Mini electric winch

PALANBOX 80, 160 and 230 kg

Instructions manual _____ EN

CE

3.362.11-3

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Contents

1 - Conditions of operation

All users must carefully read the operating instructions before using the winch for the first time. These instructions should allow users to familiarise themselves with the winch and use it to the best of their abilities. The operating instructions contain important information on how to use the winch safely and correctly. Acting in accordance with these instructions will avoid dangers, reduce repair costs, reduce downtime and increase the reliability and lifespan of the winch. The instruction manual must always be available on sites where the winch is used. In addition to the operating instructions and the regulations regarding accident prevention, users must take into account the rules in force concerning occupational and professional safety in each country.

This equipment falls under European regulations, in particular Machinery Directive 2006/42/EC.

The PALANBOX winches have been designed to perform lifting operations within the limit of the determined load capacity. Under no circumstances should they be used to hold a load under tension, especially if this load is likely to increase as this could cause the cable or winch to break (barges, circus tents, etc.)

- The capacity indicated on the winch corresponds to the maximum usage capacity (M.U.C.); which must not be exceeded under any circumstances.
- **UNDER NO CIRCUMSTANCES MAY THE WINCH BE USED TO LIFT PERSONNEL.**
- Do not begin to manoeuvre the load until you have properly secured it and made sure that all personnel have left the danger zone.
- Before each use, the operator must verify that the equipment, its cable, its hook, its marking and its docking are in good condition.
- Operators must ensure that the load is properly hooked in a way that the winch, the cable and the load do not endanger themselves or others.
- The winches can be handled in ambient temperatures ranging between -10°C and +40°C. Please

consult the manufacturer regarding use in extreme conditions.

- **Warning!** If the ambient temperature is below 0°C, the brake must be tested to ensure that it does not present a malfunction due to frost.
- Data regarding the heat resistance of the steel cable and its fastenings must be made available upon request from the manufacturer and must be complied with.
- The manufacturer shall not be liable for any consequences due to the use or installation of equipment not envisaged in this manual; nor shall the manufacturer be liable for consequences arising from the disassembly, modification or replacement of original parts or components by parts or components from other sources without a written agreement from the manufacturer.
- The use of winches requires strict compliance with accident prevention and safety measures in the country of use.

YOU MUST ALSO COMPLY WITH THE REQUIREMENTS APPLICABLE IN YOUR COUNTRY.

2 - Safety instructions

Before any use, ensure that there is nothing that would cause overloading such as: sticking to the ground, suction, jamming, etc. of the load.

As the operator of the winch, you are responsible for your own safety and the safety of your co-workers in the work area in which the equipment is being used.

Without any exception, operators must comply with all of the following safety information regarding the handling and operation of the winch, as well as references to other parts of this user manual. Failure to follow these instructions increases the level of risk.

- Only personnel authorised by the company can use the winch.
- Before using the winch for the first time, familiarise yourself with the conditions of its operation. To do this, read these operating instructions carefully and in their entirety and carry out all the operations described therein one after the other.
- Inform your manager or safety officer of any malfunction so that the defect can be immediately repaired.
- Comply with workplace accident prevention directives such as, for France, the Pension Insurance and Occupational Health Fund (C.A.R.S.A.T.) as well as your company's Health and Safety Committee (H.S.C.), if present.
- Strictly observe the information found in the sections CONDITIONS OF OPERATION (paragraph §1) and WORK CABLE (paragraph §4.4).
- The operator(s) must have a direct view of the load.
- Please ensure that the operator is able to guarantee its operation under the conditions established in this manual. This is meant to preserve the safety of people and the environment.
- Ensure you connect the winch to a suitable power supply.
- Check that the winch is connected to a mains outlet supplying the voltage indicated on its identification plate.
- Take care to provide satisfactory grounding to provide a path of least resistance for electrical current, which reduces the risk of electric shock.
- Do not lift or transport loads when personnel are in the danger zone.
- Do not allow personnel to pass under a suspended load.
- Do not leave a suspended load or a load under tension unattended.
- Do not overload the winch.
- Do not stand directly below the suspended load or the PALANBOX without the load being secured

by some other means.
- Make sure that no person or object is in front of or behind the moving load.
- Secure or hook the load or the PALANBOX in a stable manner. If necessary, take the necessary measures.
- Do not place or put your hands under the load when lifting.
- Do not use the winch near hazardous gases (such as acid and alkali or in flammable environments).
- Do not use the winch near an unprotected flame, excessive heat or sparks.
- Do not use in damp places (rain, snow, etc.), on rainy days or with wet hands, as the operator could receive electric shocks.

In addition to the above, take note of the warnings against any improper use or handling indicated below. It is dangerous and prohibited to:

- pull at an angle.
- swing a load.
- use cables that are not suitable, in diameter and texture, to the specifications in this manual.
- use damaged or spliced cables.
- grab or touch the moving cable.
- use hooks without a latch, which are not suitable for the indicated loads on the winch or which are not in good condition.
- insert objects into moving parts.
- work on winches that are loaded or under tension.
- use the winch cable as a sling.
- put hands, clothes, etc. in contact with moving parts, especially at the cable winding and unwinding points.
- repair, clean, control or check the winch while the input power supply is not turned off.
- use parts not supplied or certified by the manufacturer.
- completely unwind the drum (keep 5 residual windings).
- pass under the load.
- let the load to free fall.
- use the devices for operations other than those for which they are intended.
- tire the button box cable by unnecessary twists (risks the wire breaking).
- tap on the button box (engine and electrical equipment overheating).
- use the devices at temperature under -10°C or above +40°C.

3 - Warranty

Our electric winches are under warranty for a period of 1 year from the date of shipment (leaving the factory).
The seller agrees to remedy any operational defect resulting from a defect in the design, execution, components or materials themselves.

The warranty does not cover wear and tear or damage resulting from a lack of regular or periodic maintenance. Nor does it cover deterioration due to a lack of supervision, handling errors or improper use of the equipment, in particular through overloading, pulling at an angle, under or overvoltage or connection errors.

The warranty does not apply every time there is a disassembly, modification or exchange of mechanical or electrical parts without our agreement or by an unauthorised party. The warranty only applies to

spare parts from the original manufacturer. During the warranty period, the seller must replace or repair parts that are recognised as defective after an inspection by their certified and authorised service, free of charge.

The warranty excludes any other benefit or indemnity.

As a rule, repairs under the warranty are carried out in the seller's workshops or those of their agents authorised by the manufacturer. When an intervention on the equipment takes place outside of their workshops, the labour costs relating to the disassembly or reassembly of these parts shall be borne by the seller when these activities are carried out exclusively by their personnel or their agent authorised by the manufacturer. The replaced parts become the property of the seller and must be returned thereto at their expense.

For parts of special relative importance not manufactured by the seller itself and which bear the mark of specialised manufacturers, the warranty, which may vary depending on the manufacturer, shall be the same as that granted by the latter.

4 – Receipt of material

- Carry out a visual inspection of the packaging to make sure that it is in good condition.
- In the event of any irregularity, report any reservations.
- Verify that the winch is the one which you ordered.

5 – Mandatory regulatory inspections

The equipment has been designed to be tested:

- under dynamic testing, at a coefficient of 1.1
- under static testing:
  - at a coefficient of 1.1 for machines driven by human power
  - at a coefficient of 1.25 for other machines

A regular maintenance check is required once a year.

In accordance with the regulations, the user must set up an inspection book in which they record all the interventions and all the inspections carried out on the device (Rule FEM 9755).

<u>In France</u>, since 1 April 2005, the owner of a lifting device must:

1. **Under the provisions of the decree of 2 March 2004, keep a maintenance log in which** the following must be recorded:
   - Maintenance operations carried out, in accordance with the manufacturer's recommendations
   - Any other operation (inspection, maintenance, repair, replacement or modification on the device).

   Each activity recorded shall indicate the date of the work, the names of the personnel involved and, if applicable, the names of the companies that carried it out, the nature of the activity and, if it is a regular activity, its frequency. If the activities involve the replacement of the equipment's components, the references for these components must be indicated.
2. **Under the decree of 1 March 2004, article R 232.12 of the Labour Code:**

   <u>Checks during commissioning</u> (sections 3 of the decree - Articles 12 to 17):

- Suitability examination (article 5-1): appropriate equipment and compliant installation. Must be provided, in writing, by the user (article 3d).
- Assembly and installation examination (article 5-11): equipment installed according to the instructions.
- Operational examination (article 6c or 14-II): under load with safety tests.
- Static examination (article 10).
- Dynamic examination (article 11).

General regular checks (sections 5 of the decree - articles 22 to 24):

- Examination of the state of conservation (article 9): material kept in good condition, without anything missing or added, compliant.
- Operational examination (article 6b and c): under load with safety tests.
- Checks during recommissioning (sections 4 of the decree - articles 18 to 21):
- Suitability examination (article 5-I): appropriate equipment and compliant installation. Must be provided, in writing, by the user (article 3d).
- Assembly and installation examination (article 5 - II): equipment installed according to the instructions.
- Examination of the state of conservation (article 9): material kept in good condition, without anything missing or added, compliant.
- Operational examination (article 19-II): under load with safety tests.
- Static examination (article 10).
- Dynamic examination (article 11).

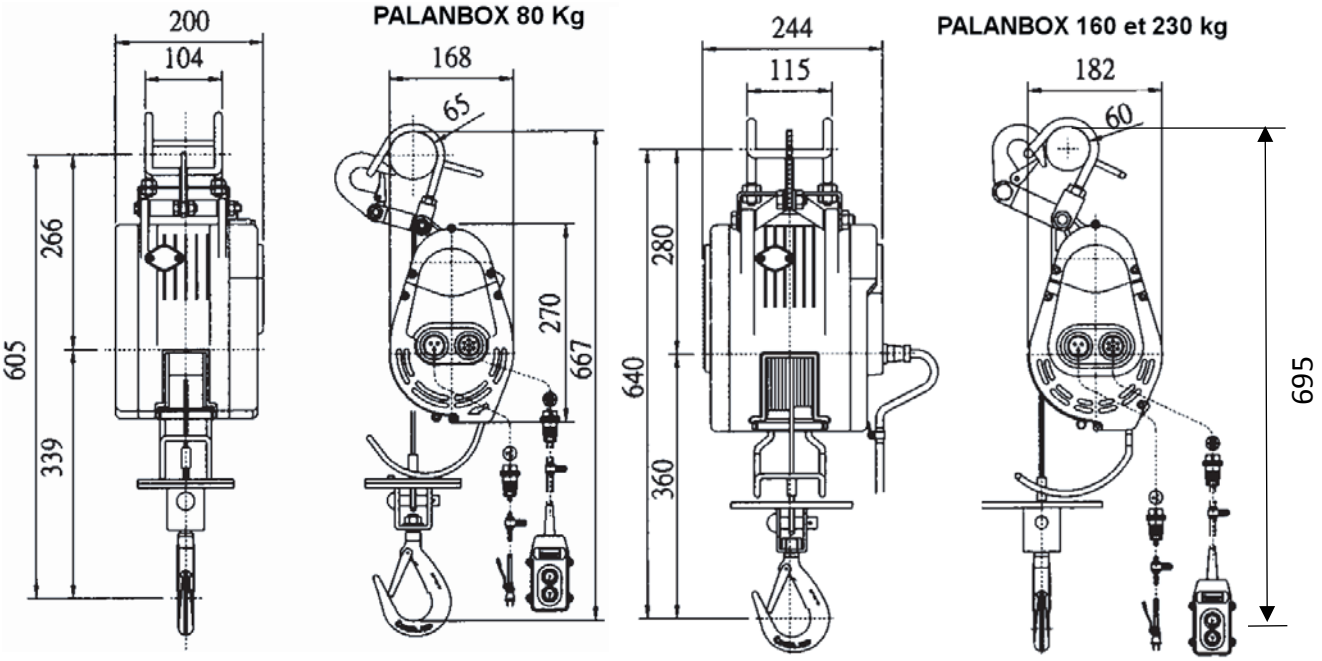
6 – Equipment presentation

PALANBOX winches are lifting devices built according to the rules and regulations in force.

6.1. Technical descriptions:

- Rigid cast aluminium structure.
- Protection IP20.
- Steel drum with large flanges allowing the cable to be attached.
- Single-phase motor 230 volts - 50 Hz - Starts using capacitor.
- Sealed reducer in grease bath.
- Direct current electromagnetic brake.
- Upper limit switch.
- Low safety sensor to avoid an upside down winding of the fully unwound cable.
- Power and control sockets.
- Removable 3-button control box (Up-Down-Emergency stop).
- Direct control reserved for use, protected from bad weather.
- Supplied accessories:
    - Cable and counterweight hook with safety latch.
    - 5m long power cord.
    - 10 m long control cord, with 3-button box.

6.2. Dimensions:



6.3. Specifications:

Model:	PALANBOX 80	PALANBOX 160	PALANBOX 230
Frequency	50 Hz	50 Hz	50 Hz
Nominal load	80 kg	160 kg	230 kg
Speed	30 m/min	22 m/min	14 m/min
Lifting height	35 m	40 m	24 m
Anti-rotating cable	Ø 3 mm	Ø 4 mm	Ø 5 mm
Motor power	800 W	1200 W	1200 W
Amperage	4 A	6 A	65 A
Nominal current	220 V	220 V	220 V
Weight (without cable)	18 kg	24 kg	24 kg
Working coefficient	25 - 150 starts/hour (63% load)		

6.4. Operation:

When the motor is electrically powered, the electromagnetic brake releases, the motor spins, driving the reducer and ultimately the drum.

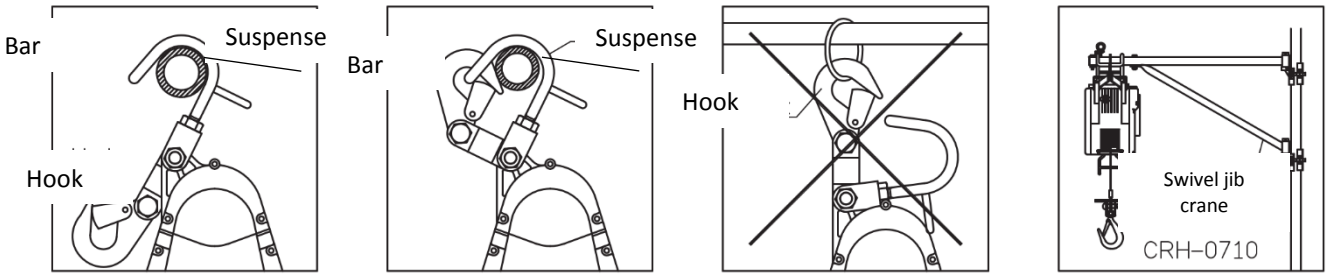
7 – Handling – Storage – Transport

Lightweight and compact, the PALANBOX is easily movable and usable by one person. Like any device incorporating electrical equipment, these winches must be stored away from bad weather, at temperatures between - 10 ° and + 40 ° C.

8 - Assembly - Commissioning - Operation

8.1. Fastening the winch

As the winch is designed for suspension mounting, mount it on a strong and stable bar or on the optional jib crane.
Once suspended, make sure that the winch body or the load is not obstructed by a structural component or other obstacle.
Take care to fasten the hook properly using its latch for added security.



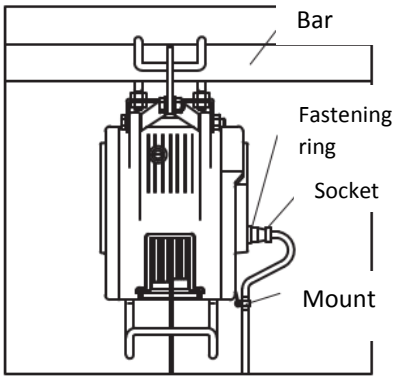
Calculate and verify that the mounting support has a resistance compatible with the loads to be lifted.

8.2. Electrical power supply

8.2.1. Connection

Check that the tension of the power supply is 220 volts.

Very important: The winch will only give full power if its motor is supplied by a suitable section of cable.
A disconnector must be placed no more than 10 m from the place of use.
The power cable must be 5 metres long. In case of replacement, use a 2 or 3.5 mm² cable in order to avoid a voltage drop which could cause the brake not to open.



Recommended cable section:

Models	Power supply with industrial socket	Power supply cord
PALANBOX 80	1.5 mm² x 3C x 5 m	1.25 mm² x 6C x 10 m
PALANBOX 160		
PALANBOX 230		

8.2.2. Connecting

Connect the power supply using the socket provided (5 m power cable).

When commissioning, check the correct operation of the upper limit switch and the control box.

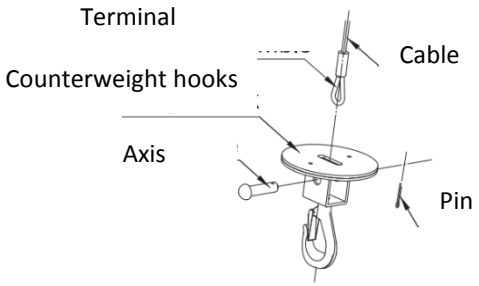
8.3. Fastening the work cable:

8.3.1 Onto the device:

The cable must be lugged sleeved at each end. Pass the cable through the fork of the limit switch. After removing the cover screw, insert the end into the drum, through the hole provided for this purpose. Replace the screw retainer.

8.3.2. Onto the hook:

Proceed as shown in the figure opposite.



8.4. Winding the work cable:

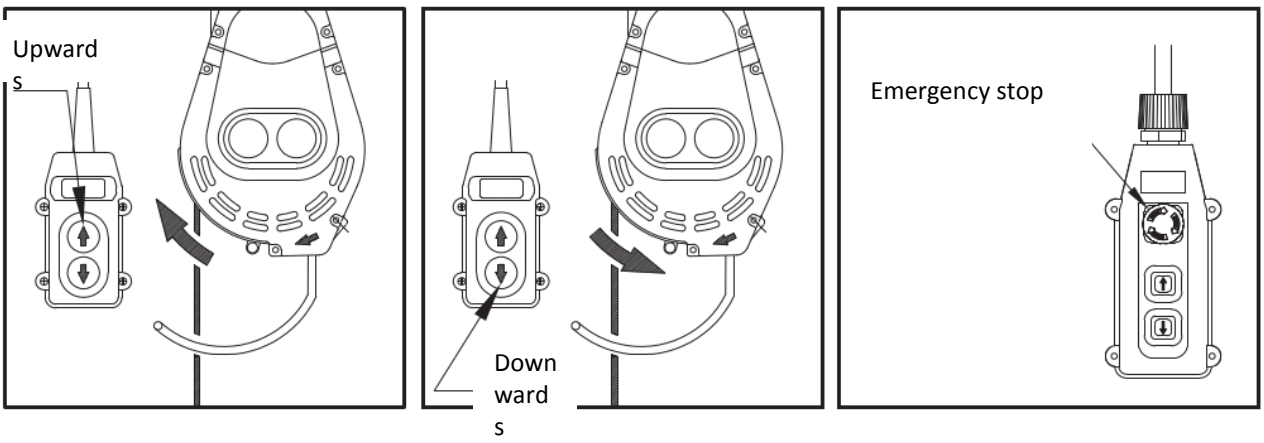
Reminder: the relative capacities are 35 meters of Ø 3 mm cable for the 80 kg model, 40 m of Ø 4 mm for the 160 kg model and 25 meters of Ø 5 mm cable for the 230 kg model.

Very important: safety regulations require that 5 turns of the cable be left on the drum at all times. In order to comply with the legislation, the cable's diameter must not exceed that recommended.

Pull the cable taut and carefully wind it on the drum by pressing the "up" button on the control box. Incorrect winding can cause the load to sway, the cable to wear and the life span of the winch to be reduced.

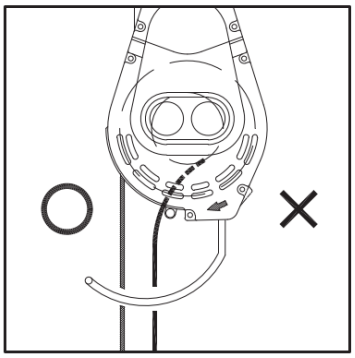
8.5. Up and down controls

To lift the load, press the button ↑ and the drum rotates in the "up" direction.
To lower the load, press the button ↓ and the drum rotates in the "down" direction.



When the button is released, the drum stops rotating.

8.6. Unwinding the cable

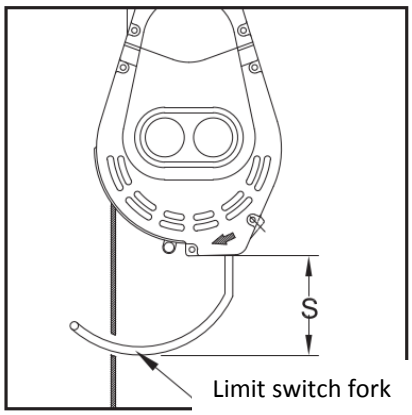


When the cable is fully unwound, it changes position and goes from the **O** position to the **X** position. It is very dangerous to use it in this position. When the safety feature has stopped the movement, press the button ↑ to return it to the **O** position.

8.7. Adjusting the limit switch

A special mechanism automatically stops the winding in the limit switch. When the hook stopper touches the limit switch fork, the appliance stops automatically.
If the limit switch fork is set too close to the winch, the fork or frame may be damaged. For added security, turn the adjusting screw to space the fork from the frame as shown. A distance (S) between the limit switch fork and the cover is suggested below.

Model	PALANBOX 80	PALANBOX 160	PALANBOX 230
Distance	80-100 mm	70-90 mm	70-90 mm



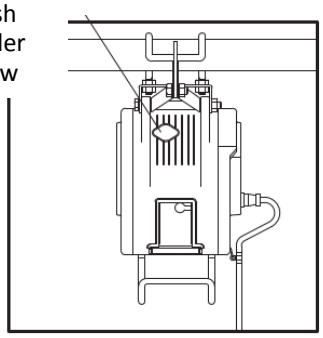
8.8. Braking

The braking system consists of a mechanical brake and an electronic brake. A ratio of 1.5% of cable length to reel per minute is tolerated between the time the brake is activated and a complete stop.
The no-load winding speed is 1.5 to 1.8 times the nominal speed at nominal load.

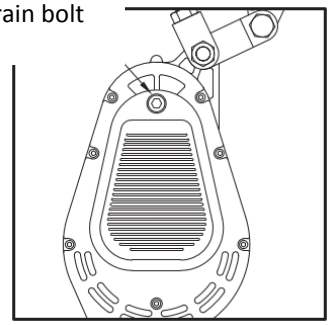
8.9. Carbon brushes and drain

The service life of carbon brushes is 150 hours. They should be replaced when they reach 7.5mm in length. Anything else could seriously damage the motor.
Remove the screw from the brush holder using a screwdriver and replace the carbon brush. Each time the brush is replaced, the reducer must be lubricated with 100 cm3 of NLGI grade O oil.
Remove the drain bolt using a hex wrench and drain.

Carbon brush holder screw



Drain bolt



9 - Upkeep - Maintenance

Regularly check that the device is level and that it is securely fastened.

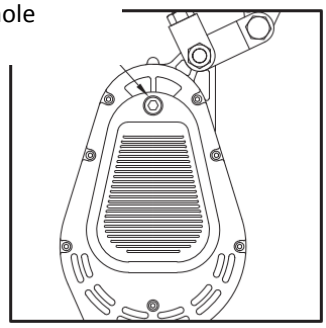
Also check the condition of the lifting device according to the specifications of its technical manual and in particular the chain, or the cable, the hook and the brake.

The winch has been designed to need minimal maintenance.

9.1. Greasing

The winches are greased at the factory, so they don't need to be greased again before first use. They should be lubricated regularly, depending on use. For normal use, it is recommended that they are lubricated once a year:

Oil filling hole



Quality of grease	Quantity		
NLGI N0.0	80	160	230
Caltex Multifak Ep. Cosmogear SP460	100 cc	250 cc	250 cc

9.2. Brake: Factory set.

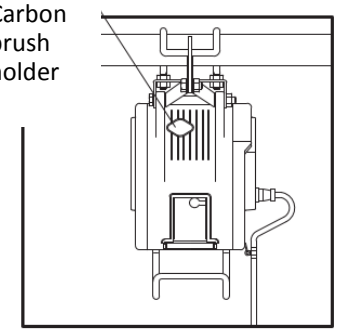
9.3. Replacement of the carbon brushes

Important: regularly clean the accumulated powder to ensure the insulation resistance is up to 1MΩ.

It is essential to check the condition of the brushes regularly. If the length is less than 7.5 mm (due to wear and tear), it is absolutely necessary to replace the brush immediately.

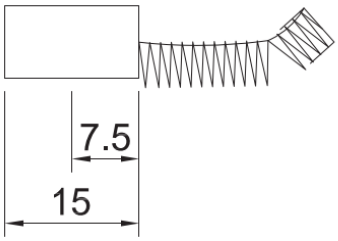
For replacement, gently insert the carbon brush into the brush holder first, then insert the brush head into the hole.

Carbon brush holder



Before blocking the brush, position the O-ring properly.

A set of carbon brushes has two components. Make sure that these two components are placed simultaneously on both sides of the winch.



Carbon brush length

9.4. Checks

- The cable should be discarded without being reused if it shows signs of excessive wear, too many broken strands, signs of corrosion or other defects.
- The winch including cable, power cord, control cord and hook should be checked regularly. All broken, worn or defective parts must be replaced or repaired immediately.
- Check that the operation of the winch up and down is smooth by repeatedly pressing the control button.
- Check that the first layer of cable winds evenly. Repeat the operation if the winding is not satisfactory.

PALANBOX maintenance table - Checkpoints:

CHECK POINTS			CONTROL METHODS	CLASSIFICATION OF CONTROLS			
					REGULARLY		
				Daily	3 months or 20 hours	1 year	3 years or 250 hours
1	BRAKE	Operation	Visual	▲			
		Wear and tear of linings and pads	Dismantling				▲
		Breakage or slip of spring	Dismantling				▲
2	CARBON BRUSH	Wear and tear	Dismantling		▲		
3	MOTOR	Insulation	Measurement 50 MΩmn		▲		
		Deteriorations, stains		▲			
		Carbon powder accumulation	Visual			▲	
			Dismantling				
4	BUTTON BOX	Operation	Manual	▲			
		State of the cords	Visual	▲			
		Earth line	Visual	▲			
		Insulation	Measurement 50 MΩmn		▲		
5	SAFETY DEVICE	Overload prevention	Visual	▲			
		Incorrect winding prevention	Visual	▲			
		Deformation of the fork	Visual	▲			
		Direction of the rotation	Visual	▲			
6	CABLE	Knots	Visual	▲			
		Breakages more than 10%	Visual	▲			
		Ø reduction of more than 7%	Visual	▲			
		Deformation or corrosion	Visual	▲			
7	HOOKS (suspension and swivel hook)	Deformation	Visual	▲			
		Deterioration	Visual	▲			
		Blockage	Visual	▲			
8	DRUM	Flange breakage	Visual	▲	▲		
		Wear and tear	Visual		▲		
9	GEARS	Deterioration, wear and tear	Visual	▲			
		Oil level	Measurement			▲	
		Lubrication of couplings	Measurement			▲	
10	FASTENINGS	Blockage	Manual	▲		▲	
11	MARKINGS	Labels and Plates	Manual	▲			

10 – Decommissioning

When the equipment is in a state of disrepair likely to cause danger, the user is obliged to ensure that this equipment is disposed of, namely by decommissioning or possibly dismantling.

11 - Specimen of the Declaration of Conformity

HUCHEZ

CE

DECLARATION OF CONFORMITY

F03.32.1 - UK Electric winch

We hereby declare that the design and manufacture of the machinery referred to below comply with the relevant requirements of Directive 2006/42/CE on Machinery.
The machinery's technical file has been put together by the signatory of this declaration.
This declaration shall become null and void in the event it is changed or if any item is added without our prior consent.
Moreover, this declaration shall become null and void if the machinery is not used in accordance with its instructions for use and if it is not inspected regularly.

Type of device: **Electric winch**

Model:

Force:

Serial n°:

Function: ☐ Hoisting
☐ Hauling

Quality assurance: ISO 9001 (certificate registration n°: FQA 9911492)

Equipment delivered: ☐ with cable ☐ with hook
☐ without cable ☐ without hook
important: these items must comply strictly with the specifications indicated on the manufacturer's plate affixed to the winch and the instructions for use, and they must be supplied by professionals specialized in their use.
☑ with limit switch

and with instructions for use.

Issued in Ferrières on:

Antoine HUCHEZ,
President

SPECIMEN

huchez.com

12 – Malfunctions

If you have followed the assembly and operating instructions, any incidents that may occur should be minor.
The following tips will help you to troubleshoot issues quickly.
When the winch does not start after several attempts, or if a faulty operation occurs, check the following:

IRREGULARITY OBSERVED	POSSIBLE CAUSE	WHAT TO DO?
Winch no longer starts / open circuit	No power (on the power cord)	Check the electrical power supply cable
	Burned out rectifier on the electrical power supply side	Replace the rectifier paying attention to the "+" and "-" poles
	Burned out motor	Replace the motor
	Motor burned out due to overload	Replace motor
	Improper installation or wear and tear of carbon brushes	Check or Replace the carbon brush
	Leak or open circuit of the carbon brush	Check or Replace the carbon brush
The winch lifts the load but cannot lower it	Deformation of the spring plate (bottom) of the limit switch	Adjust or set the limit switch
	Burned out diode	Replace the diode paying attention to the poles
	Burned out limit switch	Replace the limit switch
	Burned out rectifier on the motor side	Replace the rectifier paying attention to the poles
	Malfunction of the bottom contact of the control box	Replace the 3-button control box
The winch lowers the load but cannot lift it	Deformation of the upper spring plate of the FDC	Adjust or set the limit switch
	Burned out limit switch	Replace the limit switch
	Loss of the transmitter arm resulting in the malfunction of the lower limit switch	Adjust
	Adjustable nut loosened	Adjust
	Burned out diode	Replace the diode paying attention to the poles
	Burned out upper limit switch	Replace the limit switch
	Burned out rectifier on the motor side	Replace the rectifier paying attention to the poles
	Malfunction of the upper contact of the control box	Replace the 3-button control box

IRREGULARITY OBSERVED (result)	POSSIBLE CAUSE (result)	WHAT TO DO? (result)
Short-circuit	The contact B has melted on the control box	Replace the 3-button control box
	Burned out diode	Replace the diode paying attention to the poles
	Short-circuit at the rectifier on the motor side	Replace the rectifier paying attention to the poles
	Burned out D-type resistor	Replace the resistor
	Presence of excess carbon powder on the carbon brush holders	Disassemble the winch and clean the carbon powder
	Burned out motor	Replace motor
	Circuit board damaged due to winding of the cable	Replace the circuit board
The winch fails to lift the nominal load	Overload	Reduce the load
	Short circuit of the circuit breaker / switch located in the centre of the armature or parts of the winding burned out	Replace the switch located in the centre of the frame
	Burned out parts in the winding part of the winch	Replace the winding part of the winch
	Wrong carbon brush model or too short model	Replace the carbon brush
	Burned out or deformed carbon brush holder	Replace the carbon brush holder

13 – Annexes

A – Optional equipment.

B – Spare parts.

C –Electrical diagram

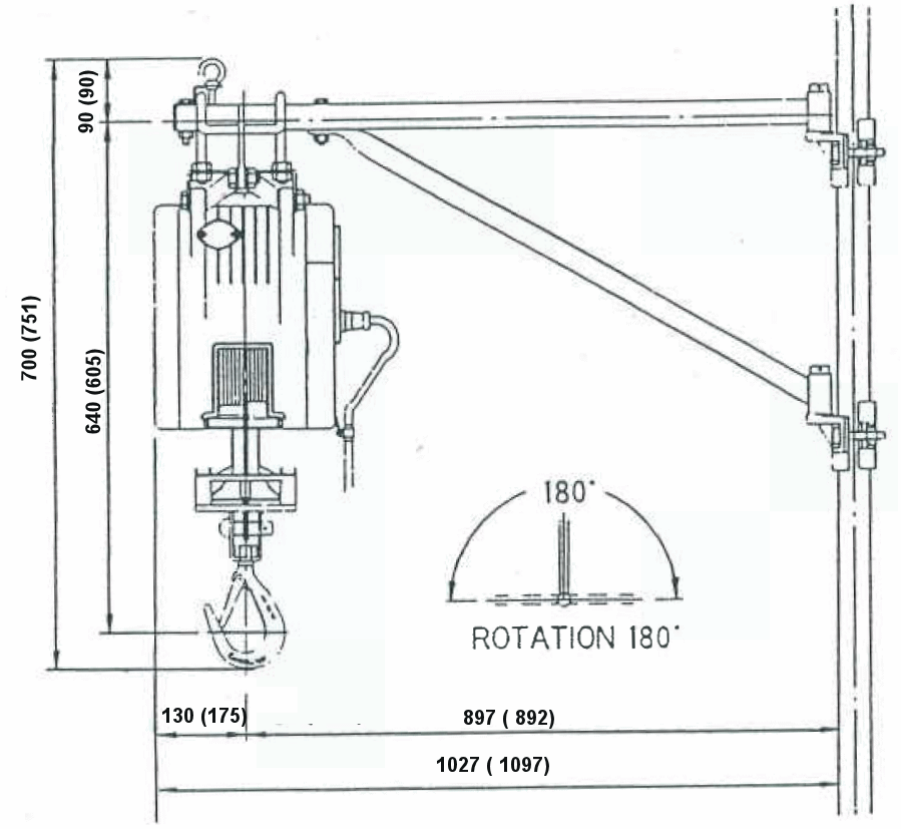
D – Maintenance log.

A - Optional equipment

Jib crane: consult us.

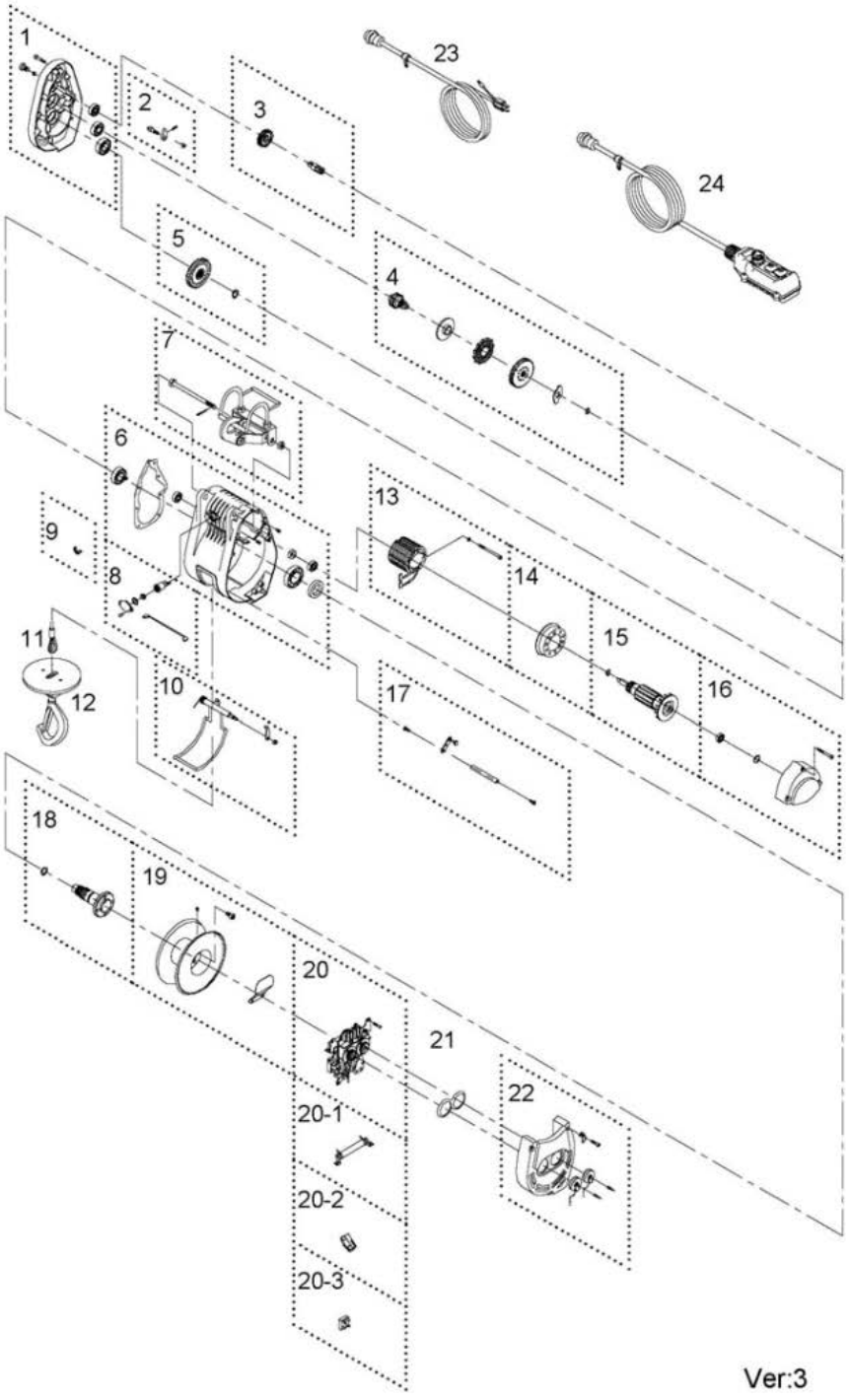
Offering a 180 ° rotation, this removable and light accessory is the essential complement for the PALANBOX, with its use on prop or scaffolding.

Reach: 0.90 m



B - Spare parts

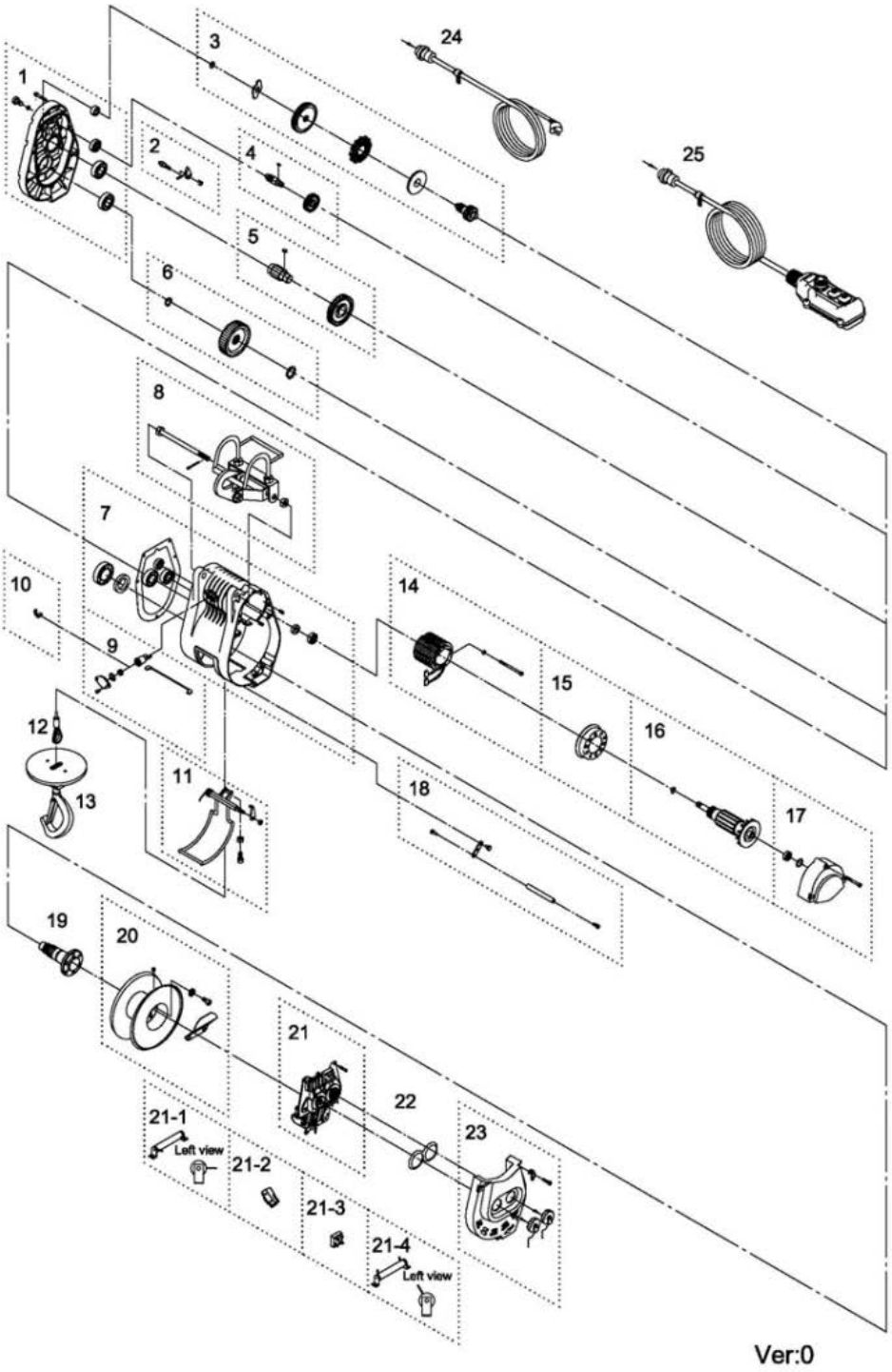
PALANBOX 80 kg



PALANBOX 80 kg

Ref.	Description	N° piece	Quantity
1	Rear cover Reducer	880565	1
2	Ratchet stop	880506	1
3	1st reduction	881566	1
4	Brake	881567	1
5	3rd reduction	880469	1
6	Reducer box	881568	1
7	Suspense	880471	1
8	Carbon brush holder	880472	1
9	Carbon brush 110~240 V	880473	2
10	Limit switch	880474	1
11	Cable	880449	1
12	Counterweight hooks	880475	1
13	Stator 220/230/240V	880971	1
14	Fan cover	881500	1
15	Rotor 20/230/240V	880489	1
16	Engine rear cover	880477	1
17	Sensor	881256	1
18	Outer shaft	881569	1
19	Drum	881570	1
20	Control panel	880482	1
20-1	D resistor	881502	2
20-2	Limit switch	881503	2
20-3	Diode	881504	2
21	Joints	880483	1
22	Electrical box cover	880484	1
23	Power cord and plug	880492	1
24	PB-317 button box	881601	1

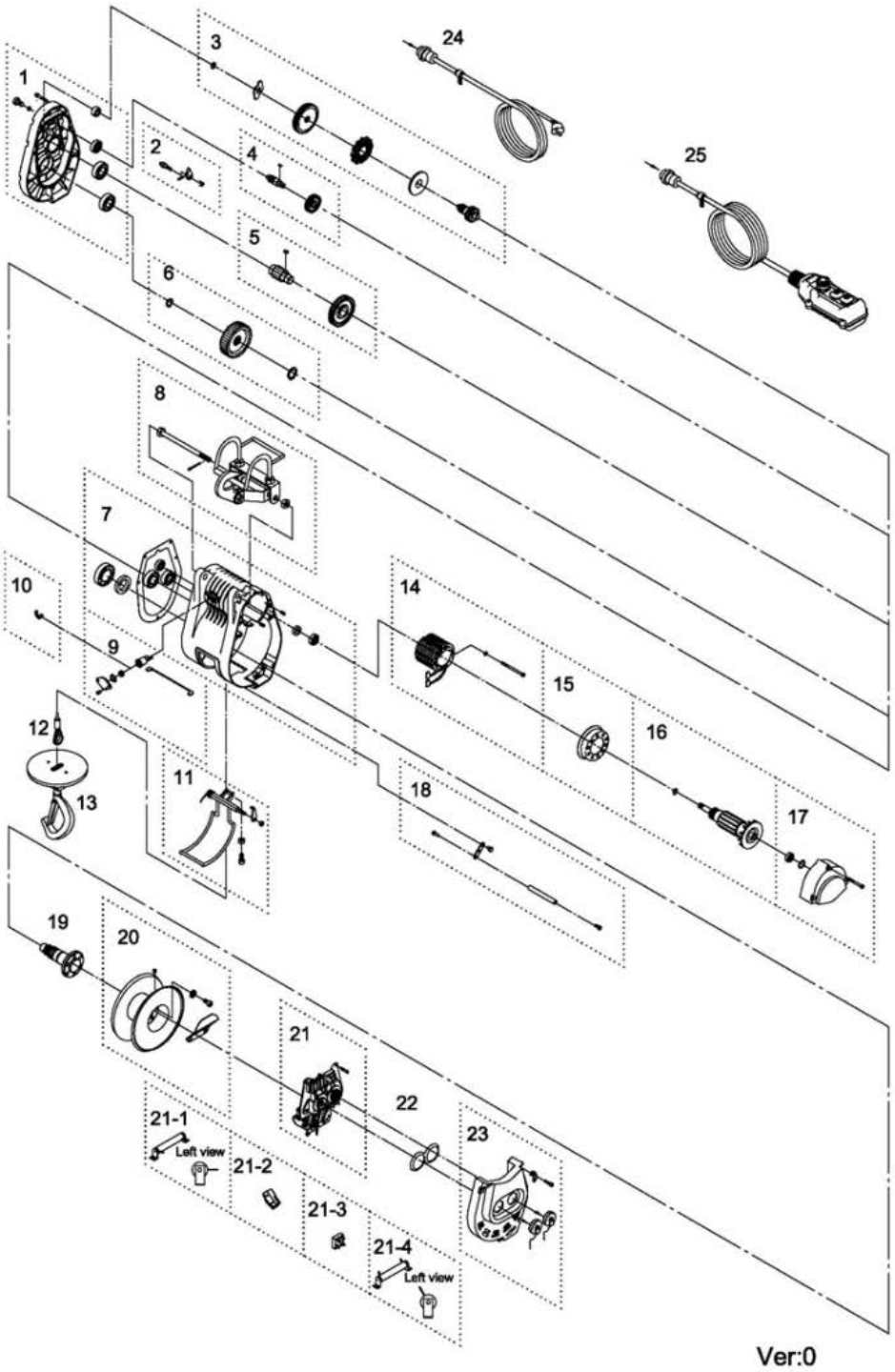
PALANBOX 160 kg



PALANBOX 160 kg

Ref.	Description	N° piece	Quantity
1	Rear cover Reducer	880493	1
2	Ratchet stop	880547	1
3	Brake	881497	1
4	1st reduction	881498	1
5	3rd reduction	881499	1
6	4th reduction	880500	1
7	Reducer box	880470	1
8	Suspense	880476	1
9	Carbon brush holder	880472	1
10	Carbon brush 110~240 V	880473	2
11	Limit switch	880503	1
12	Cable	880504	1
13	Counterweight hooks	880505	1
14	Stator 220/230V	880973	1
15	Fan cover	881500	1
16	Rotor 220/230V	880513	1
17	Engine rear cover	880477	1
18	Sensor	880478	1
19	Outer shaft	880507	1
20	Drum	881501	1
21	Control panel	881255	1
21-1	D resistor	883328	1
21-2	Limit switch	881503	2
21-3	Diode	881504	2
21-4	D resistor	883329	1
22	Joints	880483	1
23	Electrical box cover	880511	1
24	Power cord and plug	880492	1
25	PB-317 button box	881601	1

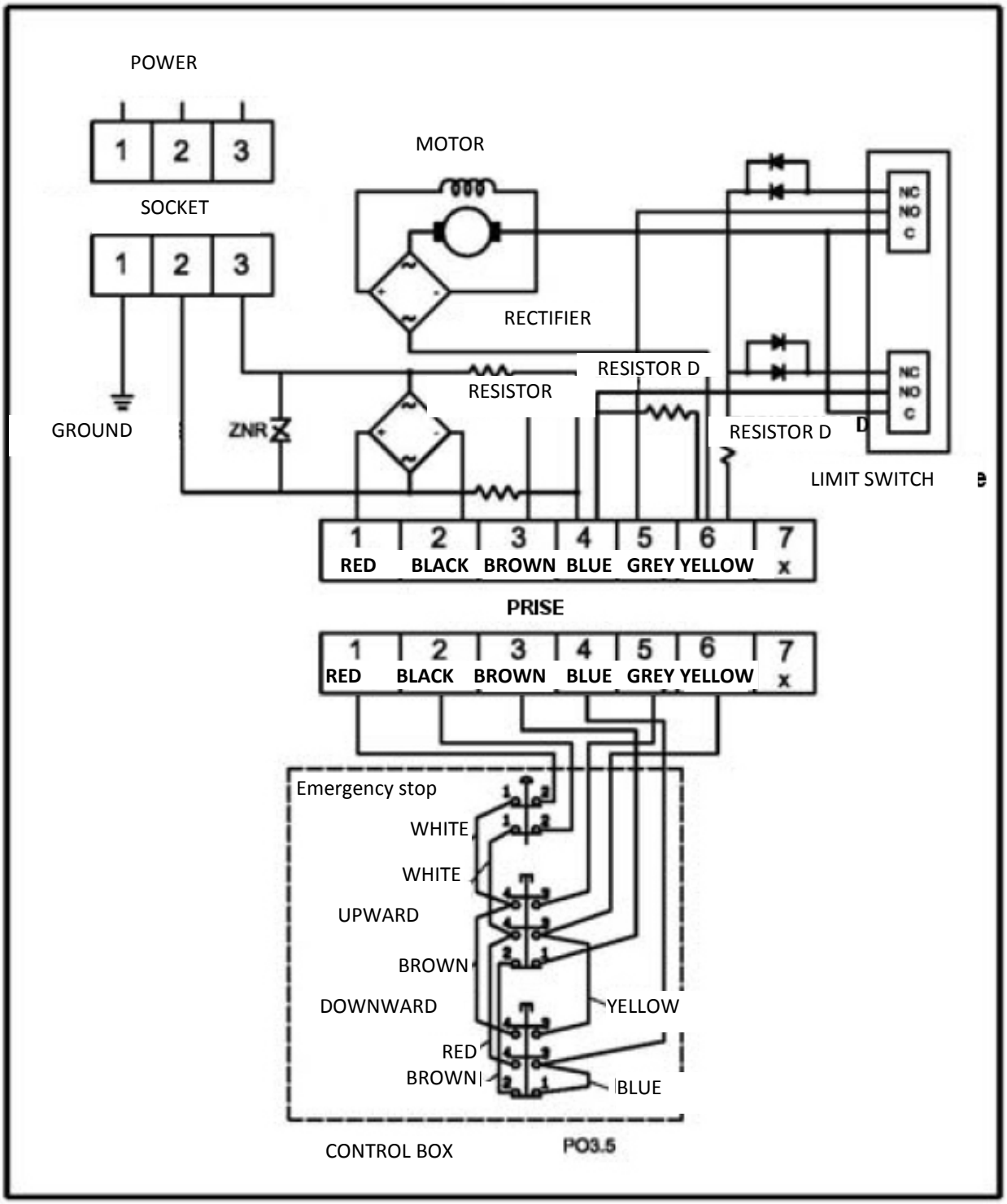
PALANBOX 230 kg



PALANBOX 230 kg

Ref.	Description	N° piece	Quantity
1	Rear cover Reducer	880493	1
2	Ratchet stop	880547	1
3	Brake	881507	1
4	1st reduction	881498	1
5	3rd reduction	881508	1
6	4th reduction	880500	1
7	Reducer box	880470	1
8	Suspense	880476	1
9	Carbon brush holder	880472	1
10	Carbon brush 110~240 V	880473	2
11	Limit switch	880503	1
12	Cable	881419	1
13	Counterweight hooks	880505	1
14	Stator 220/230V	880973	1
15	Fan cover	881500	1
16	Rotor 220/230V	880513	1
17	Engine rear cover	880477	1
18	Sensor	880478	1
19	Outer shaft	880507	1
20	Drum	881501	1
21	Control panel	881255	1
21-1	D resistor	883328	1
21-2	Limit switch	881503	2
21-3	Diode	881504	2
21-4	D resistor	883329	1
22	Joints	880483	1
23	Electrical box cover	880511	1
24	Power cord and plug	880492	1
25	PB-317 button box	881601	1

C – Electrical diagram



D – Maintenance log

The maintenance log for HUCHEZ hoisting winches
can be downloaded from our website **www.huchez.com**
under the heading “After-sales service”.

Date	Person In charge Company	Person In charge Name	Nature of the operation	References of replaced parts	Frequency if appropriate	Signature

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