

ACE SERIES STAGE ELECTRIC HOIST

USER OPERATION MANUAL

To our esteemed users

Sincerely thanks for purchasing JDP brand electric hoists.
Please be sure to read this operation manual and maintenance instruction.
Please keep this manual where you can reach conveniently to read it any time.

Website: www.jdp.top

tel: +86 13315233723

Email: admin@jdp.top

Manufacturer: JDP China Drive Systems Co., Ltd

ADDRESS: 1005, Block D, Jinyu Building, No.9 Shangdi 3rd Street Haidian District, Beijing



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● Information

The products meet European Union requirements, the validated EU Machine Directive.

The entire company works acc. to a certified quality assurance system as per ISO 9001.

The production of components at our work is subject to strict, intermediate checks. After assembly, each product is subject to a final test with overload.

The stated performance of the devices and meeting any warranty claims require adherence to all instructions in this manual.

Before delivery, all products are packed properly. Check the goods after receipt for any damage caused during transport. Report any damage immediately to the forwarding agent.

This manual allows a safe and efficiently use of equipment. Images of this manual are for a principle understanding and can be different from the real design.

The company is not liable for damage caused by natural disasters and force majeure and improper use.

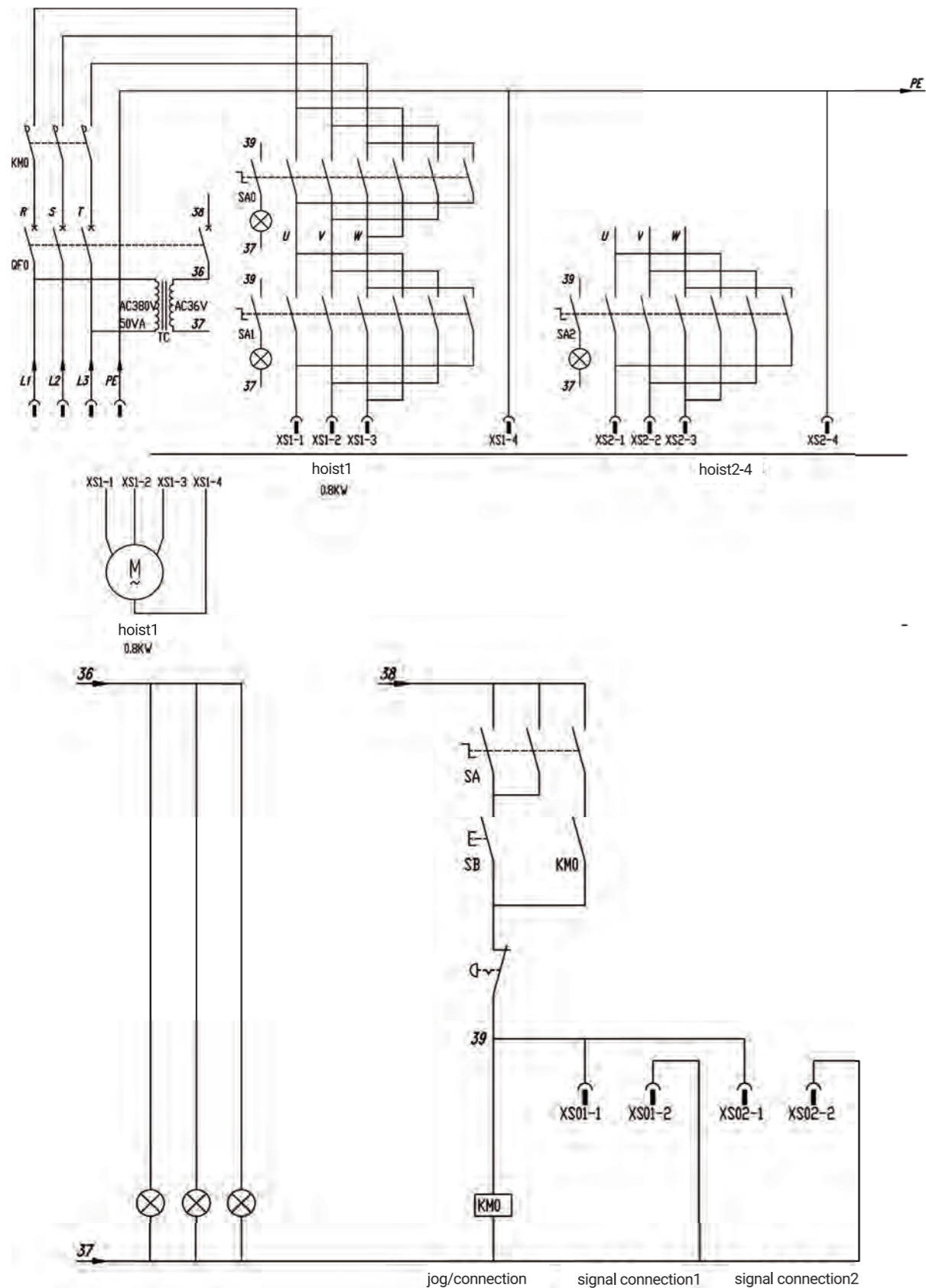
The company does not bear any responsibility for the collateral damage caused by the inability to use the product during its use.

The company is not responsible for the loss caused by failure to follow the manual.

The company is not responsible for damage caused by the incorrect use of this product.

- **Technical data (Continued)**

The ACE control circuit diagram



This product is strictly forbidden for lifting people.

This product is only suitable for lifting and moving heavy objects. Do not use it for other purposes.

Please read the manual carefully before use.

Wear protective tools and protective clothing for the user

- **Safety**

Failure to follow the instructions of this manual can lead to unpredictable hazards. For any resulting damage or personal injury, we assume no liability.

The units may only be operated by qualified persons that are appropriately trained and that are familiar with it. They must have their employer's authorization for operation of the units.

Before starting work, the operating personnel must have read the operating and installation instructions, especially the chapter "Safety Instructions".

This is especially important for operating personnel that rarely uses the equipment, i.e. for installation or maintenance work.

- **Warning notice and symbols**

Warnings and notice are shown as follows in these instructions:

DANGER! This means that there is a high risk that leads, if it is not avoided, to death or severe injury.

WARNING! This means that there is a risk that could lead, if it is not avoided, to death or severe injury.

CAUTION! This means that there is little risk that could lead, if it is not avoided, to slight injury or damage to the device or its surrounding.



Prohibited to do.



Must do.

● **About operation & Maintenance**



Except for maintenance and repair personnel, please do not disassemble or modify this product.



Please use this manual to understand the operation.
Pay attention to the warning label on the product.

Section 1

● **Operation**

Only people that are familiar with the operation of the lifting devices and cranes may be entrusted with their operation. They must be authorized by the employer for the operation of the equipment.

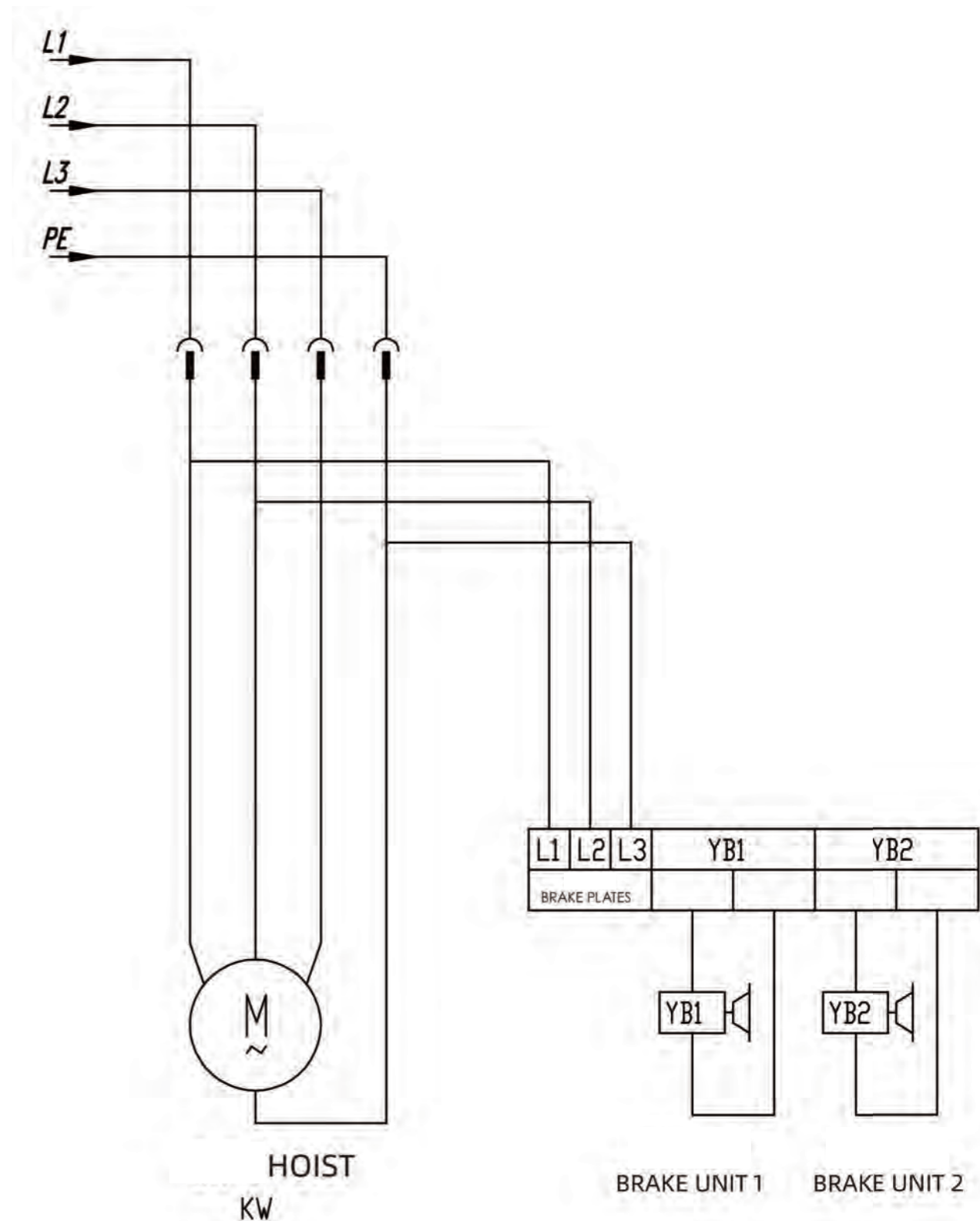
The employer must ensure that the operating instructions are available near the equipment and that they are accessible for the operating personnel.

● **Everything about Operation**

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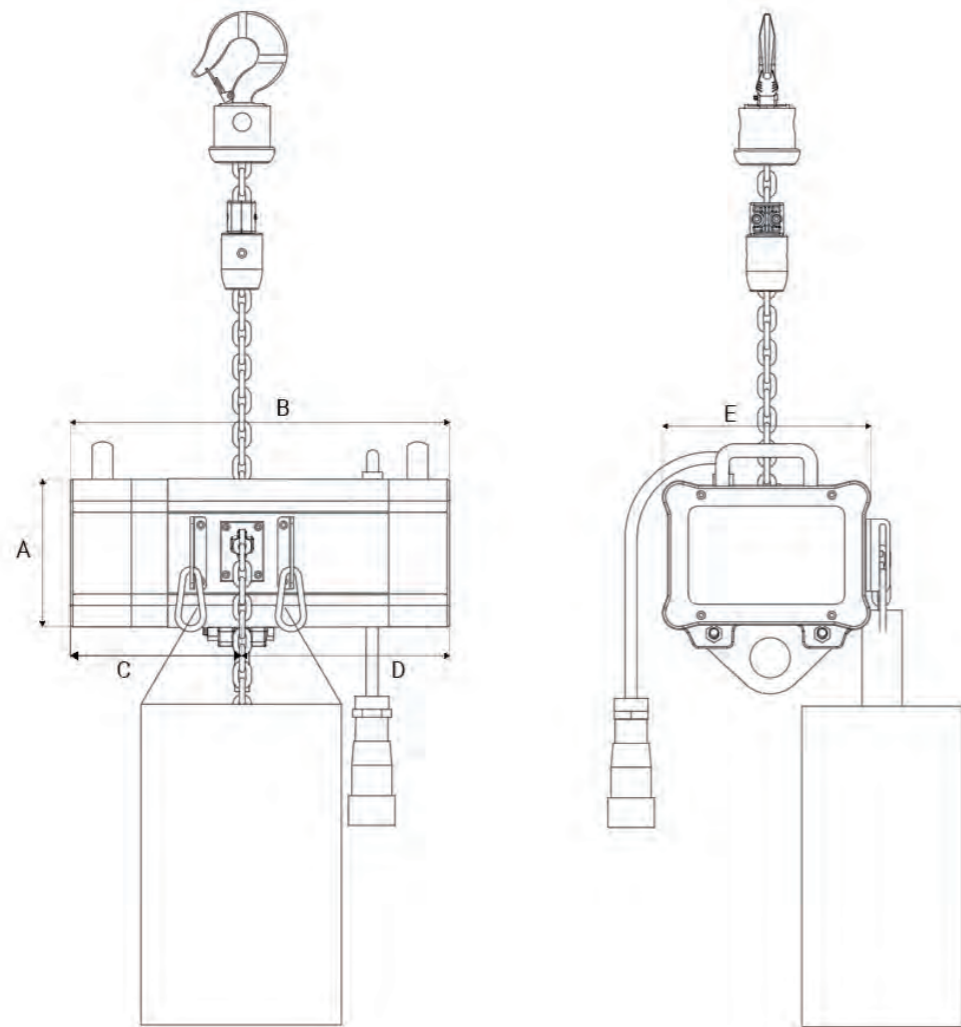
● **Technical data (Continued)**

Schematic of ACE appliance



● Technical data (Continued)

ACE series

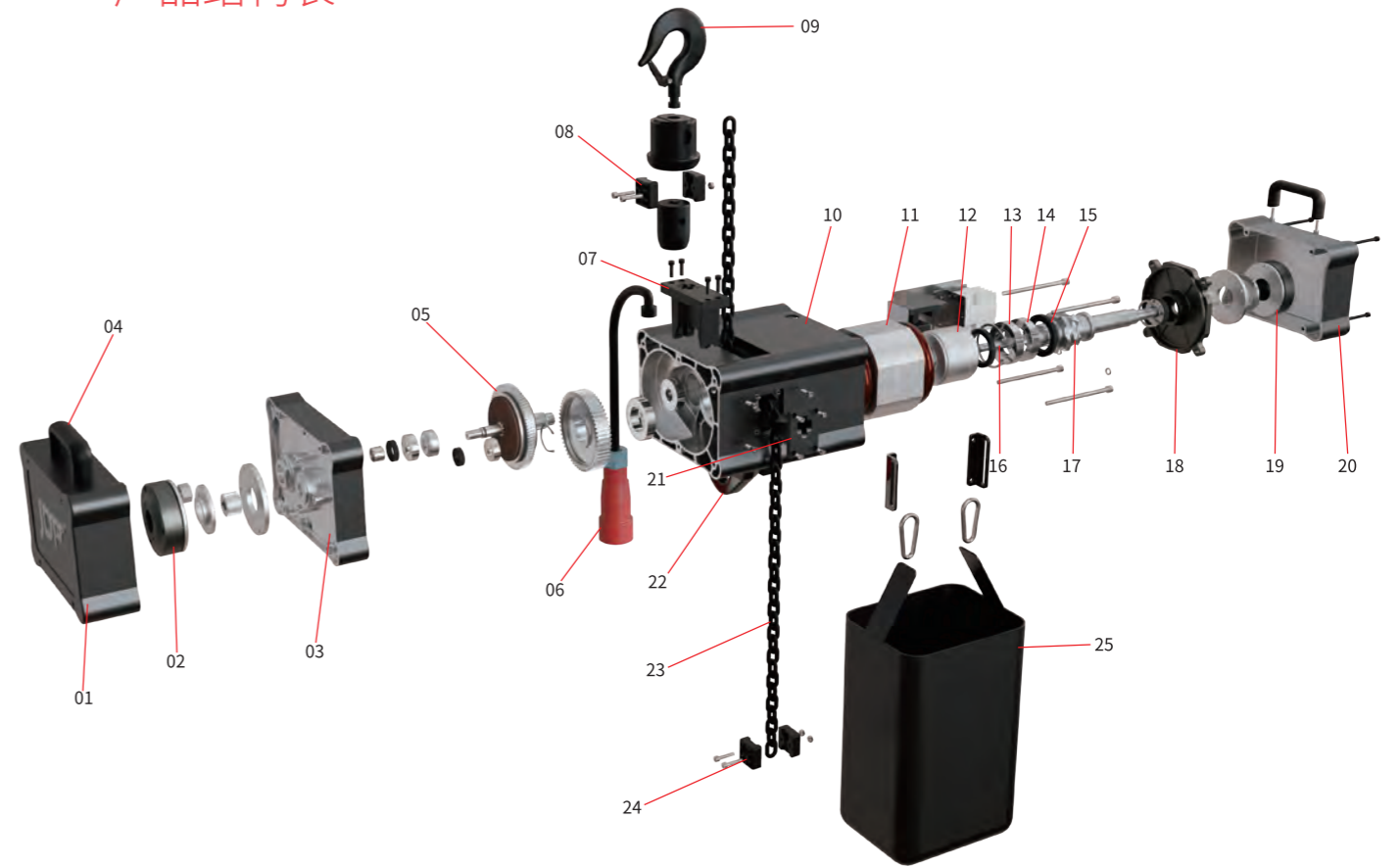


Model	Dimension (mm)					Motor power (KW)	Lifting speed (m/min)	No. chain	Dia of chain (mm)	Net weight (kg)
	A	B	C	D	E					
ACE 1000kg	185	475	215	260	260	1.0	4	1	7.1	41
ACE 1000kg (2Br)	185	475	215	260	260	1.0	4	1	7.1	44

● Figure

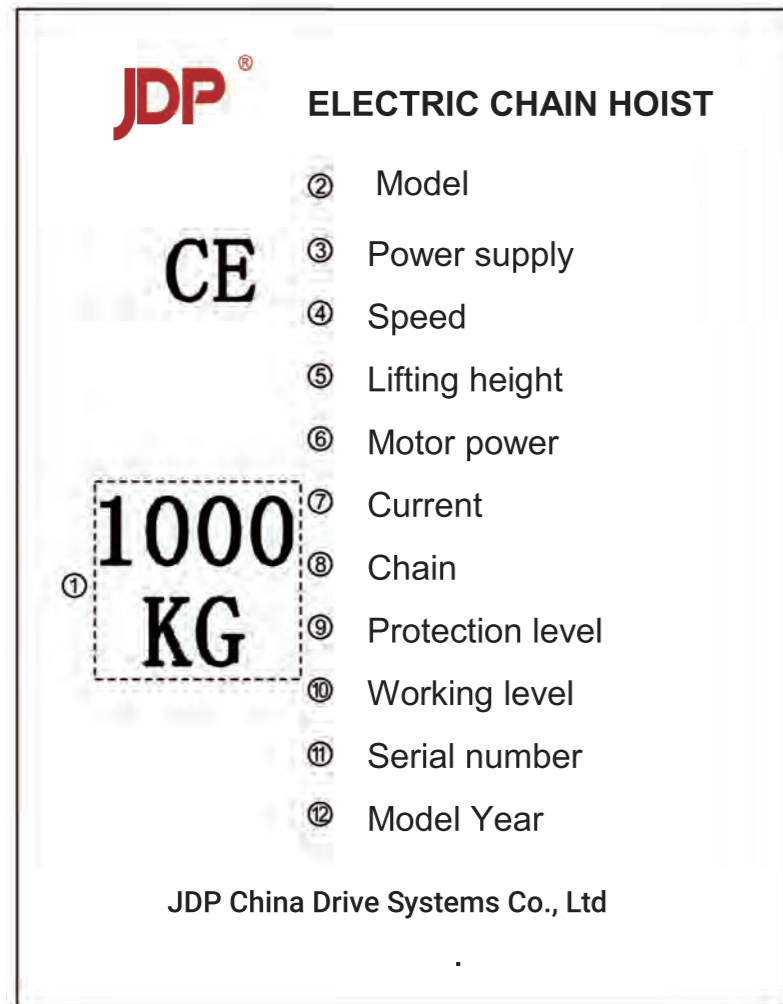
PRODUCT STRUCTURE

产品结构表



- | | | | |
|---------------------------|----------------------|---------------------------|-------------------------|
| 01:电器盖 | 08:下钩夹板 | 14:轴承 | 20:电机箱盖 |
| 02:电磁刹车 | 09:起重钩 | 15:轴承固定圈 | 21:侧出链器 |
| 03:齿轮箱盖 | 10:齿轮箱 | 16:输出轴 | 22:吊环 |
| 04:提手 | 11:电机定子 | 17:起重链轮 | 23:链条 |
| 05:离合器 | 12:转子 | 18:刹车刷 | 24:限位锁块 |
| 06:航空插头 | 13:轴承 | 19:电磁刹车 | 25:储链袋 |
| 07:导链架 | | | |
| 01:electrical cover | 08:under hook splint | 14:bearing | 20:motor box cover |
| 02:electro-magnetic brake | 09:hook of hoist | 15:bearing retaining ring | 21:side chain organizer |
| 03:cover of gear box | 10:gear box | 16:output shaft | 22:lifting ring |
| 04:handle | 11:motor stator | 17:lifting sprocket | 23:chain |
| 05:clutch | 12:rotor | 18:brake cut | 24:limit block |
| 06:aviation plug | 13:bearing | 19:electro-magnetic brake | 25:chain bag |
| 07:chain guide bracket | | | |

● Label & introduction

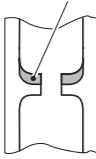


1. capacity: the standard lifting capacity of the hoist
- 2.model: the model of the hoist
- 3.power supply: the power supply for the hoist when working
- 4.speed: the speed under standard voltage
- 5.lifting height: standard lifting height
- 6.motor power: Power consumed
- 7.current: the current under standard voltage
8. chain: the size of the chain. 7.1*12mm, the meaning is inside length * outside width
9. protection level: **IP66** waterproof level
10. working level:M4 M5 is the Durability standard
11. serial number
- 12.model Year

Can not lift the load	Wear & damage	Replace when significant wear or damage occurs	Long-term use in a state where the lubricating oil is insufficient	Obey the lubricant replacement cycle
			Dangerous! Please use regular gear oil.(Gear oil for friction clutch with mechanical brake is different from standard specifications)	
			Long-term use in a state where the lubricating oil is insufficient (The joint part of the motor shaft)	Apply grease during annual inspections
Irregular running	Only part of them are worn and damaged		Excessive use of clutch	Prevent overload and reduce the use of clutches
			Upper and lower limits are frequent used	Do not use upper and lower limit switches too often

Load chain broken	Reached service life	Check the chain and replace the device that is out of specification	mechanical life	Operate correctly and implement proper management including routine and regular inspections
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● **Load pulley, empty pulley**

Problem Situation	Reason	Solution	Main causes	Countermeasure
There is the sound of spring beating(pipi-papa)	Wear of the pulley or touch of the spine Wear part 	Measure the thickness of the ridge and replace it if the limit is not reached Since the load chain is also likely to wear, check the load chain	Long-term use in the state where the grease is exhausted, reaching the service life	Apply lubricant regularly
			Excessive micro operation	Do not Overdo it
			Over Load	Use it under the rated capacity
			Drag	Do not drag

● **Chain guide (A)**

Problem Situation	Reason	Solution	Main causes	Countermeasure
Compared with the new product, the load shaking degree is larger	Wear of the cross adjuster	Measure the standard size and replace it when the limit value is exceeded The load chain is also likely to wear and also check the load chain.	Drag	Do not drag

● **Gears & Connector part**

Problem Situation	Reason	Solution	Main causes	Countermeasure
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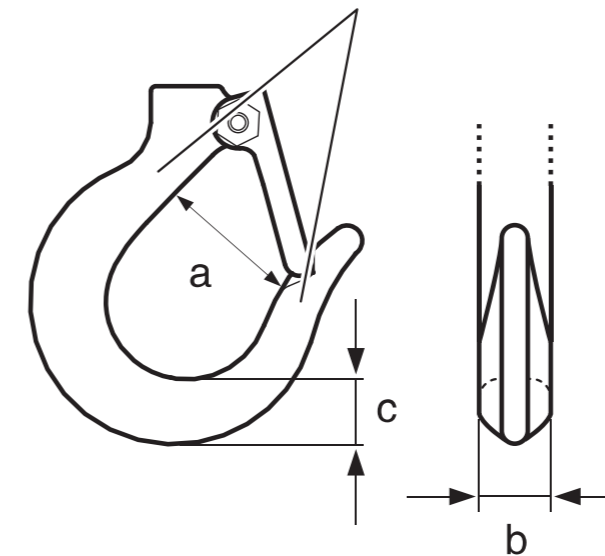
The Serial Number recorder of the hoist

Please fill in all serial numbers in the form. It is necessary for repair and after sell service.



Item	Electric hoist
Model	
Serial Number	
Model Year	
Dealer	

Checking the hook

Please kindly check the size of the hook according to the right form. It is necessary and important.



Top Hook	A	MM
	B	MM
	C	MM
Bottom Hook	A	MM
	B	MM
	B	MM

Danger	
	<ul style="list-style-type: none"> Please don't use the hook which is without good the latch. Please don't use the hook if the size of the hook is different from the standard size. Please don't Cut or extend the load chain. Do not use hooks that cannot be rotated flexibly. Do not use if the brake is not working. Under no load, the direction of the hoist movement is inconsistent with the direction indicated by the button switch. It cannot be used.
	<p>Please check the hoist carefully before use.</p> <p>If there is something wrong with the hoist when checking please marked and send it to Maintenance staff.</p>

● **Specifications & working environment**

The main specification of the hoist is below

<p>Specifications Power/voltage: 3phase 200v-440v 50-60hz Control voltage: 36v Lever: ISO-M5 /M4 FEM-2M/1AM ASME-H4 Protection lever: IP66 , controller is IP65 Operation: by controller or control panel Noise level: Less than 65dB Brake capacity: 150%</p>
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Notice

Please use the hoist under standard voltage

Please don't use the hoist if the power supply is not stable

Loading	Running time				
	800	1600	3200	6300	12500
Light				M4	M5
Middle			M5	M5	
Heavy		M4	M5		
Overweight	M4	M5			

Load factor

Light: the loading is light and Low frequency of use.

Middle: high frequency of use but the loading is light.

Heavy: high frequency of use and the loading is heavy. But loading is no more than standard capacity.


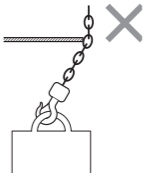
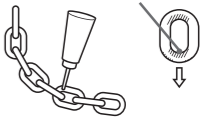
Overweight: loading is bigger than standard capacity.

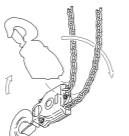
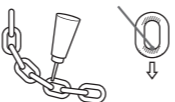
The Correspondence between ISO and FEM

1DM	1CM	1BM	1AM	2M	3M	4M	5M
M1	M2	M3	M4	M5	M6	M7	M8

				Load
			Excessive micro operation	Don't overdo it
			Over	Use it under the rated capacity
			drag	Do not drag
			Wear of load pulley and empty pulley	Reference load pulley, empty pulley item
	Pitch extension	Measure the pitch of 5 knots and replace when the limit value is exceeded	Over Load	Use below rated load

● **Load Chain**

Problem Situation	Reason	Solution	Main causes	Countermeasure
Make an irregular abnormal sound	Damage to the surface of the chain, deformation	Significant damage, replace when deformed 	Used in the flipped state	Make sure the Chains does not twist when the hoist with Several load chains
			The load chain is used in a twisted state	Correct assembly
			Strong contact with other devices 	Pay attention to the surrounding environment when using to prevent collision with other equipment
The surface is dull and discolored	Rust, corrosion	Remove rust and apply lubricant Significant rust, replace when corroded	Oil depletion	Apply lubricant regularly Application site Load 
			Use in rain conditions	Keep it indoors or in a place with tarpaulin when not in use
			Influence of seawater, chemical reagents, etc.	For use under special circumstances, the manufacturer's protection within the correct use

Problem Situation	Reason	Solution	Main causes	Countermeasure
The suspension hook falls off	Hook deformation	Replace the hook when the hook is deformed beyond the regulations 	Over load	Use below rated load
			Lifting Up(The hook is connected to the earth for lifting)	Do not let the hook hang the protrusion
	The hoist which is not the right size for the hook was used	Use the right size hoist		
	Deformation and falling off of the hook	Replace the hook	Hang the sling on the hook latch	Do not hang the Sling on the hook latch
Head parts (Straight shank bending)	Deformation of the head	Replace it when deformation	Lift Load with hook head Hook horizontal drag	Lift with the central hook
Head rotation is not flexible	Bearing	Rotate by hand, open and replace or replace when the rotation is inflexible	Insufficient lubrication, corrosion due to the use of environmental conditions	Apply grease regularly to prevent the hook from contacting chemical reagents
	corrosion		Into the dust	Prevent foreign matter from entering the head
Chain twisted	Bottom hook flip	Restore the hook to its original condition	Make the bottom hook rotate once in the operation	Make sure the Chains does not twist when the hoist with Several load chains
	The chain is twisted inside the body	Remove the chain guide A, Load chain, and reassembly	Improper assembly	Correct assembly (Refer to the dis-assembly assembly manual)
The clutch suddenly operates when lifting down	The chain is entangled in the chain box	Confirm the capacity of the chain box (confirmed with a nameplate). If it is insufficient, replace the larger chain box.	Insufficient capacity of the chain box	Please confirm the capacity of the head and chain box when setting, and assemble correctly.
There is the sound of spring beating(pipi-papa)	Wear at the joint	Measure the wear of the ring diameter and replace it when the wear limit is reached	Use for a long time when the grease is used up	Apply lubricant regularly  Application site

Loading	Load factor	Running time Level									
		V0.06	V0.02	V0.25	V0.5	V1	V2	V3	V4	V5	
		T0	T1	T2	T3	T4	T5	T6	T7	8	
		Running time in 1 days									
		<0.12	<0.25	<0.5	<1	<2	<4	<8	<16	>16	
1 L1	K<0.50	-	-	1DM	1CM	1BM	1AM	2M	3M	4M	
2 L2	0.50<K<0.63	-	1DM	1CM	1BM	1AM	2M	3M	4M	5M	
3 L3	0.63<K<0.80	1DM	1CM	1BM	1AM	2M	3M	4M	5M	-	
4 L4	0.80<K<1.00	1CM	1BM	1AM	2M	3M	4M	5M	-	-	

Running time lever	Running time in 1days	Running time
V0.06 T0	<0.12	200
V0.12 T1	<0.25	400
V0.25 T2	<0.5	800
V0.5 T3	<1	1600
V1 T4	<2	3200
V2 T5	<4	6300
V3 T6	<8	12500
V4 T7	<16	25000
V5 T8	>16	50000



working environment

Temperature: -25- +40

Track slope: No slope when the hoist on the beam

Use humidity:85%RH (no fog)

Explosion-proof grade: no

Notice	
	Please don't use the hoist if the label is not clear.
	<ul style="list-style-type: none"> When using for the first time, please pay attention to the direction indicator switch on the handle button. Please confirm the lifting height is enough for using. Please confirm the Clear vision, no obstacles, before using. If it is Unclear vision, please use the hoist under help / guide of others.

	<ul style="list-style-type: none"> ● Please use in the case of danger that there is no danger of slipping down. ● When you start the operation, please inform the surrounding person to pay attention to safety. ● Please check is the hoist overload every time. ● Please pay the attention on the daily checking recorder. ● When check or maintenance please confirm the environment is safe enough.
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● **Notice for fist use**

If the chain is adjusted without load bearing, please pay attention to the chain and do not twist or knot the chain. If the chain is twisted, it will cause the gourd to get stuck during the work. At this time, the clutch will open, the motor will idle, the hoist will not run, and you need to turn off the power in time.

When installing the chain bag, please pay attention to the correct installation of the chain. Put a section of the chain's limited block into the chain bag. Do not put the hooked end into the chain bag.

When the electric hoist is used, the hook is on the top and the hoist is on the bottom.

About the operation of control panel please check the manual of control panel.

Please use three 4-core cable, three live wires, one ground wire, and do not connect the neutral wire to avoid danger. Connect the power supply, please consult an electrician first.

● **The daily checking for the electric chain hoist**

Please check the hoist carefully before using.
(if there is something wrong with hoist please inform the Maintenance workers)

● **Operation for control panel**

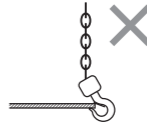

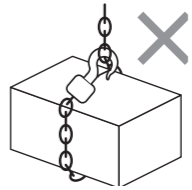
1., use the control panel

Please make the inner line sequence of the hoist extension line consistent (the ground line is unchanged, and the color order of L 1L 2L 3 at both ends of the line is the same).

1. Turn on the main power switch and keep the emergency stop state.
2. Turn the master control knob to "1".
3. Gradually check whether the upper and lower phase sequences of each

Hook	Deformation	Hook
Load chain	Wear extension distortion	Load Chain
When the body is touched, the button switch is shocked.	Poor grounding, cable breakage	Electric shock

● **Hook**

Problem Situation	Reason	Solution	Main causes	Countermeasure
Hook Opening	Hook deformation	Replace the hook when the hook is deformed beyond the regulations	Over Load	Use below rated load
			Lifting Up(The hook is connected to the earth for lifting)	Do not let the hook hang the protrusion
			 Hook horizontal drag	Lift with the central hook
			Lifting in a wrong way	Angle control within 120° 
			The Sling which is not the right size for the hook was used	Use the right size hoist
			Use the load chain lift the loads directly 	Do not wind the chain directly
Hook twist	Bearing corrosion	Rotate by hand, open and replace or replace when the rotation is inflexible	Insufficient lubrication, corrosion due to the use of environmental conditions	Apply grease regularly to prevent the hook from contacting chemical reagents
Head rotation is not flexible			Into the dust	Prevent foreign matter from entering the head

● **Lifting Hook**

Indication	No running		Control cable brake	Controller	
			Electronic problem	Wiring	
				Controller	
				Limit switch	
Protection circuit. No failure					
Cannot stop normal	Even release the button switch does not stop		Contact welding	Contactactor	
			Does not stop when touch the limiter		
	Brake lining	Brake			
		Reverse wiring	Power Cable		
Wiring error	Controller				
Make an unusual sound	Spring batting sound		Load chain wear	Load chain	
	Change in action sound		Load pulley wear	Load pulley empty pulley	
			Wear and tear of gear	Gear joint	
	Braking sound	Working /Friction sound	Bearing aging	bearing	
		Stop working	Drag	Brake	
	Friction clutch with mechanical brake	Friction sound	Liner Wear	Brake	
			Lubricants other than those specified were used	Brake	
	Unusual sound in curved orbits / friction sound	Track and wheel interference	Moving trolley running	Trolley on the beam	
	Can't move laterally	Electric moving trolley/Hand manual moving trolley		Wheel slip	Trolley on the beam
				Track tilt	
pull					
Bad Gear occlusion					
Brake fastening					
Electric trolley		Electric Error			
Manual trolley	Poor bite between hand wheel hand chain				
Serpent Make an unusual sound	Electric moving trolley/hand manual trolley	Track and wheel interference		Moving trolley running	
		Poor shaft collar adjustment			
		Wheel deflection wear			
		Wheel deformation			
		Bearing aging			
		Track deformation and wear			
		Bearing aging			
		Wear of brake disc			

gourd are consistent. Methods as below:

- 1 Toggle the Jog & Continue button to Jog.
- 2 Turn the rotary switch of the No. 1 hoist to the "r (up) position, then click the start button to check if the operation is running normally.
- 3 By analogy, check whether the running directions of all the hoists are the same.
- 4 Adjust a hoist separately, as above.

4. Synchronous lifting, please keep the phase sequence of the gourd consistent.

Methods as below:
1 Rise: Turn all the hoist knobs to the "t" (up) position, select "Jog" or "Continue", then

Press the start button (you need to press the start button all the time, the finger will leave the start button when you stop: press the start button continuously, the gourd will start running,
When you stop, turn the Jog and Continue button to the middle.

2 Descent: Turn all the hoist knobs to the "⊥" (down) position and select "Jog" or "Continue". Arrivals.

The specified position selection stops.

3 Decrease: When the upward phase sequence of all the hoists is the same, if the descent can directly turn the general control knob from "1" to "2", at the "point".

In the "moving" mode, press and hold the start button, and drop directly in the "continuous" mode. Arrive at the specified position and select Stop.

4 All the hoists are pointing upwards and the hoist is running downwards. Please check if the phase sequence in the air inlet of the total power line is correct (three

Any two of the fire lines can be exchanged.)

5. If the running direction of a single hoist is opposite to other directions, the phase sequence of the extension line of this hoist is wrong. Please check and replace the phase sequence.

Second, in case of emergency, please take the emergency stop button.

3. After the hoist has finished running, turn all the knob switches to the middle position and turn off the main power switch.

4. Please read the instructions carefully before use. After the adjustment, carry out the lifting operation to avoid danger.

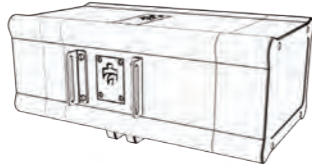
● **The daily checking for the electric chain hoist**

Danger



Please check the hoist carefully before using.
(if there is something wrong with hoist please inform the Maintenance workers)

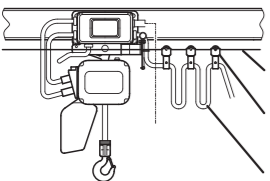
● **Outlook**

Item	Inspection Method	Normal Status	Maintenance Method
Labels	Check appearance	Clear, No shedding	Clean up in time
Hoist body	Check appearance 	No deformation and damage	Replace the variant part
Screw nut latch	Check appearance, Check by tools	Screw nut latch are sturdy Danger It is very danger that Any nut is loose. Please pay your attention.	Make sure the screw sturdy

● **Load Chain**


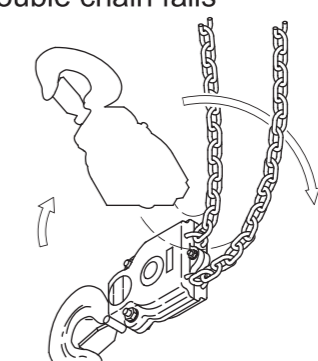
item	Inspection Method	normal status	Maintenance method
Pitch of the chain	Check appearance	No deformation	According to chain standard

● **Power**

Items	Inspection Method	Inspection Standard	Out of Standard
Power Cable	Visual inspection	Surplus in length No damaged Be actually installed	Replaced Power cable
Cable hanger 	Visual inspection and moving inspection by hand	No damaged Easy moving Installed at equal intervals Appropriate interval is 1.5m	Reinstall so that it does not create obstacles to movement
Guide Rope/Cable Holder/Cable			
Guide rope	Visual inspection	No relaxation	Solve relaxation

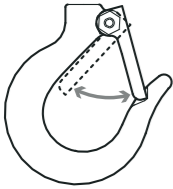

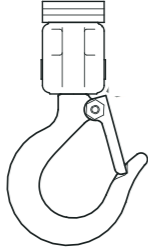
● **Function and performance**

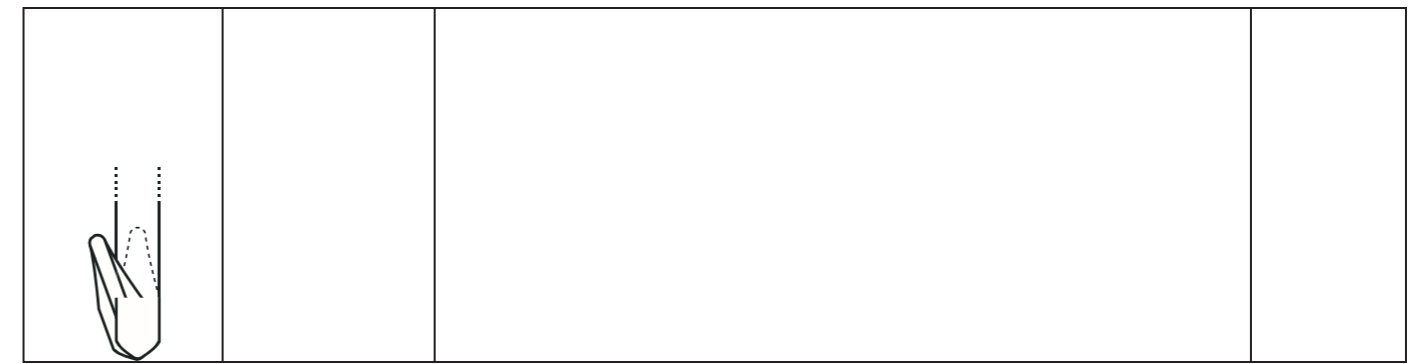
Items	Inspection Method	Inspection Standard	Out of Standard
Abnormal sound	Check the sound of the gear ,the motor, and the load chain under working without load Attention Sound is also an important basis for diagnosis. Please pay attention to the working sound of the electric chain hoist	No irregular rotation sounds, etc. No sound of motor roar and brake friction Abnormal sound without rules No popping sound from the load chain	Replace abnormal parts Checking load chain

The diameter of chain	Check appearance	No deformation	According to chain standard
The chain surface	Check appearance Damage crack  Neat surface	No cuts, no distortion, no entanglement, no cracks, smooth and tidy	Replace the chain
Rusty corrosion	Check appearance	None rusty or corrosion	Replace the chain
twist	Check appearance	None twist especially in double chain falls 	Correction distortion
oil	Check appearance	Fully immersed in oil	Oiling

● **Hook**

item	Inspection Method	normal status	Maintenance method
Hook opening	Check appearance	No deformation	According to hook standard

wear	Check appearance	No deformation	According to hook standard
Damage corrosion	Check appearance	No cuts, no distortion, no entanglement, no cracks, no corrosion	According to hook standard
Latch of hook 	Check appearance, and handle it	Working well and can be hold the loading, flexible Danger Please don't use the hook if the latch not working well. Any damage of latch may Lead to casualties	Replace the latch
Hook rotation 	Check appearance, and handle it 	No gaps in the support and hook Uniform left and right Can be easily rotated	Replace the hook
Pulley	Handle the pulley and check that it is rotating flexible.	Notice Please wear gloves when handle the chain. Take care of your figure. Flexible rotation. If the rotation is not flexible, the bearing is broken.	Change the bearing

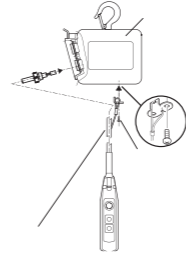


- **Body peripheral component**

Please use an inspection platform to check closely

Items	Inspection Method	Inspection Standard	Out of Standard
Chain Box	Visual inspection	Securely mounted on the body No damage, cracking, wear, deformation, etc. Confirmed no foreign matter enters Pls pay special attention when using it outdoors. Allowed the load chain length shorter than the storage length (Enforcement) Dangerous Pls don't use damaged chain box Pls use chain box of storage length longer than load chain length.	Replaced Chain box Exclude foreign matter

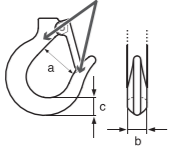
- **Switch**

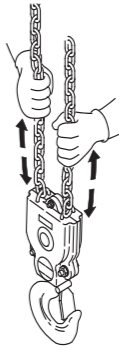
Items	Inspection Method	Inspection Standard	Out of Standard
Switch Body	Visual and operation inspection	No damaged, deformation, loose screws, etc. The switch can be operated smoothly Ability to perform emergency stop button operation and release	Replaced Switch
Switch cable	Visual inspection 	The switch cable is actually installed The protection cord is mounted on the body, and even if the switch is pulled, the switch cable is not directly stressed.	Correct installation of switch cables and protection cords
		No damage	Replaced switch cable

Load chain pitch and diameter for each capacity


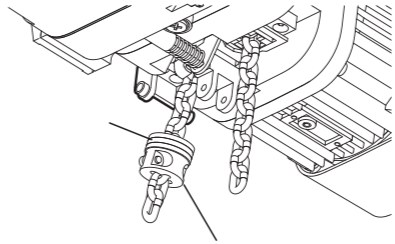
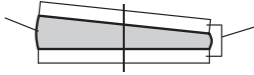
Model	Capacity	Load chain Diameter	Pitch of 5 knots		Load chain diameter	
			Not exceeding the limit		Not exceeding the limit	
			Benchmark	limit	Benchmark	limit
ACE-0.5	500Kg	φ 6.3X1	95	97	φ 6.3	φ 6
ACE-1.0	1000Kg	φ 7.1X1	105	107	φ 7.1	φ 6.8

Top & Bottom Hook

Items	Inspection Method	Inspection Standard	Out of Standard																																				
Hook's opening size and abrasion	Visual inspection and measuring by calipers 	Attention (Enforcement) Compare with the original size of a,b,c and checking whether management standard deviation <table border="1" data-bbox="507 936 1121 1062"> <thead> <tr> <th>Measurements(mm)</th> <th>Limit</th> </tr> </thead> <tbody> <tr> <td>Size a</td> <td>Not over the original size</td> </tr> <tr> <td>Size b</td> <td>Abrasion not over 5%</td> </tr> <tr> <td>Size c</td> <td></td> </tr> </tbody> </table> Although the nominal standard is attached in the table below, please be forgiven us for the size error due to the hook-type forging heat treatment. <table border="1" data-bbox="507 1163 1151 1329"> <thead> <tr> <th rowspan="2">Type</th> <th rowspan="2">Rated load</th> <th colspan="2">Size a (mm)</th> <th colspan="2">Size b (mm)</th> <th colspan="2">Size c (mm)</th> </tr> <tr> <th>Standard</th> <th>Limit</th> <th>Standard</th> <th>Limit</th> <th>Standard</th> <th>Limit</th> </tr> </thead> <tbody> <tr> <td>ACE-0.5</td> <td>500kg</td> <td>28</td> <td>16.3</td> <td>15.3</td> <td>25.7</td> <td>24.7</td> </tr> <tr> <td>ACE-1.0</td> <td>1000Kg</td> <td>31.4</td> <td>23</td> <td>22</td> <td>31.8</td> <td>30.8</td> </tr> </tbody> </table>	Measurements(mm)	Limit	Size a	Not over the original size	Size b	Abrasion not over 5%	Size c		Type	Rated load	Size a (mm)		Size b (mm)		Size c (mm)		Standard	Limit	Standard	Limit	Standard	Limit	ACE-0.5	500kg	28	16.3	15.3	25.7	24.7	ACE-1.0	1000Kg	31.4	23	22	31.8	30.8	Replaced Hooks
Measurements(mm)	Limit																																						
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Deformation, Damage, Corrosion	Visual inspection	No bending, deformation and so on No deep cuts Bolts, nuts, no looseness or fall off No significant corrosion No welding, foreign matter or other attachments	Replaced Hooks																																				

			
Base	Check appearance	Screw nut is not loose	Firmly fixed

● **Other Parts of hoist body**

item	Inspection Method	normal status	Maintenance method
Chain spring	Check appearance 	No deformation	Change spring
Rubber blocked	Check appearance  Rubber blocked Limit switch	No deformation, no shedding, no cracks 	Change rubber blocked

● **Controller**

item	Inspection Method	normal status	Maintenance method
Rubber blocked	Check appearance	No deformation, no damage, no loose screws Clear button labels	Cleaning, repair, replacement


● **Functional performance**

Please check without load

item	Inspection Method	normal status	Maintenance method
action	Button check action	Flexible operation The running direction is the same as the button Emergency stop button works normally	Inspection according to REMEDY
brake	Button check action	Brake working well	Inspection according to REMEDY
Mechanical brake	Button check action	No noise	Disassembly inspection
Limit switch	Button check action	Limit switch working well	Change limit switch

● **RUNNING**

● **General**

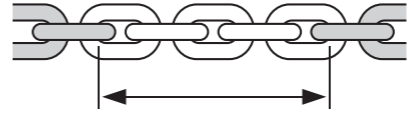
Danger	
	Do not use in a fire or explosive atmosphere Not an explosion-proof product Do not use it outside the rated value and maximum starting frequency Do not use under non-rated voltage

	<p>·Please pay attention to the working method, working steps and working posture Accidents such as pinching, waist injury, etc. due to the weight of the product and parts Please pay special attention when working in a place where the foothold is not stable, such as working at heights ·Wear a safety helmet and seat belt when working at heights May cause injury or fall accident ·Wipe off the oil attached to the product and the floor May be injured by falling, etc ·Clean the work area when disassembling If it is mixed in and inserted into a part other than the regular part, an accident may occur due to damage or malfunction of the product</p>
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● **Monthly inspection of electric chain hoists**

Load chain


1. Please check after removing the dirt in the load chain.
2. When measuring the pitch and diameter, use a pointed Vernier caliper (measuring Vernier caliper).
3. Apply oil to the load chain after inspection.
4. The presence or absence of lubricants has a significant impact on the wear (life) of the load chain.
5. Put the load chain in a no-load state, and apply lubricant to the link part of the chain link and the chain that is engaged with the load chain and the empty pulley. After applying the lubricant, lift and lower the load under no load to distribute the lubricant on the chain.

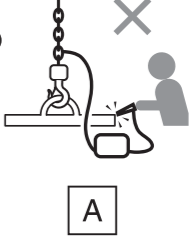

Item	Inspection method	Benchmark	Deviation from baseline
Extension of pitch	<p>Measuring the extension of the pitch with a Vernier caliper (Measuring the pitch of 5 knots)</p> 	<p>Attention Please inspect the biting parts of the load pulley and the empty pulley carefully</p> <p>The limit value of "pitch of 5 knots" in the next page is not exceeded</p>	Replace the load chain

Danger


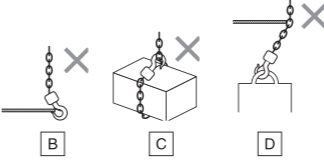

	<p>Do not perform periodic inspections of electric chain hoists by personnel other than maintenance personnel.</p> <ul style="list-style-type: none"> ·Please use spare parts from original manufacturer. ·Do not adjust or disassemble the electromagnetic brake, friction clutch and friction clutch with mechanical brake. ·Do not adjust the calibration nut. ·When supplying oil to the friction clutch, please use the original manufacturer's regular oil (manufacturer specified oil). ·Do not perform regular inspection of the electric chain hoist while the load is being lifted. ·Do not use in the condition of removing rubber liner, chain spring and limiter. ·Please cut off the main power supply during regular inspection. ·When using lubricating oil (gear oil, grease, etc.), do not use in places where fireworks and sparks occur. ·Please check regularly. Pay attention to the daily inspection situation and the sound of the operation, etc., and check at an appropriate frequency. ·Please lower the product to the floor or the inspection platform for the repair and disassembly of the electric chain hoist. ·If the components of the electric chain hoist do not exceed the limit of use, replace the parts if the total running time.
	<p>converted from the grade displayed by the electric chain hoist and the load ratio is exceeded.</p> <ul style="list-style-type: none"> ·When abnormalities are found in periodic inspection, in order to prevent misuse, it is necessary to make "malfunction" marks, such as maintenance management consultation and repair. ·After regular inspection, please carry out functional testing and testing to confirm correct action. ·For functional inspection and testing, please perform rated load test after no load test.

Notice

	<p>Please make an "inspection" mark when conducting regular inspections.</p> <p>If the crane is mishandled during the inspection, it may cause accidents such as falling or falling of parts and tools.</p> <ul style="list-style-type: none"> ·Please wear protective equipment (glasses, gloves, etc.) according to the contents of the work. <p>May be injured by oil splashes or sharp parts.</p>
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	<p>Do not use the emergency stop button for normal shutdown.</p> <p>Do not use sparks generated by welding or the like to adhere to the load chain.</p> <p>Do not touch the welding rod and the welding electrode to the load chain.</p> <p>Do not use the load chain as a ground for soldering (Picture A)</p> <p>Failure to follow these instructions can result in major accidents such as death or serious injury.</p> 
	<p>Please use the hoist in suitable working environment</p>

● **Hook**

Danger	
	<p>Do not hang the load on the tip of the bottom hook and the hook safety latch.(Picture B)</p> <p>Do not wrap the load chain directly on the load(Picture C)</p> <p>Do not allow sharp edges to touch the load chain(Picture D)</p> 
	<p>Please use the suitable hook.</p> <p>If the method of hooking is incorrect, it will lead to a dangerous state such as falling load</p> <p>the load should be evenly distributed on the hook spreader, so that the load can be steadily lifted</p> <p>Please install the hook spreader firmly on the load</p> <p>Please hang the hook correctly on the bottom hook</p>

● **Up and Down**

Danger	
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Do not lift loads that exceed the capacity.(Picture E)

The capacity is indicated on the nameplate.

Do not perform operations beyond the lift range.

Do not lift the floor or building.

Do not use the unloaded side load chain to lift the load.

Do not use the limit switch as a shutdown method.

When the friction clutch (brake) starts to work and the load cannot be lifted, stop using it.

Do not perform operations that exceed the range of up and down.

If the chain spring or rubber gasket is removed, the bottom hook is attached to the body, the limit switch is repeatedly operated, and the load chain may break.

If the load chain end stopper is attached to the body, the friction clutch will work repeatedly and the load chain will break.

Do not use the body as a fulcrum.(Picture F)

Do not shake the load.

Do not suddenly roll up the loose load chain while the load is on.

Once the tensioned load chain stops, please slowly roll it up.

Do not reverse when lifting/falling under load.

To reverse, please do it after the shutdown.

Do not perform excessive interrupted operations.

Do not repeat sharp up and down operations.

When lifting the load from the loading table, etc., do not operate it under the condition that the load is dropped. (Picture G)

Do not let the load touch the load chain.

Do not reverse the lifting load.

Do not perform welding or cutting work while lifting the load.

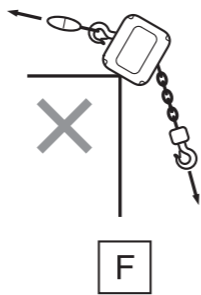
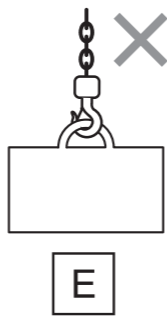
Do not repair and disassemble while lifting the load.

Please put the product on the floor and repair and disassemble the electric chain hoist by the maintenance manager.

Do not stand below the lifting load.

Do not use loads, hook spreaders, etc. to reach the chain box.

The load chain will be spilled and may cause personal injury.



5. The relationship between the display capacity and the head is also attached to the chain box. Please confirm before installation.
6. When storing the load chain in the chain case, store it in order from the end of the chain on the unloaded side.

Oiling the load chain (For black chain)

1. Be sure to apply lubricant to the load chain. Do not work in places where fireworks and sparks are generated.
2. Please remove the dust and water droplets attached to the load chain, the presence or absence of lubricating oil will have a significant impact on the wear life of the load chain. Please fully apply the lubricating oil.
3. Please put the load chain in a no-load state, apply lubricant to the nip part of the load pulley and the empty pulley and the link of the chain.
4. After applying the lubricating oil, please carry out the lifting and lowering operation of the electric chain hoist under no load to fuse the lubricating oil on the load chain.

Section 2

● Periodic inspection

In this chapter, the monthly inspection items will be explained. For daily inspection, please refer to Chapter 1 "Operation Method". Inspection is the first step to safety. For safe use, please strictly carry out daily inspections, monthly inspections.

Contents.....	23
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● Safety precautions


- About regular inspections

	<p>For safekeeping, wipe off dirt and water droplets and grease the head of the hook and the load chain.</p> <p>For Limit switch, chain box and other load chain through or received parts, please also remove the dirt, foreign bodies, water droplets, etc., for proper storage.</p> <p>When installed outdoors, please apply the canopy or rain cloth after rust prevention treatment.</p>
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Matters need attention

1. In order to prevent dust, sand and the like from adhering to the buttons, please clean them frequently.
2. When it is necessary to store for a long time, if it is idling regularly, it can effectively prevent rusting in various parts.
3. When dropping the electric chain hoist to the floor, please remove the chain box. Otherwise, it may cause deformation or damaged of the chain box
4. When not in use, please roll the bottom hook to a place that does not hinder the personnel and other operations for safekeeping.
5. Please set the storage place in advance, and the button cable can be hung on the column.

Danger

	The disassembly and assembly of the electric chain hoist must be carried out by maintenance personnel or personnel with specialized knowledge
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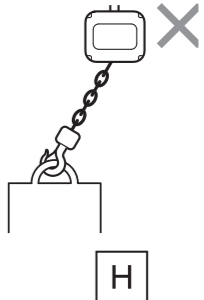
- Assembly of parts for electric chain hoists

Installation preparation



1. Hanging the chain electric hoist body, making it easy to install the chain box.
2. Confirm that there is a limiter and rubber gasket at the third section from the end of the unloaded side (without bottom hook) load chain.

Chain box installation


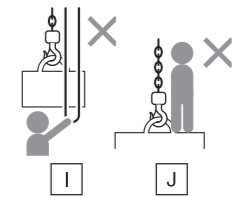
1. The chain box is made of plastic, canvas and steel.
2. The chain box is set to the capacity of the storage load chain. Please use the correct capacity chain box.
3. When a load chain that exceeds the capacity of the chain box is stored, the load chain may be scattered from the chain case, and the chain electric motor may malfunction and cause a serious accident such as death or serious injury.
4. If not connected properly, the chain box may fall, very dangerous.

	<p>When the limit switch starts working, please terminate the lifting immediately and put down the load.</p> <p>Move the chain electric hoist directly above the load before lifting it. Do not diagonally pull.(Picture H)</p> <p>Do not leave the operating position or lift the line of sight away from the lifting load while lifting the load.</p>	
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Notice

	<p>Do not use friction clutch for load testing.</p> <p>Performing operations other than use may result in personal injury or equipment damage.</p>
	<p>When using a magnetic suction spreader or vacuum suction machine to carry the lifting load, please reduce the lifting height of the load as much as possible.</p> <p>For the double hoist lifting work, the electric chain hoist on each side shall use the electric chain hoist whose rated load can lift the load.</p> <p>When performing the double hoist operation, please use the same model and capacity product. For the horizontal lifting and lowering load, please combine the lifting position of the two electric chain hoists.</p>


- **Running on the beam**

	<p>Do not operate directly under the load or carry the load above the height of the head.(Picture I)</p> <p>Do not operate when there are people within the range of the lifting load</p> <p>Do not allow personnel to enter the range of lifting loads.</p> <p>Do not ride above the lifting load, and do not use it for support, lifting, transportation, etc.(Picture J)</p> <p>Do not allow the body and the trolley to collide with the stopper and structure.</p> <p>Do not perform the lowering operation at the rear while lifting the load</p> <p>To operate, when moving, look at the front from the rear of the load and proceed while moving forward.</p>	
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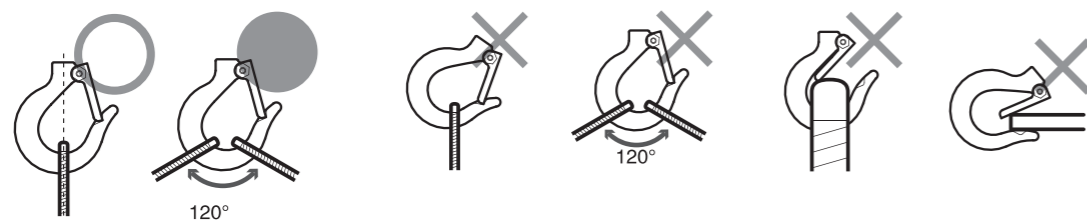
Notice

	Do not hang the lifting load on other structures or cables.
	When the load chain and the hand-drawn monorail of the hand-drawn chain are wound, stop the work immediately and untie the winding knot.

● **Damage**


	<p>If it is damaged, abnormal sound or abnormal vibration, please terminate the operation immediately.</p> <p>When moving in a direction different from the indication of the push button switch, terminate the operation immediately.</p> <p>If distortion, knotting, cracking, deformation, attachment of foreign matter and abnormal occlusion are found on the load chain, please terminate the use immediately.</p> <p>If an abnormality is found during operation, please indicate the “Fault” and contact the maintenance manager.</p> <p>When the power is cut off, please be sure to be safe and contact the maintenance manager.</p>
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● **Correct load method**



1. Please do not do as the hook hanging method shown below is dangerous
2. The fixture or load sling is not hung in the correct position
3. Over 120 degrees, the Angle is too big
4. Hook latch device is not closed
5. Hang the load on the tip of the hook

● **Load shaking control method**

	Do not allow the lifting load to operate in a state close to the side of the end beam
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If the load is shaken, the more severely it is shaken, the more difficult and dangerous the operation of the trolley will be. In principle do not allow the load to

sway sideways.

Therefore, please observe the following operations

Do not diagonally pull

Start it slowly as it moves sideways

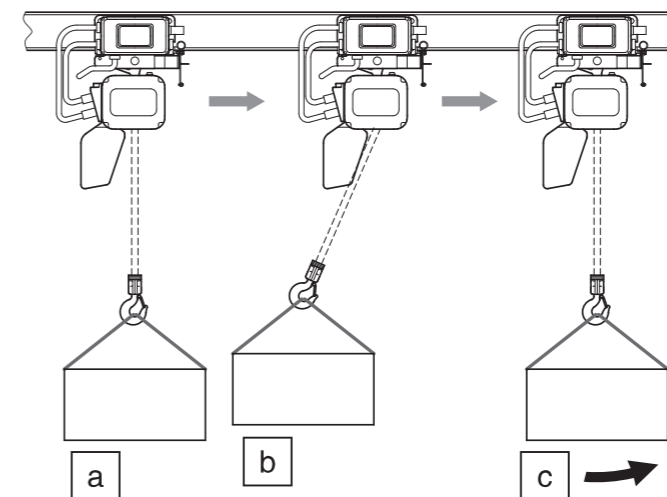
Do not sharply lift the load

When starting and stopping the lateral movement of the electric chain hoist, even if the above operation is followed, the lifting load will be somewhat shaken.

At this point, the shaking of the lifting load can be reduced if the following operation is performed.



● **Method of operation**

- 1) Press the horizontal button Figure A
- 2) As the trolley begins to move, the load will be slightly delayed Figure B
- 3) Turn off the button once the load is about to swing to the center position
- 4) When the load returns directly below the endless chain electric hoist, press the key figure C again to make it move laterally in this state



● **Notes after the end of the operation**

Notice

	Do not store the product beyond the lifting/lowering range
	<p>Please keep it in a state where the power is cut off.</p> <p>For the electric chain hoist that needs to be repaired, please paste the label such as “fault” to prevent it from being misused.</p>