



record FlipFlow EXTENDED

User manual

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List of changes

List of changes

Change	Location
Complete revision of all Sections and content	Entire document
New Section structure	Entire document
Revision of all graphics	Entire document

1 Safety

1.1 Presentation of warning signs

Various symbols are used in this guide for easier understanding:



NOTICE

Useful advice and information to ensure correct and efficient workflow of the system.



CAUTION

Against a potential hazardous situation that can lead to minor personal injury and property damage.



WARNING

Against a latent hazardous situation that can lead to severe injuries or death and cause substantial property damage.



DANGER

Against an imminent hazardous situation that can lead to severe injury or death.



DANGER

Against an imminent or latent hazardous situation that could lead to electric shock and cause serious injury or death.

1.2 Intended purpose of use

The system is designed exclusively for use as a pedestrian passage. The installation must only occur in dry areas. If there are deviations, then proper waterproofing and water drains will be required on site.

Any other application or use beyond this purpose is not considered to be an intended purpose. The manufacturer bears no liability for any resulting damage; the operator alone shall bear the associated risk.

The intended purpose also includes observation of the operating conditions specified by the manufacturer, in addition to regular care, maintenance and repair.

Interventions in or alterations to the installation performed by non-approved maintenance technicians exclude the manufacturer's liability for consequential damages.



NOTICE

The operation of an automatic door in combination with a wicket door must only take place if the latter is in a secured position.

1.3 General hazards

The following section lists hazards that can be caused by the system even when used as intended.

To reduce the risk of malfunction, damage to property or injury to persons and to avoid dangerous situations, the safety instructions listed here must be observed.

The specific safety instructions in the other sections of this manual must also be observed.



DANGER

Electric Shock!

In case of contact with live parts, there is an immediate danger to life due to electric shock. Damage to or removal of the insulation or individual components can be life-threatening.

- a) Before starting work (cleaning, maintenance, replacement) on active parts of electrical systems and equipment, ensure that all poles are voltage free and that this is maintained for the duration of the work.
- b) Keep moisture away from live parts. This can lead to a short circuit.
- c) Never bridge fuses or put them out of operation.
- d) Do not connect the power supply until all work has been completed.
- e) Have work on the electrical system performed by qualified personnel only.



DANGER

Serious or fatal injuries!

If safety devices of the fire protection system do not function properly, there is a risk of serious or fatal injuries.

- a) Never disconnect the fire protection system from the power supply overnight.
- b) Do not disassemble, put out of operation or manipulate safety devices.
- c) Do not remove safety instructions on the system.
- d) Never block, hold open or otherwise prevent fire doors from closing.
- e) Have inspection, service and maintenance of the fire protection system carried out in accordance with locally applicable regulations or according to a maintenance contract.
- f) Have the fire protection system checked and maintained according to the state of the art.



WARNING

Serious injuries and major material damage.

Incorrect mounting can lead to serious injuries and/or cause major material damage.

- a) Observe and comply with all important instructions regarding safe assembly.



CAUTION

Risk of malfunctions, material damage or injuries!

Improper settings can lead to malfunctions, material damage or injuries.

- a) Do not disconnect the system from the power supply overnight.
- b) Settings should only be made by personnel qualified to do so.
- c) Do not disassemble, put out of operation or manipulate safety devices.
- d) Have faults rectified by specialist personnel or by personnel qualified to do so.
- e) Have service and maintenance carried out according to locally applicable regulations or according to a maintenance contract.



CAUTION

Risk of malfunctions, material damage or injuries!

Insufficient or inattentive cleaning or care of the system can lead to malfunctions, material damage or injuries.

- a) Check the sensors regularly for dirt and clean them if necessary.
- b) Regularly remove dirt accumulations in the floor rail or under the floor mat.
- c) Keep the system free from snow and ice.
- d) Do not use aggressive or caustic cleaning agents.
- e) Use road salt or loose chippings only conditionally.
- f) Lay the floor mat without folds and flush with the floor.
- g) Equipment required for cleaning purposes such as ladders or similar must not be leaned on or attached to the system.



CAUTION

Risk of material damage or injuries!

The door can open, close or turn unexpectedly. This may result in material damage or injuries.

- a) No persons may be present in the opening area of the system.
- b) Ensure that moving objects such as flags or parts of plants do not enter the detection range of the sensors.
- c) Do not make any settings on the control unit when the system is in use.
- d) Have faults rectified immediately by specialist or personnel qualified to do so.
- e) Remove objects from the opening area.
- f) Do not disassemble, put out of operation or manipulate safety devices.
- g) Do not rush through a closing system.



CAUTION

Risk of bruising and severing of limbs!

If the system moves, careless behaviour can lead to serious injuries to limbs or severance of limbs.

- a) Do not reach in when parts of the system are moving.
- b) Keep a distance when parts of the system move.
- c) Do not bump into or touch the system when it is moving.
- d) Do not open or remove protective covers during operation.
- e) Do not permanently remove covers from the system.
- f) Only carry out inspection, service, maintenance and cleaning when the system is stationary and switched off.



CAUTION

Risk of material damage or injuries!

If safety devices are not functioning, manipulated or put out of operation, there is a risk of material damage or injuries that can lead to death.

- a) Never disable or manipulate safety devices.
- b) Have inspection, service and maintenance of the safety devices carried out according to local regulations or according to a maintenance contract.



CAUTION

Risk of malfunctions, material damage or injuries!

If unauthorised persons use the system, there is a risk of malfunction, material damage or injuries.

- a) Children under 8 years of age may only use the system under supervision.
- b) Children must not play, clean or maintain the system.
- c) Persons with limited physical, sensory or mental abilities as well as persons with insufficient knowledge or experience may only use the system under supervision or must have received and understood instructions to do so.



NOTICE

The country-specific regulations must be observed and complied with.



NOTICE

To avoid malfunctions, moving objects such as flags or parts of plants must not be allowed to enter the detection range of the sensors.



NOTICE

The installation must be inspected during the function and safety check for imbalance and signs of wear or damage to cables, springs and fastening parts.

The equipment must NOT be used if repair or adjustment work needs to be carried out.



NOTICE

Before work can be started, persons must be barred from the system and the danger area.

1.4 State of technology

The system has been developed in accordance with the state of the art and recognized safety regulations and, depending on the options and dimensions, meets the requirements of the Machine Directive 2006/42/EC.

Nevertheless, hazards to the user may arise if the system is not used as intended.



NOTICE

Installation, commissioning, inspection, maintenance, and repair work must only be conducted by qualified, trained and authorized technicians.

After commissioning or repair work, fill in the check list and give it to the customer for safe keeping.

We recommend obtaining a service agreement.

1.5 Personal protective equipment

Personal protective equipment is used to protect persons from adverse effects on health. Personnel must wear personal protective equipment during the various work activities on and with the system.

Personal protective equipment is explained below:



Hearing protection is used to protect the hearing from noise. As a rule of thumb, hearing protection is compulsory from when normal conversation with other people is no longer possible.



The head protection serves to protect against falling and flying parts and materials. It also protects the head from bumping into hard objects.



Protective goggles protect the eyes from flying parts, dust, splinters or splashes.



Protective gloves are designed to protect hands from friction, abrasions, punctures or serious injury and from burning caused by contacting hot surfaces.



Safety shoes protect the feet from crushing, falling parts and slipping on surfaces. The puncture resistance of the shoes ensures, that pointy objects do not penetrate the foot.



The high-visibility vest is used to make the personnel stand out and therefore to be seen. With improved visibility and attention, the high-visibility vest protects personnel in busy work areas from collisions with vehicles.

Depending on the place of work and the working environment, the protective equipment varies and must be adapted accordingly. In addition to protective equipment for specific work, the work site may require other protective equipment (for example a harness).

In hygiene-protected areas, special or additional requirements of personal protective equipment may be required. These requirements must be considered when choosing personal protective equipment. If there is any uncertainty regarding the choice of personal protective equipment, the safety officer must be consulted at the place of work.

1.6 Spare parts and liability

Reliable and trouble-free operation of the door is only guaranteed when using parts that were recommended by the manufacturer. The manufacturer declines any liability for damages resulting from unauthorized modifications to the door or the use of parts that are not permitted.

2 General information

2 General information

2.1 Purpose and use of the instructions

These instructions are an integral part of the system and enable efficient and safe handling of the system. In order to ensure proper functioning, the instructions must be accessible at all times and kept in the immediate area of the system.

Although only the male form has been chosen for reasons of better legibility, the information refers to members of both sexes.

The operator must have read and understood the manual before starting any work. The basic requirement for safe working is to follow the safety instructions and the handling instructions. In addition, the local regulations and safety rules apply.

The manual can be handed over in extracts to instructed personnel who are familiar with the operation of the system.

The illustrations are for basic understanding and may differ from the actual presentation. Specific representations are contained in the drawings.



NOTICE

A replacement of the instructions is available from the supplier or on the website.

2.2 Copyright

The copyright of the instructions remain at:

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It is prohibited to reproduce, distribute or use the manuals for purpose of competition without the written authorization of ASSA ABLOY.

Violation of the here stated copyrights will be prosecuted and fined with compensation of damage.

2.3 Product identification

The nameplate located on the door provides accurate identification of the product.

2.4 Manufacturer

ASSA ABLOY Entrance Systems AB

Lodjursgatan 10

SE-261 44, Landskrona

SWEDEN

2.5 Target groups



CAUTION

Risk of injury!

If unqualified personnel work on the system or are in the danger zone of the system, danger can occur, which can cause serious injuries and considerable material damage.

- a) All work must be carried out by approved personnel only.
- b) Keep unapproved personnel away from danger areas.

This operating manual is intended for the target groups listed below:

- Operating entity of the system:
the person who is responsible for the technical maintenance of this system
- Operator of the system:
the person who operates the system every day and has been suitably instructed

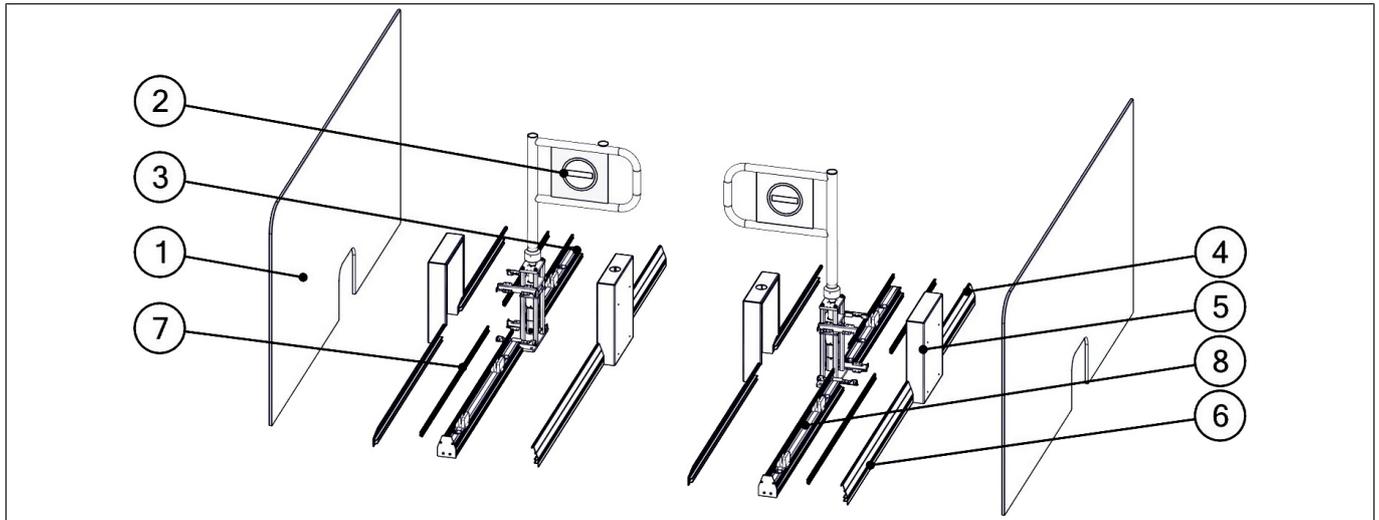
2.6 Definition of terms

Term:	Explanation:
System	<p>The term is also used in these instructions as a synonym for the product. Door operators, revolving doors, sliding doors, etc. are referred to as a system.</p> <p>If information in these instructions refers to a specific type, this is shown accordingly in the text.</p>
User	Users are all persons who use the system.
System operator	The respective owner is referred to as the system operator, regardless of whether they operate the system as the owner or pass it on to third parties.
Authorized representative	The authorized representative takes over certain parts of the manufacturer's obligations about fulfilling the requirements of the Machinery Directive. In particular, the authorized representative may also place the system on the market and/or sign EC declarations of incorporation.
Qualified personnel	<p>Qualified personnel are authorized and appropriately trained to perform the following work:</p> <ul style="list-style-type: none"> – Disassembly, Assembly, Commissioning, Operation, Audit, Maintenance, Troubleshooting, Decommissioning <p>The qualified personnel have several years of professional experience in the technical field, e.g., as mechanics or machine fitters.</p> <p>The qualified personnel are aware of the residual risks arising from the installation site and, due to their professional training, knowledge, and experience, can carry out the work assigned to them and to independently identify and avoid possible danger points.</p>
Manufacturer	The manufacturer is whoever designs and/or builds machinery or incomplete machinery under the scope of the Machinery Directive.
Life phases	All phases of the system's condition and use are referred to as life phases. This applies from the time the system leaves the factory until it is disposed of.
Personnel	All persons who carry out activities on and with the system are referred to as personnel. Personnel can be, for example, the operator, the cleaning staff, or the security staff. The personnel meet the personnel qualifications required by the manufacturer.
Service technician	Experts and specialists or representative authorized by the manufacturer to perform commissioning, maintenance, and servicing.

3 Description

3 Description

3.1 Product overview



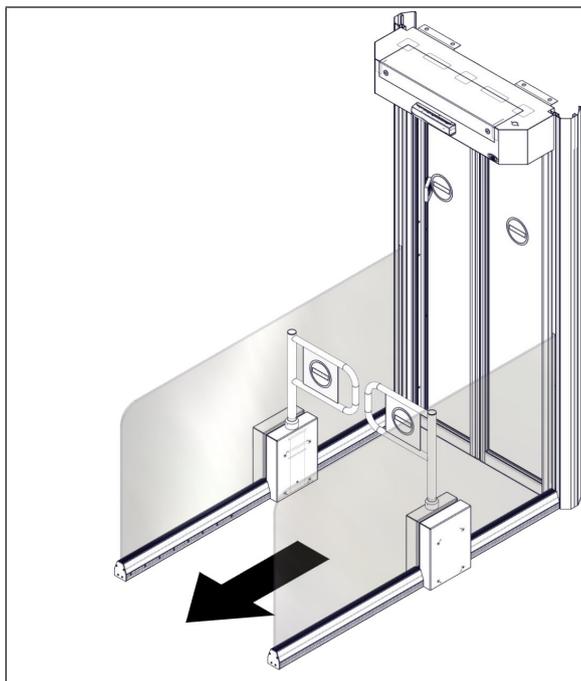
Position	Quantity	Description
1	2	Glazing side panels
2	2	Locking bracket complete
3	2	Bottom tubes short
4	4	Short aperture (2x outside and 2x inside)
5	4	Cover for locking yoke drive
6	4	Long cover (2x outside and 2x inside)
7	1	Light grid with transmitter and receiver
8	2	Bottom tubes long



NOTICE

The parts list listed here partly contains complete components which have already been assembled at the factory, such as locking brackets and floor pipes.

3.2 General Description



Design principle

The FlipFlow **TWIN**, **TRIPLE** or **WIDE** is designed for automatic handling of passenger traffic in and around airports and other security-sensitive buildings. People walk through the corridor in only one direction.

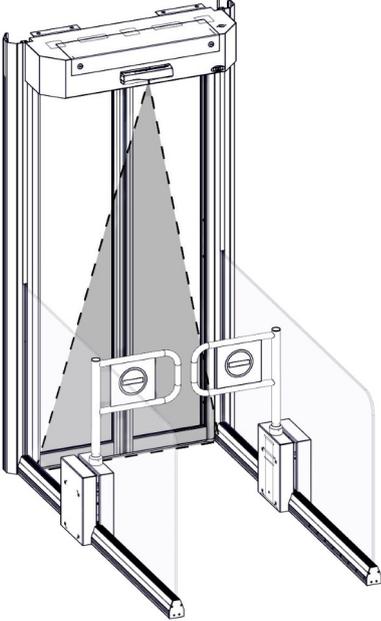
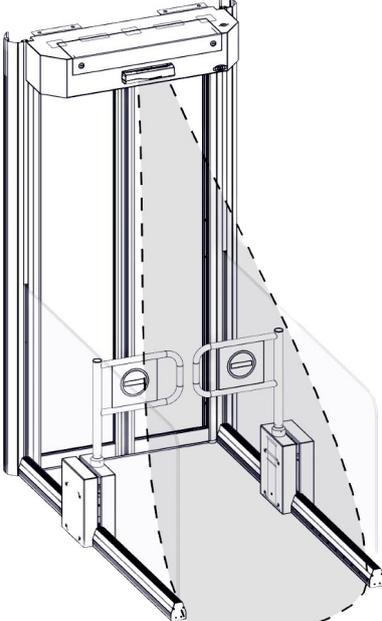
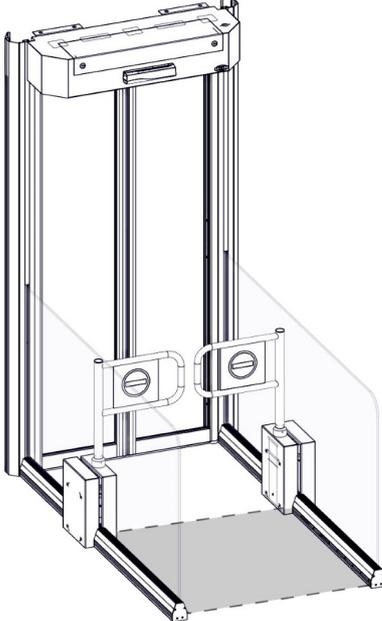
The FlipFlow system can optionally be equipped with an extended range (**EXTENDED**) on the output side.

The **EXTENDED** (Extended Area) option provides additional security. The locking bar barrier makes uncontrolled access by persons against the walking direction more difficult.

Applications:

- At airports between public areas and security zones (e.g. landside/airside)
- For the protection of other security sensitive areas such as ports and railway stations
- For controlling access to public buildings or industrial facilities
- For secondary inputs that are not monitored

3.3 Hedging components (options)

		
Infrared safety sensor of the radar combination detector	Detection field of the sensor combination detector	Light grids

Monitoring between exit door and locking bracket

At the top of the drive box of the exit door there is a direction-detecting sensor combi detector on the exit side. As soon as the exit door is closed and a person is within the detection range (light curtain) of the infrared safety sensor, the locking bracket opens automatically.

If this person is too long in the detection area (light curtain) of the infrared safety sensor, an alarm is triggered.

Monitoring behind the Extended gate

If a person is behind the closed locking bow and an opening command is pending, the locking bow remains closed. The Extended gate does not open automatically and can only be pushed open manually.

If this person is too long behind the closed locking bar, i.e. the person is in the detection field of the light grid, an alarm is triggered.

Return alarm: Light grids are mounted in the lower horizontal profiles for protection. If a person wants to run back, they enter the light beam of the light grid. The movement is detected by the sensor motion detector, which triggers a return alarm.

4 Inspection and maintenance

4 Inspection and maintenance

Regular inspection and maintenance of the system by trained and authorized personal from the manufacturer, is the best guarantee for long life and trouble-free secure operation.

These control and maintenance operations are required at regular intervals, following the manufacturer's instructions and the relevant legal requirements.

4.1 General remarks



DANGER

Electric Shock!

In case of contact with live parts, there is an immediate danger to life due to electric shock. Damage to or removal of the insulation or individual components can be life-threatening.

- a) Before starting work (cleaning, maintenance, replacement) on active parts of electrical systems and equipment, ensure that all poles are voltage free and that this is maintained for the duration of the work.
- b) Keep moisture away from live parts. This can lead to a short circuit.
- c) Never bridge fuses or put them out of operation.
- d) Do not connect the power supply until all work has been completed.
- e) Have work on the electrical system performed by qualified personnel only.



NOTICE

Specific inspections and maintenance may only be carried out by a specialist or a person trained for this purpose. The authorization of these persons is carried out exclusively by the manufacturer. The scope, result and time of the periodic inspections and maintenance must be recorded in an inspection book and a checklist. These documents must be kept by the operator.



NOTICE

The testing and/or servicing interval according to the manufacturer's specification is at least 1 to 2 times a year.



NOTICE

The recommended and planned spare and wear parts can be requested from your service centre.

According to current legislation, the operator of an automatic door system is responsible for its maintenance and safety.

With the care of the installation by the operator, accidents or defects can be avoided.

Testing

Type of test	Action
Visual inspection	Check door leaves, guides, bearings, limiting devices, sensors, and the securing of crushing and shearing points for damage.
Mechanical inspection	Check fastenings for tight fit.
Safety check (exit and escape routes)	Check sensors, safety devices, and monitoring devices for tight fit and damage.

Type of test	Action
Function testing	Check functioning of switches, operators, controllers, power or energy storage devices, and sensors. Also check the adjustment of the safety devices and the setting of all movement sequences including the end points.
Test run	Final overall review is carried out.

Servicing

Type of servicing	Action
Adjustment and cleaning	Clean and adjust bearings, sliding points, and power transmission. Check relevant fastening screws and retighten if necessary.

For documentation and information purposes, the testing and servicing work as well as the condition of the system are recorded in a test log book. The test log book must be kept for at least one year or until the next testing/servicing.

4.2 Operator duties

Personal protection requires compliance with the standards and guidelines for publicly accessible facilities.

The system operator is responsible for carrying out testing and servicing.



NOTICE

The system must be inspected by an expert before initial commissioning and subsequently according to the manufacturer's instructions or at least once a year.



NOTICE

The installation must be inspected during the function and safety check for imbalance and signs of wear or damage to cables, springs and fastening parts.

The equipment must NOT be used if repair or adjustment work needs to be carried out.



CAUTION

Risk of malfunctions, material damage or injuries!

Insufficient or inattentive cleaning or care of the system can lead to malfunctions, material damage or injuries.

- a) Check the sensors regularly for dirt and clean them if necessary.
- b) Regularly remove dirt accumulations in the floor rail or under the floor mat.
- c) Keep the system free from snow and ice.
- d) Do not use aggressive or caustic cleaning agents.
- e) Use road salt or loose chippings only conditionally.
- f) Lay the floor mat without folds and flush with the floor.
- g) Equipment required for cleaning purposes such as ladders or similar must not be leaned on or attached to the system.

4 Inspection and maintenance

Tasks system operator

Task	Personnel	Time of implementation	Entry in the inspection book
Maintenance and cleaning of the sensors for safety and triggering	System operator	Weekly, or as required	No
Function and safety check	System operator	Monthly	No

Tasks of qualified person

The inspection is carried out according to the manufacturer's test instructions.

The inspection usually takes place at the same time as the maintenance of the system.

The inspection also checks whether no changes have been made to the system since the last inspection and whether it meets the current safety requirements.

Task	Personnel	Time of implementation	Entry in the inspection book
Acceptance test	Qualified person	After assembly of the door system ready for operation	Yes
Servicing	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes
Test (inspection)	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes

5 Taking out of service and disposal

5.1 Decommissioning

When shutting down or taking out of service, the system is disconnected from the mains supply and any existing battery is unplugged.



NOTICE

After each temporary shutdown a new commissioning must be carried out.

5.2 Dismantling and disposal



NOTICE

All machine parts must be sorted by type of material and disposed according to local regulations and guidelines.



NOTICE

The door systems can be completely disassembled in reverse order.

The installation mainly consists of the following materials:

Aluminum:

- Linking profiles
- Gearbox, Drive panel
- Door leaves profiles and side profiles
- Various profiles and small parts

Steel / iron parts:

- Stainless steel casing, Floor panel, Box recess for floor installation
- Optional spacer or reinforcement profiles
- Gear components, springs
- Various small parts like fittings, covers, linking parts, etc.

Glass:

- Door leaves and side panels

Various electronic and electromechanical components:

- Sensors, control, and operator components
- Batteries and rechargeable batteries

Various plastics:

- Rollers
- Cable clips, coupling and linking parts
- Sealing profiles
- Casing of electromechanical components and sensors



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