



Automatic
Curved Sliding
Doors

DORMA

BST

FBST 

The accessibility icon is a small square containing a vertical bar on the left, a downward-pointing arrow in the center, and a stylized human figure on the right, representing a person with a wheelchair.

Visually attractive, wide-ranging design alternatives

DORMA BST automatic curved sliding doors are an ideal solution for rendering your entrances both enticing and individual. The doors can be designed as outwardly or inwardly curved semi-circles and segments, as full circle configurations, as oval and double-segment units, or as tailored constructions using any combination of these basic shapes. The door systems are manufactured as either concave or convex assemblies. Coordinated to the architectural concept of the overall building, DORMA BST automatic curved sliding doors can be designed either as noticeable features or architecturally coordinated to harmonise with the overall styling of the façade.

They perform draught exclusion and airlock functions, entice and guide the pedestrian traffic flows as required, and impart width and depth to your entrances even where the available structural dimensions may be considered rather tight.

The specially developed fine-framed profiles mean that the doors have an all-glass appearance. They prevent contact with the glass edges and protect them from damage.

The DORMA BST curved sliding door system can also be combined with other doors from our Automatic division.

Reliable and safe

As in the case of all doors from DORMA, BST curved sliding doors set the industry standards for reliability and ease of use. The self-teaching microprocessor control system ensures smooth operational sequences combined with outstanding dependability and availability. Operating in conjunction with the integrated active presence detection system, it also ensures maximum safety.

The doors are made to measure, manufactured for an accurate fit, and delivered ready for installation. If required, DORMA will also perform the installation and commissioning work.

For emergency exits and escape routes

DORMA curved sliding doors are also supplied under the designation FBST with a redundant drive unit, auxiliary safety control system and special radar motion detector. They are type approved and available as „automatic sliding doors without pivot and catch fittings for installation in emergency escape routes“.

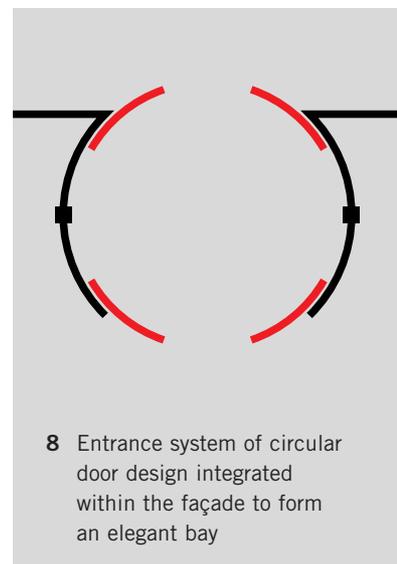
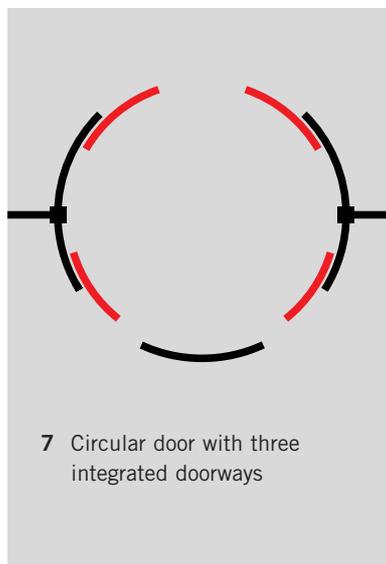
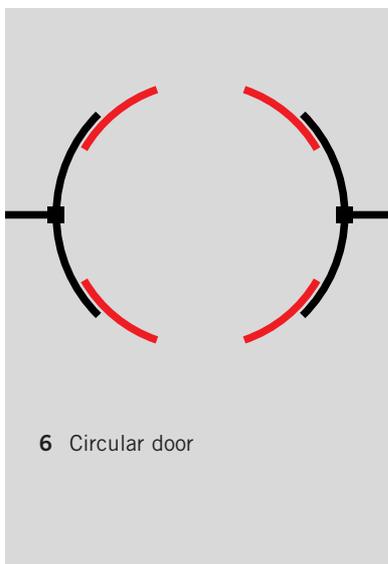
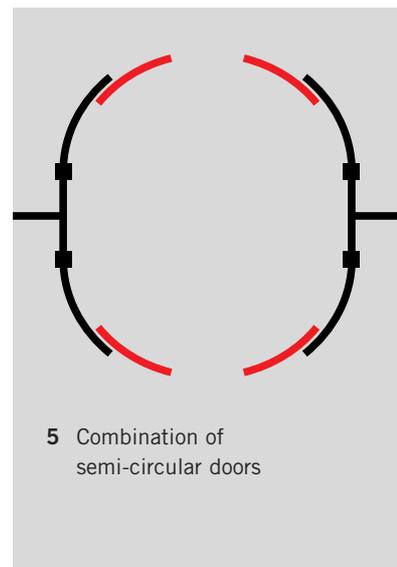
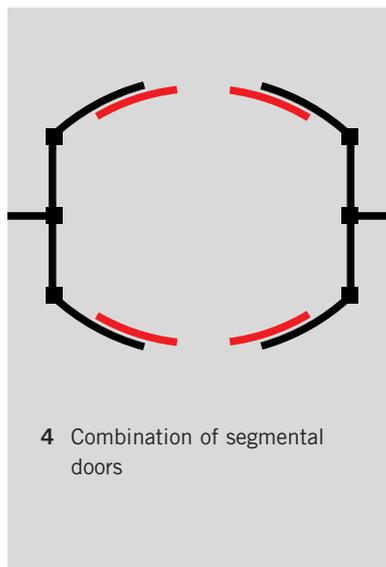
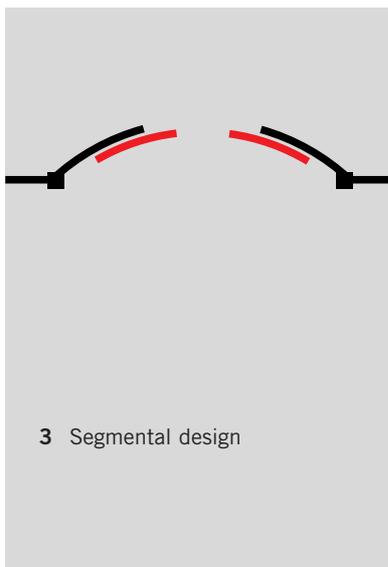
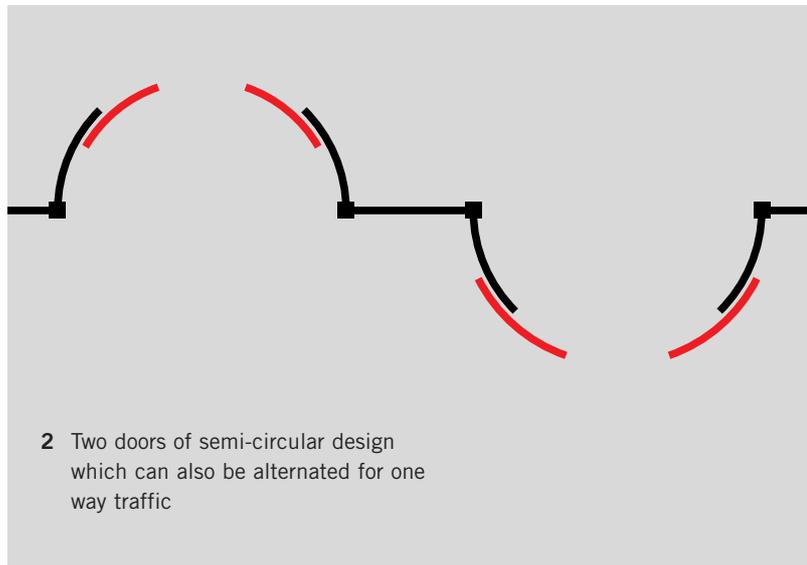
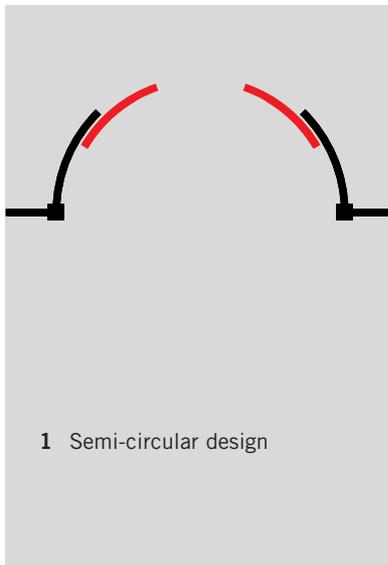


DORMA FBST
Approved for emergency exits and escape routes



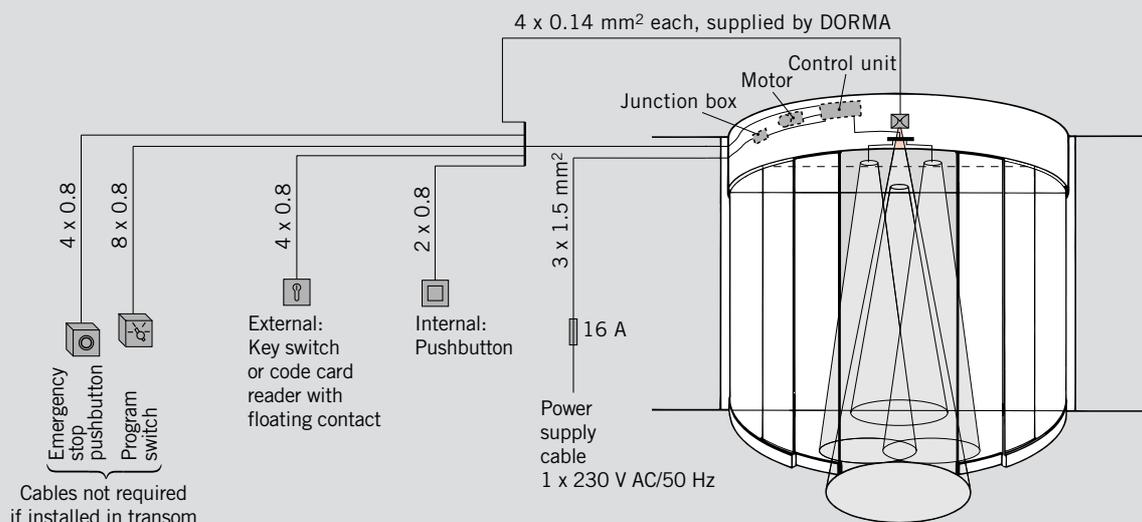
BST-G circular door with curved cover for operator and upper ceiling (not standard)

Basic designs and alternative configurations



Dimensions	DORMA BST, DORMA FBST
Clear passage width LW	1000 - 2500 mm
Emergency escape width F (DORMA FBST)	1000 - 2500 mm
Structural width B, min.	2072 mm
Clear passage height H	2100 - 2500 mm
Semi-circular radius r	1000 - 2000 mm
Circular radius r	1000 - 2000 mm
Segmental pitch radius r	freely selectable
Number of door leaves	1 or 2
Fixed side screens	○
Overhead height of canopy (minimum)	240 mm
Canopy height (240 – 1000 mm)	○
Internal sliding leaves, convex	●
External sliding leaves, concave	○
Technical data	
Door leaf weight, BST, max.	100 kg
Door leaf weight, FBST, max.	75 kg
Opening speed per door leaf, adjustable	100 - 600 mm/s
Closing speed per door leaf, adjustable	100 - 550 mm/s
Creep speed per door leaf, adjustable	30 - 90 mm/s
Opening and closing force, adjustable	●
Maximum force on contact with an obstruction	150 N
Power input, max.	360 W
Power input, average	30 W
Power supply data	230 V / 50 - 60 Hz
External power supply	24 V / 2.5 A

Wiring diagram



The external emergency stop push-button must be mounted in close proximity to the door and the connecting cabling length must not

exceed 50 m. The cable can be installed together with the cable for the program switch. The maximum cable length for connecting the

external program switch is also 50 m. If the cable is installed together with other cables, it must be provided with a shield.

Drive and control unit

Standard BST drive unit	ES 90
Redundant FBST drive unit for emergency exits and escape routes	ES 90 FST
Microprocessor control	●
Integrated presence detection system	●
Automatic obstruction detection	●
Automatic reversing cycle on contact with an obstruction	●
Self-test function for the entire system	○*
Program	●
– Off	●
– Automatic	●
– Exit only	●
– Permanent open	●
– Partial opening, self-regulating	●
– Partial opening, exit only	●
– Night-bank control	○
– Pharmacy control (not for FBST)	○
Parameter modification possible	●
Self-teaching function	●
BST expansion modules	EM 1, EM 2
FBST expansion module	EM 3
Degree of protection	IP 20
Pulse expansion for check card or code card reader, or key switch	●
Floating contact	●
Bus-capable	●
Door status monitoring, door lock	○

Frame profiles and glazing

Laminated safety glass profile system with single 10 mm pane - G	■
Framed system with 18 mm double glazing - G ISO	■
Special glass with patterns, etching etc.	■

Main components

Curved top light	○
Curved bulkhead	○
Light alloy girder with external aluminium cover	●
Steel posts with end caps	●
Adhesive bonded glazing bars	○
Air curtain system (180° and 360° designs in conjunction with higher canopy)	○
Lighting	
– Ceiling cut-out for luminaires by others	○
– Halogen downlight, 10 W, including ceiling cut-out and accessories	○
Floor covering	
– Emco clean wipe mat	■
– Arwei clean wipe mat	■
– Coir mat	■
Floor guide	
– Surface-mounted floor guide without floor ring	■
– Surface-mounted floor guide with floor ring	■
– Underfloor guide with floor ring	■
Dust cover for upper ceiling	●

Accessories and safety devices

Locking system	
– Electro-mechanical locking system (not for emergency exit and escape route doors)	○
– Electro-mechanical locking system with manual unlocking	○
Active infra-red sensors	●
Fail-safe operation with emergency power supply module	●
Monitored backup battery package	○*
Intrinsically safe activator	*
Radar movement detector, external	○
Radar movement detector, internal	○
Emergency stop pushbutton	●

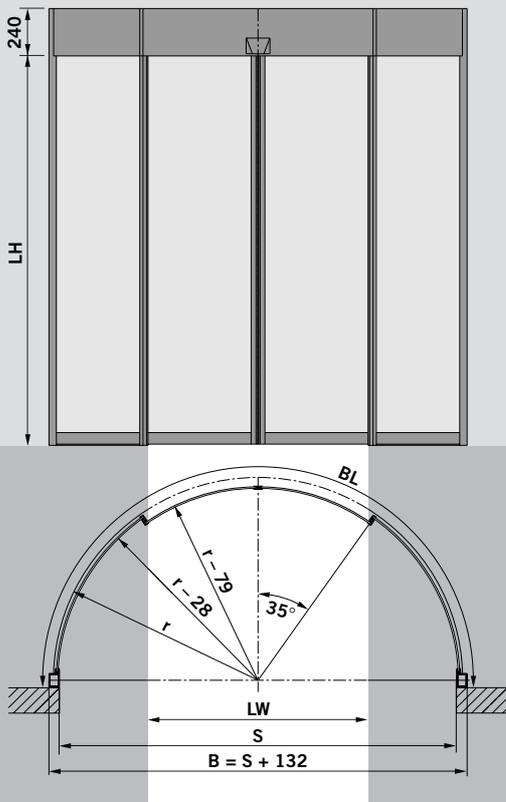
● standard equipment

■ as required

○ option

* standard equipment with DORMA FBST emergency exit and escape route doors

Semi-circular and circular designs



Standard dimensions:

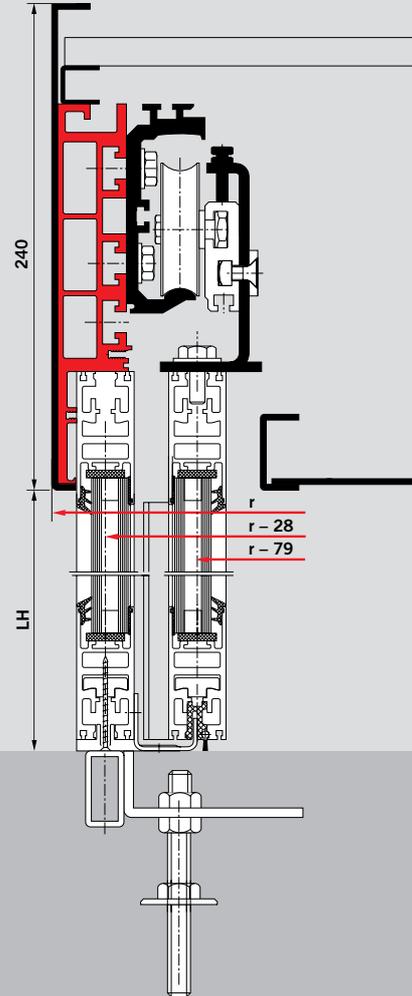
LW	r	S	B
1100	1000	1940	2072
1420	1200	2340	2472
1700	1400	2740	2872
2000	1600	3140	3272
2270	1800	3540	3672
2500	2000	3940	4072

Curved sliding doors with larger radii on application. Additional posts provided for arc length (BL) values greater than 6600 mm.

Length of curvature **BL**
Clear passage width **LW**
Radius **r**
Inside width **S**
Door width **B**
Clear passage height **LH**
Dimensions in mm

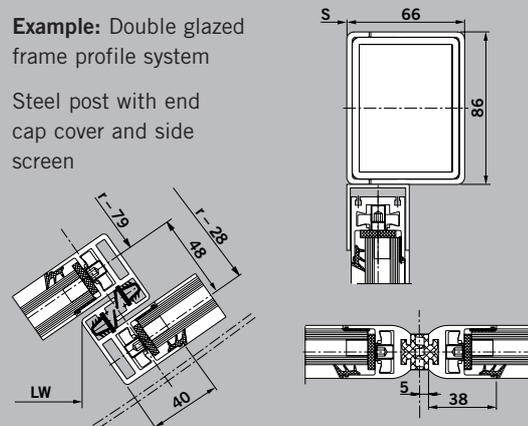


DORMA FBST
Approved for emergency exits and escape routes



Example: Double glazed frame profile system

Steel post with end cap cover and side screen



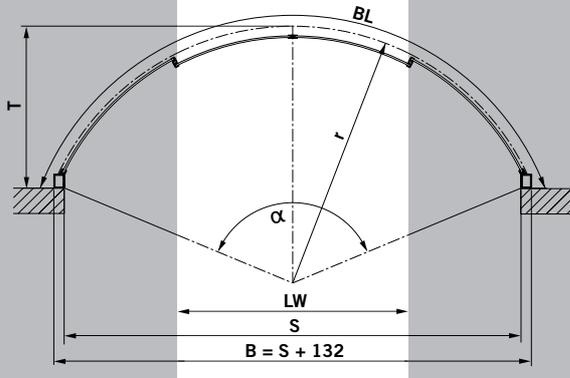
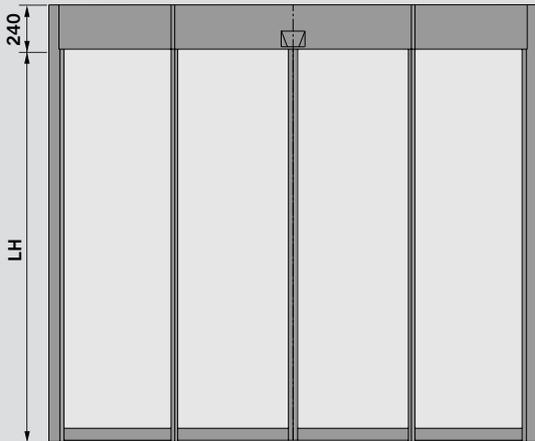
Side screen and leaf with interlocking profiles

Leaves with centre seals interlocking profiles



BST-G circular door with flush ceiling (not standard)

Segmental design



Standard dimensions:

Arc length **BL**

max. 6600 mm

Clear passage width **LW**

1000 - 2500 mm

Calculating the length of curvature (BL)

– for a given radius r and angle α

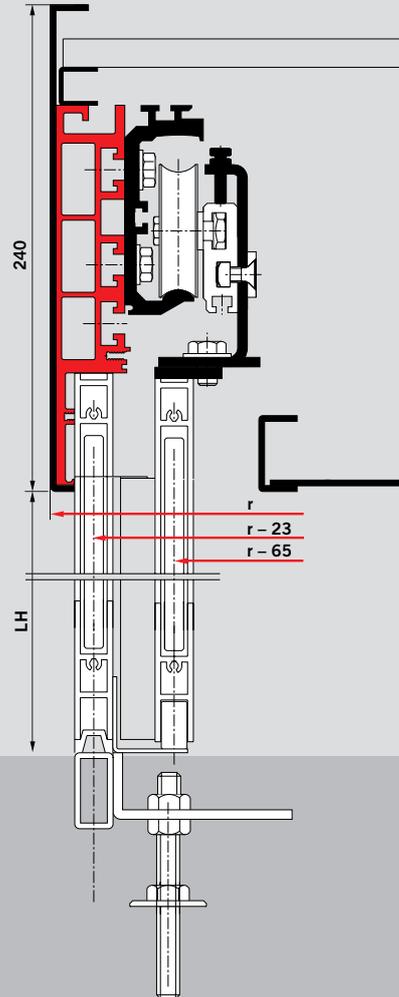
$$BL = r \cdot \frac{\alpha \cdot \pi}{180}$$

– for a given structural depth T and width B

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



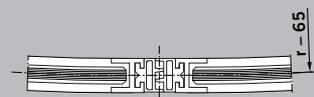
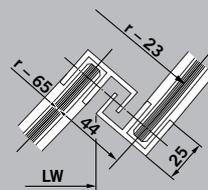
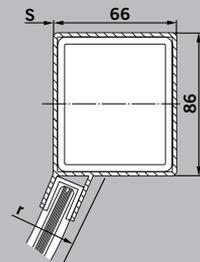
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Example:

Fine-framed profile system

Example for steel post with end cap and side screen

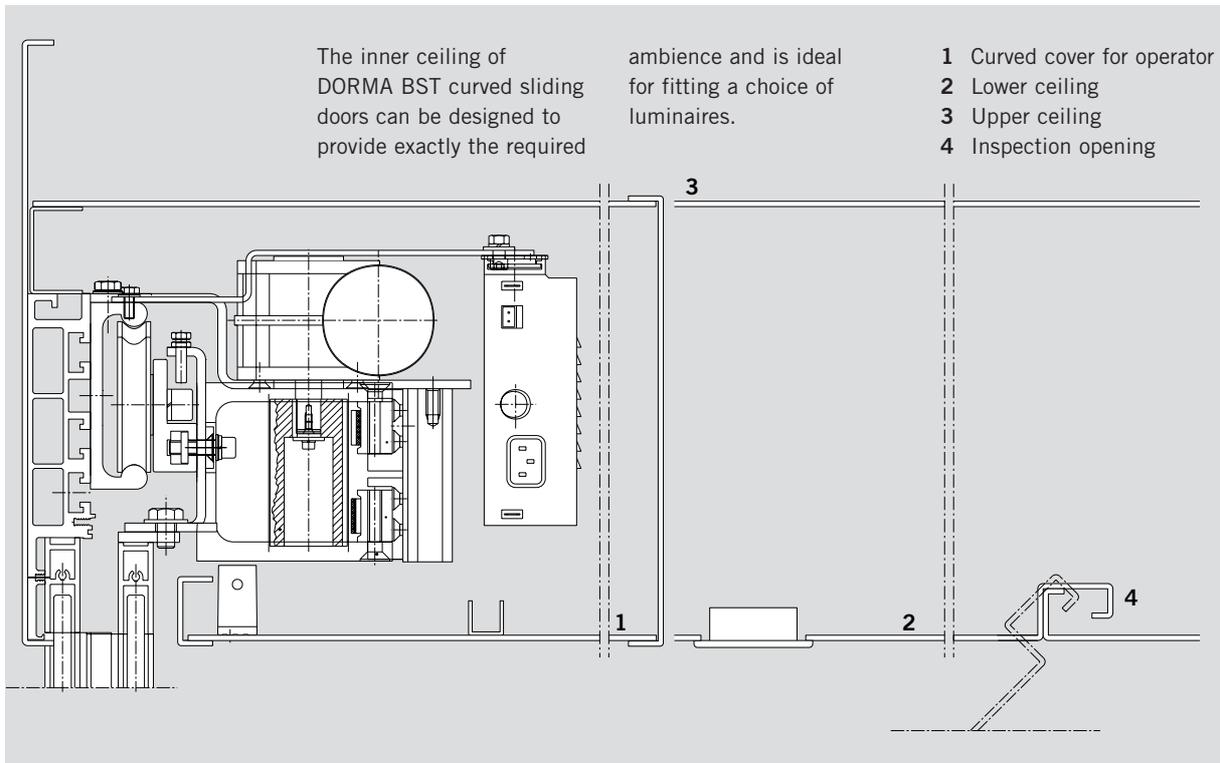


Side screen and leaf with interlocking profiles Leaves with centre seals

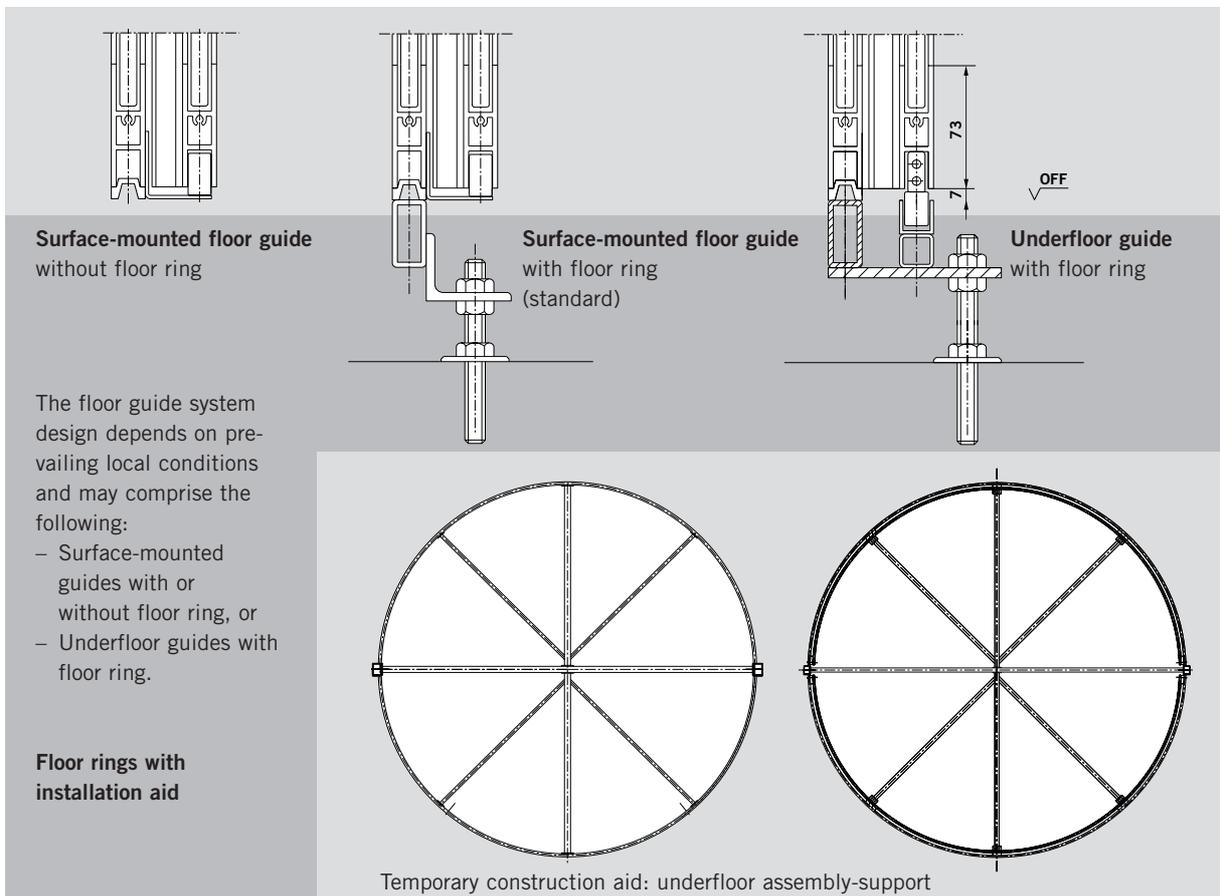


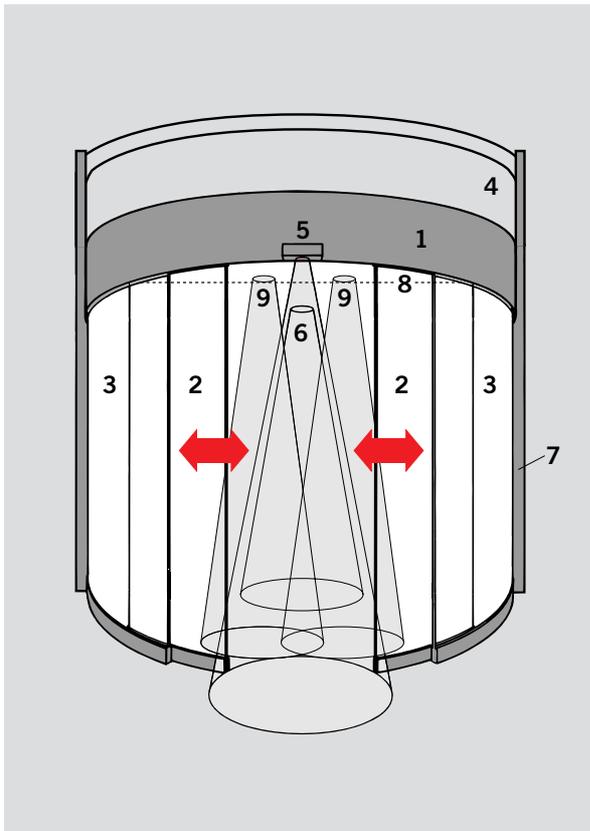
BST-G, segmental door, with curved cover for operator

Inner ceiling



Floor guide





- 1 Self-supporting transom
- 2 Curved sliding door leaf
- 3 Side screens, fixed
- 4 Top light, bulkhead or canopy extension
- 5 Radar movement detector, external
- 6 Radar movement detector, internal (DORMA FBST emergency exit and escape route doors with special radar movement detector, self-monitoring type)
- 7 Steel posts with end caps
- 8 Inner ceiling or inner cover for drive unit
- 9 Integrated infra-red presence detectors



BST-G circular door, with curved cover for operator and upper ceiling (not standard)

Automatic curved sliding door

manufactured in accordance with the latest edition of ZH 1/494 (German code of practice for power-operated windows, gates and doors), German accident prevention regulations and VDE specifications (German association of engineers); type tested and approved (TÜV)

- for emergency exits and escape routes in accordance with the construction and testing requirements specified for sliding doors in emergency escape routes, and also specification VDE 0700.

Transom construction:

Self-supporting, 240 mm high, with sliding door drive unit and removable drive unit cover of light alloy.

Ceiling inwardly folding or folding internal drive unit cover.

- Top light mm high
- Bulkhead mm high
- Vertical canopy extension mm

Curved sliding door leaves:

..... Nos. curved sliding door leaves with

- BST-G slimline profile system with
 - 10 mm laminated safety glass
 - special glass with patterns, etching etc.
- BST-G Iso double glazing profile system with 18 mm double glazing
- glass tint of
- internally sliding convex design (standard)
- externally sliding concave design

Side screens:

..... Nos. side screens, fixed, design as per sliding door leaves, including steel posts with end caps

Floor guide:

- Surface-mounted guide without floor ring
- Surface-mounted guide with floor ring
- Underfloor guide with floor ring

Drive unit and control system:

Microprocessor control system with integrated active presence detection, automatic obstruction detection and automatic reversing cycle in the event of contact with an obstruction; emergency power supply module; opening and closing speeds adjustable from 100 to 600 mm/s per door leaf; hold-open time adjustable from 0 to 180 s.

- DORMA ES 90 for BST
- DORMA ES 90 FST for FBST with EM 3 expansion module for monitoring opening action and self-test of the complete system; including self-monitoring special radar motion detector VG 137C arranged in the emergency escape direction

Program modes

Off – Automatic – Exit only – Permanent open – Partial opening, self-regulating – Partial opening, exit only

- Night-bank control
- Pharmacy control (not for FBST)

Power supply data: 230 V AC / 50 – 60 Hz

Safety system:

Automatic regulation and monitoring of the door leaf motions and the closing force; automatic reversing cycle on contact with an obstruction; monitoring of the passageway by active infra-red presence detectors; automatic opening of the door in the event of a power failure.

Additional equipment:

- Electro-mechanical locking system (not for emergency exit and escape route doors FBST)
- Electro-mechanical locking with manual unlocking
- Door status monitoring, locking system
- Air curtain system on application
- Brush floor seals
- Ceiling cut-out for luminaires, by others
- Halogen downlight, 10 W, including ceiling cut-out and accessories
- Emco wipe-clean mat
- Arwei wipe-clean mat
- Coir mat
- Adhesive-bonded glazing rails on the door leaf (leaves)

Activators:

- Radar movement detector, external
- Radar movement detector, internal

Dimensions:

Clear passage width LW mm
Structural width B mm
Segmental angle α °
Clear passage height H mm
 Semi-circle radius r mm
 Circle radius r mm
 Segmental pitch radius r mm

Surface finishes:

- silver anodised, Eloxal E6/C0
- dark brown anodised, Eloxal E6/C34
- RAL
- Special colour

Make:

- DORMA BST
- DORMA FBST