Serial Number :	
Date of manufacture :	
Building Adress :	
Owner´s name :	
Date os delivery of the equipement :	
RATED LOAD :	Kg.

USE-RESCUE-MAINTENANCE MANUAL

INSTRUCTION MANUAL

"HEART HOME ELEVATOR"

SUMMARY OF CHANGES FROM PREVIOUS VERSION:

INDEX

Nº	REVISION	DATE	DESCRIPCION OF MODIFICATION	EDIT	REVISED
1	R0	09/12/2021	FIRST EDITION	IAM	IAM/CGT

Manufacturer: MORISPAIN S.A.

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Authorised Dealer:

Adress:

ÍNDEX

0. INTRODUCTION

0.1 SCOPE OF THE MANUAL

The content of this manual provides all the information relating to:

- The correct use and HANDLING of the machine, aimed at the end user, in order to inform about the important aspects of the operation of the lift.

- Information for carrying out RESCUE, to provide the user with a quick guide on how to proceed in an emergency situation and to provide the competent technicians with instructions on how to carry out rescue work, in order to prevent possible accidents and damage during operation.

- Information to determine the scope of the MAINTENANCE work on the lift, by means of a check-list of the points to be inspected and their frequency. This must be carried out by competent, trained and qualified technical personnel.

This document was drawn up by MORISPAIN S.A. and is intended for use by the owner.
This manual is considered part of the equipment and, together with the rest of the documentation that accompanies it, must be given to the owner and must be kept in a good state of use and be accessible throughout the life of the equipment.

Persons using the HEART HOME ELEVATOR (hereinafter referred to as the "HEART HOME ELEVATOR") must be familiar with the correct operation of the HEART HOME ELEVATOR and must periodically refer to these instructions.

Of particular interest to the user are the rescue instructions in the event of a trapped person. Before starting to use the installation, read the entire manual carefully, make sure that you have understood all the instructions detailed here, and if you have any doubts, contact MORISPAIN.

0.2 DEFINITIONS

Installer: Person or company that assembles and installs the lift supplied by the manufacturer MORISPAIN S.A. Their tasks may include masonry, civil works, welding, mechanics, lighting or electricity.
Owner: Person who has the power of disposal of the installation and is responsible for its operation and use.
Maintenance organisation: A company or part of a company in which maintenance competent person(s) carries out maintenance operations on behalf of the owner of the installation.
Competent maintenance person: A designated person, suitably trained, qualified by knowledge and practical experience, provided with the necessary instruction and supported by his maintenance organisation to ensure that the required maintenance operations are carried out safely.

0.3 UNITS

Unless specifically stated otherwise, all units of measurement cited in this manual and in the control programme are in the International Metric System.

0.4 SAFETY RECOMMENDATIONS

DANGER: Indicates a hazardous situation which, if not avoided, will result in death or very serious injury.

WARNING: Indicates a hazardous situation which, if not avoided, could result in serious injury.

CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTE: The term "note" is used to indicate important information or usage tips.

0.5 REFERENCE STANDARDS

The design and manufacture of the lift is carried out in accordance with the specifications of this dossier, thus complying with the specifications of the following legislation, both national and European:
- Directive 2006/42/EC, of the European Parliament and of the Council, of 17 May 2006, relating to machinery and amending Directive 95/16/EC (recast).
- Royal Decree 1644/2008 of 10 October 2008 laying down rules for the marketing and putting into service of machinery.
- Law 31/1995 of 8 November 1995 on the prevention of occupational hazards.

In addition, the indications of the following harmonised standards are taken as a reference:
- UNE-EN 81-41:2011. Safety rules for the construction and installation of lifts. Special lifts for the transport of persons and loads. Part 41: vertical platform lifts for use by persons with reduced mobility.
- UNE-EN 12100:2012. Safety of machinery. General principles for design. Risk assessment and risk reduction.

0.6 USER´S INFORMATION

ATTENTION: Read this manual carefully before using the lift and keep it in a safe and accessible place for you and the maintenance company for reference.

WARNING: If you detect any anomaly in the operation of the lift, do not use it and notify your installation or maintenance company.

DANGER: The manufacturer is not responsible for the installation, nor for the civil construction means (walls, roof, etc.) where the lift is installed, nor for the incorrect use of the lift.

1. USER´S MANUAL

1.1 TECHNICAL DATA OF THE PLATFORM LIFT

1.1.1 GENERAL INFORMATION

The elevator consists of a hydraulic machine with direct or indirect drive by means of a hydraulic cylinder driven by a hydraulic power unit.

It is designed for use in homes, buildings and commercial premises.

It allows any person, or anyone with a disability or mobility impediment, to overcome architectural barriers.

The dimensions and loads of the lift are designed for use by several standing passengers, or by one passenger in a wheelchair with one or two accompanying persons.

Depending on the chosen cabin dimensions, it is suitable for both manual and compact motorised wheelchairs (class A and B according to EN 12184) as well as for medium-sized scooters.

NOTE : The manufacturer declines all responsibility for any damage or injury, to persons or other equipment, resulting from the use of the hoist for any operation other than that for which it was designed.

The lift is designed to withstand low, non-intensive use like conventional lifts.

It can be installed in existing buildings, under construction or under renovation and is especially recommended in:

- Single-family or semi-detached dwellings in private use.
- Housing blocks in private use.
- Public buildings for restricted use.

Excessive use of the equipment may cause accelerated deterioration of some of its components, in which case the frequency of maintenance should be increased to prolong the life of the equipment.

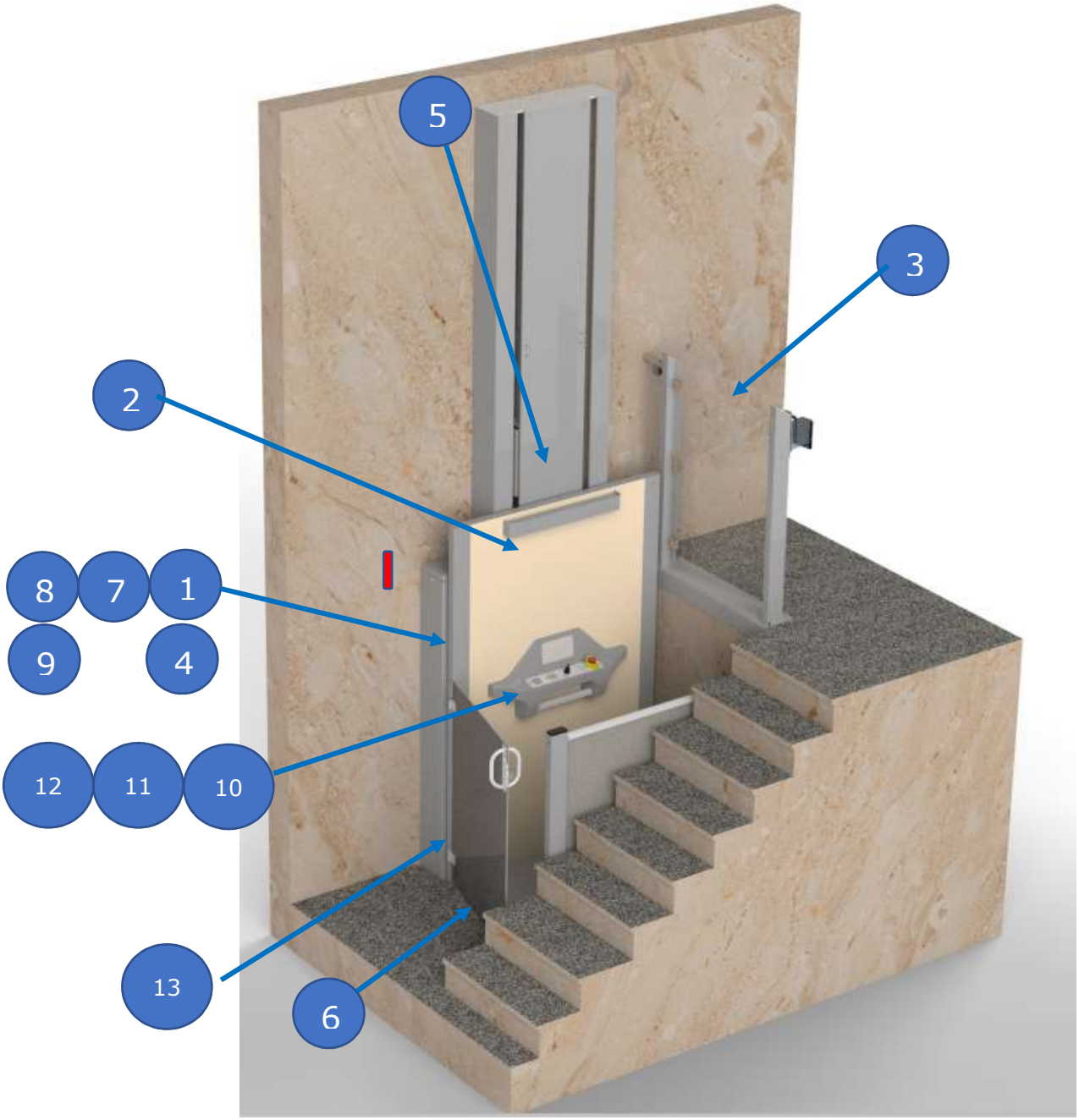
Do not use the equipment in case of :

a. Fire
b. Abnormal noises

1.1.2 **GENERAL DESCRIPTION OF THE PLATFOM LIFT**

The HEART HOME ELEVATOR consists of a car made of metal profiles, which is guided through a resistant structure, built by means of guide type profiles, inside a closed or partially closed shaft.

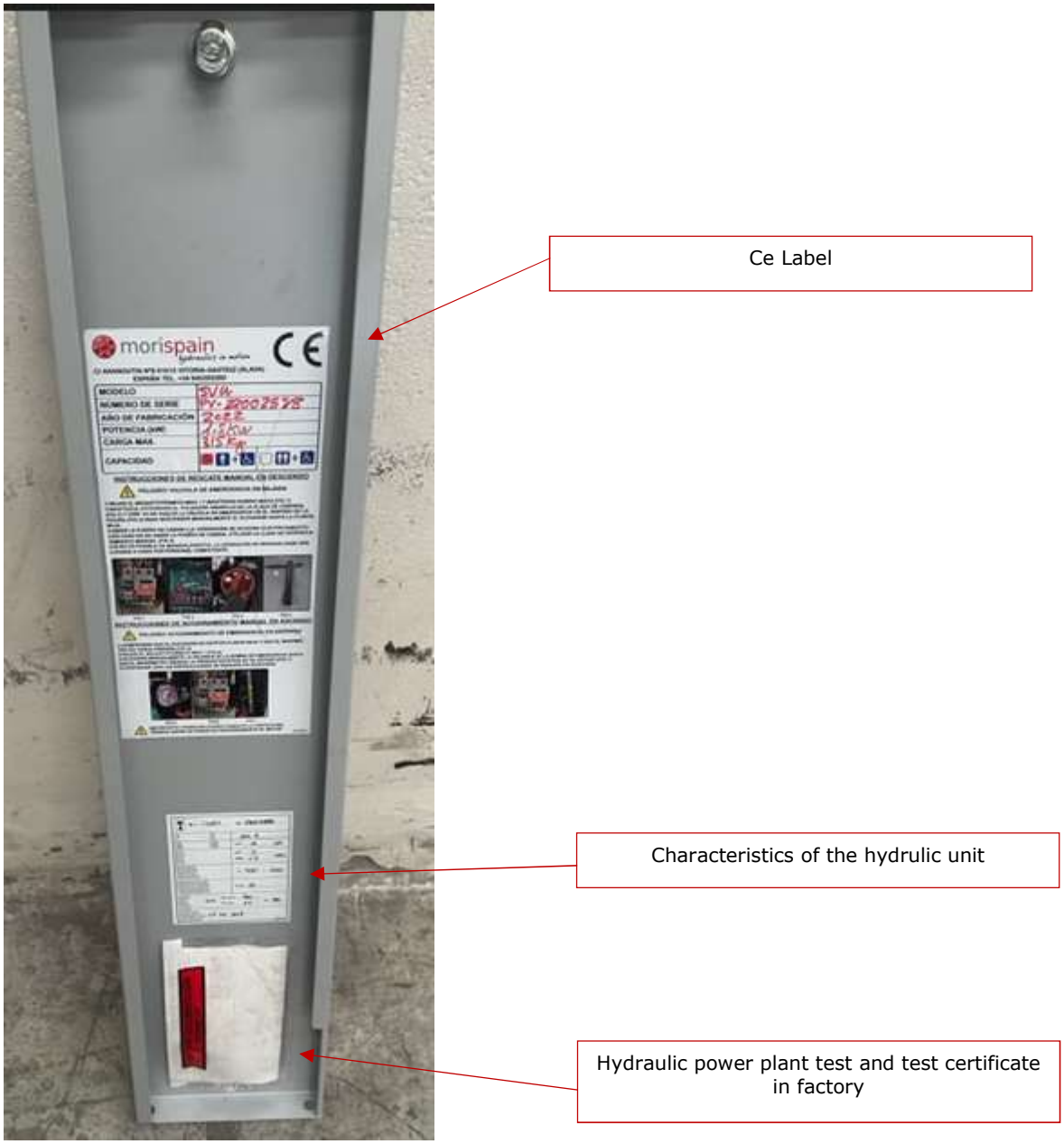
The shaft can be made of any resistant material that guarantees the protection of the system from possible damage caused by atmospheric agents.



The elevator essentially consists of:

1- Hydraulic power unit. Hydraulic equipment that incorporates the following elements inside: motor, pump, oil filter, valve block, solenoid valves, manual control for emergency lowering, manual pump for emergency raising and ISO HV 46 grade oil. These components are located inside the metal cabinet.

Inside the hydraulic power unit, behind the cover of the cabinet, we can find information about the lift, related to:



Information into CE label :

The information contained on the lift sticker is as follows:

a) Model

b) Serial number

c) Year of manufacture

d) Electrical power requirement

e) Maximum load

f) Capacity

g) Rescue instructions

ATTENTION: The information on the construction characteristics of the hydraulic power unit can be found inside the control cabinet, identified by a silver-coloured label, which contains the following information:

1) Model of the power unit
2) Pump flow rate (l/min)
3) Power of the electric motor (HP)
4) Motor voltage (V)
5) Voltage of the valves of the distributor (V)
6) Minimum Pressure (bar)
7) Maximum pressure (bar)
8) Safety pressure (bar)
9) Date of construction and test of the hydraulic power plant.

1- ***Cabine.*** This is the assembly formed by the cabin frame and the surrounding plates, inside which the people who are going to move from one level to another are placed. It is equipped with a control button panel and, in cases where there is an open space, a closing door. Optionally, the cabin may be a closed enclosure.

2- ***Floor doors.*** Located on each level, they are hinged, manual and equipped with lock with electric contact of presence and interlocking. Optionally, they can be motorised with 24 Vdc current.

3- ***Electrical control panel***. It controls the operation of the lifting platform. It is located inside the metal cabinet

WARNING: Never remove electrical system guards when the system is energised. The electrical systems of the hoist are behind these guards and, therefore, there is a risk of electrical shock if they are removed.

The elevator incorporates the following safety devices:

5- ***Parachute valve*** with actuation by speed increase in the cabin, or by hydraulic conduction breakage. It blocks the lowering of the piston, and therefore stops the cabin.

6- ***Sensitive edges*** with both bellows and anti-crushing tray, which blocks the descent of the tray in the event of an obstacle.

7- ***Safety and levelling valve*** when the door is closed, to maintain the level between the cabin floor and the stop level when the door is closed.

8- ***Manual rescue*** in the event of a power failure (SEE RESCUE INSTRUCTIONS).

9- ***Electrical control device*** on the floor and cabin doors, which prevents the landing door from opening if the cabin is not facing it; or the platform from operating if any door is open.

10- ***Overload control***.

11- ***Constant pressure*** on cab and external pushbuttons to make the journey.

12***- Emergency stop*** in the passenger compartment.

13- ***(Optionally) Photo-cell or photo-electric curtain*** on the opposite side of the access door, which stops the movement of the lift if a person or object gets too close to the wall.

1.1.3 **TECHNICAL DATA**

The attached table sets out the characteristics of the different elements that make up the elevator.:

CONCEPT	DESCRIPTION
Max. Dimension	Standard configuration: 800x 1,300 mm (according to EN 81-41). Other sizes 900x1,400 mm and 1,100x1,400 mm are available as options. (in accordance with the Machinery Directive 2006/42/EC).
Rated Load	In its standard configuration: 385 kg (according to EN 81-41). Optionally other loads (according to Machinery Directive 2006/42/EC) up to a maximum of 500 kg (according to EN 81-41).
Rated Speed	Máx. 0,15 m/s
Max. Travel	12.000 mm.
Traction	By means of hydraulic power unit and hydraulic cylinder in 1:1 suspension up to 3,000 mm and 2:1 up to 12,000 mm travel.
Car	Semi-cabinned, with a half-door in cab (open shaft), fitted with electric lock with presence and deadbolt. It can be installed without a door in the car, as long as they are installed in closed or semi-closed shafts, with a door/semi-door (last stop) with locks with presence and bolts.
Electric Features	Three-phase motor 1,5 Kw powered by frequency inverter. Inputs 220 Vac
Hydraulic System	Hydraulic power unit with submerged motor and screw pump. Valve group with one speed downhill and, powered by the frequency inverter, regulated speed uphill. 2 downhill speeds with mechanical valve
Safety Components	Certified, according to EN 81-20 if applicable: Moris 0825/P (HES) (or similar) locking valve/parachute (or similar) Blain L10 safety relief valve (or similar) Certified according to Directive 2006/42/EC, and/or requirements of EN 81-41: Electric lock Schmersal AZM 161 (or similar)
Ruido	The equivalent continuous A-weighted equivalent sound pressure level emitted by the lift is less than 70 dB(A).

NOTE : The manufacturer certifies that the equivalent continuous "A" weighted equivalent sound pressure level emitted by the hoist is less than 70 dB(A).

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1 de 1

DECLARACIÓN
Niveles sonoros

DECLARACIÓN

Con este documento Morispain, S.A. declara que las pruebas realizadas, sobre las elevadores para personas de movilidad reducida modelo SVU, según EN 81-41 han proporcionado los siguientes resultados de presión sonora emitida en la posición del usuario prevista :

Elevador SVU	
Recorrido	dB
Hasta 10mts	68

Estos valores se han medido utilizando la carga nominal prevista del elevador así como su instalación habitual con total cumplimiento de los requisitos de la norma EN81-41 en lo que se refiere a su cerramiento completo.

01/10/2020

MORISPAIN, S.A.

Departamento Técnico

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1.2 LIFT OPERATION

1.2.1 CAR OPERATOR CONTROL

It is located on the vertical wall of the cabin.

Car caller

The car caller is the device that moves the car up or down. It can be operated by means of buttons (push buttons) or by means of a joystick (Joistick). The car call button must always be actuated at all times in order to make a journey. If it is released before the desired level is reached, the lift will stop immediately.

Key selector.
(Optional) In case there is a car key (car call restrictions), the key must be inserted, turn ¼ turn and use the car call button to the desired floor. Once the trip is finished, untwist the key and take it out again.

Alarm button.
Allows activation of the alarm buzzer, emitting an acoustic signal to warn third parties that someone is trapped in the cabin. Optionally, it also allows communication with the breakdown service (if contracted by the owner), by means of a bidirectional communication system.

STOP or Emergency stop button.

It cuts off the power supply to the lift in the event of an emergency. Stops immediately. To reset, turn it in the direction of the figure.

DISPLAY OR OVERLOAD LIGHT

See point 1.2.5

1.2.2 **LANDING CALLS**

The external call button is basically the call button, which may be located:

(a) on the wall of the building adjacent to the elevator
b) On the half-door or door itself.

Optionally, it can be a key instead of a push button.

The external call button does not have to be pressed for the entire travel time, a single touch is sufficient.

Depending on the machine configuration, when the lift is located in an open shaft, call buttons of the "man present" type must be used (Directive 2006/42/EC). If in doubt, consult your installer.

1.2.3. **CONTROL PANEL**

The manager of the lift control and position system is not equipped with a floor call memory, so it only responds to the first call it registers. After the call, the push buttons or call buttons located on each floor will illuminate, indicating that it is busy.

When the passenger in the car presses a button continuously, the car immediately moves to the required floor. If another person calls the lift from another floor, the call will not be registered and will not be answered.

1.2.4 **NORMAL USE INSTRUCTIONS**

CAUTION: For the lift to operate, all car access doors must be closed. If the door on any level is open, the lift will not respond to the call.

For correct use of the vertical platform for people with reduced mobility, follow the following guidelines for use:

1. Make a call from the outside, until the platform reaches the floor. If the lift is on the same floor, you must also press the external call button in order to open the door.

2. The door will unlock, allowing you to open it to board the car.Para un correcto uso de la plataforma vertical para personas de movilidad reducida seguir las siguientes pautas de uso:

NOTE : There is a time limit: if approximately 8 seconds elapse after the lift reaches the desired level and it is not accessed, then the door will close automatically (whether the standard electric lock is available or the door is optionally motorised).

3. Get inside the cab and make sure the door is closed tightly.

4. To go to the desired level, press and hold the level button until you reach the desired level. In case of using Joistick, keep it pressed in the desired direction of movement (up or down) until you reach the floor.

5. Open the door of this access, exit the cab and close it again, ensuring that the door is closed and latched.

6. If the platform is stationary on the level you are on, you can open the door by pressing the call for that level, both in the cabin and outside.

7. In case of re-levelling (when the level of the cabin and the floor is not the same), the platform does not open the door, to open the door you will have to press the button of the level you are on.

The cabin pushbutton panel has an emergency stop to stop the platform immediately. To deactivate the stop, turn the stop according to 1.2.1.

Lifts installed with an open shaft are fitted with a suspended body tray in the lower part of the cabin to prevent crushing during lowering. The lower part of the base detects an object underneath it by physical contact and locks the platform immediately. In case of unblocking, it is necessary to notify the TECHNICAL SERVICE for inspection and commissioning.

1.2.5 **FAILURE SIGNALS**

In the event of an excess load, an overload light in the cab shall be activated and the platform shall proceed to keep the door open at that level and prevent any type of travel.

The light of the external call buttons shall be kept on whenever:

(a) The platform is in use.

b) A door is open.

In the event of activation of the stop, or the limit switch, or the lower escape tray, the lights of the external call buttons shall flash in sequence. If the platform is on the ground. The door will remain open until the problem is solved.

NOTE : The owner must shut down the lift in the event of a breakdown or dangerous situation.
The owner must also inform the maintenance company about the access to the lift and have the keys (cabinets, call buttons, etc.) to facilitate the maintenance work of the maintenance company.

WARNING: This machine has been designed solely and exclusively for the vertical lifting of persons. Do not use as a forklift!

2 RESCUE MANUAL

2.1 RESCUE PROCEDURE- INFORMATION FOR THE USER

Let's define different states in which you can have a state of emergency.

2.1.1 THE LIFT DOESN´T WORK AT LEVEL FLOOR

When you enter the lift and operate the car call button, and it does not work, check:

1) That the floor or car door through which you have entered is completely closed.
2) That the car STOP is released (not activated).
3) That it is not obstructing any photocell or safety barrier.
4) It is not in an "overloaded" state.
5) That the cab keypad release key (optional) has not been inserted

2.1.2 THE LIFT IS PLACED BETWEEN FLOORS

The lift has stopped between floors due to a malfunction. For example: cable of the indirect drive system, electronic control board, etc.

In such cases, a rescue manoeuvre is necessary. Keep calm. The rescue manoeuvre does not mean that there is a danger, on the contrary, it prevents it.

WARNING: Make sure that the ventilation of the shaft is always sufficient.

To do this :

1. Try to start the lift again, by pressing the desired level button (0, 1, etc), or by moving the Joistick in up or down direction.

2. Check that the doors are completely closed, that there are no obstructions in the photocells or infrared barriers and that the STOP button is not pressed.

3. Press the alarm button. The alarm buzzer will sound, alerting nearby persons.

4. (Optionally, if contracted by the owner) The lift is equipped with a communication with the intervention service. Wait a few seconds, the conversation will not start immediately. You can also have a small gondola telephone to communicate with the outside.

5. Follow the instructions of the service. A competent technician will go to the lift. If the service is not contracted by the owner, you must call the telephone number indicated on the control panel.

6. When the technician arrives on site, he will start the rescue manoeuvre, which consists of lifting the platform by means of a hand pump or by switching on the rescue system.

7. The technician shall initiate the manual rescue descent, using a hydraulic control to lower the platform at a slower speed. For more information, see section 2.2

8. Finally, after reaching the low level, the technician will open the access door, using a special key. For more information, please refer to section 2.2

9. Exit the lift normally. The technician will declare the machine "out of service".

In a fault situation, the push buttons on all levels will remain illuminated.

2.1.3. **THE LIFT HAS STOPPED BECAUSE THERE IS NO POWER SUPPLY.**

The lift has stopped between floors due to a lack of external power supply.

In such cases, you can continue the journey yourself. Keep calm.

The lift is fully operational in the downward direction as long as all safety devices (doors, STOP buttons etc. ...) are closed.

This manoeuvre does not mean that there is a danger, on the contrary, it prevents it. Ventilation must be sufficient.

NOTE : In case of power failure, the lift can only go down, never up.

1. Start the lift again by pressing the lower level (ground floor) button, normally indicated by "0", or move the joystick in the down direction.

2. Press and hold the call button until you reach the lower level.

3. Open the door normally (option: motorised doors will also open automatically when you reach the lower level).

4. Close the landing door

It is also a good idea to notify the emergency service by pressing the alarm button if you have a remote service contract. The technician can then check the correct operation of the lift and rule out other faults.

The lift is able to perform this manoeuvre because it has a battery which automatically powers the safety systems and controls in the absence of external power.

The outdoor lights will flash in a sequence of 2s. As soon as power is restored to the control panel, the platform will be operational again.

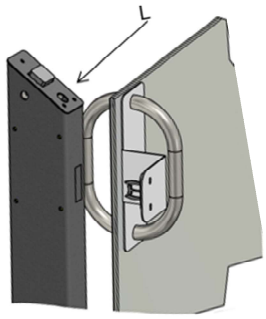
2.2 RESCUE MANUAL FOR THE INSTALLATION/MAINTENANCE COMPANY

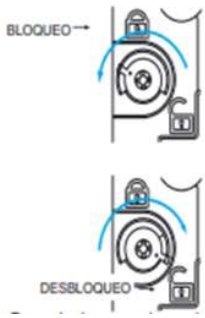
Follow the steps below:

1) If persons are trapped, warn them of your presence, reassure them and advise that you are going to move the lift.

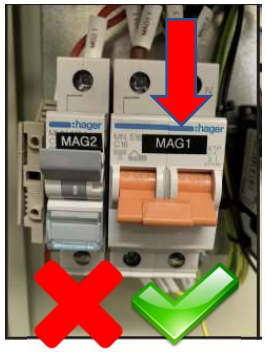
2) If the lift is at floor level and the lift does not open doors, use the manual emergency key by inserting the triangular key through the keyhole ("L" position) and turning ¼ turn clockwise and release the persons. If not:

WARNING: The manual emergency stopcock may only be used by authorised and competent technical personnel. MORISPAIN declines any responsibility for misuse of the emergency key in the event of an accident.





3) Locate the control cabinet and open it.
4) Check the position of the hoist in the shaft and make a brief visual inspection, verifying that:
   a. That the doors are closed
   b. That no safety devices are activated (stop, barriers, photocells, sensitive edges, body safety tray).
   c. The state of the power supply.
   d. Check the status of the safety devices and series in the controller, in order to check the failed safety device.
5) Attempt to restore operation if possible. If not:
6) Lower the thermal magnet MAG.1 indicated in the figure, but DO NOT LOWER MAG.2.

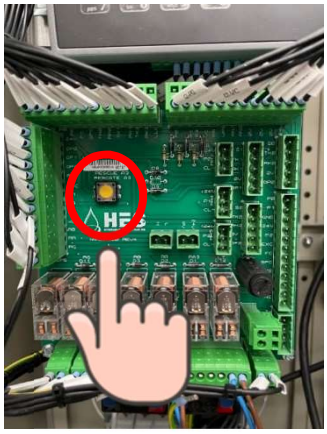


WARNING !

Do not lower MAG.2, because we will remove power to the batteries and will not be able to restore the emergency power supply.

7) Lower the lift, operating simultaneously:

a. The YELLOW button located on the NSVK-100 REV 4 plate.
b. Turning the lowering knob of the hydraulic valve BLAIN KV2P anti-clockwise, until the platform is at ground level.



8) Open the door with the manual emergency key according to point 2).

9) Release the trapped persons and relock the door, making sure that it is closed.

10) Locate the fault.

NOTE: If the battery circuit does not work, 24 Vdc must be supplied externally, between terminals XALE-2 (24v) and X1-2 (0V).

2.3 OPERATIONS UNDER THE CAR.

When inspection, maintenance or repair work needs to be carried out under the cab, the following safety measures must be taken into account:

a. The lift has an active safety device installed at the bottom of the piston and connected to the parachute valve called L10. This device only works if it receives power to the coil, so we must make sure that when we are operating under the cabin, this must never be activated.

b. Although there are several ways to ensure that the hoist does not operate, for example, by removing the total power supply to the hoist (MAG.1+MAG.2), or by opening a safety series (Pit stop, Door open, etc...), L10 can be disconnected directly, by removing the connectors next to the L10 coil. This will always ensure that we have no power supply.

c. This device complies with the requirements of EN-81.41 section 5.1.4.2.

DANGER: Operations under the cab may only be carried out by competent technical personnel.

2.4 OPERATING PROCEDURE OF THE SAFETY GEAR.

The hoist is equipped with a remote actuation system for the parachute system, in accordance with EN-81.41 section 5.1.4.1.3.

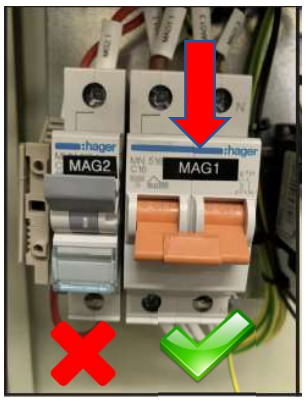
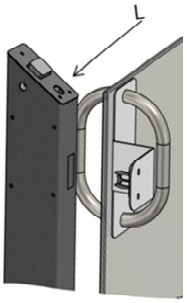
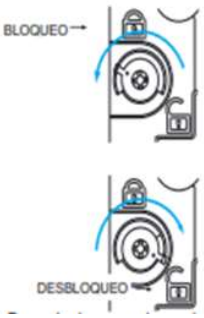
In point 2.16 of the assembly manual, we can see the graphical details of the release system of the parachute system. The procedure is as follows:

1. Raise the hoist, up to a height of about 2 metres.
2. Open the access door and hold it open, leaving the bolt free in case the door closes, so that you can get out again.
3. Press the safety STOP button.
4. Remove the front trays to a minimum height of about 1.5 m.
5. Activate the mechanical device located on the 2nd fixing of the column to the wall, to its "LOCK" position.
6. Exit the hoistway, restoring the position of the latch and the pit stop.
7. Lower the lift manually by turning the roulette on the spool valve and pressing push button A3, which supplies the L10 valve on the piston. The elevator will start to descend, until the parachute pull plate collides with the mechanical safety device.
8. Check that the wedging contact is activated (the "SPC" signal on the automaton will appear open).
9. To restore operation, jumper the SPC-SPC terminals of the car connector and make an up call to restore the lift operation.
10. Remove the jumper and proceed with steps 1,2,3 by repositioning the front trays.

DANGER: The operating procedure of the parachute system may only be carried out by competent technical personnel.

2.5 SUMMARY EMERGENCY RESCUE INSTRUCTIONS

1) Lower the MAG.1 thermal magnet (do not lower MAG.2). **FIG 1**
2) At the same time press the YELLOW button on the NSVK-100 REV 4 board and turn the knob on the BLAIN KV2P ¼ hydraulic valve counterclockwise until the platform is at ground level. **FIG.2**
3) The door lock will unlock. In case it does not work:
4) Proceed to manually unlock the door lock by inserting the triangular emergency key through the hole and turning the key ¼ turn clockwise. **FIG.3**
5) Rescue the persons and make sure that the door is locked.

Fig.1	Fig.2	Fig.3
	  	  

2.6 ANOTHER PROCEDURES

The elevator presents another problem. For example:

- A failure in the platform lighting.

- An abnormal noise in the installation.

- The lift is stopped and the doors do not close.

- The lift is wedged.

- An electrical shunt.

It is necessary to notify the intervention service. The technician can check the correct operation of the lift and rule out other faults.

In the event of a fault, the push buttons on all levels will remain illuminated..

2.7 SAFETY

2.7.1 Before putting into service

For the commissioning of the lift, the owner must ensure that the following are carried out:

- Have in a visible area of the platform the name and telephone number of the maintenance company.

It is also recommended that the owner

- Has contracted a planned maintenance service, to be carried out by a maintenance company.
- Has a "24-hour" call service for the lift during the entire time it is in operation.

2.7.2 Safety considerations

The owner of the installation must ensure that the building is safe by respecting the following considerations:

- If a person cannot be rescued quickly, due to the availability of rescue personnel, the lift must be taken out of service.

- Access areas to maintenance areas must be kept safe and clean. The maintenance company must be informed of any changes or hazards in these areas.

- Keys for maintenance and floor doors must be kept secure and inaccessible to unauthorised persons.

Preventive maintenance shall be carried out to maintain the safety of the lift.

Periodic checks of safety equipment help to locate faulty components before failure.

WARNING: Attention shall be paid to the following safety information

Fig. 1 Do not push / lean on doors.

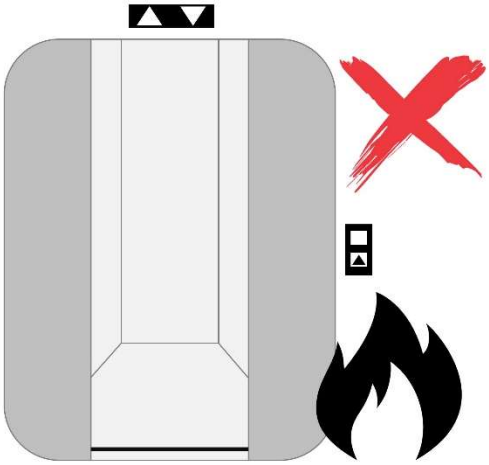


Fig. 2 Not use in case of fire

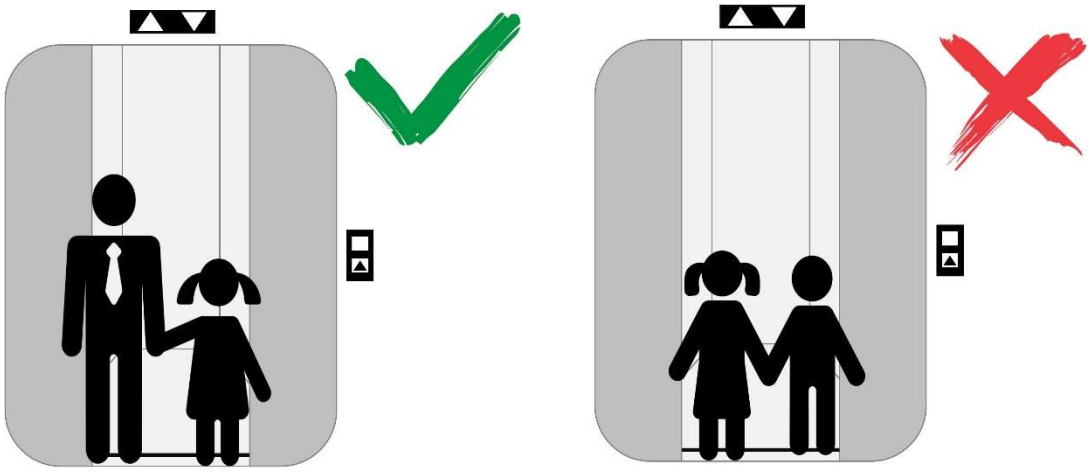


Fig. 3 Do not allow use by unaccompanied children.

2.8 ENVIROMENT

2.8.1 Materials used in the elevator. Spare parts.

The lifters are made of different types of steel. There are various electronic components as well as plastics.
The most common hazardous materials and their use in the elevator, to be considered for replacement during the lifespan of the elevator are:

Material	Used
Oil ISO HV-46	Yes
Batery de acid-plumb	Yes
Mercury-containing fluorescent tubes	Non
Abestos	Non
Plactics such Nylon	Yes
Normal Plastics	Yes

Fig. 4 Hazardous materials table.

Batteries shall be compatible with the Sunlight SPA 12 -1.3 model with nominal voltage of 12V in 6 cells with 10 year cycle life and nominal capacity of 1200 Ampere hours.

200 - 240 Vac (50 -60Hz) constant voltage charging system delivering 12-14Vdc at 1.5Amp and with a maximum of 151 W.

NOTE : The maintenance company must have adequate waste management procedures.

2.8.2 Packaging

For installation, the lift parts are packed in wooden crates. Cardboard and plastic are also used to protect small parts from damage during transport and handling. They should be sorted and recycled when local circumstances permit..

2.8.3 Final elimination

The disassembly and disposal of the hoist at the end of its service life must be carried out by a specialised waste disposal company.
In each country there are different regulations regarding the disposal of electronic or hazardous waste, such as batteries. It is necessary to strictly comply with the specific standards in force in the country of use of the equipment.

Do not dispose of equipment components in ordinary waste..

3 MAINTENANCE MANUAL

3.1 INTRODUCTION

In order to guarantee the correct operation of the lift during its useful life, it is essential to carry out periodic maintenance operations.

It is recommended that the lift be maintained by a Maintenance Company, and in any case the national regulations where it is installed must be applied..

WARNING: Depending on the country of destination and the case, it may be compulsory to register the installation with the competent authority. It is necessary that the installation company is aware of the legislation in force where it is going to be installed. Depending on the country, a maintenance contract with a maintenance company may be required.

Preventive maintenance is designed in such a way as to,

- ensure that the lifting platform and its accessories are kept in safe operating condition.
- The requirements of the equipment for safe maintenance are reported.
- operations considered necessary during the service life of certain components are carried out.

The scope of the maintenance work and its frequency are shown in the attached tables, depending on the degree of use, the degradation of the materials and the degree of safety, in order to guarantee its operation when required.

The maintenance tables are those indicated by the manufacturer, leaving it up to the installation company to adapt them as part of their internal maintenance plans.

The maintenance company must adapt the relevant safety measures to warn the user of the possible dangers during the maintenance phase, such as:

- Signs or maintenance signs
- Ensure at all times that falls into the shaft are prevented.
- Ensure that there is no access to the manoeuvring devices.

WARNING: Maintenance work shall only be carried out by qualified and trained personnel who are familiar with the operation of the hoist.

NOTE: Adequate preventive maintenance guarantees the correct operation of the elevator and extends its useful life.

3.2 MAINTENANCE PROGRAMME AND PERIODICITY

In the following table we are going to define the inspection points of the elevator, as well as the type of inspection to be carried out, where it is going to be carried out and the periodicity of the inspection.

The type of inspection to be carried out is classified into 4 types:

(V)= visual
(F)= operation
(A)= actuate
(E)= execute action

ELEVATOR MAINTENANCE PROGRAM

ITEMS	MAINTENANCE OPERATIONS	PLACE	TYPE	PERIODICITY (months)
Normal operation	Make a travel and observe for noises or other anomalies.	From Cabin	V	4
	Correct leveling (±10 mm)	From Cabin	V	4
	Change speed correct	From Cabin	V	4
Shaft	Cleaning	From Cabin	E	4
	Check STOP push button (enclosed shafts)	From Cabin	A	4
	Lighting shaft (in case of)	Fron pit&cabin	V	4
Column	Guide rails fixations: bolts, clips ..	Fron pit&cabin	V	12
	Guide rails lubrication	Fron pit&cabin	E	8
	Head Pulley: guide shoes, Backlash, wear	From Cabin	V	12
	Pulley guide plate: fixations	From Cabin	V	12
	Traction ropes and safety rope (only 2:1)	Fron pit&cabin	V	12
	Rope accesories: anchor, fixation (only 2:1)	Fron pit&cabin	V	12
	Safety rope fixations (only 2:1)	Fron pit&cabin	V	12
	Travelling cable: fixations, verify	Fron pit&cabin	V	12
	Limit switch plate and change speed plate (2:1)	Fron pit&cabin	V	12
	Door zone plates (2:1)	From Cabin	V	12
	Jack beam: fixations	From pit	V	12
	Jack beam rope switch (2:1)	From pit	A	12
	Rupture valve and A3 valve: not oil leakage.	From pit	V	8
	State of hydraulic hose	From pit	V	8
	Column fairing	Fron pit&cabin	V	4
Car Frame	Car guide shoes	From Cabin	V	8
	Magnet pulses : PB-PS-RE			8
	Limit switch	From landing	F	8
	Change speed switch (2:1)	From landing	F	4
	Door zone Switches	From landing	F	4
	Floor bolts conection	From Cabin	V	12
	Safety gear test (using the procedure)	From landing	F	12
	Safety gear swicth	From Cabin	F	4
	Car frame state	From Cabin	V	12
Cabin	Car pushbuttons	From Cabin	F	4
	Stop pushbutton	From Cabin	F	4
	Car Alarm	From Cabin	F	4
	Phone/twice-directional comunication	From Cabin	A	4
	Photocells and infrared bars (in case of)	From Cabin	A	4
	Safety bed plate / Safety shoes plates	From pit	A	4
	No vandalism in the cab: holes, broken nameplate, etc.	From Cabin	V	4
	Floor state: holes, oxidation	Fron pit&cabin	V	12
	Lighting car (in case of)	From Cabin	V	4
	Car Lock (in case cabin door)	From landing	E	4
	Car door : glass, hinges (in case of)	From landing	V	4

Landing doors	Landing locks adjustement	From landing	E	4
	Manual unlock	From landing	F	4
	Electric opening motor	From landing	F	4
	Landing door : glasses, hinges	From landing	V	4
	General function	From landing	F	4
	Landing doors, are opened with the car in front of	From landing	F	4
	Check RK and TK signals from each door	From landing	E	8
	Landin calls function	From landing	F	4
	General statement: oxidation ….	From landing	V	4
Control Panel-Electric Connections	Control panel conections	From landing	V	4
	Landing lock/calls connections	From landing	V	4
	Car connections	From landing	V	4
	Earth conection check	From landing	V	4
	Cabinet lock	From landing	V	4
Hydraulic	Jack seals (normal oil leakage)	From landing	V	4
	Block valves normal oil leakage	From landing	V	4
	Level oil	From landing	V	4
	Motor protection. Check	From landing	F	4
	A3 function. Check	From landing	F	4
	Manual pump. Check	From landing	F	4
	Overload device. Function and safety light.	From landing	F	4
	Safety presure. Close the manual shut-off valve and make a travel.	From landing	F	4
	Shut-off valve. Check	From landing	F	4
	Check the parachute valve. Load the hoist with nominal load. Climb to top floor. Depressurise the manifold. Remove the inlet hose from the distributor and put it in the tank. Make an emergency descent by feeding the L10, until it stops.	From landing	F	12

3.3 MAINTENACE SAFETY RULES

In the following, brief explanations are given on how to perform maintenance work safely from different points of the lift.

3.3.1 MAINTENANCE OPERATIONS UNDER THE CABINA

When we carry out maintenance work under the cabin (whether it is an open pit or a closed pit), we must be aware of the operation of the safety device that protects us in the event of an accident.

The protection we have against a possible crushing of the cabin when we are in the pit, is the safety valve L10, installed just after the parachute valve located at the bottom of the piston.

This valve only works if it is supplied with 24 V.

The power supply of the valve can come:

- When the linkage is operating in NORMAL OR MOUNTING MODE.
- When performing a RESCUE OPERATION.

Although there are different ways of guaranteeing safety, depending on whether the shaft is open or closed, the safest way to work under the cabin is **to disconnect the MAG.1 and MAG.2** thermal magnets from the control panel **and close the control cabinet** or notify a colleague (if we have one), informing them of our intentions.

3.3.2 MAINTENANCE OPERATIONS FROM THE CABIN

When we work from the cab, to carry out maintenance operations or repairs on the column, we obviously do not have the cab panel that protects us from possible accidents.

The risks we have are:

- trapping between moving parts and
- falls to different levels.

To avoid risks of entrapment, we will use an auxiliary button panel, which must be operated with both hands, as well as a lower skirting board, which avoids possible entrapment with the feet. To prevent falls at different levels, apart from the skirting board mentioned above, there is a handrail at a height of more than 1 m.

3.3.3 MAINTENANCE OPERATIONS FROM LANDING

When working from outside the booth, there is a risk of working with the doors open.
For this reason, we must always position the booth at the level of the door we wish to work on.

WARNING: Follow these safety recommendations. Safety FIRST

3.4 INCIDENT LOG

Below is an example of how to record the inspections and incidents detected in the lift, in order to have a history of inspections and parts replaced, available to the user and the maintenance company.

This format can be as the maintenance company wishes as long as it is recorded:

- Date of the inspection or intervention.
- Type of intervention: Maintenance/ Breakdown.
- Parts changed/replaced.
- Name of maintainer
- Signature of the maintainer or company stamp.

The incident logbook must always be at hand and accessible to the user, in order to have information on the actions carried out and the result obtained.

INCIDENT LOG

DATE	INTERVENTION TYPE	SPARES REPLACED	WORKER	SIGNATURE STAMP
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdonw service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenace ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			
	Maintenance ☐ Breakdown service ☐			

4 RECORDING OF PERIODIC MAINTENANCE PROGRAMMES

In this record, the points of the maintenance programme shall be recorded in such a way that after 1 year, all the necessary tests have been carried out to ensure the operation of the lift and its safety features. Each of the lines therefore represents the ***1-year maintenance programme,***

DATE	PROGRAM	WORKER	SIGNATURE STAMP
/ /	4 months ☐ 8 months ☐ 12 months ☐		
/ /			
/ /			

DATE	PROGRAM	WORKER	SIGNATURE STAMP
/ /	4 months ☐ 8 months ☐ 12 months ☐		
/ /			
/ /			

DATE	PROGRAM	WORKER	SIGNATURE STAMP
/ /	4 months ☐ 8 months ☐ 12 months ☐		
/ /			
/ /			

DATE	PROGRAM	WORKER	SIGNATURE STAMP
/ /	4 months ☐ 8 months ☐ 12 months ☐		
/ /			
/ /			

DATE	PROGRAM	WORKER	SIGNATURE STAMP
/ /	4 months ☐ 8 months ☐ 12 months ☐		
/ /			
/ /			

DATE	PROGRAM	WORKER	SIGNATURE STAMP
/ /	4 months ☐ 8 months ☐ 12 months ☐		
/ /			
/ /			

DATE	PROGRAM	WORKER	SIGNATURE STAMP
/ /	4 months ☐ 8 months ☐ 12 months ☐		
/ /			
/ /			

5 COMMISSIONING AFTER ASSEMBLY

The following is a checklist of the points to be checked during the commissioning of the lift in order to obtain the lift certificate.

CHECK-LIST FOR CERTIFICATION OF VERTICAL LIFT INSTALLATION	
MANUFACTURER	**MORISPAIN S.A.**
SERIAL NUMBER	**PV-**
CLIENT REF.:	
INSTALLATION ADRESS:	
DATE:	
INSTALLER COMPANY:	
AUTHORIZED PERSON:	
SIGNATURE	

Aplication rules	
2006/42/CE up to 3 m. de Travel	
2006/42/CE upper to 3m. Travel	
EN.81-41	
SUA 2 (SPAIN)	

All shaded fields must be marked with an "X" or otherwise marked Not Applicable.

ITEM TO CHECK						
ITEM TO CHECK	Visual	Function completed	Measure	Drawing	User	Not apply
Existence of physical manuals for (maintenance, rescue, user)						
Correct condition of the machinery cabinet or machine room.						
Intended use appropriate to the characteristics of the lift						
Adequate maintenance, repair and inspection access						
Nominal speed less than 0.15 m/s						
Rated load appropriate to the characteristics of the hoist						
Charge control (pressure switch operation and charge indicator light)						
Appropriate platform dimensions						
Mechanical strength of the fixing wall						
Platform strength in use						
Adequate environmental protection for its location						
Cab chassis and head pulley guiding system correctly installed						
Parachute test performed at rated load						
Correct operation of the overpressure circuit.						
Coining transmission system, free of defects						

ITEM TO CHECK	Visual	Function completed	Measure	Drawing	User	Not apply
Correct condition of the traction cables						
Adequate power supply						
Nominal Current						
Correctly installed conductors						
Adequate lighting						
Nearby power socket						
There is a differential for the power circuit (independent)						
There is a differential for the lighting circuit (independent).						
There is a thermal magnet for the power circuit (independent).						
Requirements for adequate and safe enclosure						
Correct re-levelling distance						
Correct operation of Power Failure Protections						
Correct operation of electrical safety devices						
Battery operation in the absence of mains power						
Correct operation of control and command devices						
Limit switch operation						
Pit STOP operation						
Cabin STOP operation						
Car alarm operation						
Wire-less calls operation						
Photocells/infrared bars operations						
Car lighting						
Upper safety space						
Strength of enclosure walls						
Smooth internal enclosure surfaces						
Suitable type of enclosing glass						
Floor doors (mechanically and electrically interlocked) correct						
Correct operation of door opening systems						
Correct operation of Sensitive Edges						
Strength and operation of the folding seat						
Verify that no modifications have been made outside of the lift's pharicantor.						

Immediately after installation and before being put into service, lifts shall be fully tested and tested by a competent person in accordance with the following:	
a) All control devices are functioning properly	
b) All door locking devices are operating correctly.	
c) The stopping distance of the platform is within the specified limits.	
d) All electrical safety contacts and devices are in proper working order.	
e) Suspension elements and their joints are in good order	
f) The correct clearance dimensions of the surrounding structure are maintained throughout the lift travel.	
g) The hoist shall be electrically tested with instruments including insulation and continuity to earth.	
h) Verification that the polarity of the connection is correct.	
i) Tests to verify the correct, correct operation of the safety gear at rated load and speeds; (ii) Tests to verify the correct, correct operation of the safety gear at rated loads and speeds	
j) Verification that the manual emergency release mechanism operates correctly.	
k) Verification that the alarm device is working properly	
l) The mechanical locking device is fitted and functions properly; (m) The mechanical locking device is fitted and functions properly.	
m) All signs and notices are correctly displayed.	
n) The overload detection device is functioning correctly (programmed load + 75 kg).	
o) is subjected, without failure, to a dynamic test at maximum working load and rated speed	
p) is subjected, without permanent deformation, to a static test with nominal load multiplied by a coefficient of 1,25	

PHOTOS GALLERY	
a) Column to wall fixings	
b) Attachment of the cab to the underside of the chassis	
c) Attachment of the cab to the top of the chassis	
d) Attachment of the upper half-door	
e) Distance of glazing panel from car to wall	
f) Piston attachment	
g) Pulley guide rail plate fixation (only 2:1)	
h) Fixation between Jack and car frame	
i) Exterior photos of the finished machine	

SERIAL NUMBER	PV-
REFERENCE:	
INSTALLATION ADRESS	
DATE	
INSTALLATION COMPANY	
AUTORIZATED PERSON	
SIGNATURE	

MODEL DECLARATION OF CONFORMITY (IF APPLICABLE)

DECLARACIÓN «CE» DE CONFORMIDAD

CE

MORISPAIN S.A.

c\ Arangutxi 8
Polígono Industrial Júndiz
01015 Vitoria – Álava
España

MORISPAIN S.A, como fabricante y persona jurídica encargada de la recopilación del expediente técnico de construcción, declara que el sistema de elevación realizada por:

Instalador:

Descripción: ELEVADOR VERTICAL PARA PERSONAS
Modelo:
Nº de Serie:
Año de fabricación:
Carga nominal:
Dirección de la instalación:

Resulta apta para el uso de personas con movilidad reducida y cumple con las disposiciones de la Directiva de Máquinas 2006/42/CE Anexo IV Categoría 17.

Disponiéndose del documento Nº 0370 -MA-6200/H que certifica que el sistema de la calidad total de Morispain, S.A. ha sido evaluado y aprobado de acuerdo con lo que se establece en el Anexo X de la Directiva de Máquinas 2006/42/CE y emitido por el organismo Notificado Nº0370 APPLUS + Laboratories LGAI Technological Center S.A. Campus UAB – Ronda de la Font del Carme, s/n E-08193 Bellaterra (Barcelona).

Vitoria a de de 2 .

Fdo.:

6 ANEX I : INSTALLATION DRAWING

See installation drawings

7 ANEX II: ELECTRIC DRAWINGS

See electrical connections manual

8 INSTALLATION MANUAL

See mechanical assembly manual

ELEVATOR

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ESPAÑA

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