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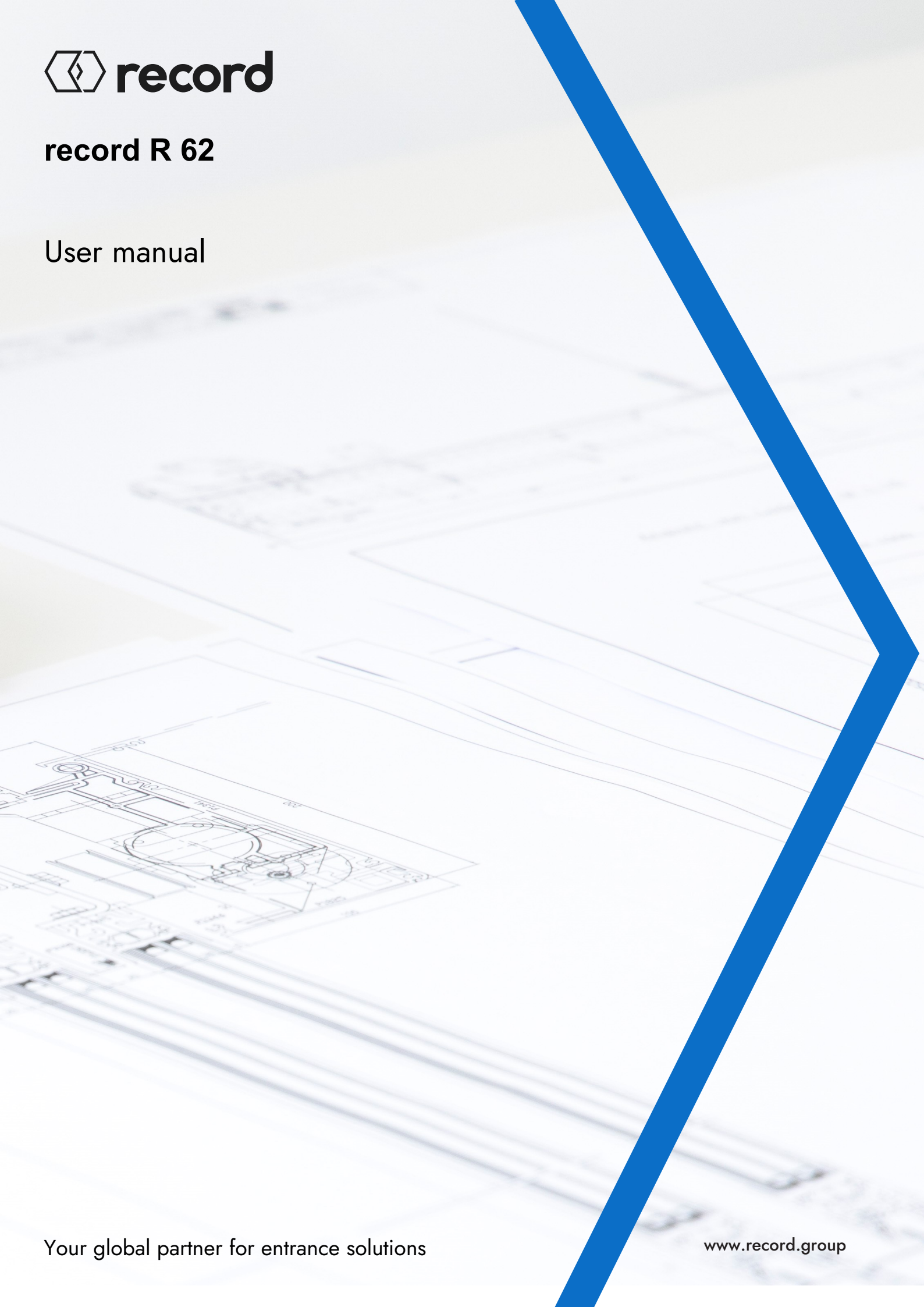
User manual



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Document identification

Article nr.: 121-006454540
Version: 2.2
Publication date: 25/04/2022

Translation of the original manual

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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.

IMPORTANT

Specific details which are essential for trouble-free operation of the system.

IMPORTANT

Important details which must be read for proper function 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-authorized maintenance technicians exclude the manufacturer's liability for consequential damages.

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.

IMPORTANT

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

IMPORTANT

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

CAUTION

Risk of malfunctions, material damage or injury due to improper settings!

a) Improper settings can lead to malfunctions, material damage or personal injury.

⇨ Do not disconnect the system from the power supply overnight.

⇨ Settings should only be made by personnel qualified to do so.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Have faults rectified by specialist personnel or by personnel qualified to do so.

⇨ 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 due to insufficient or missing cleaning or care!

a) Insufficient or inattentive cleaning or care of the system can lead to malfunctions, damage to property or injury to persons.

⇨ Check the sensors regularly for dirt and clean them if necessary.

⇨ Regularly remove dirt accumulations in the floor rail or under the floor mat.

⇨ Keep the system free from snow and ice.

⇨ Do not use aggressive or caustic cleaning agents.

⇨ Use road salt or loose chippings only conditionally.

⇨ Lay the floor mat without folds and flush with the floor.

⇨ 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 injury due to unforeseen opening, closing or turning of the door!

a) The door can open, close or turn unexpectedly. This may result in damage to property or injury to persons.

⇨ No persons may be present in the opening area of the system.

⇨ Ensure that moving objects such as flags or parts of plants do not enter the detection range of the sensors.

⇨ Do not make any settings on the control unit when the system is in use.

⇨ Have faults rectified immediately by specialist or personnel qualified to do so.

⇨ Remove objects from the opening area.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Do not rush through a closing system.

CAUTION

Risk of bruising and severing of limbs!

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

⇨ Do not reach in when parts of the system are moving.

⇨ Keep a distance when parts of the system move.

⇨ Do not bump into or touch the system when it is moving.

⇨ Do not open or remove protective covers during operation.

⇨ Do not permanently remove covers from the system.

⇨ Only carry out inspection, service, maintenance and cleaning when the system is stationary and switched off.

CAUTION

Danger of material damage or injury due to non-functioning safety devices!

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

⇨ Never disable or manipulate safety devices.

⇨ Have inspection, service and maintenance of the safety devices carried out according to local regulations or according to a maintenance contract.

CAUTION

Danger of malfunctions, damage to property or risk of injury if used by unauthorised persons!

a) If unauthorised persons use the system, there is a risk of malfunction, damage to property or injury to persons.

⇨ Children under 8 years of age may only use the system under supervision.

⇨ Children must not play, clean or maintain the system.

⇨ 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.

DANGER

Danger to life due to electric current!

a) 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.

⇨ Before starting work 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.

⇨ Keep moisture away from live parts. This can lead to a short circuit.

⇨ Never bridge fuses or put them out of operation.

⇨ Do not connect the power supply until all work has been completed.

⇨ Have work on the electrical system performed by qualified personnel only.

DANGER

Danger to life due to non-functioning safety devices of the fire protection system!

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

⇨ Never disconnect the fire protection system from the power supply overnight.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Do not remove safety instructions on the system.

⇨ Never block, hold open or otherwise prevent fire doors from closing.

⇨ Have inspection, service and maintenance of the fire protection system carried out in accordance with locally applicable regulations or according to a maintenance contract.

⇨ Have the fire protection system checked and maintained according to the state of the art.

1.4 Residual risks

DANGER

Serious injury or death from unattended children playing

a) Reduce the risk of serious injury or death

⇨ Never allow children to play near or inside the installation.

⇨ Children may only use the installation under the supervision of an adult.

DANGER

Serious injury or death

a) Reduce the risk of serious injury or death.

⇨ Read and follow all safety instructions.

⇨ Only install a properly functioning and balanced door. A door that is operating improperly could cause severe injury.

⇨ Have qualified service personnel make repairs to cables, spring assemblies, and other hardware before installing the operator.

⇨ Only operate the system when the service openings are closed.

⇨ Do not connect the door operator to the power source until you have been instructed to do so.

⇨ Instruct the end user in the operation of the manual emergency release.

WARNING

Missing settings and poor maintenance of the system

a) May cause serious injury or death

⇨ Test the safety devices of the door at least once a day (see chapter "Daily safety check")

⇨ Keep the system functional and well levelled

⇨ Call a technician for maintenance or have a trained technician repair the system

⇨ Keep this manual in a safe place

CAUTION

Risk of material damage or injury due to unforeseen opening, closing or turning of the door!

a) The door can open, close or turn unexpectedly. This may result in damage to property or injury to persons.

⇨ No persons may be present in the opening area of the system.

⇨ Ensure that moving objects such as flags or parts of plants do not enter the detection range of the sensors.

⇨ Do not make any settings on the control unit when the system is in use.

⇨ Have faults rectified immediately by specialist or personnel qualified to do so.

⇨ Remove objects from the opening area.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Do not rush through a closing system.

1.5 State of technology

This system was developed using state of the art technology and officially recognized technical safety regulations. The system, depending on its options and diameter, comply with the requirements of UL325, the Machine Guidelines 2006/42/EG as well as EN 16005 and DIN 18650 (D).

Nevertheless, danger may arise if not used as intended.

IMPORTANT

Installation and commissioning may only be carried out by trained and authorized record technicians.

Inspection, maintenance and repair work on the system may only be carried out by 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.

1.6 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.

1.7 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

2.1 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.

2.2 Copyright

The copyright of the instructions remain at:

BLASI GmbH

Carl-Benz-Str. 5-15

D – 77972 Mahlberg

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

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

Subject can change without prior notice.

Differences between product and manual are thereby possible.

2.3 Product identification

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

2.4 Manufacturer BLASI GmbH

BLASI GmbH Automatic Door Systems

Carl-Benz-Str. 5-15

D-77972 Mahlberg

Germany

Telephone: +49 7822-893-0

Fax: +49 7822-893-119

2.5 Target groups

CAUTION

Risk of injury if personnel are insufficiently qualified!

If unqualified personnel work on the system or are in the danger zone of the system, dangers may arise which can cause serious injuries and considerable damage to property.

a) All work must be carried out by qualified personnel only.

b) Keep unqualified 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

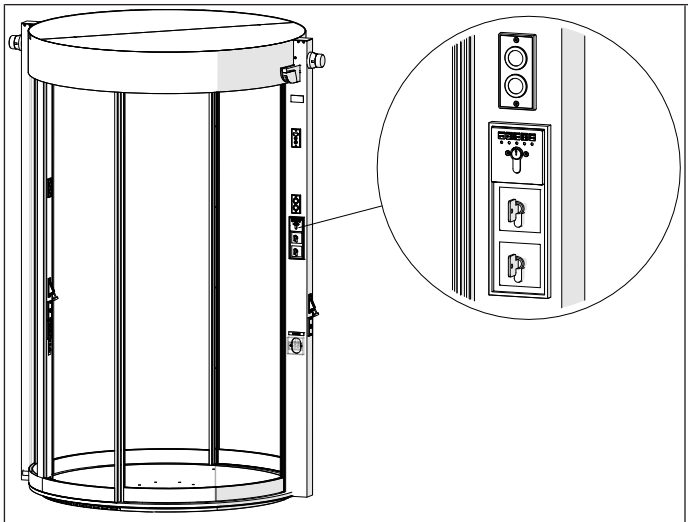
– Operator of the system:
the person who operates the system every day and has been suitably instructed

2.6 Definition of terms

Term:	Explanation:
System	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. If information in these instructions refers to a specific type, this is shown accordingly in the text.
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 with regard to 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	Qualified personnel are authorized and appropriately trained to perform the following work: – Disassembly, Assembly, Commissioning, Operation, Audit, Maintenance, Troubleshooting, Decommissioning The qualified personnel have several years of professional experience in the technical field, e.g. as mechanics or machine fitters. The qualified personnel are aware of the residual risks arising from the installation site and, due to their professional training, knowledge and experience, are able to carry out the work assigned to them and to independently identify and avoid possible danger points.
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

3.1 Door features



The main function of the door is to create a barrier between two areas. The door prevents the uncontrolled entry of a person from the public area into a secured area, from the secured area into the public area or in both directions of passage.

The door consists of an entrance door and an exit door. Both doors are designed as curved sliding doors and joined in a common door drum to one circular sliding door. The dimensions of the door are variable. The electronic components as well as the door drives are usually located in the canopy.

Free contact for the BMS (building management system) and a voice module are optional components.

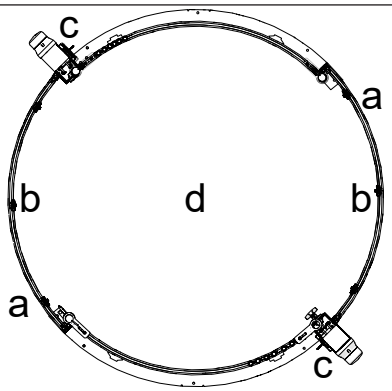
The various operating modes can be selected with the key operated switch (BDE-S). Additional operating modes, such as cleaning and maintenance have separate operating switches, for security reasons.

The PLC (Programmable Logic Controller) parameters can be set with the Service Display. The sockets for connecting the Service Display and the FPC are also accessible from the outside of the portal. The door logic or sensors can be accessed through an integrated service flap in the ceiling panel.

Additional security components (i.e. biometric sensors, fingerprints, eye or facial recognition) can be connected upon request.

The LED lights indicate authorization to pass through the door in the respective direction:	
Red LED:	The door is locked in the corresponding direction of passage.
Green LED:	The corresponding direction of passage through the door is authorized.

3.2 Main mechanical components



Abbreviation	Description
a	**Side panel** Curved, fixed aluminum frame for supporting curved glass or paneling.
b	**Door wing** Curved, moveable aluminum frame for supporting curved glass.
c	**Post / Column** Fixed structure made of vertical frame profiling for accommodating control units and connection to side panel.

Abbreviation	Description		
d	**Canopy** Surrounding canopy with a cover made of curved aluminum sheets for the front side cladding. The drive and the control are located in the interior of the canopy. Canopy weight:		
	600 mm: 110 kg	900 mm: 120 kg	1100 mm: 140 kg

3.3 Security levels of the door

Low – without sensors

There are no monitoring sensors to ensure that only one person is inside the portal. The door is only used as an interlock. The opposite door opens automatically as soon as the door that was entered closes.

Middle – contact mat

This is the easiest way to check whether there is only one person inside the portal. The person must stand in the middle of the portal on the contact mat. Since the contact mat consists of two parts, it can be determined whether somebody is located outside of the center. The security check will fail and passage is not permitted. The person must exit the portal immediately through the same door they entered.

High – 3D analysis

For buildings that require very high security. The only way to avoid and/or detect “Tailgaiting” and “Piggybacking” is to use a system that monitors the content of the portal.

This system is capable of detecting in both directions, between the public and the secure side.

3.3.1 Tailgaiting and Piggybacking

Tailgaiting:

Tailgating is when another person, whether an employee or not, passes through a secure door without the knowledge of the person in front who has received legitimate access through the secure door.

Piggybacking:

Piggybacking is when another person WITH the consent of the entitled person follows through the door. If someone hugs you or wears you on their back, this is called piggybacking. A 3-dimensional image transmission system is able to distinguish between two hugging persons and a tall person. Also the piggybacking of a person is reliably detected.

3.4 Conduct during a power failure

Without uninterruptible power supply (UPS)

The system could be installed without any type of emergency power supply (battery or UPS). In the event of a power failure, the electronics are switched off and the door remains in its current position. Nevertheless, at least one of the two doors should be able to be unlocked if both doors are closed and quipped with a bistable locking device so that no person can become trapped in the system. The use of a manual locking device is then possible.

Special case: If one of the two doors is equipped with the currentless unlocked locking, it is possible that only one door remains closed and locked and no one can be locked in (fail-safe / fail-secure combination).

IMPORTANT

Without UPS or batteries, there is a danger of people being trapped inside during a power failure. We strongly recommend a mechanical emergency release for such cases.

With an uninterruptible power supply (UPS)

The system can also be equipped with an external UPS to maintain function in the event of a power failure. A signal could then be passed to the optional BMS to inform that the main power supply has been interrupted.

With batteries for emergency response

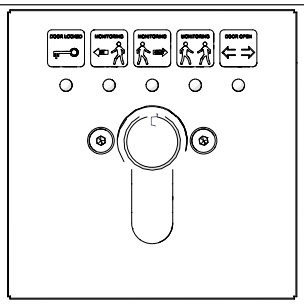
The system is equipped with batteries as standard to prevent people from being trapped in the event of a power failure. With the programming device, the respective door control can be set in such a way that in the event of a power failure, an emergency reaction is still carried out via the batteries. For example, it can be set so that in this case the door is always opened to the public side and locked to the secure side.

3.5 Conduct when power is restored

Restart after mains return
As soon as the main power supply is restored, the door goes back into operation. An automatic reset is performed. The door then switches back to the currently set operating mode.

3.6 Key operated switch BDE-S

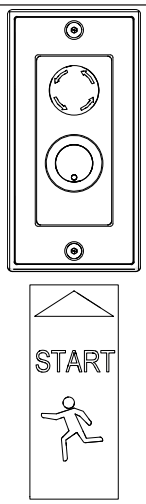
The operating modes can be selected using the key operated switch with 5 different positions. The key switch is equipped with an integrated Euro profile cylinder, which can be exchanged by the customer. The currently selected operating mode is indicated by an LED light. The switch is normally located on the door, but it can also be installed externally (i.e. external column or BMS).



The following operating modes can be set with the key operated switch BDE-S:

- Doors locked
- Monitoring form outside to inside
- Monitoring from inside to outside
- Monitoring in both directions
- Doors permanently open

3.7 Panic button



A panic button is integrated in the system. The door that was last used is opened again and the user can leave the system. The information about which door was last opened is stored in the control system as long as the mains voltage is applied.

3.8 Total open

Total open is a additional safety feature, designed for example, for when the building in which the door is installed needs to be evacuated, even if the door itself was not designed as an escape route. This input contact has the highest priority and opens both doors. This function is also available if there is no PLC or it is defective. This function directly controls an input on the door control unit.

Please Note: the installation is not certified as an emergency or escape route.

IMPORTANT

The total opening can only be done by an external signal. Otherwise, both doors can also be opened (e.g. transport of goods deliveries) via the BDE-S with the operating mode "Door open".

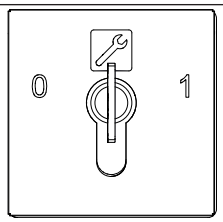
3.9 Lock-Down

As an additional safety feature, to ensure that nobody gets trapped inside the portal, and to maintain the building security regulations, there is an input contact with a high priority. For this function, one door has to close before the opposite door will open.

This function is also available if there is no PLC or it is defective. This function directly controls an input on the door control unit. A DIP switch on the MAIN board regulates which door is to be opened.

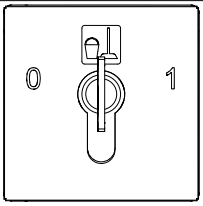
4 Options

4.1 Maintenance mode key switch



- The lighting in the system is switched on and the signal lights flash alternately red / green.
- In maintenance mode, only one door can be opened at a time.
- This mode has a higher priority than the “Technical Alarm” mode. In the event of a technical alarm, activating this mode allows the door to be opened to allow the technician access.

4.2 Cleaning mode key switch



- The cleaning mode can be activated locally (with a separate key switch (Hold-on)) or remotely through a contact dedicated from the building management system (BMS). The cleaning mode can be activated in all operating modes. The duration standard setting for 10 minutes and can be adjusted with the Service Display.
- In cleaning mode, the access side is opened while ensuring that the opposite door is closed.
- To allow access from both access sides, two key switches can be used optionally.

Example: Cleaning of the door with access from the inside of the building, activation by key switch on the safe side:

- Lighting is on.
- Signal lamps are off.
- The door from the secured side is opened as soon as the door on the public side is closed and locked.
- The cleaning mode is activated for the duration of 10 minutes (if the key switch is released before the time has expired, the cleaning mode will be ended).
- After 10 minutes, a buzzer indicates that the time for the cleaning mode has expired. Then if the portal is empty, the secured side door will close. If the person does not exit the portal when the cleaning mode has expired then the buzzer will sound again.
- Once both doors are closed the cleaning mode is ended and the previously selected operating mode will be reactivated on the key operated switch.
- In order to prolong the time for the cleaning mode, turn the cleaning key switch from “1” to “0” and then back to “1”. This allows for an additional 10 minutes in cleaning mode.

If the cleaning function is to be performed from the public side, the positions of the doors are exactly the opposite.

4.3 Voice module

An optional voice module (including a memory card with messages and a loudspeaker) guides the person through the single passage procedure. Different messages can be activated. “Please go in”, “Access denied, please go out".… etc. These messages are stored on a SD card to facilitate the handling of the different texts and languages. Playing of each message can be activated or deactivated with the Service Display.

Standard messages are:

No.	Description	No.	Description
01	Technical alarm	09	Panic mode enabled
02	Please go in	10	Be careful door is closing
03	Please wait	11	Unauthorized entry, please go out

No.	Description	No.	Description
04	Please stand in the middle of the portal	12	Free (Reserved)
05	Please present authorization	13	Free (Reserved)
06	Access denied, please go out	14	Free (Reserved)
07	Access granted, please go out	15	Free (Reserved)
08	Duration cleaning mode over	16	Not a message (STOP signal)

4.4 Power saving mode

When the portal has not being used for a certain period of time (adjustable with the Service Display), the ceiling lights will shut off. The lights will go back on as soon as the door is used again or the operating mode is switched.

This function can be deactivated upon request oft he customer or for compatibility reasons with a sensor.

4.5 Technical mode

If there is a disturbance (person remains in the portal too long or faulty sensor), the PLC will automatically exit the selected operating mode and switch to “Technical mode”. This puts the door in a safe mode allowing anybody trapped to exit. Once the disturbance is corrected, the door will execute the previously set operating mode without any manual intervention.

4.6 Deactivation of the monitoring sensor (Super User)

Temporary deactivation of the monitoring sensor (contact mat or 3D camera)
Deactivation of the monitoring sensor FOR ONE PASSAGE CYCLE is possible via an optional code card reader (public side or secure side) in all operating modes. The check that only one person can enter through the system in corresponding direction is deactivated. This input can be activated via the BMS, externally from the security office or locally with a code card reader, with two exits: – Exit 1: For persons using the airlock operation. – Exit 2: For persons deactivating the monitoring sensor for one cycle, ex.: wheelchair users.

4.7 Emergency release

A mechanical emergency release can be installed as an additional safety measure upon request. It would be possible to exit the door using this emergency release even if a system failure or power failure was to occur. By activating the emergency release during a power failure, the bistable lock will release and the door can be pushed open manually.

4.8 User interface

Dry contacts for BMS

Dry contacts should be available to connect the door into an existing BMS to monitor the state of the portal. The logic of each contact can be inverted (NO or NC) with help from the Service Display.

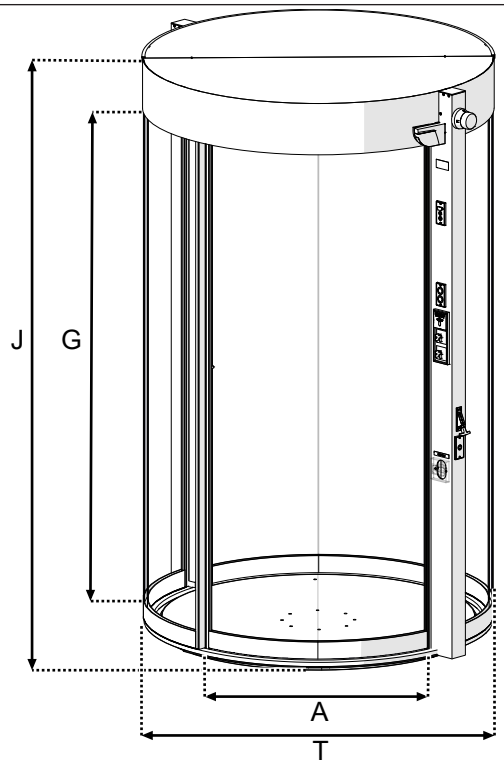
Examples of information:

No.	Description	No.	Description
01	In operation	09	Locked mode
02	Technical and material disturbance	10	Entrance mode monitored
03	Intrusion + Sabotage + Service flap	11	Exit mode monitored
04	Access granted	12	Entrance / Exit mode monitored
05	Access denied + Tailgating / Piggybacking	13	Open mode not monitored
06	Power supply monitoring	14	Maintenance mode
07	Door locked secure side	15	Cleaning mode
08	Door locked public side	16	Panic button activated

For a detailed description see User manual service display record.

5 Specifications

5.1 Dimensions of the system



Abbreviation	Description	Version in mm		
A	Passage width	600	900	1100
G	Passage height	from 2100 to 3000		
J	Total height	from 2320 to 4000		
T	Total diameter			
	20 mm alu profile	1035	1455	1735
	30 mm alu profile	1090	1510	1790

5.2 Electrical specifications of the system

Mains voltage:	100-240V AC (STA 20) / 115V AC (series 5100)
Frequency:	50-60 Hz
Mains fuse:	16A circuit breaker with tripping characteristic C or K
Power consumption:	max.: 700 W
Control voltage:	24V DC (extra low voltage)
Fuse in the control:	T4A (depending on the door control)
Safety class:	1
Degree of protection:	IP 20

5.3 Electric lighting specifications

High power LED spots	
Transformer power supply	90-264 VAC
Frequency	50-60 Hz
Transformer secondary voltage	60 W
Capacity per LED/lamp	5.6 W
Protection class/Insulation class	2
Transformer degree of protection	IP 67

NOTICE

The power connection must be installed by a licensed electrician.
The power must be able to be shut off via a main switch or residual current circuit breaker (on-site).

5.4 Environmental conditions

Temperature range	From -15 to +50° C
Humidity range	Up to 85% rel. humidity, not condensing

6 Operation

6.1 Selecting the operating modes

Display symbol	Operating mode	Function
	Doors locked	Status of the system in this operating mode: both doors are closed and locked (if there is a lock). – The operating mode also serves as a reset. – The doors close even if the camera sensor fails (High Level only). – The plant is in a safe mode and no one can pass. – The signal lamps (if present) light up red.
	Monitoring from outside to inside	– The door acts as described in the Entrance / Exit mode (monitoring in both directions), except that monitoring is only activated in the entrance direction. – Several persons can leave the secured area at once (exit direction), as it does not require access authorisation. – The door is activated, for example, by a radar signal.
	Monitoring from inside to outside	– The system functions as described in the operating mode "Monitoring from outside to inside", only in the other direction (monitoring the exit direction).
	Monitoring from both directions	Basic status of the system in this operating mode: both doors are closed or optionally locked. – The optional signal lamps on the inside light up red and on the outside green (or red, adjustable with the service display). – The ceiling lights are switched on. – If an impulse is triggered by an access control, the user can enter the door. – As soon as the presence inside is detected or the door open time has expired, the door closes (if no safety sensors are activated). – If an additional control within the installation is required (such as fingerprint or face recognition), the user must pass this check. – If the person has successfully passed all the tests and is alone inside, the opposite door is automatically opened. – The door then closes (and optionally locks) if neither a person nor an object is detected or the door open time has elapsed. – If entry into another area is granted, the signal lamps change to green accordingly. – In all other cases (two persons, suspect person or identity check failed) access is not granted. The door through which the user entered is opened again so that the system can be left again (person and object). It is then closed again (and optionally locked). – In this mode, monitoring is activated in both directions (input direction and output direction are monitored).
	Doors permanently open.	– The lighting is on. – The optional signal lamps light up green. – Both doors are open. – The passage is not monitored. – This operating mode can be used, for example, to allow the passage of large objects through the installation.

7 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.

7.1 General remarks

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

Accidents or defects can be avoided if the system operator takes good care of the system.

Testing

Type of test	Measure
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.
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.

Servicing

Type of servicing	Measure
Adjusting and cleaning	Clean and adjust bearings, sliding points, and power transmission.

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.

IMPORTANT

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

IMPORTANT

The recommended and planned spare parts and wearing parts can be requested from your service center.

7.2 Operator duties

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

According to applicable standards and guidelines, automatic door systems must be tested and serviced by qualified persons.

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

System operator tasks

Task	Personnel	When?	Entered in test log 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

Task	Personnel	When?	Entered in test log 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
Test (inspection) for door systems in escape routes	Qualified person	2 x annually, or according to country-specific standards and guidelines	Yes
Testing of fire doors	Qualified person	1 x annually, or according to country-specific standards and guidelines	Yes

7.3 Safety check

7.3.1 Daily safety check

1. Step to the face of the door into the detection zone of the safety sensors mounted on the outside of the canopy.
2. Open the entry door.
3. Stay motionless for 10 seconds, the door should remain open.
4. Step into the portal and remain motionless under the detection zone of the safety sensors mounted on the ceiling inside the portal.
5. Stay motionless for 10 seconds, the door should remain open.
6. Stay in the center of the portal and wait until entry door is closed.
7. Proceed with the security check and open the exit door.
8. Step into the detection zone of the safety sensors mounted on the ceiling inside the portal.
9. Stay motionless for 10 seconds, the door should remain open.
10. Exit the portal and remain in the detection zone of the safety sensors mounted on the outside of the canopy.
11. Stay motionless for 10 seconds, the door should remain open.
12. Step out of the detection zone, the door should close.

7.3.2 Monthly safety check

1. Test the mechanical emergency release inside and outside the portal.
2. It should be possible to manually open the door near the handle.
3. If possible, use the manual release only when the door is closed.

WARNING

Door falls rapidly.

a) Weak or broken springs can cause serious injury or death.

⇨ Be careful when using this release when the door is open.

4. Test the panic button in the portal.
5. The door that was last opened should reopen.
6. Test the "total open" command over the building management system. Both doors should open.
7. Test the "Locked" command via the building management system.
8. One door should close, the other door should open.

7.4 Monthly inspection work performed by the operator

The monthly tests and inspections of the individual components that must be conducted by the operator take little time and in particular, prevent accidents caused by improper handling of the door system. We recommend that you conduct the following inspections dependent on the model of the door.

Test / Inspection	Procedure	Expected results
Control elements visual inspection	– Check if labels are present	– Operating switches must not have any mechanical damage – Labels / symbols must be visible and legible
Contact mats and safety sensors function test	– Test the contact mats (if available) in all operating modes – Test the safety sensors in the interior and exterior passage ways – Test the safety sensors on the secondary closing edge (inside the portal)	– The contact mat must switch on in the operating mode Entrance, Exit and Entrance / Exit (with monitoring) – The safety sensors (when triggered) in the passage way must stop the door during the closing process – The safety sensors (when triggered) on the secondary closing edge must stop the door during the opening process
Lock function test	– Select LOCKED operating mode – Check that the lock is properly engaged by trying to push the door wings	– Door wings should not be able to be pushed open
Lighting function test	– Check that the lights are installed properly – Select another operating mode other than LOCKED	– Lights must be installed correctly – Lights must function properly
Floor covering visual inspection	– Check the floor covering (if available) for tripping hazards, unevenness, damages and dirt accumulation	– The floor covering must be free from tripping hazards, unevenness, damages and dirt accumulation

CAUTION

Risk of burning, hot surfaces!

a) Risk of burning hands when replacing components.

⇨ Allow components to cool for at least 5 minutes before replacement and wear safety gloves if necessary.

7.5 Cleaning and care

DANGER

Dangerous electrical voltage!

a) Risk of death by electric shock

⇨ Do not touch the drive system when the system is turned on.

⇨ Do not spray water into the drive.

NOTICE

Switch to cleaning mode with the optional key-switch or external contact before starting to clean / care. Wipe over all cleaned surfaces with a clean dry cloth.

IMPORTANT

Keep the door clean from dirt, leaves, snow and ice!

a) If heavily soiled, please contact a professional.

b) Do not use road salt or gravel in front of the entrance area or inside the system.

c) It is recommended to impregnate the safety strips and sensors with water repellent care products.

What	Interval	Cleaning agent
General parts	Weekly	Damp cloth, neutral to low alkaline, wetting agent solution / vinegar diluted with water.
Sensors / safety strips	Weekly	Synthetic cleaner
Floor mats	Weekly	Vacuum cleaner / carpet cleaner
Side panels / door wings	Weekly	Commercial glass cleaner

8 Malfunctions

8.1 Tips on troubleshooting

IMPORTANT

If malfunctions that endanger the safety of individuals occur, the system must be turned off. It may not be turned back on until the problem has been resolved by a professional and the danger no long exists.

Below listed are malfunctions with their probable causes and possible solutions that which can be performed by the operator. If the solutions listed are not successful, the operator must disconnect the main power supply and call their local service center.

Malfunctions	Causes	Solutions
Door does not function	– No power supply – Short circuit – Door control defective – Motor damage – PLC control defective – Lock jammed	– Check power supply, call a professional if necessary! – Remove obstacle – Connect Service Display and check condition – Call service center
Door opens but passage is not granted	– Monitoring sensor defective – Floor mat defective – Opposite door defective – Door position limit switch defective or not positioning properly	– Check sensor, replace if necessary – Call service center
Optional voice message can not be heard	– Voice module is defective – Message deactivated via the Service Display – SD memory card not in the voice module	– Check the power supply on the voice module – Check the SD memory card – Using the Service Display, check whether message is activated – Call service center
“Technical alarm” message is displayed	– One of the two door controls is defective – Service flap is open – Door position limit switch is defective or not positioning properly – The cycle set on the operating switch can not be completed correctly (i.e. door is jammed or contact mat does not switch on)	– Check the alarm output on the door control – Close the service flap – Call service center
Door does not perform the desired function	– PLC control is defective or in undefined condition – Door control defective – Safety sensor defective or sensor triggered	– Switch off the power supply and switch it back on again (RESET) – Remove the obstacle within the safety range of the sensor – Call service center
Power failure	– Fuse has blown – Fuse defective – Main switch turned off	– Check fuse – Check power supply – Check main switch

9 Taking out of service and disposal

9.1 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.

9.2 Dismantling and disposal

IMPORTANT

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

NOTICE

The door systems can be completely disassembled in reverse order.

The automatic door mainly consists of the following materials:

Aluminum:

- Linking profiles
- Gearbox, Drive panel
- Door wing 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 wings and side panels

Various electronic and electromechanical components:

- Sensors, control and operator components
- Lead batteries and nickel-cadmium rechargeable batteries

Various plastics:

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

record

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