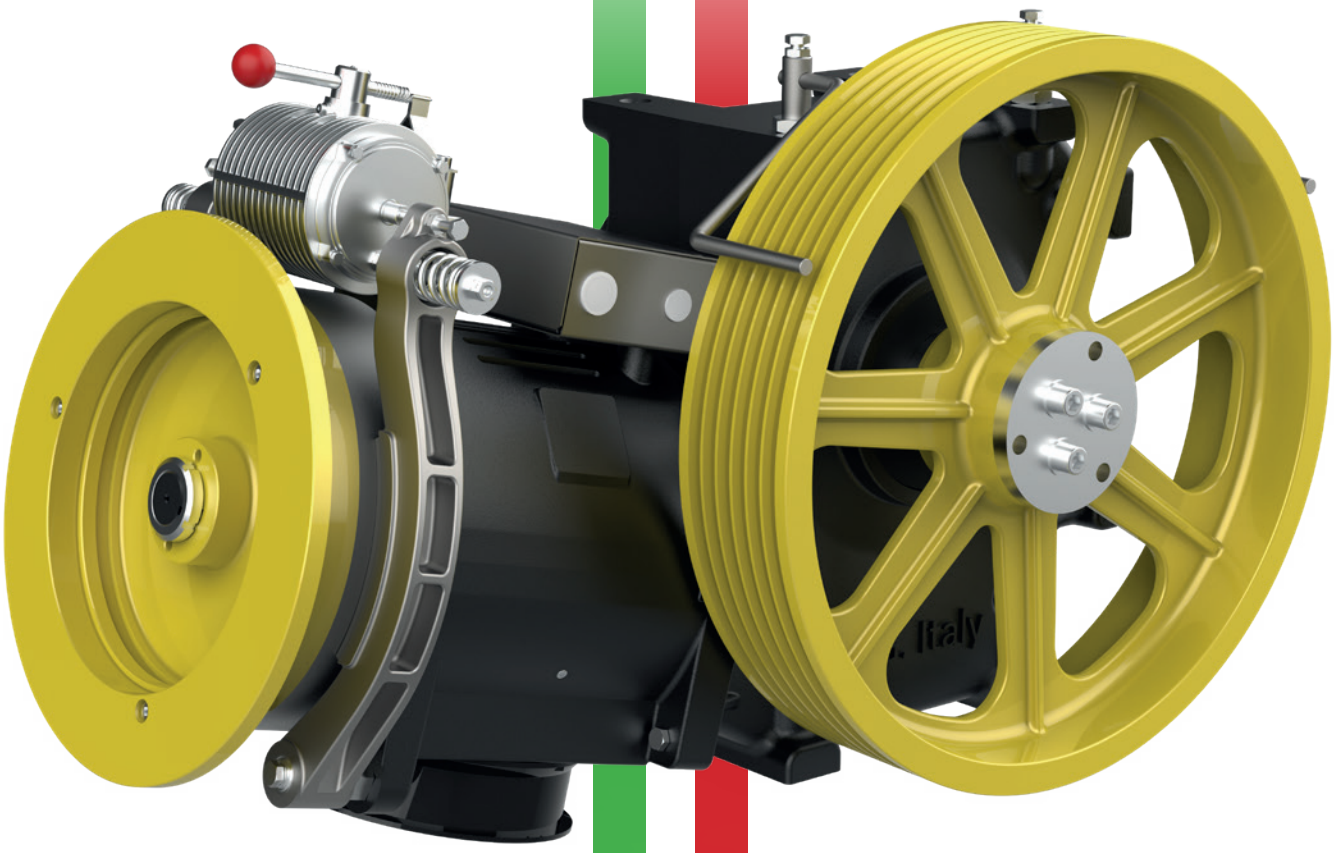
ORANGE1
LIFT MOTORS



Made in Italy

ROMA

OPERATION AND MAINTENANCE MANUAL

Translation of the original instructions

Member of ORANGE1 HOLDING

1. LETTER UPON DELIVERY

Dear Customer,

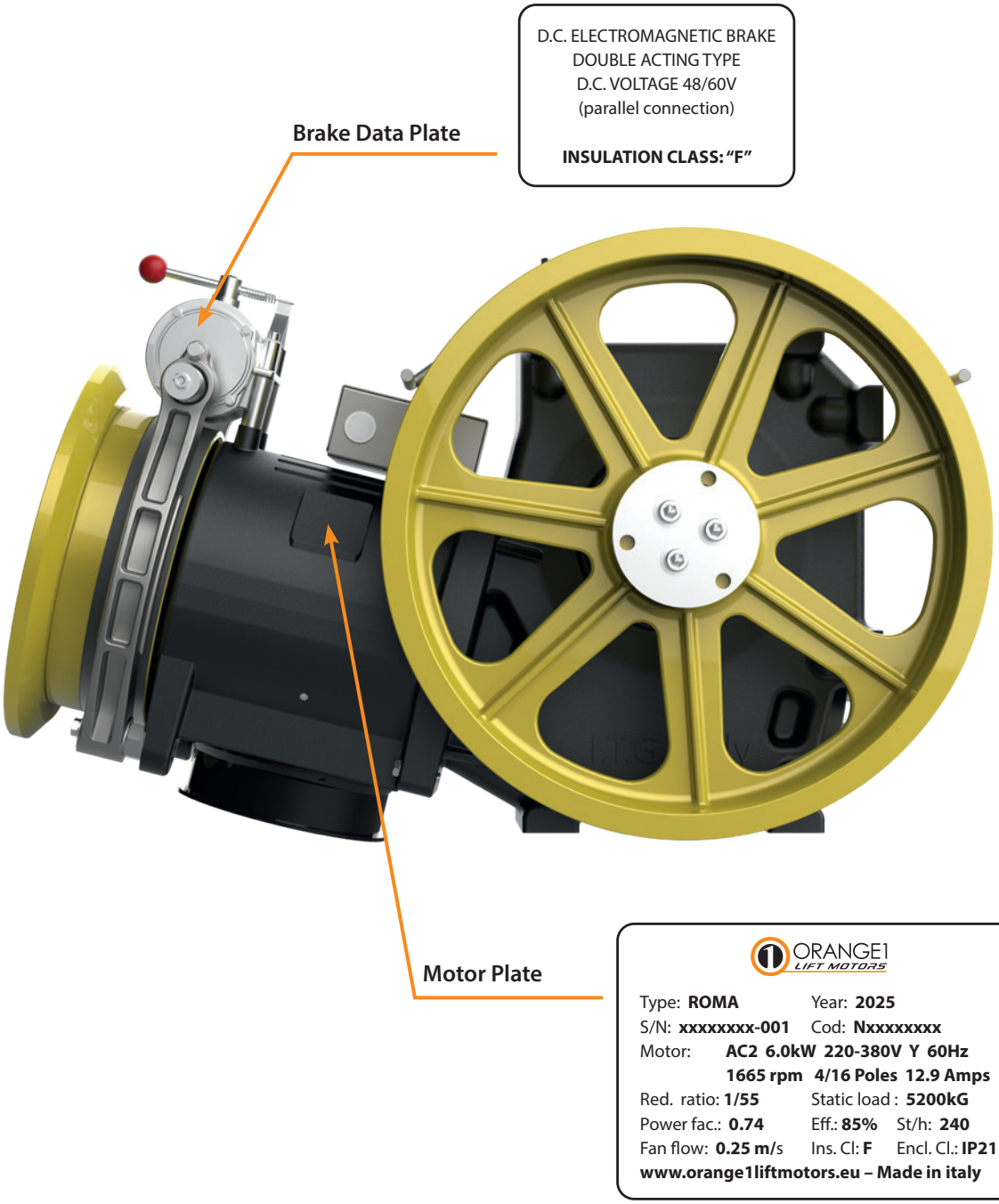
The Orange1 Lift Motors traction units have been designed and manufactured in compliance with the Machinery Directive 2006/42/EC,

EN12100-1, EN12100-2, EN12100-3 and observing the standards UNI EN 81-20:2020 and EN 81-50:2020, therefore they are safe for the Installer and the Maintenance operator, if used accordingly with the prescriptions of the present manual and is their safety devices will be kept in the due efficiency.

Orange1 is harmless for each and any non authorised modification, tampering and operations carried on without following the prescriptions of the present manual or other documents relating to the installation and maintenance of the traction unit. The Company Orange1 compliments you for choosing its products and is sure that you will achieve the best possible performance from them.

2. MACHINE IDENTIFICATION

For whatever communication relating to one of our hoisting machines, please always indicate its serial number and have available also the data of the brake electromagnet and of the electric motor, which are all easily traceable thanks to the specific plates on the machine.



3. WARRANTY

3.0 The warranty, unless other contractual arrangements, is governed by the following clauses:
3.1 Orange1 Lift Motors warrants its hoisting machines for a period of two years from the date of dispatch from its premises. In that period, Orange1 will take over the replacement of any component found to be defective.
A component part can be considered as defective only if the defect has been verified and accepted by Orange1.
3.2 The parts under warranty for repair or replacement, must be delivered to Orange1 on DDU basis.
3.3 Any request for technical intervention by the Customer must be submitted to Orange1 in writing. Labor costs, travel, meals and lodging are upon the Customer.
3.4 The warranty becomes automatically void whether any of the following conditions may apply:
- The drive unit or its component parts have been subject to tampering;
- The application of the drive unit is different from the conditions of use indicated to Orange1 at time of the order of the drive unit and also when it differes from the conditions of use stated on the Orange1 technical catalogue and in this manual;
- Lack of indentification plates of the machine.
3.5 Warranty doesn't include operations and component parts subject to normal wear, such as: friction linings of the brakes, bearings, electric windings and hydraulic seals.
3.6 The warranty does not cover or implies compensation whatsoever for any downtime or transport.
3.7 Procedures for warranty repair.
Any warranty claim must be reported in detail to Orange1 within 8 days after the first occurance of the defect, by e-mail or by fax;
3.7.1 Orange1 shall confirm by e-mail or fax the possible acceptance of the warranty claim and authorise the Customer for operating the repair or shall arrange for the intervention of Orange1 Technicians.
3.7.2 Any component part considered defective and replaced by the Customer must remain at the disposal of Orange1 for at least 180 days, in order to allow it to carry out any check or verification, or it must be sent directly to Orange1 itself upon its simple written request.
3.7.3 In no event Orange1 recognizes charges for warranty repairs that were not approved in advance by itself.
3.7.4 In any case it must be given the entire photographic documentation of the intervention performed, not only for the purposes of this document, but also for fiscal reasons and for enabling Orange1 to correct and improve the quality and reliability of its machines.

4. GENERAL NOTES UPON DELIVERY

The machines can be delivered either on pallets or into wooden boxes.
In any case, when receiving the machine, always inspect the crating and verify its integrity.
- Always check that the machine complies with the given specifications by checking the transport documents
- Also verify that no transport damages have occurred to the machine or its accessories.
In case of damages or of damaged or missing parts, please timely inform Orange1, the Orange1 Agent and the forwader who has handled the delivery.

The spare part or accessories, are normally delivered in separated boxes.

5. SAFETY WARNINGS

Making sure that the installation and the maintenance are performed based on the essential safety heath care conditions is responsibility of the Installer.
The installer and the Maintenance operator must operate strictly following the safety regulations and respect any legal obligation for avoiding damages to the people or to the product during the installation, the routinary maintenance and the repair of the machine.
Safety warnings and danger advices are highlighted by the following symbols.
Definitions: INSTALLER, and or MAINTENANCE OPERATOR.
Qualified Operator authorised by the Customer to perform the installation or the maintenance of the machines.

Warning of high risk of danger (eg, shear zones, zones of cutting, crushing, etc.)

Generic danger warning.

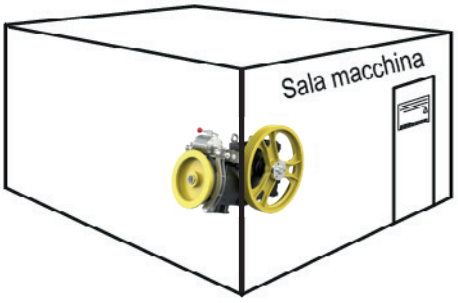
Risk of damage to part of the machine (for instance due to uncorrect installation or similar occurrencies).

Symbol indicating important notices.

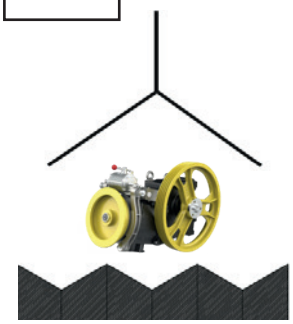
WHEN MEETING THESE WARNINGS, PLEASE PROCEED WITH GREAT DILIGENCE AND ATTENTION

6. SAFETY PROVISIONS

WARNING!
This machine must be installed in a locked room and only the Technical people authorised by the Customer can be allowed to enter in it. The following minimum warnings must be on the door of the machine room:



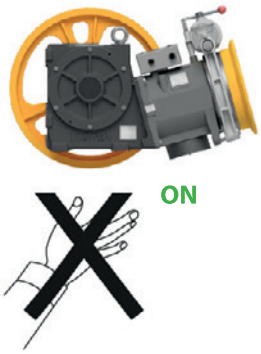
Installers or maintenance personnel must be aware of the dangers associated with the machine and must have read and understood the safety precautions in this manual.



Before installing the hoisting machine, the Customer must verify that the concrete slab and/or the support structures of the shifting loads and the winch meet the required safety factors.
The Customer MUST also respect the distances from walls and from other machines in accordance with the directives
and standards in force in the Country where the machine will be installed.

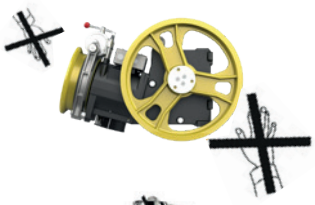
LIFTING
To move the hoisting machine (see Chap. 8 - Moving the machine) use a lifting system connected to the eyebolts on the hoisting machine and a non-metallic strap wrapped around the motor, or use an adequately sized forklift (see Chap 7 - Technical features) to lift the winch a maximum of 30 cm off the floor and move the machine slowly.

EXCLUSION OF POWER SOURCES
Before carrying out any cleaning, lubrication and/or maintenance operation, maintenance personnel must put the winch out of service by disconnecting the power supply and must wait for the heated parts of the motor and the winch to reach ambient temperature.



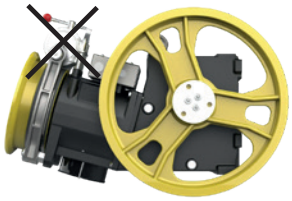
WARNING
Do not lean and/or sit on the winch, either when it is in or out of service.

Do not approach or lean against the rotating parts (flywheel or rotatating parts painted in yellow).



Do not deposit or place any object or containers of liquids etc. on the hoisting machine and especially on the electrical parts.

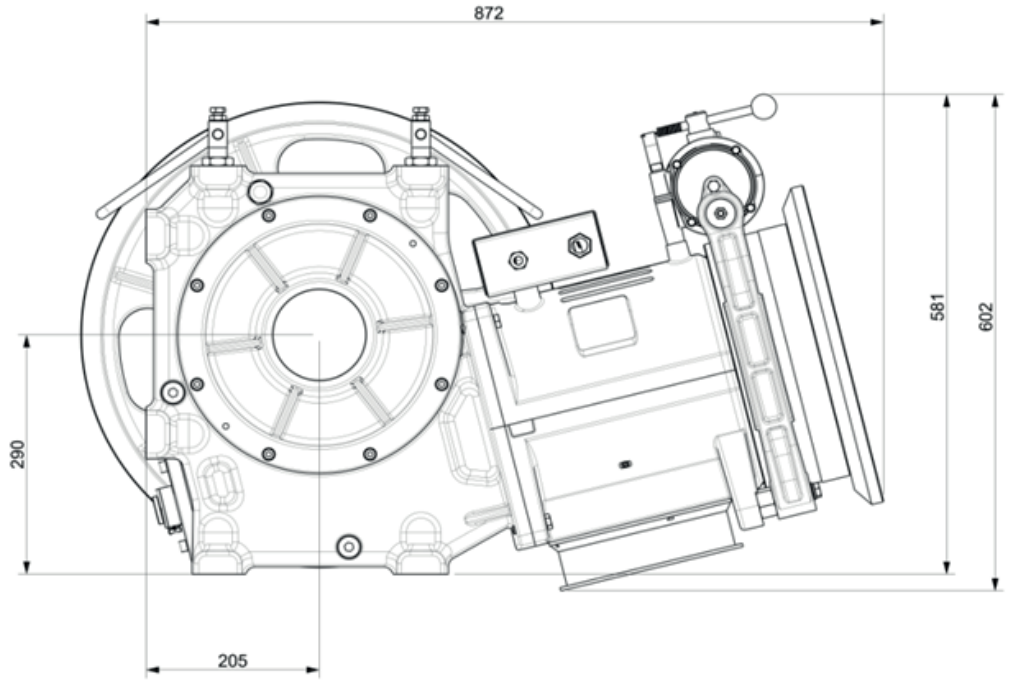
Never tamper with or disable the safety devices or by- pass them or use them for purposes other than those for which they were intended. Do not tamper with or damage or remove the number plates. If deteriorated or illegible, immediately ask Orange1 for replacement.

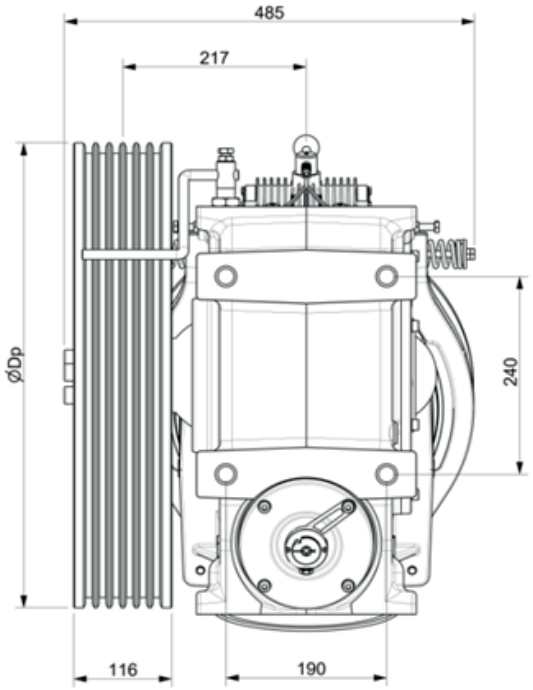


When working near the winch, Installers and maintenance operators MUST NEVER WEAR FLAPPING AND/OR TORN CLOTHING (scarves, ties, hats, necklaces, belts, watches, bracelets, rings, etc...).

7. TECHNICAL FEATURS

Here are the overall dimensions of the hosting machine.
More detailed data, such as: reduction ratio, absorbed power, number of poles in motor, etc. can be found in Orange1 Technical Catalogue.





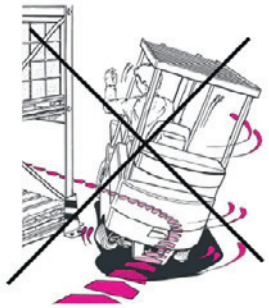
8. TRANSPORT AND HANDLING

WARNING. RISK OF CRUSHING, IMPACT AND ABRASION
The personnel who are responsible for handling the winch must have read the safety requirements in paragraph 6 of this manual and must wear work gloves and safety shoes.

The winch is shipped by Orange1 in crates or on pallet wrapped by plastic film.

WARNING
Never move the crates by dragging them. Always lift them. Before removing the machine from its packing, place it as near as possible to its final position.
To move the crate, use a crane with ropes or an adequately sized forklift with long forks (see Chap. 7 "Technical features").

Furthermore, the forks must be positioned far apart to avoid flipping over.
If the machine has been shipped on a pallet, use an adequately sized load spreader when moving with a crane so that the lifting cables or chains are kept in a vertical position and do not damage parts of the machine.



WARNING
1) During handling, remember the following points:
a. proceed slowly
b. do not lift the crate more than 30 cm off the ground unless obstacles are present
c. lay the crate on the ground slowly

2) When unpacking the create, start from the top and use a lever. In case of packing in a wooden box, remove the side the walls by unriveting the nails from the pallet. When the machine is unpacked DO NOT DISPOSE PACKING IN THE ENVIRONMENT, but reuse it or allocate it to recycling Companies.

3. Once the walls of the crate have been removed, check that the supply corresponds \ with the shipping document and the order. If it does not correspond with the order, immediately notify Orange1 or it Agent.
If necessary, proceed as described in paragraph 4 "General delivery notes".

4. After slinging the hoisting machine, remove the screws retaining it to the pallet before lifting it. When moving the unpacked hoisting machine, use a crane or an adequately sized forklift with wide forks and a suspension-type lifting system connected to the eyebolts on the traction unit and a non-metallic strap wrapped around the motor.

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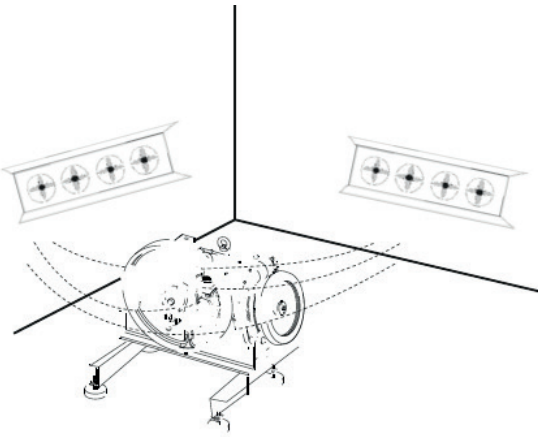
WARNING
Make sure that nobody is within the operating range of the means of transport (danger zone).

If the machine is stored for long periods, leave it on its pallet and make sure it is adequately protected (at least with a waterproof covering) to prevent oxidation of the internal or external parts of the machine.
Remember that oxidation of the shafts or other mechanical parts reduces their fatigue strength.

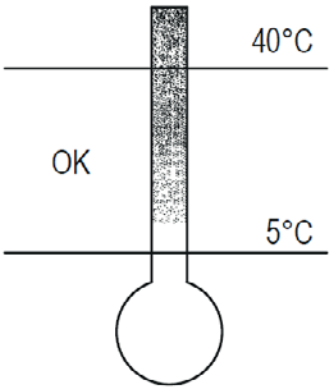
9. INSTALLATION PROVISIONS

WARNING



The room where the traction unit is installed must have the following characteristics:

- It must be dry and free of dust: this is essential to prevent electrochemical corrosion of mechanical parts and a high concentration of water in the lubricating oil (clean the machine room before installing the machine).
- The room must be ventilated: the room must have adequate openings or conditions that allow air circulation which dissi- pates the heat from the motor and the reduction unit.



The room temperature must be between 5 °C and 40 °C.
For other temperatures, contact Orange1.
The customer has to make sure that the electrical system to which the machine is about to be installed has suitably gauged cables, is correctly earthed and adequate power is installed.

9.1 MOTOR ROTATION INSTRUCTION AND TRACTION SHEAVE ASSEMBLY

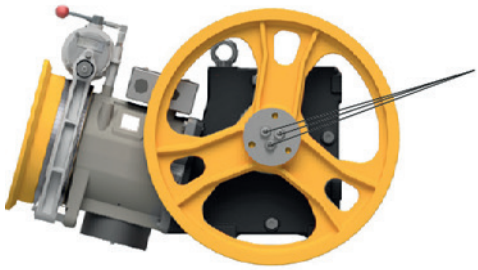
Before proceeding with the rotation of the motor it is necessary:
- to read the chapter "Safety Provisions";
- disconnect the machine from the power supply;
- remove the traction sheave assembly;
- release the brake arm fixing nut so to have air between the brake shoes and the brake drum;
- remove the four M10x40 screws reataining the motor cluster to the gearbox case;
- rotatate the motor cluster clockwise by 180°, until the holes where the four screwsd were fit match the other ones of the gearbox case;
- reposition the 4 M10x40 screws and their corresponding growers. Lock by applying the torque of 25 Nm;

Whether the rotatation of of ther motor cluster would produce interference between the traction sheave and the motor cooling fan, it is then necessary to proceed as it follows:
- Remove the traction sheave by releasing the three M14x50 screws and using the same washer screw the three bolts in the additional holes located on the traction sheave hub, having care to interpose a cilindic block as a spacer. The shave is pulled out by locking the screws.
- When reassembling the traction sheave, make sure that there is free space between the upper side of the spline and its seat in the hub of the pulley.
- After having completed the rotation of the motor, fit the traction sheave on its shaft making sure to tighten the M14x50 screws to a torque of 140 Nm with a torque wrench.
  After tightening the screws, retighten them to make sure that they are all tightened properly, until the torque wrench immediately triggers the further tightening attempt of each of the three screws.
- The coupling between the shaft and the traction sheave is of the conical type (tapered) and it is essential that the above instructions be observed with the utmost care, because otherwise the coupling may not work properly and could cause damage and breakage of the traction sheave!

Controdado ganasce
Brake arm fixing nut

n° 4 viti M10x40
n° 4 screws M10x40

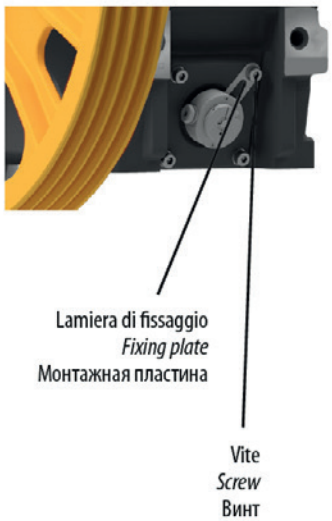
Argano orizzontale destro
Horizontal right machine



n° 3 viti M14x50
n° 3 screws M14x50

9.2 ENCODER FITTING INSTRUCTIONS

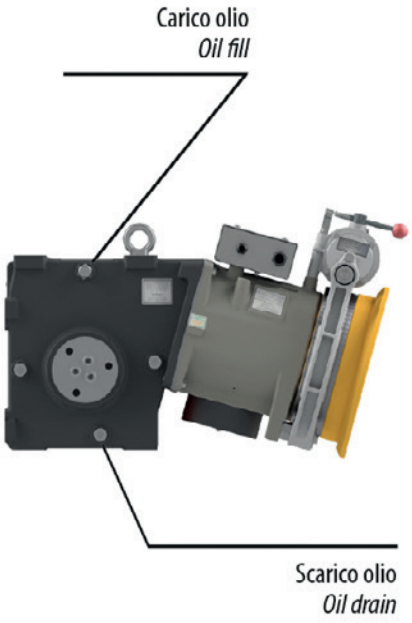
Before proceeding with the installation of the encoder it is necessary to read the Chapter "Safety Provisions".
Then disconnect the electrical power supply to the winch.
If machines are ordered with the encoder option, they are supplied with all the parts needed to perform this task. The standard option includes an encoder driving pin.
- Unscrew the screws fixing the original metal plate on the back of the Lika C50 or Eltra encoder.
- Remove the retaining plate and replace it with the one supplied by Orange1.
- Remove one of the fastening screws on the flange as shown in th diagram.
- Put the encoder in position by sliding it coaxially until the plate touches the thrust bearing flange.
- Put the screw back in place by inserting it in the hole in the plate and tighten it to a torque of 25 Nm. Detail of winch with encoder option.
- Tighten the specially supplied encoder fastening dowel.



9.3 OIL LEVEL

Never fill the machine with a quantity oil above that recommended by Orange1. Especially at high temperatures, an higher quantity of oil than stated, together with the increase of internal pressure, could cause damage to seals and gaskets.

10. HOISTING MACHINE LUBRICATION

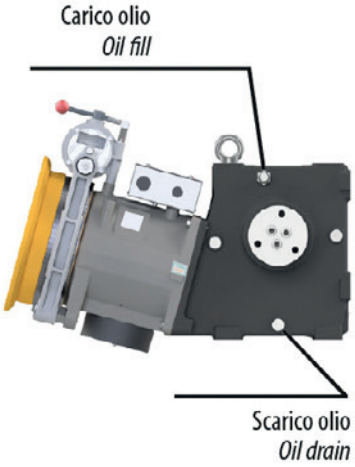


The hoisting machine is supplied filled with polyglycole synthetic oil. Please make sure that the drian plug is well tightened. For eventualrefill, please use only the Orange1 reccomended oils.

ENI BLASIA S 220, ENI BLASIA S 320, PAKELO ALLSINT HS - ISO 320, MOBIL GLYGOYLE HE 320, SHELL TIVELA S 320
Do not use other oils!
The oil quantity for the Orange1 hoisting machines

10.1 REPLACEMENT OF OIL

We reccomend the first complet replacement of the oil after the first year of operation of the hoisting machine, for eliminating eventual depots produced in the first stage of functioning of the machine.
We suggest to entirely replace the oil after 3/5 years depending on the working conditions of the machine. If the oil temperature raises above 85° (in case of heavy duty) the oil has to be mandatorily replaced every three years. The replacement of the oil is also required in case of pollution with other substances (ie. water or refills with different oils than the Orange1 reccomended ones).
For replacing the oil it is necessary to:



- To read the chapter "Safety Provisions"
- To disconnect the machine from the power feeding.

D

- To wait at least thirty minutes after having stopped the machine and let the oil temperature decrease

- To clean the area sorrounding the drain plug of the machine so to make sure not to allow dust to enter into the machine main case;
- remove the oil drain plug;

- to release and remove the drain plug and wait for a few minutes, until the oil has totally drained out from the machine.
- clean the drain plug and the area where it is housed with a cloth; tighten the plug and make sure you also insert the washer; tightly fasten.
- thoroughly clean the surface of the new oil container, the filler cap and the area surrounding it to prevent dirt or deposits entering the winch. Failure to comply with these instructions may cause serious damage to the machine.
- pour the oil through a clean spout until the level on the transparent gauge is reached.
- replace the filler cap.

PLEASE NOTE
The oil has to be the same as the type previously used and indicated in these instructions.

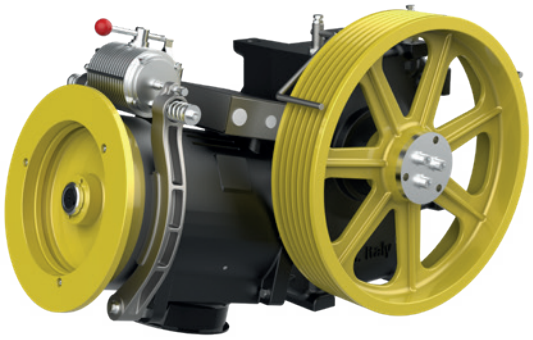
10.2 OIL LEVEL

It is not necessary to top up the oil in the absence of leaks. If the oil level is low, top up using the same type of oil that is in the hoisting machine. To top up, follow the above steps.

The oil level must be checked when the machine has been off for at least 30 minutes.

To detect the oil level, remove the oil plug located in the central part of the machine and introduce a flexible band in its opening, pushing it gently downwards until it reaches the bottom of the machine body. Remove the flexible band and measure the oil level, which must be between 5 and 7 cm.
Apply a light layer of silicone to the oil cap that was removed and screw it into place.

WARNING
The used oil must be given to a firm that is authorised to dispose of it. Do not release into the environment.



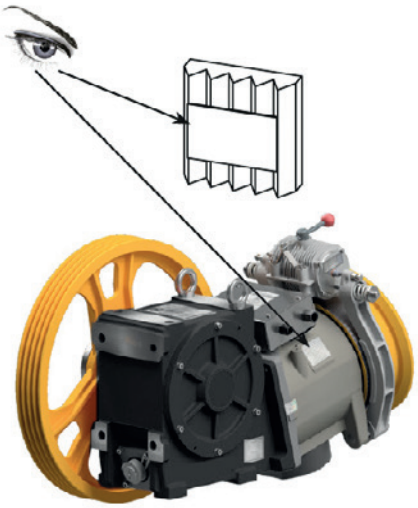
11. ELECTRICAL CONNECTIONS

Before arranging the electrical connections, installers MUST make sure that the mains voltage matches the technical specifications and the data on the machine identification plate.

All electrical connections must be made with the main switch in the OFF position.

Make sure that the rated supply voltage is maintained at all times.

If corresponding, it is possible to connect the electric motor.

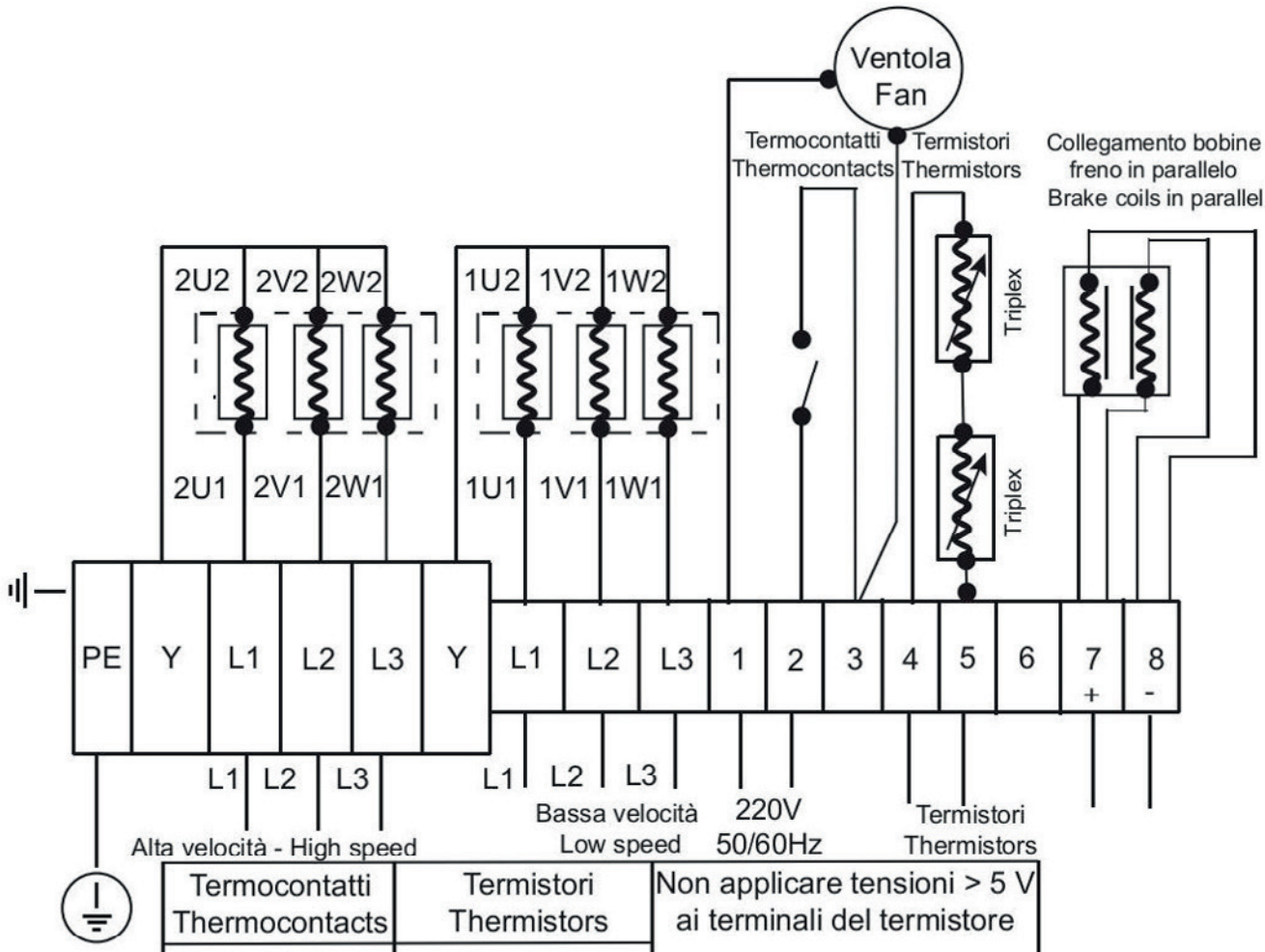


1. ELECTRIC MOTOR
Using the wiring diagram (which can be found in the motor terminal box), make the electrical connections and make sure that you connect the phases and earth correctly. Connect any auxiliaries by referring to the wiring diagram placed under the terminal box cover or enclosed with this manual.

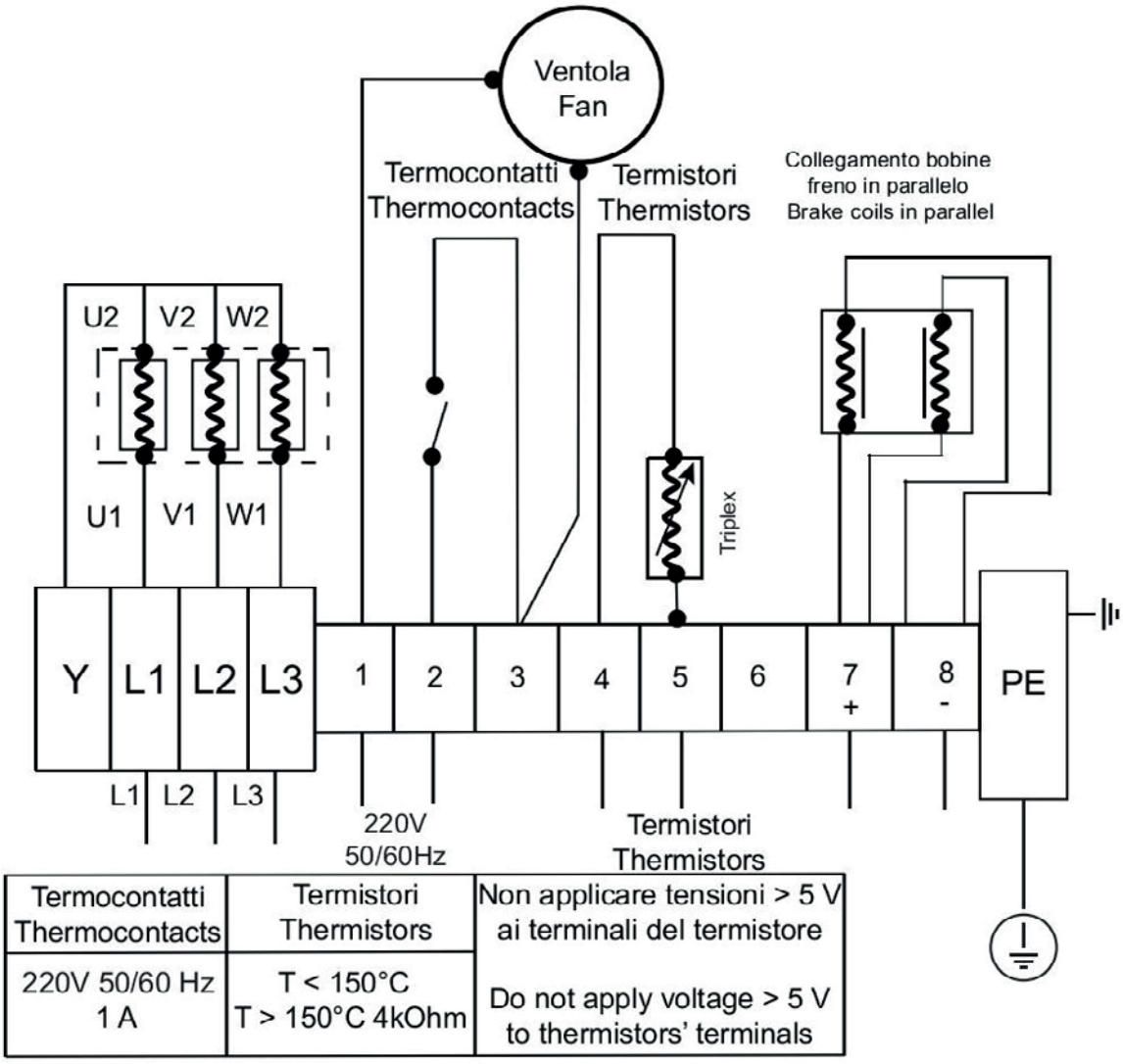
IMPORTANT NOTE
Any thermistors on the motor MUST BE CONNECTED TO A SPECIFIC RELAY ONLY. Incorrect connection of the thermistors will burn them out immediately.

2. AUXILIARIES
Connect any auxiliaries by referring to the wiring diagram placed under the terminal box cover or enclosed with this manual. After connecting, close the terminal box. For all and any version of the motor, always connect the clamps 1, 2 of the cooling fan to a 220V line

AC2 MOTOR CONNECTION



VVVF MOTOR CONNECTION



Termocontatti Thermocontacts	Termistori Thermistors	Non applicare tensioni > 5 V ai terminali del termistore
220V 50/60 Hz 1 A	T < 150°C T > 150°C 4kOhm	Do not apply voltage > 5 V to thermistors' terminals

12. STARTING THE MACHINE

Before placing the cables on the pulley:
- Make sure that the reduction unit has been filled with oil.
- Check that the electric connections have been made correctly and that the terminal box covers have been put back into position.
- After turning the flywheel a few turns by hand, start the motor at high speed for a few seconds in one direction and then, after a short pause, in the other.
- Wait a few minutes (5 minutes minimum) for the oil to flow along the channels and lubricate the rotating parts.
- Make sure the brake releases correctly as described in the sheet enclosed with the winch.
- Run the machine without load for 3 ÷ 5 minutes at high speed and make sure no anomalies occur. If malfunctioning occurs, recheck the electrical connection, supply voltage, absorbed current and/or the way the winch is clamped to its base.
  If you are uncertain about anything, contact Orange1.
- Make sure that the flywheel always turns freely. Repeat the last step and recheck.
- At this point, place the cables on the pulley and perform the first operations.
- Make sure that the counterweight is the correct size and does not overload the winch and the motor.

WARNING
Never operate the winch under load when the base fastening bolts are not tight! This may cause serious damage to the machine!

IMPORTANT
When installing the lift, do not operate the winch for long periods at low speed.

When the winch operates for long periods at low speed, the machine supports are not lubri-cated properly and may seize up unexpectedly.
To ensure proper lubrication, always start the winch at normal operating speed each time work is begun and then run at high speed every half an hour.

START-UP/SHUTDOWN
The customer is responsible for the procedures, instructions and wiring diagrams for the start-up and shutdown of the winch.

NEVER USE THE HOISTING MACHINE FOR PERFORMANCES ABOVE THOSE INDICATED IN THE TECHNICAL CATALOGUE.

DISPOSAL OF THE WINCH AT THE END IF ITS SERVICE LIFE
Drain the machine of its lubricating oil and then:
- Deliver the oil to a company that is authorised to dispose of it.
- Deliver the winch to a company that is authorised to recycle ferrous materials.

13. MAINTENANCE

Before carrying out any maintenance work, MAKE SURE YOU HAVE read chapter 6 "Safety provisions" of this manual. Operations of installation and/or maintenance can be done only by competent personnel, authorised to access the machinery and having the necessary equipment and instruments.

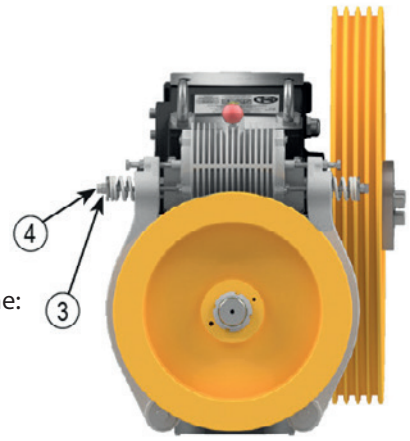
WARNING
Before starting any installation and/or maintenance work, you must pay attention to the safety requirements shown below in order to avoid accidents and damage to the product components:

- Make sure you have the appropriate personal protection equipment (helmet, body harness, gloves, safety shoes).
- Always secure equipment and other objects to avoid them accidentally falling from a height.
- Make sure that the power has been disconnected before working on electrical equipment.
- Only install the electrical system and/or the connections once you have read the relative instructions.
- Before starting installation, see if there are any structural and space limitations where the installation/ maintenance work will be carried out.
- It is advisable to consider where and when you will operating and which assembly/maintenance procedures you will use.
- Take account beforehand of all significant limitations that may regard the various operation phases and do not start work without first evaluating the consequences.

Installers/maintenance personnel must provide a maintenance plan in relation to the use characteristics of the hoisting machine.

Routine maintenance of the winch is limited to:
- Lubrication of the hoisting machine (see page 25)
- General cleaning of the traction unit
- Brake adjustment
- Assessment of wear and tear of brake linings
- Assessment and checking of wear and tear of pulley grooves.

13.1 BRAKE PRE ADJUS TEMENT

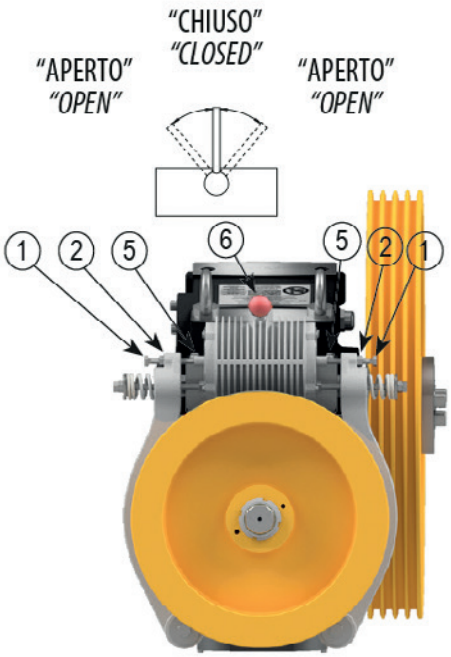


Values to be set before installing the ropes on the traction sheave of the hoisting machine:
- check that the brake hasn't been hurt during transport or installation;
- release the fixing nut (4);
- adjust the spring acting of the nut 3;
- fix the adjustment by acting of the nut 4;
- to adjust the stroke, please read the related chapter.

NOTE: manually turn the flywheel

13.2 BRAKE ADJUSTMENT

The brake is provided of two separated magnets that makesd the brake arms independed one from eachother.



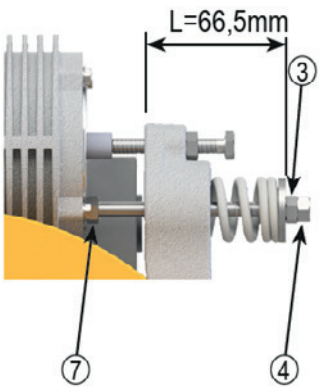
13.2.1 STROKE ADJUSTMENT

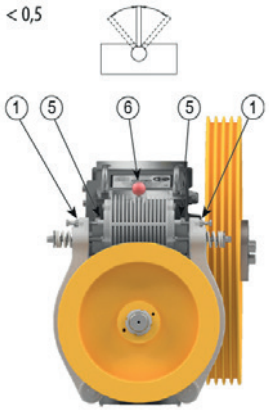
- Release the fixing bolts (2) of both the brake arms and release the adjusting screw (1) leaving a gap of 4-5 mm between the screw and the pivot of the magnet;
- rotate the brake opening lever (6) to the "open" position;
- manualy screw in the the adjusting screws (1) until they reach the pivot of the magnet;
- rotate the brake opening lever (1) to the "closed" position and screw in by half a turn the adjusting screw toweards the magnet pivot;
- block the fixing nuts (2).

13.2.2 CHEKING THE ADJUSTMENT

Run the elevator upwards and downwards and verify the noise level. The stroke is correctly adjusted is the brake liner doesn't touch the brake drum while the elevator is running and if there is no noise during braking operations.

Elevator Speed (m/sec)	Braking Distance	
	High	Low
0,40	9	
0,50	14	17
0,60	19	23
0,75	29	36
1,00	52	64
1,20	74	92
1,80	130	163





13.2.3 BRAKING MOMENT ADJUSTMENT

If this procedure is not correctly performed, it may result in the incorrect operation of the braking system. The braking torque is adjusted when the car is empty (values are indicated in the table).
Repeat the same steps for both brake shoes:

- Make sure that the nut (7) is tightly fastened on the flange.
- Unscrew the check nut (4).
- Check the braking distance.
- If the braking distance is too short, loosen the spring by turning the nut (3). If it is too long, tighten the spring again by turning the nut (3).
- Once the braking distance has been adjusted correctly, check that the springs are of the same length.
- Secure the adjustment using the locknut (4).

13.3 CHECKING THE STROKE

Make sure that the brake opening lever (6) is in central position (brake closed).
Manually press the electromagnet pivot (5) down to the end of its stroke and then measure the clearance between the adjusting screw (1) and the electromagnet pivot (5). If it is < 0.5 mm, the stroke must be immediately adjusted.

13.4 COMPULSORY MAINTENANCE OPERATIONS

VERIFY	FREQUENCY
Oil Level	4 months
Thickness of brake linings	4 months
Adjustment of the brake shoes opening	2 months
Wear and tear of traction sheave grooves	6 months
Acoustic of condition of bearings	6 months
Acoustic ot presence of abonormal noise levels	6 months
Backlash on gear measured as shown in the figure (first check there is no axial play of the screw shaft)	12 months

$$G = G_m \times \frac{R_{pr}}{R_p}$$

R.R.R.	pr (mm)
45/1	112,5
55/1	113,3
43/2	135,0

G*(mm)	Reduction Ratio			
	45/1	55/1	43/2	41/3
	0,62	0,51	0,50	0,80

Rpr = Primitive radius of the crown wheel
Rp = traction sheave radius
Gm = measurement of the traction sheave clearance
When the "G" gear backlash exceeds value "G* ", indicated below, the gear must be replaced because it no longer offers the required level of safety.

14 OPERATING THE EMERGENCY MANUAL MANOUVRE

14.1 AVVERTENZE

The manual emergency operation can be dangerous. It allows the movement of the cabin by excluding any safety contact of the plant. It is therefore necessary that who perfoms the manouvre has been opportunely trained by specialised personnel and has to be aware of the implied risks.

Assistance in the event of an emergency must only be provided by expert, specially trained personnel. All the operations performed in the event of an emergency must strictly follow the instructions in this manual. A copy of this document must therefore be kept near the area where the winch is stored and must be easily accessed if necessary.
When performing manual emergency operating, strictly observe these instructions:

1. Follow local safety requirements.
2. Do not neglect the safety of passengers at risk in any way.
3. Do not put them at risk in any way.
4. Make sure that their actions do not create hazardous situations for third parties.
5. Communication with any passengers in the cab must be established as soon as possible in order to reassure the people present. This can help to establish the position of the cab in the well more pre- cisely.
6. Before each intervention, first inform the passengers of what you intend to do.
7. After completion of work, make sure there are no problems with normal operating of the plant.

14.2 INSTRUCTION FOR OPERATING THE EMERGENCY MANUAL MANOUVRE

The manual emergency manouvre is a dangerous operation!

It allows the movement of the cabin by excluding any safety contact of the plant. It is therefore necessary that who perfoms the manouvre has been opportunely trained by specialised personnel and has to be aware of the implied risks.

D For the correct performance of emergency manual manouvre, please carefully follow these instructions.

1. Check that all the floor doors are closed and that they cannot be opened in any way.
2. Check that the car is at floor level. If it is not, do the following.
3. Put the main switch on the control panel to the OFF position.
4. Reassure the passengers in the car and inform them dabout what you are about to do.

Passengers must not try to forcedly open the car doors or try to get out of it.

5. Before doing it, please check that the operating conditions of the main brake and of the hoisting machine are safe for moving the car.

To check if the main brake on the machine is working properly, please check:
- if the brake shoes are broken;
- if the brake linings have damage which limits the contact surface;
- if contact with the braking surface is even.

6. Check the direction of rotation of the winch for moving the car.

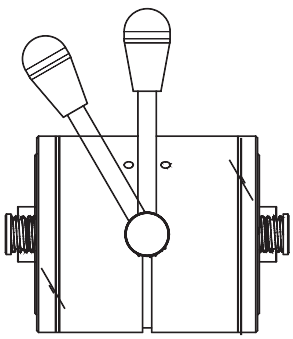
Whether the winch and/or the main brake are out of use or the safety is on, perform the rescue procedure and ensure that the car is secure by using a special device suitable for the type of plant, place and operating conditions.

7. Manually block rotation of the flywheel of the machine.
8. Release the main brake using the special manual lever (POS 2).
9. Begin manual operating to move the cab to the required floor by manually rotating the flywheel in the right direction.
10. Release the manual release lever of the.
11. Open the cabin doors and help the passengers.
12. Close the cabin and floor doors.
13. Check that all the floor doors are closed and that they cannot be opened in any way.

Never operate in such a manner to reduce the tension on the brake springs in order to make the emergency manouvre easier.

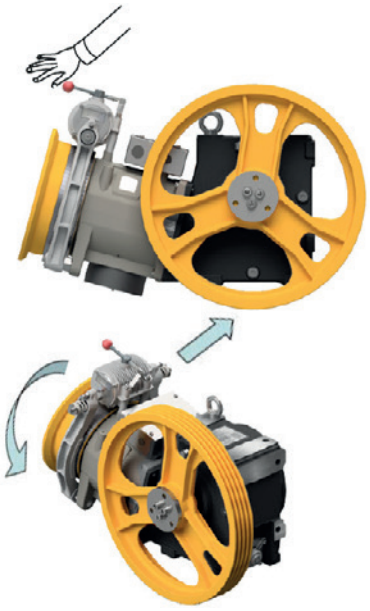
FRENO INATTIVO (ganasce freno aperte) POS 2

NOT ENGAGED BRAKE (open brake shoes) POS 2



FRENO ATTIVO (ganasce freno chiuse) POS 1

ENGAGED BRAKE (brake shoes closed) POS 1



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