

COMEUP

Easylift Portable compact hoist

Thank you for purchasing a **COMEUP** Easylift hoist. This manual covers operation and maintenance of the Easylift hoist. All information in this publication is based on the latest production information available at the time of printing.

General Safety Precautions

The Easylift hoist has been designed to give safe and dependable service if operated according to the instructions. Please read and understand this manual before installation and operation of the compact multipurpose & portable hoist.

Follow these general safety precautions:

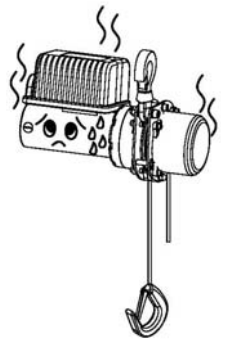
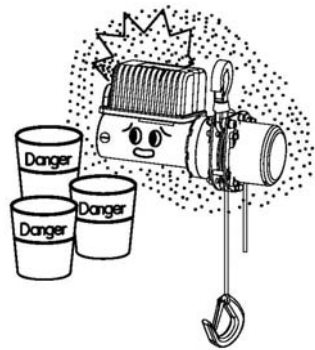
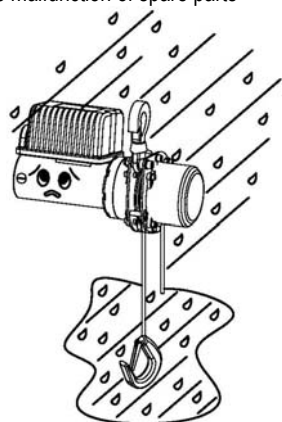
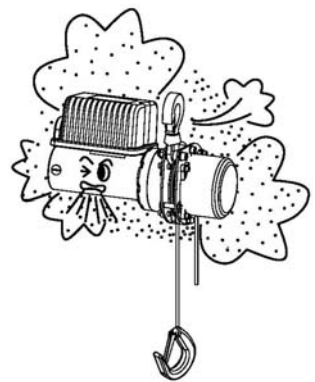
- Before operating the Easylift hoist, the operator must understand and comply with the requirements of the law concerned.
- Confirm that the Easylift hoist complies with the using conditions.
- Keep the Easylift hoist secure strongly.
- Don't use unsuitable pulleys or accessories concerned.
- Don't use unsuitable wire rope in construction, strength or having any defects.
- Pay attention to the grounding, it provides a path of least resistance for electric current to reduce the risk of shock.
- Check the hoist for smooth operation without load before loading operation.



1. The Easylift hoist is not to be used to life, support or otherwise transport personnel.
2. The owner and/or the operator shall have an understanding of these operating instructions and the warning before operating the Easylift hoist. Failure to follow these warnings may result in loss of load, damage to the hoist, property damage, personal, or fatal injury.
3. The owner shall retain this manual for further reference to important warnings, installation, operating and maintenance instructions.
4. Hoist operators shall be trained to be aware of potential malfunctions of the equipment that require adjustment or repair, and to be instructed to stop operation.
5. Hoist operators shall be trained in proper rigging procedures for the attachment of load to the hoist hook

I. Environmental Precaution

 WARNING
<ul style="list-style-type: none"> The following environmental conditions may result in the possible causes of Easylift hoist trouble

<ul style="list-style-type: none"> Low temperature below -10°C, high temperature above 40°C or humidity above 90% conditions. ※ Cause malfunction of spare parts 	<ul style="list-style-type: none"> In an organic chemistry or explosive power conditions. ※ Cause explosion 
<ul style="list-style-type: none"> In heavy acid or salty conditions. In the rain or snow condition. ※ Cause rust or short circuit ※ Cause malfunction of spare parts 	<ul style="list-style-type: none"> In a heavy general powder conditions. ※ Cause malfunction of performances 

II. Handling Precaution

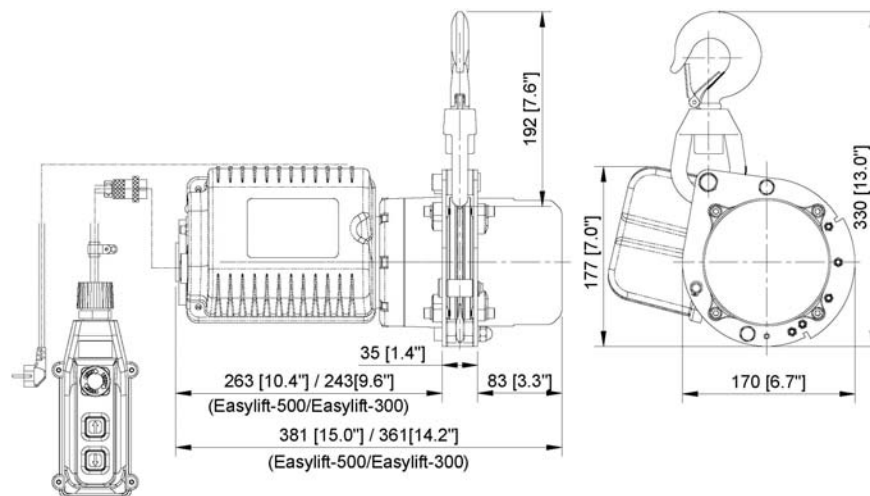
- Only trained personnel can operate the Easylift hoist.
- To prevent the risk of electric shock, the power plug must be plugged into a matching outlet and grounded in good condition.
- Never try to lift a load higher than the rated capacity.
- Never hitch a ride on the hook, sling or load being moving.
- Easylift hoist are not to be used for lifting or lowering people.
- Don't work, walk or stand under an operating hoist.
- Always remain in control. Never neglect the Easylift hoist while actually hosting a load.
- Never gravitate a load free.
- Be sure to lift a load vertically.
- Prior to starting of use, carry out the daily checking without fail, and after confirming the safety of function.
- If having a counter rotation incurred, make sure to correct its rotation direction.
- Prior to lift. Make sure to have a precise performance of brake. If any malfunction of brake happened, stop the operation immediately.
- When load suspended in air, it will not allow to be welding.
- Load wire rope must be kept clean. If they are dirty, they should only be cleaned with a neutral detergent. Do not use organic solvents.
- Load Easylift hoist any remarkable wears and elongations shall be removed or replaced immediately.
- If the gearbox produces harsh noise or severe concussion, stop operating the Easylift hoist immediately.
- The operating Easylift hoist must not exceed its intermittent rated time of ED% and the highest number of operation per hour.
- Be sure to fix a rope in the center of weight hook.
- When operating with a Easylift hoist, do not drag the load laterally.
- Before the Easylift hoist is operated, be sure to check the load equally and close to the center to achieve the balance of load.
- Avoid splashing water to the motor and control box.
- Be sure to have a steady and accurate pendant switch operation and avoid operate excessive inching.

III. Major Specifications

► Machine Type

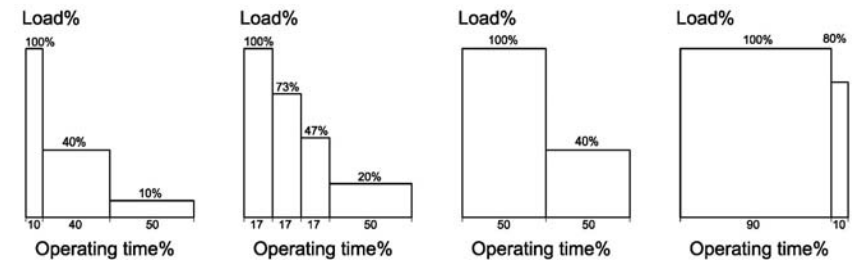
Model	EL-300	EL-500	EL-1000
Duty Cycle	10% ED with at 100% of rated load		
Motor Output	500W	800W	
Voltage	200~240V AC, single phase		
Lifting Load	300 kg	500 kg	1000 kg
Gear Ratio	235.5:1		
Line Speed	6.0 m/min	4.8 m/min	2.4 m/min
Full capacity continuous lifting	30M		15M
Brake	brakes for mechanical ratchet pawls and motor dynamic brake		
Wire Rope	Standard with A7x19,Ø6.3mm x 15 M		
Switch Cord	10m with emergency stop		
Protection	Overload Protector (manual reset)		

► Major Dimensions



► Determination of the FEM Classification

Load Spectrum	State of Loading	Cubic Mean Value	Average Daily Operating Time in hours	Calculated Total Operating Time in hours
Light	Occasional full load; Usually light load; Small fixed load	$k \leq 0.5$	$2 \leq$	3,200
Medium	Occasional full load; Usually light load; Average fixed load	$0.5 < k \leq 0.63$	$1 \leq$	1,600
Heavy	Repetitive full load; Usually average load; Heavy fixed load	$0.63 < k \leq 0.8$	$0.5 \leq$	800
Very Heavy	Usually almost full load; Very heavy fixed load	$0.8 < k \leq 1$	$0.25 \leq$	400



► Rated Percentage Duty Cycle (%ED)

The service life of the product is significantly dependent on the frequency at which it is operated. To ensure long service life, operate the hoist within its rated percentage duty cycle (%ED). The rated percentage duty cycle (%ED) is expressed by the duty factor (%ED) obtained at the rated voltage and the frequency at 63% of the rated load.

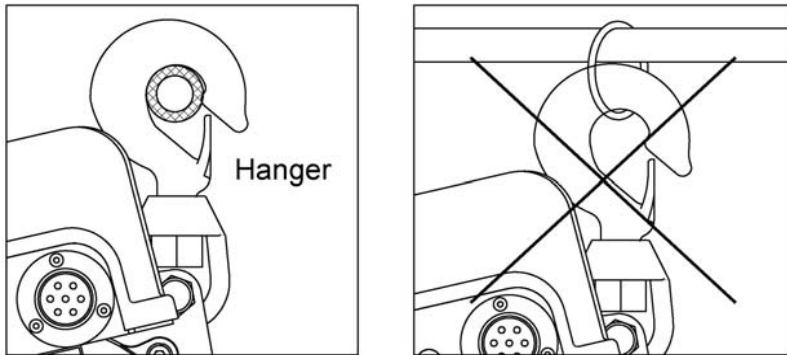
(lifting time + lowering time)

$$\text{Percentage duty cycle (\%ED)} = \frac{\text{(lifting time + lowering time)}}{\text{(Duty Factor)} \times (\text{lifting time} + \text{idle time} + \text{lowering time} + \text{idle time})} \times 100 (\%)$$

The maximum startup frequency represents the frequency of startup operations per hours, including inching operations. The rated speed, which indicates the average speed of winding up or down at a rated load. A cycle is limited at 10 minutes at most.

► Carrying and installing method

1. Do not install this hoist except those hoist professional knowledge.
2. The Easylift hoist designed to be hanged or mounted on a firm or stable bar or enough to support the structure of the Easylift hoist and the hanging object.
3. When hanging the Easylift hoist, please hold the handle and lift it up. Hook the hook behind the steel bar and release the hand. And then hook the safety hook to make sure it is correctly hooked before use.
4. When hanging, do not allow the body or load to be caught by any construction of frame, or other obstruction. Be sure to lock the hanger for extra safety.
5. Do not use the safety hook as the load for lifting.



IV. Working Method

► Power Lead and switch cord Sections

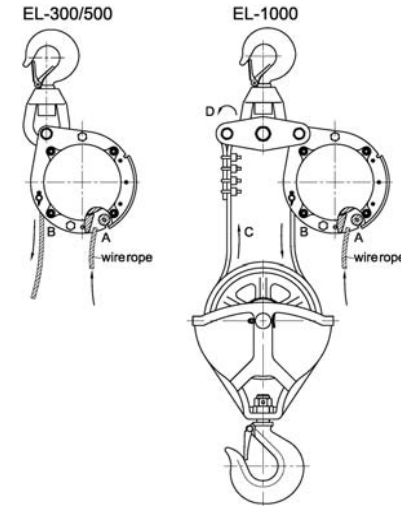
The Easylift hoist is supplied with a power lead of 1.5 mm² x 3C x 3m power lead. Switch cord is 1.25 mm² x 6C x 10 m. The power lead and switch cord cannot be longer than 20meter, if the power lead and switch is too long, the voltage will drop, the hoist will not exhibit its rated capacity. Please use a bigger section of power lead or a magnetic contactor as indirect control.

► Grounding

To prevent the risk of electric shock, the power lead must be plugged into a matching outlet and grounded in good condition.

► Wire rope installation

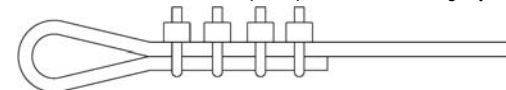
- EL-300/500, Insert the wire rope from point A, along with drum and exit from point B
- EL-1000 · Insert the wire rope from point A, along with drum, exit from point B and insert the wire rope into pulley and exit from point C, going through point D, and finally fixed the wire rope with wire rope clip.



► Wire Rope end

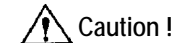
a. wire rope clip

- Use the enclosed wire rope clip, and fastened tightly as shown in the below picture.



b. Fixing the tail of stop sleeve:

- Fix the tail of the wire rope to the steel cube with sleeving.
- The thickness of the steel must be greater than 10 mm after sleeving.
- Remove extra wire rope from the stop sleeve end by grinding.





Caution !

- There is 0.5M red paint at the tail of the wire rope. Please pay attention while operate the hoist to avoid damage.

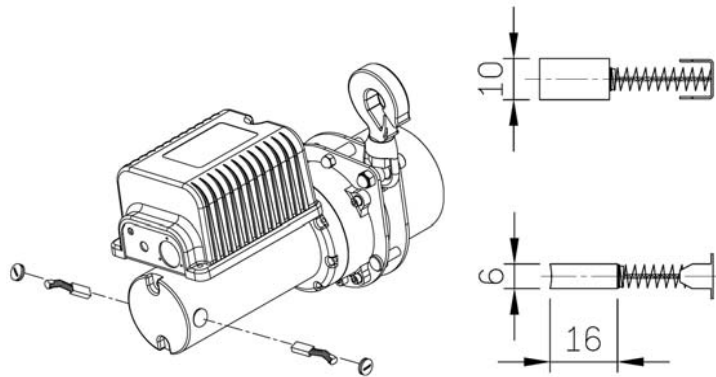


V. Repair, inspection and troubleshooting

► Carbon Brush Replacement

 WARNING	
	Clean the accumulated powder of carbon brush periodically to ascertain the insulation resistance up to 1MΩ.

- It is essential to check the carbon brush periodically. If its length is left less than 7.5 mm (original 16.5mm) resulting from wear, it is absolute necessary to replace carbon brush immediately.
- When replacing the carbon brush, both carbon brushes must be replaced at the same time.
- Use standard carbon brushes to ensure the quality and performance of Easylift hoist.



► Lubrication

• For Gear Box

All the gears are permanently lubricated during assembly. Under normal circumstances, the user does not need to do lubrication again. However, when the gearbox is disassembled for repair or component replacement, please use HT-740-0 grease or the same grade of lubricant for equal replenishment. ◦

• For Brake Assembly

All moving parts in the hoist are permanently lubricated at the time of assembly. Under normal conditions factory lubrication will suffice. The lubricant for brake base shall be filled Shell GADUS S2 V220 0 after repair or disassembly.

► Braking Adjustment

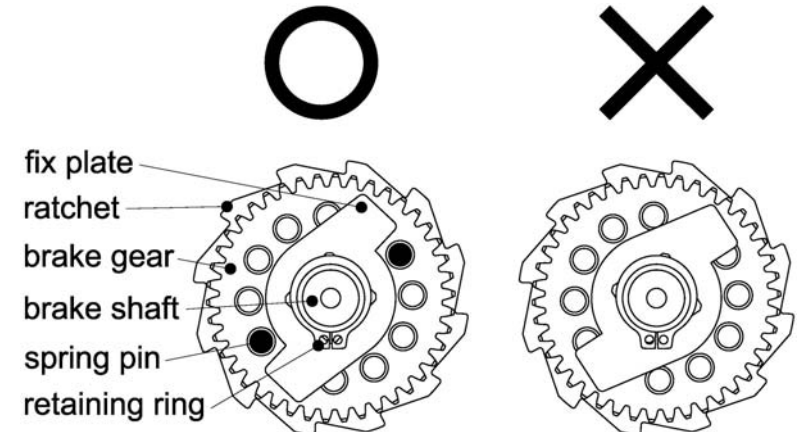
- Braking device is design by mechanic ratchet pawls to provide instant and safe operation. The brake distance from the time of braking until stopping completely should be within 1.5% of wire rope length to the wound in during 1 minute.
- Owing to the wire rope speed on no load is 1.3 times faster than that on rated load, the brake distance on no load will be longer, but still within 1.5% of wire rope length.
- It is highly recommended that any adjustments are carried out by a qualified technician at an authorized service centre.
- Brake adjustment procedures.

Step1. Remove retaining ring and spring pin and fix plate.

Step2. Tighten brake shaft and brake gear clockwise until holding to the ratchet.

Step3. Find the closed pole between spring pins and fit plate (one between four selections), then put the fix plate onto the square hole of brake shaft.

Step4. Insert spring pins and lock retaining ring.



► Reassembly

Once the Easylift hoist is reassembled, proceed as follows:

- Use the Easylift hoist without a load to see that it is properly assembled.
- Check that it is not making excessive noise.
- When no problems are detected, insert the rope.

► Replacing parts and components

Important! Through daily and periodic checks, replace parts or components whose useful life has been reached or exceeded with new parts, in accordance with maintenance instructions.

►Wire Rope

 Attention !

Conditions and limits of rope use:

- Less than 10% of the elementary strands are broken following twisting (1 step).
- The diameter of the wire rope must be reduced by less than 7%.
- There must be no bends (folded or twisted rope) or corrosion.
- When the wire rope is replaced, fix the end with a stop sleeve.
- The stop sleeve (fixed to one end of the rope to prevent the rope and load slipping off the pulley due to an excessive load) must be complete, without damage, and there must be no risk of the wire rope sliding or becoming separated from it.

► Pulley

- Wear in the pulley groove is caused by the wire rope, so the wire rope must also be inspected.
- Methods for recognizing the limit values for the pulley groove with the naked eye:
 1. After production and heat treatment, the surface of the pulley groove is coated with electric black.
 2. When holding the load, the electric black coating becomes worn away to the point when the wire rope no longer moves at the bottom of the groove.
 3. When the equipment is used continuously, the score line moves to the bottom of the groove.
 4. There are two reasons for this:
 - The wire rope diameter is reduced: the wire rope is worn and must be replaced.
 - The pulley groove is worn: if a new rope touches the bottom of the groove, it is time to replace the pulley.

※ Worn wire rope touching the bottom of pulley groove.

1. Replace the wire rope.
2. Mark the groove with an indelible marker.

※ New wire rope touching the bottom of the pulley groove.

1. Replace the pulley.


►Checking

Classification of checks				Checking Item	Checking Method	Checking Reference	
Daily	Periodical						
	One month	Three month	One year				
			◎	Marking	Label and the like	Visual	Existence of label
◎				Easylift hoist	Exterior	Visual	No cracks, breaks or significant deformation
◎				Installation	Functional operating mechanisms	Visual	To be properly adjusted and free from unusual sounds when operation
◎				Control/ Switch	Working	Function	Reasonable actuation
◎					Housing	Visual	To be free from cracks
◎					Wiring	Visual	To be free from remarkable loose or damaged
◎					Cord	Visual, electricity	To be free from exposure of conductive wire
	◎			Motor	Condition of insulation	Measure with resistance tester	1MQmin
◎					Staining damage	Decomposition check	To be free from abnormalities
	◎			Gear	Damage , wearing	Decomposition check	To be free from remarkable wear and damage
		◎			Lubrication condition	Lubricating	Have an abnormal sound to be opened and checked
		◎		Drum	Exterior	Visual	No wear or corrosion
◎				wire rope	Broken strands	Visual, measuring	Less than 10%
◎					Wear	Visual, measuring	Less than 7% diameter reduction
◎					Deforming or corrosion	Visual	Existence of abnormalities
◎					stop sleeve	Visual	It must be solidly fixed to the end of the wire rope
◎				Hook	Housing and mechanical components	Visual, function	To be free cracks, rupture and harmful deformation
◎					Length stretching	Measuring size	deformation by 5% maximum
◎					Safety catch	Visual	To be free from deformed

► **Trouble Shootings**

Before performing any troubleshooting on the compact hoist, de-energize the supply of electricity as hazardous voltages are present in the hoist and in connections between components.

Symptom	Possible cause	Remedy
Hoist will not operate	Loss of power or wrong voltage/frequency	Check power supply against the rating on the name plate
	Power cutoff switch cuts off the power	Reduce load to within rated capacity of hoist and reset by manual
	Motor overheated	Take a rest and perform the hoist according to its duty cycle percentage rated at 10%ED
	Motor burned out	Replace motor
	Improper installation or wearing of carbon brush	Check or replace carbon brush
	Emergency switch button is pressed	Confirm the reason why the emergency switch button is pressed and exclude it
Short circuit	Melted B contact of pendant switch	Replace pendant switch
	Burnt bridge rectifiers	Replace bridge rectifiers and pay attention to its poles
	Having too much carbon powder on carbon brush holder	Disassembly the motor and clean carbon powder
	Burnt motor	Replace motor
Can only lower, or lift	Malfunction of the Up or down contact of the pendant switch	Replace pendant switch
Fail to lift the load rated	Hoist overloaded	Reduce load
	Considerable voltage drop	1. Applied voltage shall fall into $\pm 10\%$ of rated voltage on the name plate 2. The specifications of the power cord are different from the standards.
Brake distance is too long	Brake wear	Please contact an authorized dealer for further repairs.
No brake	Brake failure	Please contact an authorized dealer for further repairs.
Sliding when stopped	Wire rope worn	Replace wire rope
	Pulley groove worn	Replace pulley
Oil leakage	Damaged or deformed oil packing	Replace oil packing
	Fail to install oil packing	Install oil packing



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PN 883712 Ver:00
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