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

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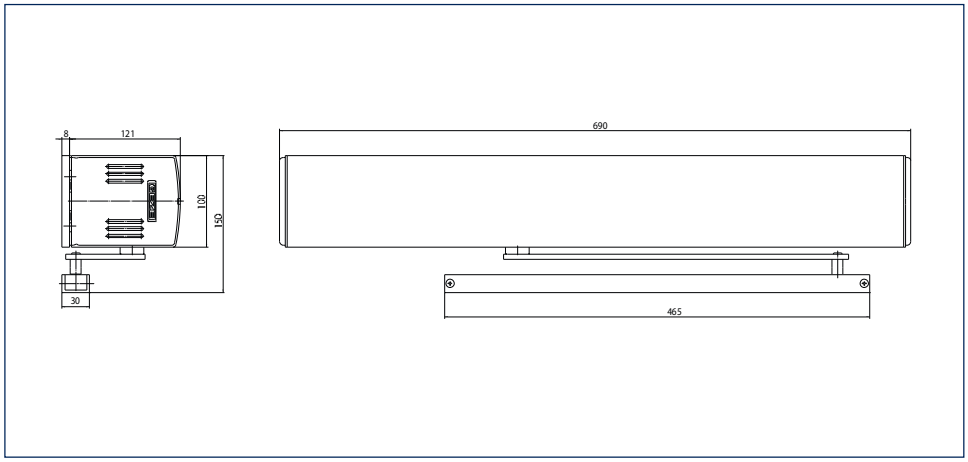


Application range

- Internal and external doors
- Railway stations and airports
- Hotel and restaurants
- 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. swimming baths, thermal baths, sport and fitness centres
- Administration and public buildings
- Food industry

GEZE TSA 160 NT

Technical data

Product features	**GEZE TSA 160 NT**	**GEZE TSA 160 NT Invers**	**GEZE TSA 160 NT IS**	**GEZE TSA 160 NT EN7**
Height	100 mm			
Width	690 mm			
Depth	121 mm			
Leaf weight (max.) 1-leaf	250 kg			310 kg
Hinge size (min.-max.) 2-leaf	1470 – 2800 mm			1470 – 3200 mm
Leaf width (min.-max.)	690 – 1400 mm			690 – 1600 mm
Soffit depth (max.)*	350 mm			300 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)	-	●	-	-
Left-hand	●	●	●	●
Right-hand	●	●	●	●
Transom installation opposite hinge side with link arm	●	●	●	●
Transom installation opposite hinge side with guide rail	-	-	-	-
Transom installation hinge side with guide rail	●	●	●	●
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	-	-	-	-
Mechanical latching action	●	-	●	●
Electrical 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			400 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	●	●	●	●
Low-energy function	-	-	-	-
Servo function	-	-	-	-
Key function	●	●	●	●
Inverse function (opening by spring force)	-	●	-	-
Draught-proofing	●	●	●	●
Obstruction detection	●	●	●	●
Automatic reversing	●	●	●	●
Push & go	adjustable			
Operation	Programme switch DPS, Programme switch MPS, Programme switch TPS, Programme switch integrated in the drive			
Parameter setting	Programme switch DPS, Controller			
Approvals	DIN 18650			
Suitable for fire proof doors	-	-	-	-
Use on smoke and fire doors (F-variant)	●	-	●	-

● = YES
- = NOT AVAILABLE
* = DEPENDING ON THE TYPE OF INSTALLATION
** = THIS DOES NOT APPLY FOR Z-VARIANT

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

TSA 160 NT minimum and maximum leaf widths

Single-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 protection doors

TSA 160 NT minimum and maximum leaf widths, hinge size for double-leaf doors

Double-leaf doors	Hinge size (min.)	Hinge size (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

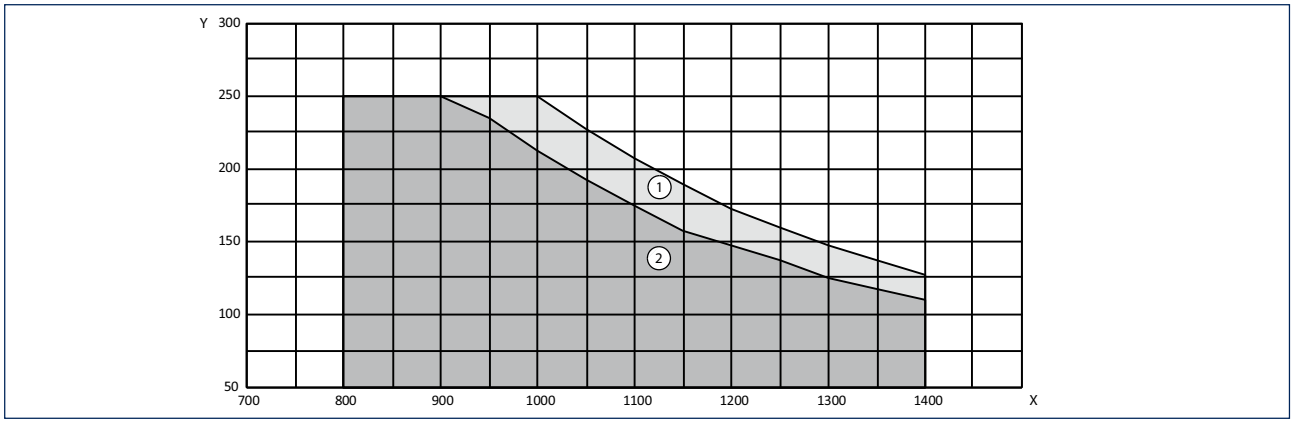
[1)] Also on smoke and fire protection doors
[2)] The minimum hinge width must be observed!

Areas of application

Note

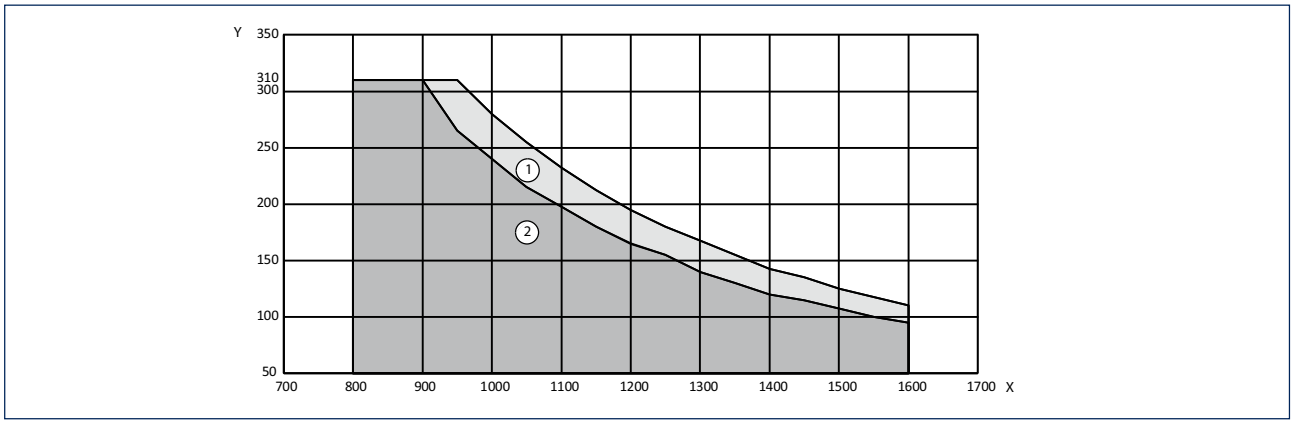
In low-energy mode the swing door drive moves at reduced speed and thus meets the safety requirement of DIN 18650. The use of safety sensors to safeguard the system is only necessary in individual cases, taking the user group into account. In automatic mode, however, the swing area of the door must always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

TSA 160 NT



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

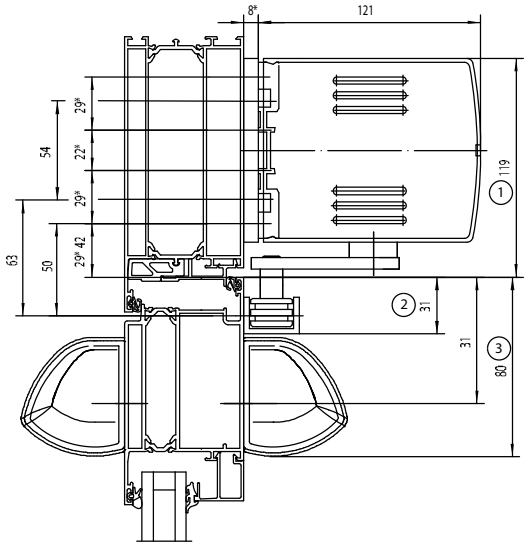
TSA 160 NT E7

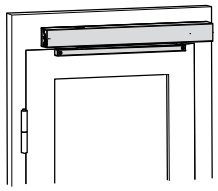


X = Door width (mm)
Y = Door weight (kg)
1 = Link arms
2 = Guide rail

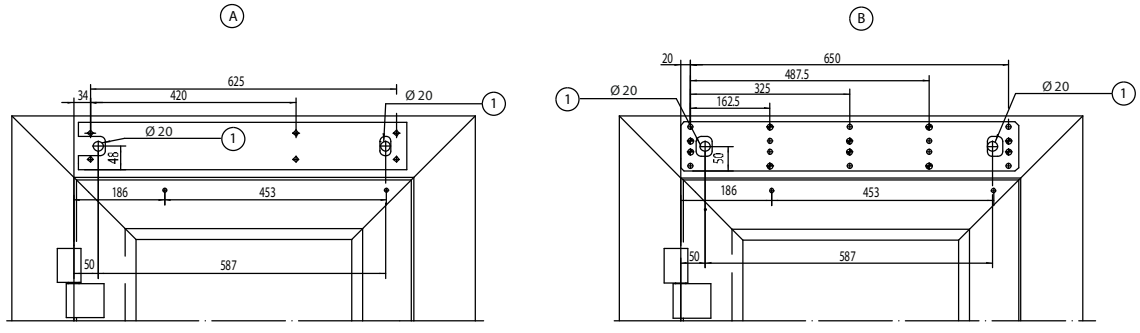
Note: Diagram shows left-hand (ISO 6), right-hand (ISO 5) is reversed (mirror-image).

Transom installation with guide rail on the hinge side, single-leaf
Drawing no. 70423-ep02

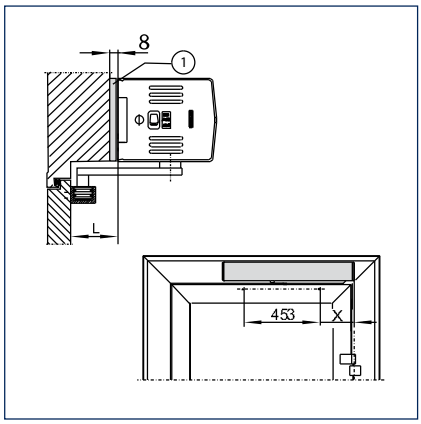




* = Installation with mounting plate
1 = TSA 160 NT space requirement
2 = Guide rail space requirement
3 = GC 338 space requirement

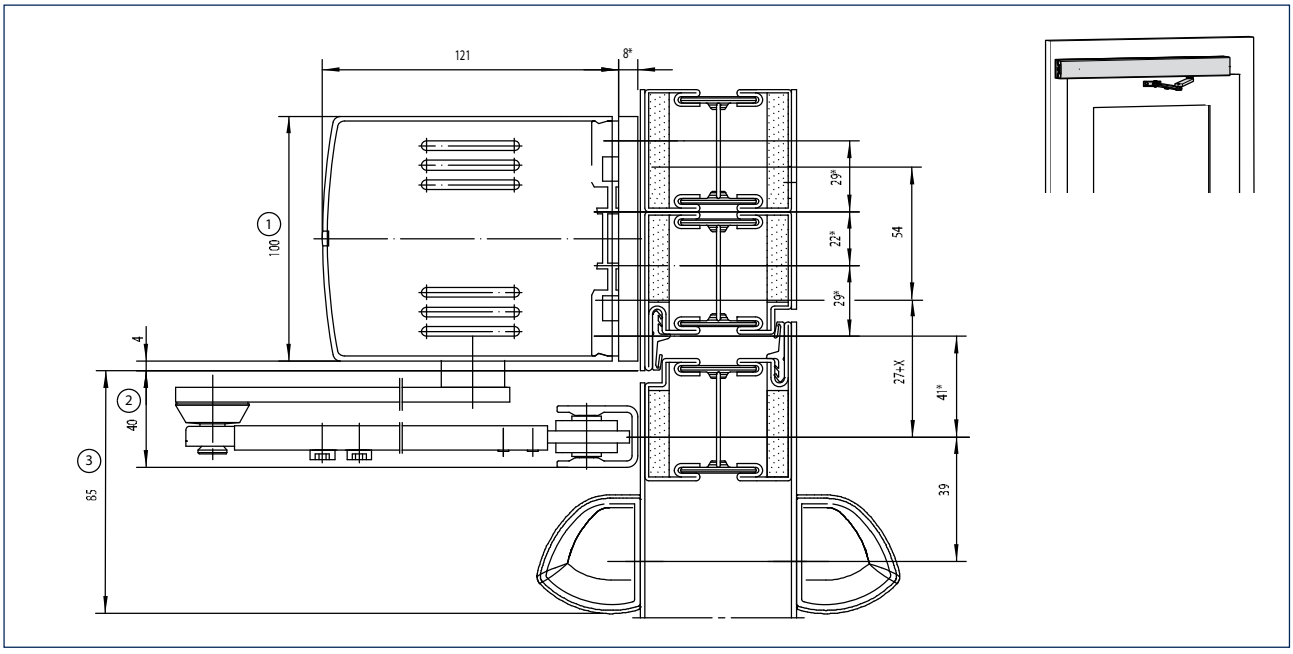


A = Direct installation
B = Installation with mounting plate
1 = Concealed line-feed

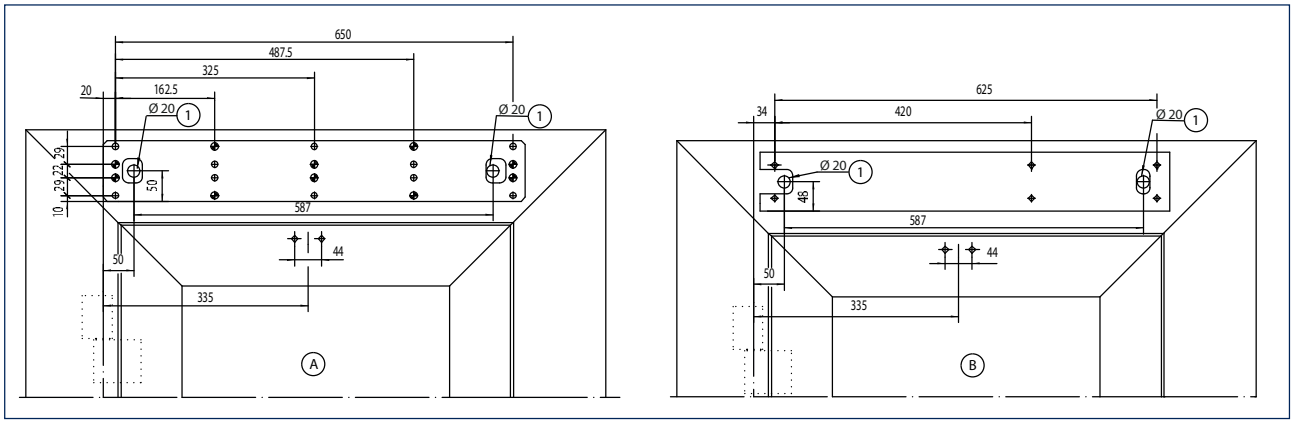


1 = Mounting plate

Transom installation with link arm on the opposite hinge side, single-leaf
Drawing no. 70423-ep01

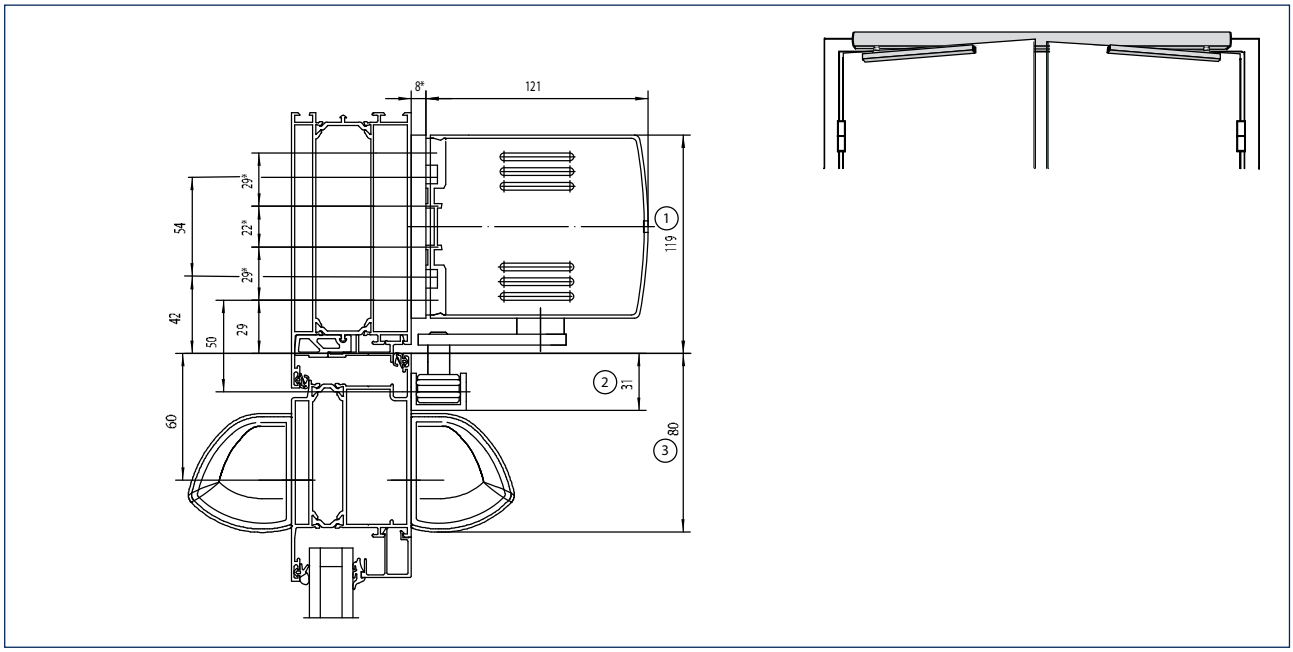


* = Installation with mounting plate
1 = TSA 160 NT space requirement
2 = Link arm space requirement
3 = GC 338 space requirement



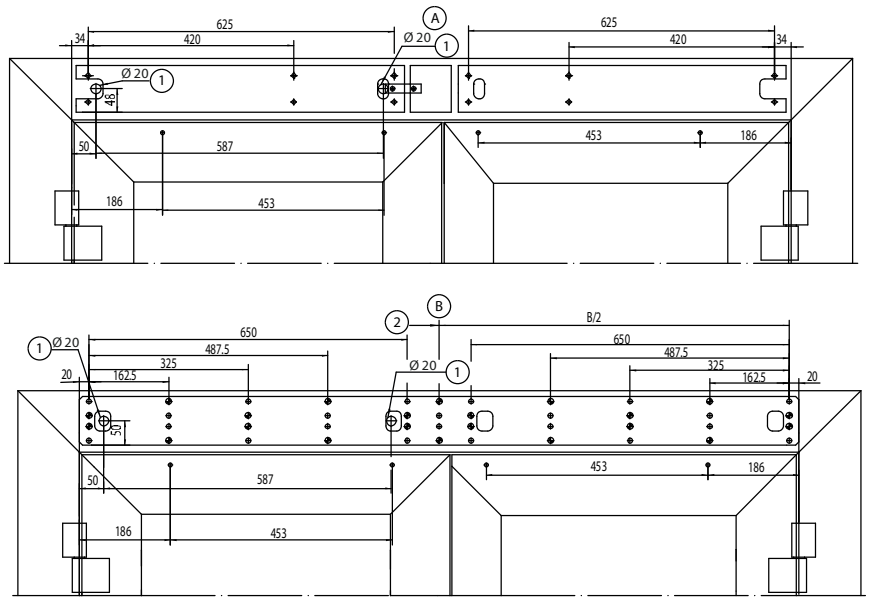
A = Direct installation
B = Installation with mounting plate
1 = Concealed line-feed

Transom installation with guide rail on the hinge side, double-leaf
Drawing no. 70423-ep22



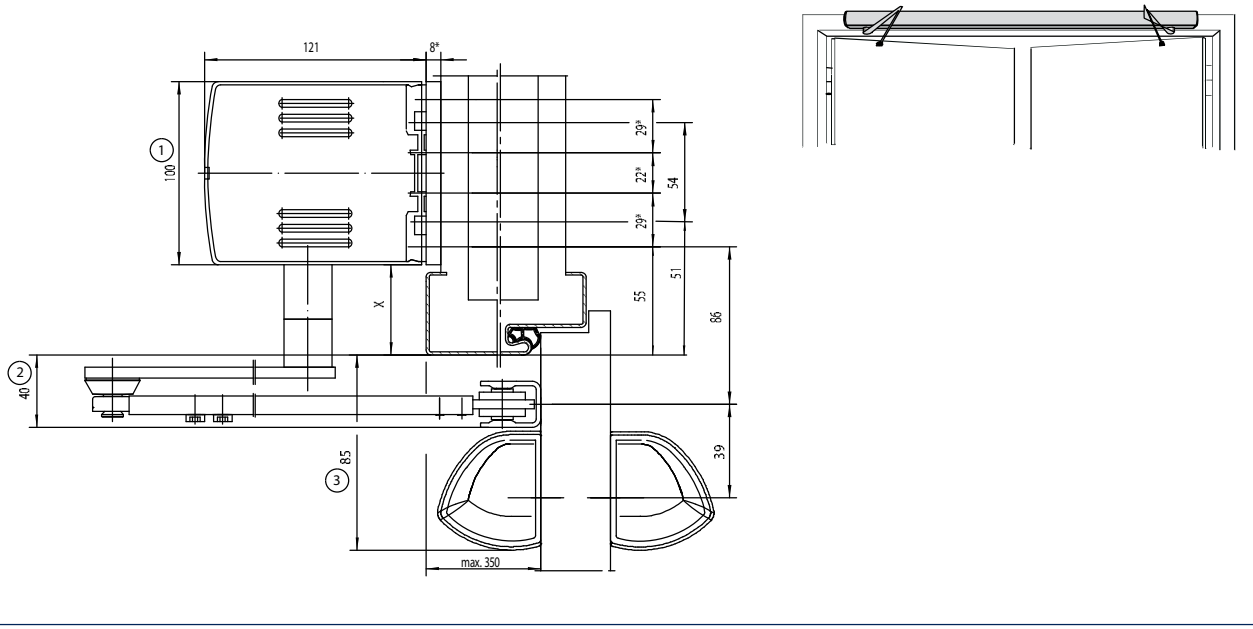
* = Installation with mounting plate
1 = TSA 160 NT space requirement
2 = Guide rail space requirement
3 = GC 338 space requirement

GEZE TSA 160 NT

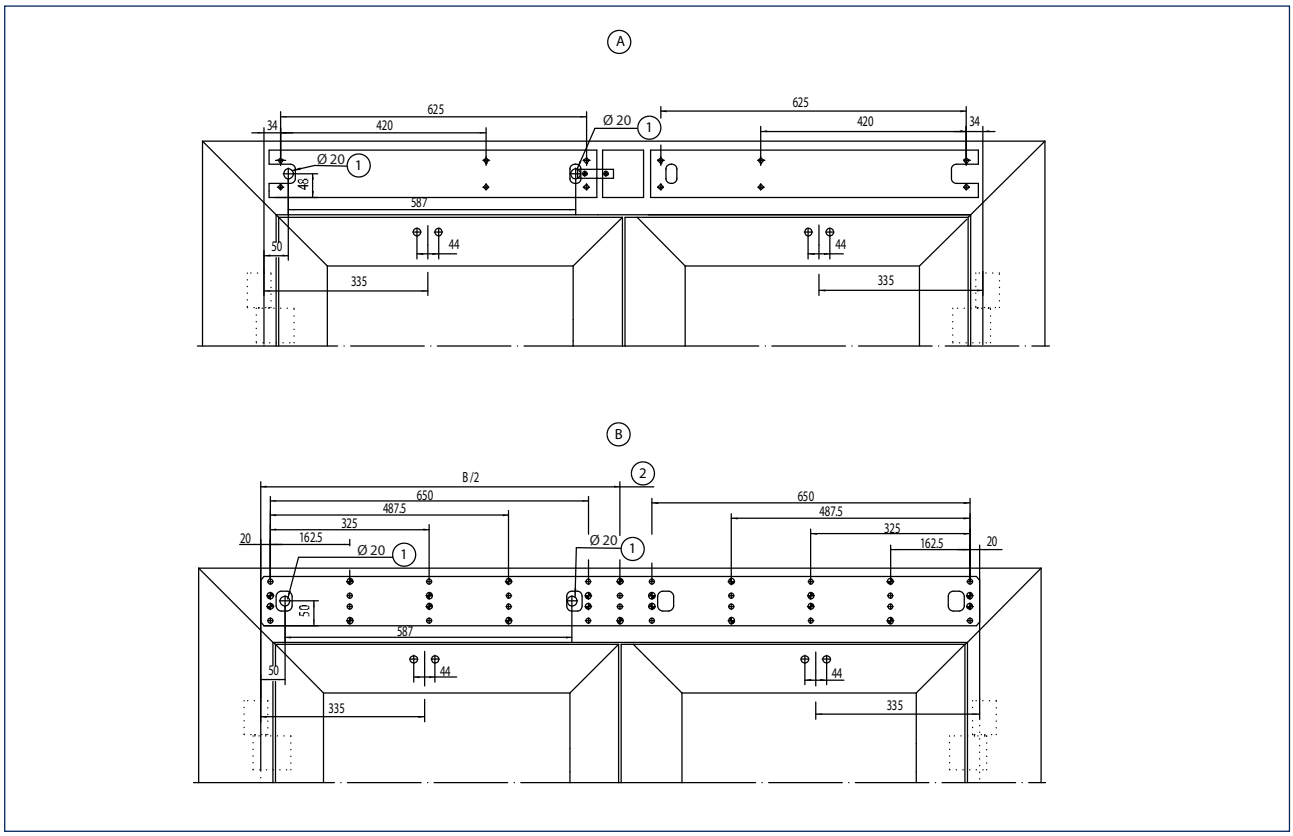


A = Direct installation
B = Installation with mounting plate
1 = Concealed line-feed
2 = only required if B>2000

Transom installation with link arm on the opposite hinge side, double-leaf
Drawing no. 70423-ep11



X = Spindle extension
* = Installation with mounting plate
1 = TSA 160 NT space requirement
2 = Link arm space requirement
3 = GC 338 space requirement



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

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°

Legend for the cable diagrams

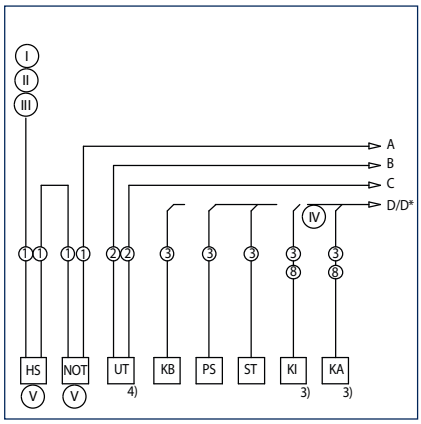
Cable
1 = NYM-J 3 x 1.5 mm²
2 = J-Y(ST)Y 1 x 2 x 0.6 LG
3 = J-Y(ST)Y 2 x 2 x 0.6 LG
4 = J-Y(ST)Y 4 x 2 x 0.6 LG
5 = LiYY 2 x 0.25 mm²
6 = LiYY 4 x 0.25 mm²
7 = Scope of supply sensor strip or LiYY 5 x 0.25 mm²
8 = Route empty pipe with pull-wire inner diameter 10 mm

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

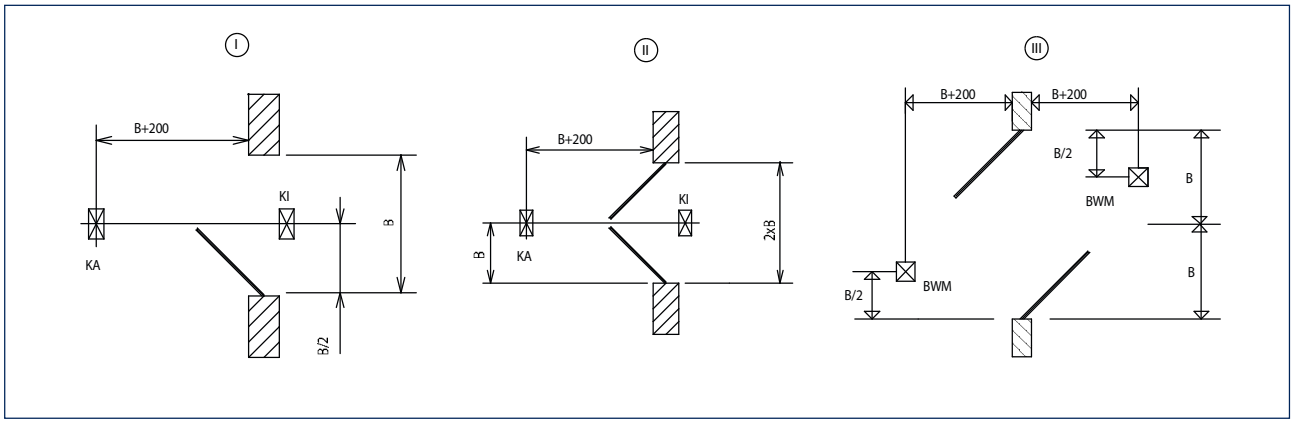
1) Door transmission cable (including in the scope of supply for sensor strip), cable routing through a hole in the door leaf is not permitted for fire protection doors.
2) Cable exit for door drive see sketch A and B
3) Cable including in the scope of supply for the sensor
4) Install in the direct vicinity 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 = Mains supply cable 230 V / 50 Hz
II = Fuse 10 A
III = Connected load 300 W 1.3 A for1-2-leaf with manual fixed leaf Connected load 600 W 2.6 A for 2-leaf
IV = And / Or
V = Option

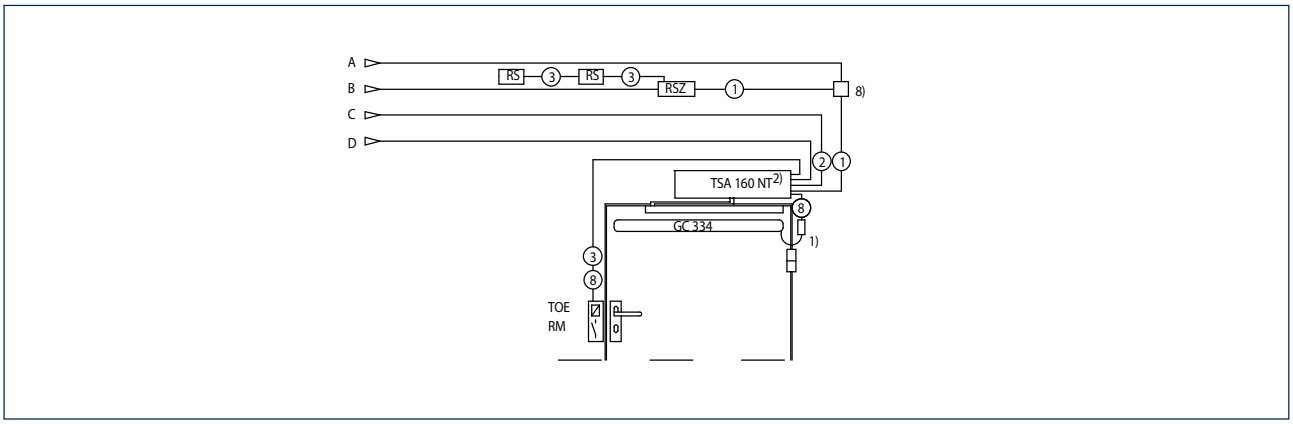
Positioning of the movement detectors



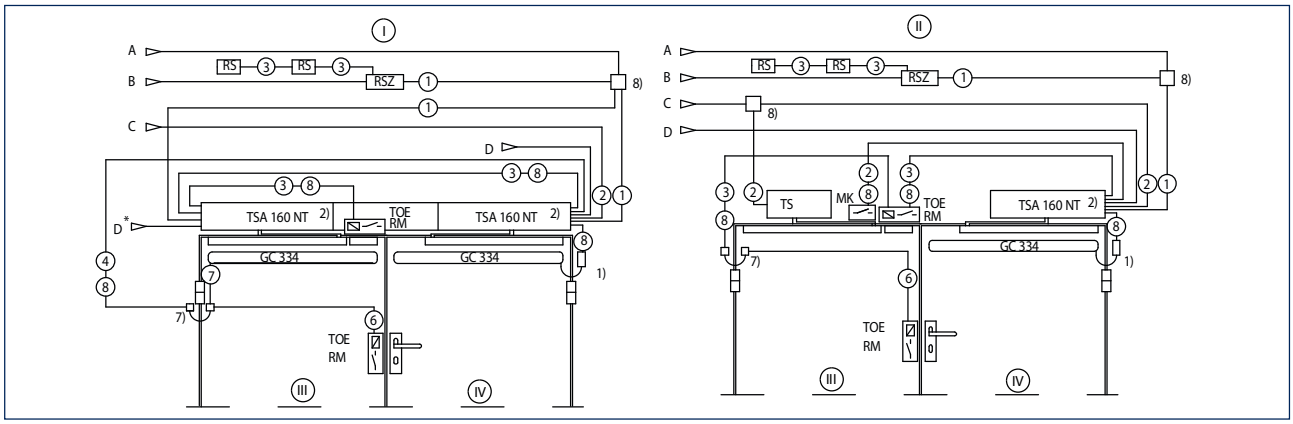
I = Positioning of the movement detector 1-leaf
II = Positioning of the movement detector 2-leaf
III = Positioning of the movement detector 2-leaf, 2E

GEZE TSA 160 NT

TSA 160 NT cable plan single-leaf

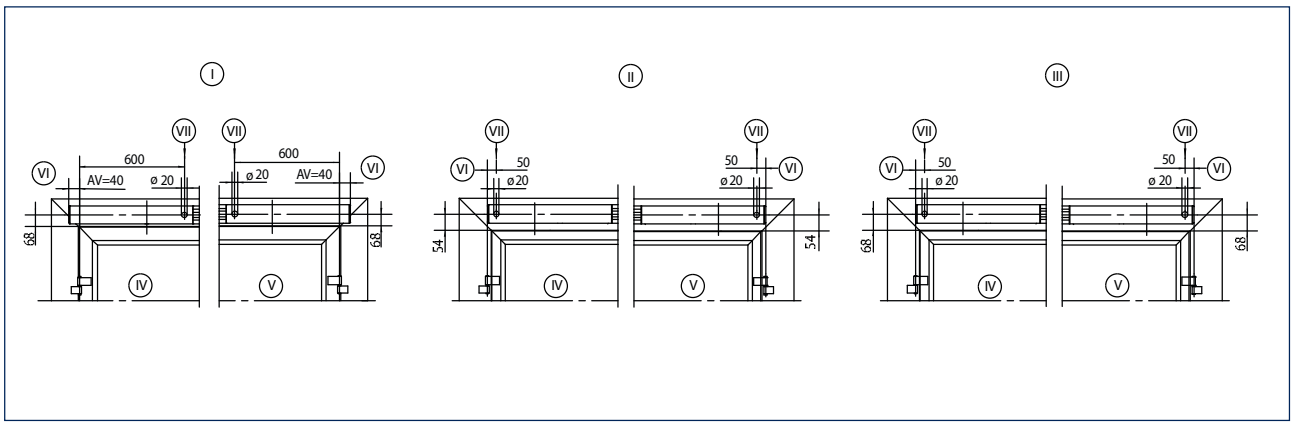


TSA 160 NT cable plan double-leaf



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

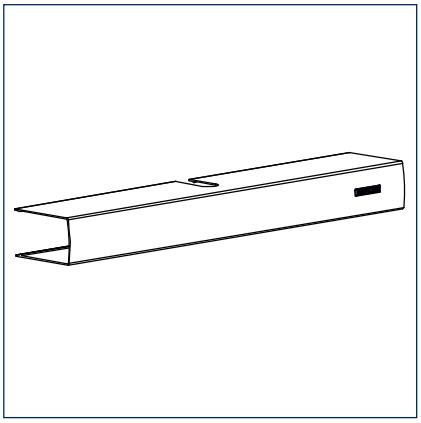
Hood, mounting plate, link arm, guide rail with lever

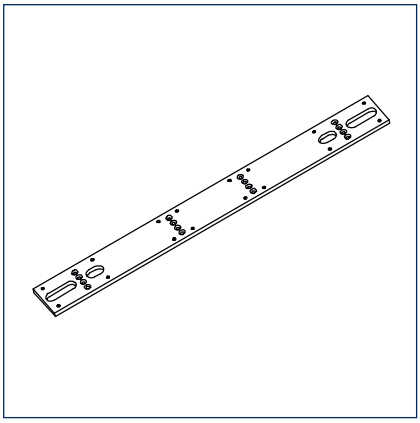
Hood
The hood is available in an anodised or coloured finish. In the case of double-leaf versions, the hood can be ordered as a continuous variant or with intermediate hood.

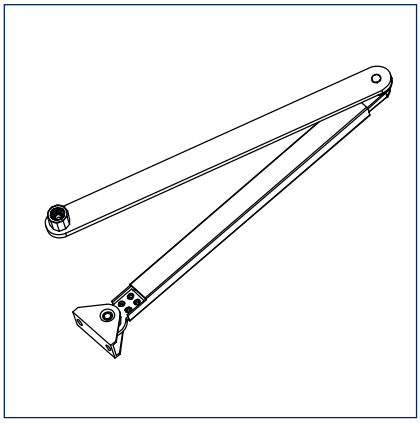
Mounting plate for drives (option)
A mounting plate may be necessary, depending on the installation situation. A mounting plate is generally recommended to make installation easier. A respective mounting plate is supplied according to the hood version.

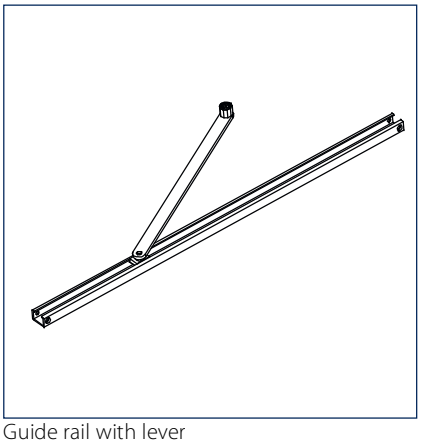
Link arms
are offered for different soffit depths

Guide rail with lever
Installation depends on the type of hinge action chosen.


Cover


Mounting plate


Link arms


Guide rail with lever

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