


INTRODUCTION

Before using the hoist, read these instructions carefully and become familiar with the safety symbols. The handbook must always be kept together with the machine.

The contents of this use and maintenance manual conforms with EEC Machine Directive 89/392 and subsequent amendments. As the manufacturer, TEA reserves the right to make changes without prior notice and without being subject to any sanctions, **and also without affecting the commitment to respect the main safety technical characteristics.**



The symbol  represents a warning and indicates that the instructions must be carried out to prevent personal injury. Non-compliance with such instructions may lead to personal injury which, in some cases, may also be very serious.

WARRANTY

The company pledges, for 12 months from the hoist delivery date, to replace any defective parts, at no charge, provided that, based on an inspection performed by the technical centre, it is evident that the buyer has used the machine correctly, has complied with the use and maintenance standards contained in this manual and has not tampered or made changes to the machine.

The electric parts and the steel cable are excluded from the warranty.

For any repairs under warranty, the machine must be delivered, at the user's care and expense, to a TEA authorised service centre.

The manufacturer will not be responsible for any other damage, including the damage as a result of the non-use of the hoist.

PACKING AND TRANSPORT

The hoist is supplied packed in a special plastic bag.

The overall weight of the packed machine is:

53 Kg (HG200)

58 KG (HG200 INVERTER)

At the time of purchase, the buyer must check that the machine is undamaged and includes all the necessary accessories (tie rod, clamps, instruction manual, conformity declaration, warranty certificate).

The device must be handled with care using appropriate equipment and avoiding any type of impact.

In any case, the machine must be transported by two persons.

Before handling the device, the user must first check that:

- a) the cable is completely wound on the drum and the hook is attached to the machine structure
- b) the power supply outlet is disconnected.

MACHINE DESCRIPTION

HG 200 SINGLE-PHASE HOIST WITH MAXIMUM CAPACITY 200 KG.



The hoist has been designed and built to lift objects, materials or goods. ***It is absolutely prohibited to use the machine to lift persons and/or animals.***

CONSTRUCTION FEATURES

The hoist is equipped with an asynchronous, self-braking motor with a disk brake that is normally blocked by a adequately sized tension springs.

It is also designed and built by TEA.

The hoist also includes a compact cascade reduction unit.

TECHNICAL FEATURES

The electric motor can be designed for different frequency and voltage values.

MOTOR

- A.C. asynchronous
- Self-braking with disk brake
- Closed version with external ventilation

REDUCTION UNIT

- Die-cast aluminium structure and supports
- Cylindrical gears
- Shafts mounted on ball bearings

TECHNICAL DATA	U.M.	HG 200	HG 200 Inverter
Electric motor	Tipo	Single-phase	Single-phase
Motor power	kW	(1)	(1)
Voltage	V	(1)	(1)
Frequency	Hz	(1)	(1)
Current at peak load	A	(1)	(1)
Condenser	µF	(1)	(1)
Max. capacity	kg	200	200
Working length (pull)	m	100	100
Working length (lifting)	m	50	50
Average lifting speed	m/min	~23	~7-13-20-33-45 m/min

(1) see attached circuit diagram.

The hoist is equipped with an electrical emergency lifting limit switch.

CABLE FEATURES

Hoist	HG 200	HG 200 Inverter
Material	Polished steel	Polished steel
Diameter and composition	5mm-133 wires	6mm-133 wires
Elementary wire diameter	0.32 mm	0.40 mm
Wire resistance	200 kg/mm ²	200 kg/mm ²
Minimum cable breaking load	1600 Kg	2400 Kg
Minimum safety coefficient	8	8
Number of bearing sections	1	1

HOOK

Single with anti-release device

Capacity 750 kg

DRUM

Drum pitch diameter - HG 200.....82 mm

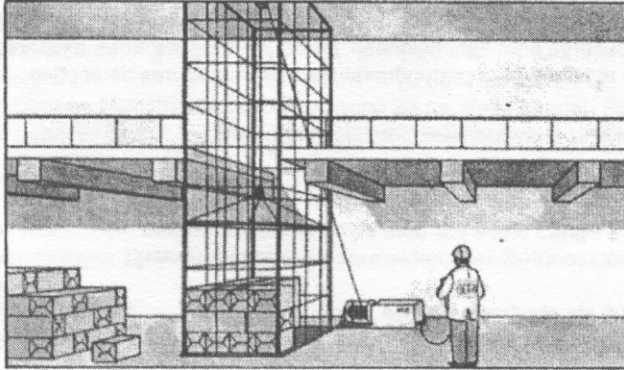
- HG 200 INVERTER 82 mm

Safety devices: lifting limit switch in conformity with EN50047.

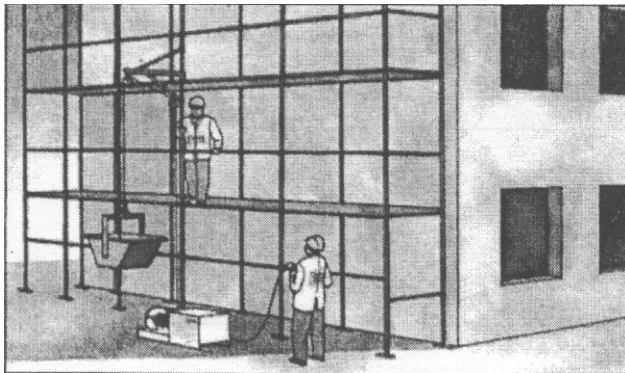
Noise emission: equivalent continuous acoustic pressure level measured under full load according to ISO 3746 (prEN 23746) is 76 dB (A).

INSTALLATION

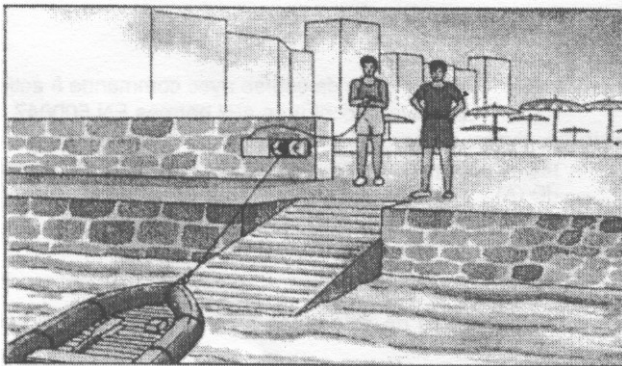
The hoist can be installed in different ways depending on the type of use. The diagrams below provide some examples of possible installations:



a)



b)



c)

HG200 - 200 Inverter

The hoist can be connected (on the round or wall mounted) using sized tubular elements inserted into the holes on the base of the machine frame and then anchored to the support structures.

If the hoist is installed according to methods a) and b), the user must follow the instructions listed below:

The uprights of the scaffolding, when the lifting equipment is attached directly to them, must be reinforced and braced to ensure a solid condition that is adequate to withstand the greater stress and strain forces.

With metallic scaffolding, there must be an adequate number of uprights, on which the hoists are directly attached, and, in any case, no less than two.

The rotating arms bearing the pulleys and any hoist drums must be solidly attached to the uprights using brackets with screw bolts supplied with a nut and counternut. The same situation is required for the cable transmission pulleys at the foot of the uprights when the drums are installed on the ground.

The hoists installed on the ground, in addition to being solidly anchored, must also be installed so that the cable unwinds from the lower part of the drum.

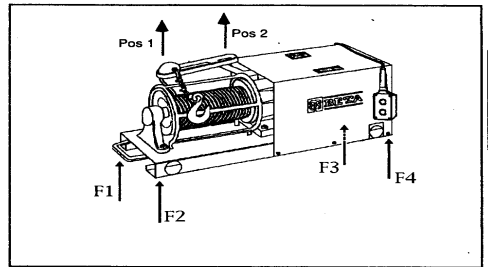
The operator of <<projecting>> hoists attached to scaffolding uprights, when guards cannot be attached to the sides and the front of the control position, must wear a safety belt.

The protection described in point "c" on page 5 must be applied even for the worker receiving the loads on the normal scaffolding.

In any case, the machine must be anchored and any rotating arms bearing the transmission pulleys must be installed on a stable structure according to the calculations and instructions supplied by a legally qualified technician who must issue a special certificate.

For calculation purposes and to verify the stability, the forces acting on the connections under the most severe load condition are reported in the following table (hoist with a maximum capacity of 200 Kg (HG200-200 INVERTER) .

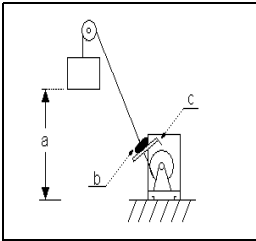
This considers the load acting in the two positions at the ends of the drum and the weight of the hoist itself is neglected.



HG200				
F	Pos. 1		Pos. 2	
	(N)	(Kg)	(N)	(Kg)
F 1	1283	131	854	87
F 2	967	99	538	55
F 3	210	21	639	65
F 4	-106	-11	323	33

! At the end of the machine anchor operations, the user must adjust the emergency limit switch.

To do this, he must attach the cable tensioning weight (using the special screw) in a position that corresponds to the maximum load lifting height. The weight acts on the limit switch lever connected to the machine (see the figure below).



Legenda / Legend / Légende / Zeichenerklärung / Leyenda

a	b	c
Max. altezza di tiro	Peso tensionamento cavo	Leva di fine corsa
Max. lifting height	Cable tensioning weight	Limit switch lever
Hauteur maxi. De relevage	Poids tendeur de câble	Lever de fin de course
Max. Hubhöhe	Seilspanngewicht	Endschalterhebel
Máx. altura elev.	Peso tensa cable	Palanca de final de carrera

maximum load foreseen for each of the shelves.

a- The scaffolding of the mountings must be sufficiently wide and, on the sides towards the empty space, equipped with a normal guard and toe board.

b- An opening may be left to pass a shovel or bucket provided that a toe board with a height of no less than 30 cm is installed at that point. The opening must be reduced to what is strictly necessary and delimited by strong and rigid side supports, for which the one opposite to the pulling position must be additionally protected with fixed scaffolding elements.

c- Two iron brackets, projecting at least 20 cm, must be applied on the inner side of the supports described above, at a height of 1.20 m and perpendicular to the opening, which will be used as a support and guard for the worker.

d- The boards of the single shelves must be formed with planks with a thickness of no less than 5 cm which must rest on the cross members and have a section and centre distance that are sized in relation to the

Based on the dimensions and type of load to be lifted, the device must be installed so that the load does not strike against other moving bodies or against stationary parts of the adjacent structures during the lifting and lowering movement.

! The user must take all the necessary precautions, regardless of the type of installation created, to protect himself against the risk of falling.

In particular, the user must strictly comply with the following instructions:



START UP AND USE



The machine should only be used by workers 14 years of age or older with an average skill level. It is recommended to use the machine in areas that are adequately illuminated. In any case, check that:



a) the electric power supply corresponds to what is indicated on the rating plate attached to the casing of the electric motor;

MOTORE MONOFASE AUTOFRENANTE			
TIPO: HG 200			
	KW 0.9	V 220	Hz 50
	A 6.5	C 40	μ F 450
	n 1400	ISOL. CL. B	PROT. IP 44
	COS ϕ 0.95	SERV. INT. 50 %	

Legenda / Legend / Légende / Zeichenerklärung / Leyenda

Type	Modello / Model / Modèle / Modell / Modelo
N°	Matricola di fabbricazione / Serial number / Matricule de fabrication / Kennummer / N° de referencia de fabricaci3n
V	Tensione di alimentazione / Power supply voltage / Tension d'alimentation / Netzspannung / Tensi3n de alimentaci3n
Hz	Frequenza / Frequency / Fréquence / Frequenz / Frecuencia
Rpm	Giri al minuto / Revolutions per minute / Tours min / UpM / rpm.
I.C.	Classe di isolamento / Insulation class / Classe d'isolation / Isolierungsklasse / Clase de aislamiento
A	Intensità di corrente / Corrente intensité / Intensité / Stromstärke / Intensidad de corriente
KW	Potenza / Power / Puissance / Leistung / Potencia
CLASS	Classe / Class / Classe / Klasse / Classe
C	Capacità del condensatore / Condenser capacity / Capacité du condensateur / Kondensatorkapazität / Capacidad del Condensador
DUTY	Regime di carico / Load condition / Régime de charge / Belastungszustand / Régimen de carga

 TEA INTERNATIONAL Srl 26044 Casalmaggiore CR		Portata massima Max hanging load Kg 200	Dati della fune \varnothing Fune 5mm
		Tipo HG200 2P+E 100MTF	Carico di rottura effettivo fune daN 1820
 		N° 08655/8130015	

(I) Prima dell'utilizzo è obbligatorio leggere attentamente il libretto di istruzioni
 (GB) Before use you must read the instruction booklet carefully
 (F) Lire attentivement le livret d'instruction avant l'utilisation
 (D) Von der Verwendung das Handbuch unbedingt genau lesen.
 (I) E' vietato avvicinare le mani alle parti in movimento della macchina, ai carrelli di scorrimento e agli snodi di rotazione della struttura di sostegno
 (GB) It is forbidden to approach moving parts of the machine, sliding trolleys and articulated joints of the support structure with your hands.
 (F) Interdiction d'approcher les mains des parties en mouvement de la machine, des chariots coulissants et des articulations de rotation de la structure portante.
 (D) Die Hände nie den in Bewegung stehenden Maschinenteilen, den Schlitzen und den Drehgelenken der Tragstruktur nähern.

! b) the outlet used is the safety type and that it includes a ground pin that comes in contact with the pin on the plug supplied with the device;

! c) the outlet is connected to an efficient ground system and that it is fed by an electric plant protected by a residual current circuit-breaker and high-sensitivity magnetothermal switch (0.03A), all coordinated to conform with the prescriptions set forth by UNICEI EN 60204/1 Sept. 93 (see attached circuit diagram). The switch must be installed on the power supply line prior to and in the vicinity of the machine;

! d) the power supply cable section is adequate for the length of that cable to avoid an excessive voltage drop that might lead to malfunctions.

Indicatively, a section of 2.5 mm² should be used for distances of less than 30 m.

For greater distances, use cables with a section that is greater than or equal to 4 mm².

The hoist is controlled through a special control panel which includes an up button and a down button as shown in the following diagram:

The hoist is controlled through a special control panel which includes two SALITA-

DISCESA buttons as shown in the following diagram:

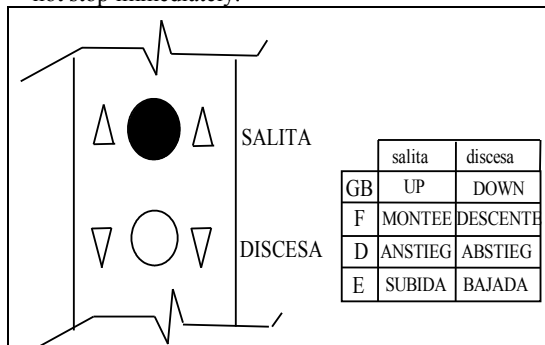
! For the three-phase asynchronous motor version, check that the load is in fact lifted by pressing the corresponding "SALITA"- "UP" button located on the push-button panel.

If this does not occur, switch the two phase wires in the power supply outlet.

A machine (lifting-lowering) test cycle must be performed (under no load and then rated load conditions), checking that the lifting limit switch operates correctly and that the stand is stable.

Check that the lifting limit switch operates correctly at the beginning of each work shift.

The load braking system must be checked every six months and, in any case, each time that, during normal machine use, the load does not stop immediately.



⚠ It is absolutely prohibited to disassemble or access the internal parts of the hoist without first cutting off the power supply by pulling the plug out of the power outlet.

The operator must work in a safe position, i.e. so that he is protected against falling and so that he has an unobstructed view of the trajectory of the moving elements.

If the operator uses safety belts to protect himself against falling, they must be anchored to fixed parts and absolutely immovable.

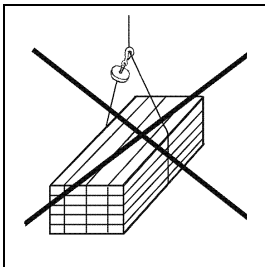
- Access to the area underneath the vertical axis of the load must be prohibited to persons or at least a sign must indicate the danger due to suspended loads.

The user must still check that there are no persons in the area underneath the vertical axis of the load.

⚠ The loads must be lifted with a vertical pull and therefore it is prohibited to use the hoist with an oblique lift.

- It is recommended to sling the load perfectly and to use adequate containers for liquid or sandy substances.

- It is prohibited to use the lifting cable to sling the load (see drawing).



⚠ - It is prohibited to grab or touch the lifting cable while lifting or lowering the load, in particular near the lifting limit switch.

- The machine is built with an IP44 motor meaning that it is protected against solid bodies with sizes that are greater than one millimetre and against water infiltration in all directions.

Therefore, it is prohibited to use the machine in environments that are saturated with gas or if exposed to direct streams of water or rain.

- It is also recommended to:

a) avoid overloading the hoist;
b) stop the lifting movement before the limit switch trips since it should only be used in case of emergency;

c) check that the voltage does not decrease excessively during the start-up phase (this may prevent the brake from opening);

⚠ d) make sure that the cable does not completely unwind; at least 2 turns of the cable must remain on the drum to avoid damage due to the direct action of the load on the clamp that attaches the cable.

The cable wound on the hoist drum has a length that is greater than the maximum foreseen use height.

e) (using the special set screw) place the rotation shaft of the cable winder drum in a horizontal position to guarantee that the cable will be correctly wound on the drum.

f) The cable maximum winding diameter must guarantee a free space on the sides of the drum equal to 1,5 times the cable diameter.

Note: The manufacturer declines all responsibility for injury to persons or damage to property as a result of non-compliance with the above-mentioned standards.

MAINTENANCE

⚠ The entire device is built with class A4 which corresponds to 84000 operating Cycles.

The mechanism are built with class M4 which corresponds to 3200 h of operation.

After the number of operating cycles described above, the machine must be overhauled at a T.E.A. authorised service centre.

The machine must be periodically inspected (on a six-month or yearly basis) to check the general use conditions (e.g. leaking grease, condition of electric power supply cables and machine control components, condition of the support structure, etc.).

In particular:

- The cables must be checked every three months and replaced immediately if there are any breaks in the elementary wires, or if they are twisted, smashed, bent, if knots have formed or if there is any other serious deterioration (heavy rust formation) or if heavily worn.

- The above-mentioned inspections must be reported on a special chart (see appendix page), indicating the date of the inspection and the signature of the tester.

- The braking system must be checked every six months and, in any case, each time that, during normal machine use, the load does not stop immediately.

- The distance between the brake disk and electromagnets is adjusted using the set nut located at the end of the motor shaft.

It must range between 0.3-0.5 mm.

- The cable, hook and braking system register must be replaced by skilled personnel or at a TEA service centre.

REPAIRS

Repairs may be performed at a TEA service centre.

The user can request a list of authorised service centres at any time from dealers or directly from the manufacturer.

REQUEST FOR SPARE PARTS

A special manual includes tables with the drawings and the names of the various parts of the hoist. The code number is indicated next to the name of each part.

The request for spare parts must be submitted to a TEA service centre or to a dealer.

It must include the following:

- hoist model and serial number;
- piece position number or relative code;
- quantity requested.

Instructions for hoist Mod. HG200 200- INVERTER



This instructions sheet is an integral part of the instructions manual for the HG200-200 INVERTER 210- hoist. It is essential to comply with any safety instructions and warnings provided in the above manual.

Removing the seals of guarantee located on the housing of the device is prohibited. The guarantee will be invalidated in case of tampering.

Before connecting the plug to the mains power supply, check that the knob located on the box containing the device is in position 0 (OFF).

Operation

The hoist is controlled by means of its dedicated push button control unit, which is fitted with the following buttons and indicators:

- Two push buttons for operation (ascent and descent)
- An emergency push button
- A speed selection switch
- A warning light

- Turn the starter knob to position 1 (ON).
- Check that the green warning light, located at the bottom of the push button control unit, is on (Fig.1).
- Select the hoist operating speed using its speed selection switch (Fig. 1): there are 4 possible operating speeds. To increase the speed, turn the switch clockwise.
- For hoist ascent, check that the emergency button is off and press the top white button. Press the button lightly to operate the hoist with its lowest speed, press down fully to operate the hoist at the selected speed (**Attention: the speed will increase**

gradually from the lowest speed to the selected speed).

- For hoist descent, check that the emergency button is off and press the bottom black button. Press the button lightly to operate the hoist with its lowest speed, press down fully to lower the hoist at the selected speed (**Attention: the speed will increase gradually from the lowest speed to the selected speed**).
- It is possible to vary the speed of ascent or descent during motion by using the switch.
- After you have finished using the hoist, turn the starter knob to position 0 (OFF)

⚠ Use the emergency button or turn the inverter's starter switch to its OFF position in potentially hazardous situations that could endanger normal use of the hoist.

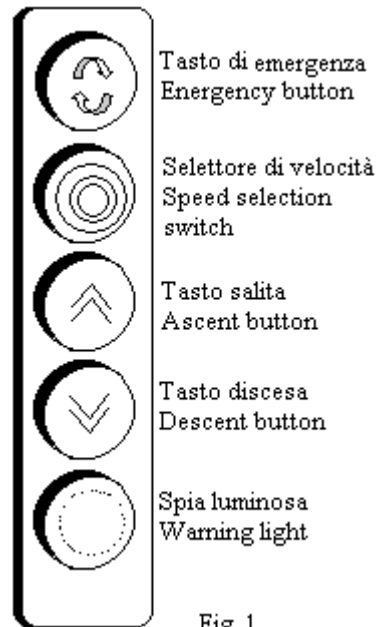


Fig. 1