



GEZE SWING DOOR SYSTEMS
VARIED, BARRIER-FREE AND STRONG



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GEZE swing door systems

Open and close doors easily

The swing door systems from GEZE make going through a door easier wherever manual operation is too complex or difficult. The outstanding features of the systems include reliability and safety, as well as a clear and modern design line. GEZE enables object-specific solutions and ensures planners the greatest possible degree of design freedom.

The electromechanical Ecturn drive enables doors in barrier-free interiors to be opened and closed gently and conveniently. Thanks to the glass guide rail available as an accessory, the Ecturn can also be used on glass doors. The Ecturn Inside combines accessibility and safety with optimum door design. It automatically opens and closes doors „invisibly“.

Thanks to their uniquely small overall height of only seven centimetres, the drives in the Slimdrive range can be fitted almost invisibly to any building architecture.

The electrohydraulic TSA range is first choice for doors in areas of high frequency of use. Durability and strength characterise this range.

DIN 18650

The industrial standard DIN 18650 was created to be able to guarantee operators and users of automatic doors optimum safety. GEZE swing door systems with automatic function have been type-tested to DIN 18650 and certified.

EN 16005

The new European standard EN 16005 sets out the design requirements and testing methods used to ensure the safe use of automatic doors.

The new standard has created a Europe-wide safety standard for automatic doors.

All automatic door systems and safety sensors from GEZE meet the EN 16005 standard and are available.

Design possibility for swing door systems



- 1 = Drive
- 2 = Actuation
- 3 = Fuse protection
- 4 = Operation

Overview table for swing door systems

		Ecturn	Slimdrive EMD	TSA 160 NT
Product features				
Dimensions drive (height x width x depth)		60x580x60 mm	70x650x121 mm	100x690x121 mm
Leaf weight (max.)	GLS	125 kg	180 kg	250 kg
	GST		230 kg*	310 kg**
Leaf width (min.)	GLS	650 mm	850 mm	690 mm
	GST		750 mm	
Leaf width (max.)	GLS	1100 mm	1400 mm	1400 mm
	GST		1600 mm**	
Hinge clearance on double-leaf doors	GLS	–	1700-2500 mm	1470-2800 mm
	GST	–	1500-2800 mm	
Opening and closing speed adjustable		•	•	•
Electrical closing sequence control			•	•
Electromechanical drive		•	•	
Electrohydraulic drive				•
External doors / Internal doors		– / •	• / •	• / •
Integrated in door leaf or in door frame		•***		
1-leaf / 2-leaf		• / –	• / •	• / •
Guide rail / Link arm		• / •	• / •	• / •
Functions				
Automatic		•	•	•
Push & Go adjustable		•	•	•
Low-Energy		•	•	
Servo			•	
Variants				
For fire and smoke control doors (F)			•*	•
With integrated closing sequence control (IS)			•*	•
With integrated closing sequence control for double-leaf fire and smoke control doors (F-IS)			•*	•
With integrated closing sequence control for double-leaf doors, automatic doors and door closer function (IS/TS)				•
For fresh air supply as well as doors in emergency exits (Invers)			•	•
For large and heavy doors, as well as frequently used doors (EN7)				•
Page		11	28	50

GLS = Guide rail
GST = Link arm

• = Yes * = Slimdrive EMD-F ** = TSA 160 NT EN7 *** = Ecturn Inside

Note: The maximum possible leaf weight in relation to leaf width can be found in the chapter on areas of application (diagrams)!

Types of installation for swing door systems

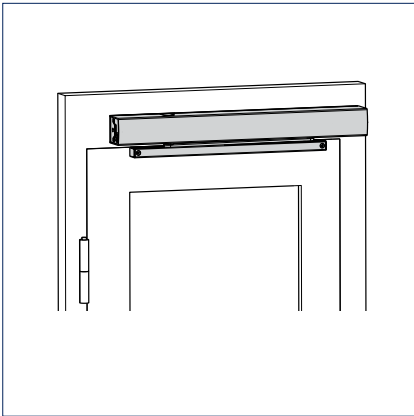
The following diagrams show the installation possibilities for swing doors and the drives which can be used to realise this application.

Notes

A door stopper is always required.

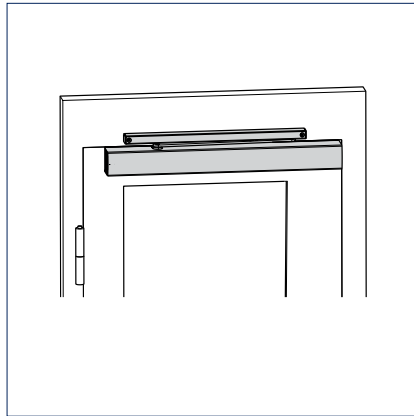
We recommend link arms for external doors. Wind loads and underpressure or excess pressure must also be taken into account.

Installation on the hinge side



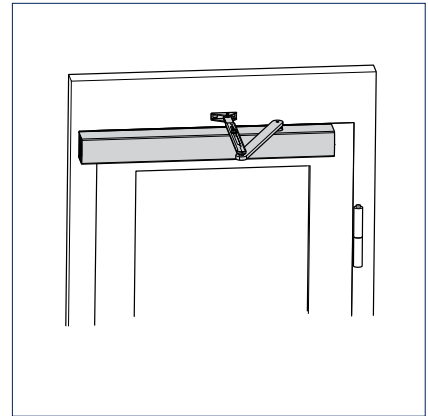
Transom installation with guide rail

- 1 = Ecturn
- 2 = Slimdrive EMD
- 3 = TSA 160 NT
- 4 = TSA 160 NT Z
- 5 = TSA 160 NT Invers



Door leaf installation with guide rail

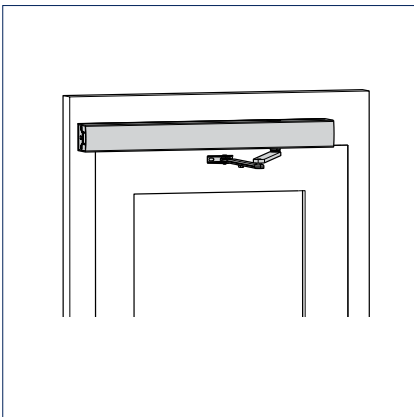
- 1 = Ecturn
- 2 = Slimdrive EMD



Door leaf installation with link arm

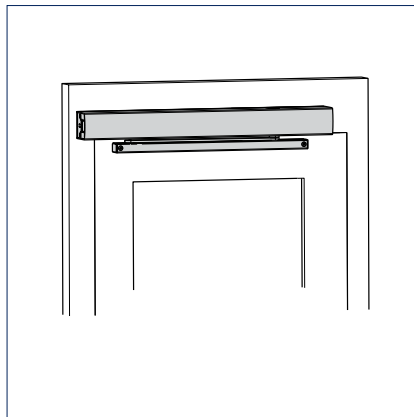
- 1 = Ecturn

Installation on the opposite hinge side



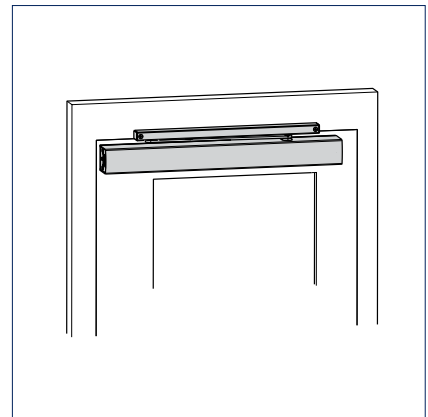
Transom installation with link arm

- 1 = Ecturn
- 2 = Slimdrive EMD
- 3 = TSA 160 NT
- 4 = TSA 160 NT Z Invers



Transom installation with guide rail

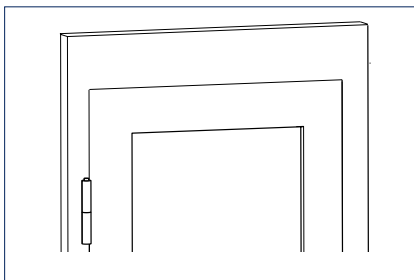
- 1 = Ecturn
- 2 = Slimdrive EMD



Door leaf installation with guide rail

- 1 = Ecturn

Installation in the door leaf / installation in the door frame



- 1 = Ecturn Inside

Swing door systems for fire and smoke control doors (F)

Drive systems in the F variant are used to automatically open and close 1-leaf fire control doors. The usual types of impulse generator can be used to actuate the drive. In addition to automatic opening and closing, fire control doors can also be held open. In the event of a fire, an appropriate fire detection system must cancel the automatic function or any hold-open mechanism. The power supply to the mains cable is interrupted via a mains switch-off board (F-accessory) and the drive retains the normal door closer performance. This means that door closers with automatic opening function in accordance with DIN 18263 Part 4 are a component part of hold-open systems and require official building approval. Fire control doors must meet the requirements of the DIBt guideline (Deutsches Institut für Bautechnik). The Slimdrive EMD-F/R with integrated smoke switch fulfils the highest design requirements.

This variant can be realised using the following drive series: Slimdrive EMD-F and TSA 160 NT

F swing door



Augustinum retirement home, Stuttgart, Germany (Photo: Dirk Wilhelmy)

Swing door systems with integrated closing sequence control (IS)

Swing door systems in the IS variant are always equipped with an integrated closing sequence control. The mechanical closing sequence control ensures that the fixed leaf closes first on 2-leaf doors. The active leaf only closes once the fixed leaf has closed completely. The mechanical closing sequence control also works without electricity and in the event of a power failure.

This variant can be realised using the following drive series: Slimdrive EMD-F and TSA 160 NT

IS swing Door



Stiftung Ecksberg, Mühlendorf, Germany (Photo: Robert Sprang)

Swing door systems with integrated closing sequence control for double-leaf fire and smoke control doors (F-IS)

Drive systems in the F-IS variant are used to automatically open and close double-leaf fire control doors. A mechanical closing sequence control is necessary for double-leaf fire control doors, refer to the section on integrated closing sequence control (IS).

This variant can be realised using the following drive series: Slimdrive EMD-F and TSA 160 NT

F-IS swing door



Zamenhof care home, Stuttgart, Germany (Photo: Dirk Wilhelmy)

Swing door systems with integrated closing sequence control for double-leaf doors, automatic doors and door closer function (IS/TS)

With this variant for double-leaf swing door systems, the active leaf is automated with a swing door drive (TSA 160 NT), the fixed leaf is equipped with a door closer (TS 160). Since the drive design is not interrupted, this system produces harmonious results, both in terms of function and appearance. The preferred use for this swing door drive/door closer combination is when the active leaf is the one mainly moved. The closing sequence control required for use on fire control doors is also integrated in the drive housing. This guarantees that both door leaves close in a controlled manner after they have been passed through. The fixed leaf can be held open by manually setting the programme switch to "permanently open" and manually opening the door.

This variant can be realised using the following drive series: TSA 160 NT IS/TS

F-IS/TS swing door



Kreissparkasse bank, Ludwigsburg, Germany (Photo: Lazaros Filoglou)

Swing door systems for fresh air as well as doors in emergency exits (inverse)

Inversely installed swing door drives are used on single and double-leaf single-action doors made of wood, plastic or steel. There is an electrical closing sequence control available for double-leaf doors. Inversely installed drives are suitable for emergency exits and for fresh air opening systems for RWA systems. The doors are opened by spring force and closed by motor. This guarantees that the door will open safely in the event of a power failure or fire alarm. An emergency power supply is no longer required.

This variant can be realised using the following drive series: Slimdrive EMD and TSA 160 NT

Inverse swing door



Augustinum retirement home, Stuttgart, Germany (Photo: Dirk Wilhelmy)

Swing door systems for large and heavy doors, as well as frequently used doors (EN7)

This variant is a reliable solution for the automation of very large and heavy swing doors which are highly frequented. Drives in the EN 7 range are suitable for leaf weights up to max. 310 kg and leaf widths up to 1600 mm. In the F variant, these drives can be used on fire control doors. Optimum applications for these drives are homes for the elderly, hospitals, shopping centres, schools or airports.

This variant can be realised using the following drive series: TSA 160 NT EN7, TSA 160 NT IS EN7 and TSA 160 NT-F EN7

TSA 160 NT EN7 swing door



Robert Bosch hospital, Stuttgart, Germany (Photo: Nikolaus Grünwald)

Special area of application: Toilets for the disabled

Toilets for the disabled must be designed in such a way that people with all sorts of different handicaps can use the facilities without needing help. GEZE swing door drives provide an indispensable service for this application, and guarantee a high level of convenience.

Description of function

The door opens automatically after the elbow switch on the outside of the toilet has been pressed, and closes automatically after the set hold-open time has passed.

When the user presses the selector switch inside the toilet cubicle, the "occupied" sign outside the toilet is activated and the telltale lamp on the change-over switch comes on. At the same time, the elbow switch is deactivated on the outside and on the inside. This means the door cannot be opened by third parties nor by the user by mistake. The door opener is supplied with current, preventing manual opening of the door from outside. When the user leaves the toilet, he presses the selector switch again. The "occupied" sign outside and the telltale lamp inside both go off. The drive is actuated by pressing the OPEN DOOR elbow switch inside the cubicle, and the door opens immediately.

In the event of a power failure, the closed circuit current door opener releases and the user can leave the cubicle by pushing or pulling the door open. The door can also always be opened from the inside by pressing the elbow switch, even when the system is still powered. In emergencies, the door can be opened manually from the outside by means of a key or by actuating the emergency shut-off switch.



- 1 = Swing door drive
- 2 = OPEN DOOR elbow switch (inside and outside)
- 3 = Selector switch: Lock/unlock door
- 4 = „Occupied“ indicator light
- 5 = „Occupied“ telltale lamp
- 6 = Emergency-stop switch (recommended installation height: 1600 mm)

GEZE swing door drive ECTurn

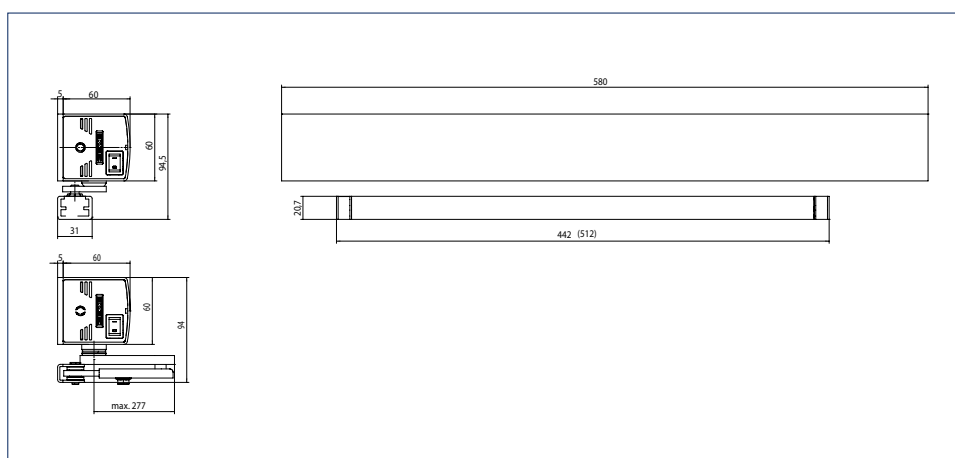
Electromechanical swing door drive for 1-leaf single-action internal doors (including all-glass doors)

This extremely quiet electromechanical swing door drive meets the requirements of barrier-free building. It makes life easier and more convenient – particularly for people with mobility problems or little strength. Doors can comfortably be opened automatically or manually and closed automatically. The GEZE ECTurn can be operated both in low-energy mode and in automatic mode in accordance with DIN 18650 / EN 16005. In low-energy mode, the drive moves the swing door at reduced speed. The use of safety sensors to safeguard the system is only necessary in individual cases, taking the user group into account. In automatic mode, however, the swing area of the door must always be safeguarded with safety sensors. An optional rechargeable battery ensures maximum safety even in the event of a power failure. This swing door drive covers all internal application cases. Thanks to the glass guide rail available as an accessory, the ECTurn can also be used on glass doors (glass thickness 8-10 mm). The ECTurn is very flexible and permits all hinge variants, both for DIN left-hand and DIN right-hand doors.

GEZE ECTurn



GEZE ECTurn



Application range

- Barrier-free internal doors
- All-glass doors
- Hotels and gastronomy
- Hospitals and nursing homes for the elderly
- Educational institutions, e.g. schools, nursery schools, day care centres
- Leisure facilities, e.g. baths, thermal baths, sport and wellness centres
- Administration and public buildings
- Homes

Technical data

Product features	GEZE ECTurn
Height	60 mm
Width	580 mm
Depth	60 mm
Leaf weight (max.) 1-leaf	125 kg
Leaf width (min.-max.)	650 – 1100 mm
Reveal depth (max.)*	200 mm
Door overlap (max.)*	50 mm
Drive type	Electromechanical
Door opening angle (max.)*	110 °
DIN left	•
DIN right	•
Transom installation opposite hinge side with link arm	•
Transom installation opposite hinge side with guide rail	•
Transom installation hinge side with guide rail	•
Transom installation opposite hinge side with guide rail on all-glass doors	•
Transom installation hinge side with guide rail on all-glass doors	•
Door leaf installation opposite hinge side with guide rail	•
Door leaf installation hinge side with guide rail	•
Door leaf installation hinge side with link arm	•
Electrical latching action	•
Disconnection from mains	Main switch in the drive
Activation delay (max.)	10 S
Operating voltage (min.)	110 V
Operating voltage	230 V
Frequency of supply voltage	50 – 60 Hz
Capacity rating	75 W
Power supply for external consumers (24 V DC)	600 mA
Temperature range	-15 – 50 °C
Enclosure rating	IP 20
Operating modes	Off, Automatic, Permanently open, Night
Type of function	Fully automatic
Automatic function	•
Low-energy function	•
Key function	•
Obstruction detection	•
Automatic reversing	•
Push & Go	adjustable
Operation	Keypad programme switch TPS, Programme switch integrated in the drive
Parameter setting	Display programme switch DPS, Control
Approvals	DIN 18650, EN 16005

• = YES

* = DEPENDING ON THE TYPE OF INSTALLATION

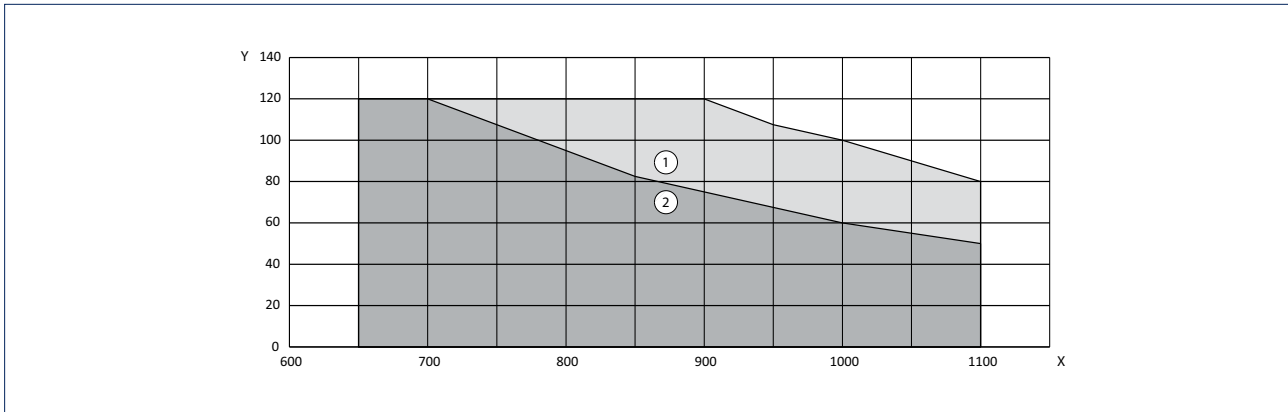
NOTE: THE MAXIMUM POSSIBLE LEAF WEIGHT IN RELATION TO LEAF WIDTH CAN BE FOUND IN THE CHAPTER ON AREAS OF APPLICATION (DIAGRAMS)!

Areas of application

Note

In low-energy mode the drive moves the swing door at reduced speed, thus fulfilling the safety requirement in DIN 18650 / EN 16005. The use of safety sensors to safeguard the system is only necessary in individual cases, taking the user group into account. In automatic mode, however, the swing area of the door must always be safeguarded with safety sensors.

ECturn



Note: Only for use on internal doors!

X = Door width (mm)

Y = Door weight (kg)

1 = Area of application in low-energy mode

2 = Area of application in automatic mode



GEZE ECturn (Photo: Studio BE)

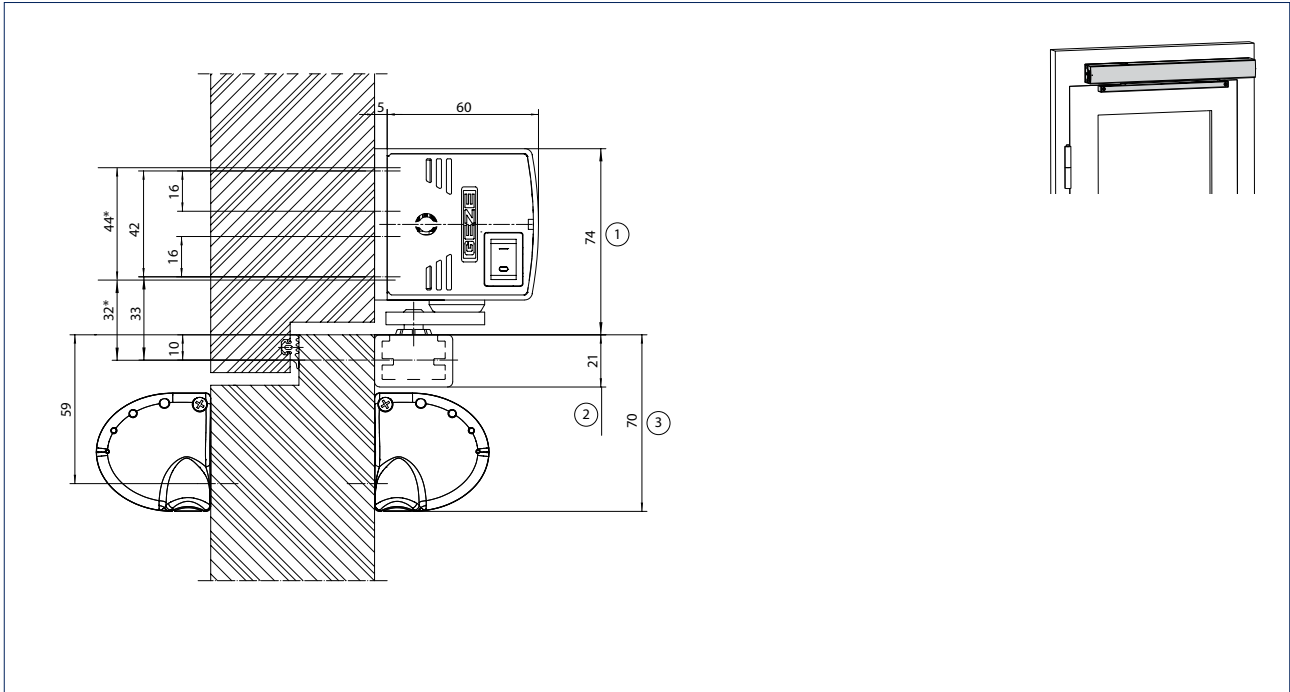
Note: Diagram shows left-hand (ISO 6), right-hand (ISO 5) is reversed (mirror-image).

Transom installation with guide rail on the hinge side, single-leaf

Drawing no. 70107-ep01

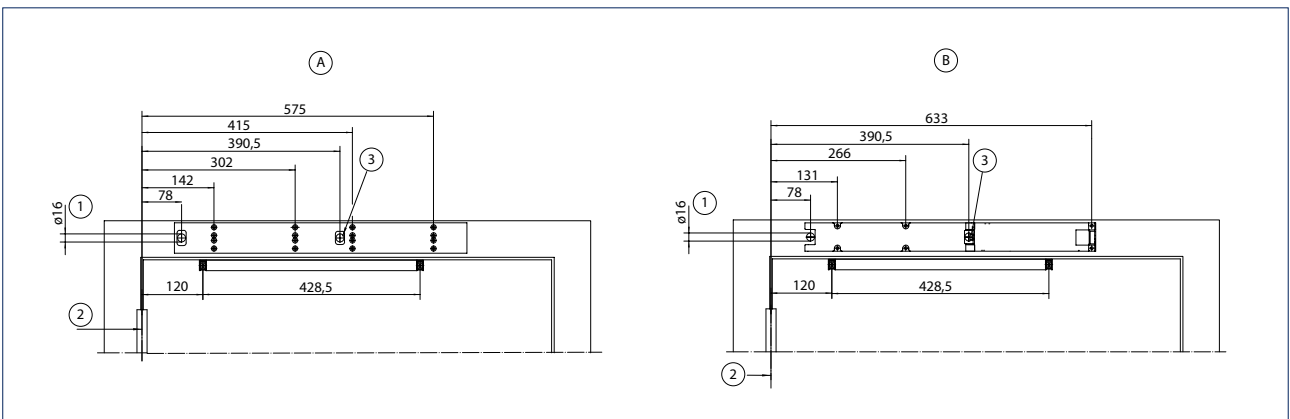
Reveal depth (max.) 40 mm

Door overlap (max.) 40 mm



- * = Direct installation
- 1 = Space requirement for ECTurn
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 334

Installation with mounting plate (A) and direct installation (B)

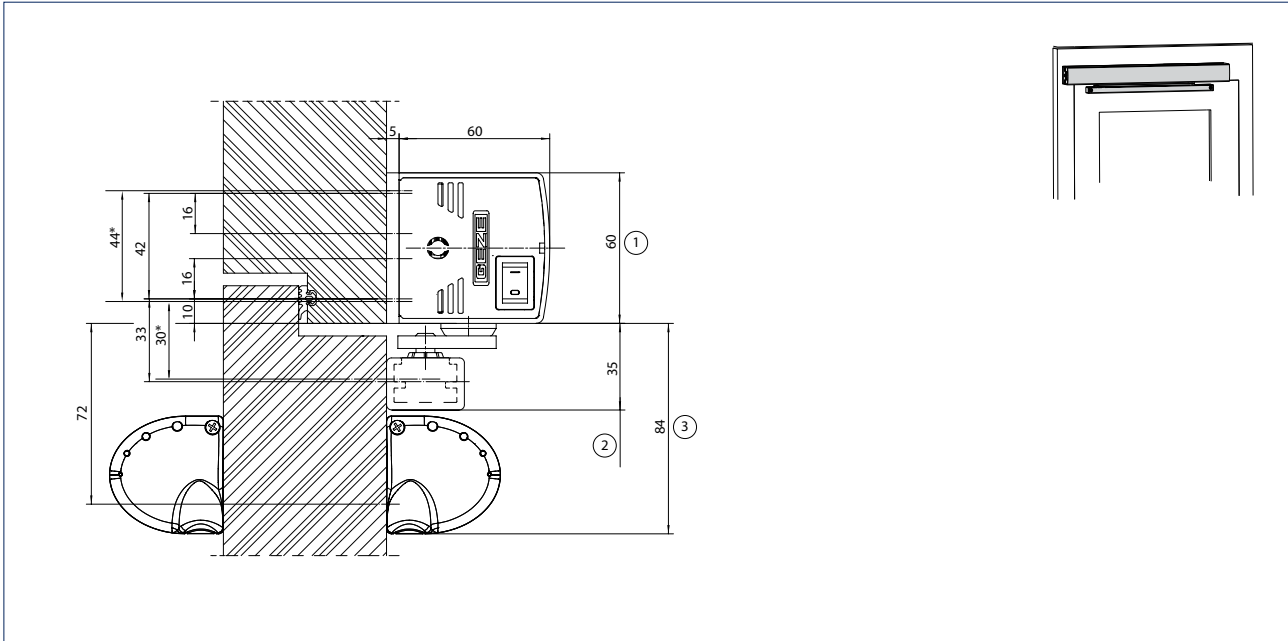


- A = Installation with mounting plate
- B = Direct installation
- 1 = Concealed line-feed for low-voltage connection and mains cable
- 2 = Dimensional reference centre of hinge
- 3 = Concealed line-feed for low-voltage connection

Transom installation with guide rail on the opposite hinge side, single-leaf

Drawing no. 70107-ep02

Reveal depth (max.) 30 mm

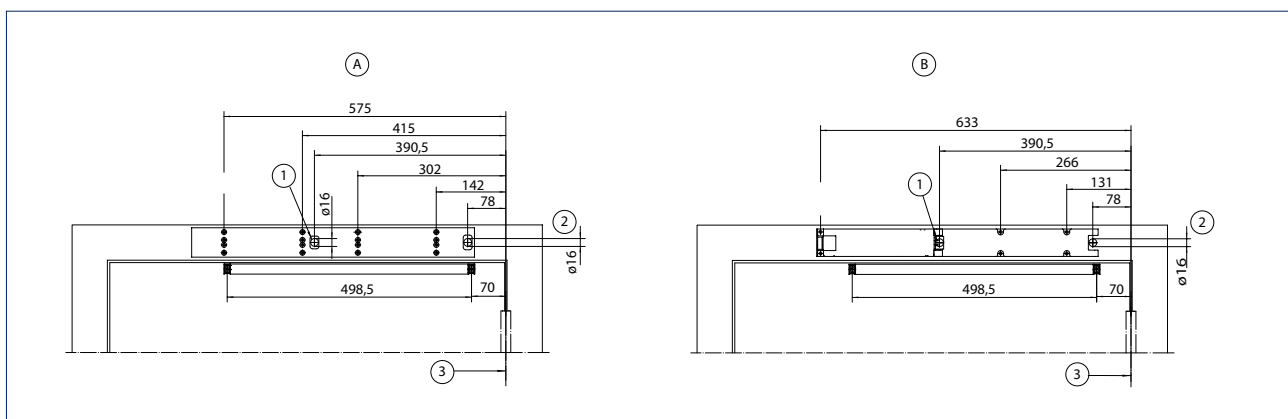


* = Direct installation

1 = Space requirement for ECTurn

2 = Space requirement for guide rail

3 = Space requirement for GC 334

Installation with mounting plate (A) and direct installation (B)

A = Installation with mounting plate

B = Direct installation

1 = Concealed line-feed for low-voltage connection

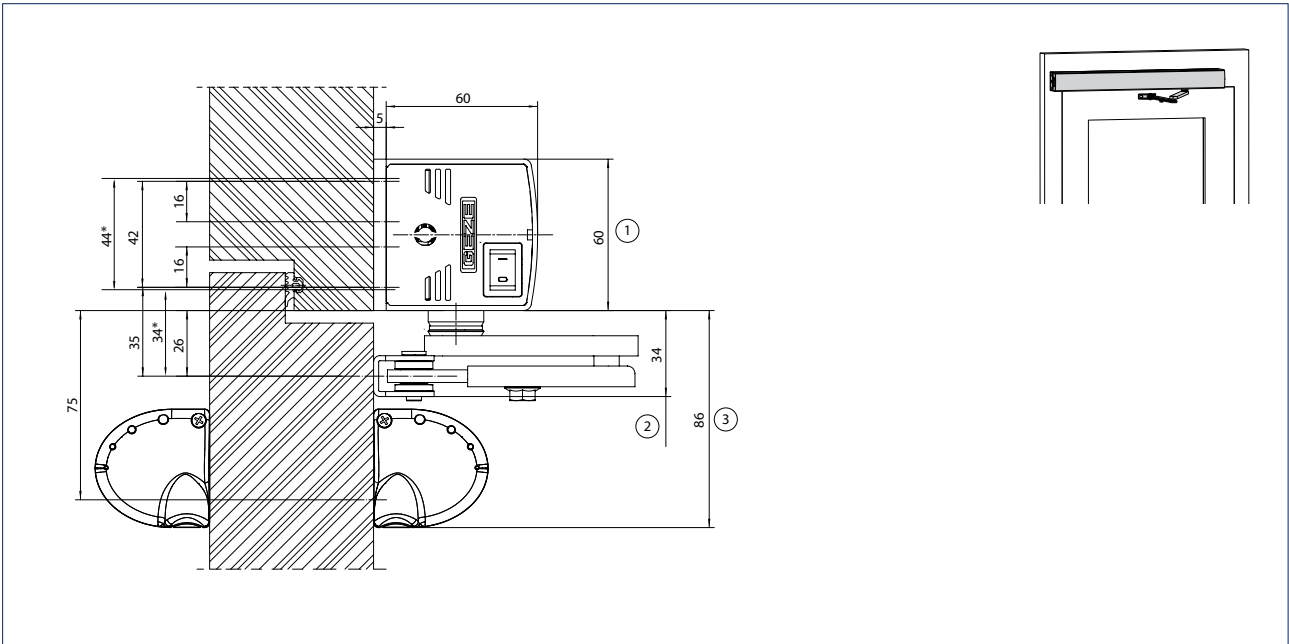
2 = Concealed line-feed for low-voltage connection and mains cable

3 = Dimensional reference centre of hinge

Transom installation with link arm on the opposite hinge side, single-leaf

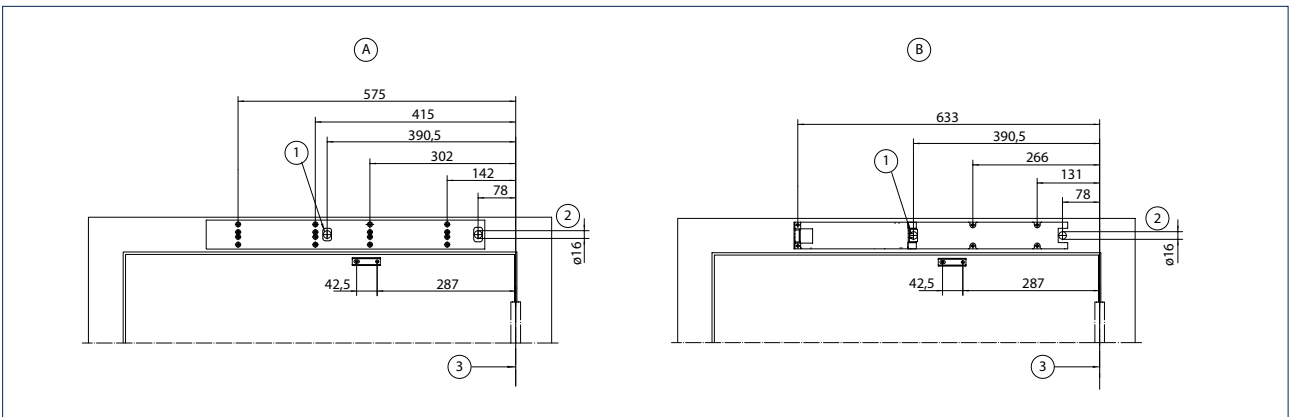
Drawing no. 70107-ep03

Reveal depth (max.) 200 mm



- * = Direct installation
- 1 = Space requirement for ECTurn
- 2 = Space requirement for link arm
- 3 = Space requirement for GC 334

Installation with mounting plate (A) and direct installation (B)

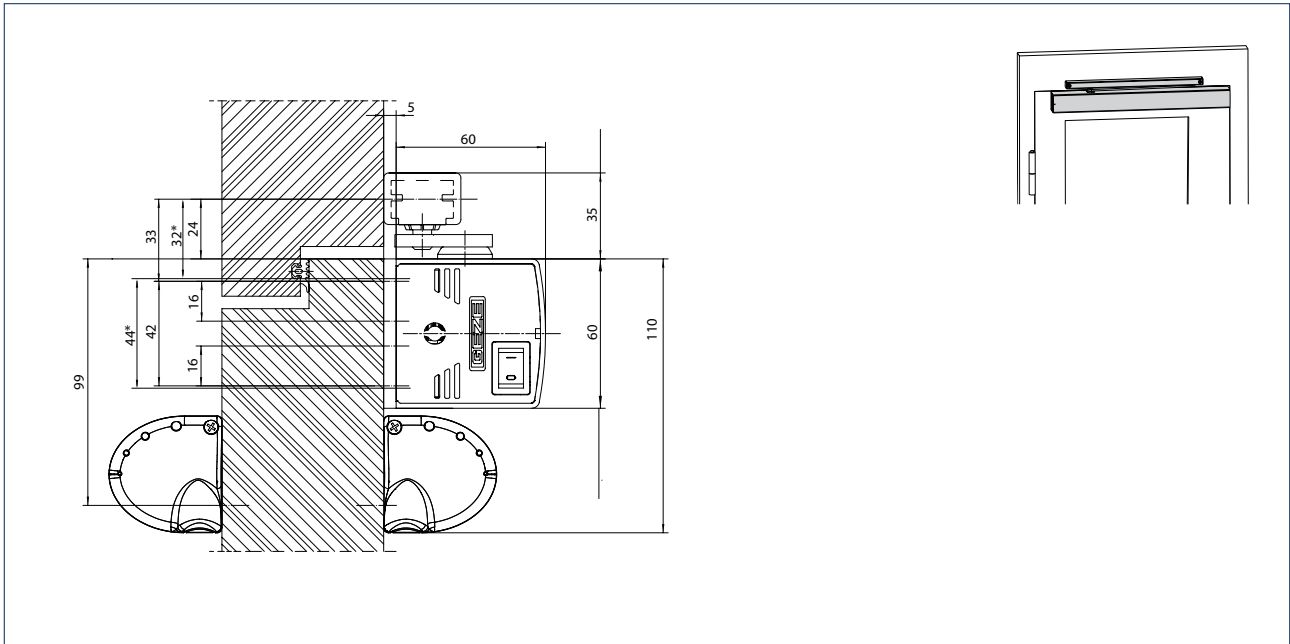


- A = Installation with mounting plate
- B = Direct installation
- 1 = Concealed line-feed for low-voltage connection
- 2 = Concealed line-feed for low-voltage connection and mains cable
- 3 = Dimensional reference centre of hinge

Door leaf installation with guide rail on the hinge side, single-leaf

Drawing no. 70107-ep04

Door overlap (max.) 50 mm

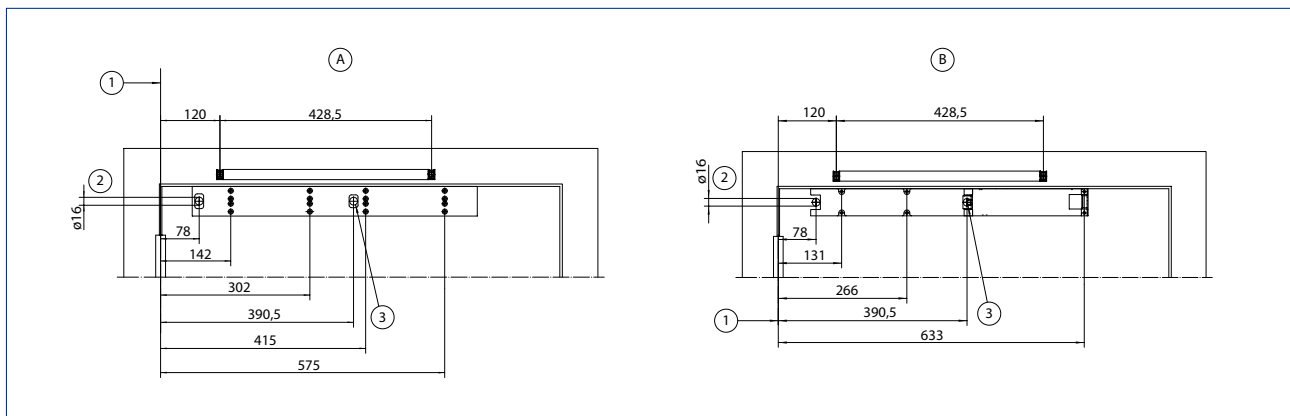


* = Direct installation

1 = Space requirement for guide rail

2 = Space requirement for ECTurn

3 = Space requirement for GC 334

Installation with mounting plate (A) and direct installation (B)

A = Installation with mounting plate

B = Direct installation

1 = Dimensional reference centre of hinge

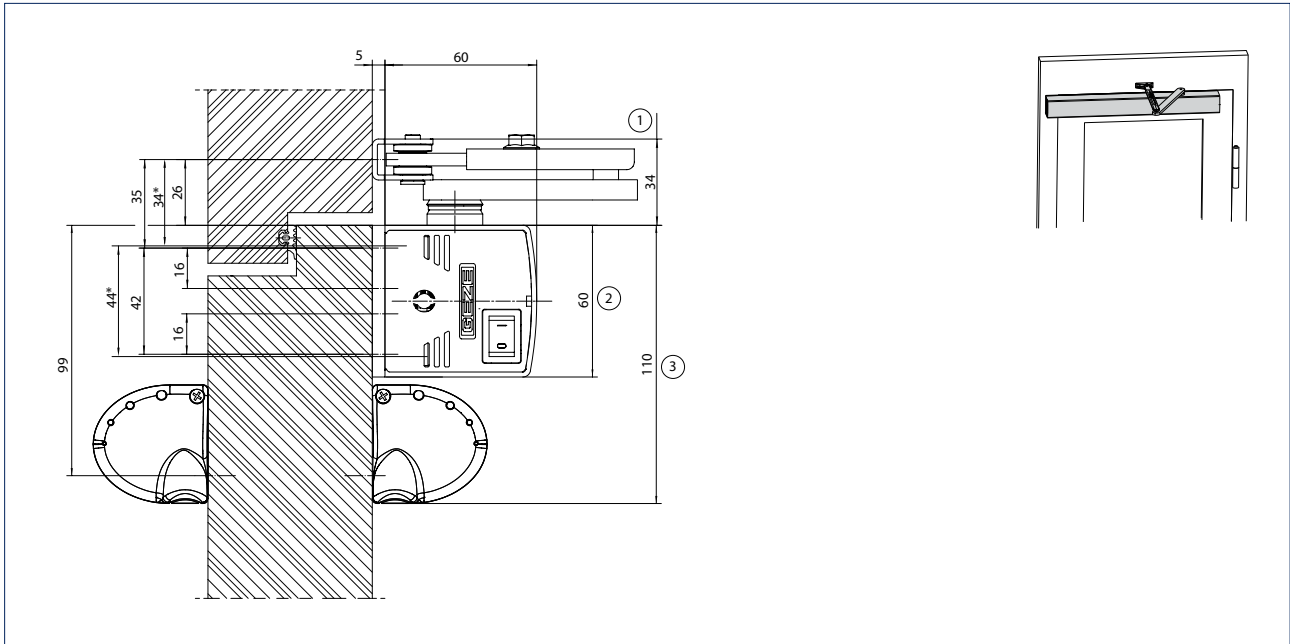
2 = Concealed line-feed for low-voltage connection and mains cable

3 = Concealed line-feed for low-voltage connection

Door leaf installation with link arm on the hinge side, single-leaf

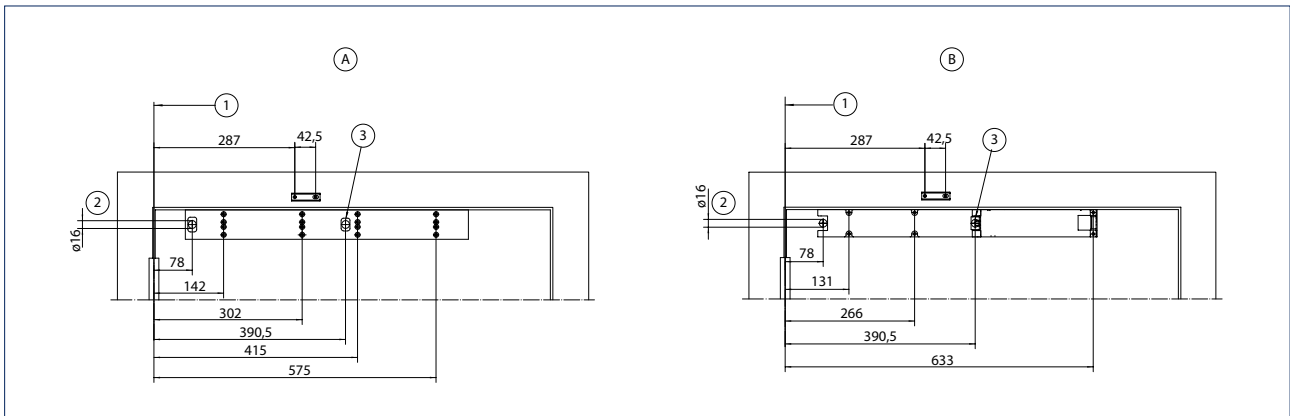
Drawing no. 70107-ep06

Door overlap (max.) 200 mm



- * = Direct installation
- 1 = Space requirement for ECTurn
- 2 = Space requirement for link arm
- 3 = Space requirement for GC 334

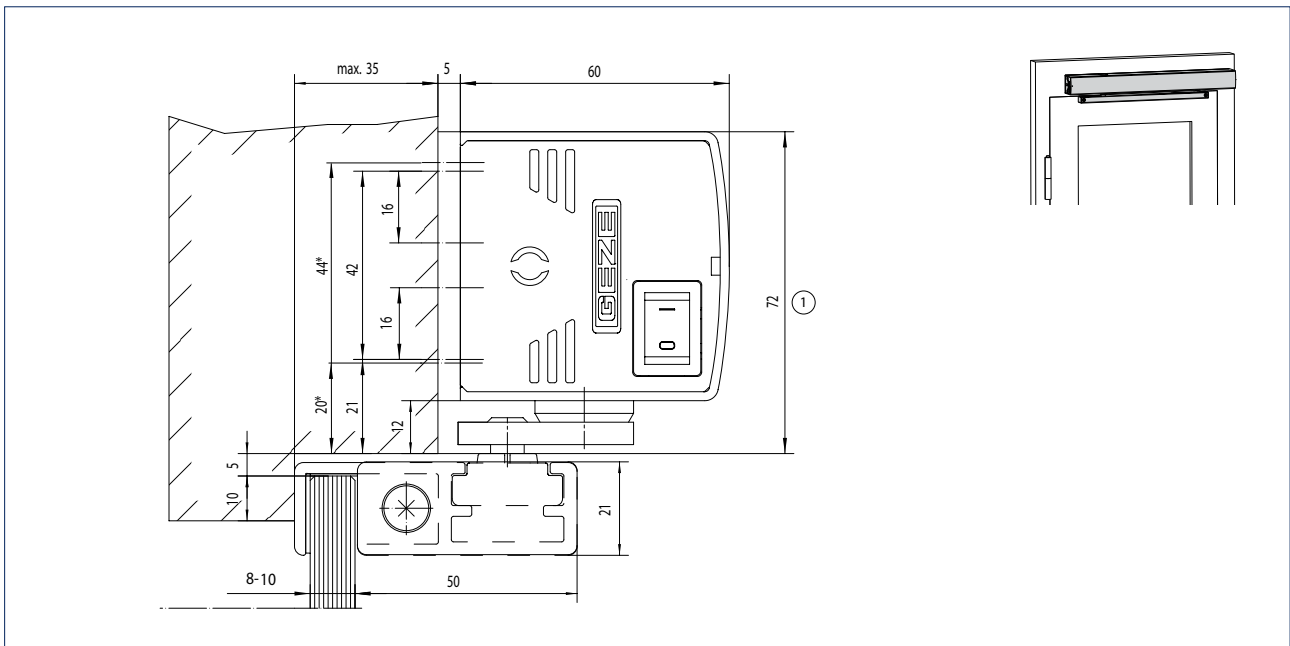
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for low-voltage connection and mains cable
- 3 = Concealed line-feed for low-voltage connection

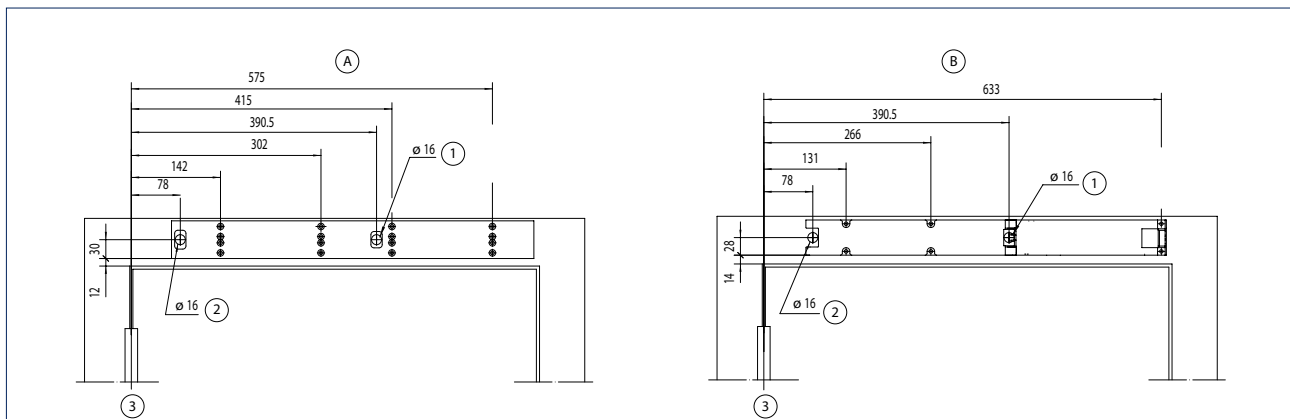
Transom installation with glass guide rail on the hinge side

Drawing no. 70107-ep09



- * = Direct installation
- 1 = Space requirement for ECTurn

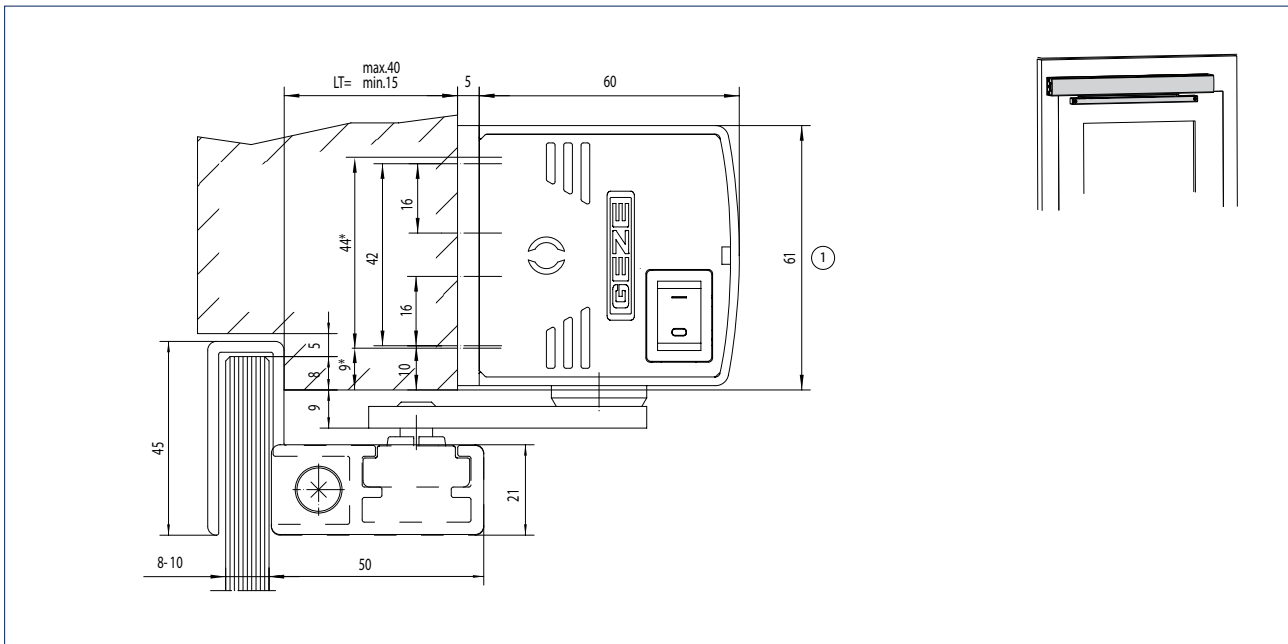
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Concealed line-feed for low-voltage connection
- 2 = Concealed line-feed for low-voltage connection and mains cable
- 3 = Dimensional reference centre of hinge

Transom installation with glass guide rail on the opposite hinge side

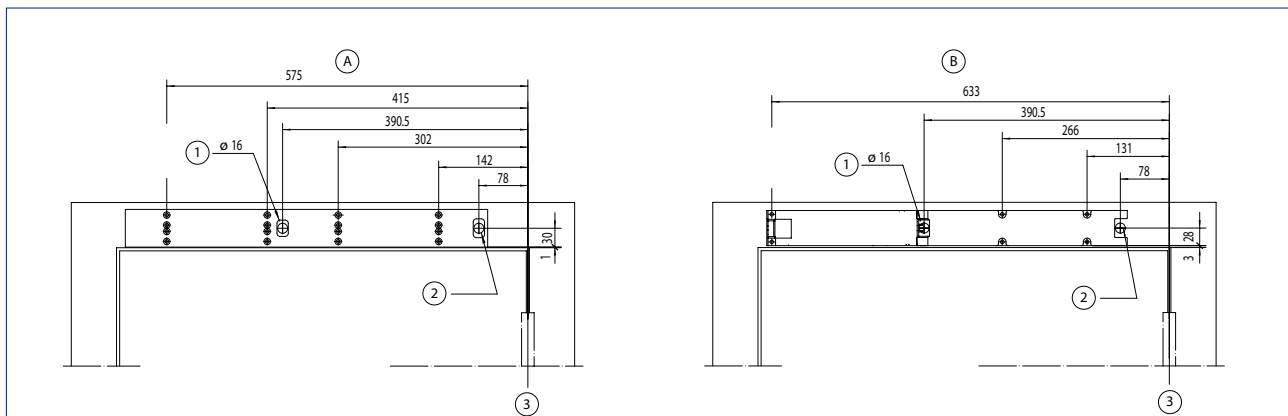
Drawing no. 70107-ep19



* = Direct installation

1 = Space requirement for ECTurn

LT = Soffit depth

Installation with mounting plate (A) and direct installation (B)

A = Installation with mounting plate

B = Direct installation

1 = Concealed line-feed for low-voltage connection

2 = Concealed line-feed for low-voltage connection and mains cable

3 = Dimensional reference centre of hinge

Legend for the cable plans

Cables

- 1 = NYM-J 3 x 1,5 mm²
- 2 = J-Y(ST)Y 1 x 2 x 0,6 LG
- 3 = J-Y(ST)Y 2 x 2 x 0,6 LG
- 4 = J-Y(ST)Y 4 x 2 x 0,6 LG
- 5 = LiYY 2 x 0,25 mm²
- 6 = LiYY 4 x 0,25 mm²
- 7 = Scope of supply sensor strip or LiYY 5 x 0,25 mm²
- 8 = Route empty pipe with pull-wire inner diameter 10 mm

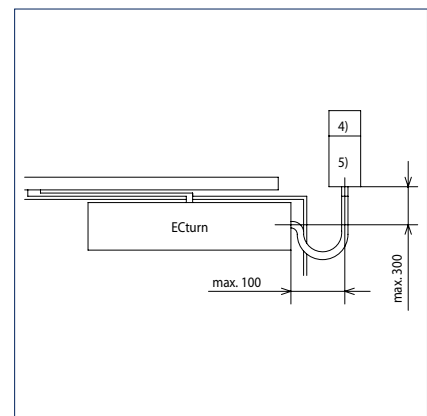
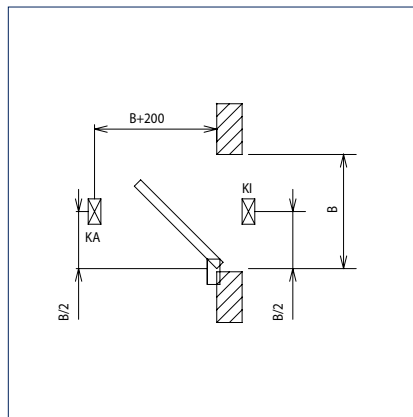
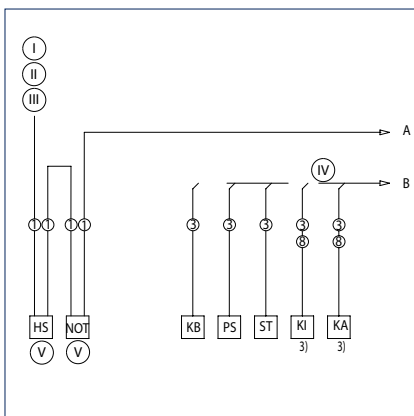
Abbreviations

HS	= Main switch
NOT	= Emergency-stop switch
KB	= Contact sensor authorised
PS	= Programme switch
ST	= Emergency stop
KI	= Contact sensor inside
KA	= Contact sensor outside
TOE	= Door opener
RM	= Bar message

Notes

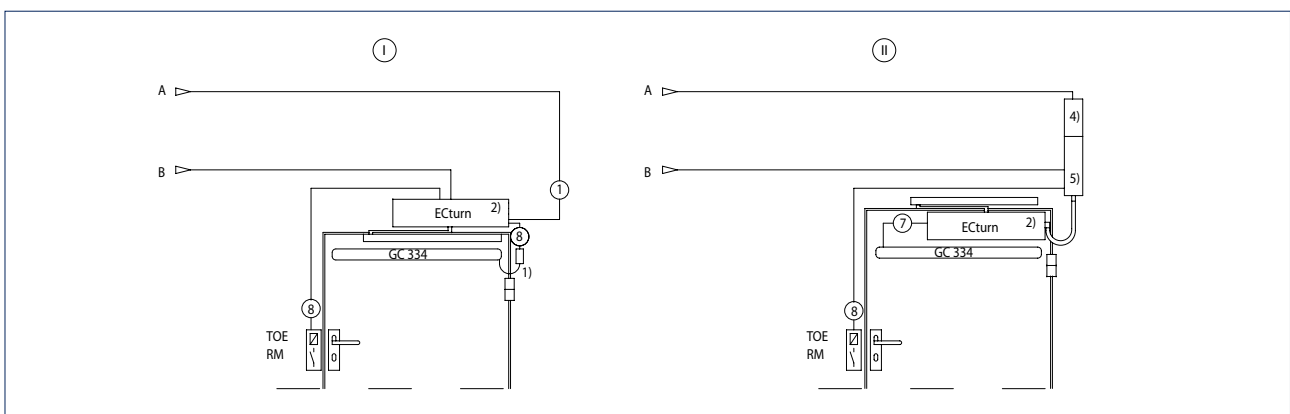
- Cable plans can also be prepared for specific building projects after receipt of order
- Version of standard cable plans in accordance with GEZE specifications
- Cable routing according to VDE 0100
- Allow the cable for the drive to project at least 1500 mm out of the wall

- 1) Door transmission cable (included in the scope of supply for sensor strip)
- 2) Cable exit for door drive, see installation drawings for ECTurn 70107-ep01 to -ep06
- 3) Cable included in the scope of supply for the sensor
- 4) + 5) Connection box for mains supply and control cable combined on site. Mains supply and control cable must be wired in separate terminal spaces.
- 4) Mains connection box WxHxD min. 65 x 65 x 57
- 5) Control cable box WxHxD min. 94 x 65 x 57 with PG-11 duct



- I = Feeder 230 V / 50 Hz
- II = 10 A fuse
- III = Connected load 230 W 1 A
- IV = And / Or
- V = Option

1-leaf



- I = Transom installation concealed line-feed
- II = Door leaf installation

GEZE swing door drive ECTurn Inside

Integrated electromechanical swing door drive for 1-leaf single-action internal doors

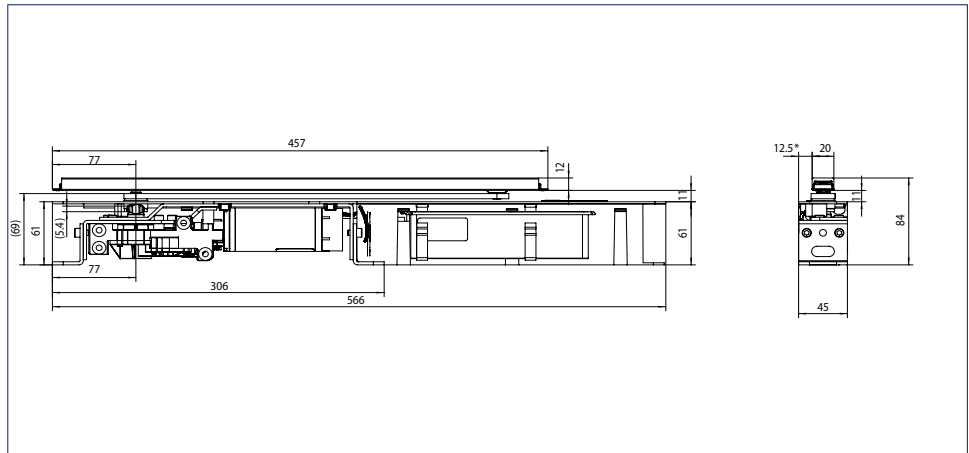
With the ECTurn Inside swing door drive, GEZE combines accessibility and safety with optimum door design. Thanks to its small dimensions, the drive can be integrated into the door leaf of internal doors (min. thickness 55 mm). The ECTurn Inside opens and closes doors “invisibly” without compromising their appearance. The wide range of special functions such as radio push buttons, mobile radio remote control units or acoustic signals allow the system to be tailored to specific user requirements. ECTurn Inside can be operated in low-energy and automatic modes. In low-energy mode the drive moves the swing door at reduced speed, thus fulfilling the safety level of DIN 18650 and EN 16005. An optional rechargeable battery provides a safeguard in the event of a power failure ensuring that the door continues to open automatically and safely. The door can also be opened manually in the event of a power failure.

GEZE ECTurn Inside



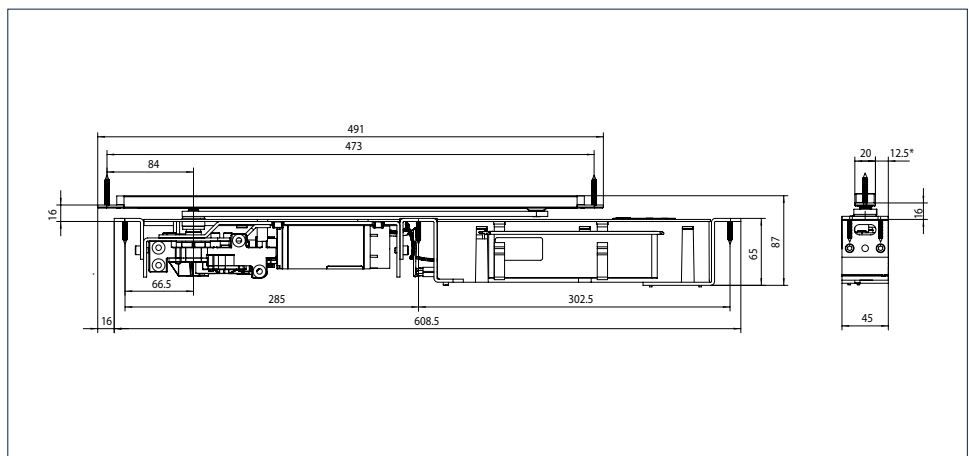
GEZE ECTurn Inside

Drawing shows installation in wooden door leaf, door frame is reversed (mirror-image)



GEZE ECTurn Inside

Drawing shows installation in metal door leaf, door frame is reversed (mirror-image)



Application range

- Barrier-free internal doors
- Hotels and gastronomy
- Hospitals and nursing homes for the elderly
- Educational institutions, e.g. schools, nursery schools, day care centres
- Leisure facilities, e.g. baths, thermal baths, sport and wellness centres
- Administration and public buildings
- Homes

Technical data

Product features	GEZE ECTurn Inside
Height	61 mm
Width	566 mm
Depth	45 mm
Leaf weight (max.) 1-leaf	125 kg
Leaf width (min.-max.)	700 – 1100 mm
Drive type	Electromechanical
Door opening angle (max.)*	110 °
DIN left	●
DIN right	●
Installation in the door leaf	●
Installation in the door frame	●
Electrical latching action	●
Activation delay (max.)	10 S
Operating voltage (min.)	24,5 V
Operating voltage	30 V
Frequency of supply voltage	50 – 60 Hz
Capacity rating	75 W
Power supply for external consumers (24 V DC)	600 mA
Temperature range	-15 – 50 °C
Enclosure rating	IP 20
Operating modes	Off, Automatic, Permanently open, Night
Type of function	Fully automatic
Automatic function	●
Low-energy function	●
Key function	●
Obstruction detection	●
Automatic reversing	●
Push & Go	adjustable
Operation	Programme switch integrated in the drive, Keypad programme switch TPS
Parameter setting	Control, Display programme switch DPS
Approvals	DIN 18650, EN 16005

● = YES

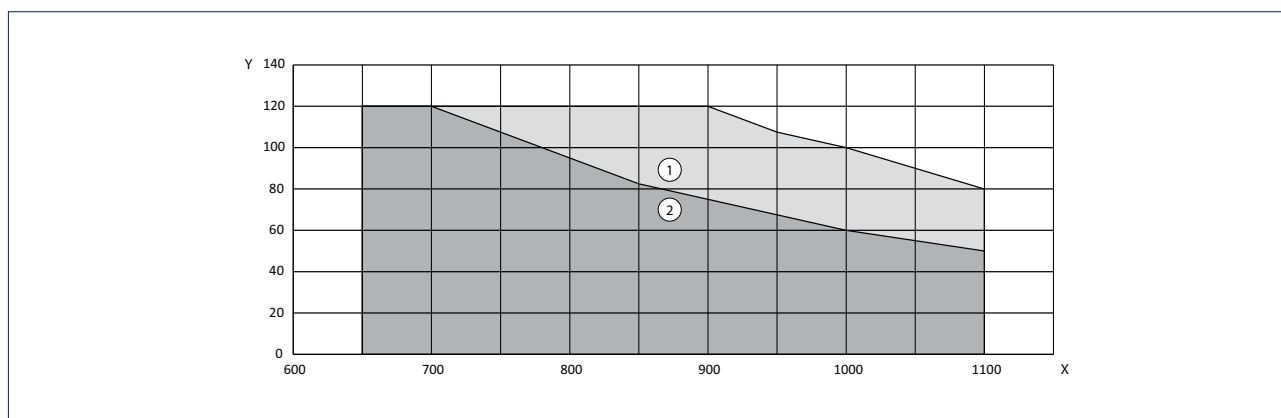
* = DEPENDING ON THE TYPE OF INSTALLATION

NOTE: THE MAXIMUM POSSIBLE LEAF WEIGHT IN RELATION TO LEAF WIDTH CAN BE FOUND IN THE CHAPTER ON AREAS OF APPLICATION (DIAGRAMS)!

Areas of application

Note

In low-energy mode the drive moves the swing door at reduced speed, thus fulfilling the safety requirement in DIN 18650 / EN 16005. The use of safety sensors to safeguard the system is only necessary in individual cases, taking the user group into account. In automatic mode, however, the swing area of the door must always be safeguarded with safety sensors.



Note: Only for use on internal doors!

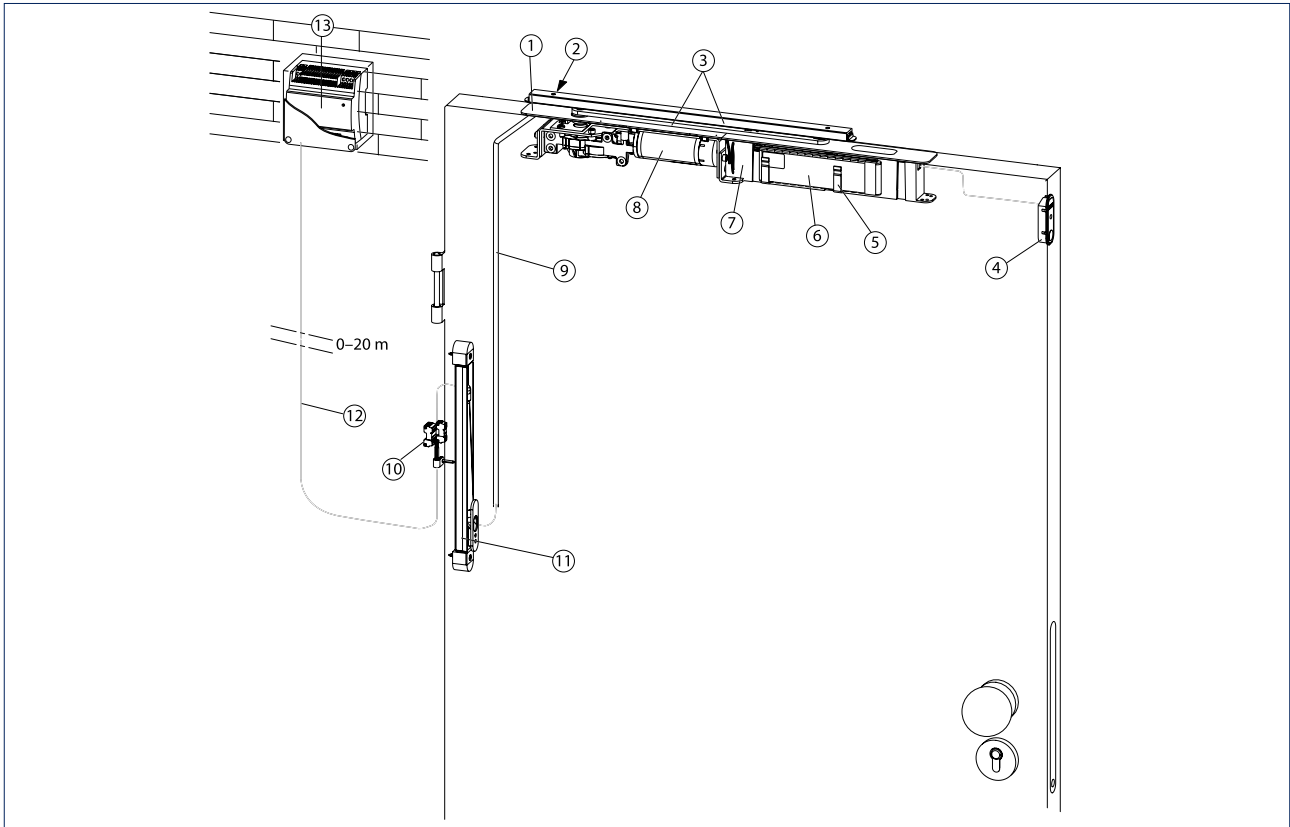
X = Door width (mm)

Y = Door weight (kg)

1 = Area of application in low-energy mode

2 = Area of application in automatic mode

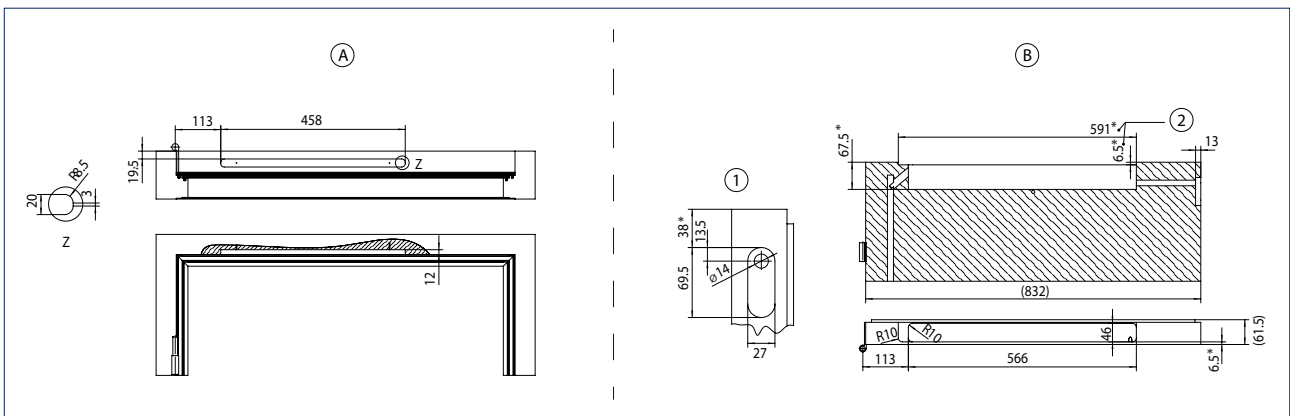
Overview of components



- | | |
|---|-------------------------------------|
| 1 = Cover for the motor drive control | 8 = Motor drive control |
| 2 = Back check | 9 = Supply cable, inside door 2.5 m |
| 3 = Guide rail and lever | 10 = Electric installation material |
| 4 = Separate programme switch (optional) | 11 = Cable transition (optional) |
| 5 = Fixture for rechargeable battery (optional) | 12 = Supply cable (on site) |
| 6 = Rechargeable battery (optional) | 13 = Power supply (flush-mounted) |
| 7 = Control | |

Installation in the wooden door frame

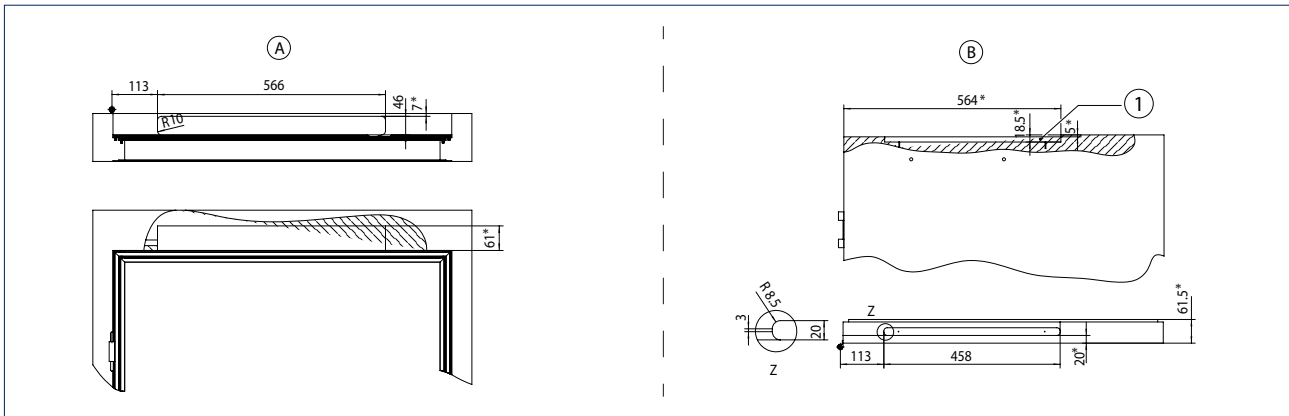
Drawing no. 70107-ep10



- | |
|---|
| A = Frame cut-out |
| B = Door cut-out |
| 1 = Recess for programme switch (optional) |
| 2 = Recess for lever |
| * = Dimensions or positions can deviate depending on the door type. |

Installation in the wooden door frame

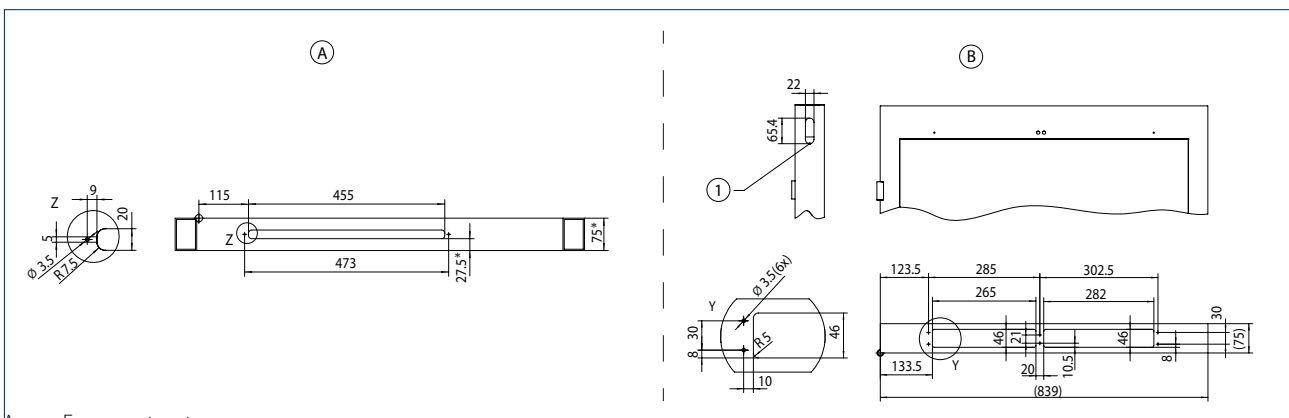
Drawing no. 70107-ep13



- A = Cut-out for drive
- B = Door cut-out
- 1 = Cut-out for lever
- * = Dimensions or positions can deviate depending on the door type.

Installation in the metal door leaf

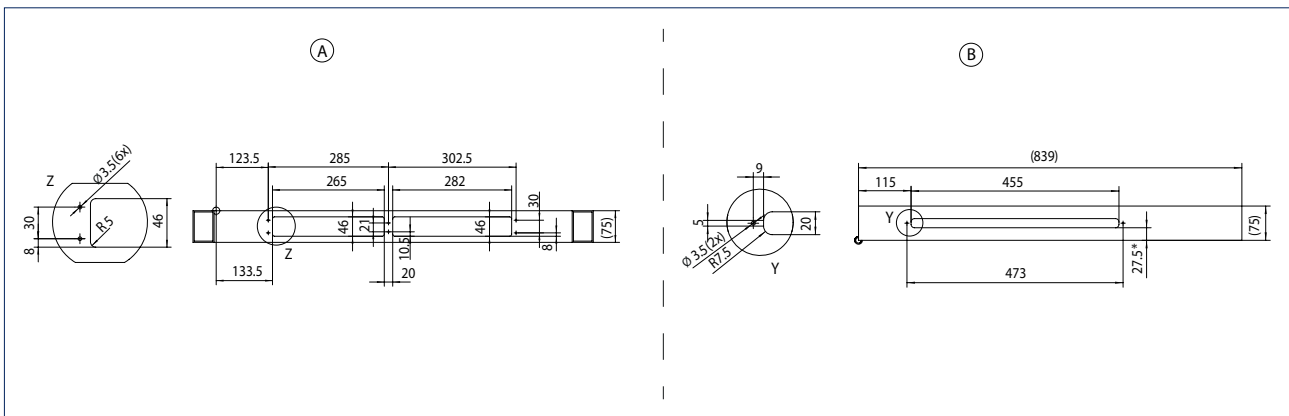
Drawing no. 70107-ep12



- A = Frame cut-out
- B = Door leaf cut-out
- 1 = Cut-out for programme switch (optional)
- * = Dimensions or positions can deviate depending on the door type.

Installation in the metal door frame

Drawing no. 70107-ep14



- A = Frame cut-out
- B = Door cut-out
- * = Dimensions or positions can deviate depending on the door type.

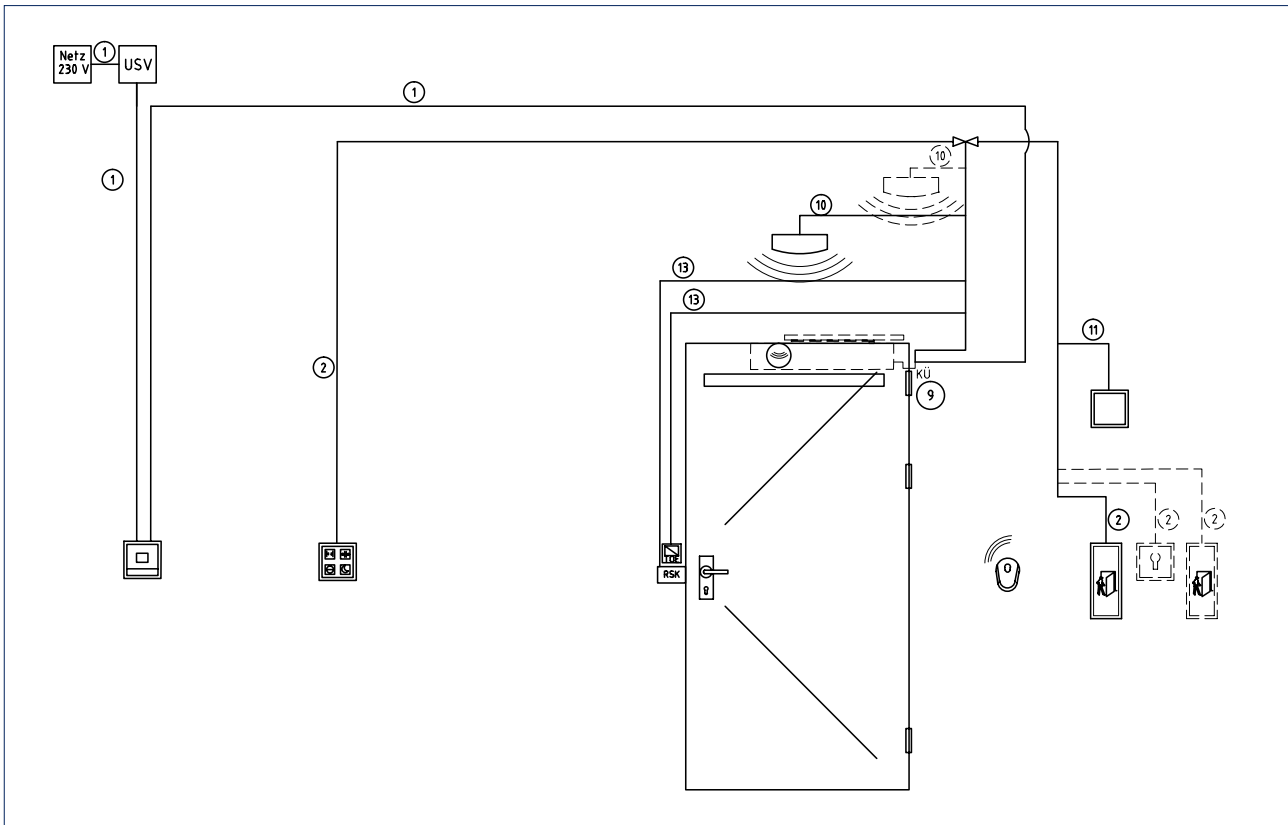
Legend for the cable plan

- 1 = NYM-J 3 x 1.5 mm²
- 2 = I-Y(ST) Y 2 x 2 x 0.6 mm²
- 9 = Empty pipe Ø 10 mm with pull-wire or LiYY 6 x 0.25 mm with concealed cable transition
- 10 = Empty pipe Ø 10 mm with pull-wire; cable supplied by GEZE, max. 3 m
- 11 = Cable information must be provided on site
- 13 = Empty pipe Ø 10 mm with pull-wire; I-Y(ST)Y 2 x 0.6 mm

Notes

- This cable plan is a simplified symbolic illustration. Connections must be taken from the wiring diagram. Cable routing is included in the VDE guidelines.
- Positioning of the actuation and operating elements must be specified on site
- Positions shown with dotted lines are positioned on the opposite side
- Sensor strips on both sides in compliance with DIN 18650 / EN 16005

Standard cable plan maximal scope, pulling from one side, 1-leaf, DIN right-hand doors



Hotel Waldorf, Berlin, Germany (Photo: Stefan Dauth)

GEZE swing door drive Slimdrive EMD

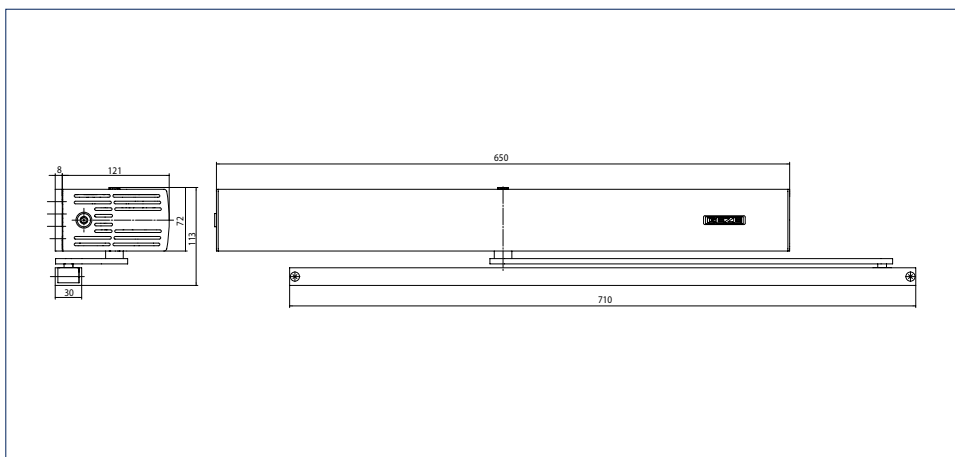
Electromechanical swing door drive for 1 and 2-leaf single-action doors

The electromechanical swing door drive GEZE Slimdrive EMD stands out due to its numerous areas of application. The compact drive is only 7 cm high and can move large and heavy internal and external doors comfortably and quietly. This makes the Slimdrive EMD the ideal solution wherever efficiency has to be coupled with silent running. State-of-the-art control technology combined with a low-wear and maintenance-free high-power motor guarantees reliable operation even for doors which are heavily frequented. All door parameters e.g. opening and closing speed as well as latching action, can be optimally adapted. Manual door opening can be supported by the drive (servo function) and ensures that even heavy doors can be opened more easily manually. The push & go function can be activated on request, i.e. the door is only slightly opened by hand and the automatic actuation opens the door completely. In low-energy mode, the drive moves the door at reduced speed. The optional CAN interface can be used to meet demanding requirements e.g. air lock control.

GEZE Slimdrive EMD



GEZE Slimdrive EMD



Application range

- Internal and external doors
- Railway stations and airports
- Hotels and gastronomy
- Hospitals and nursing homes for the elderly
- Educational institutions e.g. schools, nursery schools, day care centres
- Leisure facilities, e.g. baths, thermal baths, sport and wellness centres
- Administration and public buildings
- Food industry

Technical data

Product features	GEZE Slimdrive EMD	GEZE Slimdrive EMD-F	GEZE Slimdrive EMD F-IS	GEZE Slimdrive EMD Invers
Height	70 mm			
Width	650 mm			
Depth	121 mm			
Leaf weight (max.) 1-leaf	180 kg	230 kg		
Hinge clearance (min.-max.) 2-leaf	1500 – 2800 mm			
Leaf width (min.-max.)	750 – 1400 mm			
Reveal depth (max.)*	400 mm			
Door overlap (max.)*	30 mm			
Drive type	Electromechanical			
Door opening angle (max.)*	115 °			
Spring pre-load	EN3 – EN6			
DIN left	•	•	•	•
DIN right	•	•	•	•
Transom installation opposite hinge side with link arm	•	•	•	•
Transom installation opposite hinge side with guide rail	•	•	•	•
Transom installation hinge side with guide rail	•	•	•	•
Mechanical latching action	-	•	•	-
Electrical latching action	•	•	•	•
Electrical closing sequence control	•	•	•	•
Mechanical closing sequence control	-	-	•	-
Disconnection from mains	Cable plug connection			
Activation delay (max.)	20 S			
Operating voltage	230 V			
Frequency of supply voltage	50 – 60 Hz			
Capacity rating	230 W			
Power supply for external consumers (24 V DC)	1200 mA			
Temperature range	-10 – 50 °C			
Enclosure rating	IP 20			
Operating modes	Off, Automatic, Permanently open, Shop closing, Night			
Type of function	Fully automatic			
Automatic function	•	•	•	•
Low-energy function	•	•	•	•
Servo function	-	•	•	•
Key function	•	•	•	•
Inverse function (opening by spring force)	-	-	-	•
Vestibule function	•	•	•	•
Obstruction detection	•	•	•	•
Automatic reversing	•	•	•	•
Push & Go	adjustable			
Operation	Display programme switch DPS			
Parameter setting	Display programme switch DPS			
CAN interface	optional			
Approvals	DIN 18650 EN 16005	DIN 18650 DIN 18263-4 EN 16005	DIN 18650 DIN 18263-4 Door closing sequence se- lector tested in accordance with EN 1158 EN 16005	DIN 18650 EN 16005
Suitable for fire control doors	-	•	•	-
Integrated smoke switch (R-variant)	-	•	•	-

• = YES

* = DEPENDING ON THE TYPE OF INSTALLATION

NOTE: THE MAXIMUM POSSIBLE LEAF WEIGHT IN RELATION TO LEAF WIDTH CAN BE FOUND IN THE CHAPTER ON AREAS OF APPLICATION (DIAGRAMS)!

Overview of torques Slimdrive EMD-F

Type of Installation	Transom Installation hinge side (min.-max.)	Door leaf Installation hinge side (min.-max.)	Transom Installation opposite hinge side (min.-max.)	
Linkage element	guide rail	guide rail	guide rail	link arm
Spring pre-load Closer size EN 1154	3 - 5	3 - 5	3 - 5	4 - 6
Closing torques	20 - 45 Nm	17 - 43 Nm	20 - 45 Nm	35 - 70 Nm
Opening torques, automatic	122 - 97 Nm	125 - 96 Nm	115 - 90 Nm	max. 150 Nm
Opening torques, manual	45 - 66 Nm	50 - 73 Nm	42 - 65 Nm	61 - 88 Nm

Note: For automatic mode, the doors must be equipped with suitable hinges. A door stop is necessary.

EMD, EMD-F, EMD Invers

1-leaf doors	Leaf width (min.)	Leaf width (max.)
Transom installation hinge side with guide rail	850 mm	1250 mm / 1400* mm
Transom installation opposite hinge side with guide rail	850 mm	1250 mm / 1400* mm
Transom installation opposite hinge side with link arm	750 mm	1400 mm

* Not suitable for fire protection doors!

EMD, EMD-F, EMD F-IS, EMD Invers

2-leaf doors	Hinge clearance (min.)	Hinge clearance (max.)	Leaf width (min.) active leaf / fixed leaf	Leaf width (max.)
Transom installation hinge side / opposite hinge side with guide rail	1700 mm	2500 / 2800* mm	850 mm	1250 / 1400* mm
Transom installation opposite hinge side with link arm	1500 mm	2500 / 2800* mm	750 mm	1250 / 1400* mm

* Not suitable for fire protection doors!

EMD F-IS / TS

2-leaf doors	Hinge clearance (min.)	Hinge clearance (max.)	Leaf width (min.) active leaf	Leaf width (min.) fixed leaf	Leaf width (max.)
Transom installation hinge side with guide rail	1420 mm	2500 / 2800* mm	850 mm	570 mm	1250 / 1400* mm
Transom installation opposite hinge side with link arm	1220 mm	2500 / 2800* mm	750 mm	470 mm	1250 / 1400* mm

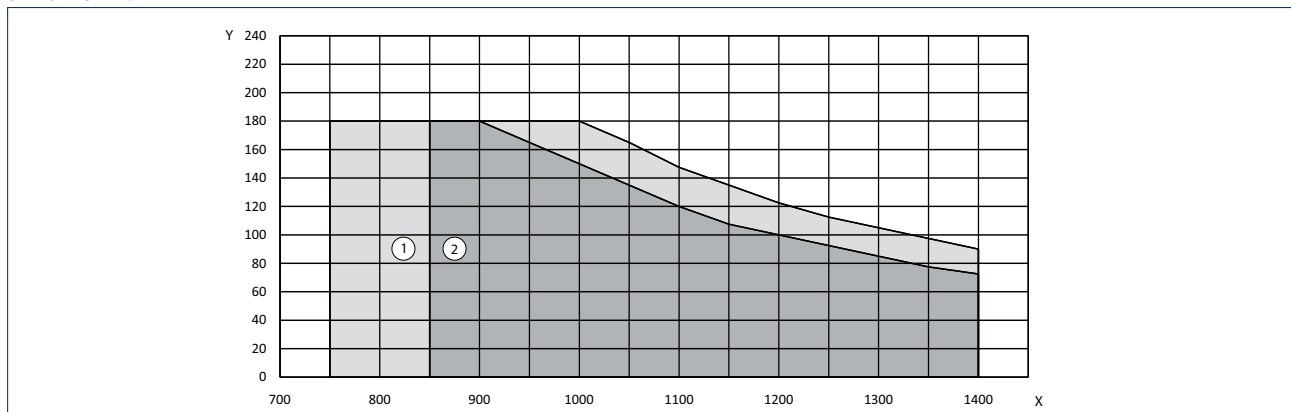
* Not suitable for fire protection doors!

Areas of application

Note

In low-energy mode the drive moves the swing door at reduced speed, thus fulfilling the safety requirement in DIN 18650 / EN 16005. The use of safety sensors to safeguard the system is only necessary in individual cases, taking the user group into account. In automatic mode, however, the swing area of the door must always be safeguarded with safety sensors.

Slimdrive EMD



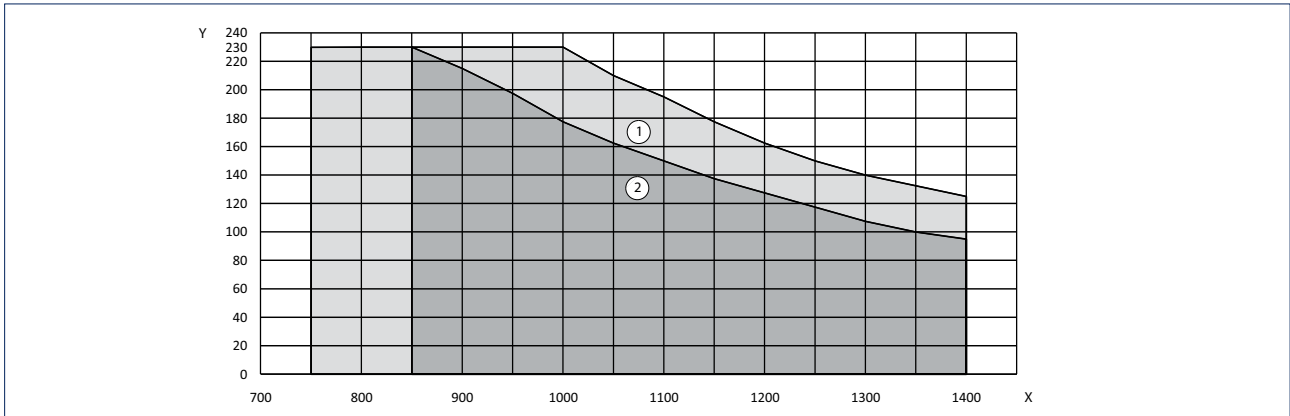
X = Door width (mm)

Y = Door weight (kg)

1 = Link arm

2 = Guide rail

Slimdrive EMD-F



- X = Door width (mm)
- Y = Door weight (kg)
- 1 = Link arm
- 2 = Guide rail

Note

We recommend the use of link arms for external doors. Wind loads and underpressure or excess pressure must also be taken into account. Dimensions marked by an asterisk (*) are valid for direct attachment.

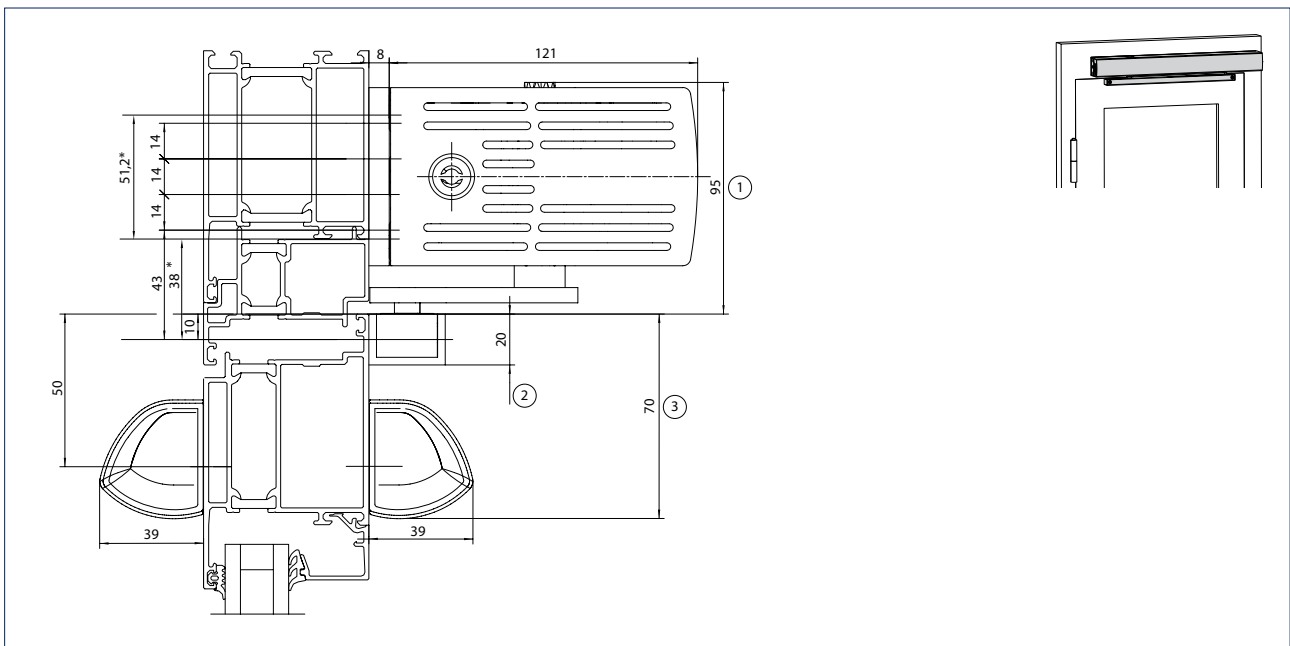
Note: Diagram shows left-hand (ISO 6), right-hand (ISO 5) is reversed (mirror-image).

Transom installation with guide rail on the hinge side, single-leaf

Drawing no. 70106-ep01

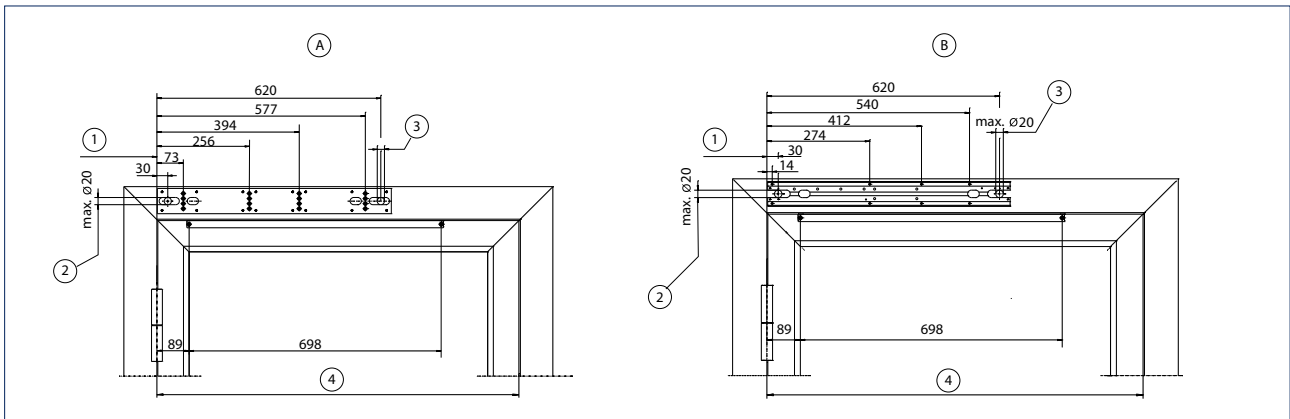
Door overlap (max.) 30 mm

Door opening angle (max.) 105°



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

Installation with mounting plate (A) and direct installation (B)



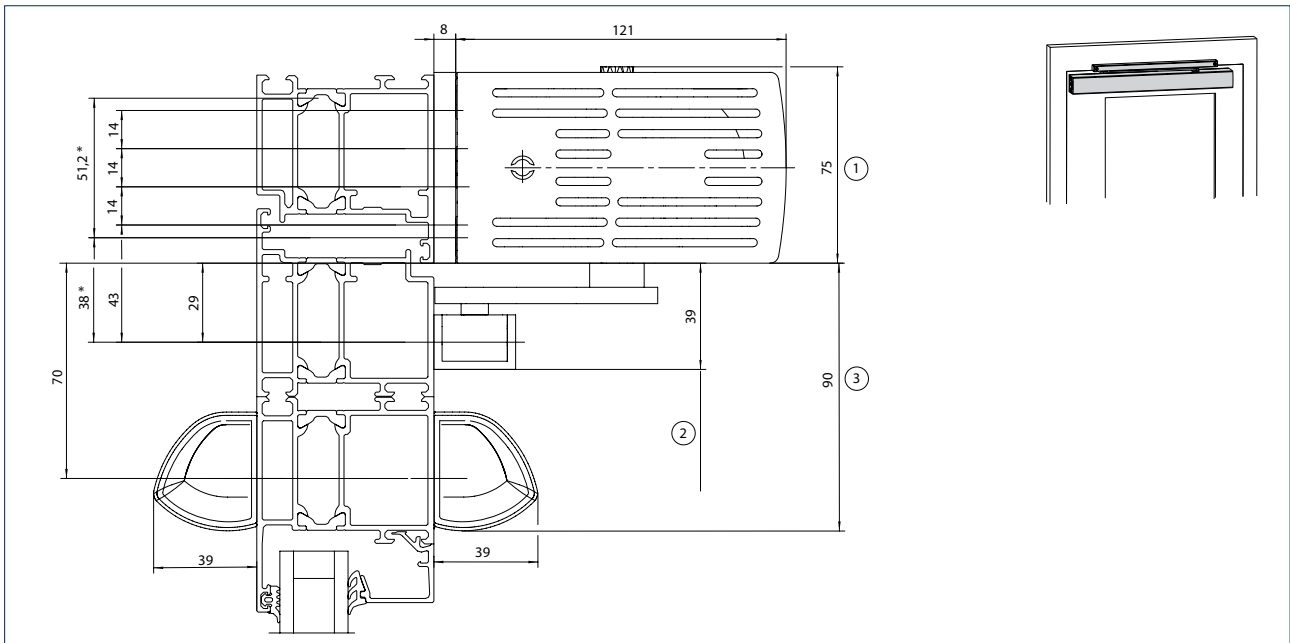
- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width

Transom installation with guide rail on the opposite hinge side, single-leaf

Drawing no. 70106-ep02

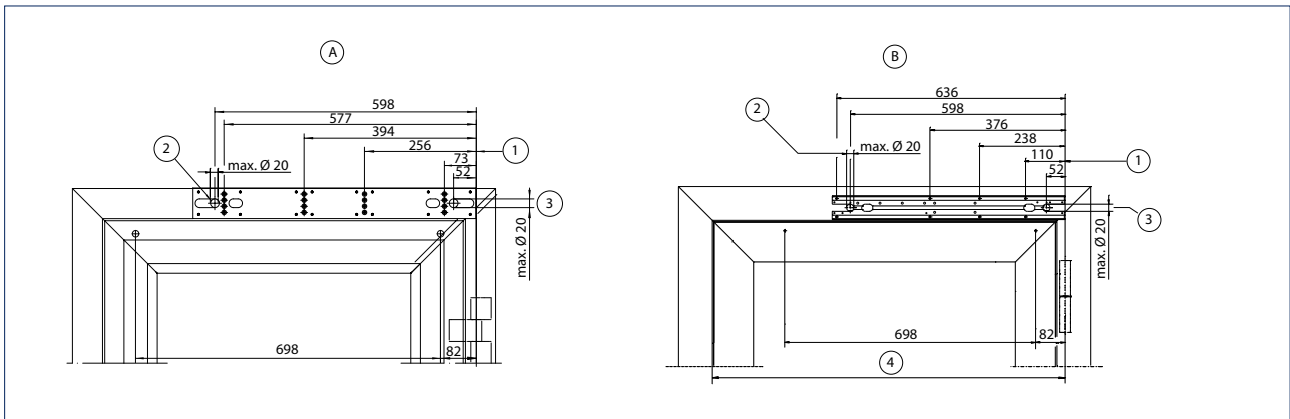
Reveal depth (max.) -30 to +50 mm

Door opening angle (max.) 105°



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

Installation with mounting plate (A) and direct installation (B)



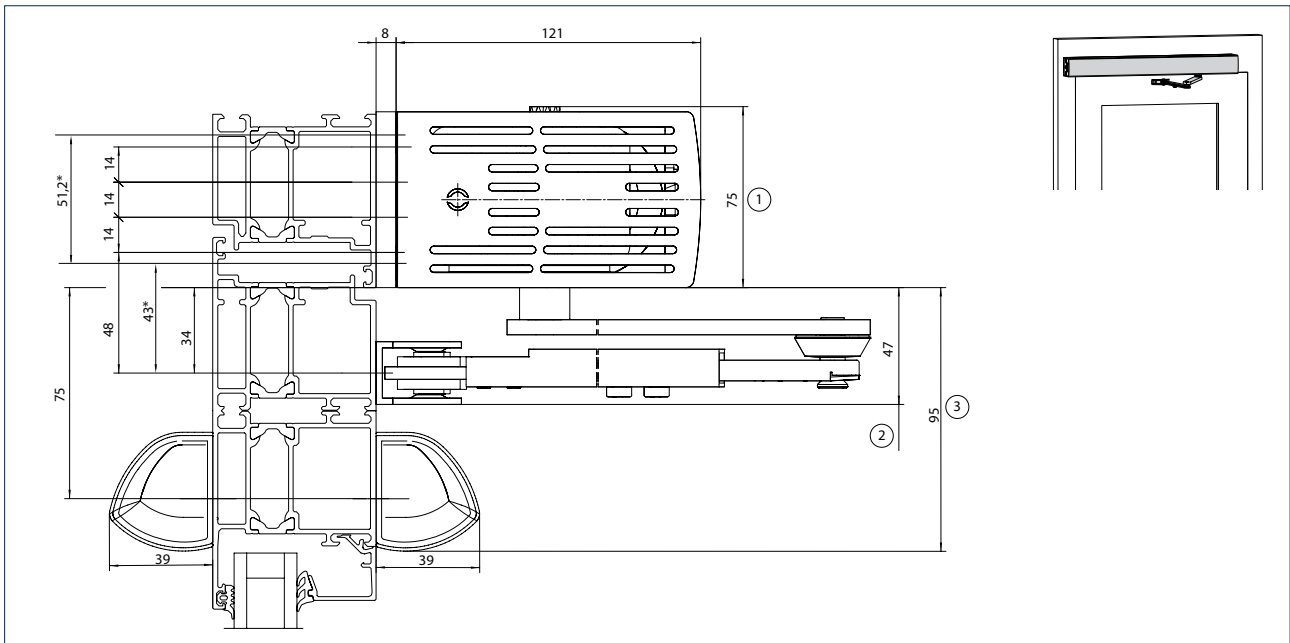
- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width

Transom installation with link arm on the opposite hinge side, single-leaf

Drawing no. 70106-ep03

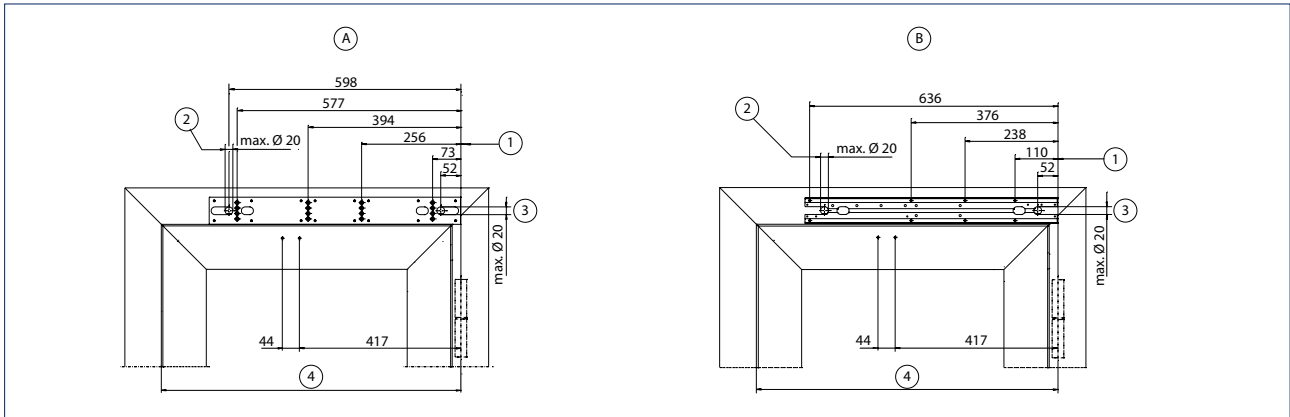
Reveal depth (max.) 0-100 mm, 100-200 mm, 200-300 mm

Door opening angle (max.) 110°



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for link arm
- 3 = Space requirement for GC 338

Installation with mounting plate (A) and direct installation (B)



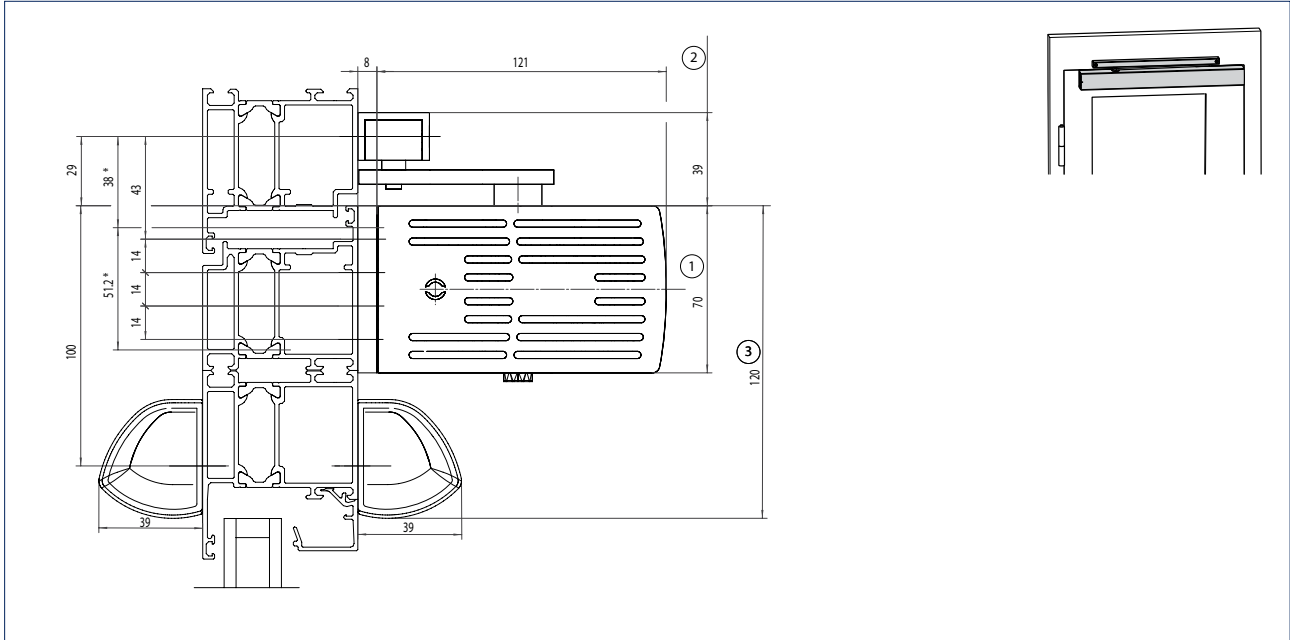
- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width

Door leaf installation with guide rail on the hinge side, single-leaf

Drawing no. 70106-ep04

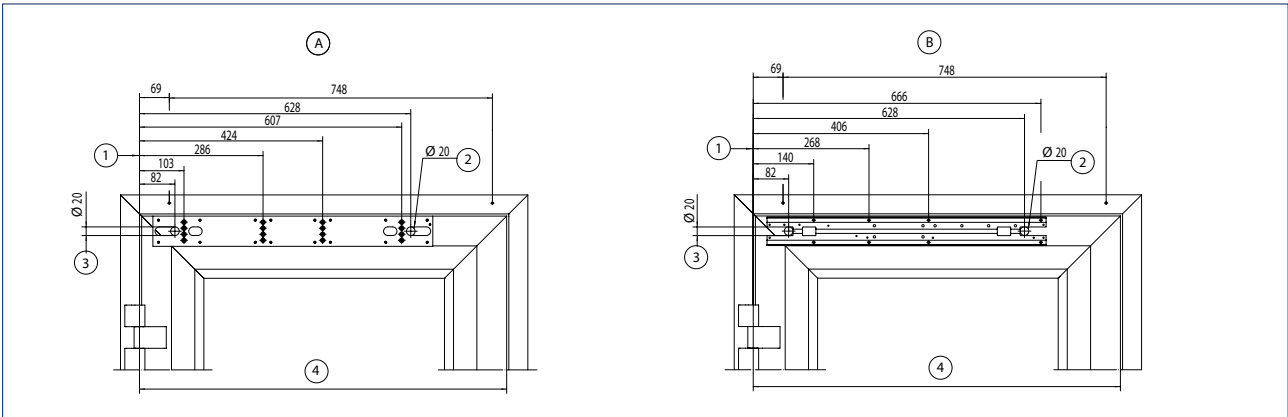
Door overlap (max.) 30 mm

Door opening angle (max.) 115°



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

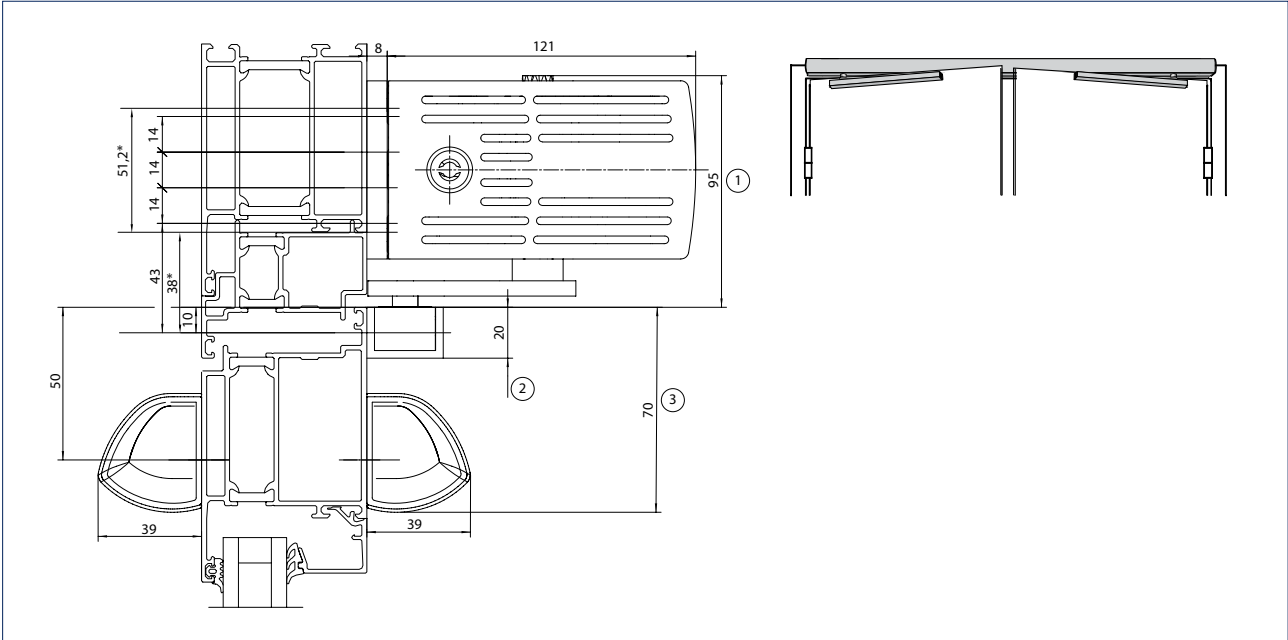
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width

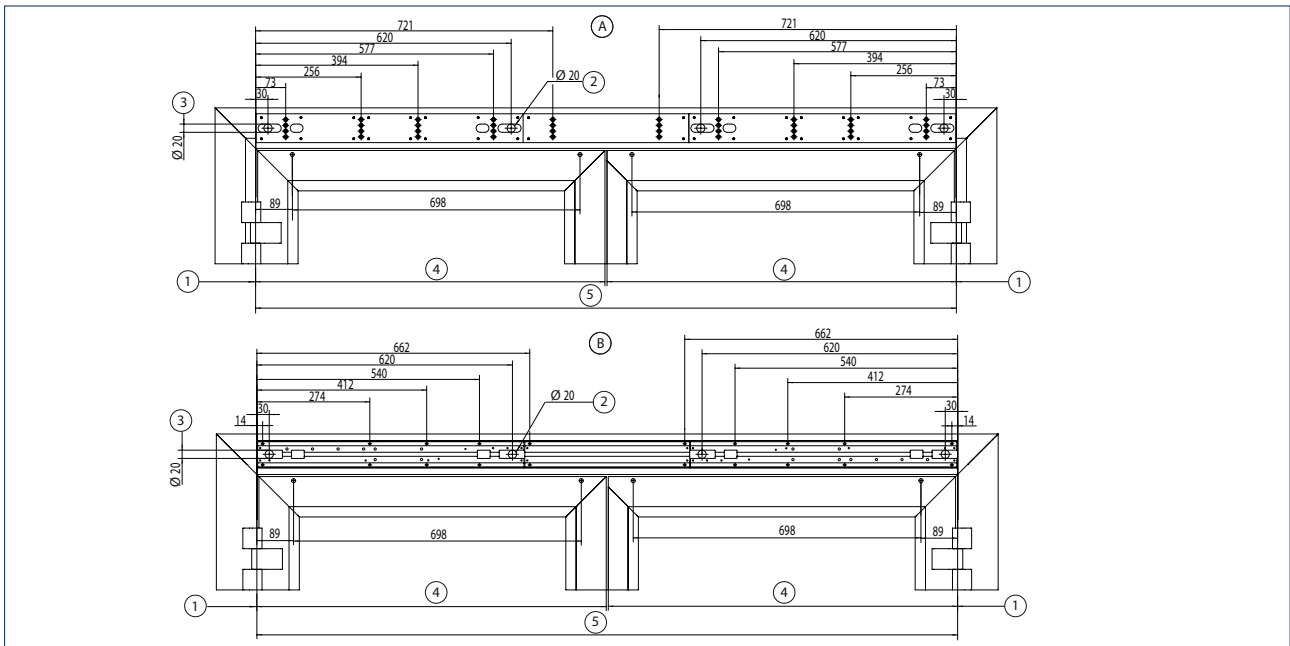
Transom installation with guide rail on the hinge side, double-leaf

Drawing no. 70106-ep21



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

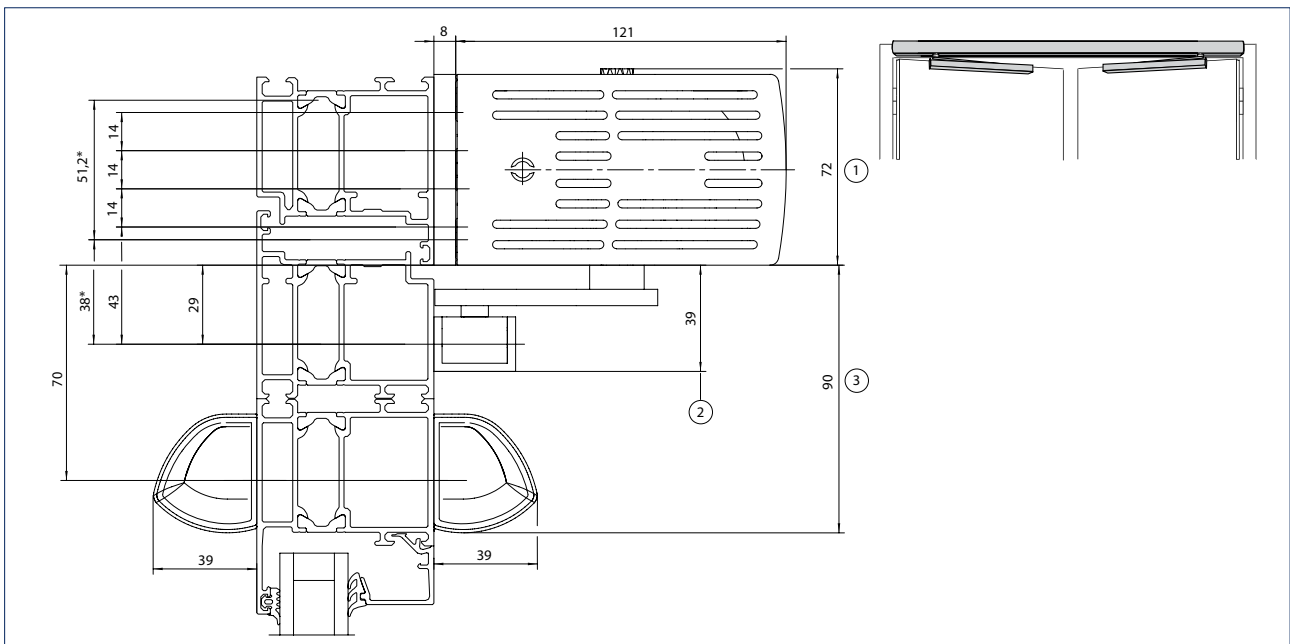
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance

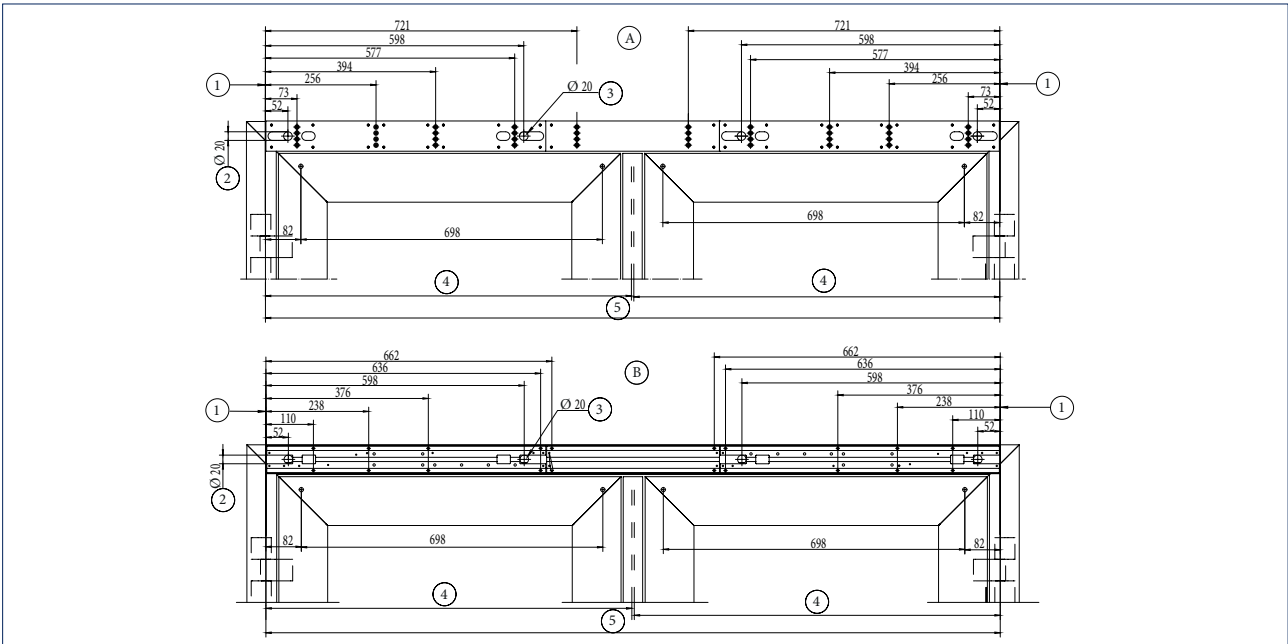
Transom installation with guide rail on the opposite hinge side, double-leaf

Drawing no. 70106-ep22



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

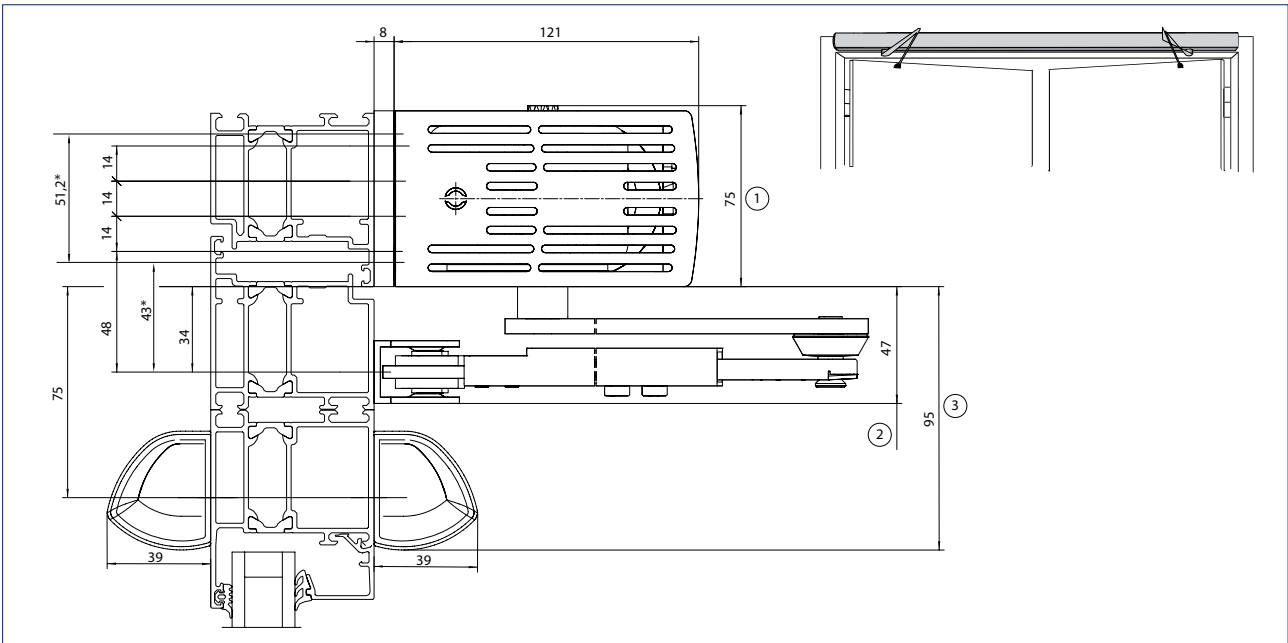
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance

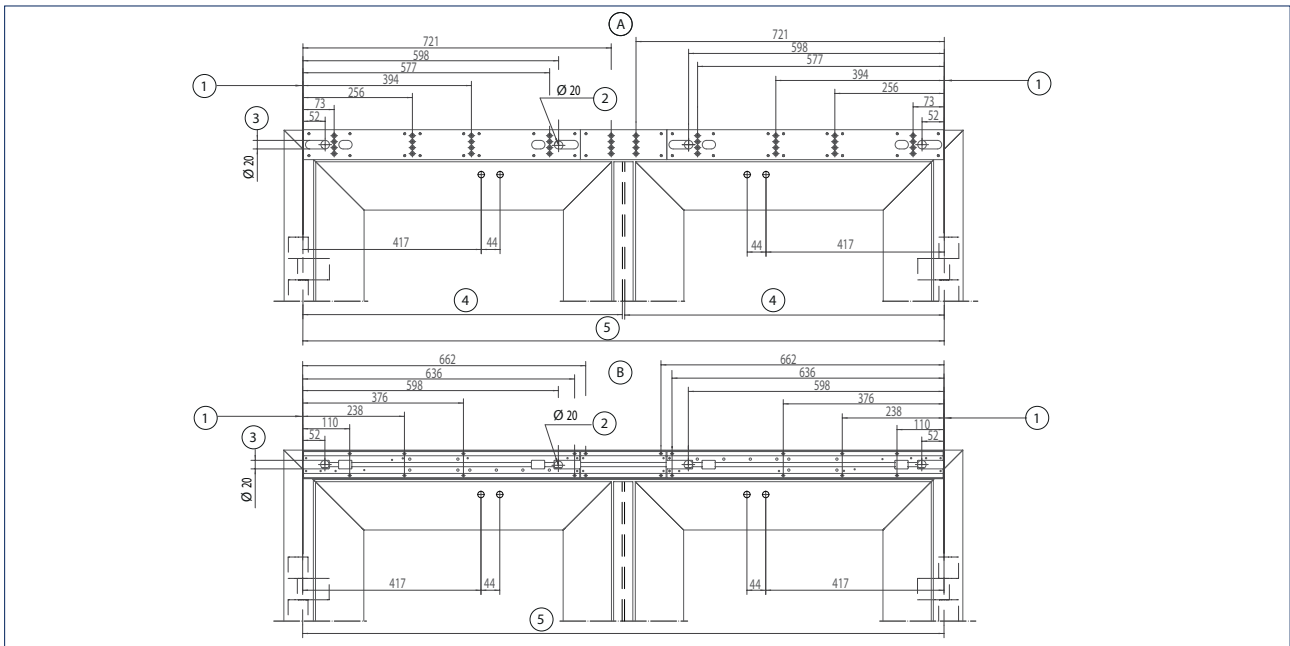
Transom installation with link arm on the opposite hinge side, double-leaf

Drawing no. 70106-ep23



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for link arm
- 3 = Space requirement for GC 338

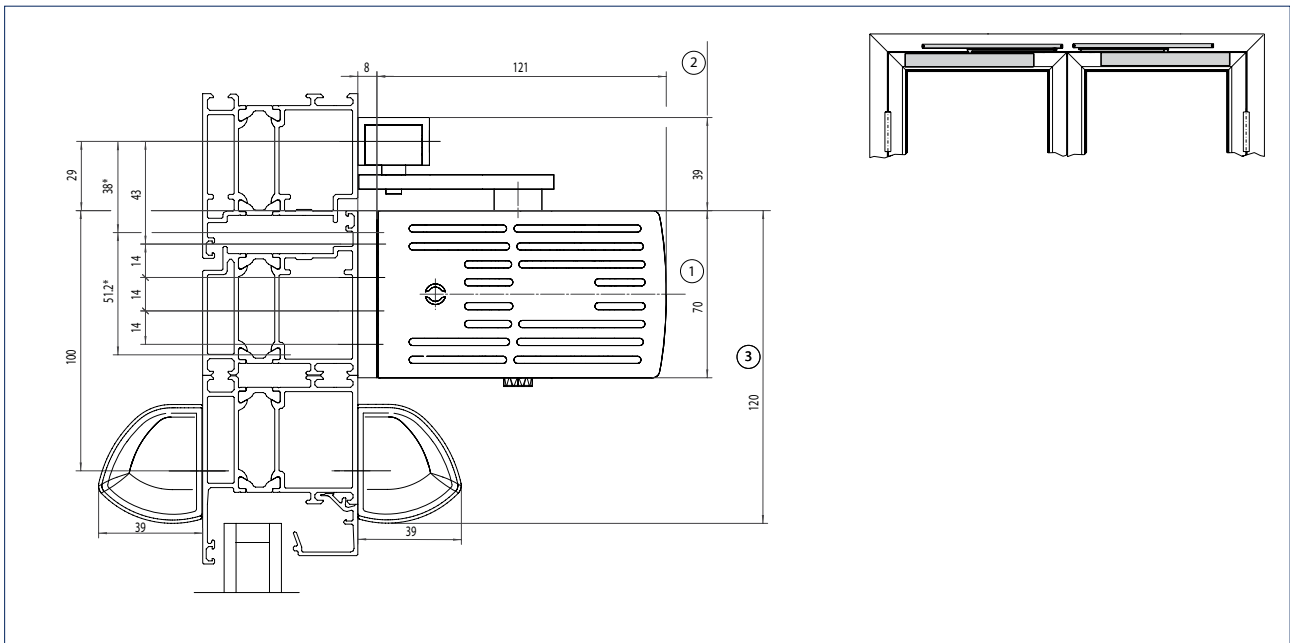
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance

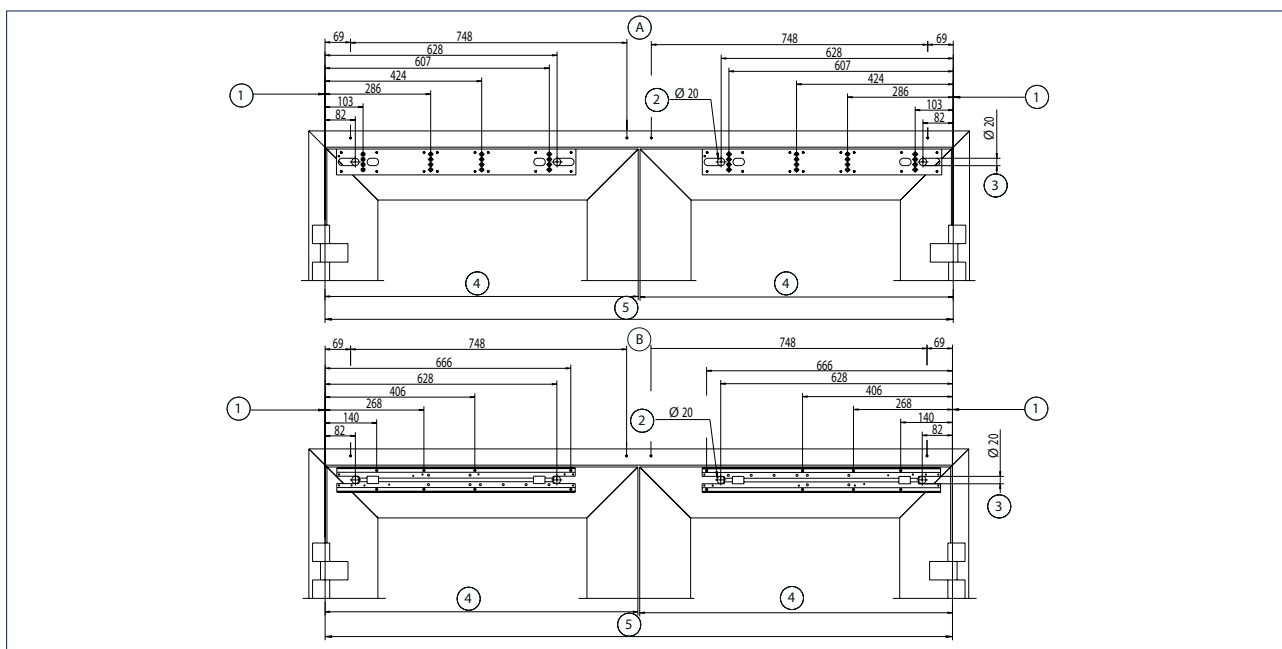
Door leaf installation with guide rail on the hinge side, double-leaf

Drawing no. 70106-ep24



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance



Vitra Haus, Weil am Rhein, Germany (Foto: Oliver Look)

Legend for the cable diagrams**Cable**

- 1 = NYM-J 3 x 1,5 mm²
- 2 = J-Y(ST)Y 1 x 2 x 0,6 LG
- 3 = J-Y(ST)Y 2 x 2 x 0,6 LG
- 4 = J-Y(ST)Y 4 x 2 x 0,6 LG
- 5 = LiYY 2 x 0,25 mm²
- 6 = LiYY 4 x 0,25 mm²
- 7 = Scope of supply sensor strip or LiYY 5 x 0,25 mm²
- 8 = Route empty pipe with pull-wire inner diameter 10 mm

Notes

- Cable diagrams can also be prepared for specific building projects after receipt of order
- Version of standard cable diagrams in accordance with GEZE specifications
- Cable routing according to VDE 0100
- Allow the cable for the drive to project at least 1500 mm out of the wall

1) Door transmission cable (including in the scope of supply for sensor strip), cable routing through a hole in the door leaf is not permitted for fire control doors.

2) Cable exit for door drive, see installation drawings for Slimdrive EMD/EMD-F 70106-ep01 to -ep04

3) Cable including in the scope of supply for the sensor

4) Install in the direct vicinity of the door

5) Mains connection box WxHxD min. 65 x 65 x 57 with PG-11 duct, on site

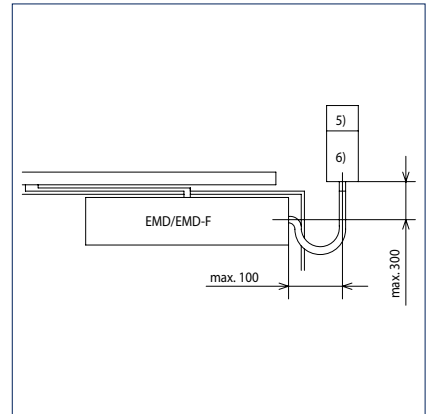
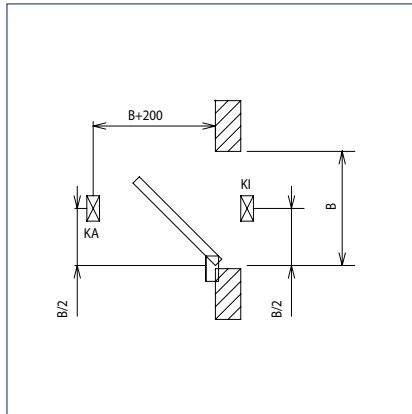
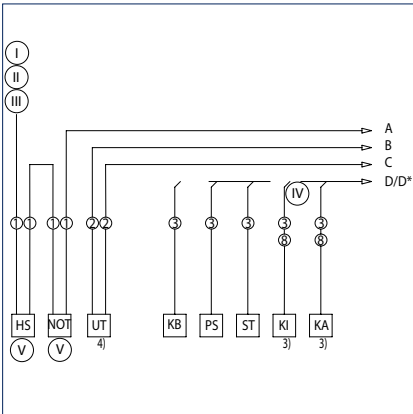
6) Low-voltage connection box WxHxD min. 94 x 65 x 57 with PG-11 duct, on site

7) E.g. door transmission cable, 8-wire, art. no. 066922

8) Branch box, on site

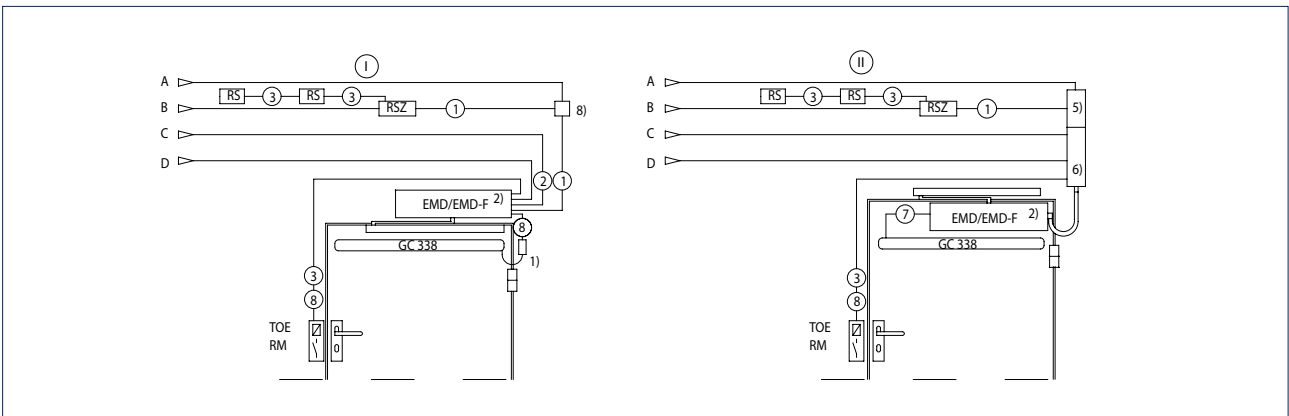
Abbreviations

HS	= Main switch
NOT	= Emergency-stop switch
UT	= Circuit breaker CLOSE DOOR (only with F variant)
KB	= Contact sensor authorised
PS	= Programme switch
ST	= Emergency stop
KI	= Contact sensor inside
KA	= Contact sensor outside
TOE	= Door opener
RM	= Bar message
RS	= Smoke switch (only with F variant)
RSZ	= Smoke switch control unit (only with F variant)
TS	= Door closer
MK	= Magnetic contact

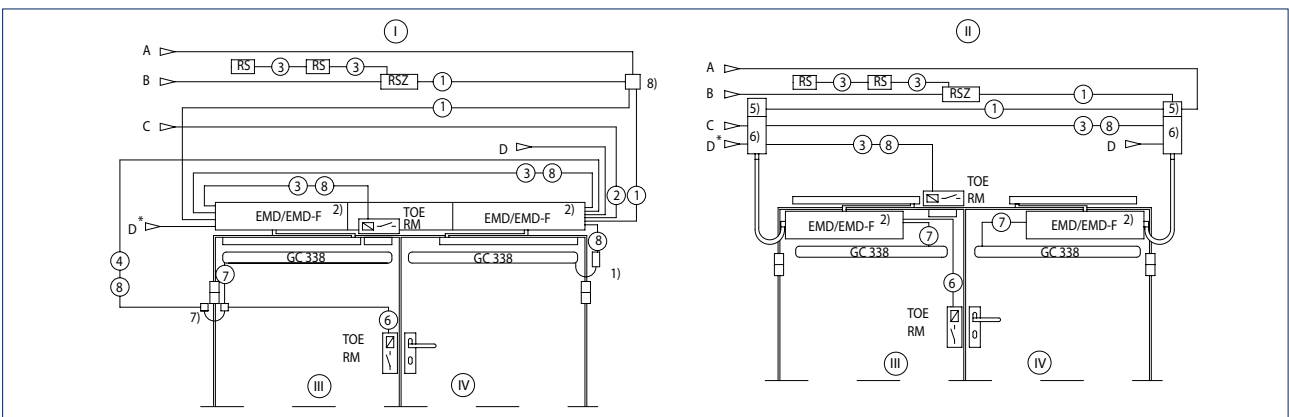


- I = Feeder 230 V / 50 Hz
- II = 10 A fuse
- III = Connected value 230 W, 1 A 1-, 2-leaf with manual fixed leaf connected value 460 W, 1 A with 2-leaf
- IV = And / Or
- V = Option

1-leaf



2-leaf



- I = Transom installation
- II = Door leaf installation
- III = Fixed leaf
- IV = Active leaf

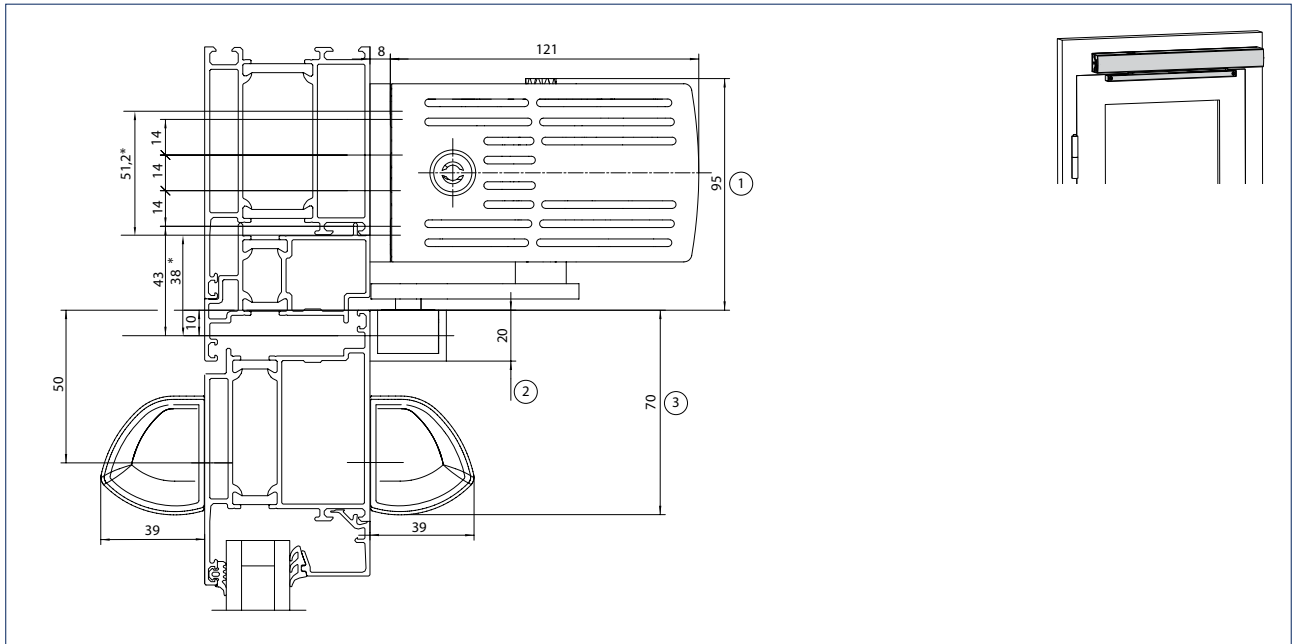
GEZE swing door drive Slimdrive EMD Invers

Electromechanical swing door drive for 1-leaf and 2-leaf single-action doors (RWA fresh air and doors in escape and rescue routes)

Note: Diagram shows left-hand (ISO 6), right-hand (ISO 5) is reversed (mirror-image).

Transom installation with guide rail on the hinge side, single-leaf

Drawing no. 70106-ep01



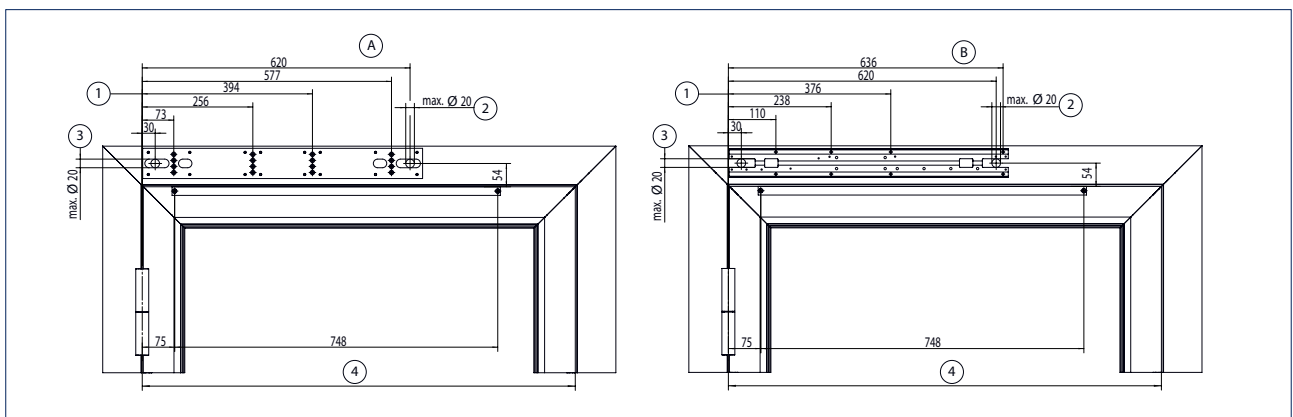
* = Direct installation

1 = Space requirement for EMD-F/EMD Invers

2 = Space requirement for guide rail

3 = Space requirement for GC 338

Installation with mounting plate (A) and direct installation (B)



A = Installation with mounting plate

B = Direct installation

1 = Dimensional reference centre of hinge

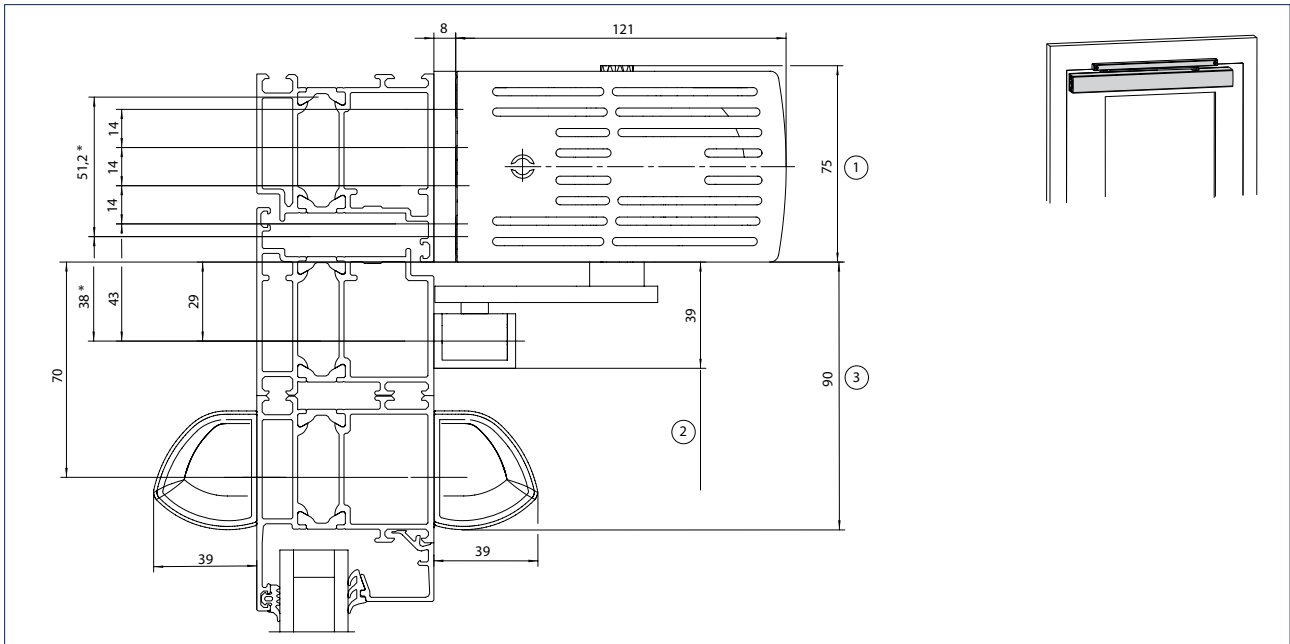
2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact

3 = Concealed line-feed 230 V / 50 Hz

4 = Door leaf width

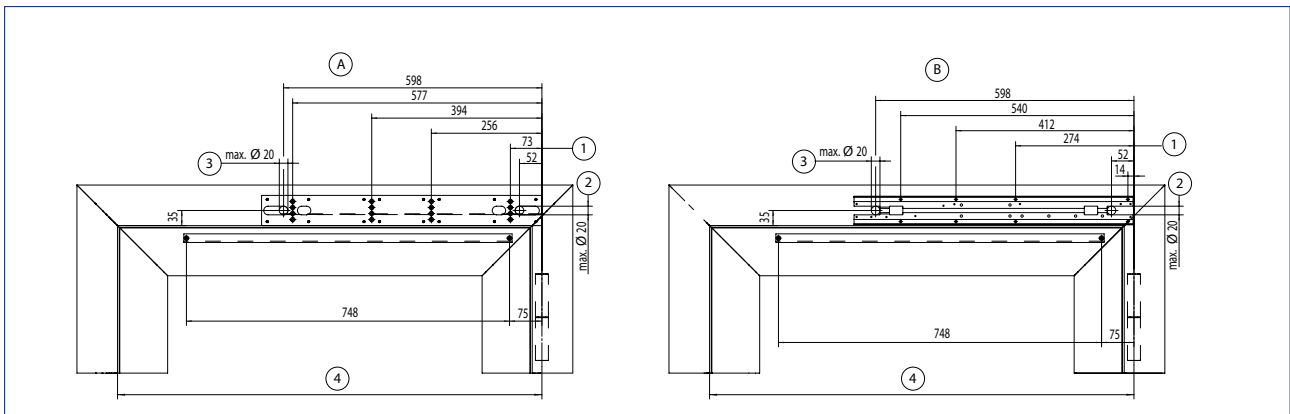
Transom installation with guide rail on the opposite hinge side, single-leaf

Drawing no. 70106-ep02



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

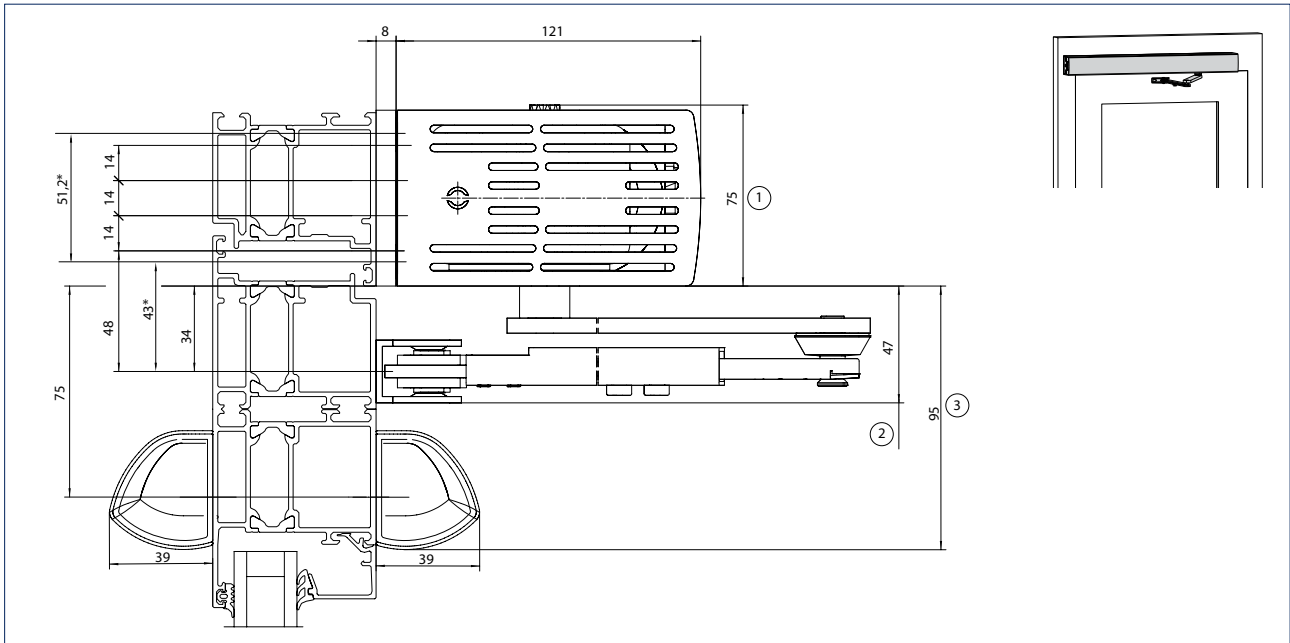
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width

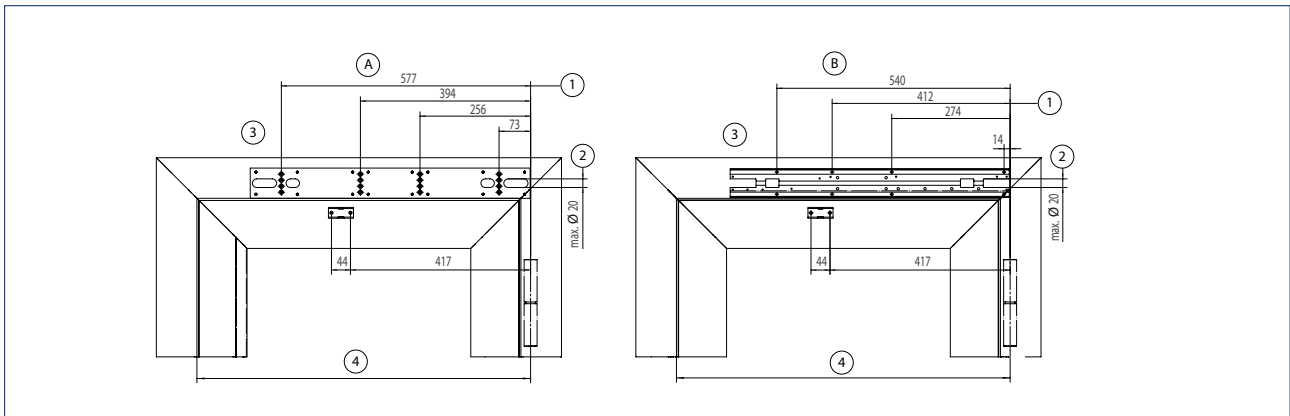
Transom installation with link arm on the opposite hinge side, single-leaf

Drawing no. 70106-ep03



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for link arm
- 3 = Space requirement for GC 338

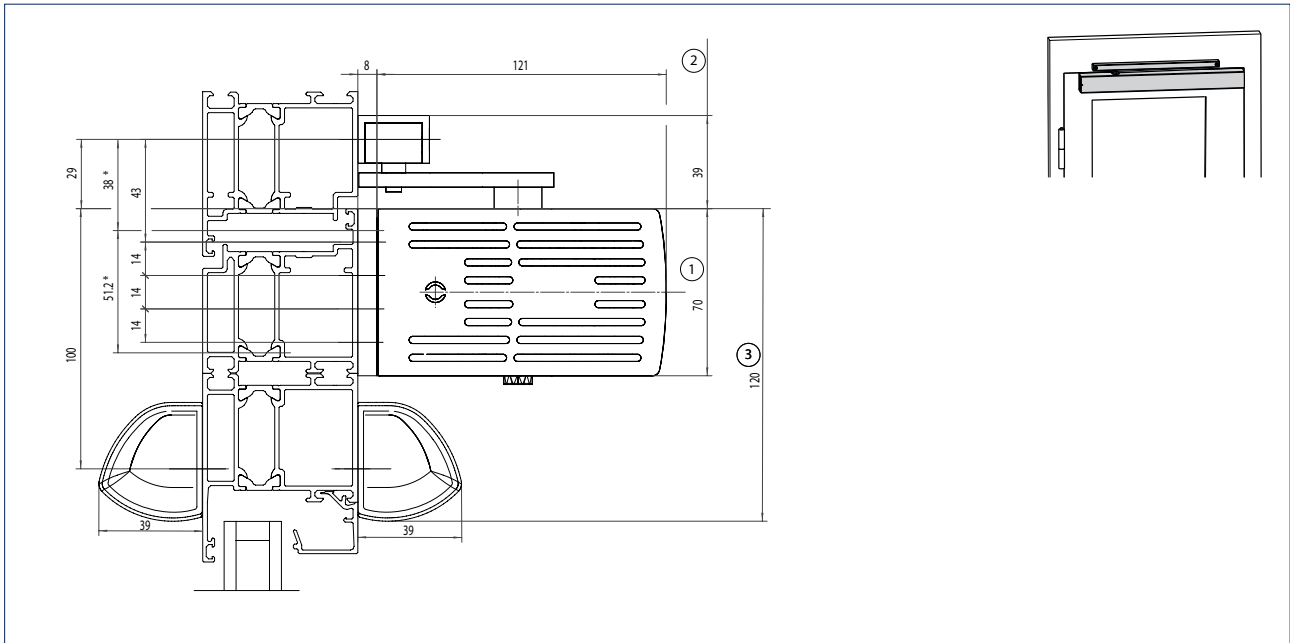
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width

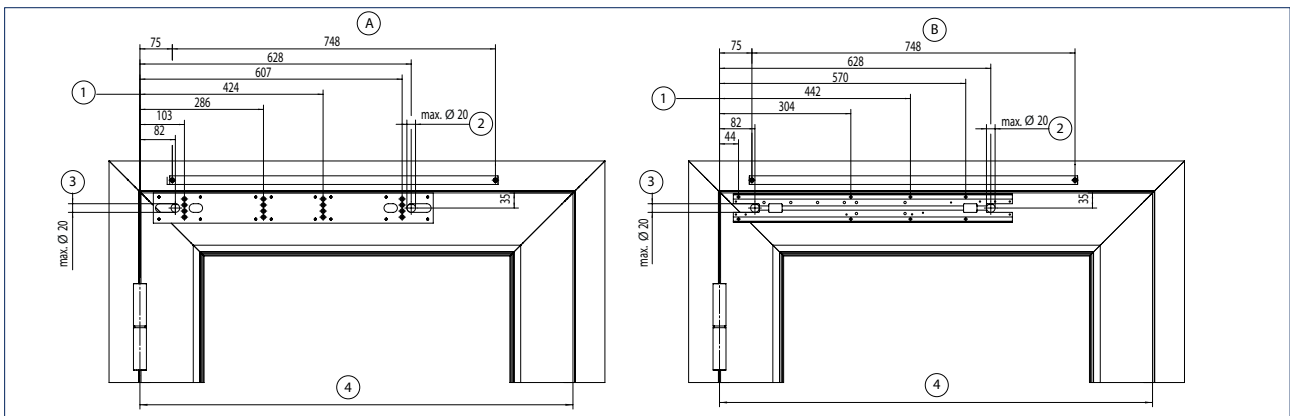
Door leaf installation with guide rail on the hinge side, single-leaf

Drawing no. 70106-ep04



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

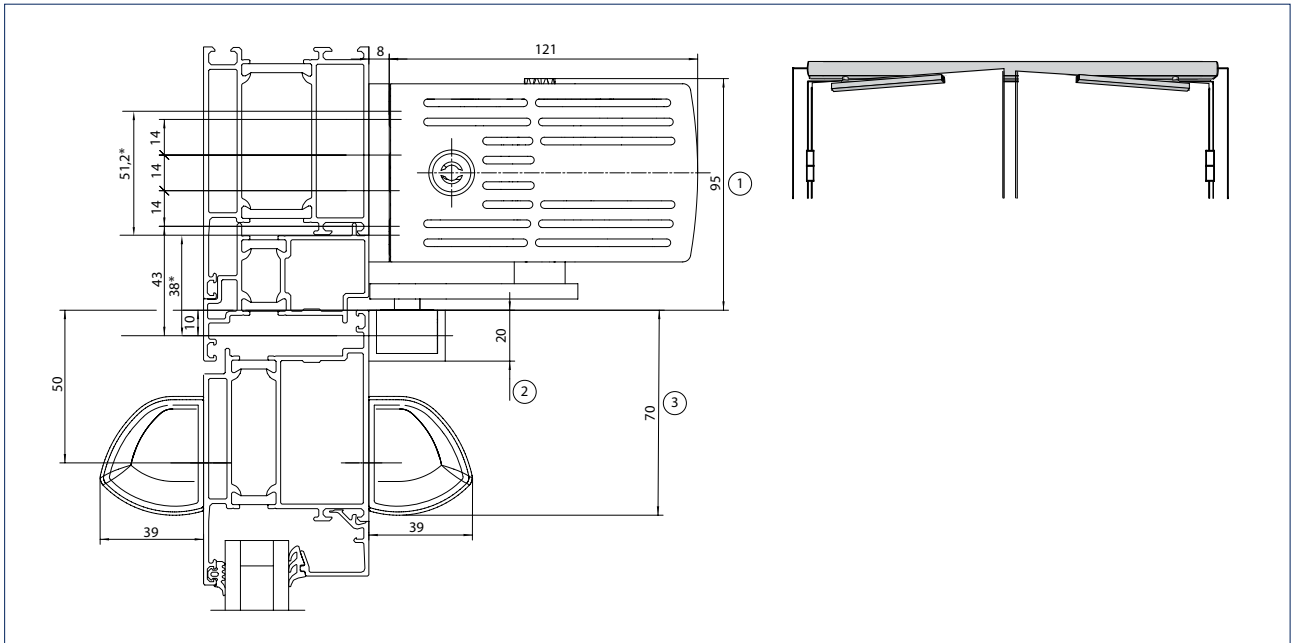
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width

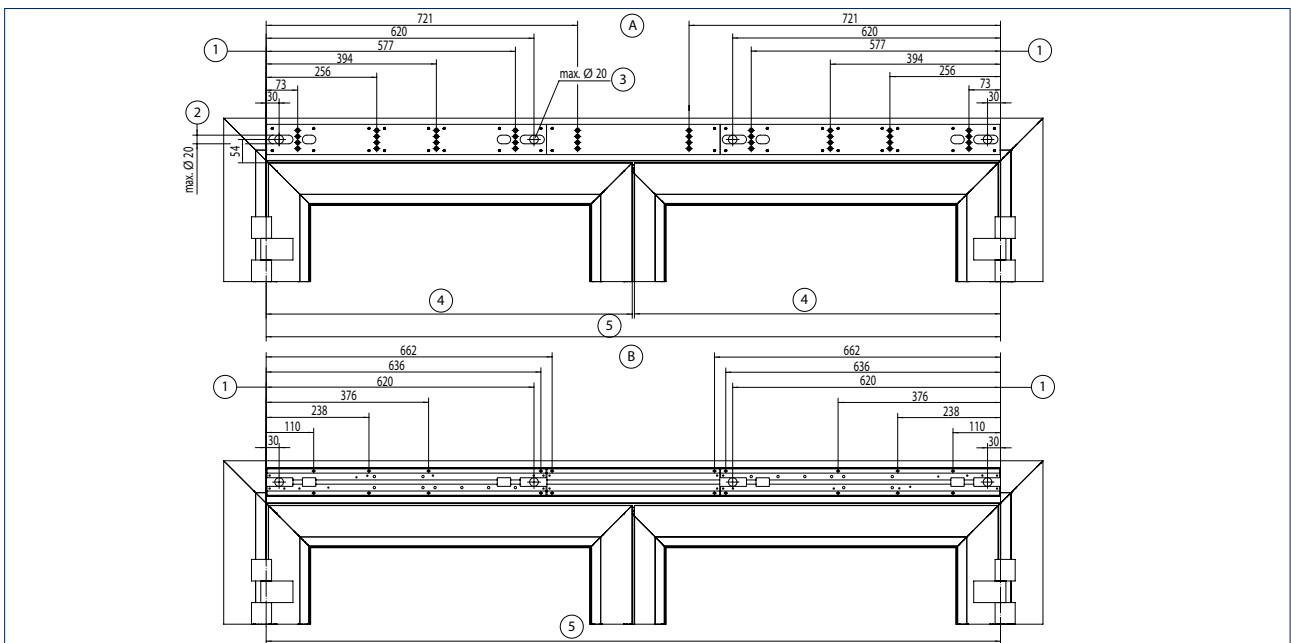
Transom installation with guide rail on the hinge side, double-leaf

Drawing no. 70106-ep21



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

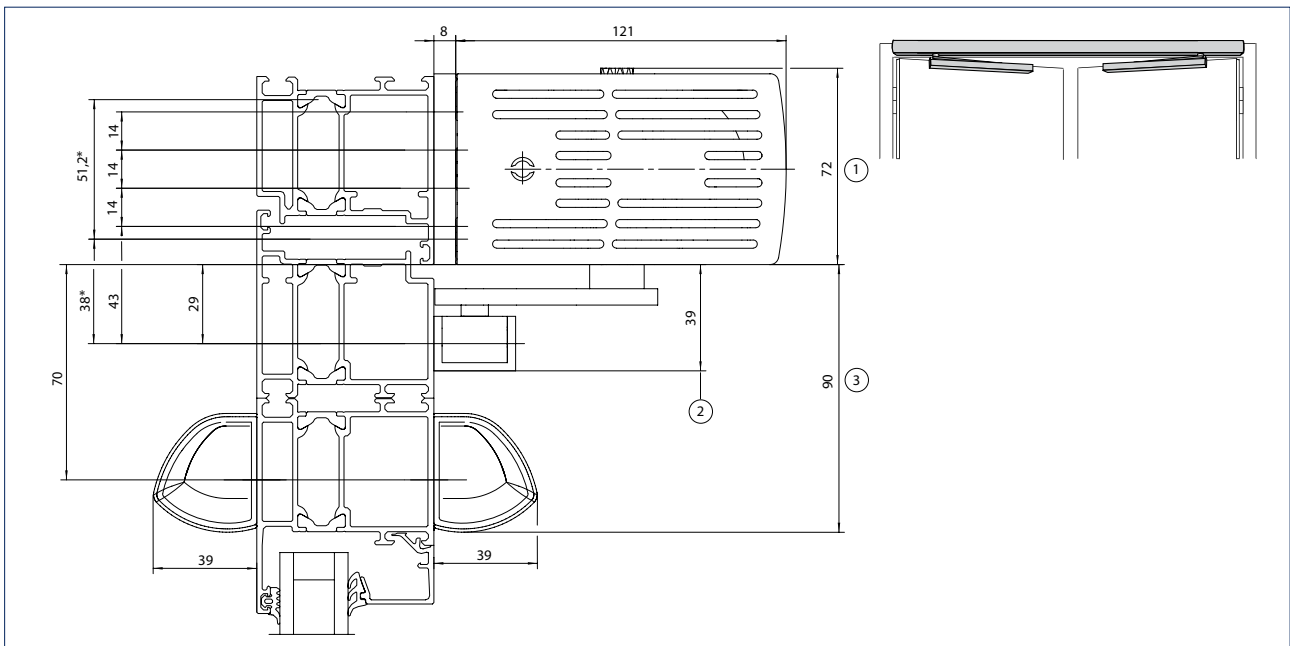
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance

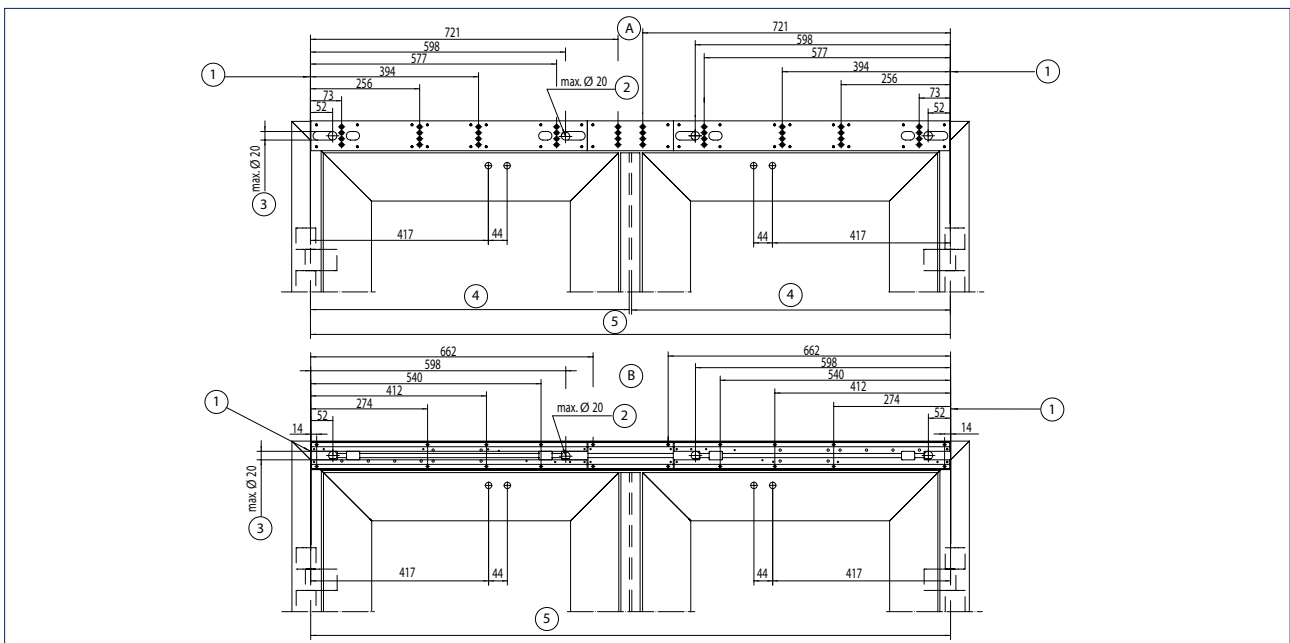
Transom installation with guide rail on the opposite hinge side, double-leaf

Drawing no. 70106-ep22



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

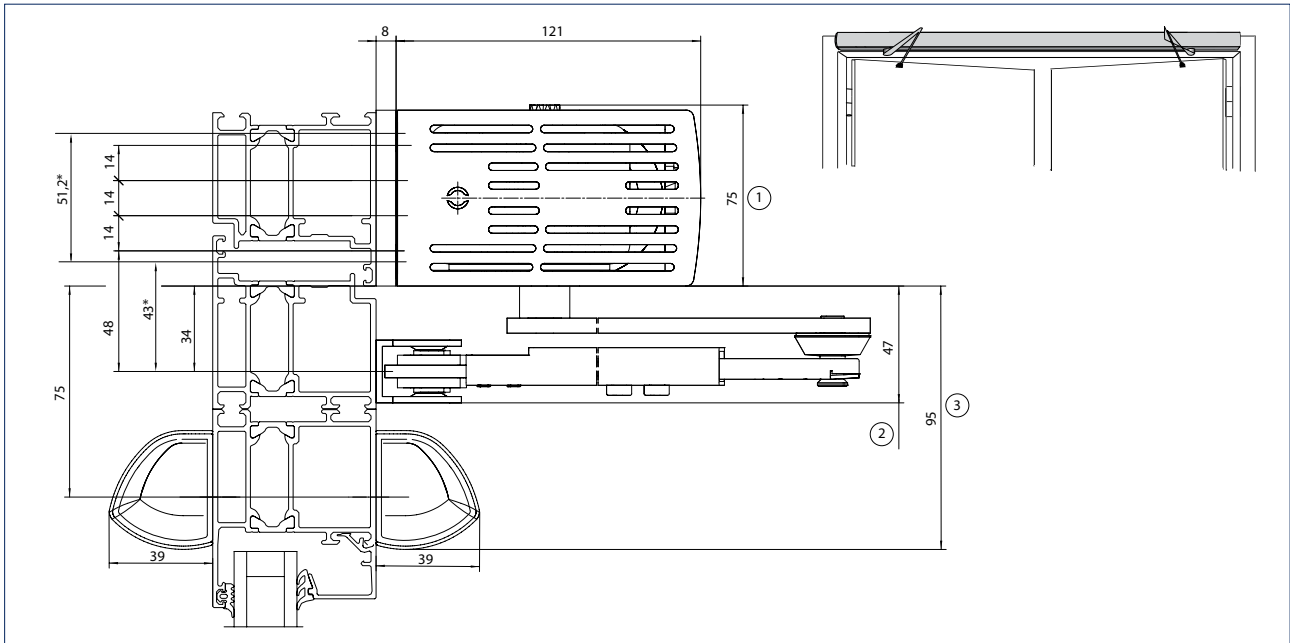
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance

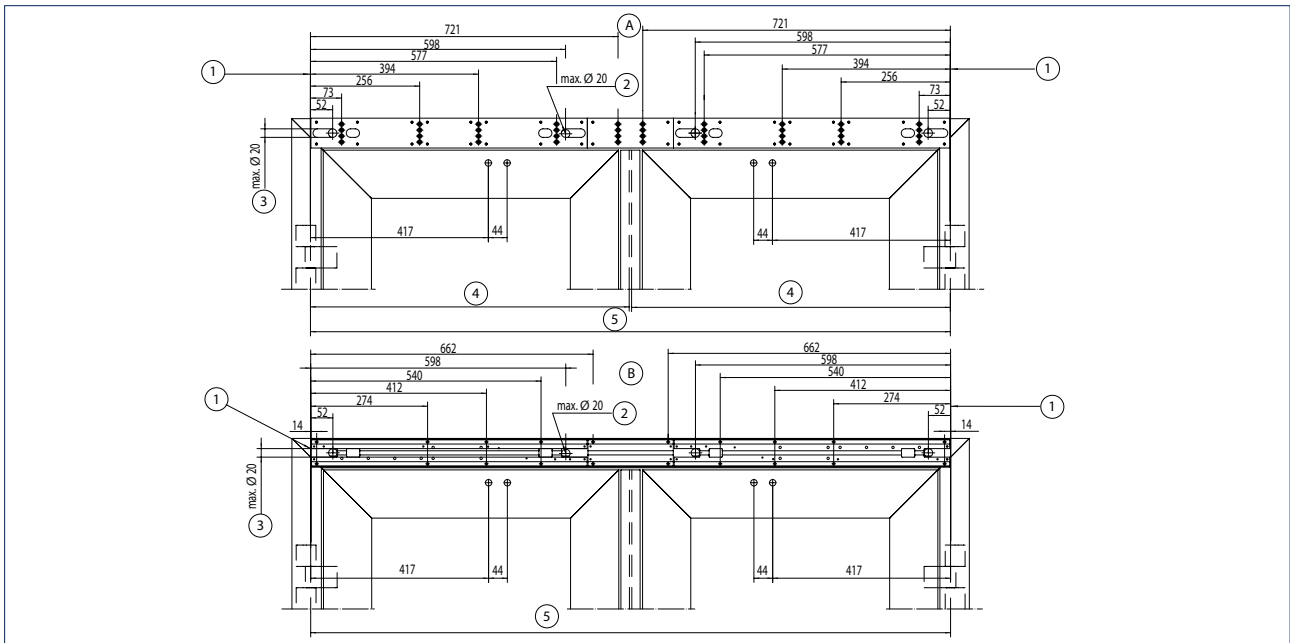
Transom installation with link arm on the opposite hinge side, double-leaf

Drawing no. 70106-ep23



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for link arm
- 3 = Space requirement for GC 338

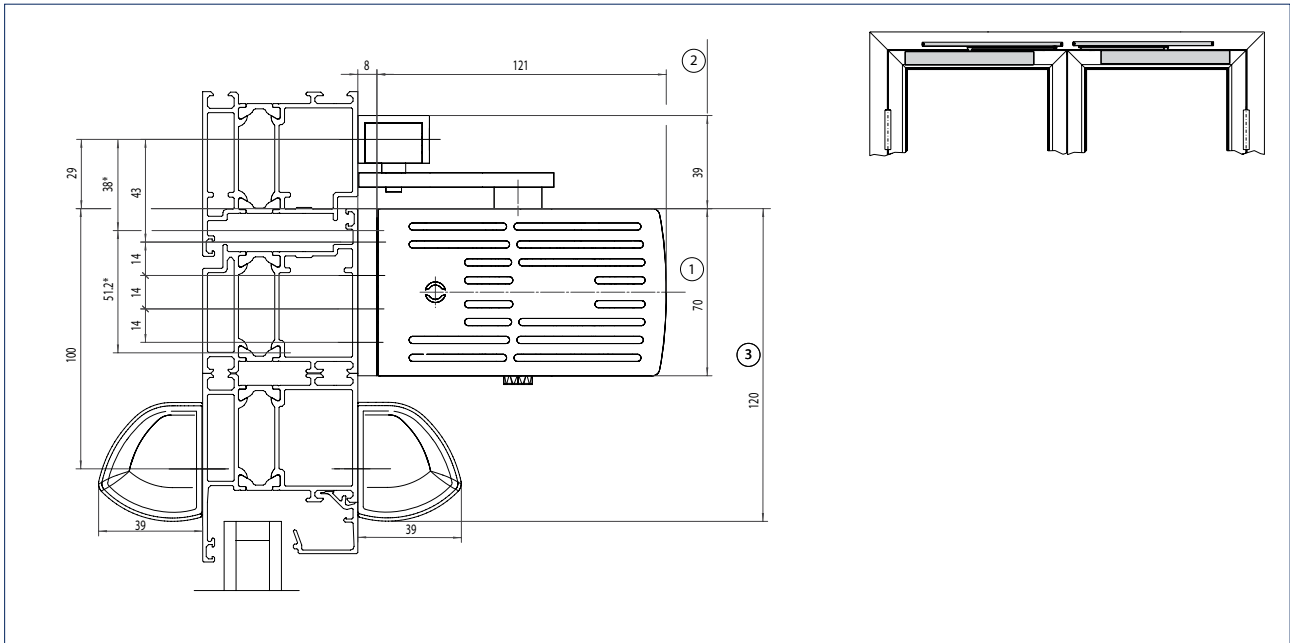
Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance

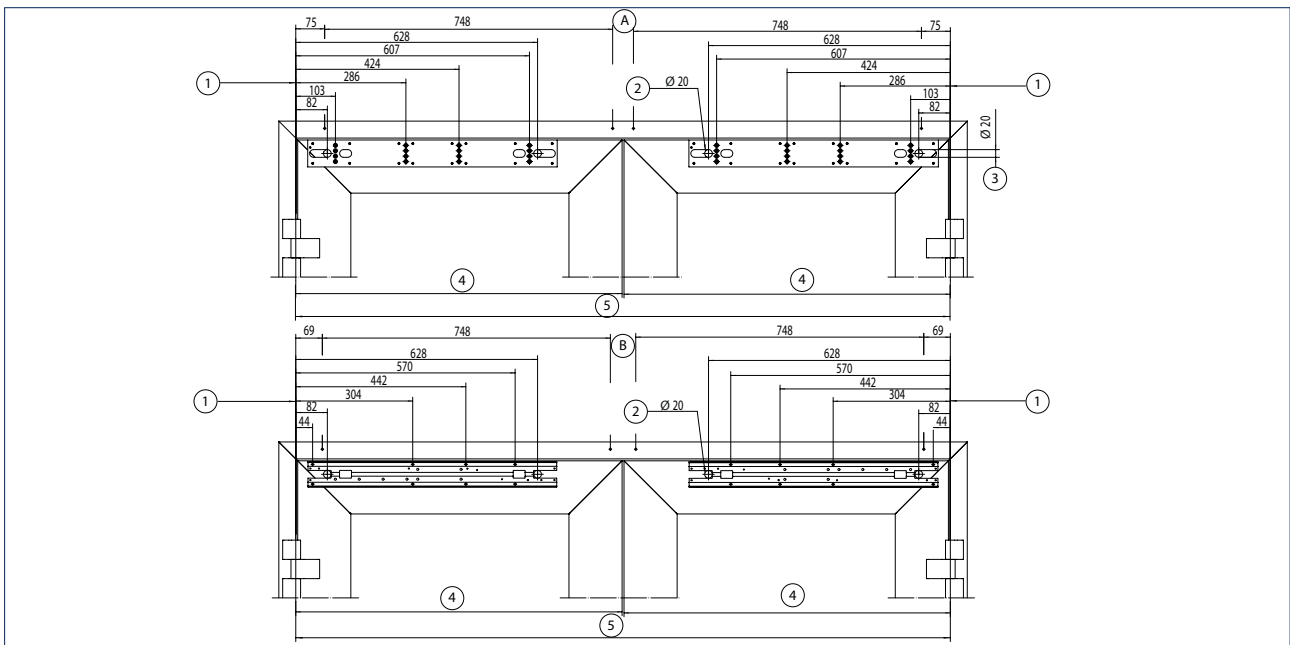
Door leaf installation with guide rail on the hinge side, double-leaf

Drawing no. 70106-ep24



- * = Direct installation
- 1 = Space requirement for EMD-F/EMD Invers
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338

Installation with mounting plate (A) and direct installation (B)



- A = Installation with mounting plate
- B = Direct installation
- 1 = Dimensional reference centre of hinge
- 2 = Concealed line-feed for sensors, door opener, programme switch and lock switch contact
- 3 = Concealed line-feed 230 V / 50 Hz
- 4 = Door leaf width
- 5 = Hinge clearance

GEZE swing door drive TSA 160 NT

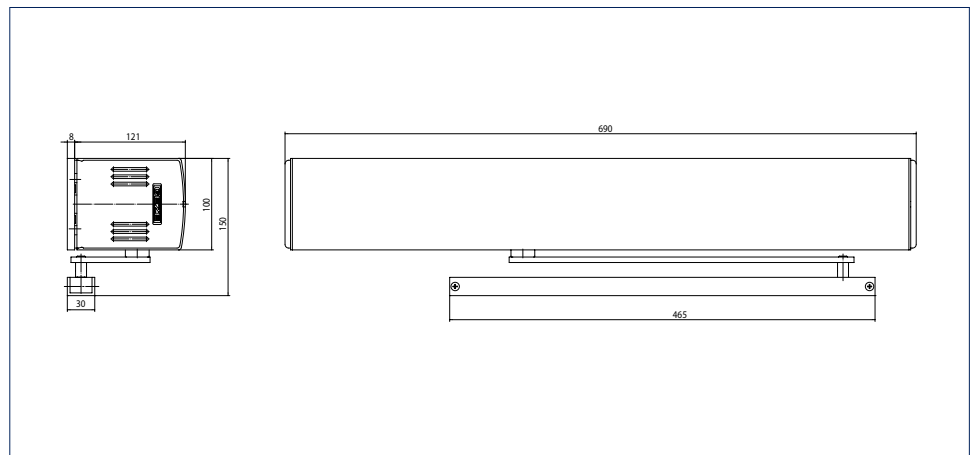
Electrohydraulic swing door drive for 1 and 2-leaf single-action doors

The TSA 160 NT is an electronically controlled hydraulic swing door system for single-action doors made of wood, steel, aluminium or plastic with leaf weights of up to 310 kg and leaf widths up to 1600 mm. The drive works with a hydraulic pump system during opening. The closing process is by means of a closing spring mechanism and adjustable hydraulic valves. The TSA 160 NT also has low power consumption and is low-maintenance. The door can be opened by hand in the event of a power failure. Manual opening is also possible with with motor operation switched on. A reinforced and highly stable link arm meets the requirements of large and heavy doors which are highly frequented. The TSA 160 NT masters large amounts of foot traffic reliably and easily.

GEZE TSA 160 NT



GEZE TSA 160 NT



Application range

- Internal and external doors
- Railway stations and airports
- Hotels and gastronomy
- Hospitals and nursing homes for the elderly
- Department stores and shopping centre
- Educational institutions e.g. schools, nursery schools, day care centres
- Leisure facilities, e.g. baths, thermal baths, sport and wellness centres
- Administration and public buildings
- Food industry

Technical data

Product features	GEZE TSA 160 NT	GEZE TSA 160 NT Invers	GEZE TSA 160 NT IS	GEZE TSA 160 NT EN7	GEZE TSA 160 NT IS EN7
Height			100 mm		
Width			690 mm		
Depth			121 mm		
Leaf weight (max.) 1-leaf	250 kg		310 kg		
Hinge clearance (min.-max.) 2-leaf	1470 – 2800 mm		1470 – 3200 mm		
Leaf width (min.-max.)	690 – 1400 mm		690 – 1600 mm		
Reveal depth (max.)*			400 mm		
Door overlap (max.)*			20 mm		
Drive type			Electrohydraulic		
Door opening angle (max.)*			115 °		
Spring pre-load	EN3 – EN6		EN7		
Z-variant (pulling)	•	-	•	•	•
Z-variant (pushing)	-	•	-	-	-
DIN left	•	•	•	•	•
DIN right	•	•	•	•	•
Transom installation opposite hinge side with link arm	•	•	•	•	•
Transom installation hinge side with guide rail	•	•	•	•	•
Mechanical latching action	•	-	•	•	•
Electrical closing sequence control	•	•	•	•	•
Mechanical closing sequence control	-	-	•	-	•
Disconnection from mains			Not available		
Activation delay (max.)			10 S		
Operating voltage			230 V		
Frequency of supply voltage			50 – 60 Hz		
Capacity rating	300 W		450 W		
Power supply for external consumers (24 V DC)			1200 mA		
Temperature range			-10 – 60 °C		
Enclosure rating			IP 20		
Operating modes			Off, Automatic, Permanently open, Shop closing, Night		
Type of function			Fully automatic		
Automatic function	•	•	•	•	•
Key function	•	•	•	•	•
Inverse function (opening by spring force)	-	•	-	-	-
Vestibule function	•	•	•	•	•
Obstruction detection	•	•	•	•	•
Automatic reversing	•	•	•	•	•
Push & Go			adjustable		
Operation			Display programme switch DPS		
Parameter setting			Display programme switch DPS		
Approvals			DIN 18650, EN 16005		
Use on fire and smoke control doors (F-variant)	•	-	•	•	-

• = YES

* = DEPENDING ON THE TYPE OF INSTALLATION

NOTE: THE MAXIMUM POSSIBLE LEAF WEIGHT IN RELATION TO LEAF WIDTH CAN BE FOUND IN THE CHAPTER ON AREAS OF APPLICATION (DIAGRAMS)!

Overview of torques TSA 160 NT

	pushing (min.-max.)	pulling (min.-max.)
Spring pre-load Closer size EN 1154	3 - 6	-
Closer torques: torque exerted by the closing spring during automatic opening	20 Nm - >60 Nm	8 Nm - 30 Nm
Opening torque: torque exerted by the door during automatic opening	150 Nm - 90 Nm	70 Nm - 40 Nm
Opening torque: manual torque to be exerted for door opening	35 Nm - 110 Nm	13 Nm - 45 Nm

Note: For automatic mode, the doors must be equipped with suitable hinges. A door stop is necessary.

TSA 160 NT minimum and maximum leaf widths

1-leaf doors	Leaf width (min.)	Leaf width (max.)
TSA 160 NT pushing ¹⁾	690 mm	1400 mm
TSA 160 NT pulling	950 mm (with operator displacement=0) 890 mm (with operator displacement=60 mm)	1400 mm
TSA 160 NT Z	690 mm	1400 mm

¹⁾ Also on smoke and fire control doors

TSA 160 NT minimum and maximum leaf widths, hinge clearance for 2-leaf doors

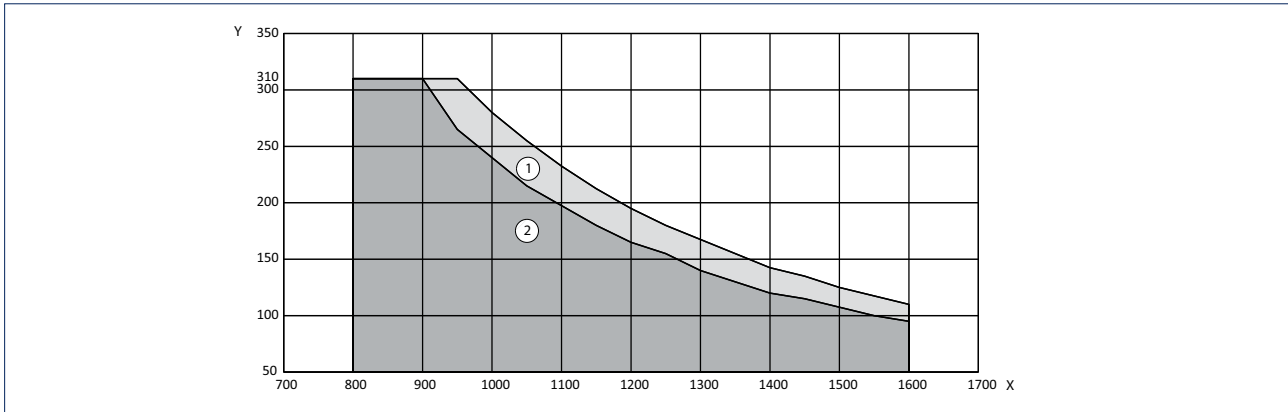
2-leaf doors	Hinge clearance (min.)	Hinge clearance (max.)	Leaf width (min.) active leaf ²⁾	Leaf width (min.) fixed leaf ²⁾	Leaf width (max.)
TSA 160 NT IS pushing ¹⁾	1470 mm	2800 mm	690 mm	400 mm	1400 mm
TSA 160 NT Z-IS pulling	1470 mm	2800 mm	690 mm	650 mm	1400 mm
TSA 160 NT IS/TS pushing ¹⁾	1260 mm	2800 mm	690 mm	400 mm	1400 mm
TSA 160 NT IS/TS pulling	1360 mm	2800 mm	690 mm	650 mm	1400 mm

¹⁾ Also on smoke and fire control doors

²⁾ The minimum hinge width must be observed!

Areas of application

TSA 160 NT EN7



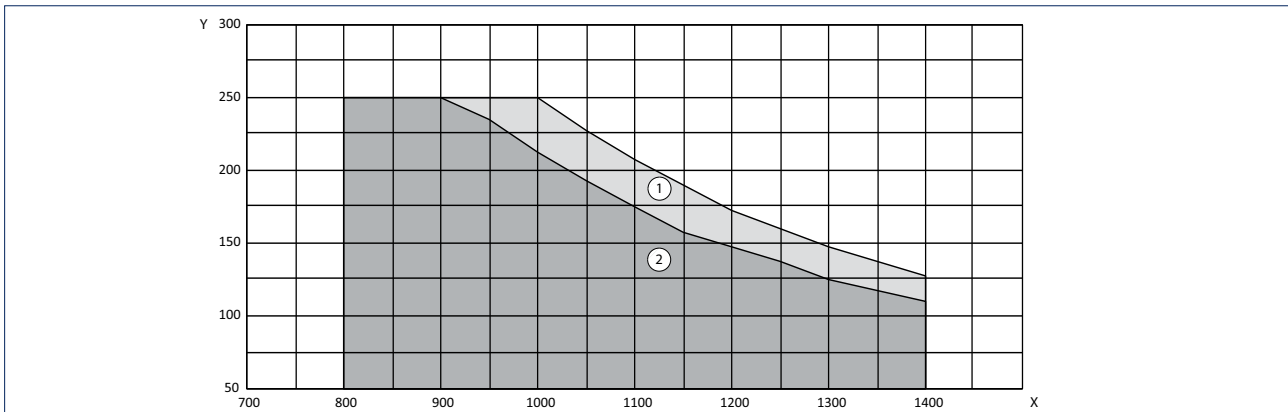
X = Door width (mm)

Y = Door weight (kg)

1 = Link arm

2 = Guide rail

TSA 160 NT



X = Door width (mm)

Y = Door weight (kg)

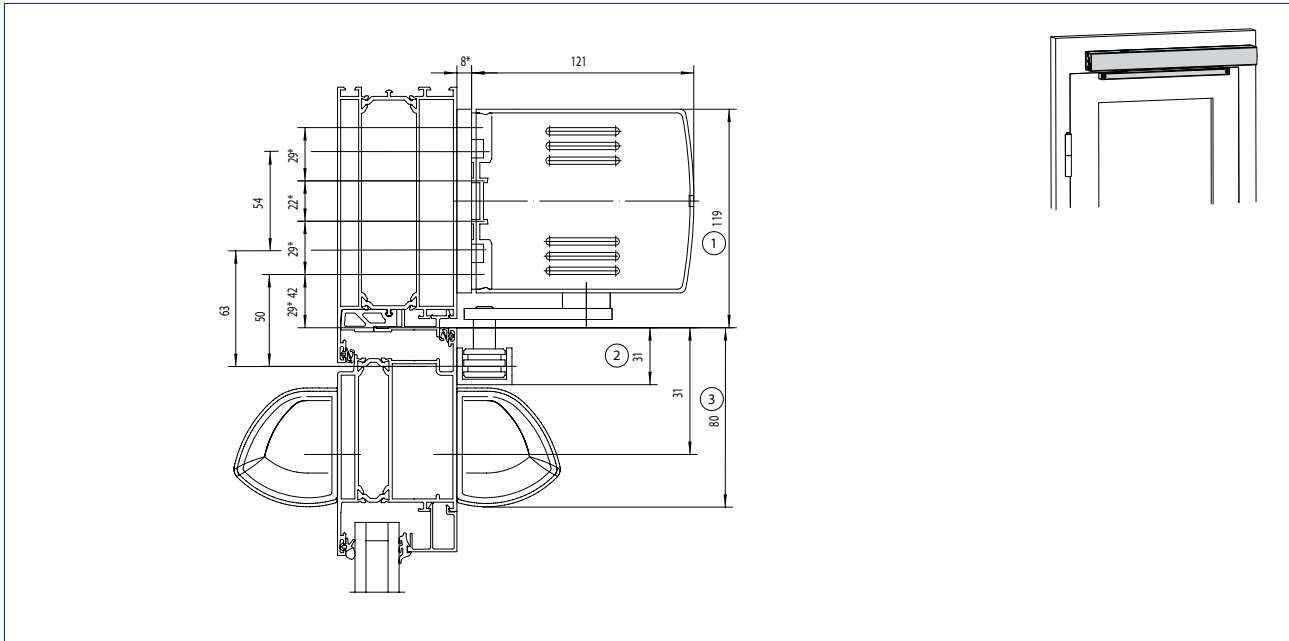
1 = Link arm

2 = Guide rail

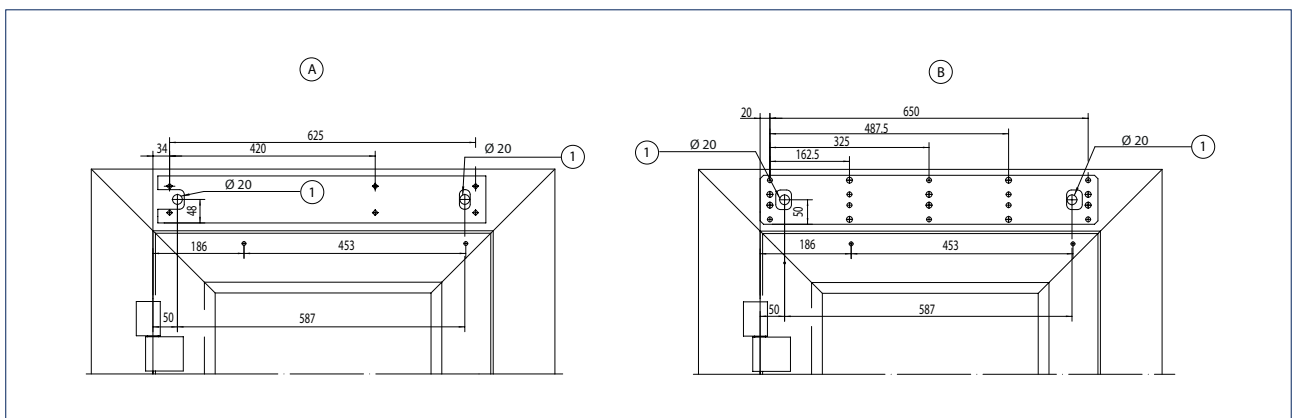
Note: Diagram shows left-hand (ISO 6), right-hand (ISO 5) is reversed (mirror-image).

Transom installation with guide rail on the hinge side, single-leaf

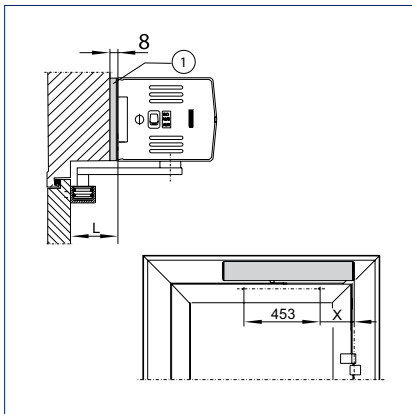
Drawing no. 70423-ep02



- * = Installation with mounting plate
- 1 = Space requirement for TSA 160 NT
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338



- A = Direct installation
- B = Installation with mounting plate
- 1 = Concealed line-feed



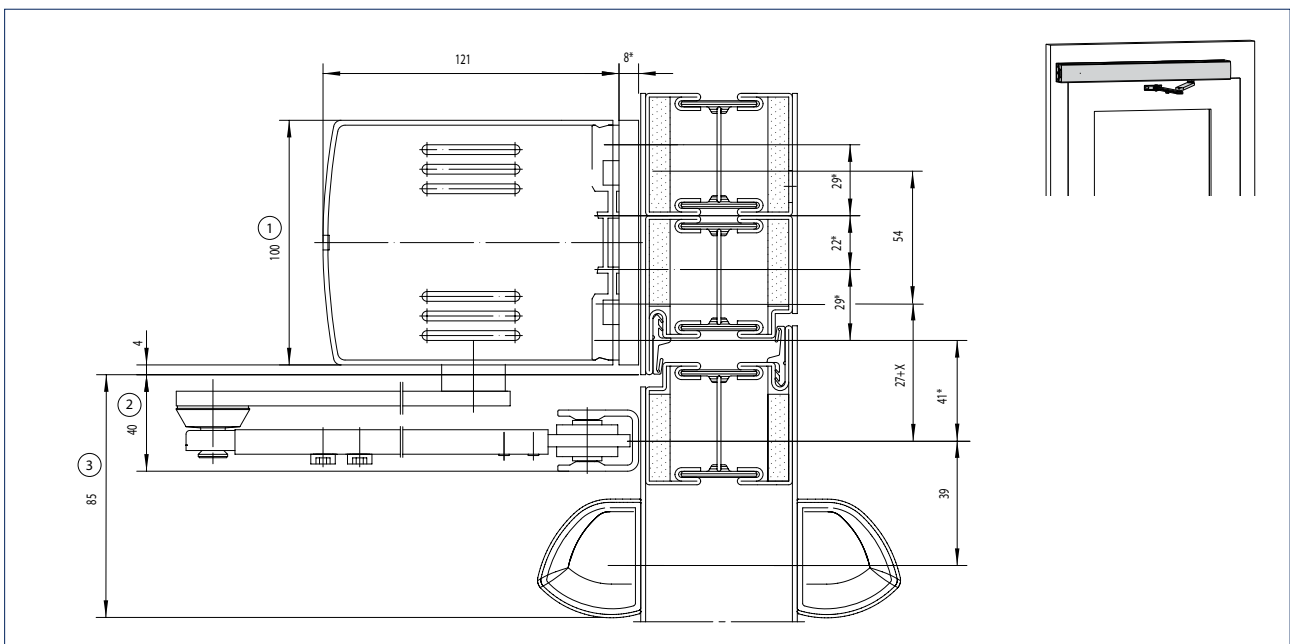
1 = Mounting plate

TSA 160 NT

Soffit depth L (from-to)	Dimension X for guide rail with TSA 160 NT Z	Door width (min.)	Opening angle
> 0 - 25 mm	186 mm	690 mm	109° - 113°
> 25 - 50 mm	192 mm	690 mm	113° - 115°
> 50 - 75 mm	203 mm	690 mm	115° - 110°
> 75 - 100 mm	215 mm	690 mm	110° - 105°
> 100 - 125 mm	229 mm	690 mm	105° - 100°
> 125 - 150 mm	244 mm	703 mm	100° - 97°
> 150 - 175 mm	262 mm	721 mm	97° - 95°
> 175 - 200 mm	280 mm	739 mm	95° - 90°

Transom installation with link arm on the opposite hinge side, single-leaf

Drawing no. 70423-ep01

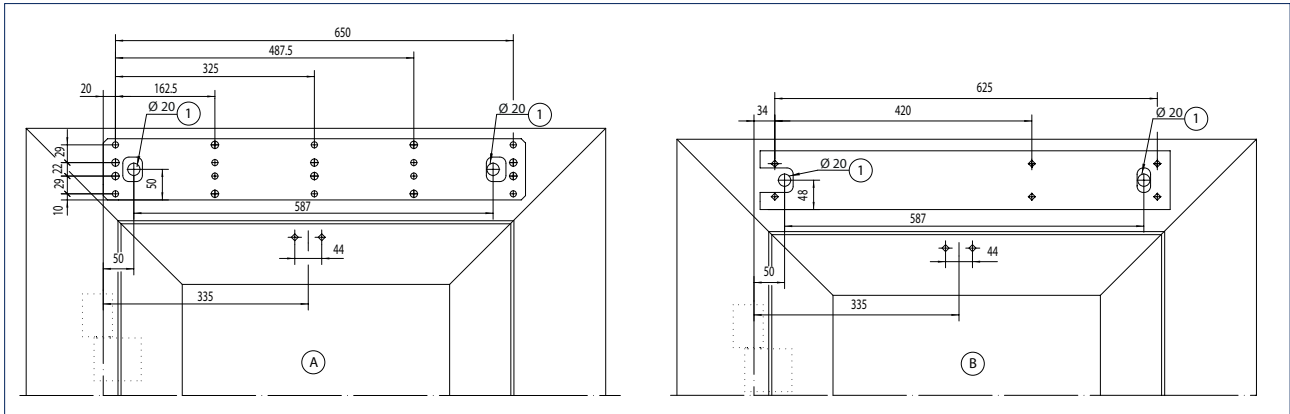


* = Installation with mounting plate

1 = Space requirement for TSA 160 NT

2 = Space requirement for link arm

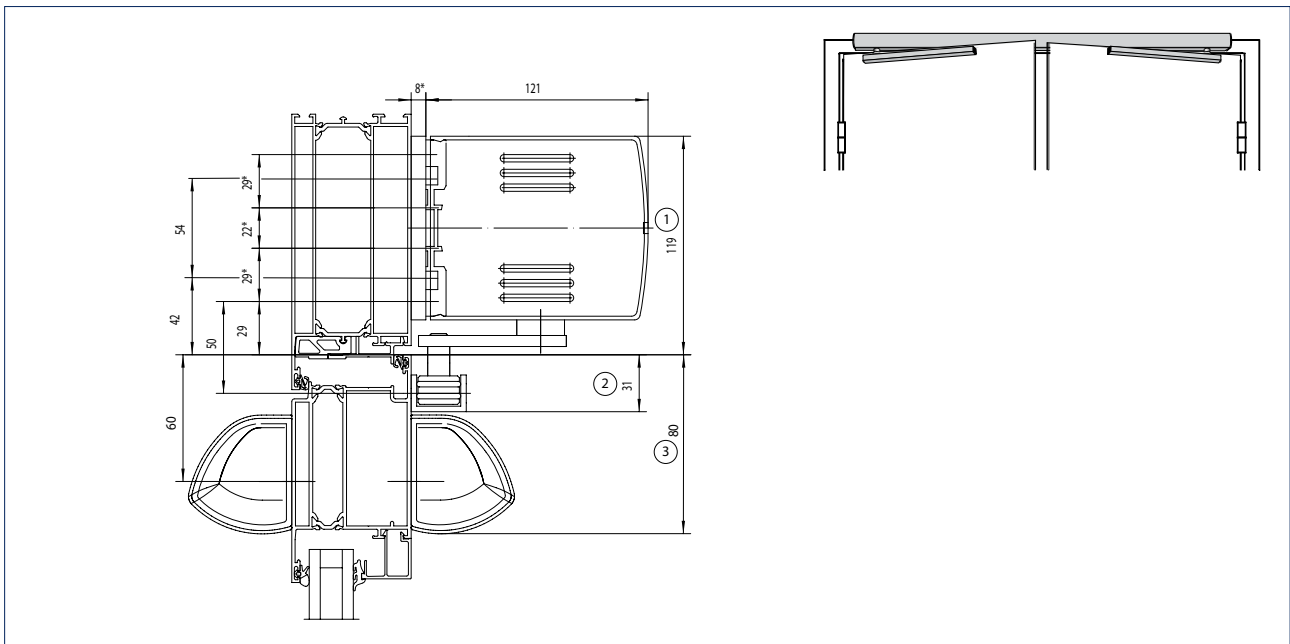
3 = Space requirement for GC 338



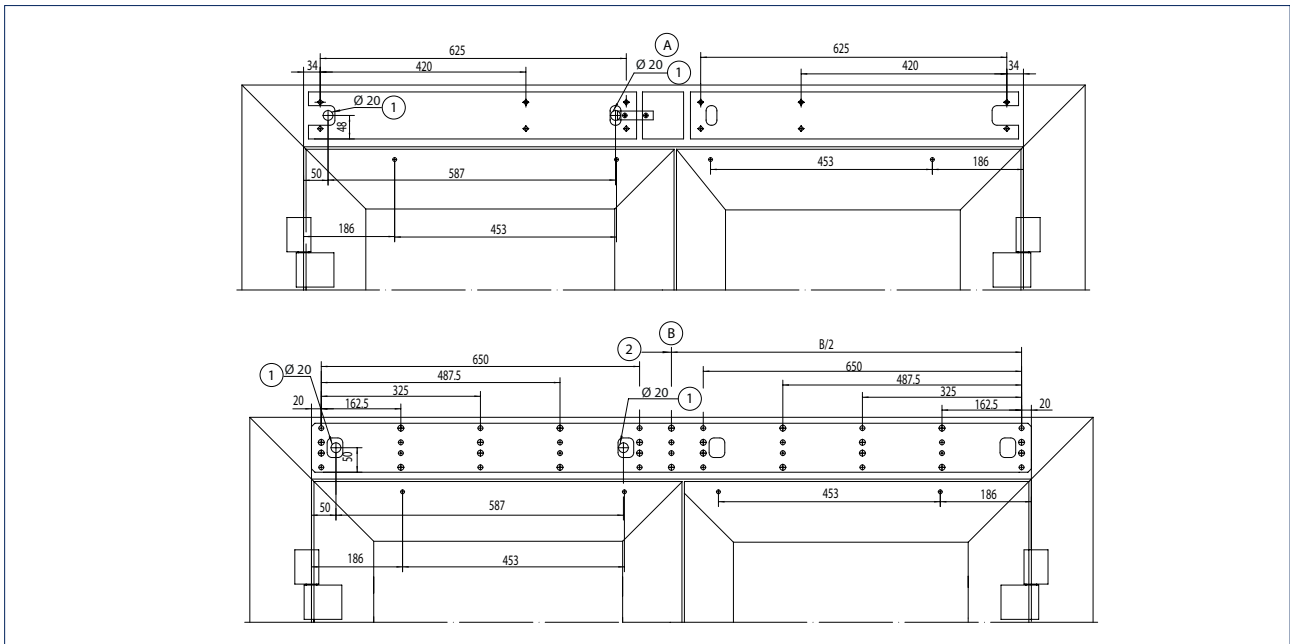
- A = Direct installation
- B = Installation with mounting plate
- 1 = Concealed line-feed

Transom installation with guide rail on the hinge side, double-leaf

Drawing no. 70423-ep22



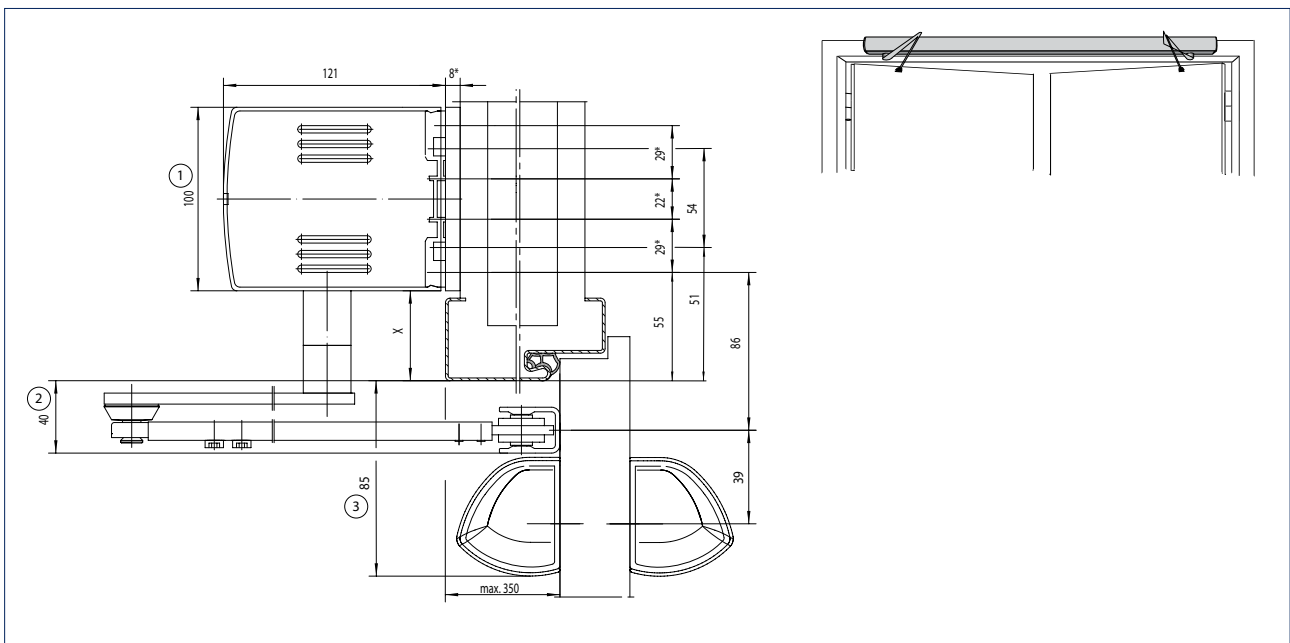
- * = Installation with mounting plate
- 1 = Space requirement for TSA 160 NT
- 2 = Space requirement for guide rail
- 3 = Space requirement for GC 338



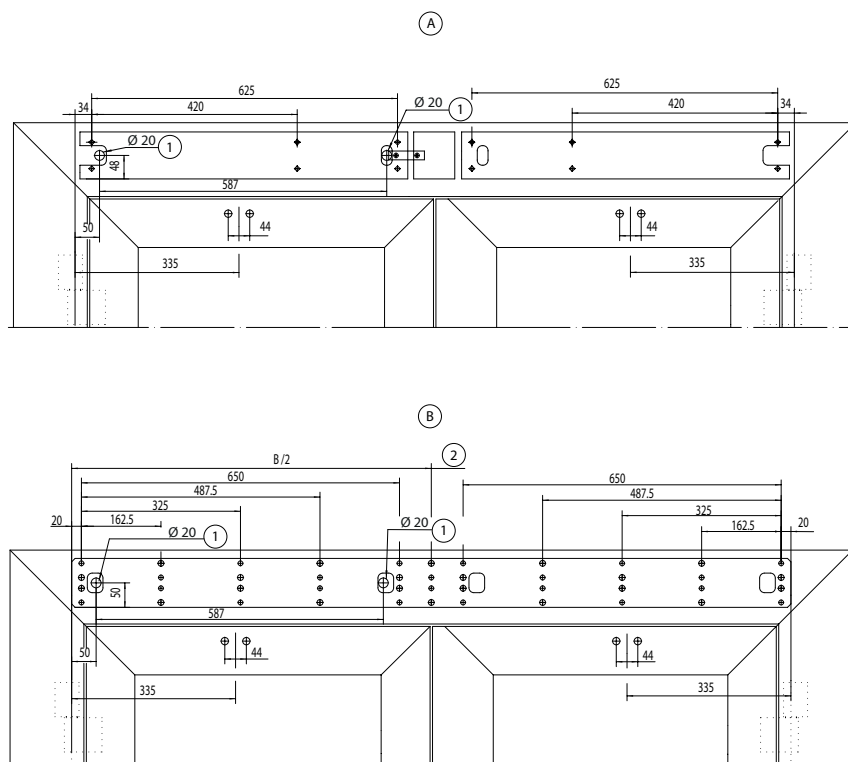
- A = Direct installation
 B = Installation with mounting plate
 1 = Concealed line-feed
 2 = only required for B > 2000

Transom installation with link arm on the opposite hinge side, double-leaf

Drawing no. 70423-ep11



- X = Spindle extension
 * = Installation with mounting plate
 1 = Space requirement for TSA 160 NT
 2 = Space requirement for link arm
 3 = Space requirement for GC 338



A = Direct installation

B = Installation with mounting plate

1 = Concealed line-feed

2 = only required for $B > 2000$

Legend for the cable diagrams

Cable

- 1 = NYM-J 3 x 1.5 mm²
- 2 = J-Y(ST)Y 1 x 2 x 0.6 LG
- 3 = J-Y(ST)Y 2 x 2 x 0.6 LG
- 4 = J-Y(ST)Y 4 x 2 x 0.6 LG
- 5 = LiYY 2 x 0.25 mm²
- 6 = LiYY 4 x 0.25 mm²
- 7 = Scope of supply sensor strip or LiYY 5 x 0.25 mm²
- 8 = Route empty pipe with pull-wire inner diameter 10 mm

Operator displacement

- AV = Cable exit
- 60 mm = 580 mm
- 50 mm = 590 mm
- 40 mm = 600 mm (standard)
- 30 mm = 610 mm
- 20 mm = 620 mm
- 10 mm = 630 mm
- 0 mm = 640 mm

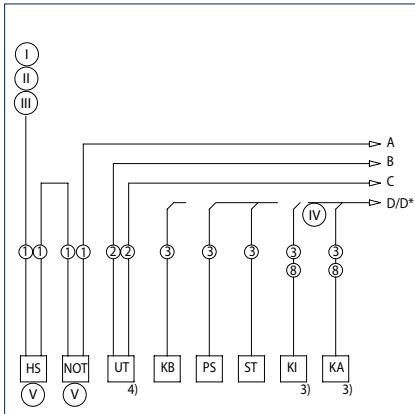
Notes

- Cable diagrams can also be prepared for specific building projects after receipt of order
- Version of standard cable diagrams in accordance with GEZE specifications
- Cable routing according to VDE 0100
- Allow the cable for the drive to project at least 1500 mm out of the wall

- 1) Door transmission cable (including in the scope of supply for sensor strip), cable routing through a hole in the door leaf is not permitted for fire control doors.
- 2) Cable exit for door drive see sketch A and B
- 3) Cable including in the scope of supply for the sensor
- 4) Install in the direct vicinity of the door
- 7) E.g. door transmission cable, 8-wire, art. no. 066922
- 8) Branch box, on site

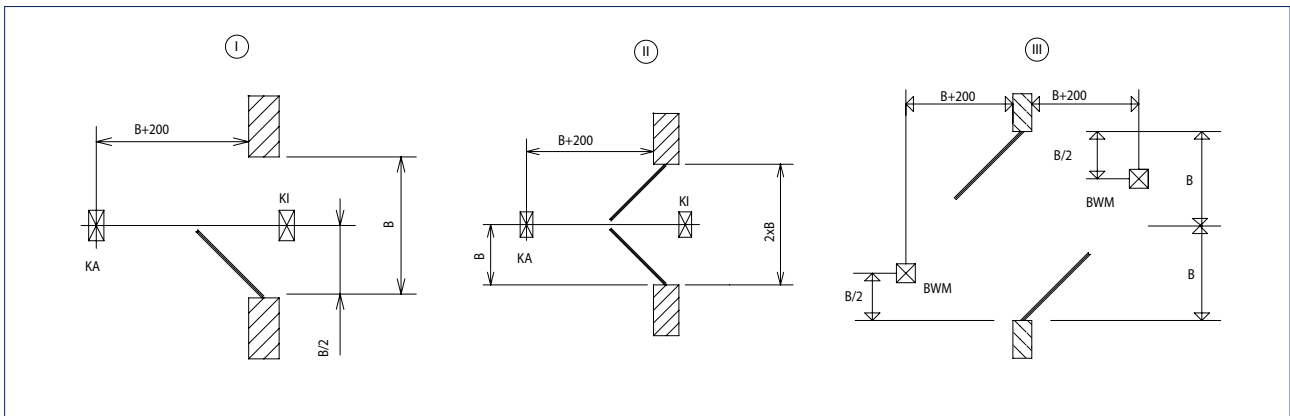
Abbreviations

- HS = Main switch
- NOT = Emergency-stop switch
- UT = Circuit breaker CLOSE DOOR (only with F variant)
- KB = Contact sensor authorised
- PS = Programme switch
- ST = Emergency stop
- KI = Contact sensor inside
- KA = Contact sensor outside
- TOE = Door opener
- RM = Bar message
- RS = Smoke switch (only with F variant)
- RSZ = Smoke switch control unit (only with F variant)
- TS = Door closer
- MK = Magnetic contact



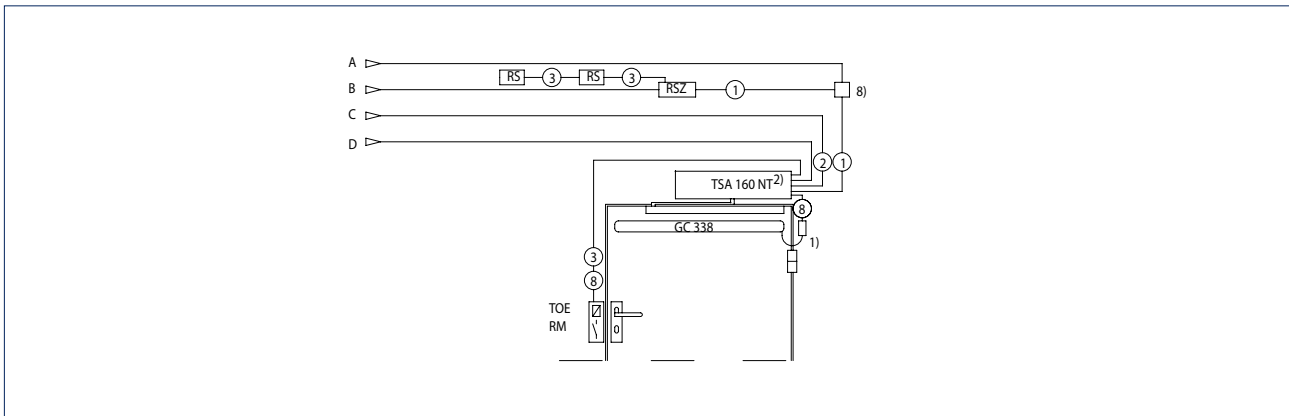
- I = Feeder 230 V / 50 Hz
- II = 10 A fuse
- III = Connected value 300 W 1.3 A for 1- 2-leaf with manual fixed leaf Connected value 600 W 2.6 A for 2-leaf
- IV = And / Or
- V = Option

Positioning of the movement detectors

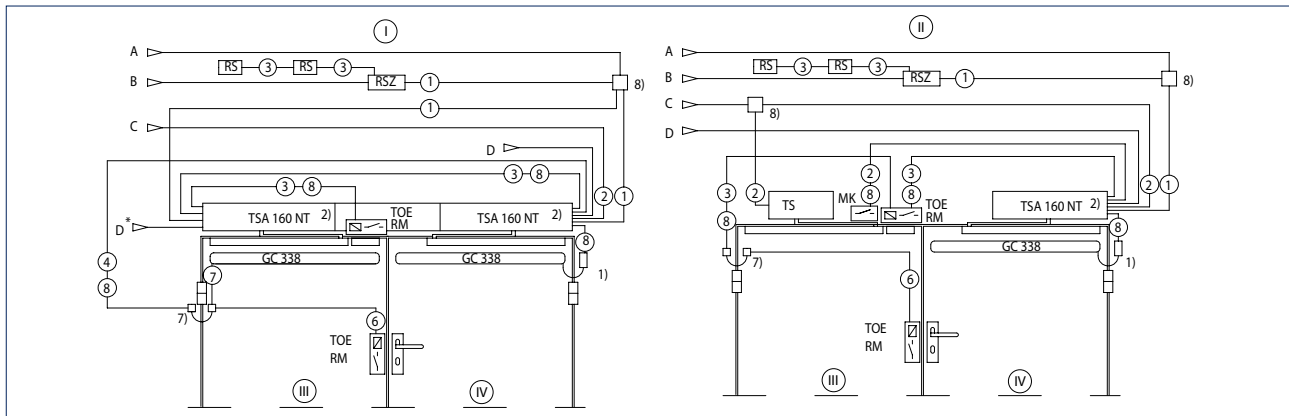


- I = Positioning of movement detector 1-leaf
- II = Positioning of movement detector 2-leaf
- III = Positioning of movement detector 2-leaf, 2E

TSA 160 NT cable plan single-leaf

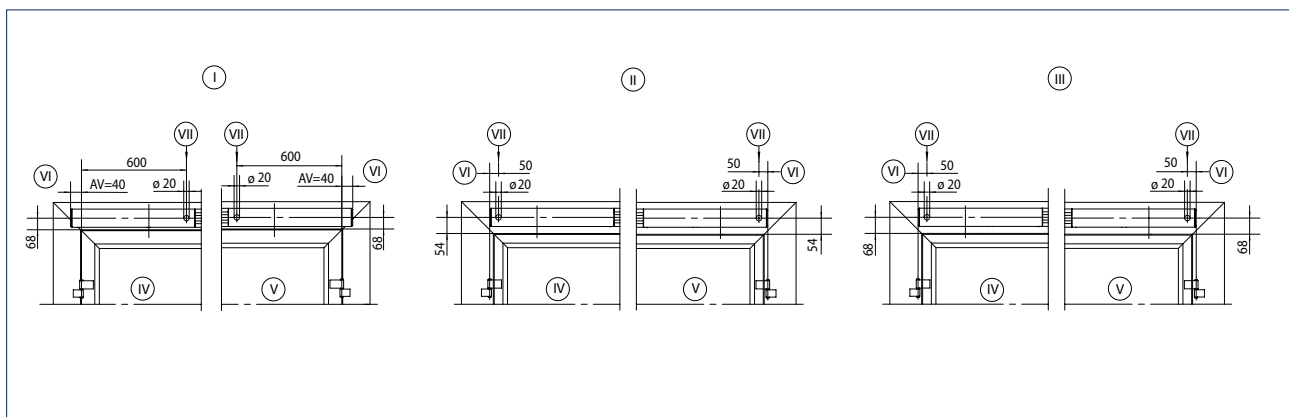


TSA 160 NT cable plan double-leaf



- I = 2-leaf
- II = 2-leaf with manual fixed leaf
- III = Fixed leaf
- IV = Active leaf

TSA 160 NT cable exit



- AV = Operator displacement
- I = TSA 160 NT installation hinge side
- II = TSA 160 NT installation opposite hinge side
- III = TSA 160 NT-Z installation hinge side
- IV = Drive left - pulling
- V = Drive right - pulling
- VI = from top of leaf, dimension for spindle extensions must be added
- VII = Cable exit

Accessories for swing door systems

Hood, mounting plate, link arm, guide rail with lever

Hood

The hood is available in an anodised or coloured finish. In the case of double-leaf versions, the hood can be ordered as a continuous variant or with intermediate hood.

Mounting plate for drives (option)

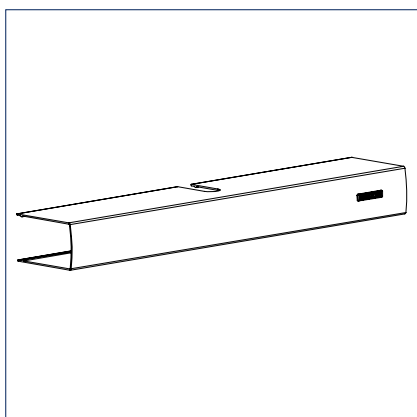
A mounting plate may be necessary, depending on the installation situation. A mounting plate is generally recommended to make installation easier. A respective mounting plate is supplied according to the hood version.

Link arms

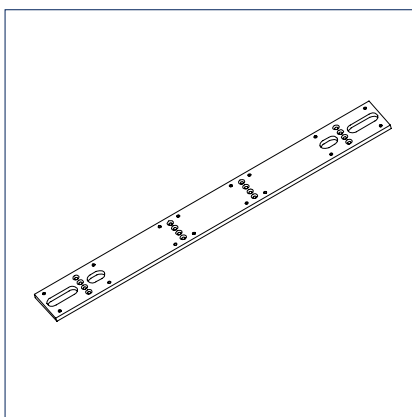
are offered for different reveal depths

Guide rail with lever

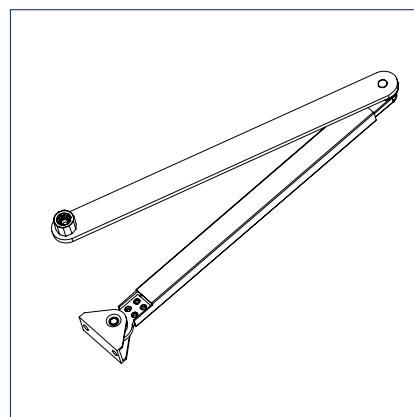
Installation depends on the type of hinge action chosen.



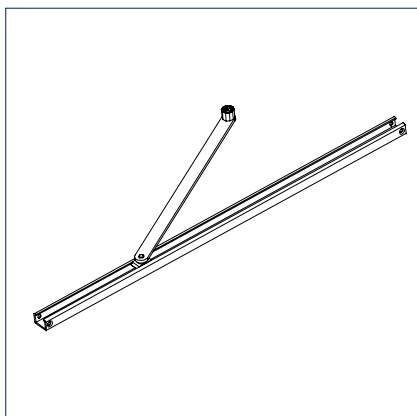
Cover



Mounting plate



Link arm



Guide rail with lever

Note

More detailed information on the following accessories can be found in the catalogue: **GEZE actuation devices and sensor systems**

Operating automatic swing doors

Programme switches for the selection of the operating mode for automatic swing doors

GEZE offers programme switches for a wide range of individual requirements. The switches are suitable for universal use – for surface-mounted or flush-mounted installation. The following switch types are available:

Display programme switch (DPS)

Key programme switch (TPS)

Mechanical programme switch (MPS)

The following operating modes can be set:

“Permanently open”

The door moves to the OPEN position and remains open. Movement detector or opening button are deactivated.

“Night”

The movement detectors are switched inactive, the door closes.

Option: The door leaves are locked electrically to prevent forced opening.

“Shop closing” (one-way)

The door only opens and closes when someone goes out from the inside.

The movement detector outside is switched inactive, the one inside is switched active.

“Automatic”

The door opens as soon as it is actuated via the movement detector or keys, and closes after a certain individually adjustable time. Safety sensors protect the leaves' travel path. If there is someone in the door opening, the door will not close.

“OFF” (only with TPS and MPS)

Drive and sensors are switched off, the door leaves can be moved manually.

Key switch

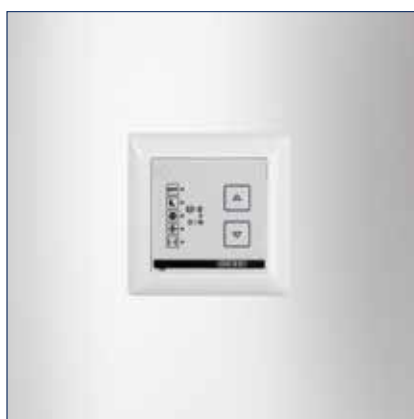
The programme switch can be blocked using a key switch. A key switch is required for the FR variants.

Securing the programme switches

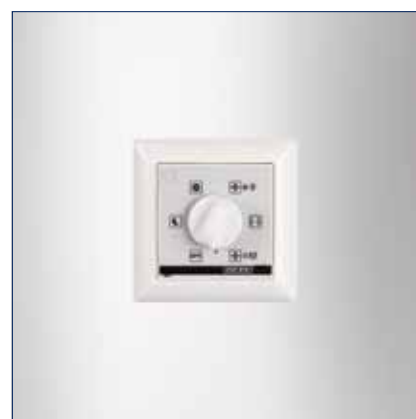
The mechanical programme switch (MPS) is also available in a lockable version. The display programme switch (DPS) and key programme switch (TPS) can be combined with a key switch. Alternatively, these programme switches can be secured using a code.



Display programme switch (DPS)



Key programme switch (TPS)



Mechanical programme switch (MPS)

ACCESSORIES

Automatic actuation

Reliable actuation with GEZE sensors

Radar movement detector

Radar movement detectors register all objects that move within the radar field. All movements within the radiation range cause a time-delayed reflection which is forwarded as a door opening signal. The pre-programmed convenience setting of the GEZE radar movement detectors ensures they can be put into operation quickly. Automatic configuration is possible via keys or a remote control. Reliable detection is achieved with a clearly defined radar field. Energy can be saved through detection of people's direction of movement. Excessive door opening is avoided since cross-traffic can be faded out.



Radar movement detector



GEZE TSA 160 NT IS and radar movement detector, Andels Hotel, Berlin, Germany (Photo: Stefan Dauth)

Manual actuation

Push buttons

GEZE push buttons for the wireless actuation of system doors – reliable, convenient and safe at the push of a button.

Non-contact capacitive push button

The design-oriented and sturdy LED sensor button makes intuitive and straightforward operation possible. No great efforts are required for actuation – touching the button slightly is sufficient. Suitable for use both indoors and outdoors, the LED sensor button can be recognised easily in the dark thanks to the blue LED lighting. In addition, the sensor has raised Braille lettering on it. An acoustic and visual signal initiates actuation through the push button. The push button is waterproof, impact-resistant and vandalism-proof. This makes it very well suited for outdoor use or installation in the floor.

Non-contact infrared sensor

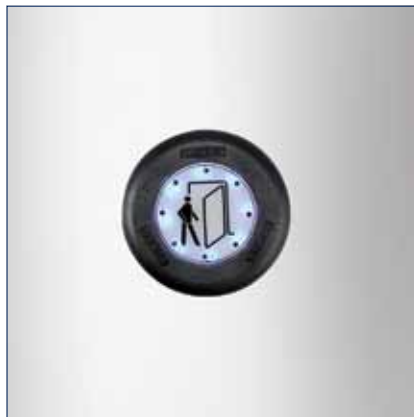
Open doors in a flash: With GEZE infrared sensors, internal doors without precise perception requirement can be actuated cleanly and comfortably. Active infrared sensors ensure hygienic access to toilet facilities, for example. The risks of infection are also minimised in hotel kitchens, hospitals and doctors' surgeries. The impulse generator is installed at hand height and precisely detects people and objects – independently of their direction of movement – both in the direct vicinity of only 5 cm as well as 0.6 m away. The different scanning ranges can be optimally adapted to existing environmental conditions and the wishes of the user groups. The non-contact sensor system provides maximum operating convenience – people only need to approach them to trigger the automatic opening mechanism. The optimum system structure permits simple and time-saving installation in the flush-mounted box.

Radio actuation

GEZE radio transmitters are used for wireless actuation of doors and windows as a multi-channel solution. For every additional channel, an additional electrical device or function can be switched at the push of a button. Thanks to the very small size of the radio modules, radio transmitters can easily be integrated in the drive or in a flush-mounted box. They can also be clipped directly into the elbow switched and mounted without wires on glass.



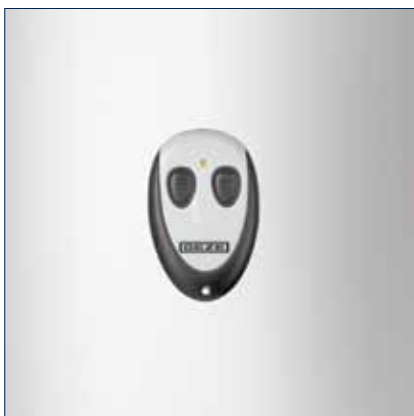
Push button



Non-contact capacitive push button



Non-contact infrared sensor



Radio actuation



Plastic elbow switch



Stainless steel elbow switch

Electronic protection

Safety sensor strips

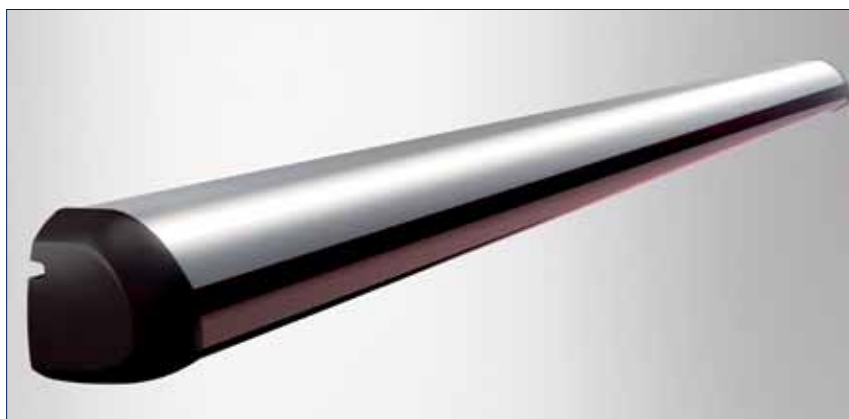
Safety sensor strips are used to monitor and safeguard the pivoting area of automatic swing door leaves. They are installed on both sides of the door, directly on the leaf. This guarantees maximum protection both during opening and closing of the door.

GEZE safety sensors work with infrared light. Electromagnetic waves which are invisible to the human eye are directed by a transmitter to people or objects within the area of detection. A receiver absorbs the reflected infrared beams and converts them into an electric signal which is transmitted to the control unit of the door drive. Door movement in the opening direction is stopped as soon as the sensor registers an obstacle. It is possible for the wall areas to be faded out by the safety sensors (teachable). In closing direction, the sensor actuates the drive of the closing door and opens it again.

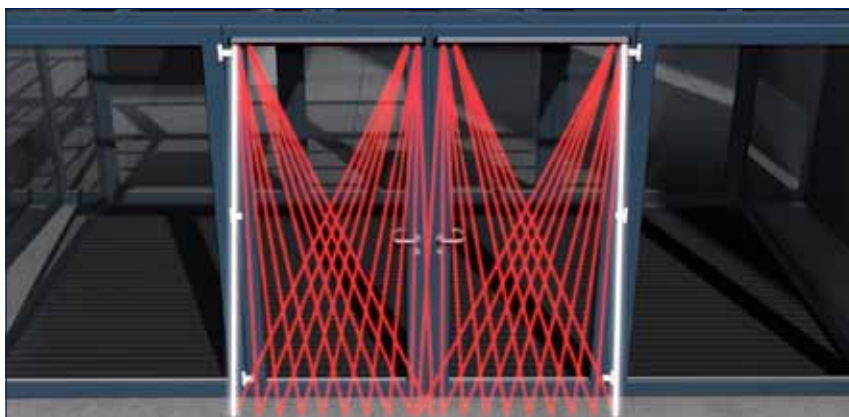
GC 338 sensor strip

The new energy- and space-saving sensor strip GC 338 has a very large safety range and offers enhanced protection on the primary and secondary closing edges. In addition, the sensor has a wall blanking feature which makes it possible to guarantee maximum safety even with doors that open against walls. Safeguarding all GEZE swing door drives with door leaf widths of up to 1200 millimetres is achieved with only one sensor system. The GC 338 not only offers advantages for installation and commissioning – the complete door system is supplied via an interface. The sensor strip automatically adapts to its environment. This saves learning time and installation costs. The GEZE sensor strip GC 338 has the following features:

- Reliable function under all weather and floor conditions up to 3.5 m in accordance with DIN 18650 / EN 16005
- One sensor system safeguards door leaf widths up to 1200 mm
- Wall blanking: The sensor can detect a wall and blank this out automatically
- Elegant guide rail can even be used with slim door profiles
- Sleep mode when the sensor is not required – saving up to 50% energy in relation to comparable sensors
- Current consumption in operating mode: 200 mA
- Current consumption in sleep mode: 100 mA
- Quick and easy installation of the modules using the SNAP-IN mechanism, allowing modules to be positioned and fixed in the profile without tools



GC 338 sensor strip



Frontal detection field



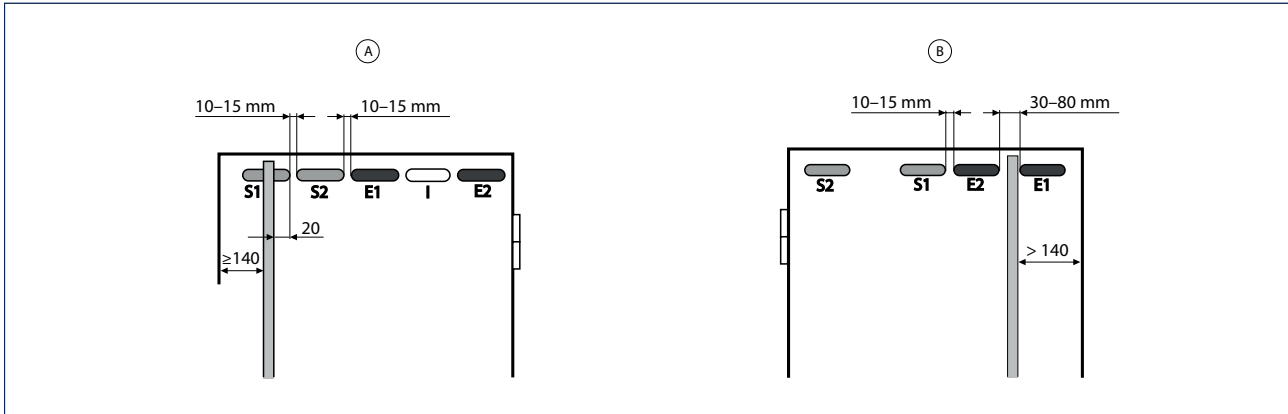
Integrated wall blanking

Safety sensors on door leaf with vertical handle bars

To secure the door in accordance with DIN 1860 / EN 16005, the following modules are required additionally for each door side:

- 1 transmitter module
- 1 receiver module

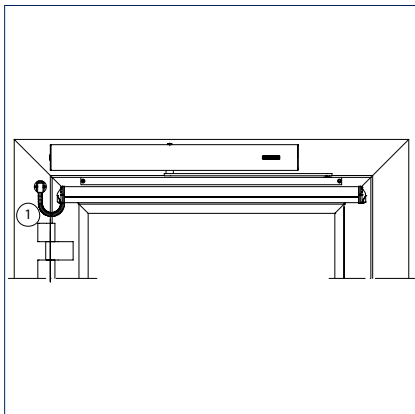
Please find more details in the GC 338 operation manual.



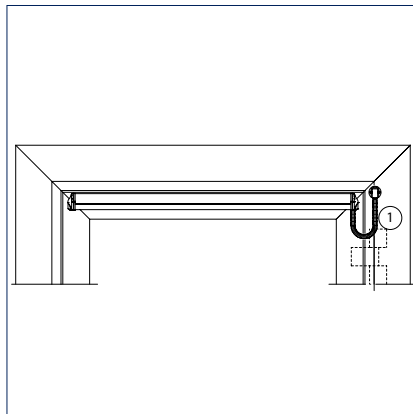
A = Handle bar left

B = Handle bar right

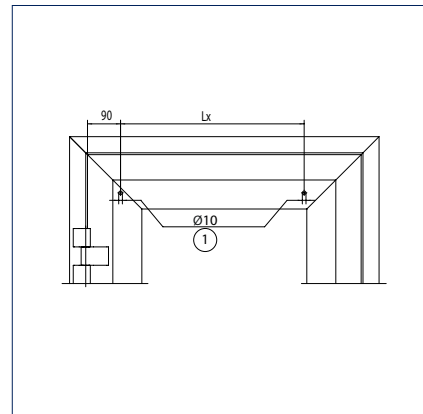
Installation on the hinge side



Safety sensor „close“ mounted on the hinge side

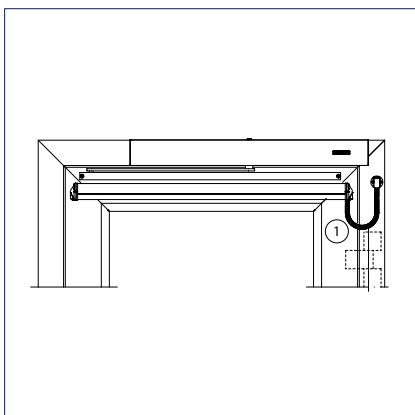


Safety sensor „open“ mounted on the opposite hinge side

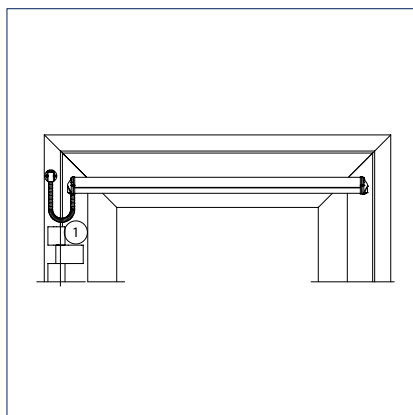


Safety sensor drill hole distances hinge side

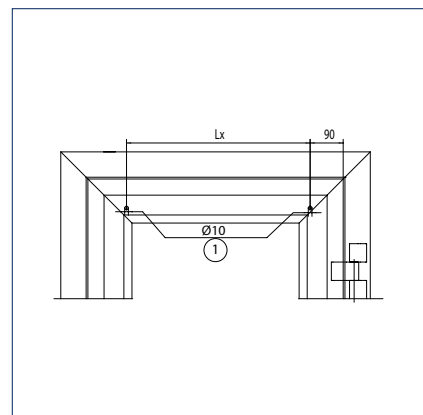
Installation on the opposite hinge side



Safety sensor „close“ mounted on the opposite hinge side



Safety sensor „open“ mounted on the hinge side



Safety sensor drill hole distances opposite hinge side

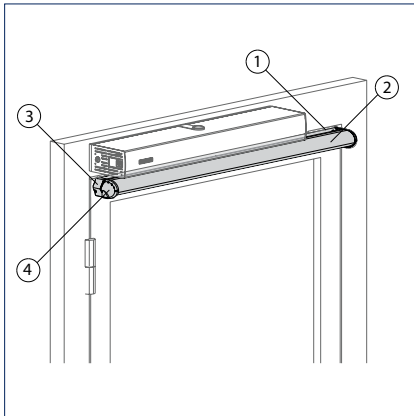
1 = optional power supply, concealed routing possible. Drill hole \varnothing 10 for concealed cable routing.

Lx = Profile length 1100 mm : Lx = 489 mm; profile length 1500 mm : Lx = 699 mm

Sensor guide rail GC GR - the ideal combination of safety and design

The GC GR sensor guide rail is available for the complete range of Slimdrive EMD models and all the TSA 160 NT drive version. The sensor and the guide rail can be put together in such a way that they look like a single compact and more integrated design. The features at a glance:

- Suitable for single and double-leaf swing door
- Available for all TSA 160 NT and Slimdrive EMD variants with guide rail
- Sensor and guide rail profile are available separately, facilitating retrofittings to existing systems
- The rain cover is available as accessory



- 1 = Sensor guide rail
- 2 = Sensor strip
- 3 = End cap for guide rail for sensor
- 4 = End cap for sensor strip

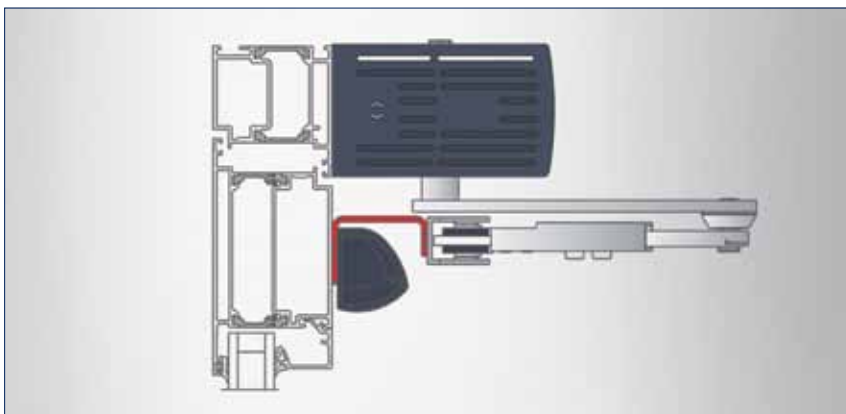


Sensor guide rail GC GR

**Adapter for sensor and link arm for slimdrive EMD and TSA 160 NT - Integration of link arm and sensor strips on one level**

Exactly similar as in case of the sensor guide rail GC GR, the newly introduced adapter for link arm and sensor enables an optimal installation on doors with slim frames. The link arm program of the Slimdrive EMD and TSA 160 NT drives was re-worked, so that the adapter can be combined with new link arms. Advantages:

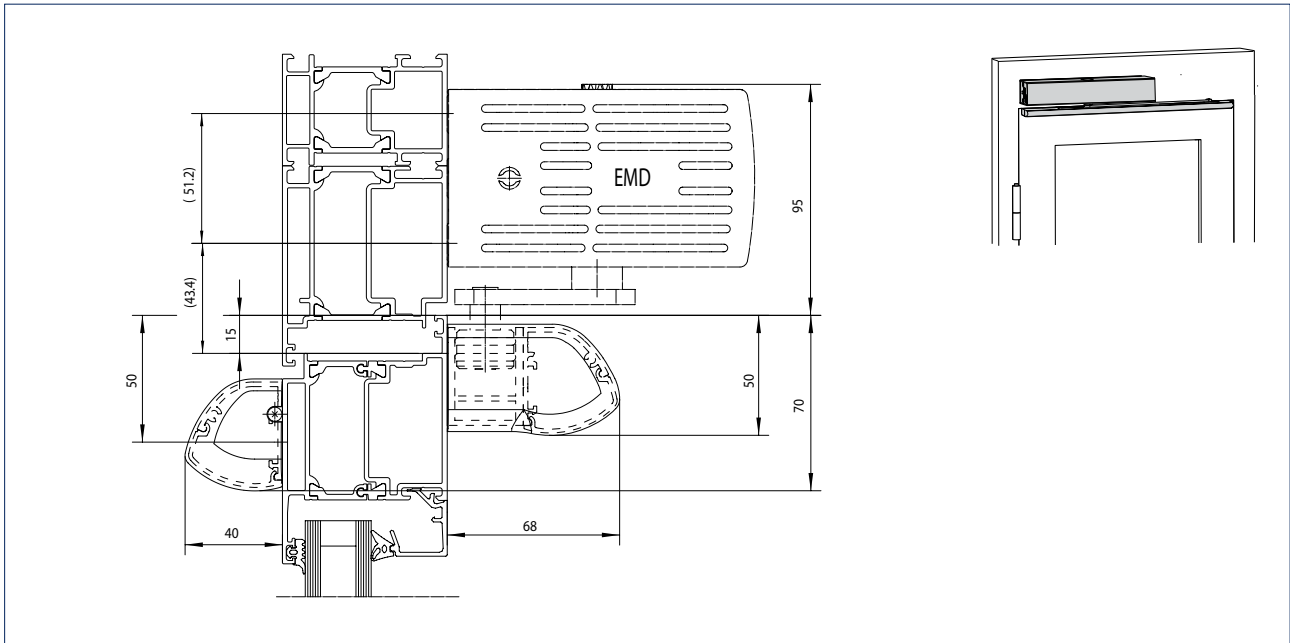
- Better integration of link arm and sensor strip GC 334, GC 335 or GC 338 into the door design
- Simple installation, in particular in case of slim door frames
- With the new link arms a maximum reveal depth of 400 mm can now be bridged



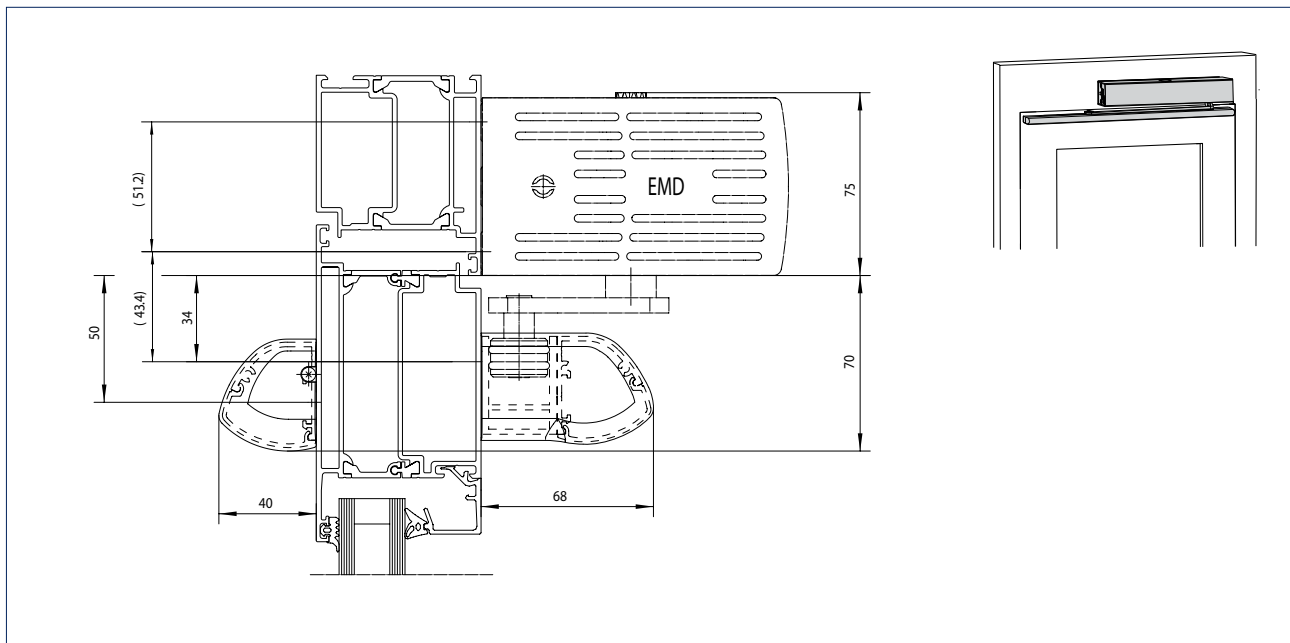
Adapter for sensor and link arms for Slimdrive EMD and TSA 160 NT

EMD and GC GR (GC 338) transom installation with guide rail on the hinge side

Drawing no. 70106-ep35

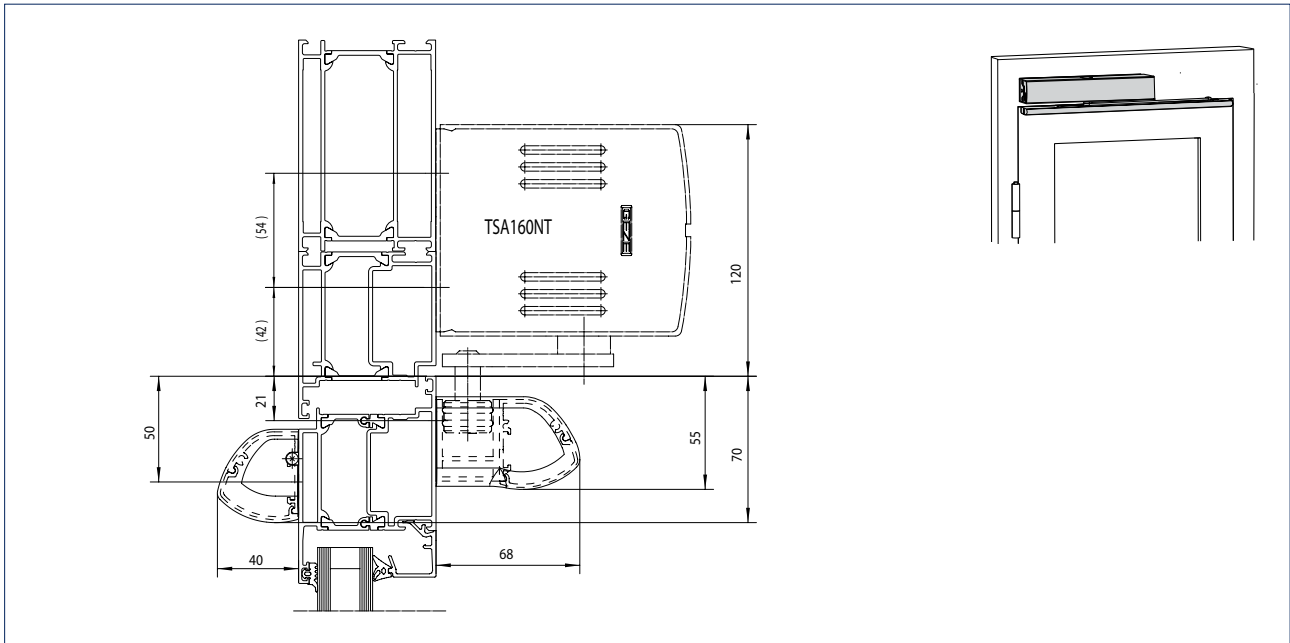
**EMD and GC GR (GC 338) transom installation with guide rail on the opposite hinge side**

Drawing no. 70106-ep35



TSA 160 NT and GC GR (GC 338) transom installation with guide rail on the hinge side

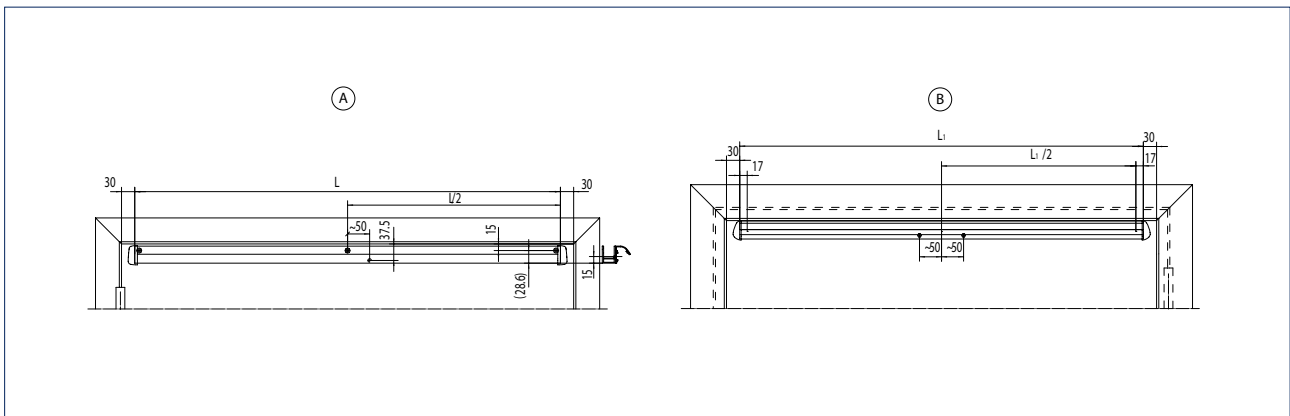
Drawing no. 70106-ep35



GC GR (GC 338) 1200 mm, single leaf

Drawing no. 70106-ep35

Note: For double-leaf doors mirror and add this view.



- A = Hinge side
- B = Opposite hinge side
- L = Length

Service Tools

GEZEconnects

Bluetooth is an internationally standardised short-distance radio signal with a range of up to ten metres. The software GEZEconnects makes wireless connection via Bluetooth possible between a computer and the automatic door systems from GEZE. All door system settings can be carried out via an intuitive graphic interface, stored, sent by e-mail and transferred to a word processing programme as a protocol. Diagnosis functions show the most important function parameters of the door system in real time, so that problems are recognised at a glance and can be eliminated. All the pre-settings can be taken over very easily for further door systems. The convenient documentation of initial operation, servicing and diagnosis protocols as well as all statistical data can be downloaded at any time. Password protection to freeze operating parameters and servicing data guarantees there will be no unauthorised modifications made.

Service terminal ST 220

Mobile, handy and straightforward – that is the parameter setting for the automatic GEZE door systems using the service terminal ST 220. Communication and data exchange between the service terminal and the door drive is via an integrated RS485 interface. The large illuminated display is easy to operate thanks to the plain text display. The service terminal is equipped with a readout function for servicing and diagnosis work. Power is supplied via the door system. Password protection to freeze operating parameters and servicing data guarantees there will be no unauthorised modifications made.

Note

GEZE service tools are available for the Slimdrive EMD and TSA 160 NT range of drives.



GEZEconnects



Service terminal ST 220

References



BMW World, Munich, Germany (Foto: Robert Sprang)



Olympic Hall, Coubertin, Munich, Germany (Foto: Robert Sprang)



Municipal Library, Stuttgart, Germany
(Foto: Lazaros Filoglou)



Crown Plaza, Luik, Netherlands (Foto: Erwin Kamphuis)

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

Door technology

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

Automatic door systems

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

Smoke and heat extraction and window technology

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

Safety technology

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

Glass systems

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



POTENTIAL APPLICATIONS OF GEZE PRODUCTS



Door technology

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

Automatic door systems

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

Smoke and heat extraction and window technology

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

Safety technology

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

Building systems

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

Glass systems

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

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