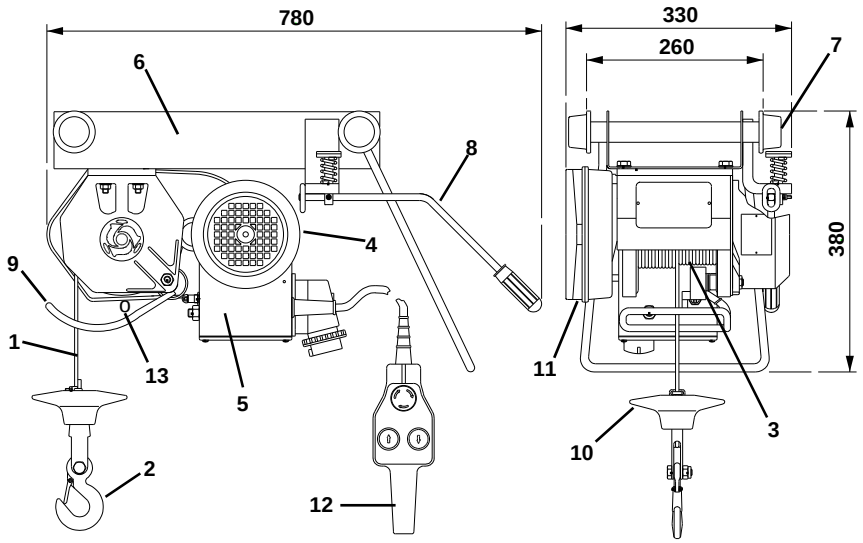
Fig. 1



1	FUNE ACCIAIO
2	GANCIO
3	TAMBURO
4	MOTORE ELETTRICO AUTOFRENENTE
5	QUADRO ELETTRICO
6	TELAIO
7	RUOTINA
8	FRENO DI STAZIONAMENTO
9	LEVA FINECORSA SUPERIORE
10	CONTRAPPESO
11	RIDUTTORE
12	PULSANTIERA
13	LEVA FINECORSA DISCESA (TELECOMANDO)

1	CABLE D' ACIER
2	CROCHET
3	TAMBOUR
4	MOTEUR ELECTRIQUE AUTOFREINANT
5	TABLEAU ELECTRIQUE
6	CHÂSSIS
7	ROUE
8	FREIN
9	LEVIER FIN DE COURSE SUPERIEURE
10	LEST
11	REDUCTEUR
12	BOITE Á BOUTONS
13	LEVIER DE FIN DE COURSE DE DESCENTE (TELECOMMANDE)

1	ROPE
2	HOOK
3	DRUM
4	ELECTRIC BRAKE MOTOR
5	ELECTRIC PANEL
6	FRAME
7	WHEEL
8	HAND BRAKE
9	UP LIMIT SWITCH LEVER
10	COUNTERWEGHT
11	GEAR BOX
12	PENDANT CONTROL
13	DOWN POSITION CONTROL LEVER (REMOTE CONTROL)

1	DRAHTSEIL
2	HAKEN
3	SEILTROMMEL
4	BREMSMOTOR
5	GEHÄUSEDECKEL
6	AUSLEGER
7	RAD
8	BREMSE
9	ENDSCHALTERHEBEL
10	SEILGEWICHT
11	GETRIIEBEDECKELDICHTUNG
12	HÄNGETASTER
13	HEBEL UNTERER ENDSCHALTER (FERNSTEUERUNG)

1	CABLE DE ACERO
2	GANCHO
3	TAMBOR
4	MOTOR ELÉCTRICO AUTOFRENANTE
5	CUADRO ELÉCTRICO
6	BASTIDOR
7	RUEDA
8	FRENO
9	PALANCA FINAL DE CARRERA SUPERIOR
10	CONTRAPESO
11	REDUCTOR
12	BOTONERA
13	PALANCA FIN DE CARRERA DE BAJADA (TELEMANDO)

DATI TECNICI	DONNEES TECHNIQUES	TECHNICAL DATA	TECHNISCHE DATEN	DATO TECNICOS		
Portata max	Débit maxi.	Max capacity	Tragfähigkeit	Capacidad máx.	kg	300
Velocità media di sollevamento	Vitesse de levage	Lifting speed	Hubgeschwindigkeit	Velocidad de elevación	m / 1'	19
Altezza max di lavoro	Hauteur maxi. de travail	Max working height	Max. Hubhöhe	Altura máx. de trabajo	m	25
Alimentazione	Alimentation	Nom. voltage	Spannung	Alimentación	V / Hz	230 / 50
Potenza motore	Puissance moteur	Motor power	Motorleistung	Potencia motor	Kw	1,1
Giri motore	Tours moteur	R.P.M.	Motordrehzahl	Revoluciones motor	n° / 1'	1320
Assorbimento	Absorption	Nom. current	Stromaufnahme	Consumo	A	12
Tipo di servizio	Type de service	Service type	Betriebsart	Tipo de servicio	S3	50 %
Livello di emissione sonora -- LwA (EN ISO 3744)	Niveau d'emission sonore -- LwA (EN ISO 3744)	Level of noise emission -- LwA (EN ISO 3744)	Schallpegel der verschiedenen -- LwA (EN ISO 3744)	Nivel de emisiòn sonora -- LwA (EN ISO 3744)	dB	83
Livello di pressione sonora -- LpA -- 1,5 m	Niveau de puissance sonore -- LpA -- 1,5 m	Level of noise pressure -- LpA -- 1,5m	Gemessenem schalleistungspegel -- LpA -- 1,5 m	Nivel de presiòn sonora -- LpA -- 1,5 m	dB	<72
Peso della macchina	Poids de la machine	Hoist weight	Maschinengewicht	Peso de la máquina	kg	50
Ingombro per l'imballo	Encombrement pour l'emballage	Packing dimensions	Abmessungen mit Verpackung	Dimensiones para el embalaje	mm	820x350x440
Norme di progetto	Normes de projet	Design standards	Konstruktionsnormen	Normas del proyecto		
DPR 459 del 24.7.96	D.N°92-765/766/767 et L233-84	S.I N°3073 of 30/11/92	9.GSGV von 12.05.93	R.D. 1435/92		
FEM 1.001 UNI-ISO 4301-4308-2408 UNI 7670-9466 EN 60204-1						

Particolare attenzione deve essere fatta alle avvertenze contrassegnate con questo simbolo :
Il faut prêter une attention toute particulière aux notes précédées de ce symbole:
Special attention must be given to warnings with this symbol:
Lesen Sie die mit diesem Symbol bezeichneten Abschnitte mit besonderer Aufmerksamkeit:
Se tiene que prestar una atención especial a las indicaciones marcadas con el signo:

Dear Client
Congratulations on choosing the IMER winch, the reliable and innovative result of years of experience.

WORKING IN SAFETY

⚠ **To work in complete safety, read the following instructions carefully before installing the machine.**

This OPERATION AND MAINTENANCE manual must be kept on site by the person in charge, e.g. the site foreman, and must always be available for consultation.
The manual is to be considered an integral part of the machine and must be kept for future reference (EN 292/2) until the machine is disposed of. If it is damaged or lost, a replacement copy may be requested from the manufacturer.
The manual contains important information regarding site preparation, installation, operation, maintenance, and ordering spare parts. Nevertheless, the installer and the operator must both have adequate experience and knowledge of the machine prior to use.
To guarantee the complete safety of the operator, safe operation and long life of equipment, follow the instructions in this manual carefully, and observe all safety standards currently in force for the prevention of accidents at work (use of suitable footwear and clothing, hard hats, safety harnesses, proper installation of railings around drops, etc.).

⚠ **It is strictly forbidden to carry out any form of modification to the steel structure, working parts of the machine or the gantry structure.**

IMER INTERNATIONAL declines all responsibility for non-compliance with laws and standards governing the use of lifting equipment, in particular; improper use, defective power supply, lack of maintenance, unauthorised modifications, tampering with or damage to part or all of the equipment, and partial or total failure to observe the instructions contained in this manual.

⚠ **IMER INTERNATIONAL reserves the right to modify the characteristics of the hoist and/or the contents of this manual without any obligation to update previous machines or manuals.**

1. GENERAL DESCRIPTION

⚠ **ATTENTION: Use of lifting equipment requires care and skill. The machine must be operated by skilled and properly instructed personnel only.**

⚠ **1) The machine is designed to lift materials only and for use in building construction sites.**

⚠ **2) Carrying persons and/or animals is prohibited.**

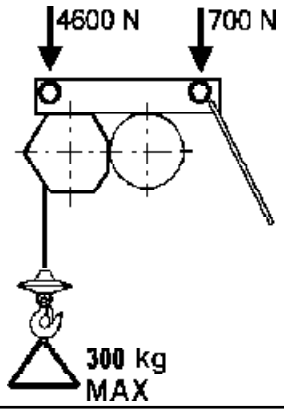
⚠ **3) The machine must not be used in potentially explosive atmospheres or underground.**

The machine consists of (fig. 1):
- frame (ref. 6) with hand brake (ref. 8).
- Drum (ref. 3) fitted to reduction gearbox shaft (ref. 11), steel rope (ref. 1) lift hook (ref. 2) and counterweight (ref. 10);
- Gearmotor consisting of an electric brake motor (ref. 4) and oil reduction gearbox (ref. 11).
- Electrical system (5) with 1 m pendant control with three pushbuttons (12)
- Up position control lever (9).
- 3-button low voltage pendant control with 25 m lead (on remote control versions), with down position control lever (13).

2. IMER HOIST SUPPORT STRUCTURE

The structure supporting the winch must withstand the loads generated during operation (Fig. 2).
IMER supplies a gantry support, as shown in fig. 8, for use on building sites and specially designed to transfer loads to the load support structure.

⚠ **ATTENTION**
The EC Declaration of Conformity enclosed with the present manual is only valid if only IMER components are used for the winch and gantry.



⚠ **If this condition is not complied with, the Declaration is applicable to the winch only. The installation technician who fits the winch on another type of gantry support must compile a new EC Declaration of Conformity after having satisfied all the provisions of the Machinery Safety Directive 89/392/EEC and its subsequent modifications and supplements.**

The forces - referred to support gantry - must be accounted for in calculations related to supporting structures (scaffolding, balconies, ceilings, etc.), made by a qualified technician.
When using supports with load capacities other than that of the winch, the permissible load capacity of the weakest element of the system must be prominently displayed.

2.1 INSTALLING THE WINCH ON SITE

⚠ **The load access to the floor must be protected by a rail over 1m high and a foot stop.**

- Make sure that the lifting run is free from obstacles, and ensure that nobody leans outwards on intermediate floors.
- Cordon off the ground loading area to prevent interference with work.

3. ASSEMBLY (Fig.1)

Only competent, trained personnel may assemble and operate the winch.
Given the weight of the winch, an appropriate number of personnel must be used for handling and installing it so as to avoid hazardous situations.
The maximum working height (25m) corresponds to the gearmotor position i.e. is measured from the gantry rails supporting the winch (ref. 7).
Mount the winch on the gantry support by inserting the wheels (ref. 7, fig. 1) in the rail guides (fig. 8) and release the brake (ref. 8, fig. 1). Prevent detachment of the winch by fitting the end stop onto the rail.
Follow the rest of the instructions as described in para. 7.
All pendant controls have 3 pushbuttons (Fig. 3):
black: down
white: up
red: emergency stop.
Release the hook.

Fig. 3

4. CONNECTION TO THE MAINS

- Make sure that the mains voltage is the same as that specified on the dataplate.
- Also check that the mains voltage is within the range 210 V to 235 V, when lifting at the rated load.
- The power cable must be fitted with a magnetotermic switch and a residual current device (rcd); the earthing wire must have the same cross-section as the power cable.
Cables must be dimensioned in proportion to both the operating current and their length to avoid voltage drops (Table 1).
Do not use extension leads wound on drums.
- The power cable must be suitable for frequent handling and have an abrasion-resistant sleeve (for example H07RN-F).
Connect the machine's plug to a 16 Amp EEC socket with an IP67 protection factor and tighten up the securing collar.
- The hoist is now ready for testing.

5. TESTING

⚠ **Warning! Testing must be carried out by qualified personnel. Take all necessary safety precautions.**
Warning! The winch must be tested before use.
Before testing the winch make sure that it has been correctly installed.

1) Lower the unloaded rope to the lower loading position by means of the descent pushbutton, and check that at the end of its travel three turns of rope remain on the drum.
2) No-load test. Apply a small load (20 kg) and run a complete up/down cycle.
Test the up, down and emergency stop buttons on the pendant control,

UP limit switch operation, correct rope winding onto the drum and motor brake operation.

3) Load test. Load the winch with its maximum admissible load. Run a complete up/down cycle to test the stability of the supports, gantry and the motor brake.

After the test, check the support structure for failure and slippage and recheck the drum level.

4) The winch is fitted with a safety device which stops travel at the UP limit position (ref.9, fig.1).

Do not depend on this safety to stop the winch; release the control button to stop the winch instead.

5) On remote control versions, the down limit switch activates to shut down the winch and prevent reverse winding of the rope on the drum during descent.

⚠ **IMPORTANT! Down limit switch activation can occur either due to incorrect working height or due to other problems which may prejudice correct hoist functioning. After the limit switch has been activated, the hoist installation and components must be checked (rope, drum etc.).**

On direct control versions, the operator is responsible for avoiding the above risk.

On completion of testing, compile the test report with the date, installation check data and signature as well as any other comments (Tab. 2).

⚠ **In case of new installations and after every service, repeat the no-load (2) and load (3) tests described above.**

6. SAFETY WARNINGS AND OPERATING PRECAUTIONS

⚠ **1) Do not lift weights exceeding the hoist's capacity.**

⚠ **2) Do not allow anyone to stand underneath suspended loads.**

⚠ **3) Do not attempt to raise loads that are anchored to the ground (e.g. buried posts, plinths, etc.).**

⚠ **4) Make sure that the load is correctly attached to the hook on the hoist and always close the safety catch (fig. 4.1, 6).**

⚠ **5) If the load requires the attachment of accessories (belts, ropes, slings, etc.), these must be of a certified and approved type. The maximum capacity must be reduced by the weight of these accessories.**

⚠ **6) Make sure that no part of the load comes detached during lifting.**

⚠ **7) Make sure that the load rests firmly on the ground before releasing it from the hook.**

⚠ **8) Do not release a suspended load using accessories that permit instantaneous release or by cutting the sling.**

⚠ **9) Keep hands and other parts of the body well clear of the drum during operation to avoid the risk of them getting caught in the winding rope and causing serious injury.**

⚠ **10) Keep hands and other parts of the body well clear of the counterweight during lifting to avoid the risk of crushing against the stop lever.**

⚠ **11) Do not use the machine in adverse weather conditions (strong wind or storms) as the load is not guided.**

⚠ **12) The control position and lighting conditions must ensure complete visibility of the load during its entire travel.**

⚠ **13) Check that all guards are in place.**

⚠ **14) During operation check that the rope winds on correctly, one turn at a time, without slack or overlay which might damage it. If not, unwind it and rewind it correctly under tension.**

⚠ **15) Make sure that the lifting run is free from obstacles and make sure that no one can lean out from intermediate floors.**

⚠ **16) Cordon off the ground loading area to prevent anyone from entering during lifting.**

⚠ **17) Keep children away from the hoist.**

⚠ **18) Do not allow unauthorised persons access to the hoist while it is not being used.**

⚠ **19) The hoist must not be used for pulling loads obliquely (more than 5° away from vertical).**

⚠ **20) Do not pull the winch on the gantry rails by means of the electric cables; use the steel handle bar on the winch frame for this purpose.**

⚠ **21) Do not leave a suspended load unattended. Raise or lower it and unload it.**

⚠ **22) When a load is to be raised or lowered, this must be done in such a way as to minimise dangerous sideways and vertical movements.**

⚠ **23) Do not allow the load to start to spin while it is being raised or lowered as this could cause the rope to break.**

⚠ **24) Before leaving the hoist unattended, remove the load, completely wind the rope onto the drum and disconnect the electric power plug.**

⚠ **25) On the remote control version, the pendant control cable must be secured to the building structures, in order to prevent its breaking.**

When operation is resumed after a lengthy period of disuse the entire machine must be tested under no-load conditions before starting, as described above (point 2, CHAPT.5).

7. GANTRY SUPPORT: INSTALLATION AND USE (Fig. 8)

The gantry comprises two Ø 48 mm tubular supports and an NPU 65 rail on which the winch wheels slide.

The gantry features a facility for counterweight ballasts comprising two enclosures (C) with padlock closure, a base unit (D) (height 30 cm) to be fixed by means of brackets and screws, 2 connecting beams (E), damper end stop (A) and winch fixing bracket (B) with end stop.

7.1 INSTALLATION

On completion of assembly as shown in figure 8, anchor the ballasts as follows:

⚠ **Position the ballast containers on the ground.**

Fill the containers with sand each to at least 150 kg.

The specified ballast weights are obtained by means of specific materials whose specific density does not exceed 1300 kg/m^3 (e.g. dry sand).

⚠ **The use of liquids is expressly prohibited.**

To avoid tampering with ballasts, the containers must be closed with lids and padlocked.

Never use makeshift systems such as bags of cement or bricks simply placed on the gantry frame as these cannot be sufficiently anchored to the frame.

- Always ensure complete efficiency of the ballasts before using the winch; check for any damage that may affect operation.

⚠ **Do not fit the winch onto the gantry before fitting the ballasts.**

Remove the winch from the gantry rails before disassembling the gantry and emptying the ballasts.

8. TESTING AND MAINTENANCE

⚠ **Warning! Only carry out maintenance with the machine switched off, unloaded and disconnected from the mains.**

Repairs must be done by qualified personnel or by IMER Technical Service.

- Use only IMER original spare parts.
- Check the motor brake every 6/7 days.
- Ensure that the notices and inscriptions on the machine are prominently displayed and legible.
- Keep the machine clean.
- Check the operation of the UP limit switch (UP and DOWN position limit switches on remote control versions) at the start of every work shift.

⚠ **Check the electrical cable at the start of every work cycle for accidental damage.**

Lubricate the rail guide wheels at least once a month.

8.1 STEEL ROPE

Only use new ropes as specified below, complete with certificate of conformity and identification.

External diameter	mm	5
Type	133 wires (19x7) anti-rotation	
Direction of lay	r.h.	
Strand strength	(N/mm²)	1960
Minimum breaking strain	(kN)	16,07
Length	(m)	26

Surface treatment galvanised, greased
The IMER reference code is given in the spare parts table.

8.1.1 REPLACING THE ROPE

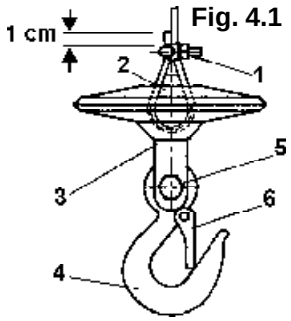


Fig. 4.1

The rope must be replaced by a qualified service technician.
Remove the hook (4) by unscrewing bolt (5) (fig. 4.1).
Remove the clamp (1), push on the wedge (2) and extract the rope from the block (3).
The drum is fitted with a device which ensures that 2 turns of rope are always wound on even when the rope is unwound to its limit. This stops the rope attachment from being over-forced.

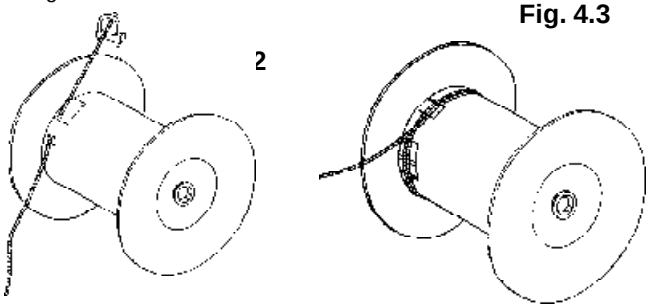


Fig. 4.3

The rope must be attached in this way. Completely unwind the rope. Remove it from inside the drum through the hole and slot. Insert the new rope in the hole and thread it through the slot in the drum tube. Tighten the clamp at the end, leaving about 1 cm of rope free (fig. 4.2), and pull the rope until the clamp comes into contact with the inner wall of the drum.
Wind on two complete turns keeping the rope in contact with the drum (Fig. 4.3).
On the second turn pass the rope under the hook inside the drum slot (Fig. 4.4).
Tension the rope for good contact with the drum surface.
Now wind on the rope in adjacent turns, one layer at a time.

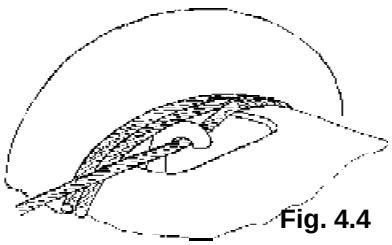


Fig. 4.4

Insert the wire rope into the counterweight and the block (Fig. 4.5).
Pass the rope back through the counterweight and the block.
Insert the wedge between the block and the rope.
Pull the rope to tighten all components. Now lock the rope with a U-clamp so that the flat part remains in contact with the lifting section of the rope. Leaving about 1 cm of rope free.
Fit the hook to the block and tighten the bolt and locknut.
Check that the UP limit switch operates when the counterweight touches the lever.
Run the load test described in paragraph 5 and note down in Table 2 the fact that the rope has been changed.

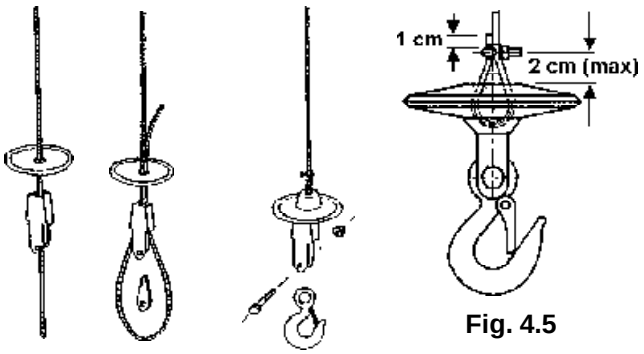


Fig. 4.5

8.1.2 PERIODIC CHECKS

⚠ **Visually check the condition of the rope every day and whenever it is subjected to abnormal strain (twisting, bending, kinks or abrasion).**

Replace the rope when defective as indicated in fig.9.
Inspect the entire rope carefully every three months and in particular the ends; note the results in the chart (Table 2) which must be kept by the site foreman.
Replace the rope at least once a year.

8.2 ADJUSTING THE MOTOR BRAKE (Fig. 5)

The brake is of the no-power engagement type.
If its braking power is reduced a qualified technician must check the device and adjust it.

⚠ **Warning!! Before servicing the brake make sure that the winch is not loaded and that the brake's power supply is disconnected.**

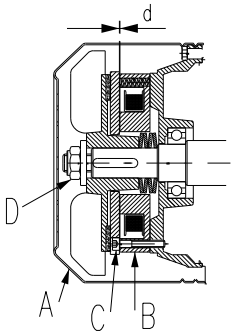


Fig. 5

Remove fan cover (A), and adjust the air gap "d" between magnet (B) and brake disk (C) by means of a feeler gauge. The gap (d) must be 0.4 mm.
Measurement should be taken at three points in order to check that the disc is perfectly parallel to the magnet. Slide the feeler gauge lightly backwards and forwards. If the air gap is too wide, reduce it by tightening nut "D" with a hex wrench. Check distance "d" several times. If the air gap is too small, increase it by unscrewing nut "D".
Once the air gap has been correctly adjusted, refit cover "A".
To check braking power, after carrying out the adjustment, repeatedly test braking action under full load conditions.

8.3 GEARBOX LUBRICATION

The gearbox unit must not develop oil leaks. Leaks may indicate damage to the aluminium casing. In this case, reseal or replace the casing.

⚠ **Check the gearbox oil level through the sight glass before every start up or long storage. Refill as required via the relative cap on the gearbox. The oil should be changed every 2000 hours. Use gear oil with ISO VG 460 viscosity at 40°C.**

⚠ **Used oil is classed as special waste. As such, it must be disposed of in accordance with established legislation.**

8.4 ELECTRICAL SYSTEM

Check the condition of the pendant control case and replace with the IMER spare part if necessary.

9. DISMANTLING

Remove all loads from the winch hook.
Wind the steel rope completely onto the drum.

⚠ **Disassemble the fixing bracket (ref. B, fig. 8) and remove the winch from the gantry guides. Carry out this operation before emptying the ballasts.**

10. TRANSPORT AND STORAGE

Do not leave the installed winch unattended without having disconnected the electrical power line and wound the rope completely onto the drum.
When storing the machine for a long period of time, protect it from weather conditions.
During transport, protect the machine from blows and crushing to avoid compromising its functionality and mechanical strength.

11. SCRAPPING

In the event of scrapping, proceed as follows:

a) drain off all oil by means of the relative plug.

b) Separate all plastic and electrical components (cables, pendant control etc.)

c) Divide all metal components according to type (steel, aluminium etc.)

On completion of the above, dispose of all components at authorised waste disposal centres in compliance with current legislation.

⚠ **Respect the environment; certain parts can be harmful to persons or to the environment.**

12. TROUBLESHOOTING

FAULT	CAUSE	SOLUTION
The machine does not lift or lower on command	Emergency stop button engaged	Turn to disengage
	No power to machine	Check mains cable
	Plug not inserted	Plug in
	Power board cutout tripped	Reset the switch
Sliding not smooth on gantry rails	Frame wheels lubrication insufficient	Lubrificate wheels
IF THE FAULT PERSISTS		Contact IMER Technical Service

13. PROCEDURE IN CASE OF FAULT WITH LOAD SUSPENDED

- If possible remove the load from the nearest level, then dismount the winch and service it.
- If this is not possible, use another lifting machine (with adequate load capacity) from higher up and suspend the faulty winch both at the load and at the winch attachment point.
Lift the faulty winch slowly off its fitting, then lower the entire load to the ground.
- DO NOT adjust the motor brake with the load suspended as it would be uncontrollable.
- DO NOT try to service the machine with the load suspended.

14. NOISE LEVEL AT THE OPERATOR'S EAR

The level Lp(A) given in the TECHNICAL DATA chart corresponds to the weighted equivalent sound pressure level on scale A of European Directive 98/37. This level is measured with no load, at the operator's head in the working position 1.5 metres away from the instrument, considering the different working conditions.