ET 200 N

CE

1140807 (110V 50Hz)

GB

HOIST
Operating,maintenance,spare parts manual

Dear customer,
Congratulations on purchasing a reliable and innovative product created through years of experience.

- WORKING IN SAFETY: The following instructions are essential for safety.
This OPERATING AND MAINTENANCE manual must be kept on site by the foreman and must be accessible for consultation at all times.
The manual is be considered an integral part of the machine and must be kept for future reference (EN ISO 12100-2) until the machine is scrapped. If it is damaged or lost, a replacement copy can be requested from the hoist manufacturer.
The manual contains important information on site preparation, installation, operation, maintenance and ordering of spare parts. The installer and operator must have adequate experience and knowledge of the machine.
To guarantee complete safety of the operator, safe operation and a long service life, follow the instructions in this manual and observe current applicable legislation regarding safety and accident prevention in the workplace (use of suitable footwear, clothing, hard hats and safety harnesses, proper installation of railings around drops, etc.).

- It is strictly forbidden to modify the steel structure or working parts of the machine in any way.
IMER INTERNATIONAL will accept no responsibility for failure to comply with legislation and standards governing the use of hoisting equipment, in particular: improper use, incorrect power supply, inadequate maintenance, unauthorised modifications, tampering and/or damage and partial or complete 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

- Warning: Use of lifting equipment requires great skill and care. The hoist must be used by skilled and properly instructed personnel only.

- 1) The machine is designed exclusively for lifting materials and for use on building sites.

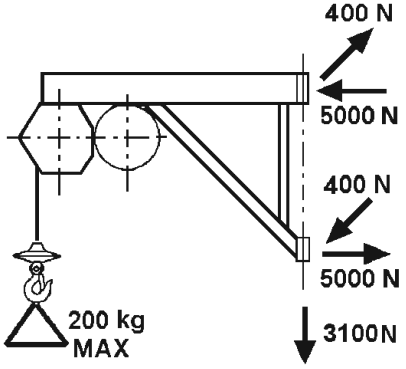
- 2) The machine must not be used for lifting people and/or animals.

- 3) The machine must not be used in potentially explosive atmospheres or underground.
The machine consists essentially of (fig. 1):
- Drum type winch fitted to reduction gear shaft (3), wire rope (1), lift hook (2) and counterweight (9).
- Gearmotor consisting of a self-braking electric motor (4) and an oil-bath reduction gear unit (13).
- Electrical system (5).
- UP position control lever (8).
- Revolving frame (7) and a frame locking lever (10).
- 1 m pendant control with three pushbuttons (6).

2. IMER HOIST SUPPORT STRUCTURE

The structure on which the hoist is mounted must be able to withstand the stresses generated during operation (fig. 2).
The 400 N force is perpendicular to the 5000 N force. Since the hoist is able to rotate on the supporting hinges, these forces must be verified in all possible positions of the hoist.
IMER offers a wide range of supports (see figures 7, 8, 9, 10, 11 and 12) for use on building sites, designed to suitably transfer the stresses to the building structures.

Fig.2



- IMPORTANT
The EC declaration of conformity enclosed with this manual is valid only if components manufactured exclusively by IMER are used (hoist and support structures).
If this condition is not satisfied, this declaration is valid only for the hoist.
The installer should compile a new EC declaration of conformity, after verifying all requirements stated in the Machinery Directive 2006/42/EC for the equipment and support assembly.
The forces on the support couplings must be accounted for in calculations for the supporting structures (scaffolding, balconies, ceilings, etc.) made by a qualified technician.
If the hoist is to be mounted on scaffolding, the latter must be adequately braced against wind (see fig. 13).
Follow the instructions provided for installation of the various supports.
If supports with different capacities from the hoist are used, the permissible capacity of the weakest element in the system must be marked on the assembly in a clearly visible position.

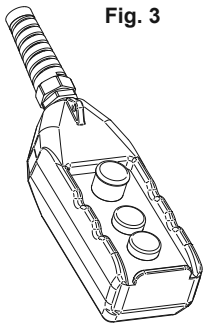
2.1 PREPARING THE WORKPLACE

- The loading access area must be protected by a rail at least 1 m high and with a foot stop.
- Make sure that the lifting run is free from obstacles and make sure that no one can lean out from intermediate floors.
- Cordon off the ground loading area to ensure that no one enters the area during lifting.

3. MOUNTING THE HOIST (fig. 1)

1) Only competent, trained personnel may assemble and operate the hoist.
Given the weight of the hoist, it must be transported and installed by an adequate number of operators to avoid hazardous situations.
2) The maximum working height (30 m) corresponds to the gearmotor position, i.e. it is measured from the top hinge of the support.
3) Secure the support to the building and check the vertical alignment of the support pins (11), then lift the locking lever (10), insert the frame bushings (7) onto the pins and fit the split pin retainer (12).
4) When mounting on a trestle support, secure the frame (7) to the carriage through the securing holes Fig.12) using the screws and self-locking nuts. For the rest of the installation procedure, follow the instructions for the trestle support.
5) The pendant controls have three pushbuttons (fig. 3):
black = down
white = up
red = emergency stop
6) Release the hook.

Fig. 3



4. CONNECTION TO THE ELECTRICITY MAINS

- Make sure that the mains voltage corresponds to the rating on the machine's rating plate.
- Also ensure that the mains voltage is within the range -5% to +5% with the hoist operating at full load.
- The electrical supply line must be fitted with both overcurrent and differential type protection devices and the earth wire must have the same cross-section as the live wire. The wires must be sized taking into account the operating currents and the length of the line to avoid excessive voltage drops (see Table 1).
Do not use extension leads wound onto drums.
- The power supply cable must be suitable for frequent handling and must have an abrasion-resistant sleeve (e.g. 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 only. Take all necessary safety precautions.

- Warning: the hoist must be tested before use.

Before testing the hoist make sure that it has been correctly installed.

1) Lower the unloaded rope to the lower loading position by pressing the down button, 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 check that the machine works correctly by running a complete up/down cycle.

Test the up, down and emergency stop buttons and check that the up limit switch and the electric motor brake work correctly and that the cable winds correctly onto the drum.

3) **Load test**. Load the hoist with the maximum allowable load. Run a complete up/down cycle to test the stability of the supports and the motor brake.

After the test, check the support structure for failure and slippage and recheck the horizontal alignment of the drum (using a level as shown in fig. 1).

4) The hoist is fitted with a safety device which stops travel at the fully raised position (9).

It is however good practice to stop the hoist before the safety device activates by releasing the UP button.

When the rope is completely unwound, the operator standing near the machine must check that the rope does not wind in the wrong direction onto the drum.

When testing is completed, fill in the test report with the date, installation check and signature (Table 2) along with any other comments.

- The test procedure described above, complete with no-load (2) and load (3) tests, must be performed every time the machine is installed.

6. SAFETY WARNINGS AND OPERATING PRECAUTIONS

- 1) Never lift loads exceeding the capacity of the elevator.

- 2) Never allow persons to remain below suspended loads.

- 3) Never try to lift loads anchored to the ground (e.g. embedded posts, plinths, etch.).

- 4) Ensure that the load is securely connected to the elevator hook and also close the safety catch (ref.6 fig. 4.1).

- 5) If the load requires accessories to be attached to be hooked up, these must be certified and approved (harnesses, ropes, slings, etc.). The weight of these accessories must be subtracted from the maximum capacity.

- 6) Ensure that no part of the load protrudes during the lifting phases.

- 7) Before releasing the load, ensure that it is in a stable position.

- 8) A suspended load must never be detached to cause sudden release or by cutting the slings, causing a backlash movement of the entire structure.

- 9) Never move hands or parts of the body near the drum during operation, as this constitutes a risk of entrapment in the ropes unwinding, with the risk of serious accidents.

- 10) Never move hands or parts of the body near the counterweight during the ascent phase, as this constitutes a risk of crushing on contact with the limit switch lever.

- 11) Avoid use in adverse weather conditions (wind or storms) as the load is not guided. Maximum wind speed must not exceed 12.5 m/s.

- 12) The control position and lighting conditions must ensure perfect visibility of the load throughout travel.

- 13) Ensure that all guards and safety devices are fitted.

- 14) During use, check that the rope unwinds correctly, turn on turn, without slackening or twisting, which can cause damage to the rope. If this occurs, unwind the rope and rewind correctly keeping the rope tensioned at all times.

- 15) Ensure that the travel and work area is free of obstacles throughout the height and take necessary precautions to prevent persons from leaning out of intermediate floors.

- 16) Delimit the lower load area to prevent persons from being present during lifting.

- 17) Keep children at a safe distance from the elevator.

- 18) When the elevator is not in use, do not allow unauthorised personnel access or operation.

- 19) Use of the elevator for oblique tractions is strictly prohibited (over 5° with respect to vertical angle).

- 20) Never rotate the elevator on the pins by pulling the pendant control; it must always be rotated manually from the frame.

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

- 22) During lifting or lowering, never allow the load to turn as this may cause the rope to break.

- 23) Before leaving the elevator unattended, remove the load, wind the rope completely onto the drum, and detach the power plug from the mains.

- 24) 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.

- 25) Protect the winch against the rain.

When operation is resumed after an extended period of disuse (e.g. overnight) the entire machine must be tested under no-load conditions before starting (as described in section 5, point 2).

7. CHECKS AND MAINTENANCE

- Warning! All maintenance work must be carried out with the machine switched off, unloaded and disconnected from the mains.

- Repairs must be made by qualified personnel or by the IMER technical service.
- Use only IMER original spares.

- Check the motor brake every 6-7 days.

- Make sure that the notices and inscriptions on the machine remain legible.

- Keep the machine clean of dirt.

- Check operation of the UP limit switches at the start of every work shift.

- Check the electrical cable for accidental damage at the start of every work shift.

7.1 WIRE ROPE

Use only new ropes, with a manufacturer's certificate of conformity attesting their satisfaction of the following specifications and of standard UNI EN 12385-4. These are minimum specifications: ropes with better specifications may be used, with the exclusion of the OD, which must always be 4 mm.

External diameter :	5 mm
Type :	133 wires anti-spin
Direction of lay :	CDX
Strand dia.:	0.32 mm
Strand strength :	1960 N/mm^2
Preformed:	Yes
Minimum breaking strain :	16 kN
Length :	31 m

Surface treatment : galvanised and greased

The IMER reference code is given in the spare parts table.

7.1.1 ROPE REPLACEMENT

This operation must be carried out by an authorised IMER International service centre.

Remove the hook (ref. 2, fig. 1) and withdraw the cable weight. The drum is equipped with a device to ensure that two turns of rope remain fully wound on; when a new rope is fitted, this condition must be maintained.

1) Fully unwind the rope.
2) Withdraw the rope from the inside of the drum through the hole and the slot.
3) Feed the new rope into the hole and out of the slot on the side of the drum (fig. 4.1).
4) Tighten the clamp at the end, leaving a free end approximately 1 cm long, and pull the rope to bring the clamp up against the internal wall of the drum.

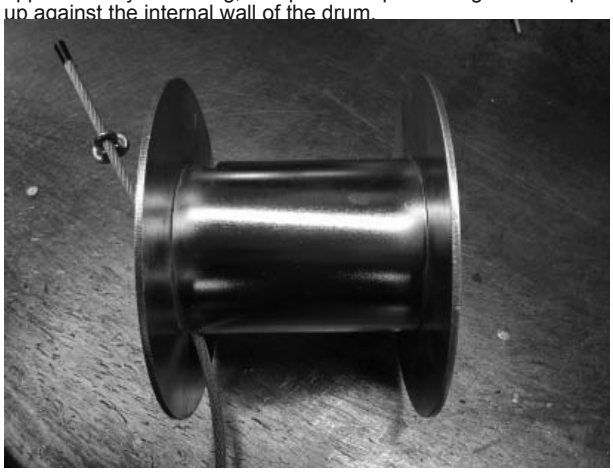


Fig. 4.1

5) Wind on two complete turns, keeping the rope in contact with the drum (fig. 4.2).
6) Use a suitable cable clamp for the rope used (fig. 4.3).

Fig. 4.2

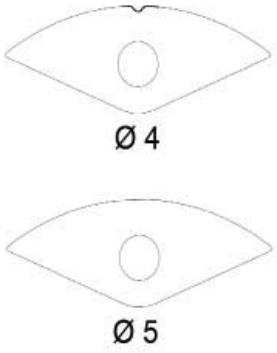


Fig. 4.3

7) On third turn, feed the rope over the slot in the drum and push it into the slot using the cable clamp (fig. 4.4).

Fig. 4.4

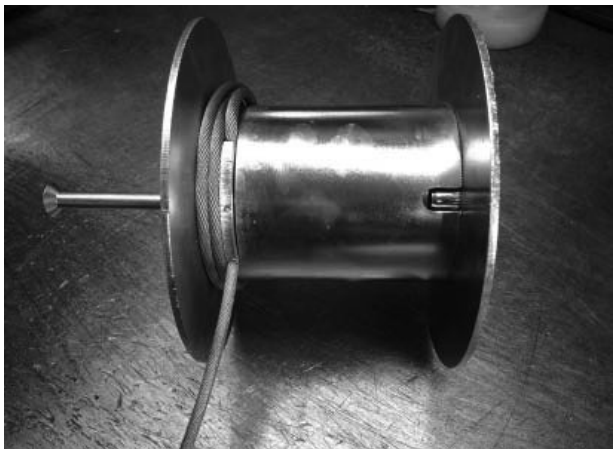


Fig. 4.5

8) Insert the screw through the side of the drum and the cable clamp and screw it into the threaded insert at the opposite end. (fig 4.5).
9) Pull on the rope to ensure contact around the entire circumference of the cylinder.
10) Wind on the rope, laying turn on turn in consecutive layers.
11)Insert the rope in the counterweight and aluminium sleeve.
12)Insert the thimble in the hole of thehook.
13)Run the wire rope back through the sleeve and tighten the thimble in the loop formed.
14)Pull the rope to tighten all the parts together. Then press the aluminium sleeve with a suitable press or tool. (fig. 4.6)

Fig. 4.6

15) Check that the ascent limit switch is triggered when the counterweight hits the lever.
16) Carry out a test under load as described in paragraph 5, and log the rope replacement operation in TAB. 2.

7.1.2 PERIODIC CHECKS

- Visually inspect the condition of the rope daily and whenever it is subjected to abnormal strain (twisting, bending, kinks or abrasion).
Replace the rope when defective (Fig. 14).

- Daily and before using the elevator control the proper conterweight to the arrest of the top spot and must not be stopped due to deformation of the wear of the lever of the limit switch.

Every three months inspect the entire rope carefully and in particular the ends. Note down the results in the chart (Table 2) which must be **kept by the site foreman**.

- Replace the rope at least once a year.

7.2 ADJUSTING THE MOTOR BRAKE (Fig. 5)
The electric motor brake is engaged in the event of power supply failure to the motor.
In the event of reduced braking power, the hoist must be checked by a skilled maintenance engineer, for adjustments if necessary.

⚠ ***- CAUTION! Before working on the brake, ensure that the load is removed, the electric power plug is disconnected and the motor is cool.***

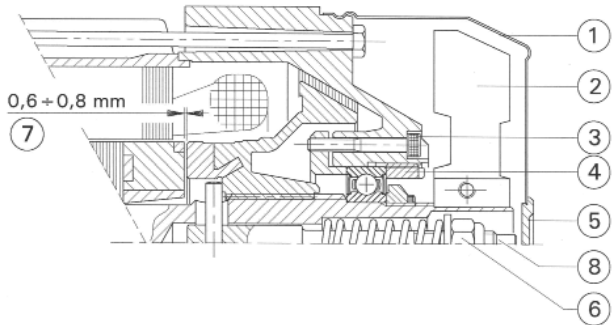


Fig. 5

7.2.1. Braking adjustment
Remove cap 5 from fan cover 1.
Increased braking: turn locknut 6 gradually counter-clockwise and check that the brake disengages in descent.
Decreased braking: turn locknut 6 clockwise.

7.2.2. Air gap adjustment
If the brake blocks or in the event of excessive wear, the air gap should be adjusted as follows.
Remove fan cover 1 and disassemble fan 2.
Loosen the three hex screws 3.
Brake block: turn ringnut 4 clockwise to increase air gap 7 ad release the brake, checking the gap distance (0.6-0.8 mm).
Brake wear: turn ringnut 4 counter-clockwise to reduce the air gap, checking the gap distance (0.6-0.8 mm).
Tighten the three hex screws 3 fully down and refit the fan and fan cover.
To check brake grip, after adjustment, test braking several times under full load.

7.3 GEARMOTOR LUBRICATION

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

⚠ ***- Check the gearmotor oil level through the sight glass before every start-up. Refill as required. The oil should be changed approximately every 2000 hours. Use gear oil with ISO VG 460 viscosity at 40°C (SAE 90-140).***

⚠ ***- Spent oil is classed as special waste and must be disposed of in accordance with current applicable legislation.***

7.4 ELECTRICAL SYSTEM

Check the condition of the insulating pendant control case. If it is damaged replace it with an original IMER spare. Make sure that the steel cable connecting the pendant control to the electrical panel is shorter than the electrical cable to protect against pulling.

8. DISMANTLING THE HOIST

Remove all loads from the hook.
Wind the wire rope completely onto the drum. Disconnect the power plug.
Remove the split pin from the support hinge and remove the rotating frame.
If a trestle is being used, the carriage must be removed from the hoist after it has been taken off the guides and before the counterweight is removed.

9. TRANSPORT AND STORAGE

- Do not leave the installed hoist unattended without first disconnecting the electric power supply and winding the rope completely onto the drum.
When the machine is to be stored for a long period of time, make sure that it is protected against atmospheric agents.
- During transport protect the machine from shock and crushing which can adversely affect its functionality and mechanical strength.

10. SCRAPPING THE HOIST

To scrap the machine at the end of its service life, carry out the following steps:
a) Drain out the oil by removing the oil plug.
b) Separate the various plastic and electrical components (cables, pendant control, etc.).
c) Divide up the metal components according to the type of metal (steel, aluminium, etc.).
After the various components have been separated, dispose of them through authorised disposal centres.

⚠ ***- Dispose of properly. These components can cause accidents and pollution.***

11. TROUBLESHOOTING

FAULT	CAUSE	SOLUTION
Difficult to lengthen the telescopic arm	Emergency stop button engaged	Turn to disengage
	No power to machine	Check mains cable
	Plug not inserted	Insert the plug
	Power board cutout tripped	Reset the overload trip
Difficult to lengthen the telescopic arm	Lock knob too tight	Slacken
The machines lowers but does not lift	Up limit switch is faulty	Repair
IF THE FAULT PERSISTS		Contact IMER technical service

12. PROCEDURE IN EVENT OF FAULT WITH LOAD SUSPENDED

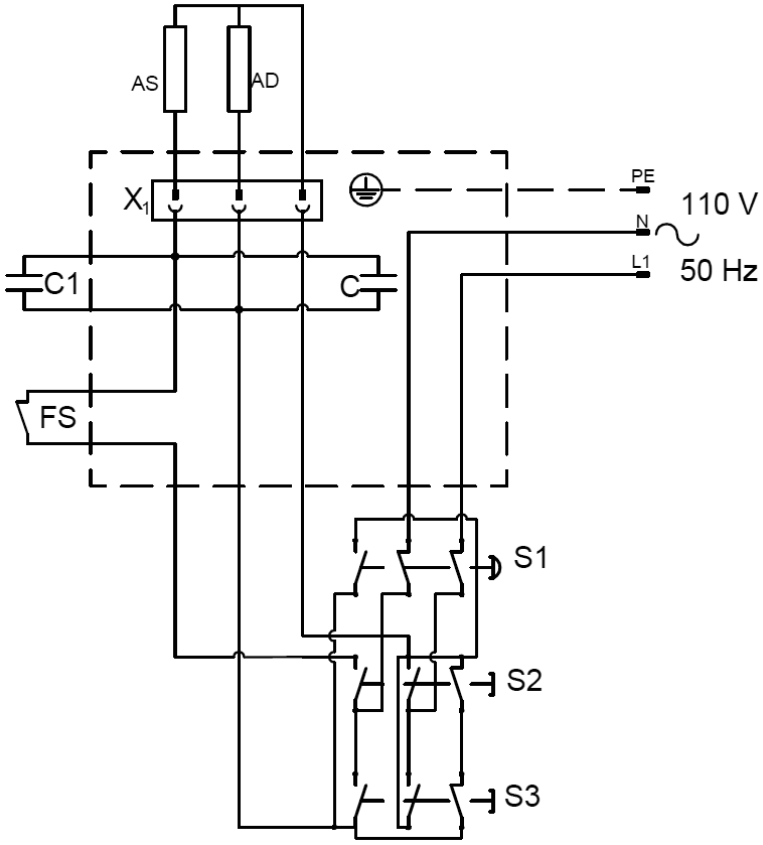
- If possible remove the load from the nearest level, then dismantle and service the hoist.
- If this is not possible, use another lifting machine (with adequate lifting capacity) from higher up and suspend the faulty hoist both at the load and at the hoist attachment point.
Lift the faulty hoist slowly off its fitting, then lower the entire assembly to the ground.
- Do not attempt to turn the brake adjustment nut, as it would become uncontrollable.
- Do not attempt to repair the fault on the machine with the load suspended.

13. 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 2006/42/EC. 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.

SCHEMA ELECTRICO - WIRING DIAGRAM -

Fig.6



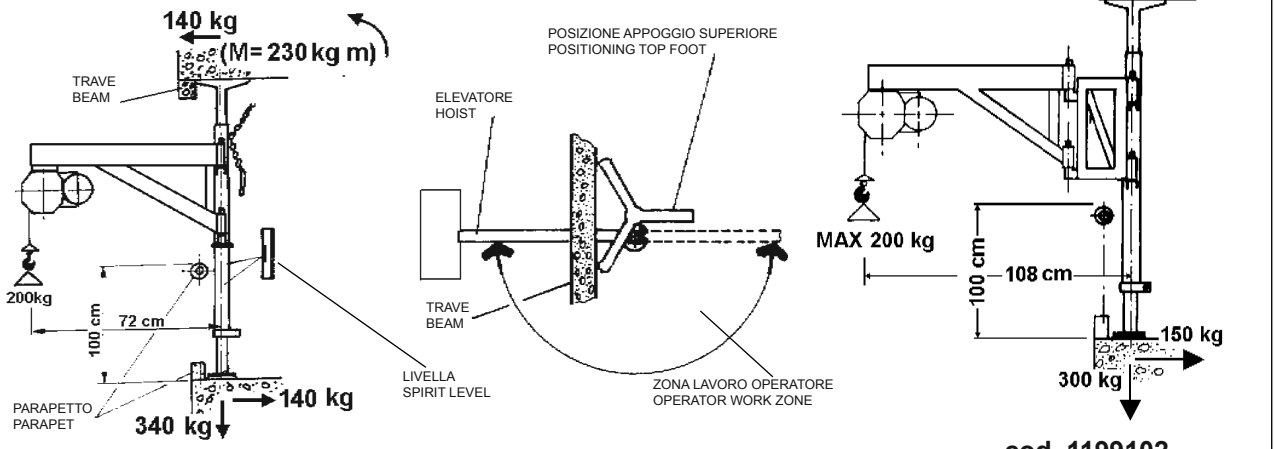
PE	CONDUTTORE DI PROTEZIONE	PROTECTION WIRE
N	CONDUTTORE NEUTRO	NEUTRAL WIRE
L1	CONDUTTORE DI LINEA	PHASE WIRE
S1	PULSANTE ARRESTO	STOP BUTTON
S2	PULSANTE SALITA	UPSTROKE BUTTON
S3	PULSANTE DISCESA	DOWNSTROKE BUTTON
FS	FINECORSA SALITA	UPSTROKE LIMIT SWITCH
X1	CONNETTORE MOTORE	MOTOR CONNECTOR
C	CONDENSATORE	CAPACITOR
C1	CONDENSATORE	CAPACITOR
AS	AVVOLGIMENTO MOTORE SALITA	MOTOR WINDING, UPSTROKE
AD	AVVOLGIMENTO MOTORE DISCESA	MOTOR WINDING, DOWNSTROKE

TAB.1

I	**Lunghezza cavo (m)**		**0 ÷ 12**	**13 ÷ 20**	**21 ÷ 32**
GB	**Cable length (m)**				
I	**Sezione cavo (mm²)**	**3x**	**2.5**	**4**	**6**
GB	**Section câble (mm²)**				

PUNTELLO PER INTERNI
HOIST FRAME FOR INTERMEDIARY FLOORS

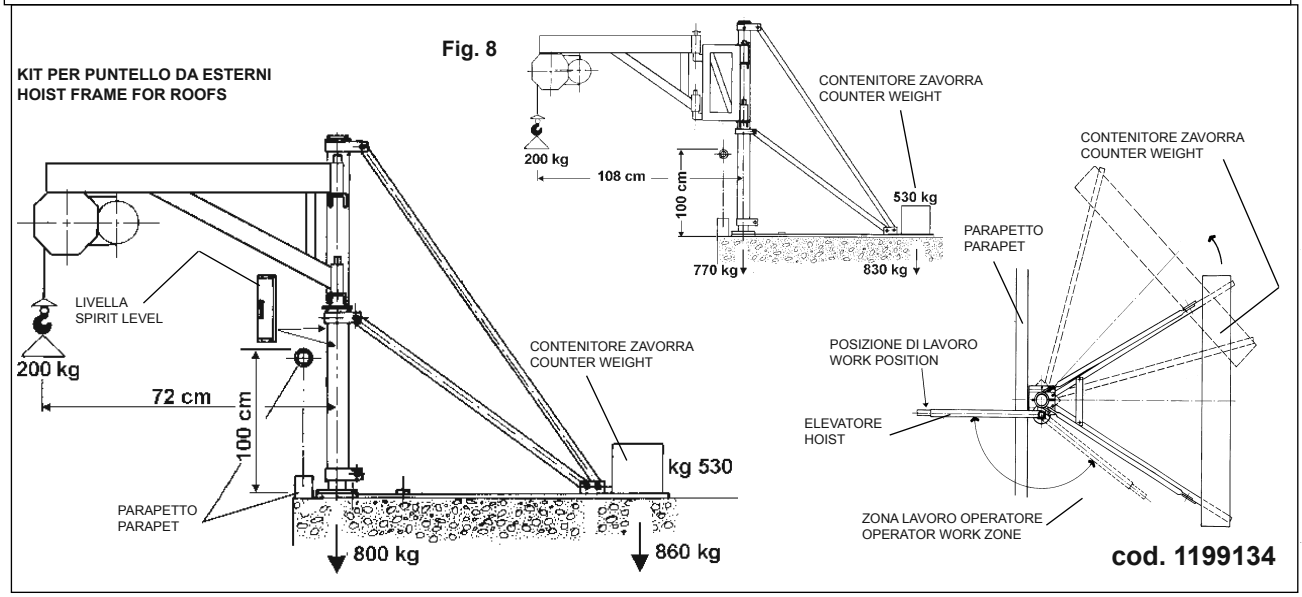
Fig. 7



cod. 1199102

KIT PER PUNTELLO DA ESTERNI
HOIST FRAME FOR ROOFS

Fig. 8



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ATTACCO A PONTEGGIO
HOIST FRAME FOR SCAFFOLDING

Fig. 9

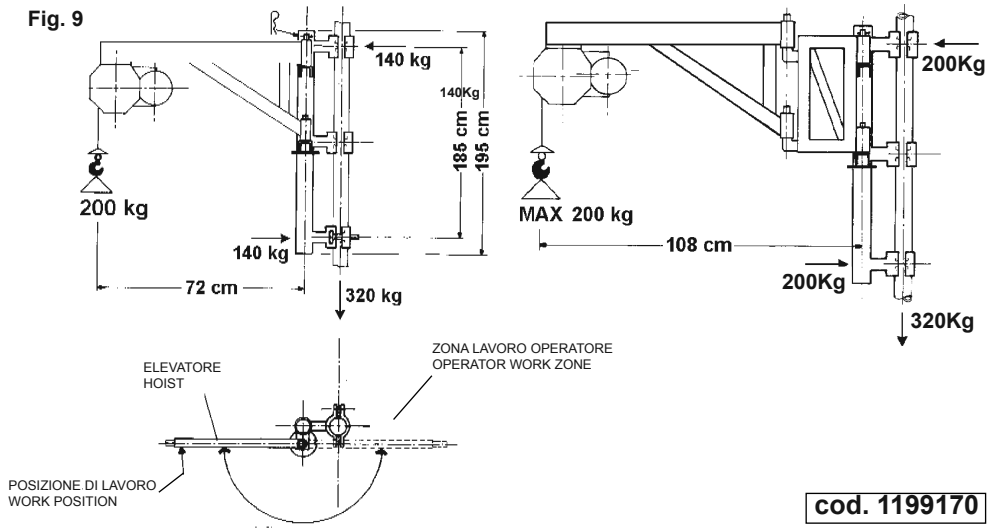

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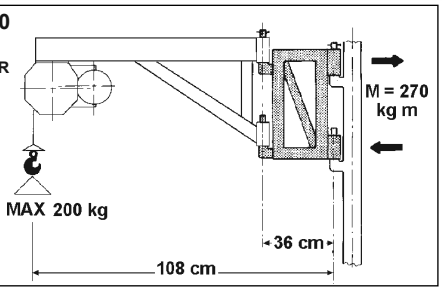
Fig. 10

- PROLUNGA PER PUNTELLO
- JIB EXTENSION FOR INTERMEDIARY FLOOR AND ROOF FRAMES



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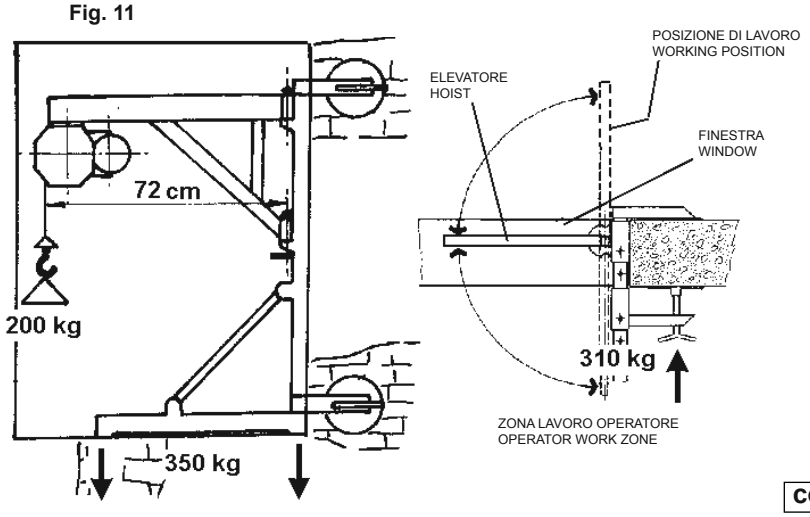
PUNTELLO A FINESTRA
HOIST FRAME FOR WINDOWS

Fig. 11



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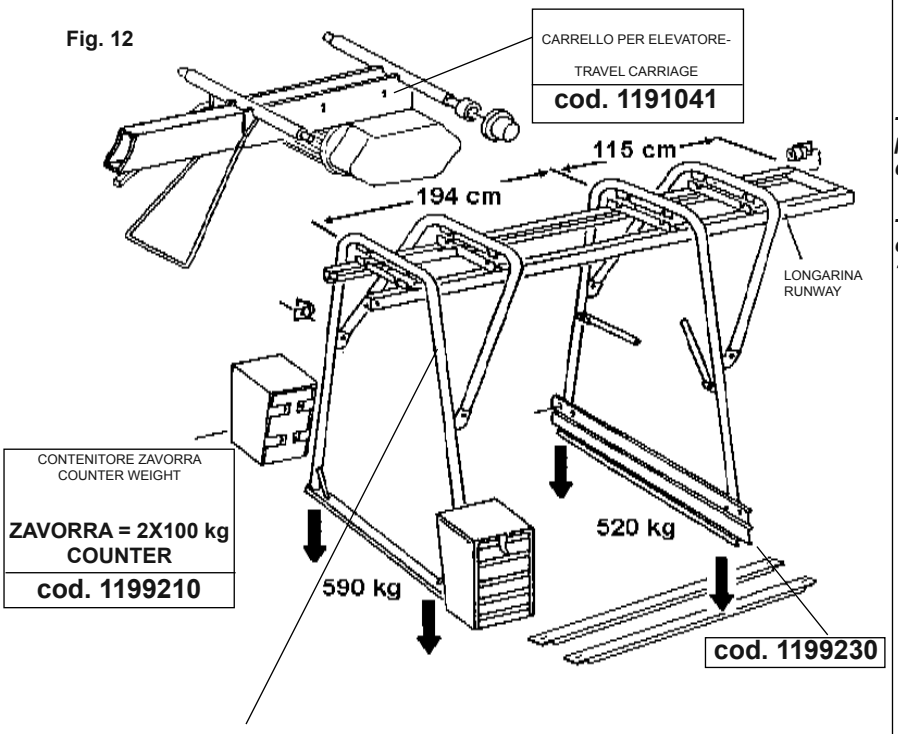
STRUTTURA DI SUPPORTO A CAVALLETTO IMER (PORTATA MAX 200 kg)
IMER GANTRY HOIST (MAX CAPACITY 200 kg)

Fig. 12



CAVALLETTO (PORTATA MAX 200kg)
GANTRY HOIST (MAX CAPACITY 200kg)

cod. 1191230

- I valori delle sollecitazioni sugli appoggi tengono conto di un coefficiente di sovraccarico statico di 1,25.

- The forces on the links are evaluated considering a overload coefficient of 1,25.

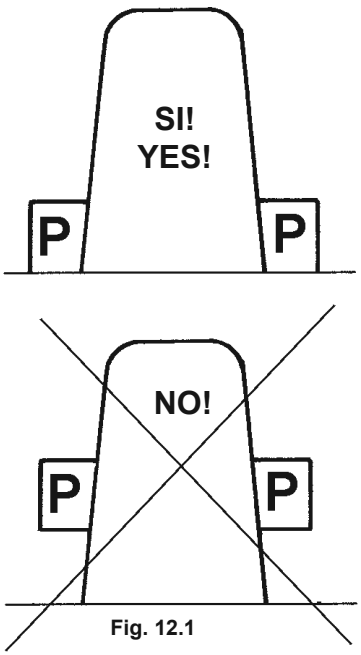


Fig. 12.1

Fig. 13

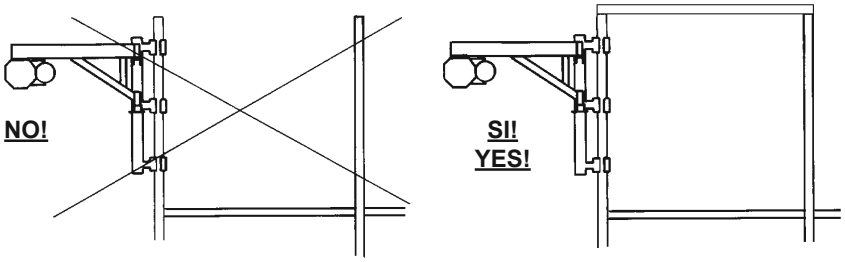


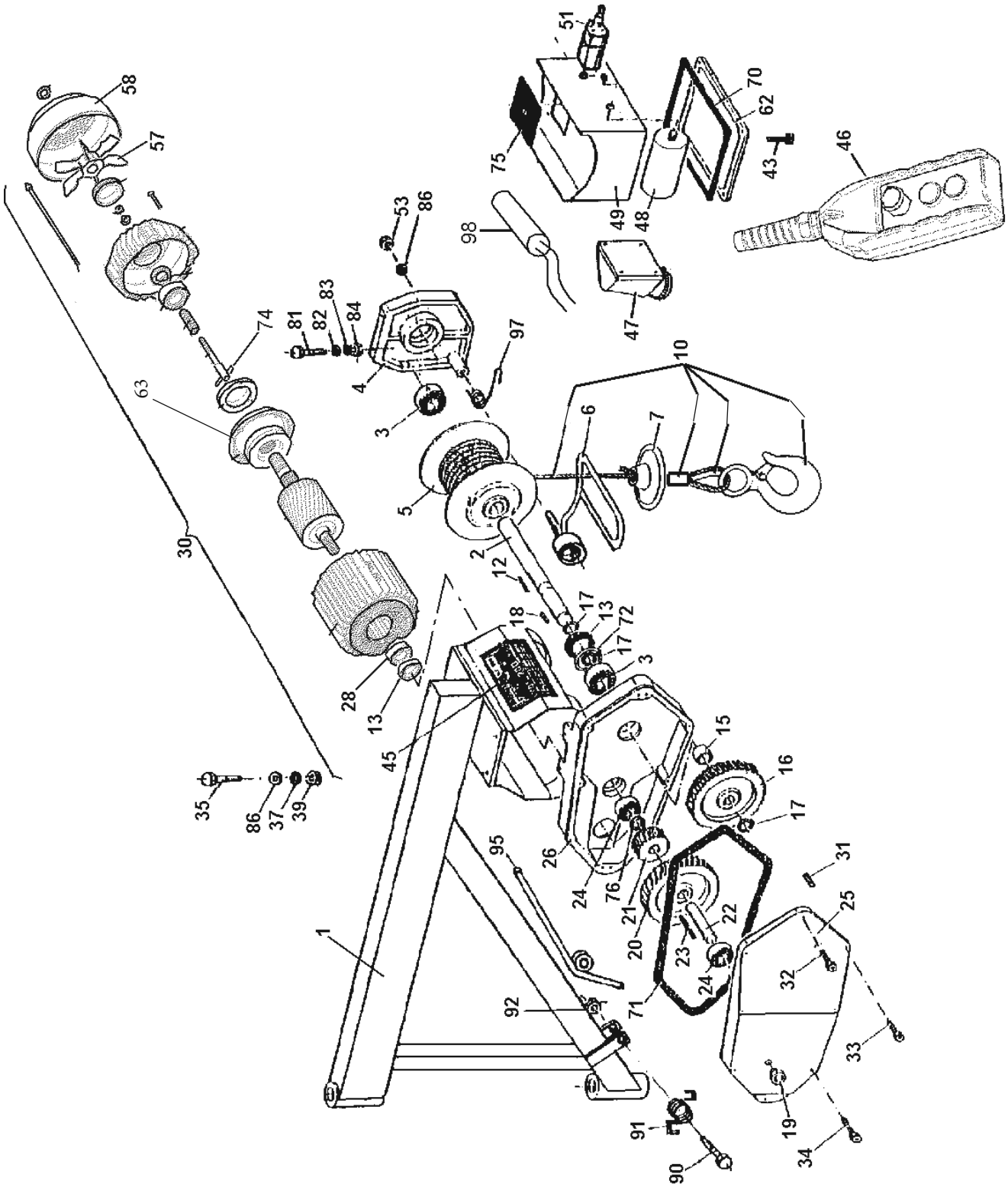
Fig. 14

PUNTI DI VISIBILE APPIATTIMENTO **VISIBLE FLATTENED POINTS**	
CORROSIONE INTERNA O ESTERNA **INTERNAL OR EXTERNAL CORROSION**	
ROTTURA DI UN TREFOLO **BREAKING OF ONE STRAND**	
ROTTURA DI SINGOLI FILI **BREAKING OF SINGLE WIRES**	
FORMAZIOME DI ANSE **LOOPS**	

RICAMBI: Per tutti gli ordini dei pezzi di ricambio vogliate indicare: 1 - Tipo di macchina. 2 - Numero di codice e di riferimento collocato in corrispondenza di ogni definizione. 3 - Numero di serie e anno di costruzione riportato sulla targhetta della macchina.

SPARE PARTS: All orders for spare parts must indicate the following: 1 - Type of machine.2 - Part number and position number of each part.3 - Serial number and year of manufacture reported on the machine's identification plate.

TAV. 1		I	GB	ES 150 N
				1140908
RIF.	COD.	ELEVATORE	HOIST	NOTE
1	3204404	TELAIO	FRAME	
2	2201725	ALBERO TAMBURO	DRUM SHAFT	
3	2204550	CUSCINETTO	BEARING	6205
4	2203155	SUPPORTO TAMBURO	DRUM SUPPORT	
5	3235880	TAMBURO	DRUM	
6	3224742	LEVA FINECORSA	LIMIT LEVER	
7	2214510	CONTRAPPESO	CABLE WEIGHT	
10	3233148	FUNE ACCIAIO + GANCIO	WIRE ROPE + HOOH	
12	2229400	LINGUETTA	KEY	8X7X30
13	2207355	ANELLO PARAOLIO	OIL SEAL RING	52X25X7
15	2237299	DISTANZIALE	SPACER	
16	2202499	INGRANAGGIO	GEAR	Z.76
17	2227280	ANELLO ARRESTO	CIRCLIP	E/25
18	2229450	LINGUETTA	KEY	8X7X20
19	2235420	LIVELLO OLIO	OIL LEVEL PLUG	
20	3213528	INGRANAGGIO	GEAR	Z.76
21	2202497	INGRANAGGIO	GEAR	Z.26
22	2201130	ALBERO PIGNONE	PINION SHAFT	
23	2229327	LINGUETTA	KEY	6X6X40
24	2204440	CUSCINETTO	BEARING	6004
25	3225254	FLANGIA RIDUTTORE	INNER CASE HALF	
26	3225294	CARCASSA RIDUTTORE	REDUCTION GEAR CASING	
28	2204391	CUSCINETTO	BEARING	6205 2Z
30	3231720	MOTORE	ELECTRIC MOTOR	
31	2228820	SPINOTTO	GUDGEON PIN	Ø 6X14
32	2222509	VITE	SCREW	M8X20
33	2222513	VITE	SCREW	M8X30
34	2222514	VITE	SCREW	M8X40
35	2222099	VITE	SCREW	M10X40
37	2224355	ROSETTA ELASTICA	SPRING WASHER	Ø 10
39	2223650	DADO	NUT	M10
43	2222461	VITE	SCREW	M4X15
45	3231796	TARGA ELEVATORE	RATING PLATE	
46	3231738	PULSANTIERA	CONTROL BOARD	
47	3203739	SPINA A PARETE	PLUG	V110
48	3213061	CONDENSATORE	CAPACITOR	MF 140
49	3231736	CASSETTA ELETTRICA	JUNCTION BOX	
51	3200005	FINECORSA	UP LIMIT SWITCH	
53	2223920	DADO AUTOBLOCCANTE	SELF LOCKING NUT	M.10
57	3225019	VENTOLA MOTORE	MOTOR FAN	
58	3225020	COPRIVENTOLA	FAN COVER	
62	3224575	COPERCHIO	COVER	
63	3225012	CEPPO FRENO	BLOCK FOR BRAKE	
70	3224714	GUARNIZIONE	GASKET	
71	2216331	GUARNIZIONE	GASKET	
72	2227700	ANELLO ARRESTO	CIRCLIP	I/52
74	3233149	SPINA	GUDGEON PIN	Ø 5X40
75	2216321	GUARNIZIONE	GASKET	
76	2237301	DISTANZIALE	SPACER	
81	2222018	VITE	SCREW	M8X35
82	2224140	ROSETTA	WASHER	Ø 8X18
83	2224350	ROSETTA ELASTICA	SPRING WASHER	Ø 8
84	2223570	DADO	NUT	M8
86	2224340	ROSETTA	WASHER	Ø10X20
90	2222008	VITE	SCREW	M12X70
91	2231410	MOLLA	SPRING	
92	2223921	DADO AUTOBLOCCANTE	SELF LOCKING NUT	M12
95	2259990	LEVA DI BLOCCAGGIO	FRAME LOCK LEVER	
97	3225319	MOLLA	SPRING	
98	3229797	CONDENSATORE	CAPACITOR	MF 100



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