

Revolving Security Door RevLock



RevLock 600

TECHNICAL MANUAL

(Translation of the original French text)

Rev. 0

Document Revision

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|------|------------|---------------|---------------|---------------|
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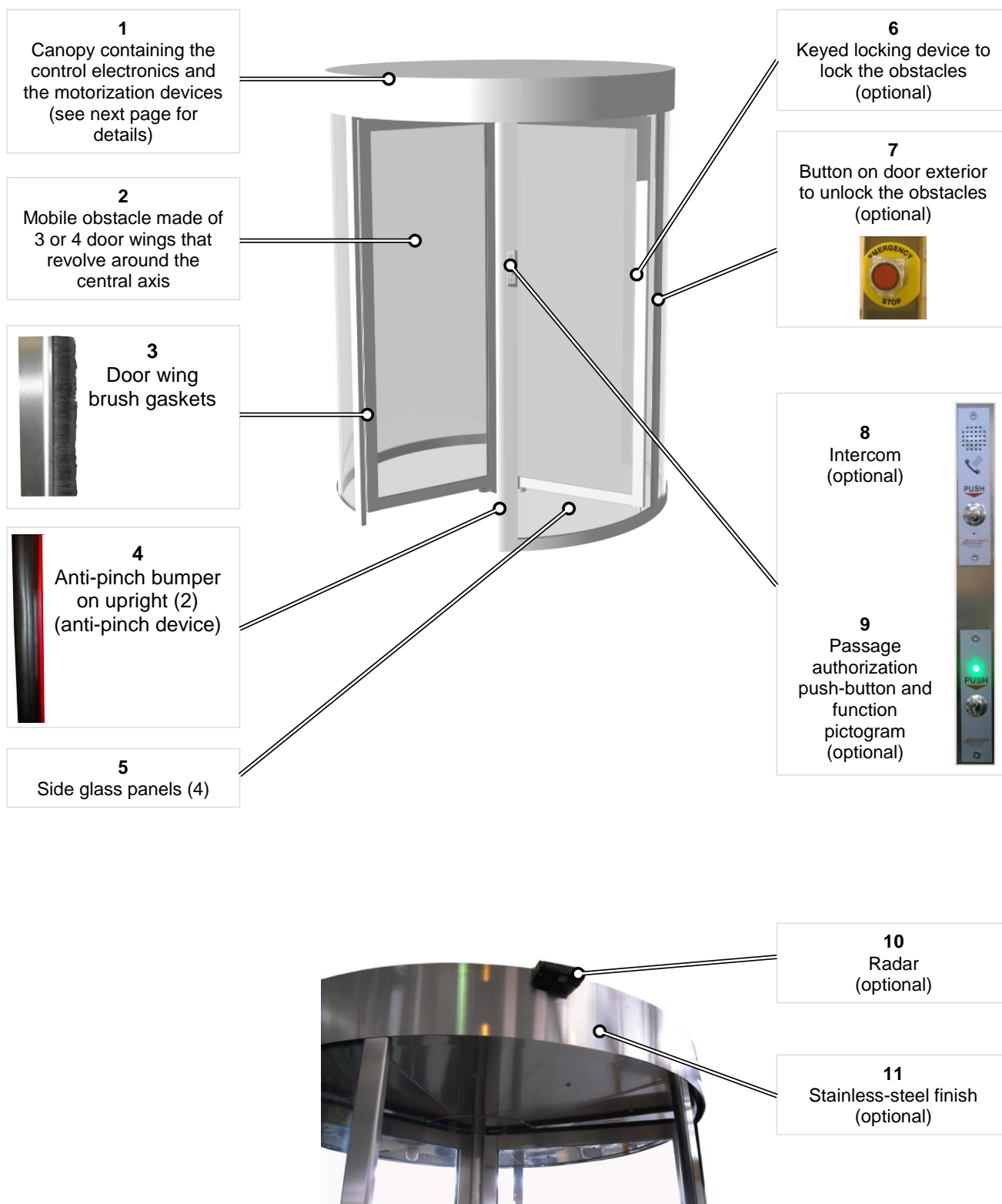
1. SAFETY WARNINGS

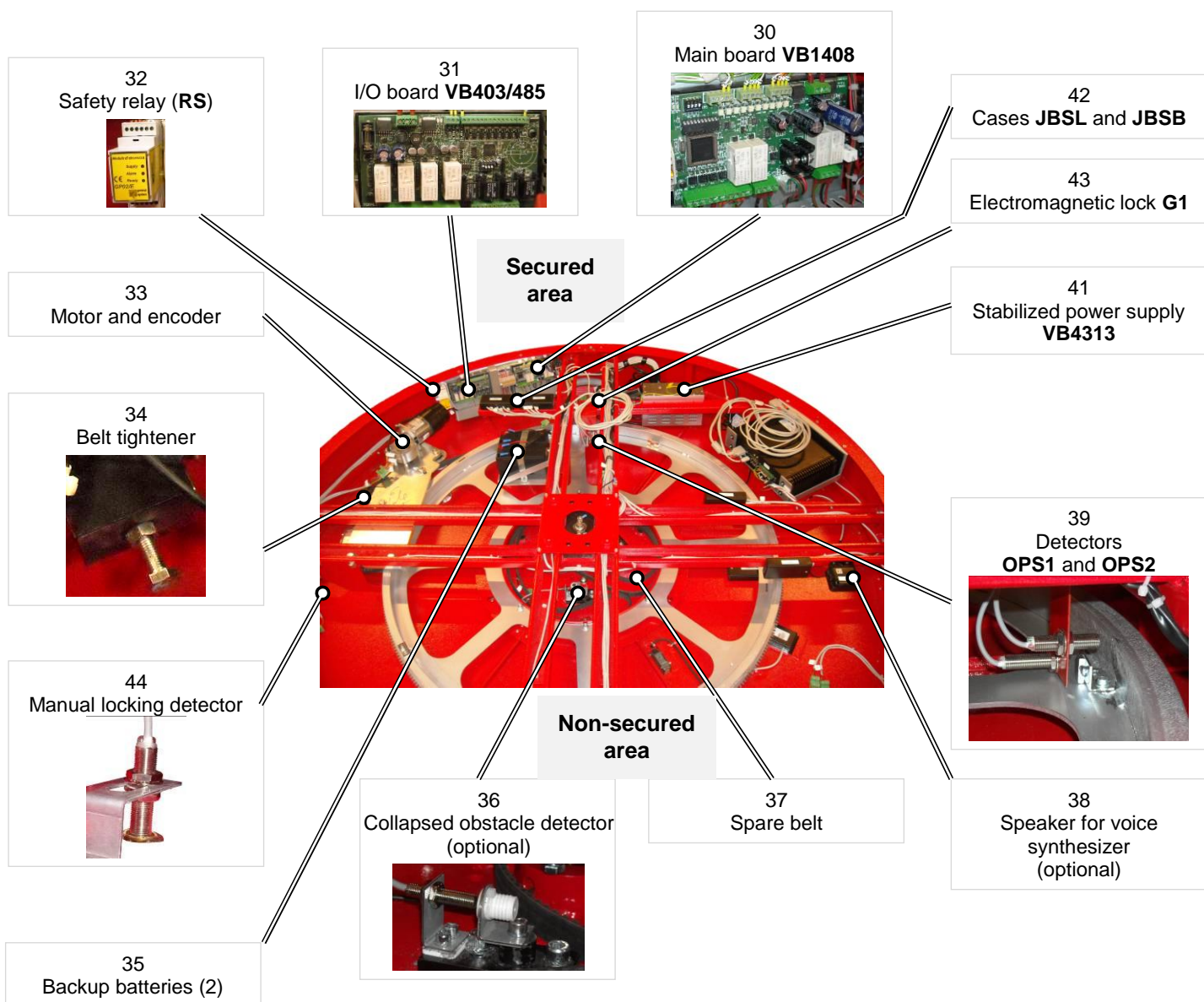
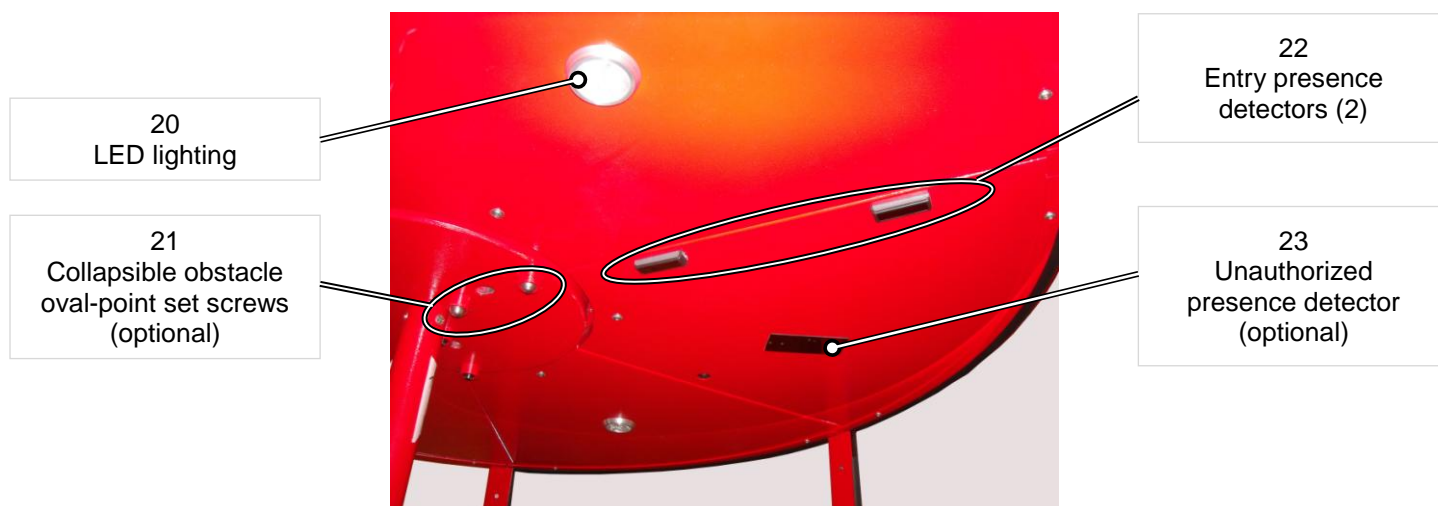
- This manual must be made available to any person who works with the equipment, e.g., installers, maintenance technicians, end users, etc.
- This equipment has been designed to control and manage pedestrian access and flow and cannot be applied to any other use without risk to users or to the integrity of the equipment. Automatic Systems cannot be held responsible for damages caused by improper use of the equipment.
- It is strongly recommended that children be **supervised** as they pass through the door. Extreme care is also required with animals, which should be kept on a leash and under the control of their owners.
- Do not add non-approved accessories (contact between different metals causes an electrolytic effect that decreases the equipment's corrosion resistance).
- The Contractor shall comply with local standards when installing the equipment.
- Any work on the equipment must be performed by qualified personnel. Automatic Systems shall reserve the full right to automatically refuse our warranty if any unauthorized work or work performed by an unqualified technician is performed on this product.
- Access to the mechanism is reserved for personnel who are aware of the electrical and mechanical dangers in the case of negligent operation. This personnel is obliged to close off access to the mechanical equipment after completing any work.
- For any operation that does not require the equipment to be powered on, disconnect the electrical power beforehand using the SYSTEM switch on the console ⇒ OFF (or open the breaker on the client distribution panel) **AND** disconnect the batteries.
- Any internal element that may be live or that could move should be handled with caution.
- The equipment is factory configured in "minimal risk" mode for its users. Parameters should only be changed by qualified personnel with full knowledge of the consequences, and this shall in no way entail any liability on the part of Automatic Systems.
- The equipment must be completely visible to the user/operator before being put into operation.
- After a collision, even if there is no visible damage, the equipment must be checked by a qualified technician.

2. DESCRIPTION

The RevLock is a revolving security door equipped with 3 (RevLock 600) or 4 (RevLock 601) door wings attached to a central column that revolves around a vertical axis within a circular glass enclosure.

2.1. Component location





3. INSTALLATION

3.1. Site preparation work

Prior to installation, preparation work must be performed in accordance with the implementation drawing (see Chapter 7). The following requirements in particular must be met:

- Door installation and canopy maintenance require sufficient floor-to-ceiling height.
- The ground must be able to sustain the pressure exerted by the equipment:
 - ⇒ RevLock 600 footprint: 2.54 m²
 - ⇒ RevLock 601 footprint: 4.15 m²
- The ground must be perfectly flat (smooth).
- The maximum tolerated floor inclination (slope) in all directions is 0.3% (6 mm over 2 m).
- The slope must be constant (no direction change).

3.2. Storage before installation

Before installation, protect equipment from impact and store it in its original packaging in a dry area protected from dust, heat and the weather.

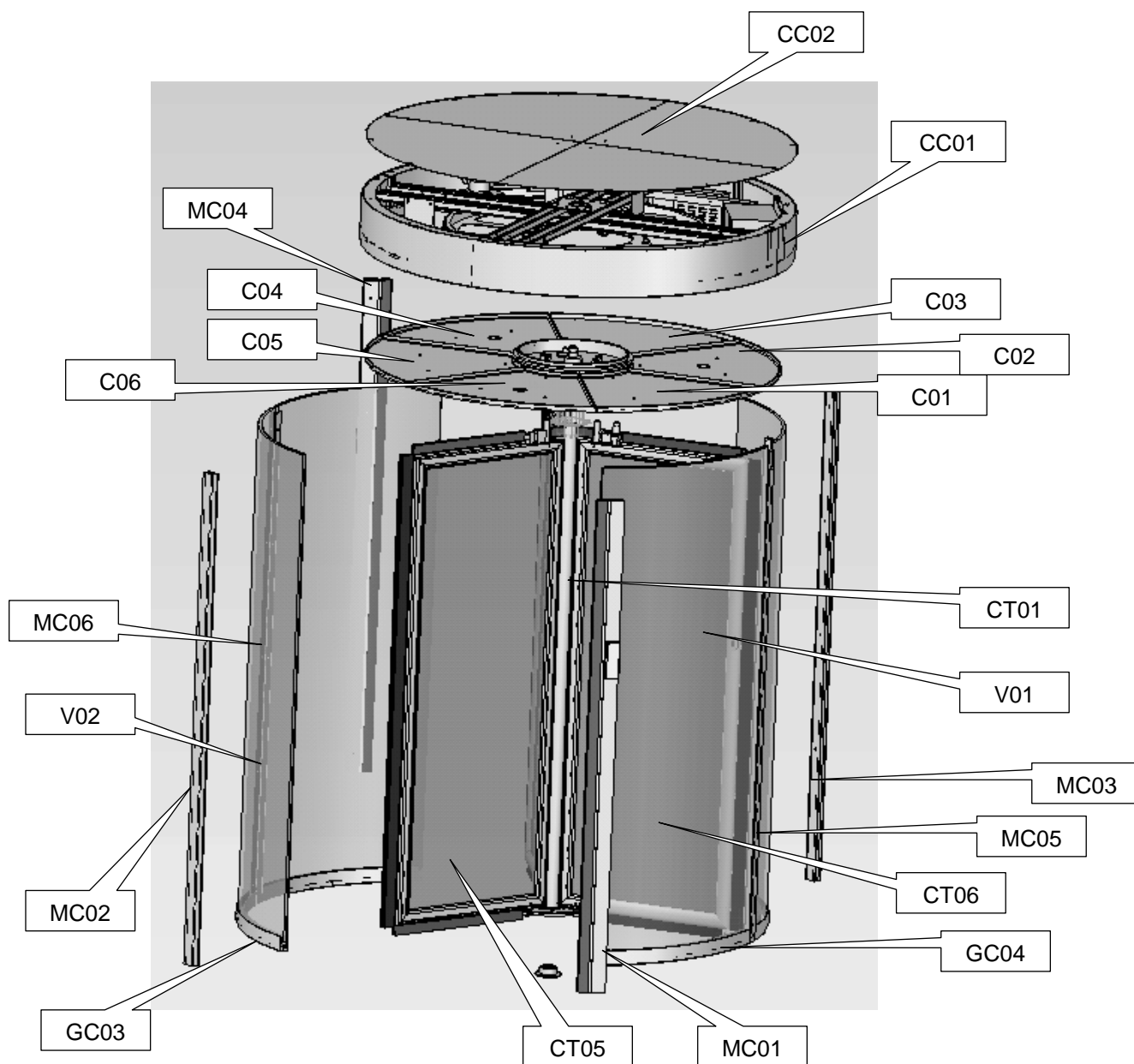
Store between -30°C and 80°C.

3.3. Required tools

















WARNING: Because the various components are heavy—the side glass panels, the door wings and the canopy all weigh more than 50 kg each—a minimum of 2 persons are required to assemble the equipment.

- Crane or lift truck to install the canopy (250 kg)
- 3-m straps (2) or vacuum discs (4) to handle the glass panels and the door wings (> 50 kg)
- ⚠ Safety footwear, gloves, helmet and goggles
- Percussion drill and 10-mm drill bit
- Flat, Phillips and Tork screwdriver sets
- Step ladder (2 m high)
- 13-mm open-end wrench
- Allen key set (2.5 to 12 mm)
- Pry bar
- Flat file
- Cutter
- Flat nose pliers (200 mm)
- Wire cutter
- Caulking gun (silicone cartridge included)
- Bubble level (45 cm long)
- Vacuum
- Window cleaner
- Stainless steel cleaner
- Toweling paper
- Masking tape






3.4. Packing list





| Ref. | Qty | Description |
|------|-----|---|
| MC01 | 1 | Right upright with anti-pinch bumper for non-secured area |
| MC02 | 1 | Left upright for non-secured area |
| MC03 | 1 | Right upright with anti-pinch bumper for secured area |
| MC04 | 1 | Left upright for secured area |
| MC05 | 1 | Right central upright |
| MC06 | 1 | Left central upright |
| CC01 | 1 | Canopy with electronics |
| CC02 | 1 | Canopy cover – section 1 |
| CC03 | 1 | Canopy cover – section 2 |
| CC04 | 1 | Canopy cover – section 3 |
| CC05 | 1 | Canopy cover – section 4 |
| C01 | 1 | Ceiling – section 1 |
| C02 | 1 | Ceiling – section 2 |
| C03 | 1 | Ceiling – section 3 |
| C04 | 1 | Ceiling – section 4 |
| C05 | 1 | Ceiling – section 5 |
| C06 | 1 | Ceiling – section 6 |
| V01 | 1 | Right side glass panel for non-secured area |
| V02 | 1 | Left side glass panel for non-secured area |
| V03 | 1 | Right side glass panel for secured area |
| V04 | 1 | Left side glass panel for secured area |
| GC01 | 2 | Upper horizontal half glass-cover (secured/non-secured area; right/left) |
| GC02 | 2 | Upper horizontal half glass-cover (non-secured/secured area; right/left) |
| GC03 | 2 | Lower horizontal half glass-cover (secured/non-secured area; right/left) |
| GC04 | 2 | Lower horizontal half glass-cover (non-secured/secured area; right/left) |
| GS01 | 2 | Internal upright glass cover (secured/non-secured area; right/left) |
| GS02 | 2 | External upright glass cover (secured/non-secured area; right/left) |
| GS03 | 2 | Internal glass cover for central upright |
| GS04 | 2 | External glass cover for central upright |
| GS05 | 2 | Glass cover for upright with pictogram (secured/non-secured area; right/left) |
| CT01 | 1 | Central column |
| CT02 | 1 | Bottom support for door wings |
| CT03 | 1 | Floor support for door wing bottom axle |
| CT04 | 1 | Ceiling support for door wing top axle |
| CT05 | 2 | Turnstile wing without manual lock |
| CT06 | 1 | Turnstile wing with manual lock |
| CT07 | 1 | Top arm support |
| R01 | 1 | Right bottom half ring |
| R02 | 1 | Left bottom half ring |
| | 1 | Drilling template |

| Ref. | Qty | Description | | Location (see previous table) |
|------|-----|---|---|-----------------------------------|
| 30 | 30 | Flat socket cap screw (Torx®) (M5 x 25) |  | 5, 6 |
| 31 | 24 | Flat socket cap screw (M6 x 16) |  | 5 (GC01, GC02), 3 |
| 32 | 6 | Flat socket cap screw (M8 x 16) |  | 3 |
| 33 | 12 | Flat socket cap screw (M8 x 35) |  | 7 (CT05, CT06 if painted) |
| 34 | sq | Plastic shims |  | 1, 5, 6 |
| 35 | 4 | Grey silicone cartridge | | 5, 6, 7 |
| 36 | 12 | Flat socket cap screw (M5 x 8) |  | 7 (CT05, CT06 if stainless steel) |
| 37 | 4 | Flat socket cap screw (M6 x 20) |  | 1, 8 |
| 38 | 4 | Flat socket cap screw (Torx®) (M4 x 35) |  | |
| 39 | 10 | Socket cap screw (M8 x 20) |  | 1, 2 |
| 40 | 6 | Flat socket cap screw (M8 x 16) |  | 7 |
| 41 | 12 | Flat socket cap screw (M6) with anchor |  | 8 |
| 42 | 12 | Flat socket cap screw (M5 x 12) |  | 2 |
| 43 | 6 | Set screw (M8 x 8) |  | 7 |
| 44 | 6 | Set screw (M6 x 8) |  | 7 |
| 45 | 12 | Set screw (M5 x 8) |  | 8 |
| 46 | 10 | Spring washer (M8) |  | 1, 2 |

Accessory boxes

| | | |
|----|---|---|
| 50 |  | Control console 2 sets of 2 keys 50-m cable and 2 connectors |
| 51 |  | Intercom 50-m cable and a connector |
| 52 |  | Standard power cable 115/230 VAC |
| 53 |  | Ground leads |
| 54 |  | Mobile door wing axles (1 with a magnetic core for optional collapsing door wing detection) |

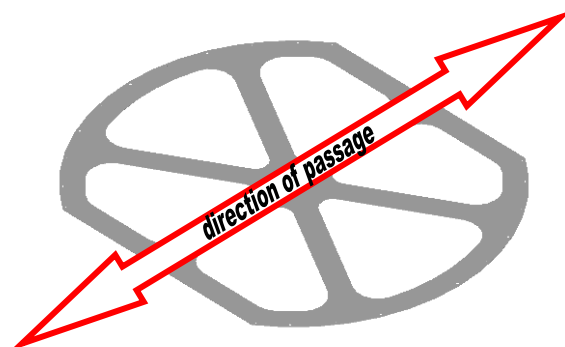
| | | |
|----|---|---|
| 55 |  | Keys to manually lock the exterior obstacle (optional) |
| | 4 lifting eye bolts |  |
| | Rubber strips to seal the side glass panels | |

3.5. Equipment assembly

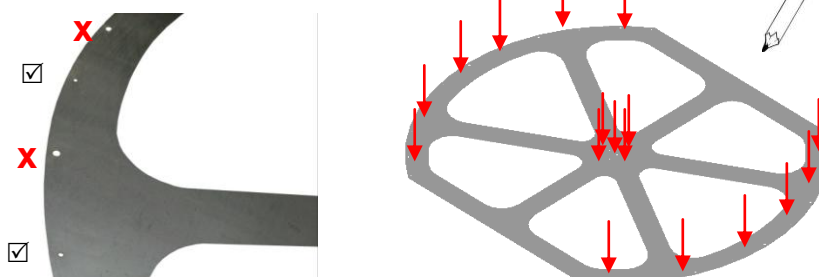
- ⚠ **The equipment must be bolted to the ground before it is made accessible to users!**
- ⚠ The methods and procedure used to bolt the equipment to the ground must be adapted based on the environment and the characteristics of the ground to which the equipment will be bolted.
- ⚠ The work must also be verified by a professionally qualified engineer.
- ⚠ *Automatic Systems* cannot be held responsible for any accident or damage caused to the equipment due to improper floor attachment.

3.5.1. Base

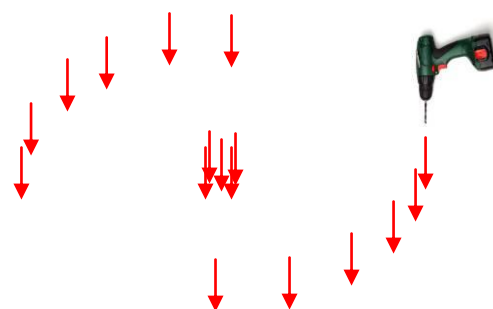
1. Lay the drilling template where the revolving door will be located; the flat sides indicate the entry and exit.



2. Mark the location of the **small** holes of the template: 6 holes on each side and 5 holes in the center.



3. Remove the template; drill 10-mm Ø holes in the marked locations.



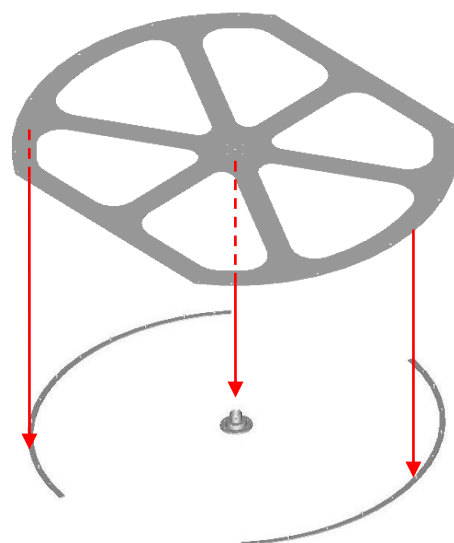
4. Insert the anchors (see item 41 in section 3.4) in the holes.



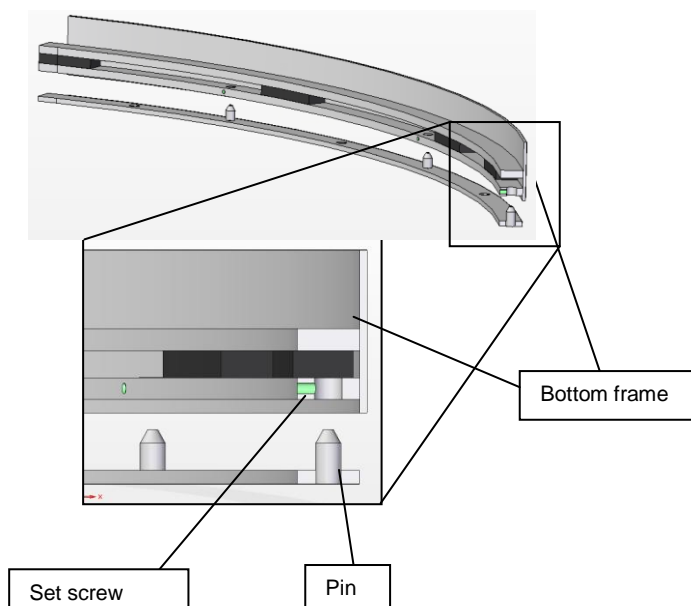
5. Screw on the half rings and the central support.



6. Ensure everything is in place by laying the template on top of the components. Remove the template.



7. Unscrew the glass covers from the bottom frames and place the screws (Torx® M5 x 25) in a safe location.
8. Place the bottom frames over the pins of the two half rings and tighten using the M5 set screws already in place.

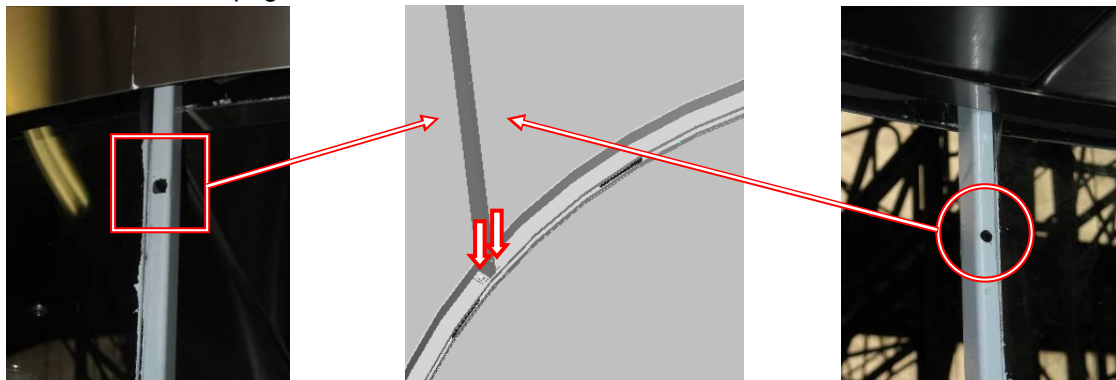


3.5.2. Uprights

Note: The uprights and their locations on the bottom frames are numbered.

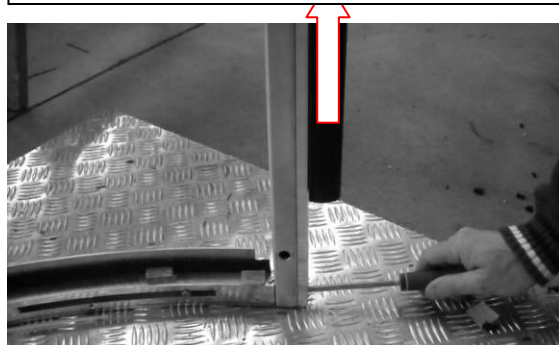
1. Fasten each central upright (2) to the middle of its respective bottom frame.

Note: The round holes indicate the inside face of the upright while the square holes indicate the outside face of the upright.

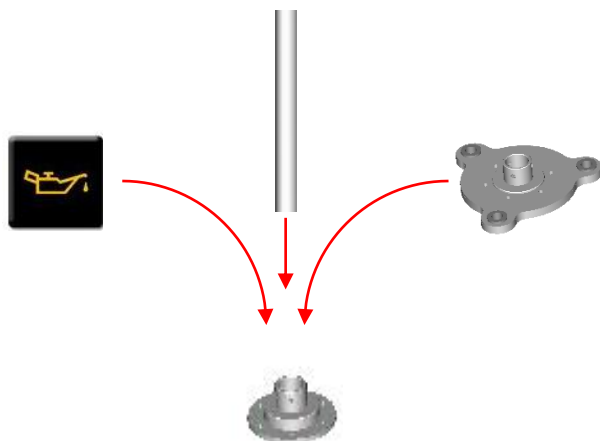


2. Insert the four side uprights in their respective locations in the bottom frames (on either side of the entry/exit openings) and fasten them with the M6 x 20 flat socket cap screws.

Lift the anti-pinch bumper to fasten the side upright to the bottom frame.



3. Lubricate the central support with silicone grease (Arcanol or similar) and place the floor support for door wing bottom axle and the central column on it.



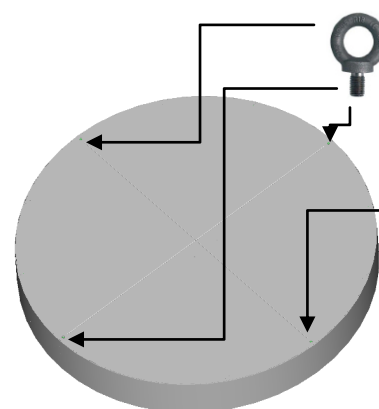
3.5.3. Canopy

WARNING: The canopy weighs 250 kg; it must therefore be handled with a crane or lift truck.

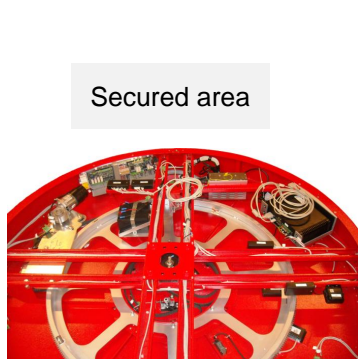
The presence of the central column prevents any device from being placed in the middle of the unit.



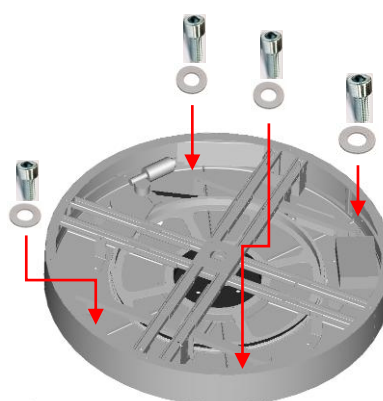
1. Remove the canopy covers.
2. If using a crane to lift the canopy:
 - a. Fasten the 4 lifting eye bolts to the canopy in the holes designed for this purpose. Check that the bolts are not damaged.
 - b. Pass a lifting cable through one of the lifting eye bolts; do this for each of the four cables and put them under tension.
 - c. The angle between the canopy and the cables must not exceed 45°.



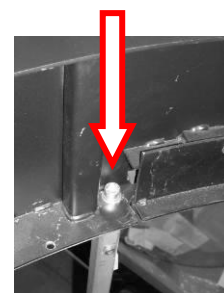
3. Position the canopy in relation to the secured and non-secured areas and fasten the canopy to the 4 side uprights with M8 x 20 socket cap screws and washers.



Secured area



Non-secured area



3.5.4. Side glass panels

⚠ WARNING: The glass panels weigh more than 50 kg and must be handled by at least 2 persons with the help of vacuum discs and/or straps.

1. Remove the glass covers from the bottom frame, the canopy* and the uprights.
*Remove the ceiling sections to gain access to the glass covers located inside the canopy.

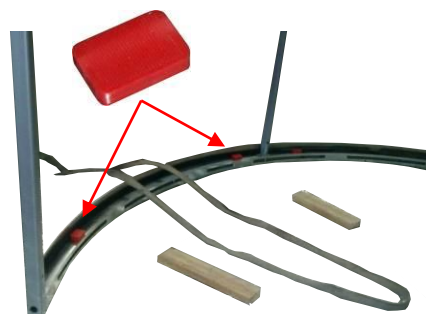


2. Adhere a foam gasket to the bottom frame, the canopy and the upright.



3. Place plastic shims on the bottom frame; inside the unit, lay wooden shims and a strap for handling the glass panel.

Note: If required, plane down the plastic shims so they do not jut out from the glass panel.



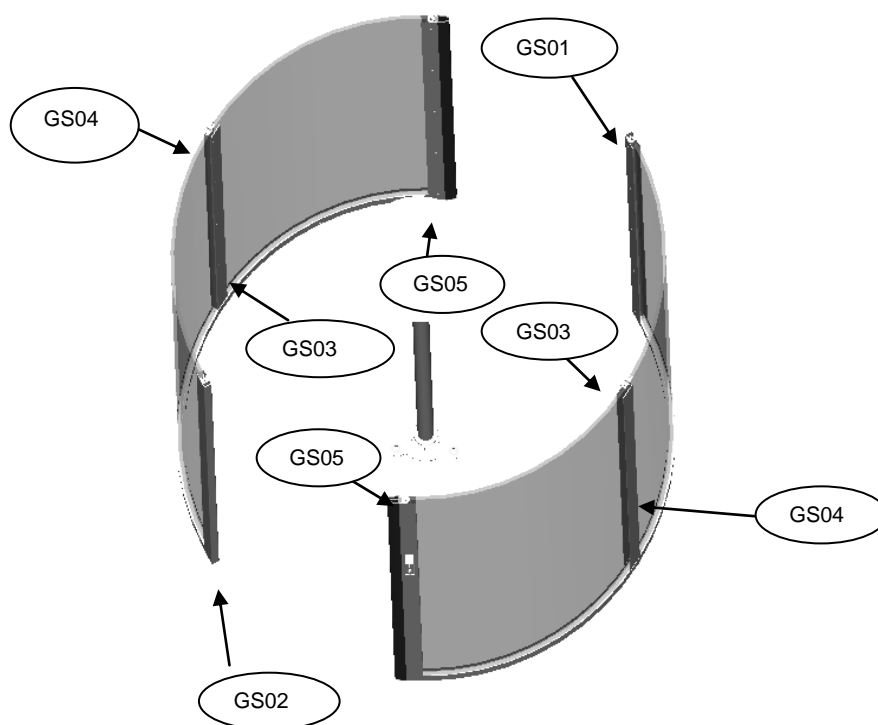
4. Lower the glass panel onto the wooden shims and lift it with the strap. Insert it in the canopy (1) and then position it onto the bottom frame (2).



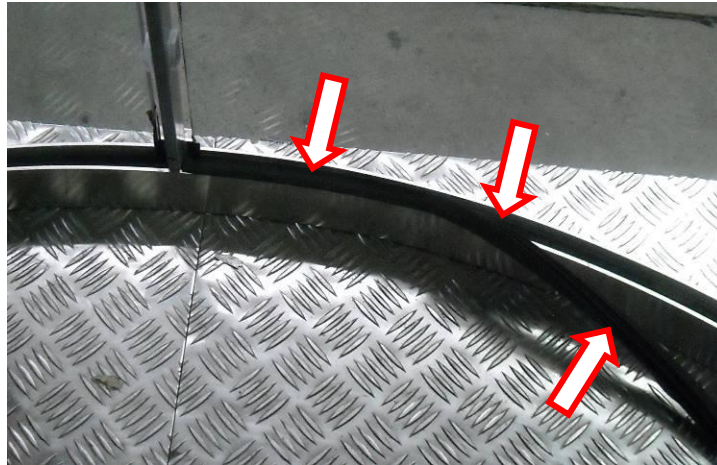
5. Install flexible plastic shims between the uprights and the glass panel to lock the panel in place.



6. Repeat these steps for all side panels.
7. Screw the glass covers loosely onto the bottom frames, the canopy and the uprights (see items GSxx in section 3.4).
Note: Ensure the glass covers sit over 10 to 15 mm of the glass panels.



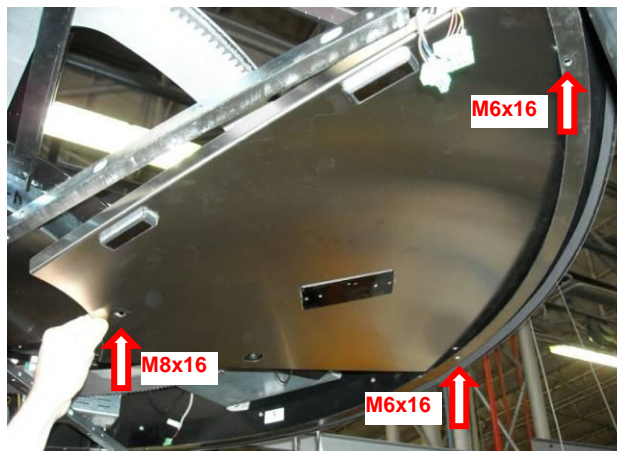
8. Seal the gap between the glass panels and the inside glass covers with the rubber strips provided.



9. Tighten all the glass covers well.

3.5.5. Ceiling panels

Place the widest side of each ceiling panel on the lower edge of the canopy. Fasten with 3 screws.



Note: When installing ceiling panels, match the number of the ceiling panel with the number written on the canopy.



3.5.6. Door wings

⚠ WARNING: Each door wing weighs more than 50 kg; they must therefore be handled by at least 2 persons.

A) Non-collapsing painted steel door wings

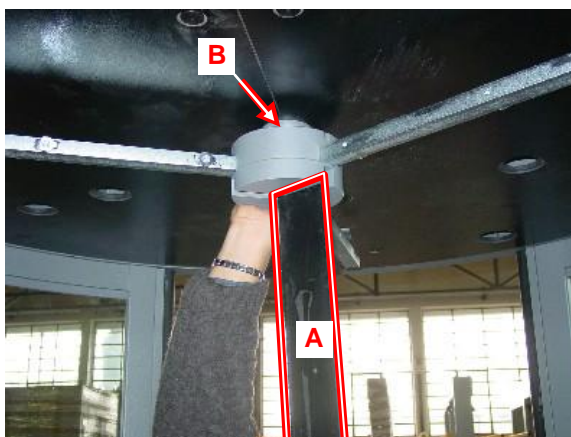
1. Lubricate the central support with bearing grease and insert the bottom support for door wings in its support.



2. Lubricate the top axle with bearing grease and insert the top arm support.



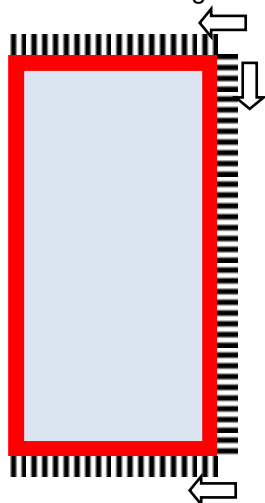
3. Maintain the top arm support in position with the black plastic post (A) (if provided) or with the 6-mm set screw (B).



4. Remove the adhesive tape on the door wings and insert the plastic frames on the upper and lower parts of the door wings.



5. Slide the brush gaskets on the 3 plastic frames of each door wing.



6. Slide one door wing in the revolving door structure.

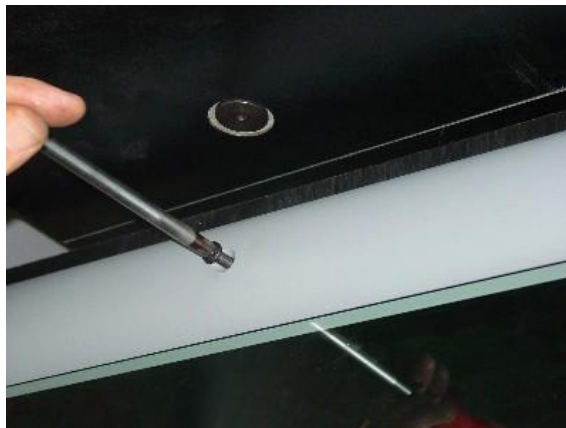


7. Remove the black plastic post (if in place) and slide the 2 remaining door wings into the revolving door structure.
To adjust the position of the 3 door wings, insert the nylon shim provided into the center of the structure.



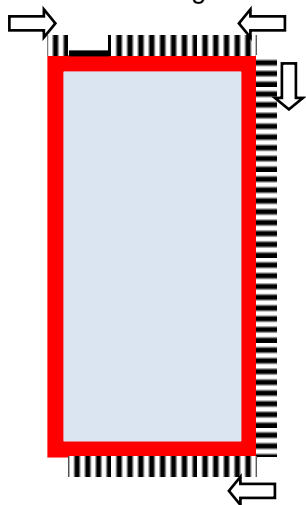
Shim

8. Screw the upper and lower parts of the door wings.

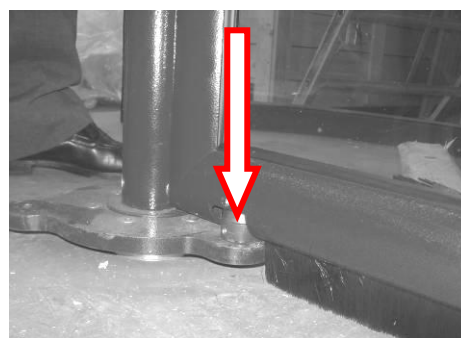
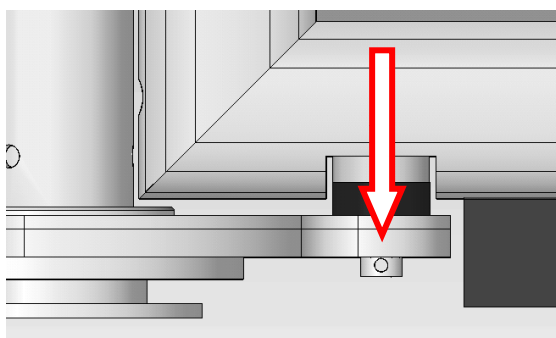


B) Painted steel collapsing door wing (optional)

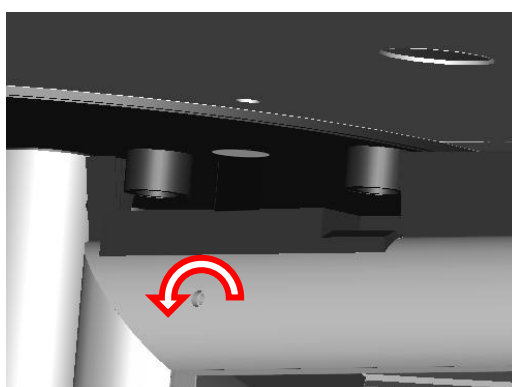
1. Slide the brush gaskets on the 3 frames of each door wing.



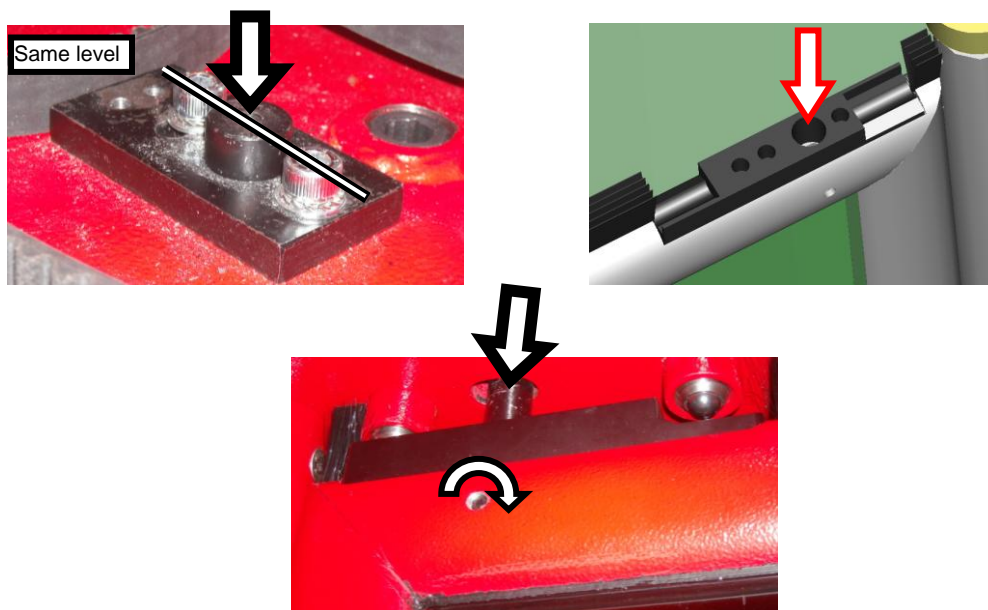
2. Insert the door wing axle into the floor support plate.



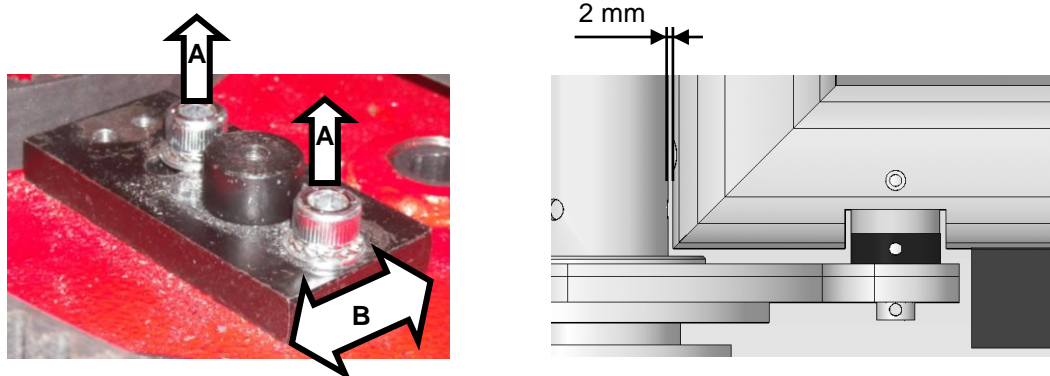
3. Loosen the lock screw of the top axle.



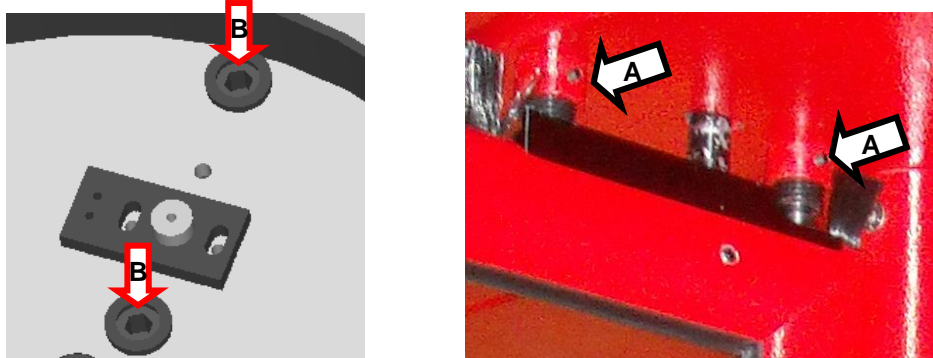
4. Through the canopy, insert the top axle (see item 54 in section 3.4) into the hole on the door wing until the axle reaches the top of the 2 screws. Tighten the lock screw.



5. Loosen the 2 screws (A) and adjust the position of the bracket (B) so the door wing is located 2 mm from the central column.



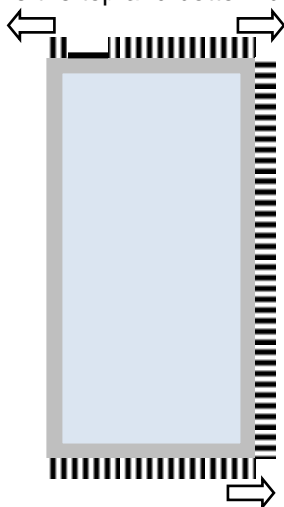
6. For non-collapsing door wings, tighten the 2 oval-point set screws (B) well with a #12 Allen key. Tighten the lock screws (A) to hold everything in place.



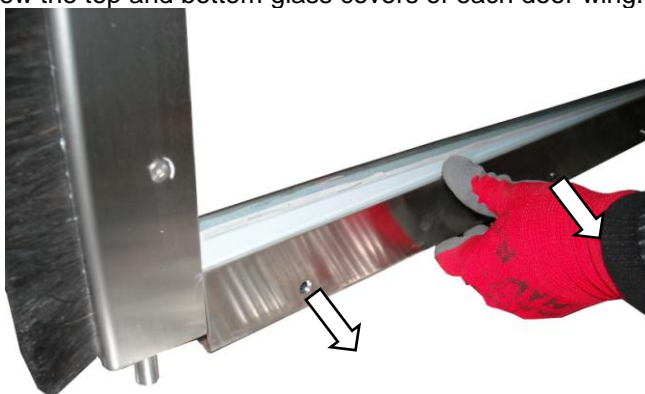
7. For collapsing door wings, tighten the oval-point set screws the same way, but adjust the pressure required for the door wing to collapse, as detailed in section 5.7.

B) Stainless steel collapsing door wing (optional)

1. Remove the top and bottom brush gaskets.



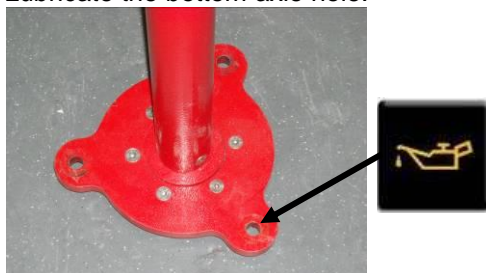
2. Unscrew the top and bottom glass covers of each door wing.



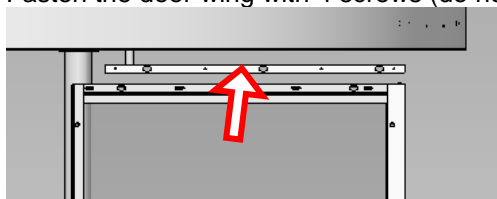
3. Remove the rubber strip.

Note: In the following figures, door wings are represented without the stainless steel frames and the vertical brush gaskets, which should already be assembled.

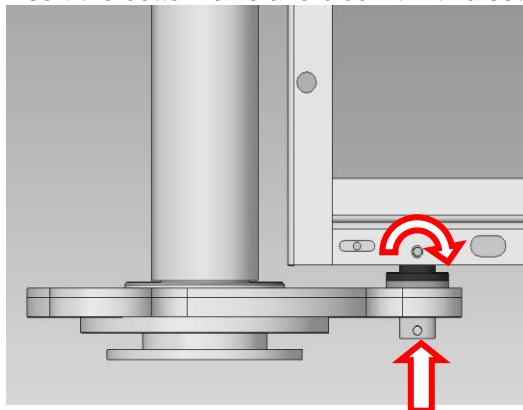
4. Lubricate the bottom axle hole.



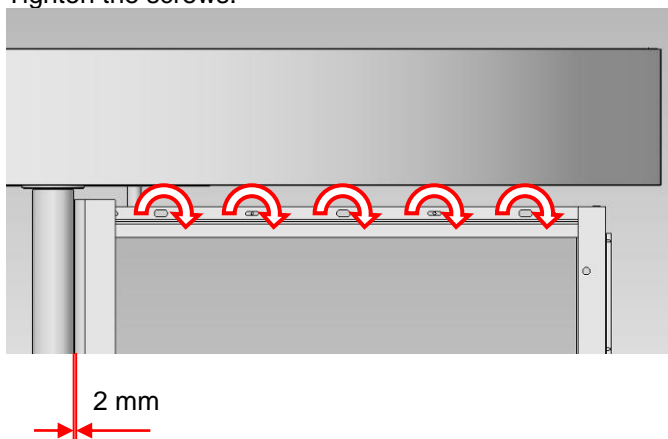
5. Attach the door wing frame to the top arm support:
 - Align the door wing with the upper support.
 - Fasten the door wing with 4 screws (do not tighten).



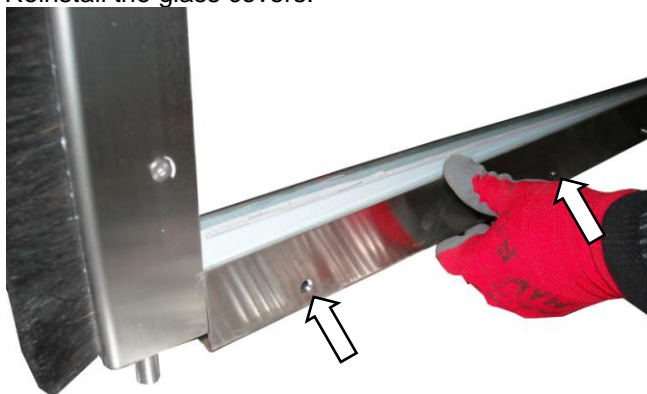
6. Insert the bottom axle and block it with a set screw.



7. Insert the screws in the slotted holes of the upper support.
Adjust the position of the door wing so it is parallel to the central column and located 2 mm from the central column.
Tighten the screws.



8. Reinstall the glass covers.



9. Install the horizontal brush gaskets and the rubber strips.
10. Adjust the collapsing wings as described in section 5.7.
11. Repeat these steps for all door wings.

3.6. Electrical connections

WARNING: All tasks must be performed in accordance with the safety warnings (see Chapter 1). In particular, electrical power must be cut.

Note: Connections must be done **in accordance with the wiring diagrams** included inside the equipment, **as these represent the primary reference instructions.**

3.7. Start-up

1. Turn the SYSTEM key switch of the console to the ON position (see section 4.8).
WARNING: The system undergoes an initialization phase that lasts approximately 1 minute (obstacle rotates to find its zero position); during this phase, the safety devices are not operational and the revolving security door cannot be used!
2. Complete several passages using the various controls available (console, reader, push-button, etc.) and ensure the light and sound signals are working properly, particularly in the case of a fraud attempt.
3. Verify operation of the revolving security door upon power failure (see section 4.5), particularly operation with the backup batteries.
4. Ensure the mobile obstacle remains locked after the key is turned in the outer lock.

4. OPERATION

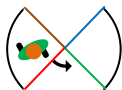
4.1. Operating principle

The bidirectional revolving security door allows users to pass in 2 directions (entry and exit) according to the following sequence (same sequence in both directions).



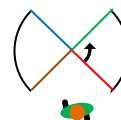
Step 1:

- Access is granted.
- Mobile obstacles turn counterclockwise.
- User presence is detected in the door.



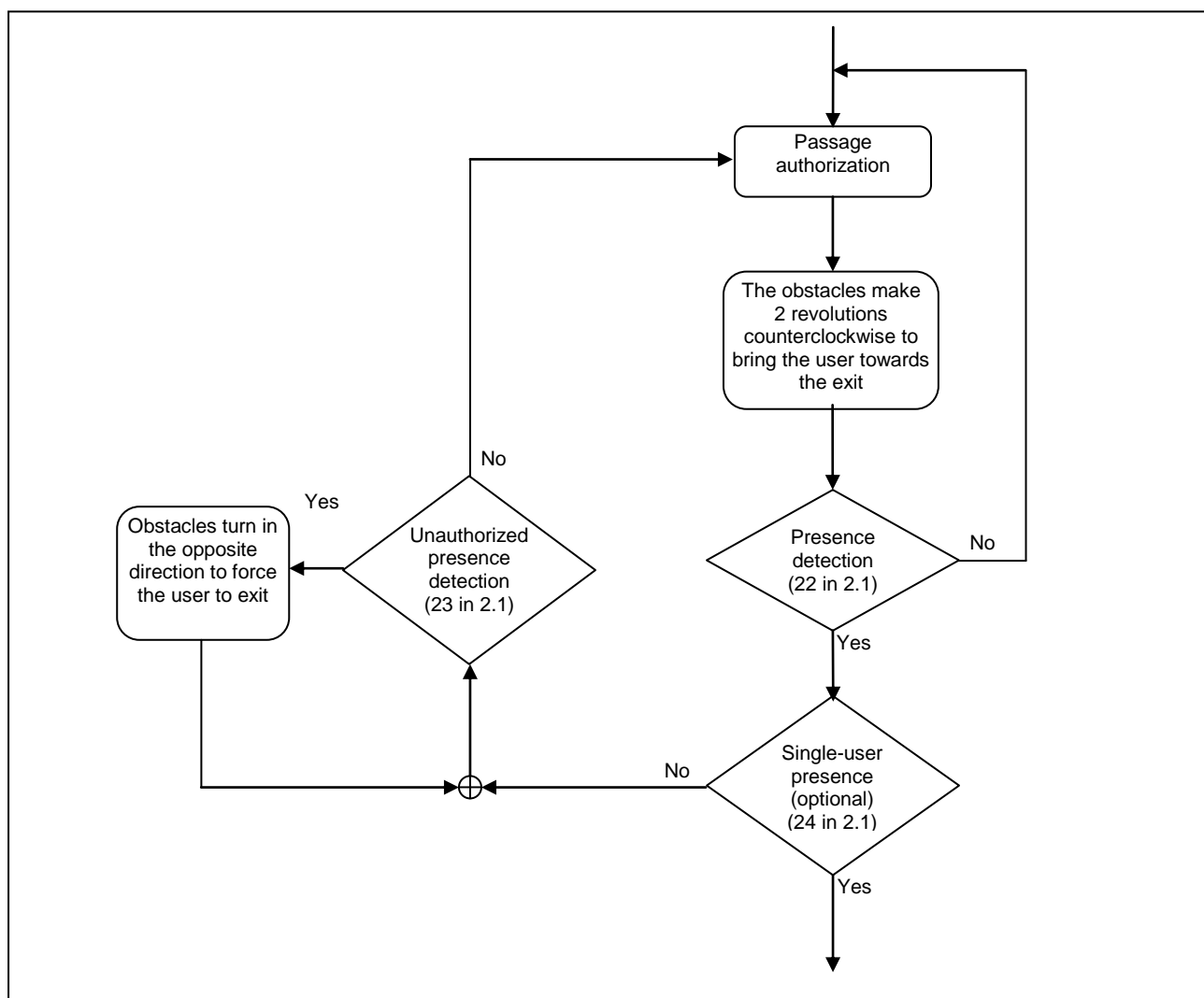
Step 2:

- Presence of an unauthorized user is detected (optional).
- Presence of more than one user is detected (optional).
- In the event of fraud, obstacles turn in the opposite direction to force the users to exit.



Step 3:

- The user exits the door.
- The obstacles are locked.



4.2. Passage authorization

A passage authorization can be granted via:

- Buttons INT and EXT of the control console (see section 4.8).
- A push-button (see item 9 in section 2.1) located on the upright (when there is no access control device).
- A radar unit (see option 10 in section 2.1).
- An access control device (not included), i.e., badge reader or other device to be connected as specified in Chapter 9.

When a passage is granted, the obstacle starts turning and makes 2 revolutions before returning to its zero position. Other passage authorizations can be granted while the obstacle is turning.

4.3. Obstacle locking and unlocking

- The electromagnet (see item 43 in section 2.1) locks the obstacles as soon as they are powered up; it only unlocks the obstacles when a passage is granted.
Note: To manually unlock the obstacles, pull on the rod of the electromagnet (accessible through the cover of the canopy).
- When the revolving security door is out of service or powered down (batteries off), the obstacles can be handled freely.
- The electromagnetic lock can be activated at any time via button 4 of the control console (see section 4.8).
- When the emergency button is pressed (see option 7 in section 2.1), the obstacles unlock.
- One of the obstacles can be manually locked with a keyed locking device (see item 6 in section 2.1) (optional).
To lock the obstacles, turn the key counterclockwise.
- The unit can come equipped with one or more optional collapsing mobile obstacles (see section 4.6).

4.4. Evacuation mode (emergency stop)

As soon as evacuation mode has been activated, i.e., when the EMERG key switch of the console has been turned to the ON B position (see section 4.8.), the 2 obstacles are unlocked and remain unlocked to allow free passage in both directions.

Evacuation mode remains active for as long as the input is active.

This operating mode has priority over all other modes.

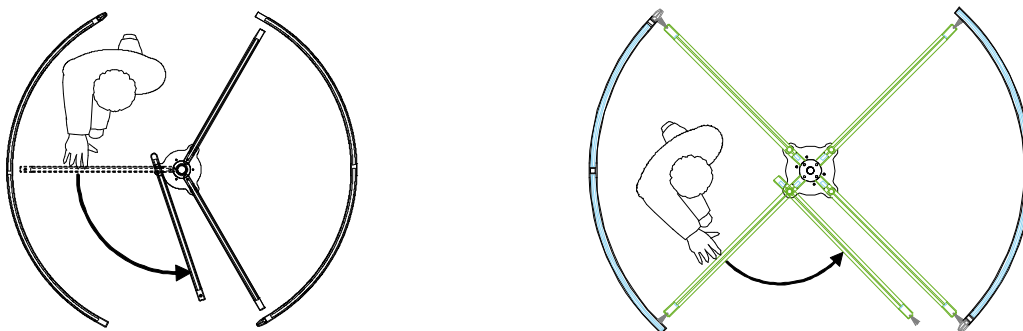
4.5. Power failure

In the event of a power failure, the revolving security door continues to operate normally for about 100 cycles on its backup batteries (see item 35 in section 2.1).

Once the backup batteries have discharged, the obstacles stop and are unlocked, and the function pictograms and detection systems are deactivated.

When the system is powered back up, the equipment starts by performing an initialization cycle (see section 3.7).

4.6. Collapsing obstacle (optional)



With this option, it is possible to manually pivot a single obstacle around its axle to free the passage without having to rotate other obstacles.

The strength required to manually collapse the obstacle can be adjusted (see section 5.7).

4.7. Presence detectors

- A. The detectors (see item 22 in section 2.1) sense the presence of a user in the first section of the revolving security door. This allows the system to verify that a passage authorization has been granted.

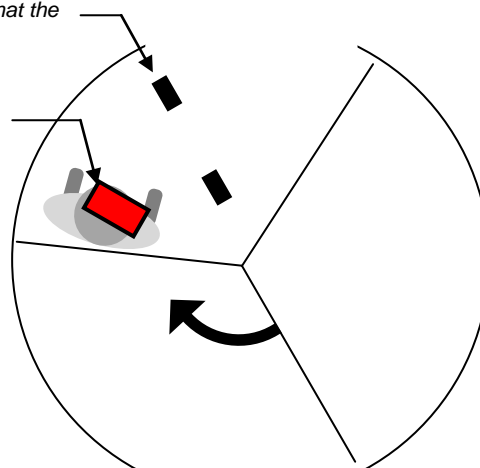
If no authorization has been granted, the obstacles rotate in the opposite direction to return the user to the entry point, and the following message is broadcast:

"Access denied. Please try again"

- B. When the obstacles turn in the opposite direction to return an unauthorized user to the entry point, the detector (item 23 in section 2.1) ensures the user does not stay between the obstacle and the detectors (item 22 in section 2.1).

The detectors (item 22 in section 2.1) do not sense that the unauthorized user has exited.

The detector (item 23 in section 2.1) senses the unauthorized user.



4.8. Control console (NCD² console)



4.8.1. Console description

| | | |
|-----------------------|---------|--|
| SYSTEM (key No. 1) | OFF | Shuts down power to the unit and all its components (see section 4.5). |
| | ON | <p>Turns on power to the unit:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> PLEASE WAIT... INITIALIZATION ENCO. </div> <p>WARNING: The system undergoes an initialization phase that lasts approximately 1 minute (obstacle rotates to find its zero position); during this phase, the safety devices are not operational and the revolving security door cannot be used!</p> <p>When the initialization phase is completed, the door is operational in accordance with the set parameters.</p> <p>Note: The parameters used are those set when the console is powered off. Parameter status is displayed on screen (the parameters can be changed via the PROGRAM function of the SYSTEM key switch).</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> ACCESS CONTROL ONLY ONE CONTROL </div> |
| | PROGRAM | <p>Program mode enables console parameter modification.</p> <p>Note: This mode is only operational when the door is not rotating. Press button 1, 2, 3 or 9 to modify a parameter.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> 1=> ACCESS CONTROL 2=> ONLY ONE 3=> SERVICE 9=> NIGHT </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>1 (ACCESS CONTROL): Defines the type of passage authorization (each time the button is pressed, the value of the parameter changes).</p> <ul style="list-style-type: none"> - ACCESS CONTROL: Passage (in one or both directions of passage) is authorized upon validation by an access control device (badge reader or other device). - FREE ENTRANCE: Passage is authorized simply by pressing on the button (see item 9 in section 2.1), but presence detectors are deactivated. </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>2 (ONLY ONE): Activates or deactivates the single-user detection function in the door (optional) (each time the button is pressed, the value of the parameter changes).</p> <ul style="list-style-type: none"> - ONLY ONE: Detection activated. - MORE PEOPLE: Detection deactivated. </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>3 (SERVICE): Sets the values for the angle coder, the rotation speed and the engine torque:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> 1=> Speed Rotation 2=> Speed Rallenty 3=> Test Device 4=> Safety </div> </div> |

| | | | |
|--|--|--|--|
| | | 1 (Speed Rotation) | <div>Rotation speed of the revolving door:</div> <div><div>Speed Rotation # = EXIT 5=> INC 6=> DEC XXXX</div></div> <div>5: Increases revolving door speed ^(*)</div> <div>6: Decreases revolving door speed ^(*)</div> <div>XXXX: Speed value</div> <div>^(*) Value range: 0–255; suggested 150.</div> <div>#: Validation of the value and exit from the menu</div> |
| | | 2 (Speed Rallenty) | <div>Breaking speed of the revolving door when it approaches the zero position:</div> <div><div>Speed Rallenty # = EXIT 5=> INC 6=> DEC XXXX</div></div> <div>5: Increases revolving door speed ^(*)</div> <div>6: Decreases revolving door speed ^(*)</div> <div>XXXX: Speed value</div> <div>^(*) Value range: 0–255; suggested 50.</div> <div>#: Validation of the value and exit from the menu</div> |
| | | 3 (Test Device) | <div>Encoder value display:</div> <div><div>Visualization Encode 3 = EXIT 1=>>OPEN 2=>>CLOSED XXXX</div></div> <div>1: The obstacle turns clockwise for as long as the button is pressed. When the button is released, the encoder value is displayed where the XXXX are.</div> <div>2: The obstacle turns counterclockwise for as long as the button is pressed. When the button is released, the encoder value is displayed where the XXXX are.</div> <div>XXXX: Encoder value</div> <div>3: Exit from the menu</div> |
| | | 4 (Safety) | <div>Strength required to stop the revolving door's rotation (i.e., to overcome the motor torque):</div> <div><div>Strength to stop # = EXIT 5=> INC 6=> DEC XXXX</div></div> <div>5: Increases motor torque ^(*)</div> <div>6: Decreases motor torque ^(*)</div> <div>XXXX: Torque value</div> <div>^(*) Value range: 0–255; suggested 20.</div> <div>#: Validation of the value and exit from the menu</div> |
| | | 9 (NIGHT): Deactivates the revolving security door: | |
| | | <div>- Pictograms are deactivated.</div> <div>- Passage authorizations are no longer handled.</div> <div>- Obstacles can be manually locked.</div> | |

| | | |
|---|------|---|
| E M E R G (key No. 2) | OFF | Normal operation of the door. |
| | ON | Opening command to a possible distinct evacuation door (not included) (see wiring diagram). |
| | ON B | Obstacles are unlocked and all controls are deactivated to allow free passage in both directions of passage. |
| | 1 | INT: Counterclockwise rotation of the obstacles. |
| | 2 | EXT: Clockwise rotation of the obstacles. |
| | 3 | RESET: Acknowledge alarm to continue the normal cycle. |
| | 4 | LOCK: Closing and locking of the obstacles. If a user is in the door when this button is pressed, the obstacles complete their rotation to allow the user to exit. This function has priority over all commands except the evacuation command (EMERG key switch in the ON or ON B position). Press on the button again to unlock the obstacles and return to normal operation. |
| | 5 | ⬆ (Accessible in program mode only.) |
| | 6 | ⬇ (Accessible in program mode only.) |
| | 7 | AM (Accessible in program mode only.) |
| | 8 | PM (Accessible in program mode only.) |
| | 9 | NIGHT (Accessible in program mode only.) |
| | 0 | F5 (Accessible in program mode only.) |
| | * | ⬆ Stops the buzzer when an alarm is active. |
| | # | ⬇ (Accessible in program mode only.) |

4.8.2. Alarm messages

⇒ See section 5.2.

4.9. Mechanical drive system

The axle (A) of the obstacles is driven by the wheel (B) to which it is connected; the wheel (B) is driven by the motor (C) via the belt (D).

An angle coder (E) provides the position of the wheel at all times.

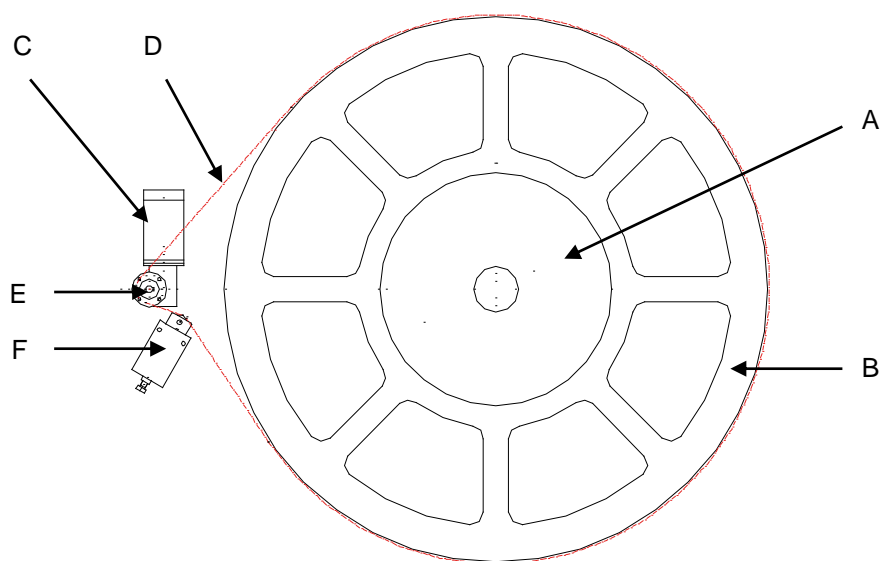
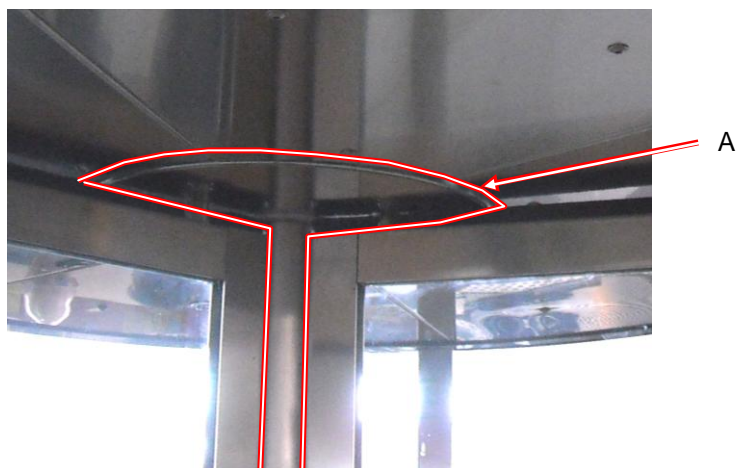
The tightener (F) ensures proper tension of the belt.

Motor torque can be adjusted as needed: Console ⇒ SYSTEM ⇒ PROGRAM ⇒ 3 (Service) ⇒ 4 (Safety):

- Increasing the torque will hinder any resistance to the obstacles' rotation.
- Decreasing the torque lowers the risk of injury to users in the event they hit the obstacles.

Detectors OPS1 and OPS2 (see item 39 in section 2.1) have the following functions, respectively:

- Identifying the zero position of the obstacles to properly position the manual lock (optional).
- Deactivating the presence detectors (see item 22 in section 2.1) when the obstacles pass under them.



4.10. Pictogram (optional)

The pictogram contains a dual light emitting diode (LED) system.

It informs users on the availability status of the door.

- Green: Door operational—on standby for a passage authorization or in evacuation mode.
- Red: Door initializing, passage in progress, passage authorization not valid or technical failure.

4.11. Voice synthesizer (optional)

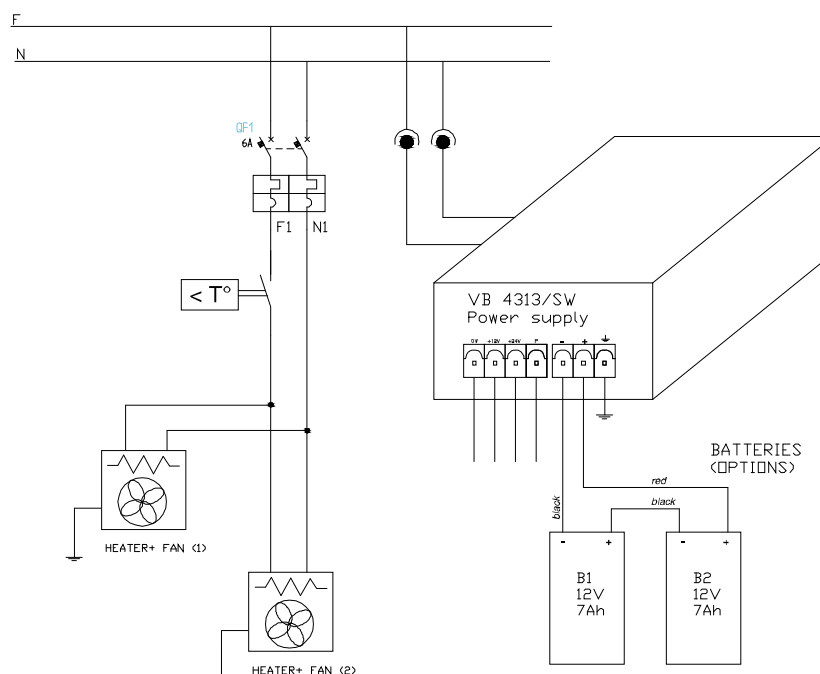
The speaker of the synthesizer is built into the canopy (see item 38 in section 2.1) and prevents unauthorized use of the door.

The possible messages are:

- *"Access denied. Please try again."* ⇒ The detectors (see item 22 in section 2.1) sense a user before passage authorization is granted.
- *"Only one person is allowed. Please exit and re-enter one at a time."* ⇒ More than one user is detected in the section delimited by 2 obstacles. All users must exit and request a passage authorization again before going through the door one by one.

4.12. Heater (optional)

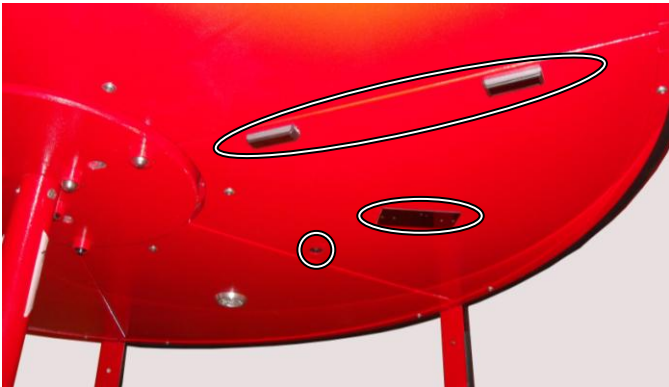

The heating system is located in the canopy to maintain a higher temperature than the set temperature. Heating resistors are activated by the thermostat, and fans circulate warm air across the entire canopy.



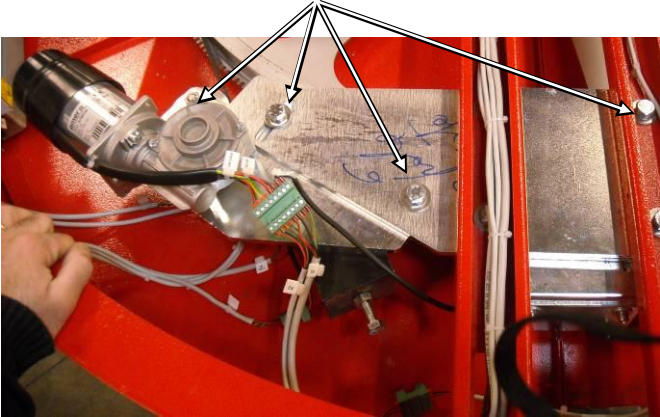



5. MAINTENANCE

5.1. Preventive maintenance

Maintenance must be performed in accordance with the safety warnings described in Chapter 1.

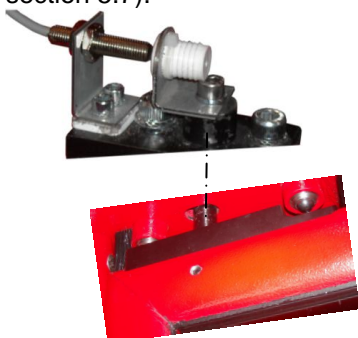
| Service interval | Tasks |
|------------------|--|
| 1 week | Inspect the revolving security door (damaged housing, broken glass, broken or scratched cell shading screens, etc.). |
| | Clean the housing with a product suitable for painted surfaces or stainless steel. Automatic Systems can provide a product approved for stainless steel (0/6031/000). Note: DO NOT use any products containing chlorine on stainless steel. |
| | Clean the mobile obstacles and the side glass panels with a window cleaner. Automatic Systems can provide a product approved for glass (0/3081/000). |
| | Dust and clean the cell shading screens with a soft lint-free cloth moistened with a mild antistatic cleaning product suitable for plastic. DO NOT use thinner or any other organic solvent. |
| |  |
| | Remove any object that could hinder door wing rotation. |
| | Clean the bristles of the brush gaskets with a vacuum. |
| | Clean the floor inside the revolving security door. |
| | Ensure obstacles can rotate freely without hindrance. |
| | Verify that the mobile obstacle is aligned with the right upright when the door is in its zero position. |
| |  |

| Service interval | Tasks |
|------------------|---|
| 6 months | <p> Cut power to the equipment and remove the canopy covers to gain access inside the canopy.</p>  <p>Dust the inside of the canopy with a soft lint-free cloth.</p> <p>Inspect the belt for any sign of wear.</p> <p>Ensure the belt tightener properly tightens the belt. If this is not the case, use the adjusting nut (item 34 in section 2.1) to obtain the adequate belt tension.</p> <p>Spray a thin film of Teflon grease over the entire belt.</p> <p>Ensure all nuts and bolts are properly tightened, particularly those of moving components.</p> <p>Ensure all nuts and bolts of mobile obstacle supports are properly tightened (see section 3.5.6).</p> <p>Ensure the motor and reduction gear screws are properly tightened (see item 33 in section 2.1).</p>  <p>Ensure the revolving door floor supports are properly tightened (see section 3.5.1).</p> <p>Inspect all electrical connections and ensure they are properly tightened.</p> <p>Ensure the gear motor is sealed (greased-for-life).</p> <p>Inspect the collapsing mechanism of the obstacles (optional) and replace worn components (see section 5.7).</p> <p> Power up the equipment. WARNING: When the equipment is powered up, the obstacles start rotating. WARNING: For the following tasks, handle any live components with the proper insulating protection.</p> |

| Service interval | Tasks |
|------------------|---|
| | Verify the 12-VDC and 24-VDC output voltages on the power supply (see item 41 in section 2.1). |
| | <p>Complete a few passages and verify the proper operation of all components (see section 4.1):</p> <ul style="list-style-type: none"> - Pictograms (see section 4.10); - Presence detector (see section 4.7); - Single-user detector (see option 24 in section 2.1): the system must signal the presence of 2 persons when only 1 should be detected; - Anti-pinch bumpers (see item 4 in section 2.1): the obstacles must stop when pressure is applied to one of the anti-pinch bumpers. - Emergency stop (see option 7 in section 2.1); - Intercom (see option 8 in section 2.1). |

5.2. Problems and troubleshooting (alarms)

| SYMPTOM | CAUSE | SOLUTION |
|--|--|---|
| During initialization, the revolving door does not move. | Motor or encoder is not properly connected. | Refer to wiring diagrams. |
| | The voltage on board VB1408 is inadequate. | Check the 24-V output on connector J1 of board VB1408. |
| | Fuse on board VB1408 is burnt out. | Replace it. |
| During initialization, the turnstile rotates clockwise. | The connection to the motor is inverted. | Invert the wiring on the motor. |
| Revolving door does not operate correctly. | Emergency button is pressed or not properly connected. | Check the status/wiring of the emergency button. |
| | The keyed locking device has not been properly opened. | Ensure that the keyed locking device (item 6 in section 2.1) is open and that the detector is not sensing a presence (see section 5.8). |
| | An object on the floor inside the unit blocks movement. | Clear the floor. |
| | One of the revolving door parameters is not adequate. | Refer to section 4.8. |
| | A presence detector (item 22 in section 2.1) is dirty or broken. | Clean the presence detector; check the wiring or replace if necessary. |
| | A anti-pinch bumper (item 4 in section 2.1) is not properly connected or is broken. | Check the electrical connection of the anti-pinch bumper: press on the bumper and check if the corresponding LED illuminates on board VB1408. |
| | The I/O board VB403, voice synthesizer board, or console is not communicating with board VB1408. | Make the appropriate connection; the LED will blink when the proper connection is made. |
| | OPS1 or OPS2 detector (item 39 in section 2.1) is indicating a presence or is broken. | Adjust detector position and ensure the LED at the back of the detector lights up when a presence is detected. If this is not the case, replace the faulty detector. |
| | One collapsed turnstile detector (item 36 in section 2.1) is not detecting the magnetic core. | Ensure that the detector is in front of the magnetic core (at a distance of 2 mm), and that the LED located at the back of the detector lights up. If this is not the case, replace the faulty detector. |
| | Motor is broken. | Replace the motor. |
| The console is OFF. | Turnstile belt is broken. | Replace the belt (see section 5.6.). |
| | SYSTEM key switch on the console is in the OFF position. | Switch to ON. |
| | The console is not properly connected to the unit. | Connect it properly. |
| | Fuse F2 on board VB1408 is burnt out. | Replace the fuse. |

| SYMPTOM | CAUSE | SOLUTION |
|--|--|--|
| Lighting (20, ch.2.1.) is OFF when the revolving security door is in operation. | Lighting is broken. | Replace it. |
| | Defective connection to board VB1408. | Refer to wiring diagrams. |
| Pictogram (item 9 in section 2.1) does not light up. | Only the green or red LED is OFF. | Replace the pictogram. |
| | Both LEDs are OFF. | Check the connection to board VB1408. |
| Speaker (optional) is OFF. | Faulty connection to board VB1408 (communication LED should blink on board VB1408, board VB403/485 and the voice synthesizer). | Refer to wiring diagrams. |
| | Speaker is broken. | Replace it. |
| The intercom (optional) does not work. | There is no apparent damage to the intercom. | Check the connection on the wiring diagram. |
| | The intercom is damaged. | Replace it. |
| The belt makes noise during rotation. | | Spray a thin film of Teflon grease over the entire belt. |
| NO POOL | Communication interrupted between the console and main board VB1408. | Check the connections (see section 3.6). |
| Message displayed on the console ATTENTION DOOR DEJECTED... EMERGENCY | A door wing has been collapsed (optional). | <ul style="list-style-type: none"> Put the door wing back in position so that the detector is in front of the magnetic core (see section 5.7).  |

5.3. Recommended tightening torques

Recommended tightening torques for screws and nuts:

| Screw type | Torque (Nm) |
|------------|-------------|
| M2 | 0.32 |
| M3 | 1.15 |
| M4 | 2.65 |
| M5 | 5.2 |
| M6 | 8.9 |
| M7 | 14.5 |
| M8 | 22 |

| Screw type | Torque (Nm) |
|------------|-------------|
| M10 | 43 |
| M12 | 75 |
| M14 | 119 |
| M16 | 182 |
| M18 | 250 |
| M20 | 355 |
| M22 | 480 |

5.4. Side glass panel replacement

Refer to section 3.5.4.

5.5. Mobile obstacle replacement

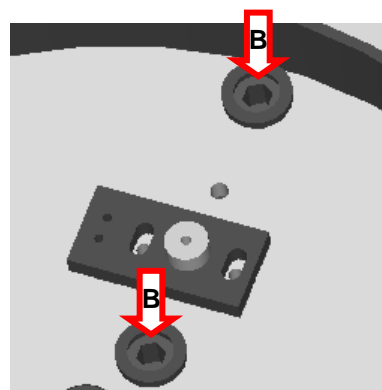
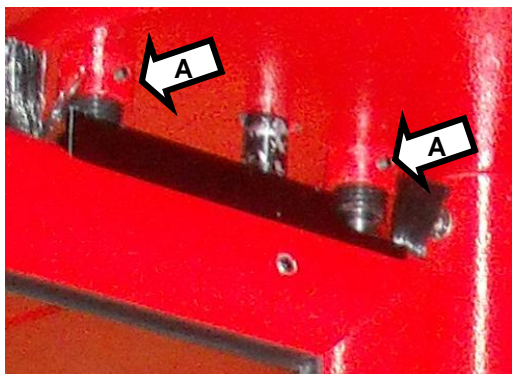
Refer to section 3.5.6.

5.6. Belt replacement

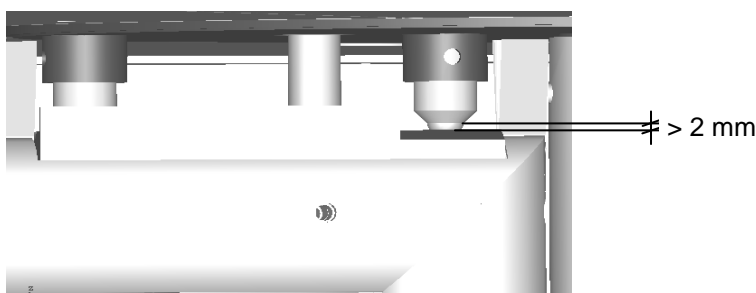
1. Unscrew the motor and push it towards the center of the canopy.
2. Remove the springs of the belt tightener.
3. Remove the broken belt and insert the new one (already located inside the canopy) (see item 37 in section 2.1) in the appropriate position.
4. Move the motor back to its original position and fasten it with its screws; fasten the springs of the belt tightener to make the belt taut.

5.7. Collapsing obstacle adjustment (optional)

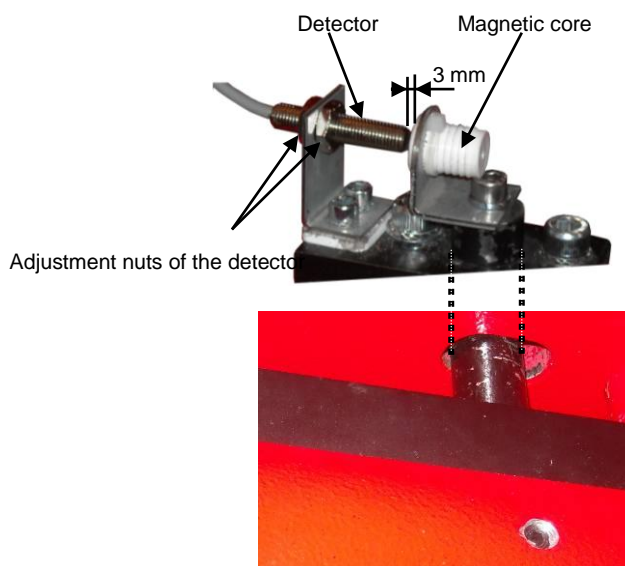
A. Painted steel obstacle



1. Loosen the lock screws (A).
2. Tighten the oval-point set screws (B) to increase the strength required to collapse the door wing.
Note: To prevent any damage to the channel, ensure the oval point juts out by 2 mm.

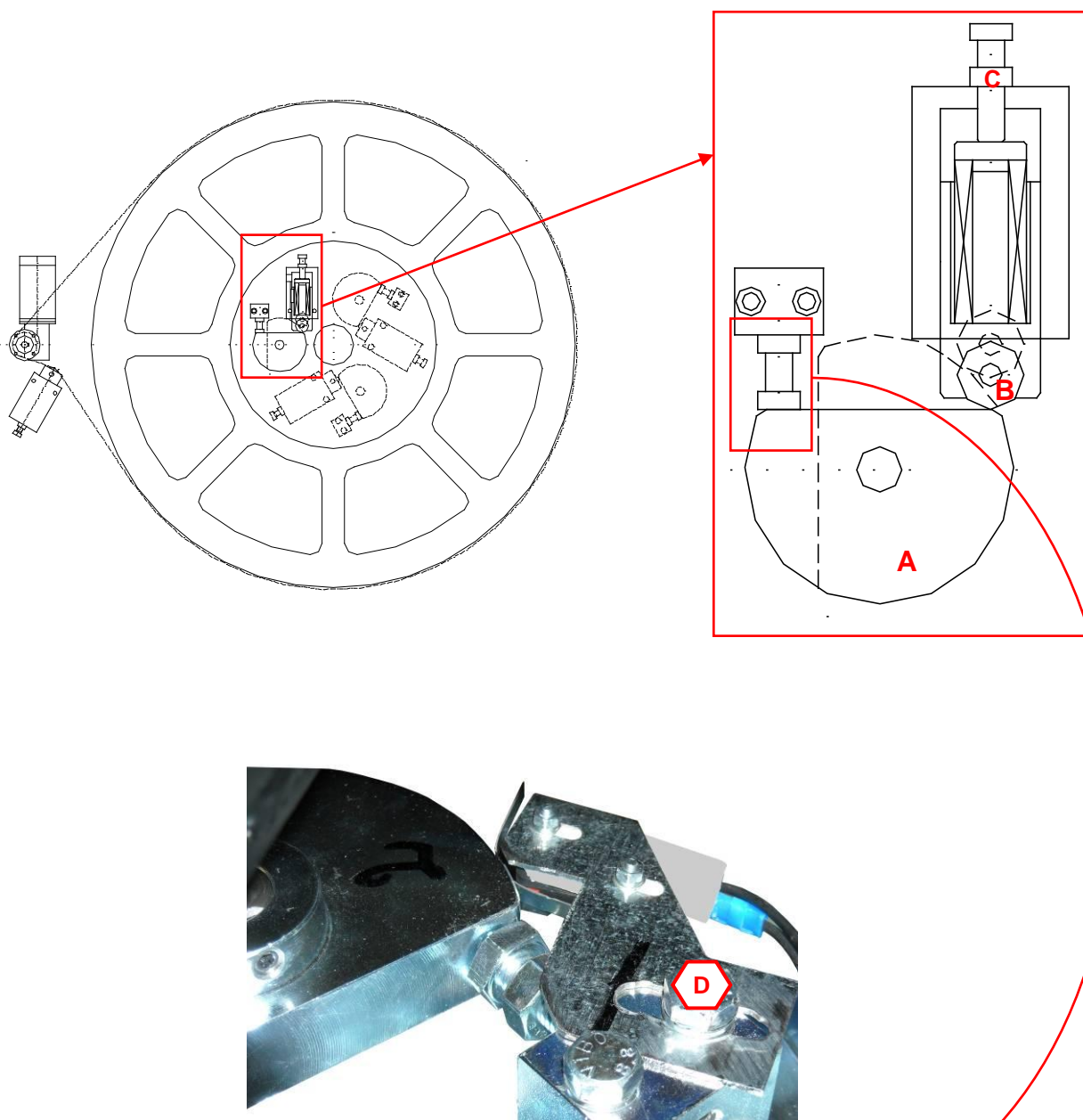


3. Tighten the lock screws (A).
4. Adjust the position of the pivoting detector with the adjustment nuts of the support bracket; the detector must be 3 mm from the magnetic core attached to the top axle.



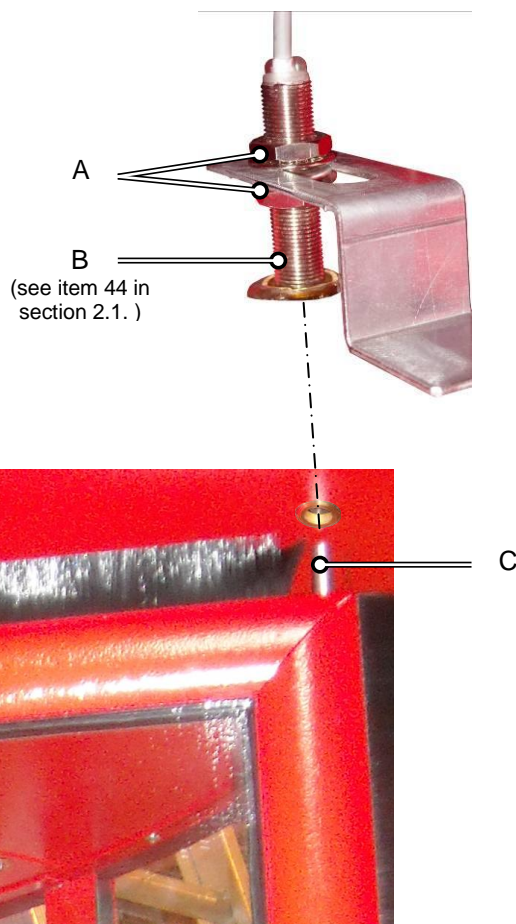
B. Stainless steel obstacle

1. To manually collapse the obstacle, the cam (A) located on the obstacle's axle must overcome the pressure exerted by the plunger (B). This pressure can be adjusted by raising or lowering the plunger (B) slightly in its sleeve:
 - Loosen the nut (C).
 - Position the plunger (B); it should be completely pushed out for non-collapsing obstacles.
 - Tighten the nut (C).
2. Adjust the position of the detector with the screw (D):
 - The detector must touch the cam when the obstacle is closed;
 - The detector must not touch the cam when the obstacle is collapsed.



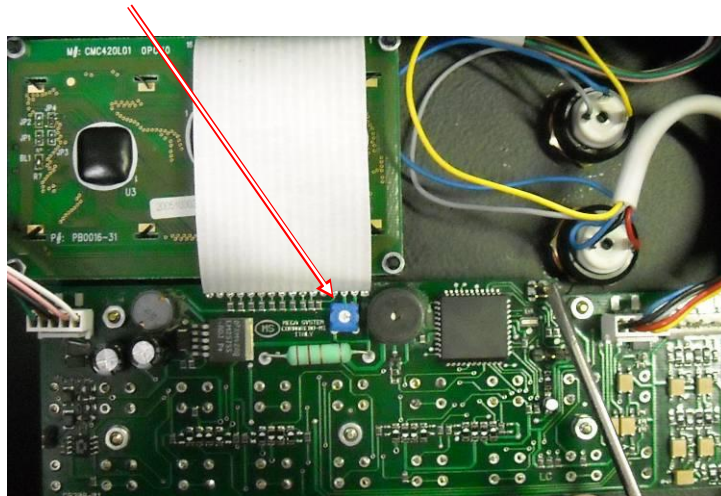
5.8. Obstacle lock adjustment

With the adjustment nuts (A), adjust the distance between the detector (B) located in the canopy and the lock (C); the detector (B) must detect the lock (C) when it is popped up ⇒ LED lit.



5.9. NCD² console configuration

Screen light intensity configuration.



5.10. Motorization adjustment

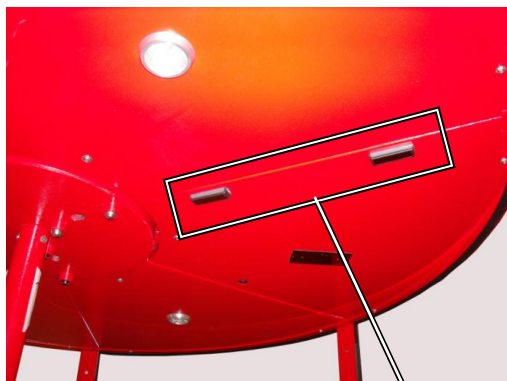
To adjust the motor torque and the rotation speed for the obstacles refer to section 4.8.1.

Console ⇒ SYSTEM ⇒ PROGRAM ⇒ 3 (Service)

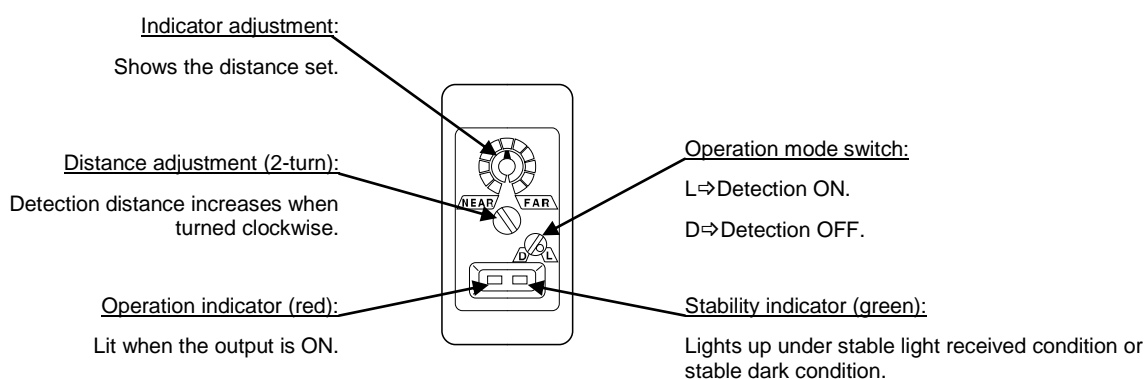
5.11. Anti-pinch bumper replacement

1. Disconnect the wires of the device from the unit.
2. Remove the silicone joint from the glass cover of the upright on which the anti-pinch bumper is located.
3. Unscrew the upright on which the anti-pinch bumper is located and lay it down.
4. Pull out the defective anti-pinch bumper and install a new one.
5. Screw the upright back on and replace the silicone joint.
6. Connect the new anti-pinch bumper to the unit.

5.12. Presence detector adjustment (see item 22 in section 2.1)



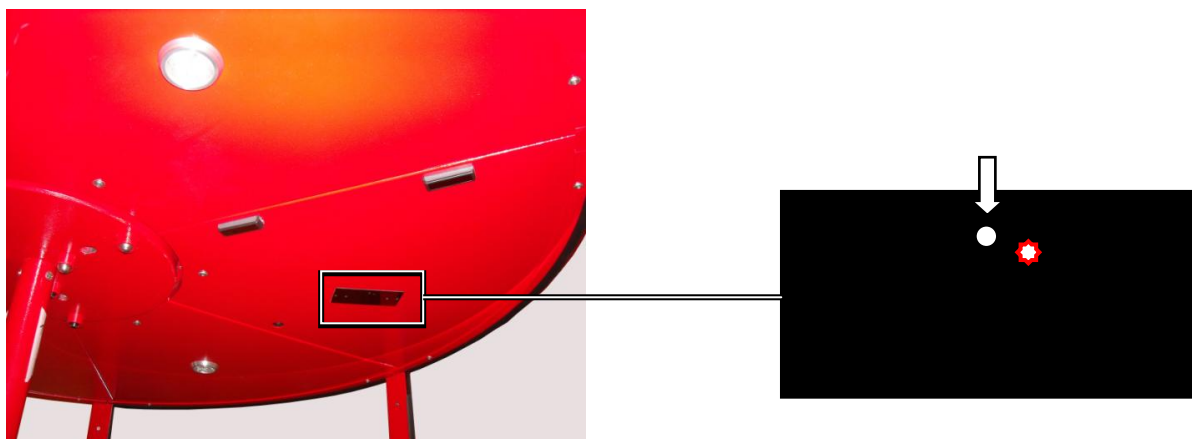
Access through the interior of the canopy



| | | |
|----|---|--|
| 1. | Turn the distance adjustment screw counterclockwise all the way to the minimum detecting range position (approximately 0.2 m). | |
| 2. | Place an object at the desired detecting distance from the detector (human height); slowly turn the distance adjustment screw clockwise to determine point A (stability indicator green). | |
| 3. | Remove the object and continue to turn the distance adjustment screw clockwise to determine point B (stability indicator green). If the stability indicator has not turned green even if the distance adjustment screw is turned fully clockwise, point B corresponds to the end of the range. | |
| 4. | The optimum position for consistent object detection is the center point between A and B. | |

5.13. Unauthorized presence detector adjustment (option 23 in section 2.1)

Adjust the detector's sensitivity with the potentiometer located inside the hole by the LED.



5.14. Single-user detection adjustment (optional)

Refer to the manual of the Only One system.

5.15. Prolonged stop / disposal



If the equipment is not used for a long period of time, the following suggestions should be applied:

- Maintain the equipment in the same conditions as those recommended in section 3.2.
- Disconnect the batteries.
- Keep it powered on to maintain a constant temperature in the canopy; this avoids condensation problems and prevents oil from congealing in the speed reduction unit.

Note: If the equipment was stored without power, it is important to warm it up before turning it on if the ambient temperature is below 5°F (-15°C). The optional heating system must be activated a minimum of 30 minutes before powering up the equipment.

When the equipment is taken out of service, dispose of the components (metal, glass, electronic components, etc.) in the appropriate manner and in accordance with applicable legislation.

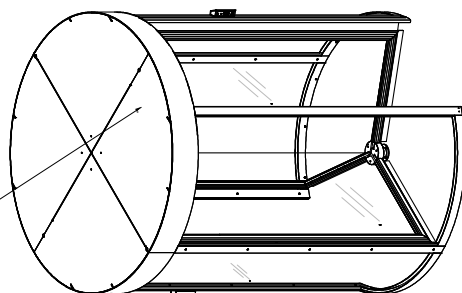
6. TECHNICAL SPECIFICATIONS

| | RevLock 600 | RevLock 601 |
|---|--|---|
| |  |  |
| Input power | 230 V single phase, 50/60 Hz, 10 A (with ground) | |
| Gear motor | 120 W - 24 VDC | |
| Torque limiter | Electronic | |
| Speed setting | Programmable | |
| Passages (not counting access control device reaction time) | 15 users/min/one direction 30 users/min/two directions | 20 users/min/one direction 40 users/min/two directions |
| Consumption | 200 W | |
| Weight | 800 to 970 kg, depending on glass panels | 980 to 1180 kg, depending on glass panels |
| Operating temperature | -10°C to 45°C | |
| Max relative humidity | 90% without condensation | |
| Protection index | IP33 (with roof option) | |
| Impact resistance | IK09 (housing) | |
| MCBF (Mean Cycles Before Failure) | 2 million (with recommended maintenance) | |
| CE | Complies with European standards | |

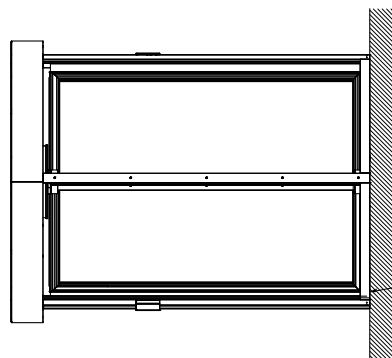
7. IMPLEMENTATION DRAWINGS

A2

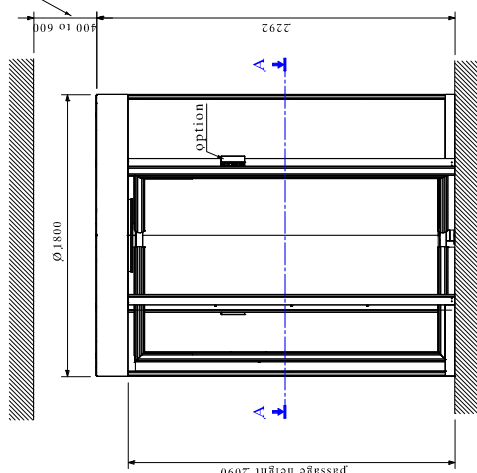
Power supply
230V singlephase+ground in 3G2.5²
+link cables with peripherals :
central console(supplied with 50m cables)

-intercam (option)
-access control device(not supplied)

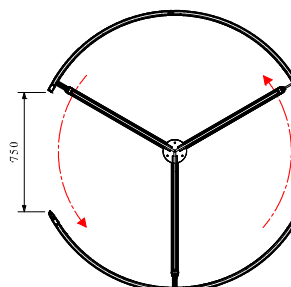
Maximum tolerated floor inclination in all directions: 0.3% (6mm for 2m)
Adapt concrete density to the equipment weight:
800kg to 970kg according to glass type.



Available space for installation & maintenance



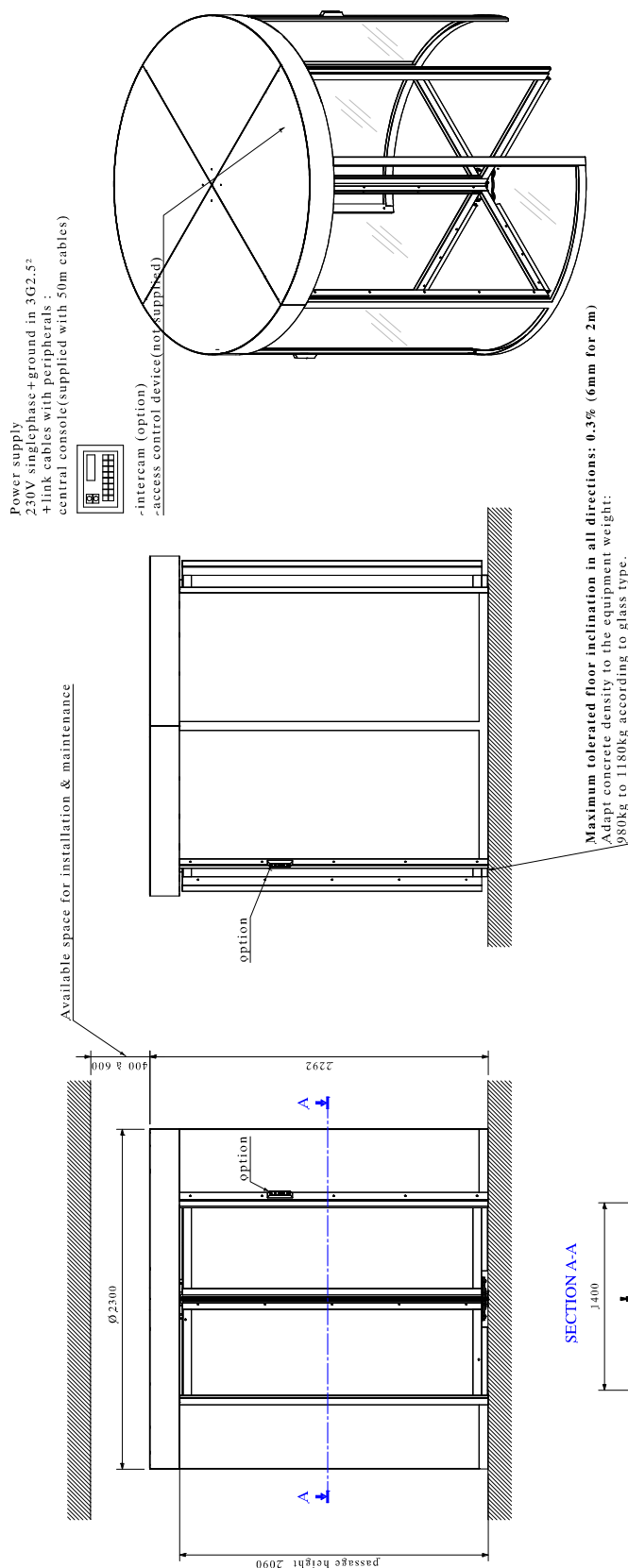
SECTION A-A



↑
DIRECTION A
ENTRY

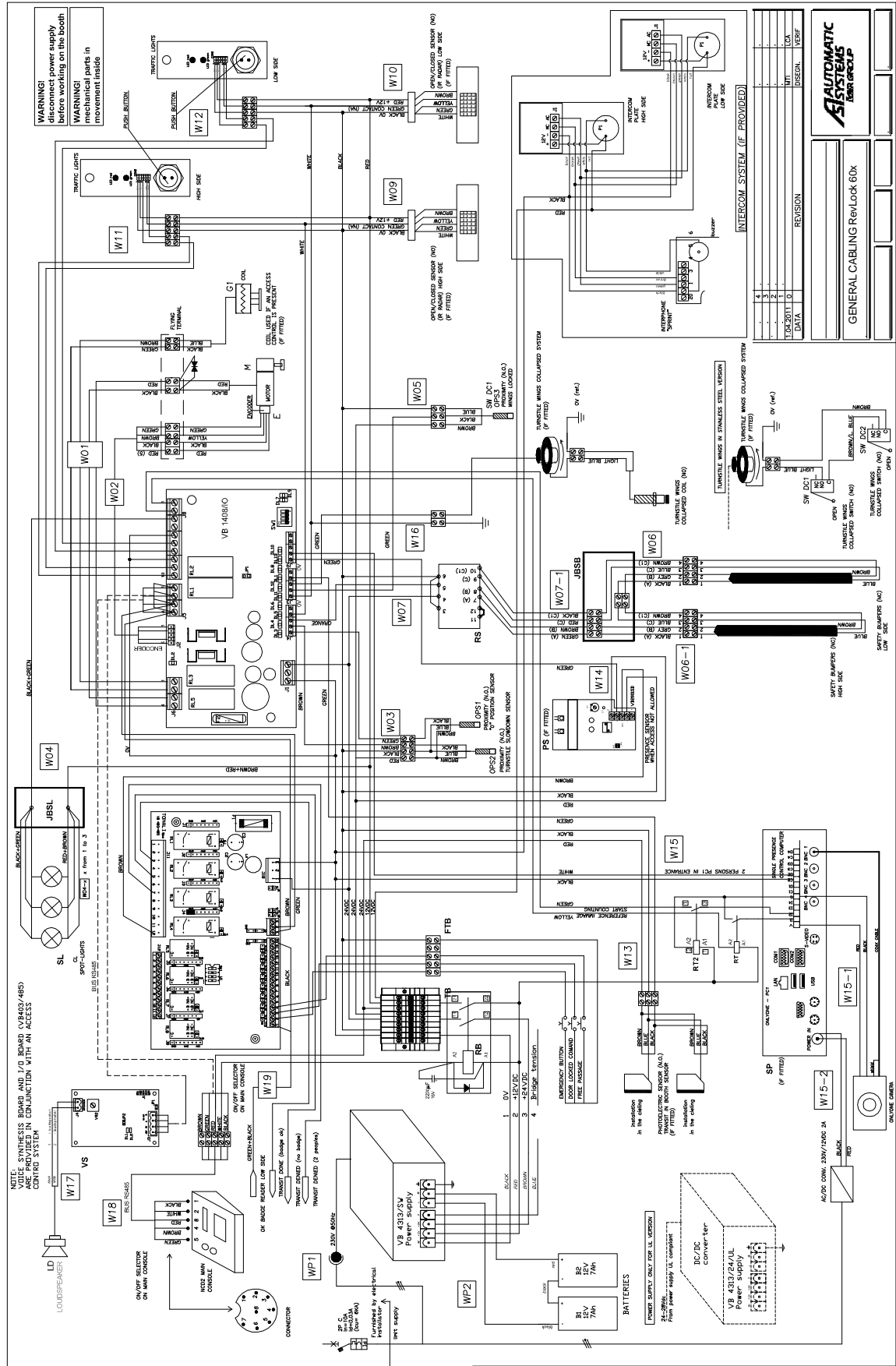
[illegible]

A2

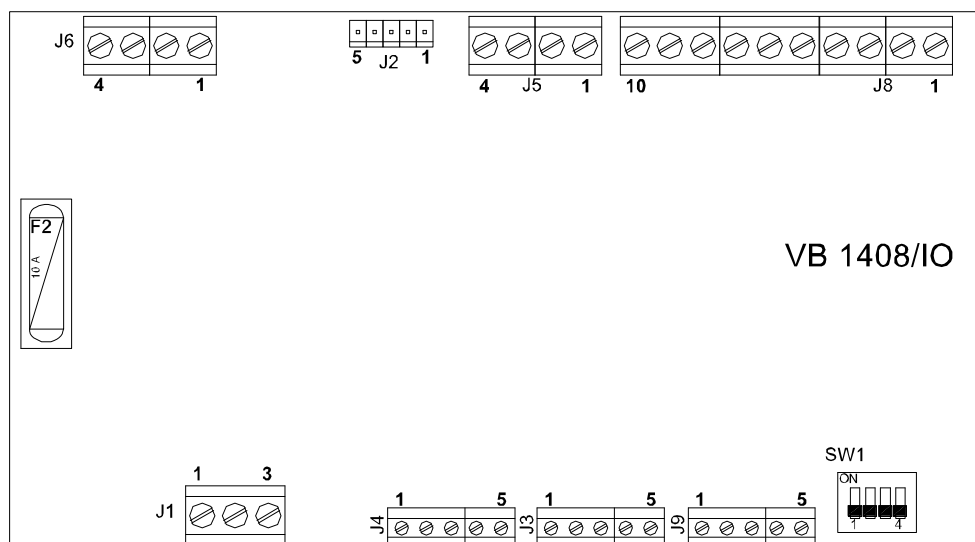
[illegible]

8. WIRING DIAGRAM

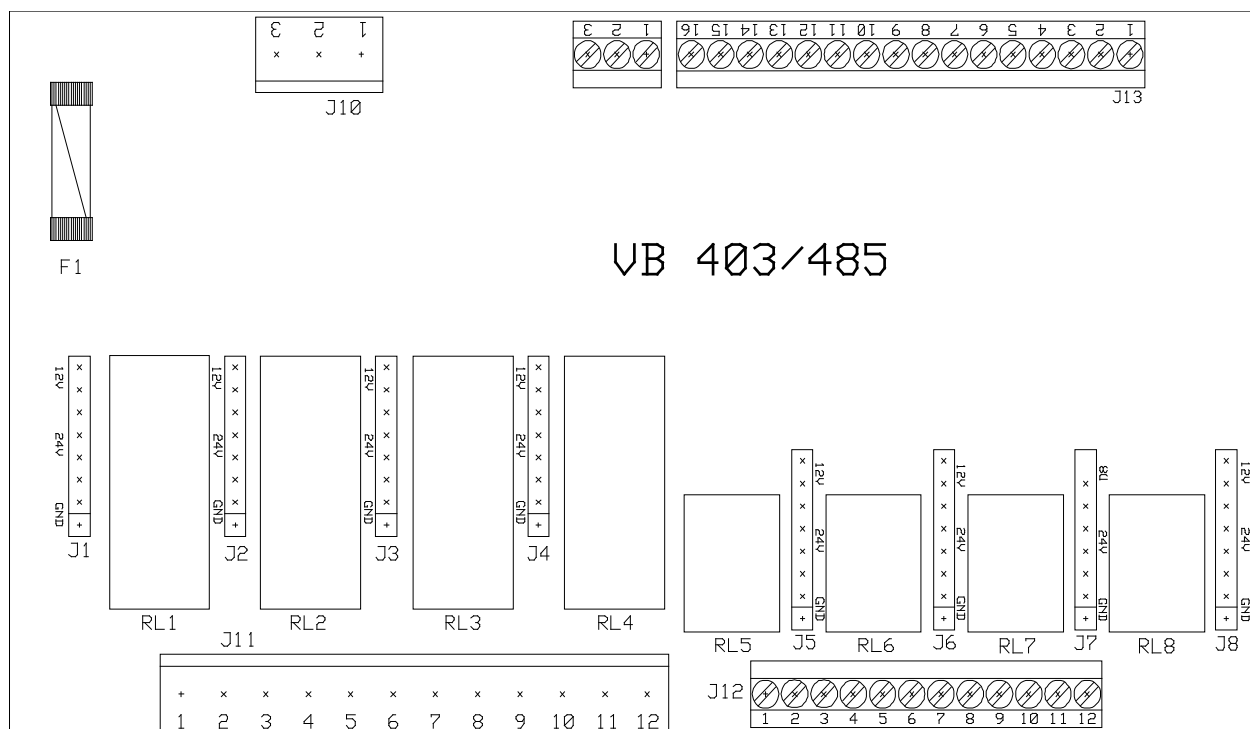
Note: Description of standard equipment for information purposes. The diagram included with the equipment is the reference diagram.



9. TERMINAL AND INPUT/OUTPUT ALLOCATION



| Connector | Terminal | Allocation |
|-----------|----------|--|
| J1 | 1 | 0 V |
| | 2 | - |
| | 3 | +24 VDC |
| J2 | 1 | Encoder |
| | 2 | Encoder |
| | 3 | / |
| | 4 | Encoder |
| J3 | 5 | Encoder |
| | 1 | Input: Passage command, entry side (normally open) |
| | 2 | Input: Revolving door wings locked (normally open) |
| | 3 | Input: Revolving door wings collapsed switch (normally open) |
| | 4 | Input: Entry presence detectors detecting (normally open) |
| J4 | 5 | 0 V |
| | 1 | Input: Zero position detector (normally open) |
| | 2 | Input: Revolving door breaking detector (normally open) |
| | 3 | Input: Anti-pinch bumpers (normally closed) |
| | 4 | Input: Passage command, exit side (normally open) |
| J5 | 5 | 0 V |
| | 1 | OUT +12 VDC |
| | 2 | OUT 0 V |
| | 3 | -RS485 |
| J6 | 4 | +RS485 |
| | 1 | Electric lock coil: 0 V |
| | 2 | Electric lock coil: +24 VDC |
| | 3 | Motor: 0 V |
| J8 | 4 | Motor: +24 VDC |
| | 1 | |
| | 2 | |
| | 3 | Lighting signal |
| J9 | 4 | Output 1 |
| | 5 | Relay RL2: common 0 VDC |
| | 6 | Relay RL2 (NC): entry side pictogram ⇒ green |
| | 7 | Relay RL2 (NO): entry side pictogram ⇒ red |
| | 8 | Relay RL1: common 0 VDC |
| | 9 | Relay RL1 (NC): exit side pictogram ⇒ green |
| | 10 | Relay RL1 (NC): exit side pictogram ⇒ red |
| | 1 | Entry side presence detector (NO) |
| | 2 | Single-user presence: more than 1 user detected |
| | 3 | / |
| | 4 | / |
| | 5 | OUT +12 V (max 250 mA) |



F1: 3.15 A

J1-J2-J3-J4-J5-J6-J7-J8: Jumper configuration on power relays:

| | | | | | | | |
|-------|---|-------|---|-----|---|----|--------------|
| oo | + | oo | + | o | o | Jx | Free contact |
| +12 V | | +24 V | | GND | | | |
| oo | + | oo | + | o | o | Jx | +12 V |
| +12 V | | +24 V | | GND | | | |
| oo | + | oo | + | o | o | Jx | +24 V |
| +12 V | | +24 V | | GND | | | |
| oo | + | oo | + | o | o | Jx | 0 V |
| +12 V | | +24 V | | GND | | | |

| Connector | Terminal | Allocation |
|-----------|----------|-------------------------------|
| J10 | 1 | IN +24 V |
| | 2 | GND |
| | 3 | GND |
| J11 | 1 | Output RL1 (common): |
| | 2 | Output RL1 (normally closed): |
| | 3 | Output RL1 (normally open): |
| | 4 | Output RL2 (common): |
| | 5 | Output RL2 (normally closed): |
| | 6 | Output RL2 (normally open): |
| | 7 | Output RL3 (common): |
| | 8 | Output RL3 (normally closed): |
| | 9 | Output RL3 (normally open): |
| | 10 | Output RL4 (common): |
| | 11 | Output RL4 (normally closed): |
| | 12 | Output RL4 (normally open): |
| J12 | 1 | Output RL5 (common): |
| | 2 | Output RL5 (normally closed): |
| | 3 | Output RL5 (normally open): |
| | 4 | Output RL6 (common): |
| | 5 | Output RL6 (normally closed): |
| | 6 | Output RL6 (normally open): |
| | 7 | Output RL7 (common): |
| | 8 | Output RL7 (normally closed): |
| | 9 | Output RL7 (normally open): |

| | | | |
|-----|----|--|----------|
| | 10 | Output RL8 (common): | Output 8 |
| | 11 | Output RL8 (normally closed): | |
| | 12 | Output RL8 (normally open): | |
| J13 | 1 | Input: Access control system authorization | |
| | 2 | Input: Emergency push-button | |
| | 3 | Input: Locking revolving door | |
| | 4 | Input: Free passage command (i.e., passage without any control measures) | |
| | 5 | Input 5 | |
| | 6 | Input 6 | |
| | 7 | Input 7 | |
| | 8 | Input 8 | |
| | 9 | Normally closed | |
| | 10 | +24 V | |
| | 11 | +24 V | |
| | 12 | +12 V | |
| | 13 | +12 V | |
| | 14 | GND | |
| | 15 | GND | |
| | 16 | GND | |
| J14 | 1 | A (RS485) | |
| | 2 | B (RS485) | |
| | 3 | GND | |



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