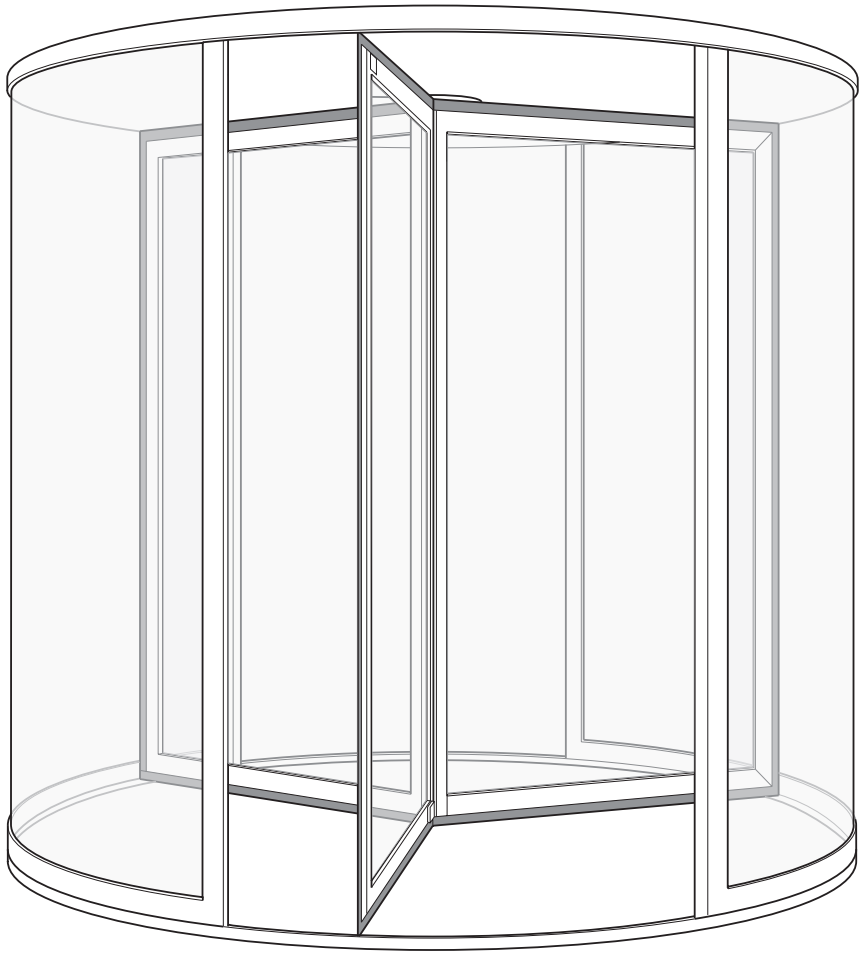


Revolving doors

EN Safety analysis

142145-05

GEZE

Safety analysis - revolving doors

In accordance with the Machinery Directive 2006/42/EC a risk assessment must be carried out taking the doors user group into consideration. The safety requirements for automatic door systems are stipulated in EN 16005.

The safety analysis (risk assessment)

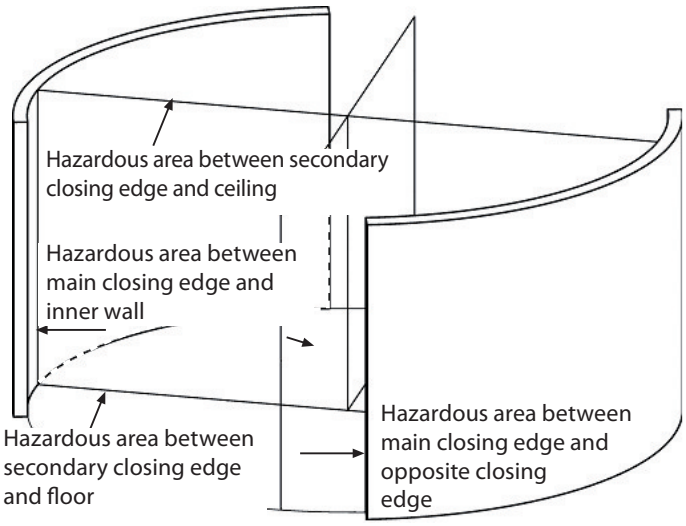
- takes the required protective measures into account when the machine is placed on the market,
- has to be carried out before initial commissioning at the latest,
- is the "safety-related profile" of the door system,
- specifies how possible dangers can be excluded or reduced at the door system under the consideration of the concrete installation situation and of the users,
- points out possible residual risks.

Generally speaking, the avoidance of hazardous areas is to be preferred over the securing of hazardous areas. If a deviation from this risk assessment is established during commissioning of the door system, appropriate measures must be taken to guarantee safe operation of the door system.

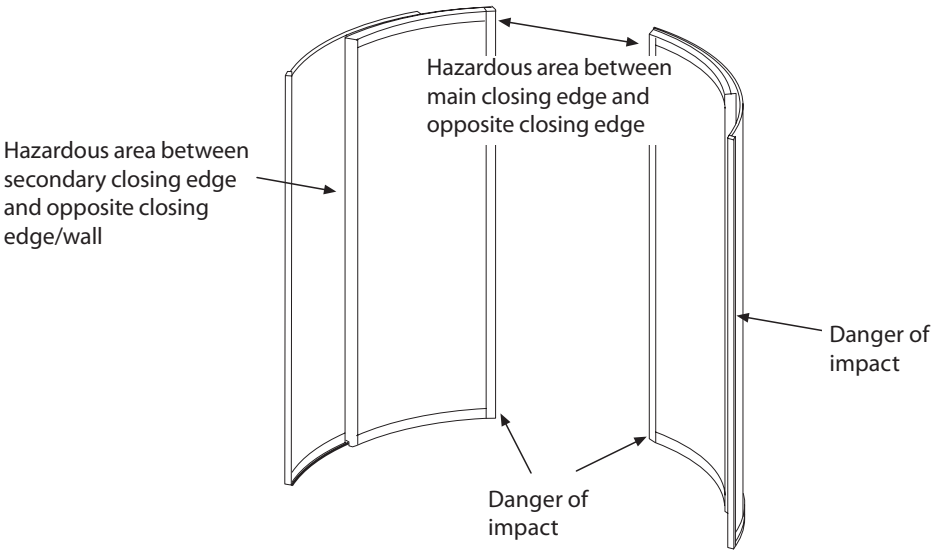
The installer of a door system

- is obliged to carry out a safety analysis (risk assessment) in accordance with EN 16005 and to document this,
- must issue an EC Declaration of Conformity and attach the CE marking in a clearly visible place on the door system.

Hazardous areas on revolving doors



Hazardous areas automatic night-time closer



Door data

Offer number		Order number	
Project		Serial no.	
Address		Installation site	
		Position in the building, door number, designation	
Door and drive type			
Passage height	mm	Opening width	mm
Radius	mm	Leaf weight (per leaf)	kg
		Number of door leaves	☐ 3-leaf ☐ 4-leaf

Presence of people in special need of protection is to be expected: ☐ yes ☐ no

Special building conditions (e.g. obstacle in front of the door leaf)

☐ have not been taken into account, since no details are available

☐ were taken into account in accordance with the following details:

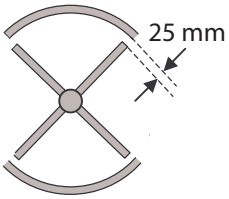
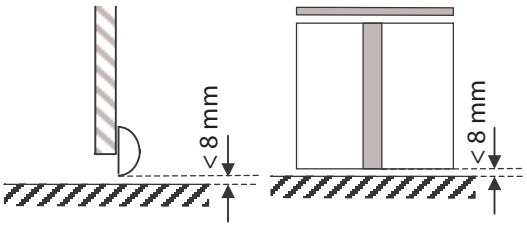
Safety analysis prepared by

Company		Telephone	
Name		Fax	
Street		Email	
Postcode / City			

Client

Company		Telephone	
Name		Fax	
Street		Email	
Postcode / City			

Mark at least one box per section with a cross!

1 Mechanical protection		
Between main closing edge and opposite closing edge Danger of crushing and shearing	☐ Safety contact strip mullion	☐ Sensor: ..... ☐ .....
	☐ Protection of the leading mullion	☐ Active infrared detector in the access area ☐ .....
	☐ Max. speed up to 3 m diameter 1 m/s, from 3 m diameter max. 0.75 m/s	
	☐ Limitation of dynamic force less than 150 N after the protective device has been actuated during use by people in special need of protection. Speed V < ..... m/s	
	☐ Safety contact strip hand safety ☐ ..... ☐ Hazardous area not secured (protective measures not sufficient)	
Between main closing edge and inner wall Danger of being drawn in	☐ Safety contact strip hand safety	☐ GEZE safety edge
	☐ Safety distances ≥ 25 mm Shearing points at the inner wall have to be prevented by design measures (max. profile projection 10 mm)  ☐ ..... ☐ Hazardous area not secured (protective measures not sufficient)	
Between secondary closing edge and floor Danger of being drawn in	☐ Safety contact strip heel safety	☐ GEZE safety edge ☐ .....
	☐ Safe distances  ☐ ..... ☐ Hazardous area not secured (protective measures not sufficient)	
Danger of impact	☐ Mobile safeguarding device; accompanying safety sensor on the leaf (mandatory from 3 m diameter) ☐ Marking on the glass leaves ☐ ..... ☐ Hazardous area not secured (protective measures not sufficient)	

1 Mechanical protection

Danger of shearing between leaf and floor

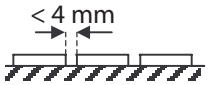
Holes in the floor?

☐ Yes - further protective measures necessary

☐ No

Distances entrance mat < 4 mm?

☐ Yes



☐ No - further protective measures necessary: .....

Safety sensors (safety edge) present?

☐ Yes - risk is reduced

☐ No - further protective measures necessary: .....

☐ .....

☐ Hazardous area not secured (protective measures not sufficient)

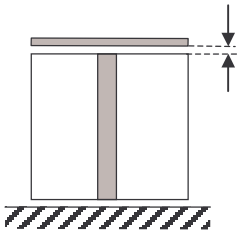
Danger of drawing in between secondary closing edge and ceiling

☐ With passage height over 2500 mm no structural measures necessary.

With passage height less than 2500 mm:

☐ Distance ≥ 25 mm
Shearing points at the ceiling have to be prevented by structural measures

☐ .....



☐ Hazardous area not secured (protective measures not sufficient)

Danger of cuts

☐ Use of the GEZE profile system with rounded-off edges

☐ Safety glass

☐ .....

☐ Hazardous area not secured (protective measures not sufficient)

Danger of stumbling

☐ Floor guide slits max. 20 mm wide

☐ Floor ring max. 12 mm high and ramp-shaped

☐ Sufficient illumination

☐ .....

☐ Hazardous area not secured (protective measures not sufficient)

Locking in with night mode of operation or door standstill

☐ Manual revolving (force < 220 N)

☐ Escape sensor / escape switch

☐ Lockable programme switch

☐ .....

☐ Hazardous area not secured (protective measures not sufficient)

2 Emergency stop devices

General dangers for persons

☐ Emergency stop push button inside

☐ Emergency stop push button outside

☐ Safety notes sticker ☐ inside ☐ outside

☐ .....

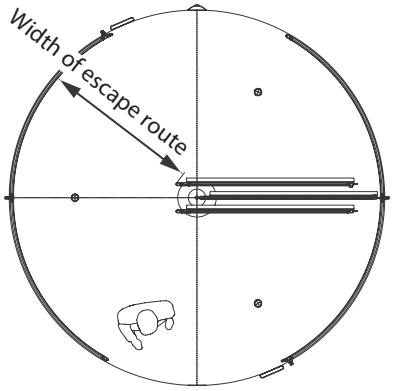
☐ Hazardous area not secured (protective measures not sufficient)

3 Additional mechanical protection at revolving doors with turning fittings (break-out function)

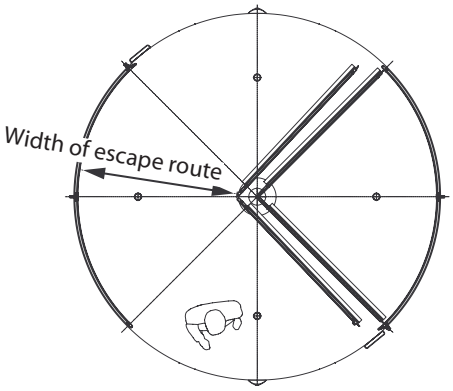
Revolving doors with break-out function	☐ Break-out pictogram on the leaf rear mounted at every door leaf at eye-level
	☐ Break-out forces at each leaf < 220 N
	☐ When the leaves break out by 15° the door comes to a standstill
	☐ .....
	☐ Hazardous area not secured (protective measures not sufficient)

4 At revolving doors suitable for escape and rescue routes

The minimum escape route width is not known	☐ Measured escape route width is ..... mm



3-leaf break-out



4-leaf break-out

The minimum escape route width is known	☐ The minimum escape route width is observed

5 Protection night-time closer

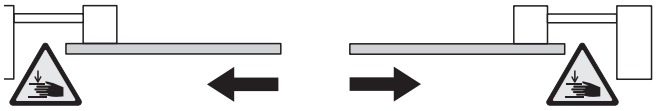
Night-time closer general	☐ Locking/stopping the slide door leaves in the open position
	☐ Automatic deactivation of the revolving door if sliding panels are not completely open
	☐ .....
	☐ Hazardous area not secured (protective measures not sufficient)
Night-time closer activation through Deadman	☐ Activation of automatic night-time closer through Deadman. The travel path can be viewed and is monitored by operating personnel
	☐ .....
	☐ Hazardous area not secured (protective measures not sufficient)
Automatic night-time closer	☐ Activation of automatic night-time closer through an external signal (e.g. building management system)

5 Protection night-time closer

Closing movement
Danger of crushing and impact between the two leaves

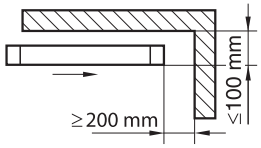
- ☐ Safety sensor closing, active infrared detector on both sides
- ☐ .....
- ☐ Closing speed ..... cm/s (max. 15 cm/s)
- ☐ .....
- ☐ Hazardous area not secured (protective measure not sufficient)

Opening movement
Danger of crushing and impact between the two leaves and surroundings

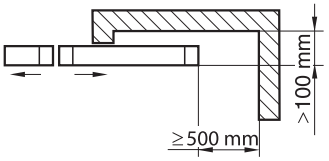


Safe distances

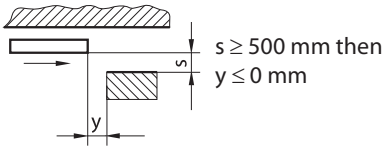
- ☐ No danger of crushing for the head area



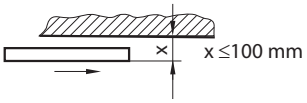
- ☐ No danger of crushing for the body



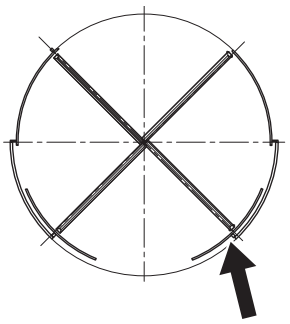
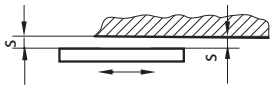
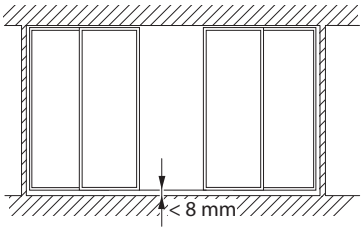
- ☐ No danger of crushing for the body



- ☐ No danger of impact



- ☐ .....
- ☐ Hazardous area not secured (protective measures not sufficient)

5 Protection night-time closer	
Danger of shearing between door leaf and surroundings	Safety sensor opening ☐ Light spot ☐ ..... ☐ Use of 22 mm glass to avoid a shearing edge 
	Safety distances are observed ☐ Yes ☐ No ☐ .....  Finger s ≤ 8 mm or 25 mm < s ≤ 30 mm ☐ Hazardous area not secured (protective measure not sufficient)
Opening and closing movement Danger of being drawn in between leaf and floor	Safety distances are observed ☐ Yes ☐ No ☐ .....  < 8 mm ☐ Hazardous area not secured (protective measure not sufficient)
Risk of entrapment	☐ The revolving mechanism (turnstile) does not lock when automatic night-time closer is used ☐ ..... ☐ Hazardous area not secured (protective measure not sufficient)

Protection	
Danger of cuts	☐ Safety glass (toughened safety glass, laminated safety glass) ☐ .....
Danger of stumbling	☐ Floor guide slots ≤ 20 mm wide ☐ Floor guide and thresholds ≤ 12 mm high and ramp-shaped ☐ No obstacles in the passage ☐ ..... ☐ Hazardous area not secured (protective measures not sufficient)
Danger of collision with glass door	☐ Marking of the glass (sticker etc.) ☐ .....

Residual risks, special functions, change of use, other agreements

Indications of existing residual risks

No	Yes	
☐	☐	Unauthorised locking of the door
☐	☐	Steps or stairs directly near the door
☐	☐	Danger during cleaning of the protective leaf/safety leaf
☐	☐	Danger of being locked in interlocking door and vestibule systems
☐	☐	Danger of impact, crushing and shearing through emergency lock: door closes without safety features
☐	☐	Danger of crushing and shearing with door handles
☐	☐	Make a note to operator on on-site stickers
☐	☐	Danger of bumping into a leaf when a safety device responds
☐	☐	With underfloor drive: Drain connection is available and working
☐	☐	Risk through operating errors, instruction of personnel on site
☐	☐	Drawing-in spot in the drum wall during opening movement of the night-time closer: Minimum residual risk since there is no-one within the turnstile area during the opening movement
☐	☐	Revolving door with positioning drive moves slowly to the next end position. Travel path is not secured
☐	☐	_____
☐	☐	_____
☐	☐	_____

Final evaluation of the system

☐ The protective measures named are sufficient. The system meets the requirements as per EN 16005.

☐ The protective measures named are **not** sufficient. The system does **not** meet the requirements as per EN 16005. Therefore it must not be put into operation since there are significant dangers for the user!

Change in use / other agreements

_____

_____

_____

_____

Place, date	Name of author of the safety analysis in block letters	Signature of author of the safety analysis

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GEZE