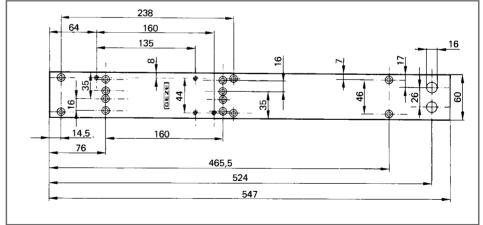


Fig. 31

Mounting dimensions for left closing door as per fig. 32

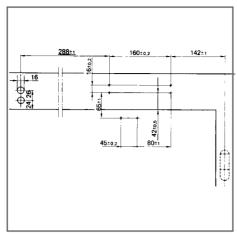


Fig. 32

Mounting dimensions for right closing door as per fig. 33

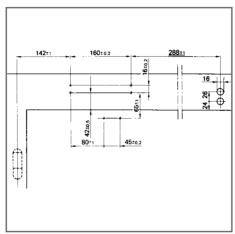


Fig. 33

TS 4000 R

Electrical installation

The **GEZE** *TS* 4000 *R* closer only has to be connected to the 230 V mains voltage supply to be fully functional

Function

- ► Infinitely variable hold-open angle between 80°-180°
- ▶ In the event of fire, the integrated smoke detector responds and the door closes automatically
- ► Irrespective of whether or not the smoke detector and electronics are functioning, the door can be closed manually at any time

Connection possibilities

for the **GEZE** *TS 4000 R*, see Fig. 34

- ► Two additional smoke detectors, if structurally required
- ► A second GEZE TS
 4000 R device or a
 GEZE TS 4000 E
 device can also be
 controlled by the
 electronics of the
 GEZE TS 4000 R
 (e.g. double leaf
 door)

Electrical data

- ➤ 230 V alternating voltage ±10%
- ► Power comsumption: GEZE TS 4000 R without accessories approx. 11 Watt
- ► Enclosure rating IP 20 (for dry locations only)
- ▶ Additional output voltage:
 1) 24 V for two additional smoke detectors
 2) 24 V, max. 0.16 A, for second **GEZE**TS 4000 R closer or **GEZE** TS 4000 E

Power supply cable

Surface- or flushmounting possible for all power supply cables, see Fig. 35

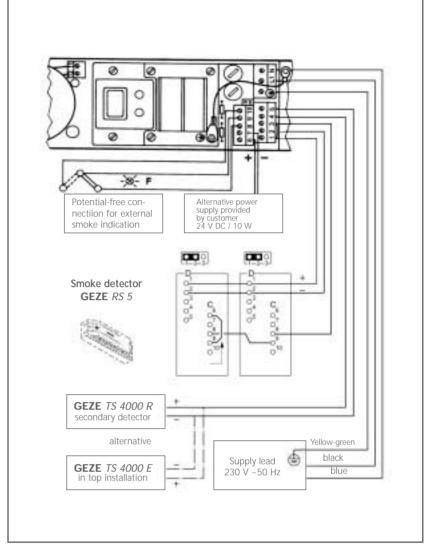


Fig. 34

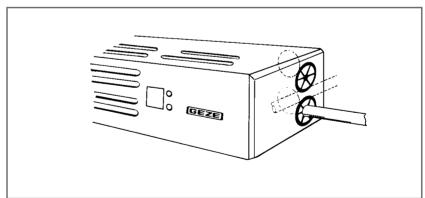


Fig. 35

TS 4000 RFS



GEZE TS 4000 RFS

Overhead rack and pinion door closer with electrohydraulic hold-open EN 1155, integrated smoke detector, and free-swing link arm, certification No. Z-6.5-1068, size range 1-6



Free-swing function

- ▶ Door can be used without any resistance in opening and closing direction (e.g. homes for the elderly, hospitals) after initial opening of the door (e.g. in morning)
- Reliable automatic closing of door in event of fire, irrespective of door position

Product features

- Free-swing function provided by simply replacing standard link arm with freeswing link arm
- ► Same closer features as **GEZE** *TS* 4000 *R*
- Same mounting dimensions and same hole pattern for GEZE free-swing link arm as for standard link arm

Applications

- ► For single action doors up to 1400 mm
- ► For right and left hand doors
- For fire and smoke protection doors where transom installation of a door closer on the opposite hinge side has been approved for the respective door in the official approval certificate
- Only the moving leaf of double leaf doors should be fitted with a free-swing closer
- ► If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required

Standard version/ package

GEZE TS 4000 RFS for transom mounting 230 V AC, functional unit comprising: door closer, smoke detector, electronic evaluation system, cover, and freeswing link arm, with screw accessories and mounting instructions (mounting plate not included)

Closer dimensions and installation identical to GEZE *TS 4000 R*

Ordering text

Description	Voltage	Door	Finish	ID No.
DOEZE TO 4000 D	220.1/.40		-!!	000740
F GEZE TS 4000 R	230 V AC		silver	089740
For opposite hinge side installation ²⁾	230 V AC	_	RAL colour	089741
GEZE <i>TS</i> 4000 <i>R</i>	230 V AC	_	silver	089742
For hinge side installation 1)	230 V AC	_	RAL colour	089743
E GEZE TS 4000 R	24 V AC		silver	089744
Additional closer for opposite hinge	24 V AC	_	RAL colour	089745
side installation ²⁾³⁾				
GEZE <i>TS</i> 4000 <i>R</i>	24 V AC	_	silver	015070
Additional closer for hinge side installation 1)	24 V AC			
Standard arm		_	silver	009464
Standard arm		_	RAL colour	009467
Freeswing arm		DIN left	silver	056862
for F GEZE TS 4000 RFS	_	DIN right	silver	056861
TOT LE GEZE 13 4000 KI 3		DIN left	RAL colour	089868
		DIN right	RAL colour	089867
Guide rail	_	_	silver	007565
Guide Fuii	_	_	RAL colour	007568
Freeswing guide rail 3)	_	DIN left	silver	028695
for GEZE TS 4000 RFS	_	DIN right	silver	028696
		DIN left	RAL colour	089870
		DIN right	RAL colour	089871

¹⁾ Only in conjunction with standard or Freeswing guide rail, arm not possible.

Accessories

Description Length (mm)	Finish	ID No.
Serrated spindle extensions 5	galvanised	052332
spindle extensions 1) 10	galvanised	052333
15	galvanised	052334
20	galvanised	052335
5	black chromated	052494
10	black chromated	052495
15	black chromated	052496
20	black chromated	052497

¹⁾ Only permitted for smoke and fire doors if the use has been listed in the official approval certification.

Mounting material

Description	ID No.
Mounting plate with drill-hole pattern acc. to DIN EN 1154, supplement 1	058808

Product description

GEZE TS 4000 R

Overhead door closer **GEZE** *TS* 4000 *E*, 230 V AC with electrohydraulic hold-open device, infinitely variable between 80° and 180° as per EN 1155, with integrated smoke switch, closing force size 1–6 and closing speed adjustable

from the front, with visual size indicator and mounting plate

Finish:

- () silver
- () RAL

GEZE TS 4000 RFS

Overhead door closer **GEZE** *TS* 4000 *RFS*, 230V AC with Freeswing function, electrohydraulic hold-open device, infinitely variable between 80° and 180° as per EN 1155, with integrated smoke switch, closing force size 1–6 and closing speed adju-

stable from the front, with visual size indicator and mounting plate

Finish:

- () silver
- () RAL

²⁾ Transom installation of a door closer to fire and smoke protection doors is only permitted if transom installation has been approved for the respective door in the official approval certificate.

³⁾ At the moment not permitted for use with smoke and fire doors, size 3 acc. to EN, leaf width up to 950 mm

Product information for door closers

The following information concerning door closers for hinged leaf doors must be observed. Failure to observe the information exonerates the manufacturer from liability or obligation.

1. Product information and intended use

Door closers in terms of this definition shall be used to close hinged leaf doors again after they have been manually opened. The closing operation is performed with adjustable hydraulic damping. The necessary closing force relative to the leaf widths is defined in EN 1154. The information from the manufacturers must be observed in the case of areas of application other than conduit intended. Door closers shall be used on installed hinged-leaf doors made of metal, wood, or UPVC and any combinations of these materials. The mounting method and position are precisely prescribed for smoke and fire doors or other standardised selfclosing doors. Mounting methods and positions other than conduit intended do not conform to the intended use.

Vertical, smoothly operating doors with correctly mounted door closers are prerequisites for the intended use of door closers. Mounting and adjustment must be performed by qualified personnel according to the specifications from the manufacturer. Door closers with greater closing forces must be used in the case of particularly unfavourable installation conditions (effects of wind).

Door closers with backcheck must be used, especially in the case of hinged-leaf doors which are opened against wind The backcheck contributes to protecting personnel, door elements, surrounding walls and objects without restricting the door opening angle. If, owing to the structural characteristics of the door, it is necessary to mount the door leaf to the frame at the door's pivot axis, a stop which restricts the maximum door opening angle of the door must be used. Hinged leaf doors can only be held open at a specific position using additional special fittings or integrated construction elements. With smoke and fire doors, the equipment must be approved by an inspector from the responsible institute for structural engineering (documents supporting suitability must be observed).

Door closers are not suitable for the unprotected external installation into single-action doors and for use in environments with aggressive corrosion-promoting air contents as well as extremely low or high temperatures.

Fitting boxes for floor springs must be protected against dirt penetration after their installation. If floor mounted door closers are exposed to water penetration (e.g. damp locations or exterior doors without rain protection), the cavity between the cement box and door closer housing must be filled with a suitable sealing compound.

Before the door closers (including any additional equipment) are installed, any mandatory legal directives must be observed.

2. Improper use

Improper use (i.e. utilisation of the product in a way differing from the intended use) for hinge leaf door may result in damage or injury in particular:

- ▶ if obstacles in the closing radius, dragging doors, jamming seals, wood wedges etc. prevent the closing operation
- ▶ if door closers have been incorrectly or unprofessionally fitted and/or adjusted
- ▶ if parts of the body are placed between the frame and leaf (risk of injury)
- ▶ if correct functioning is expected beyond the specified characteristics, e.g. in storm conditions, with extraordinary negative pressure or positive pressure acting on the door
- ► if door closers are used for purposes other than closing doors
- ▶ if the selected door closer size does not correspond to the recommendations of the manufacturer

3. Product characteristics

If the product characteristics are not described in the catalogues, brochures, instructions etc., any special requirements must be discussed with and then approved by the manufacturer.

Reference should be made to the standard DIN 18 263, parts 1, 2, 3 and 5 "Door closers with hydraulic damping". Virtually all basic requirements and additional requirements are defined in this standard. The suitability of use for door closers depends on factors such as frequency of actuation, actuation principle, environmental influences, and care and maintenance. Door closers must be replaced as soon as correct and reliable closing operation can no longer be guaranteed.

4. Product maintenance

Safety elements of door closers must be checked regularly, according to requirements, for wear and to ensure that they are fitted correctly and securely. Fixing screws must be tightened and any faulty components must be changed. Furthermore, the following maintenance work must be performed at least once per year (depending on the type of hinged leaf doors and their application):

- ► All moving parts on the link arm must be greased
- ► The closer settings (e.g. closing speed) must be checked.
- Smooth operation of the door must be checked
- ▶ In the case of door closers with special functions (hold-open devices/hold-open systems), the legal checks, monitoring, and maintenance procedures must be observed.

Only cleaning agents not containing any corrosive and damaging components should be used.

5. Obligations regarding information and instruction

The following media are available to the planner, specialist trader, manufacturer, building owner, and user:

- ► Catalogues, brochures
- ► Tender documents
- ► Mounting instructions, installation drawings, operating instructions, standards
- Consultation with field service personnel

The following points are essential for the correct use, reliable functioning, maintenance, and care of door closers for hinged-leaf doors:

- architects and planners must request and observe the necessary product information,
- ▶ specialist dealers and manufacturers must observe the product information and information in the price lists, and especially request all necessary instructions and pass them on to the customer, installer or end user
- manufacturers must observe product information and pass it on to the customers and users.

TS



GEZE *TS 3000 V*

Overhead rack and pinion door closer with guide rail, DIN EN 1154, size range 1-4



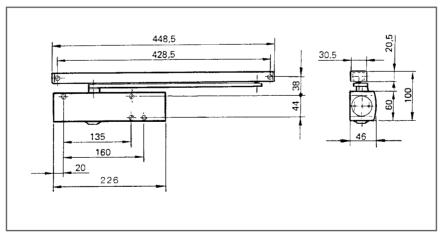
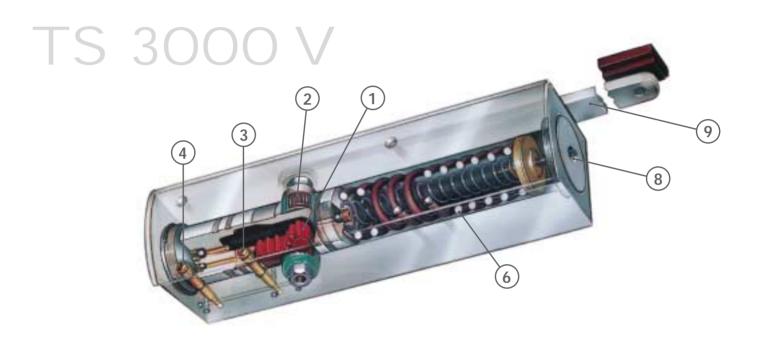


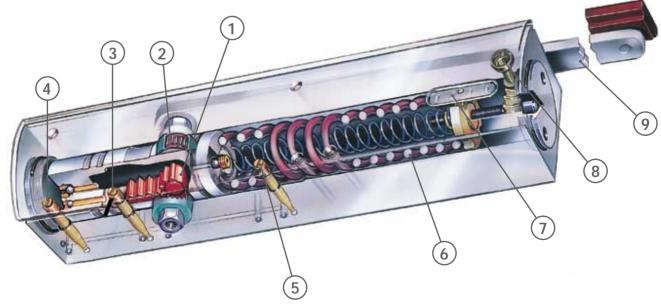
Fig. 1

Technology

Door closers **GEZE** TS 3000 V and **GEZE** TS 5000

- 1 Rack and pinion gear with integrated transmission
- 2 Needle bearing
- 3 Closing speed adjuster
- 4 Latching action adjuster
- 5 Backcheck adjuster 6 Springs
- 7 Closing force indicator
- 8 Closing force adjuster
- 9 Lever





300001/

Product features

- Adjustable closing force
- Adjustable, hydraulic latching action (can be adjusted from front)
- ► Adjustable, thermoconstant closing speed (can be adjusted from front)
- Streamlined
- ► Housing and guide rail available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- ► For single action doors
- Can be used for right and left hand doors without adjustment
- ► For smoke and fire doors with provision for DIN closer
- ▶ If the door closer is to be fitted to smoke and fire doors, a mounting plate is usually required
- Leaf width up to 1100 mm

Standard version/package

GEZE *TS 3000 V* closer complete with guide rail, mounting material, and fitting template (mounting plate not included).

Version with mechanical hold-open¹⁾

Installation of the holdopen unit in the appropriate guide rail allows infinitely variable door hold-open. The retaining force for the hold-open can be adjusted. The hold-open can therefore be disabled. A mounting plate is available for doors to which the closer cannot be directly mounted.

TS 3500 V version

A cover cap with the following finishes is available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request.

Guide rails and lever arms are available with the following finishes: silver, dark bronze, white, brass effect, stainless steel effect, RAL colours on request.



¹⁾ Not permitted for use with smoke and fire doors.

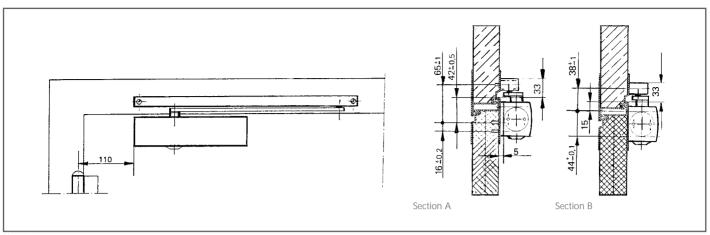


Fig. 2

Mounting, door leaf on hinge side with guide rail Standard version

Example showing the mounting of **GEZE** *TS 3000 V*, see Fig. 2 Section A: mounting with mounting plate Section B: mounting without mounting plate ¹⁾

Mounting with mounting plate

Mounting plate, 5 mm thick, for doors without direct closer mounting, see Fig. 3

Mounting dimensions for left hand door, see Fig. 4

Mounting dimensions for right hand door, see Fig. 5

Direct mounting¹⁾

Mounting dimensions for left hand door, see Fig. 6

Mounting dimensions for right hand door, see Fig. 7

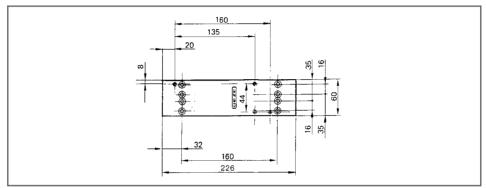


Fig. 3

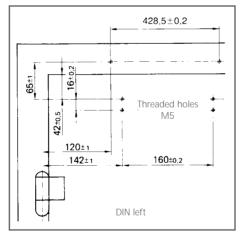


Fig. 4

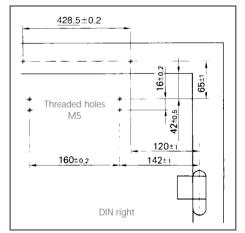


Fig. 5

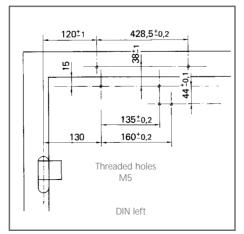


Fig. 6

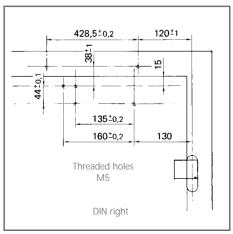
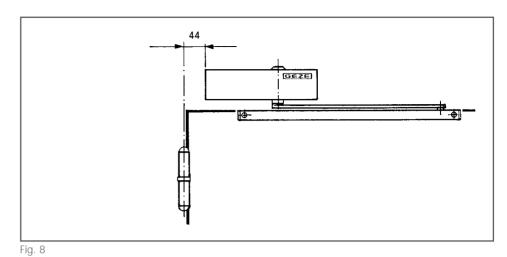


Fig. 7

¹⁾ Not permitted for use with smoke and fire doors.

Transom mounting on hinge side with guide rail Standard version¹⁾

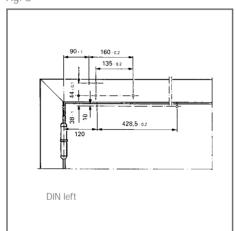
Example showing the mounting of a **GEZE** *TS 3000 V* on the frame, see Fig. 8.



Direct mounting¹⁾

Mounting dimensions for left hand door, see Fig. 9

Mounting dimensions for right hand door, see Fig. 10



160 o.2 90 1 135 o.2 428,5 o.2 9 g 120 DIN right

Fig. 9

Mounting with mounting plate

Mounting dimensions for left hand door, with mounting plate see Fig. 11

Mounting dimensions for right hand door, with mounting plate see Fig. 12

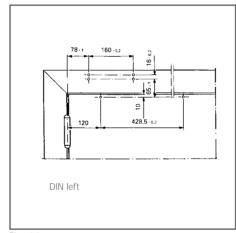


Fig. 11

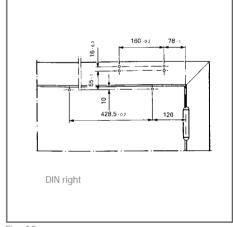


Fig. 12

Door closer size EN	Door leaf width to EN (mm)	
Size 1 ²⁾	to 750	
Size 2 ²⁾	over 750 to 850	
Size 3	over 850 to 950	
Size 4	over 950 to 1100	

Size 1: lower stop (factory setting) Size 4: upper stop (8 revolutions)

Explanations

The door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary

The **GEZE** *TS 3000 V* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

¹⁾ Not permitted for use with smoke and fire doors.

²⁾ In accordance with EN, these sizes must not be set for fire doors.

Mounting on door leaf on side opposite hinge with guide rail OH¹⁾

Example showing the mounting of a **GEZE** *TS 3000 V* on the door leaf, see Fig. 13

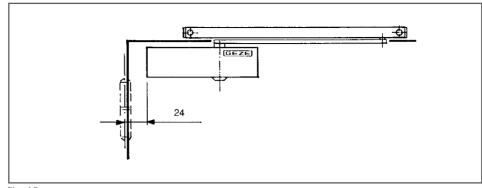
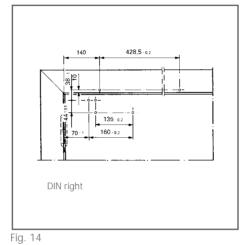


Fig. 13

Direct mounting¹⁾

Mounting dimensions for right hand door, see Fig. 14

Mounting dimensions for left hand door, see Fig. 15



428,5 0.2

9

160 - 0,2 58

Mounting with mounting plate

Mounting dimensions for right hand door, see Fig. 16

Mounting dimensions for left hand door, see Fig. 17

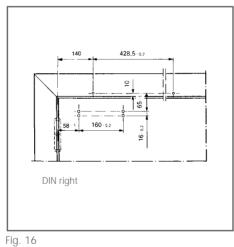


Fig. 17

DIN left



Mounting on side opposite hinge with guide rail Standard version¹⁾

Example showing the mounting of a **GEZE** *TS 3000 V* on the frame, see Fig. 18

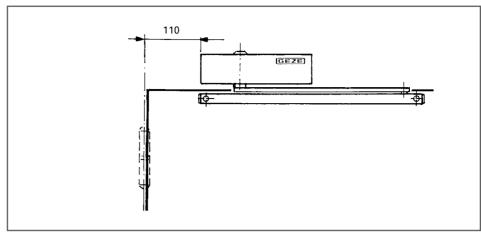
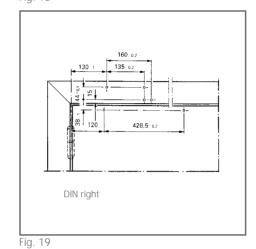


Fig. 18

Direct mounting¹⁾

Mounting dimensions for right hand door, see Fig. 19

Mounting dimensions for left hand door, see Fig. 20

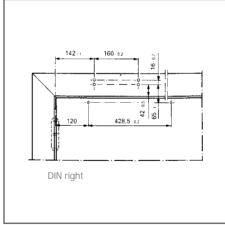


DIN left

Mounting with mounting plate

Mounting dimensions for right hand door, see Fig. 21

Mounting dimensions for left hand door, see Fig. 22



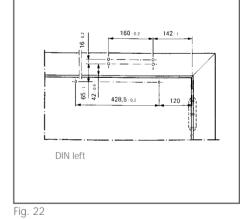


Fig. 21 Fig.

¹⁾ Not permitted for use with smoke and fire doors.

Overhead rack and pinion door closer **GEZE** TS 3000 V

Ordering text

Description	Finish	ID No.
E GEZE <i>TS 3000 V</i> , size 1–4,	silver	028348
Closer without guide rail, without lever	dark bronze	028349
	white RAL 9010	031208
	white RAL 9016	028350
	RAL colour	028351
Guide rail with lever arm	silver	068221
	dark bronze	068222
	white RAL 9010	031216
	white RAL 9016	015695
	brass effect	067985
	stainless steel effect	014945
	RAL colour	000773
Guide rail OH with lever arm	silver	025655
(for mounting to door leaf, side opposite hinge)	dark bronze	029403
3.7	white RAL 9010	031221
	white RAL 9016	029404
	brass effect	_
	stainless steel effect	028732
	RAL colour	025656
Hold-open unit ¹⁾	_	071924
Opening restrictor ¹⁾	_	069780

Mounting material

Description	Finish	ID No.
Mounting plates for doors	silver	011230
to which the closer cannot be	dark bronze	011232
directly mounted	white RAL 9016	011233
	RAL clour	011234
Clamping plate for plate glass doors	silver	014835
	dark bronze	014836
	white RAL 9016	014843
	RAL clour	014845
Mounting plate and counterplate	silver	090259
for plate glass doors	RAL colour	090260
-		
Drilling template	_	053134

¹⁾ Not permitted for use with smoke and fire doors.

Accessories

Description	Finish	ID No.
Cover caps* for GEZE TS 3500 V	silver	013487
	dark bronze	014849
	white RAL 9010	031214
	white RAL 9016	014855
	polished brass	072770
	stainless steel	072769
	RAL colour	014856

^{*} Cover caps only suitable for direct installation

Feature

adjustable closing force.

Overhead rack and pinion door closer () silver

GEZE TS 3000 V, to () dark bronze

DIN EN 1154 A, size 1 - 4, () white

Guide rail with lever arm, standard mounting on door leaf hinge side,

TS 3000 V

GEZE *TS 2000 V*

Overhead rack and pinion door closer, size 2/4/5 to EN 1154



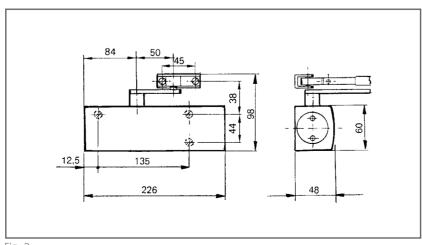


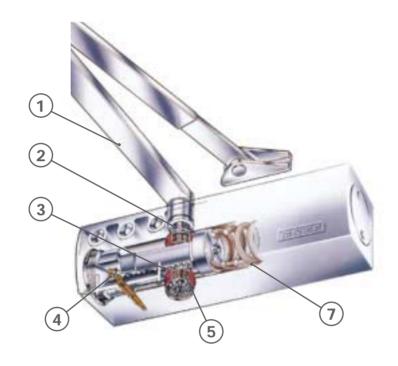
Fig. 3

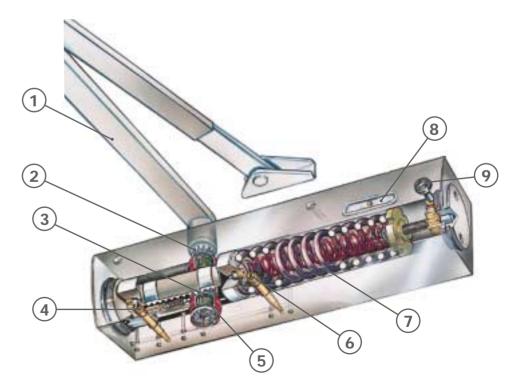
Technology

GEZE TS 2000 V and **GEZE** TS 4000 door closers

- 1 Link arm
- 2 Toothed spindle
- 3 Rack and pinion gear
- 4 Closing speed adjuster
- 5 Needle bearing
- 6 Backcheck adjuster
- **7** Spring
- 8 Closing force indicator
- **9** Closing force adjuster

TS 2000 V







Product features

- ➤ Variable closing force, size 2/4/5 to EN 1154
- Closer in only construction size
- Closing speed adjustable at front
- ► Latching action adjusted via link arm
- ► Attractive link arm
- Concealed mounting plate
- ► Housing and link arm available in following colours: silver, dark bronze, white, RAL colours on request

Applications

- For single action doors
- Suitable for right and left closing doors, adjustment not necessary
- ► For leaf width up to 1250 mm

Standard version/ package

GEZE TS 2000 V complete with link arm, screw accessories, fitting template (mounting plate not included)

Special design

GEZE TS 2000 V complete with hold open arm (effective to a door opening angle of max. 150°)

TS 2500 V version

A cover cap with the following finishes is available for the closer: silver, dark bronze, white, polished brass, stainless steel, RAL colours on request

Link arm are also available with the following finishes: silver, dark bronze, white, stainless steel effect, RAL colours on request

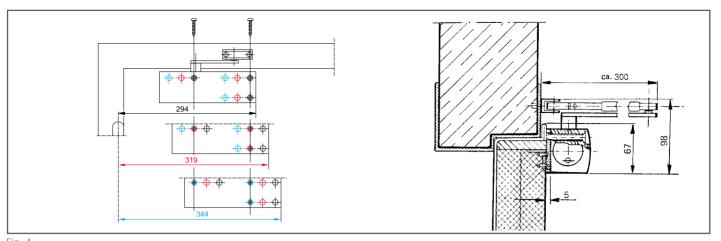


Fig. 4

Standard installation

Example showing the mounting of **GEZE** *TS 2000 V.*

The closing force is adjusted by changing the mounting position (see Fig. 4)

☐ [^] Closer size 2

☐ ≙ Closer size 4

☐ [^] Closer size 5 to EN 1154



Mounting plate, 5 mm deep (for doors where direct closing is not possible). See Fig. 5

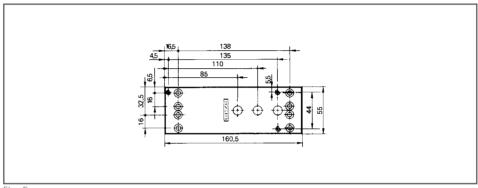
Mounting dimensions for left closing door as per fig. 6

Mounting dimensions for right closing door as per fig. 7

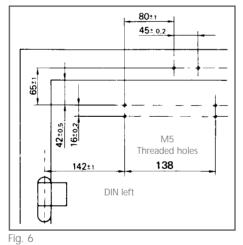
Direct installation¹⁾

Mounting dimensions for left closing door as per fig. 8

Mounting dimensions for right closing door as per fig. 9







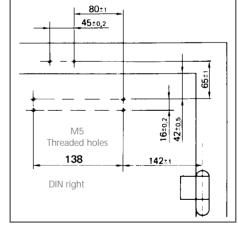
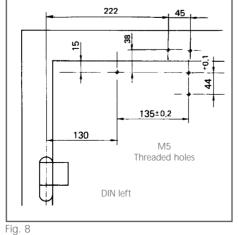


Fig. 7



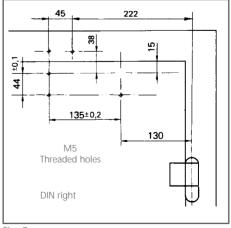


Fig. 9

Overhead and pinion door closer

GEZE *TS 2000 V*

Ordering text

Description	Finish	ID No.
GEZE TS 2000 V,	silver	029872
without link arm	dark bronze	029873
	white RAL 9010	031237
	white RAL 9016	029874
	RAL colour	029875
Standard link arm	silver	009464
	dark bronze	009465
	white RAL 9010	031231
	white RAL 9016	009466
	stainless steel effect	027131
	RAL colour	009467
Extended link arm	silver	059950
	dark bronze	059951
	white RAL 9016	008960
	RAL colour	010079
Hold-open arm	silver	028777
can be enabled / disabled	dark bronze	028778
	white RAL 9010	031233
	white RAL 9016	028779
	RAL colour	028780

Mounting material

Description	Finish	ID No.
Mounting plates for doors	_	055756
which the closer cannot		
be directly mounted		
Clamping plate for plate	silver	055773
glass doors	dark bronze	055774
	white RAL 9016	009499
	RAL colour	009500
Lintel casing angle	silver	055766
for transom mounting	dark bronze	055767
Mounting plate for segmental	silver	059044
arch door	dark bronze	059045
(max. arch height 130 mm)		
Drilling template	_	053134

Product description

Overhead door closer **GEZE** *TS* 2000 *V* with variable closing force, sizes 2-4 and 5 as per EN 1154. Adjustable closing speed and latching action, alternatively with mounting plate

ŀ	ini	sh:	
()	silver	

() dark bronze

() white () RAL

Accessories

Description	Length (mm)	Finish	ID No.
Cover caps		silver	013487
GEZE TS 2500 V		dark bronze	014849
		white RAL 9010	031214
		white RAL 9016	014855
		polished brass	072770
		stainless steel	072769
		RAL colour	014856
Serrated spindle extensions	5	galvanised	052332
·	10	galvanised	052333
	15	galvanised	052334
	20	galvanised	052335
	5	black chromated	052494
	10	black chromated	052495
	15	black chromated	052496
	20	black chromated	052497

^{*} only suitable for direct installation.

TS 2000 V

GEZE TS 1000 C

Surface-mounted rack and pinion door closer



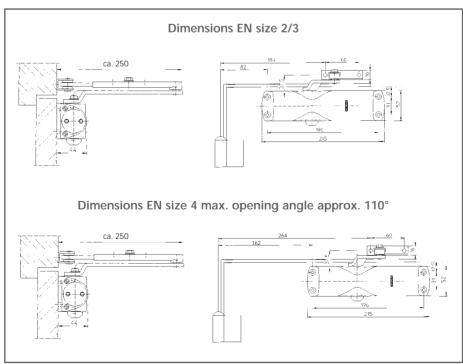


Fig. 1

Product features

- ► Variable closing force in two sizes achieved by simply turning the arm's power shoe
- 'Weak' closing force for leaf widths of up to 850 mm (size 2 according to EN1154)
- ➤ 'Strong' closing force for leaf widths of up to 950 mm (size 3 according to EN1154)
- ► Increased closing force due to offset installation for leaf widths up to 1100 mm (size 4 according to EN 1154)
- Adjustable closing speed
- Adjustable hydraulic latching action
- ► Optional hold-open setting between 70° and 150°
- ► Casing and arm available in: silver, darkbronze, black and white finish. RAL colours on request

Application

- ► For single-action doors
- Suitable for right and left closing doors, adjustment not necessary
- ► For all common types of installation
- ► For leaf widths up to 950 mm (1100 mm)

Supplied as standard package

GEZE TS 1000 C complete with link arm, screw accessories and installation template (Mounting plate not included).

Special design

GEZE TS 1000 C complete with holdopen arm for an adjustable opening angle between 70° and 150°.

A mounting plate is available for doors where direct installation is not possible.



Surface-mounted rack and pinion door closer **GEZE** TS 1000 C

Ordering text

Designation	Colour	ID No.
GEZE TS 1000 C	silver	071993
with Standard link arm	dark bronze	071994
	white RAL 9016	071995
	black RAL 9005	071996
	gold	071997
	RAL colour	090712
GEZE TS 1000 C	silver	071998
with Hold-open link arm	dark bronze	071999
	white RAL 9016	072000
	black RAL 9005	072001
	gold	072002
	RAL colour	090714
Mounting plate for doors to which the	silver	029682
closer cannot be directly mounted	dark bronze	029683
	white RAL 9016	029685
	RAL colour	029686

Specifications

Surface-mounted rack and pinion door closer

GEZE TS 1000 C, () dark bronze

with adjustable closing () white
speed and adjustable () black
latching action, () RAL
alternatively with () gold
mounting plate.

TS 1000 C

Product information for door closers

The following information concerning door closers for hinged leaf doors must be observed. Failure to observe the information exonerates the manufacturer from liability or obligation.

1. Product information and intended use

Door closers in terms of this definition shall be used to close hinged leaf doors again after they have been manually opened. The closing operation is performed with adjustable hydraulic damping. The necessary closing force relative to the leaf widths is defined in EN 1154. The information from the manufacturers must be observed in the case of areas of application other than conduit intended. Door closers shall be used on installed hinged-leaf doors made of metal, wood, or UPVC and any combinations of these materials. The mounting method and position are precisely prescribed for smoke and fire doors or other standardised selfclosing doors. Mounting methods and positions other than conduit intended do not conform to the intended use.

Vertical, smoothly operating doors with correctly mounted door closers are prerequisites for the intended use of door closers. Mounting and adjustment must be performed by qualified personnel according to the specifications from the manufacturer. Door closers with greater closing forces must be used in the case of particularly unfavourable installation conditions (effects of wind).

Door closers with backcheck must be used, especially in the case of hinged-leaf doors which are opened against wind The backcheck contributes to protecting personnel, door elements, surrounding walls and objects without restricting the door opening angle. If, owing to the structural characteristics of the door, it is necessary to mount the door leaf to the frame at the door's pivot axis, a stop which restricts the maximum door opening angle of the door must be used. Hinged leaf doors can only be held open at a specific position using additional special fittings or integrated construction elements. With smoke and fire doors, the equipment must be approved by an inspector from the responsible institute for structural engineering (documents supporting suitability must be observed).

Door closers are not suitable for the unprotected external installation into single-action doors and for use in environments with aggressive corrosion-promoting air contents as well as extremely low or high temperatures.

Fitting boxes for floor springs must be protected against dirt penetration after their installation. If floor mounted door closers are exposed to water penetration (e.g. damp locations or exterior doors without rain protection), the cavity between the cement box and door closer housing must be filled with a suitable sealing compound.

Before the door closers (including any additional equipment) are installed, any mandatory legal directives must be observed.

2. Improper use

Improper use (i.e. utilisation of the product in a way differing from the intended use) for hinge leaf door may result in damage or injury in particular:

- ▶ if obstacles in the closing radius, dragging doors, jamming seals, wood wedges etc. prevent the closing operation
- ► if door closers have been incorrectly or unprofessionally fitted and/or adjusted
- ▶ if parts of the body are placed between the frame and leaf (risk of injury)
- ▶ if correct functioning is expected beyond the specified characteristics, e.g. in storm conditions, with extraordinary negative pressure or positive pressure acting on the door
- if door closers are used for purposes other than closing doors
- ▶ if the selected door closer size does not correspond to the recommendations of the manufacturer

3. Product characteristics

If the product characteristics are not described in the catalogues, brochures, instructions etc., any special requirements must be discussed with and then approved by the manufacturer.

Reference should be made to the standard DIN 18 263, parts 1, 2, 3 and 5 "Door closers with hydraulic damping". Virtually all basic requirements and additional requirements are defined in this standard. The suitability of use for door closers depends on factors such as frequency of actuation, actuation principle, environmental influences, and care and maintenance. Door closers must be replaced as soon as correct and reliable closing operation can no longer be guaranteed.

4. Product maintenance

Safety elements of door closers must be checked regularly, according to requirements, for wear and to ensure that they are fitted correctly and securely. Fixing screws must be tightened and any faulty components must be changed. Furthermore, the following maintenance work must be performed at least once per year (depending on the type of hinged leaf doors and their application):

- ► All moving parts on the link arm must be greased
- ► The closer settings (e.g. closing speed) must be checked.
- ► Smooth operation of the door must be checked
- ▶ In the case of door closers with special functions (hold-open devices/hold-open systems), the legal checks, monitoring, and maintenance procedures must be observed.

Only cleaning agents not containing any corrosive and damaging components should be used.

5. Obligations regarding information and instruction

The following media are available to the planner, specialist trader, manufacturer, building owner, and user:

- ► Catalogues, brochures
- ► Tender documents
- Mounting instructions, installation drawings, operating instructions, standards
- ► Consultation with field service personnel

The following points are essential for the correct use, reliable functioning, maintenance, and care of door closers for hinged-leaf doors:

- architects and planners must request and observe the necessary product information,
- ▶ specialist dealers and manufacturers must observe the product information and information in the price lists, and especially request all necessary instructions and pass them on to the customer, installer or end user
- manufacturers must observe product information and pass it on to the customers and users.

GEZE Boxer

Integrated door closer

Product features

- Closer sizes 2-4 and 3-6 EN 1154 A 1)
- Closer fully integrated into door leaf
- ► Guide rail only visible during opening movement
- ▶ Adjustable when installed are:
 - Closing force
 - Closing speed
 - Hydraulic latching
 - Hydraulic back check

Applications

- ► For right and left closing doors
- Closer size 2-4:
 - Max. leaf weight approx. 130 kg
 - For leaf width up to 1100 mm
 - For leaf depth from 40 mm
- Closer size 3-6:
 - Max. leaf weight approx. 180 kg
 - For leaf width up to 1400 mm
 - For leaf depth from 50 mm

Supplied as standard package Integrated door closer **GEZE** *Boxer* complete with screw accessories

and installation instructions. Also necessary:

guide rail with lever

Version with electromechanical hold-open device 2) Integrated door closer

GEZE Boxer complete with screw accessories and installation instructions. Also necessary: guide rail with lever

and electromechanical hold-open device

Version with mechanical hold-open device 3) Integrated door closer **GEZE** *Boxer* complete with screw accessories and installation instructions

Also necessary: guide rail with lever and mechanical hold-open device, hold-open angle infinitely variable between 80° and 120°



GEZE Boxer in combination with smoke switch control unit RSZ6

¹⁾ An additional suitability certificate for the door is necessary with using on smoke and fire doors.

²⁾ Official building approval applied to DIBt.

³⁾ Not permitted for use with smoke and fire doors.

OXER

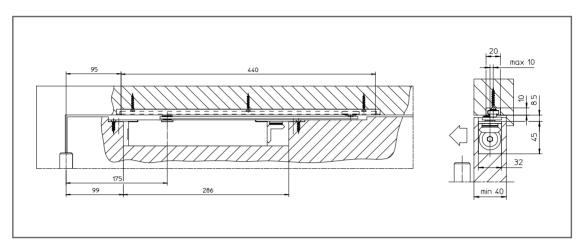
Integrated door closer **GEZE** Boxer

Ordering text

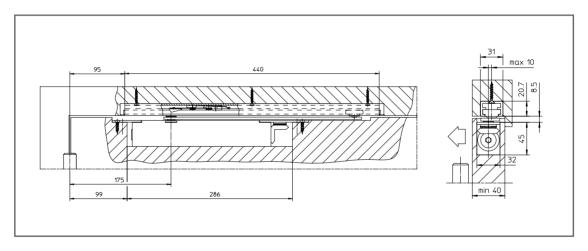
Description	Finish	ID No.
GEZE Boxer size 2–4		099728
GEZE Boxer size 3-6		099735
Boxer guide rail with lever	lever silver	095137
Boxer guide rail with lever		
and mechanical hold-open device	lever silver	095141
Boxer E-guide rail with lever		
and electromechanical hold-open device	lever silver	098298



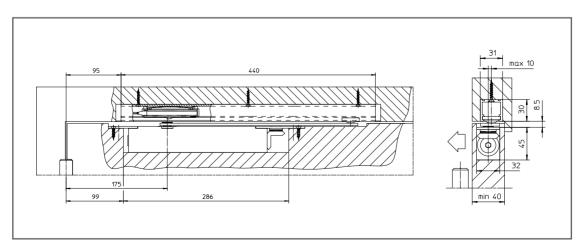
GEZE Boxer in combination with smoke switch control unit RSZ6



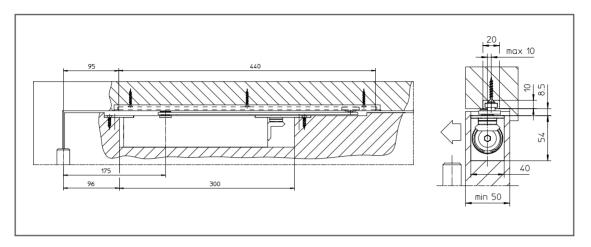
GEZE Boxer size 2-4 with Boxer guide rail



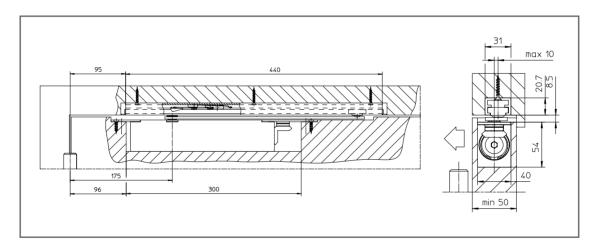
GEZE Boxer size 2-4 with Boxer guide rail with mechanical hold-open device



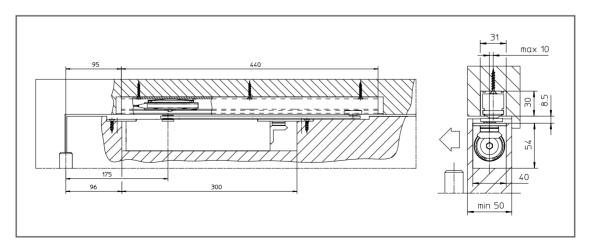
GEZE Boxer size 2-4 with Boxer E-guide rail



GEZE Boxer size 3-6 with Boxer guide rail



GEZE Boxer size 3-6 with Boxer guide rail with mechanical hold-open device



GEZE Boxer size 3-6 with Boxer E-guide rail

GEZE Boxer

Product features

Integrated door closer **GEZE** *Boxer* for single action doors, leaf depth from 40 mm, according to EN 1154 A, size 2-4.

With guide rail, adjustable (when installed) closing force, closing speed, latching force and backcheck. The closer is completely installed into the door leaf and frame, the guide rail is only visible when the door is open.

For right and left closing doors, up to 130 kg leaf weight and up to 1100 mm leaf width.

Colour: silver

Integrated door closer **GEZE** *Boxer* for single action doors, leaf depth from 50 mm, according to EN 1154 A, size 3-6.

With guide rail, adjustable (when installed) closing force, closing speed, latching force and backcheck. The closer is completely installed into the door leaf and frame, the guide rail is only visible when the door is open.

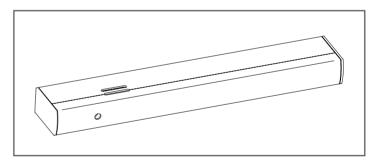
For right and left closing doors, up to 180 kg leaf weight and up to 1400 mm leaf width.

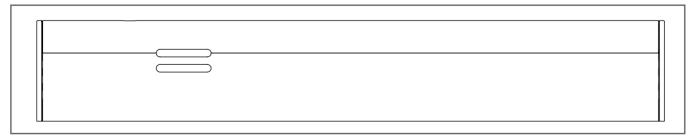
Colour: silver

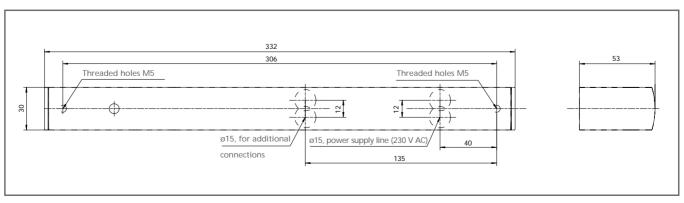
GEZE *RSZ* 6 smoke switch control unit with adaption of the alarm threshold and soiling indicator.

Colour: silver

The smoke switch control unit *RSZ* 6 with integrated 24 V DC power supply unit is both a smoke detector for early detection of fire and also a smoke switch to actuate holdopen systems for fire protection barriers.







Integrated door closer **GEZE** Boxer for single action doors, leaf depth from 40 mm, according to EN 1154 A, size 2-4.

With guide rail, with electromechanical hold-open device1), holdopen angle infinitely variable between 80° and 120° according to EN 1155, adjustable (when installed) closing force, closing speed, latching force and backcheck The closer is completely

leaf and frame, the guide rail is only visible when the door is open. For right and left closing

installed into the door

doors, up to 130 kg leaf weight and up to 1100 mm leaf width.

Colour: silver

Integrated door closer **GEZE** Boxer for single action doors, leaf depth from 50 mm, according to EN 1154 A, size 3-6.

With guide rail, with electromechanical hold-open device¹⁾, holdopen angle infinitely variable between 80° and 120° according to EN 1155, adjustable (when installed) closing force, closing speed, latching force and backcheck.

The closer is completely installed into the door leaf and frame, the quide rail is only visible when the door is open.

For right and left closing doors, up to 180 kg leaf weight and up to 1400 mm leaf width.

Colour: silver

Integrated door closer **GEZE** *Boxer* for single action doors, leaf depth from 40 mm, according to EN 1154 A, size 2-4.

With guide rail, with mechanical holdopen device, hold open angle infinitely variable between 80° and 120° according to EN 1155, retaining force of holdopen device can be adjusted, adjustable (when installed) closing force, closing speed, latching force and backcheck.

The closer is completely installed into the door leaf and frame, the guide rail is only visible when the door is open.

For right and left closing doors, up to 130 kg leaf weight and up to 1100 mm leaf width.

Colour: silver

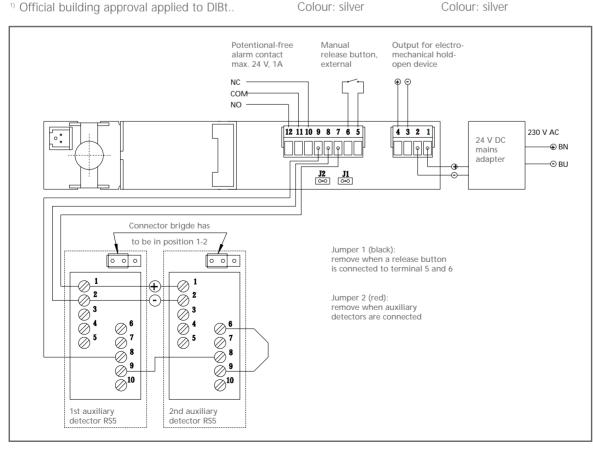
Integrated door closer **GEZE** Boxer for single action doors, leaf depth from 50 mm, according to EN 1154 A, size 3-6.

With guide rail, with mechanical holdopen device, hold open angle infinitely variable between 80° and 120° according to EN 1155, retaining force of holdopen device can be adjusted, adjustable (when installed) closing force, closing speed, latching force and backcheck.

The closer is completely installed into the door leaf and frame, the guide rail is only visible when the door is open.

For right and left closing doors, up to 180 kg leaf weight and up to 1400 mm leaf width.

Colour: silver



Product information for door closers

The following information concerning door closers for hinged leaf doors must be observed. Failure to observe the information exonerates the manufacturer from liability or obligation.

1. Product information and intended use

Door closers in terms of this definition shall be used to close hinged leaf doors again after they have been manually opened. The closing operation is performed with adjustable hydraulic damping. The necessary closing force relative to the leaf widths is defined in EN 1154. The information from the manufacturers must be observed in the case of areas of application other than conduit intended. Door closers shall be used on installed hinged-leaf doors made of metal, wood, or UPVC and any combinations of these materials. The mounting method and position are precisely prescribed for smoke and fire doors or other standardised selfclosing doors. Mounting methods and positions other than conduit intended do not conform to the intended use.

Vertical, smoothly operating doors with correctly mounted door closers are prerequisites for the intended use of door closers. Mounting and adjustment must be performed by qualified personnel according to the specifications from the manufacturer. Door closers with greater closing forces must be used in the case of particularly unfavourable installation conditions (effects of wind).

Door closers with backcheck must be used, especially in the case of hinged-leaf doors which are opened against wind The backcheck contributes to protecting personnel, door elements, surrounding walls and objects without restricting the door opening angle. If, owing to the structural characteristics of the door, it is necessary to mount the door leaf to the frame at the door's pivot axis, a stop which restricts the maximum door opening angle of the door must be used. Hinged leaf doors can only be held open at a specific position using additional special fittings or integrated construction elements. With smoke and fire doors, the equipment must be approved by an inspector from the responsible institute for structural engineering (documents supporting suitability must be observed).

Door closers are not suitable for the unprotected external installation into single-action doors and for use in environments with aggressive corrosion-promoting air contents as well as extremely low or high temperatures.

Fitting boxes for floor springs must be protected against dirt penetration after their installation. If floor mounted door closers are exposed to water penetration (e.g. damp locations or exterior doors without rain protection), the cavity between the cement box and door closer housing must be filled with a suitable sealing compound.

Before the door closers (including any additional equipment) are installed, any mandatory legal directives must be observed.

2. Improper use

Improper use (i.e. utilisation of the product in a way differing from the intended use) for hinge leaf door may result in damage or injury in particular:

- ▶ if obstacles in the closing radius, dragging doors, jamming seals, wood wedges etc. prevent the closing operation
- ▶ if door closers have been incorrectly or unprofessionally fitted and/or adjusted
- ▶ if parts of the body are placed between the frame and leaf (risk of injury)
- ▶ if correct functioning is expected beyond the specified characteristics, e.g. in storm conditions, with extraordinary negative pressure or positive pressure acting on the door
- ▶ if door closers are used for purposes other than closing doors
- ▶ if the selected door closer size does not correspond to the recommendations of the manufacturer

3. Product characteristics

If the product characteristics are not described in the catalogues, brochures, instructions etc., any special requirements must be discussed with and then approved by the manufacturer.

Reference should be made to the standard DIN 18 263, parts 1, 2, 3 and 5 "Door closers with hydraulic damping". Virtually all basic requirements and additional requirements are defined in this standard. The suitability of use for door closers depends on factors such as frequency of actuation, actuation principle, environmental influences, and care and maintenance. Door closers must be replaced as soon as correct and reliable closing operation can no longer be guaranteed.

4. Product maintenance

Safety elements of door closers must be checked regularly, according to requirements, for wear and to ensure that they are fitted correctly and securely. Fixing screws must be tightened and any faulty components must be changed. Furthermore, the following maintenance work must be performed at least once per year (depending on the type of hinged leaf doors and their application):

- All moving parts on the link arm must be greased
- ► The closer settings (e.g. closing speed) must be checked.
- Smooth operation of the door must be checked
- ▶ In the case of door closers with special functions (hold-open devices/hold-open systems), the legal checks, monitoring, and maintenance procedures must be observed.

Only cleaning agents not containing any corrosive and damaging components should be used.

5. Obligations regarding information and instruction

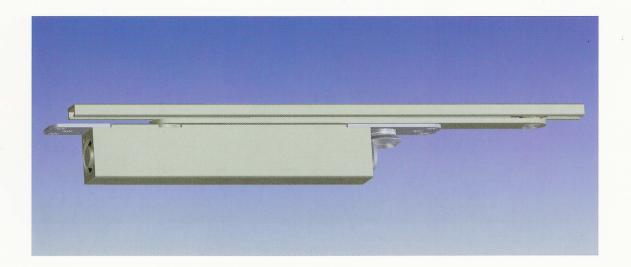
The following media are available to the planner, specialist trader, manufacturer, building owner, and user:

- ► Catalogues, brochures
- ► Tender documents
- ► Mounting instructions, installation drawings, operating instructions, standards
- ► Consultation with field service personnel

The following points are essential for the correct use, reliable functioning, maintenance, and care of door closers for hinged-leaf doors:

- architects and planners must request and observe the necessary product information,
- ▶ specialist dealers and manufacturers must observe the product information and information in the price lists, and especially request all necessary instructions and pass them on to the customer, installer or end user
- manufacturers must observe product information and pass it on to the customers and users.

Integrated **Double-Action** Door Closer

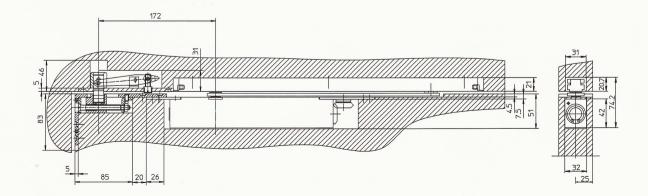


Product features

- ► **GEZE** *Boxer* size range 2-4 and size range 3-6 in accordance with EN 1154
- ► The closer is completely installed into the door leaf and frame, the guide rail is only visible when the door is open.
- ► With guide rail adjustable (when installed) closing force, closing speed and latching action

Application range

- ► For double-action doors
- ▶ Size range 2-4 in accordance with EN 1154
 - max. door leaf weight approx. 130 kg
 - max. door leaf width approx. 1100 mm
 - door leaf depth from 40 mm
- ► Size range 3-6 in accordance with EN 1154
 - max. door leaf weight approx. 180 kg
 - max. door leaf width approx. 1400 mm
 - door leaf depth from 50 mm



TS 550

GEZE *TS 550*

Floor spring for single action and double action doors, size 2-5 to EN 1154



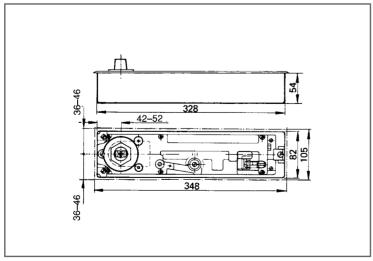


Fig. 5

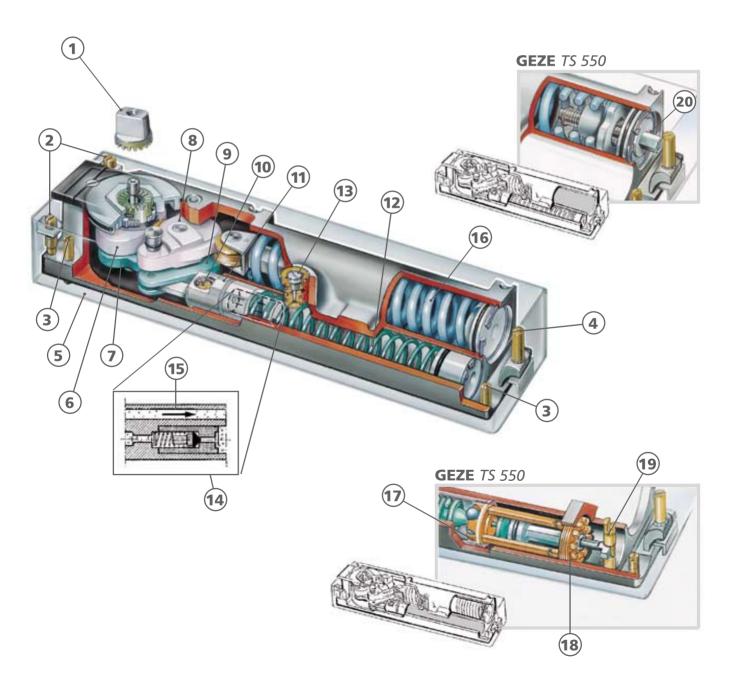
Technology

Floor spring GEZE TS 500 and TS 550

- 1 Toothed spindle
- 2 Clamping screw
- 3 Height adjustment screw
- 4 Fixing screw
- **5** Cement box
- 6 Radial cam closing force
- **7** Radial cam, hydraulic unit
- 8 Spring pivot lever

- 9 Piston pivot lever
- 10 Oil screen
- **11** Piston
- **12** Spring for piston return
- **13** Regulating valve
- **14** Safety valve
- 15 Oil return channel
- **16** Closing spring
- 17 Ball ring for hold-open

- **18** Hold-open adjustment
- 19 Hold-open: ON/OFF
- 20 Closing force adjustment



Product features

- ► Closing force adjustable from outside, size 2-5 to EN 1154
- ► Closer in only one construction size
- ► Infinitely variable hold-open, can be enabled and disabled (80°-120°)
- ▶ Backcheck
- Adjustable closing speed
- Safety valve preventing deliberate overloading
- ► Closing range from approx. 170°
- ► Large adjustment range: Height: 6 mm Lateral: 10 mm Length: 10 mm
- Galvanised cement box

Applications

- ► For right and left hand single action doors
- ► For double action doors
- For leaf widths up to 1250 mm
- ► For leaf weights up to 250 kg

Standard version/package

Floor spring complete with flat-conical spindle, cement box, and mounting instructions (cover plate not included).

Special version

GEZE *TS 550* with fixed hold-open 120° - 150° (5°-steps)

GEZE *TS 550* with delayed closing

If the *TS 550* is to be used in wet environments, it is advisable to fill the cavity between the closer and the cement box with a special sealing compound.

1 Canister of sealing compound, ID No. 058879

Cover plates

Various cover plates (which can be used for both right and left hand doors) with screw accessories are available for **GEZE** *TS* 550.

Material:

- ► Stainless steel
- ► Dark bronze
- ► Satin brass

Pivot lever / Guide rail

- ► For the installation of the floor spring a special pivot lever and guide rail with a pivot point of 36 mm is required
- ► See separate **GEZE**Accessories brochure





Standard installation

Example showing the installation of a door rail, upper pivot, and **GEZE** *TS* 550 for a single action door, see Fig. 6.

Installation drawings are available for currently used profiles.

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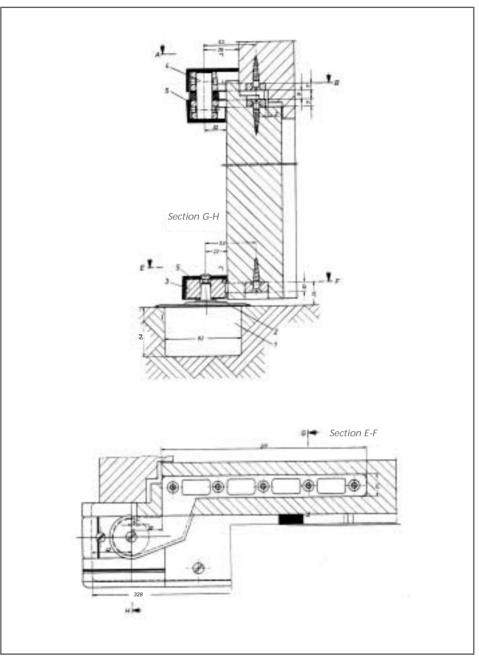


Fig. 6

Door rail model	S	Н
(see Fig. 7)		
DM	16 mm	27 mm
DB, EK, FK	10 mm	24 mm
CM	19 mm	29 mm
С	19 mm	29 mm

If spindle extensions are used, the installation dimension for height "H" is increased by the length of the spindle extension.

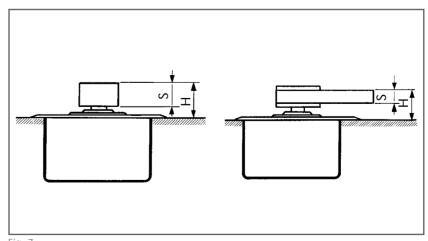


Fig. 7

Floor spring for single action and double action doors **GEZE** TS 550

Ordering text

Description	Hold open angle	ID No.
0F7F T0 FF0		
GEZE TS 550		
floor mounted door closer for single action and double action doors	_	057887
GEZE TS 550 with fixed hold-open 1)	120°	024900
·	125°	000831
	130°	000832
	135°	000833
	140°	000834
	145°	000836
	150°	000837
GEZE TS 550 with delayed closing	_	020870

¹⁾ The specified hold-open angle applies to single action doors. With double action doors, each hold-open angle is 5° greater. Example: A **GEZE** *TS 500* with 85° hold-open will have a hold-open of 90° if used as floor spring for double action doors.

Accessories

Description	Length (mm)	Finish	ID No.
Cover plate for GEZE <i>TS 550</i>		stainless steel	057766
GOVER PLACE TO COLUMN TO C		dark bronze	057769
		satin brass	057767
Toothed spindle extensions 1)	5		010337
	8		050930
	10		010338
	13		052170
	15		010347
	20		010372
	25		010373
	28		050931
	30		010374
	35		010377
	40		010378
	45		010381
	50		010385

¹⁾ The use of an extended spindle may become necessary depending on the mounting position. The original TS 550 spindle can be unscrewed and replaced with a longer version effortlessly.

Feature

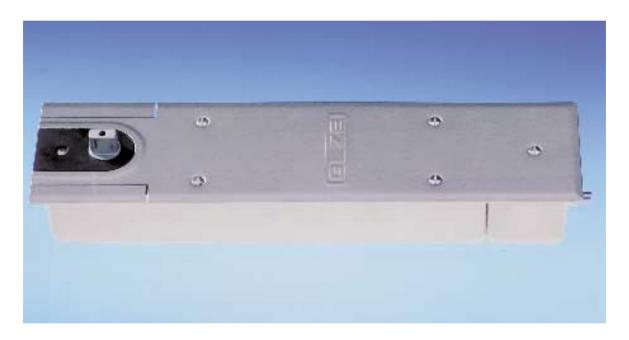
Floor spring **GEZE** *TS 550* size 2–5 as per
EN 1154 with infinitely variable hold-open, which may be enabled or disabled. Adjustable closing force and closing

speed for single and double-action doors with stainless steel cover plate.



GEZE TS 550 IS

Floor spring with integrated, concealed door selector, size range 3-6 to EN 1154 A



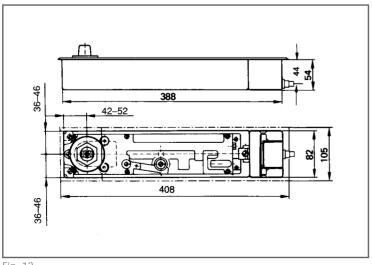


Fig. 13

55015

Product features

- Integrated, concealed door selector
- ► Closing force adjustable from outside, size 3-6 to EN 1154
- ► Closing range from approx. 180°
- Closer in only one construction size
- Safety valve preventing deliberate overloading
- Adjustable closing speed
- Adjustable latching action
- ► Large adjustment range:
 Height: 6 mm
 Lateral: 10 mm

Length: 10 mm
► Galvanised
cement box

Applications

- ► For 2-leaf doors with leaf widths up to 1400 mm
- ► For leaf weights up to 250 kg
- ► For right- or left hand doors
- ► Also suitable for leaves with different widths
- ► For smoke and fire doors with provision for DIN floor spring

Standard version/package

- 1) **GEZE** *TS 550 IS* fixed leaf complete with flat-tapered spindle, cement box and mounting instructions (cover plate not included).
- 2) **GEZE** *TS* 550 *IS* moving leaf complete with flat-tapered spindle, cement box and mounting instructions including Bowden cable (cover plate not included).

Cover plate

The cover plate made of stainless steel can be used for both right and left hand doors

Pivot lever/Guide rail

- ► For the installation of the floor spring a special pivot lever and guide rail with a pivot point of 36 mm is required
- ► See separate **GEZE**Accessories brochure

Door closer size EN	Door leaf width to EN (mm)
3	to 950
4	over 950 to 1100
5	over 1100 to 1250
6	over 1250 to 1400

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width. The next highest size must be selected if

the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** TS 550 IS covers several door clo-

ser sizes in one housing. These sizes can be adjusted using an adjustment screw.

Standard installation

Example showing the installation of a door rail, upper pivot, and **GEZE** *TS 550 IS* for a fire door (steel door), see Fig. 6 on page 14 and Fig. 14

Installation drawings are available for currently used profiles.

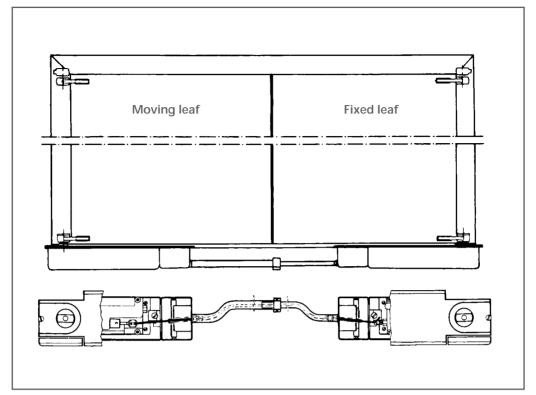


Fig. 14

Door rail model	S (mm)	H (mm)
(see Fig. 15)		
DM	16	27
DB, EK, FK	10	24

If spindle extensions are used, the installation dimension for height "H" is increased by the length of the spindle extension.

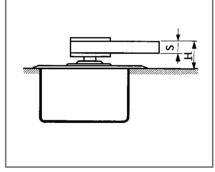


Fig. 15

TS 550 IS

Floor spring GEZE TS 550 IS

Ordering text

Description	Leaf type	Rebate type	ID No.
FGEZE TS 550 IS	Moving leaf	DIN left	059522
		DIN right	059549
	Fixed leaf	DIN left	059521
		DIN right	059557

Accessories

Description	Length (mm)	Finish	ID No.
Cover plate for GEZE TS 550 IS		stainless steel	059756
Protective steel conduit inclusive r	nounting material	-	059556
Toothed spindle extensions 1) 2)	5		010337
Toothed spiriule exterisions 4-7	8		050930
	10		010338
	13		052170
	15		010347
	20		010372
	25		010373
	28		050931
	30		010374
	35		010377
	40		010378
	45		010381
	50		010385

¹⁾ Only for approved fire and smoke protection doors where the use of spindle extensions has been specified in the official approval certificate.

2) The use of an extended spindle may become necessary depending on the mounting position.

The original TS 550 spindle can be unscrewed and replaced with a longer version effortlessly.

Feature

Floor spring **GEZE** *TS 550 IS*, size range 3-6 as per EN 1154A with integrated, concealed closing sequence control including steel cable and

installation materials. Adjustable closing force, closing speed and latching action, with stainless steel cover plate.



GEZE TS 550 F

Floor spring for single action and double action doors, size 3-6 to EN 1154



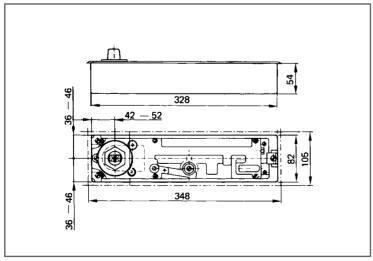


Fig. 8

550 F

Product features

- ► Closing force adjustable from outside, size 3-6 to EN 1154
- ► Closer in only one construction size
- Adjustable latching action
- ► Safety valve preventing deliberate overloading
- Adjustable closing speed
- ► Closing range from approx. 180°
- ► Large adjustment range: Height: 6 mm Lateral: 10 mm Length: 10 mm
- Galvanised cement box

Applications

- ► For right and left hand single action
- ► For leaf widths up to 1400 mm
- ► For leaf weights up to 250 kg
- ► For smoke and fire doors with provision for DIN floor spring

Standard version/package

GEZE TS 550 F Complete with flattapered spindle, cement box and installation instructions (cover plate not included)

Cover plates

Various cover plates (which can be used for both right and left hand doors) with screw accessories are available for **GEZE** *TS* 550 *F*.

Material:

- ► Stainless steel
- ► Dark bronze
- ► Satin brass

Pivot lever / Guide rail

- ► For the installation of the floor spring a special pivot lever and guide rail with a pivot point of 36 mm is required
- ► See separate **GEZE**Accessories brochure

TS 220 T

Standard installation

Example showing the installation of a door rail, upper pivot, and **GEZE** *TS 550 F* for a fire door (Steel door), see Fig. 6 on page 14.

Installation drawings are available for currently used profiles.

S	550	\vdash

Door rail model	S (mm)	H (mm)
(see Fig. 9)		
DM	16	27
DB, EK, FK	10	24

If spindle extensions are used, the installation dimension for height "H" is increased by the length of the spindle extension.

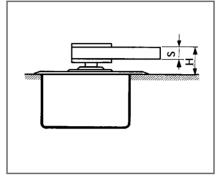


Fig. 9

Door closer size EN	Door leaf width to EN (mm)	
3	to 950	
4	over 950 to 1100	
5	over 1100 to 1250	
6	over 1250 to 1400	

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** *TS 550 F* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

Floor spring GEZE TS 550 F

Ordering text

Description	Rebate type	ID No.
FGEZE TS 550 F	DIN left	050972
	DIN right	050973

Accessories

Description	Length (mm)	Finish	ID No.
Cover plate for GEZE <i>TS 550 F</i>		stainless steel	057766
		dark bronze	057769
		satin brass	057767
Toothed spindle extensions 1) 2)	5		010337
Toothed spiriale extensions	8		050930
	10		010338
	13		052170
	15		010347
	20		010372
	25		010373
	28		050931
	30		010374
	35		010377
	40		010378
	45		010381
	50		010385

Only for approved fire and smoke protection doors where the use of spindle extensions has been specified in the official approval certificate.
 The use of an extended spindle may become necessary depending on the mounting position. The original TS 550 spindle can be unscrewed and replaced with a longer version effortlessly.

Feature

Floor spring **GEZE** *TS 550 F*, size 3–6 as per EN 1154 with adjustable closing force and closing speed and latching action with stainless steel cover plate.





GEZE TS 550 E

Floor spring with electromechanical hold-open device, EN1155, size range 3-6



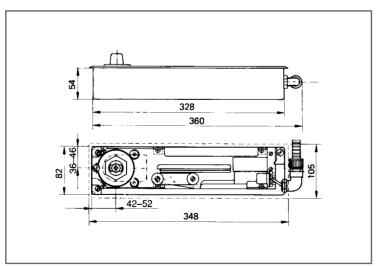


Fig. 10

Approved for recognised smoke detection systems by the institute for civil engineering, Berlin. (Certificate on request)

550 E

Product features

- ► Infinitely variable hold-open, can be enabled and disabled (80°-180°)
- ► Closing force adjustable from outside, size 2-5 to EN 1154
- ► Closer in only one construction size
- Adjustable closing speed
- Adjustable latching action
- Safety valve
- ► Closing range from approx. 180°
- Large adjustment range:

Height: 6 mm Lateral: 10 mm Length: 10 mm

- Operating voltage 24 V DC
- Connection cable approx. 3 m

Applications

- ► For right and left hand single action doors
- ► For leaf widths up to 1400 mm
- ► For leaf weights up to 250 kg
- ► For smoke and fire doors with provision for DIN floor spring

Standard version/package

Floor mounted door closer complete with flat-conical spindle, cement box, and mounting instructions and plug-in extension lead (cover plate not included).

Cover plates

Various cover plates (which can be used for both right and left hand doors) with screw accessories are available for **GEZE** *TS* 550 *E*.

Material:

- ► Stainless steel
- ► Dark bronze
- ► Satin brass

Pivot lever / Guide rail

- ► For the installation of the floor spring a special pivot lever and guide rail with a pivot point of 36 mm is required
- See separate GEZE Accessories brochure

Accessories

Protective conduit for electric cable (approx. 3m)

Door closer size EN	Door leaf width to EN (mm)	
3	to 950	
4	over 950 to 1100	
5	over 1100 to 1250	
6	over 1250 to 1400	

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width. The next highest size must be selected if

the structural (door height, door weight) or local conditions (wind influence) make this necessary. The **GEZE** *TS* 550 *E* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

Standard installation

Example showing the installation of a door rail, upper pivot, and **GEZE** *TS 550* for a single action door, see Fig. 6 on page 14.

Installation drawings are available for currently used profiles.

Door rail model	S (mm)	H (mm)
(see Fig. 11)		
DM	16	27
DB, EK, FK	10	24

If spindle extensions are used, the installation dimension for height "H" is increased by the length of the spindle extension.

TS 550 E

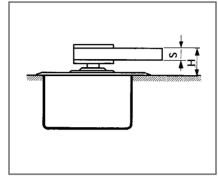


Fig. 11

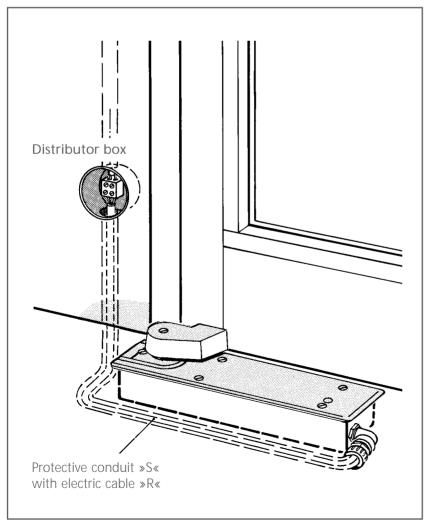


Fig. 12

Electrical installation

The closer **GEZE** *TS* 550 *E* must be connected to a power supply to allow the door to be held open.

Electrical data

- Operating voltage 24 V DC
- ► Voltage tolerances +10% / –15%
- Max. residual ripple 20%
- Connected load 110 mA

Function

- Voltage applied to closer = door held open
- No voltage applied or switched off = door not held open; door closes automatically

The door can be closed manually at any time regardless of whether or not voltage is being applied. If a power failure occurs or the closer is electrically tripped,

the closer must be »tensioned« again. To allow this, the door must close with backcheck at least once. The closer can then be held open again. This effect only occurs in the case of a power failure or electrical tripping, and not if the door is closed manually whereby the closer can be actuated in the same way as the standard TS 550 with mechanical hold-open.

Power supply cable

The power supply cable should be laid to a junction box next to the door closer. The cable »R« is included in the package and should be installed in a protective conduit as shown in the illustration.

The protective conduit »S« is available as a **GEZE**-accessory (see Fig. 12).

Floor spring with electromechanical fixing GEZE TS 550 E

Ordering text

Description	Operating voltage	Rebate type	ID No.
FGEZE TS 550 E	24 V DC	DIN left	064975
		DIN right	064976

Accessories

Description	Length (mm)	Finish	ID No.
Cover plate for GEZE <i>TS 550</i> in	F	stainless steel	057766
COVER Plate For GEZE 73 030 I	_	dark bronze	057769
		satin brass	057767
Protective conduit			063558
Spindle extensions ^{1) 2)}	5		010337
	8		050930
	10		010338
	13		052170
	15		010347
	20		010372
	25		010373
	28		050931
	30		010374
	35		010377
	40		010378
	45		010381
	50		010385

¹⁾ Only for approved fire and smoke protection doors where the use of spindle extensions has been specified in the official approval certificate. 2) The use of an extended spindle may become necessary depending on the mounting position. The original TS 550 spindle can be unscrewed and replaced with a longer version effortlessly.

Feature

Floor spring **GEZE** *TS 550 E* 24 V DC, size 3-6 as per EN 1155, with electromechanical hold-open can be adjusted effortlessly and precisely between 80° and

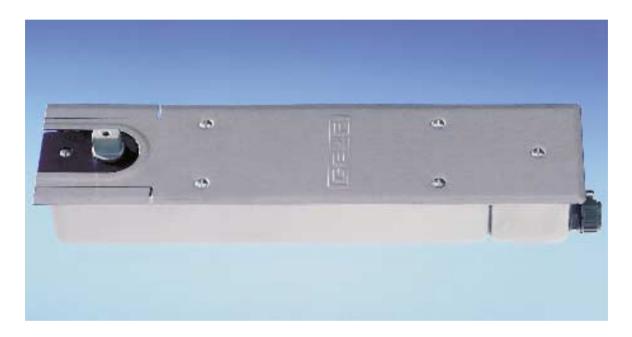
180°. Closing force adjustable closing speed and latching action, with stainless steel cover plate.





GEZE TS 550 E-IS

Floor spring with electromechanical hold-open DIN EN 1155 and integrated, concealed closing sequence control, size 3-6



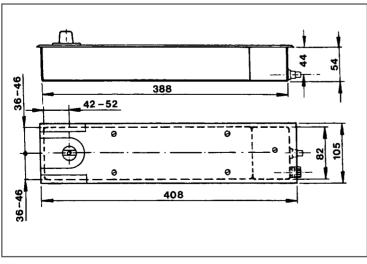


Fig. 16

Inspected and quality-tested by the association of property insurance companies (registered association), Cologne. Approved for recognised smoke detection systems by the Institut fuer Bautechnik, Berlin (Certificate on request)

550 E-IS

Product features

- Infinitely variable hold-open angle between 80° - 180°, doors can be adjusted independently
- ► Variable hold-open time
- ► Integrated, concealed door selector
- ► Closing force adjustable from outside, size range 3-6 to EN 1154
- ► Closing range from approx. 180°
- Closer in only one construction size
- ► Safety valve preventing deliberate overloading
- Adjustable latching action
- Adjustable closing speed
- ► Large adjustment range: Height: 6 mm Lateral: 10 mm Length: 10 mm
- Operating voltage 24 V DC
- ► Connection cable approx. 3 m
- Galvanised cement box

Applications

- ► For 2 leaf single action doors with leaf widths up to 1400 mm
- ► For leaf weights up to 250 kg
- ► For right or left hand doors
- Also suitable for leaves of differing widths
- ► For smoke and fire doors with provision for DIN floor spring

Standard version/package

- 1) **GEZE** *TS 550 E-IS* fixed leaf (silver colour coding), complete with flat-tapered spindle, cement box, plug-in connection cable, cable with connector, and mounting instructions (cover plate not included).
- 2) **GEZE** *TS* 550 *E-IS* moving leaf (blue colour coding), complete with flat-tapered spindle, cement box, plug-in connection cable, cable with connector, and mounting instructions (cover plate not included).

Cover plates

The cover plate made of stainless steel can be used for both right and left hand doors.

Pivot lever/Guide rail

- ► For the installation of the floor spring a special pivot lever and guide rail with a pivot point of 36 mm is required
- See separate GEZE Accessories brochure

S 1-3 056 S S

Door closer size EN	Door leaf width to EN (mm)	
3	up to 950	
4	over 950 to 1100	
5	over 1100 to 1250	
6	over 1250 to 1400	

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size

must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary. The **GEZE** *TS 550 E-IS* covers several door clo-

ser sizes in one housing. These sizes can be adjusted using an adjustment screw.

Standard installation

Example showing the installation of a **GEZE** *TS 550 E-IS* with door rail, upper pivot for a single action door, see Fig. 7 on page 14 and Fig. 17.

Installation drawings are available for currently used profiles.

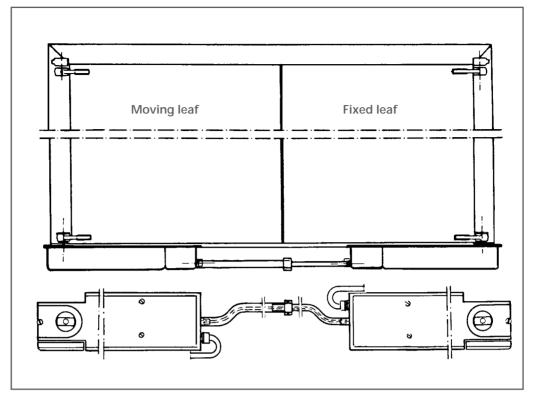


Fig. 17

Door rail model	S (mm)	H (mm)
(see Fig. 18)		
DM	16	27
DB, EK, FK	10	24

If spindle extensions are used, the installation dimension for height "H" is increased by the length of the spindle extension.

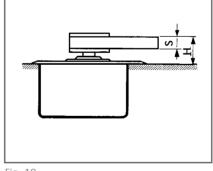


Fig. 18

TS5

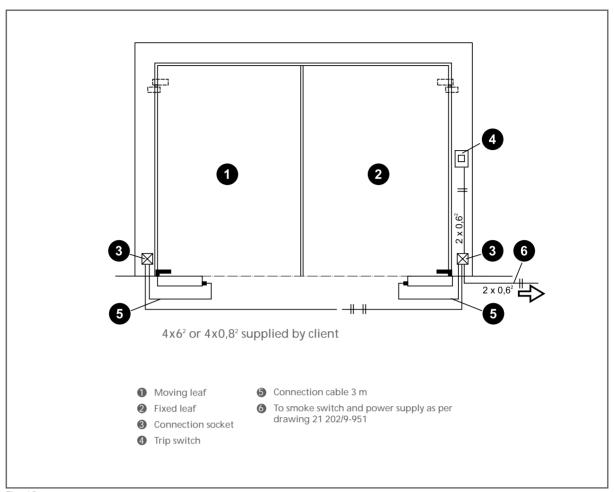


Fig. 19

Electrical installation

The closer **GEZE** *TS 550 E-IS* must be connected to power supply to allow the door to be held open.

Electrical data

- ► Operating voltage: 24 V DC
- ► Voltage tolerances: +10% / -15%
- ► Max. residual ripple: 20%
- ► Connected load: 220 mA

Function of hold-open

When the voltage is applied and the hold-open range has been selected, the closer must be opened once through the damping range (> 60°). When the door has closed, the hold-open is ready for operation.

Closing control function of leaves	
Moving leaf	Fixed leaf
Open/switch off electrically. Closer moves to 0 position. Closer must be reloaded.	Closed
Open / activate by hand. Closer goes to 0 position. Closer can be reset to hold-open.	Closed
Open / switch off electrically. Closer runs to effective range of IS-valve. Reed switch activates fixed leaf. Closer closes. Closer must be reloaded.	Open Closer closes. Closer can be reset to hold-open
Open / activate by hand. Closer runs to effective range of IS-valve. Reed switch activates fixed leaf Closer closes.	Open Closer closes. Closer can be reset to hold-open.
Closer can be reset to hold-open.	
Open	Open / activated by hand.
Closer stays in hold-open position	Closer moves to 0 position. Closer can be reset

to hold-open.

Trigger function of hold-open de	vice
Moving loof	Fixed leaf
Moving leaf	rixed leaf
Permanent switch off	
Closer runs to effective range of of the IS-valve approx 60°. Closer goes to 0 position with pulled IS-valve Ready to function by reapplying voltage. Open through the damping range with subsequent closing Closer can be reset to hold-open.	Closer goes to 0 position. Ready to function by reapplying voltage. Open through the damping range with subsequent closing Closer can be reset to hold-open.
Button switch off	
Closer runs to effective range of of the IS-valve approx 60°. Closer moves to 0 position with pulled IS-valve. Closer can be reset to hold-open.	Closer moves to 0 position. Closer can be reset to hold-open.
Activation by hand	
Closer runs to effective range of of the IS-valve approx 60°. Closer moves to 0 position. with pulled IS-valve. Closer can be reset to hold-open.	Closer moves to 0 position. Closer can be reset to hold-open.



Floor spring GEZE TS 550 E-IS

Ordering text

Description	Leaf type	Door mounting	ID No.
FGEZE TS 550 E-IS	Moving leaf	DIN left	068625
		DIN right	068626
	Fixed leaf	DIN left	068579
		DIN right	068580

Accessories

Designation	Length (mm)	Finish	ID No.
Cover plate for GEZE TS 550) E-IS	stainless steel	059756
Protective steel tube, incl. mc	ounting material	-	059556
Protective conduit		-	063558
Toothed spindle extensions 1) i	2) 5		010337
	8		050930
	10		010338
	13 15		052170 010347
	20		010372
	25		010373
	28		050931
	30		010374
	35 40		010377
	45		010378
	50		010385

Only for approved fire and smoke protection doors where the use of spindle extensions has been specified in the official approval certificate.
 The use of an extended spindle may become necessary depending on the mounting position. The original TS 550E-IS spindle can be unscrewed and replaced with a longer version effortlessly.

Feature

Floor spring **GEZE** *TS* 550 E-IS 24V DC with electromechanical hold-open can be adjusted effortlessly and precisely between 80° and 180°. Closing force size 3-6 as per EN 1155, with integrated

and concealed closing sequence control, steel cable and installation materials, adjustable closing speed and latching action and with stainless steel cover plate.



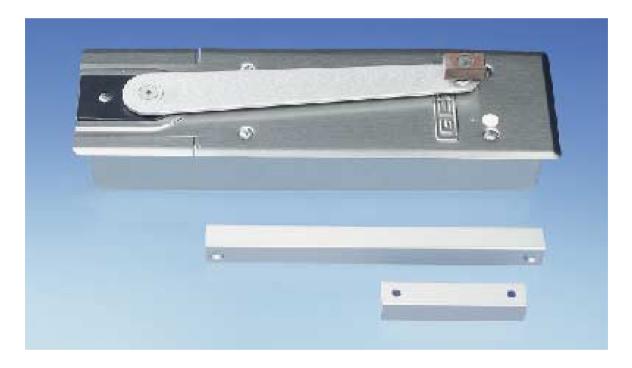
GEZE TS 550 F-G

GEZE TS 550 E-G

GEZE TS 550 IS-G

GEZE TS 550 E-IS-G

Floor spring with lever and guide rail for doors with hinges, size 3-6



The combination of a non-protruding spindle and flat lever renders an opening angle of 180° at a floor level clearance of only 9 mm possible.

Approved for well known smoke detection systems by the institute for civil engineering, Berlin. Latest approval list available on request.

TS 550 F-G TS 550 E-G TS 550 IS-G TS 550 E-IS-G

Product features

- ► Closing force adjustable from outside, size 3-6 to EN 1154
- Adjustable latching action
- Safety valve preventing deliberate overloading
- Adjustable closing speed
- ► Large adjustment range:
 Height: 6 mm

Lateral: 10 mm Length: 10 mm

Applications

- ► For single action doors with widths of up to 1400 mm
- ► For right and left hand single action doors
- ► For smoke and fire doors with provision for DIN floor spring

Single leaf doors

GEZE *TS* 550 *F-G* without hold-open. Closing range from approx. 180°

GEZE *TS 550 E-G*

with electromechanical hold-open. Infinitely variable 80°-150°. Operating voltage 24 V CD, connected load 110 mA, connection cable approx. 3 m, functional description and electrical installations as for

GEZE *TS 550 E*, closing range approx. 180°.

Double leaf doors

GEZE *TS 550 IS-G* with integrated door selector. Closing range from approx. 180°

GEZE TS 550 E-IS-G with integrated door selector with electromechanical hold-open on both sides, infinitely variable 80°-150°. Operating voltage 24 V DC, connected load 220 mA, connection cable approx. 3 m, functional description and electrical installations as for **GEZE** TS 550 E-IS, closing range approx. 180°

Door closer size EN	Door leaf width to EN (mm)	
3	up to 950	
4	over 950 to 1100	
5	over 1100 to 1250	
6	over 1250 to 1400	

Explanations

The standards stipulate that the door closer size (closing force of the closer) must be selected appropriate to the door width.

The next highest size must be selected if the structural (door height, door weight) or local conditions (wind influence) make this necessary.

The **GEZE** *TS 550* ... -*G* covers several door closer sizes in one housing. These sizes can be adjusted using an adjustment screw.

Concealed floor spring with lever and guide rail for doors with hinges

Rebated timber door *)

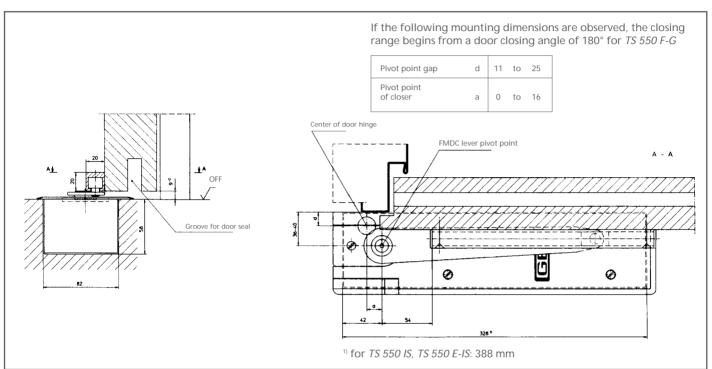


Fig. 20

Flush timber door *)

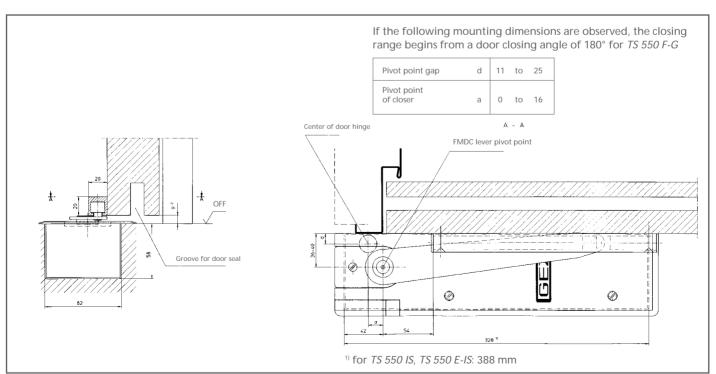


Fig. 21

^{*)} Installation examples / vertical sections and plan views DIN left shown in illustration (Reversed for DIN right).

Surface mounted floor spring with lever and guide rail for doors with hinges

Rebated timber door *)

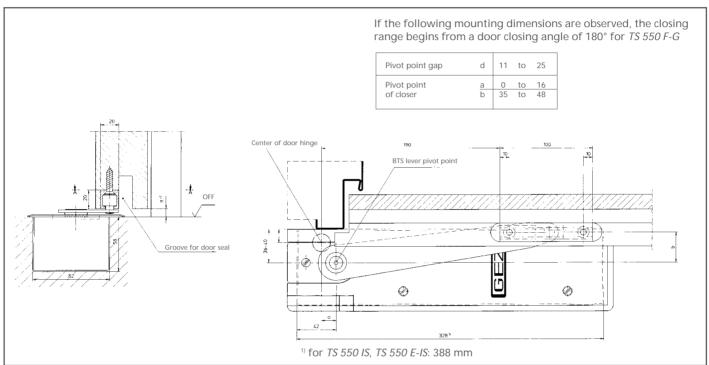


Fig. 22

Flush timber door*)

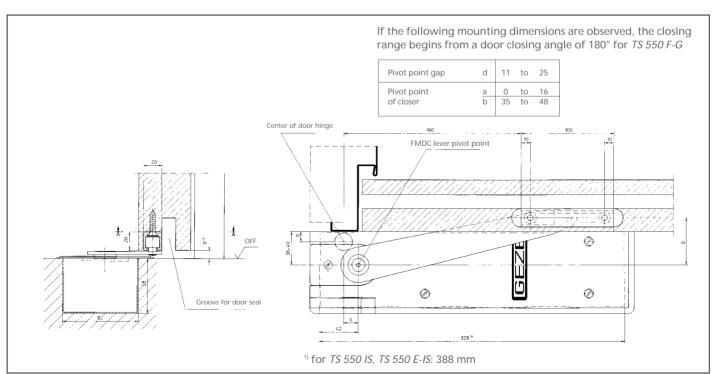


Fig. 23

GEZE Floor springs with guide rails

Ordering text

Description	Leaf type	Door mounting	ID No.
		B.11.1.6:	.===
EGEZE TS 550 F-G (without guide rail,		DIN left	075037
without lever, with galvanised cement box 58 mm)		DIN right	075044
FGEZE TS 550 E-G (without guide rail,		DIN left	075053
without lever, with galvanised cement box 58 mm)		DIN right	075054
without level, with galvanised cement box 30 min)		Divingiti	073034
EGEZE TS 550 IS-G (without guide rail,	Moving leaf	DIN left	075069
without lever, with galvanised cement box 58 mm)	J	DIN right	075070
	Fixed leaf	DIN left	075098
		DIN right	075099
FGEZE TS 550 E-IS-G (without guide rail,	Moving leaf	DIN left	075108
without lever, with galvanised cement box 58 mm)		DIN right	075109
	Fixed leaf	DIN left	075110
		DIN right	075111

Accessories

Description	Door closer TS 550	Finish	ID No.
Special cover plates	F-G, E-G	stainless steel	029429
for 9 mm floor level clearance	IS-G, E-IS-G	stainless steel	029432
Guide rail			
surface mounted, with lever	F-G, E-G, IS-G, E-IS-G	silver	072848
concealed, with lever	F-G, E-G, IS-G, E-IS-G	silver	072757
concealed, with level	1 -0, L-0, 13-0, L-13-0	SIIVCI	072737
Protective conduit	IS-G, E-IS-G	_	063558
Protective steel tube	IS-G, E-IS-G		059556
incl. mounting material			

Feature

GEZE TS 550 F-G

Floor spring **GEZE** *TS 550 F-G*, as per EN 1154 A, size 3-6 with adjustable closing force, closing speed and

latching action, guide rail, lever and stainless steel cover plate.

GEZE TS 550 E-G

Floor spring **GEZE** *TS* 550 E-G, 24V DC with electromechanical hold-open can be adjusted effortlessly and precisely between 80° and 150°.

Closing force size 3-6 as per EN 1155, adjustable closing speed and latching action, with guide rail, lever and stainless steel cover plate.

GEZE TS 550 IS-G

Floor spring **GEZE** *TS 550 IS-G*,

closing force size 3–6
as per EN 1154 A with
integrated, concealed
closing sequence control,
steel cable and installati-

on material, adjustable closing force, closing speed and latching action, guide rail, lever and stainless steel cover plate.

GEZE TS 550 E-IS-G

Floor spring **GEZE** *TS 550 IS-G* 24V DC with electromechanical hold-open continuously and precisely adjustable between and 80° and 150° as per EN 1155. With integrated con-

cealed closing sequence control, steel cable and installation material

GEZE TS 23

Floor spring for single action doors, size 2, 4 or 5 to EN 1154



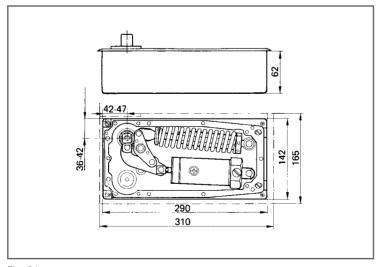


Fig. 24

23

Product features

- ▶ 3 closer versions with different closer sizes
- ► 90° hold-open can be enabled/disabled
- ► Safety valve preventing deliberate overloading
- Adjustable closing speed
- ► Adjustment range: Lateral: 6 mm Length: 5 mm
- ► Galvanised cement box

Applications

- ► For right and left hand single action doors
- ► For leaf widths
 - up to 850 mm size 2 to EN 1154
 - up to 1100 mm size 4 to EN 1154
 - up to 1250 mm
 size 5 to EN 1154
- For leaf weights up to 250 kg

Standard version/package

Floor spring complete with square spindle for left- or right hand doors, cement box, and mounting instructions (cover plate not included).

Special versions

GEZE *TS* 23 version for wet environments, 2 canisters of sealing compound required to fill cavity between closer and cement box (ID No. 058879)

GEZE *TS 23* with extended spindle, up to 50 mm (in 5 mm steps)

Cover plates

Various cover plates (for right or left hand doors) with screw accessories are availabe for **GEZE** *TS 23*.

Material:

- ► stainless steel
- ▶ dark bronze
- ► satin brass

TS 23

Standard installation

Example showing the installation of a door rail, upper pivot, and GEZE TS 23, see Fig. 25.

Installation drawings are available for currently used profiles.

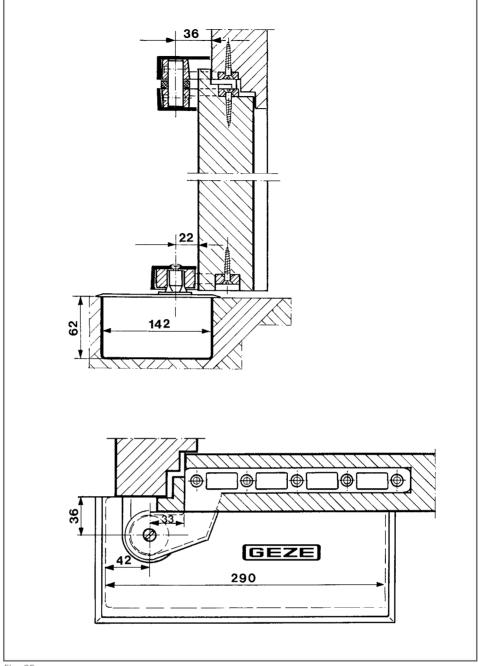
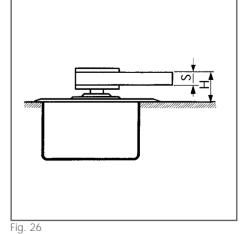


Fig. 25

Door rail model	S (mm)	H (mm)
DM	16	27
DB, EK, FK	10	24

If spindle extensions are used, the installation dimension for height "H" is increased by the length of the spindle extension.



Floor spring **GEZE** TS 23

Ordering text

Description	Size	Door mounting	ID-No.
GEZE TS 23,	EN 2	DIN left	007188
with hold-open unit,	EN 2	DIN right	007191
may be enabled / disabled 90°	EN 4	DIN left	007189
	EN 4	DIN right	007192
	EN 5	DIN left	007190
	EN 5	DIN right	007193

Accessories

Description	Finish	Door mounting	ID No.
Cover plates for version	stainless steel	DIN left	012328
GEZE TS 23		DIN right	012329
	dark bronze	DIN left	000842
		DIN right	000841
	satin brass	DIN left	012446
		DIN right	012455

Feature

size 2-4 or 5 as per EN 1154. Hold-open mechanism can be enabled or disabled at 90°. With adjustable closing

Floor spring **GEZE** *TS 23*, speed and suitable for right or left closing doors, with stainless steel cover plate.

Product information for door closers

The following information concerning door closers for hinged leaf doors must be observed. Failure to observe the information exonerates the manufacturer from liability or obligation.

1. Product information and intended use

Door closers in terms of this definition shall be used to close hinged leaf doors again after they have been manually opened. The closing operation is performed with adjustable hydraulic damping. The necessary closing force relative to the leaf widths is defined in EN 1154. The information from the manufacturers must be observed in the case of areas of application other than conduit intended. Door closers shall be used on installed hinged-leaf doors made of metal, wood, or UPVC and any combinations of these materials. The mounting method and position are precisely prescribed for smoke and fire doors or other standardised selfclosing doors. Mounting methods and positions other than conduit intended do not conform to the intended use.

Vertical, smoothly operating doors with correctly mounted door closers are prerequisites for the intended use of door closers. Mounting and adjustment must be performed by qualified personnel according to the specifications from the manufacturer. Door closers with greater closing forces must be used in the case of particularly unfavourable installation conditions (effects of wind).

Door closers with backcheck must be used, especially in the case of hinged-leaf doors which are opened against wind The backcheck contributes to protecting personnel, door elements, surrounding walls and objects without restricting the door opening angle. If, owing to the structural characteristics of the door, it is necessary to mount the door leaf to the frame at the door's pivot axis, a stop which restricts the maximum door opening angle of the door must be used. Hinged leaf doors can only be held open at a specific position using additional special fittings or integrated construction elements. With smoke and fire doors, the equipment must be approved by an inspector from the responsible institute for structural engineering (documents supporting suitability must be observed).

Door closers are not suitable for the unprotected external installation into single-action doors and for use in environments with aggressive corrosion-promoting air contents as well as extremely low or high temperatures.

Fitting boxes for floor springs must be protected against dirt penetration after their installation. If floor mounted door closers are exposed to water penetration (e.g. damp locations or exterior doors without rain protection), the cavity between the cement box and door closer housing must be filled with a suitable sealing compound.

Before the door closers (including any additional equipment) are installed, any mandatory legal directives must be observed.

2. Improper use

Improper use (i.e. utilisation of the product in a way differing from the intended use) for hinge leaf door may result in damage or injury in particular:

- ▶ if obstacles in the closing radius, dragging doors, jamming seals, wood wedges etc. prevent the closing operation
- ▶ if door closers have been incorrectly or unprofessionally fitted and/or adjusted
- ▶ if parts of the body are placed between the frame and leaf (risk of injury)
- ▶ if correct functioning is expected beyond the specified characteristics, e.g. in storm conditions, with extraordinary negative pressure or positive pressure acting on the door
- if door closers are used for purposes other than closing doors
- ▶ if the selected door closer size does not correspond to the recommendations of the manufacturer

3. Product characteristics

If the product characteristics are not described in the catalogues, brochures, instructions etc., any special requirements must be discussed with and then approved by the manufacturer.

Reference should be made to the standard DIN 18 263, parts 1, 2, 3 and 5 "Door closers with hydraulic damping". Virtually all basic requirements and additional requirements are defined in this standard. The suitability of use for door closers depends on factors such as frequency of actuation, actuation principle, environmental influences, and care and maintenance. Door closers must be replaced as soon as correct and reliable closing operation can no longer be guaranteed.

4. Product maintenance

Safety elements of door closers must be checked regularly, according to requirements, for wear and to ensure that they are fitted correctly and securely. Fixing screws must be tightened and any faulty components must be changed. Furthermore, the following maintenance work must be performed at least once per year (depending on the type of hinged leaf doors and their application):

- ► All moving parts on the link arm must be greased
- ► The closer settings (e.g. closing speed) must be checked.
- Smooth operation of the door must be checked
- ▶ In the case of door closers with special functions (hold-open devices/hold-open systems), the legal checks, monitoring, and maintenance procedures must be observed.

Only cleaning agents not containing any corrosive and damaging components should be used.

5. Obligations regarding information and instruction

The following media are available to the planner, specialist trader, manufacturer, building owner, and user:

- ► Catalogues, brochures
- ► Tender documents
- ► Mounting instructions, installation drawings, operating instructions, standards
- ► Consultation with field service personnel

The following points are essential for the correct use, reliable functioning, maintenance, and care of door closers for hinged-leaf doors:

- architects and planners must request and observe the necessary product information,
- ▶ specialist dealers and manufacturers must observe the product information and information in the price lists, and especially request all necessary instructions and pass them on to the customer, installer or end user
- manufacturers must observe product information and pass it on to the customers and users.

GEZE PERLAN 120

Sliding door hardware

Product features

- ▶ 4 high quality precision ball bearings.
- ► Triple pendulum suspension for best possible load distribution.
- ► Special track geometry for precision action, no lateral contact.
- ► Rubber bearings for door hangers.
- ▶ 4 damper rings prevent transmission of roller noise to door panel.
- ► Channel rail, anodized light alloy, hanger bolts and nuts stainless steel.
- ► Outdoor installation possible.
- ► Internally mounted, sealed ball bearings.
- ► Large diameter rollers.
- ▶ Low overall height.
- ► Vertical and lateral adjustment.
- ► Wall-attachment angles designed for lateral adjustment.
- ► Channel rail can be fine-adjusted after installation.
- ► Multiple pendulum bearing system automatically compensates for alignment errors.

Range of applications

- ► For all single-leaf and double-leaf sliding doors.
- ► For all door materials, e. g. wood, metal and glass.
- ► Wall and ceiling mounting.
- ► For doors weighing up to 120 kg per leaf.

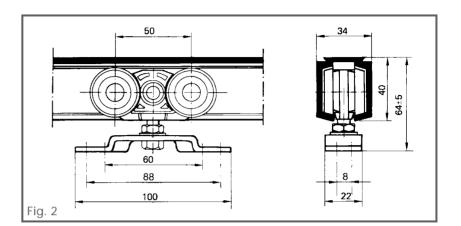
Standard hardware

Channel rail for ceiling and wall attachment, with angles, 2 carriages with hanger bolts, 2 carrier plates, 1 floor guide, 2 in-rail buffers with 1 door stop.

Special versions

All parts available as single items.
The channel rail is available ex-stock in 6 m legths for wider door.
Quantities required are as follows:

- ► Rail length 6 m,
- ► Angles 14 pcs.





PERLAN 120

PERLAN 120

GEZE PERLAN 120

Sliding door hardware

Standard installation

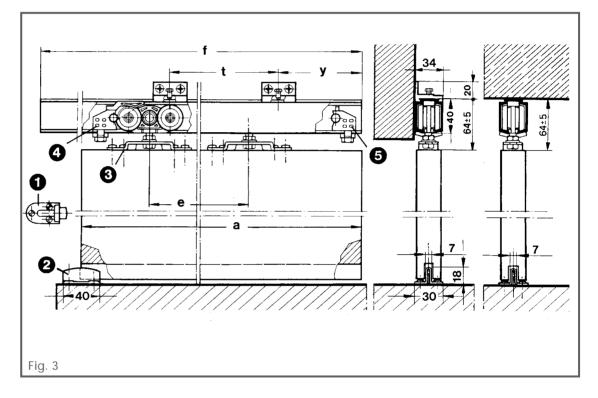
Fig. 3 shows how the **GEZE** *PERLAN 120* is installed to carry a single-leaf sliding door.

- Buffer with base (optional)
- Floor guide
- Carrier plate
- Door stop, adjustable (Hold open spring, detachable)
- **6** Buffer, adjustable

The angles allow the hardware to be fixed directly to the wall or to the ceiling (hole pitch: 175 mm)

Important

Removable panels must be installed to permit access to wall recesses.



Standard sizes (mm) Leaf width a travel c a=c	Length of channel rail	Carrier-plate pitch e	No. of wall- attachment angles	Angle pitch approx.	V	
510- 700	1250	360	4	360	85	
710- 900	1650	560	4	450	150	
910-1100	2050	760	5	450	125	
1110-1300	2450	960	6	450	100	
1310-1500	2850	1160	7	450	75	
1510-1700	3250	1360	8	450	50	

GEZE PERLAN 120

Sliding door hardware

Standard installation for unframed glass doors

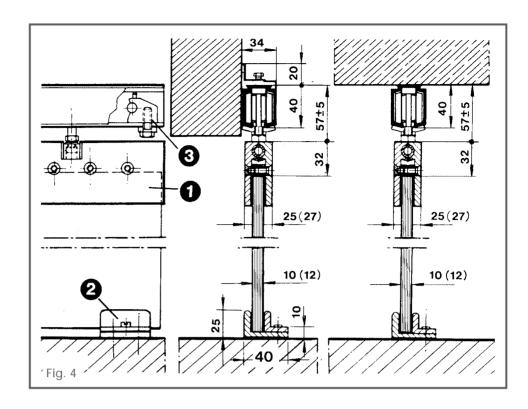
Fig. 4 illustrates the installation of the **GEZE** *PERLAN 120*:

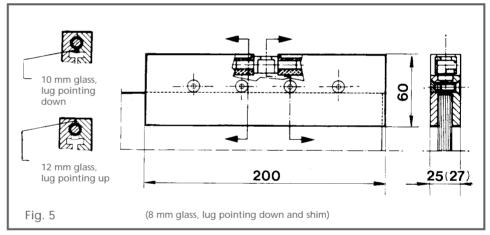
- Clamping plate (see Fig. 4, 5)
- 2 Floor guide (see Fig. 4, 6)
- Buffer, adjustable (see Fig. 4)

A second buffer must be installed either on a level with the horizontal centreline of the door or at the bottom in such a way that the door leaf is stopped simultaneously at the top and bottom.

Important

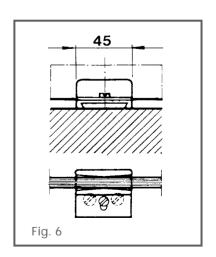
The hardware may only be used for single-pane security-glazed doors.





Standard dimensions (mm)						
Leaf width	Length of					
a max. (mm)	channel rail I					
630	1250					
830	1650					
1030	2050					
1230	2450					
1430	2850					
1630	3250					

Carrier-plate pitch = a - 196 mm



GEZE PERLAN 120

Sliding door hardware

Installation of Unframed glass door with GEZE PERLAN 120

Specification text

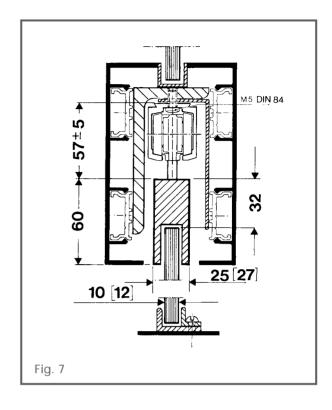
GEZE *PERLAN 120* sliding door hardware leaf width ... cm

GEZE *PERLAN 120* sliding door hardware for unframed glass door, leaf width ... cm

Accessories

Set of parts for unframed glass door								
Description Material Id. No.								
Clamping plate (2 pieces)								
with accessories	LA matt	064347						
Floor guide	plastic, light	013622						

Text for placing orders								
Description	Leaf width (cm)	Id. No.						
GEZE Perlan 120	50- 70	064269						
sliding door hardware	71- 90	064270						
complete	91-110	064272						
with accessories	111-130	064273						
	131-150	064274						
	151-170	064275						



PERLAN 120

ROLLAN

GEZE ROLLAN 40/70

Sliding door hardware

Product features

- ➤ Simple, trouble-free installation.
- ▶ Quiet operation.
- ► Closed aluminium rail.
- ► Double-roller carriage with plastic bridge and rollers.
- Universal hardware system.
- Parts corrosionprotected.

GEZE ROLLAN 40

- ► Carriage, yellow.
- ► Maintenance-free plain bearings.
- ➤ Suitable for leaf weights up to max. 40 kg.

GEZE ROLLAN 70

- ► Carriage grey.
- ► Maintenance-free needle roller bearings.
- ➤ Suitable for leaf weights up to max. 70 kg.

Range of application

- Single-leaf and double-leaf sliding doors.
- ► Wall and ceiling attachment.
- ► Wall and ceiling clearances adjustable.

Standard hardware

Channel rail for ceiling and wall attachment, with angles,

- 2 carriages with hanger bolts,
- 2 carrier plates,
- 1 floor guide,
- 2 in-rail-buffers

(Rollan 70: 1 in-railbuffer and 1 buffer with door-stop spring.)

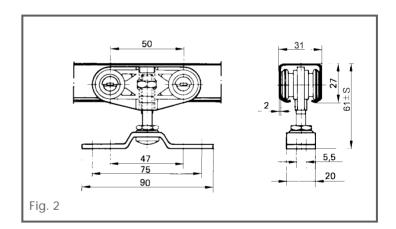
Special versions

Versions for lightweight folding doors and accordion doors on request.

The channel rail is available ex-stock in lengths of 6 m for wider doors and for special versions for leaf weights up to max. 70 kg.

The quantities required are: Rail length 6 m, Mounting angles or plates 18 pcs.





40/70

GEZE ROLLAN 40/70

Sliding door hardware

Standard installation

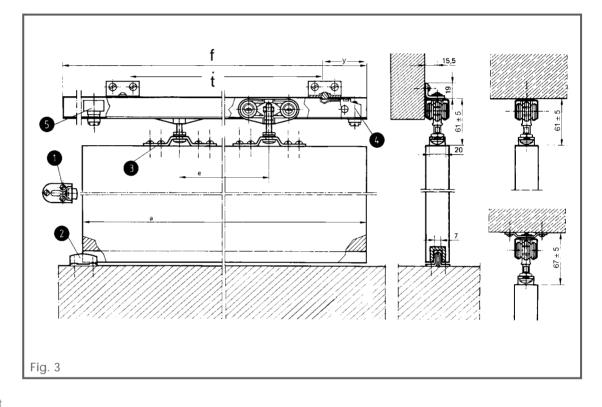
Fig. 3 shows how the **GEZE** *ROLLAN* 40/70 is installed to carry a single-leaf wooden sliding door:

- Buffer with base (optional)
- Floor guide
- Carrier plate
- Door stop, adjustable* (Hold open spring, detachable)
- Buffer, adjustable * optional extra with * Rollan 40

The angles allow the hardware to be fixed directly to the wall or ceiling.

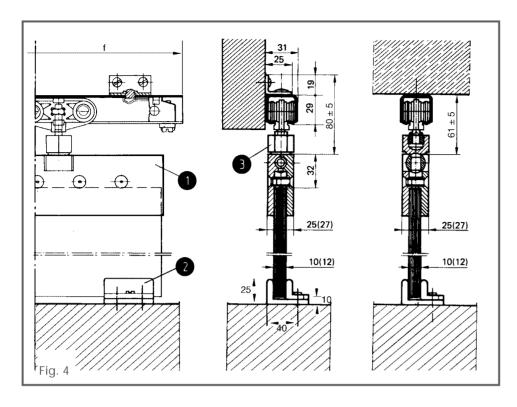
Important

Removable panels must be installed to permit access to wall recesses.



Standard sizes (mm)						
Leaf width a travel c	Length of	Carrier-plate pitch	No. of wall-	Angle pitch		
a=c	channel rail		attachment			
	f	е	angles			
510- 700	1150	320	4	350		
710- 900	1650	450	4	450		
810-1000	1800	520	5	400		
910-1100	1900	570	5	450		
1100-1300	2350	700	6	450		
1310-1500	2800	900	7	450		
1510-1700	3250	1100	8	450		

Leaf widths greater than 1510 mm: 3 carrier plates, pitch e/2



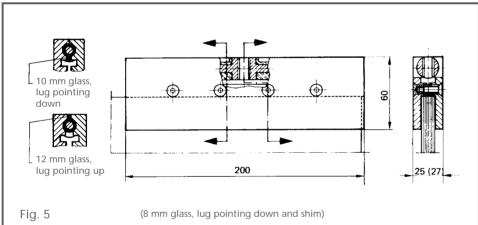
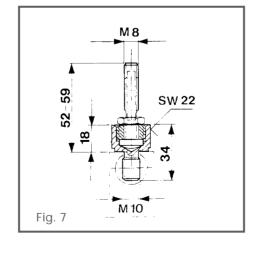


Fig. 6



GEZE ROLLAN 40/70

Sliding door hardware

Standard installation for unframed glass doors

GEZE *ROLLAN 70* Fig. 4 shows the *ROLLAN 70* carrying an unframed glass door:

- Clamping plate (see Fig. 4, 5)
- 2 Floor guide (see Fig. 4, 6)
- 3 Coupler, adjustable (see Fig. 4, 7)

A second buffer must be installed at the level of the horizontal centreline of the door or at the bottom so that the door is stopped simultaneously at the top and bottom.

Standard dimensions	(mm)
Leaf width	Length of
a max. (mm)	rail I (mm)
570	1150
820	1650
945	1900
1170	2350
1395	2800
1620	3250

Carrier pitch = a-196 mm

ROLLAN 40/70

GEZE ROLLAN 40/70

Sliding door hardware

Specification text

GEZE *ROLLAN 40* sliding door hardware, leaf width ... cm

GEZE *ROLLAN 70* sliding door hardware, leaf width ... cm

GEZE *ROLLAN 70* sliding door hardware for unframed glass door, leaf width ... cm

Accessories

Set of parts for unframed glass door							
Description	ld. No.						
Coupler (2 pieces)	steel, galv.	026432					
Clamping plate (2 pieces)							
with accessories	LA (matt)	013620					
Floor guide	plastic, light	013622					

Text for placing orders		
Description	Leaf width (cm)	ld. No.
GEZE ROLLAN 40	51- 70	055232
sliding door hardware	71- 90	055233
complete	81-100	055234
with accessories	91-110	055235
	111-130	055236
	131-150	055237
	151-170	055297
GEZE ROLLAN 70	51- 70	055263
sliding door hardware	71- 90	055264
complete	81-100	055265
with accessories	91-110	055266
	111-130	055267
	131-150	055268
	151-170	055302

GEZE *PERKEO 75, sizes 1, 2, 3*

Sliding door hardware

Product features

- ► Complete unit consisting of carrier rail and track, cage and ball bearings.
- Low friction value.
- ► Compact design.
- Swivel-mounted carrier plates.

Range of application

- ► For all sliding doors.
- ► For all door materials.
- ► Wall and ceiling attachment.
- ► For high loads
 - Size 1:
 - 100 or 140 kg*
 - Size 2:
 - 150 or 190 kg*
 - Size 3:
 - 200 or 250 kg*
- ➤ Carrier plates are swivel mounted, so hardware also suitable for inclined walls and ceilings. (see Fig. 2)
- * 3 pcs. for leaves wider than 1500 mm

Standard hardware

Sliding door hardware, complete with buffers, hanger bolts, carrier plates, attachment angles, floor guide.

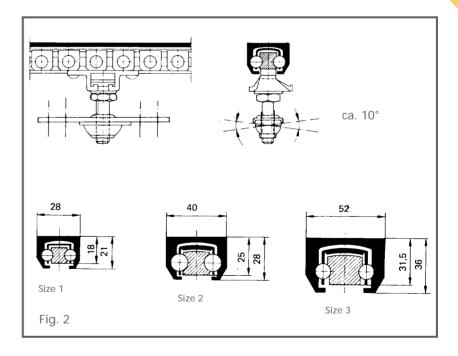
Size 1: carrier rail and track galvanized Size 2 and 3: steel, polished

Special version

For a wide range of applications in the mechanical engineering, plant engineering, automotive and shipbuilding industries.



(Fig. showing size 1)



GEZE *PERKEO 75, sizes 1, 2, 3*

Sliding door hardware

Standard installation

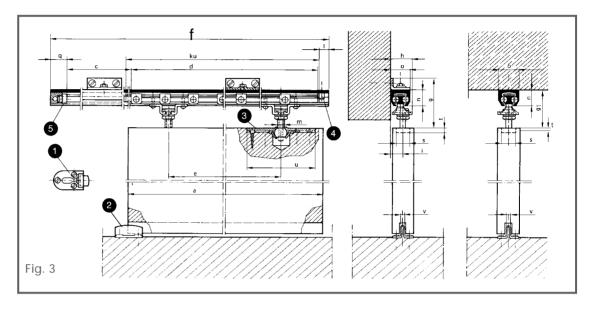
Fig. 3 shows how the **GEZE** *PERKEO* 75 is installed to carry a single-leaf, wooden sliding door:

- Buffer with base
- Floor guide
- 3 Carrier plate, swivelling
- Limit stop (standard)
- **5** Rubber buffer (on request)

The hardware is delivered with limit stops as standard. It can be fixed to the wall with attachment angles, or directly to the ceiling. A second buffer must be installed on a level with the horizontal centreline of the door or at the bottom so that the door leaf is stopped simultaneously at the top and bottom.

Important

Removable panels must be installed to permit access to wall recesses.



Standard sizes (mm)									
Leaf width a	Lengtl	n of	Lengtl	n of	Carrier pitch e	weigh	weight		
travel c	carrier	rail f	track d			max.	max. kg		
a=c	S. 1	S.2-3	S. 1	S. 2-3	S. 1-3	S. 1	S. 2	S. 3	
310- 400	740	-	310	-	210	100	-	-	
410- 500	892	-	362	-	260	100	-	-	
510- 600	1078	1090	448	450	320	100	150	-	
610- 700	1230	1240	500	500	350	100	150	200	
710- 800	1365	1390	535	550	390	100	150	200	
810- 900	1517	1540	587	600	440	100	150	200	
910-1000	1686	1690	656	650	490	100	150	200	
1010-1100	1821	1840	691	700	530	100	150	200	
1110-1200	2041	2040	811	800	630	100	150	200	
1210-1300	2176	2190	846	850	680	100	150	200	
1310-1400	2345	2360	915	920	740	100	150	200	
1410-1500	2497	2510	967	970	790	100	150	200	
1510-1600	2649	2660	1019	1020	840	140	190	250	
1610-1700	2835	2840	1105	1100	900	140	190	250	
1710-1800	2987	3000	1157	1160	960	140	190	250	
1810-1900	3173	3190	1243	1250	1050	140	190	250	
1910-2000	3325	3340	1295	1300	1100	140	190	250	

(3 suspension rods with e/2 pitch for leaves wider than 1500 mm)

GEZE PE	GEZE <i>PERKEO</i> 75, sizes 1, 2, 3												
Hard-		Range of adjustment (mm) Installation sizes (mm)											
ware	Wall att	achment	Ceiling attach-]									
size	lateral	vertical	ment vertical										
	i	g	g1	h	- 1	m	n	0	q	S	t	u	V
1	12-22	63-076	48-61	31	15	M10	21	28	24	21	5,5	100	7
2	16-28	83-098	63-78	-	20	M12	28	40	33	26	5	150	7
3	19-37	96-111	71-86	-	20	M12	36	52	42	26	5	150	7

PERKEO 75

GEZE PERKEO 75, sizes 1, 2, 3

Sliding door hardware

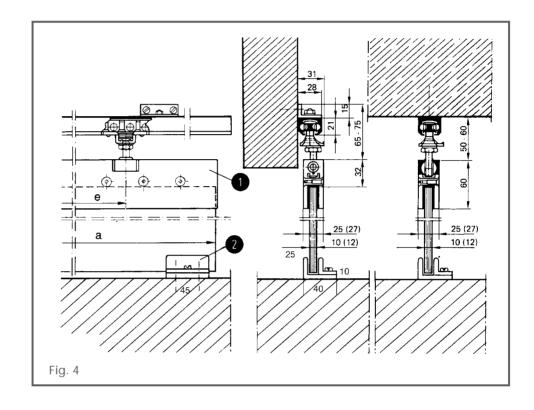
Standard installation for unframed glass doors

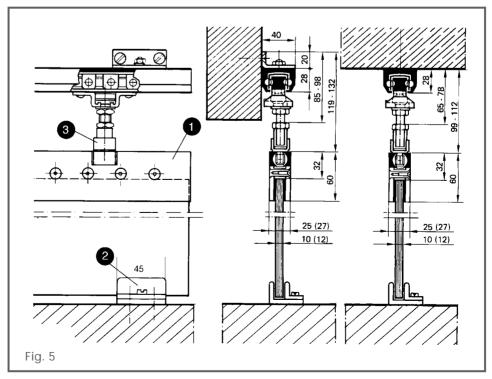
PERKEO 75, size 1, see Fig. 4
PERKEO 75, size 2, see Fig. 5
The illustrations on this page show the PERKEO 75 carrying an unframed glass door:

- Clamping plate (see Fig. 4, 5, 6)
- 2 Floor guide, adjustable (see Fig. 4, 5, 7)
- ❸ Coupler (see Fig. 5, 8) for PERKEO 75, size 2.

The dimensions which are not the same as the standard sizes are stated in the illustrations.

- a = Leaf width
- e = Carrier pitch
 - = a-196 mm

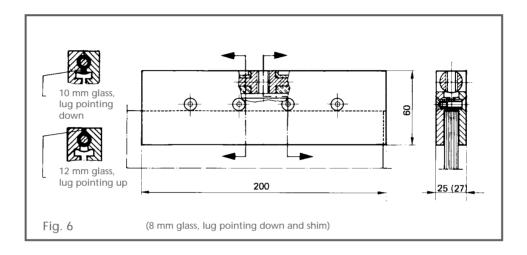


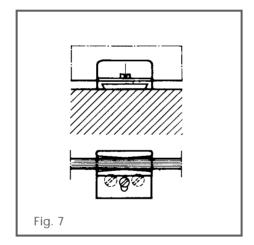


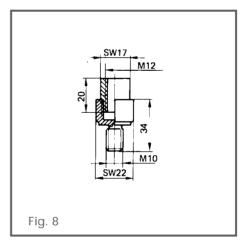
sizes 1, 2, 3

GEZE *PERKEO* 75, sizes 1, 2, 3

Sliding door hardware







PERKEO 75

GEZE *PERKEO 75, sizes 1, 2, 3*

Sliding door hardware

Specification text

GEZE PERKEO 75

sliding-door ball-bearing hardware for wall and ceiling attachment, leaf width ... cm, leaf weight ... kg, hardware size ..., travel ... cm, finish size 1: carrier rail and track galvanized, finish sizes 2 and 3: steel, polished (galvanized to customer specification).

Accessories

Set of parts for unframed glass door							
Hardware type	Description	Material	ld. No.				
PERKEO 75, size 1	Clamping plate with acc. (2 pcs.)*	LA, matt	013620				
	Floor guide	plastic, light	013622				
PERKEO 75, size 2	Clamping plate with acc. (2 pcs.)*		013620				
	Floor guide	plastic, light	013622				
	Coupler (2 pcs.)*	steel, polished	026446				

^{* 3} pcs. for leaves wider than 1500 mm

Text for placing orders						
Description	Leaf width (cm)	ld.	ld. No.			
		Size 1	Size 2	Size 3		
GEZE PERKEO 75	31- 40	014338	-	-		
sliding door hardware,	41- 50	014339	-	-		
standard	51- 60	014340	014340	-		
	61- 70	014341	014341	014341		
	71- 80	014342	014342	014342		
	81- 90	014343	014343	014343		
	91-100	014344	014344	014344		
	101-110	014345	014345	014345		
	111-120	014346	014346	014346		
	121-130	014347	014347	014347		
	131-140	014348	014348	014348		
	141-150	014349	014349	014349		
	151-160	014350	014350	014350		
	161-170	014351	014351	014351		
	171-180	014352	014352	014352		
	181-190	014353	014353	014353		
	191-200	014354	014354	014354		

GEZE PERKEO 75, Type 14 / Type 14a

Sliding door hardware

Product features

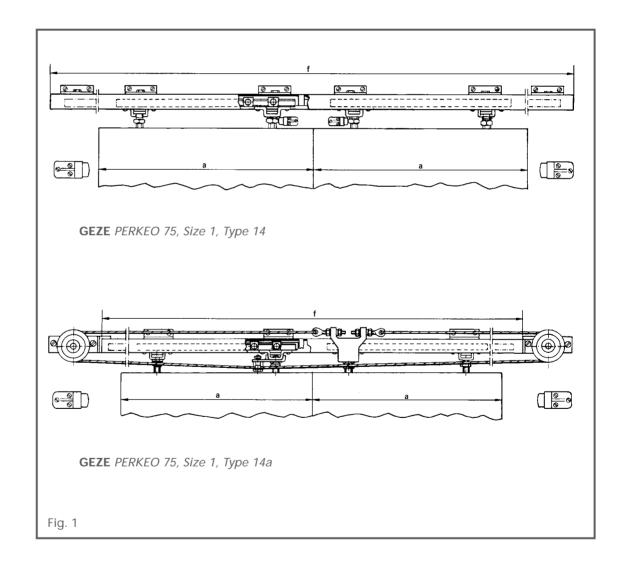
- ► Two tracks fixed inside a carrier rail.
- ► Type 14: without wire-rope coupling.
- ► Type 14a: with wire-rope coupling.

Range of applications

- ► For double-leaf doors.
- ➤ Weight of each leaf up to 75 kg.
- ► Type 14: wall and ceiling attachment
- ► Type 14a: wall attachment

Important:

Removable panels must be installed to permit access to wall recesses.



PERKEO 75

GEZE PERKEO 75, type 14 / type 14a

Sliding door hardware

Specification text

GEZE PERKEO 75, size 1, type 14, sliding door hardware for wall attachment (or ceiling attachment). Leaf width ... cm, Door weight ... kg (each leaf) Travel ... cm (each leaf) Material ...

GEZE PERKEO 75, size 1, type 14a, sliding door hardware for wall attachment Leaf width ... cm, Door weight ... kg (each leaf) Travel ... cm (each leaf) Material ...

Text for placing orders

Description

GEZE PERKEO 75, Size 1, Type 14, width of each leaf ... cm,

wall and ceiling attachment

GEZE PERKEO 75, Size 1, Type 14a,

with wire-rope coupling

for double-leaf doors, wall attachment

Sliding door hardware

Product features

- ➤ Complete unit, consisting of carrier rail and track, cage and ball bearings.
- ► Low friction.
- ► Compact design.
- ► Swivelling carrier plates (size 1-3).
- ➤ Steel polished; galvanized finish to customer specification.

Range of application

- ► For all sliding doors.
- ► For all door materials, e. g. wood, metal, unframed glass.
- ▶ Wall attachment.
- ► Ceiling attachment to specification.
- ► For high loads: Size 1:
 - 75 or 100 kg*
 - Size 2:
 - 100 or 140 kg* Size 3:
 - 160 or 240 kg*
 - Size 4:
 - 240 or 360 kg*
- ► With swivelling carrier plates (sizes 1-3) the system can also be used for inclined walls or ceilings

(see Fig. 2)

* 3 pcs. for leaves

wider than 1500 mm

Standard hardware

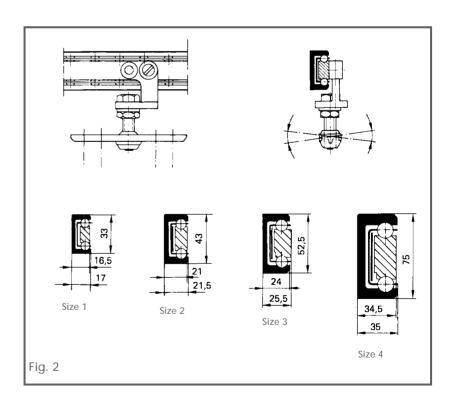
Sliding door hardware complete with buffers, hanger bolts, carrier plates, floor guide, polished steel.

Special version

Available for a wide range of applications in the mechanical engineering, plant engineering and automotive industries: please state intended use.



(Fig. showing size 1)





Sliding door hardware

Standard installation

Fig. 3 shows how the **GEZE** *PERKEO* is installed to carry a single-leaf, wooden sliding door:

- Buffer with base
- Floor guide
- **3** Carrier plate, swivelling (2 pcs.)
- 4 Limit stop
- **5** Rubber buffer (on request)

The hardware may be fixed directly to the wall or to the ceiling with the aid of attachment angles.

Fig. 3

A second buffer must be installed on a level with the horizontal centreline of the door or at the bottom, so that the door leaf is stopped simultaneously at the top and bottom.

Important:

Removable panels must be installed to permit access to wall recesses.

Size	Wall attachm	re 1, 2, 3, 4	Ceiling atta	chment										
	lateral	vertical												
	I	g	g1	g2	h	<u> </u>	m	n	0	q	S	t	u	V
1	13-24	59- 75	72- 88	45	34	15	M10	33	17	18	21	5,5	100	7
2	15-24	70- 78	87- 95	60	37	18,5	M12	43	21,5	25	26	5	150	7
3	18-30	84- 92	110-180	80	44	18,5	M12	52,5	24	25	26	5	150	7
	31-40	113-133	140-160	100	57	18	M16	75	35	32	30	8	175	_

Standard sizes (mm)									
Leaf width a	Lengtl	n of	Lengt	h of	Carrier pitch e	Door	weigh	t	
Travel c	carrie	rail f	track	d		max.	kg		
a=c	S. 1	S.2-4	S. 1	S. 2-4	S. 1-4	S. 1	S. 2	S. 3	S. 4
310- 400	740	-	310	-	210	75	-	-	-
410- 500	892	-	362	-	260	75	-	-	-
510- 600	1078	1090	448	450	320	75	100	-	-
610- 700	1230	1240	500	500	350	75	100	160	240
710- 800	1365	1390	535	550	390	75	100	160	240
810- 900	1517	1540	587	600	440	75	100	160	240
910-1000	1686	1690	656	650	490	75	100	160	240
1010-1100	1821	1840	691	700	530	75	100	160	240
1110-1200	2041	2040	811	800	630	75	100	160	240
1210-1300	2176	2190	846	850	680	75	100	160	240
1310-1400	2345	2360	915	920	740	75	100	160	240
1410-1500	2497	2510	967	970	790	75	100	160	240
1510-1600	2649	2660	1019	1020	840	100	140	240	360
1610-1700	2835	2840	1105	1100	900	100	140	240	360
1710-1800	2987	3000	1157	1160	960	100	140	240	360
1810-1900	3173	3190	1243	1250	1050	100	140	240	360
1910-2000	3325	3340	1295	1300	1100	100	140	240	360

GEZE PERKEO, sizes 1, 2, 3, 4

Sliding door hardware

Specification text

GEZE PERKEO

sliding door hardware for wall attachment (or ceiling attachment). Leaf width ... cm, Door weight ... kg, Hardware size ..., Travel ... cm, Material polished steel; (galv. to customers spec.)

Accessories

Ceiling attachment angles, separate leaf widths up to 140 cm, 5 pcs. leaf widths up to 200 cm, 7 pcs.

Text for placing orders					
Description	Leaf width (cm)				
GEZE PERKEO	31- 40				
sliding door hardware,	41- 50				
standard	51- 60				
	61- 70				
	71- 80				
	81- 90				
	91-100				
	101-110				
	111-120				
	121-130				
	131-140				
	141-150				
	151-160				
	161-170				
	171-180				
	181-190				
	191-200				

PERKEO



GEZE APOLL





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Subject to change without notice Contents 12.94



Product information for Sliding Door Gear

In accordance with the definition of the liability of manufacturers for their products set out in paragraph 4 of the "Produkthaftungsgesetz" (German manufacturer's liability law), the following information on sliding door gear should be observed. Failure to do so absolves the manufacturer from liability.

Product information and use in accordance with intended purpose Sliding door gear, according to this definition, are fittings for doors and other pushable elements, henceforth called objects, which are not normally moved faster than walking pace. Sliding door gear is used in vertically fitted doors made of wood, plastic, glass, aluminium or steel and appropriate combinations of these materials. A floor guide is provided at the lower horizontal edge of the door. Special versions of products must be specified for damp rooms, direct exposure to the elements, exposure to cross winds, for installation near the sea and in highly corrosive conditions. Correct installation by qualified personnel is a particularly important aspect of use for intended purpose. The fitting must be firmly attached to the object at the points provided for the purpose. The object must be sufficiently rigid at all of these points. The function of the gear must not be hindered or altered by installation. A buffer must be used in order to limit the displacement path.

Misuse

Misuse - in other words use in a manner not in accordance with the intended purpose - can be said to occur in the following cases in particular:

- if the gear is used with a higher max. load than specified in the catalogue and in the other product documents,
- if incorrectly installed or attached,
- if ambient temperatures are too high or too low,
- if particularly aggressive media can affect the gear,
- if subjected to inordinately great pushing or pulling loads,

- if the position of the track deviates too greatly from the horizontal,
- if foreign bodies get into the track,
- if the rollers are operated too fast,
- if alterations are carried out without the manufacturer's authorization.
- if obstacles are placed in the opening or between the door or the object thereby preventing intended use.
- if additional loads act upon the door or object,
- if someone is trapped between the door and the door frame while the door is being pushed or closed, or if a person or part of the body is in this area.

Product performance

In cases where the performance of the product is not specifically described in the catalogues, brochures, instructions etc., special requirements must be discussed with and agreed by the manufacturer. Our regulations, which affect the composition of the sliding door gear, are binding.

Product maintenance

Components of sliding door gear which are relevant to safety must be regularly inspected for proper fixing and signs of wear. Fixing screws are to be retightened and faulty components must be replaced. In addition, the following maintenance work must be carried out at least once a year:

- All moving parts are to be tested for free movement.
- In the case of running carriages with metal rollers, the moving parts must be greased (type of grease to be used on request). Plastic rollers must not be greased.
- Only use cleaning agents which do not impair the anti-corrosion protection of the gear.
- Faulty sliding door gears must be replaced.
- Adjustment work on the gears and the replacement of the same must be carried out by qualified personnel.

Duty of information and instruction

The following sources of information are available to planners, specialist dealers, administrative personnel, building contractors and users by way of fulfillment of the duty of information and instruction:

- catalogues, brochures
- descriptions of tender, descriptions of offer
- mounting drawings, installation drawings (standard drawings)
- maintenance and operating instructions.

In order to ensure correct use, proper functioning and maintenance and care of sliding door gear,

- architects and planners must request and apply the necessary product information,
- specialist dealers must take account of the product information and notes in the price list, and in particular must request all necessary instructions and pass these on to the installation personnel,
- installation personnel must take account of all product information, and in particular must request operating and maintenance instructions and pass these on to the ordering party and the user.

Application for similar fittings

Sliding gear with horizontally installed objects, e.g., drawer guides or gear with vertical runner tracks must be handled according to their respective characteristics with the respect to product information, use for intended purpose, misuse, product performance, product maintenance and servicing, and duty of information and instruction.



Sizes 0,1,2

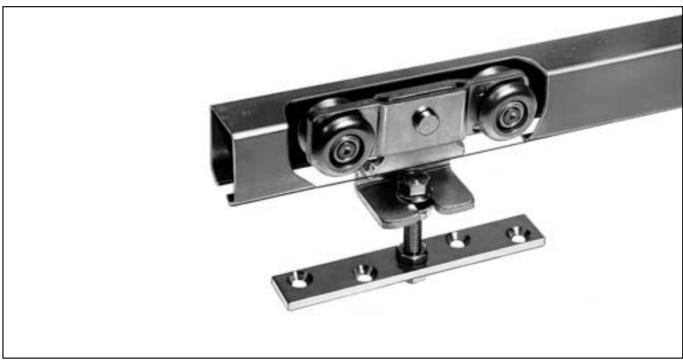


Fig. 1 (Size shown 0)

Product features

- ► Enclosed tubular track
- ► Prismatic troughs
- ► Tempered rollers with ball bearings
- ► Movable hangers
- ➤ 3 sizes

Range of applications

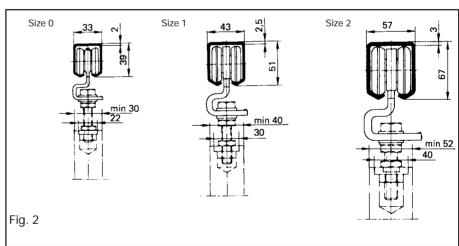
- ► For all sliding doors
- ► For all door materials
- ► For side and soffit-fixing
- For conveying and shifting systemsAs mounting aids for trade and
- As mounting aids for trade and industrial applications
- ► For heavy loads, see table

Load-bearing capacity of track with 700 mm bracket spacing:

Size 0 150 kg/m Size 1 350 kg/m Size 2 600 kg/m

Standard version/Delivery

Galvanized steel track, other components galvanized



			Load-bearing cap	
GEZE Apoll	Rollers		Permissible door weight	Roller load
	Number	Material	sliding doors	conveyors*
	cinale	steel	75	50
Size 0	single	plastic	50	25
3126 0	double	steel	150	100
	double	plastic	100	50
	cinalo	steel	175	100
Size 1	single	plastic	100	50
SIZE I	مامییامام	steel	350	200
	double	plastic	200	100
	ماسماء	steel	300	200
Size 2	single	_	_	_
SIZE Z	مامییامام	steel	600	300
	double	_	-	_
*) Central suspended	l load			

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Application methods

When installing a sliding door, it is essential that stability and static and dynamic equilibrium are assured. The height-to-width ratio, and the resulting different hanging points and fittings, such as door plates or edge-fixing hangers, is therefore decisive.

At a width-to-height ratio greater than 1, it is recommended to move the hanging point 0.2 x W towards the middle of the door (fig. 1).

At a width-to-height ratio less than 1, it is best to select edge-fixing hangers, -41, especially for very narrow doors (fig. 2).

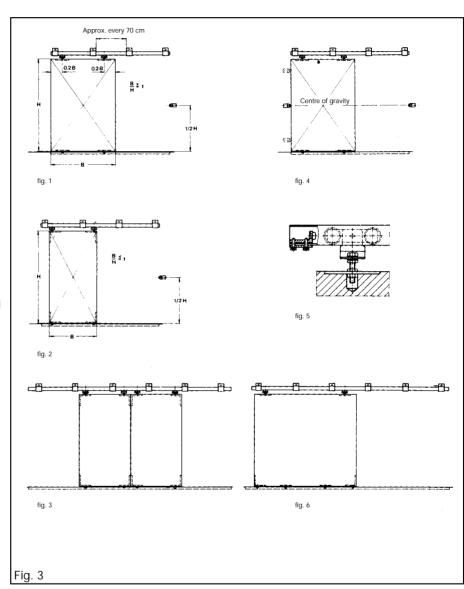
With 2-leaf or multi-leaf door units, edge-fixing hangers, -42, which prevent the rollers from colliding, should be used (fig. 3).

The door stop -3 (fig. 5) is not intended for door stopping, but only as a mounting aid and safety device when installing the sliding door. When the door is in service a wall-fixed door stop, -66, must be positioned at the centre of gravity of the door to stop it. Two wall-fixed stops, -66, are also possible (fig. 4).

Door stops centered or at 2 points.

The flat-plate guide roller, -50, can be used for all door guides, irrespective of which overhead hanger is selected. However, an edge-fixing guide roller, -51, -52, will be stronger (fig. 6).

With straight-in opening sliding doors the position of the floor guides is independent of the fixing point of the overhead hangers.

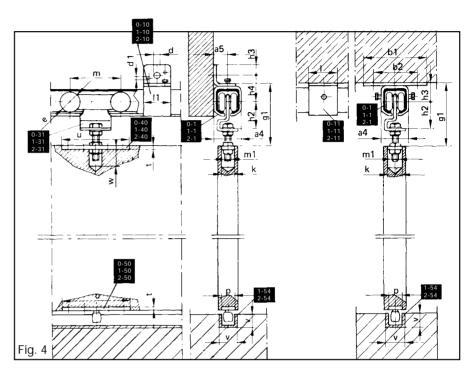




Installation optionsUnless otherwise indicated, the dimensions given in all the following tables on pages 3-35 are in millimetres.

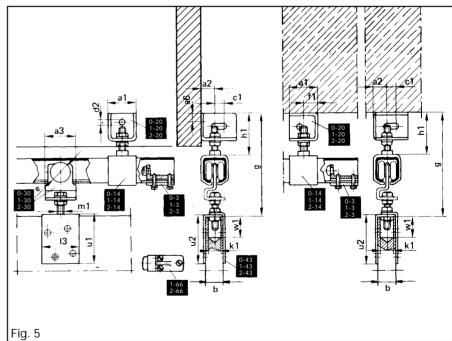
Side and soffit-fixing with bracket, door with door plate, see fig. 4

acci min ac	o. plato,	occing. I	
	Size 0	Size 1	Size 2
a4	41	52,5	70
a5	20,5	26,5	35
b1	100	135	170
b2	70	91	114
b2 d d1 e g1 h2	9	13	15
d1	6,4	9	11
е	32	42	56
g1	89-112	116-139	149-177
ĥ2	41,5	53	71
h3 side-fixing	15	18	24,5
h3 soffit-fixing	29	38	48,5
h4	43	55,5	72,5
<u>k</u> 	Ø 22	Ø 24	Ø 30
	45	65	85
I 1	45	65	95
m	80	114	140
<u>m1</u>	M 10	M 12	M16
р	22	30	40
<u>t</u>	5	6	8
p t u v	110	180	220
V	20	20	30
W	35	45	53



Side and soffit-fixing with console, door with edge-fixing, see fig. 5

	Size 0	Size 1	Size 2
a1 side-fixing	45	64	90
a1 soffit-fixing	45	49	80
<u>a2</u>	20,5	26,5	35
<u>a3</u>	50	65	85
a6	15	24	40
b 22- c1			
<u>c1</u>	max. 14	max. 20	max. 30
d2 e f1	11	13	17
e	32	42	56
<u>f1</u>	22,5	25	40
g side-fixing	152-190	190-227	255-306
g soffit-fixing	152-190	205-242	<u> 265-316</u>
h1 side-fixing	62-78	69-97	105-135
h1 soffit-fixing	62-78	84-112	115-145
k1	Ø 22	Ø 30	Ø 35
13	60	80	100
<u>m1</u>	M 10	M 12	M 16
<u>u1</u>	80	128	160
		115	
u2	80	73	80
		60	
<u>w1</u>	35	35	48

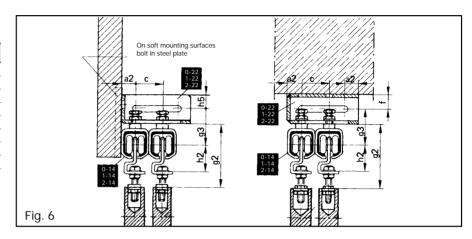


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Installation options

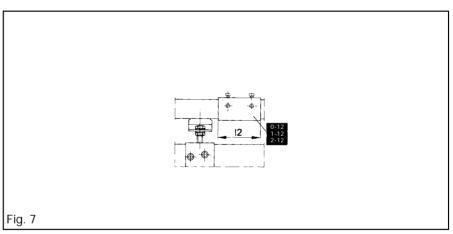
Side and soffit-fixing for double console, see fig. 6

	Size 0	Size 1	Size 2
a2	20,5	26,5	35
С	max.69	max.85	max.130
f	22,5	32	45
g2	92-115	120-143,5	155-183
g3 side-fixing	55	67,5	94,5
g3 soffit-fixing	54,5	74,5	99,5
h2	41,5	53	71
h5	22,5	24	40



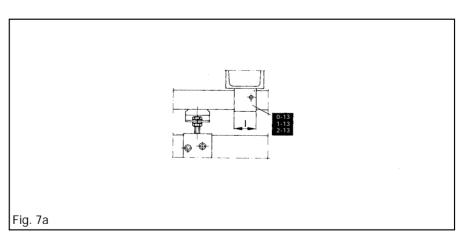
Joint bracket see fig. 7

	Size 0	Size 1	Size 2
12	90	130	180



Welding bracket see fig. 7a

Size 0	Size 1	Size 2
45	65	85

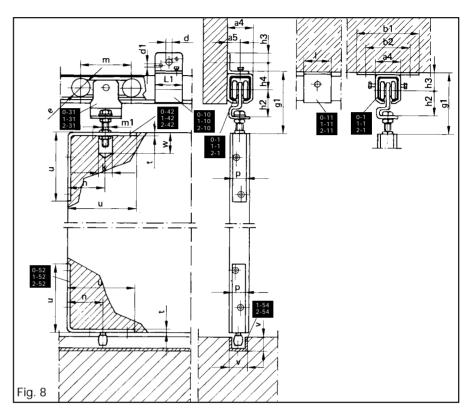




Installation options

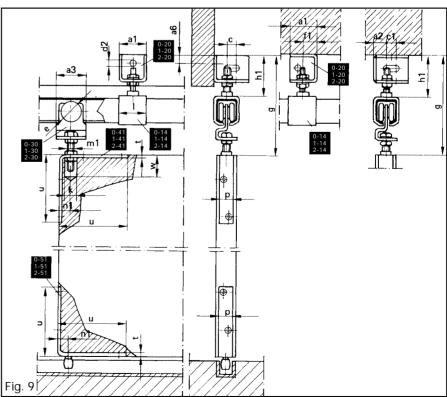
Side and soffit-fixing with bracket, door with edge-fixing hanger, see fig. 8

see lig. o			
	Size 0	Size 1	Size 2
a4	41	52,5	70
a5	20,5	26,5	35
b1	100	135	170
b2 d	70	91	114
d	9	13	15
d1 e g1	6,4	9	11
<u>e</u>	32	42	56
g1	89-112	116-139	149-177
h2	41,5	53	71
h3 side-fixing	15	18	24,5
h3 soffit-fixing	29	38	48,5
h4	43	55,5	72,5
k	Ø 22	Ø 24	Ø 30
<u> </u>	45	65	85
<u>l1</u>	45	65	95
m	80	114	140
<u>m1</u>	M 10	M 12	M16
<u>n</u>	60	90	
р	22	30	
<u>p</u> t	5	6	
u	110	180	
V	20	20	30
W	35	45	



Side and soffit-fixing with console, door with edge-fixing hanger, see fig. 9

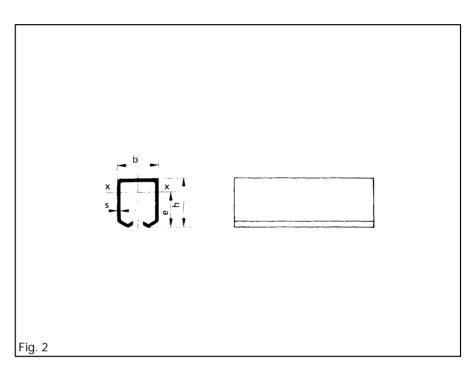
	Size 0	Size 1	Size 2
a1 side-fixing	45	64	90
a1 soffit-fixing	45	49	80
a2	20,5	26,5	35
<u>a3</u>	50	65	85
<u>a6</u>	15	24	40
<u>c</u> <u>c1</u>	14	20	30
<u>c1</u>	14	20	30
d2	11	13	17
<u>e</u> f1	32	42	56
f1	22,5	25	40
g side-fixing	146-186	180-231	248-306
g soffit-fixing	146-186	195-246	258-316
h1 side-fixing	62-78	69-97	105-135
h1 soffit-fixing	62-78	84-112	115-145
k1	Ø 22	Ø 24	Ø 30
	45	65	85
<u>m1</u>	M 10	M 12	M 16
<u>n1</u>	18	20	30
р	22	30	40
t	5	6	8
u	110	180	220
W	35	45	53



Tracks

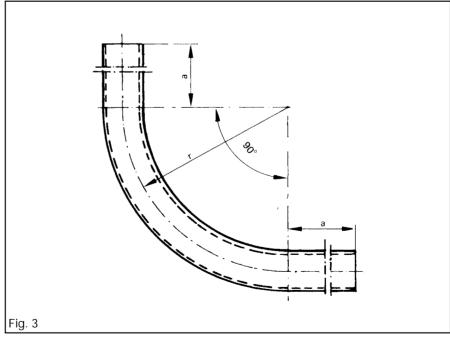
Track, see fig. 2

	Size 0	Size 1	Size 2
Des.	0-1	1-1	2-1
b	33	43	57
h	39	51	67
S	2	2,5	3,5
W _x cm ³	2,30	4,63	10,62
e cm	2,16	2,85	3,73
kg/m	1,9	2,02	5,72
Load capacity			
with 700 mm	bracket		
spacing	150 kg	350 kg	600 kg
ld. No. (6 m)	025769	018015	018014
<u> </u>			



Track curve, see fig. 3

	Size 0	Size 1	Size 2
Des.	0-2	1-2	2-2
а	200	200	300
r	700	800	1000
S	2	2,5	3,5
kg (weight)	2,85	4,53	12,4
Straight length	า 1500	1660	2170
ld. No.	054769	054771	054773

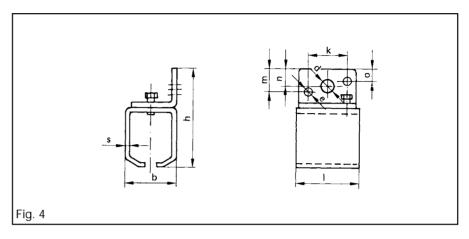




Brackets

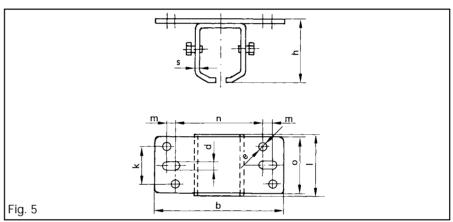
Side-fixing bracket, see fig. 4

	Size 0	Size 1	Size 2
Des.	0-10	1-10	2-10
b	41	52,5	70
h	80	100,5	135
l	45	65	95
S	2	2,5	3,5
n	15	18	24,5
m	20	23	29,5
0	10	13	19,5
k	25	40	60
d	9	13	15
е	6,4	9	11
kg (weight)	0,3	0,6	1,4
ld. No.	020701	012686	011554



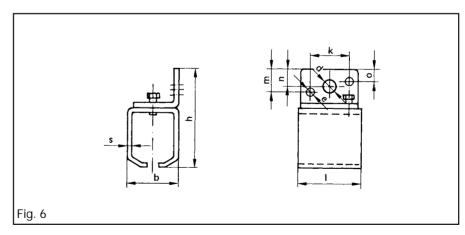
Soffit-fixing bracket, see fig. 5

	Size 0	Size 1	Size 2
Des.	0-11	1-11	2-11
b	100	135	170
h	50,5	66	86,5
l	45	65	85
0	45	60	90
S	3,5	4	6
n	70	91	114
m	-	10	10
k	25	40	60
d	Ø 9	13	15
е	6,4	9	11
kg (weight)	0,3	0,6	1,4
ld. No.	023286	012691	012119



Joint bracket, see fig. 6

	Size 0	Size 1	Size 2
Des.	0-12	1-12	2-12
b	41	53,5	70
h	47	60,5	80,5
I	90	130	180
S	3,5	4	6
kg (weight)	0,4	0,9	2,1
ld. No.	024004	012694	012306

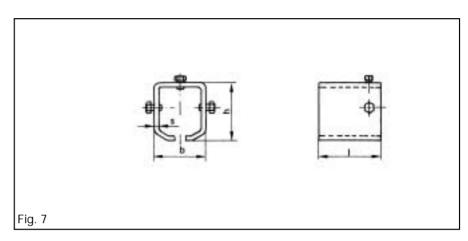


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Brackets

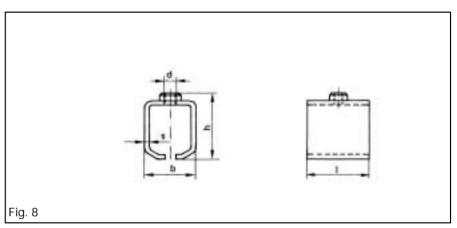
Welding bracket, see fig. 7

	Size 0	Size 1	Size 2
Des.	0-13	1-13	2-13
b	41	52,5	70
h	47	60,5	80,5
	45	65	85
S	3,5	4	6
kg (weight)	0,2	0,5	1
ld. No.	024093	012697	06965



Bracket for vertical/lateral adjustment, see fig. 8

	Size 0	Size 1	Size 2
Des.	0-13	1-13	2-13
b	41	52,5	70
h	50,5	64,5	86
l	45	65	85
S	3,5	4	6
d	M 10	M 12	M 16
kg (weight)	0,2	0,5	1
ld. No.	024126	013097	007197





Consoles for vertical and lateral adjustment with bracket for vertical and lateral adjustment:

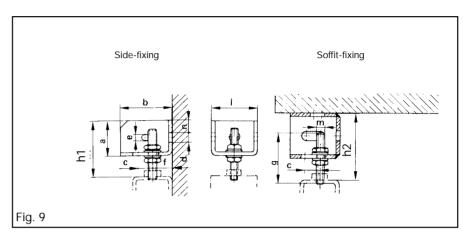
0-14

1-14

2-14

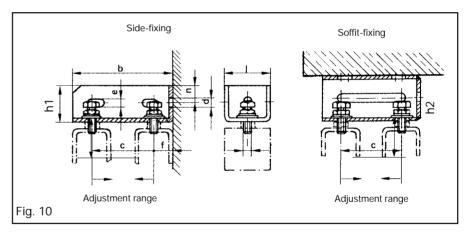
Single console for lateral and vertical adjustment, see fig. 9

	Size 0	Size 1	Size 2
Des.	0-20	1-20	2-20
h1	62-78	69-97	105-135
h2	62-78	84-112	115-145
h3	48,5	54,5	
h4	48,5	68,5	
а	45	50	80
b	55	70	100
I	45	64	90
n	15	24	40
d	11	13	17
е	11	9	11
g	50	70	80
m	M 10	M 12	M 16
f	20,5	26,5	35
Adjustment range c	14	20	30
kg (weight)	0,3	0,5	1,3
ld. No.	024325	013772	007205



Double console for lateral and vertical adjustment, see fig. 10

	Size 0	Size 1	Size 2
Des.	0-21	1-21	2-21
h1	62-78	69-97	105-135
h2	62-78	84-112	115-145
a	45	50	80
b	110	138	90
1	45	64	200
n	15	24	40
d	11	13	17
е	11	9	11
g	50	70	80
m	M 10	M 12	M 16
f	20,5	26,5	130
Adjustment range c	28	31,5	60
kg (weight)	0,4	0,8	2,5
ld. No.	024402	013997	007261



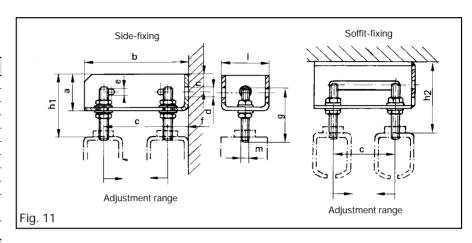
Consoles for vertical and lateral adjustment with bracket for vertical and lateral adjustment:

0–14 1–14

2-14

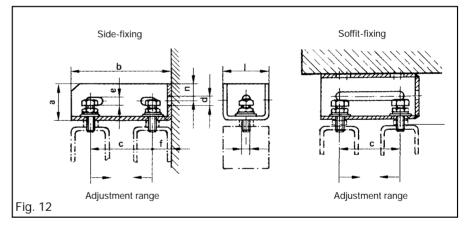
Single console for lateral adjustment, see fig. 11

	Size 0	Size 1	Size 2
Des.	0-23	1-23	2-23
а	45	50	80
1	45	64	90
b	55	70	100
n	15	24	40
d	11	13	17
e f	11	9	11
f	20,5	26,5	35
m	M 10	M 12	M 16
Adjustment range	14	20	30
kg (weight)	0,3	0,5	1,3
Id. No.	051857	051858	051859



Double console for lateral adjustment, see fig. 12

	Size 0	Size 1	Size 2
Des.	0-22	1-22	2-22
a	45	50	80
I	45	64	80
b	110	138	200
n	15	24	40
d	11	13	17
<u>e</u> f	11	9	11
f	20,5	26,5	35
С	69	85	130
m	M 10	M 12	M 16
Adjustment range	28	31,5	60
kg (weight)	0,4	0,8	2,5
Id. No.	024582	014048	007264





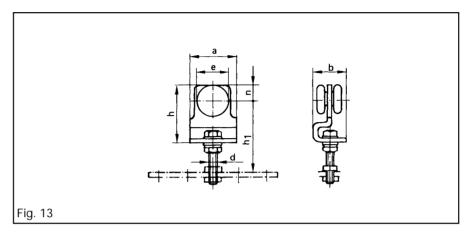
Rollers

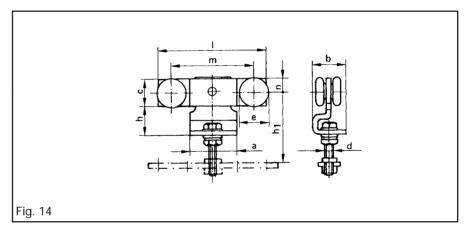
Single roller, steel or plastic*, see fig. 13

	Size 0	Size 1	Size 2
Des.	0-30	1-30	2-30
Des.*	0-36*	1-36*	
а	50	65	85
b	35	48	68
h	58	80	104
n	13	21	25
е	32	42	56
d	M 10	M 12	M 16
h1	60-83	78-101	101-129
kg (weight)	0,2	0,6	1,4
Max. load	50 kg	100 kg	200 kg
Max. load.*	25 kg	50 kg	-
ld. No.	016264	012468	008426
ld. No.*	054045	054050	-

Double roller, steel or plastic* see fig. 14

Size 0	Size 1	Size 2
0-31	1-31	2-3
0-37*	1-37*	
50	65	85
35	48	68
100	150	190
80	114	140
32	42	56
26	37	48
32	42	56
M 10	M 12	M 16
13	20	25
60-83	78-101	101-129
0,5	1,2	2,7
100 kg	200 kg	300 kg
50 kg	100 kg	
017274	012651	009484
054046	054051	-
	0-31 0-37* 50 35 100 80 32 26 32 M 10 13 60-83 0,5 100 kg 50 kg	0-31 1-31 0-37* 1-37* 50 65 35 48 100 150 80 114 32 42 26 37 32 42 M 10 M 12 13 20 60-83 78-101 0,5 1,2 100 kg 50 kg 100 kg 017274 012651

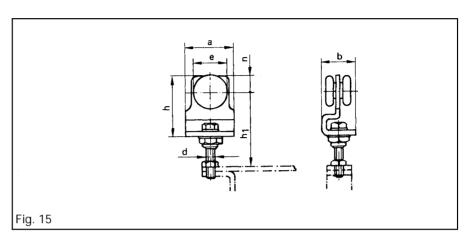




Rollers with pivot bearing

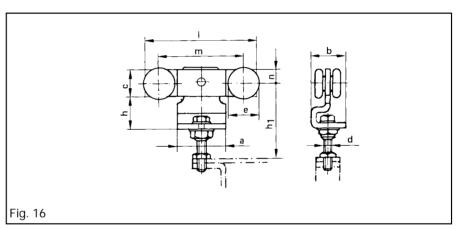
Single roller with pivot bearing, see fig. 15

	Size 0	Size 1	Size 2
Des.	0-32	1-32	2-32
а	50	65	85
b	35	48	68
h	58	80	104
n	13	21	25
е	32	42	56
d	M 10	M 12	M 16
h1	66-83	83-101	106-129
kg (weight)	0,27	0,68	1,5
Max. load	50 kg	100 kg	200 kg
ld. No.	050996	051021	049961



Double roller with pivot bearing, see fig. 16

	Size 0	Size 1	Size 2
Des.	0-33	1-33	2-33
а	50	65	85
b	35	48	68
I	100	150	190
m	80	114	140
h	32	42	56
С	26	37	48
e	32	42	56
d	M 10	M 12	M 16
n	13	20	25
h1	66-83	83-101	106-129
kg (weight)	0,57	1,28	2,8
Max. load	100 kg	200 kg	300 kg
ld. No.	050997	049950	049962





Door plates and edge-fixing hangers

Door plate, see fig. 17

	Size 0	St. 1	St. 2
Des.	0-40	1-40	2-40
I	110	180	220
а	22	30	40
S	5	6	8
d	M 10	M 12	M 16
e	6,4	8,4	8,4
No. of fixing ho	les 4	4	6
kg (weight)	0,1	0,2	0,5
ld. No.	018431	012658	010890

Double-sided hanger, see fig. 18

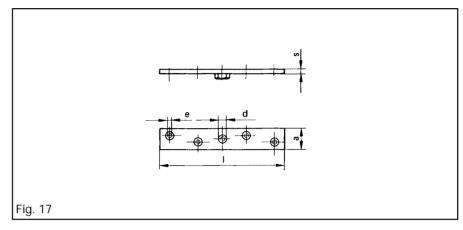
Size 0 Size 1 Size 2				
Des.	0-43	1-43/1	1-43/2	2-43
a	60	80	80	100
b	22-37	30-46	44-60	50-75
I	80	128	115	160
С	80	73	60	80
d	M 10	M 12	M 12	M 16
е	6,5	8,5	8,5	8,5
kg (weight)	0,2	0,6	0,6	1,13
Id. No. 019138012947012946051318				

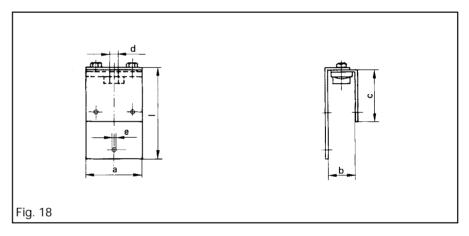
Edge-fixing hanger Pivot point 18, 20, 30 mm, see fig. 19

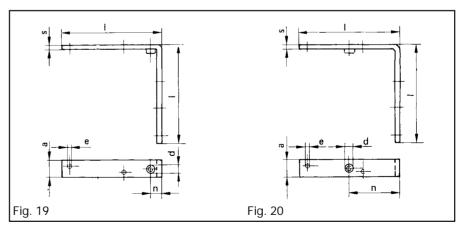
	· ·		
	Size 0	Size 1	Size 2
Des.	0-41	1-41	2-41
1	110	180	220
a	22	30	40
S	5	6	8
n	18	20	30
d	M 10	M 12	M 16
e	6,4	8,4	8,4
No. of fixing ho	oles 4	6	8
kg (weight)	0,2	0,5	1
ld. No.	018801	012661	011094

Edge-fixing hanger Pivot point 60, 90, 100 mm, see fig. 20

•		•	0
	Size 0	Size 1	Size 2
Des.	0-42	1-42	2-42
1	110	180	220
a	22	30	40
S	5	6	8
n	18	20	100
d	M 10	M 12	M 16
e	6,4	8,4	8,4
No. of fixing ho	les 4	6	8
kg (weight)	0,2	0,5	1
ld. No.	019019	012663	011133







Floor guide rollers and floor channel

Flat-plate guide roller,

see fig. 21

	Size 0	Size 1	Size 2
Des.	0-50	1-50	2-50
1	110	180	220
а	22	30	40
S	5	6	8
d	Ø 15,5	Ø 15,5	Ø 22
е	6,4	8,4	8,4
No. of fixing ho	les 4	4	6
kg (weight)	0,11	0,3	0,5
ld. No.	019884	012665	011139

Floor channel, see fig. 22

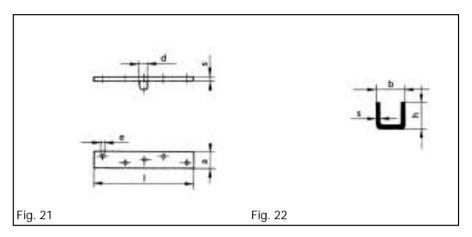
	Size 1	Size 2
Des.	1-54	2-54
b h	20	30
h	20	30
S	1,5	2,5
kg/m	0,5	1,95
Id. No. (6 m) 051649	051654

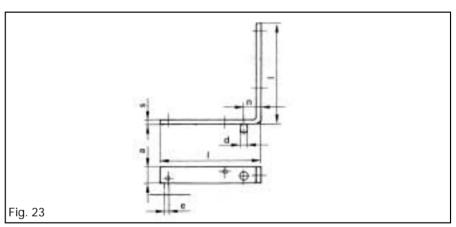
Floor guide roller Pivot point 18, 20, 30 mm, see fig. 23

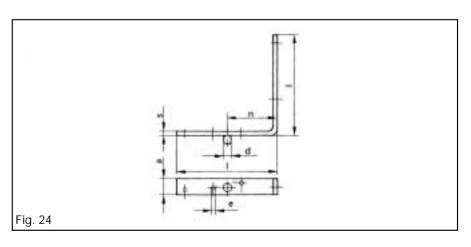
	Size 0	Size 1	Size 2
Des.	0-51	1-51	2-51
I	110	180	220
a	22	30	40
S	5	6	8
n	18	20	30
d	Ø 15,5	Ø 15,5	Ø 22
е	6,4	8,4	8,4
No. of fixing h	oles 4	6	8
kg (weight)	0,2	0,5	1
ld. No.	020404	012670	011354

Floor guide roller Pivot point 16, 90, 100 mm, see fig. 24

	Size 0	Size 1	Size 2
Des.	0-52	1-52	2-52
l	110	180	220
a	22	30	40
S	5	6	8
n	60	90	100
d	Ø 15,5	Ø 15,5	Ø 22
е	6,4	8,4	8,4
No. of fixing ho	oles 4	6	8
kg (weight)	0,2	0,5	1
Id. No.	020522	012672	011514









Curved floor channel and accessories

Curved floor channel, see fig. 25

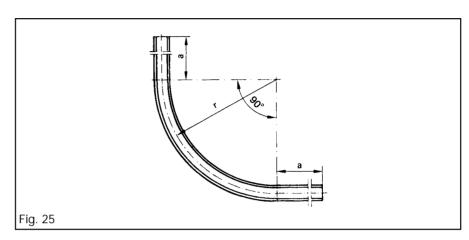
	Size 0		Size 2	
Des.	0-55	1-55	2-55	
а	200	200	300	
r	700	800	1000	
kg (weight)	0,90	1660	2170	
Straight length	า 1500	1660	2170	
ld. No.	054770	054772	054774	

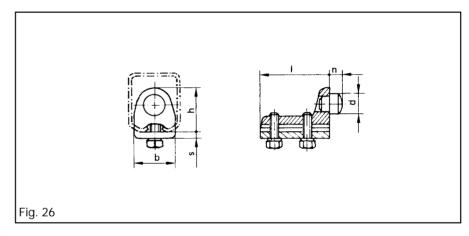
Door stop, see fig. 26

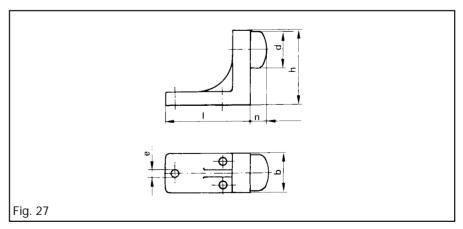
	Size 0	Size 1	Size 2
Des.	0-3	1-3	2-3
b	30	35	50
]	46	61	88
h	28,5	39	51
S	5	6	8
n	6	9,5	12
d	Ø 14	Ø 18	Ø 30
kg (weight)	0,1	0,3	0,8
ld. No.	024689	014440	007371

Wall-fixed door stop, see fig. 27

		- 3	
	Size 1	Size 2	
Des.	1-66	2-66	
1	58	87	
b	26	36	
<u>b</u> h	47	62	
d	Ø 24	Ø 30	
n	10,5	12	
e	5	6	
kg (weight)	0,15	0,36	
ld. No.	000339	000342	







Subject to change without notice GEZE APOLL 12.94

Specification text

Tubular sliding door gear GEZE APOLL, size 0 (1, 2) Door weight kg, No. of leaves, Leaf size, Track length, For side-fixing (or soffit-fixing) Double roller (or single roller) Door plate (edge-fixing hanger), floor guide, door stop and wall-fixed door stop

Note:

The fittings are identified by numbers. The numbering is based on the following system:

The number before the dash indicates the fitting size, the number after the dash the part number.

That is to say, the number after the dash is the specific part identifier.
The number before the dash changes according to the fitting size.

Examples:

1–10 = GEZE APOLL size 1 –
Side-fixing bracket (no. 10)
2–10 = GEZE APOLL size 2 –
Soffit-fixing bracket (no. 10)

Text for placing orders

Track, galvanized steel -1	Designation	1	Fitting no.	Size 0	ld. No. Size 1	Size 2
Bearing length 6 m				SIZE U	SIZE I	3126 2
Cut to size			-1	0057/0	040045	
Track curve, galvanized steel Radius 700 mm 0-2 054769 - - - Radius 800 mm 1-2 - 054771 - Radius 1000 mm 2-2 - - 054773 Radius 1000 mm 2-2 - - 054773 Door stop Brackets and consoles -3 024689 014440 007371 Side-fixing bracket -10 020701 012686 011554 Soffit-fixing bracket -11 023286 012691 012119 Joint bracket -11 023286 012691 012119 Joint bracket -12 024004 012694 012306 Welding bracket -13 024093 012697 - Bracket for vertical and lateral adjustment -14 024126 013097 007197 Single console for vertical and lateral adjustment -20 024325 013772 - Double console for vertical and lateral adjustment -21 024402 013997 - Single console for lateral adjustment -23 051857 051858 - Double console for lateral adjustment -22 024582 014048 - Rollers -30 016268 012468 008426 Single roller, steel -30 016268 012468 008426 Single roller, plastic -36 054045 054050 - Double roller, plastic -37 054046 054051 - Single roller with pivot bearing ') -32 050996 051021 049961 Double roller with pivot bearing ') -33 050997 049950 049962 Pivot bearing Pivot point 18 mm 0-41 018801 - - Double for lot hickness 22-37 mm 0-43 019138 - - Double for door thickness 30-46 mm 1-42 - 012661 - Double for door thickness 30-46 mm 1-43/1 - 012947 -	Bearing leng	jth 6 m				
Radius 700 mm 0-2 054769 - - Radius 800 mm 1-2 - 054771 - Radius 1000 mm 2-2 - - 054773 Door stop -3 024689 014440 007371 Brackets and consoles				051506	0514/3	051472
Curve 90° Radius 800 mm Radius 1000 mm 1-2 - 054771 - Door stop Brackets and consoles -3 024689 014440 007371 Side-fixing bracket -10 020701 012686 011554 Soffit-fixing bracket -11 023286 012691 012119 Joint bracket -12 024004 012694 012306 Welding bracket -13 024093 012697 - Bracket for vertical and lateral adjustment -14 024126 013097 007197 Bracket for vertical and lateral adjustment -20 024325 013772 - Bracket for vertical and lateral adjustment -20 024402 013097 007197 Single console for vertical and lateral adjustment -20 024402 013997 - Single console for lateral adjustment -23 051857 051858 - Double console for lateral adjustment -23 051857 051858 - Broughler steel -30 016268 012468	Track curve					
Radius 1000 mm 2-2	_			054769		
Door stop Brackets and consoles Side-fixing bracket Soffit-fixing bra	Curve 90°			_	054771	
Side-fixing bracket		Radius 1000 mm	2–2	-	_	054773
Side-fixing bracket			-3	024689	014440	007371
Soffit-fixing bracket						
Joint bracket						
Welding bracket						
Bracket for vertical and lateral adjustment -14 024126 013097 007197						012306
Adjustment Single console for vertical and lateral adjustment -20 024325 013772 -			-13	024093	012697	
Single console for vertical and lateral adjustment -20 024325 013772 -		vertical and lateral	-14	024126	013097	007197
Double console for vertical and lateral adjustment	· · , · · · · · ·					
Double console for vertical and lateral adjustment		ole for vertical and lateral	-20	024325	013772	_
Adjustment Single console for lateral adjustment -23 051857 051858 -						
Single console for lateral adjustment		sole for vertical and lateral	-21	024402	013997	_
Double console for lateral adjustment						
Single roller, steel						
Single roller, steel -30 016268 012468 008426 Single roller, plastic -36 054045 054050 - Double roller, steel -31 017274 012651 009484 Double roller, plastic -37 054046 054051 - Single roller with pivot bearing *) -32 050996 051021 049961 Double roller with pivot bearing *) -33 050997 049950 049962 Pivot bearing -34 050998 049951 049963 Door plates and edge-fixing hangers -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - - hanger Pivot point 60 mm 0-42 019019 - - - Pivot point 20 mm 1-41 - 012661 - Pivot point 90 mm 1-42 - 012663 - Double- for door thickness 22-37 mm 0-43 019138 - - <t< td=""><td></td><td>sole for lateral adjustment</td><td>-22</td><td>024582</td><td>014048</td><td></td></t<>		sole for lateral adjustment	-22	024582	014048	
Single roller, plastic -36 054045 054050 - Double roller, steel -31 017274 012651 009484 Double roller, plastic -37 054046 054051 - Single roller with pivot bearing *) -32 050996 051021 049961 Double roller with pivot bearing *) -33 050997 049950 049962 Pivot bearing -34 050998 049951 049963 Door plates and edge-fixing hangers -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - - hanger Pivot point 60 mm 0-42 019019 - - - Pivot point 20 mm 1-41 - 012661 - Pivot point 90 mm 1-42 - 012663 - Double- for door thickness 22-37 mm 0-43 019138 - - sided for door thickness 30-46 mm 1-43/1 - 012947						
Double roller, steel -31 017274 012651 009484 Double roller, plastic -37 054046 054051 - Single roller with pivot bearing *) -32 050996 051021 049961 Double roller with pivot bearing *) -33 050997 049950 049962 Pivot bearing -34 050998 049951 049963 Door plates and edge-fixing hangers -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - - hanger Pivot point 60 mm 0-42 019019 - - - Pivot point 20 mm 1-41 - 012661 - Pivot point 90 mm 1-42 - 012663 - Double- for door thickness 22-37 mm 0-43 019138 - - sided for door thickness 30-46 mm 1-43/1 - 012947 -						008426
Double roller, plastic -37 054046 054051 - Single roller with pivot bearing *) -32 050996 051021 049961 Double roller with pivot bearing *) -33 050997 049950 049962 Pivot bearing -34 050998 049951 049963 Door plates and edge-fixing hangers -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - - hanger Pivot point 60 mm 0-42 019019 - - - Pivot point 20 mm 1-41 - 012661 - Pivot point 90 mm 1-42 - 012663 - Double- for door thickness 22-37 mm 0-43 019138 - - sided for door thickness 30-46 mm 1-43/1 - 012947 -						
Single roller with pivot bearing *) -32 050996 051021 049961 Double roller with pivot bearing *) -33 050997 049950 049962 Pivot bearing -34 050998 049951 049963 Door plates and edge-fixing hangers -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - - Hanger Pivot point 60 mm 0-42 019019 - - - Pivot point 20 mm 1-41 - 012661 - - Pivot point 90 mm 1-42 - 012663 - Double- for door thickness 22-37 mm 0-43 019138 - - sided for door thickness 30-46 mm 1-43/1 - 012947 -						009484
Double roller with pivot bearing *) -33 050997 049950 049962 Pivot bearing -34 050998 049951 049963 Door plates and edge-fixing hangers Door plate -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - - hanger Pivot point 60 mm 0-42 019019 - - - Pivot point 20 mm 1-41 - 012661 - - Pivot point 90 mm 1-42 - 012663 - Double- sided for door thickness 22-37 mm 0-43 019138 - - sided for door thickness 30-46 mm 1-43/1 - 012947 -						
Pivot bearing -34 050998 049951 049963 Door plates and edge-fixing hangers Door plate -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - - hanger Pivot point 60 mm 0-42 019019 - - - Pivot point 20 mm 1-41 - 012661 - - Pivot point 90 mm 1-42 - 012663 - - Double- sided for door thickness 22-37 mm 0-43 019138 - - - sided for door thickness 30-46 mm 1-43/1 - 012947 -						
Door plates and edge-fixing hangers	Double roller	with pivot bearing *)	-33	050997	049950	049962
Door plate -40 018431 012658 010890 Edge-fixing hanger Pivot point 18 mm 0-41 018801 - - Pivot point 60 mm 0-42 019019 - - Pivot point 20 mm 1-41 - 012661 - Pivot point 90 mm 1-42 - 012663 - Double-sided for door thickness 22-37 mm 0-43 019138 - - sided for door thickness 30-46 mm 1-43/1 - 012947 -			-34	050998	049951	049963
Edge-fixing hanger Pivot point 18 mm 0-41 018801 -		and edge-fixing hangers				
Hanger Pivot point 60 mm 0-42 019019 - Pivot point 20 mm 1-41 - 012661 - - Pivot point 90 mm 1-42 - 012663 - - Double- sided for door thickness 22-37 mm 0-43 019138 - sided for door thickness 30-46 mm 1-43/1 - 012947 -	Door plate		-40	018431	012658	010890
Pivot point 20 mm 1-41 - 012661 - Pivot point 90 mm 1-42 - 012663 - Double- sided for door thickness 22-37 mm 0-43 019138 - - - for door thickness 30-46 mm 1-43/1 - 012947 -	Edge-fixing	Pivot point 18 mm	0-41	018801	_	_
Pivot point 90 mm 1-42 - 012663 - Double- sided for door thickness 22-37 mm 0-43 019138 - - 1-43/1 - 012947 -	hanger	Pivot point 60 mm	0-42	019019	_	_
Double- for door thickness 22-37 mm 0-43 019138 - - sided for door thickness 30-46 mm 1-43/1 - 012947 -		Pivot point 20 mm	1–41	-	012661	_
sided for door thickness 30-46 mm 1-43/1 - 012947 -		Pivot point 90 mm	1–42	_	012663	_
	Double-	for door thickness 22–37 mm	0-43	019138	-	_
	sided	for door thickness 30–46 mm	1-43/1	_	012947	
hanger for door thickness 44-60 mm 1-43/2 - 012946 -	hanger	for door thickness 44–60 mm	1-43/2	_	012946	_
for door thickness 50–75 mm 2–43 – – 051318		for door thickness 50–75 mm	2-43	-	-	051318

 $[\]mbox{\ensuremath{^{*}}}\xspace)$ For sliding doors with curved track the rollers with pivot bearings should be used.0



Text for placing orders

Designation	1	Fitting		ld. No.	
		no.	Size 0	Size 1	Size 2
Floor guide					
Flat-plate gi	uide roller	-50	019884	012665	011139
Edge-	Pivot point 18 mm	0–51	020404	_	_
fixing	Pivot point 60 mm	0-52	020522	_	_
guide	Pivot point 20 mm	1–51	-	012670	_
roller	Pivot point 90 mm	1–52	-	012672	
	Pivot point 30 mm	2-51	_	_	011354
	Pivot point 100 mm	2-54	-	_	011514
Floor chann	el, galvanized	-54			
Bearing leng	gth 6 m		051649	051649	051654
Cut to size		051650	051650	051655	_
Curved floo	or channel				
	Radius 700 mm, blank	0–55	_	054772	
Curve 90°,	Radius 800 mm, blank	1–55	-	054772	_
	Radius 1000 mm,	2-55	-	_	054774
Accessory					
Wall-fixed d	oor stop	-66	000339	000339	000342

Sizes 0, 1, 2

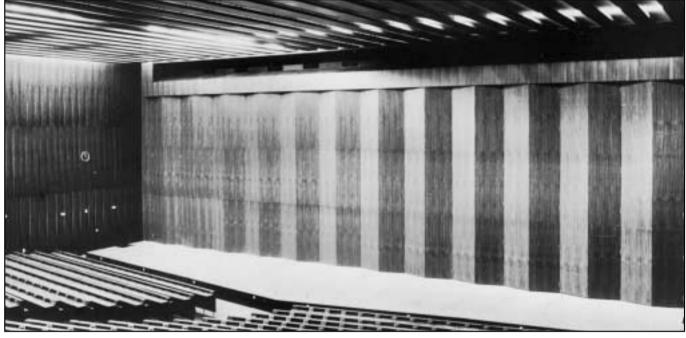


Fig. 1
The Leaves fold out only in one direction.
Because of the eccentric load when the door is folded, a bottom guide roller is essential.

There are three common fitting options: Butt surface-mounted Butt flush-mounted Rebate-mounted.

The roller forms the pivot point on the front face of every second leaf.

A full-height swing leaf is only possible with an odd number of leaves.

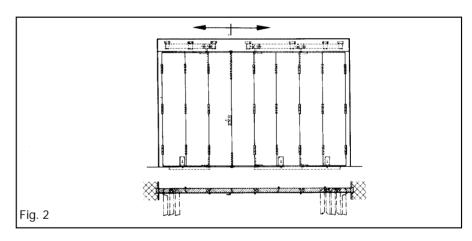
The most usual form of track mounting is by side- or soffit-fixing brackets.

Flush bolts should be fitted to the fold-out side.

The floor guide rollers should be fitted plumb underneath the pivot point of the rollers.

The best leaf widths are between 600 mm and 900 mm.

Use 3 hinges per leaf; for high leaves (≥ 280 cm) 4. Hinges with ball bearings are recommended.



Starting with the end leaf hinged to the jamb, every second leaf is fitted with a roller with pivot bearing and edge-fitting hanger.

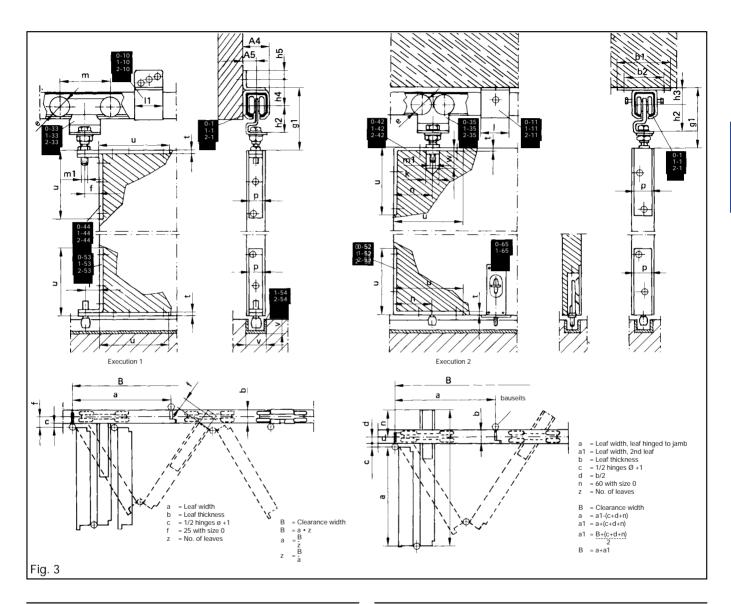
When choosing the track size and the roller, it should be noted that each roller has to take approximately the weight of two leaves.

The use of double rollers is recommended.

In the fold area the brackets for track mounting should be spaced at 350 mm (increased load-bearing).



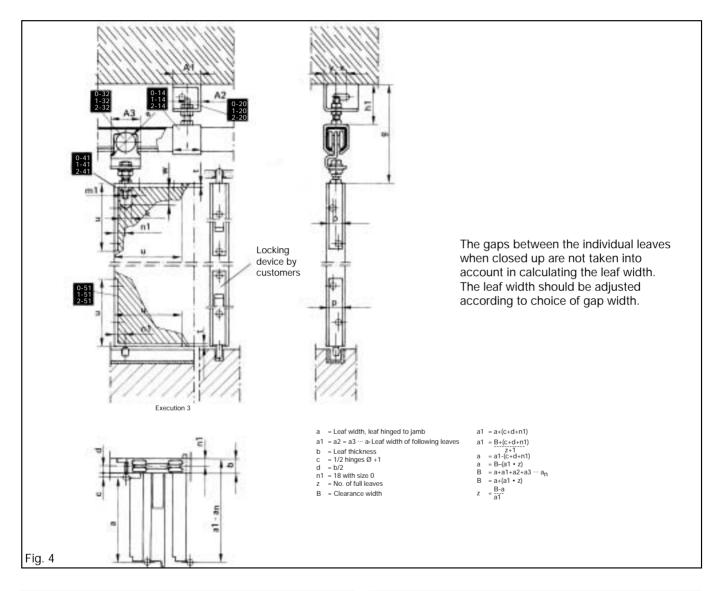
Installation options



	Size 0	Size 1	Size 2
A4	41	52,5	70
A5	20,5	26,5	35
b1	100	135	170
b2	70	91	114
е	32	42	56
f	25	32	39,5
g1	98-111,5	122,5-141,5	157-180,5
h2	41,5	53	71
h3	29	38	48,5
h4	43,5	55,5	72,5
h5	15	18	24,5

	Size 0	Size 1	Size 2
k	Ø 22	Ø 24	Ø 30
I	45	65	85
11	45	65	95
m	80	114	140
m1	M 10	M 12	M 16
n	60	90	100
p	22	30	40
t	5	6	8
u	110	180	220
V	20	20	30
W	35	45	53

Installation options



	Size 0	Size 1	Size 2
A1	45	49	80
A2	22,5	25	40
A3	50	65	85
е	32	42	56
g	156–186,5	202-251	265-319,5
h1	61,5–78,5	84-112	114-145

	Size 0	Size 1	Size 2
k	Ø 22	Ø 24	Ø 30
	45	65	85
lm1	M 10	M 12	M 16
n1	18	20	30
p	22	30	40
t	5	6	8
u	110	180	220
W	35	45	53
X	14	20	30
у	20,5	26,5	35



Installation options

Installation options and examples for end-folding doors

For end-folding doors there are three different methods of fitting:

Butt surface-mounted

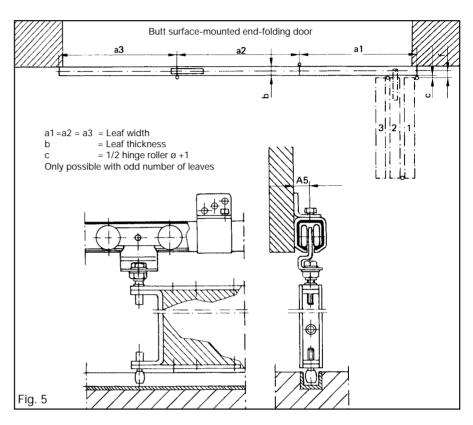
Butt surface-mounted, wall mounting with side-fixing bracket, -10, track, -1, double roller with pivot bearing, -33, edge-fixing hanger for end-folding doors, -44, edge-fixing guide roller for end-folding doors, -53, and flush bolt, -65, floor channel, -54.

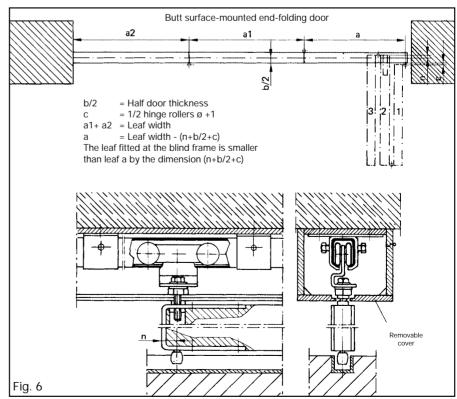
Fitting	Size 0	Size 1	Size 2
Edge-fixing hanger for end-folding			
doors	0 - 44	1-44	2-44
Edge-fixing guide roller for end-			
folding doors	0-53	1–53	2-53
Dimension f	25	32	39,5
Dimension A5	20,5	26,5	35

Butt flush-mounted

Butt flush-mounted, soffit mounting with soffit-fixing bracket, -11, track, -1, double roller with pivot bearing, -33, edge-fixing hanger, -41, floor guide roller, -51, and flush bolt, -65, floor channel, -54.

Fitting	Size 0	Size 1	Size 2
Edge-fixing			
hanger	0-41	1–41	2-41
Floor guide	0-51	1–51	2-51
Dimension n	18	20	30





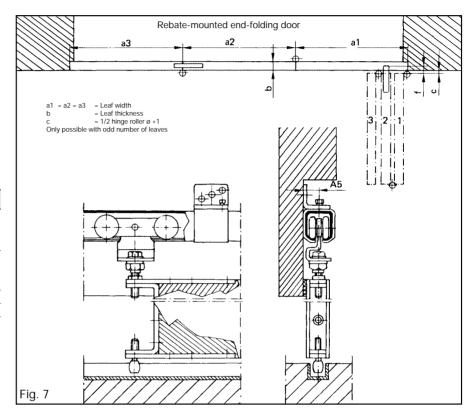
Subject to change without notice GEZE APOLL 12.94

Installation options

Rebate-mounted

Rebate-mounted, wall mounting with side-fixing bracket, -10, track, -1, double roller with pivot bearing, -33, edge-fixing hanger for end-folding doors, -44, edge-fixing guide roller for end-folding doors, -53, and flush bolt, -65, floor channel, -54.

Fitting	Size 0	Size 1	Size 2
Edge-fixing hanger			
for end-folding			
doors	0-44	1-44	2-44
Edge-fixing guide			
roller for end-			
folding doors	0-53	1-53	2-53
Dimension f	25	32	39,5
Dimension A5	20,5	26,5	35



Standard drawings for end-folding doors

Side- and soffit-fixing GEZE APOLL Size 0 No. 10620/0–10

Side-fixing with side-fixing bracket GEZE APOLL Size 1 No. 10621/0–10 GEZE APOLL Size 2 No. 10622/0–10

Soffit-fixing with soffit-fixing bracket GEZE APOLL Size 1 No. 10621/0–11 GEZE APOLL Size 2 No. 10622/0–11

Soffit-fixing with single console for vertical and lateral adjustment GEZE APOLL Size 1 No. 10621/0–12 GEZE APOLL Size 2 No. 10622/0–12



Summary of fittings

2-leaf end-folding door



D 1 11		F					
Designation		Fitting	C' 0	ld. No.	61 0		
		No.	Size 0	Size 1	Size 2		
	twice leaf width						
+ 100 mm, cut t		- 1	051506	051473	051472		
galvanized stee							
1 side-fixing bra		-10	020701	012686	011554		
per 700 mm tra							
	with pivot bearing	-33	050997	049950	049962		
or 1 double rolle	-35	054044	054052	054274			
	with pivot bearing	-32	050996	051021	049961		
1 edge-fixing	Pivot point 18 mm	0-41	018801				
hanger	Pivot point 60 mm	0-42	019019	-			
	Pivot point 20 mm	1-41	_	012661			
	Pivot point 90 mm	1–42	_	012663	- 011004		
	Pivot point 30 mm	2–41 2–42	_	_	011094		
or	Pivot point 100 mm	2-42			011133		
Or 1 odgo fiving ha	anger for end-folding doors	-44	050994	051012	049952		
1 edge-fixing na	Pivot point 18 mm	0-51	020404	031012			
guide roller	Pivot point 60 mm	0-51	020404				
guide roller	Pivot point 20 mm	1-51	-	012670			
	Pivot point 90 mm	1–52		012672			
	Pivot point 30 mm	2–51	_	-	011354		
	Pivot point 100 mm	2–52	_	_	011514		
or					0		
1 edge-fixing gu	uide roller	F2	٥٢٥٥٥٢	051015	040055		
for end-folding		-53	050995	051015	049955		
1 floor channel							
cut to size (leng	th as track),	-54	051650	051650	051655		
galvanized stee	I						
1 flush bolt	82 x 35 mm	0–65	049974	_	-		
	120 x 45 mm	1–65	-	013474	013474		
3 to 4 hinges pe							
ball bearing ring	gs supplied by customer						
For soffit-fixing							
1 soffit-fixing br	-11	023286	012691	012119			
per 700 mm tra	ck length			0.2071			
or							
1 height-adjusta							
per 700 mm tra		-20	024325	013772	007205		
consisting of sir	ngle console		004104	040007	007407		
and bracket		-14	024126	013097	007197		

3-leaf end-folding door

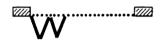


Fittings as for 2-leaf unit, track and floor channel in length for 2-leaf widths, but hinges for 3 leaves

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4-leaf end-folding door: All leaves fold to one side.

Summary of fittings



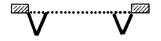
Designation			Fitting No.	Size 0	ld. No. Size 1	Size 2
1 track, len	igth = width of					
	100 mm, cut to size,		- 1	051506	051473	051472
galvanized			•			
	g bracket per					
700 mm tra			-10	020701	012686	011554
	a per 350 mm)					
	ollers with pivot bearing		-33	050997	049950	049962
or						
2 double ro	ollers with p. b., reduced ve	ersion	-35	054044	054052	054274
or	·					
	lers with pivot bearing		-32	050996	051021	049961
2 edge-	Pivot point 18 mm		0-41	018801	-	
fixing	Pivot point 60 mm		0-42	019019	_	_
hangers	Pivot point 20 mm		1–41	_	012661	
	Pivot point 90 mm		1–42	_	012663	
	Pivot point 30 mm		2-41		_	011094
	Pivot point 100 mm		2-42	_	_	011133
or						
	ng guide rollers for end-foldi	ng doors	-44	050994	051012	049952
2 edge-	Pivot point 18 mm		0–51	020404	-	
fixing	Pivot point 60 mm		0–52	020522	-	
guide	Pivot point 20 mm		1–51		012665	
rollers	Pivot point 90 mm		1–52	_	012670	
	Pivot point 30 mm		2-51	_		011354
	Pivot point 100 mm		2-52	_	_	011514
or						
	ng guide rollers		-53	050995	051015	049955
for end-fold						
1 floor cha						
	(length as track),		-54	051650	051650	051655
galvanized	steel					
2 flush bolt	's ————	82 x 35 mm	0–65	049974		
	1	20 x 45 mm	1–65		013474	013474
3 to 4 hing						
with ball be	earing rings supplied by cu	stomer				
For soffit-fi						
1 soffit-fixing bracket			-11	023286	012691	012110
per 700 mr	m track length		1.1	020200	012071	
or						
	djustable soffit-fixing					
	m track length,		-20	024325	013772	007205
	of single console					
and bracke	et		-14	024126	013097	007197



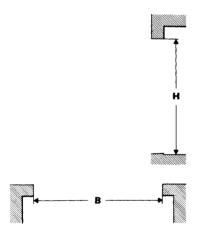
Summary of fittings

4-leaf end-folding door:

2 leaves each folding to left and right respectively, track etc.



Designation			Fitting		ld. No.	
			No.	Size 0	Size 1	Size 2
			140.	5120 0	JIZC 1	5120 2
As 2x2-leaf unit,	but with					
2 edge-fixing	Pivot point	60 mm	0-42	019019	_	_
hangers	Pivot point	90 mm	1-42	_	012663	-
2 edge-fixing	Pivot point	60 mm	0-52	020522	_	011133
guide rollers	Pivot point	90 mm	1–52	_	012672	_
	Pivot point	90 mm	1-52	_	012672	-
	Pivot point 1	100 mm	2-52	_	_	011514
	•					



Text for placing orders

GEZE APOLL end-folding door gear Size ..., No. of leaves ..., Folding to right (left), side-fixing (or soffit-fixing) ..., block frame clearance height and width (H, W)

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Sizes 0, 1, 2



Fig. 1 Centre-folding, i. e. half inward and half outward.

Centre-folding doors start with a half leaf hinged to the jamb.

The rollers are fitted above the centre of the leaf.

The first roller is normally positioned at the first full leaf.

The track can be mounted with soffitor side-fixing brackets.

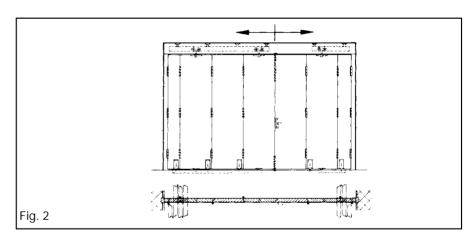
On the underside of each leaf, on the side towards which the leaf folds, a flush bolt is fitted.

The floor guide should be arranged plumb underneath the roller carriage.

The best leaf widths are between 600 mm and 900 mm.

Use 3 hinges per leaf; for high leaves (≥ 280 cm) 4. Hinges with ball bearings are recommended.

The first full leaf is fitted with a roller; thereafter every second leaf.



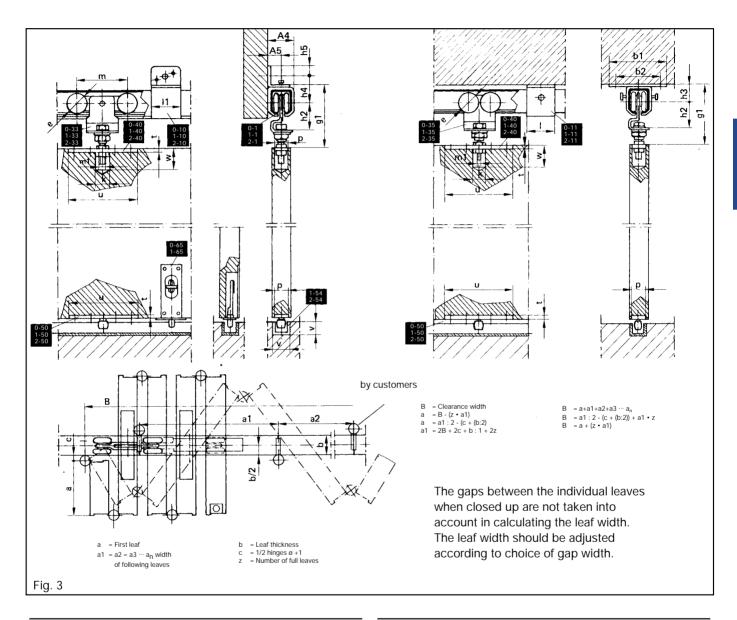
When chossing the track size and the roller, it should be noted that each roller has to take approximately the weight of two leaves.

The use of double rollers is recommended.

In the fold area the brackets for track mounting should be spaced at 350 mm (increased load-bearing).



Installations options

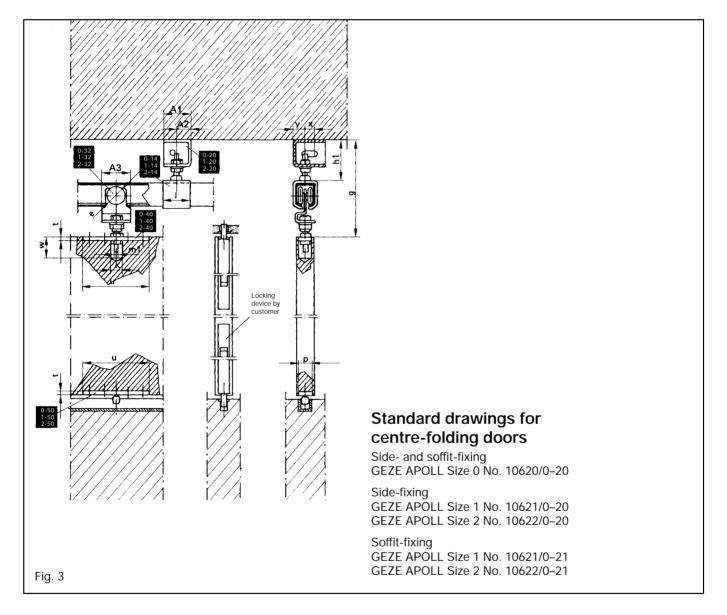


	Size 0	Size 1	Size 2
A4	41	52,5	70
A5	20,5	26,5	35
b1	100	135	170
b2	70	91	114
e	32	42	56
g1	98–111,5	122,5–141,5	157–180,5
h2	41,5	53	71
h3	29	38	48,5
h4	43,5	55,5	72,5
h5	15	18	24,5

Size 0	Size 1	Size 2
Ø 22	Ø 24	Ø 30
45	65	85
45	65	95
80	114	140
M 10	M 12	M 16
22	30	40
5	6	8
110	180	220
20	20	30
35	45	53
	Ø 22 45 45 80 M 10 22 5 110 20	Ø 22 Ø 24 45 65 45 65 80 114 M 10 M 12 22 30 5 6 110 180 20 20

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Installation options



	Size 0	Size 1	Size 2
A1	45	50	80
A2	22,5	25	40
A3	50	65	85
e	32	42	56
g	156,5–186,5	219-242	277,5–345
h1	61,5–78,5	84–112	115–145

	Size 0	Size 1	Size 2
k	Ø 22	Ø 24	Ø 30
1	45	65	85
m1	M 10	M 12	M 16
p	22	30	40
t	5	6	8
u	110	180	220
W	35	45	53
X	14	20	30
у	20,5	26,5	35



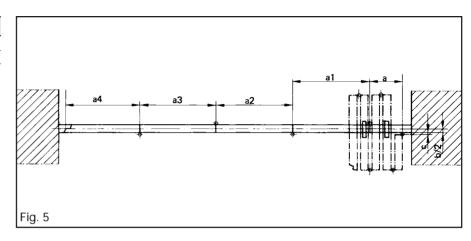
Installation options

Fitting	Size 0	Size 1	Size 2
Door plate	0-40	1–40	2-40
Floor guide roller	0-50	1–50	2-50

 $a1 = a2 = a3 \cdots a_n$ width of following leaves

a = Width of first leaf hinged to blind frame

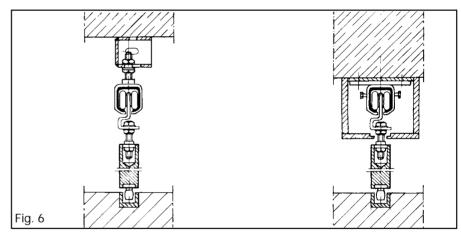
$$a = \frac{a1}{2} - (c + \frac{b}{2}), c = 1/2 \text{ hinge rollers } \emptyset + 1$$



Soffit-fixing, see fig. 6

With single console, -20, bracket for vertical and lateral adjustment, -14, track, -1, double roller with pivot bearing, -33, door plate, -40, flat-plate guide roller, -50, flush bolt, -65, floor channel, -54.

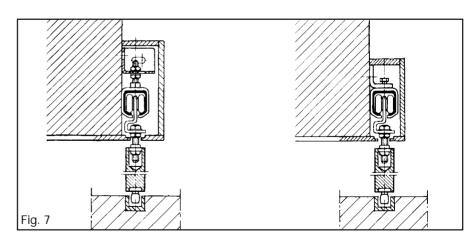
With soffit-fixing bracket, -11, track, -1, double roller with pivot bearing, -33, door plate, -40, flat-plate guide roller, -50, flush bolt, -65, floor channel, -54.



Side-fixing, see fig. 7

With single console, -20, bracket for vertical and lateral adjustment, -14, track, -1, double roller with pivot bearing, -33, door plate, -40, flat-plate guide roller, -50, flush bolt, -65, floor channel, - 54.

With side-fixing bracket, -10, track, -1, double roller with pivot bearing, -33, door plate, -40, flat-plate guide roller, -50, flush bolt, -65, floor channel, -54.



21/2-leaf centre-folding door



Summary of fittings

Designation		Fitting		ld. No.	
		No.	Size 0	Size 1	Size 2
1 track,					
length = 1xleaf wid	dth + 100 mm,	- 1	051506	051473	051472
cut to size, galvan	ized steel				
1 soffit-fixing brace	ket	-11	023286	012691	012119
per 700 mm track	length	-11	023200	012071	012117
or					
1 single console for		-20	024325	013772	007205
and lateral adjustr	nent	20	024323	013772	007203
with 1 bracket for	vertical and lateral	-14	024126	013097	007197
adjustment per 70	0 mm track length		024120	013077	
1 double roller wit	h pivot bearing	-33	050997	049950	049962
or					
1 double roller with p. b., reduced version		-35	054044	054052	
or					
1 single roller with	pivot bearing	-32	050996	051021	049961
1 door plate		-40	018431	012658	010890
1 flat-plate guide i	roller	-50	019884	012665	011139
1 floor channel,					
galvanized steel, length as		-54	051650	051650	051655
track, cut to size					
2 flush bolts	82 x 35 mm	0–65	049974	_	
	120 x 45 mm	1–65	_	013474	013474
3 to 4 hinges per l					
with ball bearing rings supplied by customer					

For side-fixing 1 side-fixing bracket -10 020701 012686 011554 per 700 mm track length

31/2-leaf centre-folding door



1 track				
length = 3xleaf width + 100 mm	– 1	051506	051473	051472
cut to size, galvanized steel				
1 soffit-fixing bracket per				
700 mm track length	-11	023286	012691	012119
(in fold area per 350 mm)				
or				
1 single console for vertical and	-20	024325	013772	
lateral adjustment	-20	024323	013772	_
with 1 bracket for vertical and lateral	-14	024126	013097	007197
adjustment per 700 mm track length	-14	024120	013077	007177
2 double rollers with pivot bearing	-33	050997	049950	049962
or 2 double rollers with p.b., reduced version	-35	054044	054052	-
or 2 single rollers with pivot bearing	-32	050996	051021	049961
2 door plates	-40	018431	012658	010890
2 flat-plate guide rollers	-50	019884	012665	011139
1 floor channel,				
galvanized steel, length as track,	-54	051650	051650	051655
cut to size				

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Summary of fittings

Designation		Fitting		ld. No.	
		No.	Size 0	Size 1	Size 2
3 flush bolts	82 x 35 mm	0–65	049974	_	-
	120 x 45 mm	1–65	-	013474	013474
2 to 4 hinges nor	· loof				

3 to 4 hinges per leaf with ball bearing rings supplied by customer

For side-fixing 1 side-fixing bracket per 700 mm track length -10 020701 012686 011554 (in fold area per 350 mm)

41/2-leaf centre-folding door



1 track				
length = 3xleaf width + 100 mm	– 1	051506	051473	051472
cut to size, galvanized steel				
1 soffit-fixing bracket per				
700 mm track length	-11	023286	012691	012119
(in fold area per 350 mm)				
or				
1 single console for vertical and	-20	024325	013772	
lateral adjustment	-20	024323	013772	
with 1 bracket for vertical and lateral	-14	024126	013097	007197
adjustment per 700 mm track lenght	-14	024120	013077	007177
2 double rollers with pivot bearing	-33	050997	049950	049962
or 2 double rollers with p.b., reduced ver	sion –35	054044	054052	-
or 2 single rollers with pivot bearing	-32	050996	051021	049961
2 door plates	-40	018431	012658	010890
2 flat-plate guide rollers	-50	019884	012665	011139
1 floor channel,				
galvanized steel, length as track,	-54	051650	051650	051655
cut to size				
4 flush bolts 82 x 35 mm	0–65	049974	_	_
120 x 45 mm	1–65	_	013474	013474

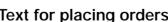
3 to 4 hinges per leaf

with ball bearing rings supplied by customer

_		c
⊢∩r	SIMA	_tivina
ı Oı	Siuc	-fixing

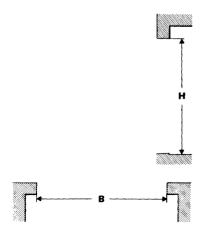
1 side-fixing bracket per 700 mm track length -10 020701 012686 011554 (in fold area per 350 mm)

For 5-leaf and multi-leaf units, on request.





GEZE APOLL centre-folding door gear Size ..., No. of full leaves (+1/2 leaf per folding side) Folding to right (left), block frame clearance height and width (H,W) Side-fixing (or soffit-fixing)



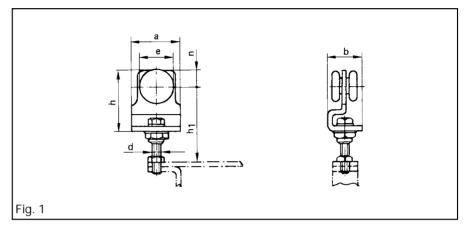
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GEZE APOLL for End-Folding and Centre-Folding Doors

Accessories

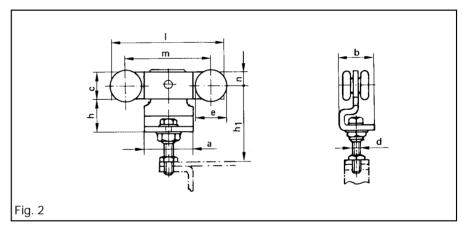
Single roller with pivot bearing, see fig. 1

	Size 0	Size 1	Size 2
Des.	0-32	1-32	2-32
a	50	65	85
b	35	48	68
h	58	80	104
n	13	21	25
е	32	42	56
d	M 10	M 12	M 16
h1	66-83	83-101	106-129
kg (weight)	0,27	0,68	1,5
Max. load	50 kg	100 kg	200 kg
ld. No.	050996	051021	049961



Double roller with pivot bearing, see fig. 2

	-		
	Size 0	Size 1	Size 2
Des.	0-33	1-33	2-33
а	50	65	85
b	35	48	68
l	100	150	190
m	80	114	140
h	32	42	56
С	26	37	48
е	32	42	56
<u>c</u> <u>e</u> <u>d</u>	M 10	M 12	M 16
n	13	20	25
h1	66-83	83-101	106-129
kg (weight)	0,57	1,28	2,8
Max. load	100 kg	200 kg	300 kg
ld. No.	050997	049950	049962

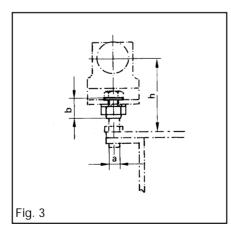


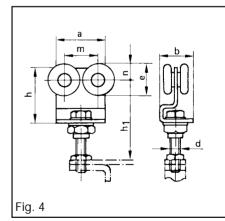
Pivot bearings, loose, see fig. 3

	Size 0	Size 1	Size 2
Des.	0-34	1-34	2-34
а	M 16x1,5	M 20x2	M 24x 2
a b	22	25	30
h	66-83	83-101	106-129
kg (weight)	0,07	0,08	0,1
ld. No.	050998	049951	049963

Double roller with pivot bearing, reduced version, see fig. 4

Teadeed Version, see fig. 4					
	Size 0	Size 1	Size 2		
Des.	0-35	1-35	2-35		
door thickness	< 40	<60	<80		
<u>a</u>	50	65	85		
b	35	48	68		
m	34	45	60		
h	58	80	104		
е	32	42	56		
$\frac{e}{d}$	M 10	M 12	M 16		
n	13	20	25		
h1	66-83	78-101	101-129		
kg (weight)	0,35	0,9	2,1		
Max. load	100 kg	200 kg	300 kg		
ld. No.	054044	054052	054274		





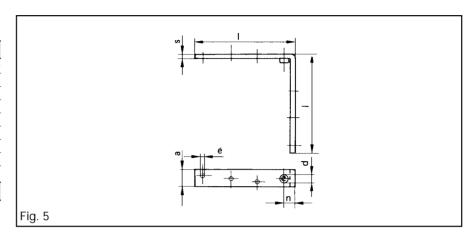


GEZE APOLL for End-Folding and Centre-Folding Doors

Accessories

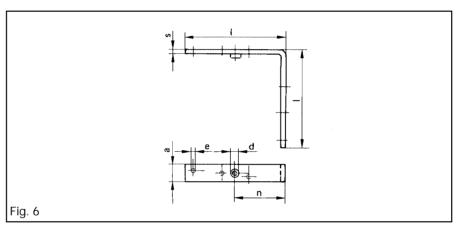
Edge-fixing hanger Pivot point 18, 20, 30 mm, see fig. 5

Size 0	Size 1	Size 2
0-41	1-41	2-41
110	180	220
22	30	40
5	6	8
18	20	30
M 10	M 12	M 16
6,4	8,4	8,4
No. of fixing holes 4		8
0,2	0,5	1
018801	012661	011094
	0-41 110 22 5 18 M 10 6,4 oles 4 0,2	Size 0 Size 1 0-41 1-41 110 180 22 30 5 6 18 20 M 10 M 12 6,4 8,4 oles 4 6 0,2 0,5



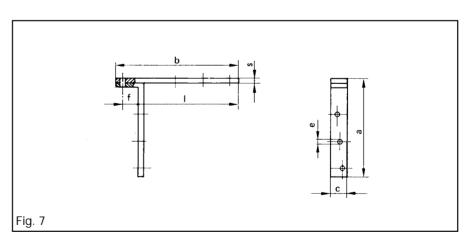
Edge-fixing hanger Pivot point 60, 90, 100 mm, see fig. 6

	Size 0	Size 1	Size 2
Des.	0-42	1-42	2-42
	110	180	220
a	22	30	40
S	5	6	8
n	60	90	100
d	M 10	M 12	M 16
е	6,4	8,4	8,4
No. of fixing holes 4		6	8
kg (weight)	0,2	0,5	1
ld. No.	019019	012663	011133



Edge-fixing hanger for end-folding see fig. 7

	Size 0	Size 1	Size 2
Des.	0-44	1-44	2-44
а	110	180	220
b	147	225	280
	22	30	40
C S	5	6	8
e	Ø 6,4	Ø 8,4	Ø 8,4
f	25	32	39,5
I	110	180	220
No. of fixing holes 4		6	8
kg (weight)	0,25	0,6	1,3
ld. No.	050994	051012	049952

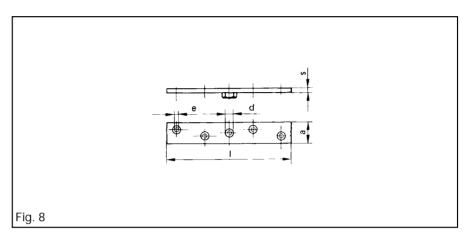


GEZE APOLL for End-Folding and Centre-Folding Doors

Accessories

Door plate, see fig. 8

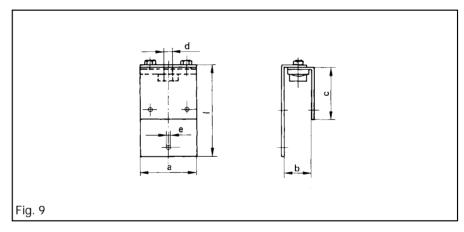
	Size 0	Size 1	Size 2
Des.	0–40	1–40	2-40
I	110	180	220
a	22	30	40
S	5	6	8
d	M 10	M 12	M 16
е	6,4	8,4	8,4
No. of fixing ho	oles 4	4	6
kg (weight)	0,1	0,2	0,5
ld. No.	018431	012658	010890



Double-sided hanger,

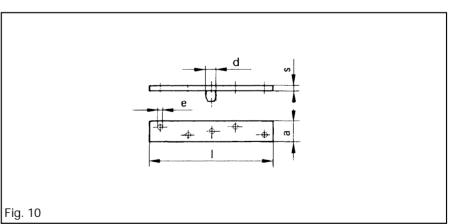
see fig. 9

	S	ize 0	Size 1	Size 2
Des.	0-43	1-43/1	1-43/2	2-43
а	60	80	80	100
	80	128	115	160
С	80	73	60	80
d	M 10	M 12	M 12	M 16
е	6,5	8,5	8,5	8,5
b	22-37	30-46	44-60	50-75
kg (weight)	0,2	0,6	0,6	1,13
ld. No.	019138	012947	012946	051318



Flat-plate guide roller, see fig. 10

	Size 0	Size 1	Size 2
Des.	0–50	1–50	2-50
1	110	180	220
a	22	30	40
S	5	6	8
d	Ø 15,5	Ø 15,5	Ø 22
е	6,4	8,4	8,4
No. of fixing h	oles 4	4	6
kg (weight)	0,11	0,3	0,5
ld. No.	019884	012665	011139



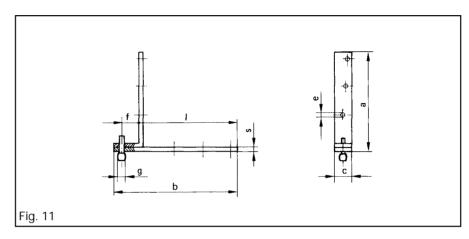


GEZE APOLL for End-Folding and Centre-Folding Doors

Accessories

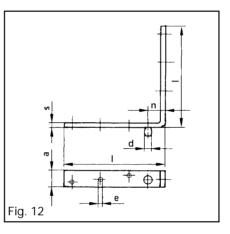
Edge-fixing guide roller for end-folding doors, see fig. 11

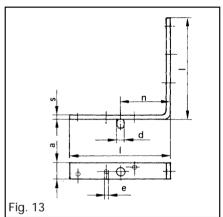
	Size 0	Size 1	Size 2
Des.	0-53	1–53	2-53
a	110	180	220
b	147	225	280
С	22	30	40
S	5	6	8
e f	Ø 6,4	Ø 8,4	Ø 8,4
f	25	32	39,5
g	Ø 15,5	Ø 15,5	Ø 22
Ī	110	180	220
kg (weight)	0,25	0,6	1,32
ld. No.	050995	051015	049955



Floor guide roller Pivot point 18, 20, 30 mm, see fig. 12

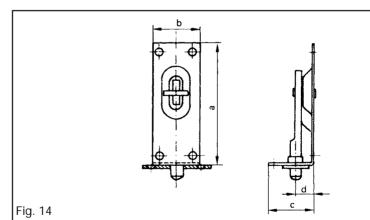
	Size 0	Size 1	Size 2
Des.	0–51	1–51	2-51
a	110	180	220
С	22	30	40
S	5	6	8
n	18	20	30
d	Ø 15,5	Ø 15,5	Ø 22
e	6,4	8,4	8,4
No. of fixing ho	les 4	6	8
kg (weight)	0,2	0,5	1
ld. No.	020404	012670	011354





Floor guide roller Pivot point 60, 90, 100 mm, see fig. 13

	Size 0	Size 1	Size 2
Des.	0-52	1–52	2-52
а	110	180	220
С	22	30	40
S	5	6	8
n	60	90	100
d	Ø 15,5	Ø 15,5	Ø 22
e	6,4	8,4	8,4
No. of fixing ho	oles 4	6	8
kg (weight)	0,2	0,5	1
ld. No.	020522	012672	011514



Flush bolt, see fig. 14

	Size 0	Size 1
Des.	0–65	1–65
а	82	120
b	35	45
С	13	36
d	7	18
kg (weight)	0,05	0,22
ld. No.	049974	013474

Manual Sliding Wall System



Gallery Römer Leonberg



GEZE MSW Manual Sliding Wall System

The Fascination of Freedom and

Unlimited Width

The central focus of the company philosophy at GEZE is the realisation of visions and ideas. The company pursues this aim with continuously improved products and new solutions.

At the construction trade fair 'BAU 2003' GEZE presents MSW - the manual sliding door wall system for the transparent division of rooms through movable glass elements. A flexible modular system as well as the integration of door panel elements with different functionalities offers architects and designers the freedom to realise individual design solutions for sliding walls. GEZE MSW is particularly suitable for innovative all-glass concepts in high-spec projects, offering optimum solutions. The moveable glass elements of the manual sliding wall system can be adjusted to the respective requirements, creating light and transparent spaces. Hence, there are no more restrictions to the flexible use of rooms.

Due to its adaptability and mobility, GEZE MSW represents the perfect solution in many design situations. For example:

- Separating foyers and meeting rooms in congress centres and hotels
- ► Night time separation of the entrance area from the main service area in banks and building societies
- ► Variable arrangements for training rooms
- Creating separate waiting areas in airports and railway stations
- ➤ Closing the sales premises in shopping centres and arcades (at closing time)
- ► Forming shop windows and separations between sales areas in furniture shops and car sales rooms
- ► Providing greater privacy in restaurants and catering establishments
- ► Flexible use of spaces in town halls and museums
- Creating visual vistas in studios and creative areas



Gallery Römer Leonberg



A maximum panel weight of 150 kg can be operated smoothly and with a minimum of noise due to the high quality precision ball bearings. The glass elements can be moved into the desired position with a minimum of effort. The panels are attached for the whole width of the element - at top and bottom - in carrier and clamping profiles. No drilling of the glass panels is required, eliminating the costs for drilling the glass and significantly reducing any associated causes for failure.

GEZE MSW is an extremely installation-friendly system. The basic structural design, without the necessity for holes drilled into the glass, allows for a large range of tolerance. The carrier and clamping profiles can be pre-fitted in the works, allowing for a fast and error-free installation of the clamping profiles.

Another advantage of the product is that the covers for carrier and clamping profiles can be clipped:

- ► The covers can be clipped on after installation has been completed. This gives added protection of the surfaces against damage and scratching during installation.
- ► If there is any damage at a later point, the profiles can be easily and swiftly replaced.
- ► The selection of different surfaces and colours available provides architects and designers with a good range of design options. The manual sliding wall system GEZE MSW fits well into the overall design of buildings of any style.

Technical Details





Technical data of the manual sliding wall GEZE MSW.

- ► Max. clear height 3500 mm
- ► Max. width of panels 1500 mm
- ► Max. panel weight - up to 100 kg with single carriage - up to 150 kg with double carriage

The parking area for the divider elements can be arranged in parallell, at 90° to the sliding axis or as a special parking recess. All parking spaces can be designed with or without parking space screens, i.e. both double tracks as well as single tracks can be used.

The surfaces of the running tracks have a standard anodised aluminium finish in the colour EV1. When using a double running track it is also possible to use different types of anodised finish as well as powder coating in RAL colours. The geometry of the running tracks of the manual sliding wall GEZE MSW kan be arranged straigh, in a continuous curve or polygonally.



MSW



Technical **Details**

The glass panels of the manual sliding wall system GEZE MSW are held at the top and bottom over the whole width of the element by carrier and clamping profiles. Clip-on covers for the carrier and clamping profiles are available in two different versions (see page 7):

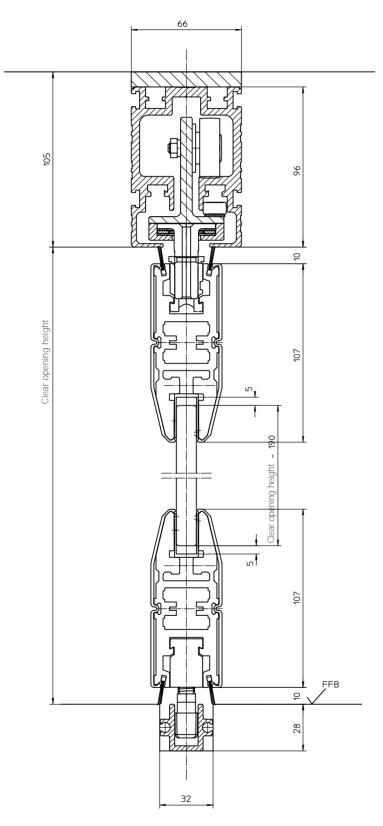
- ► following the contour of the carrier and clamping profile
- ► rectangular in shape

Horizontally, the panel elements are sealed at the top and bottom through sealing brushes. As an option, it is also possible to protect the vertical glass edges with a transparent plastic profile. On request it is possible to supply a continuous floor track for the manual sliding wall GEZE MSW.

Bolting/locking

- ► Floor bolting
- ➤ Single lever safety lock (as floor lock) for profile cylinder with square lock nut

GEZE



MSW - Monoglass

Technical **Details**

Glass panel versions

- ➤ All-glass panels with continuous carrier and clamping profiles at top and bottom, single-pane toughened glass in 10 mm or 12 mm thickness
- ► GEZE I.G.G. integrated all-glass system with surrounding edge printing. Standard construction provides 2 x 6 mm single-pane toughened glass with an inter-pane gap (SZR) of 27 mm

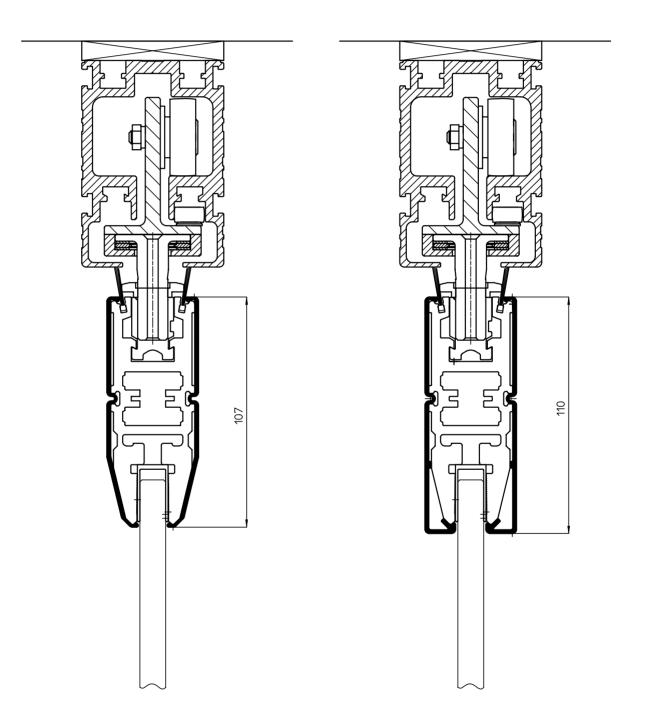
Panel variations

The following panel options are available with the GEZE MSW system:

- ► Horizontally fixed panels:
 - as double action door with floor-mounted door closer GEZE TS 550
 - as hinged door with floor mounted bearing
 - as single action door with external turning bearing
 - as fixed panel
- ► Horizontally moveable panels:
 - as sliding door

MSW/

Technical Details



Cover options for carrier and clamping profiles

Elektromechanical swing door systems for single- and double-action doors



Hotel Kempinski, München

Electromechanical

Swing door operation system TSA 150 E / TSA 150 P

Discreet, Reliable and Quiet ...

The unobtrustive, almost silent and extremly reliable **GEZE** *TSA* 150 *E* and *TSA* 150 *P* are just the thing for indoor applications.

They promote hygiene in hospitals, in doctor's surgeries and toilets. Provide assistance in homes for the elderly and disabled, and are ideal for any application where convenience and comfort are priority.

The small swing door systems can operate single- or double-leaf interior doors to opening widths of up to 1000 mm. Suitable for most door constructions (metal, timber, plate-glass or UPVC) - the *TSA 150 E* swing door operating system can cope with door-leaf weights of up to 100 kg.

GEZE TSA 150 P can effortlessly swing open double-action doors with a maximum weight of 80 kg.

A self-learning microprocessor controls the electromechanical swing door system *TSA 150 E*. Equipped with a reversing function in opening and closing direction, the swing door operating system *TSA 150 E* can be used for either left- or righthanded doors (pushing or pulling versions).



150 E

swing door systems

... they move swing- and double-action doors

TSA 150 P, also an electromechanical swing door system, is used for double-action doors. The overhead double-action door operating system TSA 150 P is installed within the transom of a prepared door frame.

Of course, all currently available contact mechanisms can be connected to either swing door system: sensors, infrared movement detectors, radar movement detectors (directional), key-operated switches, pull switches, footcontact switches, pushbuttons, surface switches, contact thresholds and radio control. Apart from the intelligent automation of interior doors, GEZE TSA 150 E and

► Main connection 230/240 V 50/60 Hz or 24 V DC

TSA 150 P also share the most important technical data:

- ► Connection of external devices: 24 V DC, max. 800 mA
- ► Power consumption for continuous operation (without external devices): 40 W

- ► Power consumption (start up): 200 W
- ➤ Opening/closing speed, adjustable 25°-45° sec.
- ► Creep speed 4° sec. in the learning phase and with obstruction (safety device)
- ► Actuation delay time: adjustable 0-10 sec.
- ► Hold-open time: adjustable 0-60 sec.



TSA 150 P



GEZE TSA 150 E / TSA 150 P

Electro-mechanical swing door system for single and double action doors

Planning document

Contents

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System description TSA 150 E7
Drive unit variants TSA 150 E
Assembly examples TSA 150 E
Installation variants TSA 150 E
Mounting dimensions TSA 150 E
Cable plan TSA 150 E
The CETE TCA 150 D is an averband electromachenical

The GEZE TSA 150 P is an overhead, electromechanical swing-door system for double action doors. The device is installed in a specially prepared door frame in the upper cross member. For dry rooms only.

Installation recommendations for GEZE TSA 150 P are available on request:

GEZE GmbH & Co. Siemensstr. 21-29 71229 Leonberg

Tel.: 0 71 52 / 2 03 - 0 Fax: 0 71 52 / 2 03 - 3 10



Applications

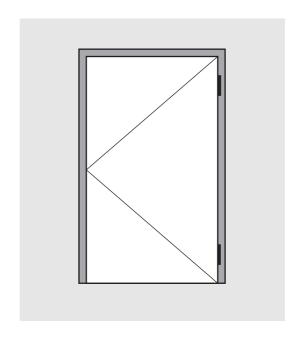
GEZE TSA 150 E and GEZE TSA 150 P are suitable for the following internal applications:

- Hospitals
- Doctor's practices
- Homes for the elderly and disabled
- Hotels and restaurants
- Administrative buildings
- Residential buildings
- Educational institutions

Product features

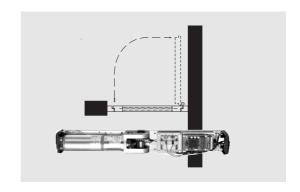
For single or double leaf swing doors made of:

- Metal
- Timber
- Plate glass
- UPVC



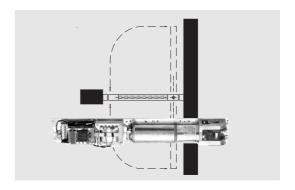
Dimensions TSA 150 E

- Length 530 mm
- Height 72 mm
- Depth 75,5 mm
- Weight approx. 6 kg



Dimensions TSA 150 P

■ See installation drawing SK 917/60





System specification

Micro processor controlled, electro-mechanical swing-door system for single and double action doors for internal applications. For dry rooms only.

Tec	chnical features	TSA 150 E	TSA 150 P
	Door leaf width:	max. 1000 mm	max. 1000 mm
	Door leaf weight:	up to 100 kg	up to 80 kg
•	Device for:	left side pushing right side pushing left side pulling right side pulling	double action - - -
	Opening angle:	pushing max. 115° pulling max. 95°	-

Technical features TSA 150 E and TSA 150 P

■ Power supply: 230/240 V 50/60 Hz or 24 V DC

(see rating plate)

■ Power consumption 40 W (without external ancillary

in continuous operation: equipment)

■ Inital switch on power consumption: 200 W

■ Externally connectable devices: 24 V DC, max. 800 mA

■ Opening/closing force: < 150 Nm

■ Servo-Actuation: Door opens automatically when pushed

slightly.

■ Reverse function in opening and closing direction

■ Integrated program selector: Position II = Automatic mode

Position I = Permanently open

Position 0 = Off

■ Adjustable opening and closing speed: 25°-45°/sec.

System description

■ Hold-open time: adjustable, 0-60 sec.

■ Actuation delay time: adjustable, 0-10 sec.

■ Latching force: adjustable

■ Supply voltage: for external devices 24 V DC, 800 mA

■ Crawling speed: 4º/sec. in learning phase and when

obstruction detected (safety device)

Connections:

Actuators: - Infrared movement detector

- Radar movement detector

- Radar movement detector (directional)

- Key operated switch

- Pull switch

- Foot-contact switch

PushbuttonSurface switchContact thresholdRemote control

- Contact sensor

Safety sensor: If the "open" safety sensor is used,

movement of the door is stopped as soon as the sensors register an

obstacle.

Electric door strike: 24 V DC fail safe or secure

Lock switch contact: Must be installed in the strike plate if

the door is to be manually locked.

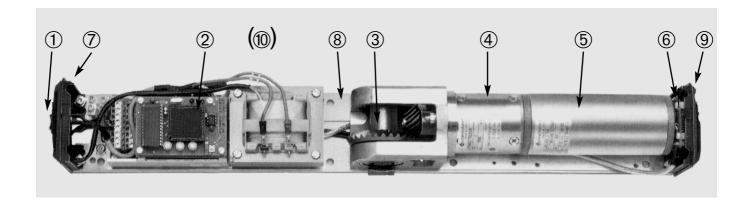
Program selector, external: With 3 settings: automatic mode,

permanently open, night time setting



System description TSA 150 E

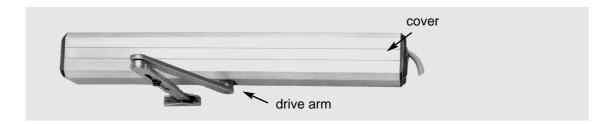
TSA 150 E, 230/240 AC, 50/60 Hz, without cover



- ① Program switch (0=OFF, I=DO, II=OPEN)
- 2 Electronics unit with transformer 230 V
- 3 Bevel-gear set
- Reduction gear box
- ⑤ DC motor
- 6 Motor speed sensor
- Tend plate
- 8 Base plate
- 9 End plate
- Electronics unit without transformer 24 V (Optional version)

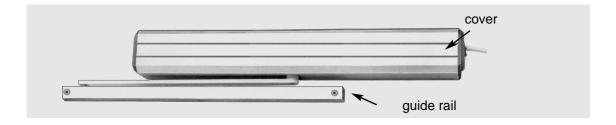
Drive unit variants TSA 150 E

■ Drive unit with cover and standard drive arm - pushing (DIN left, opening width max. 115°)



or

■ Drive unit with cover, guide rail and lever - pulling (DIN right, opening width approx. 95°)



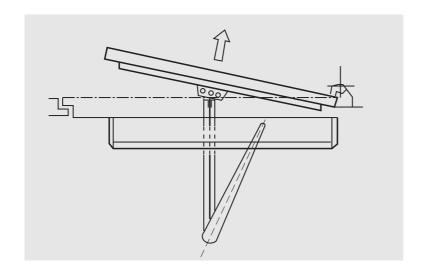
■ Door stop, type B

Options

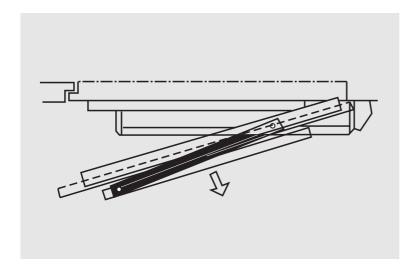
- Axle extension: 5, 10, 15, 20, 25 and 30 mm
- Base plate for mounting to drive unit, L = 530 mm
- Program switch, external
- Activators
- Safety sensors
- Main switch
- Emergency OFF switch



Mounting examples TSA 150 E



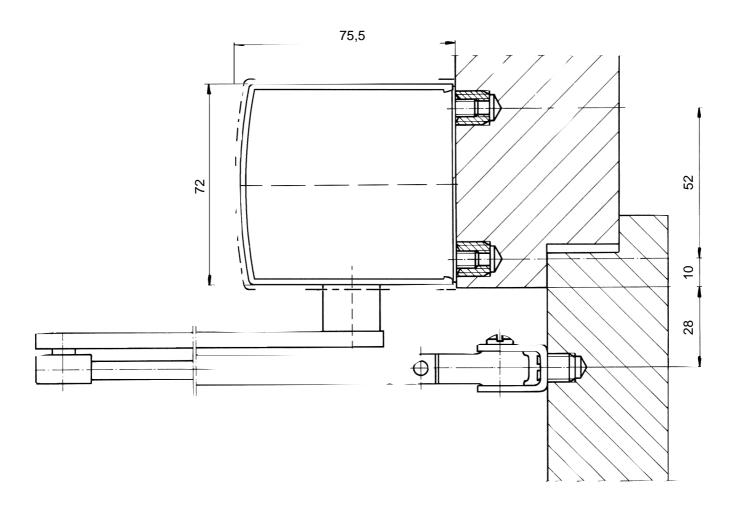
Door leaf DIN left Drive unit opposite hinge side, pushing



Door leaf DIN right Drive unit hinge side, pulling

Installation variants TSA 150 E

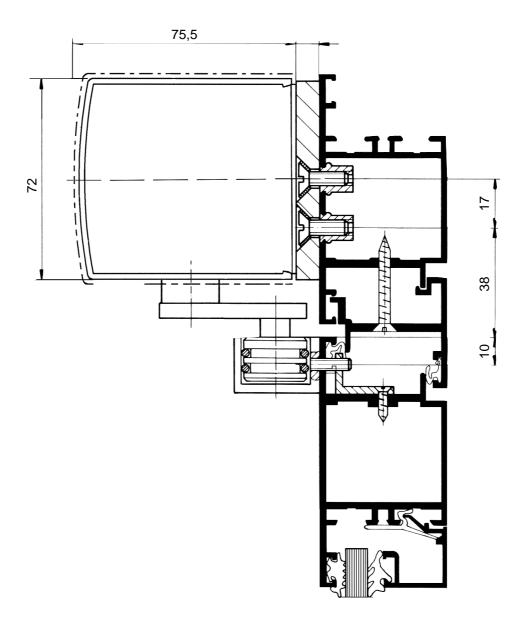
Mounted to lintel on opposite hinge side, with standard drive arm, in opening direction, pushing





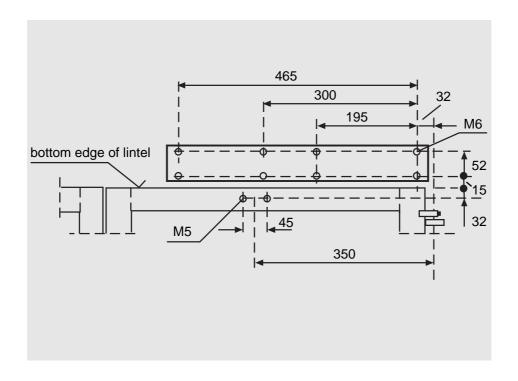
Installation variants TSA 150 E

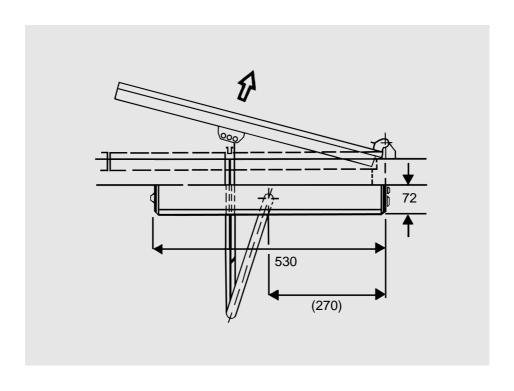
Mounted to lintel on hinge side, with guide rail, in opening direction, pulling (with flush doors) (overlap max. 20 mm) (base plate, optional)



Mounting dimensions TSA 150 E

Drawing
DIN left, pushing
(DIN right, mirror image)

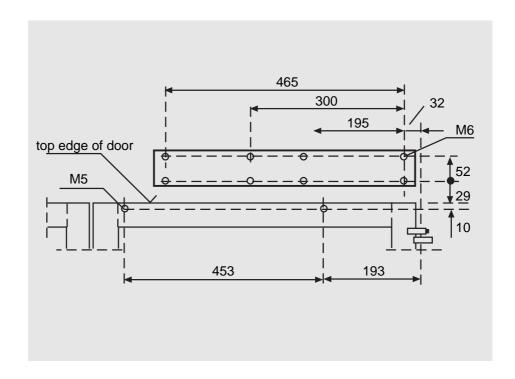


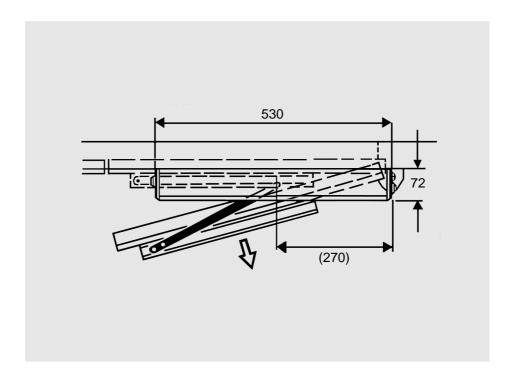




Mounting dimensions TSA 150 E

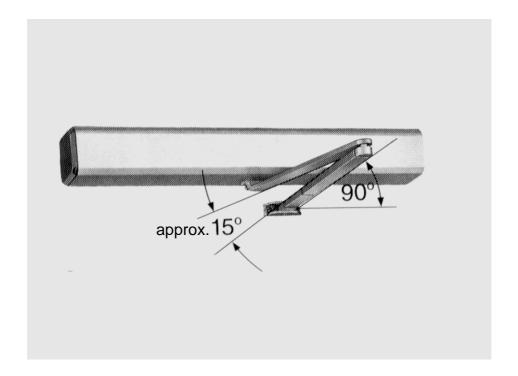
Drawing DIN right, pulling (DIN left, mirror image)



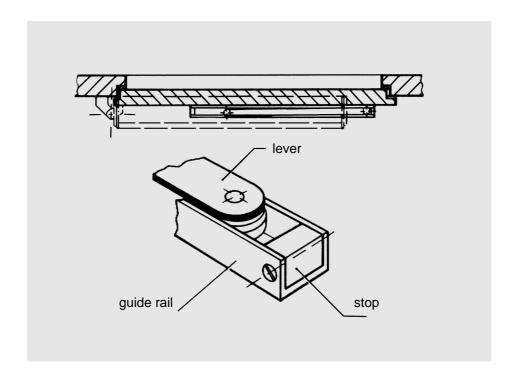


Mounting dimensions TSA 150 E

Drive arm, pushing

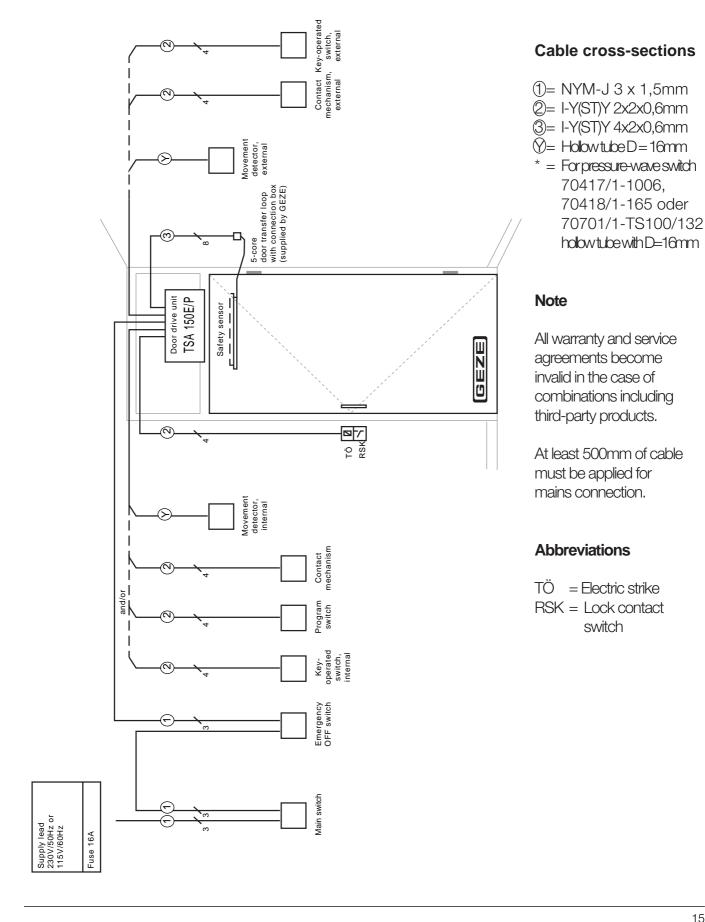


Guide rail, pulling





Cable plan: TSA 150 E / TSA 150 P







Marienpark, Stuttgart

Swing door systems TSA 160

Open and close - Reliably

It may sound simple but it requires highly sophisticated technology. The swing door system TSA 160 by GEZE makes sure that everything runs smoothly. Day after day from second to second. At the same time it offers a maximum of convenience and safety. The swing door systems TSA 160 by GEZE easily cope with the frequently tough duties of everyday function - whilst maintaining safety.

Where it is too cumbersome to operate a door by hand, the swing door system *TSA 160* take over this job. This provides particular benefits in shops and department stores, hospitals and schools, in homes for the elderly or disabled, as well as in airports and railway stations.

Where doors shut quickly, safely and tight, we can of course also expect a significant contribution to energy savings.

Therefore the tried and tested TSA 160 system is frequently used for lobbies, entrances to workshops and cool rooms as well as doors at the end of corridors. Likewise, where the highest demands are placed on hygiene, one can frequently find the swing door actuators by **GEZE**: for example in large commercial kitchens and swimming baths, in health centres and hotels.



Safety first

You can rely on that

If safety is foremost in your mind, you are safe with the swing door systems *TSA 160*. For safety at work, for the control of access as well as interlocks, TSA 160 actuators are the trusted solution. In emergencies they can save lives: the swing door system *TSA 160 F* with approval for smoke and fire doors.

An additional safety

feature are the **GEZE** safety sensors, which control the action of opening and closing. These sensors will stop the movement of the door in time, if persons, animals or movable objects are within the swing of the door.

Range of applications of the TSA 160

Flexibility scores

The TSA 160 system is adaptable to your requirements. For new construction or refurbishment, for inside or out. And there is a broad range of materials to go with the TSA 160: timber, steel, plastic or aluminium, you can take your pick. The only condition: it should be dry and ambient temperatures should be within the usual limits (- 10 °C till + 60 °C).

The small dimensions (100 x 115 x 690 mm) make it particularly easy for the designer and fitter. And of course, they fit well in a retrofit situation.

Nevertheless, *TSA 160* actuators are rugged and powerful. They will open doors up to 250 kg in weight and with maximum door widths up to 1400 mm without any problem and still perfectly control the closing action. The same actuator can be used for doors handed left or right.





Anything left to be desired?

No! The electrohydraulic swing door actuators TSA 160 ensure total satisfaction in connection with all doors. A hydraulic pump system controls the open state and the closing spring mechanism governs the closing process. But still optically and acoustically they are unobtrusive. The construction with vibration dampers makes them low in noise.

All *TSA 160* are extremely frugal. They require very little energy and service.
But as far as comfort is concerned, the TSA 160 are not at all modest. They can be combined with all known control options and offer a system ready to be fitted - if required with remote control.

Even power cuts are no problem for the *TSA 160*. In this case the door can be opened by hand just as any normal door. Indeed, manual opening is possible at any time while the actuators are switched on.



TSA 160 size 2-5

For single-leaf doors

TSA 160 size 2-5 is a swing door actuator with electronic control and integrated programme switch with the positions "off", "automatic" and "hold open". The system can be fitted to left and right handed doors with a pulling or pushing function - for pushing function with linkage and for pulling function with guide rail.

Depending on the design and arrangement it is possible to achieve opening angles of up to 115°. Apart from the opening speed, the closing force and closing speed can be adjusted fully. And the latching action can be adjusted as well through a valve. The TSA 160 size 2-5 is mounted at the head of the door on the hinge side or the opposite hinge side.

The TSA 160 size 2-5 is designed for door widths up to 1400 mm. In the pulling version the minimum door width is dependent on the mounting of the actuator (actuator offset) and the required opening angle of the door.



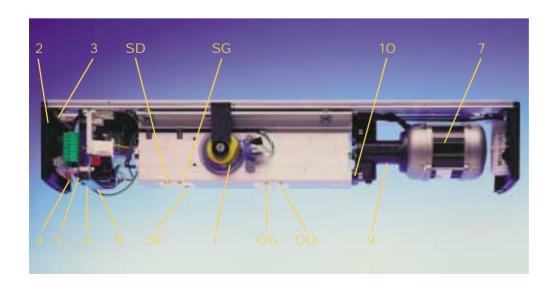
Here is what is behind it

Open to concentrated technique

TSA 160 size 2-5 in detail

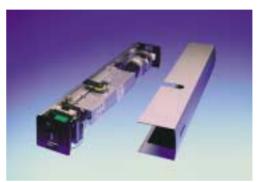
- 1 Motor shaft
- 2 Side panel
- 3 Cheese head
- 4 Line fuse
- 5 Potentiometer Hold-open time (P1)
- 6 Potentiometer Drive delay (P2)
- 7 Electric motor
- 8 Control
- 9 Hydraulic pump
- 10 Closing force adjustment
- SG Closing speed
- SD Closing damping
- SE Latching adjustment
- OG Opening speed
- OD Back check

69 L 3 S L



09 T 4 S H

Drive unit GEZE TSA 160



Drive unit GEZE TSA 160 and cover



Drive unit GEZE TSA 160 without cover



Rod assembly for pushing installation



Guide rail for pulling installation

For double-leaf doors

160

A good combination

TSA 160 size 2-5 and TSA 162 size 2-5

For double-leaf doors the swing door systems TSA 160 offer three different options. If you require an integrated control of the closing sequence, such as required for fire doors, you are on the safe side with the TSA 160 F-IS size 2-5. As an alternative, one can separate actuators for each half of the double-leaf door and link these through an intermediate cover. This will ensure complete synchronisation of the two TSA 160 size 2-5. You can also choose a lower cost alternative: one TSA 160 size 2-5 in combination with a TSA 162 size 2-5. The TSA 162 size 2-5 operates as a slave actuator and is reliably controlled by the master actuator. It can be upgraded to a TSA 160 size 2-5 at any time.

Using the intermediate cover as linkage makes it unnecessary to have additional fittings within the door frames. A significant benefit, since the preparatory fitting of cables does not require any more than for single-leaf actuators.



For single-leaf fire doors

Approved for fire protection

TSA 160 F size 2-5

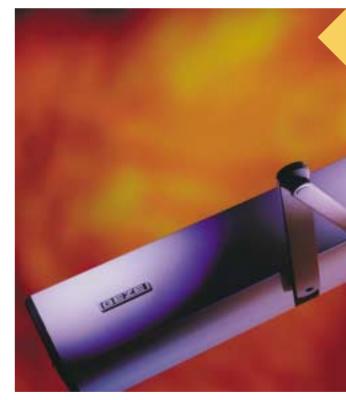
When it comes to the crunch, nothing must be left to chance. When there is a fire it is essential that the door actuator system operates well. A clear case for the TSA 160 F size 2-5. This system has been approved for single-leaf fire doors, mounted at the head of the door and equipped with an electric door strike (DIN 18763). The approval has been given for the "push" version of the door. This means that the actuator is mounted on the opposite side of the hinges at the head of the door.

The TSA 160 F size 2-5 will move doors with a width up to 1400 mm or a maximum weight of 250 kg.

Just like the other *TSA 160* systems, the *TSA 160 F size 2-5* can be operated with all known control systems. It is possible to start the actuator through various contact devices (radar, infrared, light barriers, switches). Before starting, the catch bolt must be released. For

this reason the door frame must be equipped with an electromagnetic door strike. When using the *TSA 160 F* in connection with smoke and fire doors, certain monitoring equipment such as smoke detectors are required, which will in the case of a fire deactivate all contact devices opening the door, release the door from a fixed position and disconnect the door strike from the electricity. The actuator is started up again by pressing the reset switch on the actuator. The control of the network relay (24 V/DC) is carried out by the smoke switch, whilst the energy to the actuator (230 V/AC) comes from the main supply.

The TSA 160 F size 2-5 demonstrates its flexibility also with smoke alarm systems - it has been approved for all major systems. We will gladly supply you with the approval notices upon request.



Schedule of sizes for appropriate door withs in accordance with DIN EN 1154		
EN (European Standard) size 3 max. 950 mm		
EN size 4	max. 1100 mm	
EN size 5	max. 1250 mm	
EN size 6	max. 1400 mm	



For double-leaf fire doors

The right actuator in every case

TSA 160 F-IS size 2-5

In the case of fire the most important thing for double-leaf doors is: the closing sequence must function one hundred percent. This can be guaranteed only with an integrated closer control - it may become a question of survival. In the case of danger or a power cut the TSA 160 F-IS size 2-5 will ensure the correct closing sequence of both halves of the double-leaf door. The TSA 160 F-IS does not require an externally fitted closer control mechanism and is, therefore, visually, a more sophisticated system. Of course, it is also approved for double-leaf smoke and fire protection doors.

The cabling and release mechanism of the TSA 160 F-IS are accommodated in the intermediate cover, making the installation easy. In other words: the amount of cabling required from the electrical contractor is not more than needed for single door actuators. Similary, the technical characteristics of the TSA 160 F-IS size 2-5 are identical to the TSA 160 F.

Safety

For a reliable stop

Ac

Safety sensor AIR 16

Nothing must come between the door and the frame. Door systems must be installed so that any trapping is reliably avoided - this is also a requirement of the statutory provisions for the prevention of accidents.

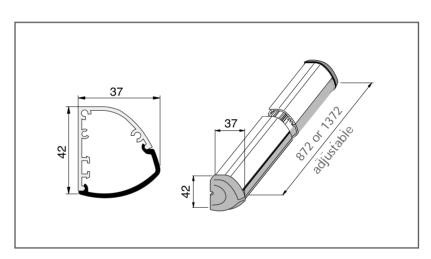
The Safety sensor AIR16 makes the area of the door swing safe. It will register persons, animals, mobile objects and anything else that may happen to be located in the definable sensor area. This causes the door to stop.

Independent of the type of door control, the safety sensor AIR 16 can be used for all door widths - also as an upgrade set. For widths up to 900 mm and above 900 mm there are two different types available.

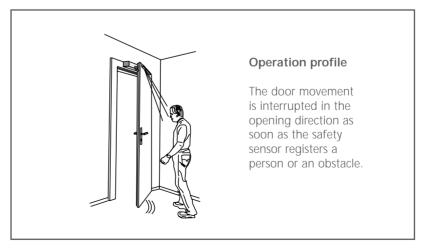
The safety sensor AIR 16 works on the principle of light scanner reflection - direct scanning of all materials with a diffused reflection. The scanned area is limited to a cone shape - starting from the head of the door diagonally to the floor.



Safety sensor AIR 16 SA "Safety Open"



Dimensions Safety sensor AIR 16 SA



Safety sensor AIR 16 SA "Safety Open"

tuation

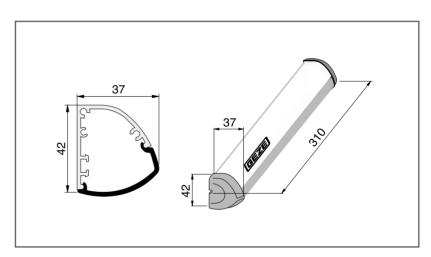
Area of application

Safety sensor AIR 16 SA "Safety Open" suitable for automatic swing doors for hinge-side door leaf installation.

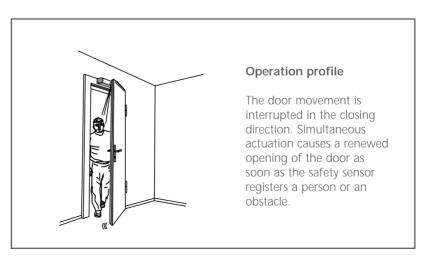
Actuation sensor and sensor AIR 16 SZ "Safety Close" suitable for automatic swing doors for opposite hinge-side door leaf installation.



Actuation sensor AIR 16 SZ "Safety Open"



Dimensions Actuation sensor AIR 16 SZ



Actuation sensor AIR 16 SZ "Safety Open"

Actuation

Releasing the actuator

Actuation devices

It depends on the duty case. If the door is passed by wheel chairs, stretchers or persons carrying bulky objects, this will have consequences for the selections of the optimum actuation devices. Just set the actuation in such a way that the normal walking speed is sufficient to pass through the door.

Swing door systems *TSA 160* can be electronically actuated by all known possibilities:

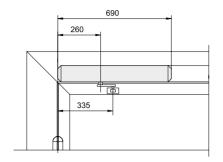
- Active infrared movement detectors (AIB)
- ► Radar movement detector
- ► Direction-sensing radar movement detectors
- ► Key-operated switch Pull switch
- ► Foot-operated contact switch
- ► Pushbutton switch
- ► Switch pad
- ► Contact threshold
- ► Radio control
- ► Actuation sensor
- ▶ Code cards
- ► Photocell

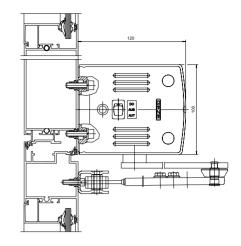


Technical data

Dimensions of drive:

Width: 690 mm
Height: 100 mm
Depth: 120 mm





Mechanical	System			
Application	single-leaf	single-leaf incl. approval for fire-proof doors	double-leaf	double-leaf incl. approval for fire-proof doors
Function	pushing or pulling	pushing	pushing or pulling	pushing
max. leaf width*)	1400 mm	1400 mm	1400 mm	1400 mm
min. hinge dimensions max. hinge dimensions			1440 mm 2800 mm	1540 mm 2800 mm
max. leaf weight*)	250 kg	250 kg	250 kg	250 kg
Options:	 Linkage for soffit depth 0-100 mm, 100-200 mm, 200-300 mm Spindle extensions of 24 mm, 30 mm, 45 mm Mounting plate Intermediate cover kit for double-leaf systems 			

^{*)} comp. EN 1154

Electric	TSA 160 TSA 160 F TSA 160 IS TSA 160 F-IS	TSA 160 24 V	TSA 162 (Secondary drive for double-leaf systems, controlled by TSA 160)
Mains connection	230 V AC 50/60 Hz + 10% /- 14%	24 V DC + 6% / - 10%	230 V AC 50/60 Hz + 10% / - 14%
Power consumption	200 VA	220 W	200 VA
Supply voltage for external appliances	24 V DC 800 mA, 24 V AC	24 V DC	24 V DC 120 mA
Integrated programme switch	Permanently open / OFF Automatic	Permanently open / OFF Automatic	
In the case of power failure	Door closer function	Door closer function	Door closer function

Function, infinitely variable	
Closing force	EN size 3 6
Opening speed	via hydraulic valve
Closing speed	via hydraulic valve
Backcheck and closing damping	via hydraulic valve
Latching action	via hydraulic valve
Hold-open time	0 60 seconds
Door opening angle	max. 115°



SAT 1, Mainz



Compact and economic to run ...

Functionality and efficiency are of primary importance, wherever infrastructure paves the way to high visitor rates.

Automatic sliding door systems, in particular, are the focus of above-average demand.

The GEZE Econodrive EL / EL-FR offers you the chance to incorporate innovative design solutions into your detailed plans with its many convincing advantages at a superior price-performance ratio.

- ► Universal applications
- Design-tested in accordance with ZH 1/494 and AutSchR
- ► High safety standards due to power limitation during opening and closing
- ► Attractive optical appearance
- ► Easy handling during assembly and pre-assembly
- ► Safe diagnosis and fault detection
- ► Latest control technology owing to the 16 Bit high-performance motor
- ► High convenience owing to parameter setting at the display programme switch

Power transmission is provided by a toothed belt and the deflection pulleys have precision bearings. Two twin roller carriages distribute the weight of the door centrally on the track section.



2

Econodrive EL-FR

Econodrive EL / EL-FR

... uncomprimisingly reliable down to the last detail

Components

The all-aluminium Econodrive EL / EL-FR is based on a fully modular design principle and consists of a track profile, a cover and side parts.

The kit, comprising a minimum of components, is designed for functionality, which enhances the price-performance ratio of the sliding door system.

The use of the latest control technology ensures a high degree of user comfort and safety, and consequently, the Econodrive EL can be combined with any type of actuation elements.

Thanks to its central suspension, it is extremely quiet in operation and highly durable.

- ▶ Dimensions: 140 x 178 mm (height x depth)
- Special profiles of anodised, extruded aluminium

Mounting

The simple design of the sliding door drive allows quick and easy on-site assembly. The holding profile is fixed separately. The track is then hung in position together with the drive unit.

► Self-learning, ready to plug in

Maintenance

The Econodrive EL / EL-FR is extremely maintenance-friendly, thanks, in part, to the transparency of its design concept and the easy accessibility of its components, which facilitates the maintenance of this sliding door system.

- ► Motor and gear are all maintenance-free
- ► All components are clearly arranged and mounted at the track profile
- All adjustment can be made and a maintenance diagnosis obtained, using the display on the programme switch
- Display of the static data (opening frequency, service interval display)

Operation

The Econodrive EL / EL-FR is fitted with a display programming switch which makes it simple to adjust, easier to operate and allows enhanced sliding door monitoring.

As far as programming logistics are concerned, it is comparable with tried and trusted products, thus facilitating know-how transfer.

Range of application

A diversity of potential applications: Econodrive EL / EL-Fr can be used on single and double-leaf doors made of fine-framed toughened safety glass, insulating glass 22 mm as well as framed leaves.

The Econodrive is equally suitable for internal and external doors and, in the FR version, for the use on escape routes.

Colours

Econodrive EL / EL-FR is available in anodised aluminium (EV1) and a full range of RAL colours.

Many convincing advantages ...

Product features

- Extruded cover profiles in a full range of RAL colours
- ► Special profiles of anodised, extruded aluminium
- ► Twin precicion bearings for central weight distribution
- ► Maintenance-free DC motor
- ► Fully modular design principle consisting of holding profile, track profile, drive unit, cover profile and side parts
- ▶ Fully digital, extendable control owing to 16 bit high-performance micro-processor
- ► All settings of the system as well as the display of the funcional, error and maintenance parameters via display programme switch

Extensive functionality

- ▶ Operating modes: automatic operation, permanently open, shop closing time (one-way), night service
- ► Reducible opening width (winter position), infinitely variable in the learning mode (Attention: for Econodrive EL-FR the minimum width for the escape route must be taken into account)
- ▶ Different hold-open times during summer operation, winter operation and key-operated switch operation
- ▶ Display of static data via programme switch (opening frequency, service interval display)
- ► Self-learning door control
- ► Hold-open times can be automatically adapted to access frequency (can be activated)
- ► Connection to fire alarm system
- ► Connection to burglar alarm system
- ▶ Electro-mechanical locking device with optional status contact for alarm systems



Econodrive EL (design-tested in accordance with ZH 1/494)

- Two systems can be linked with a programme switch
- ▶ Draught lobby function: mutual locking / release of two systems
- ► Configurable door status in the case of power failure (open, close, stop)
- ► Connection to the building management system via potential-free contacts
- ▶ Configurable input for alternative selection of emergency locking and fixed field protection
- Extension module for control with additional inputs for the following functions: gong, reduced secure opening, emergency locking, sabotage contact and fixed field protection

Econodrive EL-FR (design-tested in accordance with AutSchR and ZH 1/494)

- ► For the use on escape routes in accordance with the AutSchR (guideline for automatic sliding doors on escape routes)
- ► A full range of additional functions of the extension module integrated (for Econodrive EL-FR it is not allowed to use emergency locking or fixed field sensors)
- ▶ Automatic opening of the door at incident through rubber cord (redundant opening by mechanical force storage)

... at a superior price-performance ratio

Safety functions

- ► Automatic error detection
- ► Closing force limitation, static < 150 N
- ► Fuse protection for light barrier in accordance with ZH 1/494 with test function
- ► Automatic reversing function if an obstacle is encountered
- ► Manual emergency unlocking device (standard)
- ► Electric emergency unlocking device (optional)
- ▶ Battery pack to poen the door in the case of power failure even if the programme switch is set to "night"
- ► Integrated main switch
- ► Sabotage contact for key-operated switch

Actuation elements

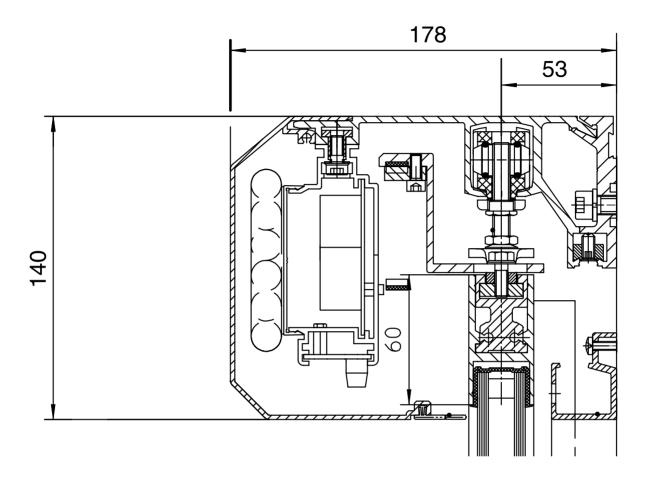
- ► Actuation elements in escape direction (for Econodrive EL-FR: approved movement detectors only)
- ▶ Radar movement detector for temperature-dependent detection
- ▶ Infrared movement detector (for Econodrive EL-FR only outdoors)
- ► Light curtain
- ► Buttons and switches
- ► Key-operated buttons and key-operated switches
- ▶ Code card readers
- ▶ etc

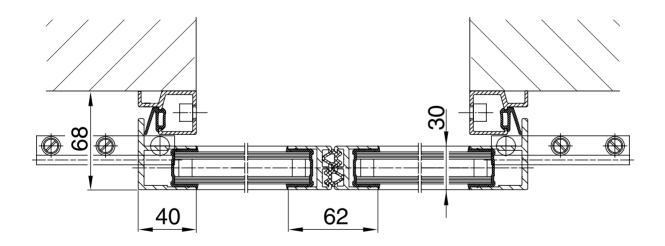
Display programme switch see page 7

Types of door leaves

- ► Mono solid glass fittings, thinly-framed of toughened safety glass
- ▶ Insulating all-glass fittings, thinly framed of toughened safety glass, laminated glass
- ► Frame doors
- ► Timber-framed and plastic doors

Technical data:	Econodrive EL	Econodrive EL-FR
Opening width, single-leaf	700 - 1400 mm	700 - 1400 mm
Opening width, double-leaf	900 - 2500 mm	900 - 2000 mm
Max. leaf weight, single-leaf	80 kg	80 kg
Max. leaf weight, double-leaf	2 x 80 kg	2 x 80 kg
Height of door leaf	up to 2900 mm	up to 2900 mm
Max. opening speed	0,7 m/s, per leaf	0,7 m/s, per leaf
Closing speed	up to approx. 3000 mm	up to approx. 3000 mm
Overall dimensions of drive (height x depth)	140 x 178 mm	140 x 178 mm
Maintenance parameters via programme switch:		
Mains connection	230 V, 50 Hz -15%/+10% according to DIN IEC 38	230 V, 50 Hz -15%/+10% according to DIN IEC 38
Rated output	150 VA (max. 300 VA)	150 VA (max. 400 VA)





Display programme switch

Functions of programme switch



► Permanently open:

The door slides OPEN and stays open. Movement sensor and door open buttons are deactivated.



► Night service:

Movement sensors are deactivated, the door closes and is locked (optional) in position to prevent forcible opening.



► Shop closing time:

The door opens and closes only to provide exit for building occupants. The external movement sensor is deactivated and the internal one activated.



Automatic operation:

The door opens as soon as the movement sensor or button are activated and closes after a programmable period. Light barriers ensure that the path of the door is clear to avoid any risk to users.



When in "automatic", "permanently open" and "shop closing time" modes, the door opening width is reduced, for example, in order to regulate heat loss. The desired width of opening is fully adjustable by adjusting the position of the door manually.

Description of programme switch

Surface-mounted and flush-mounted versions of the programme switch, which is 81 x 81 mm, are available.

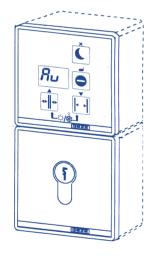
The programme switch can also be locked by an additional key-operated button.

Maintenance / diagnosis / programming

Econodrive sliding doors can be programmed via the programme switch only. A 7-digit display provides information on operating status, fault warnings, maintenance intervals and all functional parameters.

Technical features: electrical connection

- ► Mains connection: 230 V 50 Hz -15%/+10% according to DIN IEC 38
- ► Rated output: Econodrive EL 150 VA (max. 300 VA) Econodrive EL-FR 150 VA (max. 400 VA)
- ► (€-compliance





GEZE Display programme switch



GEZE Key-operated programme switch



Orthopädie Brillinger, Tübingen

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Slimdrive S

The **7-cm** principle

Perfection on the smallest scale

Shorter than the length of a cigarette, probably shorter than your index finger and perhaps just the height of a stiletto heel - that is the how flat the drive unit of **GEZE**'s automatic door system is. Hence the reason why we named this slender piece of perfected technology *Slimdrive*.

You will find everything modern sliding door drive technology requires concentrated in an overall height of a mere 7 cm. *Slimdrive SL* hast much more to offer: A huge increase in safety and comfort, your choise of settings is plentiful and the performance is highly realiable. With *Slimdrive SL*

you are in a position to realise very large opening widths as well as enjoying a hitherto unknown freedom of design. At last, the sliding door is no longer an obstacle, but can be integrated into the column and beam structure or facade entrance. More generously designed entrances become reality.

This freedom satisfies all demands, even those of escape and rescue routes. The *Slimdrive SL* version is the *Slimdrive* for any eventuality.





7 cm - the scale and measurement of freedom

That tops the lot!

Only 7 cm overall height allows for opening widths yet unknown. The drive simply disappears into the facade. It is replaced by transparency and consistent aesthetics. Double beams and double profiles are a thing of the past. Unique frameless glass door leaves - instead of a compromise in design.

Beyond all this Slimdrive SL, like all other members of the Slimdrive family increases headroom. The other family members with identical overall height are: Slimdrive SL-FR for escape and rescue routes and Slimdrive SL-IGG for even more transparency. All of them are open to retro-fitting into existing facades.

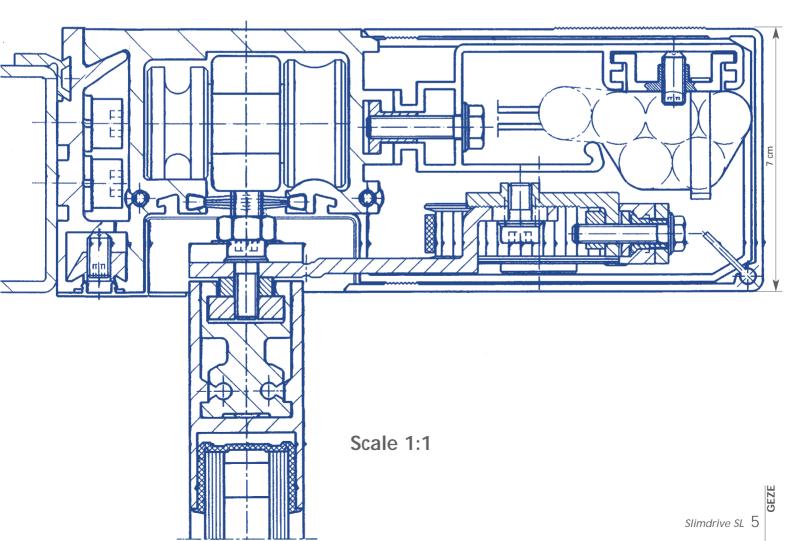
Contractors benefit from a small number of profiles and modular construction. Specific opening widths can be mass manufactured quickly and simple pre-assembly of mechanical drive components reduces installation times immensely.

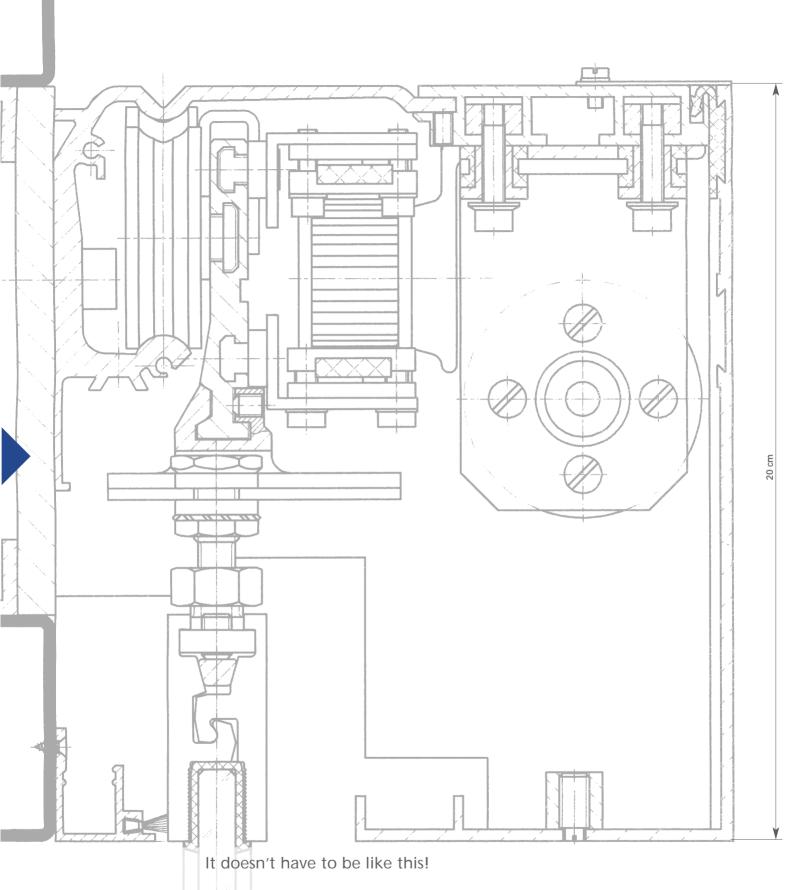


Slimdrive SL

An obvious advantage

These 7cm are an important step forward for architects and designers.





When SIZE presents an obstacle

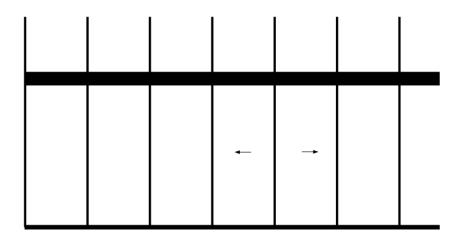
Here is an example of a conventional drive with an overall height approximately 20 cm. It is often difficult to conceal and impossible to integrate. Fortunately *Slimdrive SL* is available now.

An end to aesthetic compromise

Less is more

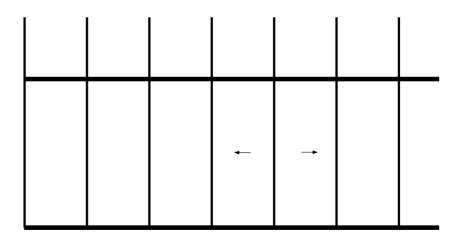
Rather unsightly

This is how it used to be: A facade entrance with a colossal visual interference. To blame is the rather generous size of conventional drives used for automatic sliding doors.



Simply elegant: Slimdrive SL

Slimdrive SL has shrunk the drive. The complete drive is contained within an overall height of only 7 cm. This means that Slimdrive can be concealed in any facade as it sits on one profile, not two.



Slimdrive SL

Inconspicuous yet unmistakable

Aesthetics and design realisation are important. Advanced technology and **GEZE** innovation has addressed this important aspect with Slimdrive. There is no room for the superfluous. Reduction to the bare essentials is the name of the game. Take the integrated movement sensor for example: it has been integrated skilfully into the inner cover.

The reduction also creates considerable economical and ecological advantages:

- ► Environmentally friendly due to the economical use of materials and energy.
- ► Customised manufacturing
- Quick and easy assembly and installation
- ► Reliable diagnosis for error detection and maintenance



Slimdrive SL

Slimdrive SL

Impeccable drive - impeccable function

In order to guarantee our name for reliability, **GEZE** have introduced some good ideas. A low-wear and maintenance-free high-performance DC motor drives an almost silent running gear. Power is transmitted by means of a toothed belt, deflection rollers are positioned in precision ball bearings. The leafweight is distributed evenly via 2 double rollers in the track profile.

Assembly

Slimdrive SL has been developed as a fully modular system with an all-aluminium finish. It consists of mounting profile, track profile and cover and side parts.

- ► Overall height only 7 cm
- ► Overall depth only 185 mm
- ► All components are plug-in units
- ► The drive unit is completely pre-assembled
- ► Power supply unit can be flange-mounted to track making drilling unnecessary
- ► Special profiles made from anodised aluminium
- ► Extruded profile cover

Installation

All components including the cover plate are installed onto the mounting profile. Using appropriate adapter profiles, *Slimdrive SL* is suitable for post and rail installation onto any current facade profiles as well as wall and ceiling installation.

Maintenance

Slimdrive SL derives its low-maintenance character from the clearly designed and developed system with easily accessible components and full digital technology, amongst other factors.

- ► Convenient maintenance due to removable parts and a cover that can be locked into a secure position.
- ► Easily accessible terminal strips with integrated cable duct.
- ➤ System adjustment and maintenance diagnosis is carried out completely and exclusively using the display integrated with the programme switch.
- ► Motor, gears and toothed belt are maintenance-free.

Areas of application

Slimdrive SL is extremely versatile. It is suitable for single or double-leafed doors consisting ESG toughened safety glass with slim profile frame, 22 mm double-glazed glass or frameless door leaves with concealed fittings. Slimdrive SL is equally suitable for internal or external doors.

Colours

Slimdrive SL is available in anodised aluminium with anti-corrosion effect as well as all RAL colours.

Slimdrive SL	
Opening width, single-leaf	max. 2000 mm
Opening width, double-leaf	max. 3000 mm
Max. leaf weight, single-leaf	120 kg
Max. leaf weight, double-leaf	2 x 120 kg
Max. opening speed (double-leaf door, weight 2 x 100 kg)	0.7 m/s
Max. closing speed	0.4 m/s
Height of door leaf	up to 3000 mm
Door leaf	frameless, toughened safety glass with slim frame, double glazed safety glass or door with architrave = framed door

Ideal ratio of leaf height and width for Slimdrive SL (recommended by GEZE)



Slimdrive SL		
	Headroom	Minimum opening width
Double-leafed	2200 mm	1000 mm
Double-leafed	2500 mm	1200 mm
Double-leafed	2900 mm	1400 mm

Slimdrive

Slimdrive SL-FR

Emergency. Escape route. Slimdrive SL-FR means SAFETY.

A powerful piece of highly concentrated technology: A drive measuring only 7 cm which has been certified and approved for the use in escape and rescue routes according to German regulations. Slimdrive SL-FR has identical quality features as Slimdrive SL. To ensure safety for escape and rescue routes a few ingenious have been added. A glance at the drive's inner life reveals Slimdrive SL-FR's technological perfection.

A rubber cord is used for mechanical energy storage in the event of power failure or error. During the first opening after commissioning the rubber cord is tightened and remains in place by means of an electromagnetic fixing device. The electro-magnetic catch releases the rubber cord and the door opens, should the retaining current be withdrawn due to power failure or when the alarm has been triggered. The electric coupling of toothed belt and transmission ensures that the door opens even if the drive is damaged.

While the programme has been set to the "night" position the door leaves lock electromagnetically to prevent unauthorised access.

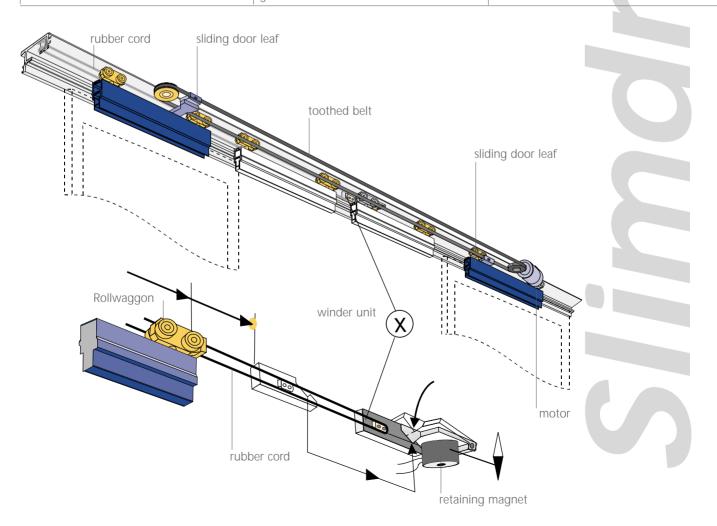
Safety functions

- ▶ Automatic opening in the event of power-cut or error by means of a rubber cord serving as mechanical energy storage.
- ► Closing force limited to < 150 N.
- ► Safeguarding of passageway by means of photoelectric barrier conforming with ZH 1/494 (German standard).
- ► Automatic reversing function with adjustable reversing pressure. The door opens automatically, should it meet an obstacle during closure.
- ► Electrical emergency unlocking device (optional).
- ► A battery pack operates the door during a power-cut or while in the "night" position. (single operation only)

Fundamentally, Slimdrive SL-BO (Break-Out) exhibits identical features as Slimdrive SL-FR. The break out design makes it possible to swing the leaves open in direction of the emergency exit basically a sliding door system with swing door hardware. The so-called Break-Out solution has of course been officially approved and certified for use in escape and rescue routes (German standard).

Slimdrive SL-BO is available either single or double-leafed without side screens or alternatively swing out or fixed side screens.

	Slimdrive SL-FR	Slimdrive SL-BO
Single-leaf opening width	1100 - 2000 mm	900 - 1400 mm
Double-leaf opening width	1000 - 3000 mm	1000 - 2500 mm
Max. leaf weight, single-leaf	120 kg	100 kg
Max. leaf weight, double-leaf	2 x 120 kg	2 x 100 kg
Max. opening speed,		
double-leaf with 2 x 100 kg	0,7 m/s	0,7 m/s
Max. closing speed	0,4 m/s	0,4 m/s
Leaf height	up to approx. 3000 mm	up to approx. 2500 mm
Material of door leaf	Glass doors consisting of toughened safety glass or double-glazed with a slim profile frame, framed timber, metal or aluminium doors or frameless double-glazed safety glass doors	Glass doors consisting of toughened safety glass or double-glazed safety glass



Slimdrive SL-IGG

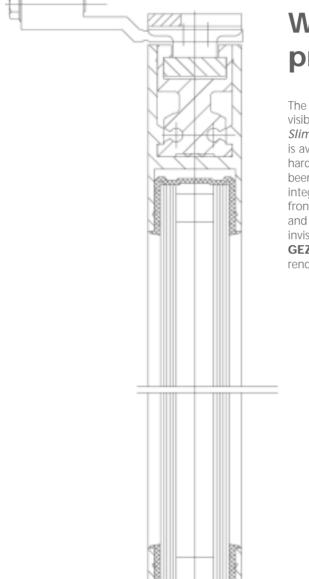
Virtually INVISIBLE. Not an illusion.

GEZE integrated glass systems make it possible. Complete glass facades may be opened but the hardware is barely noticeable. The drive is the only component that remains but measuring only 7 cm it is so small that it can be concealed very easily.

The **GEZE** *IGG* glass panels are held in place by technology embedded in between two panes of glass. Transparency is all that remains due to ingenious ceramic coating. Innovative, elegant, reliable and completely transparent - with Slimdrive IGG (frameless glass) all this is no longer a contradiction.

This innovative technology demands change: **GEZE** does not have a mass produced product with *Slimdrive SL-IGG*. In close co-operation with architects and planners **GEZE** develops the ideal system for each and every type of building. Individual! Precise to the millimetre! That much invisibility requires total precision.

As far as quality characteristics, features and control are concerned *Slimdrive SL-IGG*, *Slimdrive SL-FR* are second to none. They combine transparency, functionality and reliablility to perfection.



It doesn't have to be like this.

When HARDWARE presents an obstacle.

The hardware is still visible here. Fortunately *Slimdrive SL-IGG* is available now. The hardware system has been inconspicuously integrated into the glass front. Reliable function and the illusion of invisibility.

GEZE *Slimdrive SL-IGG* renders it possible.

Control and features

Control unit attached to the door: Almost everything is possible

Enormously versatile, simple operation, easy installation, even more maintenance-friendly - *Slimdrive SL*'s newly designed, fully digital control unit with 16-bit high-performance micro-processor provides a wealth of forward looking features.

Functions standard model

- ► Self-learning, complete with fitting plug
- ► Rapid system commissioning
- ▶ Programming: adjustment of parameters (hold-open time, opening speed, etc.) via the programme switch, using just a few function keys
- ► Connection to
 Movement detector
 Photoelectric safety
 barrier
 Protection of side
 screen area
 Electromagnetic
 locking device
 Battery back-up
 Key operated user
 control switch
 Code card scanner
 And all recognised
 activators
- ► Automatic error detection and emergency operating properties
- ► Various hold-open times for different functions
- ▶ Programme storage in Flash-Eprom allowing on-site programme updates, Automatic increase of hold-open time depending on traffic (selectable)

- One-way traffic at shop closing time
- ► Self-configuring hardware
- ▶ Display of statistical data (number of opening cycles, service intervals, etc.)
- ▶ Permanent position setting by means of a non-contact distance measuring system

Options

- ► Coupling of two systems which can be controlled simultaneously (e.g. draught lobby or sluice)
- ▶ Simple connection of access control systems (e.g. **GEZE** *Toplock TPL 1G*) Door opens only 20 cm and locks into position as a safety measure (e.g. for dispensing chemists on night duty).
- ► Connection to intruder alarm with potential-free contact

Contro

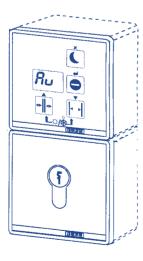
features











Programme switch functions

The following functions may be programmed via the programme switch:

- ► Permanently open The door moves into the OPEN position and remains open
- ► Night option
 Movement detectors
 are switched off, the
 door closes and the
 door leaves lock
 electro-magnetically
 to prevent
 unauthorised access
- ► Shop closing time
 The door opens and
 closes only when
 someone exits. The
 internal movement
 detector remains
 active, whereas the
 external detector is
 inactive
- ► Automatic operation
 The door opens when
 it receives a signal
 triggered by the
 movement detector
 or activator and closes
 after a pre-set time.
 A photoelectric safety
 barrier ensures that
 the door opening is
 protected on the
 closing cycle, thus
 eliminating potential
 trapping hazards.

Programme switch designs

The programme switch is 80 mm wide and is availabe as surface or flush mounted version. Accessories: actuation device (elbow switch) same width.

Programming and service diagnosis

The *Slimdrive SL* sliding door is programmed via the programme switch exclusively. A dual 7-segment display provides information regarding the operating status, error messages, service intervals and all function parameters. A key operated programme switch is mandatory for Type FR.

Technical characteristics:

- ► Mains connection: 230 V AC + 6% -10 % at 50 Hz or 60 Hz.
- ► Power consumption: Max. 150 VA
- ► Conforms with **(€**-regulations



Badenwerk, Karlsruhe



Slimdrive SLT

The reduction to the essential...

GEZE opens the doors to diverse solutions and makes room for your own ideas. Without limiting convenience and safety we penetrate into new dimensions for automatic doors.

Slimdrive SL is representing optimised sliding door technology. With an overall height of only 7cm this drive system leaves no space for superfluous things. Convincing by perfection on the smallest scale: Fully-modular system, control with 16 bit high-performance microprocessor, easy mounting, broad range of adjusting possibilities, high reliability with regards to all functions etc.

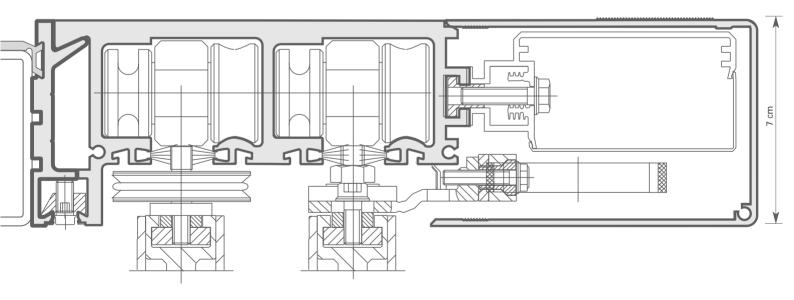
The little sister system presents itself in top form as well. **GEZE** Slimdrive SLT is the name of the drive for telescopic sliding door systems.

Slimdrive SLT is used for double or four-leaf telescopic sliding doors made of 22 mm insulating glass or frameless leaves (IGG) with concealed fittings.

Interior and exterior doors with leaf weights of 60 kg max. are moved reliably, unobstrusively and nearly invisibly (overall height 70 mm) by the little one. *Slimdrive SLT* renders possible opening widths of up to 3000 mm max.

the future dimensions ... opens up new dimensions

Slimdrive SLT cross section of the small drive system for telescopic sliding doors: a strong move towards the future.



Slimdrive SLT	
Opening width, double-leaf	1100-3000 mm
Opening width, four-leaf	2000-4000 mm
Leaf weight, double-leaf	max. 2 x 80 kg
Leaf weight, four-leaf	max. 4 x 70 kg
Opening speed	0,7 m/s
Closing speed	0,4 m/s
Leaf height	max. approx. 3000 mm
Overall measurements (height x depth)	70 mm x 247 mm

Slimdrive SLT-FR

Design *convinces Safety* decides

The *Slimdrive SLT* spurs architects on to dare the venture into unknown galaxies of facade design. Economical use of materials and energy means transparence and with regards to design the limits of creativity lie in the distant future.

One argument that is quite obvious: Slimdrive SLT-FR means safety. In the case of emergency 7 cm can save lives. Slimdrive SLT-FR. A small, strong piece of highly concentrated GEZE technology, approved for the use on escape routes.



Slimdrive

Principles of operation

Radar movement detectors

Principle of operation

Radar or microwaves are electromagnetic waves similar to those transmitted by radio stations. Their frequency however is much higher (< 1GHz = 1'000'000'000 oscillations/sec.).The function of the transmitter and receiver could be compared to scales. The microwaves emitted by the transmitter are reflected back to the receiver via floor, walls and other surfaces. Transmitter and receiver frequencies are identical when movement is not detected in the monitored area. The movement of people or other items triggers a detection signal. The transmitted and received frequencies are no longer identical. Three principal parameters mainly determine the microwaves' reflection and the resulting response characteristic surface (material mass), speed and the angle of immersion. The processing of reflections improves with increasing area and speed of an object. The usable signal amplitude increases the more directly (angle of immersion) an object approaches the radar movement sensor.

Radar movement detectors with direction sensing

The composition of this type of radar movement sensor is considerably more complex. In addition to the gun diode (transmitter) there are two mixer diodes instead of merely one. The signals of both receptor diodes are evaluated by a comparative device. The sensor differentiates between:

- a movement towards the detector triggers a signal
- a movement away from the detector triggers no signal

Sliding and draught lobby doors etc. may now be closed up to **50% earlier**.

Passive infrared movement detectors

Principle of operation

Passive infrared sensors (PIR) operate similarly to infrared cameras, which we are already familiar with as detecting heat loss in buildings. The infrared sensitive detector compiles a heat image of a building's specified scanned area via a multi-lens-system (Fresnel lens). After a non-recurring build-up time of approx. 20 seconds the current infrared image is recorded.

The detector actuates as soon as the heat image is changed by movement, whereby two conditions have to be fulfilled:

- ► In order for objects to be captured they must have a temperature difference of +/- 2°C compared to their surroundings and in addition
- they have to move at a minimum speed of 10cm/sec.

Active infrared detectors (light sensors)

Principle of operation

One has to differentiate between 3 operational types of light sensors:

- ► Reflection light sensors
- Reflection light sensors with <u>background</u> fade-out
- Reflection light sensors with <u>background</u> <u>evaluation</u>

Reflection light sensors

Transmitter and receiver are located in the same casing. Contrary to the light barriers the object to be detected represents the reflector. The object located within a pre-set detection zone triggers the switching process. The detection zone largely depends on the directional reactance of the object that is to be scanned.

Characteristic

Reflector is not necessary (Object acts as reflector)

Reflection light sensor with background fade-out.

The background is 'recognised' without being evaluated (i.e. ignored).

The required switching signal is a reflection signal originating from an object within the pre-set detection zone.

Advantages of background fade-out.

- Ideal collision protection in opening swing or rotation direction where the sensor has been door-mounted.
- ► Background is unnecessary.
- ► Independent of the background's directional reactance

Disadvantages of background fade-out.

- ► Blind in close-up area.
- ► No transmitter error message
- ▶ No testing facility

Reflection light sensor with background evaluation

The transmitter corresponds continuously with the receiver via the background (floor). Testing takes place by disconnecting the transmitter with +UB. The background is used as reflector. A switching signal is triggered when the beam of light is obstructed by an object.

Advantages of background evaluation

- ► Testing possible
- ► Transmitter error message
- Scanned area from 100 mm therefore suitable for e.g. for safety lobbies
- ► Scans even reflective objects (vehicles)

Disadvantages of background evaluation

- Cannot be door -mounted
- ► Background is necessary
- ► Depends on the background's directional reactance. Switching errors are possible if the background has a black coating or in the event of humidity.

One-way photoelectric barriers

Principle of operation

Light transmitter and receiver are in separate casings, whose lenses are aligned towards one another. The light travels the distance from transmitter to receiver only once. The result is a far range and high functional reserves. Objects obstructing the beam of light trigger a switching signal.

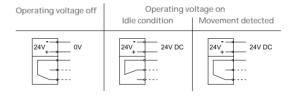
Characteristics

- Reliable operation even under unfavourable environmental conditions.
- Recognises even reflective, non-translucent objects.

Types of switching

Position of contact at relay exit for passive / active switching:

a) Passive switching (Dark switching)



b) Active switching (light switching)

Operating voltage off	Operating vo Idle condition	oltage on Movement detected
24V 0V	24V DC	24V DC

GEZE RK 31 N

Radar movement detectors

Radar movement detectors scan all objects moving within the radar zone. Movement within the radiated area causes a delayed reflection, which is forwarded as a signal to open the door.

Area of application

Actuation of automatic swing, sliding, folding and curved sliding doors.

For automatic sliding doors with an opening width in excess of approx. 2000 mm the use of 2 radar movement detectors is recommended on each side to ensure the best possible detection of a person within the entire opening area.

Technical data

- ► Operating voltage: 12 - 30 V DC (-0 / +15%)
- Current consumption at 24V DC approx. 70mA
- ► Temperature range: -20°C up to +60°C
- ► Humidity: 0 up to 90% relative
- Sensitivity: adjustable with potentiometer
- Microwave module: K-band 24.125 GHz transmitting power max. 5mW
- ► Signal exit: Relays, 1 potential-free changeover contact, switching voltage max. 42V AC, switching current max. 30W / 60VA

- ► Type of switching: active / passive switching (reversible)
- ► Installation height: max. 3.5 m
- Area dimensions: scanned area adjustable
- Status display: LED, red, illuminated during detection
- ► Connection cable: 5m
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG
- Does not have to be registered and there are no license fees.

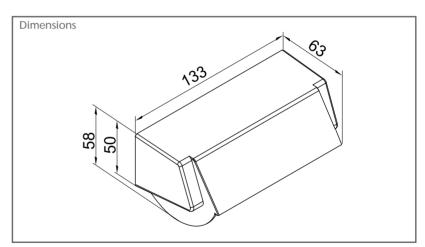
Design

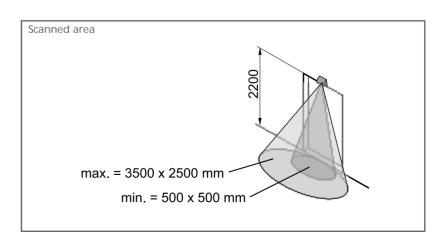
Black Id.-no. 074839 White Id.-no. 081258

Accessories

Ceiling bracket Black Id.-no. 085312 White Id.-no. 085709



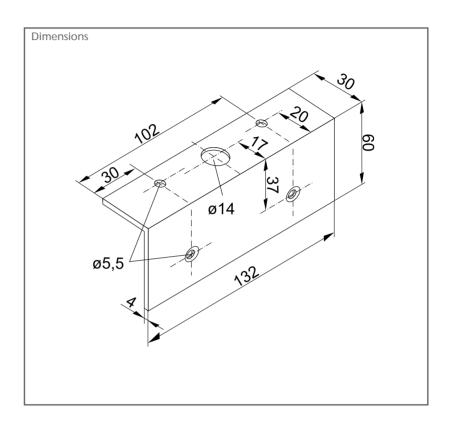


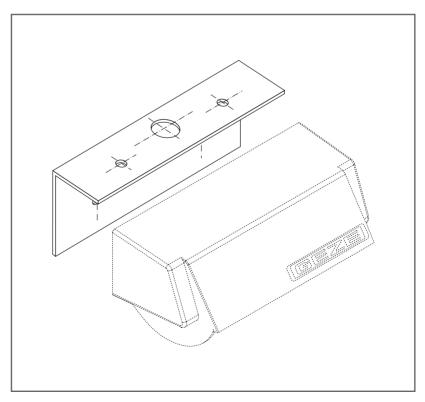


Ceiling bracket for RK 31 N/S/R/E

Design

Black Id.-no. 085312 White Id.-no. 085709





GEZE RK 31 C

Radar movement detector

Area of application

Actuation of automatic swing, sliding, folding and curved sliding doors.

Suitable for installation into concealed casing or weather canopy.

Can be wall or ceiling - mounted.

For best possible detection of people within the entire opening area we recommend 2 radar movement detectors on each side for automatic doors with an opening width in excess of 2000 mm.

Technical data

- ► Operating voltage: 12 – 24 V AC (-0 / +15%), 12 – 30 V DC (-0 / +15%),
- Current consumption at 24V DC approx. 70mA
- ► Temperature range: -20°C up to +60°C
- Sensitivity: adjustable with potentiometer
- Microwave module: K-band 24.125 GHz transmitting power max. 5mW
- Signal exit: 1 relay, 1 potential-free changeover contact switching voltage max. 42V AC; switching current max. 1A AC/DC switching power max. 30W / 60 VA

- ► Type of switching: active switching
- ► Enclosure rating: IP 52
- Status display: LED, red, illuminated during detection
- Area dimensions: scanned area adjustable
- ► Installation height: max. 3.5 m
- Connection cable:5 m
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG
- Does not have to be registered and there are no license fees.

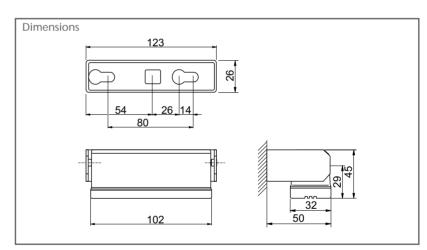
Design

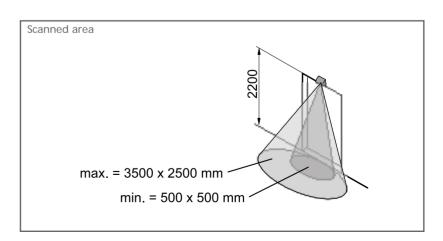
Black Id.-no. 074454

Accessories

Concealed casing Id.-no. 010954 Weather canopy Id.-no. 010958







GEZE Flush-mounted concealed casing

Concealed casing for radar RK 31 C

Area of application

Ceiling installation of RK 31 C

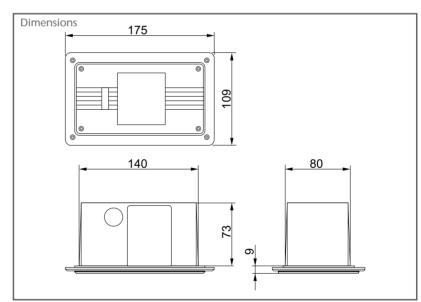
Technical data

- ► Item: splash-proof flush -mounted or surface -mounted casing
- ► Enclosure rating: IP 65

Design

Black Id.-no. 010954





GEZE Weather canopy

Weather canopy for radar RK 31 C

Area of application

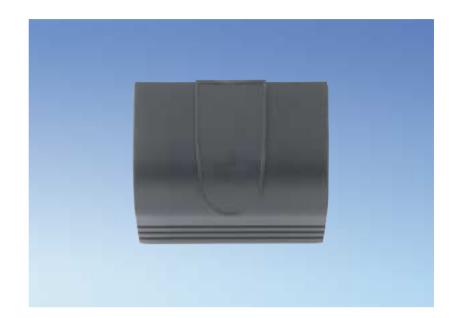
For protected external installation of radar RK 31 C

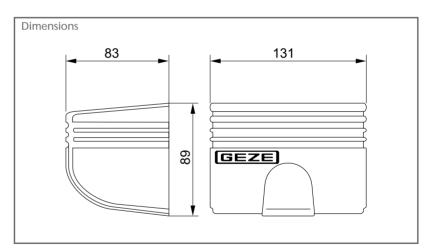
Technical data

- Material: ABS plastic
- ► Enclosure rating: IP 54

Design

Black Id.-no. 010958





GEZE PIR 20/31

Passive infrared movement detectors

Passive infrared movement detectors react to the radiation of heat in conjunction with movement and are therefore suitable for the detection of people. Shopping trolleys for example are not detected due to the lack of heat radiation.

Area of application

Actuation of Slimdrive SD in SERVO function, installation of PIR 20/31 onto door leaf Actuation of automatic swing and sliding doors.

- Unsuitable for the detection of shopping trolleys or similar items.
- Not recommended for external use.
- Not recommended where sources of heat such as radiators, under-floor heating or hot-air curtains are located within the detection zone.

Technical data

- ► Operating voltage: 12 - 24 V AC (-0 / +15%), 12 - 30 V DC (-0 / +15%),
- Current consumption at 24V DC approx. 15 mA
- ► Power consumption at 24 V DC approx. 0.35 W
- ► Temperature range: -20°C up to +60°C
- Sensitivity: adjustable with potentiometer
- ► Type of switching: active / passive switching (reversible)

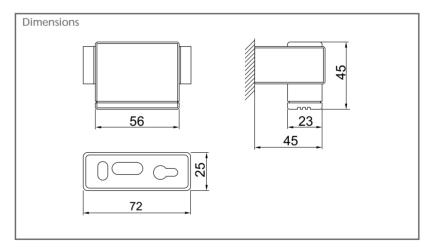
- ► Signal exit: 1 relay, 1 potential-free changeover contact switching voltage max. 48V AC; switching current max. 1A AC/DC switching power max. 30W / 60 VA
- ► Enclosure rating: IP 52
- Status display: LED, red/green, red = active exit
- ► Installation height: max. 3.5 m
- Area dimensions: scanned area adjustable
- ► Connection cable: 5 m
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG
- Does not have to be registered and there are no license fees.

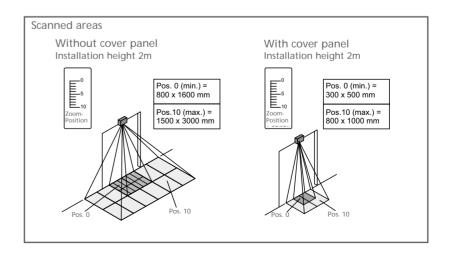
Design

Black Id.-no. 072390 White Id.-no. 072391

For integrated installation into Slimdrive SL Id.-no. 073455







GEZE PIR 30

Passive infrared movement detectors

Area of application

Actuation of automatic swing, sliding, folding and curved sliding doors doors.

- Unsuitable for the detection of shopping trolleys or similar items.
- Not recommended for external use.
- Not recommended where sources of heat such as radiators, under-floor heating or hot-air curtains are located within the detection zone.

Technical data

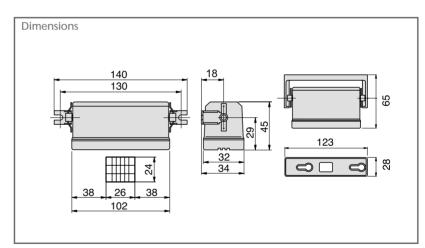
- ► Operating voltage: 12 - 24 V AC (-0 / +15%), 12 - 30 V DC (-0 / +15%),
- Current consumption approx 60 mA at 24 V DC
- ► Power consumption approx. 1.5 W at 24 V AC
- ► Temperature range: -20°C up to +60°C
- Sensitivity: adjustable with potentiometer
- ► Signal exit: relay, 1 potential-free changeover contact switching voltage max. 48 V AC; switching current max. 2A switching power max. 50W / 60 VA

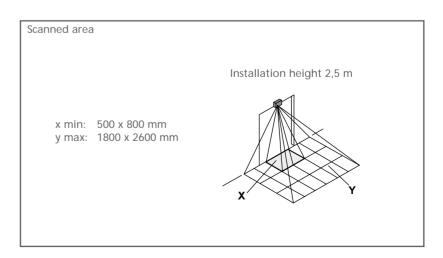
- Type of switching: active / passive switching (reversible)
- ► Enclosure rating: IP 52
- Status display: LED, red/green, (red = detection)
- Area dimensions: scanned area adjustable
- ► Installation height: max. 3.5 m
- Connection cable:5 m
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG

Design

Black Id.-no. 015777







GEZE Safety photoelectric barriers GZ 472

Safety **photoelectric** barriers Double beam version

Area of application

Safety photoelectric barrier for automatic sliding doors, double beam version mandatory according to EN 12650-2. Height of beams 0.2 m and 1 m.

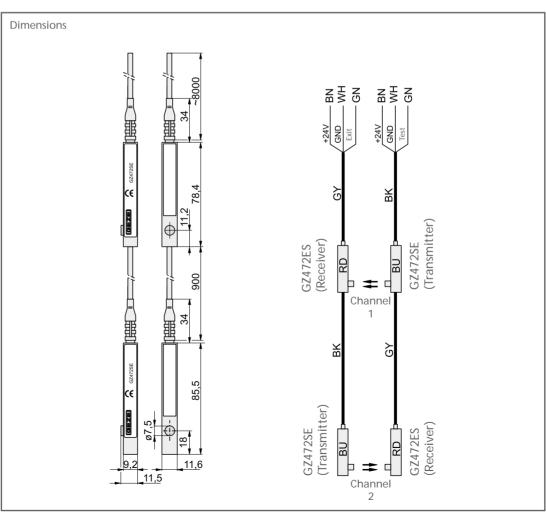
Technical data

- 2 Transmitters and 2 receivers
- ► Operating voltage 10 – 30 V DC
- ► Current consumption: approx. 70 mA
- ► Temperature range: -20°C up to +60°C
- ► Range: 5 m
- ► Diameter of luminous spot: 1.4 m at a distance of 5 m
- ► Signal exit: PNP
- Switching voltage: max. 30 V DC
- Enclosure rating: IP 65
- Connection cable:8 m, plug-in
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG

Design

ld.-no. 075801





GEZE Safety photoelectric barriers GZ 470

Safety **photoelectric** barriers Single beam version

Area of application

Safety photoelectric barrier suitable for automatic swing, sliding and folding doors (with additional relay Id-no. 024542), suitability for automatic sliding doors is limited.

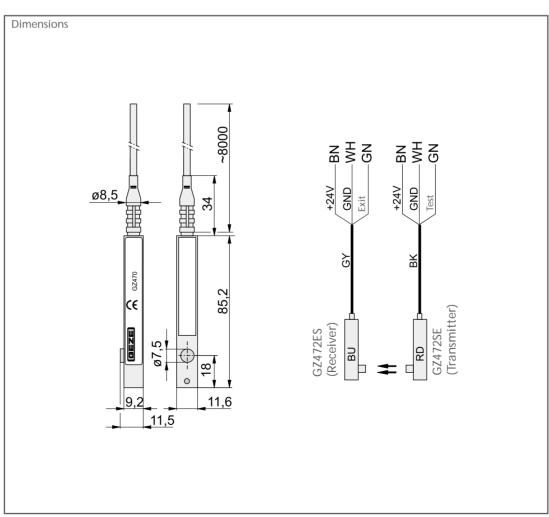
Technical data

- ► 1 Transmitter and 1 receiver
- ► Operating voltage 10 – 30 V DC
- Current consumption: approx. 50 mA
- ► Temperature range: -20°C up to +60°C
- ► Range: 5 m
- ► Diameter of luminous spot: 1.4 m at a distance of 5 m
- ► Signal exit: PNP
- Switching voltage: max. 30 V DC
- ► Enclosure rating: IP 65
- ► Connection cable: 8 m, plug-in
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG

Design

ld.-no. 075797





Safety sensor strips

Area of application

Safety sensor "Safety Open" suitable for automatic swing doors for hinge-side door leaf installation.

Used in addition to safety photoelectric barriers to increase protection where sliding doors are used in passageways.

Technical data

- ► Operating voltage: 17 30 V DC
- Current consumption: 60 mA per sensor module
- ► Temperature range: -20°C up to +60°C
- ► Scanned area: approx. 75 x 75 cm
- ► Scanning range: up to 2500 mm
- Adjustment of detection range: mechanical adjustment screw
- Type of switching: active / passive switching (reversible)
- ► Mode of operation: Background fade out or background evaluation (reversible)
- Signal exit: relay, 1 potential-free changeover contact switching voltage max. 24V AC; switching current max. 1A AC/DC switching power max. 24W / 55 VA
- ► Enclosure rating: IP 52
- Status display: LED, red
- ► Installation height: max. 2.5 m



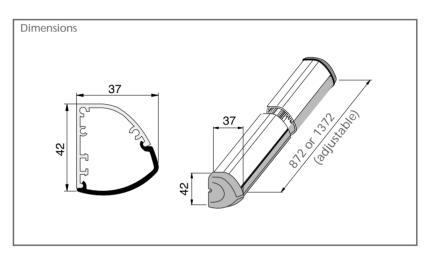
- Connection: by means of door transmission cable
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG

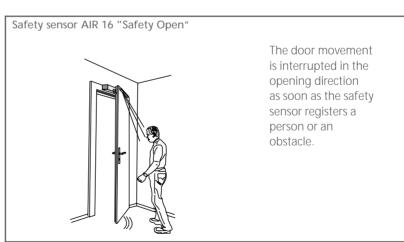
Design with a single sensor module

(for door width of 750 – 900 mm) EV1 anodised aluminium Id.-no. 079555 dark bronze Id.-no. 079558 white RAL 9010 Id.-no. 079560 white RAL 9016 Id.-no. 079561 RAL colours Id.-no. 079562

Design with 2 sensor modules

(for door width of 900 – 1400 mm) EV1 Id.-no. 079633 dark bronze Id.-no. 079654 white RAL 9010 Id.-no. 079656 white RAL 9016 Id.-no. 079657 RAL colours Id.-no. 079658





GEZE Actuation sensor AIR 16 "Safety Close"

Safety sensor strips

Area of application

Actuation sensor and sensor "Safety Close" suitable for automatic swing doors for opposite hinge-side door leaf installation.

Technical data

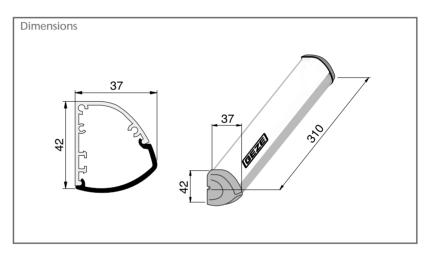
- ► Operating voltage: 17 30 V DC
- Current consumption: 60 mA per sensor module
- ► Temperature range: -20°C up to +60°C
- ► Scanned area: approx. 75 x 75 cm
- ► Scanning range: up to 2500 mm
- Adjustment of detection range: mechanical adjustment screw
- ► Type of switching: active / passive switching (reversible)
- Mode of operation: Background fade out or background evaluation (reversible)
- ► Signal exit: relay, 1 potential-free changeover contact switching voltage max. 24V AC; switching current max. 1A AC/DC switching power max. 24W / 55 VA

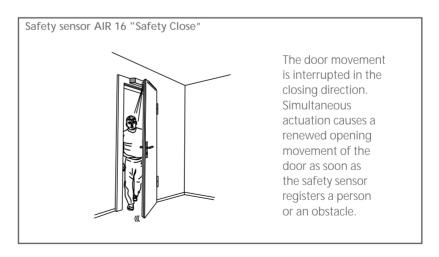
- ► Enclosure rating: IP 52
- ► Status display: LED, red
- ► Installation height: max. 2.5 m
- ► Connection: terminal
- ► EMV compatibility: CE as per EMV guide line 89/336 EWG

Design

EV1 anodised aluminium Id.-no. 079608 dark bronze Id.-no. 079609 white RAL 9010 Id.-no. 079611 white RAL 9016 Id.-no. 079612 RAL colours Id.-no. 079613







Actuation switches

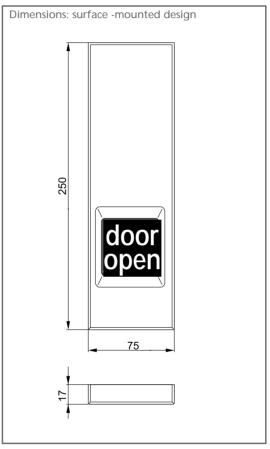
GEZE Elbow switch Stainless steel

Area of application

Actuation of automatic swing, folding and curved sliding doors

Suitable for use in humid environments and areas with high standards of hygiene or aesthetics.





Technical data

- Material: Stainless steel
- Switch function: changeover contact
- Switching voltage: 250 V
- Switching current:1 A
- ► Temperature range: -15°C to + 80°C
- ► Enclosure rating: IP 65
- Inscription:
 " open door"

Design

Surface -mounted Id.-no. 091181 (different inscription on request)

Actuation switches

GEZE Key-operated switch with profile cylinder

Area of application

Actuation of automatic swing, folding and curved sliding doors

This key-operated switch allows authorised individuals to actuate automatic door drives while the programme switch is in the "night" setting.

Technical data

- Switch function: closing contact
- ► Mains voltage: 380 / 250 V
- ► Nominal current: max. 16 A
- ► Temperature range: -30°C to + 50°C
- ► Enclosure rating: IP 54
- Metal casing

Design

Surface -mounted Id.-no. 054533

Flush -mounted Id.-no. 054245



