

# Product datasheet

## Folding door

### ASSA ABLOY FD2050F

**ASSA ABLOY**  
Entrance Systems

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# Technical facts

## Features

Max size: (W x H)*	7590 mm x 6000 mm	
Frame thickness:	50 mm	
Frame material:	Aluminium	
Filling:	Windows or insulated sandwich infills	
Colour outside and inside:	Standard: Anodised aluminium Optional: Painted	
Windows:	Options: DAD, DAS, SA3; DSD, DSS, SS3, SH4	
Infills:	Options: FA, FA1, FA2	
Passdoor:	Optional: built in door leaf, built in fixed section, leaf as passdoor	
Electrical operation:	Manual operation, Electrical operation	Automated operation, Access control, Safety functions

\* Other sizes are available on request

## Performance

Life time expectations:	Door: 100.000 door cycles/20 years (with the recommended yearly service check)	
Wind load, EN12424	Class 2 **	
Thermal transmittance, EN12428	3,75 W/(m <sup>2</sup> .K) *** 4,45 W/(m <sup>2</sup> .K) ****	
Water penetration, EN12425	Class 3	
Air permeability, EN12426	Class 2	

\*\* Higher wind load classification on request

\*\*\* Door configuration 4000 mm x 4000 mm, 2+2  
2 rows window type DAD/DAS  
4 rows infills

\*\*\*\* Door configuration 4000 mm x 4000 mm, 2+2  
2 rows window type SH4  
4 rows infills

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# 1. Description

## 1.1 General

The ASSA ABLOY FD2050F folding door is one of the most stable folding doors on the market. It is a folding door suitable for use in premises with high daylight admission demands, or buildings used for product exposure such as showrooms. The highly adaptable design makes it possible to install this door in almost every type of building.

The door slides (folds) to the left, right, or in both directions if it is in two parts.

The door is made of aluminium profiles, filled with sandwich infills or acrylic/glass windows. The high daylight admission makes this door the ideal choice for working environments that require maximum lighting. The door can be installed on either the inside or the outside of the exterior wall. A wide range of options is available to suit the appearance of the existing building.

The ASSA ABLOY FD2050F folding door has been designed to meet all operational and safety requirements in the European Directives and the standards issued by the European Standardization Committee, CEN.



The ASSA ABLOY folding door has 5 primary parts:

- 1) Door leaf
- 2) Seals
- 3) Track
- 4) Transmission system (electrically operated door)
- 5) Operating system (electrically operated door)

### 1.1.1 Standard

Although every ASSA ABLOY door is custom built, the ASSA ABLOY FD2050F folding door is supplied with the following specifications as standard:

Door leaf:	Aluminium frames with infills or windows
Operation:	Manual: Auto lock in open position Electrical: 950 door control system
Locks:	Cremone lock inside (manual operation)
Colours:	Anodised aluminium
Number of door leaves:	Max. 3 door leaves per side.
Safety:	Side cover

### 1.1.2 Options

ASSA ABLOY provides a wide range of options and accessories to customise the ASSA ABLOY FD2050F folding door to any customer's needs.

Passdoor:	Built in door leaf Built in fixed section Entire leaf as passdoor
Windows:	DAS: Double glazed "scratch resistant" Acrylic, Single sealed, 2 x 2,8 mm DAD: Double glazed "scratch resistant" Acrylic, Double sealed, 2 x 2,8 mm SA3: Single pane of "scratch resistant" Acrylic, 2,8 mm DSS: Double glazed Acrylic, Single sealed, 2 x 2,8 mm DSD: Double glazed Acrylic, Double sealed, 2 x 2,8 mm SS3: Single pane of Acrylic, 2,8 mm SH4: Single pane of Hardened, 4 mm
Infills:	FA: Mill finished stucco aluminium sheet outside and inside FA1: Mill finished stucco aluminium sheet outside, smooth aluminium inside. FA2: Smooth 1 mm anodised aluminium sheets, outside and inside. FS: Smooth steel sheets, RAL-9006 outside and inside.
Locks:	Assa lock box Euro lock box Kaba lock box Abloy lock box
Operation:	Delivered with or prepared for: Key locks system Automated operation, safety functions.



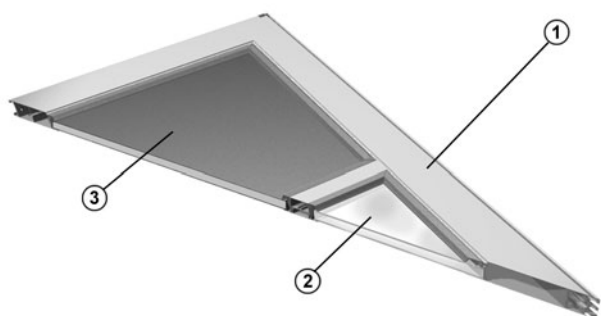
## 1.2 Door leaves

### 1.2.1 Construction

The ASSA ABLOY FD2050F folding door comprises vertical door leaves, connected together with hinges. Rollers are installed on the top left and right of each door leaf. The rollers run in the top track to enable opening and closing of the door.

### 1.2.2 Material

The door is made of aluminium profiles, filled with sandwich infills or acrylic/glass windows.



- 1) Anodised aluminium frame
- 2) Window
- 3) Infill

### 1.2.3 Colours

#### 1.2.3.1 Standard colours

As a standard, the frames and infills are delivered in anodised aluminium.

#### 1.2.3.2 Optional colours

Optionally the frames and infills are available in 5 pre-coated colours.



RAL 3002



RAL 5010



RAL 7016



RAL 9002



RAL 9006

Also available:

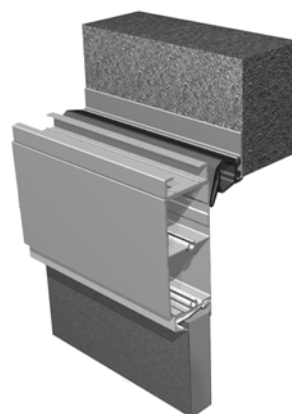
- Factory painting, all RAL colours, including metallic colours
- Factory painting, acc. to colour sample
- Powder coating (excl. metallic colours) on request

### 1.2.4 Seals

The door is equipped with well designed seals on all sides that gives the door its excellent sealing abilities.

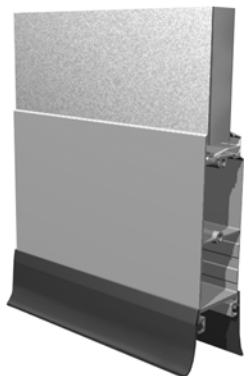
#### 1.2.4.1 Top seal

Installed on the frame at the top of the wall, the top seal provides continuous pressure on the top of the door leaves when the door is closed, ensuring maximum sealing.



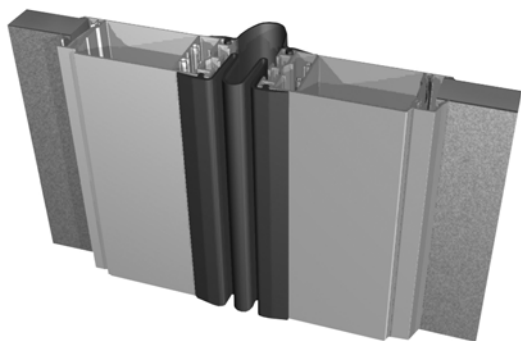
#### 1.2.4.2 Bottom seal

Installed on the bottom edge of each door leaf, the bottom seal provides continuous pressure on the floor, ensuring maximum sealing.



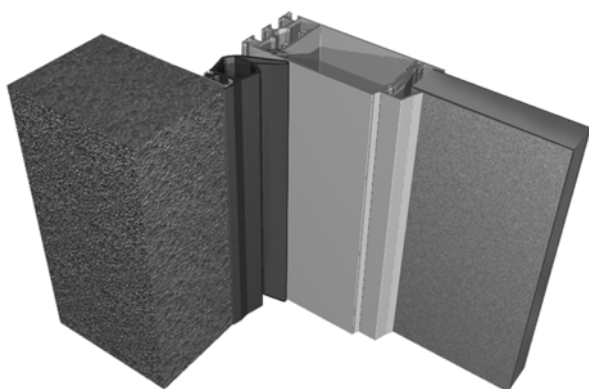
#### 1.2.4.3 Seal between door leaves

Installed between each pair of door leaves. The flexible rubber material permits maximum movement of the door assembly and permanent sealing between the door leaves.



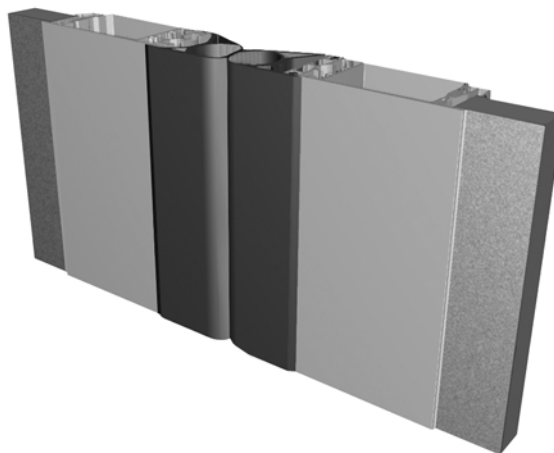
#### 1.2.4.4 Side seal

Installed between the outer door leaves and the wall. The flexible rubber material permits maximum movement of the door assembly and provides permanent sealing between the door leaves and the walls.



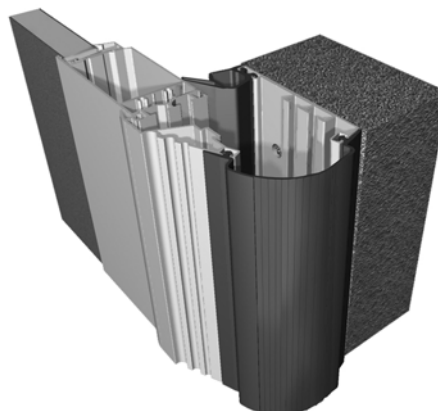
#### 1.2.4.5 Safety edge seal

Installed on the edge of the two centre door leaves, the safety edge seal provides continuous pressure when the door is closed, ensuring maximum sealing. On electrical doors the sealing has a function as safety edge sealing.



#### 1.2.4.6 Side cover

In combination with an installation frame the side cover works as a cover of and a protection from the frame hinges. Standard on all doors.





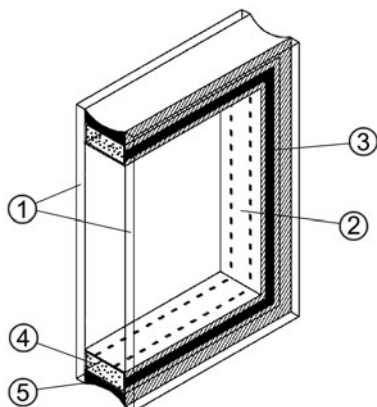
## 1.2.5 Windows

The frame construction allows windows in all door leaves. The light opening depends on the dimensions of the door leaf. Other materials than described below are available on request.

### 1.2.5.1 DAD / DSD

DAD: Double glazed "scratch resistant" Acrylic (SAN with coating), Double sealed

DSD: Double glazed Acrylic (SAN), Double sealed

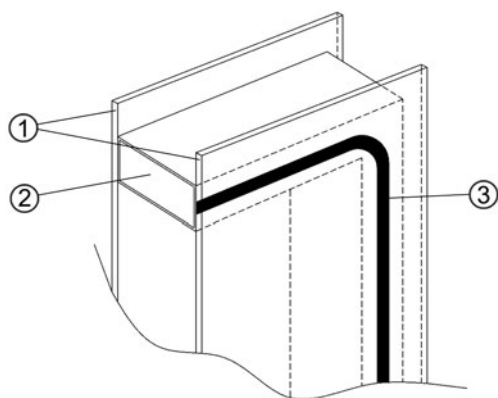


- 1) 2,5 mm SAN acrylic sheet (with or without coating)
- 2) Aluminium distance frame
- 3) Butyl sealing
- 4) Absorbing siccative
- 5) Silicone sealing

### 1.2.5.2 DAS / DSS

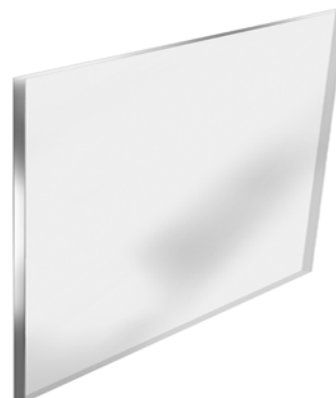
DAS: Double glazed "scratch resistant" Acrylic (SAN with coating), Single sealed

DSS: Double glazed Acrylic (SAN), Single sealed



- 1) 2,5 mm SAN acrylic sheet (with or without coating)
- 2) Aluminium distance frame
- 3) Butyl sealing

### 1.2.5.3 SA3 / SS3 / SH4



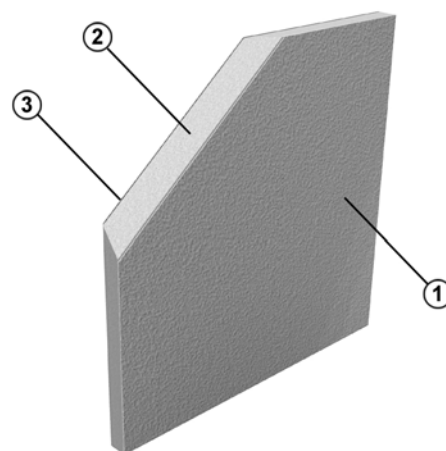
- SA3: Single pane of "scratch resistant" Acrylic (SAN with coating) 2,5 mm
- SS3: Single pane of Acrylic (SAN) 2,5 mm
- SH4: Single hardened glass 4 mm

## 1.2.6 Infills

The frame construction allows infills in all door leaves. Other materials than described below are available on request.

### 1.2.6.1 FA

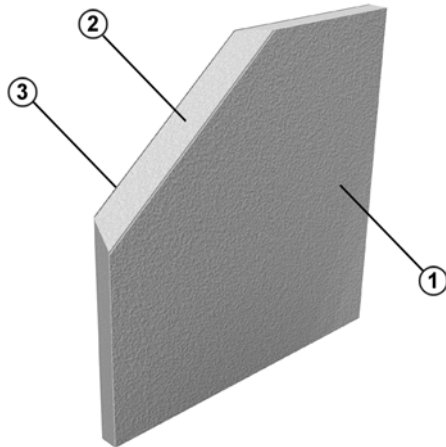
Mill finished stucco aluminium sheet outside and inside.



- 1) Stucco aluminium
- 2) Polystyrene foam
- 3) Stucco aluminium

#### 1.2.6.2 FA1

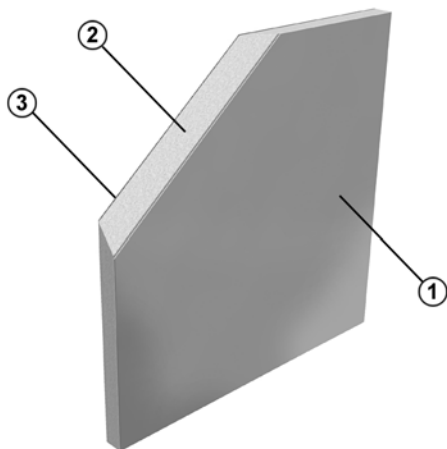
Mill finished stucco aluminium sheet outside, smooth aluminium inside.



- 1) Stucco aluminium
- 2) Polystyrene foam
- 3) Smooth aluminium

#### 1.2.6.3 FA2

Smooth 1 mm anodised aluminium sheets, outside and inside.



- 1) Smooth aluminium 1mm, anodised
- 2) Polystyrene foam
- 3) Smooth aluminium 1mm, anodised

#### 1.2.7 Passdoor

For easy access the ASSA ABLOY FD2050F folding door can be delivered with a passdoor. The passdoor can either be built in a door leaf or in a fixed section. It is also possible to have a door leaf as passdoor in cases where the door has a single leaf or an uneven numbers of leaves on one side.

##### 1.2.7.1 Passdoor in doorleaf

The passdoor is designed with a handle that ensures easy opening and closing of the passdoor. The passdoor is not designed to be an emergency exit, as it has a threshold.



##### Features:

- Always opening outwards, min. 90 degrees opening
- Hinged left or right
- Seals in passdoor frame reduce air permeability.
- Integrated passdoor switch if electrically operated
- All commonly used cylinder locks are available: Euro, Kaba, Abloy, Assa.

#### 1.2.7.2 Door leaf as a passdoor

The passdoor does not have a threshold and is delivered with a cremone lock as standard. The cremone handle ensures easy opening and closing of the passdoor. All commonly used cylinder locks are also available on request.



#### Features:

- No threshold
- Opening direction depends on installation side
- Only manually operated doors
- Cremone lock as standard
- All commonly used cylinder locks are available on request: Euro, Kaba, Abloy, Assa
- Max. recommended door height (DLH): Max. 4 m

#### 1.2.8 Fixed sections

Fixed sections can advantageously fill space around new doors that are smaller than the wall opening. Fixed sections are available in top and side sections. Fixed sections are supplied in the same color and construction as the door leaf.

A fixed section can be provided with a passdoor for two reasons: Safety and energy cost reduction.

- Safety: Putting a separate passdoor in a fixed section next to the industrial door separates pedestrian and vehicle traffic.
- Energy cost reduction: The opening space for frequent pedestrian traffic is minimized.



## 1.3 Manually operated door

The ASSA ABLOY FD2050F folding door can be opened and closed by hand, using a solid, easy to grip handle and a cremone lock.

### 1.3.1 Handle

For manual operation the ASSA ABLOY FD2050F folding door is supplied with a solid, easy to grip handle, installed in combination with an auto lock. The auto lock secures the door in the open position and must be released to close the door.



### 1.3.2 Locks

#### 1.3.2.1 Cremone lock

The standard cremone lock has an inside handle and can lock the door without the use of a key. Optionally an outside cremone handle can be installed on the cremone lock.



#### 1.3.2.2 Cylinder lock

For extra security a cylinder can be installed in combination with the cremone lock.

## 1.4 Electrically operated door

### 1.4.1 Electrical operation

The ASSA ABLOY FD2050F folding door with a configuration 2+0, 0+2 or 2+2 can be supplied or upgraded with an electrical operating system. The system consists of a mechanical transmission unit with an electrical operator and a control unit. Electrical operation gives access to the full program of Access and Automation functions, that can fulfill many operational needs related to traffic type and frequency, door weight, and temperature control.

### 1.4.2 CDM9 FD Operating system

The CDM9 FD operating system is a combination of the CDM9 FD Operator and a 950 door control system.

#### 1.4.2.1 CDM9 Operator

The CDM9 FD Operator is an electric motor that drives the door via a mechanical transmission unit. It can be retrofitted to an existing ASSA ABLOY folding door if the door is configured for electrical operation. The CDM9 FD Operator is installed directly on the mechanical transmission unit and does not require any special wall reinforcement. On the FD2050FCW the transmission unit is built from anti-corrosive parts to ensure a long life in a humid environment.



#### Key features:

- Smooth and silent
- Soft start and stop
- Life time: 100.000 door cycles.

#### 1.4.2.2 950 door control system

The standard 950 door control system is fully prepared for one or more physical upgrades from the entire range of automation systems. An automation system allows door operation by sensors or remote control.

This control unit contains a 3-digit diagnostics display that allows efficient troubleshooting and displays the number of door cycles completed. The number on the display shows numbers of door openings x1000. Yellow led in the lid indicates that the maintenance interval has been achieved. Factory setting is 20 000 cycles/365 days. A lit dot in the lower right corner of the display indicates that automatic closing is activated. A flashing dot in the lower right corner of the display indicates that the door has reversed five times in a row during automatic closing on force/main safety edge. Together with the service indicator, this extra feature allows advanced maintenance planning for users where the door is an essential element of internal logistics.

Additional functions such as magnetic loop, photocells, radar and radio are available.

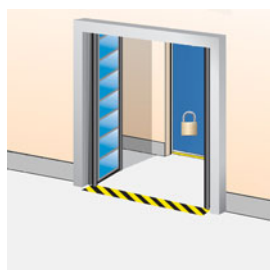


### 1.4.3 Access and automation

ASSA ABLOY offers a wide range of functions that allows advanced opening and safety control.

#### 1.4.3.1 Basic control functions

##### Interlocking

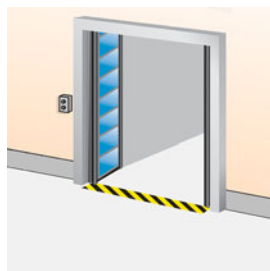


Developed for climate control or safety; If door A is open, door B cannot be opened. If door B is open, door A cannot be opened. An interlocked door can remember an open-command, if selected via a micro switch.

Circuit card Installed in control unit.

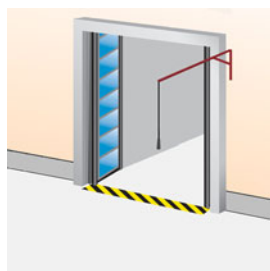
#### 1.4.3.2 External control functions

##### External push button box



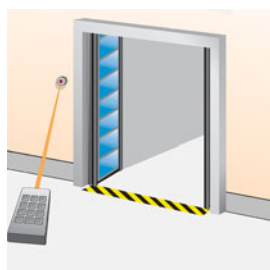
An extra control box is installed outside the building or inside close to the door if the main control unit needs to be installed away from the door opening. Installed on the inside or outside wall beside the door.

##### Pull-rope switch



A pull-rope switch above the door opening can be operated from e.g. a forklift truck. Pulling the rope opens a closed door or closes an opened door. Installed on the inside construction above the door.

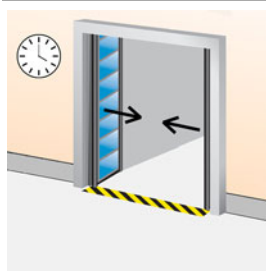
##### Remote control



A hand-held radio transmitter allows door operation from a vehicle or any position within 50-100 meters from the receiver and aerial at the door. For closing, the door can be provided with a photocell beam. Receiver installed in control unit, antenna installed on the wall beside the door.

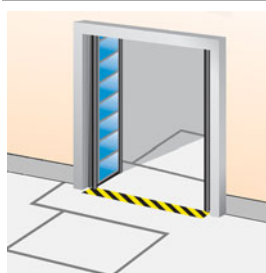
#### 1.4.3.3 Automatic control functions

##### Automatic closing



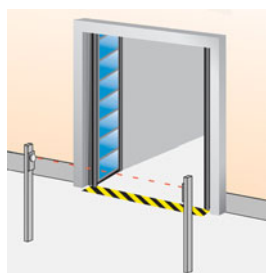
A programmable timer that closes the door after a specified time, counted from either the fully open position and/or from passing through the photocell beam. Adjustable micro switches in control unit.

##### Magnetic loop



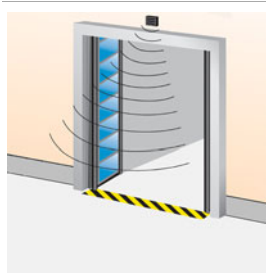
A sensor in the floor detects a metal object (usually forklift trucks, pallet trucks) and opens the door automatically. This is an ideal solution for frequent vehicle traffic. Installed on the outside, inside or both sides of the door in the floor.

##### Photocell open door



A set of photocells on pillars, on each side of the door. When a person or vehicle passes between the photocells, the beam is interrupted and the door opens. Photocells installed on pillars, away from the door.

##### Radar

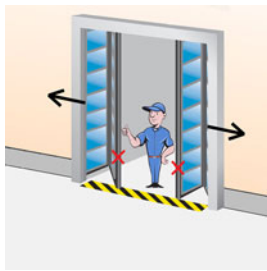


An infrared sensor above the door detects an object (person, vehicle) within a specified distance from the door and opens the door automatically. This is an ideal solution for frequent vehicle or personal traffic. Often combined with automatic closing. Installed on the inside or outside wall above the door.



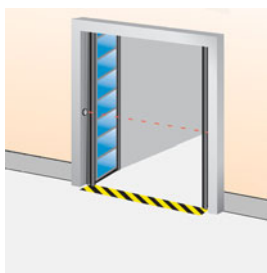
#### 1.4.3.4 Safety functions

##### Safety edge



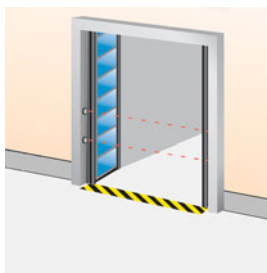
As a standard, all doors that have the impulse-open function or any form of automated closing, are equipped with a safety edge. The pneumatic sensor in the safety edge seal detects any obstruction between a closing door and reverses the door.  
Installed in the safety edge seal.

##### Safety photocells 1-channel



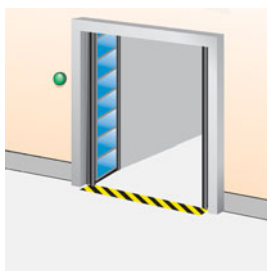
A set of a photocell transmitter and receiver is installed in the door opening. If the photocell beam is interrupted during closing, the door will stop in less than 30mm and reverse to the fully open position. Installed in the door opening.

##### Safety photocells 2-channel



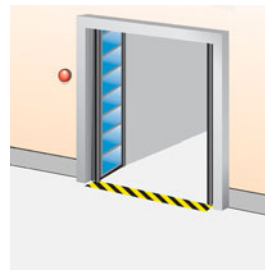
Two sets of photocell transmitter and receiver are installed in the door opening. If one or both photocell beams are interrupted during closing, the door will stop in less than 30mm and reverse to the fully open position. Installed in the door opening.

##### Warning lights - Green



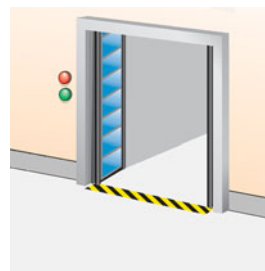
One or two green warning lights indicating the open position of the door by continuous light signal. Installed on the inside and/or outside wall beside the door.

##### Warning lights - Red



Two red warning lights giving information on the current door behaviour. Flashing light before or during door movement. Optional: Continuous light before and during door movement. Installed on the inside and outside wall beside the door.

##### Traffic lights - Red & Green



If traffic through a door needs to be directed; two red and two green traffic lights can be installed to indicate traffic direction. From the side where a vehicle is first detected to approach the door, the green traffic light comes on. The opposing side shows a red traffic light. Traffic from this direction must give way to the other. Usually installed in e.g. parking garages. Installed on the inside and outside wall beside the door.

#### 1.4.3.5 Additional functions

##### UPS battery backup



When mains failure cannot be permitted or an increased risk of mains failure is predicted, the UPS battery backup system can be installed to store enough energy for 5 door cycles. Installed on the inside wall beside the door.

##### Relay box



A sealed connection box makes it possible to safely connect external high-voltage equipment.

# 2. Specifications

## 2.1 Dimensions

### 2.1.1 Daylight width and daylight height

The standard ASSA ABLOY FD2050F folding door is delivered in the following size range:

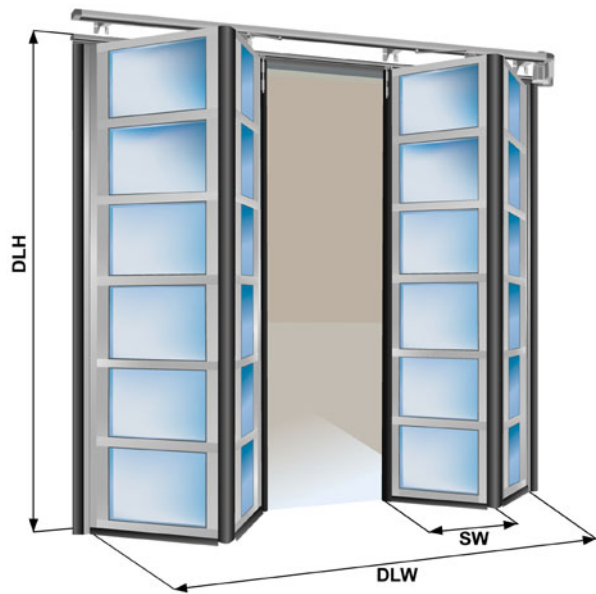
Standard door sizes	
	Daylight width (DLW)
Min.:	1020 mm
Max.:	7590 mm
	Daylight height (DLH)
Min.:	2000 mm
Max.:	6000 mm

Other sizes available on request.

### 2.1.2 Section sizes

Leaf width (SW):	553 - 1253 mm*
Thickness:	50 mm

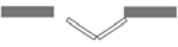
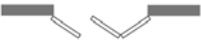
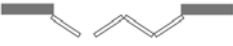
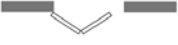
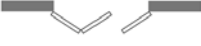


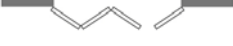
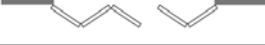
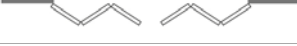
\*The total width of the door is equally divided over the leaves.



### 2.1.3 Windows and infills

Daylight height:	No. of windows / infills per leaf:
2000 - 2312 mm	3
2313 - 3009 mm	4
3010 - 3706 mm	5
3707 - 4403 mm	6
4404 - 5000 mm	7

## 2.2 Configurations

Configuration	Dimensions (DLW)	Manual door	Electric door	Door assembly
0 + 2	1068 mm - 2460 mm	■	■	
1 + 2	1658 mm - 3750 mm	■		
1 + 3	2221 mm - 5020 mm	■		
2 + 0	1068 mm - 2460 mm	■	■	
2 + 1	1658 mm - 3750 mm	■		
2 + 2	2300 mm - 5020 mm	■	■	
2 + 3	2830 mm - 6320 mm	■		
3 + 1	2221 mm - 5020 mm	■		
3 + 2	2830 mm - 6320 mm	■		
3 + 3	3393 mm - 7590 mm	■		

■ Available

\* Other configurations available on request

2.3 Passdoor

2.3.1 Passdoor in doorleaf

Passdoor size limitations

	Min width	Max width	Min height	Max height
Door leaf	835 mm	1253 mm	-	-
Passdoor	596 mm	1013 mm	2000 mm	2600 mm

Specifications

Lock:	Depends on market
Treshold height:	189 mm incl. bottom seal

This passdoor is only available in the second door leaf from the wall.



2.3.2 Doorleaf as a passdoor

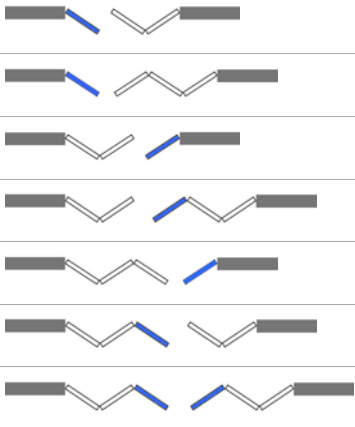
Passdoor size limitations

Minimum height	2000 mm
Maximum daylight height	3300 mm
Max. recommended door height (DLH)	Max. 4 m.

Specifications

Treshold height:	None
Handle/lock	Standard: Cremone lock Optional: Lock with roller latch
Lock	Depends on market

This passdoor is only available as the first or third door leaf from the wall.



## 2.4 Door operation

### 2.4.1 Selection guidelines for operation type


Door size m <sup>2</sup>	Openings / day			
	1-5/day	5-10/day	10-15/day	>25/day
0 – 10	<input type="checkbox"/> / <input checked="" type="checkbox"/>	<input type="checkbox"/> / <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> / <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> / <input checked="" type="checkbox"/>
10 – 20	<input type="checkbox"/> / <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> / <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> / <input checked="" type="checkbox"/>
> 20 - 42	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> / <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> / <input checked="" type="checkbox"/>
> 42*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Manual operation

☒ Electrical operation

☒ Automated operation

### 2.4.2 950 door control system functions

Functions	950 FD
	
Open (by impulse)	<input checked="" type="checkbox"/>
Stop	<input checked="" type="checkbox"/>
Close (by impulse)	<input checked="" type="checkbox"/>
Safety edge	<input checked="" type="checkbox"/>
Open function	<input checked="" type="checkbox"/>
One button function	<input checked="" type="checkbox"/>
Display (diagnostics)	<input checked="" type="checkbox"/>
Service indicator	<input checked="" type="checkbox"/>

### 2.4.3 950 door control system - Selection guidelines for automation

The “Automation D-kits” are packages of common combinations. These kits can also be supplemented by “additions to D-kits”.


Automation D-kits	D1	D2	D3	D4	D5	D6
Interlocking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Magnetic loop		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Traffic lights - Green + Red					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Warning lights - Red	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Additions to D-kits						
Warning lights – Green	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Traffic lights - Green + Red	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Relay box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☒ Standard

☐ Option / Available



The following options can be individually selected to add functionality to the control unit.

Functions optional	950 FD
	
<b>Complete kits</b>	
Automation D-kits	<input type="checkbox"/>
<b>Basic control functions</b>	
Interlocking	<input type="checkbox"/>
<b>External control functions</b>	
External push-button box	<input type="checkbox"/>
Pull-rope switch	<input type="checkbox"/>
Remote control open/stop/close	<input type="checkbox"/>
Remote control 1-button function	<input type="checkbox"/>
<b>Automatic control functions</b>	
Automatic closing	<input type="checkbox"/>
Photocell open door	<input type="checkbox"/>
<b>Safety functions</b>	
Safety photocells 1-2	<input type="checkbox"/>
<b>Additional functions</b>	
UPS Battery backup	<input type="checkbox"/>
Relay box	<input type="checkbox"/>

■ Standard

□ Option / Available

## 3. CEN Performance

### 3.1 Lifetime expectation

100.000 door cycles or 20 years (in a normal industrial environment and with the recommended annual service check)

### 3.2 Resistance to windload

EN12424	Manually operated door	Electrically operated door
DLW 7590 mm x DLH 6000 mm	Class 2	-
DLW 3500 mm x DLH 3000 mm	Class 3	Class 4

### 3.3 Resistance to water penetration

EN12425	Without passdoor
Test result	Class 3

### 3.4 Air permeability

EN12426	Without passdoor
Test result	Class 2

### 3.5 Thermal transmittance

EN12428	Double Acrylic	Single Acrylic and Single Hardened
Thermal transmittance	3,75 W/m <sup>2</sup> K*	4,45 W/m <sup>2</sup> K*

\* These values are calculated values for a complete, installed door of 4000 x 4000 mm and must be confirmed by an official test.

### 3.6 Operating forces and safe openings

EN12453 & EN12604	Crushing force N	Crushing force N	Crushing force N
Opening gap mm	200 mm from lateral border right from outside	In the middle of the door opening	200 mm from lateral border left from outside
50 N	passed	passed	passed
300 N	passed	passed	passed

The crushing force is the force needed for the safety edge to be activated. The maximum force allowed, according to EN12453 safety in use of power operated doors, is 400 N within a period of time of 0.75 s.

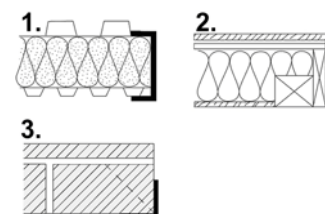
## 4. Building and space requirements

### 4.1 Building preparations

#### 4.1.1 Installation preparations

The ASSA ABLOY FD2050F folding door is shipped in parts and installed on-site. All necessary installation material is included. For every building type ASSA ABLOY offers specific installation kits to install the door in the building facade.

- 1) Steel
- 2) Wood
- 3) Brick & Concrete



#### 4.1.2 Electrical preparations

The manually operated door needs no electrical supply.

For an electrically operated door, the following environment criteria and electrical supplies are required for the operator to function properly:

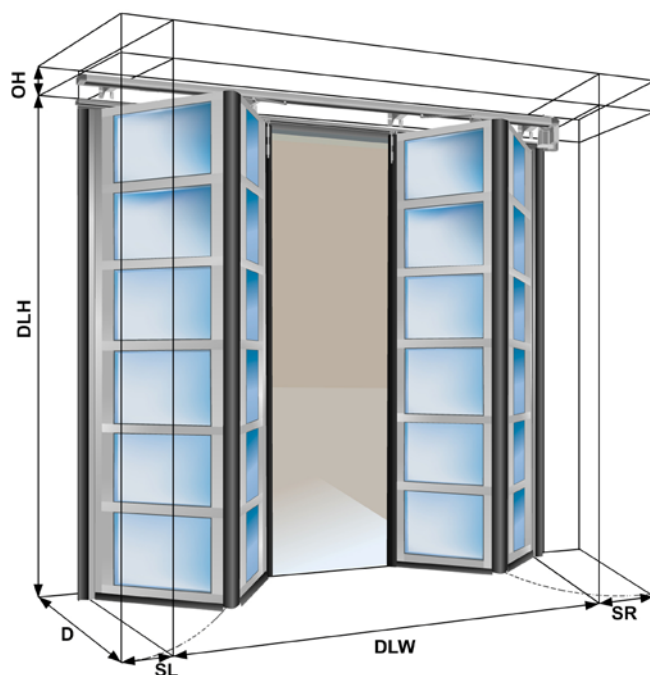
	<b>CDM9 FD</b>
<b>Voltage supply:</b> (+/- 10%)	230V AC 1-phase 50/60Hz, 2 A, fuse 10 A
<b>Power supply:</b>	0,5 kW
<b>Degree of protection:</b>	IP65 mech. Unit, IP55 control unit (Excluding the CEE-plug which is IP44)
<b>Max. allowed total weight of door leaves:</b>	750 kg
<b>Working temperature range:</b>	-20 °C to +60 °C*
<b>Operating factor:</b>	ED = 30% S3 10 min, non-continuous S3 10 min. intermittent
<b>Installation preparations:</b>	-

\*) Normal opening speed in temperatures down to -8°C. In the temperature range -8 °C to -20 °C the opening speed is reduced during the first cycle in a two-hour period to prolong the operator's lifetime. An optional heating element is available for a working range down to -30 °C

## 4.2 Space requirements

### 4.2.1 Dimension terminology

DLW	= Daylight Width	The width of the clear opening.
DLH	= Daylight Height	The height of the clear opening.
OH	= Headroom	The space required above the daylight height.
SL	= Side space Left	The space required beside the daylight width.
SR	= Side space Right	The space required beside the daylight width.
D	= Depth	The space required to move the door leaves.
SW	= Section / leaf width	The width of a single door leaf.



### 4.2.2 Space requirements manual doors

Configuration	SL	SR	OH
0+2	150	185	150
2+2	185	185	150
2+0	185	150	150

\* Dimensions in mm.

#### 4.2.3 Space requirements electrically operated doors

##### No plastic cover on operator\*

Configuration	Operator position left			Operator position right			Operator position center		
	SL	SR	OH	SL	SR	OH	SL	SR	OH
0+2	155	300	235	150	500	235	N.A.	N.A.	N.A.
2+2	440	300	235	300	500	235	300	300	375
2+0	440	85	235	300	215	235	N.A.	N.A.	N.A.

\* Dimensions in mm.

##### With plastic cover on operator\*

Configuration	Operator position left			Operator position right			Operator position center		
	SL	SR	OH	SL	SR	OH	SL	SR	OH
0+2	175	300	270	150	525	270	N.A.	N.A.	N.A.
2+2	460	300	270	300	525	270	300	300	395
2+0	460	150	270	300	240	270	N.A.	N.A.	N.A.

\* Dimensions in mm.

#### 4.2.4 Depth

The minimal required depth is the width of a door leaf (SW 553-1253mm) + 180 mm

# 5. Service you can rely on



**Gold**

**The ultimate protection**

With full coverage, Gold Service enables you to plan and budget your expenses annually.

- Spare parts for emergency calls
- Labor and travel costs for emergency calls
- Replacement of components according to preventive maintenance schedule and to fulfill legislative and safety requirements



**Silver**

**Added advantages**

With cover for all service calls during business hours, Silver Service offers you peace of mind.

- Labor and travel costs for emergency calls
- Preventive maintenance



**Bronze**

**Scheduled Service**

With scheduled on site visits, Bronze Service means you know that your doors and docking systems will be regularly serviced and inspected.

- Preventive maintenance

**Included in all packages**

1-4 scheduled maintenance visits per year	24/7 priority service hotline and fast response	Safety, compliance and quality control checks	Documentation reports provided on site
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**Expert service you can rely on**

A healthy business enjoys a steady flow of goods, services and people through its entrances every day. But heavy traffic puts entrances under pressure as every component works to keep them running.

ASSA ABLOY Entrance Systems offer the industry's most complete, flexible service solutions. Because even something as robust and well-engineered as an ASSA ABLOY door or docking system needs to be serviced to stay in great working order.

**Pro-active care packages**

An ASSA ABLOY service agreement gives you service you can rely on. We have specialized local service technicians on call to take care of your service needs. Equipped with a wide range of spare parts and expertise, to keep your industrial doors and docking systems running.

With an ASSA ABLOY service agreement you can ensure reliable, safe and sustainable operations at every entrance under your agreement, including doors and docking systems, independent of brand.

**ASSA ABLOY e-maintenance™ (optional add-on)**

For an online overview of your entrance systems and history, add ASSA ABLOY e-maintenance™ to your service package for:

- Easy access to real-time data on all your doors
- Planning, order and service information
- Overview that helps you control lifecycle costs



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