OzBlok HOISTS

ELECTRIC CHAIN HOIST

USER MANUAL

250KG – 2 TONNE

CONSTANT TORQUE

WARNING

THIS EQUIPMENT SHOULD NOT BE INSTALLED, OPERATED OR MAINTAINED BY ANY PERSON WHO HAS NOT READ AND UNDERSTOOD THE CONTENTS OF THIS MANUAL.

FAILURE TO READ AND COMPLY WITH THE CONTENTS OF THE MANUAL CAN RESULT IN SERIOUS INJURY OR DEATH, AND OR PROPERTY DAMAGE

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1. Introduction

The OzBlok Electric Chain Hoist is designed for vertical lifting and lowering of loads in normal industrial workplaces and environments.
This manual provides important information for the persons installing, operating and maintaining the hoist.
OzBlok Hoists have available models for 240V, 1 phase, or 415V, 3 phase power supply.
The hoists are inverter 2 speed motor. It is strongly recommended that all persons who operate this hoist read this manual.

1.01 Safety Features

The OzBlok Electric Chain Hoist is designed, manufactured, and tested in accordance with AS 1418.2 standard.
The hoist has many safety features including upper and lower limit switches, extra low voltage pendant, overload limiter, safety catches to top and bottom hooks

2. Manufacturer

Hoisting Equipment Specialists Pty Ltd *www.hesgroup.com.au*
NSW Australia.

3. Warnings & Precautions

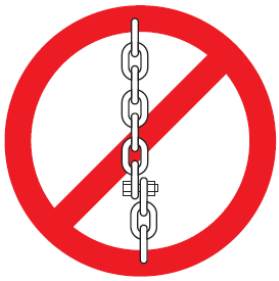
Read the instructions carefully before using the hoist.

NEVER lift loads Over people

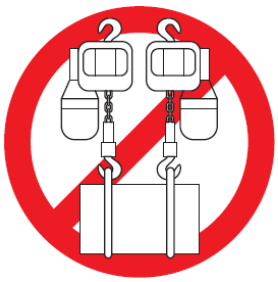
NEVER use hoist to Lift or support people

NEVER Exceed the WLL

NEVER weld hook or load chain



NEVER join chain with bolt or shackle



NEVER use 2 or more hoists to lift a load above capacity of a single hoist

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4.Unpacking

Open carton and check for any damage during transport.
Report any damage to the supplier and transport company.

4.01 Contents

1 Electric Chain Hoist.

1 Chain Container.

1 Power Cable Cord.

1 Pendant Control Cord.

1 Test Certificate.

1 Owners Manual.

5. Installation

The hoist may be supported by hook, trolley, beam clamp, sling or shackle. Whatever method is chosen, the support components must be rated equal, or greater than the capacity of the chain hoist. Support structures should be designed and installed in accordance with the engineer's requirements, and applicable standards. Ensure the suspension system used is correctly grounded in accordance with applicable electrical standards and requirements.
The hoist is designed for indoor use.

5.01 Power and Control Cable

Remove any protective caps from the plugs on the power and control cables, and from the sockets on the hoist.

Power Cable

Orientate the plug correctly. Insert the 4 pin plug of the power supply cable into the 4 pin socket on the hoist.

The hoist is supplied with a short length of power cable only.

Should longer power cable be required then remove cable from the plug and fit a new length of cable of the re-quired length. A suitably licensed and qualified electrician must fit the power cable.

At the power source, the cable can be either hard wired to a junction box, or fitted with an appropriate 3 phase plug.

Control Cable

Orientate the plug correctly. Insert the 7 pin of the control cable into the 7 pin socket. Use sufficient force to ensure good connection .Tighten the cover nuts finger tight only.

5.02 Lubrication

Gear Box

The hoist has been delivered with oil in the gearbox. Before operating the hoist, replace the oil plug

(Fill hole – top of hoist body), with the oil plug with breather hole, which is included in the hoist carton. Check oil level by removing plug on side of the hoist gear box – the oil level should be just below edge of the hole.

The Gearbox is maintenance free for the first 5 years . CKD 220 Heavy Duty gear oil is recommend.

Oil capacity for Single Phase models 250-500kg (180ml). 3 Phase models 500kg 1T and 2T (350ml) .

Chain Lubrication

For smoother, quieter operation and longer life, periodically apply a light coat of 30W oil to the load chain.

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5.03 Electrical Requirements

The electrical connection MUST be made by a registered electrician in compliance with all relevant regulations.

The power supply cable should be connected to a circuit with current overload protection, rated at 120% of the full load amperage listed on the motor nameplate.

The power supply circuit should also include an isolator switch that shuts off all power to the hoist.

Grounding

The hoist must be correctly grounded to help prevent electrical shock and possible fatal injury.

The hoist is not supplied with a power plug. The power supply cable may be either fitted with an appropriate plug to suit the phase and voltage for the hoist, or alternatively hard wired directly to the power source.

The ground wire will be either green only, or green with a yellow stripe

5.04 Pre-operational Checks and Trial Operation

Check suspension system, slings, trolleys & track are of suitable capacity.

Ensure hoist is correctly attached to either a fixed point or trolley, and the hook is sitting correctly on the suspension point.

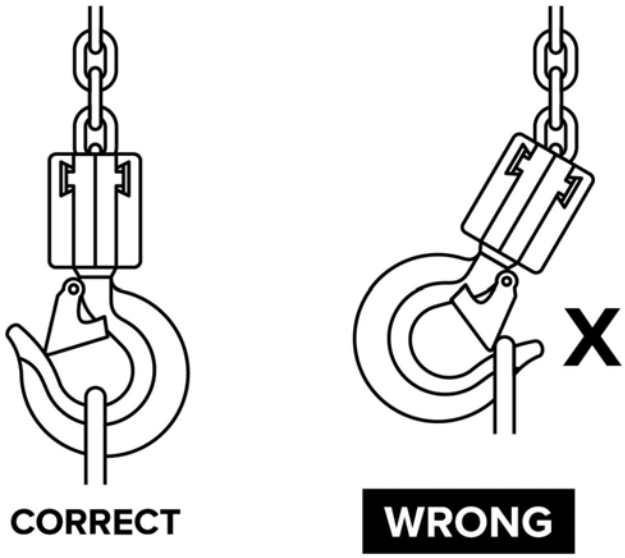
Carefully check load chain. Replace any damaged chain before using the hoist

Check pendant cable support wire is properly attached to the pendant and hoist body.

Correctly attach load, and ensure hook is seated correctly on the sling, and the load is directly below the hoist.

Make sure the safety latch closes.

Never tip load the hook.



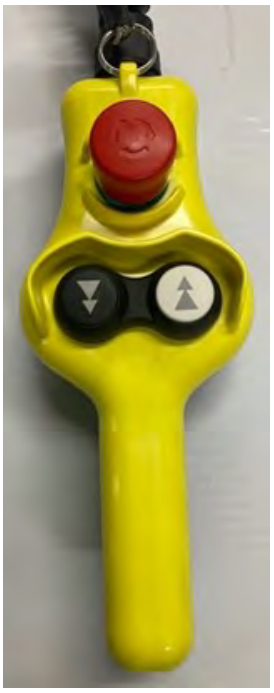
6. Operating the Hoist

Press the up button and the hoist shall lift the load.

Raise the hook to highest and lowest positions of travel to activate the safety travel limit switches – the hoist should stop at the extremities of travel. Contact supplier immediately if hoist does not automatically stop.

The hoist must move in the correct direction when activated by the pendant push buttons (moves up when up button pressed, moves down when down button pressed)

Should it move in the opposite direction, cease using the hoist immediately, dis-connect the power supply, and change any two of the three power leads, at the power source to correct the hoists phasing. This must be corrected by a registered electrician.



6.01 Emergency Stop Button

Check the Emergency Stop Button is released by rotating button clockwise. Hoist will not function if the Stop Button is activated.

6.02 2 Speed Hoist

Hoist speed is controlled by pushing the UP or DOWN button.

Push the button 2-5mm for slow speed pressing with little pressure .

For Fast speed push button fully 5-8mm.

The speed may be adjusted at any time when Raising or lowering a load.

Press and hold the button for the required direction of travel. The hoist will stop when the button is released.

7. Service and Maintenance

All repairs and maintenance to be performed by persons experienced with the hoist model.

CAUTION - OzBlok Hoists are fitted with an Inverter. The inverter is not user serviceable, and contains high voltage elements that may briefly retain charge after powering down. Do not perform any mechanical or electrical work on the hoist for at least 5 minutes after the hoist is dis-connected from the power supply.

7.01 Visual Inspection Schedule by Hoist User

Check oil level in gearbox.

Check braking system for slippage.

Check push buttons operate 2 speeds properly.

Check Top and Bottom limit switches function correctly.

Check Top and Bottom Hooks for deformation and cracks.

Check hook latch operation.

Check load chain is clean and lightly lubricated. Check for any damage.

Listen for any abnormal noise from hoist or chain.

Hook Wear Limits.

WARNING

1. Any hook that requires replacement because of excessive bends, twists, or throat opening indicates abuse or overloading of the product. Therefore, other load-supporting components of the product should be inspected for possible damage when such conditions are found.

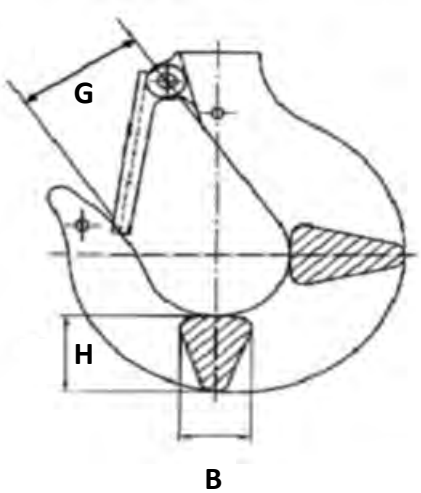
2. Never repair hooks by welding or reshaping. Heat applied to the hook will alter the original heat treatment of the hook material and reduce the strength of the hook.

3. Never weld handles or other attachments to the hook.

7.02 HOOK INSPECTION

Where applicable, inspect hooks and measure throat opening at least once a month.

Model	Capacity	Dimension G	H	B
TECH-1P-250	250kg	29mm	22.1mm	15mm
TECH-1P-500	500kg	29mm	22.1mm	15mm
TECH-3P-500	500kg	35mm	29.2mm	21mm
TECH-3P-1000	1Tonne	35mm	29.2mm	21mm
TECH-3P-2000	2Tonne	40mm	36.6mm	26mm



Note: Top and Bottom Hooks have same dimensions

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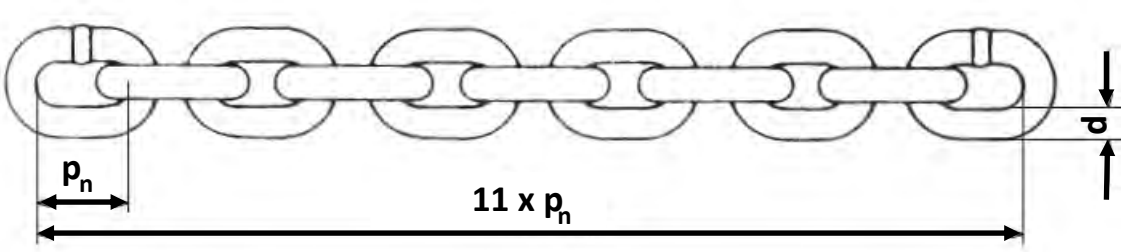
7.03 Chain Wear Limits

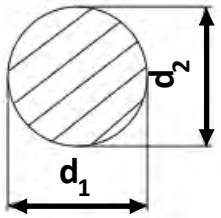
Carefully inspect the entire load chain. Measure 11 consecutive links and replace if stretched beyond the allowable dimension. Load chains must be inspected for mechanical damage frequently and after 200 operating hours at the latest. Particular operating conditions may also dictate shorter inspection intervals. Visual check: There should be no cracks, deformities, bends, etc. along the entire length of the chain. Round-section steel chains must be replaced when the original nominal thickness "d" on the chain link with the worst wear has been reduced by more than 10% or if the chain has elongated over one pitch "p" by 5% or over 11 pitches (11 x pn) by 2%. Nominal values and wear limits are shown in the following tables. The load chain must be replaced if one of the limit values is exceeded.



d = Nominal thickness of the chain.

d1 , d2 the Actual value.

$$d\ min = \frac{d1 + d2}{2} \leq 0{,}9d$$



RUD Hoist Chain Grade (T)		Size mm	Size mm	Size mm
Type (DAT)	Surface (Galvanized)	4 x 12	5 x 15	7 x 21
Diameter	d nom (mm)	4 +0.1/-0.2mm	5 +0.1/-0.2mm	7 +0.1/-0.2mm
	d min (mm)	3.6 mm	4.5 mm	6.5 mm
Pitch	pn nom (mm)	12 + 0.2/-0.0mm	15 + 0.2/-0.1mm	21 + 0.3/-0.15mm
	pn max (mm)	12.6mm	15.8mm	21.5mm
Length	11 x pn nom (mm)	132 +0.9/-0.3mm	165 +0.5/-0.0mm	231 +0.7/-0.4mm
	11 x pn max (mm)	136mm	169mm	317mm

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7.04 Trouble Shooting

Problem	Possible Cause	Suggested Solution
Hoist will not respond to controls	Limit switch activated	Move hoist in opposite direction
	Hoist overloaded	Reduce load to within rated capacity
	Emergency Stop Activated	Rotate button clockwise to release
	No incoming power, or low voltage	Check hoist connections to power source Contact electrician to check
	Fuse blown or circuit breaker tripped	Replace fuse/ reset circuit breaker
	Brake won't release	Contact Service Agent
	VFD malfunction	Contact Service Agent
	Pendant control faulty	Contact Service Agent
	Transformer faulty	Contact Service Agent
	Motor faulty	Contact Service Agent
Hoist operates intermittently	Loose connectors, poor contacts	Contact Service Agent
	Broken wire in control cable	Contact Service Agent
Hoist lowers but will not lift	Hoist overloaded	Reduce load to within rated capacity
	Faulty pendant button	Contact Service Agent
	VFD malfunction	Contact Service agent
Hoist will not lift rated load	Overload Limit Clutch faulty	Contact Service Agent
Load lowers excessively when hoist stopped	Hoist overloaded	Reduce load within rated capacity
	Grease or Oil on Brake lining	Contact Service Agent
	Brake Disc worn	Contact Service Agent
	Brake Springs damaged	Contact Service Agent
Variable 2 Speed not functioning	VFD faulty	Contact Service Agent
Motor Overheats	Excessive load, too frequent use, high ambient conditions	Use within rated load, reduce use, use within hoist ambient temperature range

Poor chain engage-ment with sprocket	Badly worn chain	Contact Service agent
	Badly worn sprocket	Contact Service agent
Limit Switch failure	Poor connection of wires	Contact Service Agent
	Limit Switch damaged	Contact Service Agent

8. Classifications

8.1 OzBlok Electric Hoists

Comply and are tested in accordance with AS 1418.2

8.2 Degree of protection

Hoist : IP 54

Hand Control : IP 65

8.3 Working Environment

Relevant humidity: <85%

Temperature range: -25C to +40C . The hoist is not suitable for use in explosive

or corrosive conditions, or if there is risk of fire.

It is not to be used to lift molten metal, hazardous or flammable loads

9. Warranty

OzBlok Hoist products are guaranteed to be free of defects in materials and workmanship for 1 year from date of shipment.

This does not apply to any product showing signs of misuse, overloading, alteration, improper maintenance, or negligence. Normal wear and tear of moving parts is excluded from this warranty.

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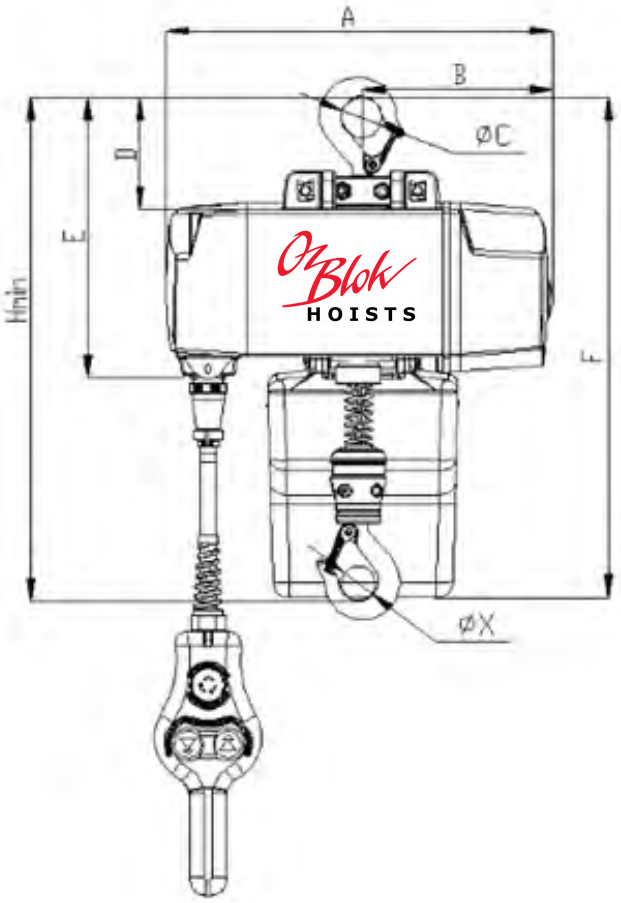
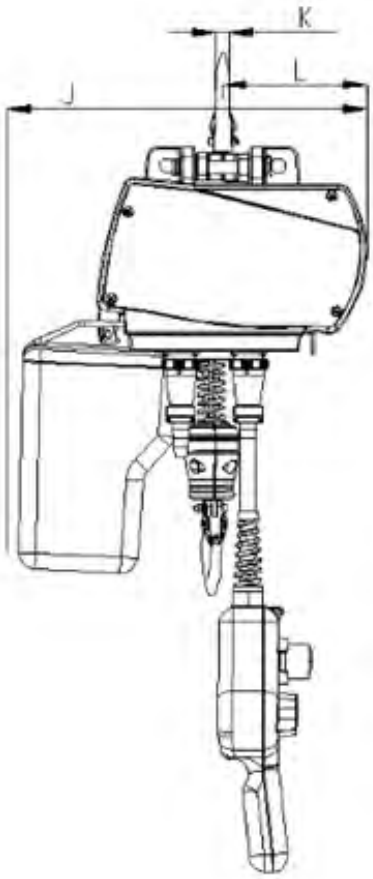
10. Specifications

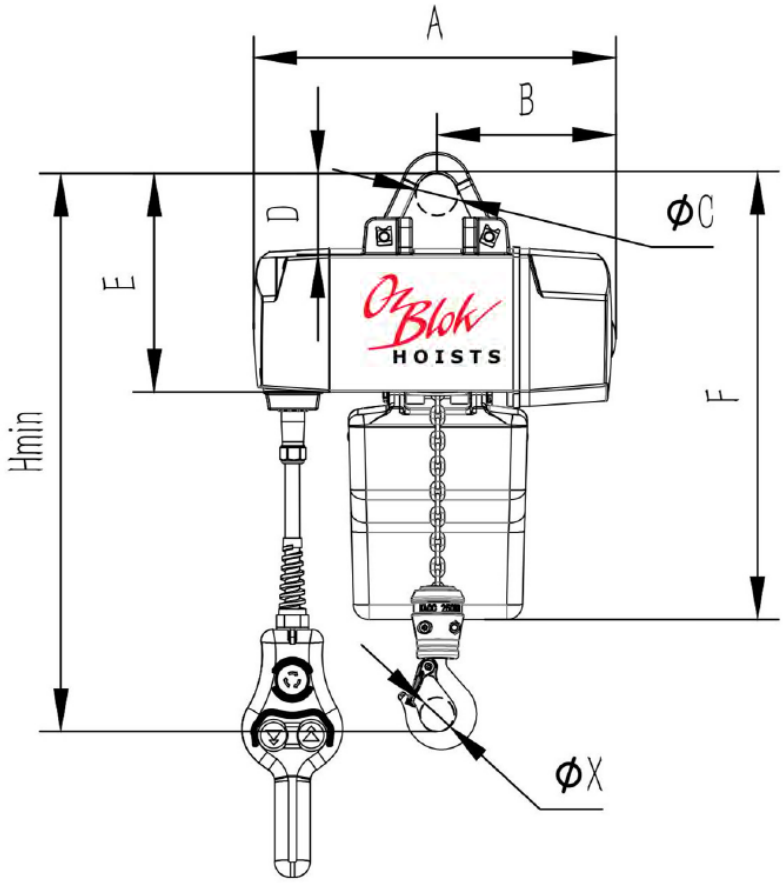
Model	Capacity (Ton)	Lifting Height (M)	Working Level (ISO)	Speed (M/Min)	Load Chain (mm)	Falls of chain	Motor Power (kw)	Motor Speed (RPM)	Motor Current (A)	Voltage (V/HZ)	Duty Cycle (FC%)	N.W in 3M (kg)
ECHOZH002-1P	0.25	2-18	M5	5/20	4X12	1	0.7	2860	2.8	220-240 50/60Hz	40	22
ECHOZH005-1P	0.5	2-15	M5	1.5/6	5X15	1	0.7	2860	2.8	220-240 50/60Hz	40	22.6
ECHOZH002-3P	0.5	2-18	M5	4/16	7X21	1	1.9	2860	3.8	370-415 50/60Hz	40	47.5
ECHOZH010-3P	1	2-18	M5	2/8	7X21	1	1.9	2860	3.8	370-415 50/60Hz	40	47.5
ECHOZH020-3P	2	2-15	M5	1/4	7X21	2	1.9	2860	3.8	370-415 50/60Hz	40	52.6

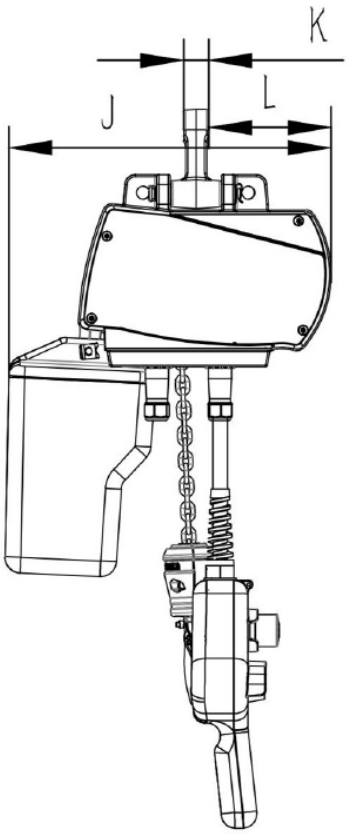




11. Dimensions (Top Hook Model)

Model	Capacity (Ton)	A	B	C	D	E	F	Hmin	J	L	K	X
ECHOZH002-1P	0.25	345	170	24	101	251	425	357	320	116	13	24
ECHOZH005-1P	0.5	345	170	27	101	251	448	492	320	116	16	27
ECHOZH005-3P	0.5	458	204	35	127	313	578	570	427	177	22	35
ECHOZH010-3P	1	458	204	35	127	313	578	570	427	117	22	35
ECHOZH020-3P	2	458	204	40	77	263	528	544	427	117	24	40





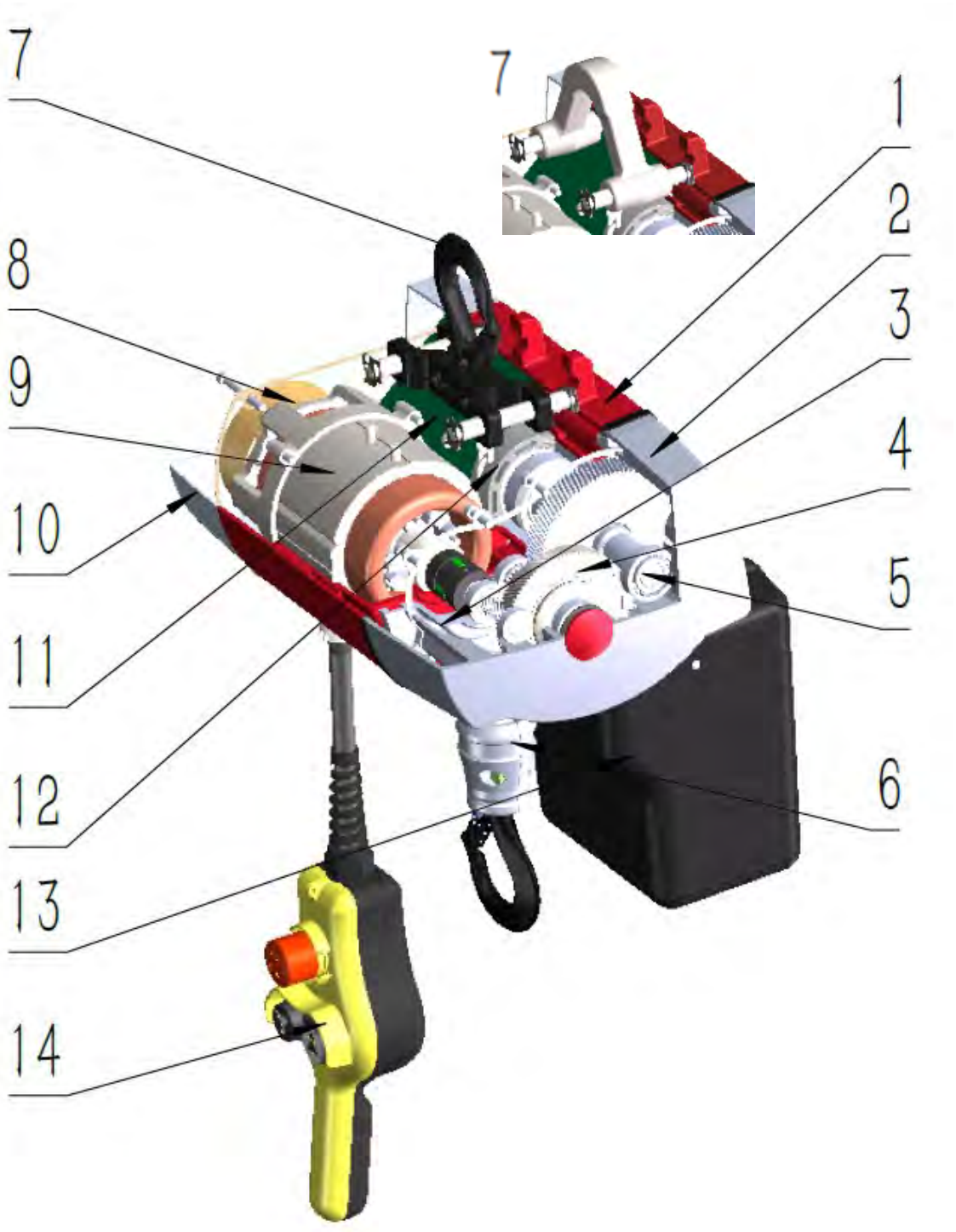
11. Dimensions (Top Hanger Loop Model)

Model	Capacity (Ton)	A	B	C	D	E	F	Hmin	J	L	K	X
ECHOZH002-1P	0.25	345	170	40	77	208	425	357	306	116	24	24
ECHOZH005-1P	0.5	345	170	40	77	208	425	357	306	116	24	24
ECHOZH005-3P	0.5	458	204	40	77	263	528	519	427	177	24	45
ECHOZH010-3P	1	458	204	40	77	263	528	519	427	117	24	45
ECHOZH020-3P	2	458	204	40	77	263	528	519	427	117	24	45

Top Hanger Loop

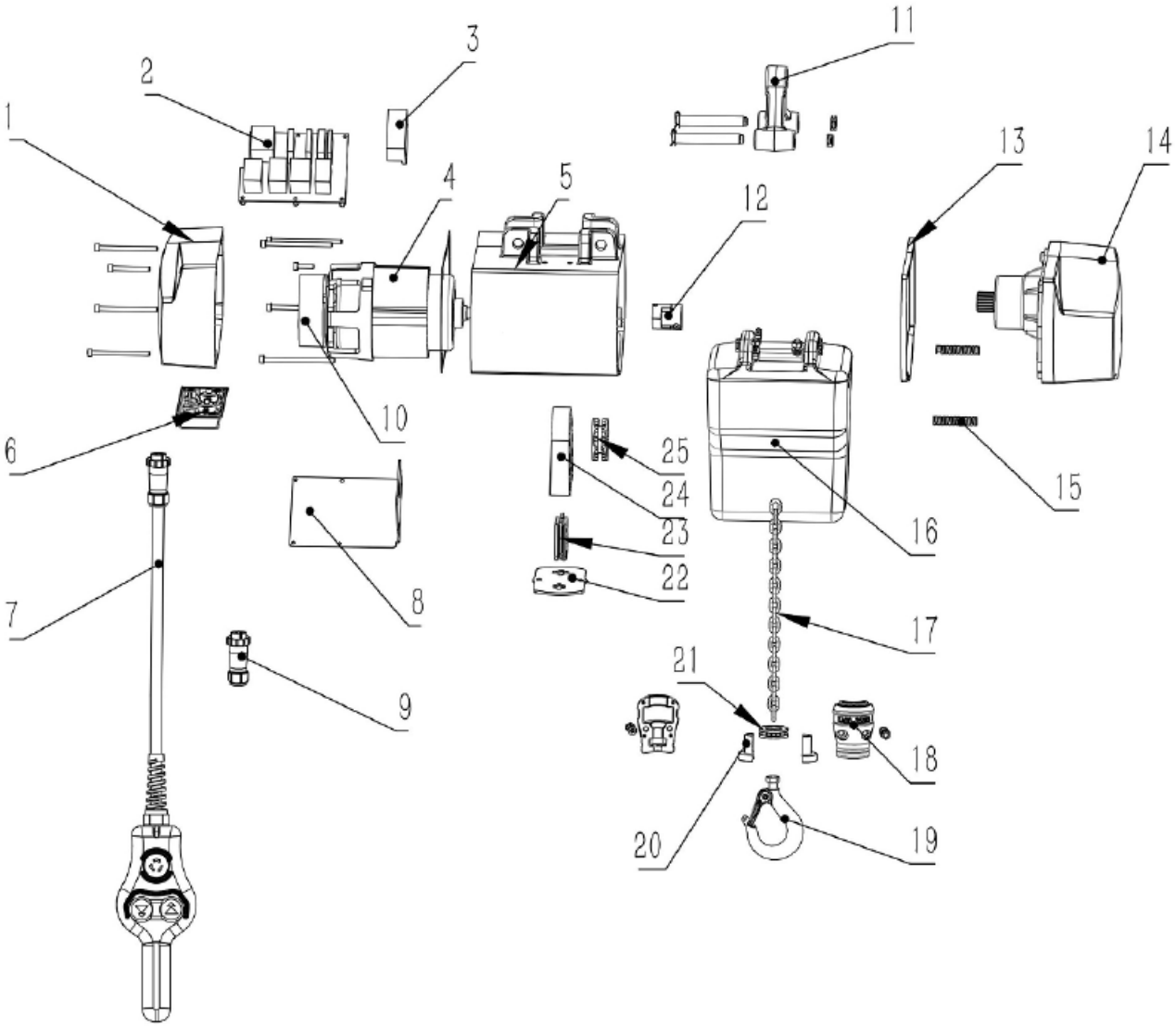
Note Optional on 250kg 500kg & 1T

12. Component Image



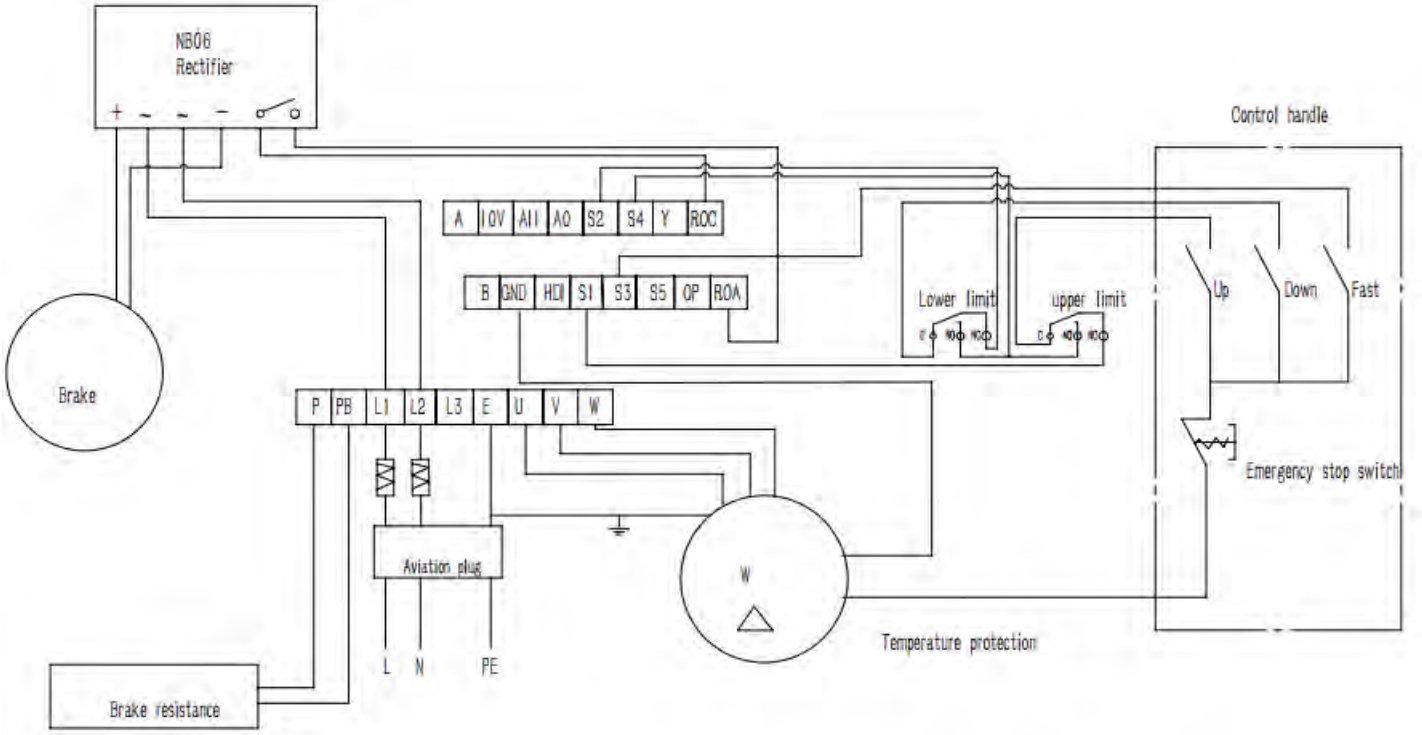
1. Body Shell	2. Gear Box	3. Gear Cover	4. Overload Limiter	5. Gear Set	6. Bottom Hook Assembly	7. Top Hanger Or Top Hook
8. Electric Brake	9. Two Speed Motor	10. Electrical Side Cover	11. Circuit Control Board	12. Chain Guide	13. Chain Bucket	14. Pendant Control

13. Exploded Drawing

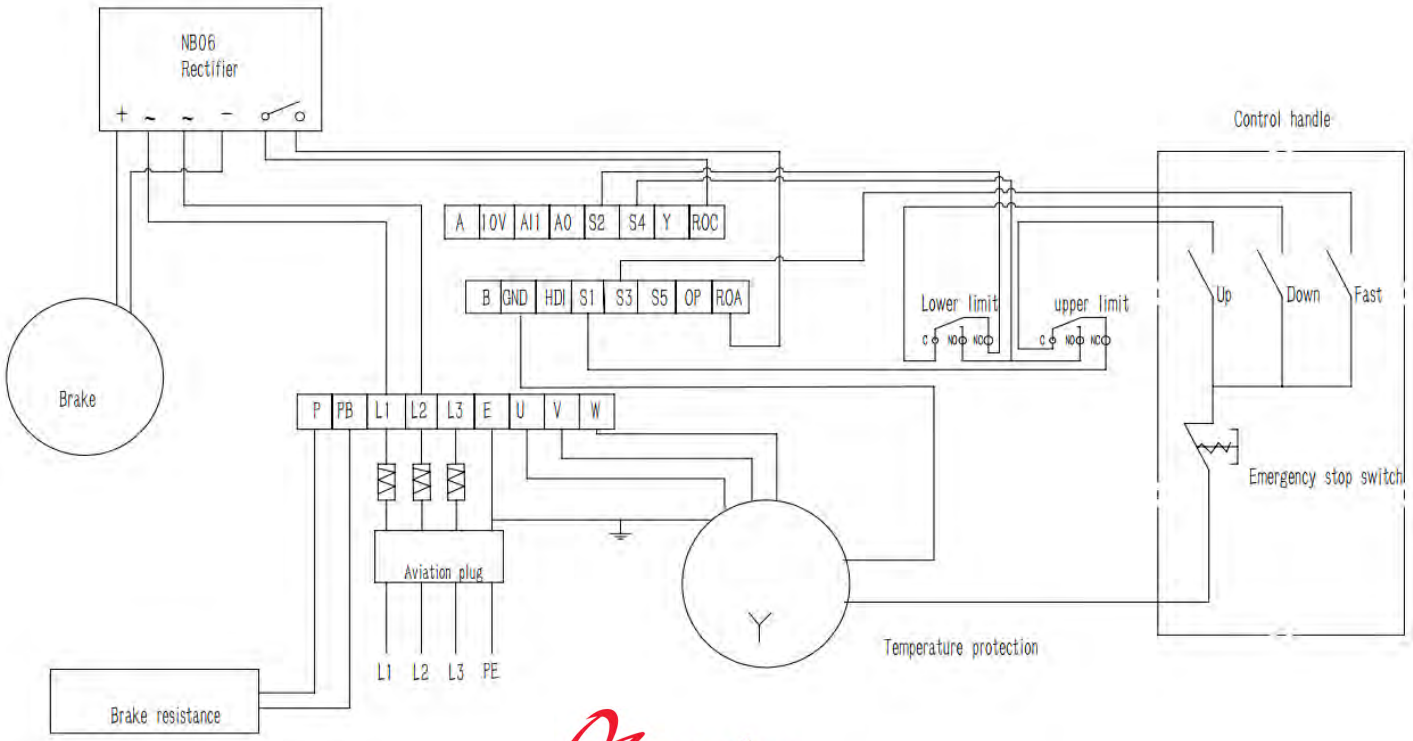


1.Electrical Side Cover	5.Main Body Shell	9. Power Cable Plug	13. Gasket	17.Load Chain	21. Bearing
2.Control Panel	6.Socket Fixing Plate	10. Electric Brake	14.Gear Box	18.Hook Frame	22.Limit Plate
3.Rectifier	7.Pendant Control Cable	11.Top Hook Frame	15.Spring	19.Hook	23.Chain Guide
4.Motor	8.Control Board Fixing Late	12.Coupling	16.Chain Bucket	20.Chain Cage	24.Pin 25.Load Sprocket

14. Single Phase Electrical Diagram



15. Three Phase Electrical Diagram



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