



BST/FBST SPECIAL LINE



Attractive appearance, extensive design options

BST SPECIAL LINE automatic curved sliding doors are the perfect answer to providing entrance areas with a customised and aesthetically pleasing appearance. Half-circles, full circles, ovals, segments, double segments, made-to-measure and versions deriving from these variants: anything is possible.

Tailored to your architectural concept, BST SPECIAL LINE automatic curved sliding doors can be designed to either contrast or harmonise with the building façade, providing an all-glass appearance complemented and augmented by the slender profiles of their fine-framing. BST SPECIAL LINE automatic curved sliding doors will perform draught exclusion and airlock functions, steer people in the right direction and give width and depth to even cramped structural openings. They can also be combined with other automatic doors.

Reliable and safe

As in the case of all components and systems from the dormakaba portfolio, BST SPECIAL LINE curved sliding doors excel in reliability and user convenience. The self-learning microprocessor control unit keeps the system running smoothly and reliably. Combining with the integrated presence sensor, it also ensures maximum operational safety.

The doors are designed to order, manufactured to fit and supplied ready for installation. If required, dormakaba will also perform the installation and commissioning work.

For emergency exits and escape routes

Under the designation FBST SPECIAL LINE, these curved sliding doors can also be supplied with a redundant operator, an additional control unit for safety purposes and a special motion detector. The FBST is typed-approved by the German TÜV as an "automatic sliding door without breakout for use in escape routes". If desired, the doors can be equipped with safety components (sensors) in accordance with DIN 18650.

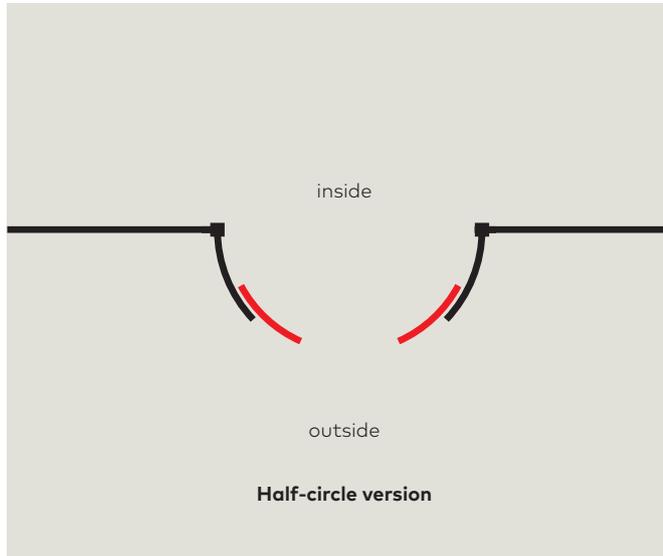


DORMA FBST with approval for application in emergency exits and escape routes according to DIN 18650

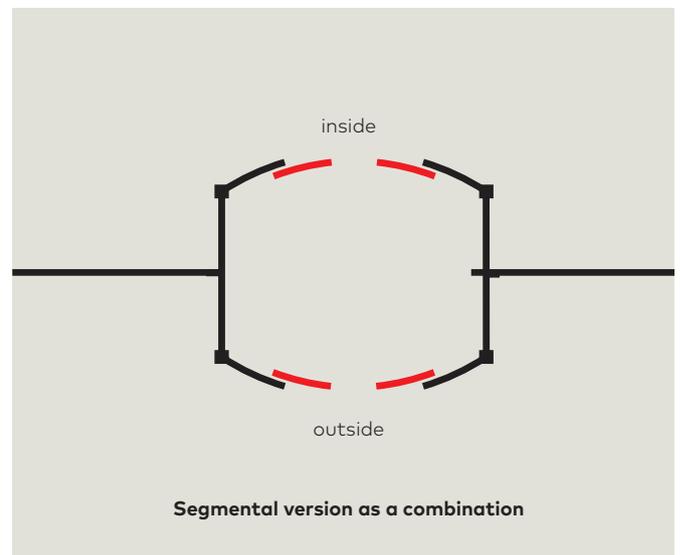
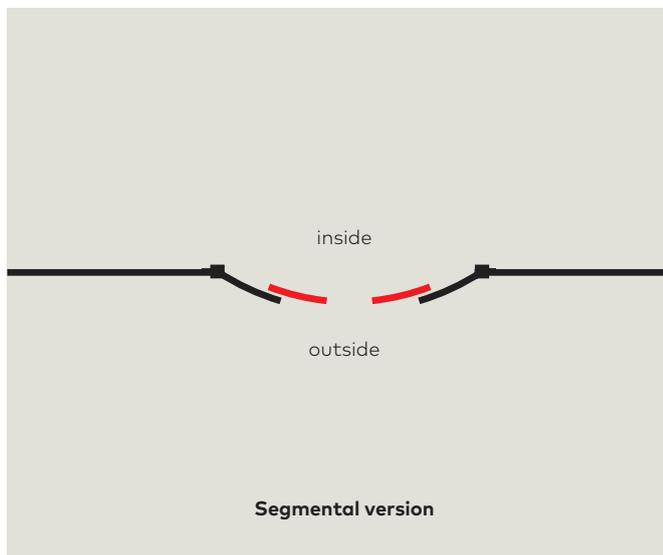
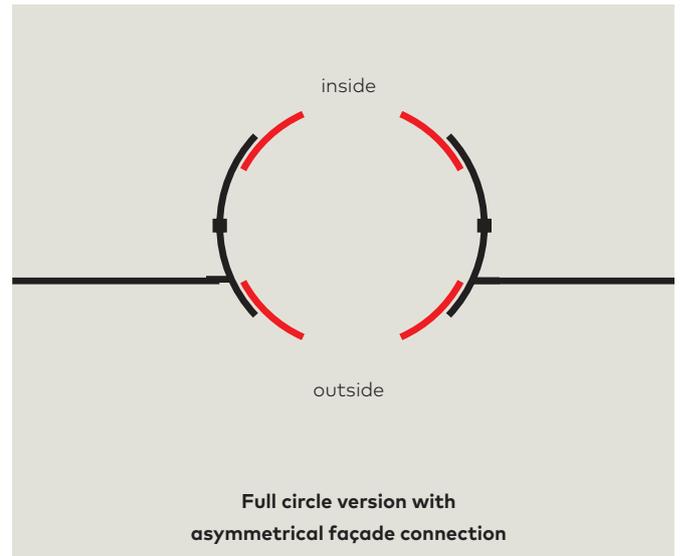
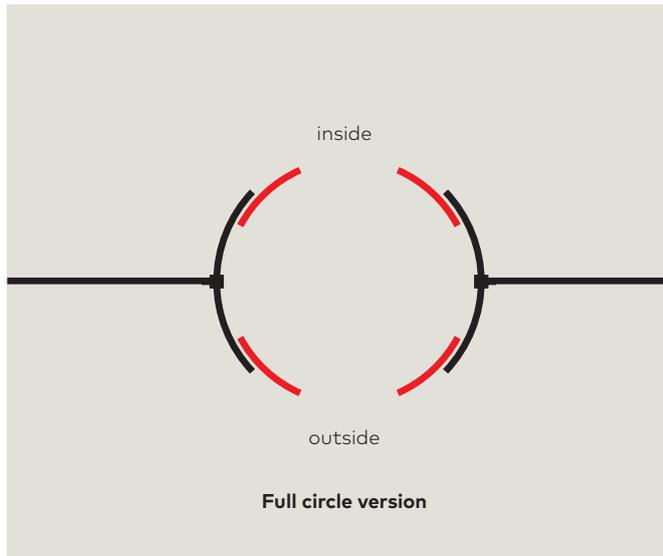
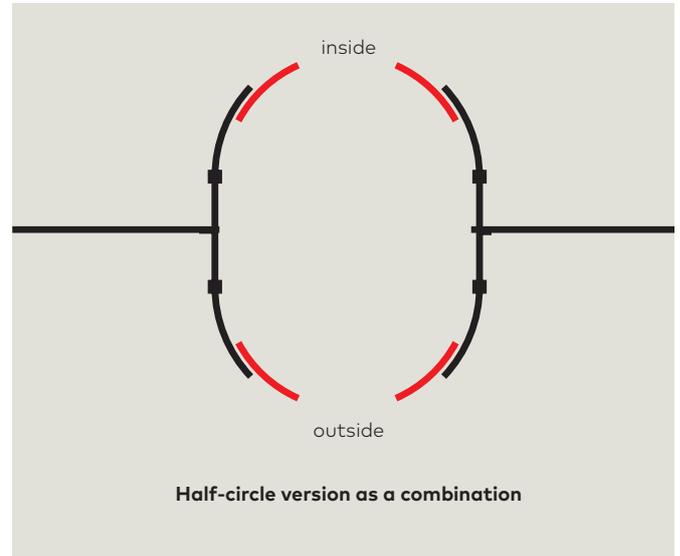


Designs

Basic configurations



Layout options



Data and features

Dimensions and versions	BST	FBST
Clear passage width LW ²⁾	1000 – 2500 mm ¹⁾³⁾	1000 – 2500 mm ¹⁾³⁾
Escape route width F	–	1000 – 2500 mm ¹⁾³⁾
Installation width B, min. ²⁾	2064 mm	2064 mm
Passage height H	2100 – 2500 mm ¹⁾	2100 – 2500 mm ¹⁾
Half-circle radius r	1000 – 2000 mm ¹⁾	1000 – 2000 mm ¹⁾
Full circle radius r	1000 – 2000 mm ¹⁾	1000 – 2000 mm ¹⁾
Segmental radius r	freely selectable, min. 1000 mm	freely selectable, min. 1000 mm
Number of sliding panels	1 ³⁾ or 2	1 ³⁾ or 2
2-panel, symmetrical	●	●
Asymmetrical	○	○
Fixed side screens	●	●
Canopy height (min.)	240 mm	240 mm
Canopy height extension (240 – 700 mm) ¹⁾	○	○
Sliding panel, convex	●	●
Max. weight per door panel	130 kg	110 kg

¹⁾ Standard dimensions (other dimensions on request)

²⁾ Depending on radius r

³⁾ max. clear passage width (LW) for 1-panel door = 1300 mm

Technical data	BST	FBST
Power consumption, max.	250 W	250 W
Power consumption, average	30 W	30 W
Supply voltage/frequency	230 V / 50 – 60 Hz	230 V / 50 – 60 Hz
External power supply	27 V DC / 2 A	27 V DC / 2 A
TÜV type-approved	●	●
Compliant with the Low Voltage Directive	●	●
Manufactured to ISO 9001	●	●

Adjustable parameters	BST	FBST
Opening speed per panel, adjustable	100 – 600 mm/s	100 – 600 mm/s
Closing speed per panel, adjustable	100 – 500 mm/s	100 – 500 mm/s
Low (creep) speed per panel, adjustable	30 – 90 mm/s	30 – 90 mm/s
Opening and closing force, adjustable	●	●
Max. force on contact with obstacle	150 N	150 N

Operator and control unit	BST	FBST
Operator	ES 200	ES 200 2D
Microprocessor control unit	●	●
Integrated presence sensor	○	○
Equipped in accordance with DIN 18650	○	○
Obstruction self-recognition	●	●
Automatic reversing cycle on obstruction contact	●	●
Complete system self-test	●	●
Connection for airlock function	●	–
Parameter adjustment capable	●	●
Self-learning	●	●
Class of protection	IP 20	IP 20
Pulse expansion for cheque and code card readers or key switches	●	●
Potential-free contact	●	●
Bus-capable	●	●
Door status contact, locking device for door system	○	○

Program modes	BST	FBST
Off	●	●
Automatic	●	●
Exit Only	●	●
Permanent Open	●	●
Partial Open, Exit Only	●	–
Night-/Bank Function	●	●

Design of ceiling	180°/360°	Segment
Ceiling	●	○
Operator cover	○	●
Upper dust-proof ceiling	●	●
Ceiling prepared for rainproofing (by others), incl. spouts	○	–

Profiles and glazing		BST	FBST
Fine-frame profile system with 10 mm laminated safety glass	-G	●	●
Insulating glass profile system with 18 mm insulation glass	-Iso	○	○
Special glazing with patterning, sand-blast effect, screen printing etc.		○	○

Accessories	BST	FBST
Façade connection, panel board	○	○
Aluminium girder with aluminium cover, external	●	●
Aluminium girder	●	●
Adhesive-bonded midrails	○	○
Air curtain (180 and 360° design, canopy extension required)	○	○
LED-Spotlights	○	○
Floor mat	○	○
Floor guide rail		
Surface-mounted floor guide without floor ring	●	●
Surface-mounted floor guide with floor ring	○	○
Flush-mounted floor guide with floor ring (Compulsory for clear passage widths (LW) beyond 1500 mm)	○	○

Accessories/Safety equipment	BST	FBST
Locking device		
Electro-mechanical locking device	○	–
Electro-mechanical locking device with manual lock release	○	○
Fail-safe via emergency power supply unit	○	●
Monitored rechargeable battery pack	○	●
Intrinsically safe activator in escape direction	–	●
Motion detector, external	○	○
Motion detector, internal	○	○
Emergency pushbuttons		
Emergency Off function	○	–
Emergency Opening function	–	○

● standard ○ optional

Half-circle and full-circle version

Standard dimensions

Clear passage width **LW**

Actual radius **r**

Internal width **S**

System width **B**

Clear passage height **LH**

Canopy height **SH**

System height **H**

Dimensions in mm

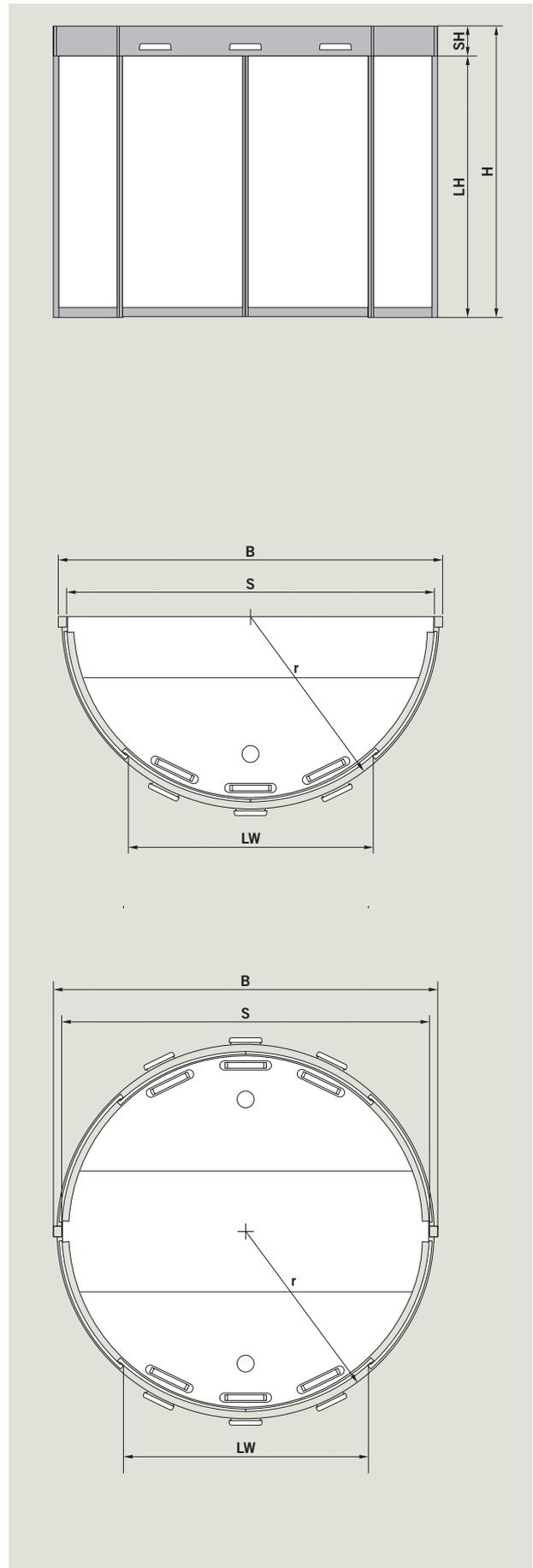
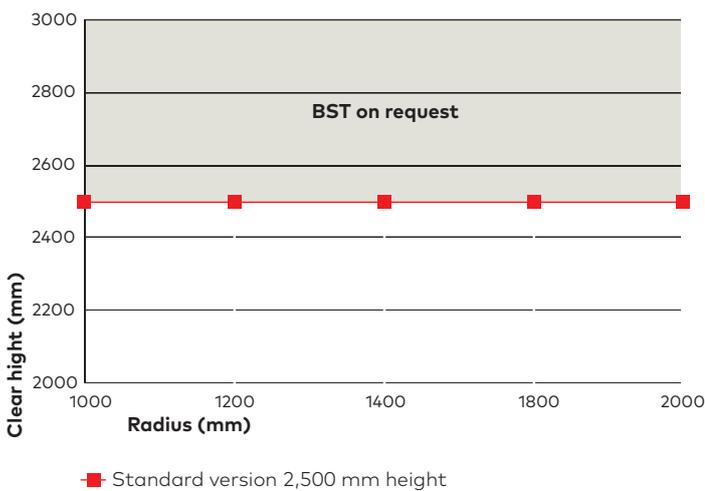
Fine-frame profile system G

r	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
B	2064	2264	2464	2664	2864	3064	3264	3464	3664	3864	4064
S	1932	2132	2332	2532	2732	2932	3132	3332	3532	3732	3932
LW	1221	1363	1504	1646	1788	1929	2071	2212	2354	2495	2500

Isolierglas-Profilsystem Iso

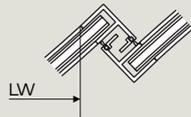
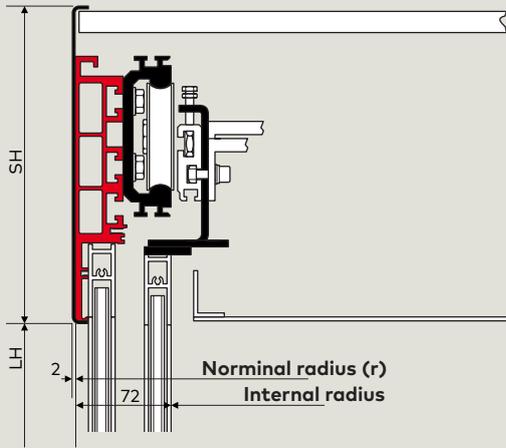
r	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
B	2044	2244	2444	2644	2844	3044	3244	3444	3644	3844	4044
S	1912	2112	2312	2512	2712	2912	3112	3312	3512	3712	3912
LW	1184	1326	1468	1609	1751	1893	2034	2176	2317	2495	2500

Dependency Chart BST 180°/360°



dormakaba FBST with approval for application in emergency exits and escape routes according to DIN 18650

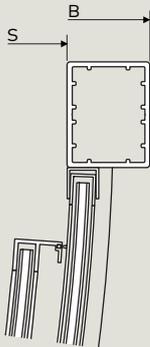
Fine-frame profile system G



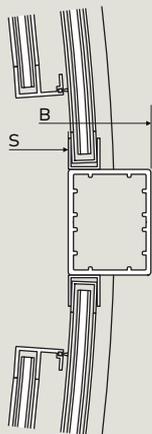
Drum wall and sliding panel with sealing profiles



Panels with centre seals

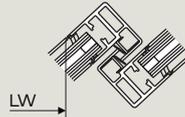
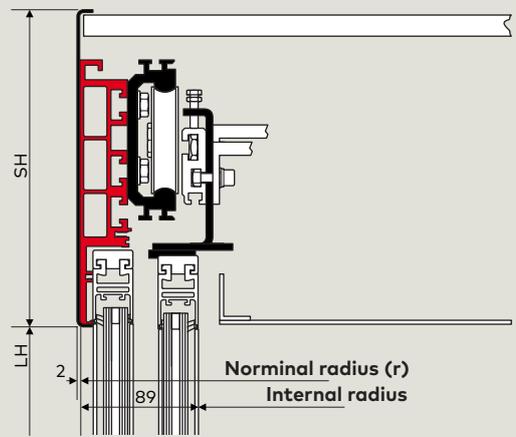


Aluminium girder with connection to half-circle drum wall



Aluminium girder with connection to full circle drum wall

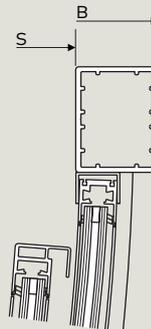
Insulating glass profile system Iso



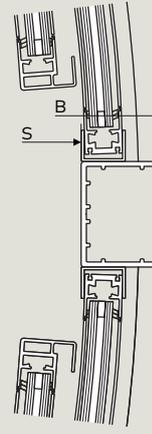
Drum wall and sliding panel with sealing profiles



Panels with centre seals



Aluminium girder with connection to half-circle drum wall



Aluminium girder with connection to full circle drum wall

Segmental version

Standard dimensions

Clear passage width **LW**

Clear passage width **r**
Internal width **S**

System width **B**
Arc length **BL**
Clear passage height **LH**
Canopy height **SH**
System height **H**
Installation depth **T**

Dimensions in mm

Standard dimensions:

Arc length BL: max. 6600 mm
Clear passage width LW: 1000 mm – 2500 mm

Calculating arc length BL

– For a given radius r and angle/

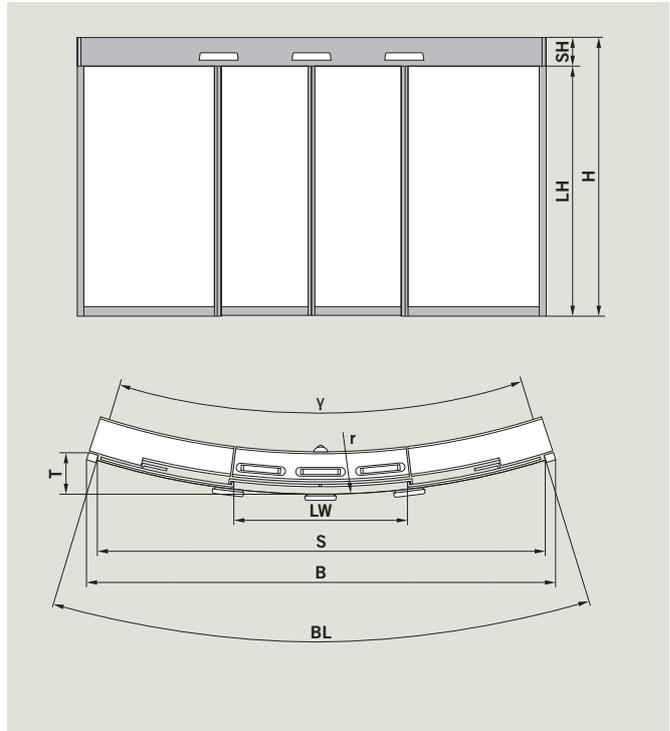
$$BL = r \cdot \frac{\alpha \cdot \rho}{180}$$

– For a given system depth T and system width B

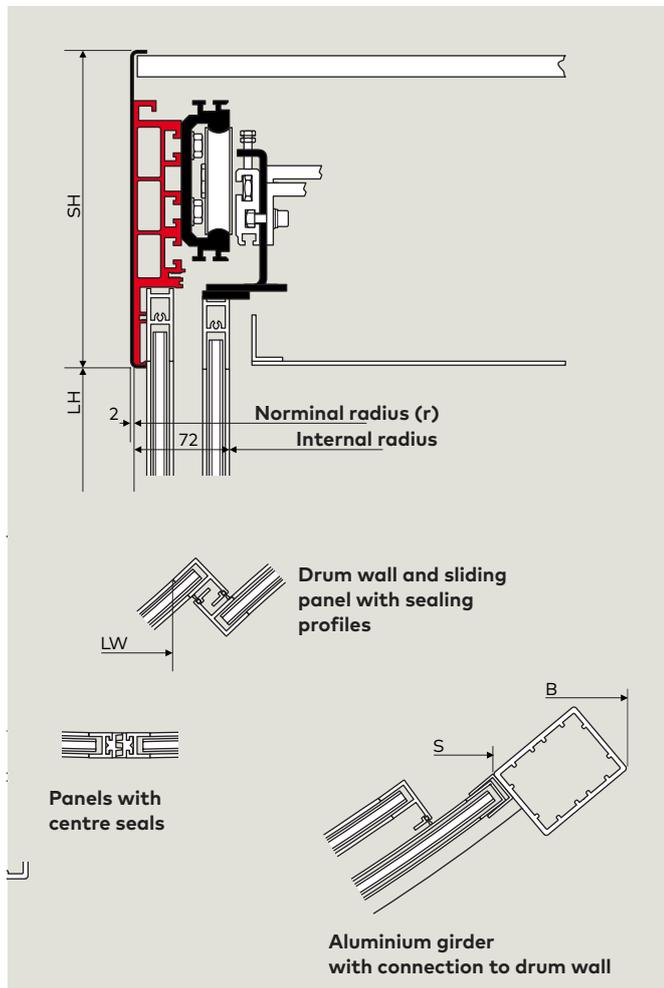
$$BL = \sqrt{B^2 + \frac{16}{3} \cdot T^2}$$



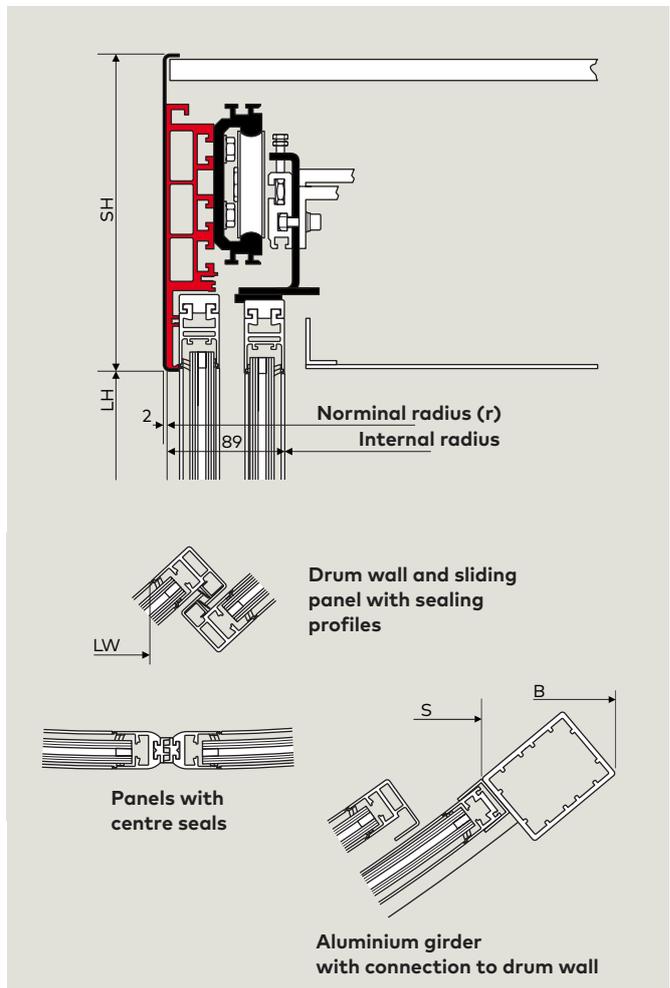
dormakaba FBST with approval for application in emergency exits and escape routes according to DIN 18650



Fine-frame profile system G

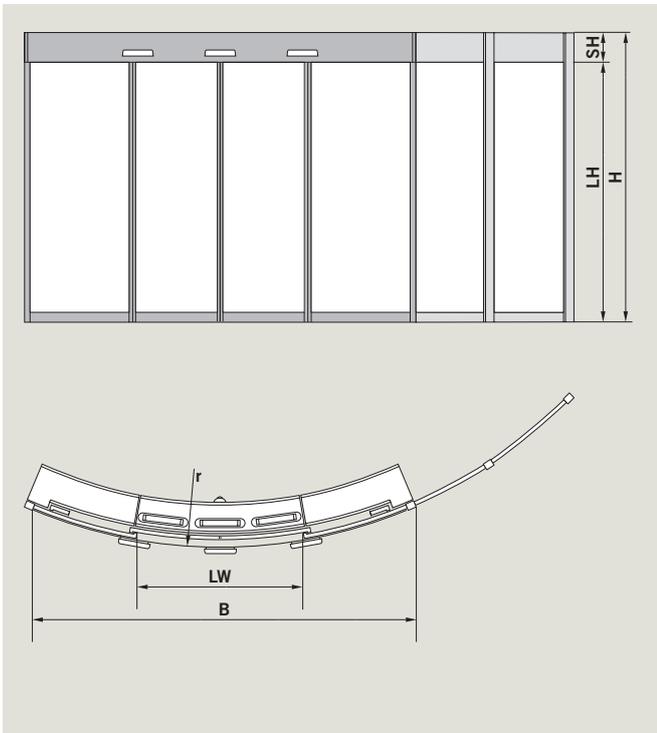


Insulating glass profile system IsO

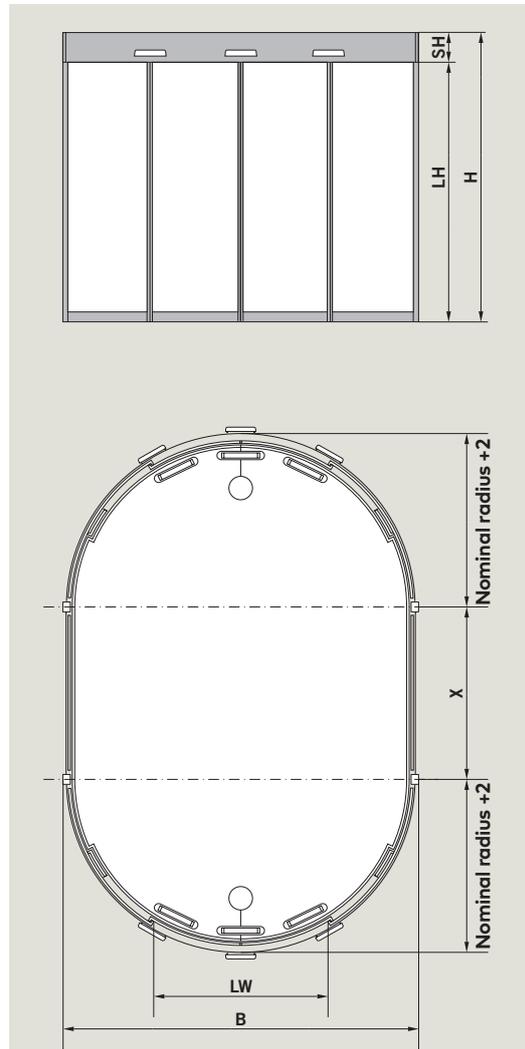


Special version

Asymmetrical door system

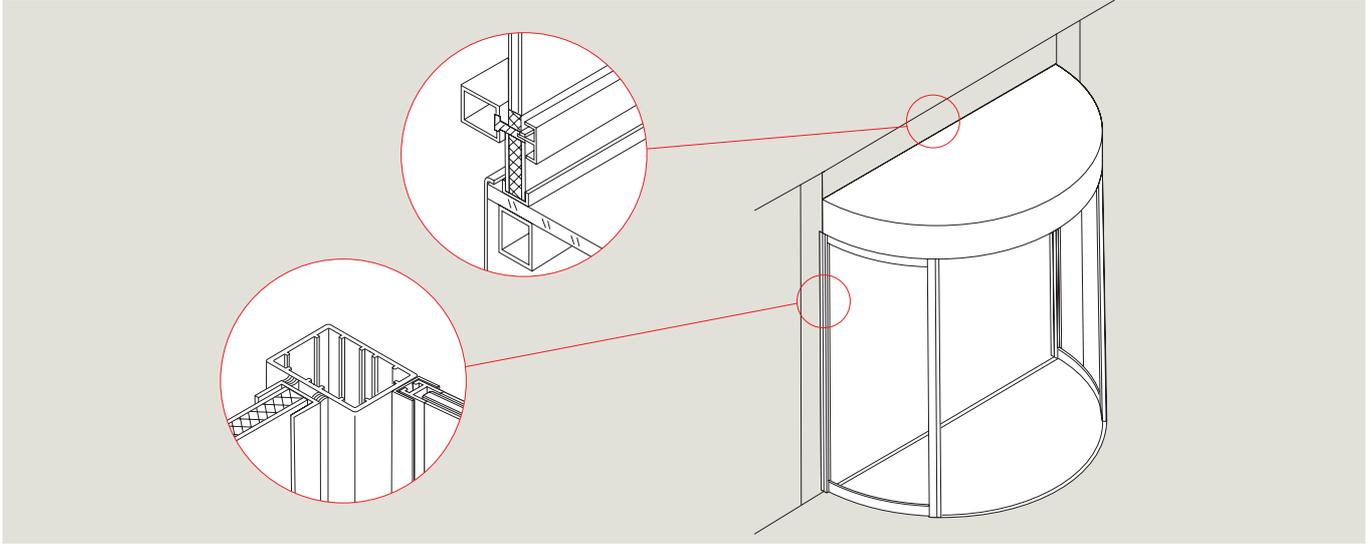


Half-circle as a combination

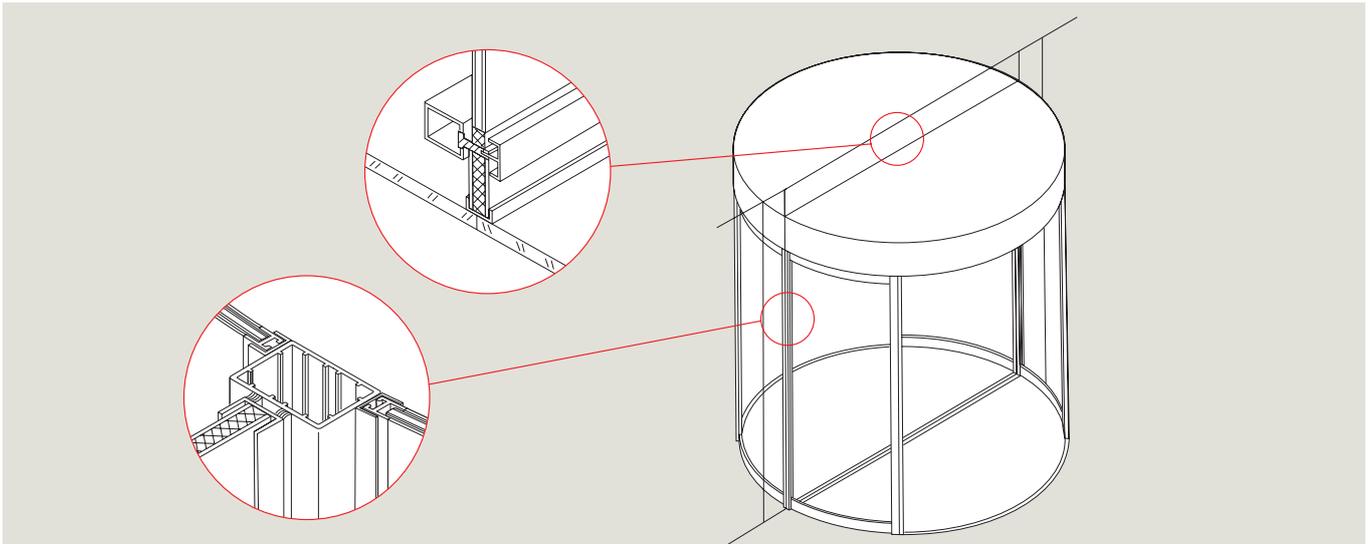


Façade connection

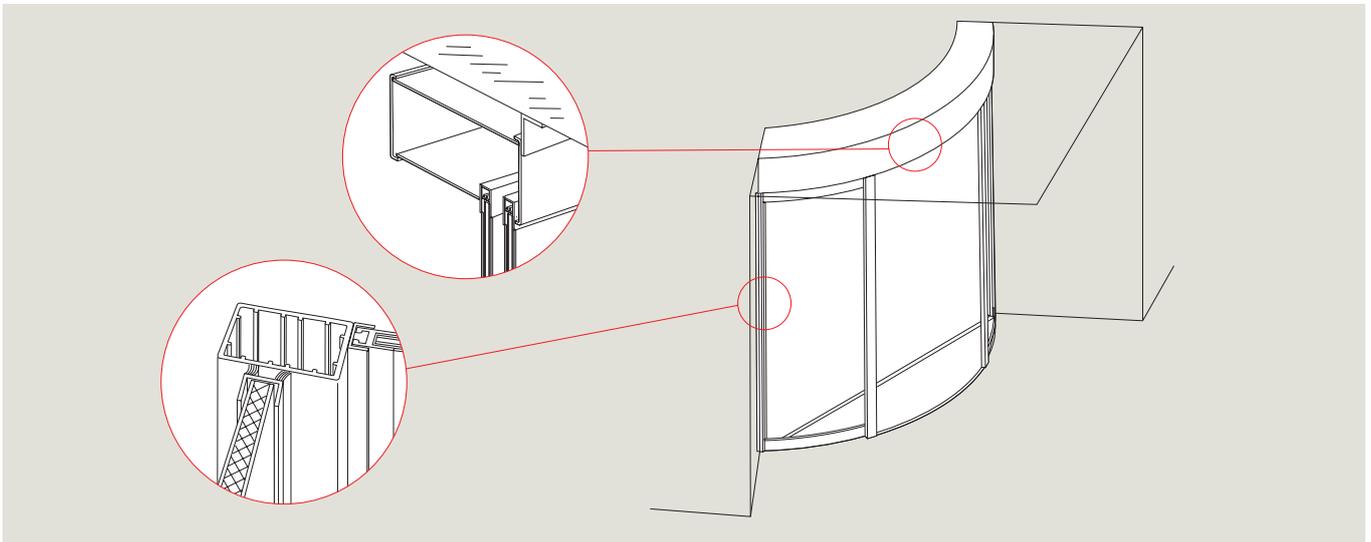
Façade connection 180°



Façade connection 360°

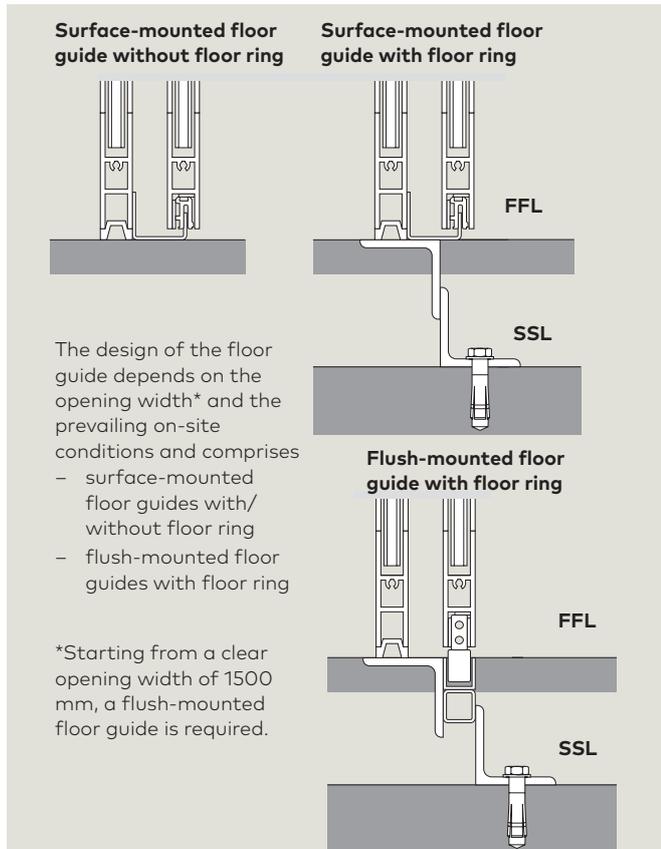


Façade connection with segmental design

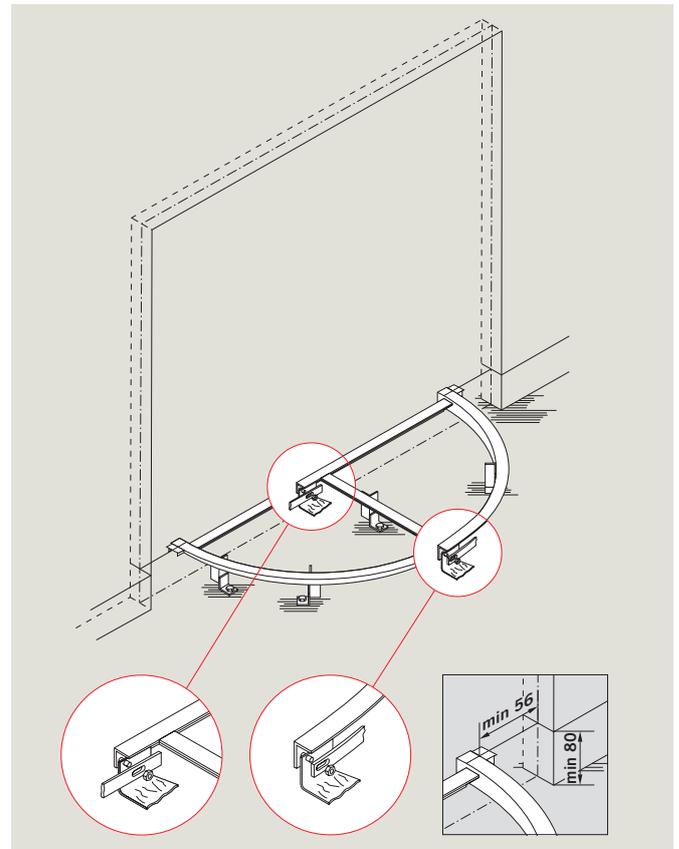


Floor guides, floor ring

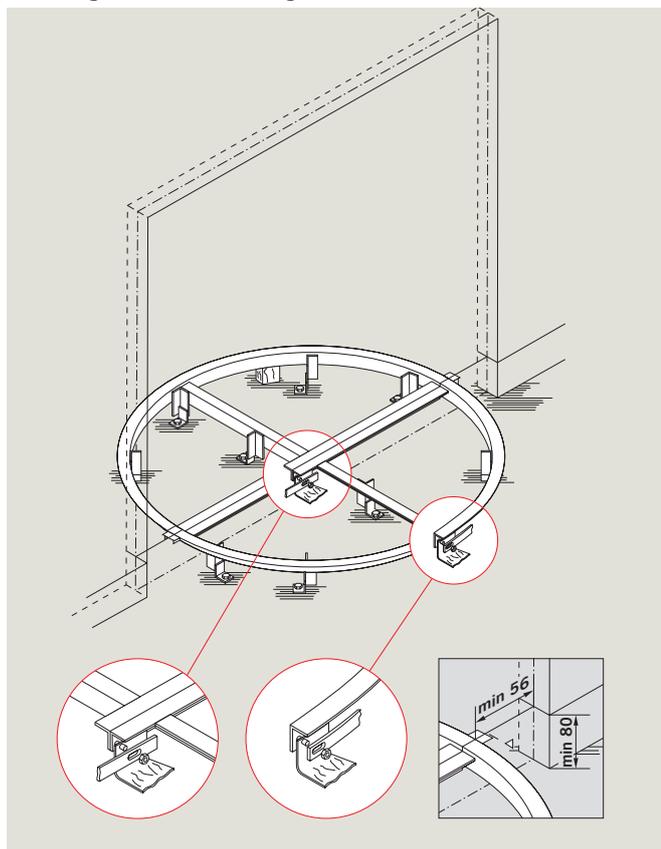
Floor guide



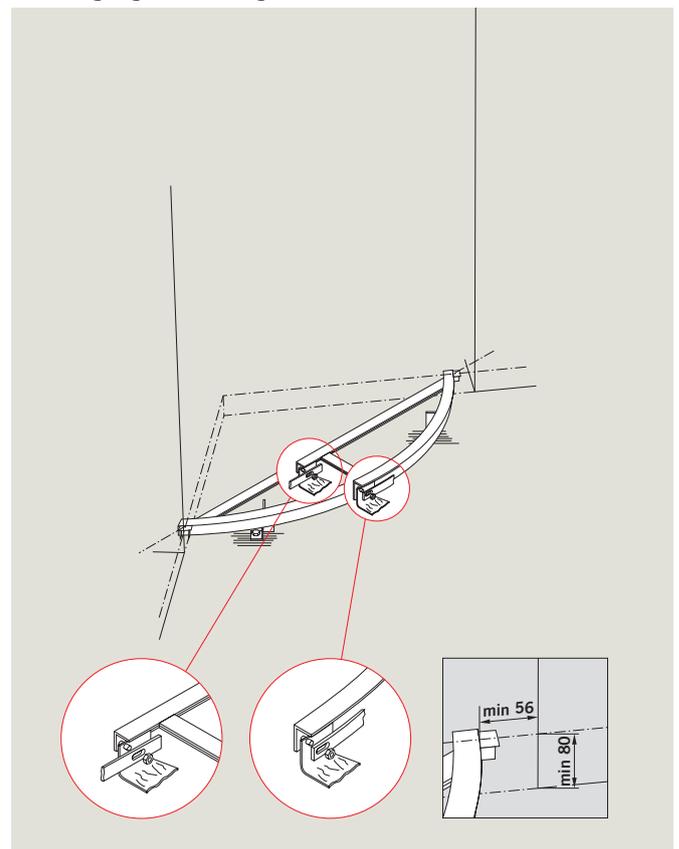
Floor ring half-circle design



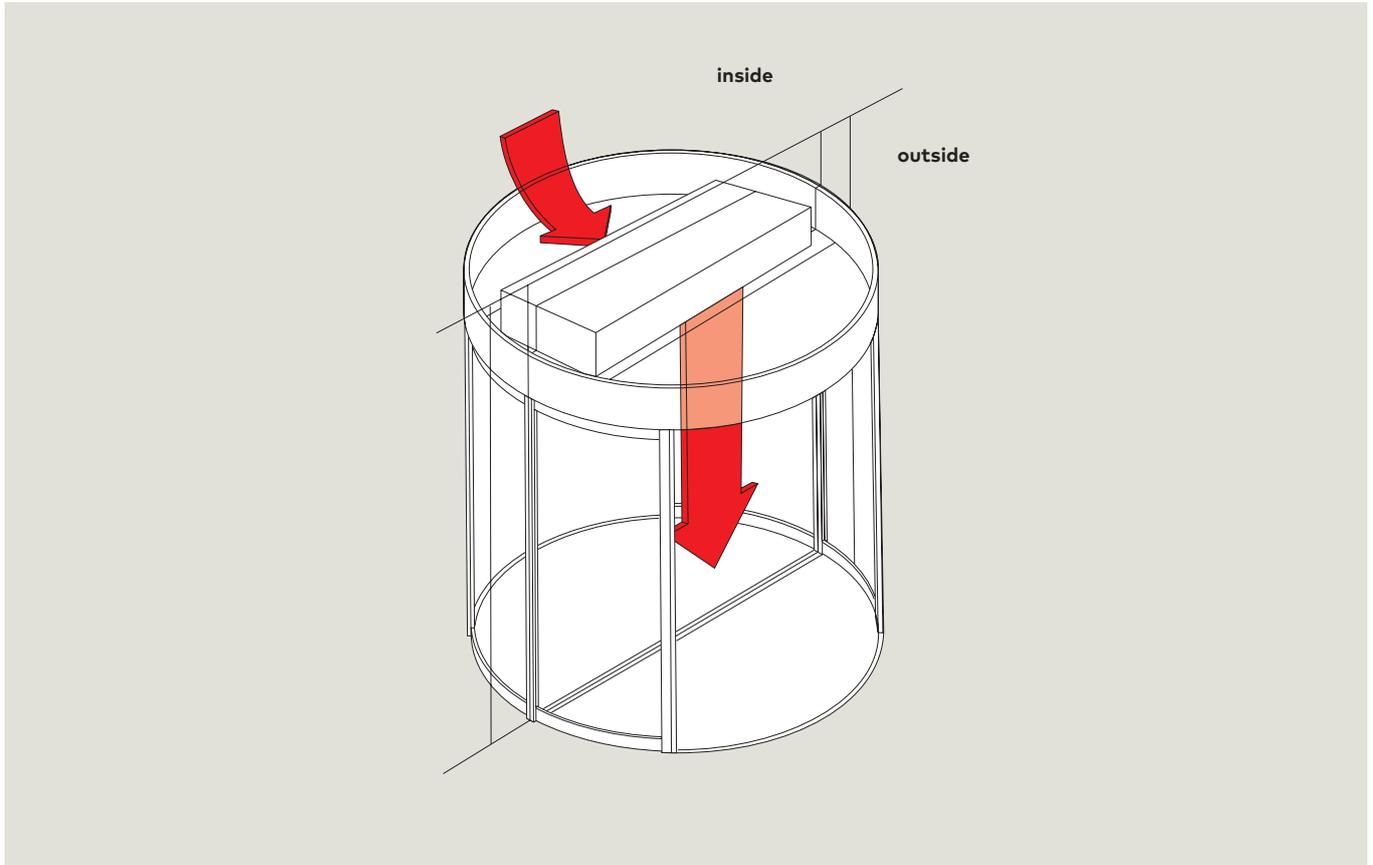
Floor ring with full circle design



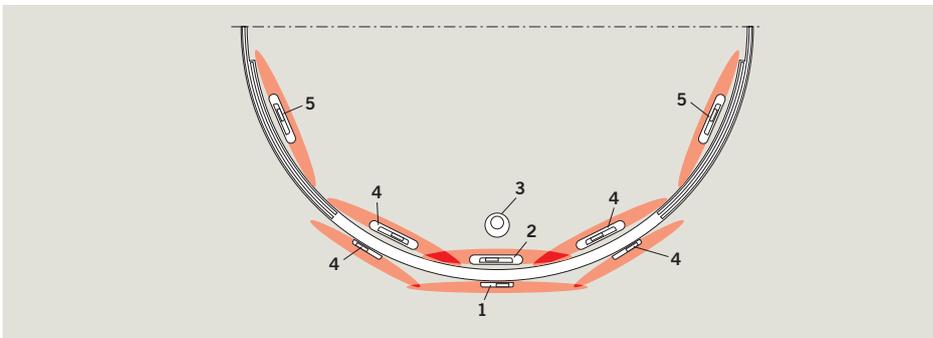
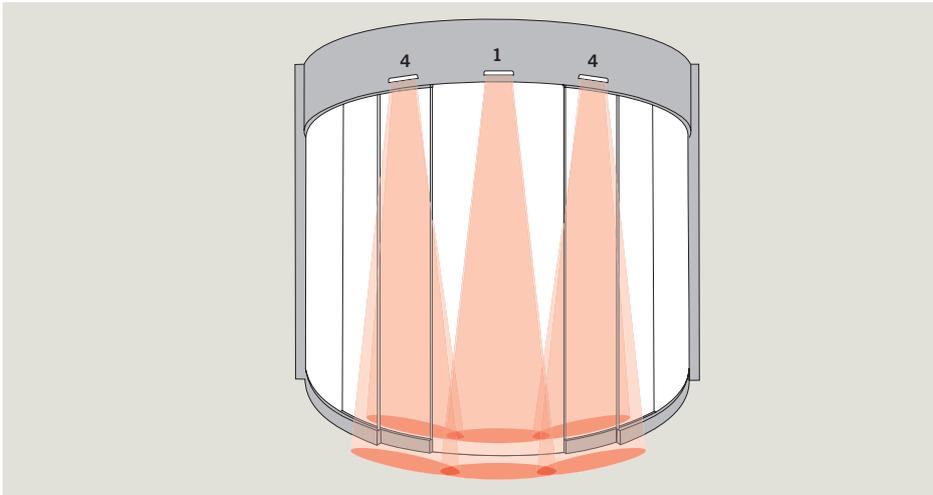
Floor ring segmental design



Air curtain

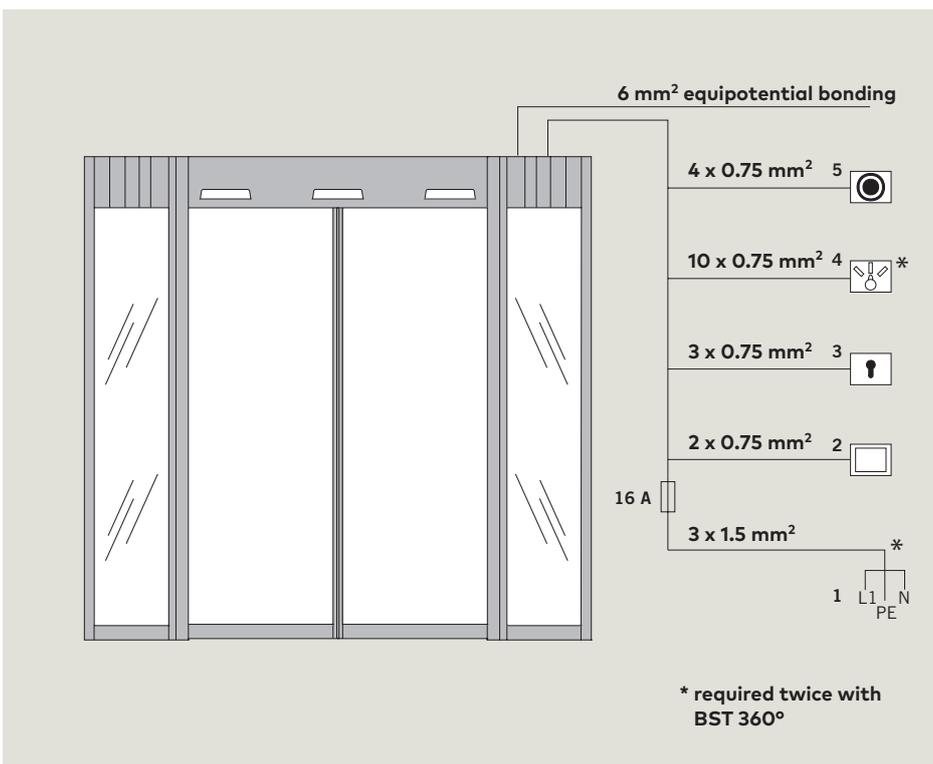


Safety equipment



- 1 External motion detector/combined sensor, external (compulsory with DIN 18650)
- 2 Integrated infrared safety sensor to monitor the passage area
- 3 Internal motion detector
- 4 Infrared safety sensor (optional, mandatory with DIN 18650)
- 5 Infrared safety sensor to monitor the secondary closing edges (optional)

Wiring diagram



- 1 Mains connection
- 2 Internal pushbutton
- 3 Key switch
- 4 Program switch
- 5 Emergency pushbutton (Option)

The external Emergency pushbutton (BST: Emergency-Off; FBST: Emergency-Open) must be installed close to the door. The maximum cable length is 20 m. The cable can be laid together with the cable for the program switch. The maximum length of the cable connecting the external program switch is 30 m. If the cable is laid with other cables, it must be provided with a shield.

Program switches

A program switch from dormakaba's broad range of accessories allows the automatic door system to meet individual requirements and provides easy handling.

The program switches are available in various designs and suitable for all kinds of applications.

They offer various options, from a mechanical to a full-electronic version, alternatively also lockable via profile half-cylinder or in a full-electronic way via code.

- Up to 5 different functions:
Off, Automatic, Exit Only, Partial Open, Permanent Open
- Electronic program switches in System 55 design to meet the highest aesthetical demands

For sliding door operators	Designation	Specification	Installation system	Order No.
	PG-S2	5-position, lockable, aluminium, white, flush-mounted version, 80 x 80 x 40 mm	Gira S-Color	19135602150
	EPS-S	Full-electronic program switch in System 55 design, 5-position, lockable via code or additional TL-ST S55 key switch, membrane keypad aluminium-coloured, white, flush-mounted version, 80 x 80 mm	System 55	16556901150
For sliding door operators in emergency exits and escape routes (FST)	Designation	Specification	Installation system	Order No.
	PG-FST1	5-position, lockable, aluminium, white, flush-mounted version, 80 x 80 mm	Gira S-Color	19135603150
	PG-FST2	5-position, lockable via profile half-cylinder, aluminium, white, flush-mounted version, 105 x 80 x 65 mm, Box for surface-mounting: 19142201170	Deutsche Solenoid	19142001170
	EPS-FST	Full-electronic program switch in System 55 design, 5-position, lockable via code or additional TL-ST S55 key switch, membrane keypad, aluminium-coloured, white, flush-mounted version, 80 x 80 mm	System 55	16556801150

Pushbutton

Palm pushbutton	Designation	Specification	Installation system	Order No.
		Single-pole changeover contact, single-type frame, white, flush-mounted version	System 55	19144701170
Key switches	Designation	Specification	Installation system	Order No.
	KT 3-1	1 NO contact with profile half-cylinder, may be replaced for any profile half-cylinder of a master key system, key only retractable in neutral position, aluminium, metal, 75 x 75 x 60 mm		
	KT 3-1 UP	UP		05054531332
	KT 3-1 AP	AP		05054631332

Emergency pushbuttons

	Designation	Specification	Installation system	Order No.
	NAT	Designed to interrupt the automatic movement of the door, emergency pushbutton (function: Emergency Off) for automatic door operators, manufactured to ZH 1/494 or BGR 232 and DIN 18650 and EN 16005, red knob with yellow centre insert, max. load current: 10 A at 230 V AC		
	NAT 1	NO contact: 1, NC contact: 1, white frame, flush-mounted version, 80 x 80 mm	System 55	90400025
	NAT 2 no picture	Function "Emergency Opening" with green knob, NO contact: 1, NC contact: 1, max. load current: 10 A at 230 V AC, white frame, flush-mounted version, 80 x 80 mm	System 55	90400035

The complete solution

Automatic entrance systems require careful specification and installation to ensure safety and reliability in use. Commencing with a risk assessment survey, dormakaba will advise at all stages of design and installation so the correct methods of operation and user safety protection are adopted.

Risk Assessment

All automatic doors must be specified and installed following appropriate safety standards requiring risk assessment prior to installation and periodically during the life of the product. dormakaba are experienced with safety specification and can provide further details on request.

Professional and impartial advice from staff assessed and accredited by ADSA (Automatic Door Suppliers Association):

- Site surveys, escape routes, impaired user access.
- Risk assessment reports
- Consultation with leading safety bodies and equipment manufacturers.
- CPD delivery to specifiers and professional organisations



Protection

Automatic doors installed in the UK are subject to the highest safety demands in accordance with EN 16005:2012. To meet these requirements consideration must be given to the use of barriers, self-monitoring sensors and other protective devices. These are mandatory for each door and uniquely specific to its location.

Advanced, standards-compliant technologies for all door types:

- Compact sensors with microwave Doppler technology for motion detection
- Combination sensors with active infrared technology for simultaneous motion and passageway protection
- Active infrared motion detectors based on the triangulation principle for protection of users or obstructions located in the door panel travel path
- Laser sensors with precision monitoring and extended field of view over the door face
- Barriers, fingerguards and appropriate signage for increased risk users, children or failsafe situations



Activation

dormakaba automatic doors are designed and tested to meet a wide range of building entrance styles and user requirements. Access to the building can be controlled through a number of methods from simple switches and keylocks to intelligent access control readers.

Wide choice of access methods from dormakaba:

- Radar approach sensors, opening integrated with emergency escape systems
- Manual pushbuttons with high visibility and ease of use for disabled users.
- Access control readers using simple access fobs or fully integrated with a monitored access control system



Maintenance

Automatic doors must be maintained and periodically assessed to be safety compliant. dormakaba have the UK's largest service network of trained engineers experienced on all types of door system both dormakaba and from other manufacturers.

Qualified service engineers assessed and accredited by ADSA:

- Scheduled maintenance visits and emergency callout.
- Risk assessment reports
- Trained and accredited service engineers with national coverage and logistic support



For further advice on dormakaba products and accessories please contact:

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