DORMA

FFT
FFT-F

Automatic bi-folding doors with approval for application in emergency exits and escape routes according to DIN 18650

Minimum space requirement, easy mounting, economical and safe

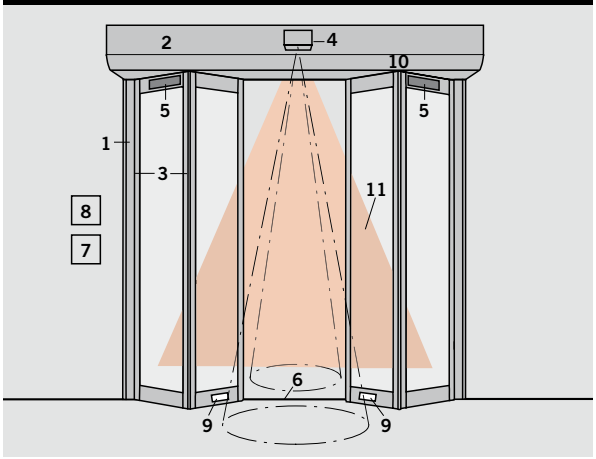
Whenever the door opening is narrow or if there is not much depth available – or both – then DORMA Automatic bi-folding doors may well be the ideal application. They ensure maximum utilisation of structural widths – with structural opening widths of almost the same dimension. They do not swing out when opened and their depth is only a quarter of the clear passage width.
The DORMA Automatic range of bi-folding doors includes not only FFT standard doors but also FFT-F doors with approval for application in emergency exits and escape routes. The system offers a wide range of sizes to ensure maximum cost-efficiency for various fields of application. The doors are supplied ready-to-install and may be installed and commissioned by a DORMA team if desired.

Convenient, reliable and safe
The electronically-controlled ES 90 and ES 90 FST operators are fully reliable to ensure smooth and fast opening and closing cycles. Furthermore, by continuously monitoring the passage area, they also ensure maximum user safety. Thus the door panels remain stationary during user presence and are automatically stopped at the merest contact with an obstruction.
Integrated seals provide effective protection against heat loss and draught.
The jam-free hinges operate free of noise. No floor guide is required for doors with clear passage widths below 1,500 mm.

For emergency exits and escape routes
Under the designation FFT-F DORMA Automatic offers bi-folding doors equipped with an electronic expansion module (EM 5), a redundant operator system and a special radar motion detector. These doors have the German type approval (according to DIN 18650) for application in emergency exits and escape routes with opening widths from 900 to 2,000 mm.

DIN 18650

Construction and scope of delivery

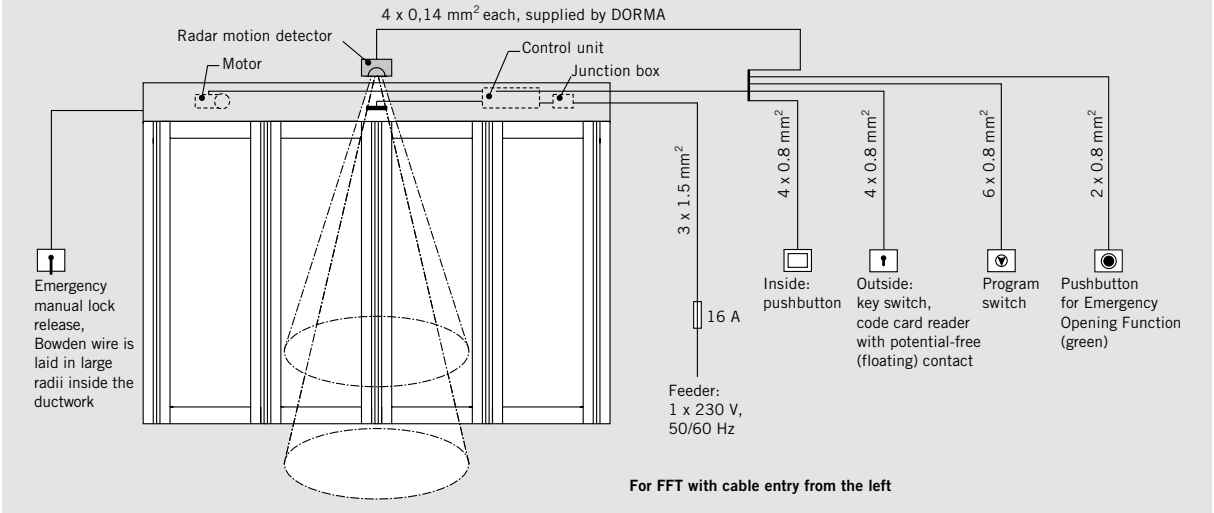


1 Door frame with mounting profile
2 Fully-enclosed operator with integrated electronic control unit
3 Door panels with double-glazing (further glazings or panellings on request)
4 Activator, e. g. radar motion detector
5 Infrared detector for FFT systems with clear passage widths > 1,400 mm
6 Floor guide (recommended for clear passage widths > 1,500 mm)
7 Program switch
8 Emergency manual lock release (optional)
9 Floor locking device (optional)
10 Bolt locking device
11 Light curtain to monitor the passage area

Features and benefits

– Perfectly suitable for narrow passages
– System requires almost no lateral space
– Easy to install and upgrade
– Jam-free profiles
– High safety standard
– Low-noise operation
– Door panels do not swing out
– Minimum space requirement while open
– Free floor area
– Very economical and reliable
– Quality-assured manufacture
– Also suitable for emergency exits and escape routes (FFT-F)

Wiring diagram for DORMA FFT-F



For FFT with cable entry from the left

Dimensions and versions	FFT	FFT-F
Clear passage width (LW)	800 – 2,000 mm	900 – 2,000 mm
Clear passage height (LH)	2100 – 2,500 mm	
Glazing thickness: 20 mm Safety double-glazing	●	
Adjustable floor guide – for LW < 1,500 mm – for LW ≥ 1,500 mm	 ○ ●	
Operator dimensions – Height – Depth	 200 mm 237 mm	 200 mm 260 mm
Operator cover with rounded edges	●	
Operator cover with square edges	○	
Fanlight	○	
Opaque panel	○	
Jam-free double-glazing profile system (G-Iso)	●	
Door panels with encapsulated bearings	●	

Optional equipment	FFT	FFT-F
Locking device – with electromechanical bolt locking device	○	○*
– with manual lock release	○	○*
Floor locking device – clear opening widths from 1,300 to 1,500 mm: strike plate	○	○*
– clear opening widths > 1,500 mm: strike plate, no floor guide rail	○	○*
Rechargeable battery pack	●	
USV emergency power supply unit	○	

*As the use of the locking device disenables the escape route function, only authorise staff is allowed to lock the door.

Drive and control unit	FFT	FFT-F
Operator	ES 90	ES 90-FST
Expansion module EM 4	●	–
Expansion module EM 5	–	●
Version with reinforced toothed belt	●	
Activation by intrinsically-safe activator in escape direction	–	●
Short-circuit proof switching power supply unit	●	
Microprocessor control	●	
Function programs – OFF – AUTOMATIC – PERMANENT OPEN – EXIT ONLY – Night-/Bank Function	 ● ● ● ● ●	
Connection for airlock control	○	–
Delayed opening for check/code card reader or key switch	○	
Self-learning	●	
Automatic reversing	●	
– Fail-safe – Fail-secure	■ ■	● –
Connection for access control system	●	
Bell contact	●	
Door status indicator	○	

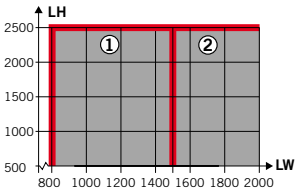
Technical specifications	FFT	FFT-F
‚Approval for application in emergency exits and escape routes	–	●
Continuously adjustable opening and closing force max. 150 N	●	
Parameter adjustment	●	
Continuously adjustable opening speed	100 – 600 mm/s	
Continuously adjustable closing speed	100 – 550 mm/s	
Continuously adjustable low (creep) speed	30 – 90 mm/s	
Continuously adjustable hold-open time	0 – 180 s	
Emergency opening via spring force	–	●
Supply voltage, frequency	230 V, 50/60 H	
Power consumption – max.	360 W	
– average	30 W	
Power supply for external components	24 V, 2 A	
Class of protection	IP 20	
Admissible humidity: 93 % relative humidity, non-condensing, adm. temperature:	–20 °C bis +50 °C	
TÜV type-approved	●	
Compliant with the low-voltage directive	●	
Manufactured to ISO 9000	●	

● standard ○ optional ■ alternatives

Please note: If the pressure inside and outside the building varies considerably, a technical check is required to ensure that all functions work properly.

Wall installation

FFT (double-panel version)



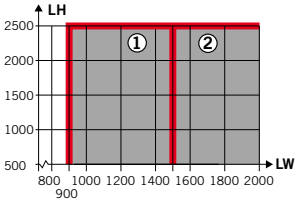
Glazing:

① LW = 800 – 1500 mm
2 x LSG, each 6 mm
(3 + 3) / 8 / (3 + 3)
(float glass)

② LW = 1500 – 2000 mm
2 x TSG, each 4 mm
4/12/4 mm

In accordance with DIN 18650, doors with a clear passage width of more than 1400 mm are equipped with sensors at the door panels

FFT-F (double-panel version)



Glazing:

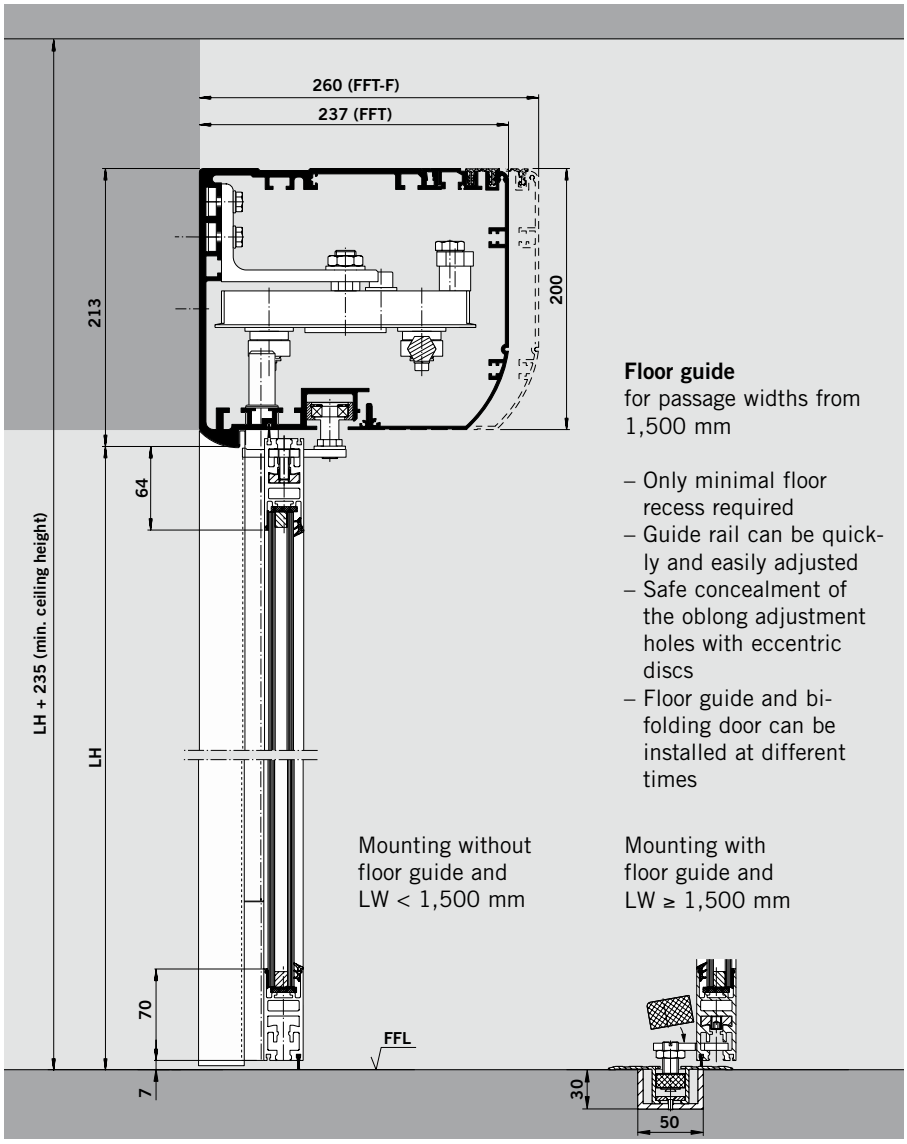
① LW = 900 – 1,500 mm
2 x LSG, each 6 mm
(3 + 3) / 8 / (3 + 3)
(float glass)

② LW = 1500 – 2000 mm
2 x TSG, each 4 mm
4/12/4 mm

In accordance with DIN 18650 always without sensors at the door panels

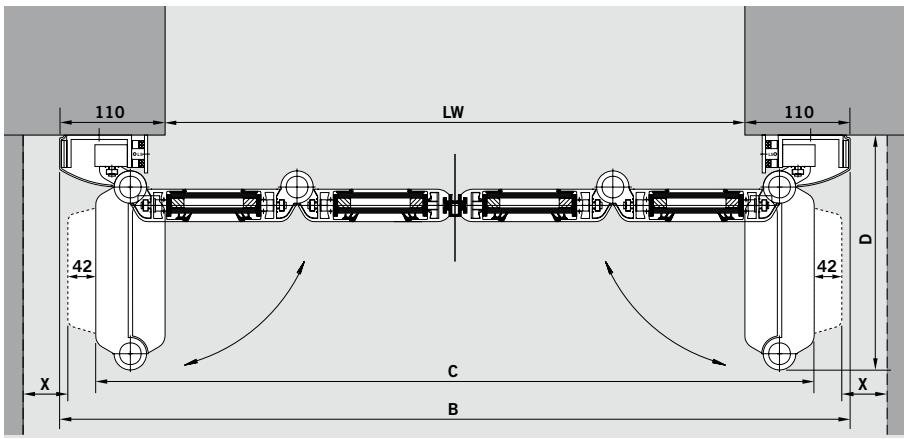
FFT-F for emergency exits and escape routes

LW = Clear passage width
LH = Clear passage height
B = System width
C = Overall distance between open, folded door panels
D = Depth of open, folded panels
X = Minimum distance to IR-sensor: 250 mm



Floor guide
for passage widths from 1,500 mm

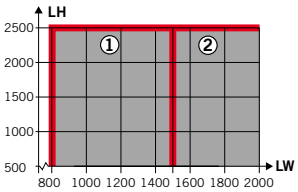
– Only minimal floor recess required
– Guide rail can be quickly and easily adjusted
– Safe concealment of the oblong adjustment holes with eccentric discs
– Floor guide and bi-folding door can be installed at different times



Wall installation FFT			FFT-F											
LW		800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
B	B = LW + 220	1020	1120	1220	1320	1420	1520	1620	1720	1820	1920	2020	2120	2220
C	C = LW + 144	944	1044	1144	1244	1344	1444	1544	1644	1744	1844	1944	2044	2144
D	D = LW/4 + 87	1287	1312	1337	1362	1387	1412	1437	1462	1487	1512	1537	1562	1587

Corridor installation

FFT (double-panel version)



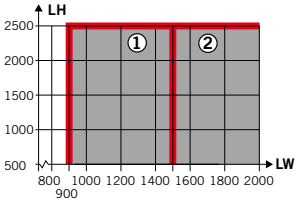
Glazing:

① LW = 800 – 1,500 mm
2 x LSG, each 6 mm
(3 + 3) / 8 / (3 + 3)
(float glass)

② LW = 1500 – 2000 mm
2 x TSG, each 4 mm
4/12/4 mm

In accordance with DIN 18650, doors with a clear passage width of more than 1400 mm are equipped with sensors at the door panels

FFT-F (double-panel version)



Glazing:

① LW = 900 – 1,500 mm
2 x LSG, each 6 mm
(3 + 3) / 8 / (3 + 3)
(float glass)

② LW = 1500 – 2000 mm
2 x TSG, each 4 mm
4/12/4 mm

In accordance with DIN 18650 always without sensors at the door panels

FFT-F for emergency exits and escape routes

LW = Clear passage width
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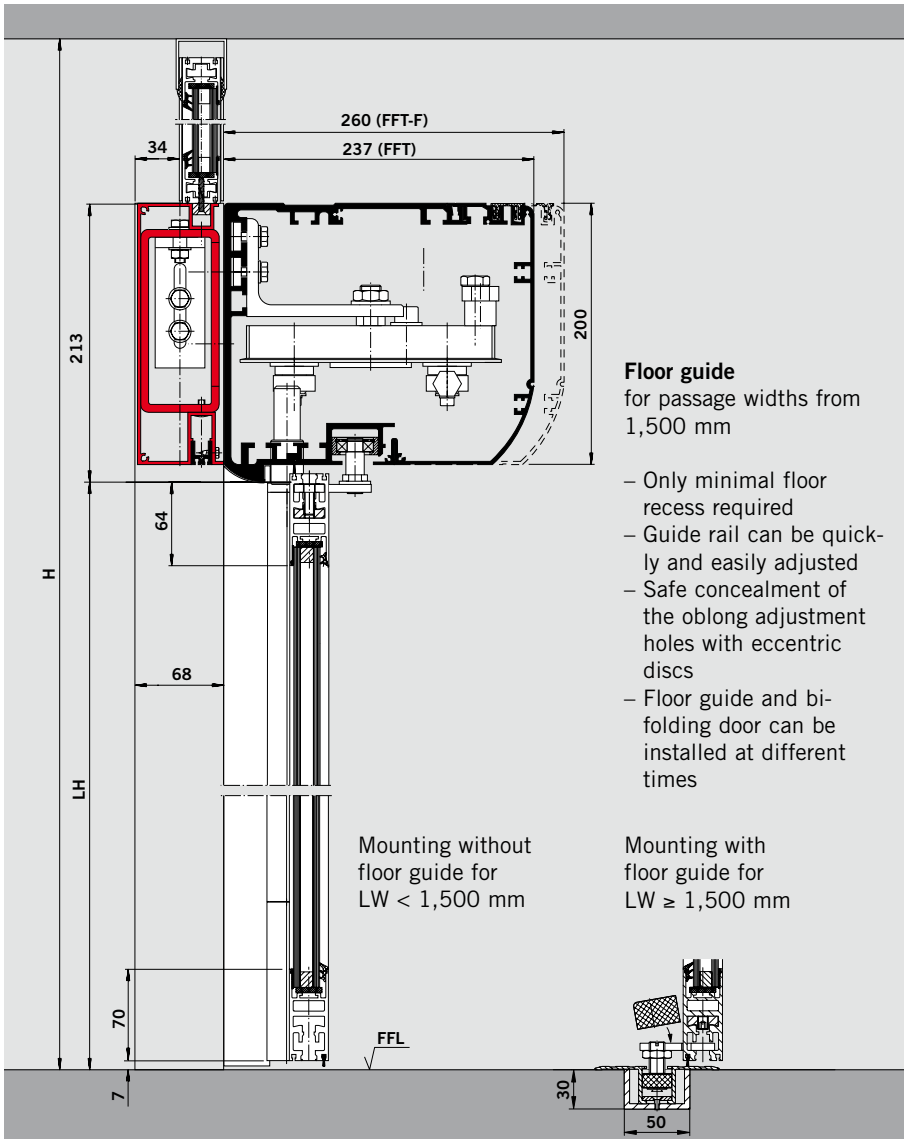

Floor guide
for passage widths from 1,500 mm

– Only minimal floor recess required
– Guide rail can be quickly and easily adjusted
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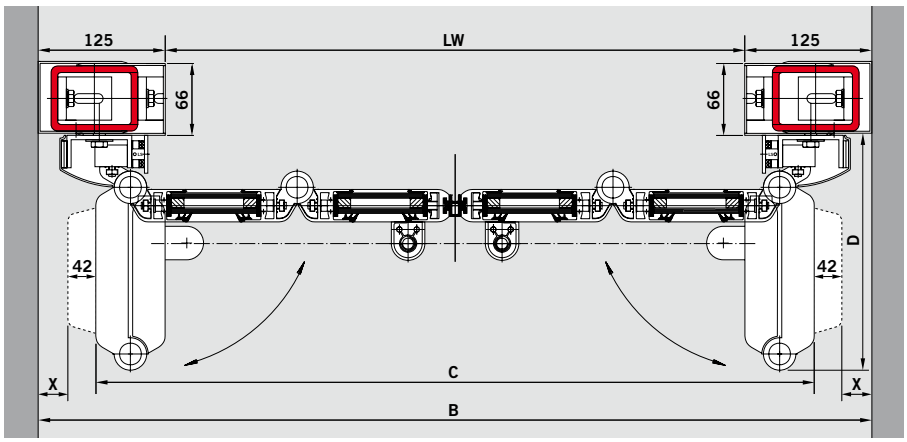
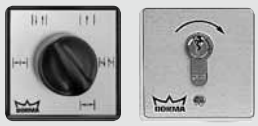
– Floor guide and bi-folding door can be installed at different times



Corridor installation FFT			FFT-F											
LW		800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
B	B = LW + 250	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250
C	C = LW + 144	944	1044	1144	1244	1344	1444	1544	1644	1744	1844	1944	2044	2144
D	D = LW/4 + 87	1287	1312	1337	1362	1387	1412	1437	1462	1487	1512	1537	1562	1587

Program switches



- External installation
- As flush-/surface-mounted system
- Lockable/rotary knob
- Suitable for standard flush-mounted boxes
- May be integrated in a double frame with an Emergency Off switch

EPS-S

- Flush-/surface-mounted key switches
- Full-electronic program switch in System 55 design
- 5-position, lockable via code or an additional TL-ST S55 key switch
- Membrane keypad, aluminium-coloured, white

Pushbuttons/switches

- As flush-/surface-mounted system
- Stainless-steel finishes
- Water-resistant models
- Keypads for access control systems
- Pushbuttons/switches

Activ8 One ON

Designed to open and to safeguard automatic sliding doors.
Opening of sliding doors via radar detector, monitoring of main closing edge and secondary closing edges via active infrared sensors

Radar motion detector

- Eagle system
- Directionally sensitive, with self-monitoring function or as standard version
- No effect on pacemakers thanks to its very low output of just approx. 2 mW
- No interference from mobile phones

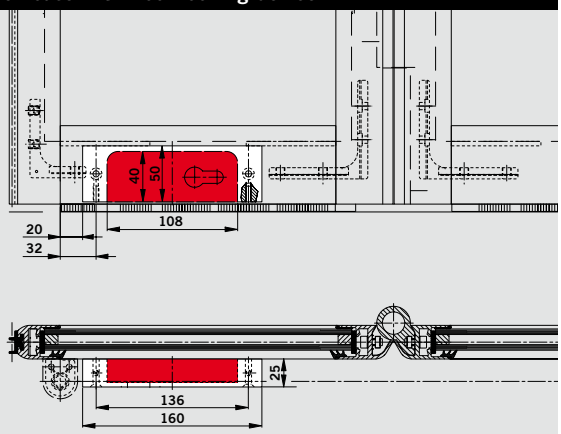
EPS-FST

- Full-electronic program switch in System 55 design
- 5-position, lockable via code or an additional TL-ST S55 key switch
- Membrane keypad, aluminium-coloured, white

IRS-4 active infrared safety sensor

DORMA IRS-4-35
with one sensor,
length: 350 mm
German type approval in accordance with DIN 18650

Lock case with floor locking device



- Reliable locking action; only for versions without floor guide rail

DORMA

www.dorma.com

Door Control

Automatic

Glass Fittings

Security
(STA)

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