KITO

O/M No. ER2C-0903-MG-00

ER2 Cylinder Control Electric Chain Hoist (125 kg & 250 kg)

SUPPLEMENTARY OWNER'S MANUAL

Hook Suspension: ER2C

With Plain Trolley: ER2CSP

Introduction

The Cylinder Control Electric Chain Hoist is best-suited for the operation of traveling a smaller load over a shorter path by operating the grip of the cylinder control integrated with the bottom hook attaching to the end of the load chain. Before use, please read and comply with the instructions in this Owner's Manual.

Safety Precautions

⚠ CAUTION

- This Owner's Manual describes specific information regarding the Cylinder Control Electric Chain Hoist (125kg & 250kg). Before use, read and comply with both the ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual and this manual.
- At the time of unpackage, make records of the Product (serial) No. and the specific for upcoming inspection with reference to the ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual.

Product Specifications & Operating Conditions

■ Product Specifications

Short time rating: 60 minutes for single speed, 30/10 minutes for dual speed
Percent ED: 60%ED for single speed, 40/20%ED for dual speed
Class: M5
Protection class: IP44
Standard Lift: 1.8m

The product specifications other than listed above is the same as a standard hoist. Please refer to the section of "Product Specifications" in "ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual" (separate volume).

For the operating conditions, please also refer to the ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual, and for the dimensions, refer to the Appendix in this manual.

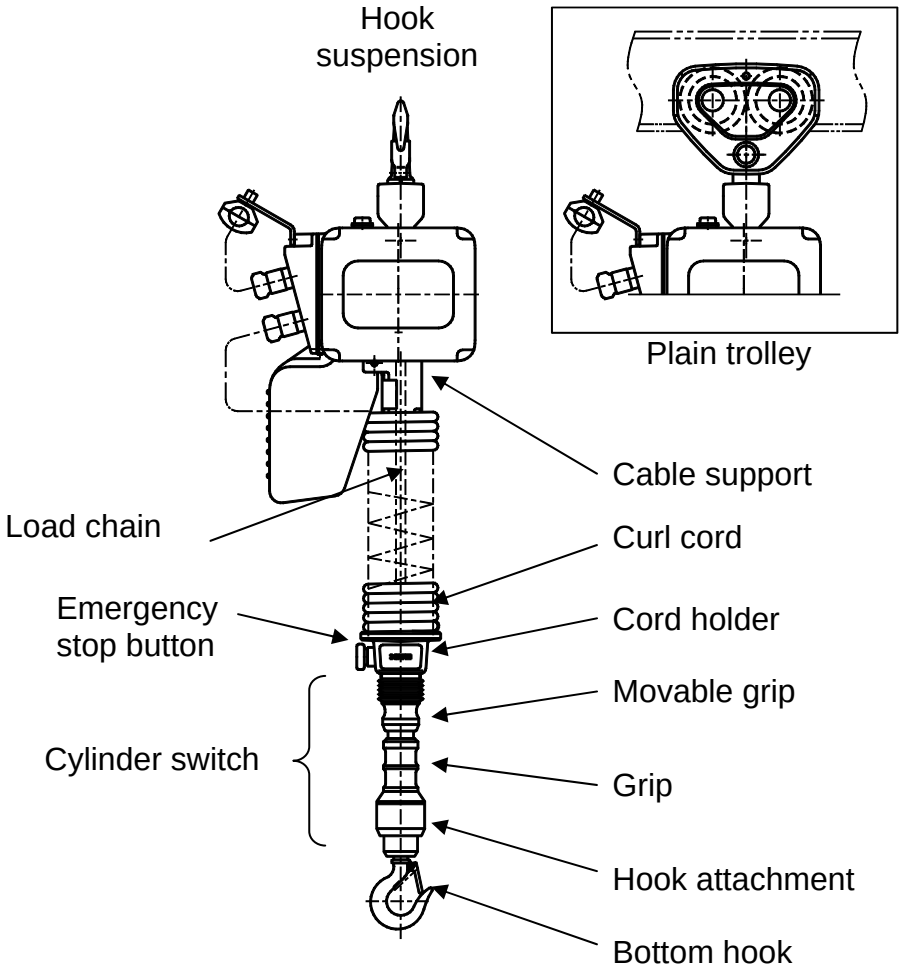
⚠ CAUTION

As the precision parts are inside the cylinder switch, do not use the hoist under an environment where a lot of oil, dust or moisture are present. Always keep the switch clean with a periodical check.
Failure to follow this precaution may cause mal-function, serious injury or property damage.

Product Code

Rated load	Product code				
	Hoist body	Hook suspension		With plain trolley	
		Single speed	Dual speed inverter	Single speed	Dual speed inverter
125 kg	ER2-B	ER2C001H	ER2C001IH	ER2CSP001H	ER2CSP001IH
250 kg		ER2C003S	ER2C003IS	ER2CSP003IS	ER2CSP003IS

Configurations & Name

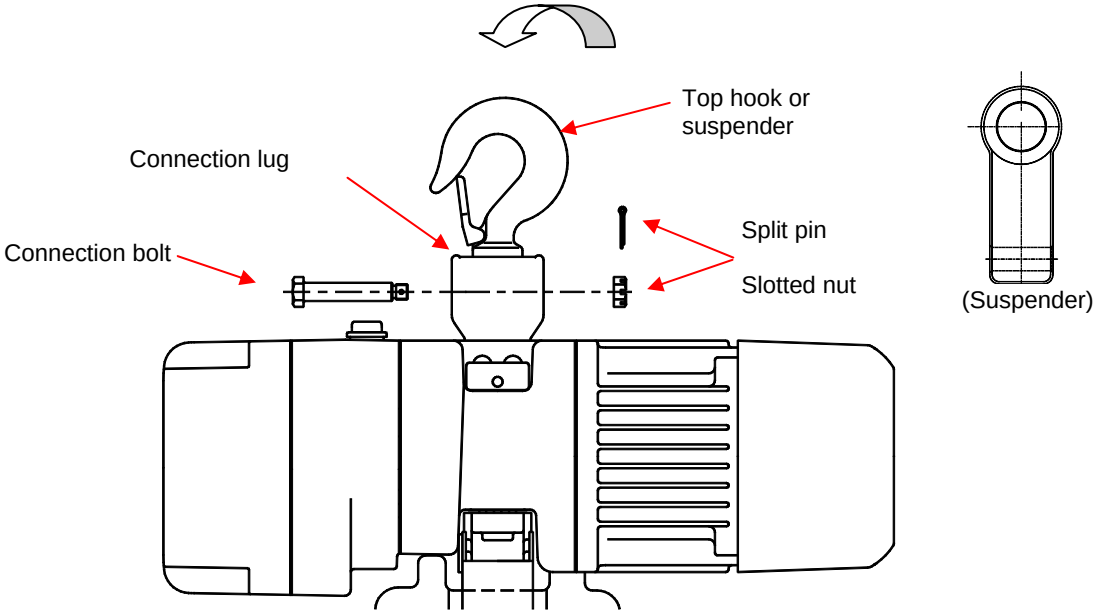


Assembly

When some parts may not be pre-installed depending on the specifications of your order, please properly attach them in accordance with the following instructions.

■ Attachment of Top Hook (or Suspender)

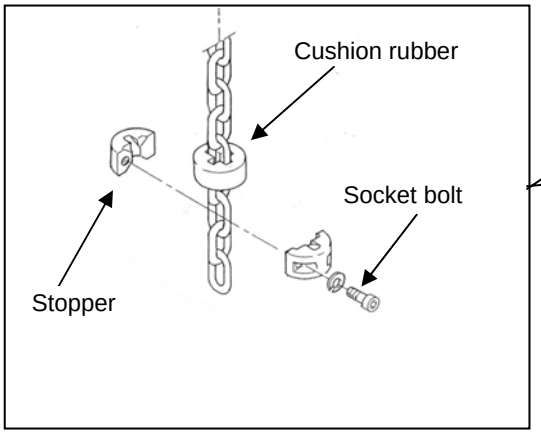
Install the connection lug, and then fasten the top hook in the lug, in the proper direction as shown in the following picture, with the connection bolt, slotted nut and split pin.



■ Attachment of Stopper & Cushion Rubber

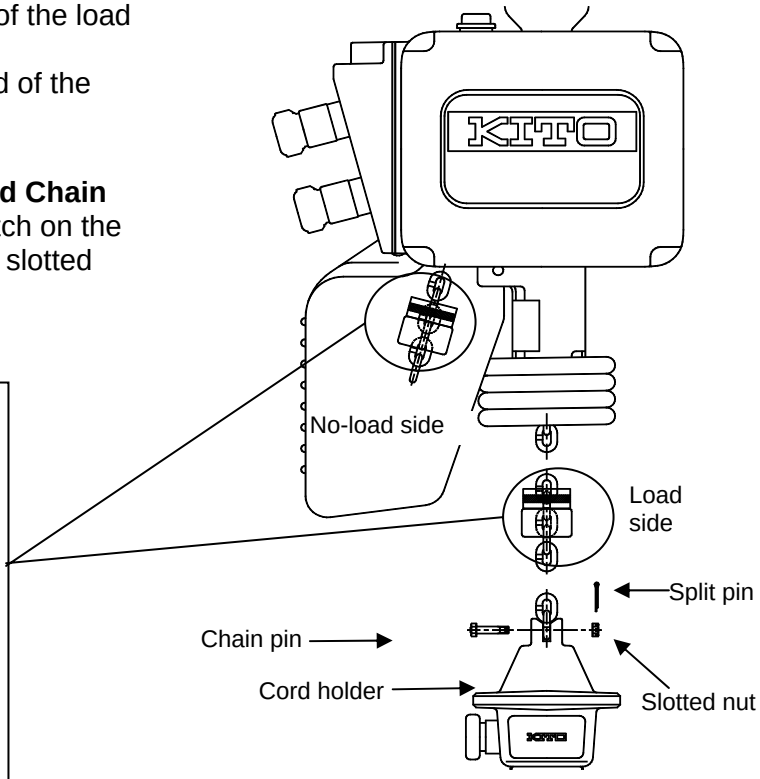
Insert the load chain into the cushion rubber at both chain ends and then fix the stopper at the following chain link with the socket bolts.

On the load side, 32nd link from the end of the load chain
On the no-load side, 3rd link from the end of the load chain



■ Attachment of Cylinder Switch to Load Chain

Attach the load chain to the cylinder switch on the top of the cord holder with the chain pin, slotted nut, and split pin.



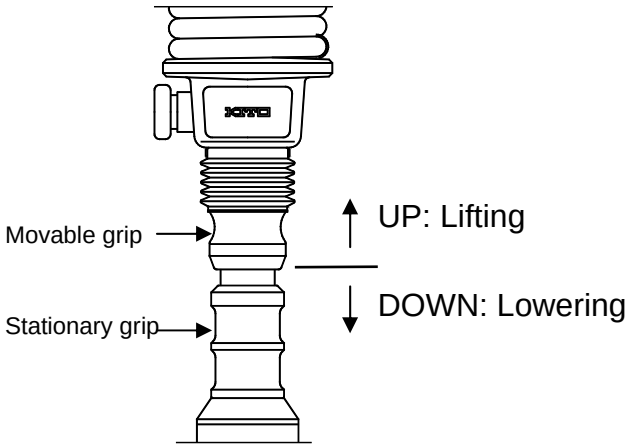
⚠ DANGER
Make sure that the split pin is securely bent. Make sure that the stopper and cushion rubber are attached to the correct chain link. Failure to follow these precautions may cause serious accidents leading to serious or even fatal injury.

Operations

■ Lifting and Lowering Load

While holding the stationary grip of the cylinder switch, move the movable grip of the switch up and down by using the thumb and index finger.
To lift, move up the movable grip.
To lower: move down the movable grip.

(How to hold the grip)



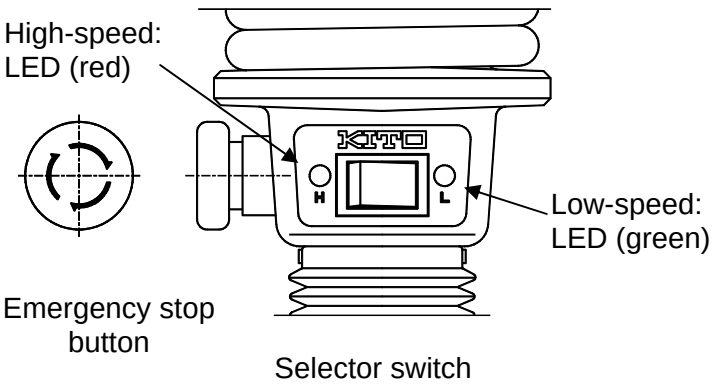
Cylinder switch

■ Shifting Speed (Dual-speed Inverter)

The selector switch can shift the speed between high and low in the dual-speed inverter hoist.

<u>Low-speed</u>
Pressing the selector switch to the right sets the low-speed to turn on the green lamp (LED).

<u>High-speed</u>
Pressing the selector switch to the left sets the high-speed to turn on the red lamp (LED).



Cord holder

■ Emergency Stop

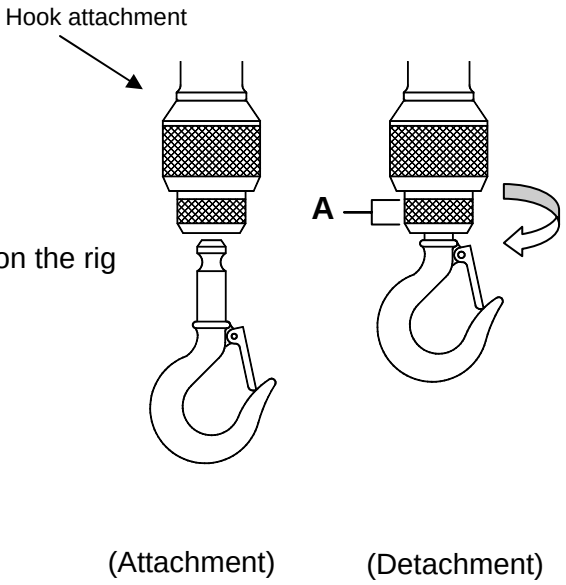
In case of equipment failure and other unexpected danger, the emergency stop can stop lifting or lowering operation.

To make emergency stop, press the red button on the side of the cord holder.
To release emergency stop, turn the pressed button to the right (in the arrowed direction as shown above)

■ Resetting Inverter (for Dual-speed Inverter hoist)

In dual-speed inverter hoist, overload or overcurrent may trip the inverter. In the case of the inverter being tripped, press the emergency stop button to reset the inverter because the emergency stop also brings the inverter to a reset.

■ Attaching & Detaching Bottom Hook



To attach
Insert the bottom hook into the underside of the hook attachment.

To detach
Turn the section A to the left as shown in the picture on the rig

■ Adjustable Speeds of Dual-speed Inverter

In the dual-speed inverter, the low and high speeds can be adjustable by changing the inverter parameters. Make sure that these parameters are properly set in accordance with the KITO ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual as well as the KITO ER2 Series Electric Chain Hoist (125kg to 5t) Inverter Manual.

⚠ DANGER

- Do not make excessive operations (inching, plucking), which may cause failure.
- Do not stop moving a suspended load by pressing the emergency stop button while the hoist is in the normal operation.
- Do not handle the hook attachment while a load is suspended. (Do not detach the bottom hook.)
- After the bottom hook is attached, make sure that the hook does not come off from the hook attachment.

Failure to follow these precautions may cause serious accidents leading to serious or even fatal injury.

Daily Inspection

⚠ DANGER

Perform daily inspection before use.
(In case that an irregular arises during the inspection, de-energize the main power, post a notice of out-of-order and request maintenance personnel for repair.)
Failure to perform daily inspection may cause serious accidents leading to serious or even fatal injury.

For the inspection items other than the followings, refer to the KITO ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual.

Item	Method	Criteria	Action
Appearance	Visual	(1) Should be no adverse scar, crack, or damage on each section of the cylinder switch.	Replace damaged parts.
		(2) Should be no adverse scar or crack on the curl cord.	
		(3) The curl cord should not drop off.	Securely fix the curl cord using a binding band.
		(4) The warning label should not peel.	Replace the warning label or securely stick it.
		(5) Should be no loose or missing bolt, nut, split pin, hook attachment, or bottom hook. (The bottom hook does not come off even by pulling it lightly.)	Secure them.
		(6) Should be no dirt or foreign substance on the cylinder switch.	Clean it.
Cylinder switch operation	Operation	(1) The movable grip should properly move.	Contact your dealer or KITO for consultation.
		(2) The hoist should smoothly operate without an intermittent move.	
		(3) Should be not abnormal sound or vibration.	
		(4) The selector switch should make a smooth shift in speed.	

Periodic Inspection

■ Monthly Inspection / Annual Inspection

⚠ DANGER

After completion of monthly or annual inspection, make sure that the hoist properly works by performing functional check and test.
Failure to perform monthly inspection may cause serious accidents leading to serious or even fatal injury.

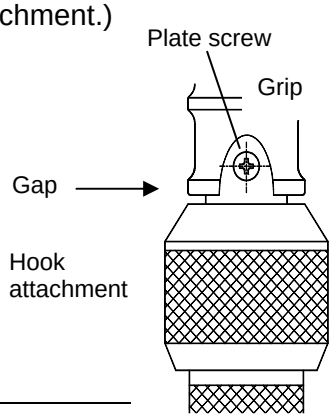
Notice
At the time of monthly or annual inspection, also perform daily inspection.

For the inspection items other than the followings, refer to the KITO ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual for the items corresponding to your hoist capacity.

- **Chain pin**

Item	Method	Criteria	Action
Deformation, scar, wear	Visual Measured by using a slide caliper	Should be no remarkable deformation or scar. The amount of wear on engagement with the load chain should not exceed 5%.	Replace the chain pin.

- **Cylinder switch**

Item	Method	Criteria	Action
Plate screw	Visual check Fastening	Should neither loose nor missing. The hook attachment should not rotate. (Should be no significant gap between the grip and the hook attachment.)  	Securely fasten the plate screw.

Troubleshooting

For the inspection items other than the followings, refer to the KITO ER2 Series Electric Chain Hoist (125kg to 5t) Owner's Manual for the items corresponding to your hoist capacity.

- **Cylinder switch**

Symptom	Failure section	Main cause	Remedy
Hoist will not operate even by using the movable grip.	Failure of switches inside the cylinder	(1) Dust or foreign substance inside the cylinder (2) Electric leakage or rust caused by water inside switches (3) Service life of contact in internal switches exceeded Micro switch service life Mechanical: 1,000,000 times Electrical: 30,000 times (4) Damage caused by excessive operation	Replace damaged parts. Cleaning
Hoist will operate in a direction different from the movable grip motion	Mal-wiring	-	Rewire properly in accordance with the wiring diagram. (Refer to pages 10 and 11.)

Appendix

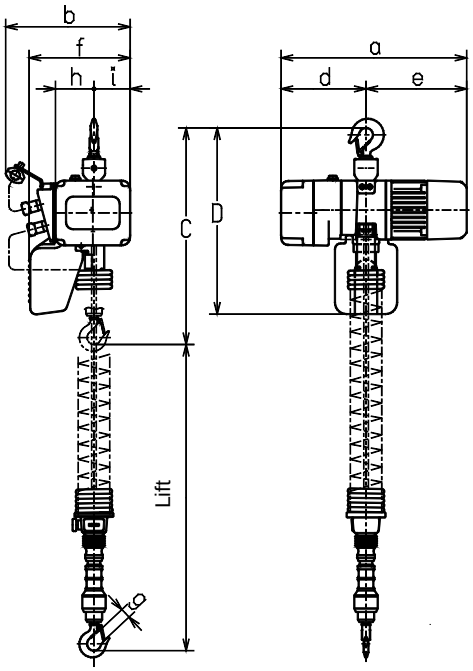
● Technical Data

■ Hook Suspension

[Specifications]

Capacity (kg)	Product code	Hoist body	Standard lift (m)	Lifting motor		Lifting speed (m/s)			Load chain	Class	*Weight (kg)	Additional weight per 1m lift (kg)
				Output (kW)	Rating %ED		50Hz	60Hz	Diameter (mm) × Chain falls			
125	ER2C001H	B	1.8	0.56	60	-	0.235	0.282	4.3×1	M5	30	0.42
250	ER2C003S					-	0.152	0.182			30	
125	ER2C001IH				40/20	Preset	0.277	0.0461			29	
						Adjustable	0.277	0.0231				
250	ER2C003IS					Preset	0.179	0.0299			29	
						Adjustable	0.179	0.0150				

* Weight for 1.8m lift.



[Dimensions (mm)]

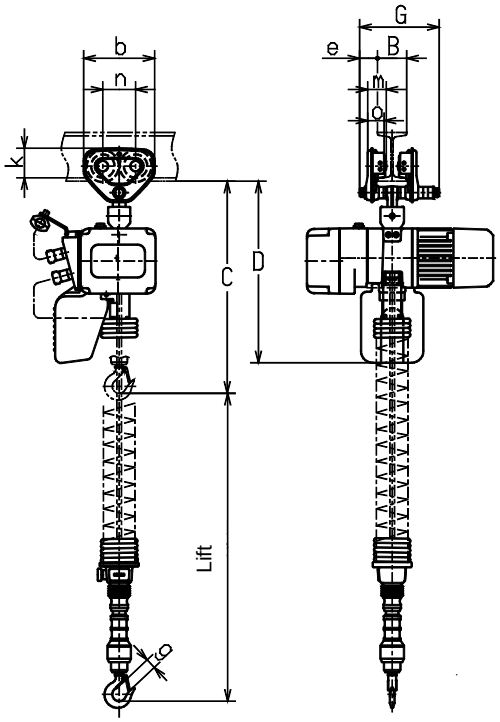
Capacity (kg)	Product code	Minimum headroom C	D	a	b	d	e	f	g	h	i
125	ER2C001H	1065	490	478	321	219	259	260	27	99	93
250	ER2C003S										
125	ER2C001IH			535	345	276		284			117
250	ER2C003IS										

■ With Plain Trolley Suspension

[Specifications]

Capacity (kg)	Product code	Hoist body	Standard lift (m)	Lifting motor		Lifting speed (m/s)			Applicable beam width B (mm)	Min. radius curve (mm)	Load chain	Class	*Weight (kg)	Additional weight per 1m lift (kg)
				Output (kW)	Rating %ED		50Hz	60Hz			Diameter (mm) × Chain falls			
125	ER2CSP001H	B	1.8	0.56	60	-	0.235	0.282	[50] 75 100	1100	4.3 x 1	M5	34	0.42
250	ER2CSP003S						0.152	0.182					34	
125	ER2CSP001IH			0.56	40/20	Preset	0.277	0.0461					33	
						Adjustable	0.277	0.0231						
250	ER2CSP003IS					Preset	0.179	0.0299					33	
						Adjustable	0.179	0.0150						

* Weight is for 1.8m lift.



[Dimensions (mm)]

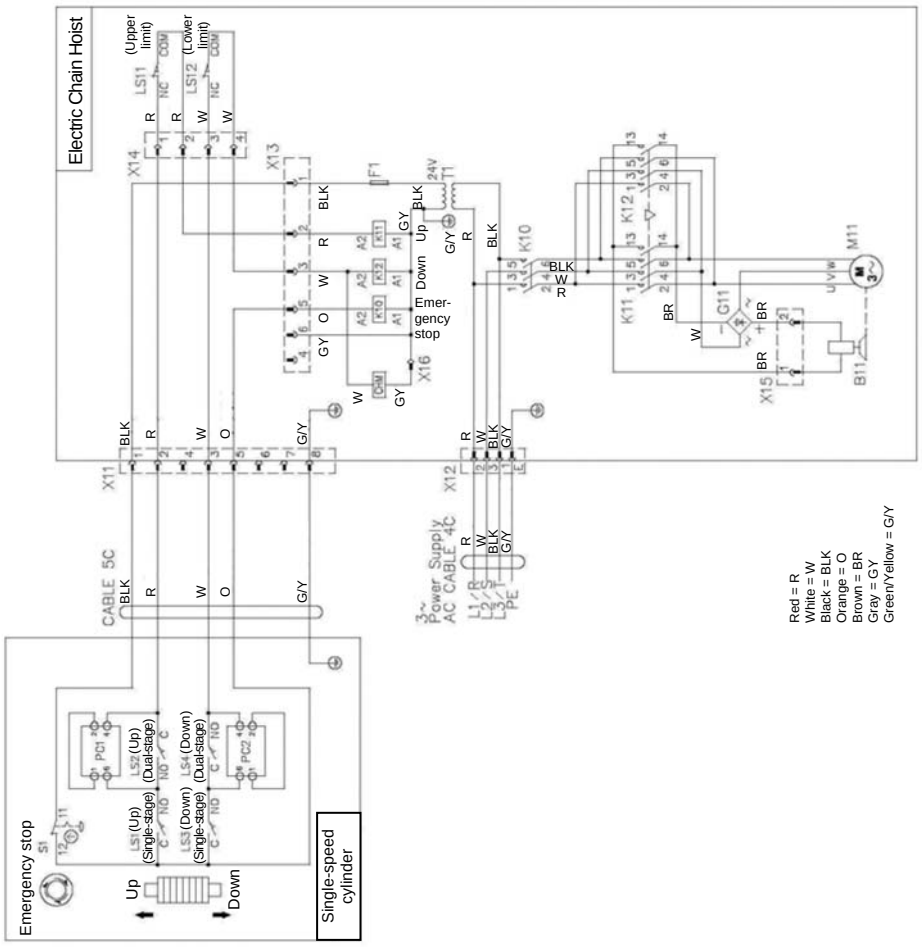
Capacity (kg)	Product code	Minimum headroom C	D	a	b	e	g	h	i	j	k	m	n	o	p	q	r	t
125	ER2CSP001H	1050	470	204	182	46	27	82	60	21	76	47.5	84	42	10	54	38	22
250	ER2CSP003S																	
125	ER2CSP001IH																	
250	ER2CSP003IS																	

● Wiring Diagrams

■ Single speed - ER2C001H/003S, ER2CSP001H/003IS

	Device Code	Description
1	T1	Transformer
2	F1	Fuse
3	B11	Electromagnetic brake
4	CHM	CH meter
5	G11	Rectifier
6	M11	Lifting/lowering motor
7	X11	8-plug socket
8	X12	4-plug socket

Remarks
1.Speed
Chain hoist: single speed
2.Voltage: 200V 50/60Hz, 220V 60Hz
3.Plug-socket connection



■ Dual-speed Inverter - ER2C001IH/003IS, ER2CSP001IH/003IS

	Device Code	Description
1	T1	Transformer
2	F1	Fuse
3	B11	Electromagnetic brake
4	INV1	Inverter
5	G11	Rectifier
6	M11	Lifting/lowering motor
7	I/F BRD1	ER2 interface board
8	R1	Braking resistor
9	X11	8-plug socket
10	X12	4-plug socket