VERTICAL LIFTING PLATFORM PASSENGER MANUAL

VERTICAL LIFTING PLATFORM

RB 150

(Original manual prepaired in Lithuanian language)

Rev No.

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BARDUVA
Liepkalnio str. 61, LT-02120, Vilnius, Lietuva
Phone: +370 5 2310770
Fax: +370 5 2310773
E-mail: sales@barduva.eu
www.barduva.eu

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1. INTRODUCTION

This manual describes the design of the lifting platform, RB150 and RB150 models, lifting platform controls, lifting platform maintenance, and the lifting platform owner's responsibility to ensure the safe and reliable operation of the lifting platform.

Before using the lifting platform, carefully read this User and maintenance manual of the lifting platform.

This manual is intended for the owner of the lifting platform and for the maintenance service.

This manual must be stored during the entire service life of the lifting platform.

2. TERMS AND DEFINITIONS

Maintenance means all operations necessary to ensure that, after installation, the lifting platform and its components function safely as intended, throughout the entire service life.

Maintenance consists of:

a) lubrication, cleaning etc.;
   However, these cleaning operations are not included in the maintenance operations:

   1) Cleaning of external enclosure of the lifting platform;
   2) Cleaning the inside of the platform.

b) tests;
c) passenger rescue operations;
d) adjustment and tuning operations;
e) repair or replacement of components not detrimental to the characteristics of the lifting platform, which may be necessary due to deterioration or wear.

Maintenance operations do not include the following operations:

a) Replacement of the main components such as the drive, the platform, controls etc., or safety components such as safety devices, etc., even if the locations of replacement components are the same as for the original components;
b) Replacement of the lifting platform;
c) Modernization of the lifting platform, including changes to any of its characteristics (such as speed, load, etc.);
d) Rescue operations carried on by the fire brigade.

Maintenance service means the company or a business unit with a competent maintenance worker (s) performing maintenance operations in the name of the lifting platform owner.

Competent maintenance person means a duly trained and appointed person having necessary knowledge and practical experience, equipped with necessary instructions and having the assistance of the maintenance service, whose task is to provide conditions for proper and safe performance of certain maintenance operations.

Manufacturer means a natural or legal person who assumes responsibility for the design, production and marketing of the lifting platform.

Contractor means a natural or legal person who assumes responsibility for the installation and placing on the market of the lifting platform.

Lifting platform owner means a natural or legal person, who has the power to dispose the lifting platform and assumes responsibility for its operation and use.
Emergency service means the organization responsible for the receipt of the alarm information and release of passengers entrapped in the lifting platform. Emergency service may be part of the maintenance service.

Rescue actions mean actions initiated upon receipt of a notification of the passenger (s) entrapped in the lifting platform and completed upon release of the passenger (s) entrapped.

Passenger means a person who uses the lifting platform.

Maintenance logbook means a book containing all the necessary information related to the lifting platform, and providing sufficient space to make records of inspections, tests, and any repairs or modifications.

3. GENERAL SAFETY REQUIREMENTS

This section describes the general safety requirements that must be complied with when using the lifting platform and performing the maintenance of the lifting platform in order to avoid danger to life, health and property.

3.1. Symbols

Meaning of symbols used in the manual:

Symbol	Potential consequences and measures to avoid danger
 **DANGER!**	This symbol indicates a high level of injury. Failure to apply protective measures may result in a risk of fatal or irreparable damage to the lifting platform!
 **ATTENTION**	This symbol indicates the average level of injury. Failure to apply protective measures may result in severe injuries or damage to the lifting platform!
 **CAUTION!**	This symbol indicates a low level of injury. Failure to apply protective measures may result in minor injuries or damage to the lifting platform!

3.2. Application of the lifting platform

The lifting platform is designed for transportation of passengers with impaired mobility, as well as passengers in wheelchairs, with or without a companion, to the specified floor.

The lifting platform owner must ensure that the lifting platform is used only for the intended purpose.

3.3. Passenger and competent person qualifications

Passenger qualification.

Lifting platform passengers require no additional preparation or training to use the lifting platform.

Passengers who cannot use the lifting platform controls and (or) to get on the platform independently for certain reasons, can use the lifting platform only with the accompanying person.

3.4. Qualification of competent maintenance staff. Maintenance of the lifting platform requires mechanical and electrical skills as well as practical experience.

The competent maintenance staff must have the necessary mechanical and electrical training and practical experience in the form the required maintenance operations in a safe and proper manner.

3.5. Maintenance

Maintenance must be carried out in accordance with this manual and the Maintenance manual of the vertical lifting platform.

Safety and service life of the lifting platform depends on timely and periodical maintenance of the lifting platform.

Personal protective equipment is essential and mandatory during the maintenance of the lifting platform.

3.6. National legislation

In addition to this manual, it is necessary to observe all legislation of the country in which the lifting platform will be used, establishing the requirements for use, maintenance, safety and health, and environmental protection.

3.7. Modification and repair

Any modifications of the lifting platform or its components must be approved by the manufacturer, otherwise the guarantee and declaration of conformity of the lifting platform becomes void.

Broken parts of the lifting platform must be replaced with new original parts of the manufacturer. The use of components of the lifting platform other than original is not allowed! It is necessary to organize the delivery of spare parts for repair. Only original parts must be used for repairs of the lifting platform.

4. INFORMATION FOR LIFTING PLATFORM OWNER

The lifting platform owner must ensure that the lifting platform is used only for its intended purpose (the purpose of the lifting platform is indicated in paragraph 3.2).

If the lifting platform is used not according to its purpose, it may result in dangerous situations with the likelihood of injuries or damage to the lifting platform.

Only suitable and preventative maintenance performed by the competent service personnel in accordance with this manual can provide safe functioning of the lifting platform.

The lifting platform owner must operate the lifting platform in accordance with safe operating conditions. For this, the lifting platform owner must use the maintenance service.

The lifting platform maintenance must be performed in accordance with the Maintenance manual of the vertical lifting platform, and the national legislation of the country in which the lifting platform is operated.

It is necessary to ensure that the periodic maintenance of the lifting platform is performed at least every three months after the lifting platform is put into operation.

The lifting platform owner must discontinue the operation of the lifting platform in the event of a dangerous situation (e. g. in case of strange noises or interrupted ride, etc.).

In case of lifting platform failures, in particular, the failures that affect the safety of passengers, the operation of the lifting platform is prohibited. The lifting platform owner must ensure that in case of failures the lifting platform is disconnected and passengers cannot use it.

The lifting platform owner must inform the lifting platform maintenance service:

- immediately, upon noticing any incorrect operation of the lifting platform, failure or abnormal change in its immediate environment;
- immediately, about the termination of operation of the lifting platform in the event of a dangerous situation;
- after intervention of any authorized and trained person (s) of the rescue service;
- before any modification relating to the use of the lifting platform, and (or) its environment;
- before any sanctioned third-party verification or work, other than the ongoing maintenance of the lifting platform;
- prior to long-term termination of operation of the lifting platform;
- before returning the lifting platform to service after a long period of inactivity.

The lifting platform owner must ensure the availability of the maintenance service name and telephone number for the lifting platform passenger at all times. The number must be permanently affixed and clearly visible.

The lifting platform owner must ensure that the keys to the machine cabinet, stop-landing doors are always available in the building and for the maintenance service to authorized persons.

The lifting platform owner must take care that the maintenance service, participating in the rescue of passengers, under any circumstances can safely enter the building and have access to the lifting platform.

The lifting platform owner must provide the competent staff of the maintenance service the safe and free access to the operational areas and notify the maintenance service of any hazards or changes in the entrances to the operational and (or) entrance walkways.

In addition to inspections and tests carried out by the maintenance service, for the benefit of its interests, the lifting platform owner must periodically carry out the following tasks:

Movement quality assessment:

- Raising the platform from the lower stop-landing to the upper stop-landing and lowering it from the upper stop-landing to the lower stop-landing;

Platform enclosure:

- Checking whether the platform enclosure shows any signs of mechanical damage

Stop-landing door:

- Checking whether the stop-landing door shows any signs of mechanical damage
- Checking whether the stop-landing door opens and closes properly
- Checking whether the stop-landing door cannot be opened if the platform is not in the stop-landing
- Checking whether the platform cannot move if the stop-landing door is opened

Electrical stop-landing door opening and closing device (for stop-landing doors with an electric opening and closing drive):

- Checking whether the delay time of the stop-landing door is right (only for the stop-landing door with an electric opening and closing drive). The delay time of the stop-landing door must be set from 2 seconds to 20 seconds

Platform stopping accuracy between the platform and the stop-landing thresholds

- Acceptable accuracy of the platform stopping in the landings. The platform stop accuracy must not exceed ± 10 mm.

Platform call buttons in the stop-landing:

- Checking for proper functioning of the platform call button in the stop-landing

Control devices located on the platform:

- Checking for proper functioning of the platform controls for controlling the platform movement direction

Emergency stop device on the platform:

- Checking for proper functioning of the emergency stop device. The platform must immediately stop upon pressing the emergency stop device

Remote alarm system:

- Checking for proper functioning of the remote alarm system

Reliability of closure of the machinery cover located on the platform:

- Checking for proper closure of the machinery cover

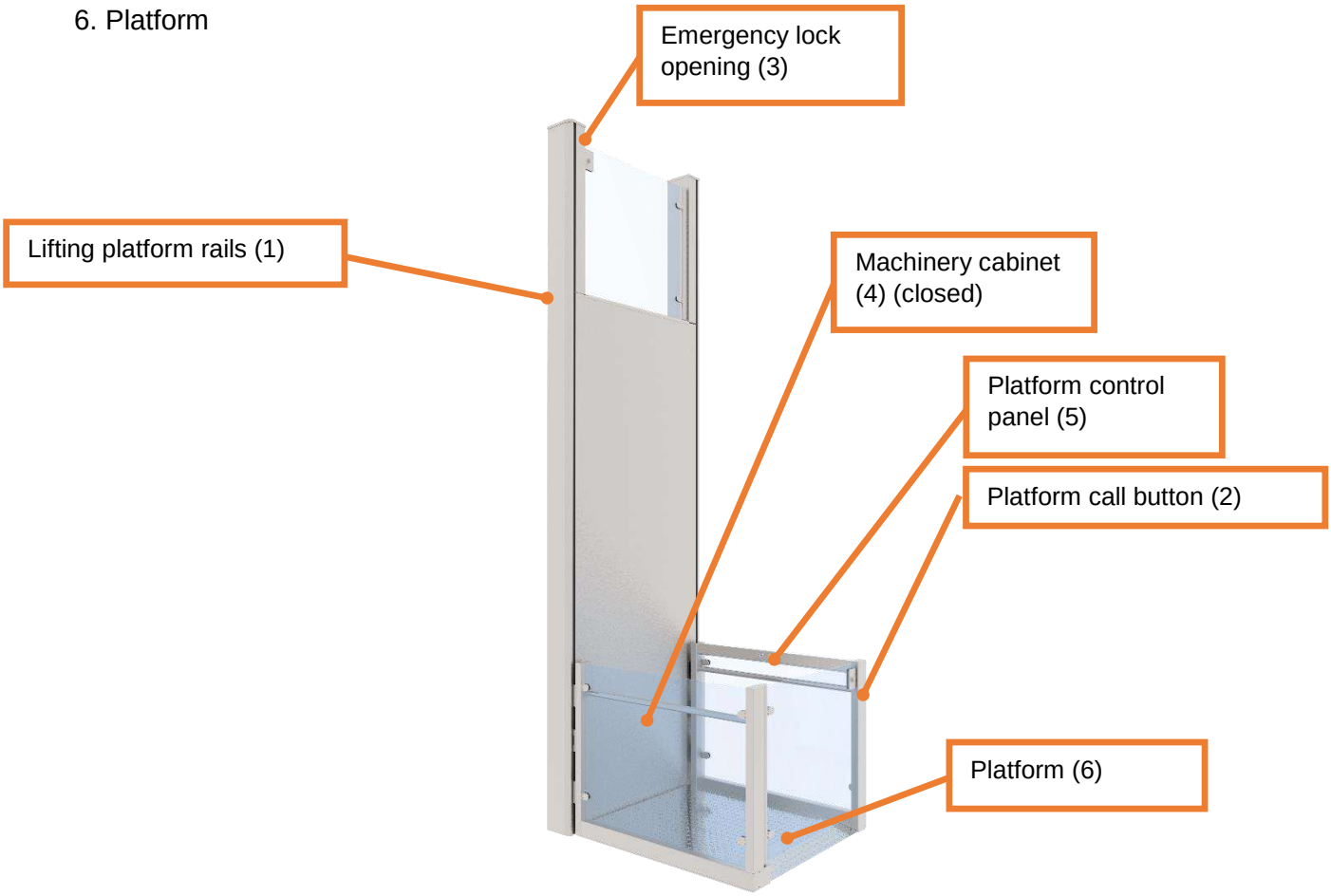
Safety markings and other markings:

Checking whether the maintenance service name and phone number are indicated on the platform.

5. LIFTING PLATFORM DESCRIPTION

The lifting platform consists of the following main components:

1. Rails of the lifting platform
2. Platform call button
3. Emergency lock opening
4. Machinery cabinet
5. Platform control panel
6. Platform



5.1. Machinery cabinet

The machinery cabinet is located in the lower stop behind the platform. The machinery cabinet is included in the electrical equipment of the lifting platform (power cable, power disconnection device, etc.), emergency equipment etc.
RB150 additionally has a Base unit board, 24 V DC power supply unit and flat cable from the platform connected to the Base unit board.

5.2. Stop-landing door

Each stop-landing area has the stop–landing door. The stop-landing door opening/closing gear may be mechanical or electrical.

Stop-landing door with manual gear (standard)

The stop-landing door with a mechanical drive is opened by hand, and closed automatically.

Stop-landing door with electric drive (optional)

The stop-landing door with electric drive is opened and closed automatically.
When the platform call button in the stop-landing is pressed, the stop-landing door opens automatically and stays open for a maximum of 20 seconds. Pressing the platform movement direction control button on the platform, the stop-landing door staff closing automatically. When the platform direction control button is released during the stop-landing door closing, the door will begin to open automatically. When the stop-landing door stops and the platform direction control button is pressed, the platform begins to move. When the platform stops in the stop-landing, the stop-landing door is opened automatically.

NOTE: In order to enable passengers to easily climb on and off the platform, the initial delay time of the stop-landing door is set to 5 seconds. The control system can be used for adjusting the delay time of the stop-landing door from 2 seconds to 20 seconds. The adjustment tools are not available to passengers. The delay time of the stop-landing door can only be adjusted by the competent maintenance personnel.

5.3. Platform belt drive and lifting systems

The belt drive system is used for the platform movement. The belts is attached to the lifting platform enclosure structure and the drive pulleys is attached to the platform. The platform is equipped with an electric motor that transmits the rotary motion via the shaft to the driving pulleys. The drive rotates around the suspension, and the belt pulleys rotates the belts to move the platform along the rails. The platform is equipped with belt tension sensors, which, in the event of damage to the driving system, maintains the load and activates the safety device which cuts off the power supply to the electric motor and the brakes.

5.4. Lifting platform controls and indicators, and the control panel

Platform travel direction control buttons are of forced type of operation. In order for the platform to travel to the selected stop-landing, the platform moving direction control button must be pressed constantly. Upon releasing the button, the platform stops automatically. When the platform arrives at the selected stop-landing, the platform stops automatically.

The platform travel direction control button takes precedence over the platform call buttons in the stop-landing.

The platform travel direction control buttons are marked with the following figures: UP and DOWN.

5.5. Platform call button

	
Call button in the ground stop	**Call button in the highest stop**

Each stop-landing is equipped with a platform call button to call up the platform to the stop-landing.

NOTE: The platform travel direction control buttons located on the platform take precedence over the platform call buttons in the stop-landing.

To call up the platform to the stop-landing, press and release the platform call button in the stop-landing (2).

The platform call button can be activated using the programmable key or the controls (optional).

The platform call button may have an indicator (3), indicating the floor in which the platform is (optional)

Also, the platform call button in the stop-landing informs about the platform status. LED built in the button (1).

Description of indicator functions

LED state	RB150
No lights	Unoccupied platform, the passenger can call the platform to the stop-landing
Green light flashing or constantly on	The platform is busy
Green light constantly on when pressed and hold call button	The platform is coming to the stop-landing from which the call signal was received
Simultaneously flashing green and red lights	The platform control is in the maintenance mode
Red light on platform STOP button is constantly ON	The gates are open, overload system activated or safety circuit is broken

*** - the list of possible failures is presented in paragraph “19. RB150 system errors”.**

6. DESCRIPTION OF SAFETY DEVICES

6.1. Emergency platform stop device

The emergency stop device is designed to stop the movement of the platform in the event of a dangerous situation.

By pressing the emergency stop button the indicator in the emergency braking device lights up notifying of the activation of the emergency stop device. The emergency stop device is of non forced operation type, i.e., when pressed, the emergency stop device automatically locks in the pressed position.

In order to use the platform again, the pressed emergency stop device must be rotated clockwise. Normal platform control is restored in 5 or 40 seconds (the indicated time depends on the frequency converter type installed in the lifting platform) after the reset of the emergency stop device.

NOTE: If the platform does not start moving after pressing the platform travel direction controller, or if the platform suddenly stops, always make sure that the platform emergency stop device is not pressed.

6.2. Emergency alarm device

The emergency alarm device is used for calling external help for the passengers on the platform, in case of the lifting platform malfunction.

When the platform stops between the stop-landings, or if the platform is in the stop-landing, but the stop-landing door does not open, the passenger must push the emergency alarm device to call for help.

In case of power failure, he emergency alarm device is powered from the emergency power supply source (battery) mounted on the platform.

Emergency alarm options:

- **Audible alarm system**

If the emergency alarm button is pressed, an audible signal is emitted

- **Remote alarm system (optional)**

In order to call the outside help, the remote alarm system is equipped in the platform for passengers. The remote alarm system enables mutual conversations and maintaining constant contact with the emergency service.

If the emergency alarm device pressed, an audible alarm sounds. The emergency alarm button should pressed down for 10 seconds. After 10 seconds the remote alarm system starts the dialling and calling the programmed number. During the connection, the yellow indicator lights up and the green indicator flashes occasionally. After the connection, the green indicator lights up – continue the conversation with the operator.

6.3. Platform overload indicator

If the platform rated load is in excess of 75 kg, the platform overload indicator is activated with an audible and a visual signal, the red signal light, informing about the platform overload. In case of overload, the stop-landing door remains unlocked, and the stop-landing door with an electric drive remains open.

6.4. Indicator of safety device activation

When at least one of the safety devices in the lifting platform is activated during the platform movement, the platform movement is immediately stopped and the blue light overload signal lights up, informing about the tripped safety device alarm. If the safety device is activated, check whether the platform emergency stop device is not pressed, or at least one sensitive platform edge is not pressed.

Normal platform control is restored in 5 or 40 seconds (the indicated time depends on the frequency converter type installed in the lifting platform) from the safety device activation/reset of its functions, or when the blue signal of the safety device is off.

6.5. Emergency unlocking of stop-landings

In an emergency situation, to release the passengers, the stop-landing door can be unlocked from the outside with a special triangular key.

When the stop-landing door is unlocked in **the emergency manner**, normal control of the lifting platform due to the software controlling the emergency door opening becomes impossible. To restore the normal lifting platform control, it is necessary to restart the lifting platform control system. Restarting procedure described in paragraph **8.4. Restarting the power.**

In case of RB150 see paragraph **9.3. Blocked mode.**

NOTE: **After the emergency stop-landing door opening, no tools are required for the door closing and locking.**

7. OTHER SAFETY DEVICES

- Stop-landing door lock and closing control safety device
- Emergency platform stop devices
- Pressure-sensitive edges
- Platform limit switches
- Safety bottom
- Electrical control safety device for the lid closing of the platform mechanisms
- Platform mechanical stop and electric safety device
- Electric safety device controlling the belt drive tension

7.1. Stop-landing door lock and closing control safety device

The stop-landing door is mechanically locked by the door lock that prevents opening of the stop-landing door when the platform is not in the stop-landing. The stop-landing door lock is controlled by the electric safety device.

The stop-landing door closing is controlled by the electric safety device. It is impossible to run the platform and continue its travel one the stop-landing door is open.

7.2. Emergency platform stop devices

The emergency stop device on the platform is designed to stop the movement of the platform in the event of a dangerous situation. (see 6.1. paragraph).

Emergency stopping device in the enclosure pit is designed to be activated before entering the enclosure pit.

7.3. Platform limit switches

The lifting platform is equipped with limit switches. The limit switches are installed in such a way that they are activated when the platform passes the end stop-landings. When the limit switches are triggered, the power supply to the engine and the brakes is interrupted. The platform must stop immediately and the brakes is interrupted

7.4. Safety brake

The platform is equipped with a safety brake, in the event of damage drive belt or wearing out of the belt, stops platform in the position. The safety device interrupts the power supply to the electric motor and the brakes. The platform stops immediately interrupts the power supply to the electric motor and the brakes fall in.

7.5. Electrical control safety device for the lid closing of the platform mechanisms

The platform mechanism cover closing is controlled by an electric safety device. It is not possible to use the platform, or change the travel direction, when the platform mechanism cover is opened.

8. POWER SUPPLY

There are using two types of power supply to the system in order to ensure functioning of the platform.

There are stationary power one phase 230 V AC 50 / 60 Hz and batteries backup power 24 V DC (optional). System grounding is necessary!

As backup power are using batteries. Power source is 24 V.

8.1. Turning the power ON

Independently from the platform release date and version turn the power ON always in such way:

1) turn ON the main power breaker (A1 or CB1) located in the machinery cabinet (see paragraph **8.5**);

8.2. Turning the power OFF

Independently from the platform release date and version, turn the power OFF always in such way:

1) turn OFF the main power breaker (A1), located in the machinery cabinet (see paragraph **8.5**);

8.3. Restarting the power

The power restarting is necessary to return the platform back to normal operation after some events or errors.

That may be manual or electric emergency lowering of the platform, fire alarm mode, resetting of the frequency invertor errors, manual emergency door unlocking with special key, maintenance works and others.

The power restarting must be done in such order:

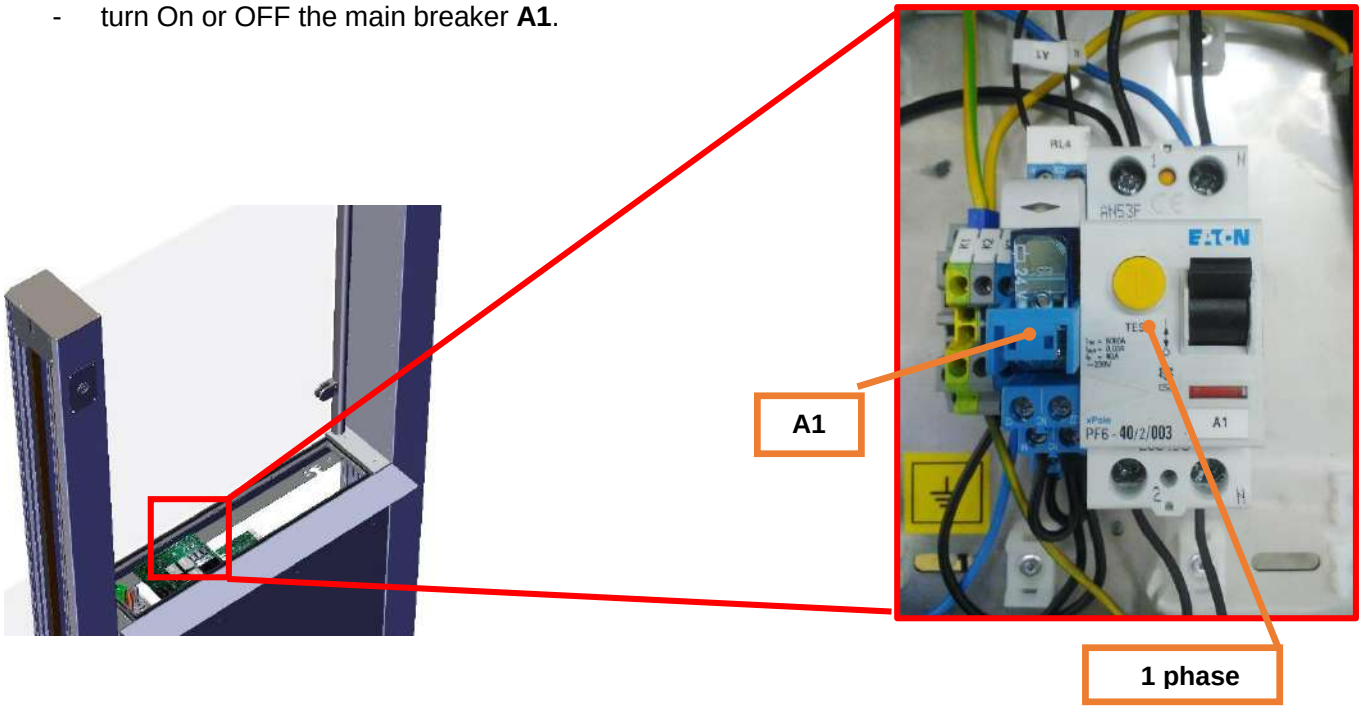
1) turn OFF the power (see paragraph **8.3.**);

2) wait at least of 60 seconds;

3) turn ON the power (see paragraph **8.1.**).

8.4. The main power breaker

- Remove the cover from machinery cabinet;
- turn On or OFF the main breaker **A1**.



8.5. RB150 emergency lowering option

Remove the top cover at the second floor (machine cabinet) Pull the red handle and lower the lift by hand (with the provided wrench) or press “down” button near the red handle to lower the lift automatically (optional). To turn back the lift to “normal” operating mode, pull the green handle.

9. PLATFORM OPERATE MODES

There are a few operate modes: normal, maintenance / service (installation), blocked, electric emergency lowering and fire alarm.

9.1. Normal mode

Mode is dedicated for users to use the platform in normal conditions. There are all function mentioned in the manual. The platform movement speed is 0,15 meters per second.

9.2. Blocked mode

It is dedicated to block the normal mode of the platform in few cases, when there appear some conditions like ground floor door emergency opening with a special key, due to brake solenoid or main power failure error detected.

If the platform using is blocked, there needs to call for a technical help in order to find and fix a problem.

After a problem is fixed, in order to reset the mode to normal there needs to restart the power. How to do this see paragraph **8.3. Restarting the power.**

9.3. Fire alarm mode

Fire alarm mode is dedicated to move the platform to an evacuation floor level. In case of fire alarm the platform moves to the floor automatically itself.

RB150 model evacuation floor may be ground floor only. RB150 may be any provided floor that should be set on the system. The system have to be connected to the building fire alarm system. There should be prepared a fire alarm signal cable from the fire alarm main board of building to machinery cabinet. Connection of the signal cable to the system should do responsible technician.

10. LABELS (ICONS), TEXT WARNINGS

Lifting platform uses the following symbols (icons) and text warnings:

Labels (icons), text warnings	Explanation
	**Disabled people label** If the lifting platforms are used in public buildings, each stop-landing must have an international symbol of access. The character height should be at least 50 mm. This symbol indicates that the lifting platform is designed for use by disabled persons.
	**Label prohibiting to use the lifting platform in case of fire** All stop-landings near the lifting platforms must have the securely attached prohibition sign. The character should be at least 50 mm. This label warns that using the lifting platform in the event of fire is prohibited.
	**Electrical hazard label** When the electrical work is carried out during the maintenance of the lifting platform, the lifting platform powering disconnection device A1 must be turned off.
	**Electrical hazard label** The lifting platform with the frequency converter – during the work on the electrical system of the lifting platform, turn off the lifting platform powering disconnection device A1 or CB1 and wait for at least 10 minutes until the live parts of the lifting platform are discharged.
	**Reduce the spacing of the lower enclosure hole label** The label must be attached: the machinery cabinet near the emergency devices, and the enclosure pit must have the label of reduced spaces of the bottom hole in the enclosure pit. This label warns of the danger of crushing – the platform mechanical stop must be set to the operating position before entering the enclosure pit.
	Passenger release instruction Passenger release instructions are attached to inside of the machine cabinet cover the. Passenger release instructions contain information indicating how to release the passengers in a safe and proper manner.

11. SAFE USE OF THE LIFTING PLATFORM

The lifting platform must be used safely. In order to ensure the safe use conditions, it is necessary to observe the safety precautions.

11.1. Safe use of the lifting platform

ATTENTION

Risk of injury or damage to the lifting platform!

- In the moving platform the passenger (s) must hold on to the handrail!
- Jumping or swinging on the platform is forbidden!
- During travel, the passenger (s) must not touch the lifting platform enclosure structures!
  In particular, take care that the objects, loose clothing, limbs are not trapped between the platform and the enclosure structures!
- Baggage must be securely positioned on the platform floor!
- Do not carry items longer than 2,000 mm In the platform!
- Do not carry in the platform: explosive, flammable, toxic, oxidizing and other hazardous substances!
- Transportation of cargo in the lifting platform is prohibited!
- Do not smoke in the platform!
- Do not litter in the platform!
- In the event of a dangerous situation release the lifting platform control button immediately and (or) press the STOP button!
- Do not use the lifting platform if its condition is not technically sound!
- It is essential that the lifting platform passenger immediately informs the maintenance service and (or) the owner of any malfunctions and operational failures of the lifting platform!

11.2. Platform operation in the event of fire

DANGER!

Fire and smoke danger to life!

- In case of fire, the use of the lifting platform is prohibited!

11.3. Stop-landing door opening area

ATTENTION

The passenger may be affected by the stop-landing door!

- Do not stand in the working area of the stop-landing door!
- Do not allow children to play within range of the stop-landing door!
  NOTE: The stop-landing door closing force is reduced and passengers cannot cause additional risk, but they should always free the working area of the stop-landing door.

11.4. Stop-landing threshold and platform

ATTENTION

Tripping hazard!

- In order to avoid tripping hazards before climbing of or on the platform, pay attention to the vertical distance between the platform and the stop-landing doorstep.

11.5. Help for Passengers

ATTENTION

Ergonomic hazard!

- Persons who for some reason cannot use the lifting platform controls and (or) to get on the platform independently, can use the lifting platform only with the accompanying person.

11.6. Lifting platform maintenance

DANGER!

Risk of loss of life or damage to the lifting platform!

- The maintenance of the lifting platform must be carried out by the competent maintenance personnel (see “Vertical lifting platform maintenance manual”)!

11.7. Passenger release operation

DANGER!

Danger of falling into the enclosure pit of the lifting platform!

- Passenger release operation must be carried out only by a competent maintenance worker or a person authorized by the lifting platform owner to monitor trapped passengers (see the section “Passenger release”)!

12. RELEASE OF PASSENGERS

12.1. General Provisions

DANGER!

Danger of falling into the enclosure pit of the lifting platform!

- Passenger release operation must be carried out only by a competent maintenance worker or a person authorized by the lifting platform owner to monitor trapped passengers (see the section “Passenger release”)!

For certain reasons (e.g. power loss) the platform may stop between the stop-landings.

Prior to the rescue of passengers, read the information below carefully!

DANGER!

Danger of falling into the enclosure pit of the lifting platform!

- The passenger release operation must be carried out according to the instructions attached in the machinery cabinet!
- The passenger release operation can only be carried out by:
  - Competent maintenance person, or
  - The person authorized by the lifting platform owner to rescue trapped passengers (a person authorized by the owner)!
- The lifting platform owner must ensure that the authorized person is trained in the maintenance service!
- A person authorized by the lifting platform owner to rescue trapped passengers, can open the stop-landing door in the emergency mode only when the platform is at the stop-landing!
- If a person authorized by the owner, using hand-held, and (or) emergency electrical devices, is unable to lower the platform to the stop-landing, the passenger release operation must be performed by the competent maintenance worker!
- When it is not possible to lower the platform to the stop-landing, the qualified maintenance personnel must take all necessary precautions in order to avoid falling into the enclosure pit of the platform!

DANGER!

- The lifting platform owner must take care that the maintenance service, taking part in the rescue of persons, under any circumstances can safely access of the building and have the access to the lifting platform.

12.2. Passenger information

Notify the passengers on the platform that the release operation is in progress.

Determine whether the passengers need medical assistance, and if so, immediately call medical assistance.

If the platform has stopped between the stop-landings, inform the passengers that the platform will be lowered/raised to the stop-landing during the release operation.

Make sure the passenger limbs, objects, or other baggage is not trapped between the lifting platform enclosure and the platform.

Check whether the platform emergency stop device is not pressed.

Inform the passengers to hold on the rail during platform travel, and not to touch the lifting platform enclosure.

12.3. Stop-landing door closing and locking verification

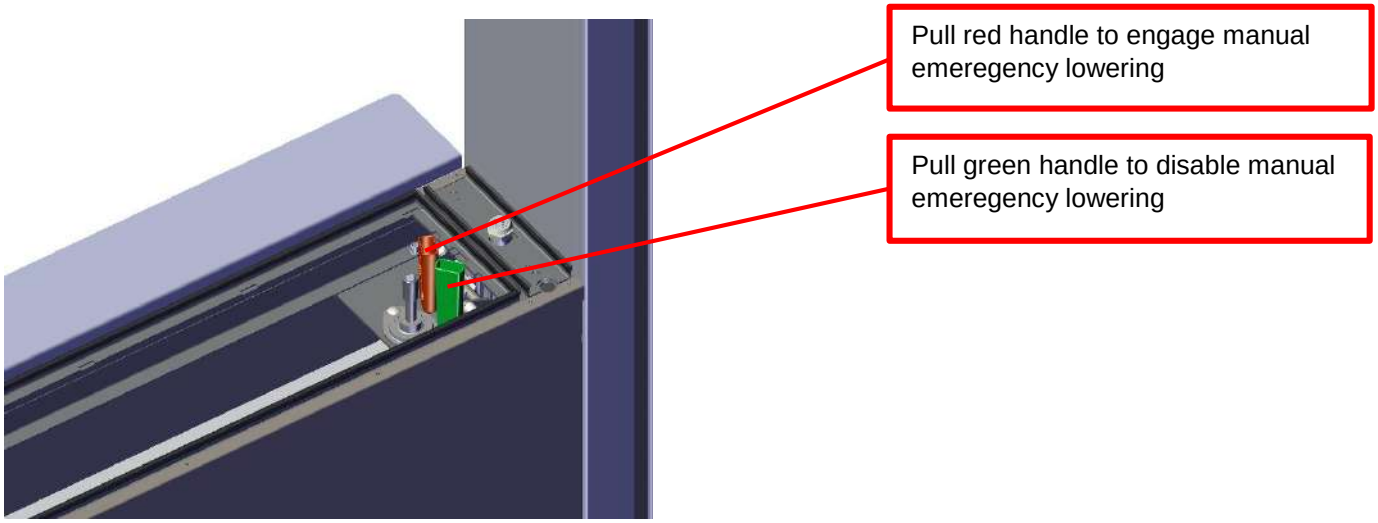
Check that all stop-landing doors are closed and locked.

12.4. Main switch off

Turn OFF the main power, see paragraph **8.4. Main power breaker**.

12.5. Emergency manual platform lowering mode

Open and remove the cover from top floor step floor.

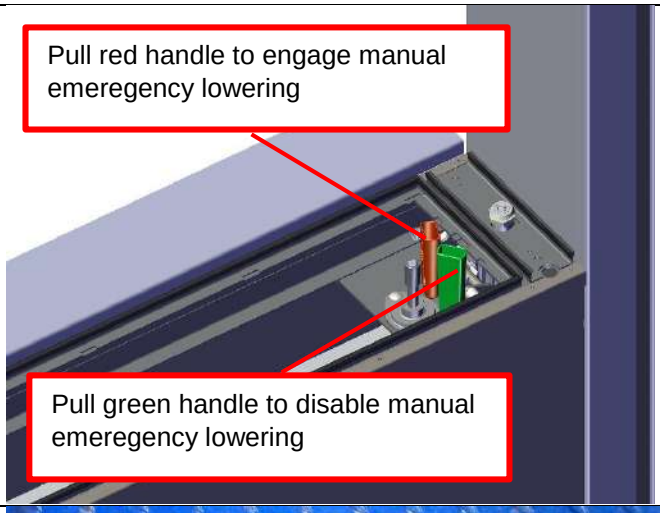
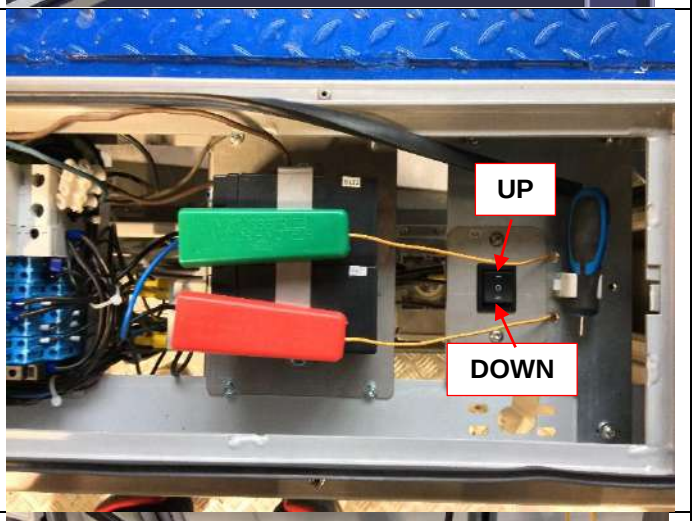


- Release the platform emergency mode handle from the bracket.
- Turn the handle in the specified direction of the platform lowering or raising, or raise the platform to the nearest stop-landing.
- Attach the platform emergency mode handle to the holder and close the machinery cabinet door. Make sure that the machinery cabinet door is properly closed and locked.
- Make sure that the platform is in the stop-landing.

NOTE: Platform lifting requires significantly more physical effort compared to lowering!

12.6. Emergency automatic platform lowering mode (optional)

Open and remove the cover from top floor step floor.

Release the platform emergency mode handle from the bracket.	
Press **DOWN** button and hold it until platform will reach the ground level. Depending on lifting height, the process may take from 5 till 15 minutes. When platform reaches the ground floor, pres **DOWN** button on the platform, to open the gates and release the traveler. Put the green handle back in possition, to operate the lift normaly.	
In the picture is automatic lift lowering system's additional motor, that works only when red handle is engaged.	

12.7. Stop-landing door opening and the release of passenger

- When the platform is in the stop-landing, use the provided special triangular key to unlock and open the stop-landing door.
- Help passengers to get off the platform.
- Close the stop-landing door. Make sure that the stop-landing door is properly closed and locked.
- Perform the lifting platform maintenance (troubleshooting).

12.8. Further use of lifting platforms

If the passenger release operation was carried out by the person authorized by the owner, he must immediately notify the maintenance service!

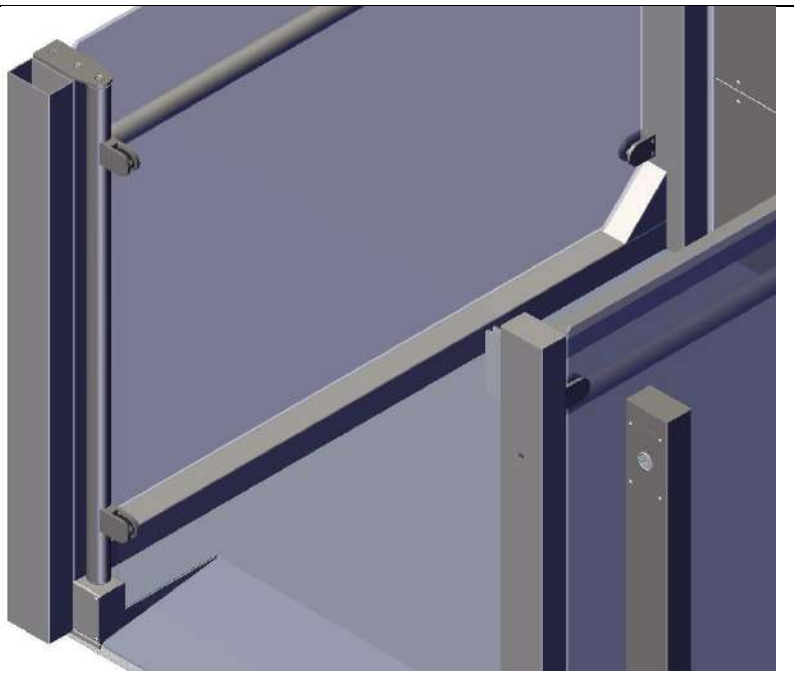
Continue using the lifting platform only after the maintenance service reforms the appropriate examinations and tests of the lifting platform.

Note. After usage of platform lowering in any emergency mode the system power must be restarted! See paragraph **8.4. Restarting the power**.

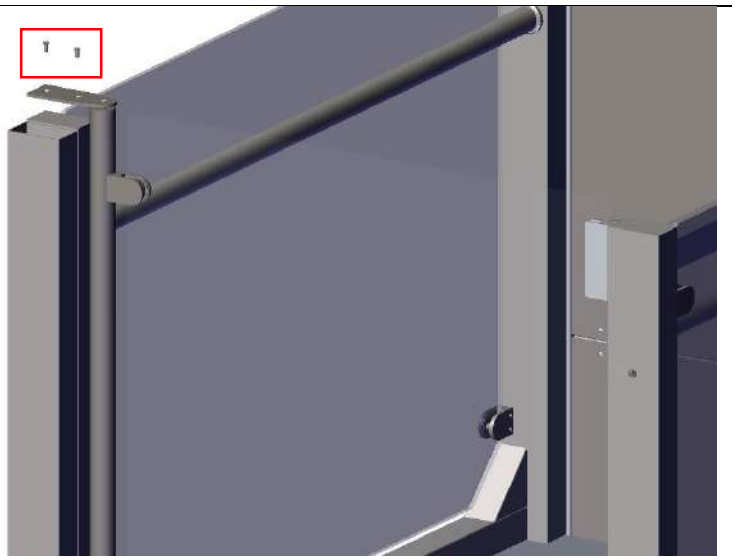
13. GATES SPIRAL TENSIONING

If platform lift's gates are not closing correctly, or doesn't close at all, you need to tension gates spiral. Please note, that for thease steps you will need at least two persons. Follow thease steps:

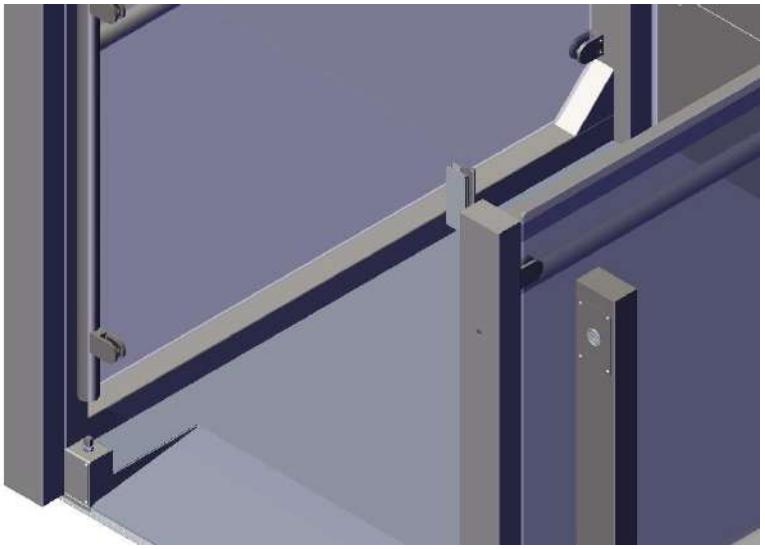
STEP 1
Drive platform to the ground.
DO NOT TENSION THE SPIRAL WHEN PLATFORM IS LIFTED UP!



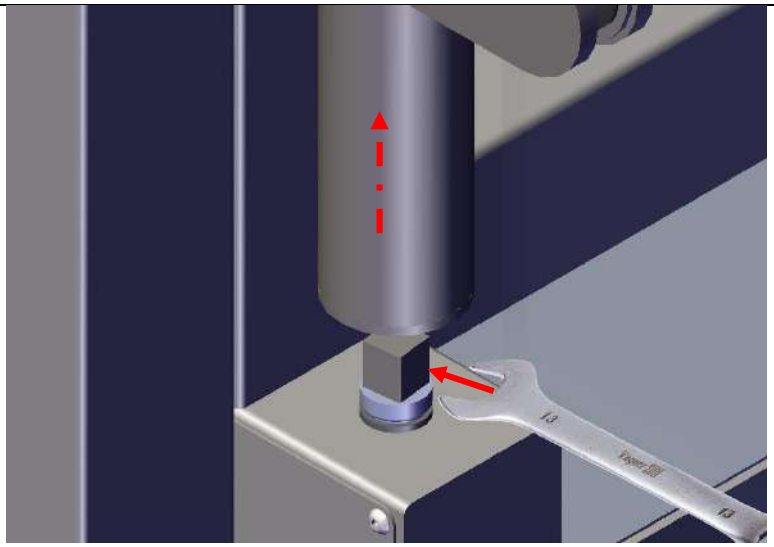
STEP 2
Unscrew two bolts and remove plate that holds closing gates. Other person must hold the glass gates, to ensure the gates won't fall down.



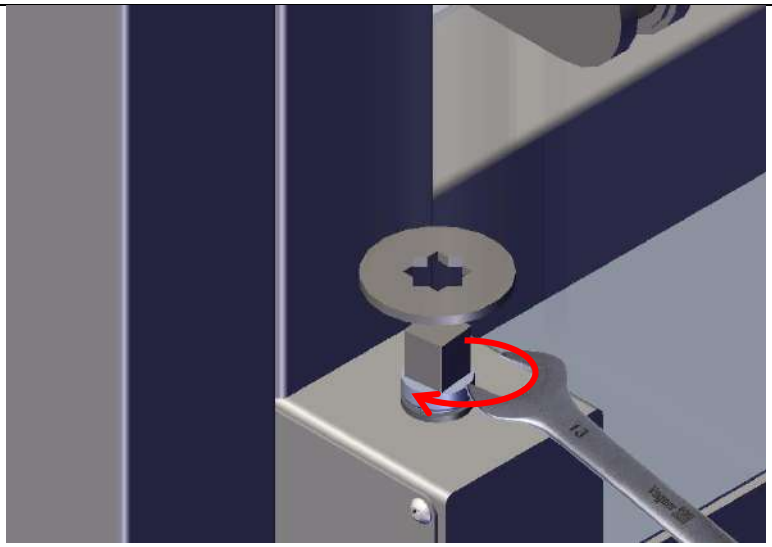
STEP 3
Slowly lift up about 10mm released glass gates, make sure they still on the lower holder.



STEP 4
Take 13mm wrench and hold the axle. Now you can lift up the gates to make tension.



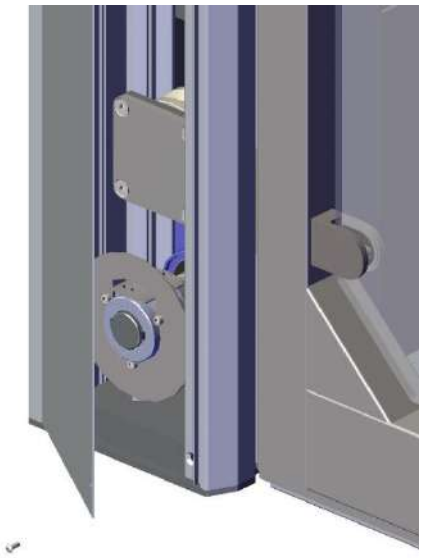
STEP 5
With 13mm wrench spin the axle to the left (depends in wich side is doors). As shown in the picture, the gates holder frame has teaths. Spin the axle to the left by one teath ant move back the door frame on the axle. Test it, if still is too lose, repeat this step for one more teath.
After tensioning, put all parts backwards.



14. BELT GEAR TENSIONING/PLATFORM HORIZONTAL ADJUSTMENT

Sometimes, because of transportation, platform of the lift RB150 needs to be adjusted horizontaly, or one of the gear belts needs to be tensioned.
NOTE: Belt tensioning also adjusts platforms horizontal position, so if you tensioned only one of two belts, make sure, that the platforms is in perfect horizontal position.
The instruction bellow will explain how to do this part of maintenance.

First, open bottom side covers. Unscrew bolts and remove covers. Now you are able to see all gear parts.

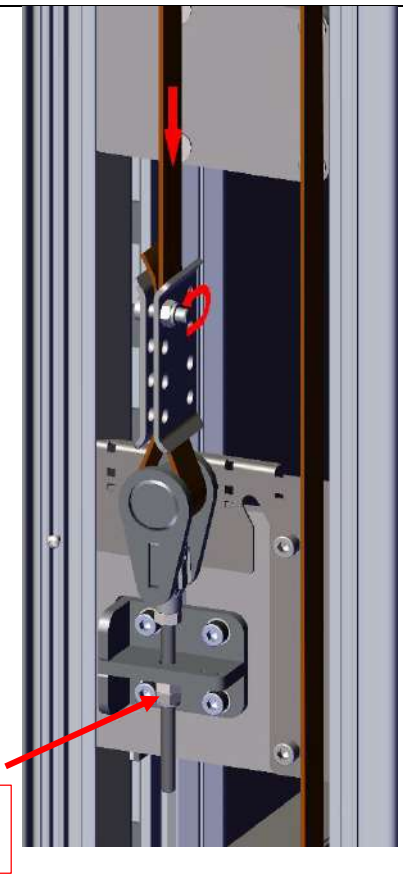


Release, but don’t’t unscrew all eight bolts on the belt grip. Tense the belt down and start to screw al eight bolts back.
TIP: Start to screw bolts top, then bottom, then middle etc.

If tension requires only few milimetters, then you can adjust tension bolts.

NOTE: Don’t forget to fasten safety bolt when finished!

Make sure, that in both sides of the platform belts are tensioned well!



15. LIFTING PLATFORM MAINTENANCE

Safety and longevity of use of the lifting platform depends on the timely and periodical maintenance of the lifting platform.

15.1. Maintenance information

The maintenance must be carried out in accordance with this manual and the Maintenance manual of the vertical lifting platform.

The maintenance must be carried out by competent maintenance personnel equipped with necessary tools and devices.

It is necessary to take care of the competence of the maintenance service personnel.

Maintenance of the lifting platform must be carried out in accordance with the frequency specified in the Maintenance manual of the vertical lifting platform.

If failures that may cause an accident, or failures endangering human health, life, property or the environment are found during the maintenance, and why it is not possible to repair them, the operation of the lifting platform must be stopped immediately. The maintenance service must inform the owner of the lifting platform that the lifting platform cannot be operated until it is repaired.

It is necessary to organize the delivery of spare parts for repair. Only original parts must be used for repairs of the lifting platform.

15.2. Maintenance documentation

The lifting platform maintenance must be performed in accordance with the Vertical lifting platform maintenance manual, and the national legislation of the country in which the lifting platform is operated.

Information relating to the actions performed during the lifting platform maintenance (inspection of technical condition, repairs and other), and modifications must be written in the lifting platform maintenance logbook. The lifting platform logbook form is given in Annex B of this manual.

15.3. General safety requirements

DANGER!

Risk of loss of life or damage to the lifting platform!

- The lifting platform maintenance must be performed by a competent person!
  Before starting the lifting platform maintenance, the competent person must make familiar and analyse the technical documentation of the lifting platform!

DANGER!

Crushing danger for life when the maintenance work is carried out under the platform!

- Before entering under the platform, the following requirements must be met:
  - Mechanical stop must be in the operating position!
  - Emergency stop device in the enclosure pit of the lifting platform must be activated!

DANGER!

Fall risk to life due to maintenance work being carried out at a height!

- During the maintenance operations, for instance, cleaning the exterior of the lifting platform enclosure, all requirements for the work at height must be complied with!
- Any work at a height must be carried out from mobile work platforms, specially designed stationary platforms or other equipment ensuring adequate safety!

WARNING!

Risk of serious injury due to moving parts of the lifting platform!

- Do not touch any moving parts during the maintenance: drive elements, suspension system components, etc.!

DANGER!

Risk of injury to persons or damage to objects!

- Make sure there are no foreign persons or objects in the vicinity during the lifting platform maintenance!

DANGER!

Electrical shock hazard to life!

- Prior to the lifting platform maintenance, the main switch must be set to “O” and locked in that position to prevent inadvertent activation of the switch!
  This switch turns off all electrical devices of the lifting platform, except for the box-outlet power.

ATTENTION

Ergonomic hazard!

- During the lifting platform maintenance, the floor of the working area and machinery installation must be illuminated by at least 200 lux light intensity!

WARNING!

The risk of serious injury due to the lack of personal protective equipment!

- Personal protective equipment is essential and mandatory during the maintenance!

15.4. Safety during maintenance work under the platform

DANGER!

Crushing danger for life when the maintenance work is carried out under the platform!

- Before entering under the platform, the mechanical stop must be in the operating position!

For safe maintenance operations of the lifting platform carried out under the platform, it is necessary to perform the following steps:

(1) Make sure that the platform is at least 2 meters from the enclosure pit.
(2) Use the special key to unlock and open the machinery cabinet, located near the bottom stop-landing door.
(3) Set the main switch (A1 or CB1) to position “O”.
(4) Use the mechanical platform stop handle to set the mechanical stop of the platform to the operating position. **NOTE:** If the mechanical stop of the platform is set to operating position, normal use of the platform becomes not possible.
(5) Press the platform control device in the stop-landing – the platform must not move.
(6) Close and lock the machinery cabinet. Make sure that the machinery cabinet door is properly closed and locked.
(7) Use a special three-wall key to unlock and open the door to the enclosure pit of the lifting platform.
(8) Use the tool to press the safety device axis of the electrical door close control so that the door lock slides out to the end. This operation must be carried out to prevent inadvertent automatic closing and locking of the stop-landing door.
(9) Once inside the enclosure pit, press and activate the emergency braking device in the platform enclosure pit.

Upon completion of the maintenance work under the platform, it is necessary to perform the following steps:

(1) Turn clockwise the emergency braking device in the enclosure pit.
(2) Close and lock the enclosure door of the lifting platform.
(3) Use the special key to unlock and open the machinery cabinet door.
(4) Use the mechanical platform stop handle to set the platform mechanical stop to off position.
(5) Close and lock the machinery cabinet door. Make sure that the machinery cabinet door is properly closed and locked.

15.5. Platform cleaning

 **DANGER!**	**Risk of loss of life or damage to the lifting platform!** • During cleaning take appropriate measures to ensure that water does not enter the enclosure pit of the lifting platform, the machinery cabinet, the platform control panel and other electrical equipment! • Never use high-pressure jets for cleaning, etc. • Electrical equipment should be cleaned using dry cleaning tools, and compressed air (for example, dry duster)! • After cleaning, the lifting platform must be completely dried before using!

 **ATTENTION**	**Damage to the lifting platform!** • Do not use rough and aggressive cleaning agents for surface cleaning! • Cleaning means must be suitable for washable surfaces! In absence of special cleaning means, use a soft cloth or sponge soaked in soap and water solution!

15.6. Cleaning of external zones

 **DANGER!**	**Risk of loss of life or damage to the lifting platform!** • Clean external enclosure of the lifting platform from stationary trolleys or mobile elevating platforms for lifting people!

15.7. Cleaning of internal zones

 **DANGER!**	**Risk of loss of life or damage to the lifting platform!** • Cleaning of internal areas of the lifting platform must be carried out by the competent maintenance personnel! • Prior to the lifting platform cleaning, turn off the lifting platform power-off device! • Do not install the ladder on the inner surfaces of the platform for cleaning the parts!

15.8. Scope of maintenance operations

The table indicates the tests of the lifting platform design and its equipment mandatory during their maintenance, the inspection methods and frequency of testing.

The detailed scope and frequency of maintenance is a specified in the Maintenance manual of the vertical lifting platform.

Test code	Lifting platform design and its equipment	Maintenance scope			Additional information
		Testing method	Lubrication	Cleaning	
1	Lifting platform technical documentation	RA	–	–	
2	Free space in front of the machinery cabinet and the stop-landing door	RA, M	–	–	
3	Enclosure of the lifting platform	RA	–	V	
4	Lifting platform machinery cabinet	RA, FT	–	V	
5	Stop-landing door	RA, FT, M	–	V	
6	Platform emergency mode system	RA, FT	T	–	
7	Platform	RA, FT, M	–	V	
8	Lifting platform controls	RA, FT	–	V	
9	Lifting platform indicators	RA, FT	–	V	
10	Platform suspension system	RA, FT, M	T	V	
11	Platform drive system	RA, FT, M	–	V	
12	Platform deflection system	RA, FT	T	V	
13	Mechanical and electrical safety devices of the lifting platform	RA, FT	–	V	
14	Locks	RA, FT	T	V	

RA – Visual inspection is used to check the component parts visually.

FT – Functional testing is used to verify whether the current measures and means carry out their function in accordance with the requirements.

M – The measurement is used to check the compliance of devices to the established values.

T – Lubrication.

V – Cleaning.

16. SPECIAL TOOLS

The following special tools are provided with the lifting platform:

- special key to unlock/lock the machinery cabinet door;
- special three-wall key to unlock the stop-landing door;
- panel removal tool;
- manual emergency operation and;

16.1. Description of tools

In the set of the lifting platform you will find the following keys and special tools:

Keys to unlock /lock the platform emeregency lowering cabinet	Emergency key to open/close the platform door (“delta” triangle)
	

17. ANNEX A. SAMPLE EC DECLARATION OF CONFORMITY

Barduva UAB
Liepkalnio g. 61, LT-02120 Vilnius, Lithuania
Tel.: +370 5 231 0770
Tel.: +370 5 231 0071
Fax: +370 5 231 0773
E-mail: sales@barduva.eu
www.barduva.eu

barduva

EC DECLARATION OF CONFORMITY

Manufacturer name and address	**Barduva UAB** **Liepkalnio g. 61, LT-02120 Vilnius, Lithuania**
Name and address of a person authorized to draft the technical file	
Type of machinery	**RB150**
Description of machine	**Vertical lifting platform intended for use by persons**
Serial number	
Year of production	
Place of installation	

We hereby confirm that the machine complies with all the relevant directives and harmonized standards

European Union directives	Harmonized standard
2006/42/EC	EN ISO 12100:2010
2004/108/EC	EN60204-1:2006

Place of declaration	**Barduva UAB** **Liepkalnio g. 61, LT-02120 Vilnius, Lithuania**

Full name of person drafting the declaration of conformity	Signature	Declaration data

18. AUDIO SIGNALS

For more comfortable platform usage the option of sound and voice messaging is provided. In case of platform overload, can be heard intermittent sound signal. The signal is not too long, and after a few seconds is off. However the platform is not responding to the call buttons. If overload will be removed and placed again – the signal will be repeated. Restart platform to start use it again.

All types of sound signals creates a speaker mounted on the platform. The volume level of audio signals has default program settings.

The total length of all sound signals, cannot exceed 18 seconds at sampling rate 8 kHz, 16 bit. There is allowed one channel only.

In case of the RB150 there is no limitations for total length.

19. RB150 SYSTEM ERRORS

19.1. Main errors

When lifting equipment does not operate, its status is indicated by red indicator on the platform's STOP button, which flashes continously; it means that the system has detected one of the possible errors listed in the table below.

Ser. No.	Errors	Light indications on a diagnostic bar	Causes of system blocking	Remedies
1.	Door open using an emergency triangle key.	**System MODE** – red	1.1. Forced manual opening of the ground door.	1.1. Close the door. 1.2. Activate service mode and immediately normal mode, or restart the power supply.
2.	Activated emergency manual lowering system. Activated RED handle in machinety room.	**System MODE** – red	2.1. Emergency lowering system activated by accident 2.3. Emergency lowering system activated to test it, but not deactivated with green handle.	2.1. Check emergency lowering system, is the green handle activated (normal mode)
3.	Main power failure.	**Main voltage fault** or **Main voltage is OFF** - blank	3.1. Main power supply failure. 3.2. Power supply interrupted.	3.1. Eliminate the causes of power supply failure or interruption. 3.2. Activate service mode and immediately normal mode, or restart the power supply.

19.2. Inverter fault detection and clearing.

The microprocessor in the inverter detects a variety of fault conditions and captures the event, recording it in a history table. The inverter output turns OFF, or "trips" similar to the way a circuit breaker trips due to an over-current condition. Most faults occur when the motor is running (refer to the diagram to the right). However, the inverter could have an internal fault and trip in Stop Mode.

In either case, you can clear the fault by pressing the Stop/Reset key.

19.3. Inverter's Error codes

An error code will appear on the display automatically when a fault causes the inverter to trip. The following table lists the cause associated with the error.

Error Code	Name	Cause(s)
E01	Over-current event while at constant speed	The inverter output was short-circuited, or the motor shaft is locked or has a heavy load. These conditions cause excessive current for the inverter, so the inverter output is turned
E02	Over-current event during deceleration	
E03	Over-current event during acceleration	

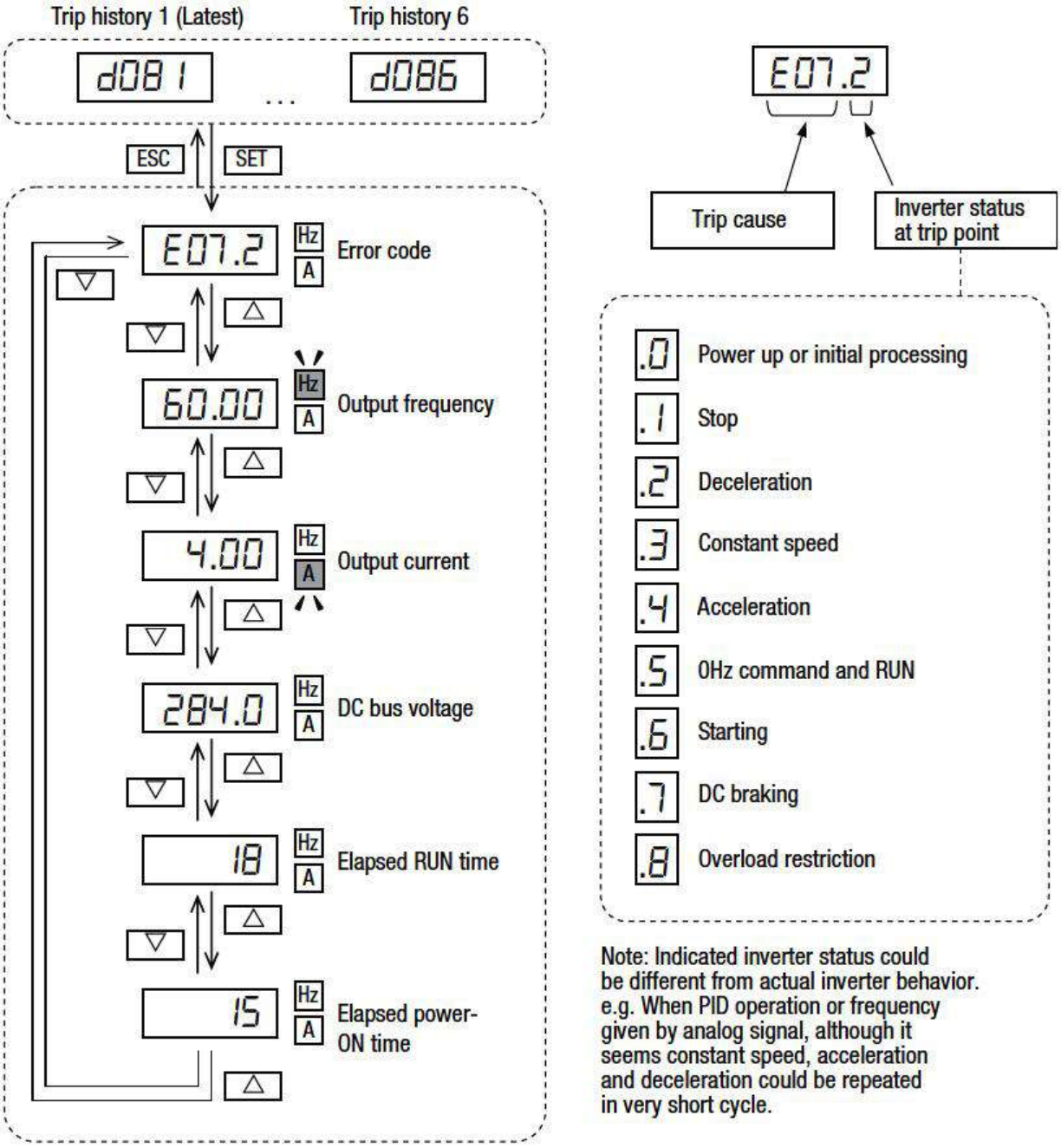
E04	Over-current event during other conditions	OFF. The dual-voltage motor is wired incorrectly.
E05	Overload protection	When a motor overload is detected by the electronic thermal function, the inverter trips and turns OFF its output. Check if the application can accept softer acceleration rates to minimize peak currents F002/ F202/A092/A292). Check if motor parameters are not correctly set (H020 to H034), depending in motor control method (A044/A244).
E06	Braking resistor overload protection	When the BRD operation rate exceeds the setting of "b090", this protective function shuts off the inverter output and displays the error code.
E07	Over-voltage protection	When the DC bus voltage exceeds a threshold, due to regenerative energy from the motor.
E08	EEPROM error	When the built-in EEPROM memory has problems due to noise or excessive temperature, the inverter trips and turns OFF its output to the motor.
E09	Under-voltage error	A decrease of internal DC bus voltage below a threshold results in a control circuit fault. This condition can also generate excessive motor heat or cause low torque. The inverter trips and turns OFF its output.
E10	Current detection error	If an error occurs in the internal current detection system, the inverter will shut off its output and display the error code.
E11	CPU error	A malfunction in the built-in CPU has occurred, so the inverter trips and turns OFF its output to the motor.
E12	External trip	A signal on an intelligent input terminal configured as EXT has occurred. The inverter trips and turns OFF the output to the motor.
E13	USP	When the Unattended Start Protection (USP) is enabled, an error occurred when power is applied while a Run signal is present. The inverter trips and does not go into Run Mode until the error is cleared.
E14	Ground fault	The inverter is protected by the detection of ground faults between the inverter output and the motor upon during powerup tests. This feature protects the inverter, and does not protect humans.
E15	Input over-voltage	The inverter tests for input over-voltage after the inverter has been in Stop Mode for 100 seconds. If an over- voltage condition exists, the inverter enters a fault state. After the fault is cleared, the inverter can enter Run Mode again.
E21	Inverter thermal trip	When the inverter internal temperature is above the threshold, the thermal sensor in the inverter module detects the excessive

		temperature of the power devices and trips, turning the inverter output OFF.
E22	CPU communication error	When communication between two CPU fails, inverter trips and displays the error code.
E25	Main circuit error (*3)	The inverter will trip if the power supply establishment is not recognized because of a malfunction due to noise or damage to the main circuit element.
E30	Driver error	An internal inverter error has occurred at the safety protection circuit between the CPU and main driver unit. Excessive electrical noise may be the cause. The inverter has turned OFF the IGBT module output.
E35	Thermistor	When a thermistor is connected to terminals [5] and [L] and the inverter has sensed the temperature is too high, the inverter trips and turns OFF the output.
E36	Braking error	When "01" has been specified for the Brake Control Enable (b120), the inverter will trip if it cannot receive the braking confirmation signal within the Brake Wait Time for Confirmation (b124) after the output of the brake release signal. Or when the output current doesn't reach the brake release current (b126) during the brake release time (b121)
E37	Safe Stop	Safe stop signal is given.
E38	Low-speed overload protection	If overload occurs during the motor operation at a very low speed, the inverter will detect the overload and shut off the inverter output.
E40	Operator connection	When the connection between inverter and operator keypad failed, inverter trips and displays the error code.
E41	Modbus communication error	When "trip" is selected (C076=00) as a behavior in case of communication error, inverter trips when timeout happens.
E43	EzSQ invalid instruction	The program stored in inverter memory has been destroyed, or the PRG terminal was turned on without a program downloaded to the inverter.
E44	EzSQ nesting count error	Subroutines, if-statement, or for-next loop are nested in more than eight layers
E45	EzSQ instruction error	Inverter found the command which cannot be executed.
E50 to E59	EzSQ user trip (0 to 9)	When user -defined trip happens, inverter trips and displays the error code.
E60 to E69	Option errors (error in connected option board, the meanings change upon the connected option).	These errors are reserved for the option board. Each option board can show the errors for a different meaning. To check the specific meaning, please refer to the corresponding option board user manual and documentation.
E80	Encoder disconnection	If the encoder wiring is disconnected, an encoder connection error is detected, the encoder fails, or an encoder that does not support line driver output is used, the inverter will shut off its output and display the error code shown on the right.

E81	Excessive speed	If the motor speed rises to "maximum frequency (A004) x over-speed error detection level (P026)" or more, the inverter will shut off its output and display the error code shown on the right.
E83	Positioning range error	If current position exceeds the position range (P072-P073), the inverter will shut off its output and display the error code.

19.4. History and inverter status

We recommend that you first find the cause of the fault before clearing it. When a fault occurs, the inverter stores important performance data at the moment of the fault. To access the data, use the monitor function (dxxx) and select d081 details about the present fault. The previous 5 faults are stored in d082 to d086. Each error shifts d081-d085 to d082-d086, and writes the new error to d081.
The following Monitor Menu map shows how to access the error codes. When fault(s) exist, you can review their details by first selecting the proper function:
D081 is the most recent, and D086 is the oldest.



19.5. Daily and yearly inspection chart

Item Inspected		Check for...	Inspection Cycle		Inspection Method	Criteria
			Daily	Year		
Overall	Ambient environment	Extreme temperatures & humidity	✓		Thermometer, hygrometer	Ambient temperature between -10 to 50°C, Humidity 90% or less non-condensing
	Major devices	Abnormal noise & vib.	✓		Visual and aural	Stable environment for electronic controls
	Power supply voltage	Voltage tolerance	✓		Digital volt meter, measure between inverter terminals [L1], [L2], [L3]	200 V class: 50/60 Hz 200 to 240 V (-15/+10%) 400 V class: 50/60 Hz 380 to 460 V (-15/+10%)
Main circuit	Ground Insulation	Adequate resistance		✓	Refer to P6-16	5 MΩ or greater

	Mounting	No loose screws		✓	Torque wrench	M3.5: 1.0 Nm M4: 1.4 Nm M5: 3.0 M6: 3.9 to 5.1 Nm M8: 5.9 to 8.8 Nm
	Components	Overheating		✓	Thermal trip events	No trip events
	IGBT	Resistance value		✓	Refer to P6-17	
	Terminal block	Secure connections		✓	Visual	No abnormalities
	Smoothing capacitors	Leaking, swelling	✓		Visual	No abnormalities
	Relay(s)	Chattering		✓	Aural	Single click when switching ON or OFF
	Resistors	Cracks or discoloring		✓	Visual	Check Ohms of optional braking res.
Control circuit	Function	Voltage balance between phases		✓	Measure voltage between U, V, W	Difference must be 2% or less.
		Protection circuit		✓	e.g. Input Ex.trip signal and check inverter behavior and alarm signal.	Functions properly.
	Overall	No odor, discoloring, corrosion		✓	Visual	No abnormalities
	Capacitor	Leaking, swelling	✓		Visual	Undistorted appearance
Cooling	Cooling fan	Noise	✓		Power down, manually rotate	Rotation must be smooth
		Dust	✓		Visual	Vacuum to clean
		Mounting	✓		Visual	Mounted firmly
	Heat sink	Dust	✓		Visual	Vacuum to clean
Display	LEDs	Legibility	✓		Visual	All LED segments work

NOTE:

The inverter must be cleaned periodically. If dust accumulates on the fan and heat sink, it can cause overheating of the inverter.

Vertical lifting platform maintenance logbook

Vertical lifting platform RB150

Original manual EN

20. MAINTENANCE LOGBOOK FORM

This document contains information about the manufacturer, owner, installer, and maintenance service of the lifting platform, technical characteristics, maintenance results and modifications of lifting platform.

This document is an integral part of the Maintenance manual of the vertical lifting platform and the Installation manual of the vertical lifting platform!

Fill in all the boxes of this document after installation of the lifting platform and before its use!

Prior to the lifting platform maintenance, carefully read this passenger and the Maintenance manual of the vertical lifting platform!

After replacement and (or) modification of the lifting platform parts, record the details of the replacement parts in this document, and attach the documents of these parts: declarations/certificates, assembly, access information etc.

1. General data			
Manufacturer	Name	Barduva UAB	
	Address	Liepkalnio g. 61, LT-02120, Vilnius, Lithuania	
	Tel.:		Fax:
	E-mail		
Description of the lifting platform	**Vertical lifting platform for people with reduced mobility**		
Data	Type	RB150	
	Serial number		
	Year of manufacture		
Address of installation			
Installation date			
Fitter	description		
	Address		
	Tel.		Fax
	E-mail		
Lifting platform commissioning date			

2. General technical specification		
General	Rated load Number of persons Rated speed Lifting height Number of stop-landings	
Platform	Platform width Platform length Platform height	
Drive	Drive type Rated power	
Controls	Controls in stop-landings Platform control devices	Non-forced operation type Emergency operation type
Doors	Door type Door drive type Number of doors Door height Door width	
Guardrail	Enclosure design Free height on top of the enclosure Free height in the bottom of the enclosure	☐ Glass panels
Electrical equipment	Voltage Frequency Main fuses Safety circuit voltage	

3. Lifting platform owner			
Owner	Name Address Tel.: E-mail Date of use	as of	Fax: Till
Owner	Name Address Tel.: E-mail Date of use	as of	Tel.: Date of use
Owner	Name Address Tel.: E-mail Date of use	as of	Tel.: Date of use
Owner	Name Address Tel.: E-mail Date of use	as of	Tel.: Date of use
Owner	Name Address Tel.: E-mail Date of use	as of	Tel.: Date of use
Owner	Name Address Tel.: E-mail Date of use	as of	Tel.: Date of use

4. Maintenance person

Maintenance service	Name		
	Address		
	Tel.		Fax:
	E-mail		
	Maintenance date	as of	Till
Maintenance service	Name		
	Address		
	Tel.		Fax
	E-mail		
	Maintenance date	as of	Till
Maintenance service	Name		
	Address		
	Tel.		Fax
	E-mail		
	Maintenance date	as of	Till
Maintenance service	Name		
	Address		
	Tel.		Fax
	E-mail		
	Maintenance date	as of	Till
Maintenance service	Name		
	Address		
	Tel.		Fax
	E-mail		
	Maintenance date	as of	Till

5. Completed work registration

Performance date	Work carried out, findings of the technical condition of equipment	Name and signature of person performing the work	Full name and signature of person responsible for verifying the performance of work