

REVLOCK - 4 WINGS

Automatic Safety Revolving Doors

TECHNICAL MANUEL

(Original English version)

Rev. 02 • Update 03/2023



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1. SYMBOLS USED

The symbols below indicate a more or less state of danger. They have been included in the various chapter to draw the reader's attention.

	<p>Dangerous situation for people's health. Failure to observe the indications with these symbols can cause serious physical damage to people.</p>
	<p>Potentially damaging situation or prohibited use, which may cause serious damage to the machine. Failure to observe the indications bearing this symbol may result in more or less serious damage to the machine.</p>

The symbols shown below recall a state of more or less serious danger. Where necessary, they have been applied in positions of the machinery to signal its danger:

DANGER



General danger



Electrocution danger



Electrical ground



Crushing danger



Burn danger



Danger obstacle

PROHIBITION



Don't remove security devices



Don't repair or record during the movement



Don't use water to fight fires

2. INTRODUCTION

This manual describes all the rules of use as well as some information regarding the maintenance in order to obtain the best results and high levels of efficiency from the machine. We therefore advise you to read all these recommendations carefully before activating the security booth. Information on repairs, adjustments and different settings from those set here is contained in the technical manuals to be requested to **Automatic Systems**.

Keep this manual with care for every future consultation.

2.1. WARRANTY

We remain at your complete disposal for the assistance requirements that may arise. We remind you that the failure to comply with the prescriptions described will involve the warranty revocation.

The responsibility related to the warranty will be cancelled if the user does not follow the use instructions or makes changes without a previous preventive written authorisation by the manufacturer and/or he uses not original spare parts.

Automatic Systems reserves all the right to make any kind of modifications that will consider necessary for a better functioning of the security booth.

2.2. INTENDED USE

The safety booth shall be used exclusively as a security door for access control.

Intended use restrictions:

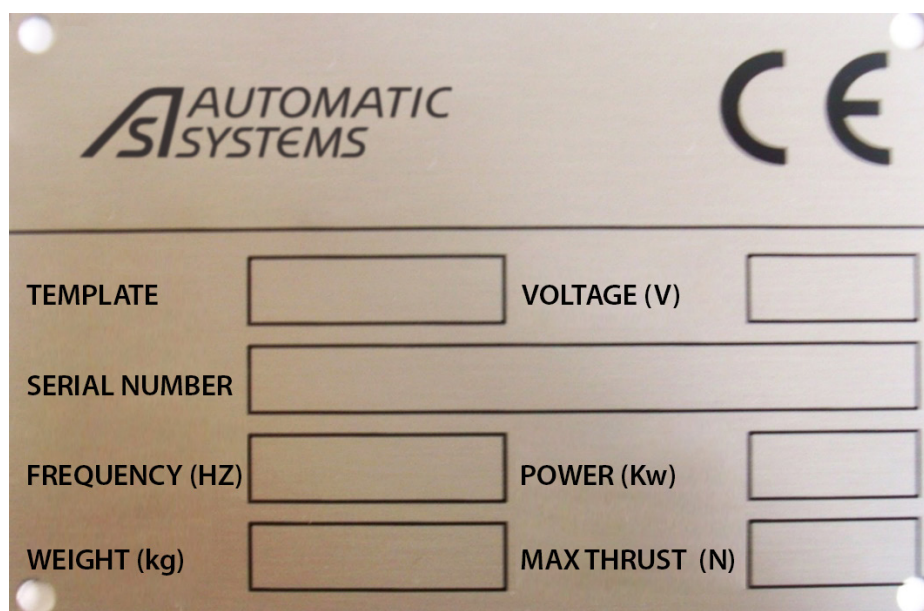
The booth must only be used for the purpose for which it was designed, taking into account the restrictions indicated. Other uses are considered inappropriate and wrong. The manufacturer shall not be liable for any damage caused by improper, incorrect or unreasonable use.

2.3. IDENTIFICATION

The metal plate represented here, contains all the information about the identification and the functions of the device.

This is located inside the structure.

Together with a possible request of intervention it is necessary to communicate the serial number shown on the plate.



2.4. GENERAL SAFETY REGULATIONS

The maintenance interventions are allowed only to an authorized and trained personnel. Any manumission or change of the equipment not previously authorised by the developer, lifts this last one from possible damages that can arise.

The removal or the manumission of the security devices causes a violation of the European security standards.

Our machines are prepared to accept just the original accessories. The installation must be done only by a qualified and authorised personnel, within the total respect of the following instructions. Do control that conditions of danger are not present during the operational manoeuvres. Stop immediately the operation of the system, in case functional irregularities occur, and ask the assistance service of Automatic Systems.



Interventions on the electric system, even of small entity, require the intervention of professionally qualified personnel.

2.5. SAFETY DEVICES

- Manual release of the system in case of total lack of energy
- Internal emergency button
- Inaccessibility of mechanical handling
- Nameplates indicating proper procedures to be performed
- Electronic maximum torque control
- Sensitive edges
- Electrical insulation
- Safety transformer
- Peripherals operating in SELV



We remind the applicable safety rules by the customer and in particular, with the grounding of the system, lifesaving equipment.

2.6. RESIDUAL RISKS

The machine has been built in compliance with safety standards and taking into account the risks to the user and maintenance staff, following the correct practices and technical criteria for all situations not provided for by the regulations.

However, there are still risks related to the type of machine, for users and maintenance workers, for whom it has not been possible to find technical solutions and therefore specific precautions are necessary.

During normal operation, the user must not access moving parts.

In case of manual release or during maintenance operations, the mandatory signals are placed in the area concerned, asking to turn off the power of the machine before proceeding. Areas at risk of electric shock accessible to operators shall be marked with the appropriate symbol as required by CEI EN 60204-1. There is no risk of getting trapped inside the cabin, thanks to the manual release of the system in case of power failure.

2.6.1. WARNINGS FOR USERS



- Do not pass through the opening too quickly, impacts are possible
- Children and animals could be in danger if left alone as they cross. During the transition, keep your children and animals in your arms or near you
- Do not place your hands or other body parts in the gaps between the fixed and movable parts of the structure

- Do not force the doors during their movement; excessive force can damage the driving mechanisms by preventing the proper functioning of the system and causing damage to the user.
- Do not force the door when it is closed; excessive power could damage the locking system, structure and cause damage to the user.

2.6.2. WARNINGS FOR SERVICE TECHNICIANS



- Installation and maintenance must be carried out by trained and authorized staff.
- When moving the door manually during maintenance, do not put your hands inside the mechanical components.
- Activation of the machine, when the internal ceiling or the external roof are removed, could be dangerous; be careful not to put your hands inside the guide elements while the machine is turned on.
- While no one is working on the machine, keep the inside ceiling and the outside roof assembled to the cab and secured with screws.
- Do not leave the keys in locks. Do not hand over the keys to untrained or unauthorized personnel.

2.7. RISK ASSESSMENT



Accidental risks arising from the machine can occur to people depending on their category.

We can define the following categories:

1. Carriers.
2. Installers.
3. Service technicians.
4. Cleaning staff.
5. Adult users, children, disabled people.

CATEGORY 1 - HANDLERS

People at risk: Truck drivers, porters, installers.

Type of risk:

- The overturning of the door.
- Finger and foot crushing.
- Injuries from excessive effort while moving the door.

Risk avoidance:

- Don't release the door from the packaging before reaching the installation site.
- Lift and move the door using appropriate equipment.
- Keep your distance from the door when raised.

CATEGORY 2 - INSTALLERS

People at risk: Assemblers, electricians, technicians.

Type of risk:

- Injuries from excessive effort while moving the door.
- Noise during drilling of fixing holes.
- Danger of electrocution when drilling holes and during connection of cable.
- Danger of cutting fingers while mechanical parts are in motion.

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Risk avoidance:

- Lift and move the door using appropriate equipment.
- Wear protective equipment.
- Use tools to check the electric voltage.
- Don't operate on mechanical parts while the door is connected to the mains.
- Don't release the door from the frame during handling.

CATEGORY 3 – ASSISTANCE TECHNICIANS

People at risk: Maintenance and assistance staff.

Type of risk:

- Electric shock with 220V equipment.
- Cutting and trapping fingers among moving parts.
- Abnormal operation caused by faults.

Risk avoidance:

- Use the protective equipment.
- Check the functioning of any active safety devices.
- Don't clean the door while it is moving.

CATEGORY 4 – CLEANING STAFF

Persons at risk: Cleaning staff, service staff.

Type of risk:

- Use of harmful substances.
- Risk of cutting and entrapment of fingers among moving parts.
- Cleaning cloths trapped during movement.

Risk avoidance:

- Use appropriate protective equipment.
- Don't clean the door while it is moving.
- Disable the port from the control console.

CATEGORY 5 – USERS

Persons at risk: Adult and disabled users.

Type of risk:

- Impact on the door during passage.

Risk avoidance:

- Don't run in transit.
- Don't try to go back during transit.
- Keep your umbrellas and bags close to your body.

Persons at risk: Children accompanied by adults.

Type of risk:

- Impact on the door during passage.

Risk avoidance:

- Children must be accompanied by an adult.
- Don't run during transit.
- Don't drag the kids by hand.
- Don't leave your children alone while crossing.



2.8. MAINTENANCE WARNINGS

The security booth has been realized according to the applicable legislation and taking into consideration of the legislative provisions that transpose the European Community directives.

We recommend a periodical verification of the integrity of the device with a semi-annual frequency, to be given exclusively to qualified staff.

During the programmed maintenance perform the operations described in this manual.

3. OPERATING AND USE

3.1. PRODUCT DESCRIPTION

The RevLock is a rotating turnstile door in 4 sectors entirely realized in crystal.

Everything is transparent, light and elegant. It perfectly adapts itself to the latest architectural philosophies in which the mix of steel/glass has a fundamental role.

It is a structure with a circular base in crystal that has to be installed as a support to the existing pavement, by avoiding civil works.

The rotating turnstile is realized in crystal, enriched with security profiles to guarantee a minor thermic exchange among the spaces and the outside.

The used technology for the rotation of the turnstile is the result of the thirty years' experience of Automatic systems, matured in the production of tens of thousands of pieces. The placement of the motorization in the upper part of the product avoids any kind of civil work during the installation phase.

Therefore, it does not need the use of carpets and/or additional pavements, guaranteeing a particularly pleasant fluidity of use.

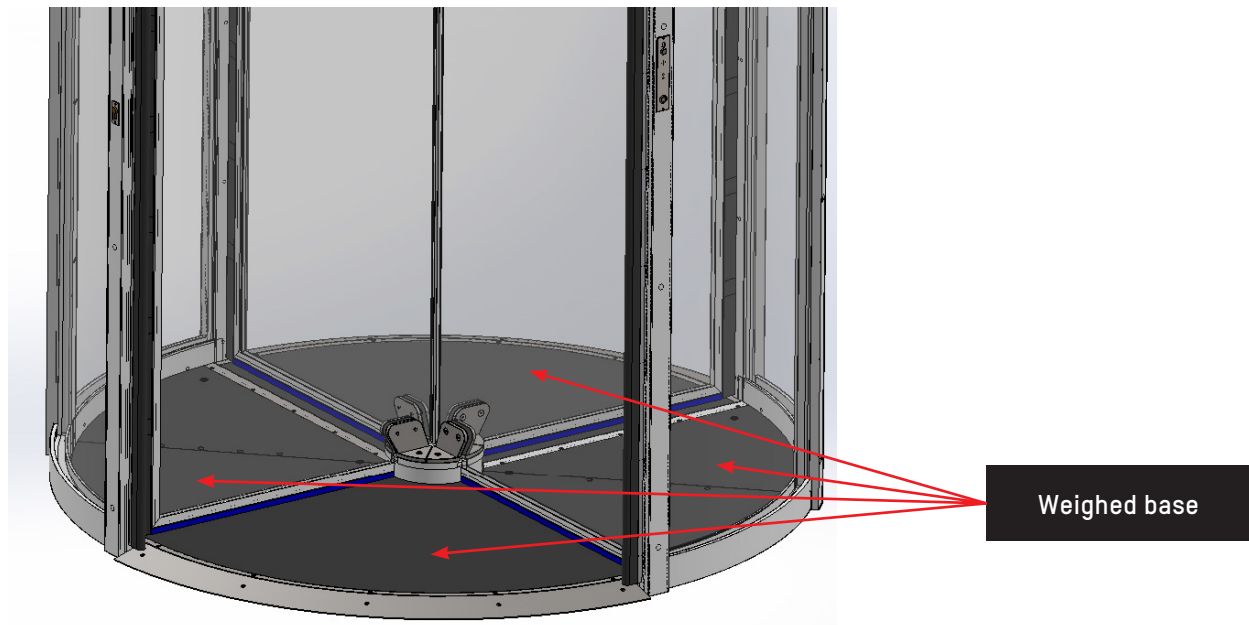
Entrances for hotels, hospitals, offices, services centres, shopping centres, etc ... can be realized with the RevLock.

To the elegant and light architectural characteristics, the RevLock matches a sophisticated system of management of access control that allows the transit to the controlled area just to authorised people. The highly performing unicity of transit avoids the queuing both in entrance and in exit of not authorised users.

The RevLock - 4 WINGS is available in two versions, in both it performs the control of unicity of passage in both senses of motion, but with two extremely different control systems:

- Weighed base (standard)
- Sensor of person detection (optional)

3.2. WEIGHED BASE



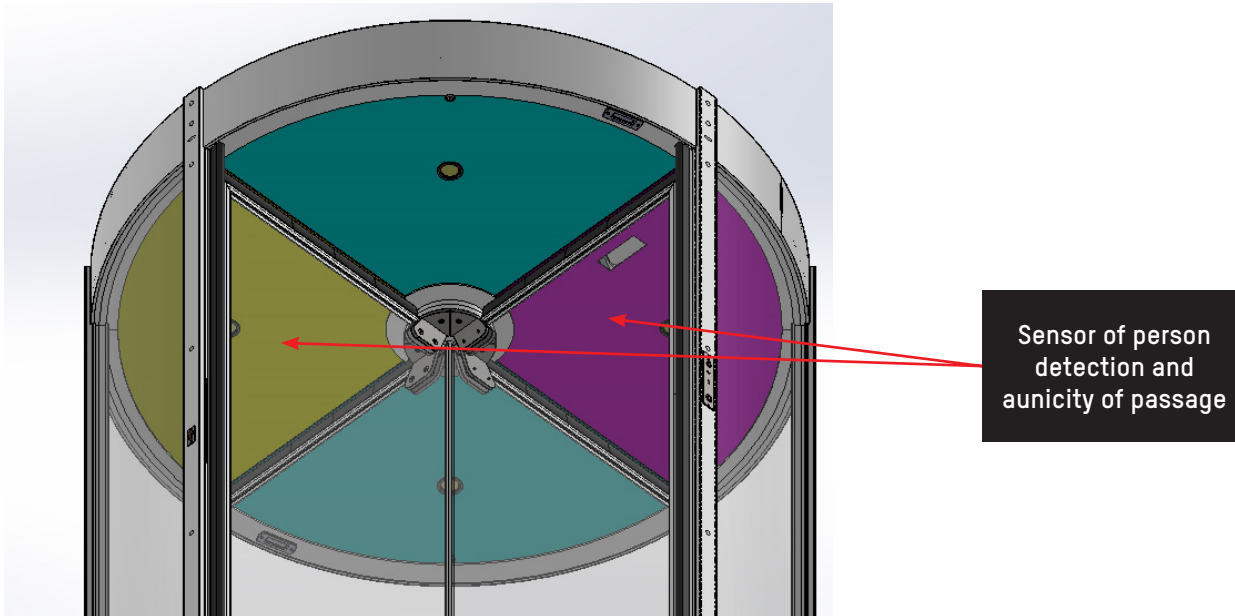
The weighed base (standard) is made of an extremely thin platform and consistent with the existing rules which does not make an impact on the design and on the particular architectural elegance of the rotating door.

The weighing system allows, through a dynamic analysis of the transit, a very high accuracy in the identification of one or more people, enabling a high certainty for the system accesses control in allowing the access exclusively to strictly authorised personnel.

The control takes place in both directions of travel.

The revelation of a not authorised access, in one of the two travel directions, activates a procedure of alarm that expects the inserting of electromechanical blocks in the rotor of actioning of the rotating doors, avoiding the access, even forced, towards the direction which is not allowed. Consequently, the system of motorisation inverts the sense up to make the controlled area free and allows a new transit.

3.3. SENSOR OF PERSON DETECTION (OPTIONAL)



The sensor of person detection (optional) is adopted for all the environmental conditions that do not allow the installation of a weighed platform on the existing pavement, but at the same time an elevated security in the unicity of passage is required.

In historical or very valuable buildings, where the view of the existing pavement has an elevated importance, but a strict accesses control is required anyway, the solution of the sensor becomes the only applicable one.

The system is made by a sensor, for every sense of motion, positioned in the roof of the booth and it doesn't affect the design and the particular architectural elegance of the rotating door.

The sensor allows, through a dynamic analysis of transit, an extremely high accuracy in the detection of one or more persons, allowing for the accesses control system an elevated certainty in allowing the access exclusively to strictly authorized personnel.

The control happens in both senses of motion.

The detection of a not authorised access, in one of the two senses of motion, activates a procedure of alarm that expects the insertion of electromechanical blocks in the inverter rotor of the rotating doors, avoiding the access, even forced, towards the forbidden direction. Consequently, the system of motorization inverts the motion up to make the controlled area free and allows a new transit.

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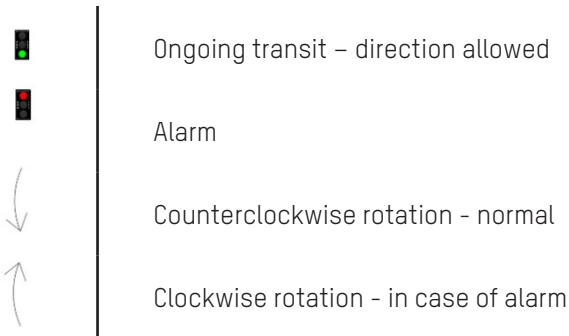



3.4. FUNCTIONING

In the following paragraphs are shown the same functioning timings of the RevLock - 4 WINGS and the related behavior of the rotating booth.

LEGEND

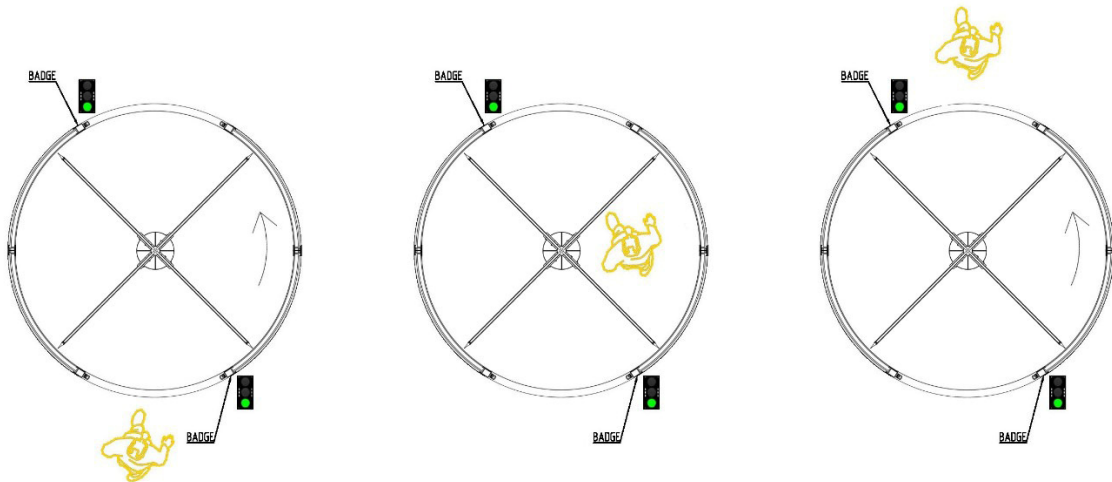
- The user in yellow is a first user;
- The user in blue is a second user;
- The transit that happens from the lower part to the higher part of each illustration is an incoming transit;
- The transit that happens from the higher part to the lower part of each illustration in an outgoing transit.





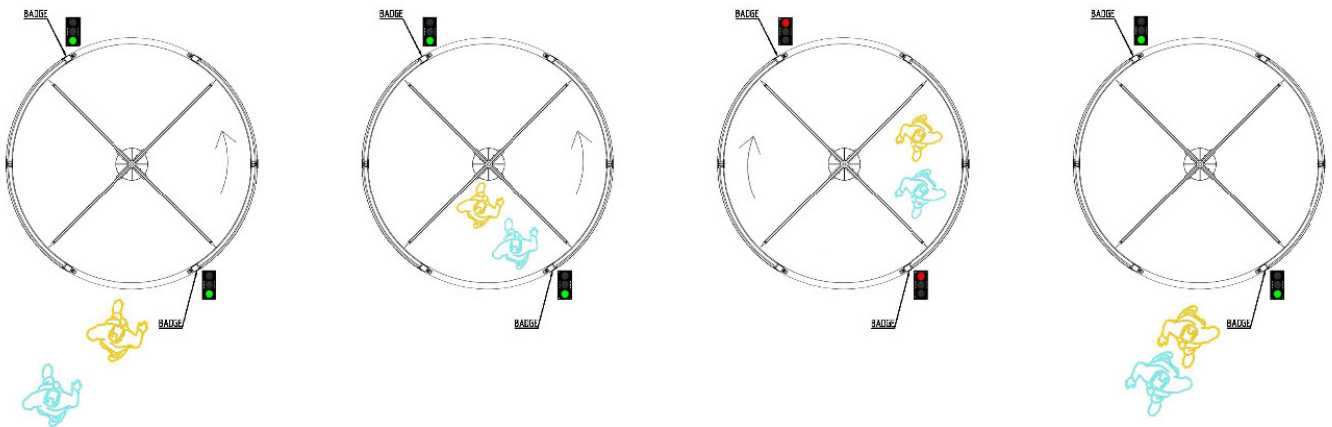
During the turnstile rotation the semaphore could alternate the colours green and red according to the possibility to access or not inside the booth and to the operation settings.

3.4.1. INCOMING AUTHORIZED TRANSIT



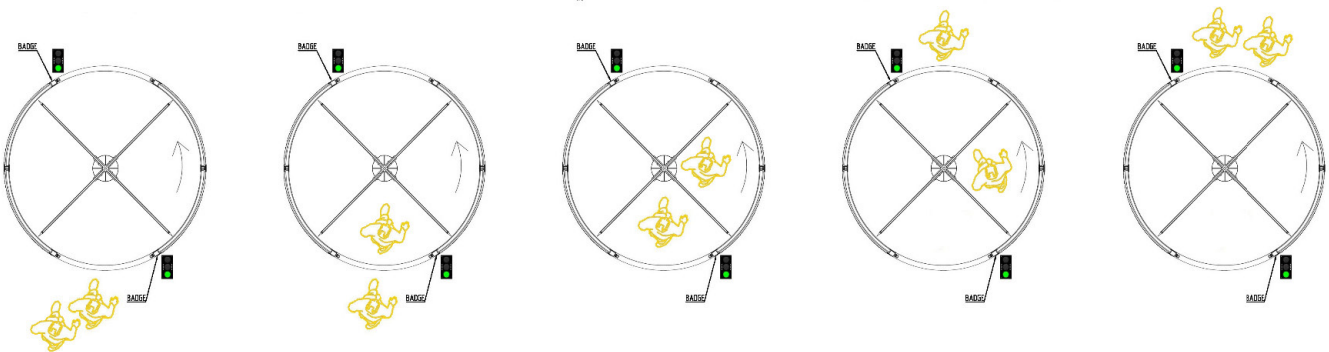
- The user in yellow is an authorized user.
- The user presents his/her own badge of authorization in the dedicated reader and/or he/she presses the button.
- The user transits through the rotating door towards the selected direction of passage.

3.4.2. INCOMING TRANSIT OF TWO PEOPLE ONE AUTHORIZED AND ANOTHER ONE UNAUTHORIZED



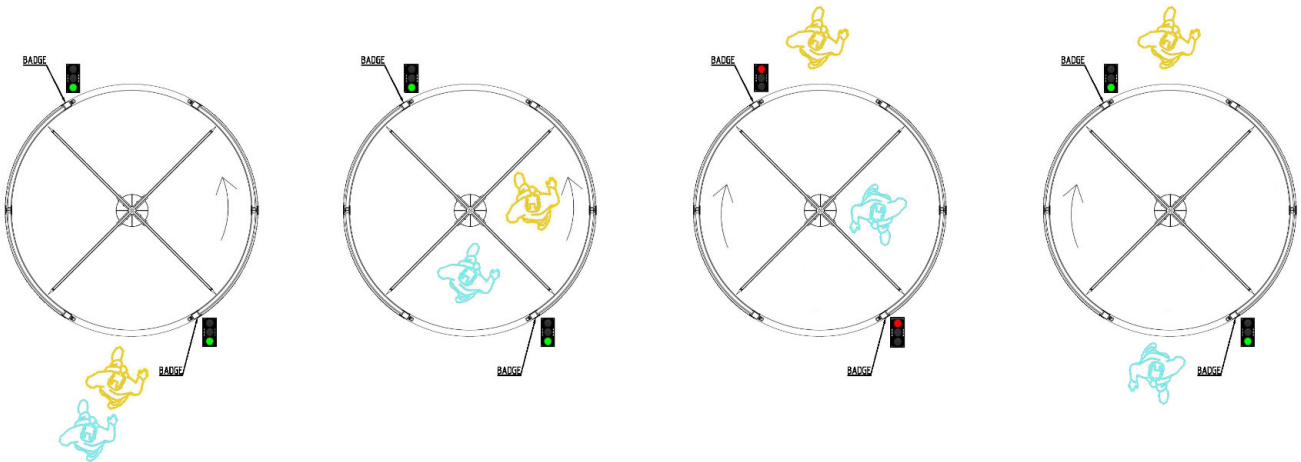
- The user in yellow is an authorised user, the user in blue is an unauthorized user
- The user presents his/her own badge of authorisation in the dedicated reader and/or he/she presses the button
- The user transits through the rotating door towards the selected direction of transit
- The authorized user is followed by a not authorized person
- The rotating door makes a passage unicity check and it detects the presence of two people
- The rotating door inverts the sense of motion, inviting the users to go out.

3.4.3. INCOMING TRANSIT OF TWO AUTHORIZED PEOPLE



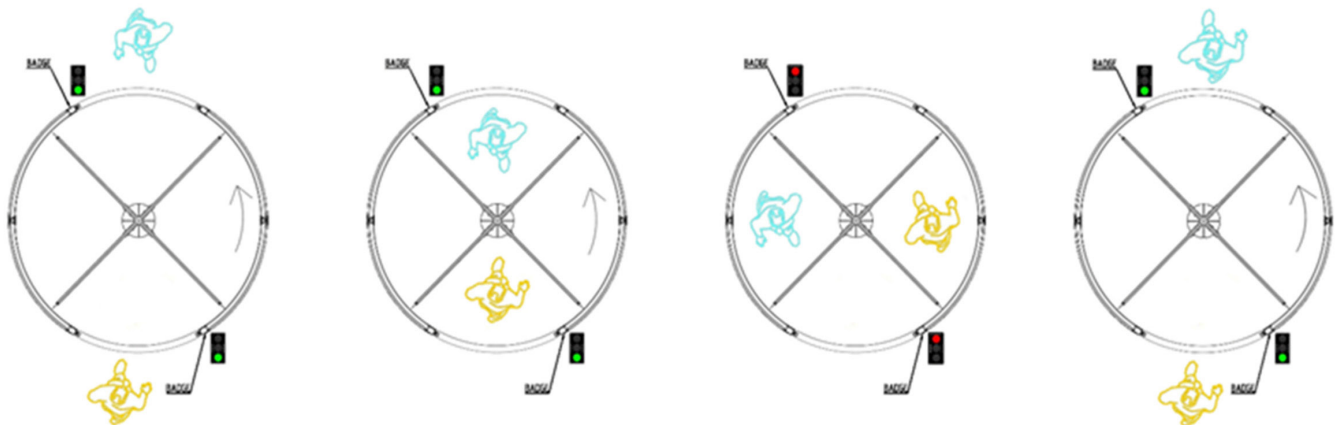
- The users in yellow are authorized users
- The first user presents his/her own badge of authorisation in the dedicated reader and/or he/her presses the button
- The user transits through the rotating door towards the selected direction of transit
- The second user presents his/her own badge of authorisation in the dedicated reader and/or he/her presses the button
- The user transits through the rotating door towards the selected direction of transit

3.4.4. INCOMING TRANSIT OF ONE AUTHORIZED PERSON AND REFUSED INCOMING TRANSIT TO A NOT AUTHORIZED PERSON



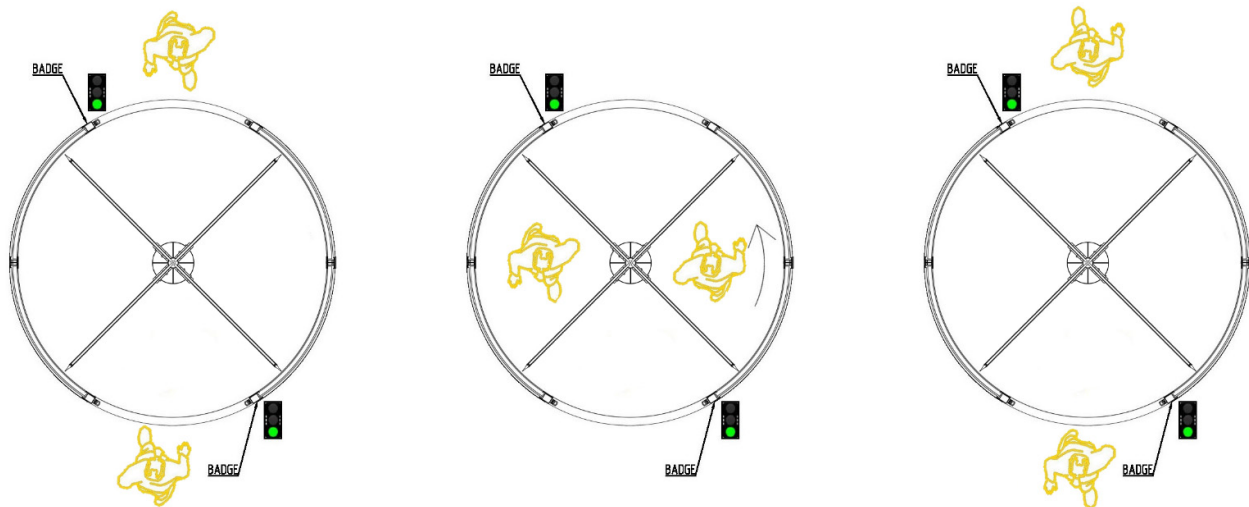
- The user in yellow is an authorised user, the user in blue is a not authorised user.
- The user presents his/her own badge of authorisation in the dedicated reader and/or he/her presses the button.
- The user transits through the rotating door towards the selected direction of transit.
- The authorized user is followed by a not authorized person who enters in the following quart of rotation.
- The rotating door makes a check of passage and detects the presence of a person in the quart where the access is forbidden.
- The rotating door inverts the direction of motion, inviting the second user to go out.

3.4.5. INCOMING TRANSIT OF AN AUTHORIZED PERSON AND CONTEMPORARY REFUSED TRANSIT OF AN OUTGOING NOT AUTHORIZED PERSON



- The user in yellow is an authorized user, the user in blue is a not authorized user.
- The user presents his/her own badge of authorisation in the dedicated reader and/or he/her presses the button.
- The not authorized user tries to go out in the opposite transit direction to the allow direction
- The rotating door makes a passage control and detects the presence of a person in the quart where the access is forbidden.
- The rotating door inverts the direction of motion, inviting both users to go out.

3.4.6. INCOMING TRANSIT OF AN AUTHORIZED PERSON AND CONTEMPORARY OUTGOING TRANSIT OF ONE AUTHORIZED PERSON



- Both users in yellow are authorized to enter and exit
- The users present their badge of authorisation in the dedicated reader and/or they press the button
- The rotating door makes a check of transition and reveals the presence of only one person per quart.
- The authorized users transit through the rotating door towards the selected direction of transit.

3.5. USE

3.5.1. FIRST ENTRANCE (OPENING)

Opening of the employees in the morning.

- Activate the system that allows the unlock of the turnstile through the mechanical key of first entrance, positioned on the external bank side of the turnstile and press the external button.

This procedure allows just one transit, then the RevLock takes itself back to mono-exit conditions, so:

- Go to the console and activate the RevLock - 4 WINGS, by pressing the "Last Exit" button, so that you deactivate the LED in the console, if it is switched on.

3.5.2. NORMAL TRANSIT

After the powering on, it is possible to select, from the console, two functioning modalities of the booth, continuous rotation or rotation on request, in this last case the transit must happens as follows:

- If the rotation on request is set, it is possible to make a booking through the badge reader, put under the external pushbutton, now the system will allow an incoming transit. (see example 1). It is even possible to make two transits, one in entrance and one in exit, if both of the users make a booking in their respective badge. The system allows an incoming transit and, contemporary, an outgoing transit (see example 2). If just one booking is made and the users are two, one in entrance and one in exit, the system blocks the rotation of the booth and it obliges the exit for both users, after few seconds, without any additional booking, the authorized use will be able to complete the transit. (see example 3)

3.5.3. PARTICULAR FUNCTIONING

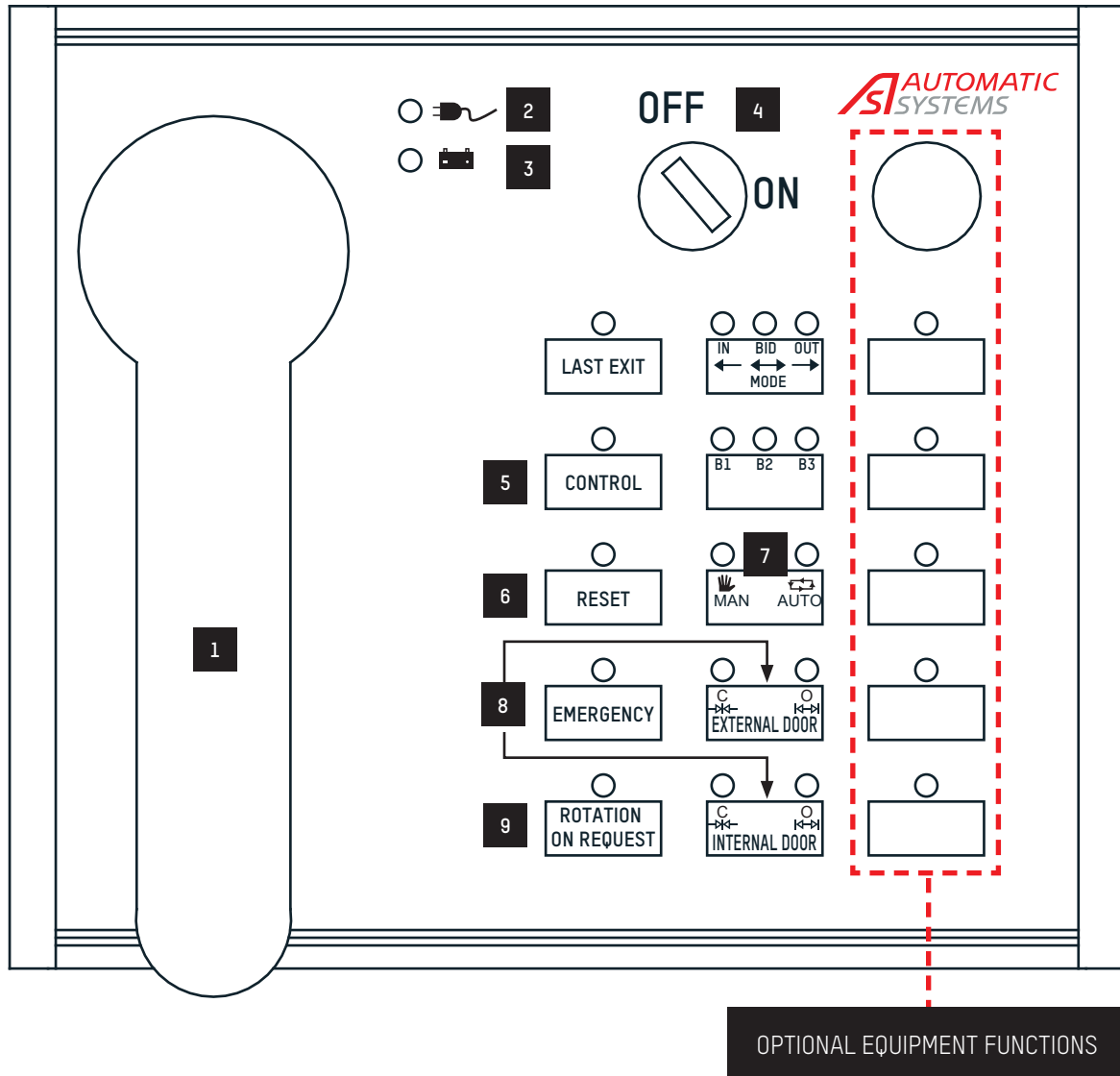
If the booth is set in mono-exit during the continuous rotation, the person closes him/herself outside. In order to enter again, the user must keep pressing the bell button for more than 15 seconds. The turnstile will stop and the person has 5 seconds to make a cycle of closure and opening of the tumbler system. By doing this, the booth allows one entrance.

3.6. CONTROL CONSOLE

3.6.1. CONTROL CONSOLE (STANDARD)

The Control Console is equipped with all the main functions normally used for the programming of the functioning modalities of the booth.

The functions can be activated and deactivated by a button: a LED indicates their status.



REF.	DESIGNATION	REF.	DESIGNATION
1	Intercom handset	6	Alarm RESET
2	Power supply	7	MANUAL operation from the console
3	Optional booth battery back-up		AUTOMATIC operation from the user command plate
4	CONNECTION KEY	8	Open the door when in manual mode
	ON — Connected OFF — Disconnected	9	OFF = free mode
5	CONTROL (weight detection, metal detection, biometric...)		ON = operation to rotate



3.6.1.1. FUNCTIONING OF THE SERIAL CONSOLE

ON/OFF Key for console enablement

ON - Console enabled

OFF - Console disabled

Last exit

By pressing this button, the access through the tumbler system is enabled, or through impulsive contact (tumbler with spring contact, electronic key, badge reader, etc ...), to cleaners, maintenance workers, etc ...

LED ON = Active function

LED OFF = Normal function

Control

This function manages the permanent exclusion of the metal detector control, weight control, biometric control.

LED ON = Control enabled

LED OFF = Control disabled

Reset

This button allows to revoke one of the ongoing alarms underlined by the dedicated acoustic signal.

LED ON = Reset for one transit

LED OFF - Standard working

Emergency

It allows the rotation of the doors through a normal push

LED ON = Free rotation

LED OFF = Normal functioning

Rotation on request

If active, it allows the access only through buttons or through a badge

LED ON = Rotation on request enabled

LED OFF = Continuous rotation

Mono entry/ Bidirectional/ Mono exit

It gives the possibility of managing the doors functioning, which means whether the booth has to work in only entrance, bi-directional, or only exit.

Green Led = Monodirectional entrance

Yellow Led = Monodirectional exit

Yellow and Green Led = Bidirectional

Booth (B1, B2, B3)

It gives the possibility to manage the functioning up to a maximum of three booths with the same console.

By pressing this button, it is possible to choose the booth to select, in case of alarm it will move automatically.

Automatic/Manual

By pressing this button, it is possible to manage the manual and automatic phase indicated by the dedicated bi-colour LED.

Red Led= Manual

Green Led= Automatic

Entry Transit (Internal door)

It allows the rotation towards the exit direction.

Red Led= Rotation ongoing

Green Led= Rotation completed

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Exit Transit (External door)

It allows the rotation towards the exit direction

Red Led= Rotation ongoing

Green Led= Rotation completed

Intercom

In case of an intercom call from a booth, a console ringtone activates; by lifting the phone up, the console connects with the intercom to the booth from which the call started. When the phone is lift up, in case there is more than one booth on the line, press the button "booth 1, booth 2, booth 3" to be connected to the desired booth.

Reset of control logic

For a total reset of control logic, press "B1, B2, B3" and "Internal door" at the same time until all the lights of the console switch off. Leaving buttons, the booth is automatically reactivated.



During the RESET phase do not do others operations on the console and on the booth.

3.6.2. VIRTUAL CONSOLE (OPTIONAL)

The management software VIRTUAL CONSOLE allows the control of multiple products, via Ethernet protocols.

This software allows you to arrange in the main screen of the system all the gates that we want to control and view the operating status of these. In addition to this you have the possibility to interact with the machine through the use of keys to execute a single transit or access the console section and then change the mode of operation.

There is also a visual and acoustic alarm that allows the operator to be alerted in real time of problems on the controlled gates.

The VIRTUAL CONSOLE is defined by a web server architecture developed for Linux operating systems.

This feature allows users to control all machines using a simple web browser and from any device connected to the same Ethernet infrastructure where the server is located.

For all the main functionalities of the software refer to the specific manual.

3.7. EMERGENCY BUTTON

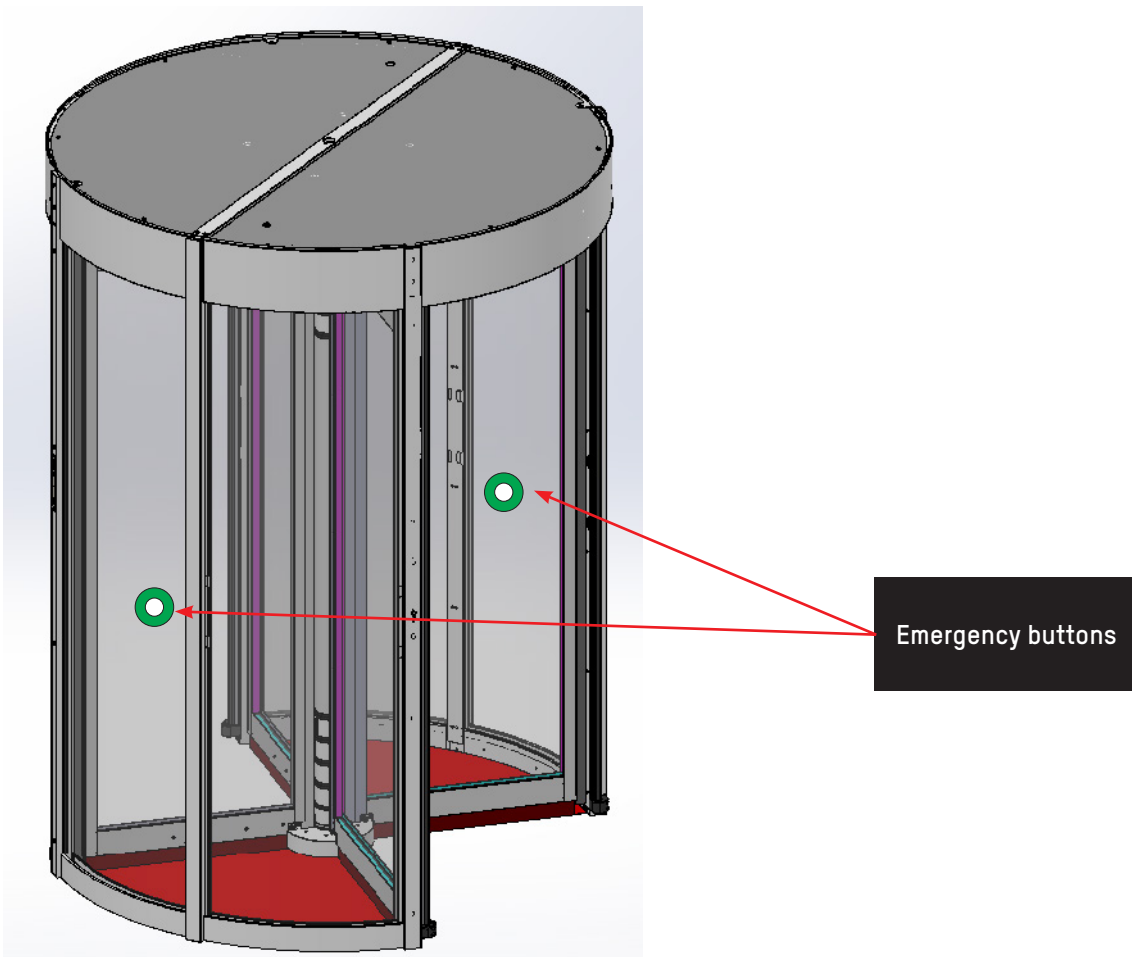


The emergency button, under normal conditions of use of the booth, remains off and not illuminated.

It is positioned internally on both side walls of the booth.

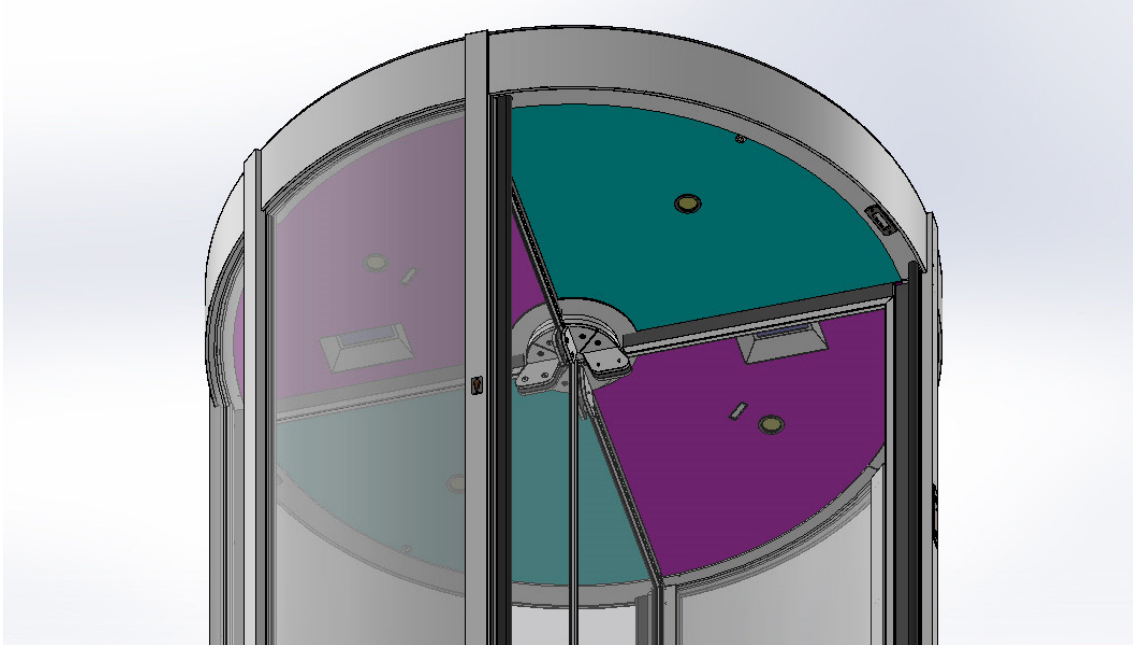
It is activated by lighting up if: the booth rotor stops for a given time (settable, default 10 sec.) in a position that can trap users inside the booth itself.

By pressing the button, the booth goes into emergency.



4. ELECTRONIC DESCRIPTION

4.1. ELECTRONIC DISPOSITION



The rooftop is divided in 4 slices, removable to have access to all the electronic components from the ground, sensors and the movements group of the RevLock - 4 WINGS. In those ones are contained the spotlights for the enlightenment of the RevLock - 4 WINGS.

In green are identified the slices of rooftop to remove in order to access to the electronic management of the booth and to manage the camera sensor. In the case in which the booth performs the passage unicity controls through the camera sensors, in the slices of purple colour are installed the camera sensors that control the procedure of entrance and exit and verify the unicity of passage and one more sensor of person detection with static booth.

In the case which the booth makes the controls of passage unicity through the platform, under the platform some load cells are installed and the management of those is made through the ELECTRONIC CONTROL UNIT and through the 5218214 BOARD.

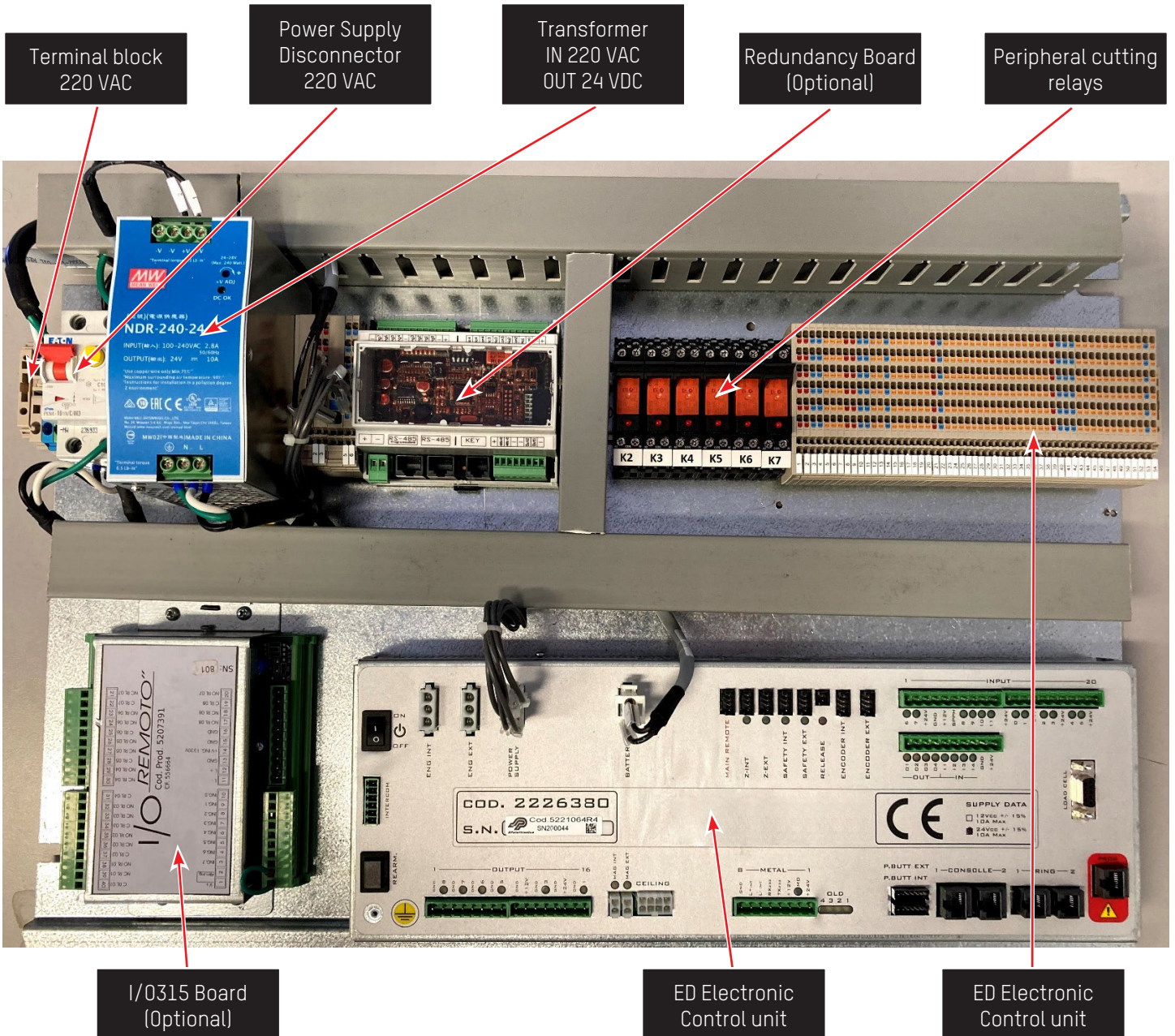
In the frontal pillar of the RevLock - 4 WINGS pushbuttons or various proximity sensors and badges can be expected to allow the booth to start the transit again.



REVLOCK - 4 WINGS

4.2. ELECTRONIC PLATES

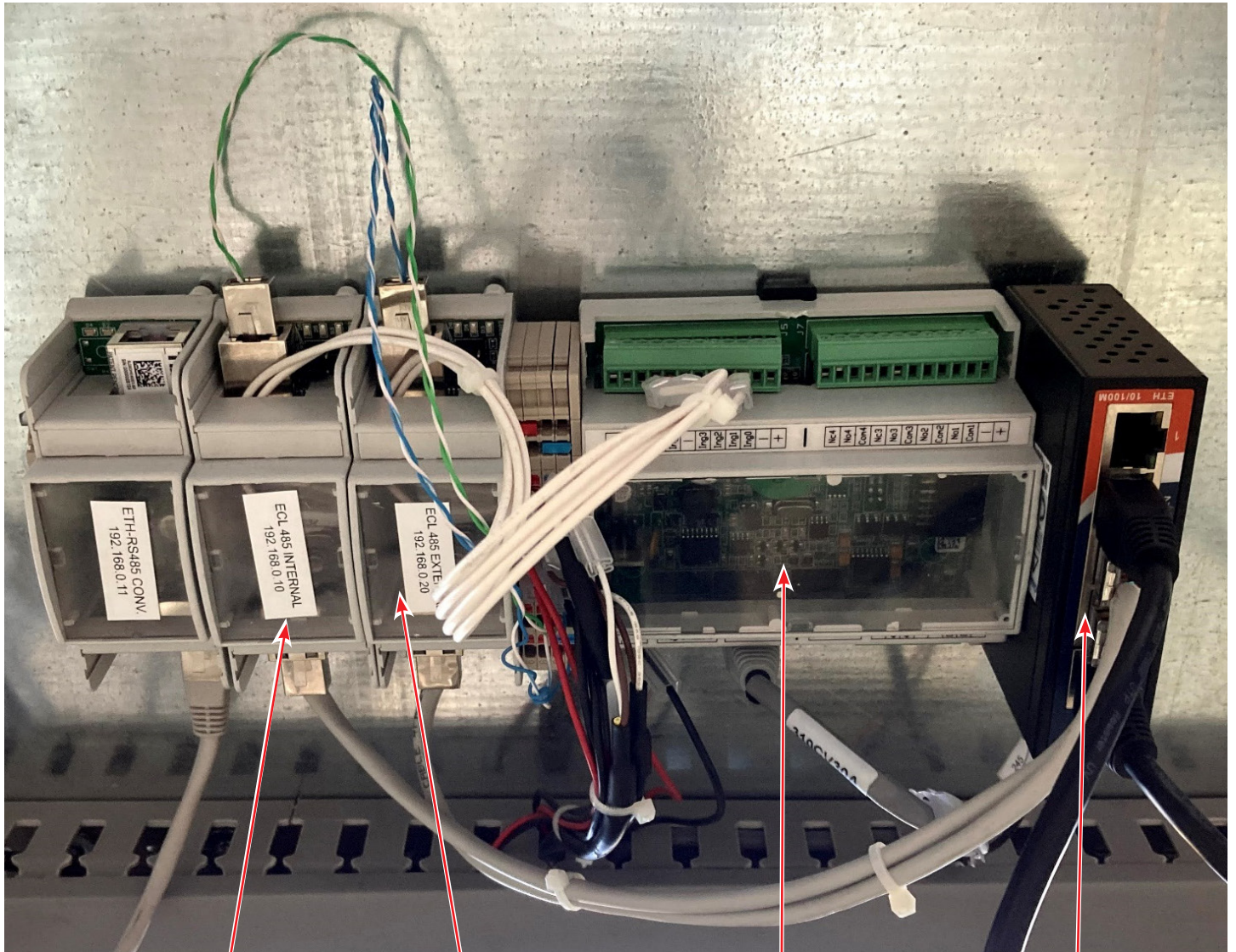
4.2.1. ELECTRONIC CONTROL UNIT PLATE



REVLOCK - 4 WINGS



4.2.2. PLATE OF CAMERA SENSOR (OPTIONAL)



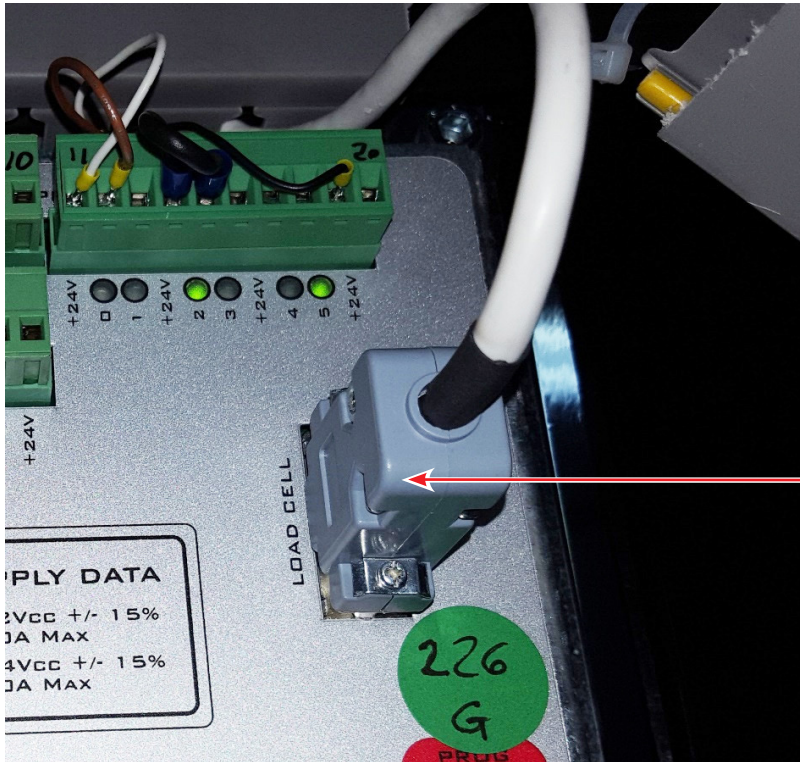
Output sensor management board

Input sensor management board

Camera sensor management board

Dedicated camera sensor network hub

4.2.3. LOAD CELL CONNECTION



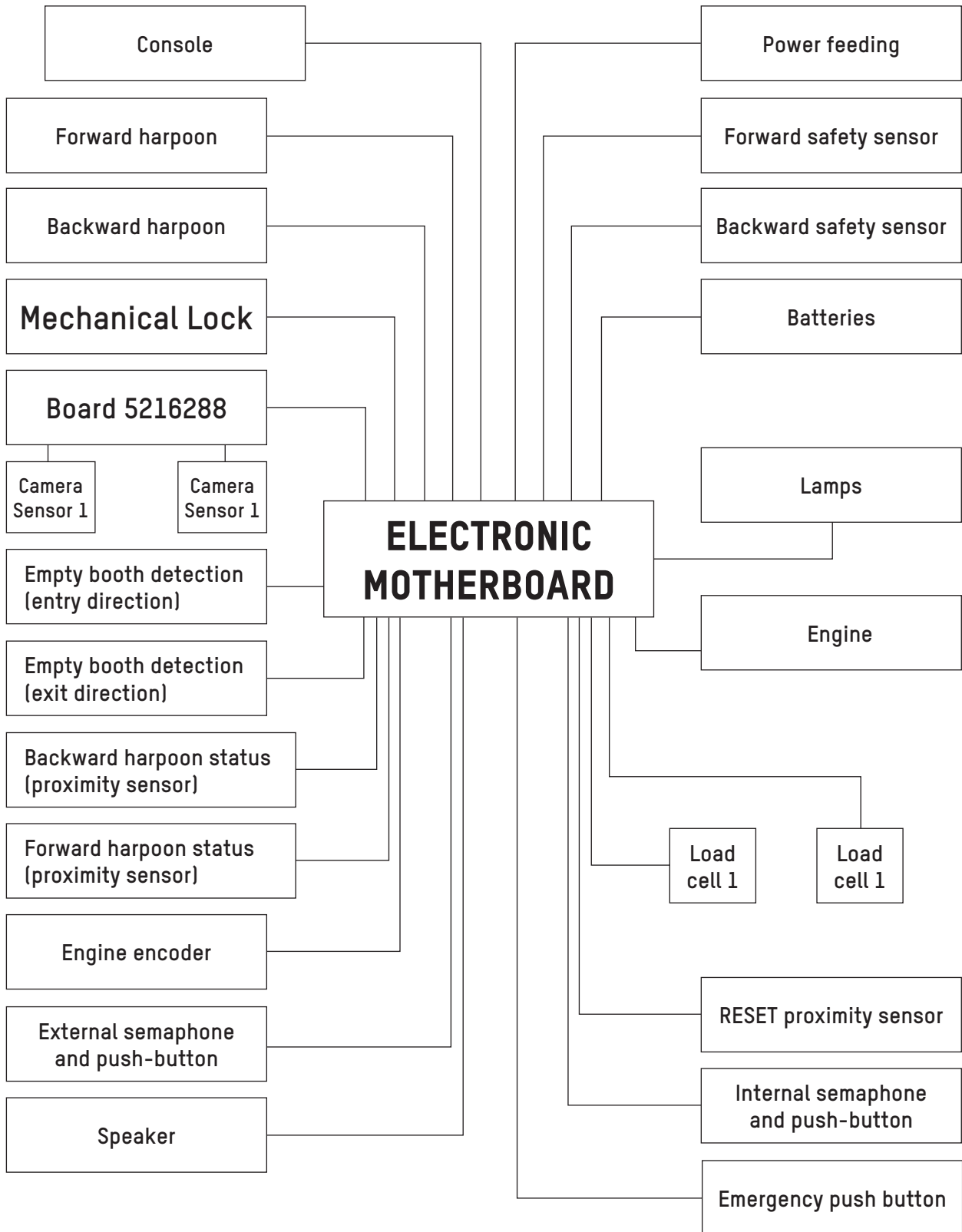
Connecting to electronics

Management electronics



THE ABOVE-MENTIONED CONNECTOR MUST BE CONNECTED ONLY IN REVLOCK WINGS WITH PERSON DETECTION THROUGH GRAVITOMETRIC PLATFORM.

4.3. BLOCK DIAGRAM



4.4. POWER SUPPLY

The booth can be equipped with two different types of power supply, depending to the required characteristics.

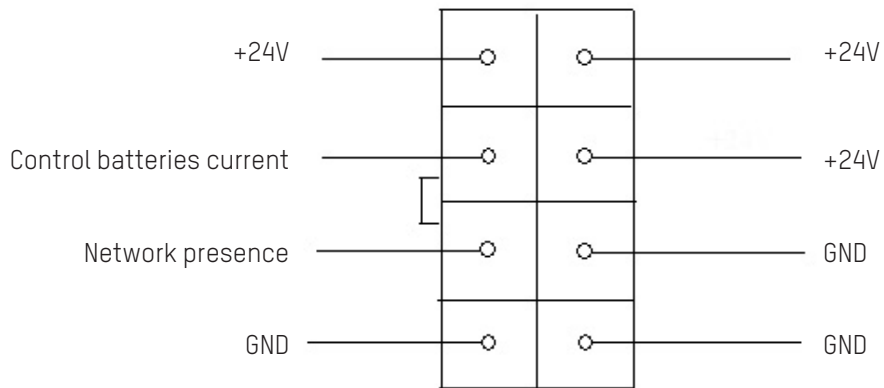
4.4.1. POWER SUPPLY UL - 100/240VAC 2.8A 50/60HZ



Exit of tension 24VDC 10A

Entrance of network tension 100/240VAC 2.8A 50/60Hz

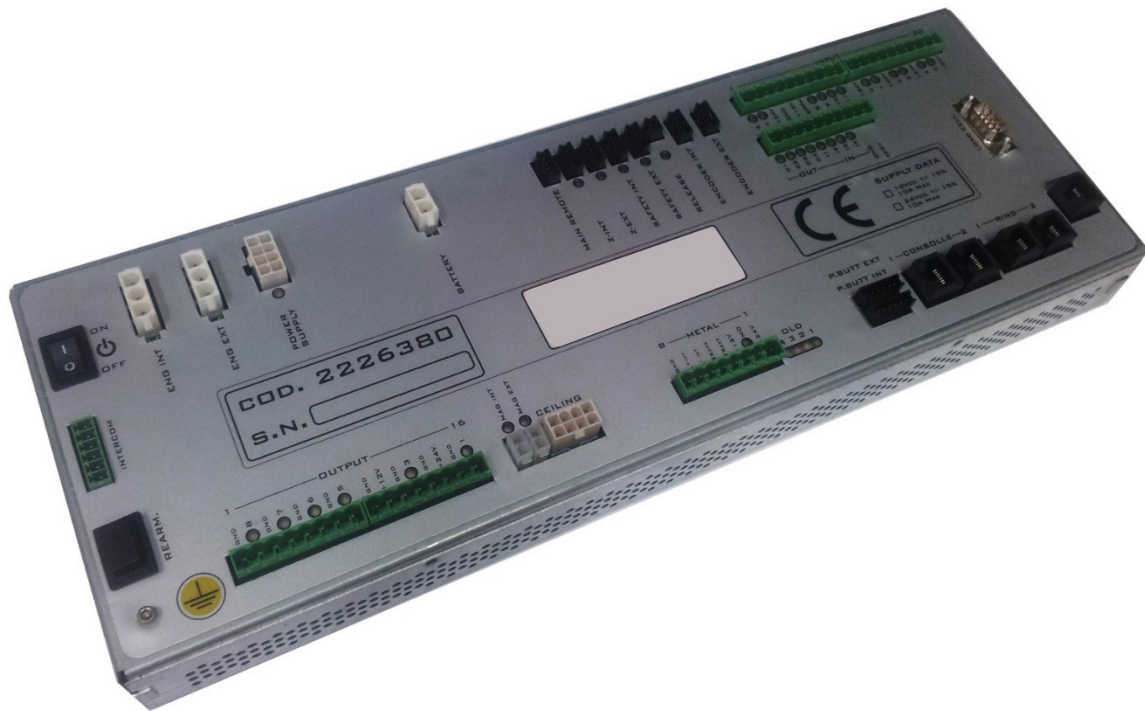
Power supply connector ED electronic control unit



REVLOCK - 4 WINGS



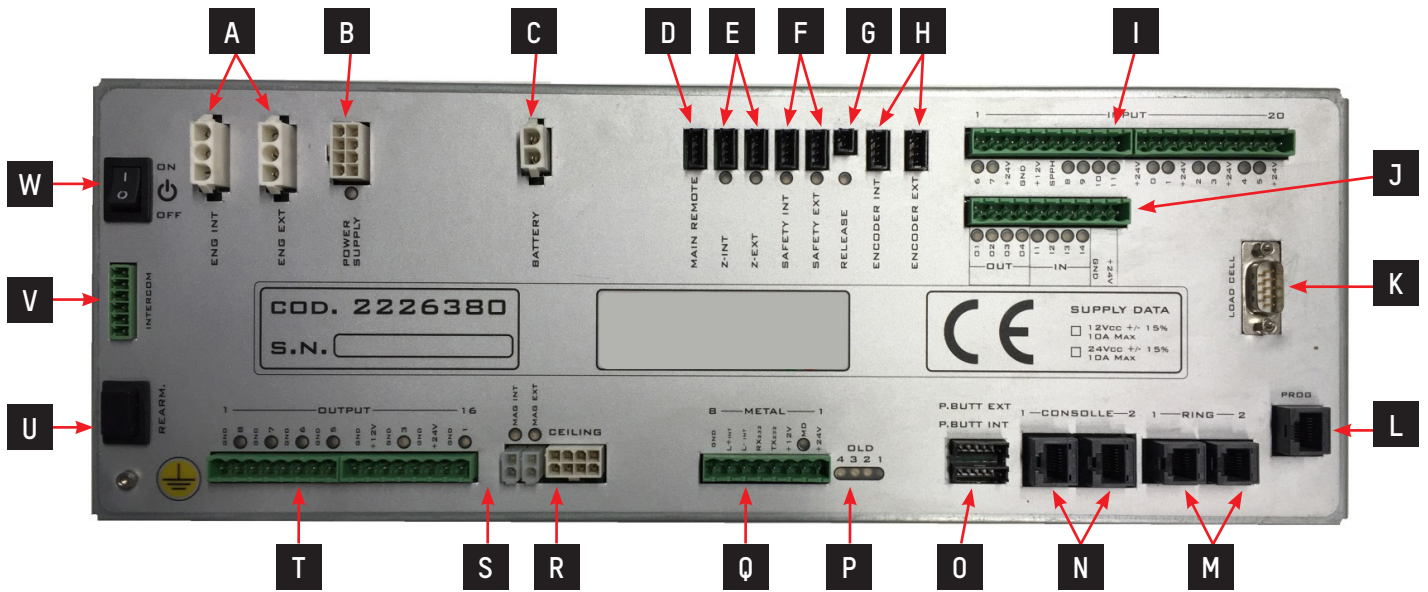
4.5. ED ELECTRONIC CONTROL UNIT



The board presents the following characteristics and peripherals:

- Power supply 24 V 10A
- Programmable microcontrollers
- 2 Serial lines RS485
- 1 serial RS232 dedicated to the programming
- Management of 3 intercoms
- Management of the load cell
- Management of the hardware emergency opening
- Management of 2 motors in CC
- Management/ charge of batteries 24VDC
- Management of switching on/off from remote
- 2 safety inputs
- 2 encoder inputs step by step
- 2 inputs for proximity sensors
- 16 programmable opto-isolated digital inputs
- 10 outputs in MOSFET 24VDC – 3A programmable
- 2 mosfet outputs
- Management 2 serial push buttons
- Dedicated connector for the management of the metal detector
- Management of the LED spotlights
- Record and reproduction of vocal synthesis

4.5.1. CONNECTORS



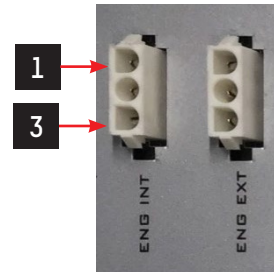
Ref.	Designation
A	Connectors for external and internal motors
B	Connector of power supply
C	Batteries connector
D	Connector of remote control
E	Internal and external proximity sensors connectors
F	Internal and external safety connectors
G	Connector CE unlock
H	Internal and external encoder connectors
I	Connectors of the inputs
J	Connectors inputs and outputs
K	Connector of load cell
L	Connector of programming
M	Connectors internal serial
N	Connectors external serial
O	Internal and external pushbutton connectors
P	Led of status
Q	Connector metal
R	Connector speaker/intercom/spotlights
S	Magnets connectors internal and external
T	Connectors of outputs
U	Button of rearming
V	Connector intercom of commerce
W	Switch of powering on

REVLOCK - 4 WINGS



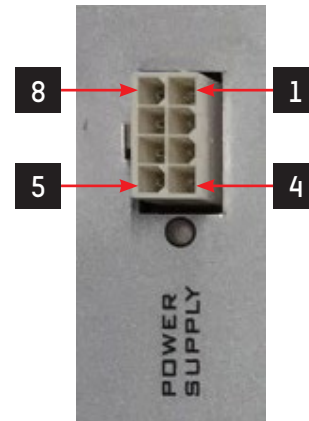
4.5.1.1. CONNECTORS FOR EXTERNAL AND INTERNAL ENGINES

Ref.	Designation
1	Engine
2	GND
3	Engine



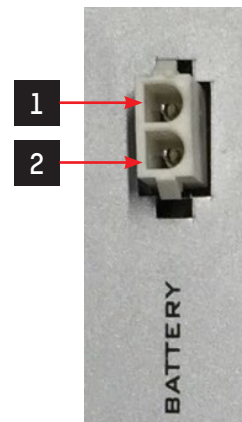
4.5.1.2. CONNECTOR OF POWER SUPPLY

Ref.	Designation
1	+24VDC external power supply
2	+24VDC external power supply
3	GND external power supply
4	GND external power supply
5	+24VDC external power supply
6	Not used
7	Not used
8	GND external power supply



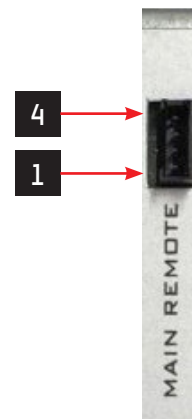
4.5.1.3. BATTERIES CONNECTOR

Ref.	Designation
1	+24 VDC battery
2	GND battery



4.5.1.4. REMOTE CONTROL CONNECTOR

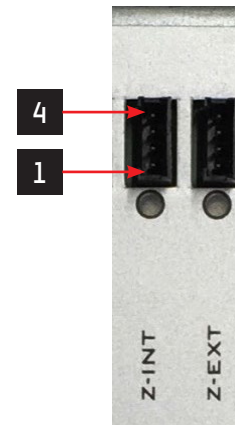
Ref.	Designation
1	Not used
2	Not used
3	Contact of power on
4	GND



4.5.1.5. INTERNAL AND EXTERNAL PROXIMITY SENSORS CONNECTORS

Ref.	Designation
1	+24VDC
2	Not used
3	PROXIMITY CONTACT
4	GND

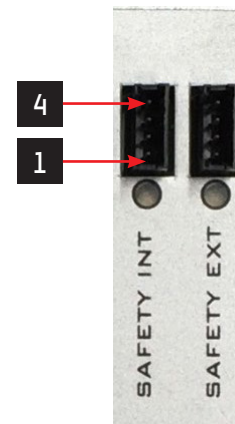
- Use a proximity sensor PNP – NO



4.5.1.6. SAFETY CONNECTORS INTERNAL AND EXTERNAL

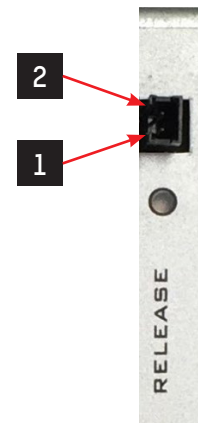
Ref.	Designation
1	+24VDC
2	Not used
3	SAFETY CONTACT
4	GND

- Use a safety NPN – NO



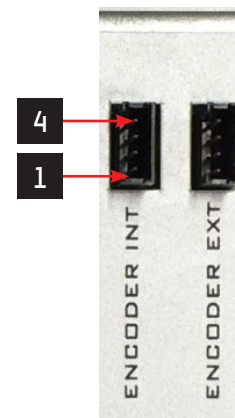
4.5.1.7. UNLOCK CONNECTOR CE

Ref.	Designation
1	Button
2	GND



4.5.1.8. INTERNAL AND EXTERNAL ENCODER CONNECTORS

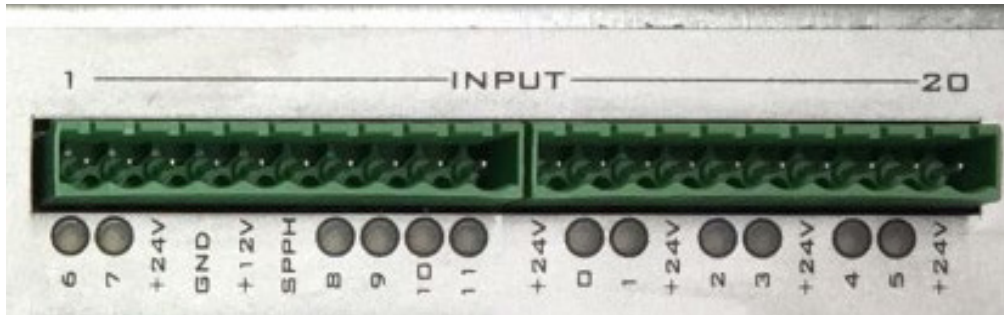
Ref.	Designation
1	+5VDC
2	B
3	A
4	GND



REVLOCK - 4 WINGS



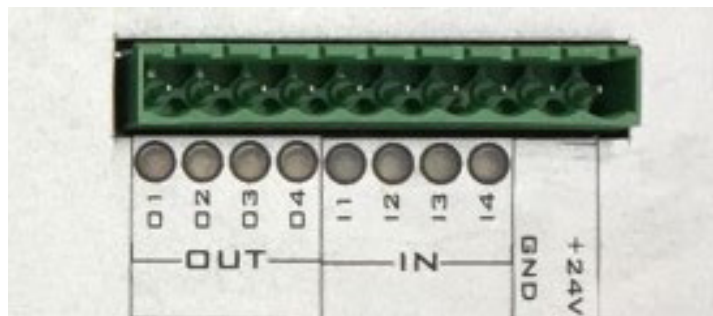
4.5.1.9. CONNECTORS OF THE INPUTS



Ref.	Designation	Ref.	Designation
1	Inp6	11	+24VDC
2	Inp7	12	Inp0
3	+24VDC	13	Inp1
4	GND	14	+24VDC
5	+12VDC	15	Inp2
6	Not used	16	Inp3
7	Inp8	17	+24VDC
8	Inp9	18	Inp4
9	Inp10	19	Inp5
10	Inp11	20	+24VDC

- Inp0 – Inp7 are activated with a positive (with a tension that varies from 5VDC a 24VDC)
- Inp8 – Inp11 are activated with the GND

4.5.1.10. INPUTS AND OUTPUTS CONNECTORS



Ref.	Designation	Ref.	Designation
1	I/O Out1	6	I/O Inp2
2	I/O Out2	7	I/O Inp3
3	I/O Out3	8	I/O Inp4
4	I/O Out4	9	GND
5	I/O Inp1	10	+24VDC

- The inputs are activated at GND
- The outputs give a 24VDC 1.4° positive

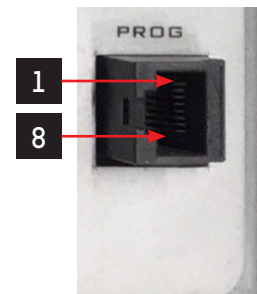
4.5.1.11. LOAD CELL CONNECTOR

Ref.	Designation
1	Avcc
2	Avcc
3	- Signal Load Cell 1
4	+ Signal Load Cell 1
5	Agnd
6	Agnd
7	- Signal Load Cell 2
8	+ Signal Load Cell 2



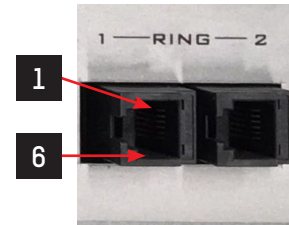
4.5.1.12. PROGRAMMING CONNECTOR

Ref.	Designation
1	Not used
2	Not used
3	+12 VDC
4	Reset
5	GND
6	Programming
7	RS-232
8	RS-232



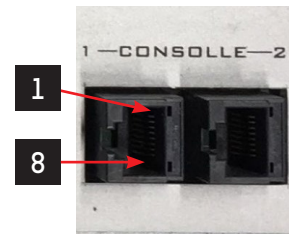
4.5.1.13. CONNECTORS OF INTERNAL SERIAL

Ref.	Designation
1	L- INT
2	L+ INT
3	+24VDC
4	GND
5	+24VDC
6	GND



4.5.1.14. CONNECTORS OF EXTERNAL SERIAL

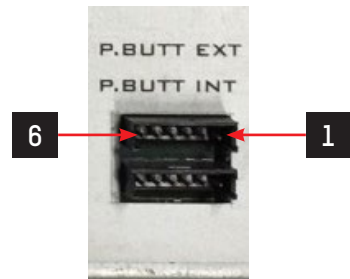
Ref.	Designation
1	L- EXT
2	L+ EXT
3	+12VDC/+24VDC
4	+12VDC/+24VDC
5	GND
6	GND
7	LISTEN
8	TALK



- Outside the SINGLE BOARD ED it is indicated if the output voltage from the connector is set at 12VDC or 24VDC.

4.5.1.15. INTERNAL CONNECTORS OF EXTERNAL AND INTERNAL PUSHBUTTON

Ref.	Designation
1	+12VDC
2	SDA
3	SCL
4	+ INTERCOM
5	- INTERCOM
6	GND



- In the internal pushbutton the intercom is only present only in certain specifications.

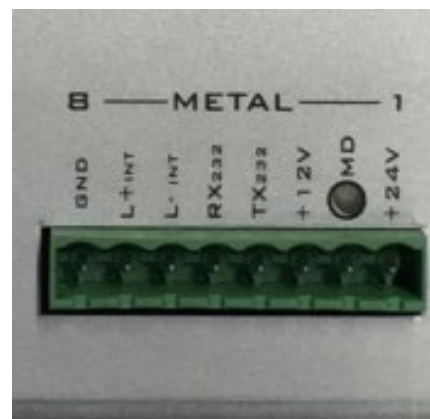
4.5.1.16. STATUS LED

- The LEDs are used to show the functioning state of the ED mainbord
- The LEDs light up in sequence to indicate correct operation.



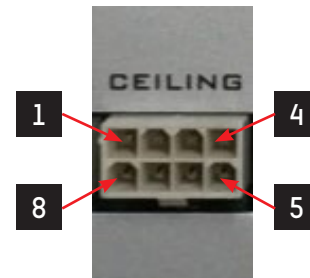
4.5.1.17. METAL CONNECTOR

Ref.	Designation
1	+24VDC
2	METAL ALARM
3	+12 VDC
4	Tx232 / Reg. synthesis
5	Rx232 / Reg. synthesis
6	L- INT
7	L+ INT
8	GND



4.5.1.18. SPEAKER/INTERCOM/SPOTLIGHTS CONNECTOR

Ref.	Designation
1	+24VDC / + Spotlight
2	- Spotlight
3	NO Intercom buttons
4	+ Speaker
5	- Speaker
6	+12VDC
7	+ Speaker
8	COM Intercom button / - Speaker



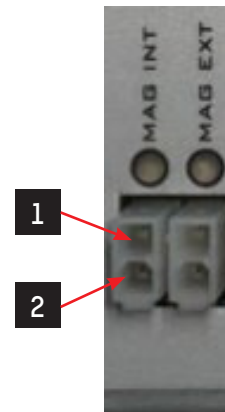
4.5.1.19. INTERNAL AND EXTERNAL MAGNETS CONNECTORS

Internal Magnet

Ref.	Designation
1	+24VDC
2	GND

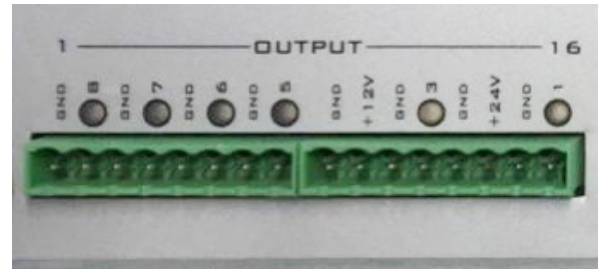
External Magnet

Ref.	Designation
1	GND
2	+24VDC



4.5.1.20. OUTPUTS CONNECTORS

Ref.	Designation
1	GND
2	Out8
3	GND
4	Out7
5	GND
6	Out6
7	GND
8	Out5
9	GND
10	+12VDC
11	GND
12	Out3
13	GND
14	+24VDC
15	GND
16	Out1



- Out5 – Out8 give +24VDC 1.4A
- Out1 and Out3 give +24VDC 2.8A

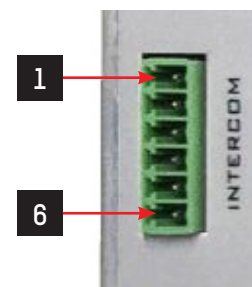
4.5.1.21. REARMING BUTTON

- The rearming button is used to switch the electronic unit on again, in case it is switched off in the status of network lack. Verify that the batteries are connected and sufficiently charged.



4.5.1.22. COMMERCIAL INTERCOM CONNECTO

Ref.	Designation
1	+12VDC
2	+ Speaker
3	- Speaker
4	Intercom Button
5	+ Speaker
6	GND



4.5.1.23. SWITCH OF POWERING ON

- The ON/OFF button is used to switch on the ED ELECTRONIC UNIT.





REVLOCK - 4 WINGS

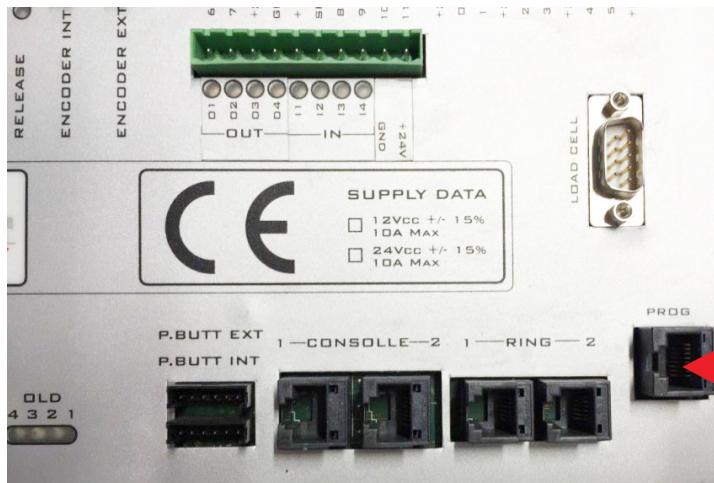
4.5.2. PROGRAMMING



Programming Software



Programmer



Programming connector

4.5.2.1. PROCEDURE

- a. Connect the programmer the PC with a RS232/USB convertor
- b. Connect the programmer on the connector dedicated to the ED ELECTRONIC UNIT
- c. Verify that the board is switched on and perform the instructions shown here below:
 1. Do double click on the firmware to be inserted inside the ED ELECTRONIC UNIT
 2. The **"FLASH DEVELOP TOOLKIT"** program starts automatically
 3. Select the **"DEVICE"** window
 4. Select the **"CONFIGURE FLASH PROJECT"** voice
 5. The list of micro-processors opens automatically (CHOOSE DEVICE)
 6. Select the **"H8/3687F"** micro-processor
 7. Select **"NEXT"**
 8. Select the COM (COMMUNICATION PORTE)
 9. Select **"NEXT"**
 10. Set the quartz frequency at 14.7456 (DEVICE SETTING)
 11. Select **"NEXT"**
 12. (CONNECTION TYPE)
 13. Select **"NEXT"**
 14. (PROGRAMMING OPTIONS)
 15. Select **"NEXT"**
 16. Connect the programming interface of the **"programming"** connector
 17. Set the programming interface selector on **"Prog"**
 18. Press **"Reset"** of the programming interface
 19. Connect the PC serial to the programming interface
 20. Click the **"DOWNLOAD ACTIVE FILES"** button
 21. Wait for programming
 22. End of the programming
 23. Press the **"FDT DISCONNECT"** button
 24. Wait to disconnect
 25. Close the **"FLASH DEVELOP TOOLKIT"** programme
 26. Set on **"Run"** the programming interface selector
 27. Press **"Reset"** of the programming interface
 28. Programming ended
- d. Disconnect the connector of the programmer from the ED ELECTRONIC UNIT

4.5.3. PARAMETERIZATION AND DIAGNOSIS

The revelation of broken parts of the booth and the variation of parameters compared to the ones set from the house company, must be done with a special software: "Iuppiter", given on request by Automatic systems. The programme "Iuppiter" was designed to manage the functioning logics of Automatic systems, such as the ED ELECTRONIC UNIT. The programme can work only in presence of its hardware key, in case you do not have one please contact the technical customer service. The programme communicates with the booth through a USB port of the PC, through a USB/RS485 converter.

For its functioning the software needs a hardware kit made of:

- convertor USB/RS485
- 5819317 Iuppiter ED cable
- Hardware key



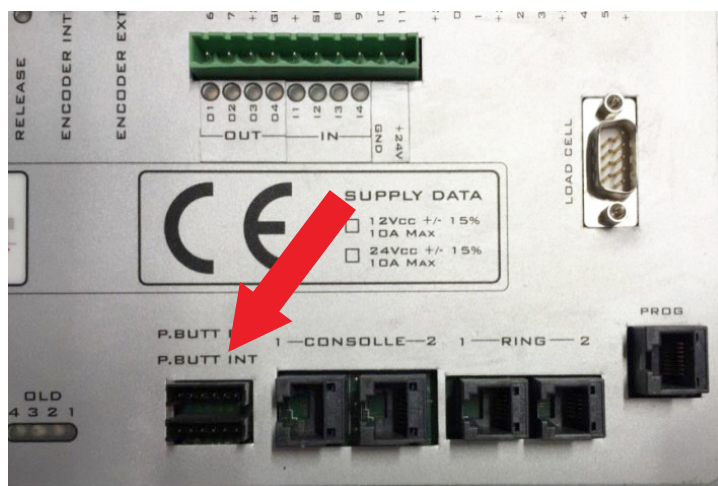
Software for parameterization



5819317 Iuppiter ED cable



USB/RS485 converter



Connector for Iuppiter mainboard parameterization

REVLOCK - 4 WINGS



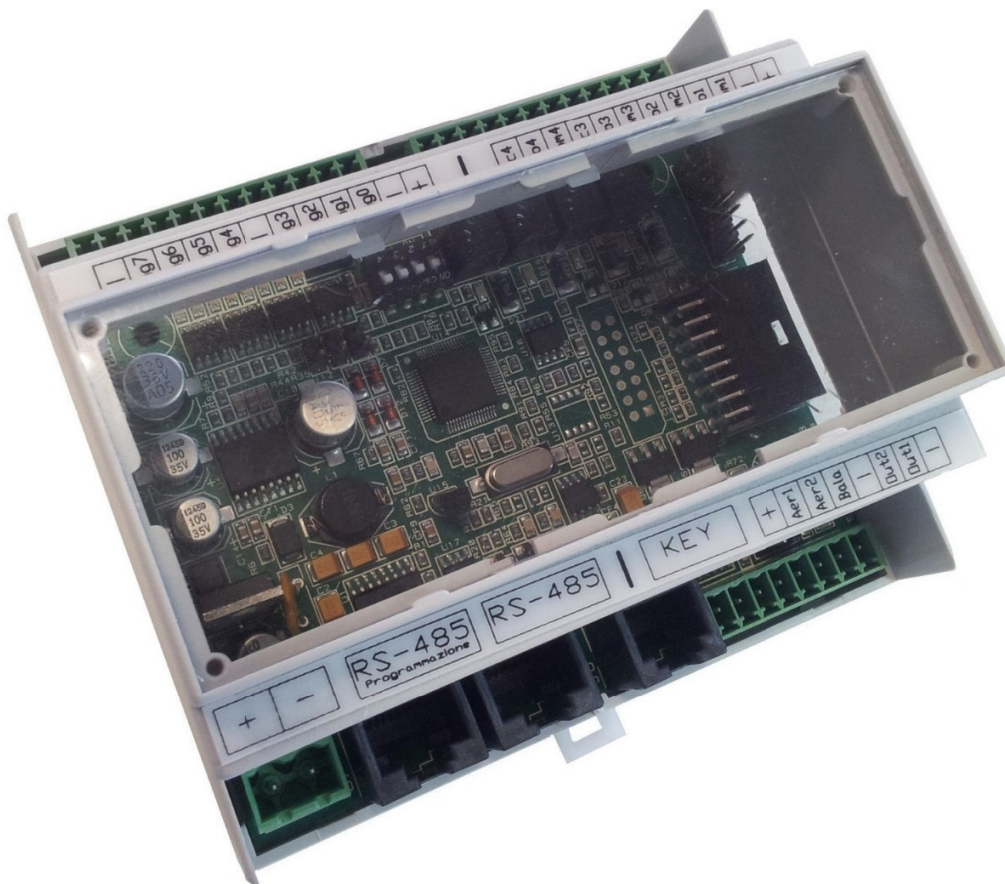
4.5.3.1. IUPPITER

The Iuppiter software allows to regulate the parameters of various mainboards, the screens used for the ED CONTROL UNIT are the following:

- **ED SETUP:** activate and deactivate the various settings, that change according to the accessories connected to the ED ELECTRONIC UNIT and to the different products where the ED Electronic unit is used.
- **ED I/O:** visualize in real time the status of the inputs and outputs.
- **ACTIVATION:** modify the parameters of the doors movement.
- **WEIGHT/SYNTHESIS:** visualize and modify the parameters for the functioning of the load cells and of the vocal synthesis.

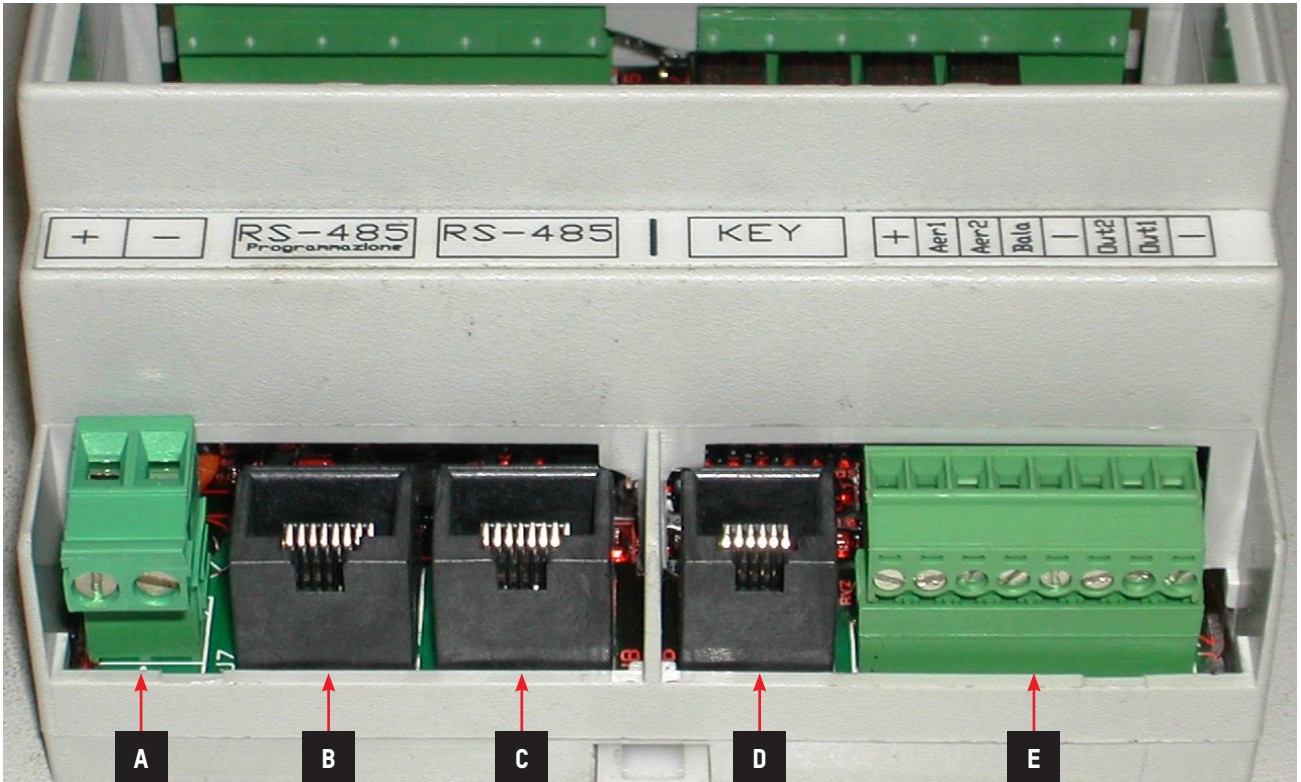
For the functioning and use of Iuppiter refer to the manual, which is automatically installed with the installation package.

4.6. 5216288 BOARD



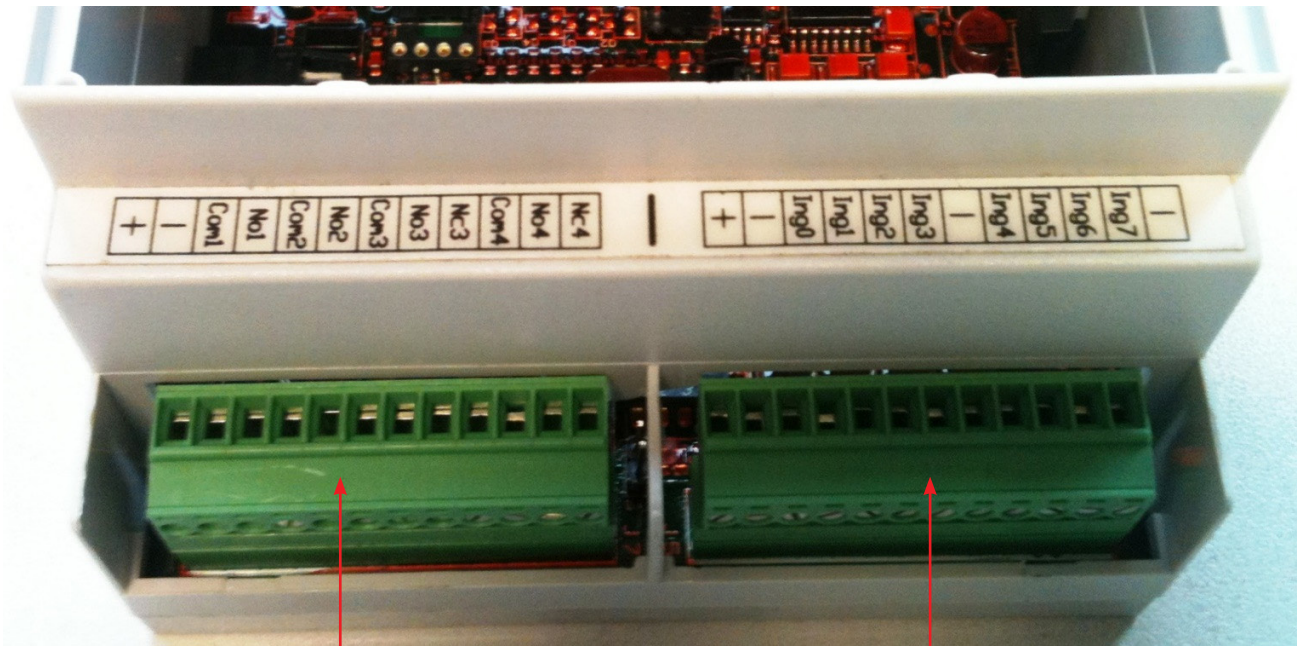
- Power supply 12/24 V
- 8 opto-isolated digital inputs or 6 opto-isolated digital inputs and 2 analogic inputs
- 4 relay outputs
- 2 mosfet outputs
- Serial Communication 1 RS-485
- Serial Communication 2 RS-485
- Connector for Serial selection 2 of communication RS232 or RS485

4.6.1. CONNECTORS



Ref.	Designation
A	Connector of Power supply
B	Connector of Programming and Communication
C	Connector of Communication
D	Dallas key Connector
E	Exit BSP Connector (12/24 Vdc - 1.5 A)

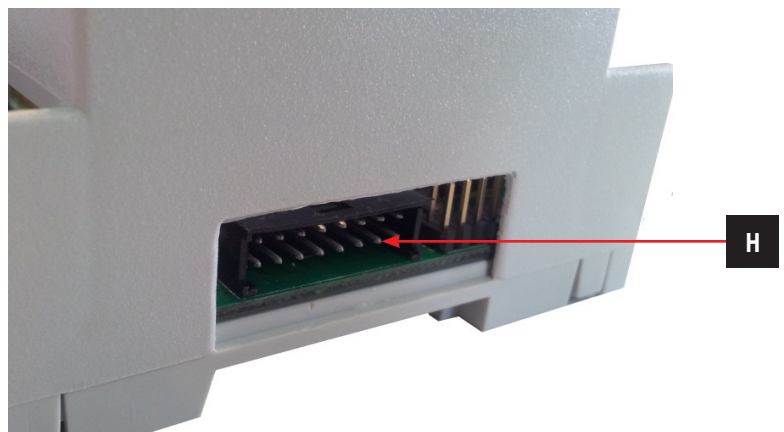
REVLOCK - 4 WINGS



F

G

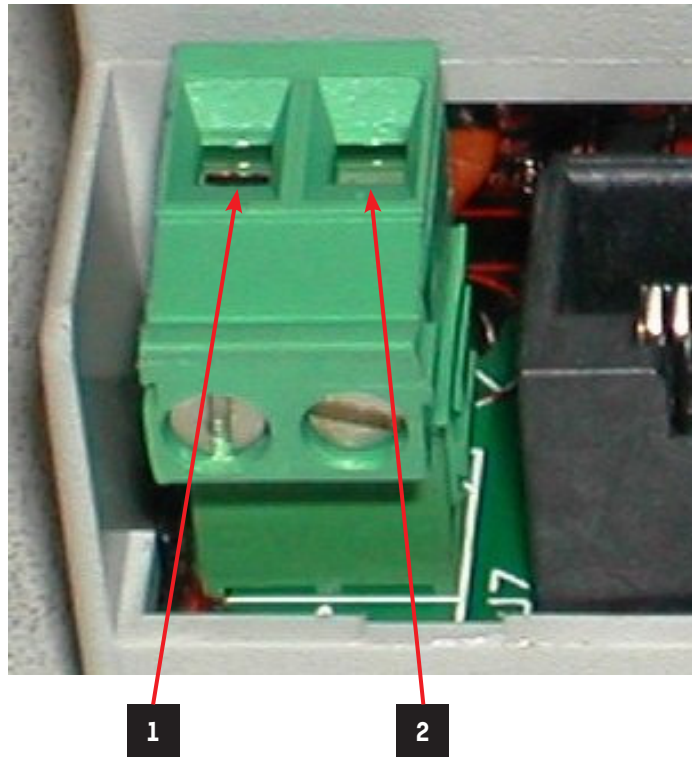
Ref.	Designation
F	Relay exits connector
G	Inputs connector



H

Ref.	Designation
H	Console connector

4.6.1.1. CONNECTOR OF POWER SUPPLY

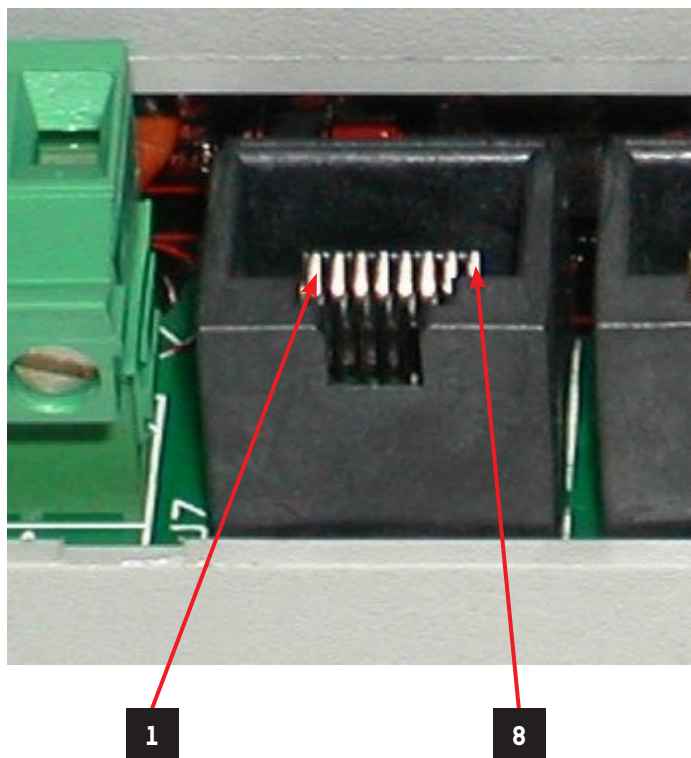


Ref.	Designation
A.1	+ 12/24 Vdc
A.2	Gnd

REVLOCK - 4 WINGS

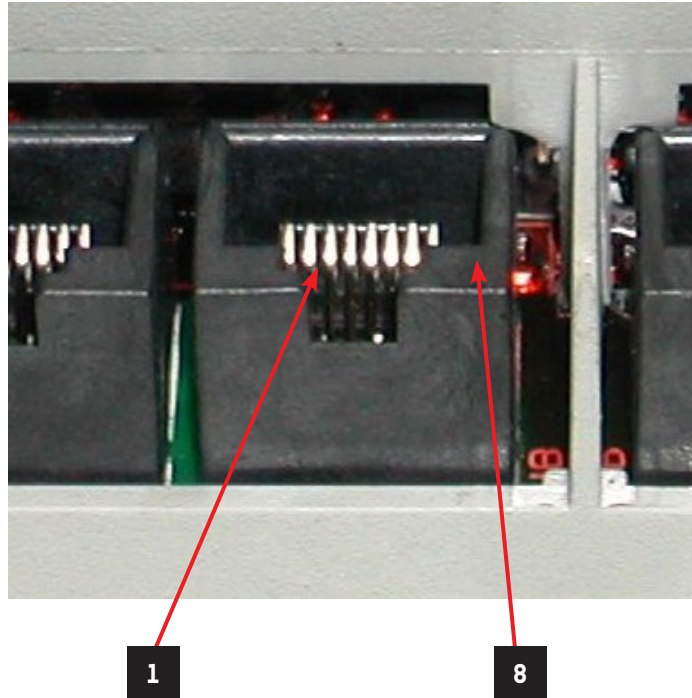


4.6.1.2. CONNECTOR OF PROGRAMMING AND COMMUNICATION



Ref.	Designation
B.1	L-
B.2	L+
B.3	+12/24V
B.4	Reset
B.5	Gnd
B.6	Programming
B.7	RS-232
B.8	RS-232

4.6.1.3. CONNECTOR OF PROGRAMMING AND COMMUNICATION

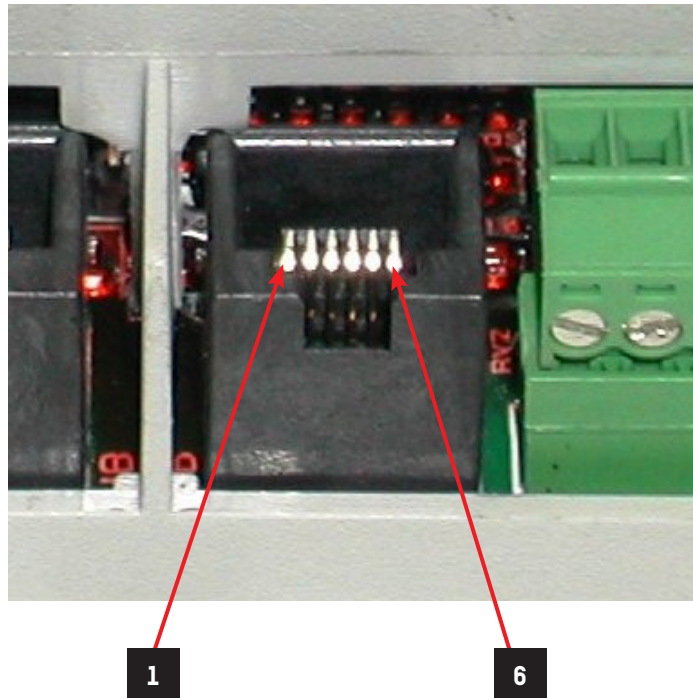


Ref.	Designation
C.1	L-
C.2	L+
C.3	+12/24V
C.4	Not Used
C.5	Gnd
C.6	Not Used
C.7	Not Used
C.8	Not Used

REVLOCK - 4 WINGS

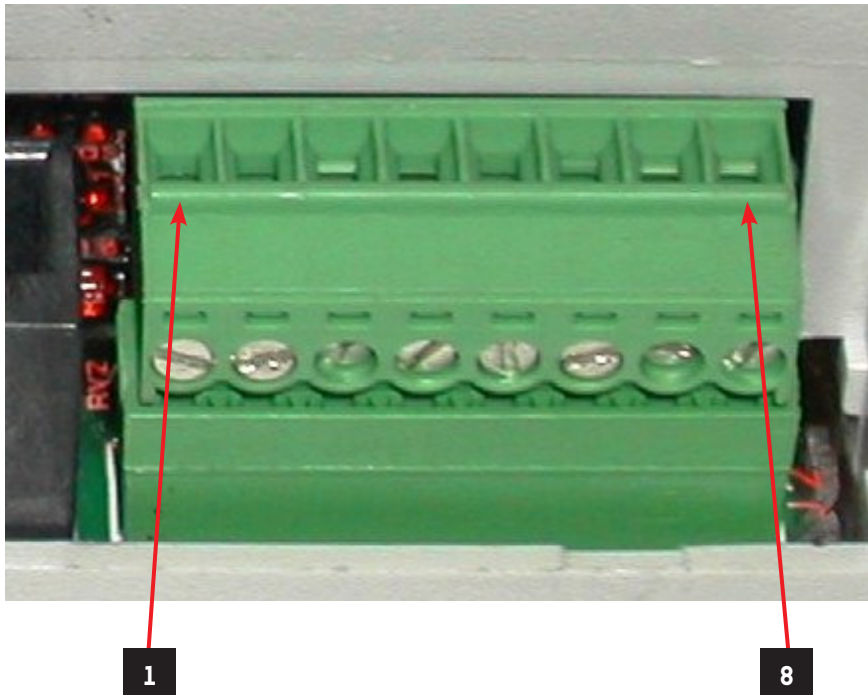


4.6.1.4. DALLAS KEYS CONNECTOR



Ref.	Designation
D.1	Gnd
D.2	Key 2
D.3	Led Key 1
D.4	Gnd
D.5	Key 1
D.6	Led Key 2

4.6.1.5. CONNECTOR OF PROGRAMMING AND COMMUNICATION

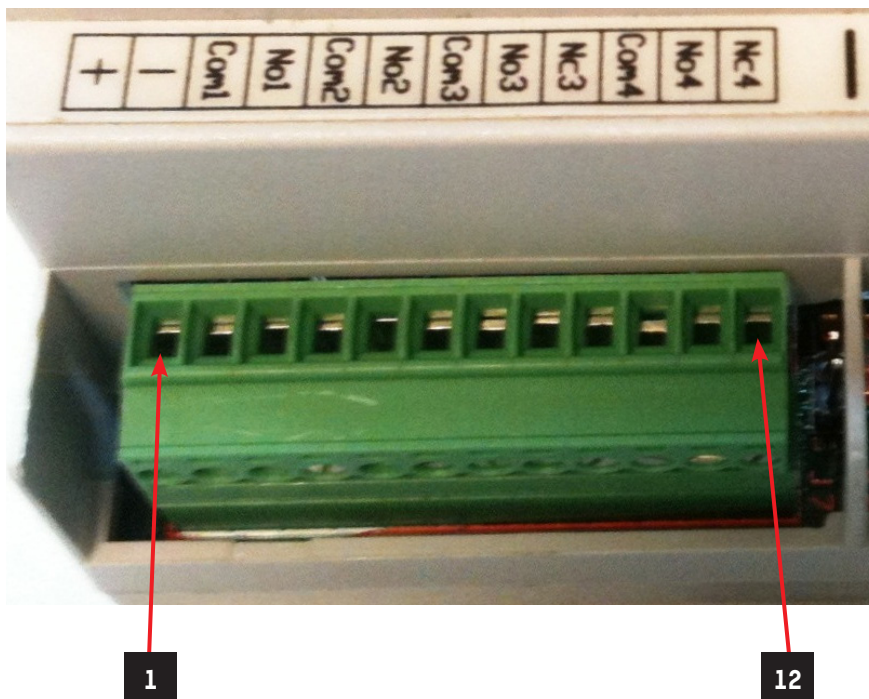


Ref.	Designation
E.1	+12/24 Vdc
E.2	RS485L+ /2
E.3	RS485L- /2
E.4	Gnd
E.5	Gnd
E.6	Out 2
E.7	Out 1
E.8	Gnd

REVLOCK - 4 WINGS

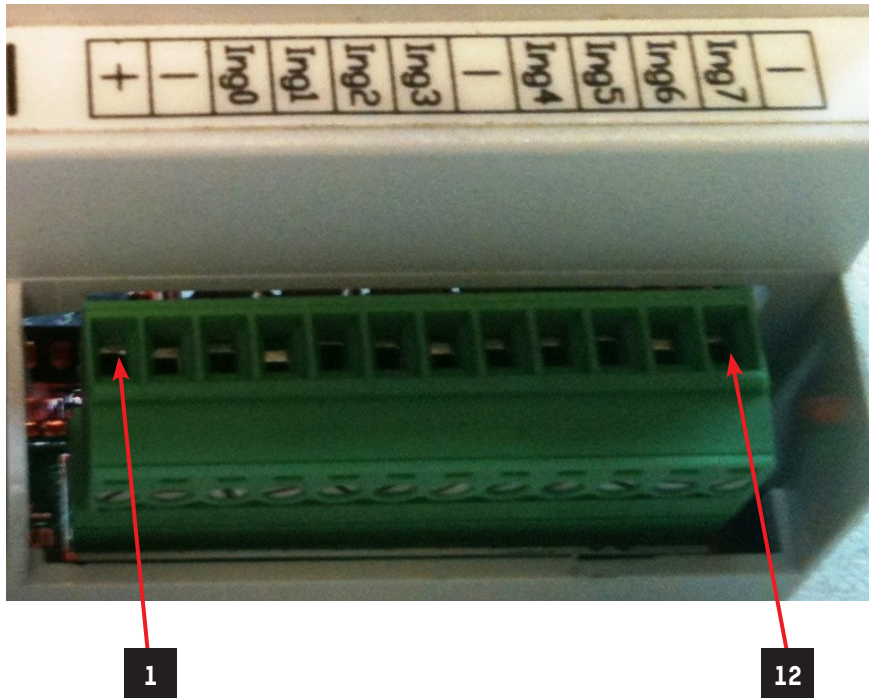


4.6.1.6. RELAY OUTPUT CONNECTOR



Ref.	Designation
F.1	+12/24 Vdc
F.2	Gnd
F.3	Com 1
F.4	N.O. 1
F.5	Com 2
F.6	N.O. 2
F.7	Com 3
F.8	N.O. 3
F.9	N.C. 3
F.10	Com 4
F.11	N.O. 4
F.12	N.C. 4

4.6.1.7. INPUTS CONNECTOR

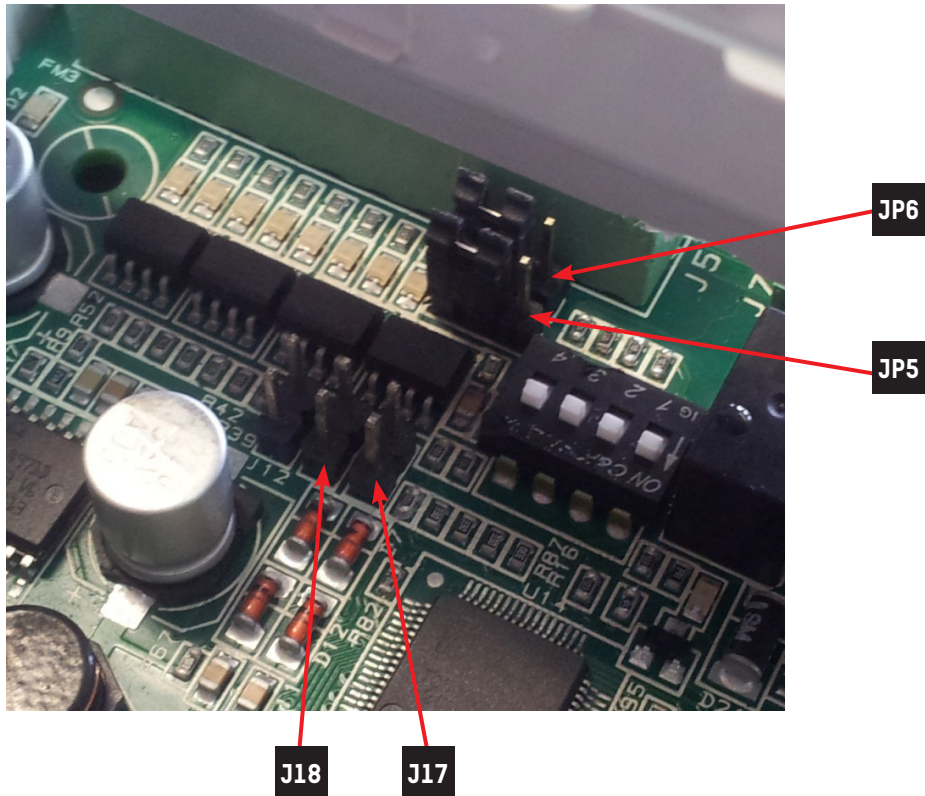


Ref.	Designation
G.1	+12/24 Vdc
G.2	Gnd
G.3	Ing 0 Digital/Analogic (see section INPUTS CONVERSION)
G.4	Ing 1 Digital/Analogic (see section INPUTS CONNECTION)
G.5	Ing 2
G.6	Ing 3
G.7	Gnd
G.8	Ing 4
G.9	Ing 5
G.10	Ing 6
G.11	Ing 7
G.12	Gnd

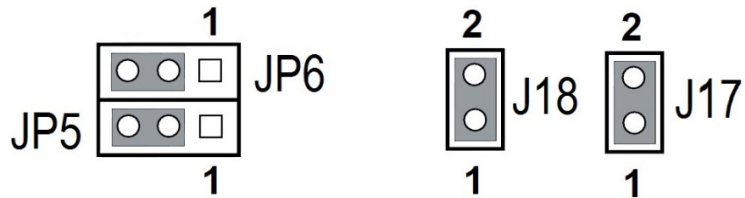
REVLOCK - 4 WINGS



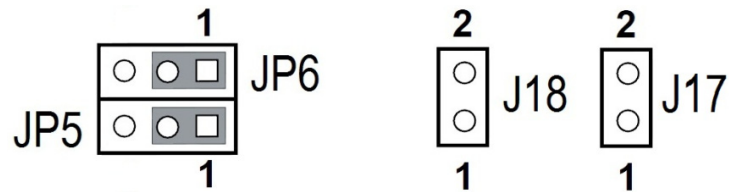
4.6.1.8. INPUTS CONVERSION: ANALOGIC / DIGITAL



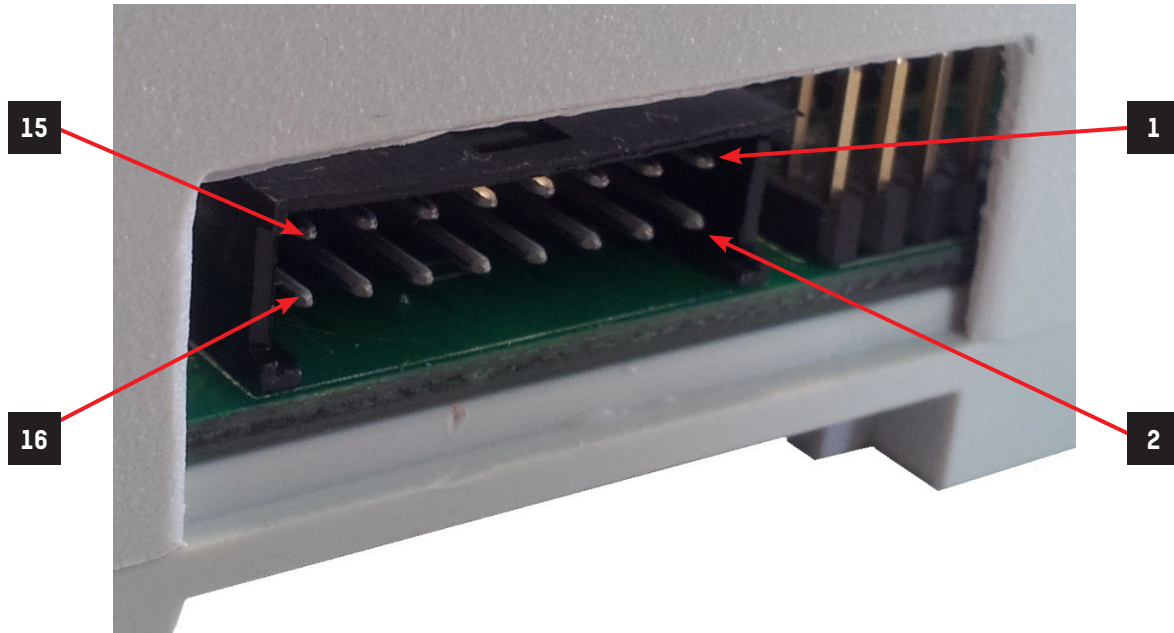
a. DIGITAL INPUTS



b. ANALOGIC INPUTS



4.6.1.9. PUSHBUTTON CONNECTOR

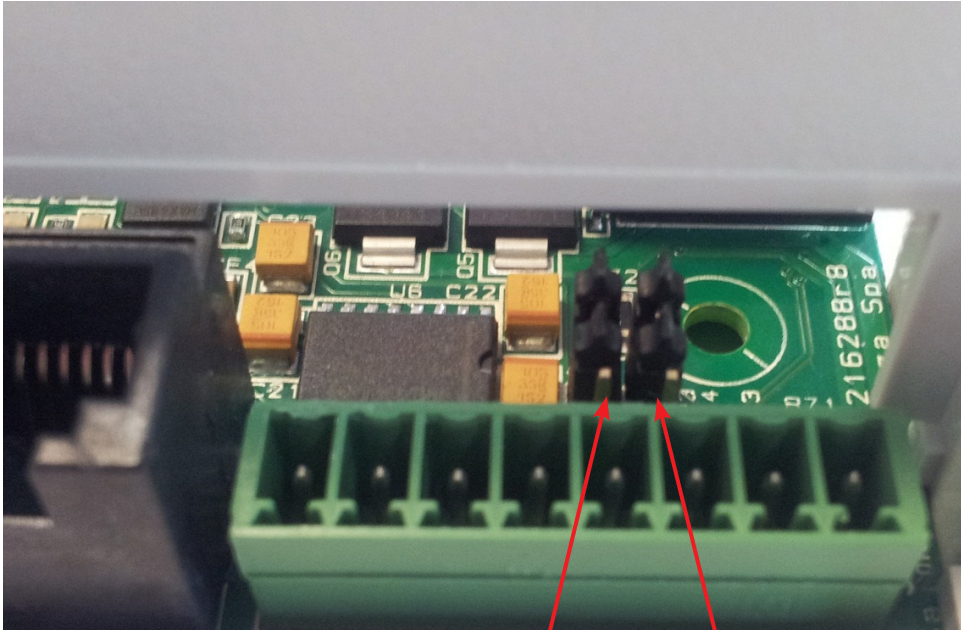


Ref.	Designation
H.1	+12/24 Vdc
H.2	Gnd
H.3	P32
H.4	Ing 7
H.5	P33
H.6	Ing 6
H.7	P12
H.8	Ing 5
H.9	P11
H.10	Out 2
H.11	P10
H.12	Out 1
H.13	Serial 2: RS232-RX / RS485 L+ (see section SERIAL CONVERSION/2)
H.14	Serial 2: RS232-TX / RS485 L- (see section SERIAL CONVERSION/2)
H.15	+5 Vdc
H.16	P34

REVLOCK - 4 WINGS



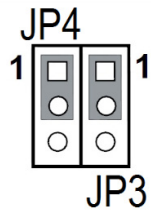
4.6.2. SERIAL CONVERSION/2: RS232 / RS485



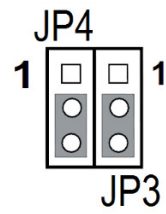
JP4

JP3

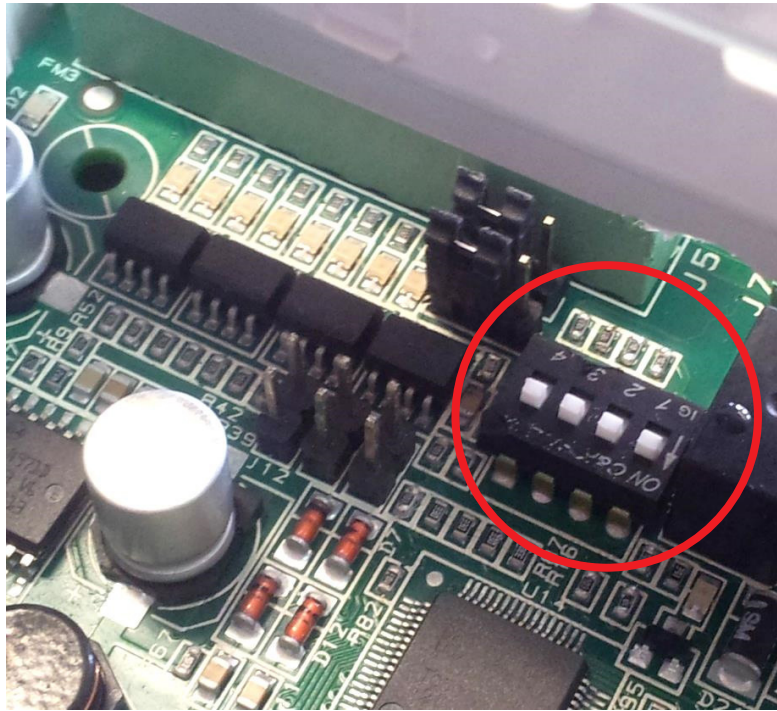
RS232



RS485



4.6.3. MINIDIP AND CONFIGURATION



MASTER	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SLAVE 1	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SLAVE 2	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SLAVE 3	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SLAVE 4	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SLAVE 5	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SLAVE 6	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SLAVE 7 (Cons)	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.6.4. PROGRAMMING

- a. Switch the board off and disconnect it from the network 485
- b. Connect the programming cable to the port of the board called "RS485- Programming" and to the COM of the computer;
- c. Set the Minidip so that the board is not the Master;
- d. Switch the board on and perform the instructions shown here below:

FIRMWARE PROGRAMMING:

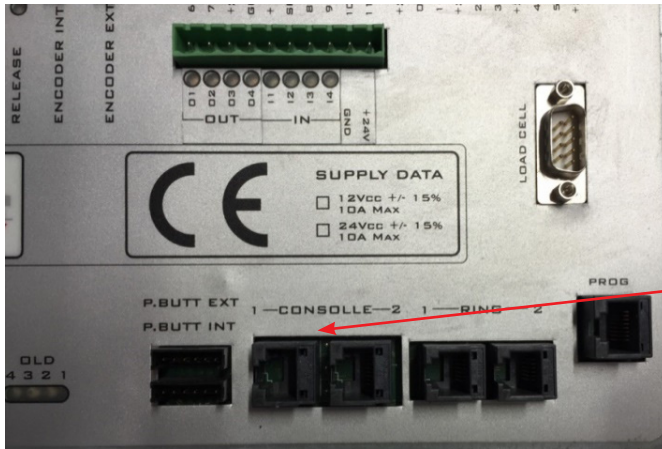
1. Do double check on the '5216288pxxxx.mot' file;
 2. The program "FLASH DEVELOP TOOLKIT" starts automatically;
 3. Select the window "DEVICE";
 4. Select the voice "CONFIGURE FLASH PROJECT";
 5. The list of micro-processors will open automatically (CHOOSE DEVICE);
 6. Select the micro-processor "H8/3687F";
 7. Select "NEXT";
 8. Select the COM (COMUNICATION PORTE);
 9. Select "NEXT";
 10. Set the quartz frequency at 14.7456 (DEVICE SETTING)
 11. Select "NEXT";
 12. (CONNECTION TYPE);
 13. Select "NEXT";
 14. (PROGRAMMING OPTIONS)
 15. Select "NEXT";
 16. Switch the board on;
 17. Connect the programming interface in the connector "programming"
 18. Set the programming interface on "Prog";
 19. Press "Reset" of the programming interface;
 20. Connect the serial of the Pc to the programming interface;
 21. Click the button "DOWNLOAD ACTIVE FILES";
 22. Wait for the programming;
 23. End of programming;
 24. Press the button "FDT DISCONNECT"
 25. Wait for the disconnection
 26. Close the programme "FLASH DEVELOP TOOLKIT";
 27. Set the interface programming selector on "Run";
 28. Press "Reset" of the programming interface;
- Programming completed.**
- e. Switch the board off
 - f. Disconnect the connector of the programmer from the board
 - g. Set the Minidip of board, as before programming

4.7. CAMERA SENSOR

Electronic device equipped with two stereoscopic cameras capable of counting the people passing by and lingering under it. For other information, refer to the specific manual.

4.8. CONSOLE CONNECTION

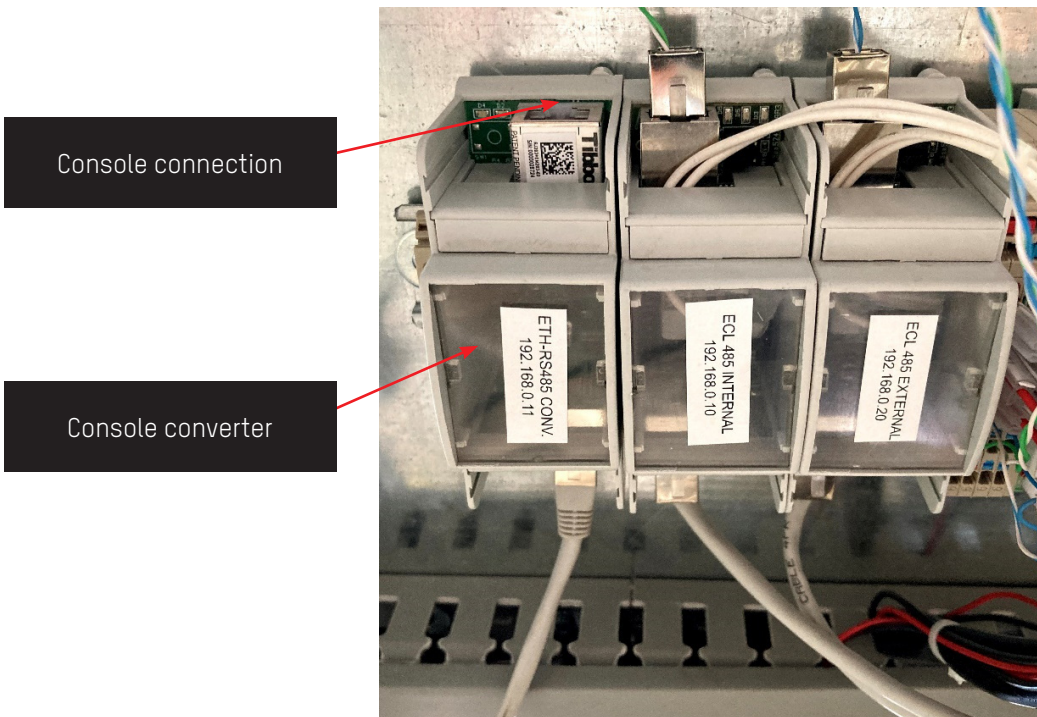
4.8.1. 3FDT SERIAL CONSOLE



Console connection

ED electronic control unit

4.8.2. VIRTUAL CONSOLE (OPTIONAL)



Console connection

Console converter

Camera sensor plate

5. INPUTS AND OUTPUTS

5.1. REVLOCK - 4 WINGS WITH CAMERA SENSOR

5.1.1. ELECTRONIC CONTROL UNIT

INPUTS

CLAMP	NAME INPUT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	6			NOT USED
2	7	ED IO	MASTER - IN 7	UNLOCK COUNTERCLOCKWISE PISTON
3	+24VDC			24 VDC
4	GND			GND
5	+12VDC			12 VDC
6	SPPH			ACTIVATION OPTO-ISOLATORS
7	8	ED IO	SLAVE8 - IN 1	SLOWDOWN SAFETIES
8	9			SHUT-DOWN
9	10			ANTI- SEGREGATION (EQ34) INTERNAL
10	11			ANTI- SEGREGATION (EQ34) EXTERNAL
11	+24VDC			24 VDC
12	0	ED IO	MASTER - IN 3	MECHANICAL LOCK
13	1			NOT USED
14	+24VDC			24 VDC
15	2	ED IO	MASTER - IN 1	EMERGENCY (CONTACT NC)
16	3	ED IO	MASTER - IN 0	INTERNAL BADGE
17	+24VDC			24 VDC
18	4	ED IO	MASTER - IN 4	EXTERNAL BADGE
19	5	ED IO	MASTER - IN 5	UNLOCK CLOCKWISE PISTON
20	+24VDC			24 VDC

- Connect the clamp 6 to the clamp 5 to activate the inputs
- Inp0 – Inp7 are activated with a positive (with a tension that varies from 5VDC to 24VDC)
- Inp8 – Inp11 are activated with GND
- Input 2 clamp 15 jumper to GND, this command is managed with C-NC contact



OUTPUTS

CLAMP	NAME EXIT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	GND			GND
2	8	INVERTER	OUT 3	HARPOON COUNTERCLOCKWISE BLOCK
3	GND			GND
4	7	INVERTER	OUT 4	HARPOON CLOCKWISE BLOCK
5	GND			GND
6	6	ED IO	MASTER - 0 2	SPOTLIGHTS
7	GND			GND
8	5			LED SHUT-DOWN
9	GND			GND
10	+12VDC			12 VDC
11	GND			GND
12	3	ED IO	MASTER - 0 4	EXIT VALIDATION
13	GND			GND
14	+24VDC			24 VDC
15	GND			GND
16	1	ED IO	MASTER - 0 3	ENTRANCE VALIDATION

- The brake at the tail end of the motor is connected to the INT BRAKE output

REVLOCK - 4 WINGS



5.1.2. 5216288 BOARD

SLAVE 1	+	12 Vcc	+		12 Vcc
	-	GND	-		GND
	0	Sensor ext – Person presence	1	Com	Sensor authorized to read
	1	Sensor ext – Two people		No	
	2	Sensor ext – Suspicious	2	Com	Request of shut-down
	3	Sensor ext – Square wave		No	
	-	GND	3	Com	
	4	Sensor int – Person presence		No	
	5	Sensor int – Two people		Nc	
	6	Sensor int – Suspicious	4	Com	
	7	Sensor int – Square wave		No	
	-	GND	4	Nc	
				BSP 1	
				+	
			BSP 2	+	
			-		
INP DALLAS		OUT DALLAS			



5.2. REVLOCK - 4 WINGS WITH WEIGHED PLATFORM

5.2.1. ELECTRONIC CONTROL UNIT

INPUTS

CLAMP	NAME INPUT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	6			NOT USED
2	7	ED IO	MASTER - IN 7	COUNTERCLOCKWISE PISTON UNLOCK
3	+24VDC			24 VDC
4	GND			GND
5	+12VDC			12 VDC
6	SPPH			ACTIVATION OPTO-ISOLATORS
7	8	ED IO	SLAVE8 - IN 1	SAFETIES SLOWDOWN
8	9			NOT USED
9	10			NOT USED
10	11			NOT USED
11	+24VDC			24 VDC
12	0	ED IO	MASTER - IN 3	TURNSTILE UNLOCKING
13	1			FIRST INPUT KEY
14	+24VDC			24 VDC
15	2	ED IO	MASTER - IN 1	EMERGENCY (NC)
16	3	ED IO	MASTER - IN 0	INTERNAL RADAR OR BADGE
17	+24VDC			24 VDC
18	4	ED IO	MASTER - IN 4	EXTERNAL RADAR OR BADGE
19	5	ED IO	MASTER - IN 5	CLOCKWISE PISTON UNLOCK
20	+24VDC			24 VDC

- Connect the clamp 6 to the clamp 5 to activate the inputs
- Input 2 clamp 15 jumper to +24Vcc, this command is managed with C-NC contact
- Inp0 – Inp7 are activated with a positive (with a tension that varies from 5VDC to 24VDC)
- Inp8 – Inp11 are activated with GND

OUTPUTS

CLAMP	NAME EXIT ELECTRONIC UNIT	IUPPITER PAGE	REFERENCE	DESCRIPTION
1	GND			GND
2	8	INVERTER	OUT 3	HARPOON COUNTERCLOCKWISE BLOCK
3	GND			GND
4	7	INVERTER	OUT 4	HARPOON CLOCKWISE BLOCK
5	GND			GND
6	6	ED IO	MASTER - 0 2	SPOTLIGHTS
7	GND			GND
8	5			NOT USED
9	GND			GND
10	+12VDC			12 VDC
11	GND			GND
12	3	ED IO	MASTER - 0 4	EXIT VALIDATION
13	GND			GND
14	+24VDC			24 VDC
15	GND			GND
16	1	ED IO	MASTER - 0 3	ENTRANCE VALIDATION

- • The brake at the tail end of the motor is connected to the INTE BRAKE output



5.3. I/O 315 (OPTIONAL)

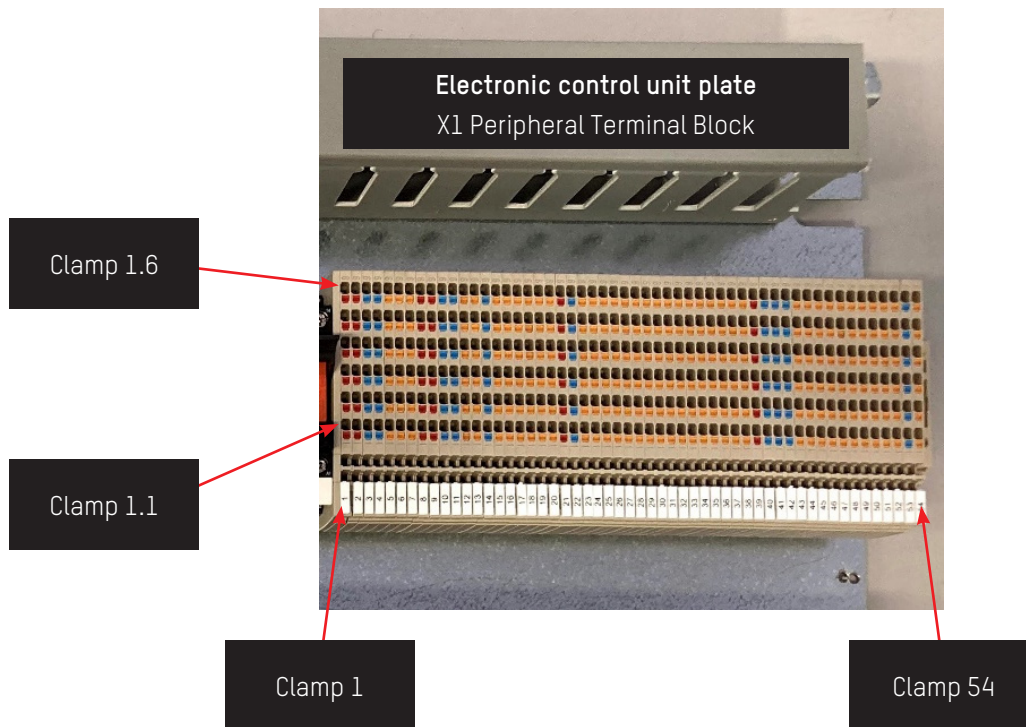
INPUTS

FUNCTION	DESCRIPTION	N° INP THE BOARD I/O
04	EMERGENCY (CONTACT NC)	0
7	OPEN AS INTERNAL BUTTON	1
8	OPEN AS EXTERNAL BUTTON	2
		3
		4
		5
		6
		7

OUTPUTS

FUNCTION	DESCRIPTION	N° RELE' BOARD I/O
00	ENTRANCE VALIDATION	1
01	EXIT VALIDATION	2
08	EXCESSIVE WEIGHT DURING INCOMING TRANSIT	3
09	EXCESSIVE WEIGHT DURING OUTGOING TRANSIT	4
03	FRAUD DURING INCOMING TRANSIT	5
04	FRAUD DURING OUTGOING TRANSIT	6
02	BOOTH IN EMERGENCY	7
14	NETWORK LACK	8

5.4. OUTDOOR CONTROLS



FUNCTION	CONNECTIONS		
Emergency (NC)*	Clamp 17.2		Clamp 13.4
Entry Badge	Clamp 18.2		Clamp 13.5
Exit Badge	Clamp 19.2		Clamp 13.6
Folding (optional)	Clamp 45.2		Clamp 40.4



*** EMERGENCY (NC) REMOVE THE JUMPER ON THE TERMINAL BLOCK BEFORE CONNECTING THE ELECTRONIC CONTROL FOR FUNCTION ACTIVATION**

6. SOFTWARE OF PARAMETRIZATION AND DIAGNOSIS: IUPPITER

For the adjustments of the command console unit is used the software Iuppiter. Here below are indicated the pages and the standard functioning settings that Automatic Systems considers significant for the correct functioning of the RevLock - 4 WINGS, the other pages are used for other products. So, the values of the not-mentioned parameters for the RevLock - 4 WINGS, not shown below here, must not be modified.

In any case, after the installation, the correct functioning and the movement of the star wheel must be verified and, if necessary, the parametrization must be refined.

6.1. PARAMETRIZATION

6.1.1. INVERTER PAGE

Parameter	Door 1 Value	Door 2 Value
Max Current	0	200
Setup Speed	15	15
Opening Speed	50	50
Breaking Speed	10	10
Closing Speed	10	10
Torque	0	45
Start Breaking Op	0	0
Closing Braking	700	700
Open	0	0
Kp	10	10
Kd	100	100
Ki	1	1
Ki Speed	200	200
Kp Speed	20000	20000
Kp Torque	100	100
Ramp	0	2



THE VALUES SHOWN ARE ONLY INDICATIVE AND MAY BE SIGNIFICANTLY DIFFERENT FROM THE ACTUAL VALUES.



FOR THE SPECIFIC PRODUCT, THE APPLICATION VALUE MUST REMAIN SET TO 28 "REVLOCK".

REVLOCK - 4 WINGS



Parametres

Door 2 Setup speed: is the speed with which the booth calculates the dimension of every single sector, it must be very low

Couple door 2: couple used for the movement of the turnstile

Door 2 opening speed: speed of the turnstile in anticlockwise rotation, in case this is not in braking.

Door 2 braking speed: speed of the turnstile in anticlockwise rotation during the braking.

Door 2 closure speed: speed of the turnstile in anticlockwise rotation when the safety is active in slowdown

Door 2 braking closure: number of steps before the end of the segment where the turnstile starts to brake, before stopping during the anticlockwise rotation. For instance, if the segment is big 2.500 steps and this parameter is set at 500, the turnstile starts to brake at 2.000 steps

Door 1 opening speed: speed of the turnstile in clockwise rotation if this is not braking

Door 1 braking speed: speed of the turnstile in clockwise rotation during the braking.

Door 1 closure speed: speed of the turnstile in clockwise rotation when the safety is active in slowdown

Door 1 closure braking: number of steps before the beginning of the segment where the turnstile starts to brake before stopping during the clockwise rotation. For instance, if the segment is big 2.500 steps and this parameter is set at 500, the turnstile starts to brake at 500 steps

Re-closure timing: is the time, after which the turnstile inverts the sense, if it has remained blocked. So, in case something obstructs the movement of the turnstile, once the set time has passed, the booth behaves as if the safety was activated towards the direction in which the turnstile was moving. The time is calculated in step of 50 msec., of default the set value for this parameter is 10.

Kp, Kd, Ki, Ki Vel, Kp Vel e Kp Couple: those parameters can vary according to the type of used mechanics (booth, pass, etc...), they are set in the factory and must not be modified without an expressed authorization by Automatic Systems.

Ramp: it expresses the quickness with which the inverter speeds up and slows down. A value next to zero means a soft movement, a high value makes the movement really sharp. Pay attention, in case of booth with metal detector a very low value must be preferred, so that false alarms during the movement of the doors can be avoided. If this parameter is set on a high value, even the value "Maximum current" must increase, because a sharp ramp causes major absorptions.

Parameters that can vary according to the used movements:

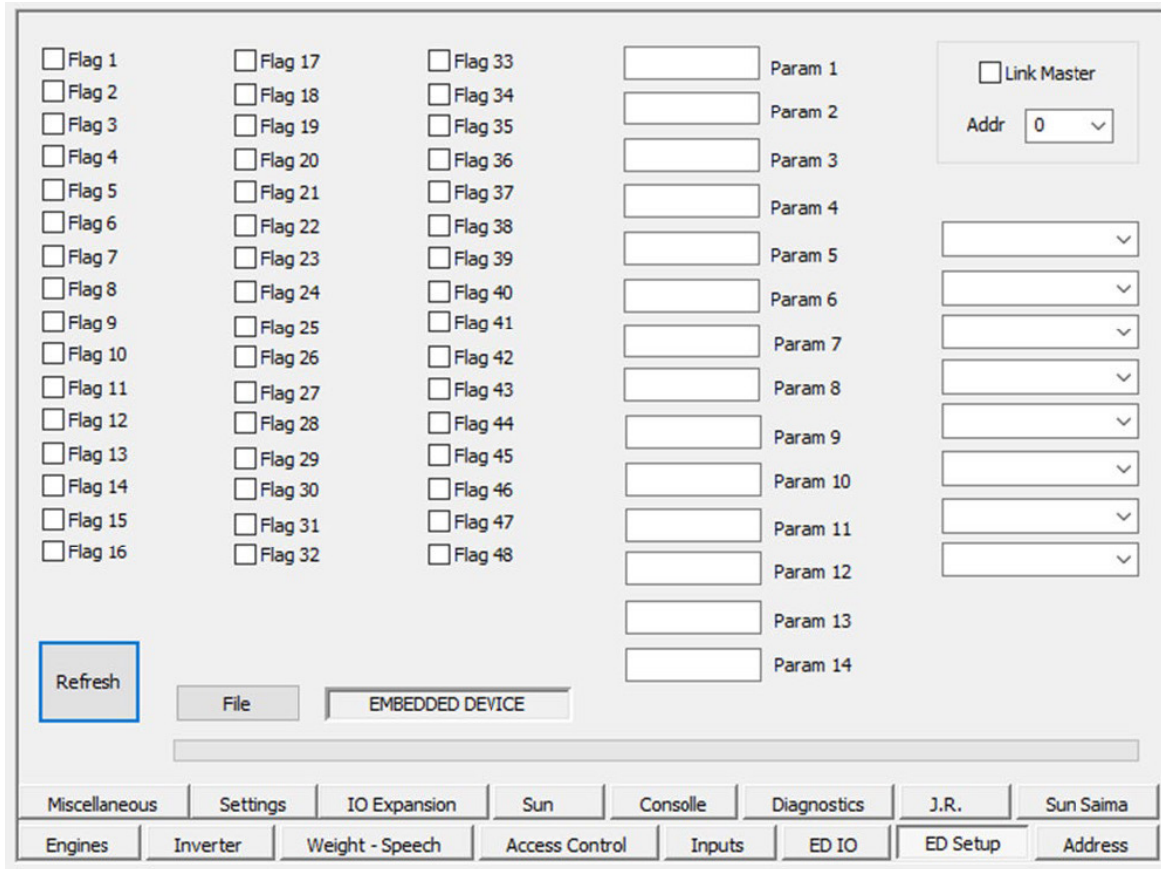
1, 3: this parameter, defines the strength with which the inverter pushes on the stroke, in all the devices that at closure, added to the reference of closed door, force on the stroke before considering the movement of closure ended.

2, 4: Those parameters do not have a generic meaning, they will be used with different meanings according to the machinery on which the inverter is used. For their meaning refer to the specifications of the machinery.



THE VALUES INDICATED HERE ABOVE ARE NOT USED FOR THE REVLOCK - 4 WINGS, THEREFORE THEY MUST NOT BE MODIFIED.

6.1.2. ED SETUP PAGE



The screenshot displays the ED Setup configuration interface. It features a grid of 48 checkboxes labeled 'Flag 1' through 'Flag 48'. To the right of the flags are 14 input fields labeled 'Param 1' through 'Param 14'. A 'Link Master' checkbox is located in the top right corner, with an 'Addr' dropdown menu set to '0'. Below the flags and parameters are several buttons: 'Refresh', 'File', and 'EMBEDDED DEVICE'. At the bottom, a navigation bar contains tabs for various system settings: Miscellaneous, Settings, IO Expansion, Sun, Console, Diagnostics, J.R., Sun Saima, Engines, Inverter, Weight - Speech, Access Control, Inputs, ED IO, ED Setup, and Address.



THE VALUES SHOWN ARE ONLY INDICATIVE AND MAY BE SIGNIFICANTLY DIFFERENT FROM THE ACTUAL VALUES.

Flags

- **FLAG 1:** if active, reservation accepted only in the part of the segment determined by PARAM 7 (if deactivated the reservation is always active)
- **FLAG 9:** selecting this flag indicates that the electronics works as a Master- it must always be active.
- **FLAG 10:** by selecting this flag, the data rate in the inner ring is set to a Baud Rate of 19200- it must always be active.
- **FLAG 25:** both platforms connected directly to the single board
- **FLAG 26:** the booth with three wings turnstile, during the normal functioning without an alarm, always rotates in counterclockwise sense, as it was four wings. Obviously, this flag must be used only in presence of a three wings turnstile. In this product it must be always deactivated.
- **FLAG 27:** TOF of person control.
- **FLAG 28:** must be used when the FLAG 1 is active. When this flag is active, the semaphore is green when is possible to request the beginning of a transit, so the semaphore becomes red in the zones where the booking is not allowed.
- **FLAG 29:** rotation on the booth start up; if this flag is selected, the booth, after the initialization, switches to the normal functioning with the rotation on request. If the flag is not active, the booth switches on again in the modality used before being switched off.
- **FLAG 30:** radar only; the beginning of the transit is given only by the inputs related to the radar in Single board. If this input is active, the buttons of transit beginning on the i2c and the equivalent inputs on I0315 are not read anymore by the programme.

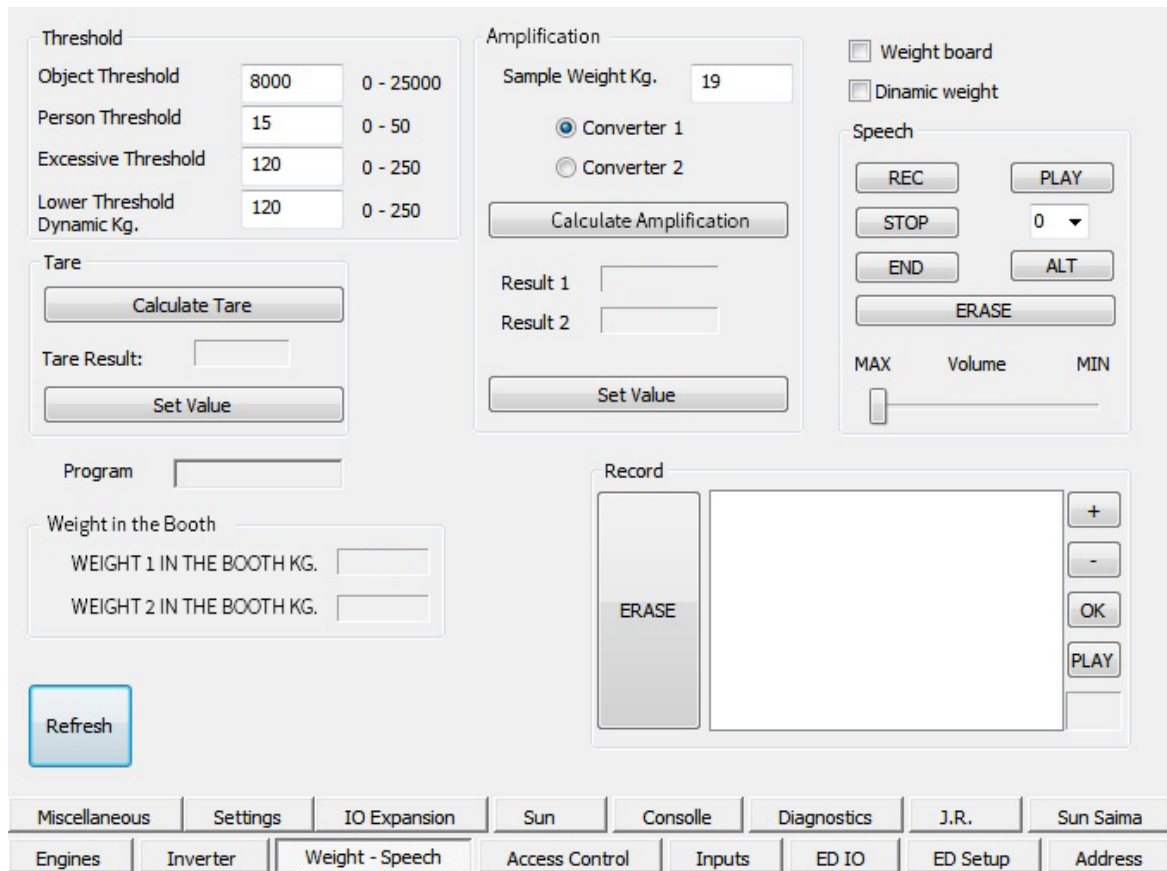
- **FLAG 31:** booth with folding doors.
- **FLAG 32:** NC harpoons; to select in case the booth is equipped with NC harpoons for the locking of the turnstile.
- **FLAG 33:** booth with radar; to select if the booth is equipped with radar to start the movement of the turnstile.
- **FLAG 34:** if activated and the booth has a turnstile with folding doors (flag 31 active), if one of the doors is knocked down the turnstile locks with the brake so that it is easy to know down the others. If flag 34 is not active, if one of the doors is knocked down, the turnstile stops anyway, but does not lock with the brake and remains free to be moved manually.
- **Flag 35:** NC emergency buttons. If this flag is active, the emergency button is considered NC; with the flag not active, the button is considered NO.
- **Flag 36:** Vivotek. The person presence check is done with the Vivotek sensor.
- **Flag 37:** Redundant booth. Presence of redundancy management board to control the emergency button inside the booth.
- **Flag 38:** Console 3 Rows of Keys. With this console the continuous/ on-demand rotation is managed by the "Videodigit" button of the 3FDT STD Serial Console.
- **Flag 39:** spotlight power supply. Flag not active, 12V spotlight; with flag active, 24V spotlight. By default the flag is not active (12V spotlight).

- **PARAM 6:** number of segments; defines the number of segments that make the turnstile. Of default is 4.
- **PARAM 7:** booking zone; this parameter identifies the zone of the segment where is possible to book the transit by considering 0 the beginning of the segment. In case the parameter is set at 1000, for the first 1000 steps from the beginning of the segment will be possible to book. This parameter is taken into consideration only if the FLAG 1 (reduced booking) is active, in the opposite case the programme ignores it. The default value is of 700.
- **PARAM 8:** emergency button area: the emergency button works only if the turnstile is in a position close to the rest position for a certain time. With this parameter the number of steps is selected, to be added or subtracted from the rest position, in which the emergency button will be active. The default value is 500 and therefore the button will be active only with the turnstile at +500 or -500 steps from the rest position.
- **PARAM 9:** emergency button activation time: if the turnstile is in the emergency button area beyond a certain time (see Param 8), the button is activated and can be used.
This parameter determines how long the turnstile must be in the area of the emergency button before it is activated; the time is expressed in seconds and the default value is 10.
- **PARAM 10:** buzzer activation time in case of forward edge: if the turnstile is in the control zone of the forward edge and this intervenes, an output is activated on I0315 for the time set using this parameter. The time is calculated in tenths of seconds, so 15 will be about 1.5 seconds. Keep attention, since the output is located on the I0315 board which is connected to the single board via 485 on the inner ring, the accuracy of this timing will not be absolute; I recommend using an estimated excess value. The default value of the parameter is 15 (1.5 seconds).
- **PARAM 11:** stop time on forward edge: it is the time in which the turnstile remains stationary in case of intervention of the forward edge before reversing the gear. This time is expressed in tenths of a second and defaults to 10 (1 second). Keep attention, the program still requires a minimum stop time of 1 second, therefore even in the presence of a value lower than 10, the turnstile will still remain one second before reversing the gear.
- **PARAM 12:** number of steps beyond which the turnstile is moved by hand (therefore without the movement having been decided by the booth) with the booth at rest is considered to be BREAK, activating the relative exit. The default is 100 steps.
- **PARAM 13:** redundancy time: this is the time that must elapse, expressed in seconds, before the emergency release button is activated with the turnstile in position X.
- **PARAM 14:** self-restoring time: if the emergency button inside the booth is pressed, the turnstile is unlocked. This parameter represents the time, expressed in seconds, that must elapse before the booth automatically resets itself from unlocking. By default, the parameter is set to 30; if it is set to 0, the auto-reset is disabled.



VALUES NOT SHOWN ABOVE ARE NOT USED FOR THE REVLOCK - 4 WINGS, THEREFORE THEY MUST NOT BE CHANGED.

6.1.3. WEIGHT PAGE - SYNTHESIS: ED ELECTRONIC UNIT




IN THE SECTION THRESHOLDS ARE REPORTED THE STANDARD VALUES, DO NOT MODIFY THEM IF YOU ARE NOT AUTHORIZED.



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT FROM THE REAL ONE.

6.1.3.1. WEIGHT PROCEDURE

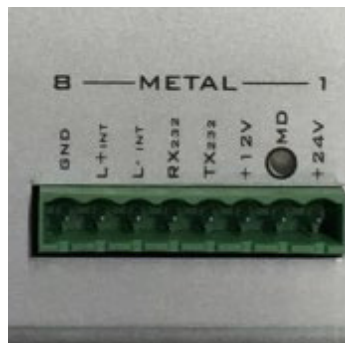
1. Select "**Converter 1**" and work on the platform in the entrance side
2. Verify that the platform on entrance side is empty
3. Press **CALCULATE TARE**, press **APPLY** and **SAVE SETTINGS**
4. Insert above the platform a known weight bigger than the value **PERSON WEIGHT**
5. Report the weight within the field **SAMPLE WEIGHT (in KG)**
6. Press **CALCULATE AMPLIFICATION**
7. As the result has stabilized, press **APPLY** and **SAVE SETTINGS**
8. Verify that in the field **WEIGHT IN THE BOOTH** is present the real weight of the object in the platform.
9. Take the object off the platform and verify that it is around the 0 (tolerance of + 4KG).
10. Take the object off the platform and verify that it is around the 0 (tolerance of + 4KG).
11. Verify that the platform on exit side is empty.

REVLOCK - 4 WINGS



12. Press **CALCULATE TARE**, press **APPLY** and **SAVE SETTINGS**
13. Insert above the platform a known weight bigger than the value **PERSON WEIGHT**
14. Report the weight within the field **SAMPLE WEIGHT** (in KG)
15. Press **CALCULATE AMPLIFICATION**
16. As the result has stabilized, press **APPLY** and **SAVE SETTINGS**
17. Verify that in the field **WEIGHT 2 IN THE BOOTH** is present the real weight of the object in the platform
18. Take the object off the platform and verify that it is around the 0 (tolerance of + 4KG)

6.1.3.2. PROCEDURE OF SYNTHESIS RECORD



1. Connect to the audio exit of a PC to a metal connector on the pins:
 - RX232
 - TX232
2. In the section **RECORD** press the button **+**.
3. Select the file to upload within the electronic unit, by inserting as first the file in the position 0.
4. Press **OK** and wait for some seconds that the system ends the recording.
5. Listen again to the message through the vocal synthesis panel.

6.1.4. I/O 315 PAGE (OPTIONAL)

Input			Output		
Clamp	10	<input type="checkbox"/>	Clamp	38-39-40	<input type="checkbox"/>
Clamp	9	<input type="checkbox"/>	Clamp	35-36-37	<input type="checkbox"/>
Clamp	8	<input type="checkbox"/>	Clamp	32-33-34	<input type="checkbox"/>
Clamp	7	<input type="checkbox"/>	Clamp	29-30-31	<input type="checkbox"/>
Clamp	6	<input type="checkbox"/>	Clamp	26-27-28	<input type="checkbox"/>
Clamp	5	<input type="checkbox"/>	Clamp	23-24-25	<input type="checkbox"/>
Clamp	4	<input type="checkbox"/>	Clamp	20-21-22	<input type="checkbox"/>
Clamp	3	<input type="checkbox"/>	Clamp	17-18-19	<input type="checkbox"/>
			NO-NC-C		

Refresh

Miscellaneous | Settings | IO Expansion | Sun | Console | Diagnostics | J.R. | Sun Saima

Engines | Inverter | Weight - Speech | Access Control | Inputs | ED IO | ED Setup | Address



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT FROM THE REAL ONE.

This page represents a real-time feedback of the product operation based on the equipment setup and the operating mode selected for the product.



FOR THE MEANING OF THE TABLE "INPUTS-OUTPUTS" OF THIS PAGE SEE INPUTS AND OUTPUTS

6.2. DIAGNOSIS

6.2.1. ED IO PAGE

The screenshot displays the 'ED IO PAGE' diagnostic interface. At the top, there is a 'File' menu and a 'Link Master' checkbox which is checked. The main area is titled 'EMBEDDED DEVICE' and contains a grid of LEDs for the Master and Slaves. The Master unit has 16 LEDs: IN 0-4 (red), IN 5 (green), IN 6-7 (red), O 1-3 (green), O 4 (red), A (green), B (red), IV 0 (red), and IV 1 (red). Slaves 1-7 have all LEDs unlit. Slave 8 has four LEDs lit in red: IN 1, IN 2, IN 3, and O 1. The bottom navigation bar includes tabs for Miscellaneous, Settings, IO Expansion, Sun, Console, Diagnostics, J.R., Sun Saima, Engines, Inverter, Weight - Speech, Access Control, Inputs, ED IO, ED Setup, and Address.



FOR THE MEANINGS OF THE LEDS OF THIS PAGE, SEE INPUTS AND OUTPUTS.



THE VALUES SHOWN ARE PURELY INDICATIVE AND MAYBE SIGNIFICANTLY DIFFERENT FROM THE REAL ONE



6.2.2. DIAGNOSTICS PAGE

Voltage	
3VS B	3.25
5VS B	4.90
VCC M	5.00
V ALIM PART	27.14
12V PART	12.52
BATT PART	25.36
3.3V P	3.65
VCC P	4.99

Refresh

Miscellaneous Settings IO Expansion Sun Console **Diagnostics** J.R. Sun Saima

Engines Inverter Weight - Speech Access Control Inputs ED IO ED Setup Address



THE VALUES REPORTED IN THIS PAGE, REPRESENT THE VARIOUS TENSIONS PRESENT INSIDE THE ELECTRONIC UNIT, THEY CAN VARY OF A $\pm 10\%$.

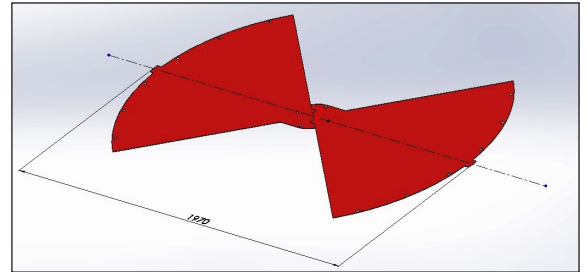
7. MECANICAL INSTALLATION

PHASE 1:

Position template code 3533501348 (2 pieces) on the CENTRAL LINE on the floor. Mark and pierce the 12 external holes for metallic loose pieces \varnothing ext 14. If expected a weighed base, pierce even the 4 central holes.

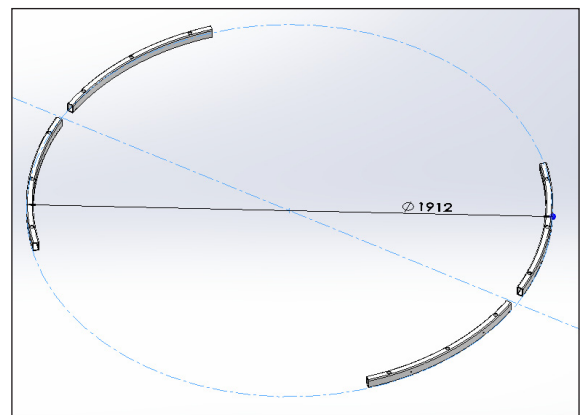


THE FLOOR MUST BE PERFECTLY FLAT



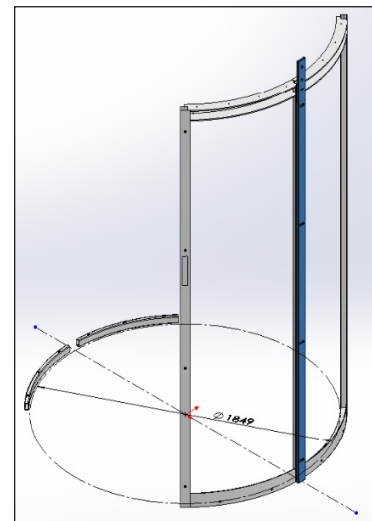
PHASE 2:

Screw on the floor n°4 tubulars cod.3533395348 through metallic loose \varnothing 14 (coach screws) and TCEI M8x60 screws. Check diameter measure (external \varnothing 1912).



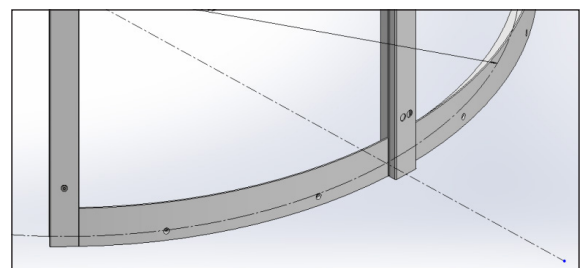
PHASE 3:

Assemble the chassis cod. 3533355348 (arranged semaphore) and cod.3533357348 (arranged locker) in the tubulars previously fixed to the ground and join them together with the tubular codex 3533493348 (in blue in the photo) through N°8 screws TCEI M6X25.



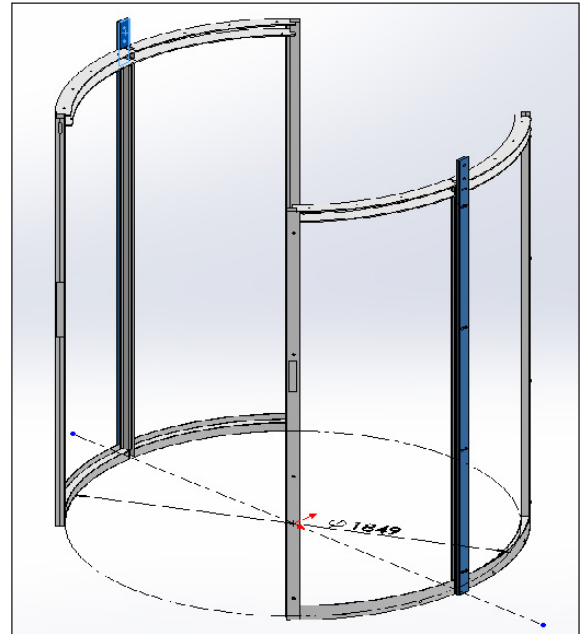
PHASE 4:

Centre tubular cod.3533493348 with CENTRAL LINE. Pierce with \varnothing 5 drill and threading M6 in correspondence of the flared holes. Tighten with TSPEI M6X20 screws.



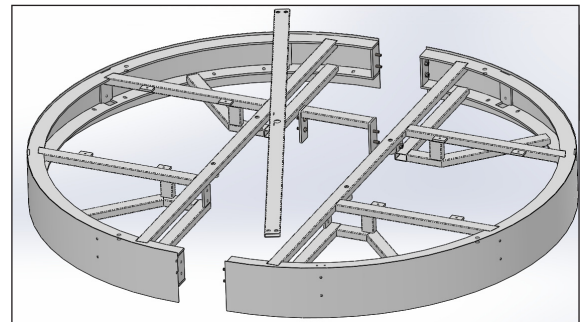
PHASE 5:

Repeat PHASE 3 and PHASE 4 for the opposite wall.



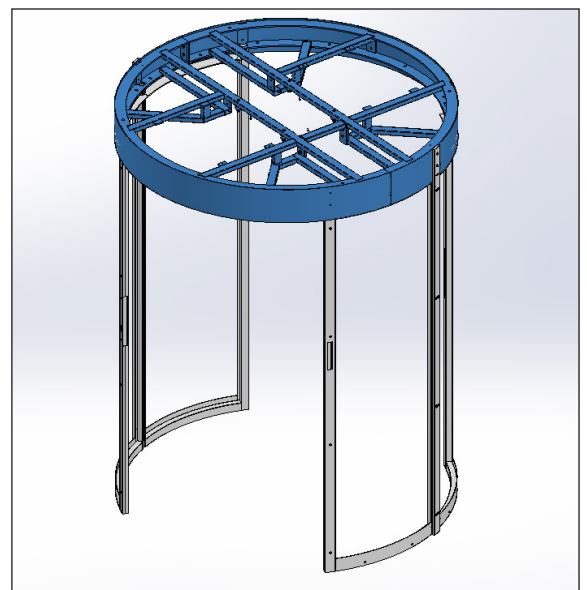
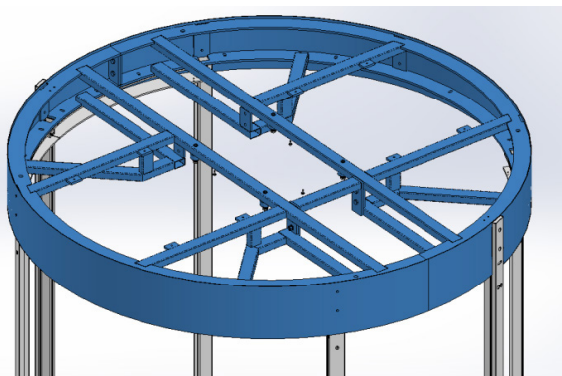
PHASE 6:

Match n°2 particular cod.3532637348 stirrup cod.3533290348 through N°8 TE M10X30 SCREWS, PLANE WASHER, GROWER E M10 NUT and superior tubular cod.35340983458 with n°4 TCEI M8X20 screws.



PHASE 7:

Lift through n°4 eye-bolts M16 (or other system, even from under) and uphold the assembled frame in PHASE 6 above the walls previously assembled. Rotate the frame as picture below. The tubular above must be aligned to the CENTRAL LINE.

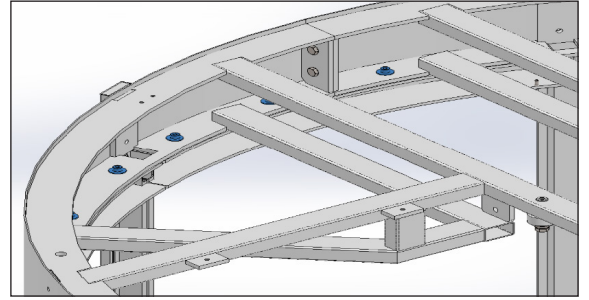


REVLOCK - 4 WINGS



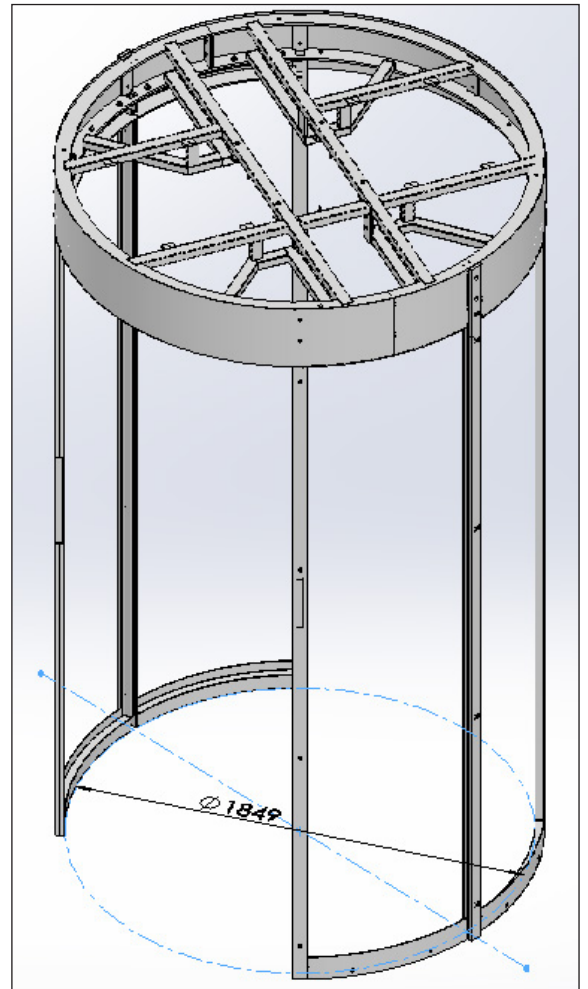
PHASE 8:

Fix the frame to the walls through n°16 TCEI M8X20 screws, PLANE WASHER to the walls.



PHASE 9:

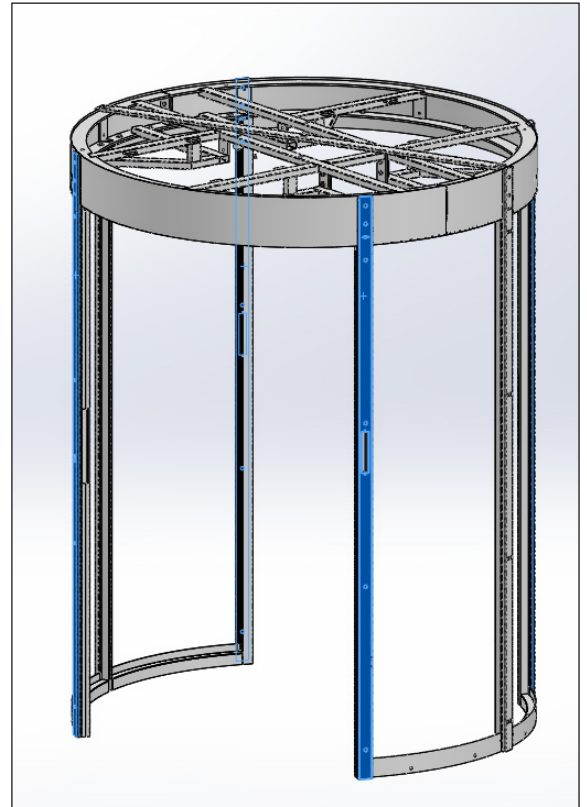
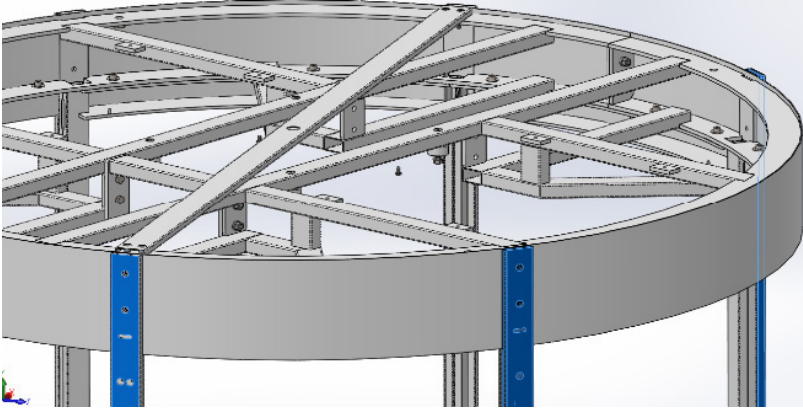
Check: internal base diameter (1849 +-3mm) and, in case, put thicknesses; verticality and length of the passage compartments (measure down= measure up and diagonal that must be the same). Lock properly all the assembled screws.



PHASE 10:

Assemble the other 4 tubulars of reinforcement cod.3533436348 (x2 pieces semaphore) and cod.3533364348 (x2 pieces key) to the frames through N°4 TCEI M6X25 tubular screws.

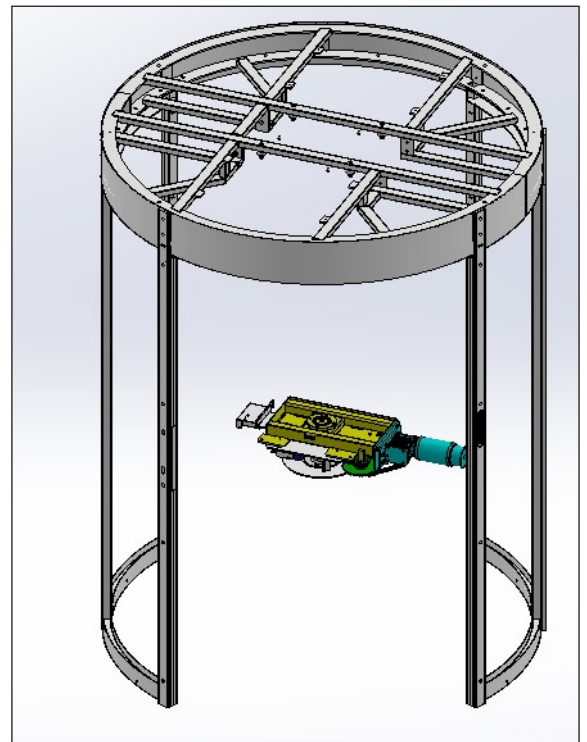
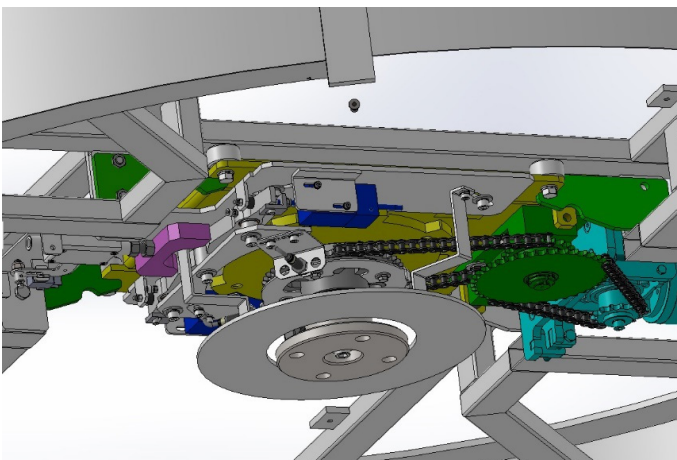
Screw the 6 vertical tubulars through n°12 TCEI M8X30 SCREWS, PLANE WASHER, GROWER AND AUTO-BLOCKING NUT M8 to the upper frame.



PHASE 11:

Position and lift up the motorization group cod.2232638348 to the motor directed to the right, compared to the external transit towards the inside.

Block the group to the frame with n°4 SCREWS TE M10X60, PLANE WASHER and GROWER. Assemble the 4 security plates cod.3533295348 (green in the picture below) with n°2 SCREWS TE M10X30 E PLATE NUT M10.



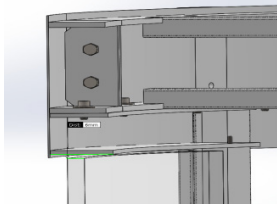
REVLOCK - 4 WINGS



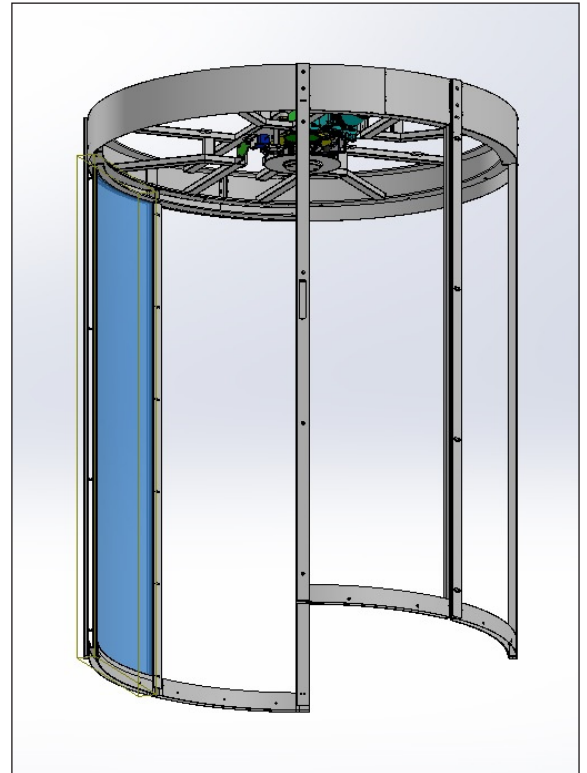
PHASE 12:

Insert the curved glass cod.4232631348 in the lateral frame.

Put some thicknesses to centre it laterally, under so that it stays at 6mm of air above between the glass and the frame.

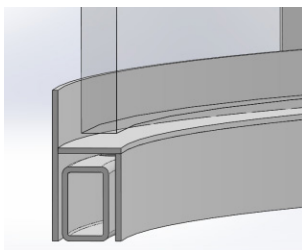


Put thicknesses of 10mm external side of the glass to leave space to the gasket. Stop the glass with some lines of transparent silicone.

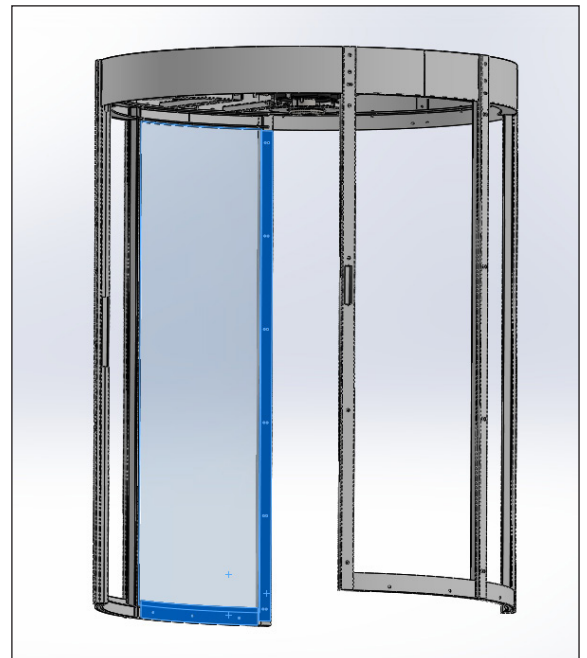


PHASE 13:

Assemble the vertical stop-glasses cod.3533388348 and the curved horizontal one cod.353389348 by intercalating some ADHESIV MOUSSE sp.5mm between the glass and the metal. Fix the stop-glass with AUTO-THREADING SCREWS TSI \varnothing 3.5X20.



Leave the vertical stop-glass at about 20mm from the floor.

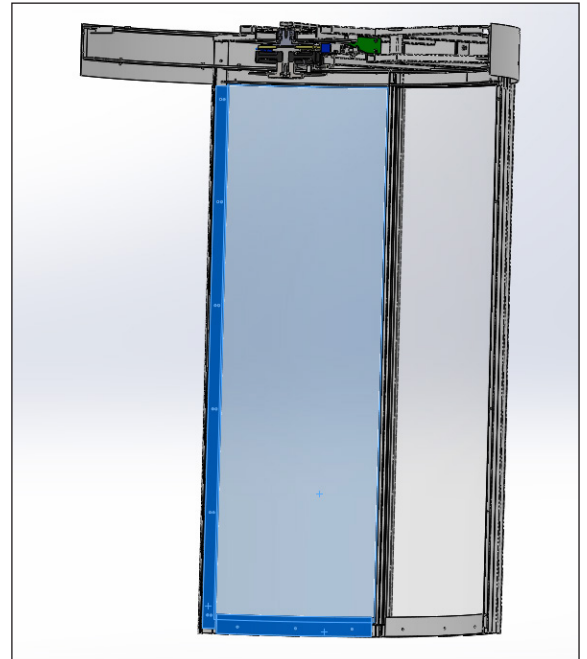




REVLOCK - 4 WINGS

PHASE 14:

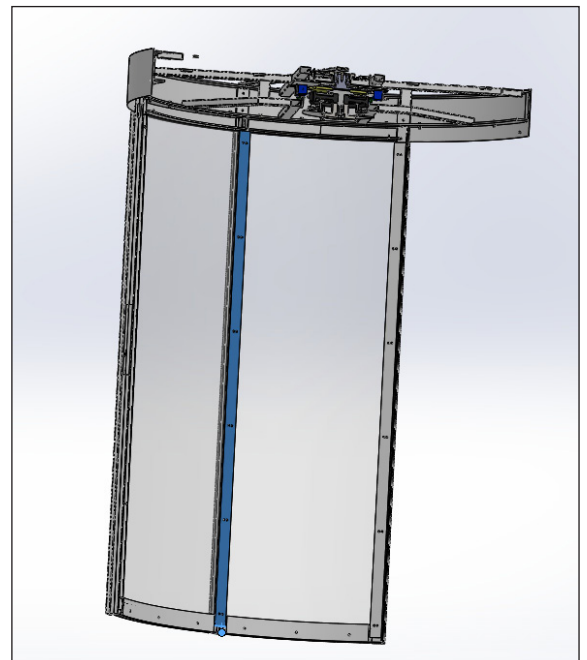
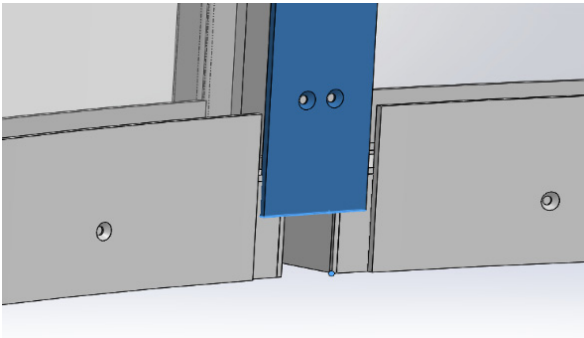
Repeat the PHASE 11 and 12 for the other 3 glasses.



PHASE 15:

Assemble the vertical stop-glasses codex 3533388348, by intercalating some ADHESIVE MOUSSE sp.5mm between the glass and the metal for both windows. Fix the stop-glasses with AUTO-THREADING SCREWS TSlø3.5X20.

Leave the vertical stop-glasses at about 30mm from the floor for the wiring passage of the weighed base (if expected).



REVLOCK - 4 WINGS



ASSEMBLY OF THE WIEIGHED BAS (OPTIONAL)

PHASE 16:

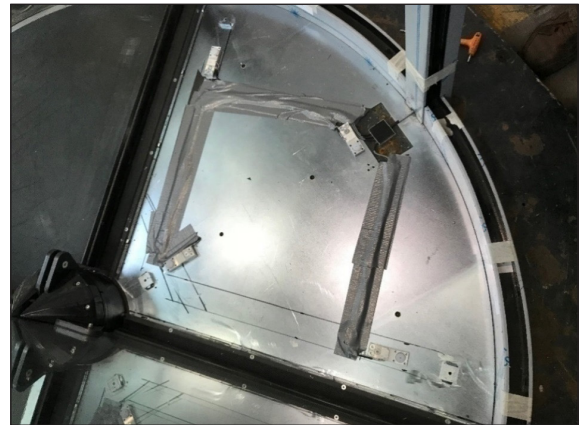
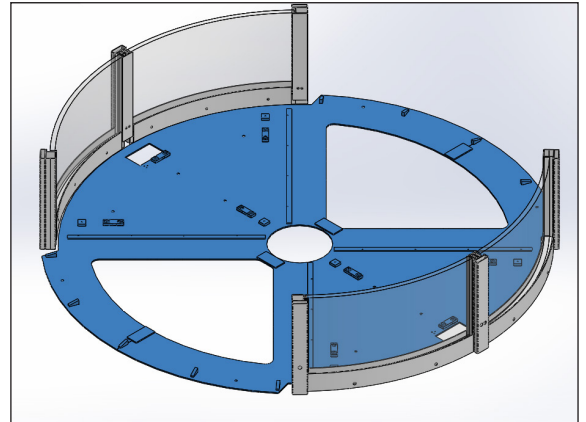
Disassemble the platforms and the inclined ramps from the base codex 2232626348. Put the base at the centre of the RevLock and centre it. Pierce the pavement in correspondence of the 12 holes of fixing with a $\varnothing 10$ drill. Insert the $\varnothing 10$ loose pieces and block with TSI $\varnothing 6 \times 50$ SCREWS.



NOT TO DAMAGE THE LOAD CELLS!!

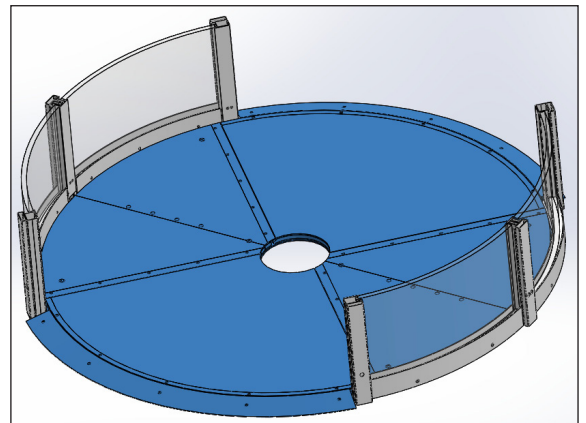
Pass in the central pillars the wiring for the cables of the load cells connection.

Disposition of the load cells



PHASE 17:

Assemble again the platforms and the inclined ramps.

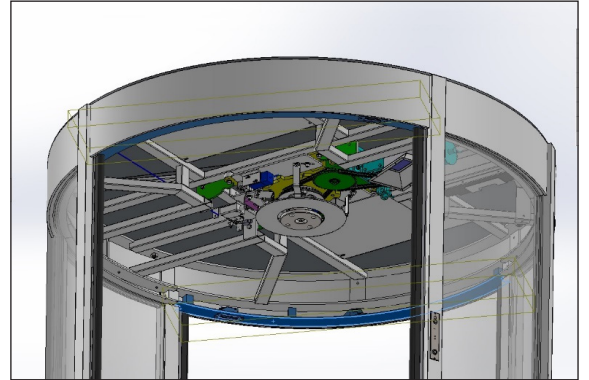




REVLOCK - 4 WINGS

Phase 18:

Assemble the frontal roof support codex 2233516348 (x2pieces,) in entrance and in exit through n°4(x2) screws TCEI M8X20 and PLANE WASHER.



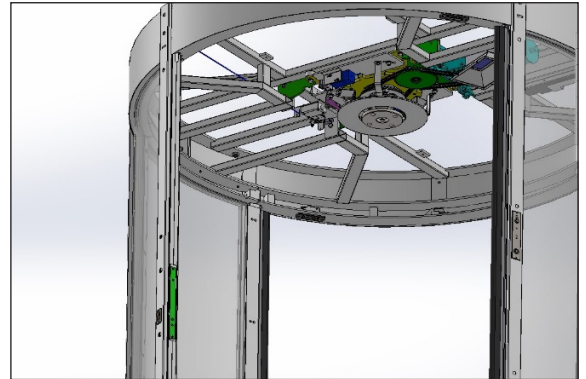
REVLOCK - 4 WINGS



ASSEMBLY OF TUMBLER LOCKER (OPTIONAL)

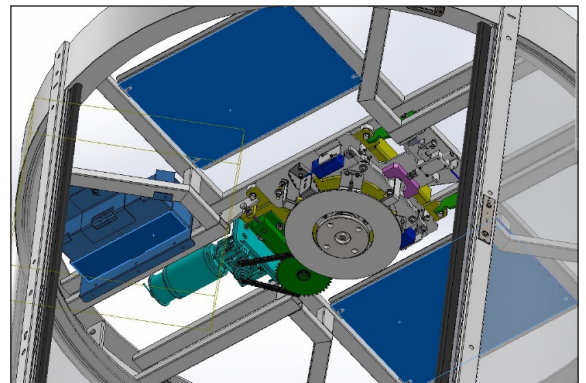
PHASE 19:

Assembly locker cod.5334269 predisposed with cable and connect it to the blocking system.



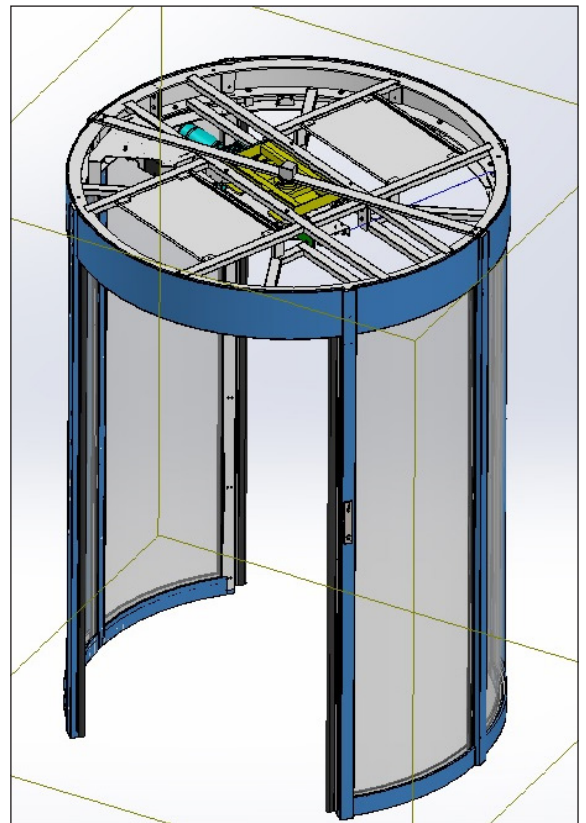
PHASE 20:

Assemble stirrup group batteries support codex 2233997348 and pre-wired plates electronics codex 3533647348 with special screws. Wire all the electric installation.



PHASE 21:

Assemble internal and external coating codex 2233494348. Glue the coating with bi-hadesive tape and silicone. Attention some curved details must be inserted under the vertical tubulars.

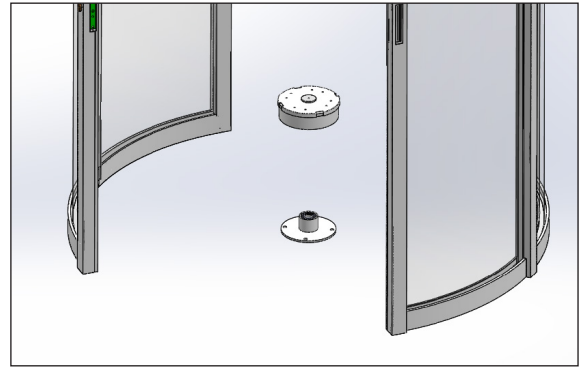
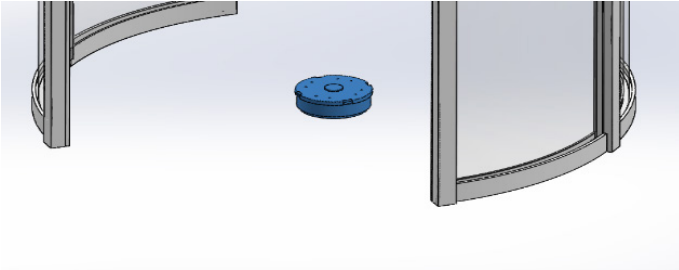




REVLOCK - 4 WINGS

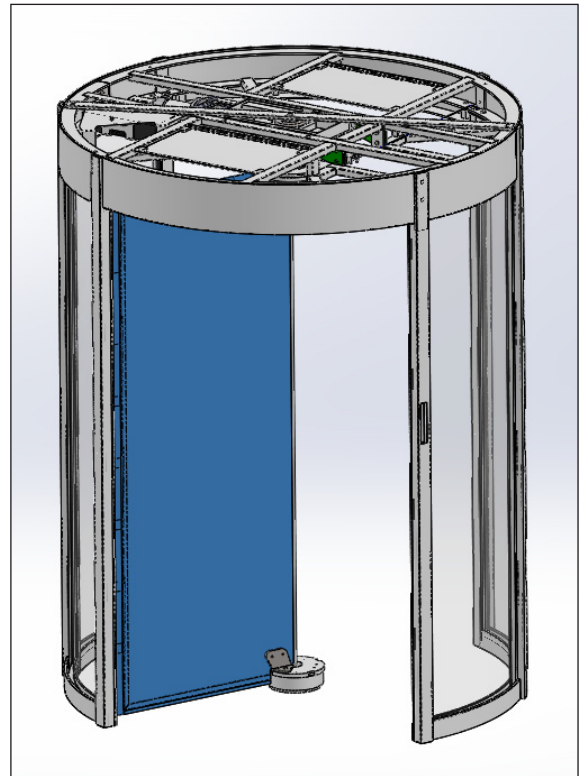
PHASE 22:

Screw on the pavement the base of the rotating hub, after having extracted it codex 3532747348, through n°4 metallic loose pieces $\varnothing 14$ (coach screws) and TCEI M8x60 screws. Check balance of the hub. Insert the upper part of the hub in the base buffer.



PHASE 23:

Insert the glass door complete of glass attachments codex 2232628348 between the inferior support and the superior one. Block with n°2 TCEI M8x25 SCREWS.

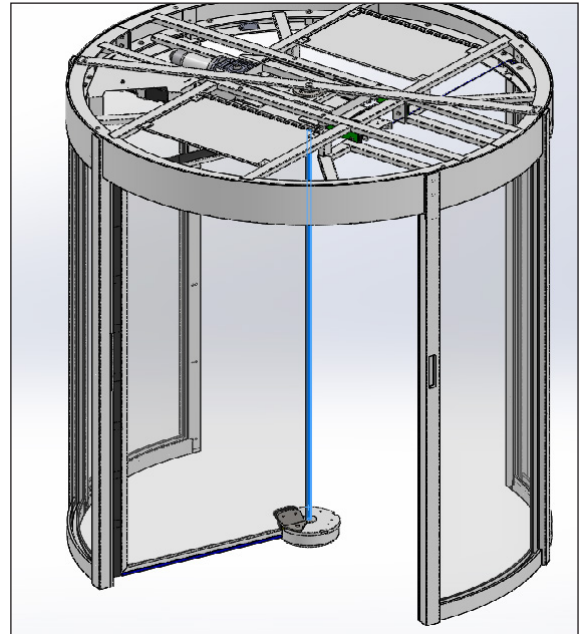
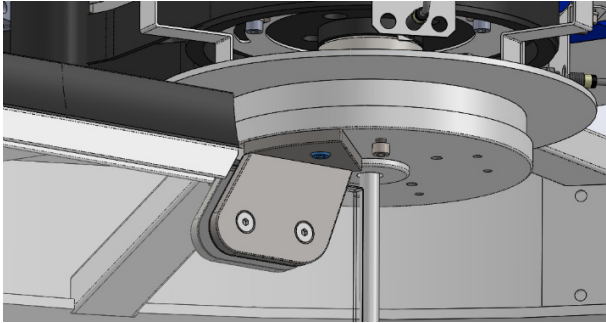


REVLOCK - 4 WINGS



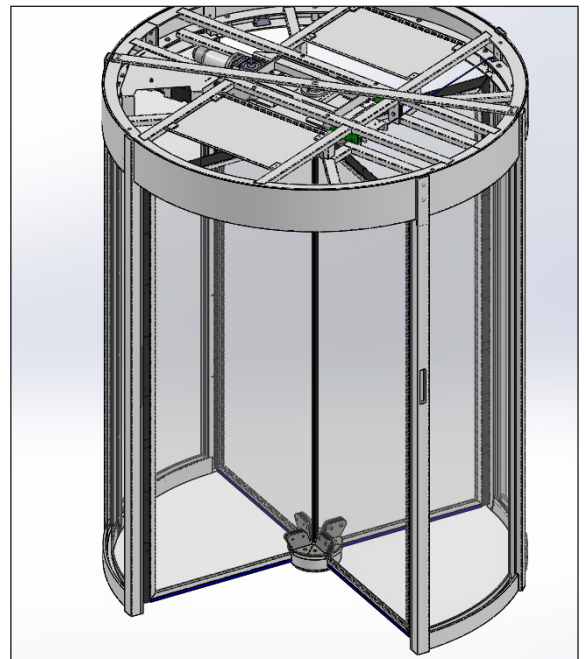
PHASE 24:

Put stick in plexiglass codex 4334134348 in the inferior and superior supports.



PHASE 25:

Repeat the PHASE 22 for the other 3 doors.



PHASE 26:

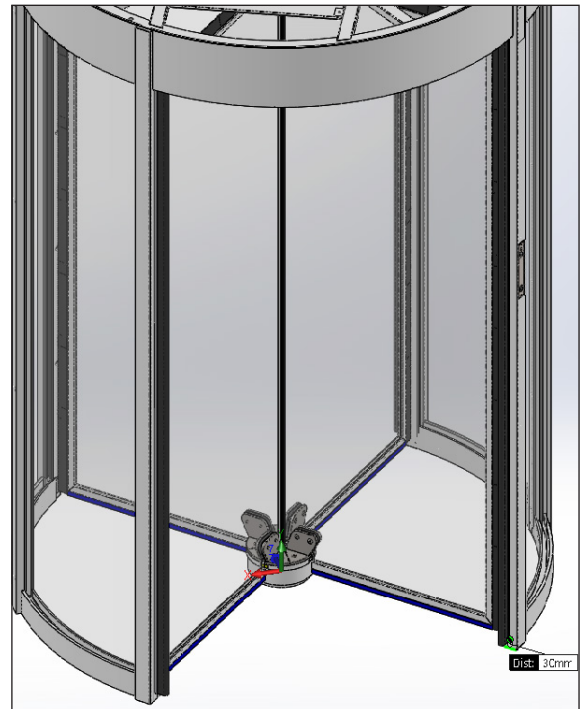
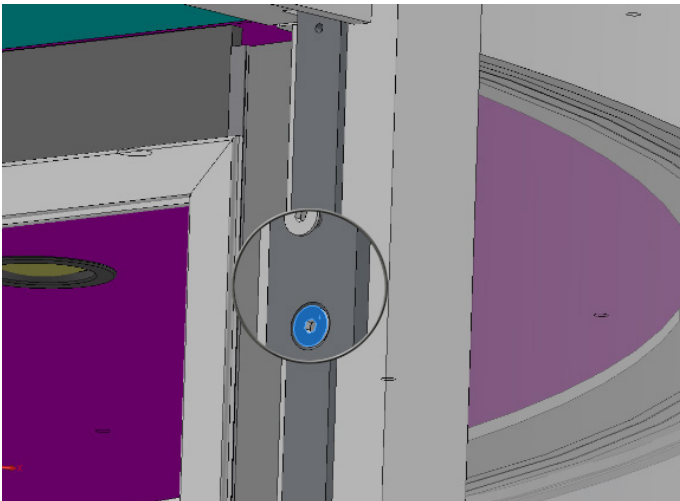
Assemble intercom pushbutton / semaphore / reader ... and mechanic cylinder patch, where expected.



PHASE 27:

Assemble ELECTRONIC SECURITY SAFETIES codex 2236658348 in the four pillars.

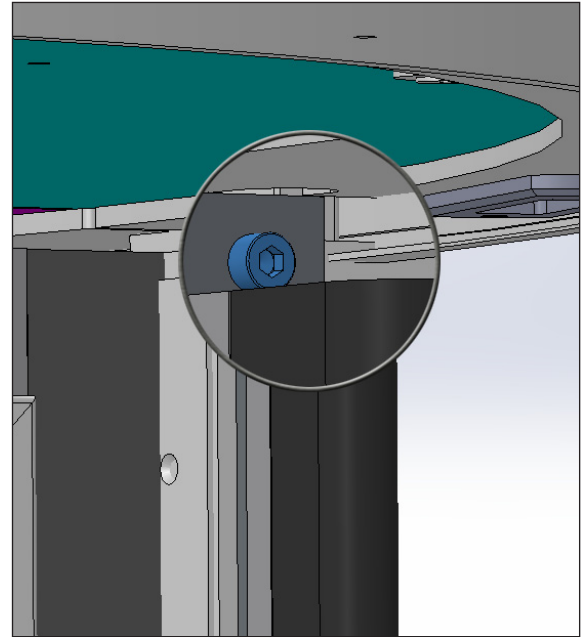
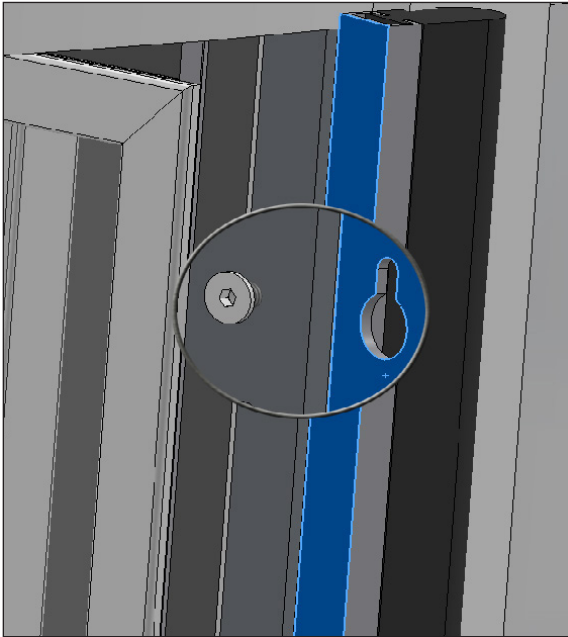
Keep the base of the safety at around 10mm from the internal coating edge and beat with the upper profile. Pierce with a $\varnothing 4$ drill the coating and the above structure in correspondence of the flared holes and threading with the M5 male. Fix with 6 screws at T.S.P.E I. M5X15.



REVLOCK - 4 WINGS



Implant the electric safety from up to down in the protruding screws for the base and block in the top with the T.C.E.I. M5X10 SCREW.



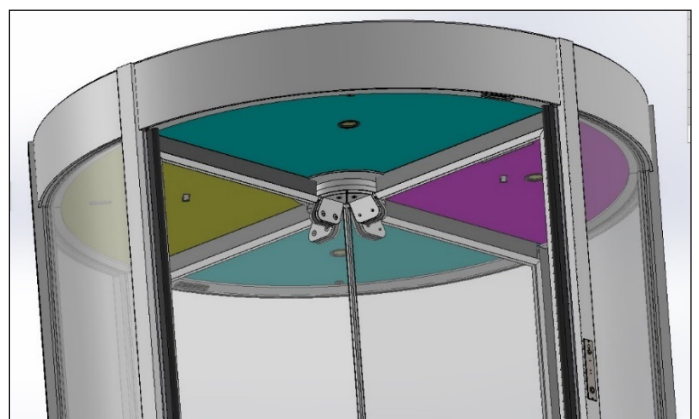
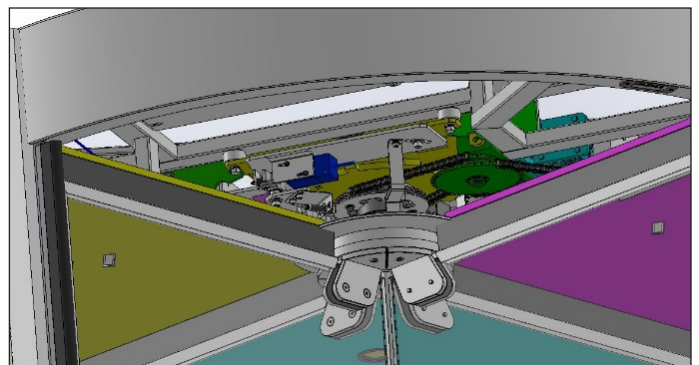
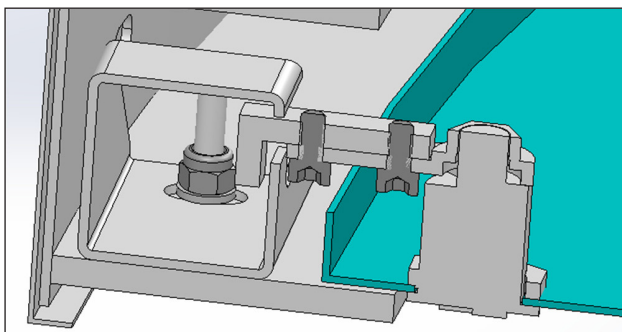
PHASE 28:

TRY TO MAKE RECORDS IF THEY ARE NECESSARY.

PHASE 29:

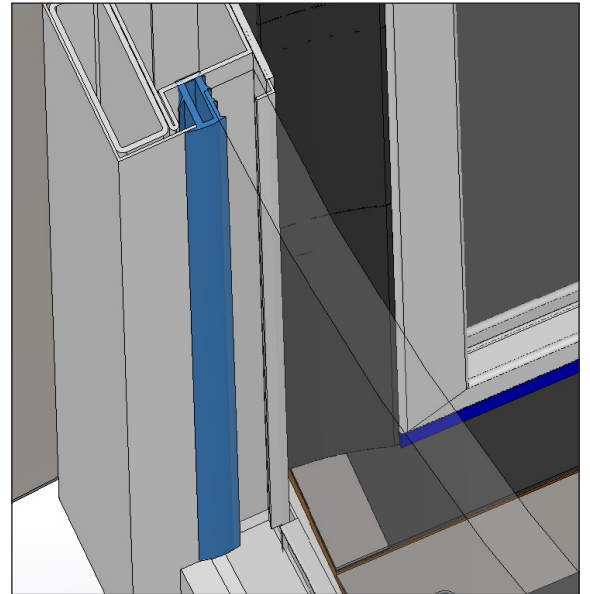
Assemble the ceiling by connecting the illumination spotlights, and test. Assemble as first the lateral ceilings (without locker) by inserting them from the compartment passages to the central disk, by putting them on the external band and rotate them to position them in the special bolts. Later on, assemble the two inspectionable sectors with a locker.

The keyway of the lock tab must be properly adjusted using the slot provided.



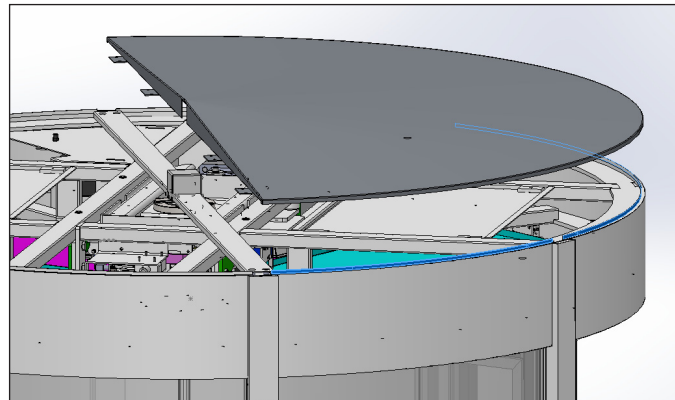
PHASE 30:

Insert the gaskin between the curved glasses and the external coating (vertical and horizontal down).

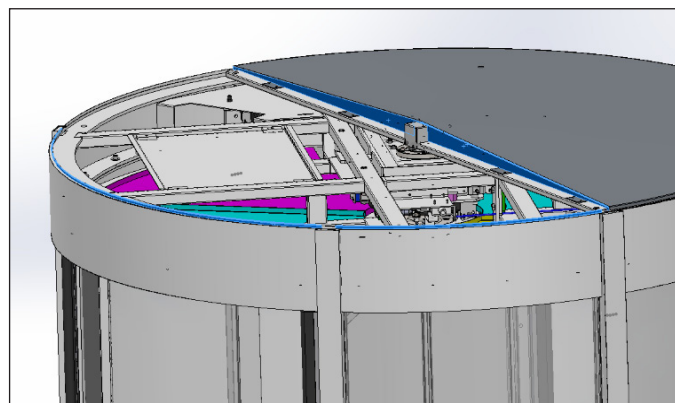


PHASE 31:

Assemble of rain-protective roof: Put silicone for the $\frac{1}{2}$ of the superior coating edge and put the rain-protective roof. Block with auto-threading screws the protruding tongues on the upper crossbar.



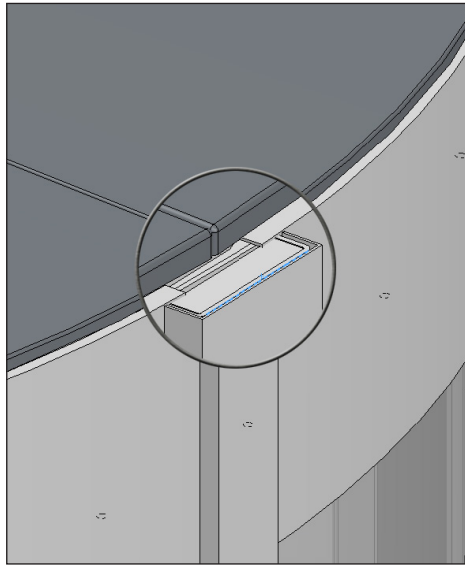
Put silicone on the other $\frac{1}{2}$ of the edge of the upper coating and on the vertical part of the already assembled sealing, by uphold the rain-protective ceiling, by inserting the tongues under the already assembled ceiling.



REVLOCK - 4 WINGS

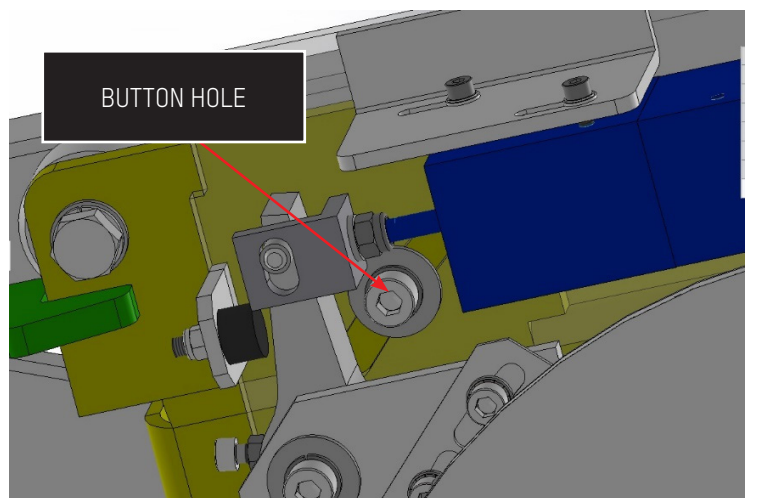
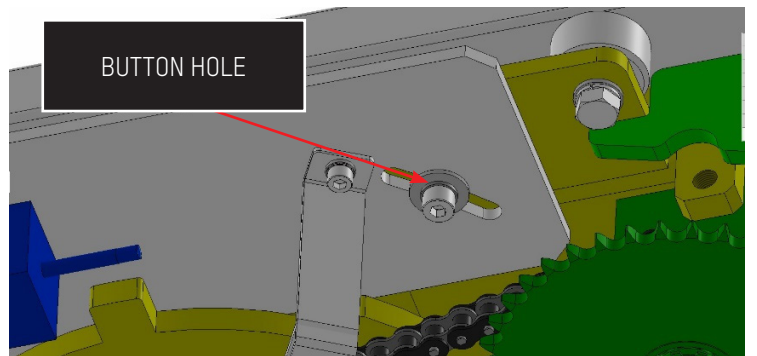
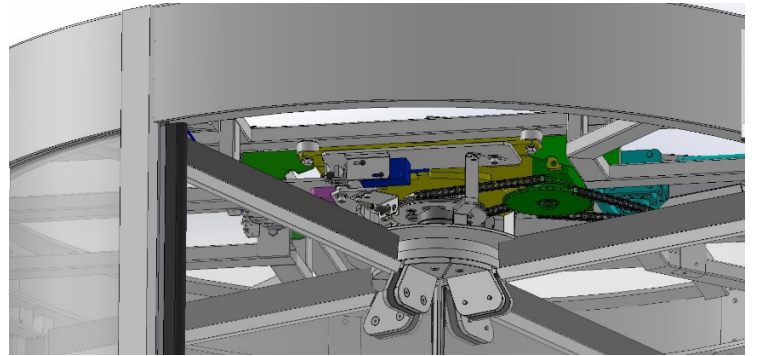
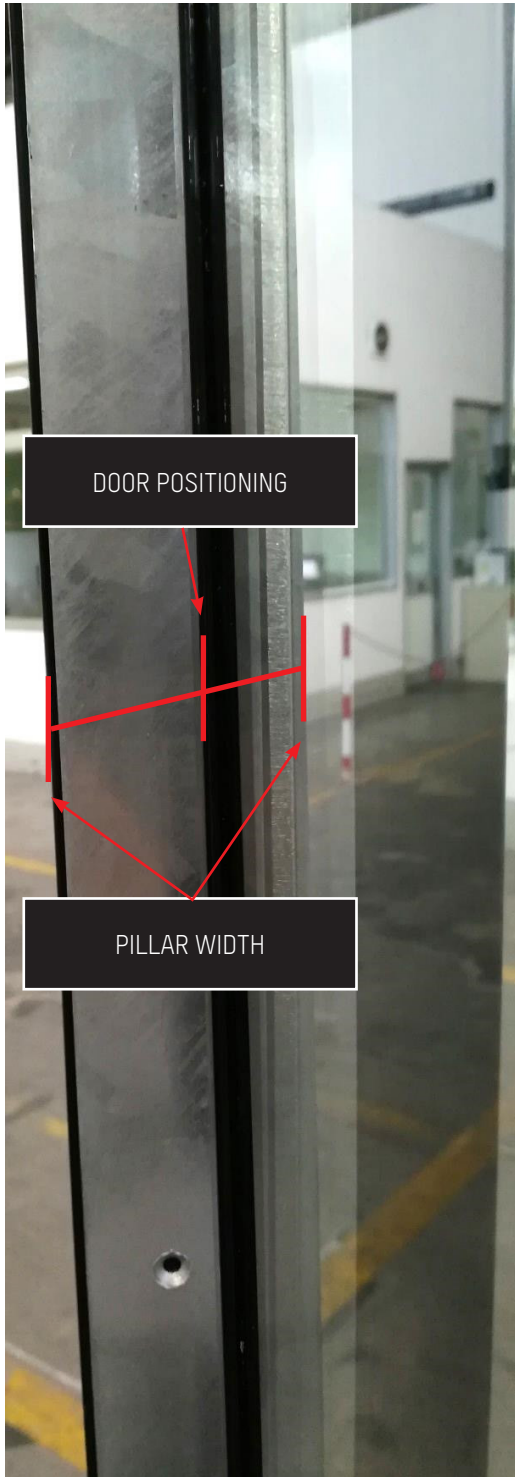


Complete the union of the two roofs and the vertical pillars with silicone so that water does not enter.



7.1. MECHANICAL TIMING

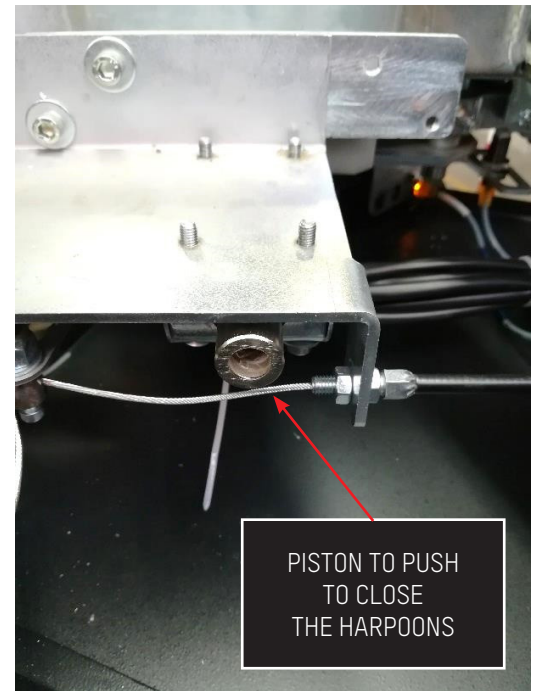
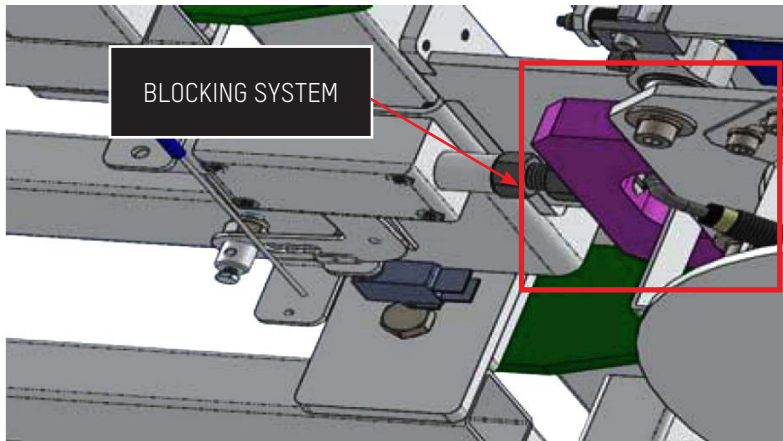
1. For a correct mechanical timing it is necessary to put each of the four doors at the centre of the related pillar
2. To regulate the positioning, work on the Motorization Group, by loosening the four screws TCEI M8 and rotating the Group along the button holes until the correct alignment of every door. Now tighten the screws



REVLOCK - 4 WINGS

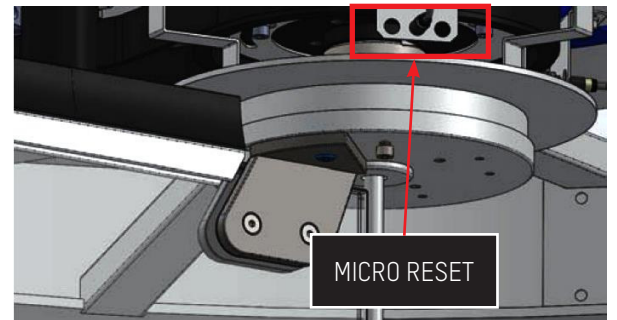
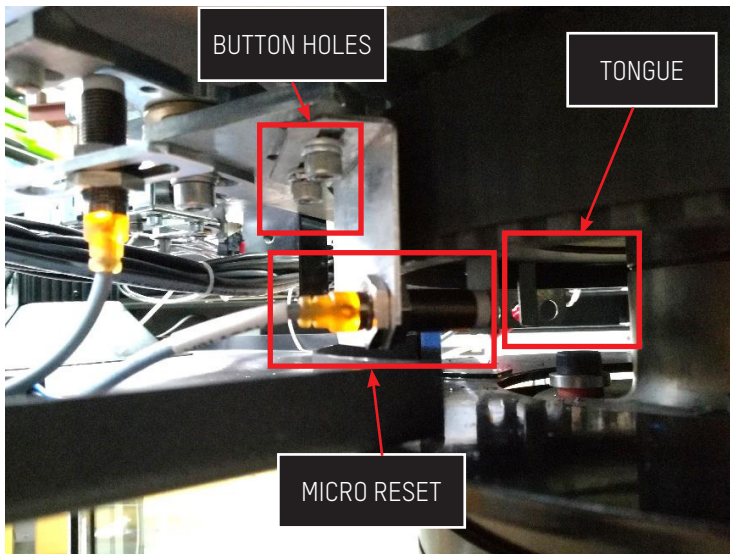


3. To verify the accuracy of the timing, leave the doors aligned and work manually on the Block System of the Tumbler System, forcing by hand the closure of the harpoons, by pushing the related piston. In this situation, by moving the start wheel by hand in both senses, verify that the shift of the doors, limited by the harpoons, has the same width compared to the centre of the related uppercuts.
4. To regulate the positioning, work on the Motorization Group by loosening the four screws TCEI M8 and rotating the Group along the buttonholes until the correct alignment of all the doors. At that point, tighten the screws.



7.2. TIMING OF THE SENSOR

- Once the procedure of mechanical timing ended, put the **MICRO RESET** sensor correctly. This sensor must read each of the four "tongues".
 - Verify that all the four "tongues" are intact, strict and at the same distance from the **MICRO RESET** sensor. The more they are similar to each other, the better the reading of the sensor will be and less the mistakes on the positioning of the doors.
 - The regulation of the sensor must be done so that the doors of the star wheel stop in the position of mechanical timing previously made. For such regulation work on the 2 screws TCEI M6 that block the **MICRO RESET** sensor support stirrup, as soon as each door is positioned in the centre of the correspondent pillar, so in "**RESET position**". For the regulation work on the related button holes.



REGULATION OF THE PARAMETER OF CONTROL WINDOW END

- Once the booth has been switched on and mechanically regulated, it is necessary to set the correct values of the Control Window, referring to the booth specification. While the Window Start parameter can be the one defined by the specification, the window End parameter must be smaller than the smallest maximum value reached by the encoder of each segment.
 - With the star wheel stuck in "**position of RESET**", put the booth in Emergency. The steps counter of the encoder is (next to) 0
 - Push one of the doors in counterclockwise sense, paying attention to push really very slowly when approaching to the end of the slice
 - Once the encoder became zero, mark the maximum value reached before the reset
 - Once the encoder became zero, mark the maximum value reached before the reset
 - Go back to push still the same door always in a counterclockwise sense, repeating all the points 2. e 3. even for the other three slices
Ideally, at the end of every slice, the steps counter of the encoder points out 3000, but in the reality, it is not like that, being a tolerance of about 100 steps both in excess and in defect
 - Among the four maximum values reached before every zeroing, mark down the lowest one
 - Set the value of the ending window parameter 15 steps less than the value found at the previous point

8. RC4 LOCKING SYSTEM (OPTIONAL)

In the phase in which it is necessary the safe block of the rotation of the impeller, a blade will come into action for the block of the rotation itself.

The lock blade is positioned at the top inside the technical compartment; when closing is moved by a motor and comes out of the ceiling, going to close the first door that meets in the direction of rotation, preventing rotation in and out. This block occurs whenever an unauthorized person is intercepted by a system of sensors located inside the passage compartment, or during the night closure.

The locking system works in both directions of rotation of the impeller.

This block blade is housed inside a metal box composed of sheets (iron and manganese steel) of various thicknesses.

Thanks to a specially designed leverage, the blade is placed in an irreversible position by being placed in the closing position; manually it will not be possible to return it to the opening position by means of the tangential thrust on the blade itself (straight arm).

The doors are made of sheet metal profiles (iron and manganese steel), and are screwed to the impeller, which is composed of central tubular and full profiles with square section on which the doors are fixed.

List of components:

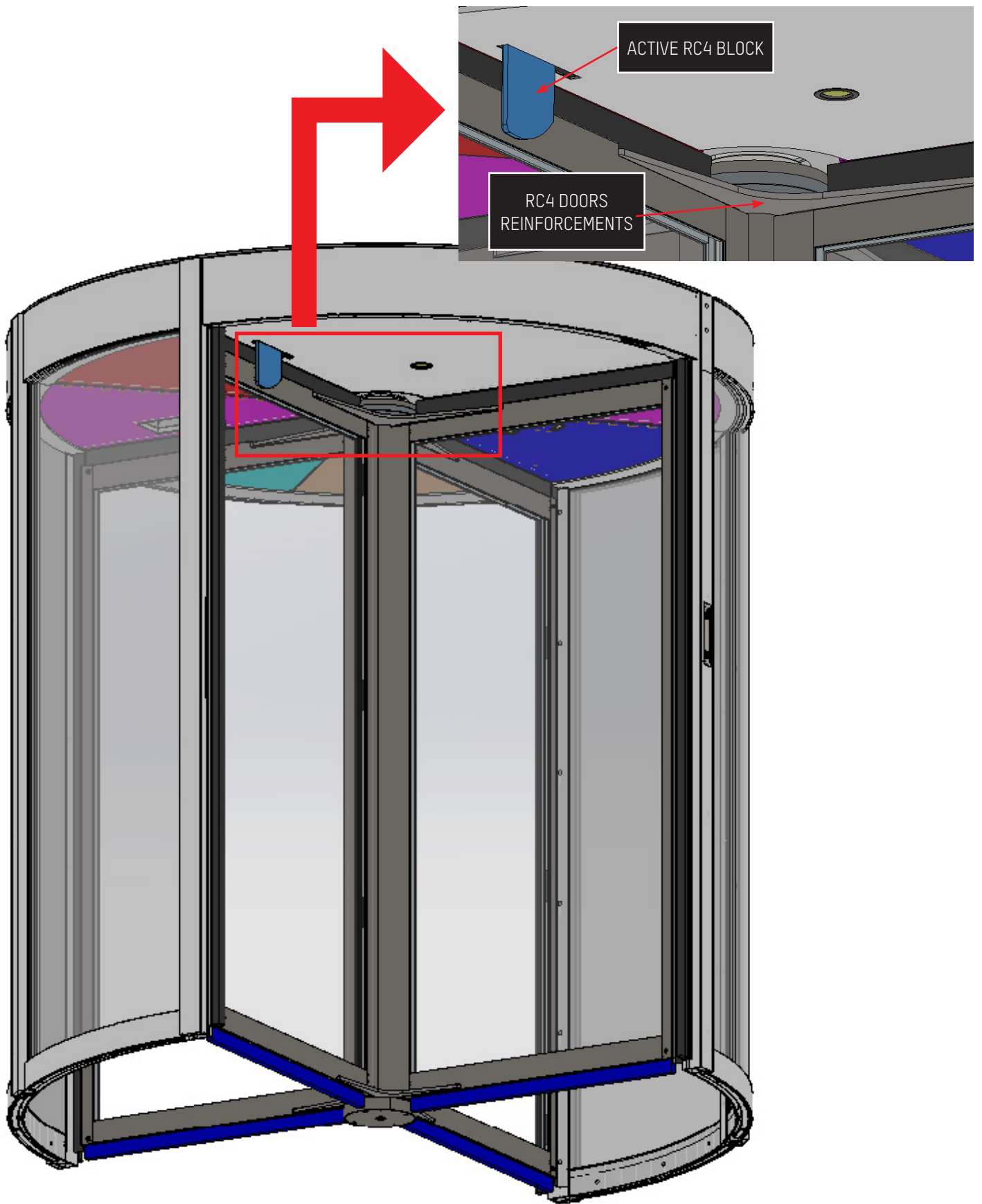
- Central impeller composed of flat glass doors with metal frame welded on 3 sides and screwed front to allow mounting and disassembly of the glass. With the flat door placed in correspondence of the lateral curved glasses, it will not be possible the access to the screw that allows the disassembly of the front profile to remove the glass and also the release of the glass itself from the frame;
- Curved glass fixed side walls with metal frame welded on 4 sides and glass stoppers screwed from the inside of the passage compartment. The glass is fixed to the fixed walls by means of bi-component glue;
- Structure for the containment of the block blade in sheet and tubular (iron and manganese steel) of various thicknesses;
- Flat glass for rotating doors laminated in class P6B - BR3 with lifting eye splinter protection;
- Curved glass for fixed side walls laminated in class P6B - BR4 / S;
- Motorized locking blade of Fe + Mn steel;

At the top and bottom of the impeller, the full square section profiles are connected to each other by means of 2 laserated iron crosses welded to the central tube and to the profiles themselves, to ensure the grip at normal thrust on the doors that are not blocked by the blade.

The booth has 2 tubular steel section profiles fixed to the central lateral pillars of the fixed walls, to be used for fixing on external walls, whether in metal or masonry. The attachment shall be carried out in a manner appropriate to the strength class of the booth.



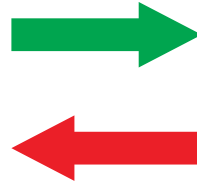
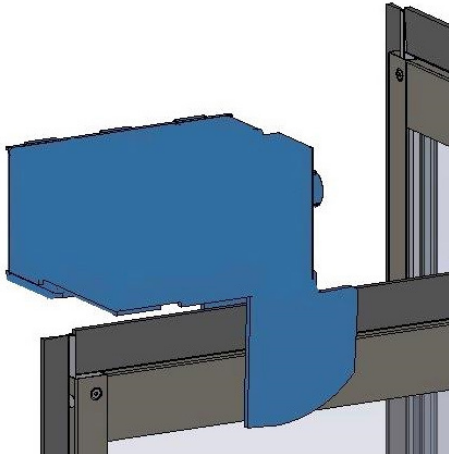
REVLOCK - 4 WINGS



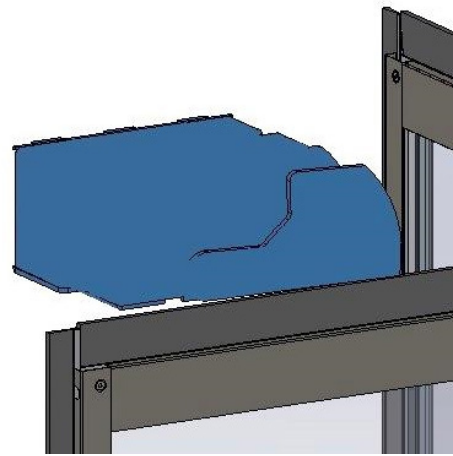
REVLOCK - 4 WINGS



RC4 BLOCK ACTIVE

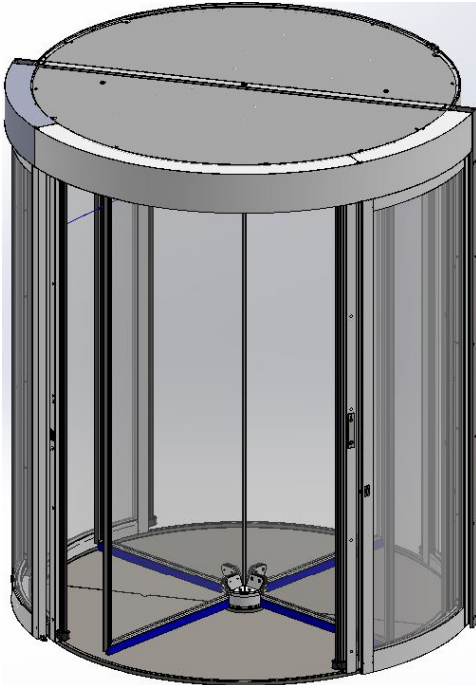


RC4 BLOCK DISABLED



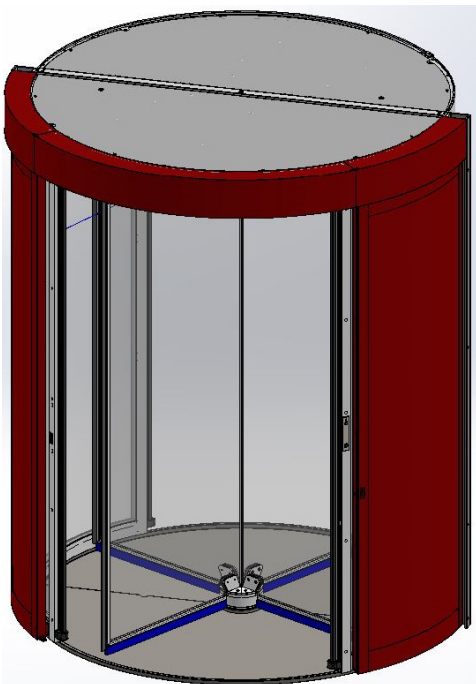
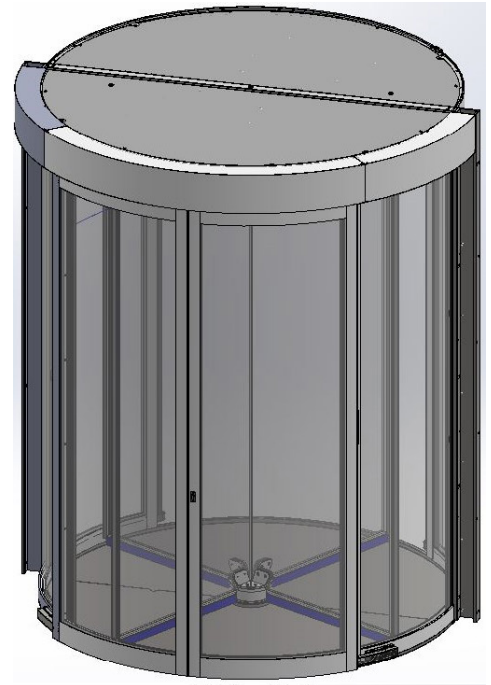
9. MOTORIZED EXTERNAL DOORS (OPTIONAL)

To increase the safety level during the closing hours or for any other situation that makes it necessary, it is possible to equip the booth with two external doors motorized (or manually operated) and equipped with a lock. Available on request.



OPEN DOORS

CLOSED DOORS

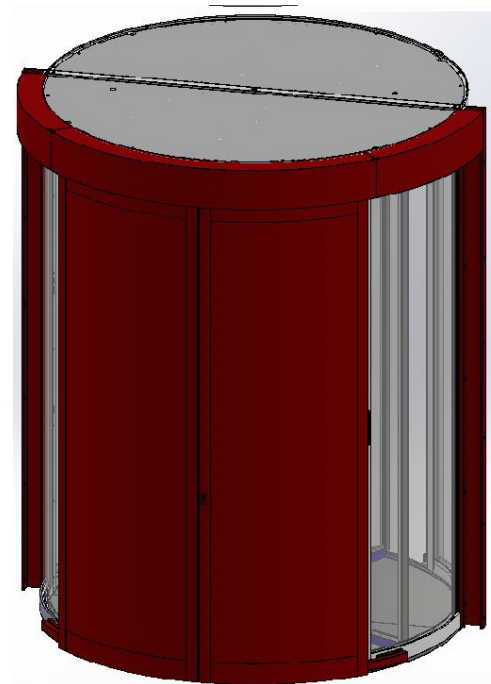


**HIGHLIGHTED
IN RED**



OPEN DOORS

CLOSED DOORS



10. FOLDING DOORS (OPTIONAL)

10.1. FUNCTIONING OF THE SYSTEM OF FOLDING DOORS

POSSIBILITY TO FOLD THE DOORS

- If the LOWERING ACTIVATION input is active, the two SOLENOID BUTTON ACTIVATION outputs are powered, all four leaves
- Solenoid locks are activated, and it is possible to lower the doors.
- If the SOLENOID BOLT ACTIVATION input is not active (or not connected), the SOLENOID BOLT ACTIVATION outputs are de-energized, all four solenoid locks of the leaves are turned off and it is possible to lower the doors.

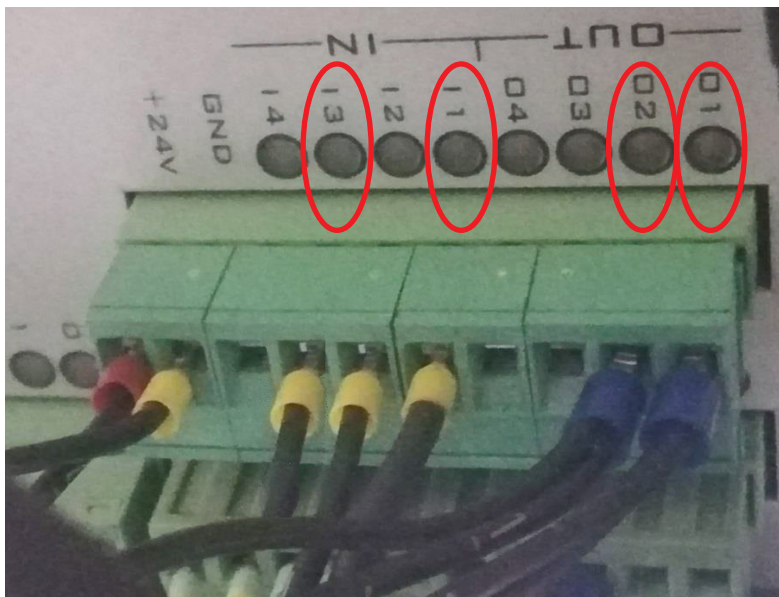
FOLDING DOWN THE DOORS

With the booth in Emergency mode, each door can be lowered by pushing it with force. After the first door has been lowered, the others can be lowered as well.

RESTORATION OF THE NORMAL FUNCTIONING

To restore the normal functioning of the booth it is necessary to bring back all the doors in rest position compared to the turnstile and, afterwards, take the emergency off from the console. The turnstile goes back to quiet by verifying that the input PROXIMITY SENSORS READING reads that all the doors are actually in rest position compared to the turnstile and, at that point, the normal functioning of the booth is restored.

10.2. CONNECTION FOR THE FOLDING (PHOTO OF ADDITIONAL SINGLE BOARD CONNECTOR)



10.3. ADDITIONAL SINGLE BOARDS CONNECTORS

INPUTS

CLAMP	NAME INPUT SINGLE BOARD	DESCRIPTION
I1	1	DOORS ALIGNMENT
I3	3	KNOCKDOWN ACTIVATION

- **I1 PROXIMETER READING:** this input is needed to tell the software that the doors are in the correct position, when the rotor is in the rest position.
- **I3 ENABLE FOLDING:** from this input you can choose whether the doors can be folded down or not:
 - **ACTIVE ENTRY:** doors can be lowered
 - **DEACTIVATED ENTRY:** doors locked

OUTPUTS

CLAMP	NAME OUTPUT SINGLE BOARD	DESCRIPTION
O1	1	SOLENOID BOLT ACTIVATION
O2	2	SOLENOID BOLT ACTIVATION



MAINTAIN ALL OTHER CONTACTS ON THE SINGLE BOARD.

10.4. PARAMETRIZATION

10.4.1. SINGLE BOARD ED SETUP PAGE

- **FLAG 31:** foldable; to select in case the doors of the turnstile are foldable, in the opposite case leave it deselected



FOR THE MEANING OF THE OTHER FLAG AND PARAMETERS DO REFER TO ED SETUP PAGE



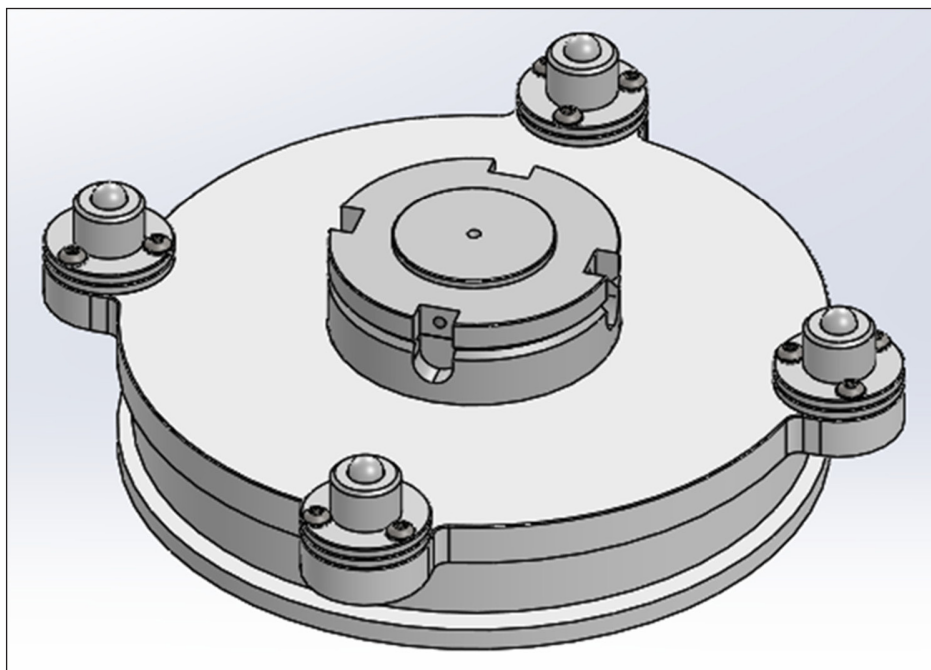
THE VALUES NOT STATED HERE ABOVE ARE NOT USED FOR THE REVLOCK - 4 WINGS, THEREFORE THEY MUST NOT BE MODIFIED.

10.5. MECHANICAL DESCRIPTION

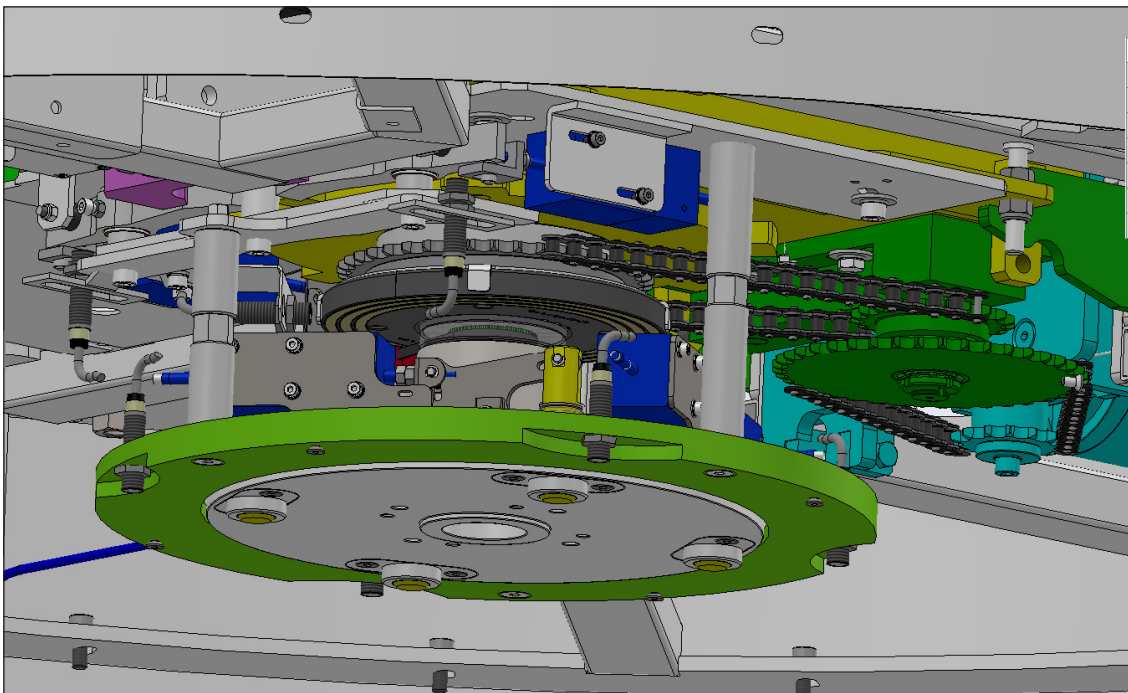
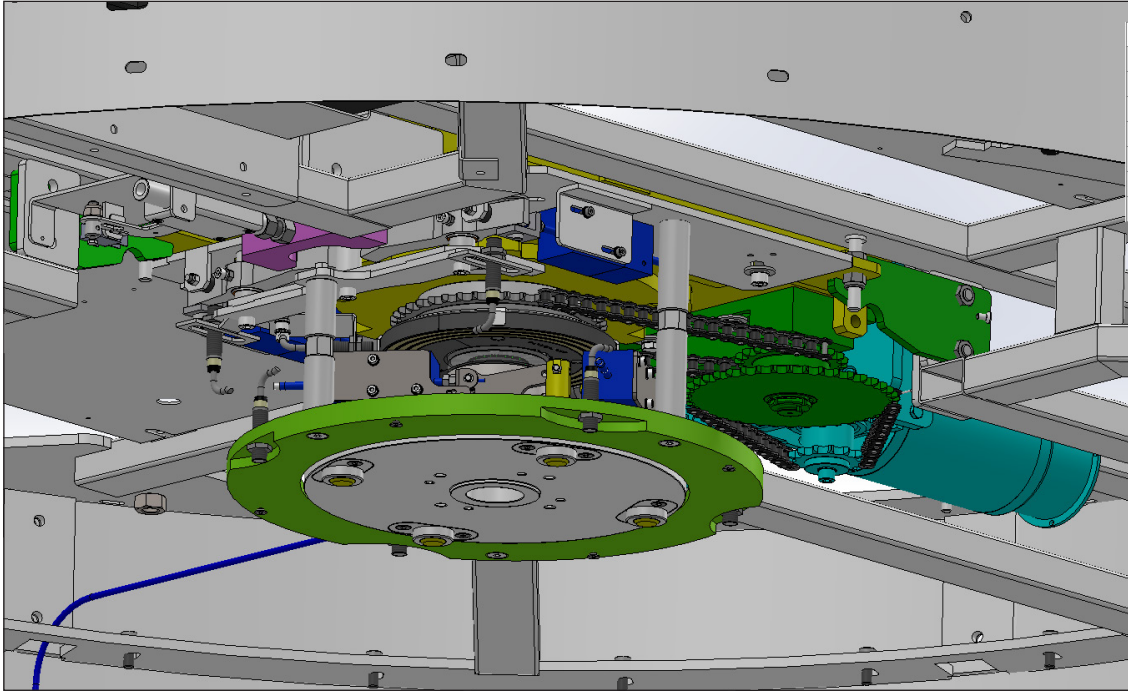
1. Fix the rotating support base to the floor, after having checked that the floor is in level (in case it is necessary to insert the thicknesses so that the support of the walls and the turning support are floor coplanar ± 3 mm).



2. Insert the disk with the mounted pressers in the support base.



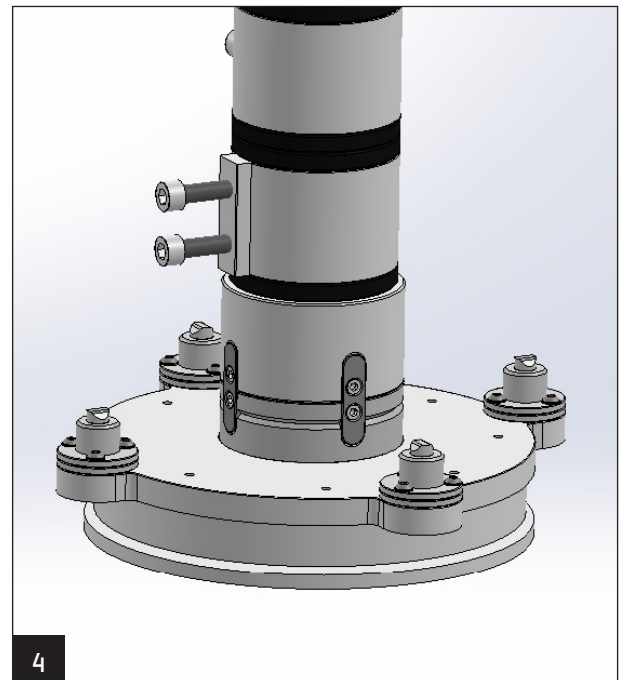
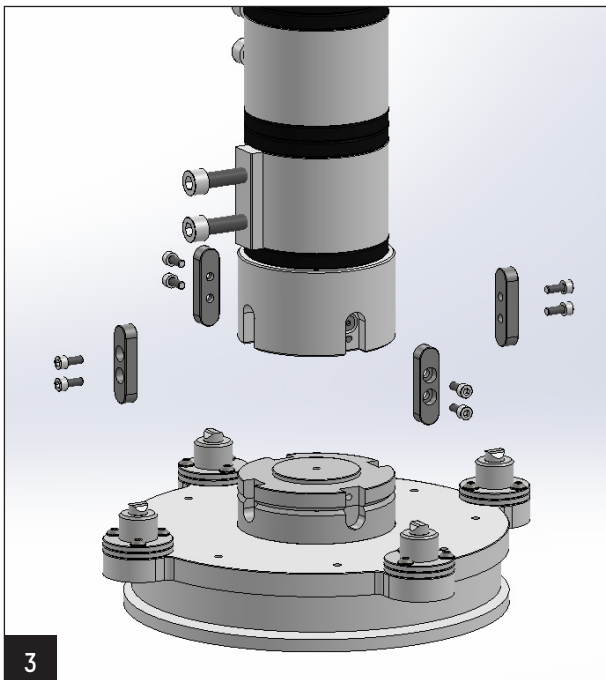
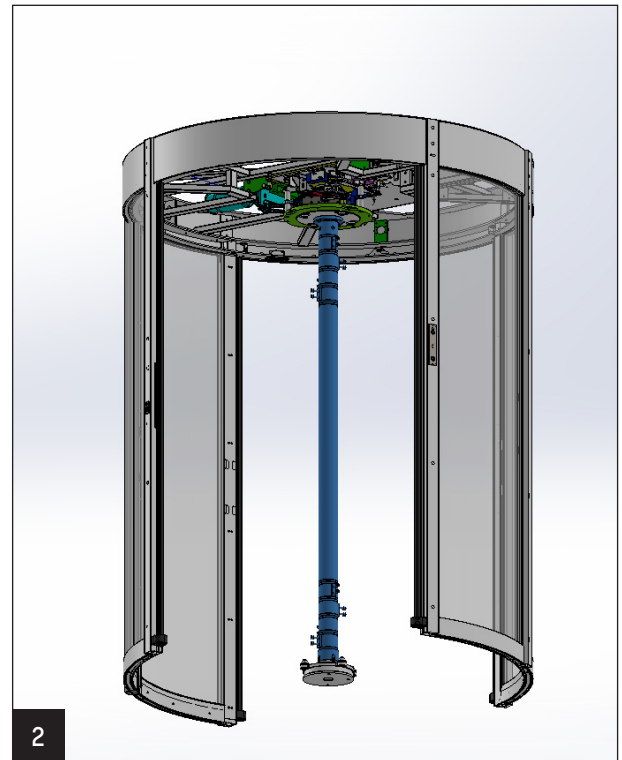
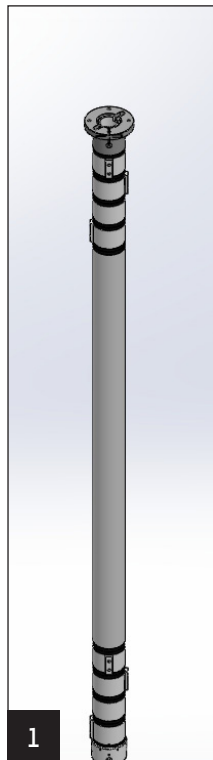
3. Lift all the handling, through the fixing nuts and the locknuts, to make the insertion of the folding doors support easy. When the booth is foldable, we do not install the 4 supporting stirrups of the handling.



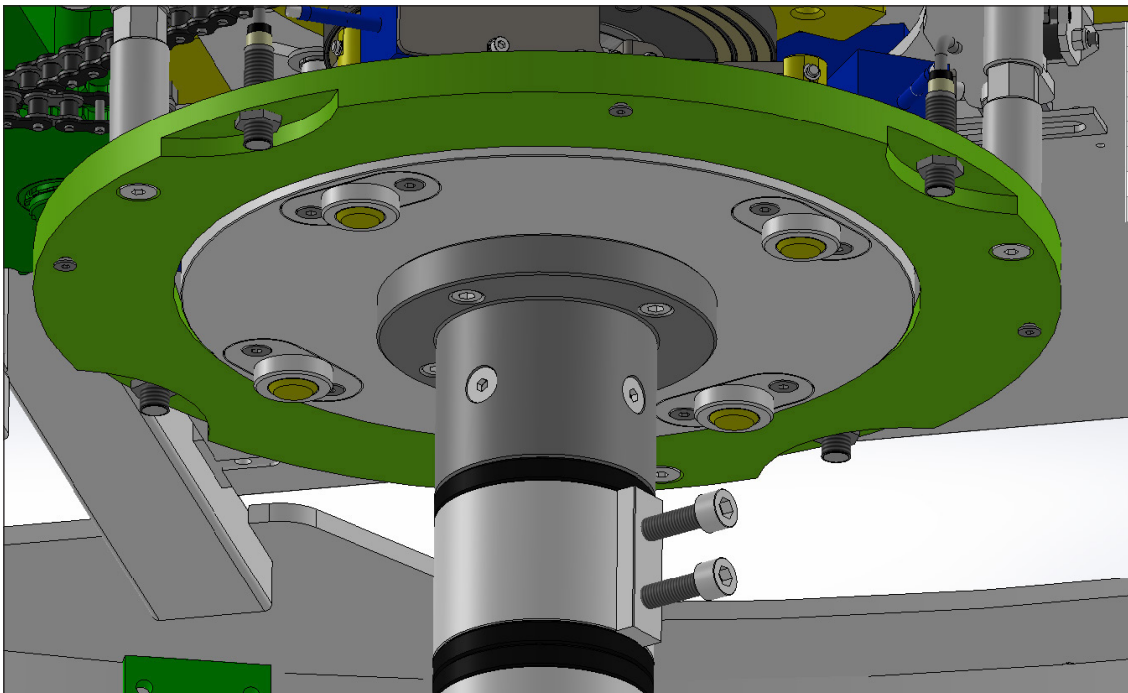
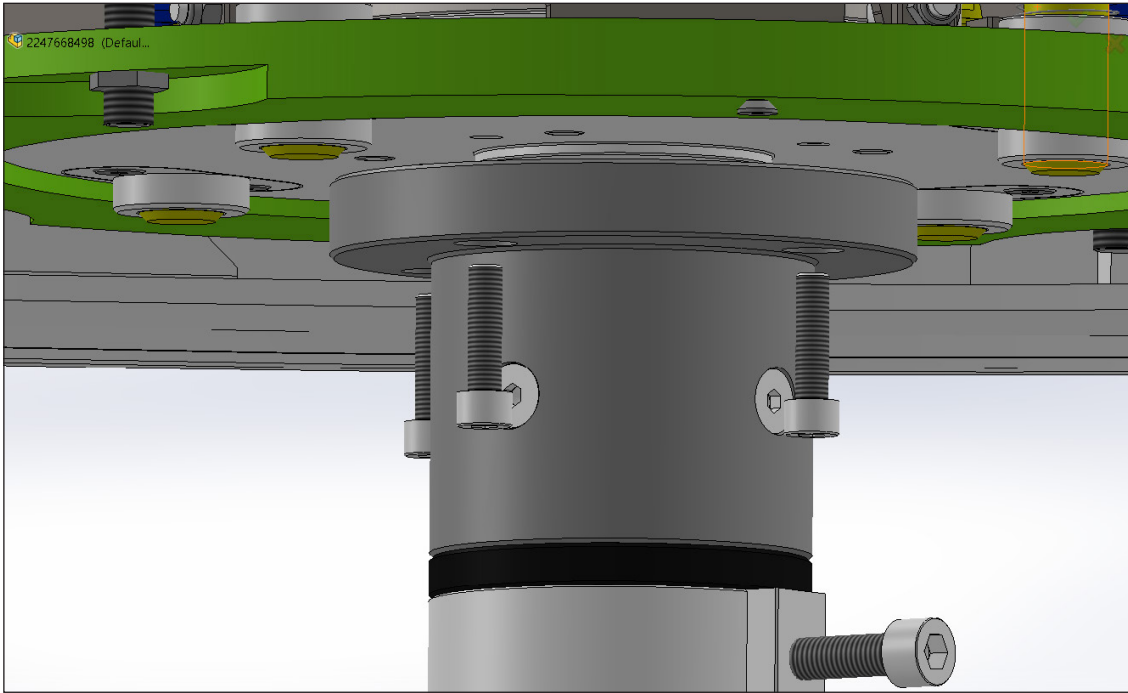
REVLOCK - 4 WINGS



4. Lift the door support and place it on the impeller base then secure it using the 4 keys at the bottom.



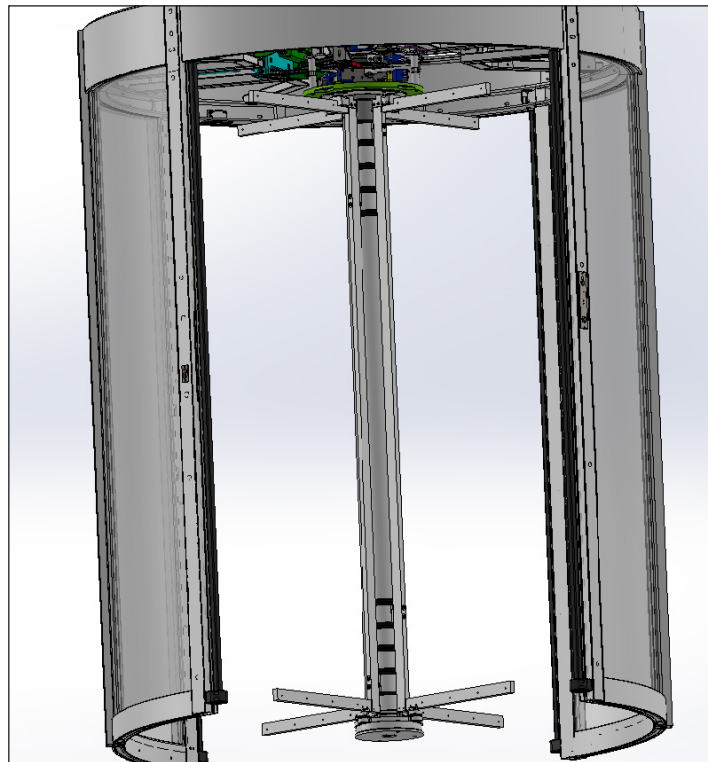
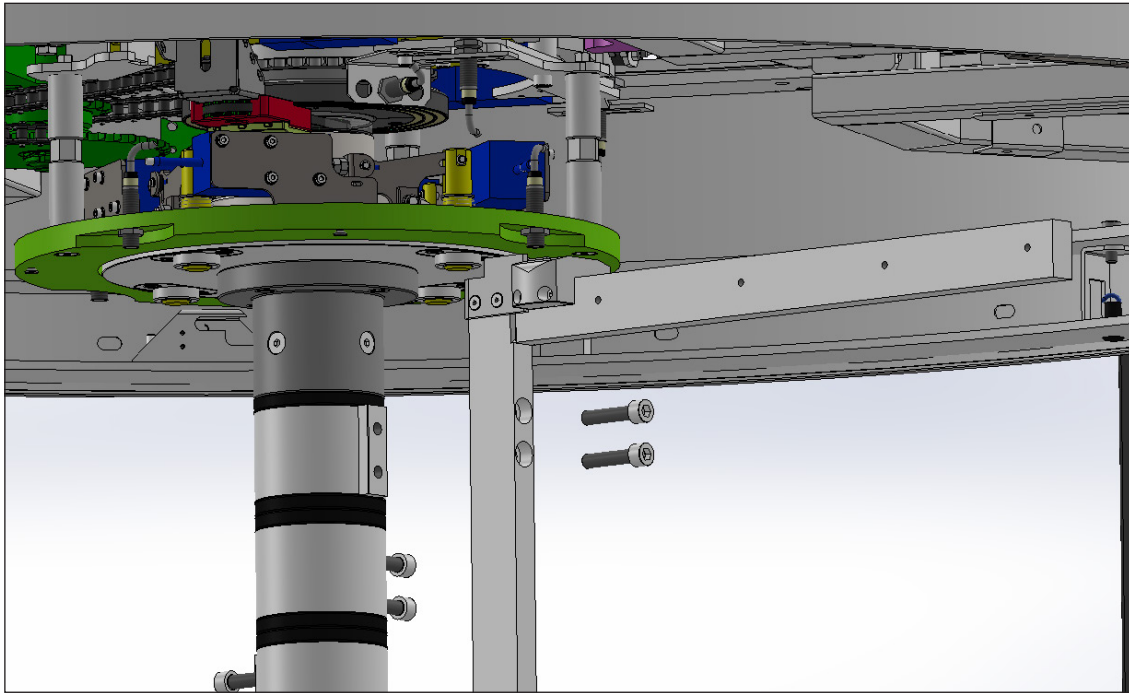
5. Fix upward the hub to the superior support disk.



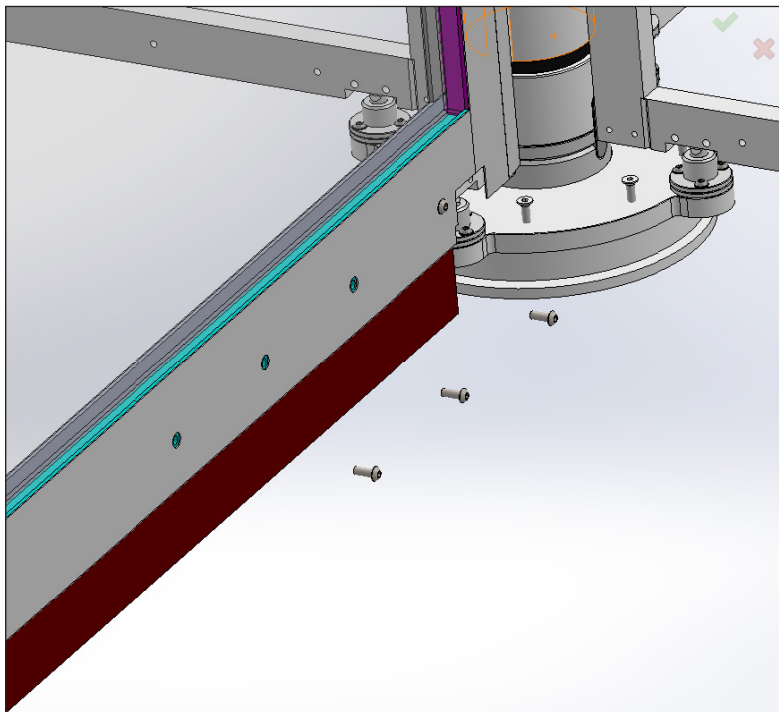
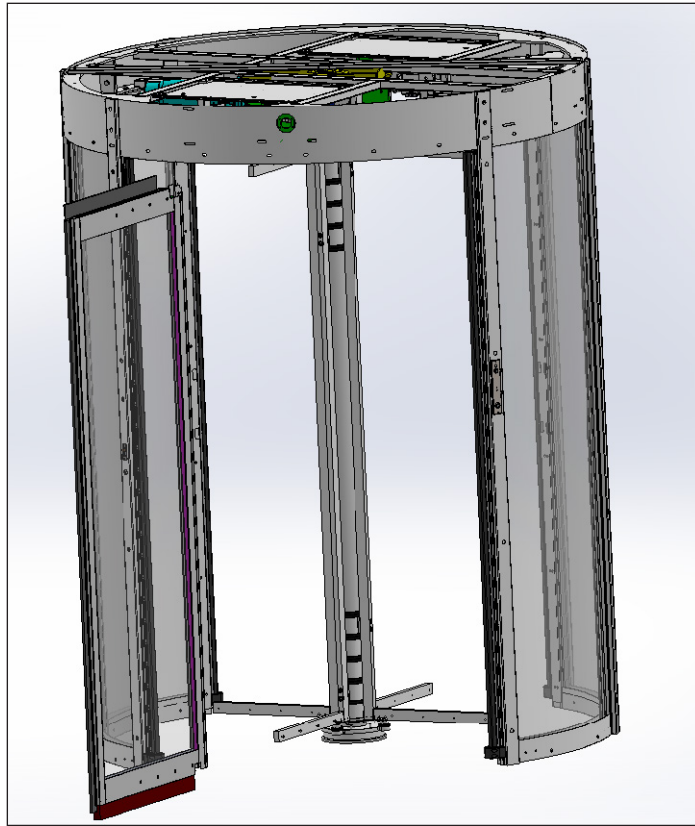
REVLOCK - 4 WINGS



6. Assembly of strapping frames.



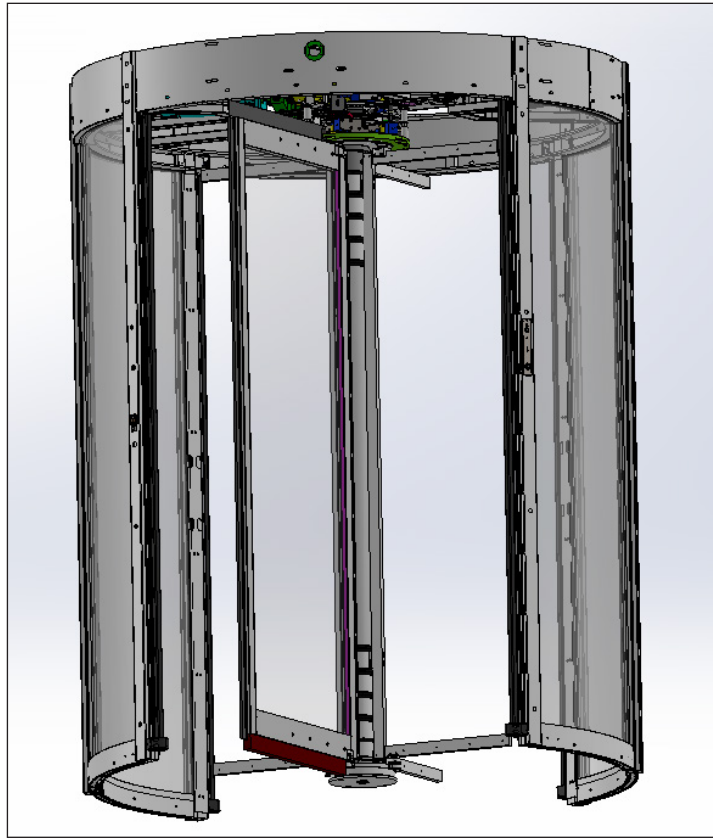
7. Insert the doors in the frames and fix them with the upward and downward screws.



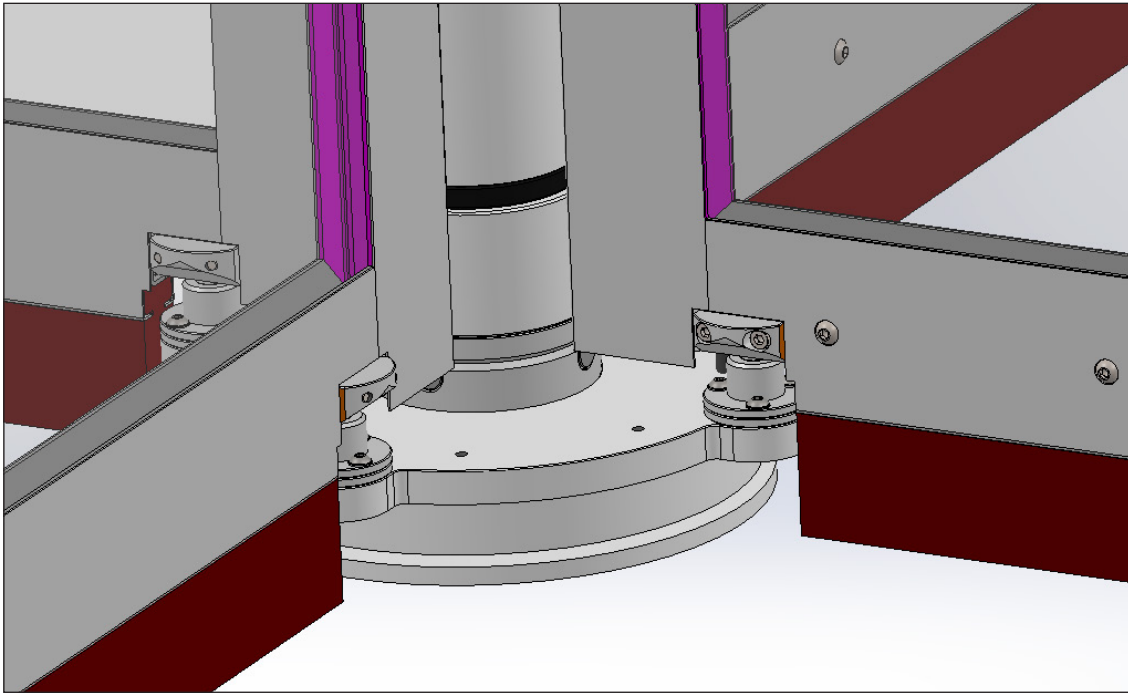
REVLOCK - 4 WINGS



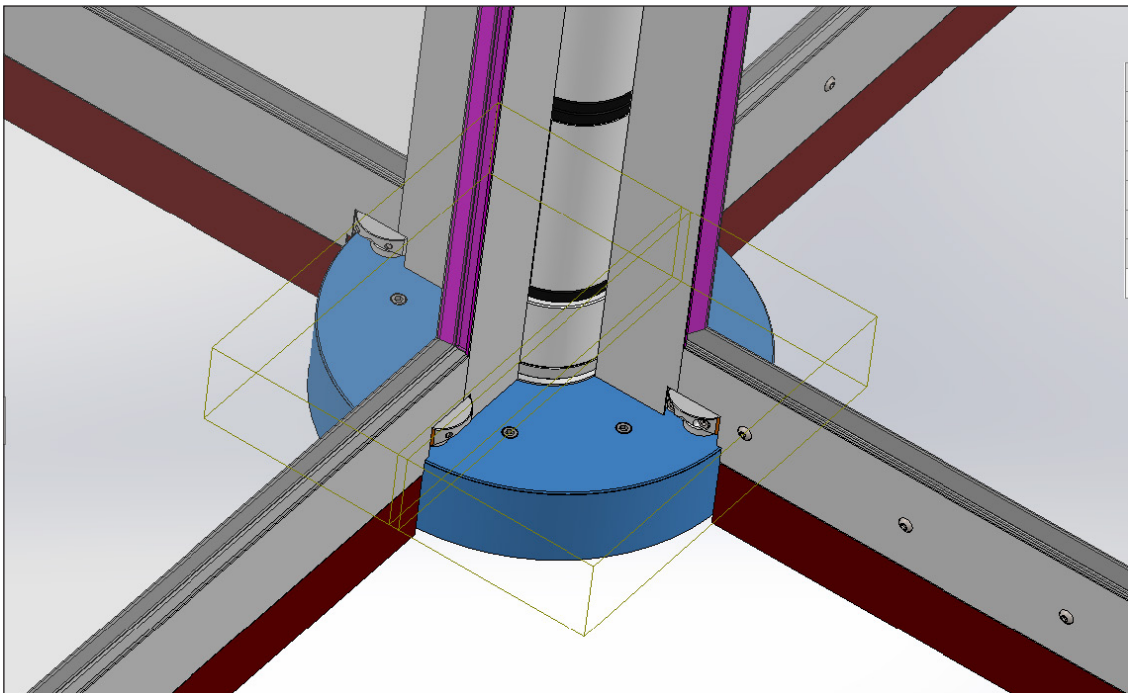
8. Repeat for all the doors.



9. Fit the trip blocks at the bottom (the smaller ones).



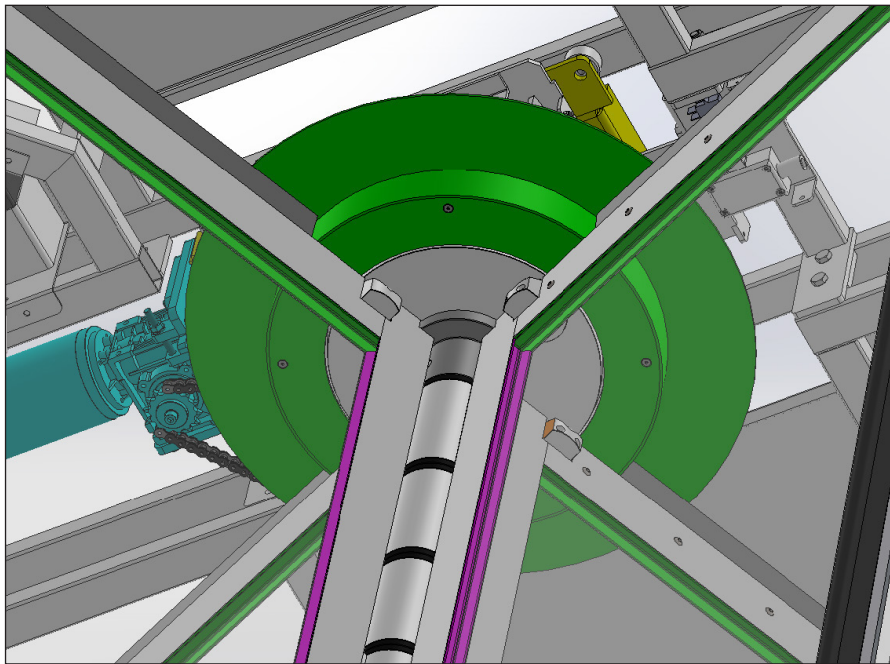
10. Fold down the doors and install the bottom coverage.



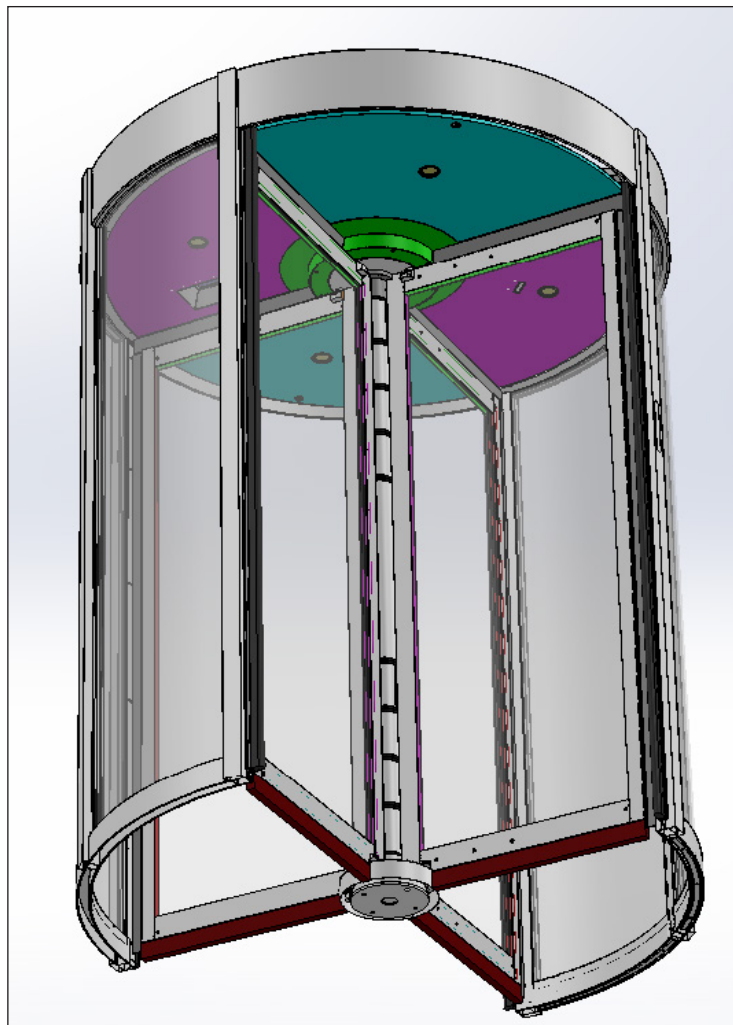
REVLOCK - 4 WINGS



11. Fold the doors and mount the superior roofs support coverage.



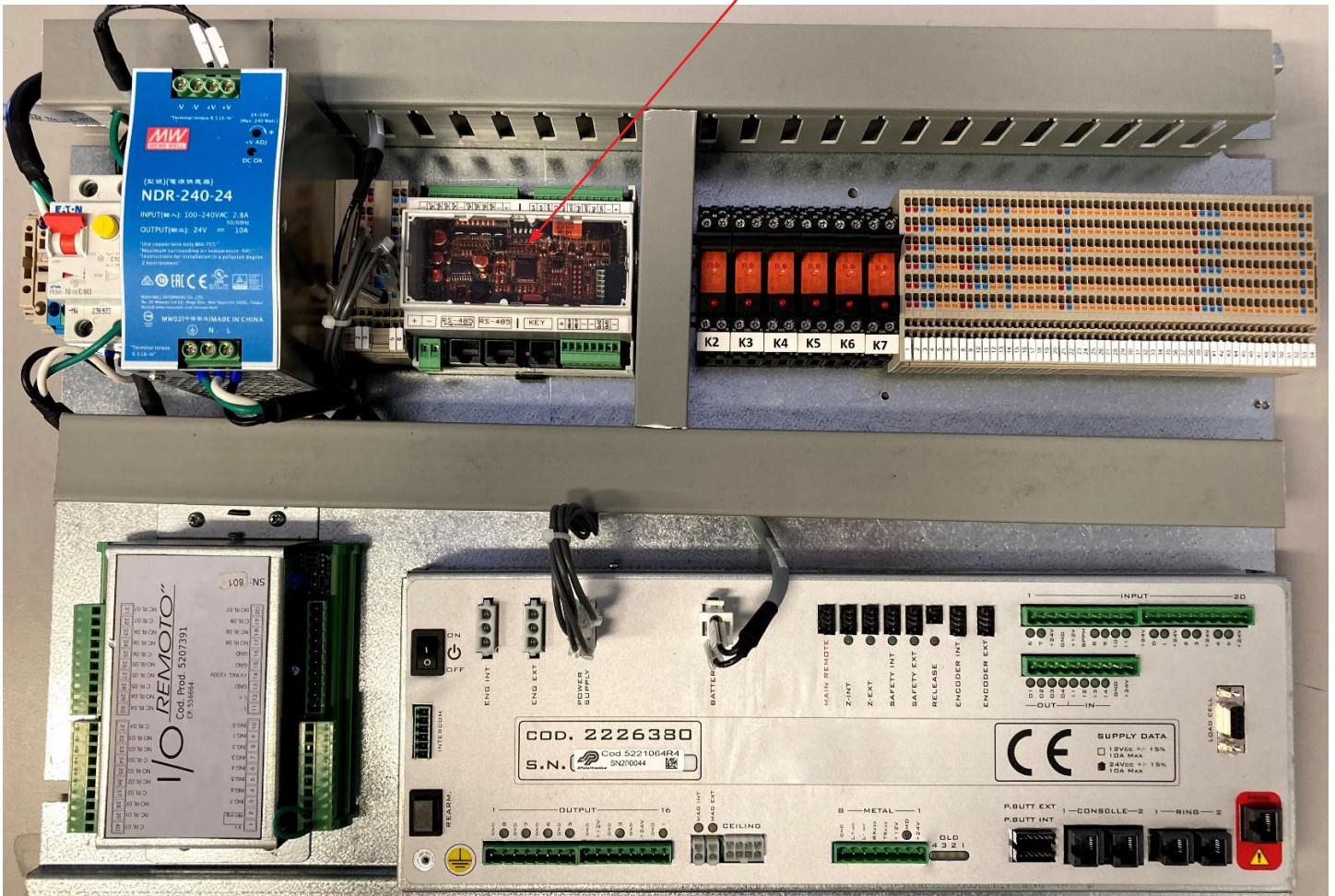
12. Mount the roofs by fixing the laterals through the dedicated screws.



11. REDUNDANCY (OPTIONAL)

The system has been designed in such a way as to guarantee in every condition, including the fault condition of the main electronics, the possibility of leaf rotation and the escape of people in case of emergency.

Redundancy board
(Optional)



11.1. SETTINGS

In order to activate redundancy (where present), Flag 37 "Redundant Booth" of the Luppiter parameterization must be selected.

12. MAINTENANCE

12.1. ORDINARY MAINTENANCE

FREQUENCE IN CYCLES/TIME	ACTIVITY/ OBJECT TO CHECK	ACTIVITY
3 months / 500.000 cycles	Cleaning	<ul style="list-style-type: none"> - Cleaning of the internal and external glazed parts - Cleaning of the steel parts. - Cleaning of the base (MECHAICAL INSTALLATION -phase 16) - Cleaning and lubrication of the chain (MECHANICAL INSTALLATION -Phase 11)
6 months / 500.000 cycles	Carpet Brushes	<ul style="list-style-type: none"> - Verify the integrity of the materials
6 months / 500.000 cycles	Safety backwards Safety forwards Safety in slowdown	<ul style="list-style-type: none"> - Verify the integrity of the materials (MECHANICAL INSTALLATION -phase 27) - Control the sensibility of the health and safety sensors. (MECHANICAL INSTALLATION-phase 27) - Verify the maximum torque
6 months / 500.000 cycles	Controllers and ceiling lamp	<ul style="list-style-type: none"> - Control of the luminous alerts. - Control the opening buttons and the bell. (MECHANICAL INSTALLATION -phase 26)
6 months / 500.000 cycles	Weighing system	<ul style="list-style-type: none"> - Verify the pavements alignment (MECHANICAL INSTALLATION-phase 16) - Verify the weight person answer, go back to zero with $\pm 3\text{Kg}$ tolerance.
12 months / 1.000.000 cycles	Electric control unit	<ul style="list-style-type: none"> - Control that there are not infiltrated liquids. - Control that there are not overheated parts. - Control the LED of the machine.
12 months / 1.000.000 cycles	Control console	<ul style="list-style-type: none"> - Verify the functioning of the commutators. - Verify the functioning of the buttons. - Verify the functioning of the LEDs. - Control and calibration, if necessary, of the intercom volume.
12 months / 1.000.000 cycles	Motorization	<ul style="list-style-type: none"> - Verify the positions of the block doors arms. (MECHANICAL INSTALLATION-phase 11) - Control that there are no oil losses in the gearboxes. - Control of backlashes on the mobile parts in static condition. (MECHANICAL INSTALLATION -phase 11)
12 months / 1.000.000 cycles	Implant of power supply	<ul style="list-style-type: none"> - Control of the batteries and their possible substitution. - Control of the implant functioning without network of power supply (just the booth internal lamp must stay on). - Verify the functioning of the groups of the network/batteries power supply. Control of the load technical data, tension, resistance and absorption of the installation at the level of the command apparatuses and of the power supply groups. - Verify power supply tension empty and under load. - Verify absorption of whole installation. - Control of the grounding connection.



REVLOCK - 4 WINGS

FREQUENCE IN CYCLES/TIME	ACTIVITY/ OBJECT TO CHECK	ACTIVITY
12 months / 1.000.000 cycles	Cylinders and keys	- Control functioning of the tumbler system, electric and related keys. (MECHANICAL INSTALLATION -phase 19)
12 months / 1.000.000 cycles	System of booth closure	- Verify the functioning and cleaning of the electro-pistons. (MECHANICAL INSTALLATION -phase 11) - Verify the functioning and cleaning of the electromagnets. (MECHANICAL INSTALLATION -phase 11)
24 months/2.000.000 cycles	Structure	- Control of the glass attachment. - Control and fixing of the rooftops.

12.2. RESIDUAL RISKS

PROBLEME	CAUSE	INTERVENTION
The turnstile does not rotate	Verify power supply Tumbler system Console movement Clockwise safety Mechanic harpoon Engine braking	<ul style="list-style-type: none"> - Verify that the booth is switched on - Verify that is set in the right position - Verify that the emergency function is not activated - Verify that the movement is free - Verify that the safety is functioning - Verify that the harpoons are free - Verify that the brake is deactivated
Booth in alarm	Load cell Camera Sensor Safety counterclockwise	<ul style="list-style-type: none"> - Verify weight settings through luppiter - Verify camera sensor settings - Verify the functioning of the Safety
Turnstile that rotates in clockwise and counterclockwise sense continuously	Safety counterclockwise	<ul style="list-style-type: none"> - Verify the functioning of the Safety
Turnstile that alternates normal speed to slow speed	Safety in slowdown	<ul style="list-style-type: none"> - Verify the functioning of the Safety
Turnstile that rotates continuously	Console	<ul style="list-style-type: none"> - Verify that the continuous rotation function is not inserted
Users cannot transit	Load cell Camera sensor	<ul style="list-style-type: none"> - Verify the weight settings through luppiter - Verify the camera sensor settings
Booth allows transits just in one direction	Console	<ul style="list-style-type: none"> - Verify that the mono-directional function is not inserted
The turnstile does not rotate with red semaphores	Mechanical lock	<ul style="list-style-type: none"> - Verify that the key is turned in the closed position - Verify the locker contacts
The booth lets more than one person with just one validation	Console Load cell Camera sensor	<ul style="list-style-type: none"> - Verify that the control is inserted - Verify the weight settings through luppiter - Verify the camera sensor settings



13. TECHNICAL DATA

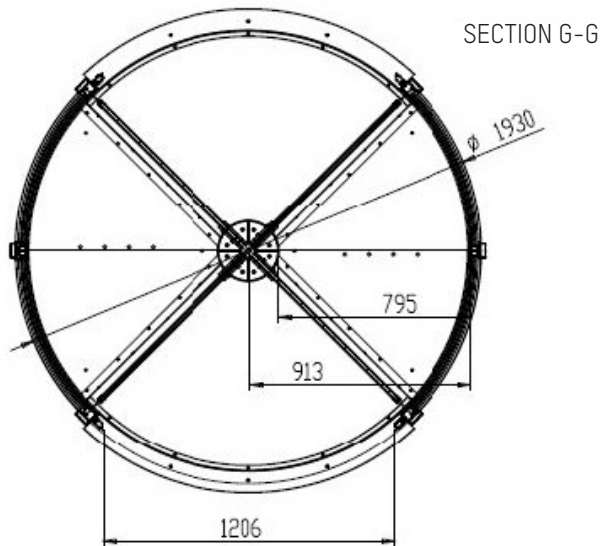
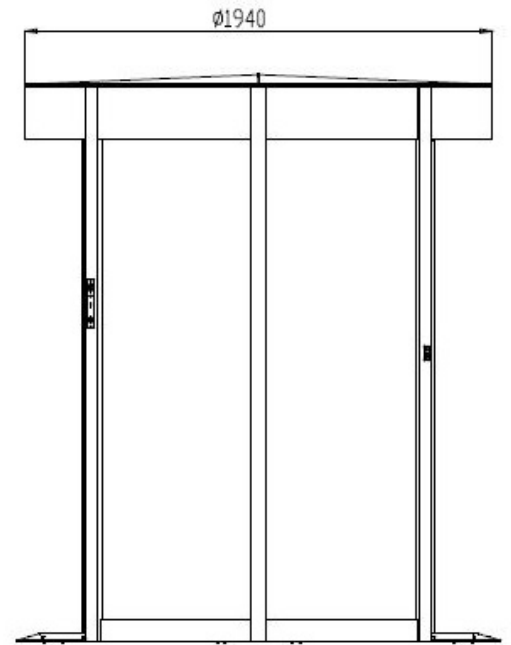
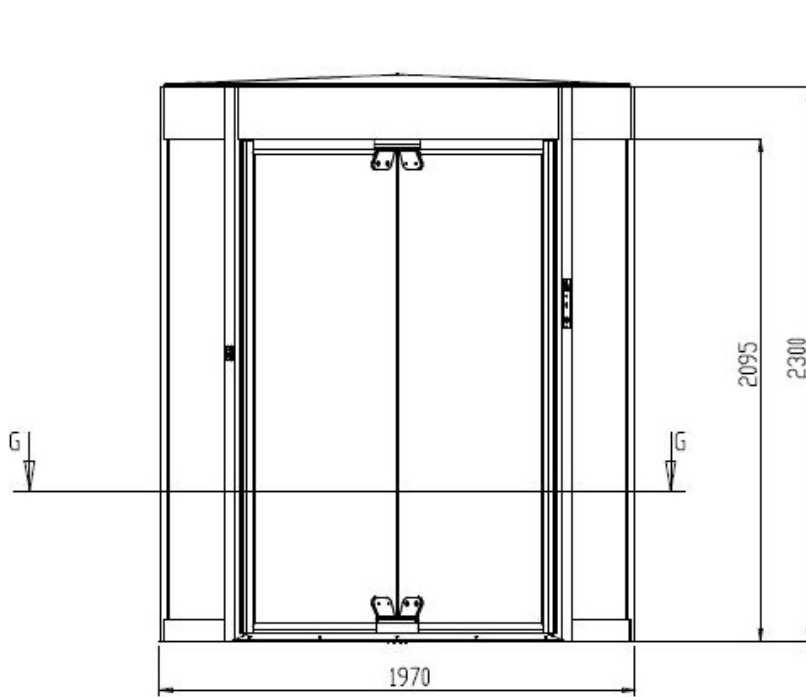
Below is a summary table with the main features of the RevLock - 4 WINGS Standard models produced by Automatic Systems:

DIAMETER (mm)	HEIGHT (mm)	CONTROL OF THE PASSAGE'S UNIQUENESS		OPTIONAL
		CAMERA SENSOR	WEIGHED PLATFORM	
1770	2300			Basement IP33
1770	2500			Basement IP33
2000	2300			Basement IP33
2000	2500			Basement IP33

REVLOCK - 4 WINGS



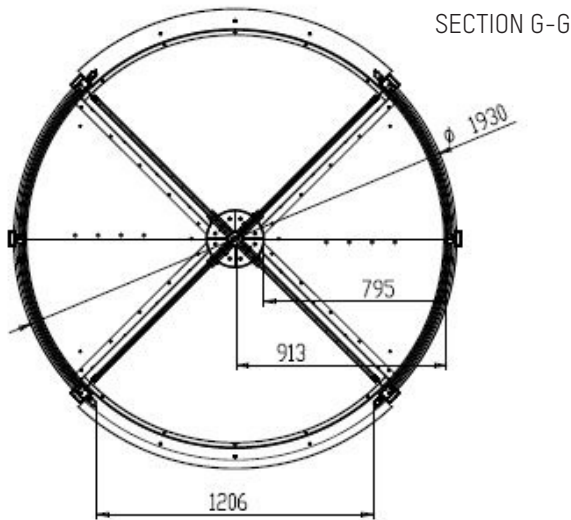
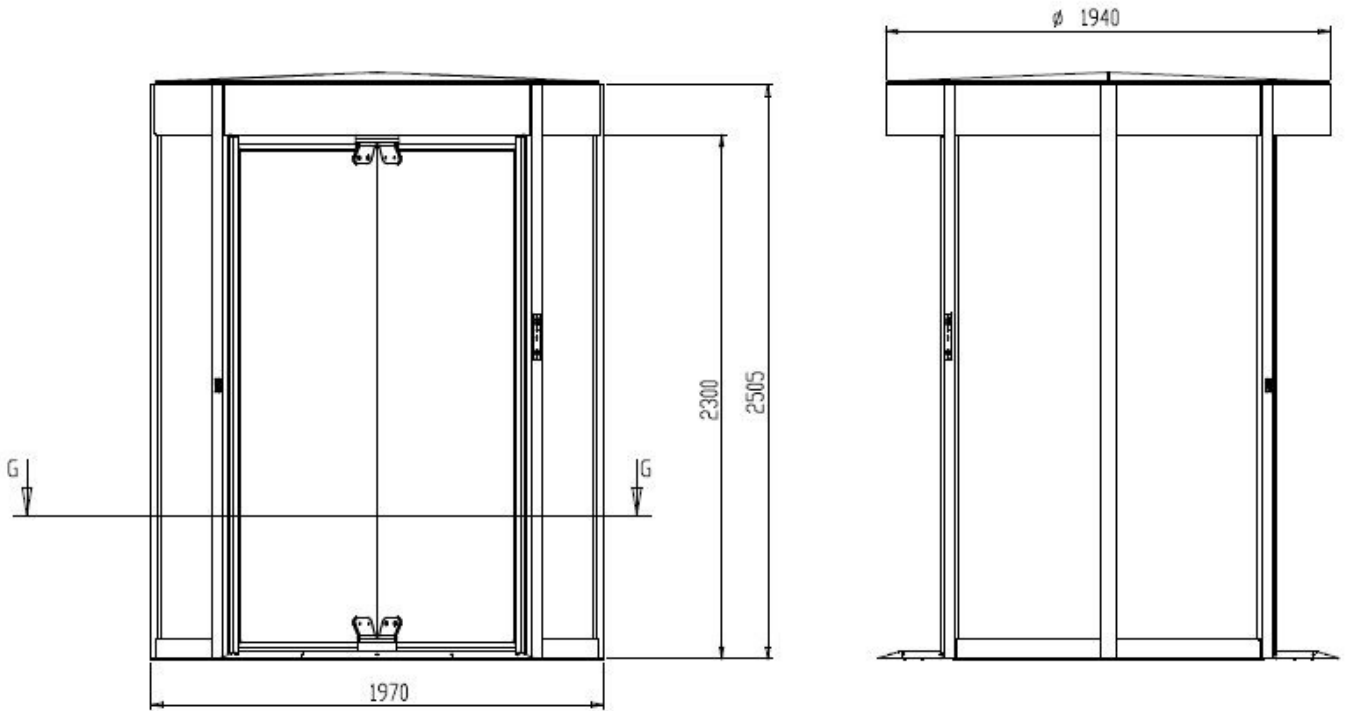
13.1. REVLOCK 603 - MODEL SIZE 1970 X 2300





REVLOCK - 4 WINGS

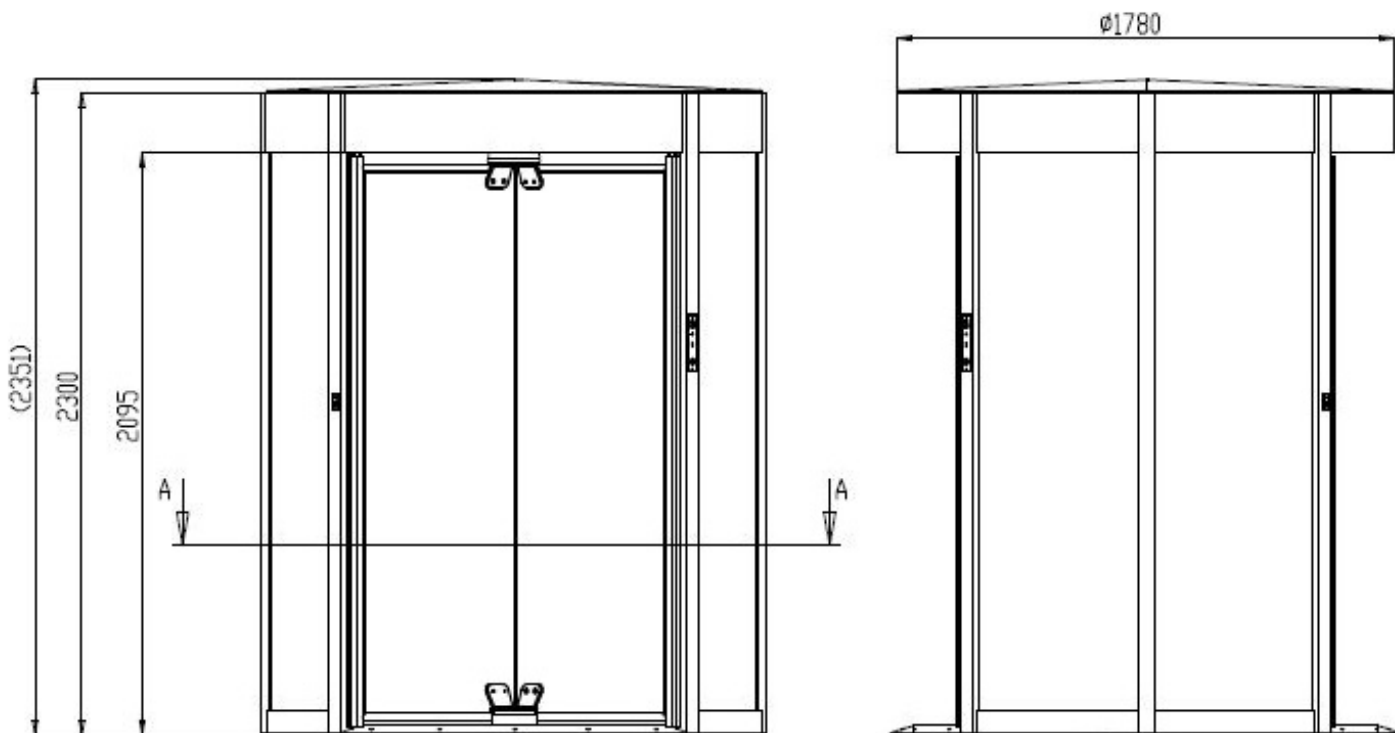
13.2. REVLOCK 603T - MODEL SIZE 1970 X 2505



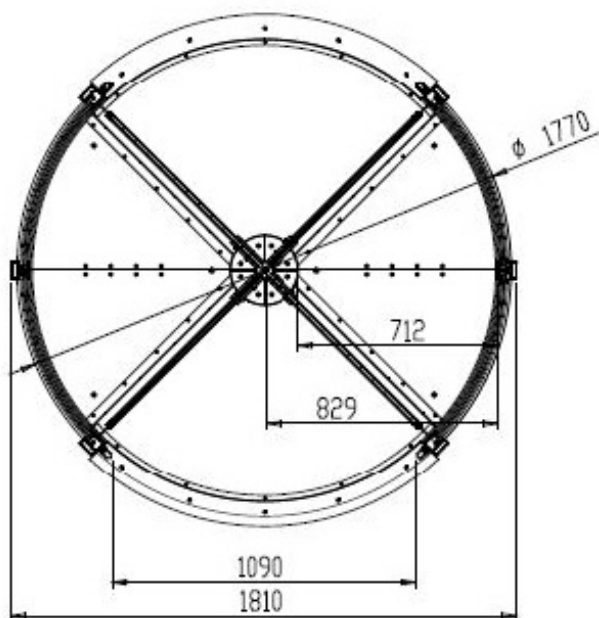
REVLOCK - 4 WINGS



13.3. REVLOCK 604 - MODEL SIZE 1810 X 2300



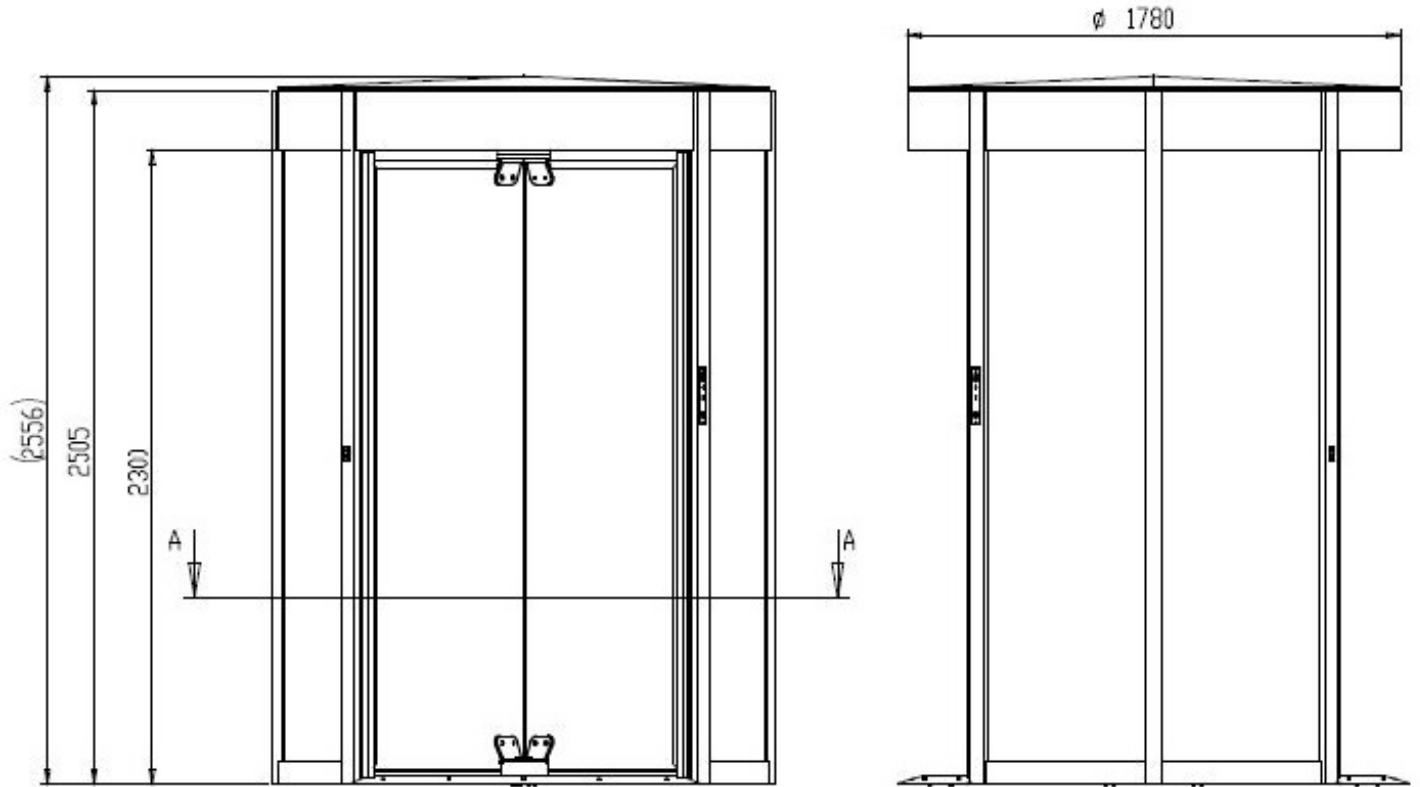
SECTION A-A



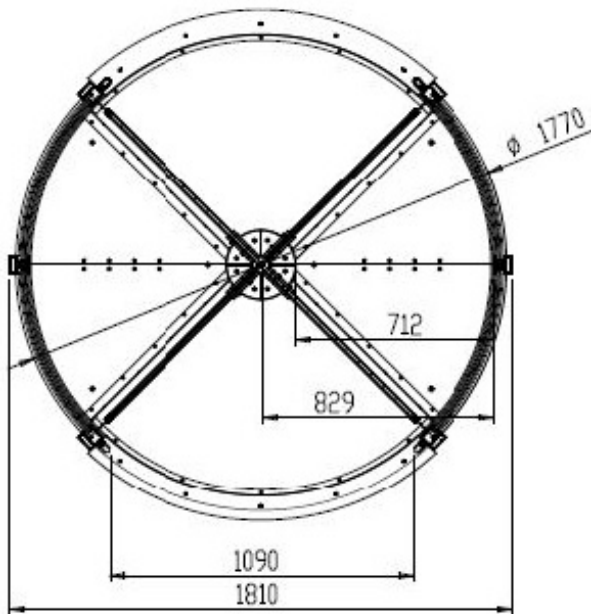


REVLOCK - 4 WINGS

13.4. REVLOCK 604T - MODEL SIZE 1810 X 2505



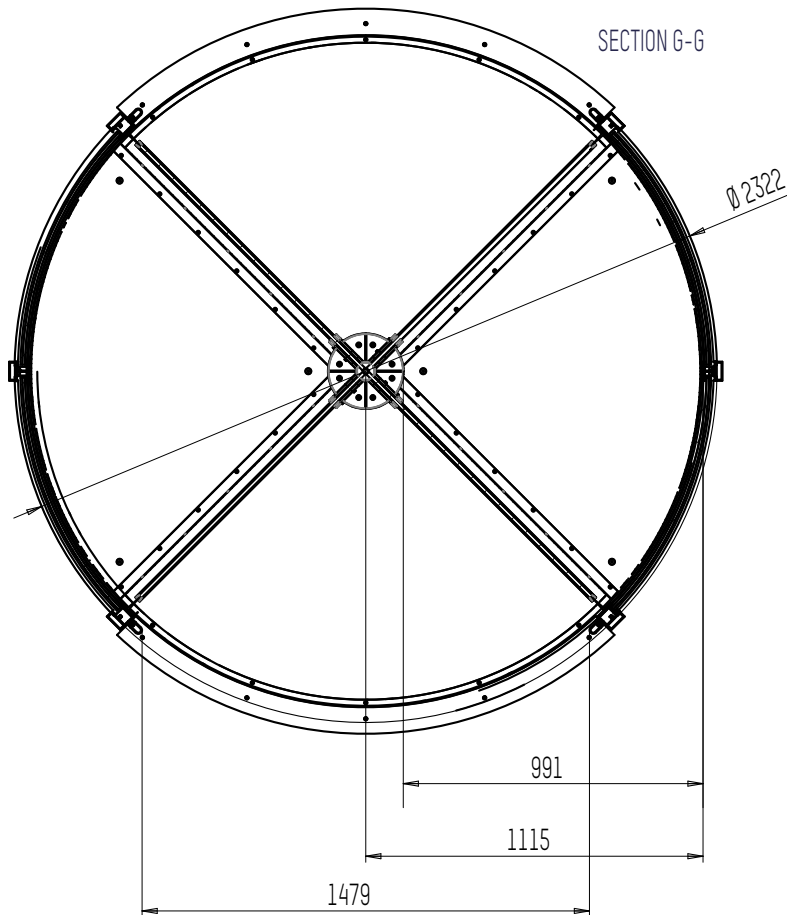
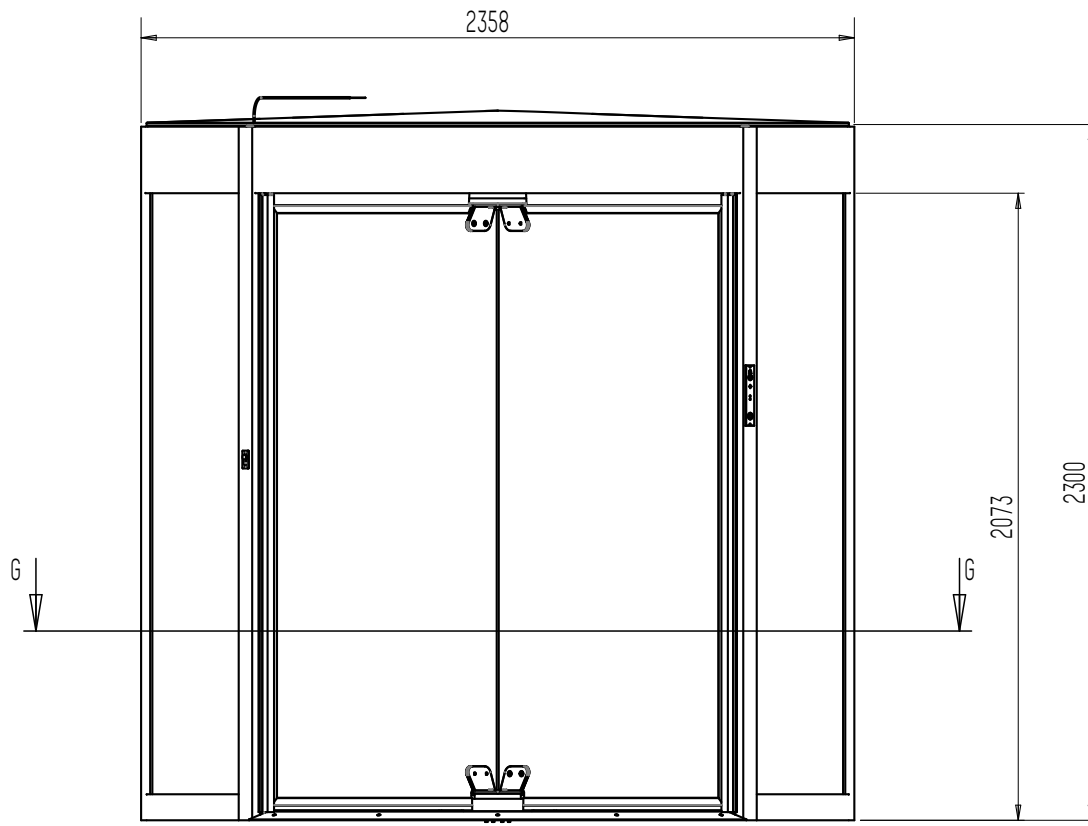
SECTION A-A



REVLOCK - 4 WINGS



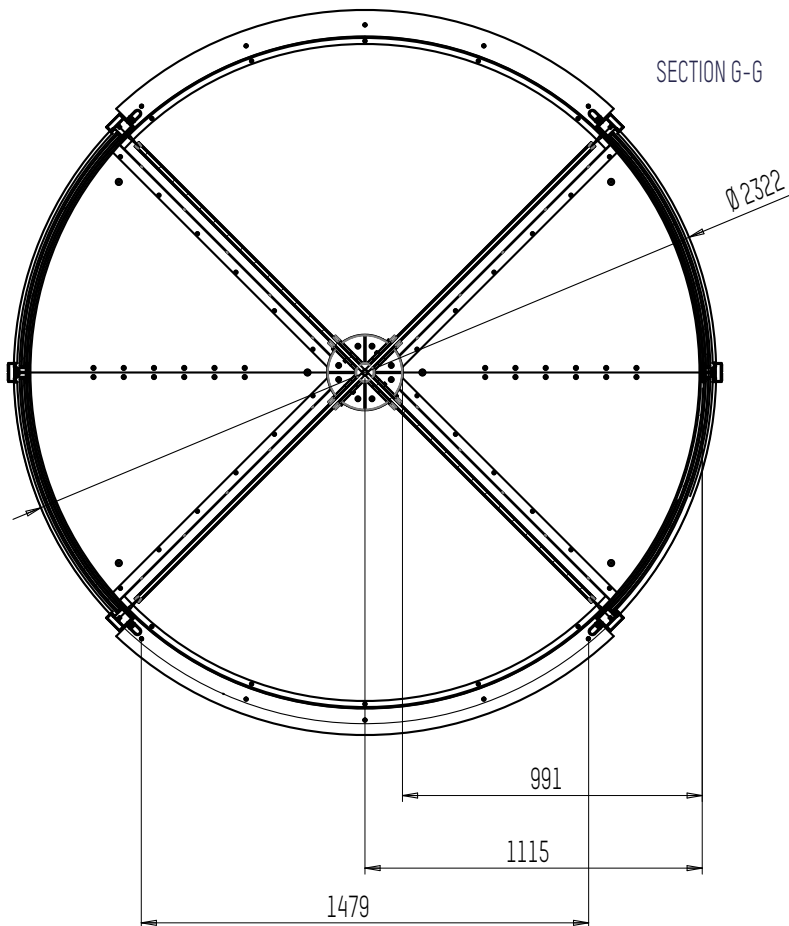
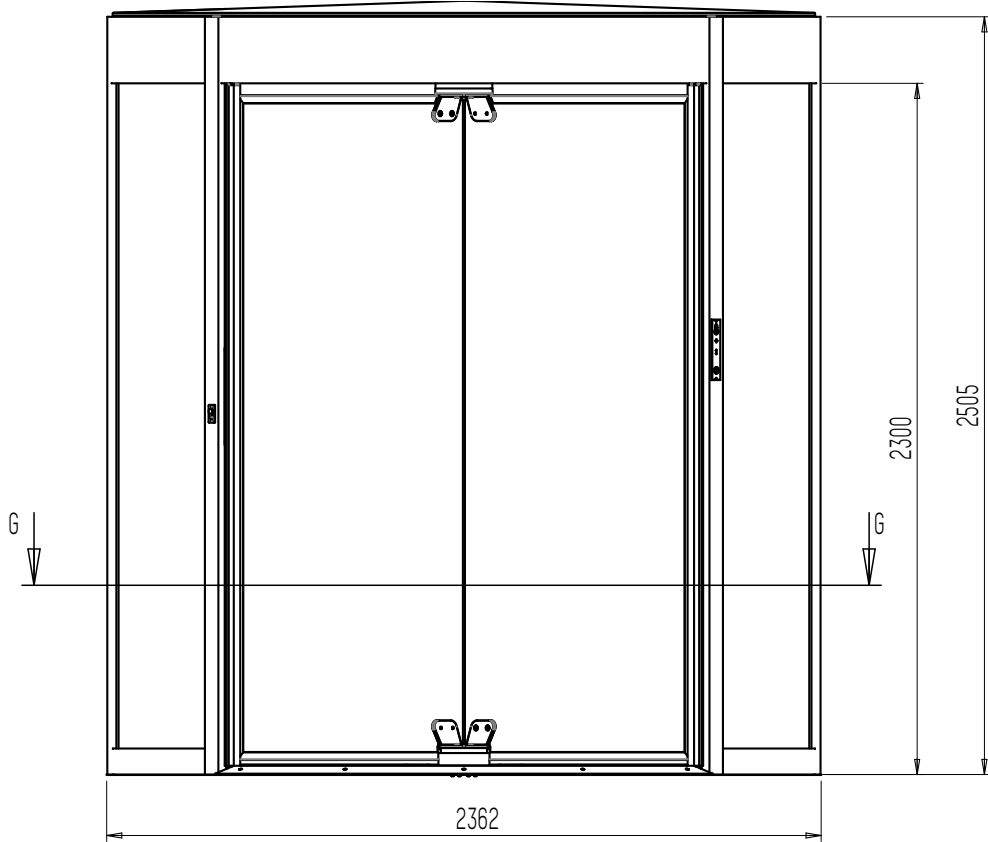
13.5. REVLOCK 605 - MODEL SIZE 2360 X 2300





REVLOCK - 4 WINGS

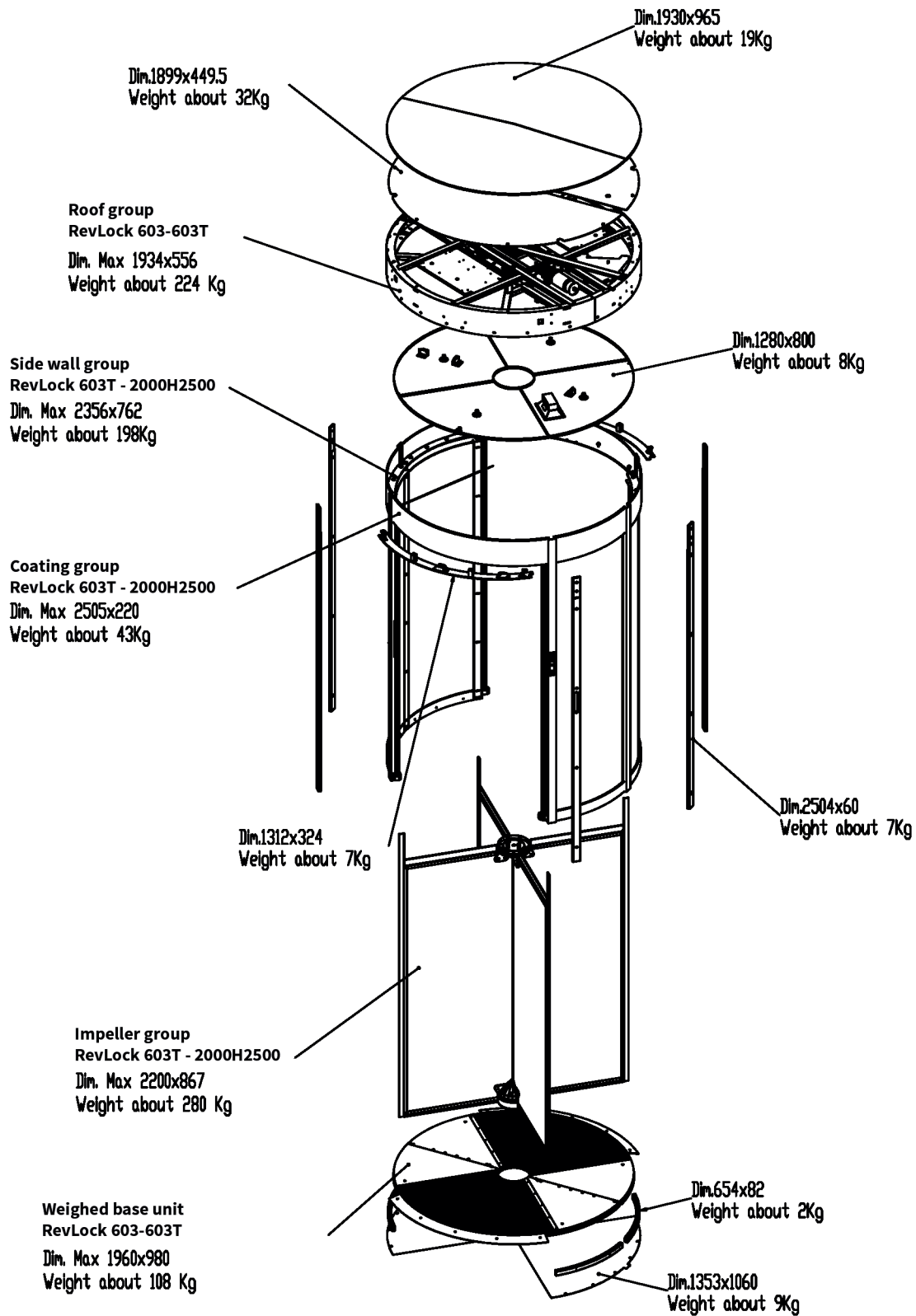
13.6. REVLOCK 605T - MODEL SIZE 2360 X 2505



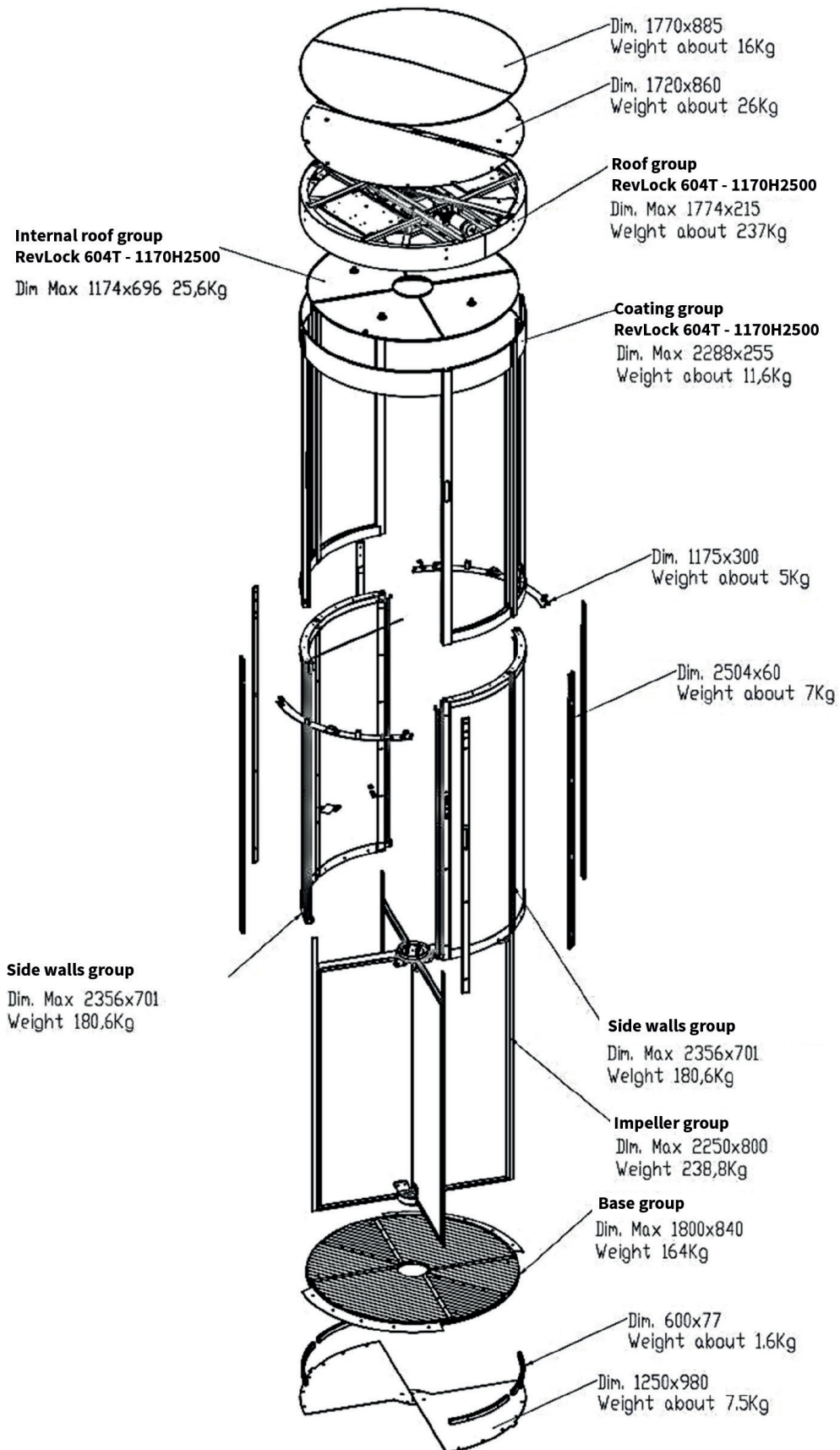
REVLOCK - 4 WINGS



13.7. EXPLODED MODEL WEIGHTS 2000 X 2500



13.8. EXPLODED MODEL WEIGHTS 1770 X 2500



14. TECHNICAL CHARACTERISTICS

Power supply	220 VAC o 100-240VAC 3,4A 50/60Hz (look at chapter Power supply)
Maximum absorbed power	200W
Relative maximum humidity	85 % (without condensation)
Level of protection	IP20
Battery pad	n. 2 batteries of 18 Ah for the functioning in absence of current
Motor	n. 1 motor 24Vcc for the reversible movement of the doors, with the security block in closure
Management logics	programmable by micro-processor with n. 1 lines RS232, n. 2 RS485 (n. 1 RS485 reserved)
Health and safety security	Sensors on the pillars of the doors both in entrance and in exit and system of control that guarantee the regulation of the motor torque
Speed of transit	20 passages per minute in one sense 40 passages per minute in both senses (excluded the times of action of possible readers or badges).
MTBF/MCBF	2 years/ 1.000.000 of passages respecting the ordinary maintenance
MTRR	2 hours
CE	Comply with the European standards



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