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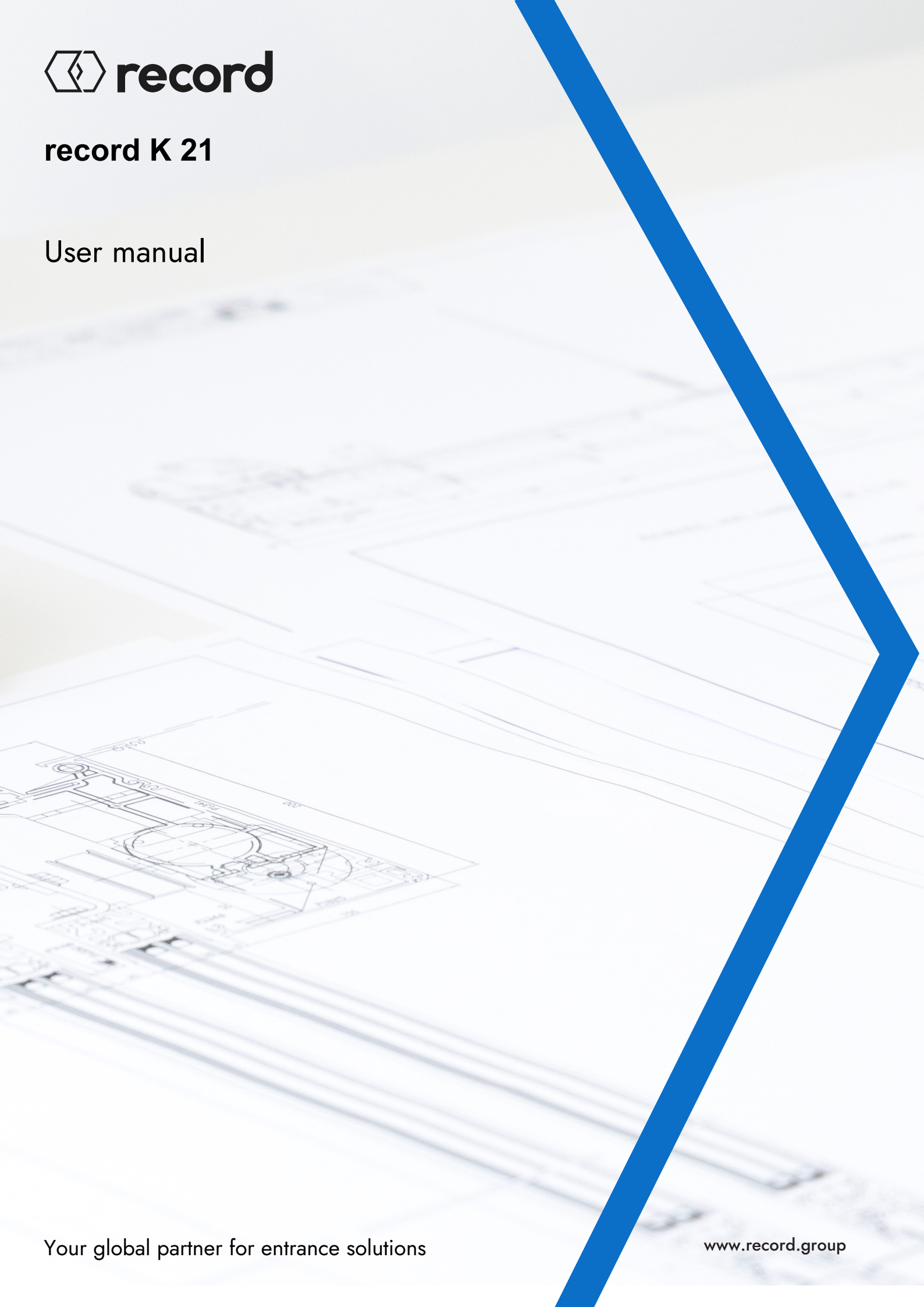
User manual



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Translation of the original manual

Subject to technical modifications

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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 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 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, commissioning, inspection, maintenance and repair work may 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

2.1 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

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

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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

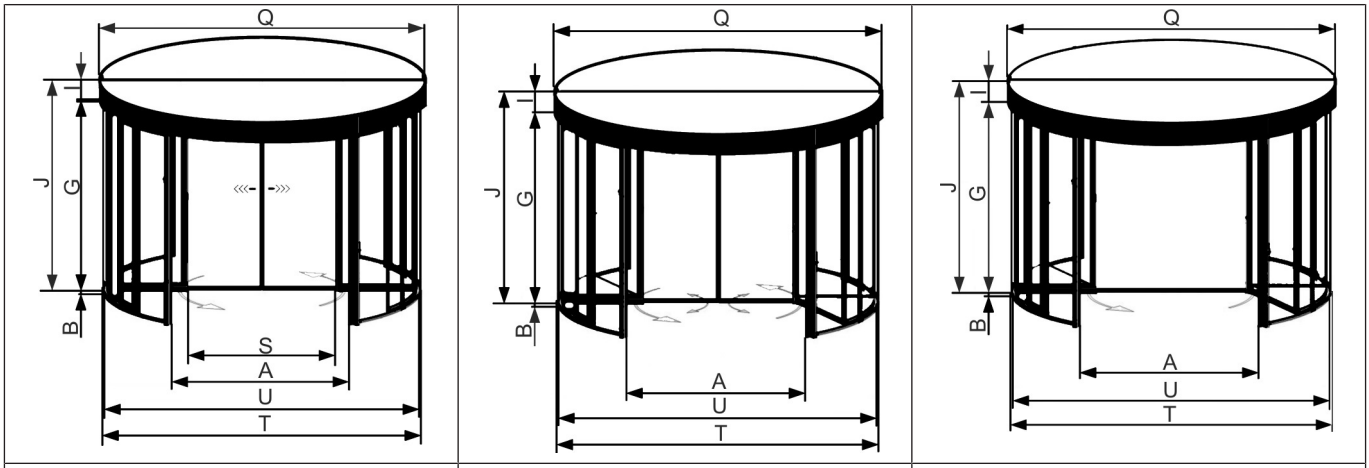
– Operator of the system:
the person who operates the system every day and has been suitably instructed

2.6 Definition of terms

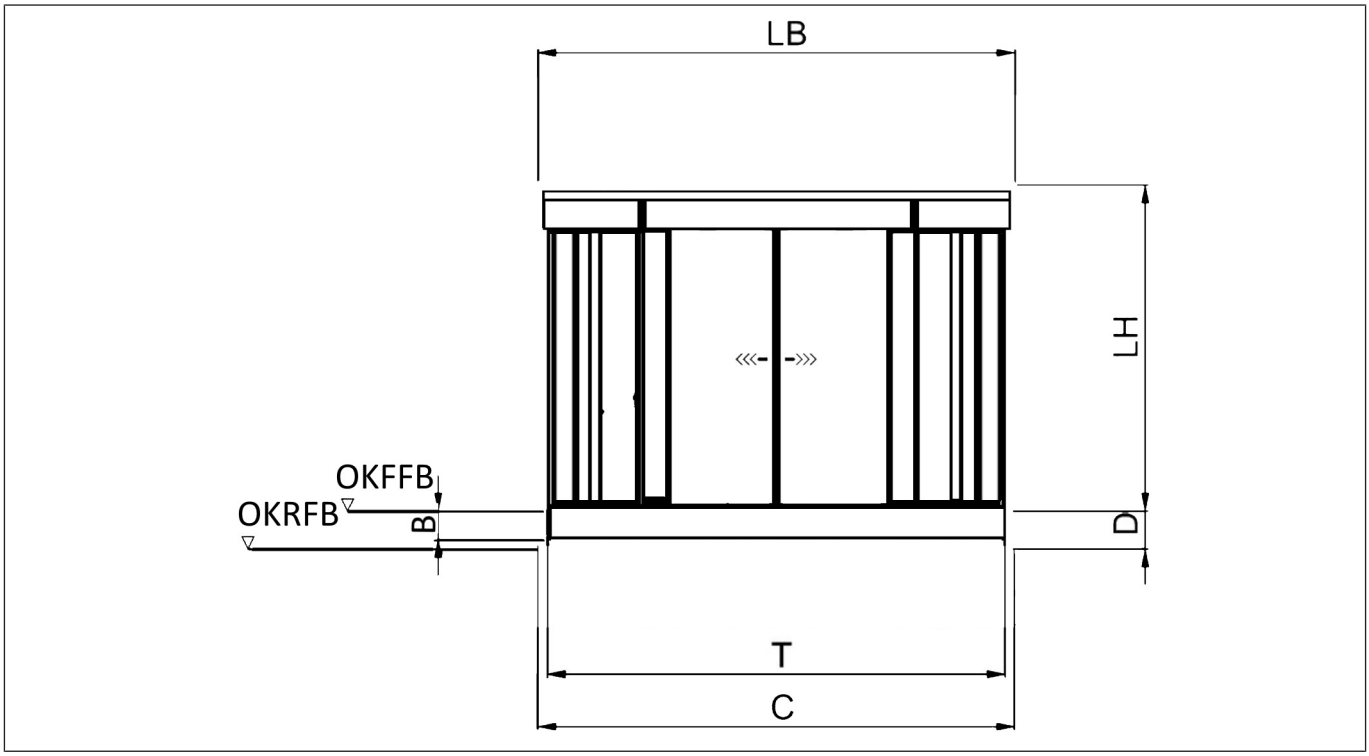
Term:	Explanation:
System	The term is also used in these instructions as a synonym for the product. Door operators, revolving doors, sliding doors, etc. are referred to as a system. If information in these instructions refers to a specific type, this is shown accordingly in the text.
User	Users are all 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 Graphical overview



K21/22-S	K21/22-P	K21/22-FM
With sliding door	With pivot wing	With fixed glazing



Abbreviation	Description	Abbreviation	Description
A	Passage width	LH	Clearance height
B	Floor trim height	OKFFB	Top edge finished floor
C	Installation diameter of floor trim	OKRFB	Top edge unfinished floor
D	Recess depth	Q	Total diameter
G	Passage height	S	Central passage width with sliding door
I	Cladding height	T	Exterior diameter
J	Total height	U	Interior diameter
LB	Clearance width		

3.2 System description

The revolving door has a full automatic, microprocessor controlled drive system, which can be used in several operating modes.

The revolving door has a counter clockwise rotation unit, with fixed side glass panels on each outer side and radial protective sliding wing extensions. These serve as pinch protectors and absorb the rotating mass by sliding back and simultaneously stopping the rotational movement when touched.

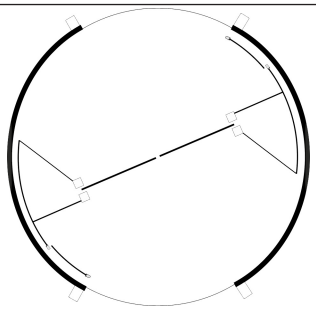
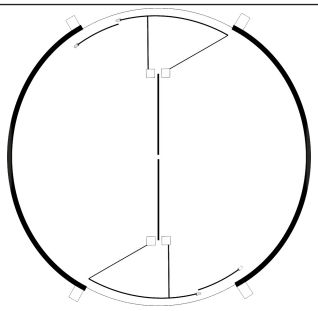
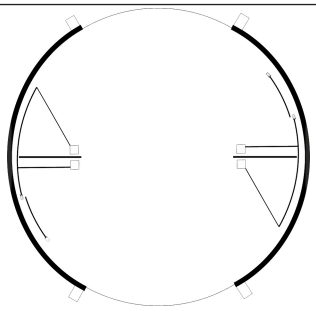
The rotary unit is in the middle and is equipped with an integrated double wing automatic sliding door, two pivot wings, which can be opened manually (optional) or with fixed glazing.

The rotary unit is powered by two synchronized DC motors. The drive is activated by radar motion detectors. If the motion detectors are no longer activated, the rotation unit will slow down then stop in the start position.

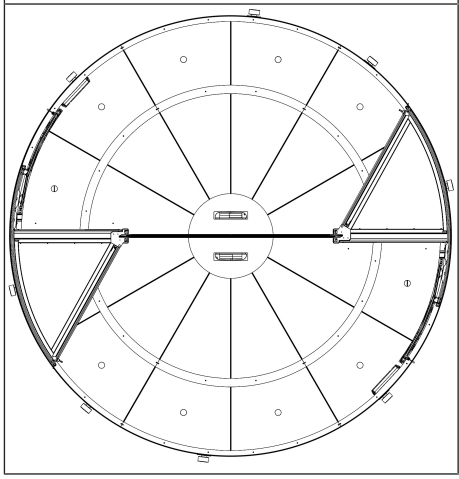
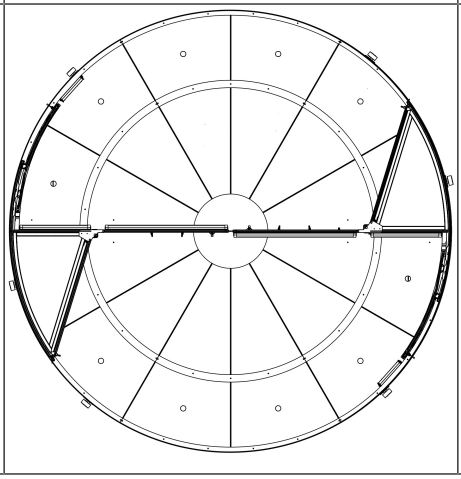
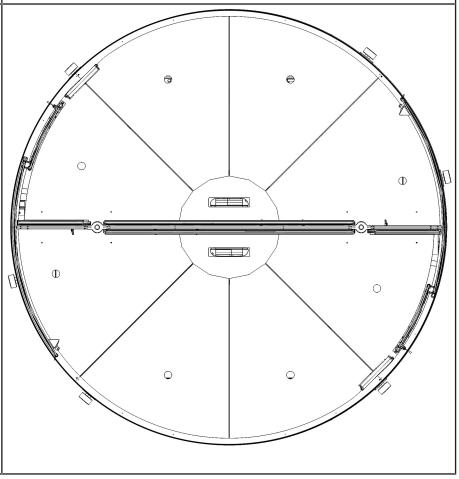
Safety sensors prevent hazardous movement and slow down and/or stop the rotation unit in time.

An integrated error-analyzer detects malfunctions. The error code will appear on the control unit (BDE-D) display, a separate one for revolving doors (BDE-D-KTA) and sliding doors (BDE-D-STA).

This control unit can be used to select the various operating modes and also to program the basic door parameters.

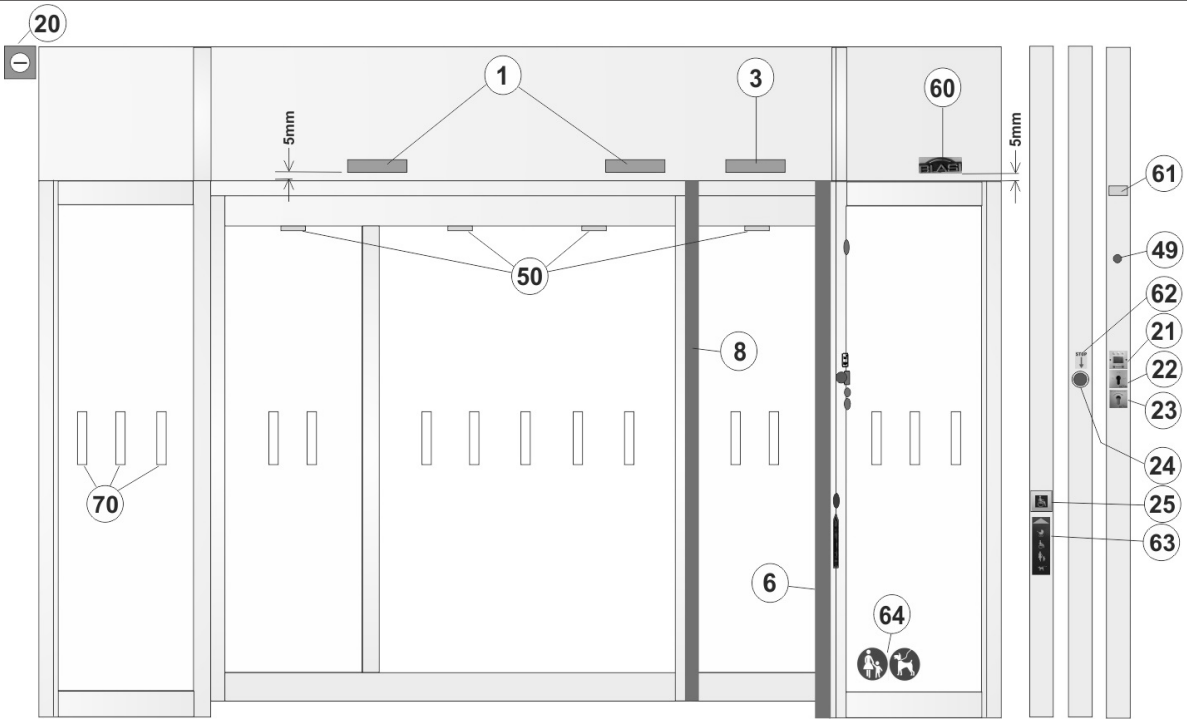
		
Revolving door in the normal “Automatic“ start position.	Revolving door in the closed / locked position or in a specific “Automatic” start position, e.g. reduced opening – winter operation.	Revolving door in the cross position with open sliding doors for transporting large loads or for ventilation.

3.3 Variants

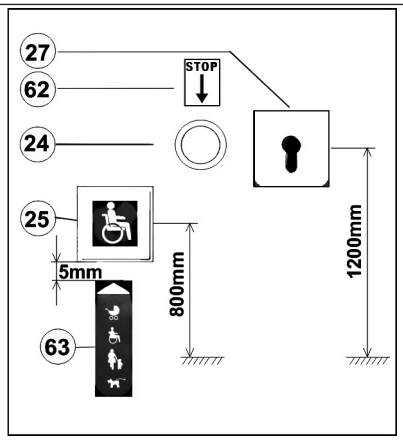
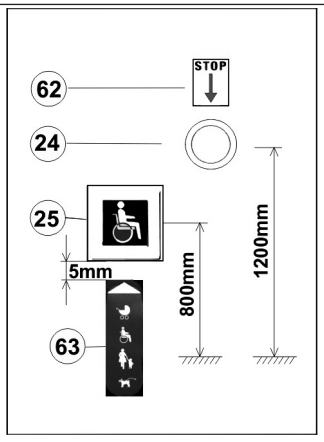
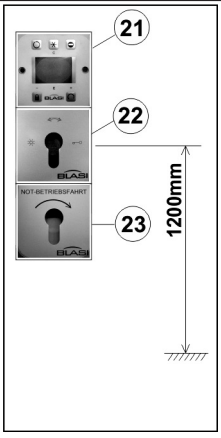
Sliding door	Pivot wing	Fixed wing
		

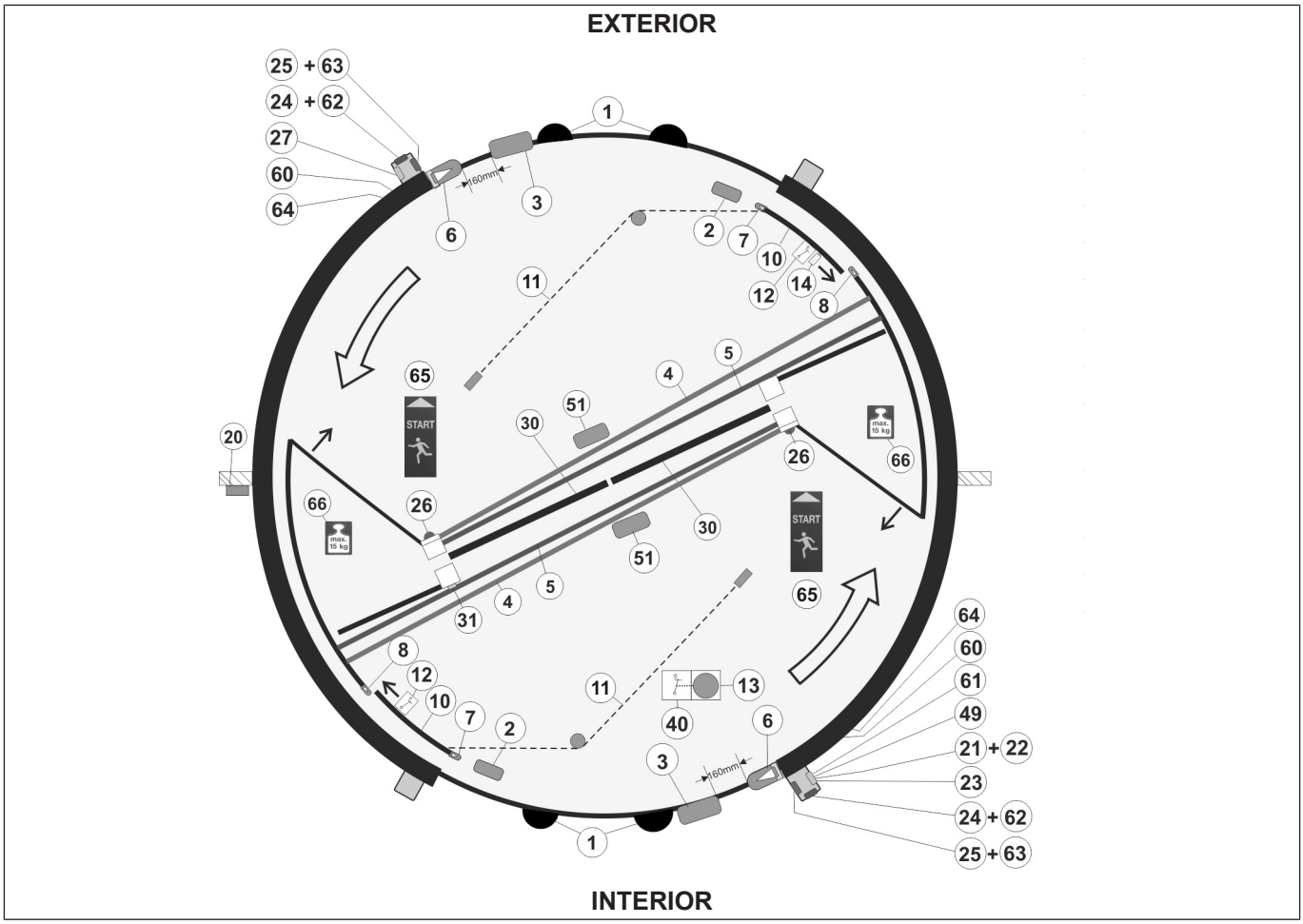
3.4 Safety features and control elements K21

INTERIOR VIEW in the closed position



Operating element variations available

EXTERIOR	INTERIOR	INTERIOR
		
Front / Side / Back	Front / Side	Back



3.4.1 Legend for safety features and control elements

Pos. No.	Components
1	Motion detector canopy or floor installation (AKI / AKA)
2	Vertical forward sensor radial protective sliding wing (OP-VLS)
3, 3A, 3B	Vertical sensors drum edges (OP-VSS)
4	Horizontal heel protection light barrier SLOW (OP-HSR)
5	Horizontal heel protection light barrier STOP (OP-HSR)
6	Vertical safety strips drum edges (SL-TRK)
7	Vertical safety strip radial protective sliding wing (SL-RSF)
8	Vertical safety strip radial fixed wing (SL-VSR)
9	Vertical safety strips turnstile wings (SL-VSR)
10	Radial protective sliding wing (RSF)
11	Power storage (rubber rope)
12	Surveillance contact radial protective sliding wing (UW-RSF)
13	Rotor lock
14	Radial protective sliding wing lock
15, 15A	Sensors turnstile wings (OP-VSR)
16	Horizontal heel protection safety strips (SL-FES)

17	Foot protection sensor radial protective sliding wing
18	Vertical light barriers drum edges
19	Monitoring contact night shield (UW-NAS)
20	Main power switch (UW-HAS)
21	Control unit BDE-D-KTA
22	Key-operated switch BDE-V
23	Key-operated emergency switch
24	Emergency stop switch
25	Disabled person button
26	Start button
27	Key pivot contact
28	Contact mat blocked segment
29	Key-operated switch
30	Sliding door drive STA 20
31	Sliding door control unit BDE-D-STA
32	Traffic light red / green (alternatively in the standing column)
33	Turn key switch night shield
34	Light barriers pivot wing joints
35	Emergency open button
36	Contact mat exit direction
37	Contact mat entrance direction
38	On-site code card reader (1x interior and 1x exterior)
39	Horizontal sensor strip (opening and closing side)
40	Lock mechanism status indicator VRM rotor
41	Door position indicator TPA rotor
42	Lock mechanism status indicator VRM radial protective sliding wing
43	Door position indicator TPA radial protective sliding wing
44	Drive gear box (subfloor)
45	Safety sensors (shearing edge / crushing edge)
46	Electromagnetic lock with bolt contact
47	Turnstile lock
48	“Open position” night shield wing
49	FPC service outlet
50	Lighting
51	Combination sensors

60	Plastic manufacturer's logo
61	System nameplate
62	Sticker STOP
63	Sticker Baby carriage / Wheel chair / Mother + Child / Dog
64	Sticker Mother + Child/ Dog
65	Sticker START
66	Sticker Maximum weight
67	Sticker “Opening service trap”
70	Glass label (example) Labelling the glass surface reduces the danger of collision. Transparent wings or wing surfaces must be must be clearly visible, for example, by permanent labelling, appropriate markings or use of coloured materials. Stickers, sandblasting, dyeing or etching can be used for labelling. Quantity and design are determined separately.
71	Brush seals The door wing frames of the rotation unit are sealed all around with interchangeable brush strips to prevent drafts.
72	Canopy Encircling canopy panels made of bent aluminum sheets. The entire drive system and controls are located behind the canopy panels. The ceiling panels are part of the turnstile unit and are lined with concentric cut aluminum panels, which can be removed for inspection.
73	External control box
74	Deadman button

3.4.2 Emergency operation key switch

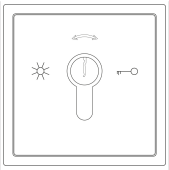
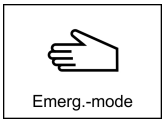
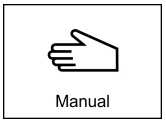
If a safety sensor is activated while the system is rotating in emergency operation, the revolving door will stop immediately. Turn the key again and rotation will resume. This time the safety sensor will be ignored.

WARNING

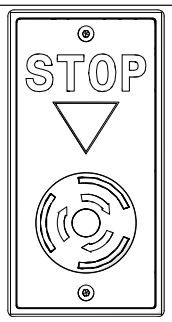
The revolving door ROTATES unexpectedly

✓ Contusions, bruises, lacerations

a) The operator must have a clear view of the revolving door system from the location of the emergency operation key switch

Key	Function	Symbol	Description
 turned	Emergency operation		– Only as long as the emergency operation key switch is being turned, will the rotation unit rotate in Tipp operation at slow speed. It will automatically stop in the cross position and in the lock position. (Deadman-Function).
 released	Manual operation		– Once the emergency operation key switch is released, the rotation unit will stop and switch to manual operation mode.

3.4.3 Emergency stop button



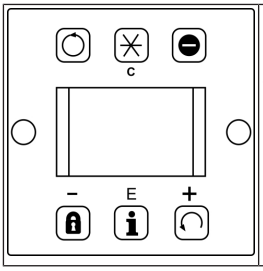
When the emergency stop button is pushed the rotating turnstile is stopped immediately, the turnstile is released and can be rotated manually.

After resetting the emergency stop button, the preset operating mode will continue.

NOTICE

The turnstile cannot be turned manually on a subfloor door with a geared motor!

3.4.4 BDE-D-KTA control unit

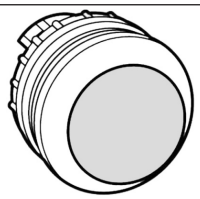


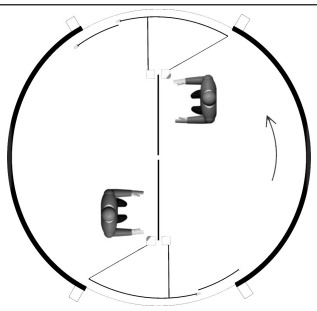
The electronic BDE-D-KTA control unit is a convenient input and output terminal for operating the door. Clearly arranged buttons enable easy operation of the door modes and navigation of the drive-specific menu structure. The LCD display with backlight supports users with logical symbols and text messages and provides information on the state of the door.

3.4.5 Start button

IMPORTANT

In the LOCKED mode, the start button function is disabled after 10 minutes.





By pressing a start button, the turnstile starts and rotates one turn to prevent locking. The start button has no function in case of power failure.

3.4.6 Information on motion detectors

NOTICE

Moving objects, i.e. loose poster or plants that move in the detection area can trigger an unintentional startup.

Motion detectors are installed on each access side of the door (see “Safety and operating components legend”).
These motion detectors detect moving persons. If for example, the detection field of a motion detector is entered in the AUTOMATIC operating mode, the turnstile will start to rotate from the start position. If the detection field is entered in the CONTINUOUS operating mode, (slow speed) the turnstile will accelerate from slow speed to walking speed.

3.4.7 Information on safety strips

CAUTION

Risk of destruction Safety edge

a) Personal injury and damage to property due to malfunctions on the safety edge

⇨ Do not use pointed or sharp-edged objects when working on the safety edge.

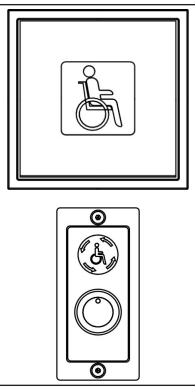
⇨ Do not use aggressive cleaning agents such as mineral oils or petrol when working on the safety edge.

NOTICE

On the drum wall edges of the system and on the lower and outer turnstile profiles of the turnstile wings, vertical and horizontal safety bars made of soft rubber are mounted in the direction of rotation. When a safety bar is actuated, the turnstile stops turning immediately. When the safety bar is no longer actuated, the turnstile resumes turning.

4 Options

4.1 Disabled button



If the disabled button is pressed in the AUTOMATIC or ONEWAY operating mode, the turnstile will start and rotate 360° plus an additional segment, at slow speed.
The motion detectors (if available) will be disabled during this time.

In the operating mode CONTINOUS the turnstile rotates a slow speed. If a disabled button is pressed, the slow speed will be maintained.

NOTICE

If the detection area of a motion detector is entered without pressing a disabled button, the turnstile will accelerate to walking speed.

4.2 Key pivot contact (SSK)

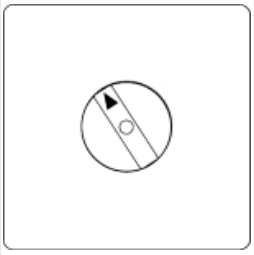
When the key pivot contact is activated (see “Safety and operating components legend”), the turnstile starts and rotates a minimum of 360° in all operating modes except for MANUAL mode.

In the MANUAL mode or when the emergency stop switch is activated, the turnstile can only be rotated manually, with the exception of subfloor system with a geared drive.

In the LOCKED mode the turnstile will automatically lock again (if an electric lock is available).

Or – on-site code card reader (CKL)

4.3 Wind trap switch in day / night operation



The switching of the wind trap in day/night operation is carried out via a switch provided by the customer.

Daytime operation:

The operating mode set on the control unit is executed.

Night operation:

The carousel moves to the transverse position (sliding door position). The inner sliding door is in LOCKED mode. The outer sliding door (night lock) can be closed in the middle of the draft shield.

When the night lock is completely closed, the inner sliding door is opened using the on-site door-open button.

When the inner sliding door is completely closed, the night lock can be opened using the key-operated pushbutton (OPEN position)..

In night operation, the sliding doors are equipped with an externally controlled windbreak sluice function.

4.4 Key-operated reversible switch (night lock dead man)

CAUTION

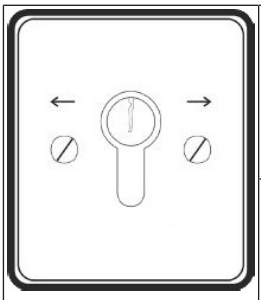
Night shield crushing danger

a) Fingers or hands getting crushed, sheared or pulled in

⇨ To avoid crushing, the operator must have a clear view of the night shield during the OPENING and CLOSING process.

NOTICE

If the night shield is manually locked (i.e. with a bar lock), then please ensure that the night shield wings are manually unlocked before using the key reversing switch.



OPENING PROCESS:

The night lock is unlocked and opened by pressing and holding the key-operated reversing switch in the OPEN position. The opening process is stopped immediately as soon as the key reversing switch is no longer actuated. The opening process can be continued by pressing and holding the OPEN position again.

CLOSING PROCESS:

By pressing and holding the key reversing switch in the CLOSED position, the night lock is closed and automatically locked. The closing process is stopped immediately as soon as the key reversing switch is no longer actuated.
In the event of a power failure, the status of the night lock remains the same as before (LOCKED or UNLOCKED).

4.5 Night shield - deadman

CAUTION

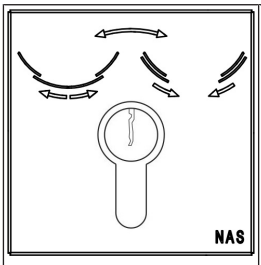
Night shield crushing danger

a) Fingers or hands getting crushed, sheared or pulled in

⇨ To avoid crushing, the operator must have a clear view of the night shield during the OPENING and CLOSING process.

NOTICE

If the night shield is manually locked (i.e. with a bar lock), then please ensure that the night shield wings are manually unlocked before using the key reversing switch.



Switch example

It can be operated with the key reversing switch.

Opening process: the night shield is opened by turning the key reversing switch to the right (see arrow direction) and holding the position. If the night shield is locked electrically, then it will simultaneously unlock. The opening process will stop when the key reversing switch is no longer being turned or held. The opening process will resume by turning the key to the right again and holding the position.

Closing process: the night shield is closed by turning the key reversing switch to the left and holding the position. The closing process will stop when the key reversing switch is no longer being turned or held. If the night shield is locked electrically, then it will lock automatically in the locked position.

Collision detection: if a night shield wing hits an obstacle during the opening or closing process, the night shield will stop and remain stopped. The next opening or closing process will start when the key reversing switch is turned and held in position again.

4.6 Night shield

NOTICE

The door is equipped with a night shield located on the exterior entrance.
If it is manually pushed out of the open position while rotating, the turnstile will immediately stop for safety reasons.
For safety reasons, the automatic mode only functions if the night shield is completely open.
During a power failure, the status of the night shield remains LOCKED or UNLOCKED.

4.7 Fully automatic night shield

It is operated with a door open button, or a turn key switch, or an on-site code card reader.

CAUTION

Night shield crushing danger

a) Fingers or hands getting crushed, sheared or pulled in

⇨ To avoid crushing, the operator must have a clear view of the night shield during the OPENING and CLOSING process.

Fully automatic night shield drive with electric lock:

Place the door in the LOCKED operating mode.

The night shield is closed and electrically locked.

By pressing the door open button, or using the turn key switch or on-site code card reader, the night shield will unlock and open up completely.

Once the night shield is completely opened, the turnstile will start, turn one complete rotation at slow speed and come to a standstill in the home position.

Then the night shield closes again automatically and locks.

In the operating modes AUTOMATIC, CONTINUOUS and MANUAL, the night shield unlocks itself, opens automatically and remains open. If switched to the LOCKED operating mode, the night shield closes again automatically.

Security sensors: if the detection area of the security sensors is entered during the closing process, the night shield will open (reverse) immediately. If no security sensors are activated the night shield will close and lock automatically.

Collision detection: if the night shield wing strikes an obstacle during the closing process, the night shield will stop and open again. The next attempt to close will start from the obstruction area at slow speed.

The night shield will also stop, if its wing strikes and obstacle during the opening process. The next attempt to open will start at slow speed.

4.8 Card reader

Automatically lock and unlock the entrance and exit direction

The revolving door is off and is locked through an integrated turnstile lock and motor brake. When the card reader is used, the turnstile unlocks and rotates a minimum of one full rotation. Once it reaches that start position, the turnstile will lock.

4.9 Light switch

The lighting can be or is connected to an on-site light switch or controlled by the building control system to be switched OFF or ON.

4.10 Lighting control

The lights can be turned on or off via an on-site light switch or over the building control centre.

4.11 Air curtain control

Direct ventilation to the interior via an air duct built into the doorway.

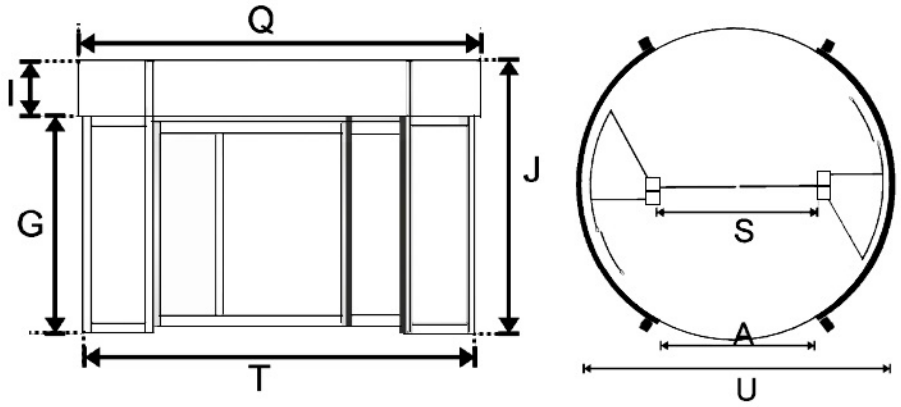
The air curtain is controlled by a potential-free door contact that triggers once the turnstile starts to rotate.

4.12 Presence sensors for alarm system

For alarming there are presence sensors in the drum ceiling, which detect people inside the drum chamber. After detection of a person a message follows over a potential free contact to the on-site alarm system. The alarm sensors are only activated when the revolving door is in the OFF operating mode.

5 Specifications

5.1 Dimensions



U = interior diameter	3600 mm	4200 mm	4800 mm	5400 mm	6000 mm	6600 mm	7200 mm
A = passage width	2005 mm	2347 mm	2688 mm	3030 mm	3371 mm	3713 mm	4055 mm
Q = total exterior diameter (incl. canopy)	3758 mm	4358 mm	4958 mm	5558 mm	6158 mm	6758 mm	7358 mm
T = exterior diameter (drum wall)	3652 mm	4252 mm	4852 mm	5452 mm	6052 mm	6652 mm	7252 mm
S = centre passage width	1640 mm	1940 mm	2240 mm	2540 mm	2840 mm	3140 mm	3440 mm
I = canopy height with dust roof	350 mm		550 mm				
I = canopy height with integrated roof pan	370 mm		570 mm				
I = canopy height with air curtain	650 mm						
G = passage height	2100 – 3000 mm						
J = total height	G + I						
LH = light height ((shell dimensions)	min. J + 50 mm						
LB = light width ((shell dimensions)	min. Q + 100 mm						

Optionally, intermediate dimensions are also possible in the range from 3200 mm to 7000 mm.

5.2 Electrical specifications power supply

Mains voltage	100-240 VAC, 50/60 Hz
Nominal power	See system nameplate
Fuse	16 A breaker with tripping characteristics C or K
Safety class	1

NOTICE

The power connection must be installed by a licensed electrician. One must be able to turn the power supply off completely via a main switch or residual current circuit breaker.

5.3 Electrical lighting specifications

High-Power LED-Spots	
Mains connection Transformer	100-240 VAC
Frequency	50-60 Hz
Secondary transformer power	120 W

Output per luminaire/illuminant	4.5 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

5.5 Sound pressure level

The A-weighted emission sound pressure level of the drive is less than 70 dB. LpA_<70dB (A).

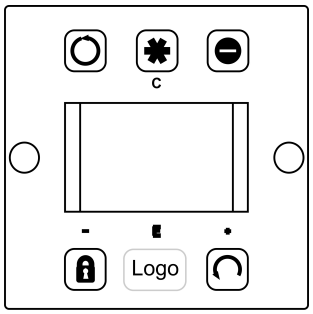
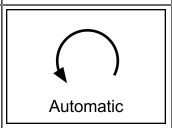
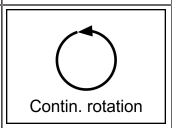
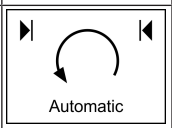
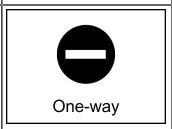
6 Operation

NOTICE

SLIDING DOOR OPERATION only functions when "SLIDING DOOR OPERATION" has been selected on the BDE-D-KTA and when the rotation unit is in the cross position.

The systems can be operated by pressing the appropriate buttons on the control units:

6.1 Revolving door mode selection

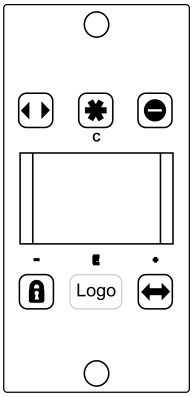
Control unit BDE-D-KTA for revolving door operation	Operation		
	Key	Display	Function
			**OFF / LOCKED** Night shield with lock mechanism – The rotation unit rotates to the closed position. – The rotation unit and the radial protective sliding wing lock automatically in the closed position. – Depending on the configuration, the motion detectors are either still activated or already deactivated. – The display case and the radial protective sliding wings are used together as a night shield.
			**AUTOMATIC** Start rotation – The revolving door is in automatic operating mode. – The rotation is activated by the motion detectors. – If the motion detectors are no longer activated the rotation unit will rotate to the next start position.
			**CONTINUOUS ROTATION** Slow speed rotation. If a person is detected it accelerates to walking speed. – The rotation unit rotates continuously at slow speed. It accelerates to walking speed, once a person enters the detection range of the motion detectors. – If the motion detectors are no longer activated, the rotation unit will rotate to the next start position and then go back to slow speed. – The rotation unit will permanently rotate until another operating mode is chosen.
			**START POSITIONS** Switch to the start position: Open normal position or closed special position (e.g. winter)
			**ONE WAY** Passage is only possible in one direction – The exterior motion detectors are deactivated. – The revolving door is only accessible from one direction (e.g. closing time from inside to out).

Control unit BDE-D-KTA for revolving door operation	Operation		
	Key	Display	Function
	press 2sec. long or 2x time quickly	Sliding door	**SLIDING DOOR OPERATION** When the rotation unit is positioned in the cross position, various modes of the sliding door are operational. – Press the key for approx. 2 sec. or press 2 times quickly. – The rotation unit rotates to the cross position and stops. – The sliding door is automatically activated.
		Manual	**MANUAL OPERATION** Manual rotation or motorized positioning of the rotation unit into the desired position (i.e. for cleaning purposes) – Press the key for approx. 2 sec. or press 2 times quickly. – The rotation unit will stop and can be rotated manually.

6.2 Sliding door mode selection

NOTICE

The sliding door operation will only function if "Sliding door" operating mode is selected on the BDE-D-KTA of the revolving door control unit and the rotation unit is in the cross position.

Control unit BDE-D-STA for sliding door operation	Operation		
	Key	Display	Function
		Locked	**LOCKED** Sliding door is closed.
		Automatic	**AUTOMATIC** Free passage through the sliding doors in both directions. Max. opening width (full opening - summer)
		Cont. open	**PERMANENTLY OPEN** Sliding door remains open, until a different operating mode is selected.
		Automatic	**REDUCED OPENING WIDTH** Free passage through the sliding doors in both directions. Reduced opening width (winter)
		One-way	**ONE WAY** Passage is only possible in one direction (e.g. closing time).

NOTICE

A reduced opening width is also available in the operating modes ONE WAY and PERAMENTLY OPEN.

NOTICE

Exiting the sliding door operation and resuming the revolving door operation is done by selecting the desired revolving door operation on the control unit BDE-D-KTA. It does not matter what position the wings of the sliding doors are currently in. The sliding doors will automatically close, if still open, before the revolving door starts to rotate.

6.3 Lock control unit via key panel

CAUTION

Dangerous situation through one-time opening of the sliding door while the revolving door is in operation

Injuries and/or damages

a) The lock on the control unit of the sliding door must always be on when the revolving door is in operation!

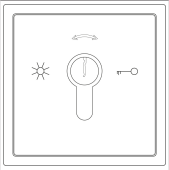
Locking the control unit				
Press key sequence			Symbol	Description
Logo	✱	🔒	Automatic	– The control panel keys are locked. – It is difficult to manipulate the control unit. – The status of the lock is shown on the BDE-D display.

Unlocking the control unit				
Press key sequence			Symbol	Description
Logo	✱	🔒	Automatic	– The control panel keys are activated. – Free selection of operating modes and special functions are available.

6.4 Operation lock via key switch

Locking the control unit	
	The key switch is used to unlock or block the BDE-D-KTA control unit for the revolving door. Only a specific group of people are entitled to lock or unlock as well as operate the revolving door.

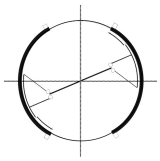
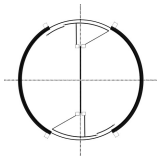
6.5 Key operated switch BDE-V

Key	Function	Symbol	Description
 Locked	Locked	 Locked	– By turning the key switch to the right until it stops, the operating mode "Locked" is selected.
 Unlocked	Varies, depending on the preset mode	Varies, depending on the preset mode	– By turning the key switch to the left until it stops, the operating mode is changed from "Locked" to the original preset mode on the BDE-D-KTA.

6.6 Revolving door mode

6.6.1 Special functions selection

The special functions can be selected on the control unit BDE-D-KTA by pressing the respective key.

Key	Function	Symbol	Description
✱	**Change the start position**	Automatic	– Change the start position from – the **normal position**  – to **the special position**  – The start position can also be changed in the "One Way" operating mode
press again	**One rotation**	Automatic	– Pressing the key once activates a rotation in the "Automatic" operating mode.
press again	**Open once**	Locked	– Pressing once unlocks the revolving door and activates a rotation (if locking is available). – Then it will lock again, once the closed position is reached again.

6.7 Sliding door mode

6.7.1 Selecting special functions

Key	Function	Symbol	Description
◀ ▶	**Manual operation**	Manual	– Press key **approx. 2 seconds** or **2 x briefly** in a row. – Sliding door can be used manually. – Back to a different operating mode – Press the desired key (i.e. Automatic).
	Open one time	Locked	– Sliding door is closed. – Press the key 1 time, the sliding door will activate an opening / closing motion. – The sliding door will then close again.

6.8 Display show cases

CAUTION

Risk of crushing due to rotation unit

a) Squeezing, shearing or retracting fingers/hands and feet

⇨ **Before opening the display case door, make sure that the revolving door (rotation unit) no longer rotates.**

CAUTION

Pinching the fingers

a) Squeezing, shearing or retracting fingers/hands and feet

⇨ Do not drop any objects into the sliding door clearance.

⇨ Do not reach into the driving gap or rest on the glass panes.

CAUTION

Damage to persons or property caused by display cases

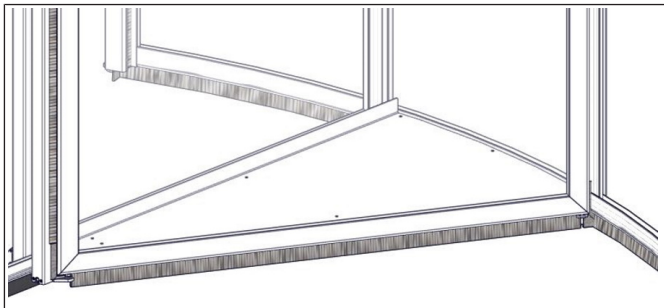
a) Personal injury or damage to property

⇨ The maximum permissible payload per display case is 15kg. This weight must not be exceeded.

⇨ The stay of persons in the showcase is forbidden.

⇨ There must be an even weight distribution per display case.

⇨ The load items must be secured against slipping. The sliding leaf of the automatic sliding door must not be obstructed or blocked in its opening movement.



– Press the CONTINUOUS ROTATE mode on the BDE-D control unit.

– As soon as the rotation unit has reached the desired position, press the CONTINUOUS ROTATE button again.

– The revolving door stops and changes to the MANUAL OPERATION mode.

– Activate operating lock on the BDE-D (see chapter: Operating lock via keyboard).

– Showcase door can be opened.

6.9 Locking elements

The revolving door is equipped with an electro-mechanical bistable lock. The lock can be turned on and/or off with the control unit. The rotating inner section (rotation unit) positions itself in front of the passage way of the revolving door and is locked together with the exterior radial-sliding wing. This way the night shield is directly integrated and does not need to be built in separately. In the case of a power failure, the operating position of the revolving door remains intact (LOCKED / UNLOCKED).

Pivot wing lock

The electric pivot wing lock (electromagnets currentless unlocked) is installed in the drive technology of the system.

6.9.1 Lock status indicator

Lock status indicator VRM radial protective sliding wing

Lock status indicator (potential free bolt contact) indicates the lock status of the exterior radial protective sliding wing, i.e. *radial protective sliding wing is locked or unlocked.*

Lock status indicator VRM (VDS) radial protective sliding wing

Lock status indicator (potential free bolt contact with VDS approval) indicates the lock status of the exterior radial protective sliding wing, i.e. *radial protective sliding wing is locked or unlocked.*

Lock status indicator VRM rotor

Lock status indicator (potential free bolt contact) indicates the lock status of the rotation unit i.e. *rotation unit is locked or unlocked.*

Lock status indicator VRM (VDS) rotor

Lock status indicator (potential free bolt contact wit VDS approval) indicates the lock status of the rotation unit i.e. *rotation unit is locked or unlocked.*

6.10 Position indicator

Door position indicator TPA (VDS) radial protective sliding wing

Door position indicator (potential free changeover reed contact, VDS approved) indicates the position, i.e. *radial protective sliding wing is closed.*

Door position indicator TPA rotor

Door position indicator (potential free changeover reed contact) indicates the position, i.e. *rotation unit is closed.*

Door position indicator TPA (VDS) Rotor

Door position indicator (potential free changeover reed contact, VDS approved) indicates the position, i.e. *rotation unit is closed.*

Door position indicator TPA radial protective sliding wing

Door position indicator (potential free changeover reed contact) indicates the position, i.e. *radial protective sliding wing is closed.*

6.11 Accessories

Timer

Switching form AUTOMATIC operating mode to OFF operating mode and back can be done using a timer.

Door passage lighting

If the normal ambient lighting is not sufficient, then suitable integral lighting must be provided.
The quantity and type of lighting required for this revolving door is defined in the list of components or in the construction drawings.

Alarm contact

Alarm contact* to be connected to the building automation system, which is activated when there is a malfunction in the door control system.

* potential free relay changeover contact, maximum contact load: 24volt AC / DC / 0.3 ampere

Main power switch

By pressing or turning the main power switch, the revolving door is completely disconnected form the mains voltage.

Battery

Power failure emergency reaction. Depending on the configuration and the operating condition of the revolving door, either the revolving door will remain locked or the rotation unit will move to the cross position and releases the battery supported sliding door operation.

Optional:

UPS battery back up for extended battery operation of the sliding door.

7 Servicing and maintenance

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 Monthly inspection work to be carried out by the operating company

Test / Inspection	Procedure	Expected results
Motion detector	– Walk towards the door at normal speed (from the inside and outside) – If necessary, clean the sensors (motion detectors), especially the external – Please note that moisture condensation on the sensor, such as the escape of warm, moist internal air and condensation on the colder external motion sensor, can prevent the door from closing. Therefore, ensure that the indoor air is dehumidified or, if necessary, wipe the outer sensor dry.	– The sensor must cover the entire passage width – The door is opened at an early stage and at an appropriate speed to allow unhindered passage

Door leaves / Side screens	– Verify the state of the glazing. – Verify the state of the seals / profiles.	– No glass damage. – No seals torn off (energy loss). – The door is the "visit card" of your company. Take care that it is maintained in a perfect condition.
Door leaf guides	– Check the door leaf guides – Under certain circumstances these may be damaged by impact (e.g. by shopping trolleys) – Door leaf guides can show unusual signs of wear and tear due to intensive use and dirt	– Door leaf must be properly guided – Bottom and vertical door profiles show no scratch marks – Door leaf guides must not produce any unusual noises when opening/closing
Continuous floor guide (instead of point door leaf guide)	– Set the door to manual operation – Clean all guides from dirt, cigarettes etc.	– Door leaf must be properly guided – The movement of the door must not be hindered by dirt
Protective screen (optional - depending on country regulations)	– Check the mechanical condition of the protective screen – Check in particular the closing mechanism	– A protective screen should prevent all crushing and shearing points

CAUTION

Risk of burns, hot surfaces!

a) Risk of burning hands when replacing bulbs!

⇨ Allow bulb to cool at least 5 minutes before replacing and/ or wear protective gloves.

Visual inspection lighting	– Verify whether the lights are installed correctly and turn them on.	– Lights must be installed correct and function.
Visual inspection of the floor covering	– Verify the floor covering for possible tripping hazards, unevenness, damages, and dirt accumulation.	– The floor covering must be free from tripping hazards, unevenness, damages and dirt accumulation.
Visual inspection of the instructions and labeling (buttons / switches)	– Verify that all labels are present and legible.	– All labels must be present, legible and firmly applied.
Visual inspection of the glass label	– Verify that the label is present.	– The glass label must be firmly attached at eye level.

7.3 Cleaning and care

DANGER

Warning: risk of fatal electric shock!

a) Risk of death by electrocution

⇨ Do not touch the drive system while the main power is connected.

⇨ Do not spray water into the drive system.

NOTICE

Before cleaning, select MANUAL mode and also press the emergency stop button. Rinse cleaned surfaces with a clean, damp cloth.

IMPORTANT

Keep the system 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 within the system.

c) We recommend that you impregnate the safety strips with water repellent care products.

IMPORTANT

Any other cleaning products, not mentioned here, should not be used!

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
Display cases	Weekly	Commercial glass cleaner

8 Troubleshooting

8.1 Conduct during malfunctions

If a malfunction occurs in the revolving door, it will appear on the control unit display.

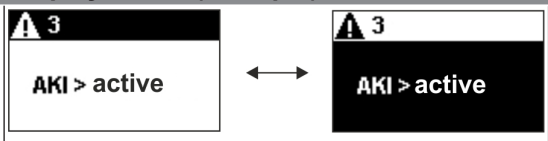
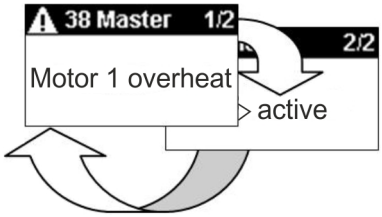
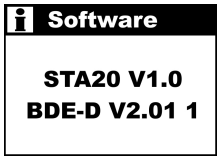
Operational malfunctions of the revolving door are shown on the BDE-D-KTA control unit of the revolving door and operational malfunctions of the sliding door on the BDE-D-STA of the sliding door.

IMPORTANT

In all operating modes, with the exception of "locked", the radial protective sliding wing can be pushed open manually to escape the rotor chamber in the case of a malfunction.
The radial protective sliding wing on the outside of the revolving door is blocked when in the "locked" operating mode!

8.1.1 Display on the respective control unit BDE-D

- Status messages with status number and text appear on the control unit display.
- The display switches between black / white.
- After 10 sec. alternately, the telephone number of the service centre will be displayed (if programmed).
- If different status messages are activated simultaneously, they will be numbered: e.g. error **1/2**.

What information?	Procedure	Displayed as? (example)
Status messages and number	– Will automatically appear on the control unit.	
Several status messages and numbers	– If more are shown: Scroll through the status messages by pressing the key. Logo	
Software-Versions	– Pressing the following button on the control unit for 2 sec. Logo	

8.1.2 Potential troubleshooting

- Thanks to the status message on the BDE-D, some malfunctions can be fixed by the operator.
- If you are unsure, or the status message is **not** listed in the table, please contact your service centre.
- Before calling, please note the information displayed on the BDE-D control unit. This information gives the technician important instructions for potential troubleshooting.

8.1.3 General BDE-D status messages and potential troubleshooting

Abbreviation / Symbol	Meaning
Nr.	Status or error number
H	General instructions
R	A service technician is required for resetting the error display. After removing an error, no automatic reset happens.
W	No serious malfunction but only a warning message.
	Despite an active error the door can be provisionally locked as follows: – Set BDE-D on MANUAL operating mode – Slide door leaves by hand into closed position (STA) – Set BDE-D on LOCKED operating mode – Door remains closed and locked

No.	Display text	H	Comments and possible troubleshooting
3	active		An opening signal is permanently activated on the inner side of the door (e.g. permanent movements in front of the interior motion detector). – Remove objects moving within the detection area of sensors. – The reaction time for the error can be configured or the error message can be disabled (see *Parameter → Miscellaneous → Alarm display → Time activation)*.
5	active		An opening signal is permamently activated on the outer side of the door (e.g. permanent movements in front of the exterior motion detector). – Remove objects moving within the detection area of sensors. – The reaction time for the error can be configured or the error message can be disabled (see *Parameter → Miscellaneous → Alarm display → Time activation)*.
48	or activated		**:** Emergency closing or safety opening is active. – Reset switch / button – Control wiring and external components
54	Calibration run	W	A door run is performed to learn the door parameters (travel distance, door mass, friction, ...). – **:** Trigger several door openings (normally 2) until the message disappears. – **:** Trigger calibration run.
55	Power failure		**:** No power supply. Depending on equipment, configuration and door type, the door continues to function in battery operation mode. – Connect to mains
59	enabled		A safety signal in closing direction is permanently active. **/:** Depending on configuration, the door reverses, stops or creeps (see *Parameter → Input/output →)*. – Remove objects moving within the detection field of sensors. – Check wiring, settings and function of the sensor. – The reaction time for the error can be configured or the error message can be disabled (see *Parameter → Miscellaneous → Alarm display → Time safety)*.

61	aktive		**/:** The signal on the key-operated contact is permanently active. – Check the switch and wiring/connections. – The response time for the error can be configured or the error message can be disabled (see *Parameter → Miscellaneous → Alarm display → Time activation)*.
62	no priority	W	**:** The requested operating mode cannot currently be set because an operating mode with a higher priority has been selected on one of the mechanical controls (, , , etc.). **:** The requested operating mode cannot currently be set because an operating mode with a higher priority has been selected on one of the mechanical controls (). For instance, if operating mode *Locked* has been set on the , one cannot change to *Automatic* with the .
97	Maintenance time exceeded	W R	The configured maintenance cycle has already been exceeded for a certain time (>105%). – Inform our after-sales service centre urgently and have maintenance carried out. – By acknowledging the warning message, the alarm is reset for 13 days.
98	Maintenance due	W R	95% of the configured maintenance cycle has been reached. – Inform our after-sales service centre and have maintenance carried out soon. – The warning can be acknowledged. It will be displayed again when 100% of the maintenance cycle has been reached.
101	Learning sensor	W	**:** The special door run for learning the sensors is being carried out. – Trigger several door openings until the message disappears.
111	Fire alarm		External fire alarm / smoke removal contact is activated. – If false alarm, check contacts and connections.
112	Batt. not charged complete	W	**:** The battery is not completely charged. – Connect it to mains voltage. – The message disappears as soon as the battery is fully charged.
304	Sliding door open		Sliding door is open. – Wait for sliding door to automatically close or push together manually.
305	VRR error radial wing		Error when locking the radial protective sliding wing. – Press the “Locked” operating mode on the BDE-D again.
306	VRR error rotor		Error when locking the rotation unit. – Press the “Locked” operating mode on the BDE-D again.
345	OP-VLS1 > 60s active		Vertical forward sensor is activated for longer than 60 sec. – Check that no objects are activating the vertical forward sensor.
346	OP-VLS2 > 60s active		Vertical forward sensor is activated for longer than 60 sec. – Check that no objects are activating the vertical forward sensor.
353	OP-VSSA > 60s active		Vertical forward sensor is activated for longer than 60 sec. – Check that no objects are activating the vertical forward sensor.
354	OP-VSSI > 60s active		Vertical forward sensor is activated for longer than 60 sec. – Check that no objects are activating the interior vertical sensor.

361	SL-RSF1 / RSF1 > 60s active		Safety strip activated or radial protective sliding wing displaced for longer than 60 sec. – Check that no objects are activating the safety strip and that the radial protective sliding wing is not displaced.
362	SL-RSF2 / RSF2 > 60s active		Safety strip activated or radial protective sliding wing displaced for longer than 60 sec. – Check that no objects are activating the safety strip and that the radial protective sliding wing is not displaced.
363	SL-TRKA > 60s active		Safety strip drum edge activated for longer than 60 sec. – Check that no objects are activating the safety strip.
364	SL-TRKA > 60s active		Safety strip drum edge activated for longer than 60 sec. – Check that no objects are activating the safety strip.
365	SL-VSR1 > 60s active		Safety strip radial fixed wing 1 activated for longer than 60 sec. – Check that no objects are activating the safety strip.
366	SL-VSR2 > 60s active		Safety strip radial fixed wing 2 activated for longer than 60 sec. – Check that no objects are activating the safety strip.
375	TA-BEHA > 60s active		Disabled person button exterior activated longer than 60 sec. – Check that the button is not blocked.
376	TA-BEHI > 60s active		Disabled person button interior activated longer than 60 sec. – Check that the button is not blocked.
377	TA-SRT1 > 60s active		Start button 1 on revolving unit activated longer than 60 sec. – Check that the button is not blocked.
378	TA-SRT2 > 60s active		Start button 2 on revolving unit activated longer than 60 sec. – Check that the button is not blocked.
379	Main switch TA-HAS		Revolving door turned off via main power switch. – If no hazard exists, turn main power switch on.
380	Emergency stop TA-NHTA		Emergency stop button exterior activated. – If no hazard exists, reset the emergency stop button.
381	Emergency stop TA-NHTI		Emergency stop button interior activated. – If no hazard exists, reset the emergency stop button.
395	SL-RSF1 / RSF1 error		Safety strip or radial protective sliding wing has internal evaluation error. – Press safety strip. – If evaluation error does not disappear, contact your service centre.
396	SL-RSF2 / RSF2 error		Safety strip or radial protective sliding wing has internal evaluation error. – Press safety strip. – If evaluation error does not disappear, contact your service centre.
397	SL-TRKA error		Safety strip drum edge exterior has internal evaluation error. – Press safety strip. – If evaluation error does not disappear, contact your service centre.
398	SL-TRKI error		Safety strip drum edge inte-rior has internal evaluation error. – Press safety strip. – If evaluation error does not disappear, contact your service centre.

399	SL-VSR1 error		Safety strip radial fixed wing 1 has internal evaluation error. – Press safety strip. – If evaluation error does not disappear, contact your service centre.
400	SL-VSR2 error		Safety strip radial fixed wing 2 has internal evaluation error. – Press safety strip. – If evaluation error does not disappear, contact your service centre.
407	TA-NHTI error		Emergency stop button interior has internal evaluation error. – Check operation of the emergency stop button. If evaluation error does not disappear, contact your service centre.
408	TA-NHTA error		Emergency stop button exterior has internal evaluation error. – Check operation of the emergency stop button. – If evaluation error does not disappear, contact your service centre.
409	TA-HAS error		Main power switch has an internal evaluation error. – Check operation of the main power switch. – If the evaluation error does not disappear, contact your service centre.
440	OP-HSR11 > 60s active		Heel protection light barrier "STOP" activated for longer than 60 sec. – Check that no objects are activating the light barrier. – If necessary, clean optic.
441	OP-HSR12 > 60s active		Heel protection light barrier "STOP" activated for longer than 60 sec. – Check that no objects are activating the light barrier. – If necessary, clean optic.
442	OP-HSR21 > 60s active		Heel protection light barrier "STOP" activated for longer than 60 sec. – Check that no objects are activating the light barrier. – If necessary, clean optic.
443	OP-HSR22 > 60s active		Heel protection light barrier "SLOW" activated for longer than 60 sec. – Check that no objects are activating the light barrier. – If necessary, clean optic.
448	OP-HSR test error		Heel protection light barrier has internal evaluation error. – Activate all 4 light barriers. – If evaluation error does not disappear, contact your service centre.

8.2 Restarting the control units

In certain cases a malfunction can be rectified by restarting the control unit.

This procedure for the revolving door control and the sliding door control is described below.

CAUTION

Unexpected OPENING / CLOSING / ROTATING of the doors / door wings

✓ Bruises and contusions through the door wings

a) Ensure that nobody is obstructing the sliding door.

b) Ensure that nobody can approach the revolving door, triggering the door to open.

8.2.1 Restarting the revolving door control

Procedure	Key	BDE-D Display	Function
Press until the BDE-D display appears.	Logo	No Reset control? Yes	Depending on the mode selected.
Press key briefly, if no restart (no) has to be performed.	✱ c	Previously set operating mode	There is no restart. The system carries out the previous mode set.
Press key briefly, when a restart (yes) has to be performed.	Logo		Reset control is activated. Rotor stops. When finised the restart lock is activated.
Restart lock is activated		Restart inhibit	Rotor stops.
Unlock restart lock: Press the following key sequence	Logo ✱ c ↻	Synchronisation	The rotary unit starts a synchronizing run and rotates max. 360° at slow speed until it reaches the start position.
* The restart process is complete.		The previously set operating mode is displayed.	The revolving door operates in the displayed mode.

* If the control unit reports a new error after restarting the control, please contact your service centre and state the error message.

8.2.2 Restarting the sliding door control

Procedure	Key	BDE-D display	Function
Press until the BDE-D display appears.	Logo	No Reset control? Yes	Depending on the mode selected.
Press briefly, if no restart (no) has to be performed.	✱ c	Previously set operating mode	There is no restart. The system carries out in the previous mode.
Press key briefly, when a restart (yes) has to be performed.	Logo		Reset control is activated. Rotor stops. When finished the restart lock is activated.
* The restart process is complete.		The previously set operating mode is displayed.	The sliding door operates in the displayed mode.

* If the control unit reports a new error after restarting the control, please contact your service centre and state the error message.

8.3 Function during a power failure

CAUTION

Danger of people being trapped inside the turnstile.

a) Bruises and contusions through from the turnstile wing.

⇨ Visual inspection, check whether people are trapped inside.

In the event of a power failure, the rotation is stopped immediately and the turnstile is then freely rotatable.

The key emergency operation button or start button are without function.

NOTICE

An emergency operation is only possible for a certain bridge period with an external (on-site) or integrated UPS (Uninterruptible Power Supply).

If the system is equipped with a bistable electric turnstile lock, the turnstile remains locked in the basic position in the operating mode LOCKED.

If a monostable closed lock is installed, the system is locked from any operating mode.

8.4 Conduct during power failure

8.4.1 Revolving door conduct during power failure

In the operating modes "Automatic", "Continuous" and "One Way" the rotation unit rotates to the cross position with help from the integrated emergency power supply and then shut down.

The message "Power failure" is displayed on the BDE-D control unit.

Depending on the configuration, the sliding doors will remain operational during power failure or they will open and stay open.

In the revolving door operating modes "Locked", "Manual" or "Cross position" the rotation unit remains in its current position.

8.4.2 Revolving door conduct when power is restored

NOTICE

After power is restored, the message "Power failure" will disappear off the control unit. Depending on the duration of the power failure, either the previous operating mode will resume or for safety reasons, the restart lock will be activated and the revolving door will remain at a standstill. This will be displayed on the BDE-D control unit.

The restart lock must be cancelled manually on the BDE-D first before the revolving door can operate again.

Cancel the restart lock				
Press key sequence			**BDE display**	**Description**
Logo	✱	↻	Status display: **synchronizing**	– Cancel the restart lock after power returns. – The revolving door starts to synchronize and rotates max. 360° in slow speed until it reaches the start position. – The revolving door will then continue in the last selected operation mode. – To change the operation mode, see chapter: Revolving door mode selection

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

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