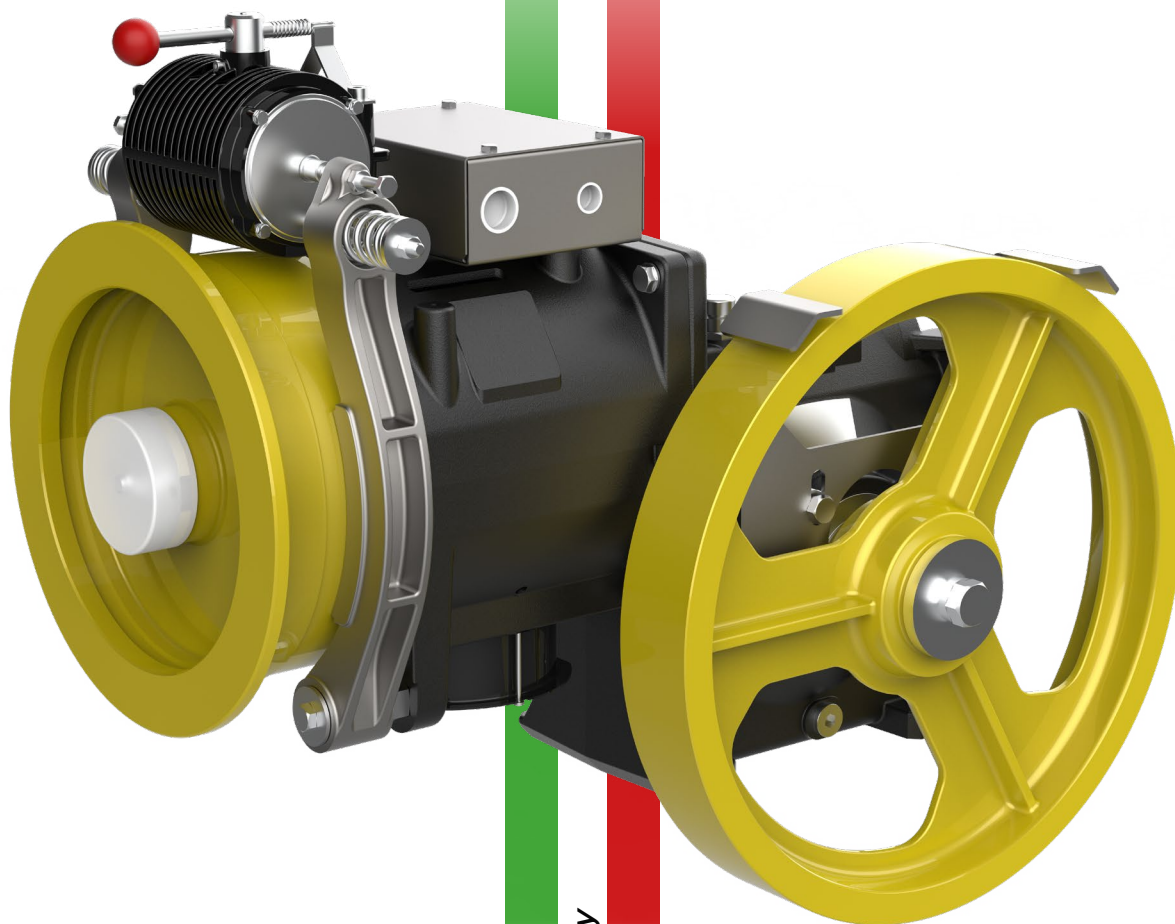




Made in Italy

VENEZIA

USE AND MAINTENANCE MANUAL

Original Instructions

1. DELIVERY LETTER

Dear Customer,

Orange1 Geared machines have been designed and manufactured in compliance with Machinery Directive 2006/42/EC and in accordance with standards EN 81-20:2020 and EN 81-50:2020.

They are therefore safe for the Installer and Maintenance Technician, provided that they are used according to the instructions given in this manual and that the related safety devices are kept in constant working order.

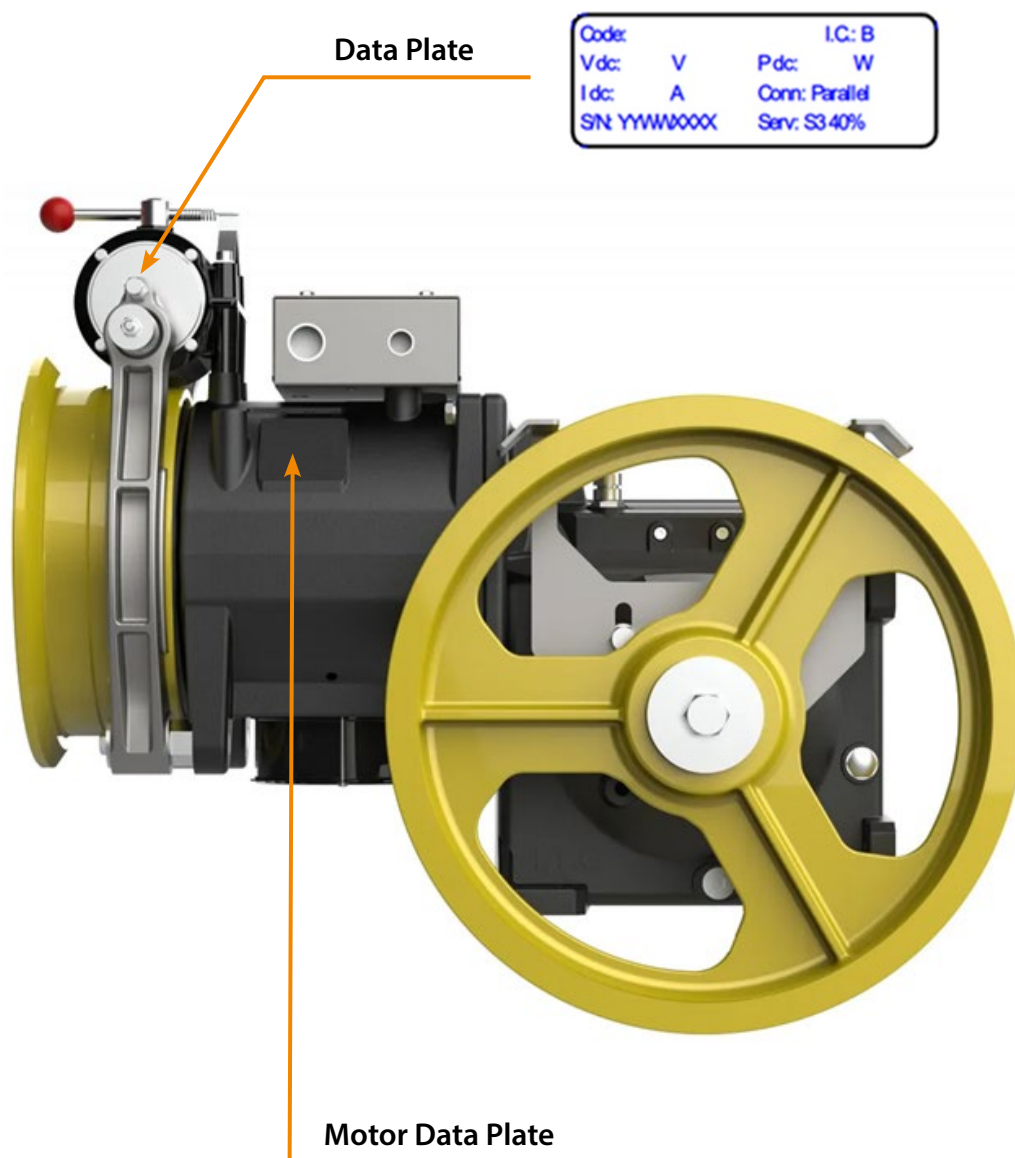
Orange1 declines all responsibility for damage caused by modifications, tampering, or operations carried out contrary to the provisions of this manual or other documents relating to the installation of the Geared unit.

Orange1 congratulates you on choosing one of its products and is confident that you will obtain the best possible performance from it.



2. MACHINE IDENTIFICATION

For any communication concerning one of our Geared units, always indicate the serial number and also keep available the serial numbers of the brake electromagnet and of the motor, all clearly identifiable by means of the appropriate labels placed on the machine.



Code:		I.C.: B
Vdc:	V	Pdc: W
I dc:	A	Conn: Parallel
SN: YYWWXXXX		Serv: S3 40%

Type: **VENEZIA ORANGE1**

Code: YVEARV0556275

S/N: 27619477 028

Stat. Load kg	Gear ratio	IP	Duty cl.	St/h	Ins. Clas	Weight kg
2600	1/45	21	S3 - 40%	240	F	157

MOTOR 3 ~

kW	Poles	V Δ/Y	Hz	A Δ/Y	min ⁻¹	cosΦ	Eff.%
5,5	4	230/400	50	20,8/12,0	1415	0,83	80

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3. WARRANTY

- 3.1 Unless otherwise agreed in the contract, the warranty is governed by the following clauses.
- 3.2 The warranty on Orange1 products is granted for a period of TWO years from the date of shipment from its factory. During this period, Orange1 will replace any component acknowledged as defective.
- 3.3 A part may be acknowledged as defective only if the defect has been verified and accepted by Orange1. Parts under warranty, whether to be repaired or replaced, must be sent to Orange1 carriage paid.
- 3.4 Any request for technical intervention by the Customer must be submitted to Orange1 in writing. Labour, travel, board and lodging expenses shall be borne by the Customer.
- 3.5 The warranty automatically becomes void if any of the following conditions occur:
the Geared unit or any of its component parts has been tampered with;
the application of the Geared unit differs from the conditions of use indicated by Orange1 at the time of ordering the Geared unit and from the operating conditions indicated in the Orange1 technical catalogue and in this manual;
the machine identification plates are missing.
- 3.6 The warranty does not include operations and component parts subject to normal wear, namely: brake friction linings, rolling bearings, electrical windings and hydraulic seals.
- 3.7 The warranty does not provide for or imply compensation for any downtime or transport costs.
- 3.8 Procedure for warranty interventions.
Any warranty claim must be communicated in detail to Orange1 within 8 days from the first occurrence of the defect, by e-mail or fax.
- 3.8.1 Orange1 will confirm by e-mail or fax whether the warranty claim and the repair carried out by the Customer have been accepted, or will arrange for its own technicians to intervene.
- 3.8.2 Any defective component part replaced by the Customer must remain available to Orange1 Lift Motors for at least 180 days, so that Orange1 may carry out any necessary checks, or it must be sent directly to Orange1 upon simple written request.
- 3.8.3 Under no circumstances will Orange1 accept charges for warranty repairs that have not been previously authorised by Orange1 itself.
- 3.8.4 In all cases, complete photographic documentation of the intervention carried out must be provided, not only for documentary purposes, but also for tax purposes and to allow Orange1 to further correct and improve the quality and reliability of its machines.

4. GENERAL DELIVERY NOTES

The Geared machines may be shipped on pallets or in crates. In any case, upon receipt of the Geared machine, check that:

- the packaging is intact;
- the supply corresponds to the order specifications, see delivery note or packing list;
- there is no visible damage to the Geared machine or its accessories.

In the event of damage or missing or damaged parts, promptly inform Orange1, the Orange1 agent or the carrier who made the delivery.

Spare parts or supplied equipment, when necessary, are packed in separate containers.

5. SAFETY WARNINGS

It is the responsibility of the installer to ensure that installation and maintenance are carried out according to all necessary criteria and requirements to guarantee full safety and health protection.

The installer or maintenance technician must comply with and keep up to date with accident-prevention regulations and legal obligations in order to avoid injury to persons or damage to the product during installation, maintenance and repair. Important safety notices and danger warnings are highlighted with the following symbols.

Definitions: INSTALLER and/or MAINTENANCE TECHNICIAN.

Qualified operator recognised as such by the Customer and authorised by the Customer to carry out installation and maintenance operations.



Warning of high-risk danger (for example: shearing, cutting, crushing areas, etc.)



General danger warning.



Risk of damage to machine parts (for example due to incorrect installation or similar causes)



Symbol indicating additional important information

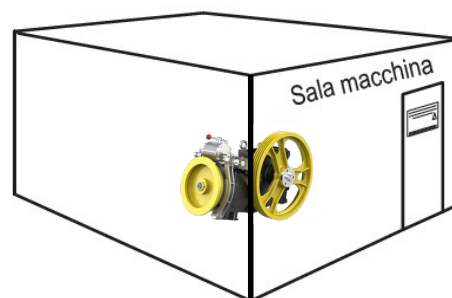
WHEN THESE WARNINGS APPEAR, PROCEED WITH THE UTMOST CAUTION.

6. SAFETY REQUIREMENTS

WARNING

This geared machine **MUST** be installed strictly in a locked room, access to which is permitted only to maintenance personnel qualified and authorised by the Customer.

On the door of this room, at least the following notice must be displayed:



The maintenance technician or installer must be aware of the hazards connected with the machine and must have read and understood the safety instructions contained in this manual.



Before installing the geared machine, the Customer must verify that the slab, the supporting structures for the moving loads and the Geared machine itself provide the required safety coefficients.

The Customer must also comply with the distance from walls or other machines according to the directives or standards of the country where the Geared machine will be installed.

LIFTING



To move the Geared machine, see also “Transport”, Chapter 8, use the lifting eyebolts of the gearbox and a non-metallic sling around the motor, or use a forklift truck with suitable capacity, see also “Technical characteristics”, Chapter 7.

Lift the Geared machine no more than 30 cm from the ground and move it slowly.

DISCONNECTION FROM ENERGY SOURCES



Before carrying out any cleaning, lubrication and/or maintenance operation, the maintenance technician must put the Geared machine out of service by disconnecting its electrical power supply and must wait until the heated areas of the motor and of the Geared machine itself have reached ambient temperature.

WARNING



Do not lean on or sit on the geared machine, whether it is operating or switched off.



Do not approach or lean against rotating parts, such as the flywheel or pulley painted yellow.



Do not place or rest objects or containers of liquids, etc. on the geared machine, especially on the electrical parts.



Never tamper with or disable the safety devices, create bypasses, or use them for purposes other than those intended. Do not tamper with, damage or remove the plates. In the event of damage or illegibility, immediately request a replacement from Orange1.

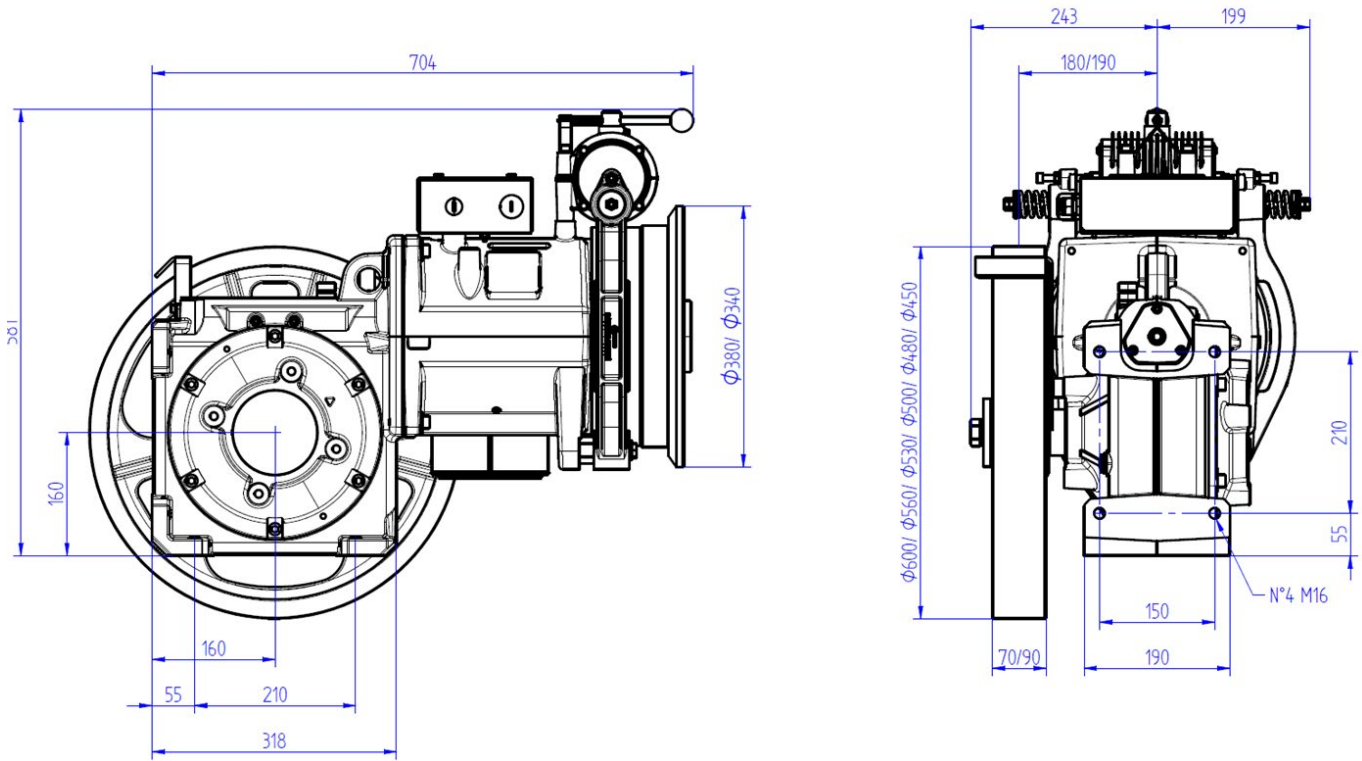


When near the geared machine, the installer and maintenance technician **MUST NEVER WEAR LOOSE OR TORN CLOTHING** and/or accessories such as scarves, neckerchiefs, hats, necklaces, straps, watches, bracelets, rings, etc.

7. TECHNICAL CHARACTERISTICS

The overall dimensions of the geared machine in its maximum configuration are shown below.

More detailed data, such as reduction ratio, absorbed power, number of motor poles, etc., can be found in the Orange1 technical catalogue.



8. TRANSPORT



The personnel responsible for handling the Geared machine must have read the "Safety Requirements" in paragraph 6 of this manual and must wear work gloves and safety shoes.

The geared machine is shipped by Orange1 in crates or on a pallet wrapped in nylon.



WARNING

Never move crates by dragging them; always lift them. Do not remove the machine from its packaging before placing it as close as possible to its final installation point.

To move the crate, use a cable crane or a forklift truck with long forks and suitable capacity, see "Technical characteristics", Chapter 7.

The forks must also be positioned wide apart in order to prevent tipping. If the machine is shipped on a pallet, use a lifting beam of suitable capacity when handling it with a crane, so that the lifting ropes or chains remain vertical and do not damage parts of the machine.

WARNING

1) During handling, remember the following:

- proceed slowly;
- do not lift the crate too high from the ground, except to overcome obstacles; maximum 30 cm;
- the crate must be placed on the ground slowly.



2) For unpacking operations, start from the upper side of the crates using suitable opening tools. Then, when the packaging is a crate, remove the side walls. Once the machine has been unpacked, **DO NOT DISPOSE OF THE PACKAGING IN THE ENVIRONMENT**; reuse it or send it to recycling companies.



3) Once the packaging walls have been removed, check against the accompanying document and the order that the supply corresponds to the order itself.

In the event of any discrepancy with the order, immediately notify Orange1 or its Agent. When necessary, proceed as described in paragraph 4 "General delivery notes".

4) After slinging the Geared, but before lifting it, remove the screws that secure it to the pallet.

When handling the unpacked Geared, use a crane or a wide-fork forklift truck of suitable capacity, using the gearbox eyebolt for suspension and a non-metallic sling around the motor.

WARNING



Make sure that no exposed persons are within the operating radius of the transport equipment carrying the Geared, as this is a danger zone.



In the event of long storage periods, leave the Geared on its pallet and make sure it is sufficiently protected, at least with waterproof covering, in order to prevent oxidation of the internal or external parts of the machine.

Remember that oxidation of shafts or other mechanical parts reduces their fatigue strength.

9. INSTALLATION NOTES



WARNING

The room in which the Geared is installed must have the following characteristics:

- It must be dry and dust-free. This is essential to avoid electrochemical corrosion of mechanical parts and high water concentration in the lubricating oil. Clean the machine room before installing the machine.
- It must be ventilated. The room must have adequate openings or conditions to allow sufficient air exchange to dissipate the heat released by the electric motor and gearbox.

The room temperature must be between 5°C and 40°C. For different temperature values, consult Orange1.

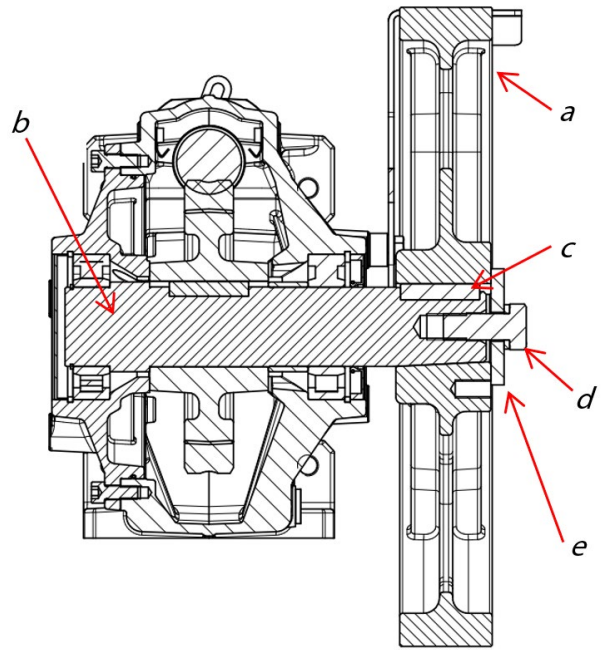
The Customer is required to verify that, where the Geared will be installed, the mains electrical system has cables of adequate cross-section, correct earthing and sufficient installed power.

9.1 PULLEY ASSEMBLY / DISASSEMBLY

Before carrying out the pulley assembly or disassembly operation, carefully read the chapter "Safety Requirements" and disconnect the Geared from the electrical power supply.

PULLEY ASSEMBLY

1. Install the pulley, item a, on the low-speed shaft, item b, making sure that the key, item c, on the shaft is correctly aligned with the corresponding slot in the pulley hub.
2. Push the pulley into the correct position, avoiding impacts or forcing that may damage the components.
3. Check that there is adequate clearance between the head of the key and the bottom of the slot in the pulley hub.
4. Position the washer, item e, and screw on the nut, item d.
5. Tighten the nut, item e, to the prescribed torque of 140 Nm using a suitable torque wrench.



The coupling between the shaft and the pulley is tapered and it is essential that the previous instructions are followed with the utmost care, because otherwise the coupling may not operate properly and could cause damage and breakage of the pulley.

PULLEY DISASSEMBLY

1. Remove the plate, item e, by unscrewing the screw, item a.
2. There are three threaded holes, M12, on the pulley, intended for pulley exGeared.
3. Insert two M12x50 screws into the threaded holes and tighten them alternately, using them as extractors. Tighten them evenly to allow progressive exGeared of the pulley.

9.2 ENCODER ASSEMBLY INSTRUCTIONS

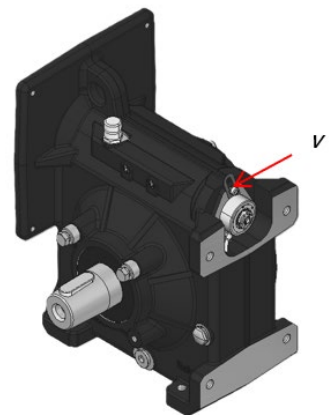


Before proceeding with encoder assembly, it is necessary to:

- read the chapter "Safety Requirements";
- disconnect the Geared from the electrical power supply.

If the machines ordered with encoder preparation are supplied complete with all the components required to carry out this operation, the standard preparation includes an encoder drive pin.

1. Unscrew the screws securing the support plate supplied with the encoder.
2. Remove the original support plate and replace it with the one supplied by Orange1.
3. Remove the M8 screw, item v, securing the flange, according to the indications in the reference figure.
4. Position the encoder by sliding it coaxially onto the pin until the support plate comes into contact with the thrust-bearing flange.
5. Reposition the M8 screw by passing it through the Ø9 hole in the plate and tighten it to a torque of 25 Nm.
6. Tighten the encoder locking grub screw.



9.3. OIL LEVEL



Never fill the machine with a quantity of oil greater than that recommended by Orange1. In particular, at high temperatures, a quantity of oil greater than that indicated, together with the increase in internal pressure, could cause damage to seals and gaskets.

9.4 ENVIRONMENTAL CONDITIONS



The lift motor is designed to operate, in accordance with ISO 60034-1, under standard environmental conditions up to a maximum altitude of 1000 m above sea level. Within this altitude limit, the rated performance, cooling and heating limits of the motor are guaranteed without derating. For installations above 1000 m above sea level, this must be indicated at the order stage in order to evaluate any power reductions or special operating conditions.

10. LUBRICATION OF GEARED UNITS

The Geared is supplied complete with synthetic oil. Make sure that the drain screw is properly closed. For any top-ups, use only ENI BLASIA S 220 oil.



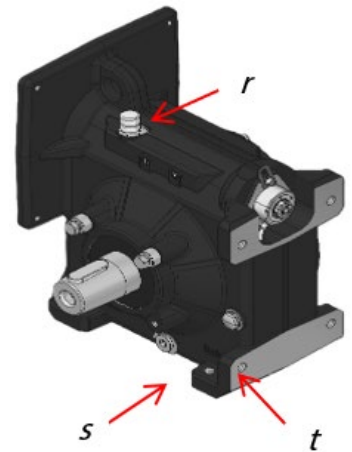
Do not use other types of oil!
The oil quantity for VENEZIA O1 Geared units is 3.5 litres.

10.1 OIL REPLACEMENT

We recommend replacing the oil for the first time after the first year of operation in order to remove any deposits generated during the initial operating phase of the Geared.

We recommend replacing the oil every 3÷5 years, depending on the machine's operating conditions. If the oil temperature exceeds 85°C, in the case of intensive service, the oil must be replaced every 3 years. Oil replacement is also necessary if the oil becomes contaminated with other substances, for example water, or if incorrect top-ups have been carried out with oils other than those indicated.

To replace the oil, proceed as follows:



- read the chapter "Safety Requirements";
- disconnect the Geared from the electrical power supply;



- wait at least thirty minutes after the machine has stopped to allow the oil inside the Geared to cool;
- clean the area around the oil filler plug of the Geared to avoid introducing dirt inside it;
- remove the oil filler plug, item r;
- place a container for collecting used oil under the oil drain plug, item s;
- unscrew and remove the drain plug and wait a few minutes until the tank has emptied completely;
- clean the drain plug and the areas around its seat with a cloth;
- screw the plug back in, making sure to refit its gasket, and tighten fully;
- thoroughly clean the surface of the new oil container, the filler plug and the nearby areas in order to eliminate the possibility of introducing dirt or debris into the Geared. Failure to comply with this instruction may cause serious damage to the machine;
- pour in the oil using a clean funnel;
- reposition the filler plug, item r;
- check the correct oil level through the sight plug, item t.



NOTE

The type of oil must be the same as that previously used and as indicated in these instructions.

10.2 OIL LEVEL CHECK

It is not necessary to top up the oil if there are no leaks.

If an insufficient oil level is detected, top up using the same type of oil already present inside the Geared.

For topping up, follow the steps described above.



The oil level must be checked with the machine stopped for at least 30 minutes.

To check the oil level, remove the oil plug located on the upper part of the machine and insert a flexible strip into the opening, gently pushing it down until it reaches the bottom of the machine body.
Remove the flexible strip and measure the oil level, which must be between 5 and 7 centimetres.
Apply a light layer of silicone to the oil plug that was removed and screw it back into its seat.



WARNING

Used oil must be delivered to an authorised disposal agency. Do not release it into the environment.

11. ELECTRICAL CONNECTIONS

Before making the electrical connections, the installer **MUST** check that the mains voltage corresponds to the technical specifications and to the data shown on the motor plate of the Geared.



Before proceeding with encoder assembly, it is necessary to:

- read the chapter "Safety Requirements";
- disconnect the Geared from the electrical power supply.



Make sure that the rated supply voltage is always maintained.

11.1. ELECTRIC MOTOR

With the help of the diagram located inside the motor terminal box, make the electrical connection of the motor, paying attention to the correct connection of the phases and earth.



IMPORTANT NOTE

Any thermistors present in the motor **MUST ONLY BE CONNECTED TO A SPECIFIC RELAY.**



Incorrect connection of the thermistors will cause them to burn out immediately.

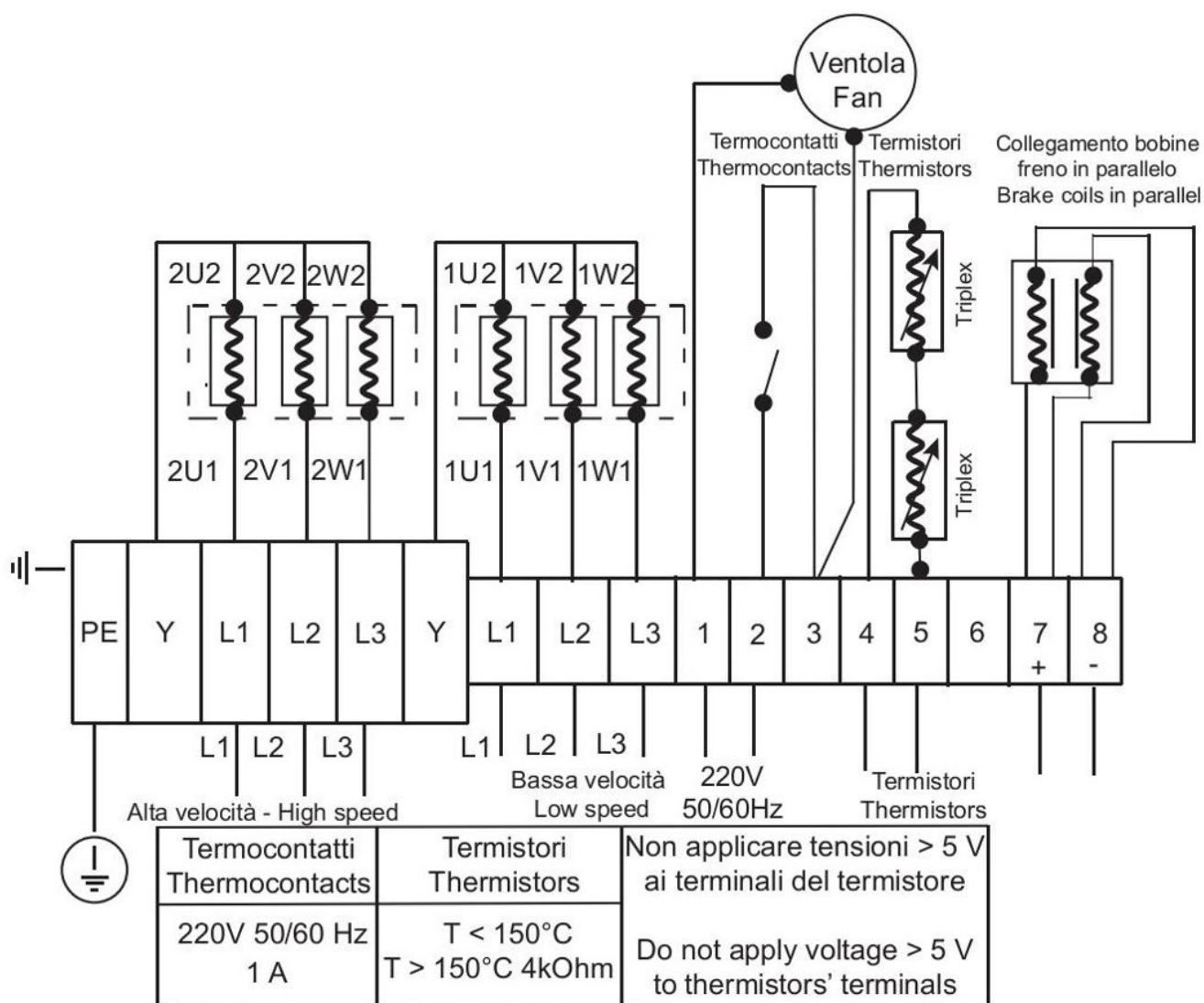
11.2. SERVICES

The services must be connected according to the wiring diagram shown under the terminal box cover or attached to this manual. Once the connection has been completed, close the terminal box.

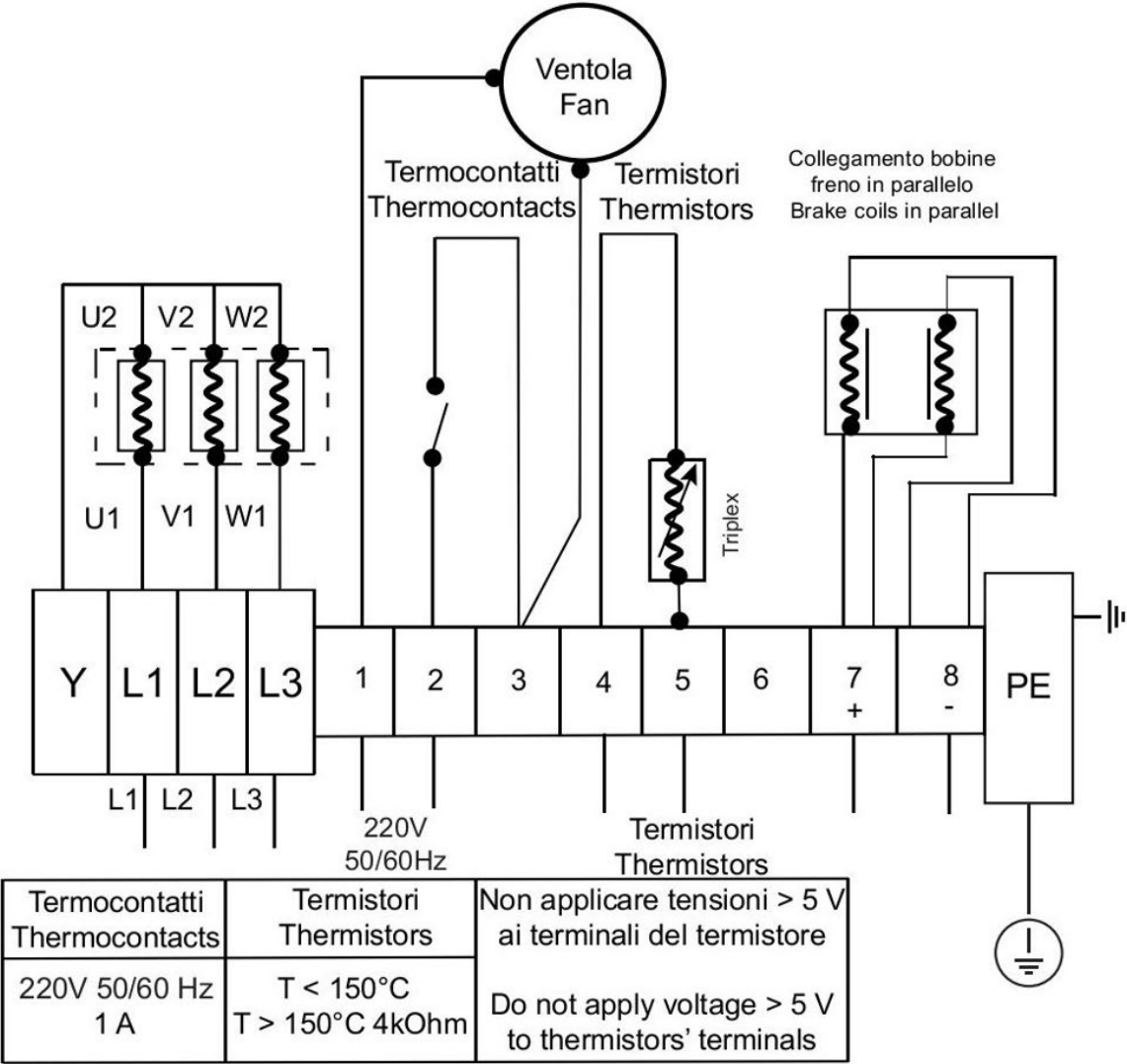
In any motor configuration, always connect the 220 V~ voltage to terminals 1 and 2 of the fan.

11.3 MOTOR CONNECTIONS

AC2 MOTOR



MOTOR VVVF



12. STARTING THE GEARED

Before fitting the ropes onto the pulley:

- Check that the gearbox has been filled with oil.
- Check that the electrical connections have been correctly made and that the terminal box protections have been refitted.
- After turning the flywheel by hand a few times, electrically start the motor at high speed for a few seconds in one direction of travel and, after a short pause, in the other direction.
- Wait a few minutes, minimum 5 minutes, so that the oil can travel through the ducts and lubricate the rotating parts.
- Let the machine run unloaded for 3÷5 minutes at high speed and check that no anomalies occur. If any anomalies are observed, check the electrical connection, the supply voltage, the absorbed currents and/or the securing of the Geared to its base. If in doubt, consult our organisation.
- Check that the flywheel always rotates very freely. Repeat this last operation once more and check again.
- Once this has been done, fit the ropes onto the pulley and carry out the first runs.
- Check that the counterweight is correctly sized so as not to overload the Geared and motor.



WARNING

Never operate the Geared under load with the base fixing screws not tightened! Serious damage may be caused to the machine.



IMPORTANT WARNING

During lift assembly operations, the Geared must not be operated for long periods at low speed. In fact, operating the Geared at low speed for long periods does not allow correct lubrication of the machine supports and may cause unexpected seizure.



Therefore, to ensure lubrication, it is necessary always to start the Geared at rated speed at the beginning of each work session and, subsequently, to perform one run at high speed at intervals of about half an hour.

STARTING / STOPPING



The procedures, instructions and diagrams for starting and stopping the Geared are the responsibility of the Customer.

NEVER USE THE GEARED FOR PERFORMANCE LEVELS EXCEEDING THOSE INDICATED IN THE TECHNICAL CATALOGUE.

DISPOSAL OF THE GEARED AT END OF SERVICE LIFE

After emptying the machine of lubricating oil:

- deliver the oil to a company authorised for its disposal;
- deliver the Geared to a company authorised for recycling ferrous materials.

13. MAINTENANCE

Before carrying out any maintenance operation, paragraph 6 “Safety Requirements” of this manual **MUST** have been read. Assembly and/or maintenance operations may only be carried out by competent personnel, authorised to access the machinery and equipped with the necessary equipment and tools.



WARNING

Before starting assembly and/or maintenance operations, pay attention to the following safety requirements in order to avoid injury or damage to the product components:

- Make sure you have the appropriate personal protective equipment, such as helmet, harness, gloves and safety shoes.
- Always secure tools to suitable objects to prevent accidental falls from above.
- Make sure there is no voltage before working on electrical equipment.
- Install the electrical system and/or electrical connections only after reading the relevant instructions.
- Before starting installation, check the structural and spatial limits within which the assembly/maintenance operations will be carried out.
- It is advisable to consider where, when and with which assembly/maintenance procedures you may or must operate.
- It is advisable to take into account in advance all relevant limitations concerning the various operating phases and not to start work without first assessing the consequences.

The installer / maintenance technician must prepare a maintenance plan in relation to the operating characteristics of the Geared.



Routine maintenance of the Geared is limited to:

- lubrication of the Geared;
- general cleaning of the Geared;
- brake adjustment;
- assessment of brake lining wear;
- assessment and check of pulley groove wear.

14. BRAKE AND SHOE ADJUSTMENT

The brake is equipped with two separate magnets, which make the brake shoes independent of each other.

14.1 BRAKING TORQUE SETTING

The braking distance is determined by the adjustment of the brake springs, which must be precisely adjusted. The spring compression must under no circumstances exceed 66.5 mm, as provided by the factory setting.



Periodically check that the spring extension does not exceed the indicated value.

To restore correct brake operation, bring the spring compression back to the prescribed value and repeat the brake shoe opening adjustment procedure.

The brake shoes must be replaced when the thickness of the brake lining is less than 3 mm.

14.2 ADJUSTMENT OF BRAKE SHOE OPENING

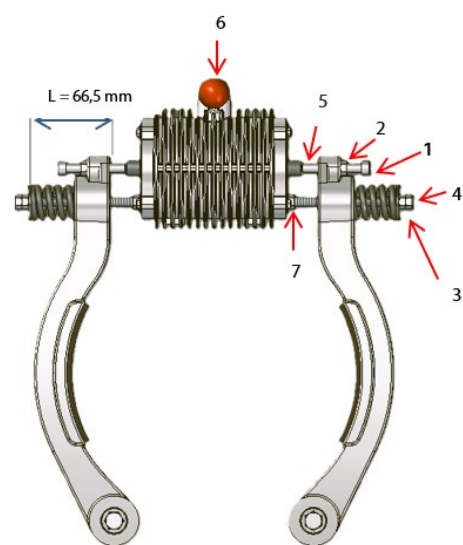
The Geared units are normally supplied with the brake shoe opening already factory-set.

If further adjustment is required, follow the instructions below, bearing in mind that the shoes must open with the shortest possible travel, in order to guarantee quick and safe brake intervention.

The operations must be performed on both brake shoes.

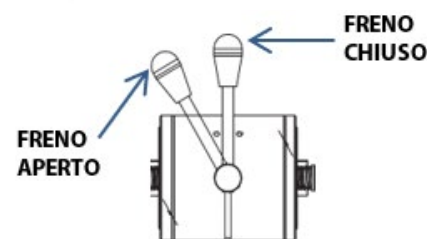
Adjustment procedure

- Check that the brake release lever, item 6, is in the “closed” position.
- Loosen the lock nuts, item 2, of both brake shoes and unscrew the adjustment screw, item 1, leaving a clearance of 4–5 mm between the screw and the electromagnet pin, item 5.
- Manually tighten the adjustment screws, item 1, until they come into contact with the electromagnet pin, item 5.
- Turn the brake release lever, item 6, to the right or left to open the brake and tighten the adjustment screw, item 1, by half a turn with a suitable wrench against the electromagnet pin, item 5.
- Release the lever, item 6, and lock the lock nuts, item 2.
- Finally, make sure that during normal operation the brake shoes open simultaneously, thus ensuring balanced action and uniform wear of the components.



14.3 BRAKE SHOE OPENING CHECK

- Make sure that the brake release lever, item 6, is in the central position, brake closed.
- Manually press the electromagnet pin, item 5, fully in and then measure the clearance between the adjustment screw, item 1, and the electromagnet pin, item 5.
- If this clearance is less than 0.5 mm, the brake shoe opening must be adjusted again.



14.4 BRAKING DISTANCE ADJUSTMENT

Move the cabin up and down and listen for any noise. The travel is correct if the brake lining does not touch the brake drum whilst the lift is in motion and if no noise is heard during braking.

Repeat the same operations for both brake shoes:

- Make sure that nut, item 7, is firmly tightened on the flange.
- Unscrew the locking lock nut, item 4.
- Check the braking distance.
- If the braking distance is too short, loosen the spring using nut, item 3. If it is too long, tighten the spring using the same nut, item 3.



Failure to carry out this procedure correctly may compromise the proper functioning of the braking system.

- Once the braking distance has been correctly adjusted, check that the springs have the same extension.
- Secure the adjustment using the lock nut, item 4.

14.4 BRAKE MONITORING KIT

To ensure correct operation of the lift Geared brake, it is essential to periodically check the position of the shoes on the drum.

This check is performed by means of two microswitches installed on the brake device.

Each microswitch is a SNAP ACTION type switch equipped with one normally closed contact, NC, and one normally open contact, NO, in changeover configuration.

Its technical characteristics include a contact capacity of 6 A at 250 VAC and 5 A at 24 VDC.

The microswitch has push-button actuation, ensuring direct and precise action. The housing is made of resistant technopolymer and offers an IP40 degree of protection.

Connection is made by means of screw terminals with self-lifting plate, facilitating installation, and the operating temperature range is from -25°C to +85°C.

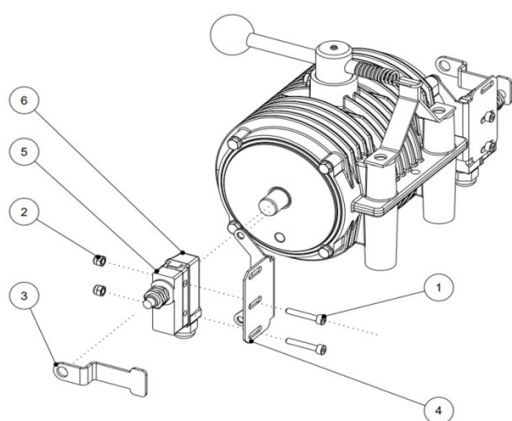
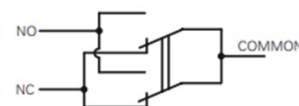
When the brake is released and the shoes are detached from the drum, the microswitches must indicate their status, confirming complete opening of the brake.

Conversely, when the brake is applied and the shoes press against the drum, the microswitches must indicate that the shoes are in braking position.

Any anomaly in the microswitch reading, such as failure to switch or incorrect signalling, indicates a potential brake malfunction requiring immediate inspection and maintenance by qualified personnel.

Please note that the brake monitoring kit with microswitches and related accessories is not supplied as standard with the machine. It is an optional item available upon Customer request.

The optional kit consists of:



Ref.	Description	Q.ty
1	TCEI M4X25 SCREW, CLASS 8.8, ZINC-PLATED	4
2	SELF-LOCKING NUT, E.G. UNI7473 M4 CL 6S STANDARD	4
3	MICROSWITCH CLAMP	2
4	MICROSWITCH SUPPORT BRACKET	2
5	MICROSWITCH	2
6	MICROSWITCH CONTACT PROTECTION	2

15. MANDATORY MAINTENANCE OPERATIONS

CHECK	FREQUENCY
Oil Level	6 months
Brake lining thickness	6 months
Brake shoe opening adjustment	6 months
Wear condition of pulley grooves	6 months
Bearing condition noise check	6 months
Check for any abnormal noise	6 months
Check of the play taken up by the gear, measured under the conditions shown in the figure, after first making sure that there is no axial play of the worm screw	6 months

16. GEARBOX WEAR CHECK

The play between the worm screw and crown wheel must be checked periodically in order to ensure correct coupling of the transmission components and prevent abnormal wear or noise during operation.

1. Put the system in safe condition: disconnect the electrical power supply, make sure the Geared is stopped and in rest position, and operate with the cabin unloaded.
2. Bring the counterweight into support position, so as to prevent rotation of the Geared pulley.
3. Manually release the brake.
4. Manually oscillate the pulley back and forth, avoiding causing rotation of the crown wheel.
5. Identify the two extreme positions reached during oscillation and mark two reference points on the pulley.
6. Measure the distance between the two marks, corresponding to the maximum displacement.
7. Compare the measured value with the permitted limits shown in the maintenance table, TABLE T2, applying any required formulas.
8. The values in the table define the permitted tolerance for the Geared to operate safely. If the measured value exceeds the indicated value, contact Orange1 technical support.

Table T2

Nominal pulley diameter	Reduction ratio 1/45	Reduction ratio 1/55
	Maximum pulley play [mm]	Maximum pulley play [mm]
480	4.2	3.5
500	4.4	3.6
560	5.0	4.0

17. EMERGENCY MANUAL OPERATION

17.1 WARNINGS



Emergency manual operation is a dangerous procedure. It allows the cabin to move while bypassing all system safety contacts. It is therefore necessary that anyone performing this operation has been properly trained by specialised personnel and is aware of the risks involved.

Emergency assistance must be carried out only by expert personnel specifically trained for this purpose. All operations performed in an emergency must strictly follow the instructions contained in this manual. Therefore, a copy of this document must be kept near the storage area and be easily available when needed.

In the event of emergency manual operation, strictly observe the following instructions:

1. Follow local safety requirements.
2. Put the Geared out of service by disconnecting its electrical power supply and wait until the heated areas of the motor and Geared reach ambient temperature.
3. Do not in any way neglect passenger safety.
4. Do not create risks for yourself under any circumstances.
5. Make sure that your actions do not create dangerous situations for third parties.
6. Communication with any passengers present in the cabin must be established as quickly as possible in order to reassure them. This operation may help to determine the position of the cabin in the shaft more accurately.
7. Before any intervention, inform the passengers in advance of how you intend to proceed.
8. Once the intervention has been completed, make sure that no problems remain for normal operation of the system.

17.2 INSTRUCTIONS FOR EMERGENCY MANUAL OPERATION



Emergency manual operation is a dangerous procedure.

It allows the cabin to move while bypassing all system safety contacts. It is therefore necessary that anyone performing this operation has been properly trained by specialised personnel and is aware of the risks involved.



For correct emergency manual operation, strictly follow the instructions below.

1. Check that all landing doors are closed and cannot be opened in any way.
2. Check whether the cabin is at floor level; otherwise proceed as follows.
3. Set the main switch inside the control panel to the OFF position.
4. Reassure the passengers in the cabin and inform them how you intend to proceed.



17.2.1 Passengers must under no circumstances force the cabin doors or attempt to leave the cabin.

5. Ensure that the main brake and winch are in a safe working condition for moving the cabin.

To check the efficiency of the Geared main brake, assess:

- whether there are breaks in the brake shoes;
- whether the brake linings show damage that limits the contact surface;
- whether contact with the braking surface is uniform.



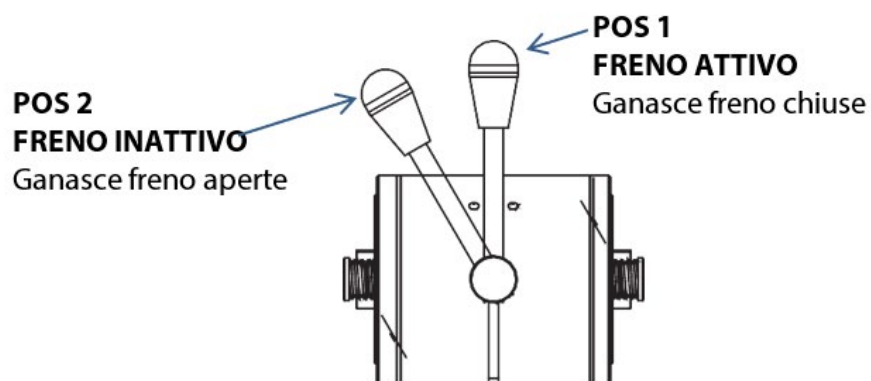
6. Check the direction of rotation of the Geared for the cabin movement operation.
7. If the Geared and/or the main brake are out of service or if the safety gear is engaged, carry out the rescue procedure by securing the cabin using specific equipment suitable for the type of system, the location and the working conditions.
8. Manually block the rotation of the Geared flywheel.
9. Release the main brake using the appropriate manual lever, POS 2.
10. Start the manual operation to bring the cabin to the destination floor by manually rotating the flywheel in the most favourable direction.
11. Release the manual release lever of the Geared main brake, checking that it returns to the rest position, POS 1.



12. Open the car doors and assist the passengers.
13. Close the car and landing doors.
14. Check that all landing doors are closed and cannot be opened in any way.



Never loosen the tension of the brake springs in order to facilitate emergency manual operation.





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