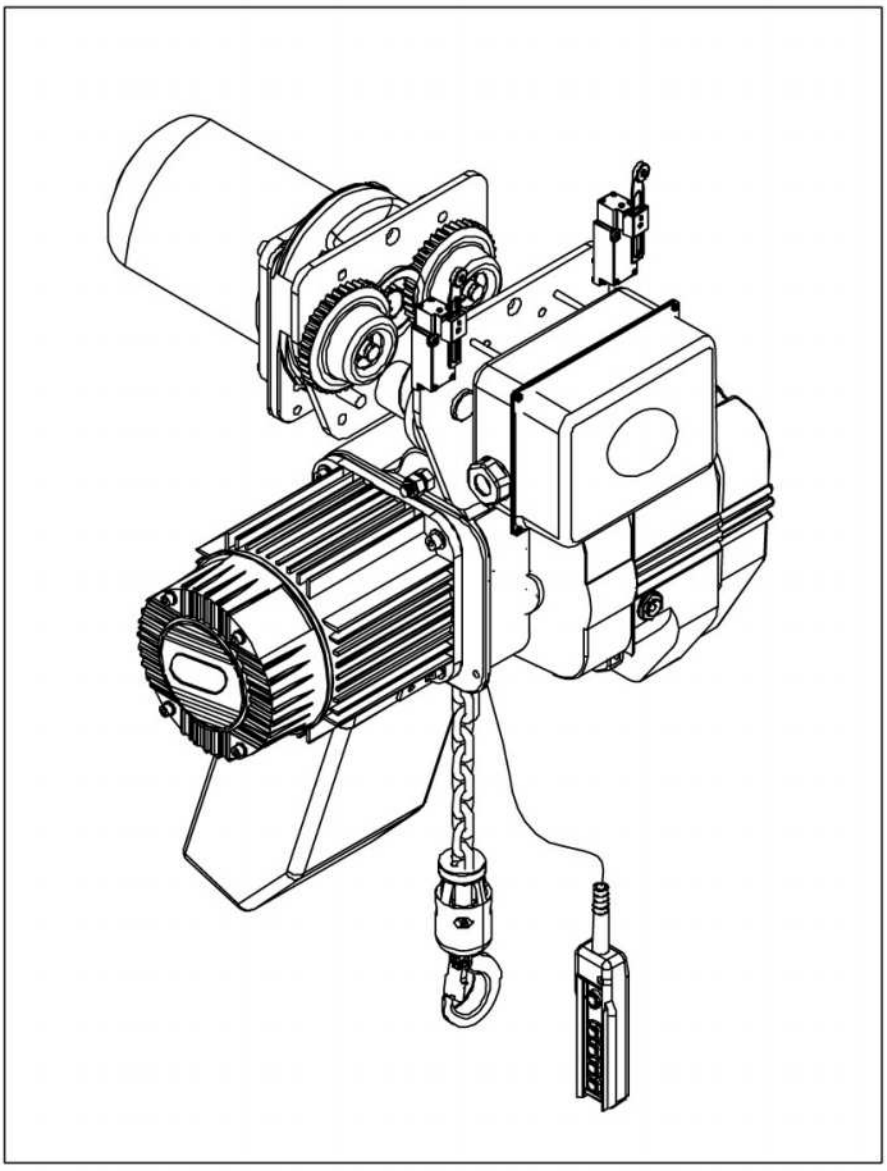
KUKDONG

ELECTRIC CHAIN HOIST

"KD-2 TYPE"

OPERATING & MAINTENANCE MANUAL



KUKDONG HOIST CO., LTD.

http://www.kdhoist.com

Contents

1. Safety Inspection

We are very pleased that you purchased our hoist, KUKDONG Hoist.

We hope that you would use our hoist with safe and long time without any trouble under periodical inspection and maintenance after select according to correct working service. Besides, it could be caused serious injury or damage of property by falling matters, rotating material, high voltage or hot surface through carelessness.

Installation, maintenance and repairing of hoist must be executed by a qualified person or a trained engineer under safety instruction.

You must keep a safety instruction on user's manual to prevent from potential danger.

We are not responsible for any accidents or problems which are not kept a safety instruction indicated user's manual and any article of danger, warning and caution for hoist

1-1. Sign of Danger, Warning and Caution

It is saying to danger, warning and caution to safety in this user's manual. The sign is defined as under.

⚠ DANGER	**"DANGER" : This sign indicates a very dangerous situation like death or serious injury through carelessness.**
⚠ WARNING	**"WARNING" : This sign indicates a potential dangerous situation like death or serious injury through carelessness.**
⚠ CAUTION	**"CAUTION" : This sign indicates a dangerous situation like light injury through carelessness.**

1-2. Notice to safety

⚠ DANGER

(1) Please do not walk pass under lifting equipment like hoist and crane etc. It could be caused death or severe injury by falling material.

(2) Please use the hoist, suitable for explosive proof at the place of flammability, explosion, gas, dust etc.

Non explosive proof hoist could be caused damage of human and material by fire, explosion etc.

(3) Please do not lift overload. It could be caused each part's trouble or motor burnt and reduce the life time of hoist. Besides, it could be caused severe damage of human and material by accident.

(4) Please do not operate hoist when any operators or workers are working under hoist. It could be caused death or severe injury.

(5) Please do install a safety zone with chain, tape and set up the mark of warning sign in the dangerous area when maintenance and inspection. It could be caused serious damage of human and material in case that unexpected operation would be happened by falling or mistake.

⚠ WARNING

(1) Installation, maintenance and repairing of hoist must be executed by a qualified person or a trained engineer under safety instruction.
(2) You must keep the notice to safety on user's manual to prevent from potential danger for sure.
(3) Please do an earth according to the related specification before turn power on. It could be caused danger of electric shock if wires would be changed or would not connect an earth.
(4) Please do not modify control circuit on purpose. Besides, please do not bend or pull power cable or lead wire strongly. It could be caused danger of fire, electric shock or any error.
(5) Please do not touch hoist body with body or any materials. It could be got severe human injury.
(6) Please do not exceed the rated lifting length. Even if hoist has extra length 1-1.5m, it could be caused a serious problem of product as you exceed the rated lifting length frequently.
(7) Please make sure the following notice when you hang up the load or any freight.
- You must know the weight of load as correct as you know.
- Please make a sure the center of balance of the load as the load has a various shape.
- Please do use suitable and safe tools for the load and shape.
- Please make angle within 60° when you use wire rope or chain.
The more angles are, the more tension of chain is.
- Please do not hang up the load with one fall. To be taken center of the load is very difficult and the load is biased.
- Please do select rope or chain or assistant tools according to weight of the load. To be used thick rope against light weight is very dangerous conversely.
- Please do not suspend the end of hook. The center of hook is stronger than other part. Biased makes weak and it is very dangerous as the strength of end of hook is about 40%.

(8) Please do release or remove or transform the function of limit switch device, overload protector, emergency stop device, traversing limit switch device, safety latch device of hook or crash stop these devices from hoist.
(9) Installation, maintenance and repairing of hoist must be executed by a qualified person or a trained engineer under safety instruction.
(10) Please do not modify spare parts or components. We are not responsible for serious damage or human injury by these behaviors.
(11) You must turn power off before maintenance and inspection and set up the sign of warning. It could be damaged by unwanted operation or electric shock.

⚠ CAUTION

(1) Please prepare for reasonable protection procedure to prevent from unexpected accident by a unqualified person(the elder, the disable, children etc).
(2) Unsuitable person related to operation(a drunken person, a medicine taker) must not do any working like installation, operation and maintenance etc.
(3) Please do use suitable and safe tools for load and shape after checking of weight of load.
(4) A excessive voltage alteration(over ±10%) and frequency alteration(over ±5%) is caused a shortage of torque and overheating. Besides, if the length of cable becomes long, voltage dropping is serious. So, please keep within 2% of voltage dropping.
(5) Please do appoint a manager in charge of hoist to prevent from unexpected accident or troubles.

(6) Please do not do inching operation as less as you can. A frequent inching operation is caused the problem of motor, brake and magnetic contactor.

(7) Please do not do a sudden reversing operation. A sudden reversing operation is caused any big damage to the hoist.

(8) Please do hang up the load correctly. Please do not hang up the load at the end of hook and do not run with moving the load.

(9) Please do not do an inclined operation.

(10) Please do control push button switch carefully. Please be careful that push button cable gets caught on any obstacle on the way moving. Please do turn power off after finish the operation. A severe collision or hitting is caused any error or broken.

(11) Please do oil or grease reasonable at the right time and please be careful of any contaminants when oiling.

(12) Please do check all electric components and device at a fixed time.

(13) Please do cover a cover for sure after all inspection or maintenance and please do not operate any devices before the finish.

2. How to operate KD-2 type

2-1. Operating condition

Periodical inspection and maintenance of a hoist after installation can help you use the machine for long time without any problem. But unreasonable use of the machine without regard to working conditions can cause its breakdown.

The manufacturer is not responsible for problems caused by user's behavior that it is not observed the specifications and the notice in the user's manual.

⚠ WARNING **Please read the manual before using the hoist.**

2-2. Hoist classification of KD-2 type

(Table-1)

Rating of loading	Average daily operation time [h]	≤0.25	≤0.5	≤1	≤2
Light	When normally working with approx. 1/3 of W.L.L. and rarely with W.L.L.	I	I	II	III
Medium	When normally working with approx. 1/3 to 2/3 of W.L.L. and sometimes with W.L.L.	I	II	III	IV
Heavy	When normally working with approx. 2/3 of W.L.L. and often with W.L.L.	II	III	IV	V
Very Heavy	When normally working with W.L.L. or near W.L.L.	III	IV	V	-

⚠ WARNING **Please make sure that Grade M3 manufactures the hoist (JIS/ISO).**

2-3. Loading time rate and operating frequency

(1) Loading time rate(%ED) = $\frac{\text{Loadingtime}}{\text{Loadingtime}+\text{Stoppingtime}} \times 100$

(2) Loading time rate of the hoist = 25%ED (Dual speed = 20%ED)

(3) Duty rating = 30minutes (Dual speed = 5/15minutes)

2-4. Model name of KD-2 type (Standard type)

(Table-2)

HOOK SUSPENSION TYPE	MONORAIL TYPE	GEARED TROLLEY TYPE	PLAIN TROLLEY TYPE
KD(T)-2-2Ton(S)	KD(T)-2M-2Ton(S)	KD(T)-2G-2Ton(S)	KD(T)-2P-2Ton(S)
KD(T)-2-2.8, 3, 5Ton(D)	KD(T)-2M-2.8, 3, 5(D)	KD(T)-2G-2.8, 3, 5(D)	KD(T)-2P-2.8, 3, 5(D)
KD(T)-2-7.5, 10Ton	KD(T)-2M-7.5, 10Ton	-	-

【 Please ask manufacturer for special type, except for standard type. Refer to page 44 】

Notice) T : Dual Speed, S : Single Fall, D : Double fall

3. Treatment to KD-2 type

3-1. Checking points before installation

Please make sure of following points before installation of products.

(1) Type
(2) Capacity
(3) Lift
(4) Power source
(5) Pushbutton switch length
(6) Chain bucket size
(7) Checkpoint when placing order for special type
(8) Check beam type("I-Beam" or "H-Beam") when installation of trolley

Refer to page 14, 15, 16(How to connect trolley).

(Table-3)

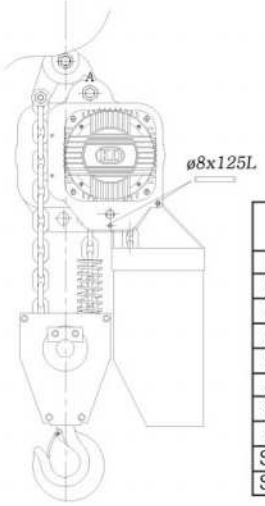
3-2. Chain bucket

⚠ CAUTION

(1) Please use the standard chain bucket.
It is caused broken and deformation of load chain.
(Table-3)(Table-4)(Fig. 2)

(2) How to install chain bucket(Fig. 1).

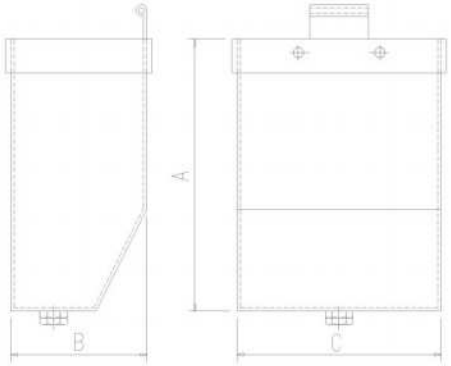
(Fig.1)



(Table-4)

SIZE	DIMENTION (mm)		
	A	B	C
P-400	420	190	215
P-500	520	190	300
S-400	400	200	220
S-500	500	200	300
S-600	600	200	300
S-700	700	220	340
S-800	800	220	340
S-900	900	220	340
S-1050	1050	220	420
S-1150	1150	220	420

(Fig.2)



(Table-3. Chain bucket Size)

LIFT (m)	CAPACITY (ton)		
	2.0	3.0	5.0
1	P-400	P-400	P-400
2			
3			
4			
5			P-500
6		P-500	
7			
8			S-600
9	P-500	S-600	
10			
11			
12			S-700
13		S-700	
14			
15	S-600		
16			
17			S-800
18		S-800	
19			
20			S-900
21		S-900	
22			
23	S-700	S-1050	S-1050
24			
25			
26			
27			
28			
29			
30			S-1150

N.B) 1. Chain bucket(P) is made by plastic.
2. Chain bucket(S) is made by steel.
3. In case of using chain bucket (P,S), it is in need of special connecting ring.

3-3. Power switch and power cable size

Power switch and the thickness of power cable greatly affect the functions of hoist and its secure operating. Please prepare for power switches and power cable according to Table-5.

(Table-5)

Type	Capacity [ton]	Hoisting Motor [kw]	Traversing Motor [kw]	Power Switch [A]	Electric cord thickness[mm^2] Cord length[m-max]			
					10	20	30	40
KD-2	2(S), 2.8(D), 3(D), 5(D)	3.0	-	20	4.0	4.0	4.0	4.0
	7.5, 10	2x3.0	-	30	6.0	6.0	6.0	6.0
KD-2M	2(S), 2.8(D), 3(D), 5(D)	3.0	0.4	20	4.0	4.0	4.0	4.0
	7.5, 10	2x3.0	0.75	40	6.0	6.0	6.0	6.0

※ Above contents in chart are based on 380V 60Hz / ※ S : Single Fall, D : Double Fall

⚠ CAUTION **If there is much distance between hoist and power, use bigger power, use bigger power cable than standard requirements as there may be a dropping of electric pressure or overheating of hoist motor and cable etc.**

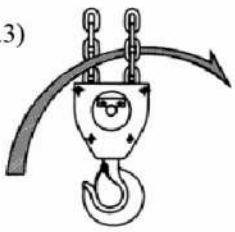
3-4. Warning points after installation

(1) If there are more chains than two, check if chains get twisted like Fig.3
(Twisted chain caused chain's breaking)

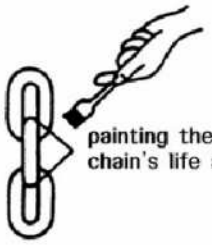
(2) Apply oil on the chains surely, which will lengthen the life span of chains and prevent from troubles (Refer to Fig.4). Also, keep chains clean all the time or it will be caused chain's breaking.

⚠ WARNING **Please do not use grease absolutely.**

(Fig.3)

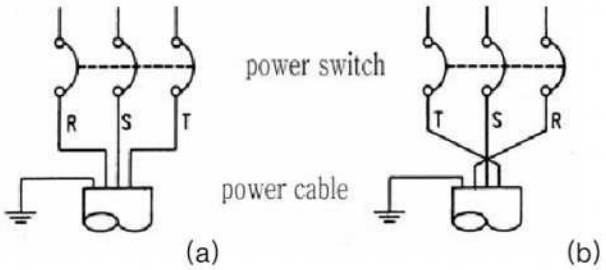


(Fig.4)



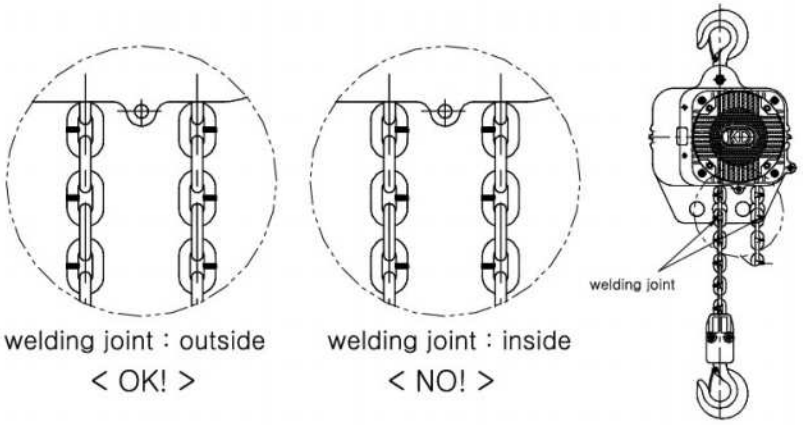
(3) If the bottom hook will not go up, but go down when you press "↑" of push button switch at the state of unload(Negative operation), change the connection of 2 phases among three phases of R, S, T as shown in Fig.5 and then it will work well and normally.

⚠ WARNING **If you keep operating the machine in the opposite direction in the state of negative phase, it will be caused serious damages to the machine. We are not allowed to do it.**



(Fig.5)
In case that (a) is negative operation, change the connection of 2 phases R and T like (b).

(4) When you install load chain into hoist, the welding part of the load chain is positioned outside so that the welding part is not faced to load sheave like Fig.6. (In time of repairing and replacing the load chain)

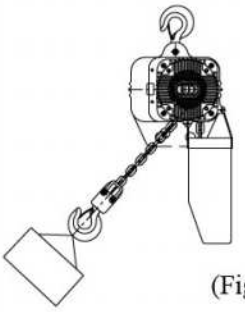


(Fig.6)

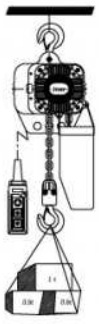
3-5. Checkpoint on operating

⚠ DANGER **Please do make sure the following notice.**

(1) We are not allowed to modify any hoist to elevator for human or cargo.
(2) Please do not operate an inclined operation. (Fig.7)
(It is caused any trouble to hoist.)
(3) Please must operate under the rated load and please do not stand and pass under the load. (Fig.8)



(Fig.7)



(Fig.8)

(1) Checkpoints before operating

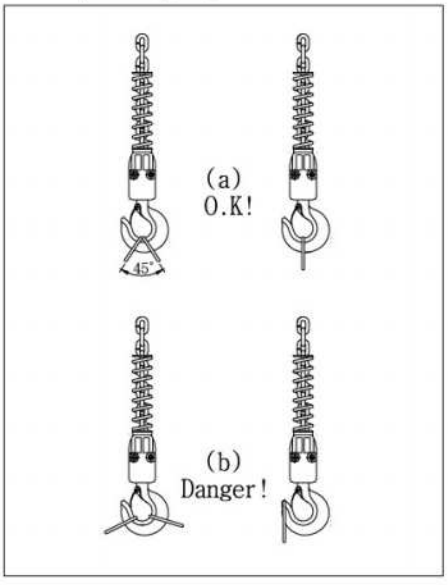
⚠ DANGER **Do not do a deformation load chain intentionally.**

ⓐ Is oil applied on the load chain?
ⓑ Are the load chains entangled if the load chains are more than two?
ⓒ Does it work downward though you press "↑" of push button?
ⓓ Does the push button work smoothly?
ⓔ Does the slip clutch work at the state of unload?
ⓕ Does the brake work well without slip? [Table-9]
ⓖ Does a trolley work well without any interference on the monorail?

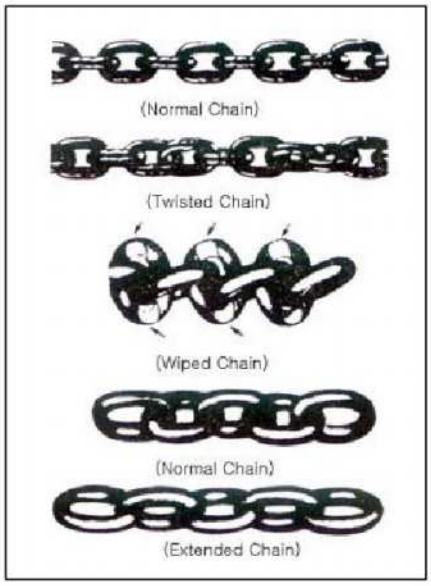
(2) Checking points on operating

ⓐ Never drag the push button cable to move a trolley when you want to connect trolley.
ⓑ At normal use, do not use over load limit switch. It is a way to prevent breakdown of a hoist.
ⓒ Press the push button switch securely and thoroughly.
ⓓ Put up goods normally to hook block and never use the machine irregularly.(Fig.9)
ⓔ Do not use the hoist when the load chains are entangled.(Fig.10)
ⓕ Do not do any sudden plugging or continual inching operation
ⓖ In case that the hoist consists of 2 hoist body, it could be caused the problem if load chain would be inclined toward one side. Please check and adjust such a position like Fig.11.

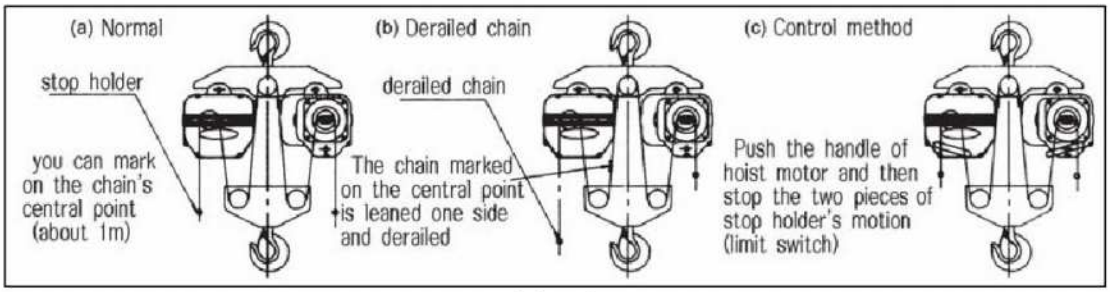
(Ex. Fig.11)



(Fig.9)



(Fig.10)



(Fig.11)

(3) Checkpoints after operation

⚠ CAUTION

ⓐ Turn off the power switch surely after using the hoist.
ⓑ Do not stop operation it when it is loaded.
ⓒ Be sure to cover a hoist lest rain or water should leak in the main part when it is installed outside.

4. Maintenance and Inspection

It is very important to check the hoist daily, monthly and yearly to preserve its long lift-span and be sure to observe the following notice to security when checking of hoist.

⚠ WARNING

(1) Turn power switch off and control power switches with associates.
(2) Never check hoist when a hoist is loaded.
(3) Set the sign of "repairing "or "checking" when repairing or maintenance.

4-1. Inspection before operation (daily inspection)

(1) Checkpoint before operation

ⓐ Is oil applied on the load chains?
ⓑ Are the load chains entangled or twisted?
ⓒ Is safety latch attached normally?
ⓓ Does the limit switch work normally at the state of unload?
ⓔ Does the hoist brake work normally without slip?
ⓕ Does the operation of trolley(left direction and right direction) work normally?
ⓖ Is the weight of goods loaded on a hoist reasonable?
ⓗ Is it sure that there is no one under loaded goods?

4-2. Periodical inspection

Since parts and components of the machine will wear away and will not work well after long use, inspect the machine periodically according to checkpoints for secure working.

(1) monthly inspection (once a month, in the presence of a manger)
(2) yearly inspection (once a year, in the presence of a manager and a trained person)

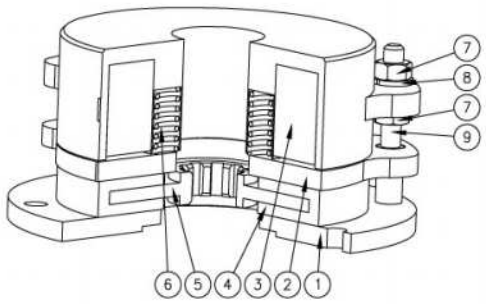
4-3. Check of brake and how to adjust

⚠ WARNING

DC brake consists of the following picture and Adjusting of gap is as under.
• If the gap of brake is open over 0.6mm, please adjust to be 0.3mm like ⑧ and ⑨. (Fig.12)
• If the gap of brake is under 0.3mm, motor could be burnt.

⚠ CAUTION **Hints to install and check DC brake**

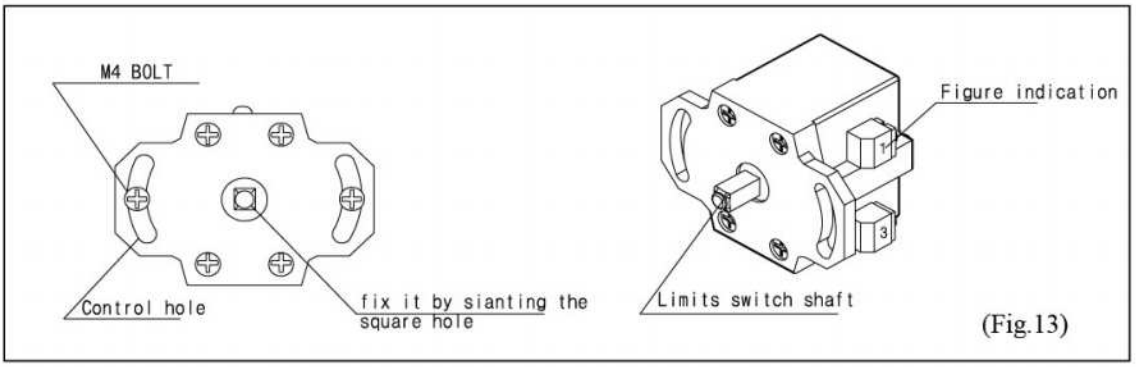
(1) Please do use and change AC power source into DC power source through rectifier.
(2) Please do use coil voltage DC90V when input power is 220V, 380V.
In case of 440V, please do use coil voltage DC190V.
(3) Please do not expose brake coil and output the wire to heat.
(4) Please do not test 500V Mega insulation against brake.



No.	Name	Q'ty
1	Flange	1
2	Armature	1
3	Brake Coil	1
4	Lining	1
5	Lining plate	1
6	Spring	5
7	Hex. Nut - M8	6
8	Spring washer - M8	3
9	Stay bolt	3

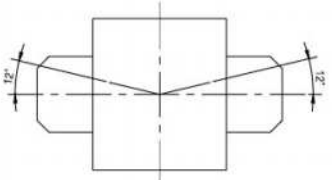
(Fig.12) Structure of DC brake

4-4. How to adjust limit switch



The moving direction or contacting operation for the shaft of limit switch

(Table-6)

Model	Type of Limit switch	Contacting operation	Terminal numbers & moving angles
KD-2 type	HY-SQ5-SH-GP1	1 2 Contacting point when going up 3 4 Contacting point when going down	Terminal numbers & moving angles (2-1)  The side when it is gong down (4-3) The side when it is going up (Picture of opposite side)

(1) Limit switch can stop the motor if hook reach an upper limit or lower limit.
(2) Adjusting of limit switch is required to do correct operation absolutely. It is relieved the impact to the hoist.
(3) Normal position of limit switch is that the body and shaft becomes parallel. If limit switch does not move normally, please do adjust it again with adjusting nut.
(4) Please do not do an upper and lower limit operation and check it periodically.

4-5. Check of hook, load chain

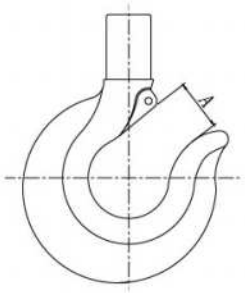
⚠ WARNING

Hook and load chain can be worn away as a long time goes by. Besides, it is also opened and rusted according to working places and conditions. You must inspect and judge based on Table-7, Table-8 as hook and load chain is very important parts on hoist.

In case that the limited dimension is over, do replace them with new one for safety.

(1) Hook

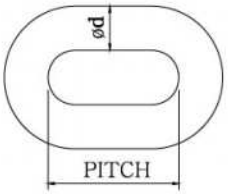
(Table-7)



Standard (ton)	Normal dimension(A) (mm)	Using limit(A) (mm)
2(S)	33.5	37
2.8(D), 3(D)	39.9	48.1
5(D)	48.3	57.8
7.5, 10	70.5	85.5

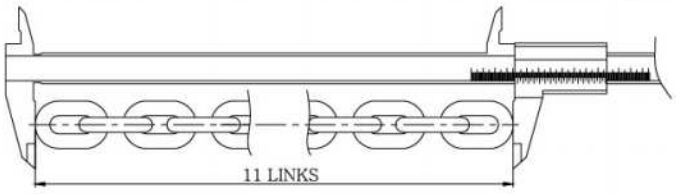
(2) Load chain

(Table-8)



Type	Standard load (ton)	Chain diameter Ød (mm)	Standard dimension Pitch (mm)	Using limit 11 links(mm)
KD-2	2.8(D), 3(D)	9.5	28.6	337.6
	2(S), 5(D) 7.5, 10	11.2	34.3	403.7

Notice) S : Single Fall, D: Double Fall



(Fig.14) How to measure load chain

4-6. Checkpoints of electric chain hoist

(Table-9)

Division	Overhauling subject	Overhauling standard	Usual time	Periodic time
Main body	External view	No damage, crack and deformation	⊙	⊙
	Abnormal sound	No noises form the motor and the gear	⊙	⊙
	Gear case	No abrasion such as rust, damage and breakdown		⊙
	Reduction gear section	No deformation and breakdown of gear		⊙
		No abrasion and deformation of bearing		⊙
	Load sheave	No hard abrasion, damages and deformations		⊙
Load chain	Rust & cracks	No rust(erosion), cracks(flaws) and few abrasion	⊙	⊙
	Dimensions	Diameter and pitch should be fit to the standards	⊙	⊙
	Oiling conditions	Coated with oil properly	⊙	⊙
Top & Bottom hook	Opening	Not get wider than the standards dimensions		⊙
	Holders	No harmful damages, deformation and not opening		⊙
	Bottom swivel hook	No problems with bearing		⊙
	Bolt & Nut	No abrasion and curves		⊙
Limit switch	Limit operation	Good operation when an upper and lower limit	⊙	⊙
	Limit stop holder	No broken, release of nut, severe damage		⊙
Brake	Slipping	Within 10mm when you operate host 2~3 times with rated load	⊙	⊙
Electric components	Cabtyre cables	No breakage and damages of the rubber covered cables No disconnection		⊙
	Push button switch	Effective connection and proper functioning	⊙	⊙
	Motor	No overheating and humming		⊙
	Insulated resistance	Insulation resistance exceeds 2MΩ by DC500V Megger		⊙
Others	Connection parts	Bolts, nuts, springs, washers, pins and etc should be assembled normally		⊙
	Name plate	Features and specifications of hoist should be attached.		⊙
	Chain bucket	Assembled parts should be fixed firmly with bolts		⊙
		Good conditions and no foreign object in it		⊙
Emergency switch		Power off surely		⊙

4-7. Checkpoint of trolley

(Table-10)

Division	Overhauling subject	Overhauling standard	Usual time	Periodic time
Plain trolley	Side plates	No bending and damages		⊙
	Connecting parts	No looseness breakage and missing and no breaking away from the right place		⊙
	Wheel, Roller	No abrasion of wheel, roller and gear		⊙
		Well lubricated gears	⊙	⊙
		Rotate smoothly		⊙
	Bearing	Proper engagement with shafts and rotate smoothly		⊙
	Name plate	Exact specifications should be written		⊙
Motorized trolley	Reduction gear section	No damages breakage and abrasion		⊙
		Well lubricated roller gears		⊙
		No backlash in the gears and bearings		⊙
	Brake	Stop smoothly without casting too long	⊙	⊙
	Name plate	Exact specifications should be written		
	Electric components	Cabtyre cables : No breakage and damages of the rubber covered cables No disconnection		⊙
		Motor : No overheating and humming		⊙
		Insulation resistance exceeds 2MΩ by DC500V Megger		⊙
Geared trolley	Hand wheel	No excessive wear in the ratcheted section and pocket sections to engage with hand chain		⊙
	Name plate	Exact specifications should be written		⊙
	Pinion shaft	Well lubricated for smooth rotation		⊙
	Hand chain	No excessive elongation and deformation that cause smooth engagement with the hand wheel pockets		⊙

4-8. Test points after periodical inspection

(Table-11)

Overhauling subject	Overhauling contents
Unloading test	Does the hoist works as the signs of push button indicate?
Limit switch test	Does the hoist works at the state of unloads and rated load normally?
Rated capacity test	When the hoist works "↑", "↓", "←" and "→" direction, are there any noises and vibrations and is there any brake slipping?
Overloading test	Are there any problems at test load?

4-9. Checkpoint of lubricating and refueling

(Table-12)

No.	Refueling parts	Kind of oil	Refueling time	Amount	Caution
1	Top hook pin, Bottom hook block	Cup grease (kixx grease 2)	Yearly	Adequate	
2	Gear section	MACHINE OIL (TECTYL GEAR 220)	Yearly	1700cc	Refuel after removing impurity in gear box
3	Load chain	〃	Often	Adequate	Coating on surface of chain. (Not be dried)

Caution) We are using SHELL product. In case of using other oil, use same grade like ISO 220 grade.

4-10. First aid

(Table-13)

Condition	Checkpoints	Broken condition	Solution
When it does not operate initially?	Is power supplied certainly?	It will not work though you press "↑"and "↓" of push button	- Press the push button for sure - Connect wires perfectly
		Motor generates much heat and many noise	- Combine wires completely as it may be because the input wires are broken. - Check if the three-phase power is supplying normally. - Replace the rectifier for a brake with a new one if it is out. - Check if the brake works when it is applied.
		It does not work after upper or lower limit switch is operated	- Turn handle of limit switch normally.
	Is the single-phase working?	Motor makes noises and heat from motor rises.	- Check if the voltage is normal - Inspect the breaking of power wires or power switches and check if the fuse is normal.
In case of stop the motor when hoist is working	Is limit switch worked normally	When work in the slant or the chain is twisted, the limit switch handle let hoist stop.	- Adjust limit switch handle to the normal condition. - Straighten the severe slant and twisted condition to become normal.
	Imperfect connection	When the power wires, terminal, switches are not connected perfectly.	- Exchange or repair
	Excessive load	Motor makes noises and excessive current flows.	- Use it within the range of rated load.
Braking trouble	The poor braking state	The lining of brake is worn out.	- Adjust the gap of brake. - Repair or replace the lining of brake
	Chain keeps running down slowly	Mechanical troubles of a brake	- Ask for help from special agents for after sale service
Electric accident	Leakage	When you touch the body, the chains and etc., you feel electricity.	- Make sure of a perfect earth. - Check the insulation resistance - Dry the moisture around switches completely.

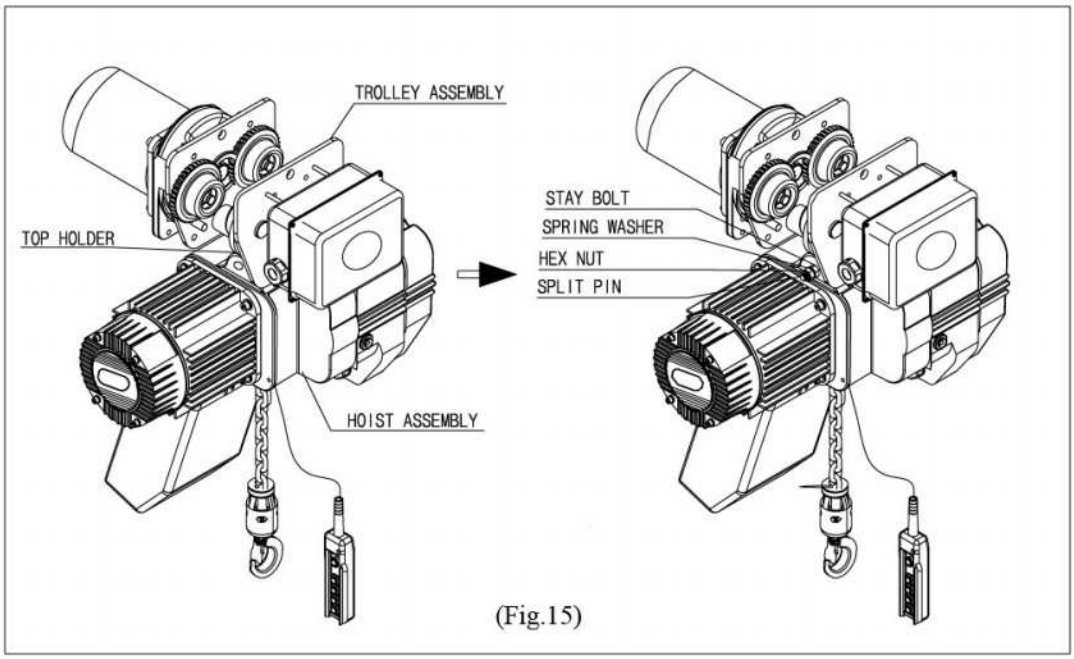
5. How to connect trolleys

When you connect trolley, you can use it in various ways with KD hoist.
Select a model among the following three trolley types.

(1) Electric motorized trolley : MODEL-KD-2M
(2) Geared trolley : MODEL-KD-2G
(3) Plain trolley : MODEL-KD-2P

5-1. How to connect trolley and KD type hoist (Fig.15)

(1) Please approach the top holder of trolley to the stay bolt hole of hoist.
(2) Please insert a stay bolt between the hole on the top of hoist and the hole of top holder.
(3) Please screw up the spring washer and nuts after insert.
(4) Please fix them with split pins after screwing up.



(Fig.15)

5-2. How to install trolley on the runway beam

When you install a trolley on I-beam or H-beam type, set them up in the following way.

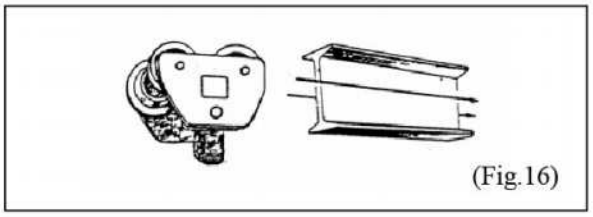
(1) Please check the width of the beam and trolley.
(Roller wheels of trolley are divided into two ; one is for I-beam and the other is for H-beam.)
(2) Please assemble them by adjusting the adjusting collar on the stay bolts to the inside or the outside of side place.

(Table-14)

Capacity(ton)	Range of application BEAM breath(mm)			
	Collar(no.)	2	4	6
2		100	125	150
2.8, 3		100	125	150
5		125	150	175

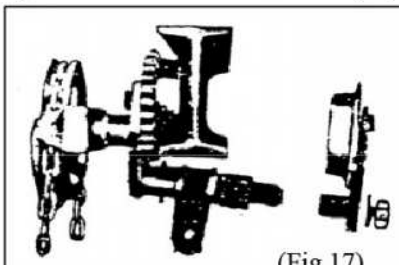
Note) Since Kuk Dong hoist is manufactured as standards based on above table-14, adjust intervals and collars in accordance with the width of beam.

(3) The best way is to install a trolley from the end of the runway beam. (Fig.16)

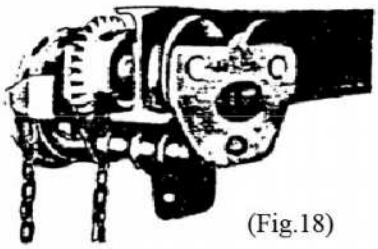


(Fig.16)

(4) If you install in the center of beam as another way, after unscrewing stay bolts of the trolley and removing the side plate, put a trolley on one end of a beam and set the other side of the side plate to the stay bolt hole and screw them up. (Fig.17, 18)

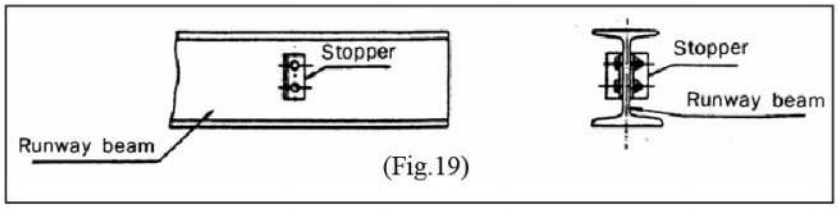


(Fig.17)



(Fig.18)

⚠ WARNING **Since the trolley can fall down from the runway beam, be sure to attach stoppers to both ends of runway beam. (Fig.19)**



(Fig.19)

(5) When you install an electric motorized trolley on the curved runway beam, it is normal to attach the plate on the side of motor to the outside of curved runway beam.

5-3. How to connect electric power source

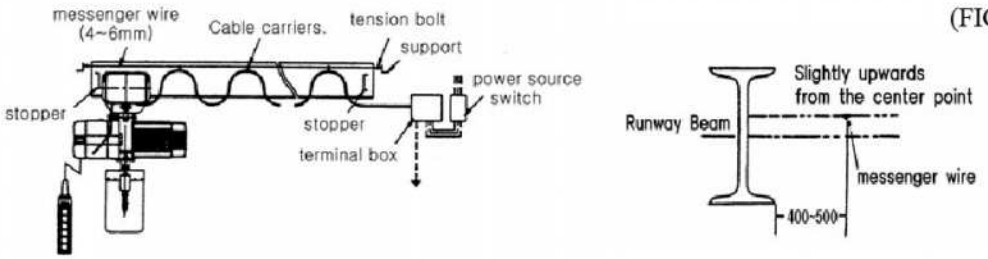
(1) The main power cable should be installed in parallel with the runway beam and the power wire should move together when a trolley moves. (Fig.20)
Install the trolley from the ending part of runway beam.

(2) The cable carriers should be installed at intervals of 1.5meters.

(3) The curved runway beam should be installed in a different way. As an instance, the cable carriers follow the runway beam.

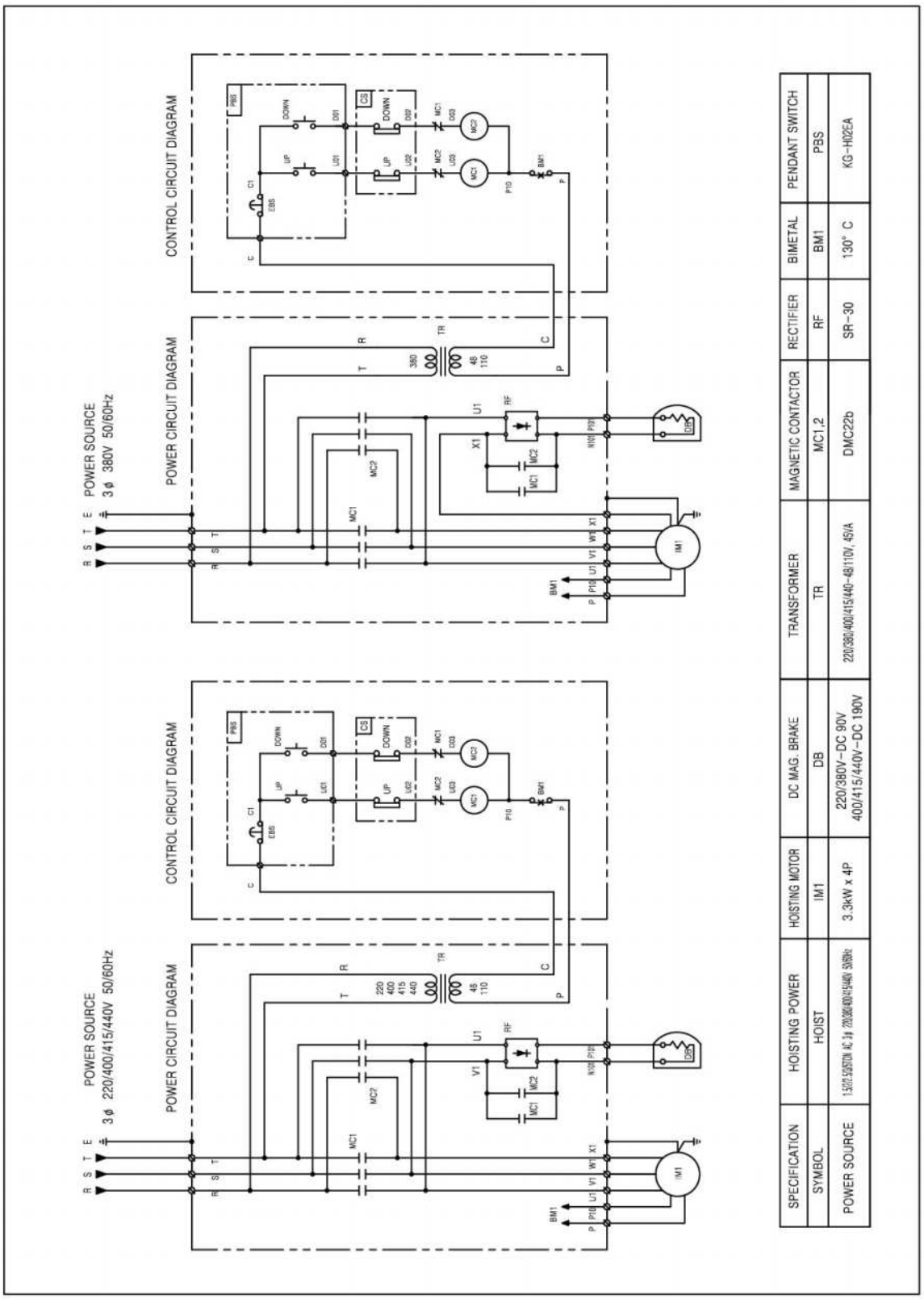
(4) Since the rotating radius of curved runway beam is different according to the capacity of hoist, consult with agents about the specifications of right products related to your working places.

(FIG.20)

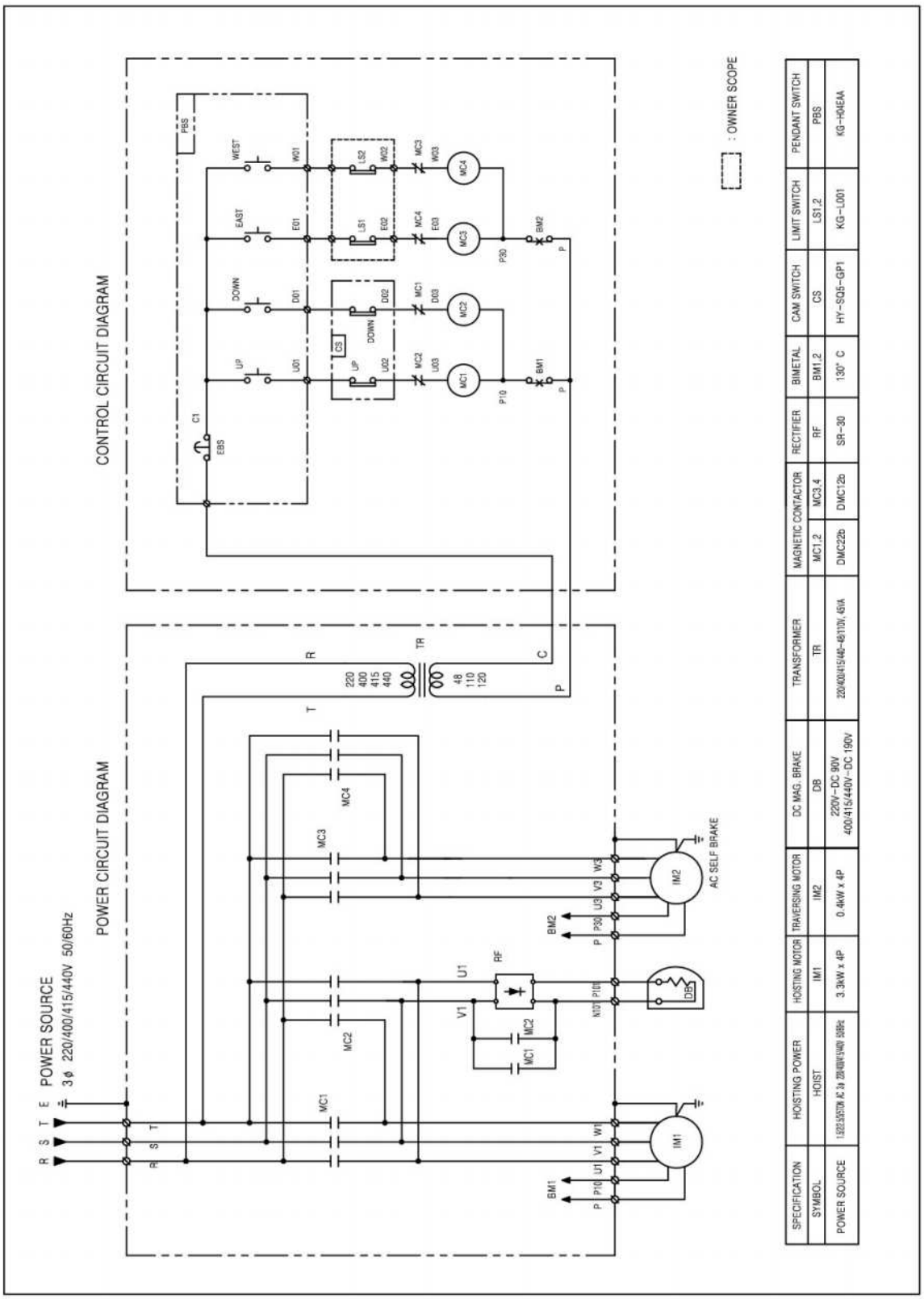


6. The circuit diagram of electric chain hoist

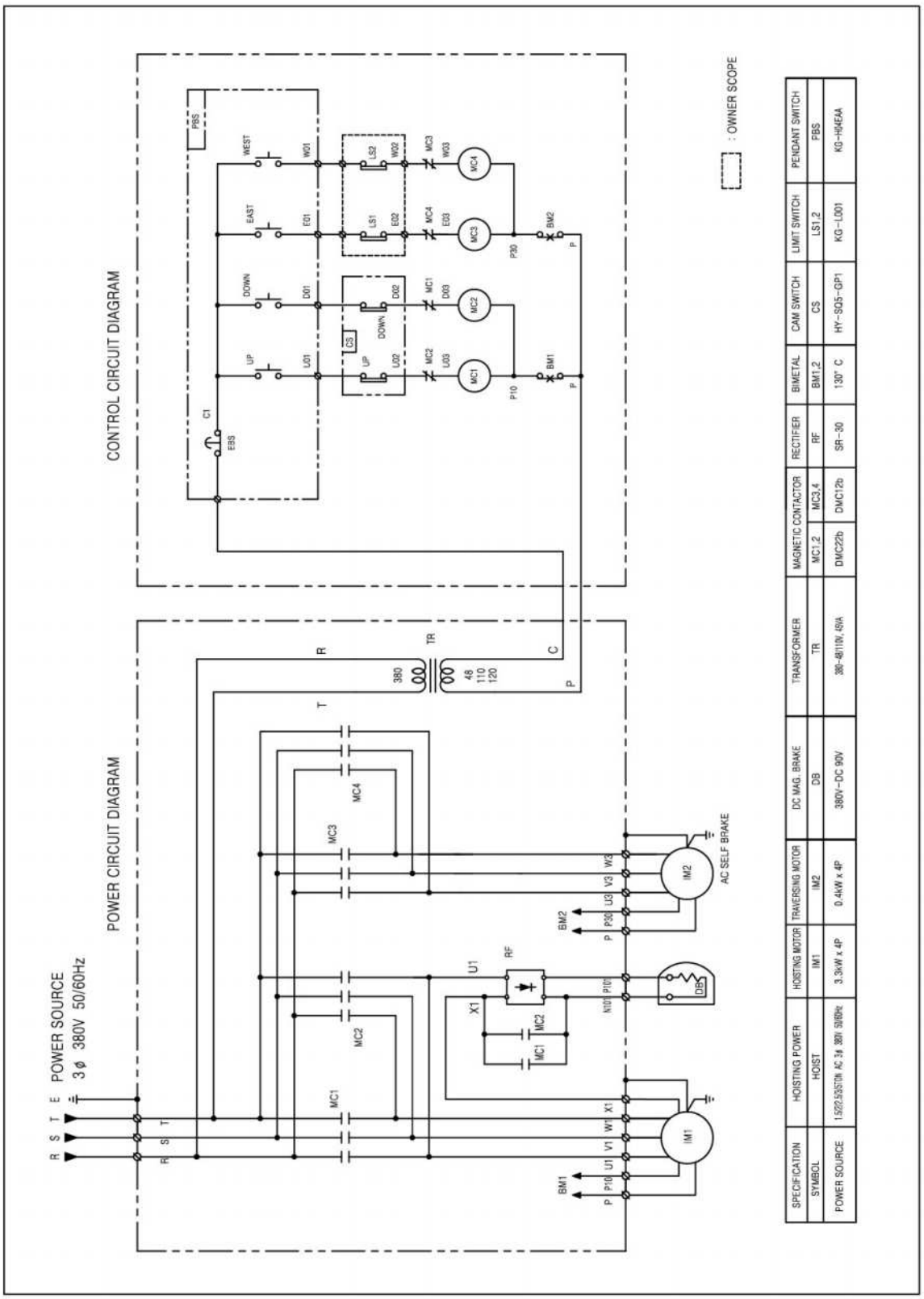
6-1. KD-2 (1.5, 2, 2.5, 3, 5Ton) AC 3Ø 220/380/400/415/440V 50/60Hz (SUSPENSION HOIST)



6-2. KD-2M (1.5, 2, 2.5, 3, 5Ton) AC 3Ø 220/400/415/440V 50/60Hz (MONORAIL HOIST)

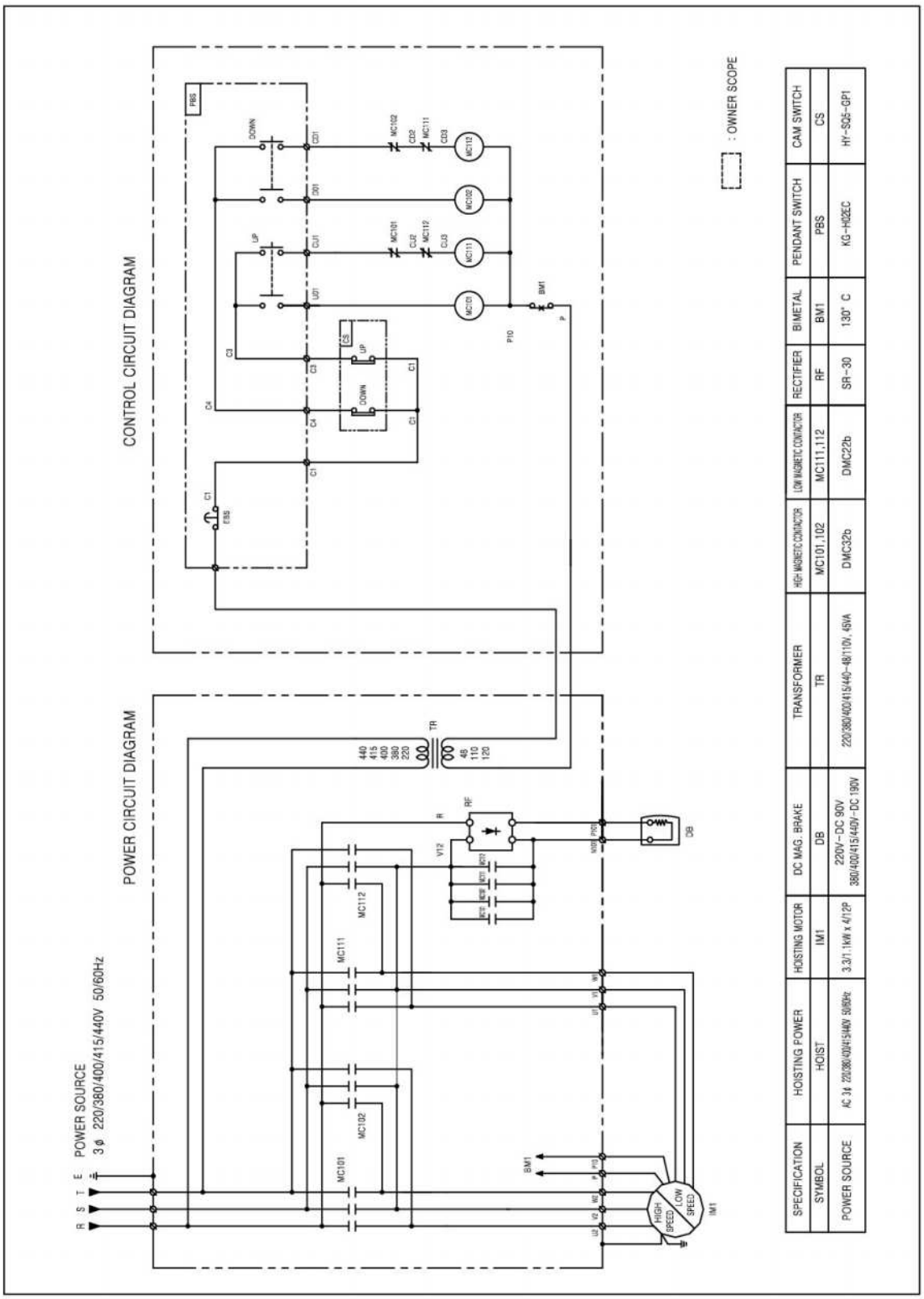


6-3. KD-2M (1.5, 2, 2.5, 3, 5Ton) AC 3Ø 380V 50/60Hz (MONORAIL HOIST)



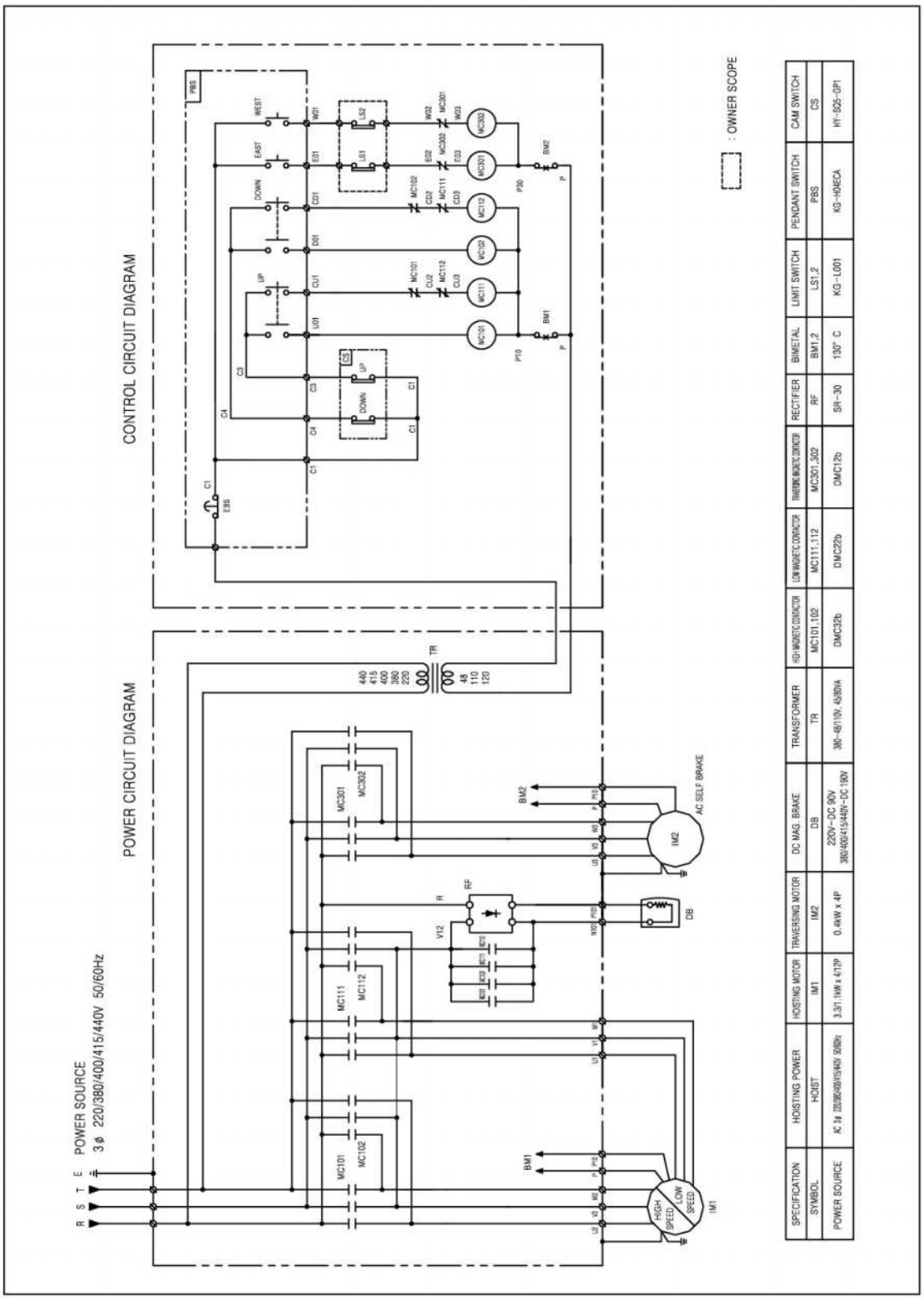
SPECIFICATION	HOISTING POWER	HOISTING MOTOR	TRAVERSING MOTOR	DC MAG. BRAKE	TRANSFORMER	MAGNETIC CONTACTOR		RECTIFIER	BIMETAL	CAM SWITCH	LIMIT SWITCH	PENDANT SWITCH
SYMBOL	HOIST	IM1	IM2	DB	TR	MC1,2	MC3,4	RF	BM1,2	CS	LS1,2	PBS
POWER SOURCE	1.5/2/2.5/3STON AC 3ø 380V 50/60Hz	3.3kW x 4P	0.4kW x 4P	380V-DC 90V	380-48/110V, 45VA	DMC22b	DMC12b	SR-30	130° C	HY-SQ5-GP1	KG-L001	KG-H4EAA

6-4. KDT-2 (1.5, 2, 2.5, 3, 5Ton) AC 3Ø 220/380/400/415/440V 50/60Hz (SUSPENSION & DUAL SPEED HOIST)

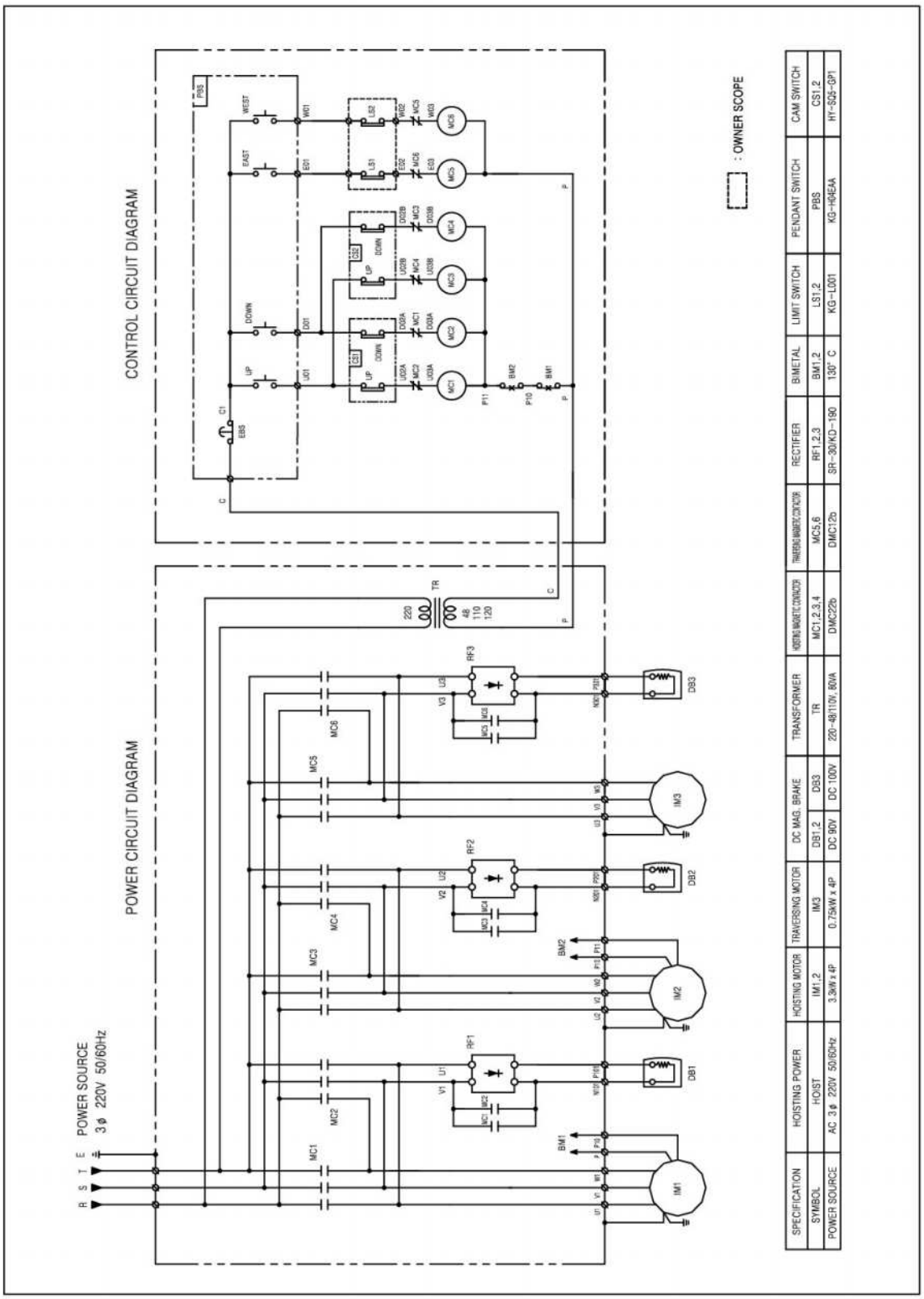


SPECIFICATION	HOISTING POWER	HOISTING MOTOR	DC MAG. BRAKE	TRANSFORMER	HIGH MAGNETIC CONTACTOR	LOW MAGNETIC CONTACTOR	RECTIFIER	BIMETAL	PENDANT SWITCH	CAM SWITCH
SYMBOL	HOIST	IM1	DB	TR	MC101,102	MC111,112	RF	BM1	PBS	CS
POWER SOURCE	AC 3ø 220/380/400/415/440V 50/60Hz	3.3/1.1KW x 4/12P	220V~DC 90V 380/400/415/440V~DC 190V	220/380/400/415/440~48/110V, 45VA	DMC32b	DMC22b	SR-30	130° C	KG-H02EC	HY-SQ5-GP1

6-5. KDT-2M (1.5, 2, 2.5, 3, 5Ton) AC 3Ø 220/380/400/415/440V 50/60Hz (MONORAIL & DUAL SPEED HOIST)

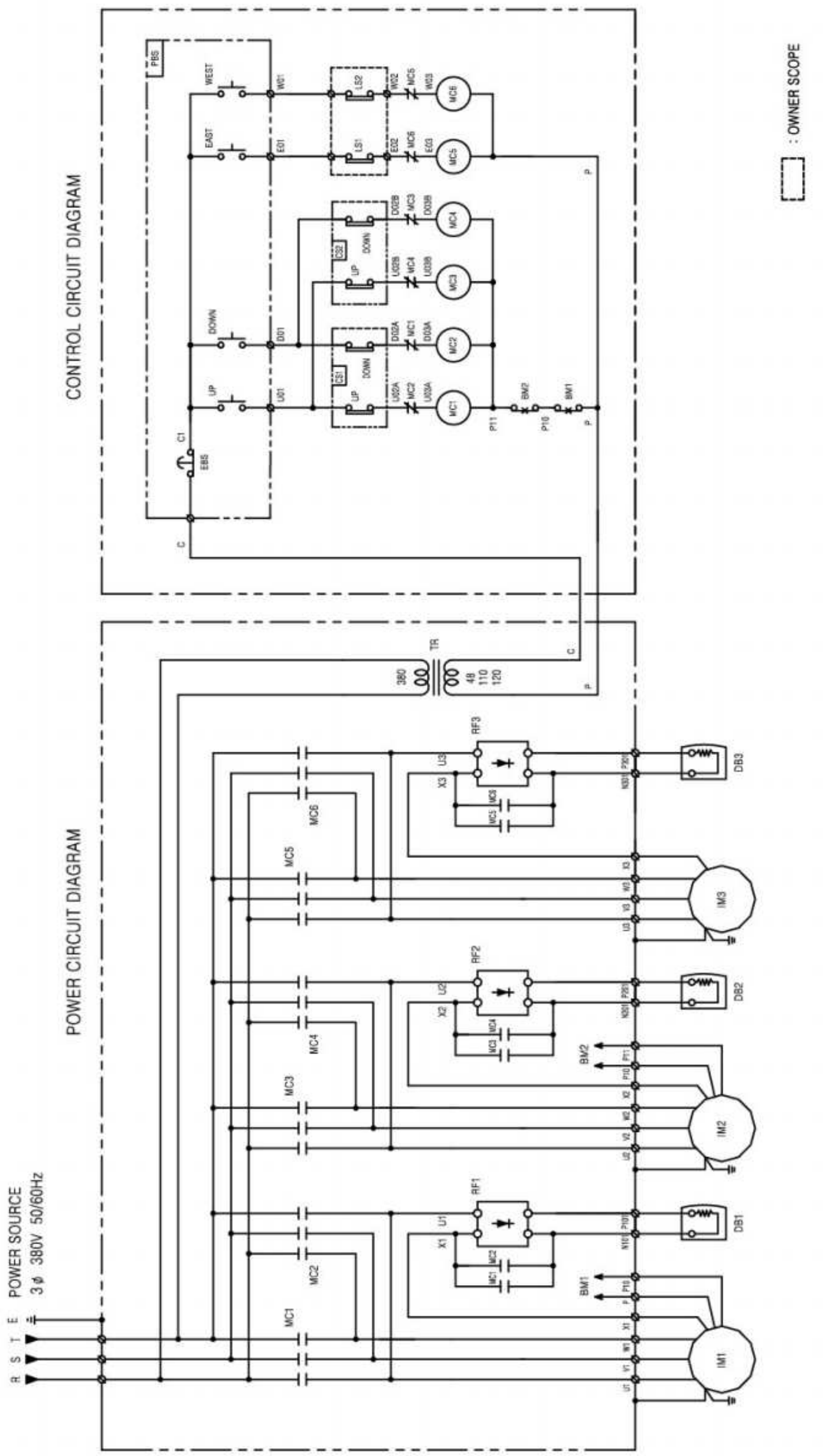


6-6. KD-2M (7.5, 10Ton) AC 3Ø 220V 50/60Hz (MONORAIL & DUAL BODY HOIST)



SPECIFICATION	HOISTING POWER	HOISTING MOTOR	TRAVERSING MOTOR	DC MAG. BBAKE		TRANSFORMER	HOISTING MAGNETIC CONTACTOR	TRAVERSING MAGNETIC CONTACTOR	RECTIFIER	BIMETAL	LIMIT SWITCH	PENDANT SWITCH	CAM SWITCH
SYMBOL	HOIST	IM1,2	IM3	DB1,2	DB3	TR	MC1,2,3,4	MC5,6	RF1,2,3	BM1,2	LS1,2	PBS	CS1,2
POWER SOURCE	AC 3ø 220V 50/60Hz	3.3kW x 4P	0.75kW x 4P	DC 90V	DC 100V	220~48/110V, 80VA	DMC22b	DMC12b	SR-30/KD-190	130° C	KG-L001	KG-H04E4A	HY-505-GP1

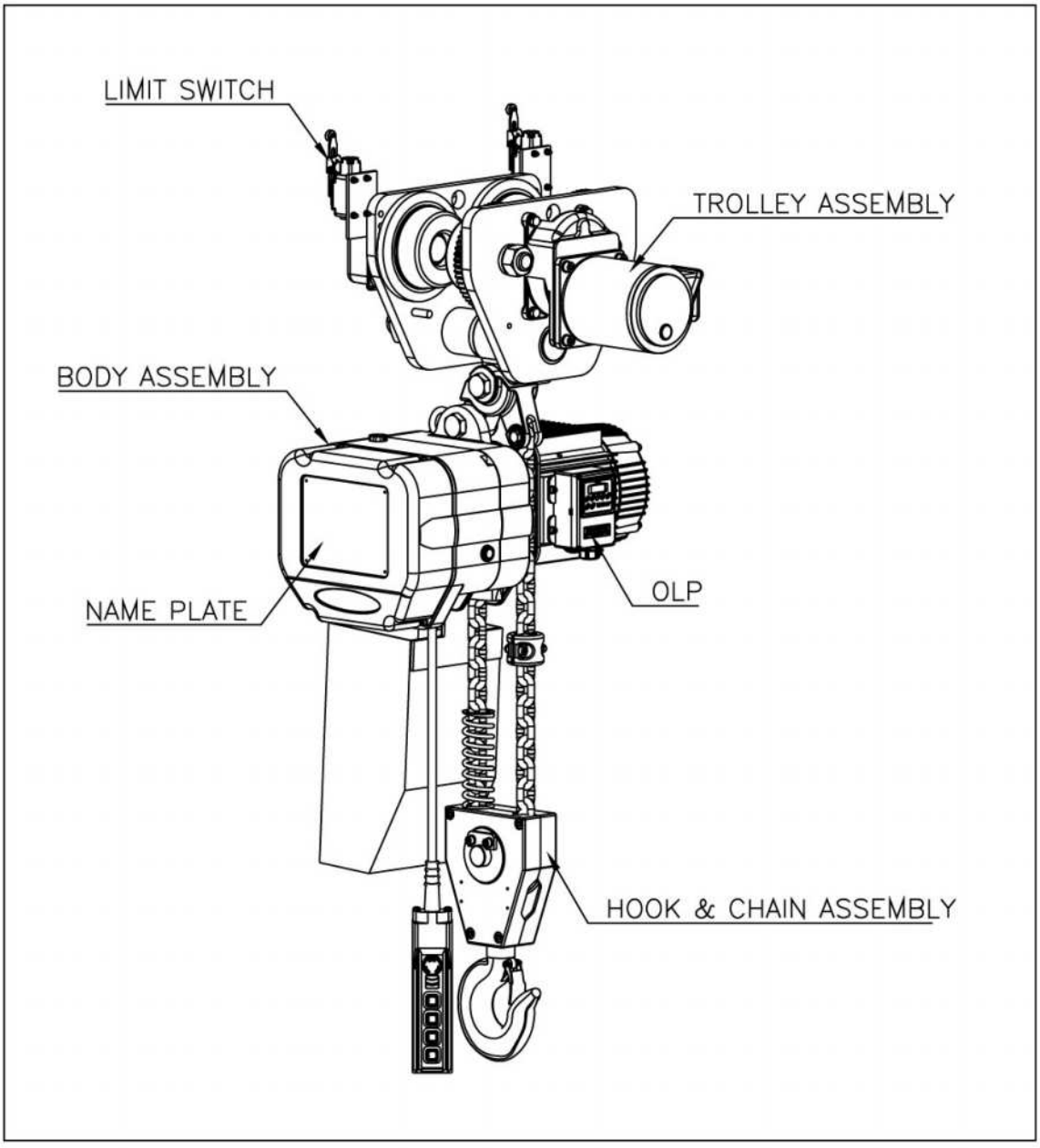
6-7. KD-2M (7.5, 10Ton) AC 3Ø 380V 50/60Hz (MONORAIL & DUAL BODY HOIST)



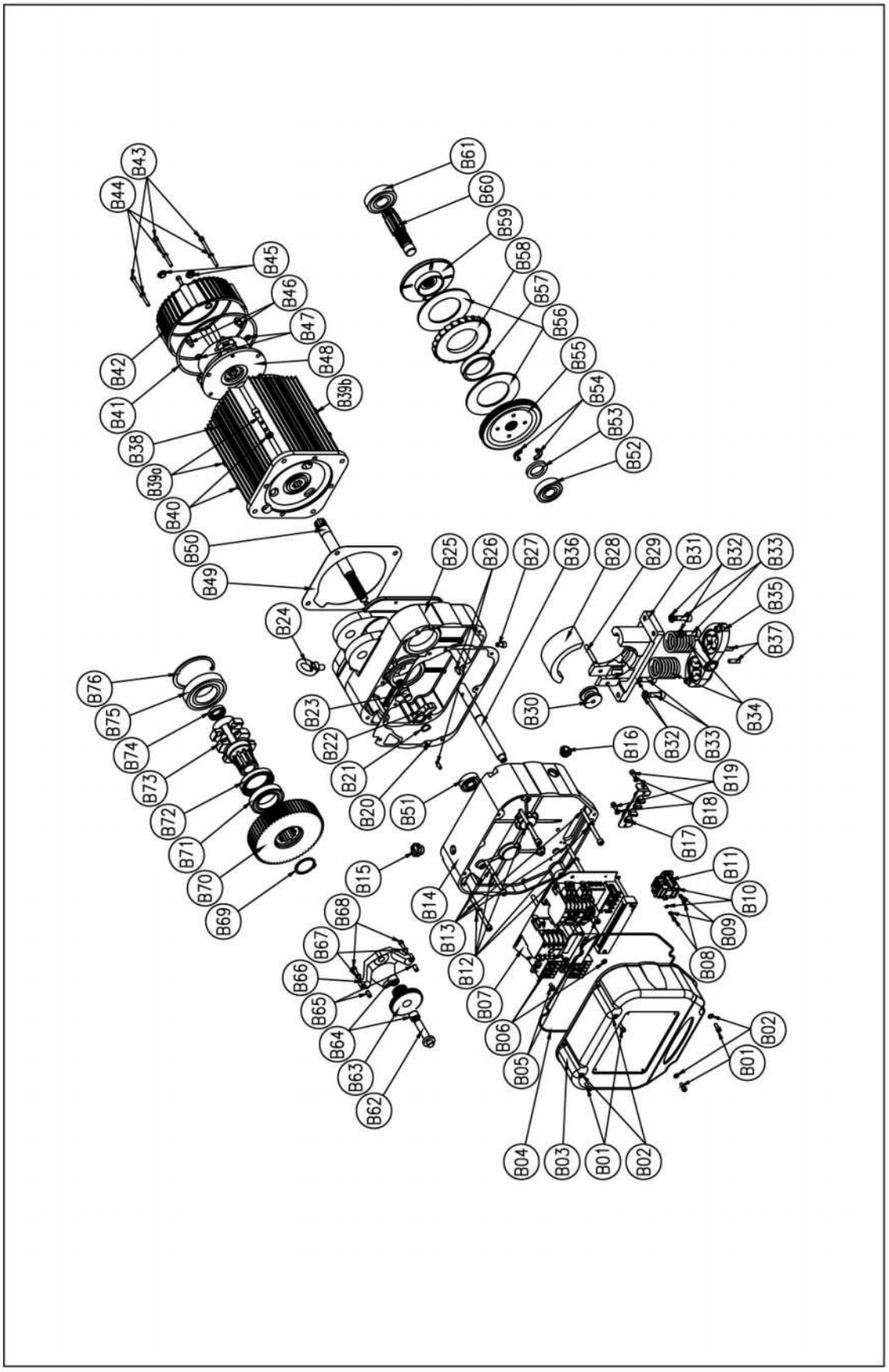
SPECIFICATION	HOISTING POWER	HOISTING MOTOR	TRAVERSING MOTOR	DC MAG. BRAKE		TRANSFORMER	HOISTING MAGNETIC CONTACTOR	TRAVERSING MAGNETIC CONTACTOR	RECTIFIER	BIMETAL	LIMIT SWITCH	PENDANT SWITCH	CAM SWITCH
SYMBOL	HOIST	IM1,2	IM3	DB1,2	DB3	TR	MC1,2,3,4	MC5,6	RF1,2,3	BM1,2	LS1,2	PBS	CS1,2
POWER SOURCE	AC 3ø 380V 50/60Hz	3.3kW x 4P	0.75kW x 4P	DC 90V	DC 100V	380-48/110V, 80VA	DMC22b	DMC12b	SR-30/KD-190	130° C	KG-L001	KG-H04EAA	HY-SQ5-GP1

7. PART LIST

7-1. ELECTRIC CHAIN HOIST ASSEMBLY



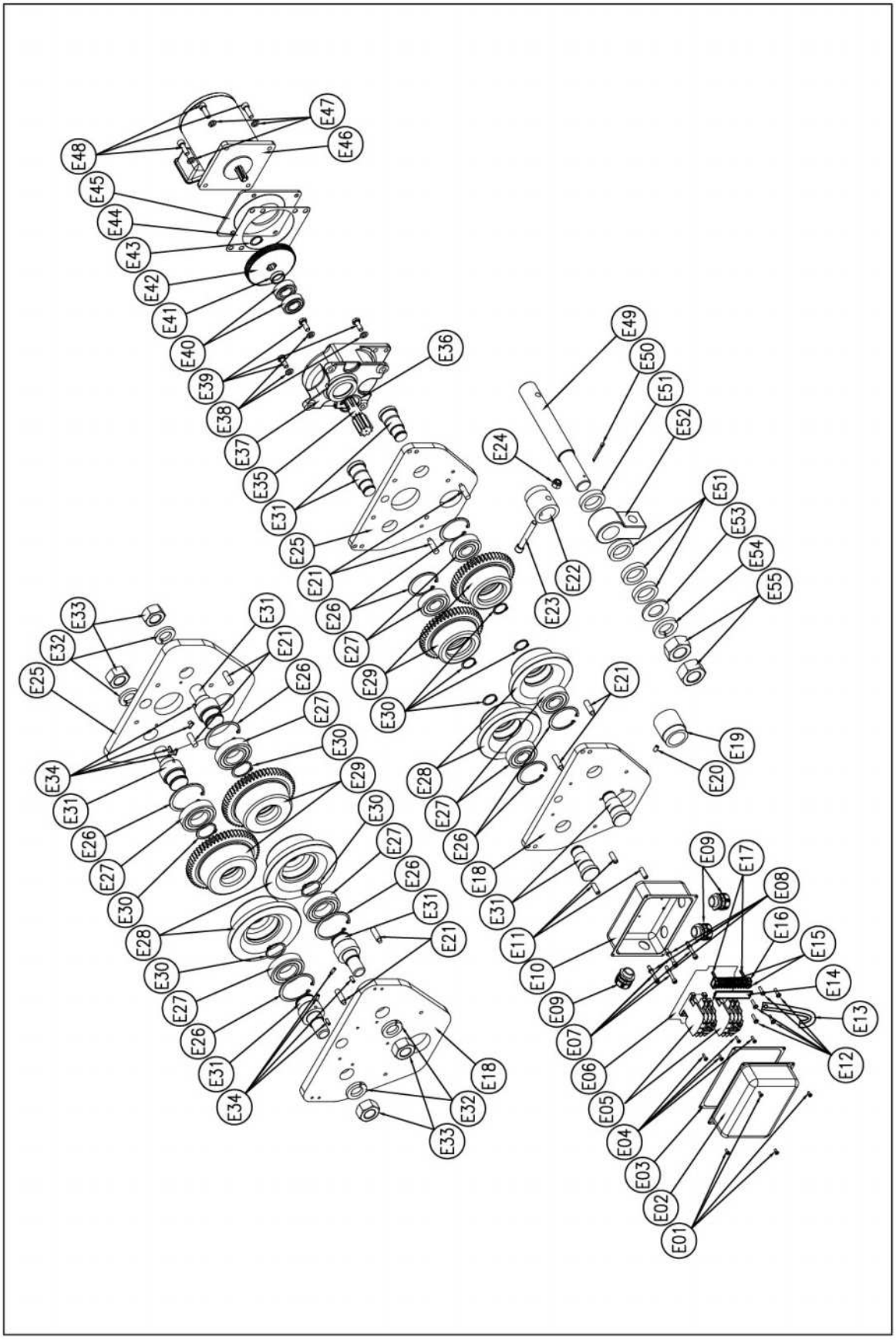
7-2. BODY ASSEMBLY



Note) 2Ton, 5Ton : Ø11.2 / 2.8Ton, 3Ton : Ø 9.5

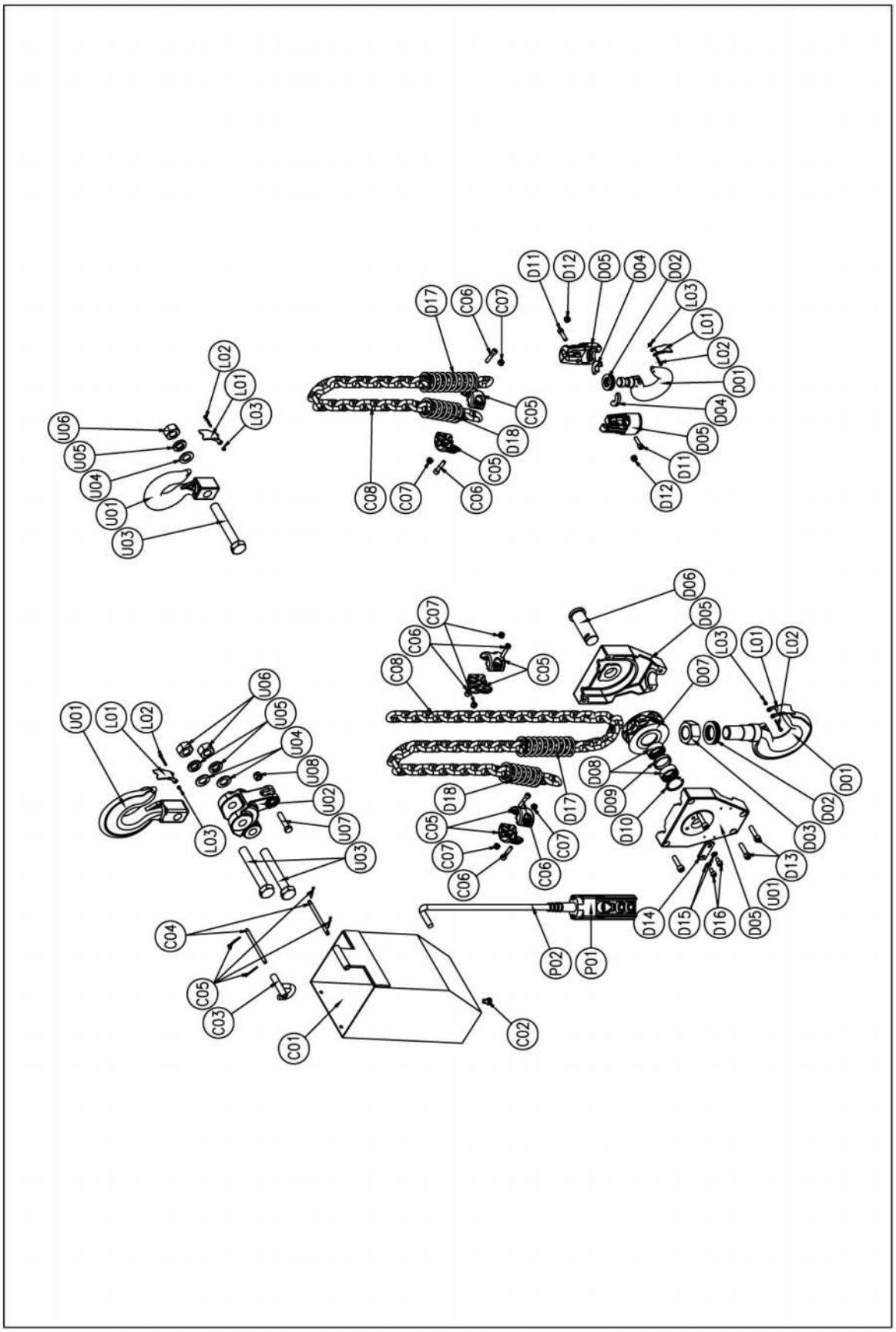
PART No.	PART NAME	SIZE	Q'TY	REMARK	PART No.	PART NAME	SIZE	Q'TY	REMARK
B01	SOCKET HEAD BOLT	M6x15	4		B39	SOCKET HEAD BOLT	M10x30/M10x25	2/2	B39a / B39b
B02	SPRING WASHER	M6	4		B40	SPRING WASHER	M10	4	
B03	ELECTRIC FIELD COVER		1	KD-2	B41	BRAKE GASKET		1	
B04	O-RING	Ø3.1x1082	1	KD-2 Only	B42	BRAKE COVER		1	KD-2
B05	SOCKET HEAD BOLT	M6x10	3		B43	SOCKET HEAD BOLT	M6x85	4	
B06	SPRING WASHER	M6	3		B44	SPRING WASHER	M6	4	
B07	ELECTRIC CONTROL ASS'Y		1	KD-2	B45	DUST CAP	Ø20x6	2	
B08	ROUND HEAD BOLT	M4x14	2		B46	SOCKET HEAD BOLT	M8x15	3	
B09	SPRING WASHER	M4	2		B47	SPRING WASHER	M8	3	
B10	PLAIN WASHER	M4	2		B48	DC ELECTRIC MAGNETIC BRAKE	DC-90 / DC-190	1	
B11	CAM SWITCH		1	HY-SQ5-S-GP1	B49	MOTOR GASKET		1	KD-2
B12	SPRING WASHER	M8	6		B50	PINION SHAFT	Ø25x253	1	
B13	SOCKET HEAD BOLT	M8x100	6		B51	BALL BEARING	6303zz	1	
B14	GEAR CASE B		1	KD-2	B52	BALL BEARING	6305zz	1	
B15	OIL CAP	#21	1	PT 1/2	B53	COTTER RING	Ø50x Ø34x6.3t	1	
B16	OIL GAUGE	#21	1	PT 1/2	B54	COTTER	R17xR10.5x6.8t	2	
B17	CABLE FIXING PLATE		1	KD-2 Only	B55	PINION GEAR	Ø182.78x32	1	2spd. : Ø150x26
B18	SPRING WASHER	M6	2		B56	RATCHET WHEEL LINING	T3.8xØ145xØ92	2	2spd. : T1.3xØ133xØ80
B19	SOCKET HEAD BOLT	M6x15	2		B57	BUSH	Ø90xØ79x16	1	
B20	GEAR CASE GASKET		1		B58	RATCHET WHEEL	Ø160xØ89.8x13	1	2spd. : Ø143xØ77x13
B21	SNAP RING	S18	1		B59	PRESSURE PLATE	Ø145x29	1	2spd. : Ø133x29
B22	PAWL		1	PAWL Spring	B60	2nd PINION	2T / 3T / 5T	1	
B23	PAWL PIN		1		B61	BALL BEARING	6306zz	1	
B24	EYE BOLT	M12	1		B62	2nd PINION GEAR SHAFT	Ø28x76	1	2spd. Only
B25	GEAR CASE A		1	KD-2	B63	2nd PINION GEAR	Ø79.36x44	1	2spd. Only
B26	SPRING PIN	Ø6x20	1		B64	NEEDLE BEARING	HK1516	2	2spd. Only
B27	SOCKET HEAD BOLT	M10x15	1	Oil Drain	B65	SPRING PIN	Ø10x20	2	2spd. Only
B28	CHAIN GUIDE		1		B66	SUPPORTER		1	2spd. Only
B29	ROLLER PIN	Ø8x55	1		B67	SPRING WASHER	M6	3	2spd. Only
B30	ROLLER		1		B68	SOCKET HEAD BOLT	M6x40	3	2spd. Only
B31	STRIPPER	Ø9.5 / Ø11.2	1		B69	SNAP RING	S45	1	
B32	SPRING WASHER	M10	4		B70	LOAD GEAR	2T / 3T / 5T	1	
B33	SOCKET HEAD BOLT	M10x30	4	High-Tension	B71	BALL BEARING	6010zz	1	
B34	LIMIT SPRING	Ø5.5x70	2		B72	OIL RETAINER	58x80x12	1	
B35	LIMIT HANDLE	Ø9.5 / Ø11.2	1		B73	LOAD SHEAVE	Ø9.5 / Ø11.2	1	
B36	LIMIT SHAFT	Ø20x243	1		B74	OIL RETAINER	25x40x8	1	
B37	SOCKET HEAD STOP BOLT	M8x30	2	Cup Point	B75	BALL BEARING	6211zz	1	
B38	HOISTING MOTOR		1		B76	SNAP RING	R100	1	

7-3. TROLLEY ASSEMBLY



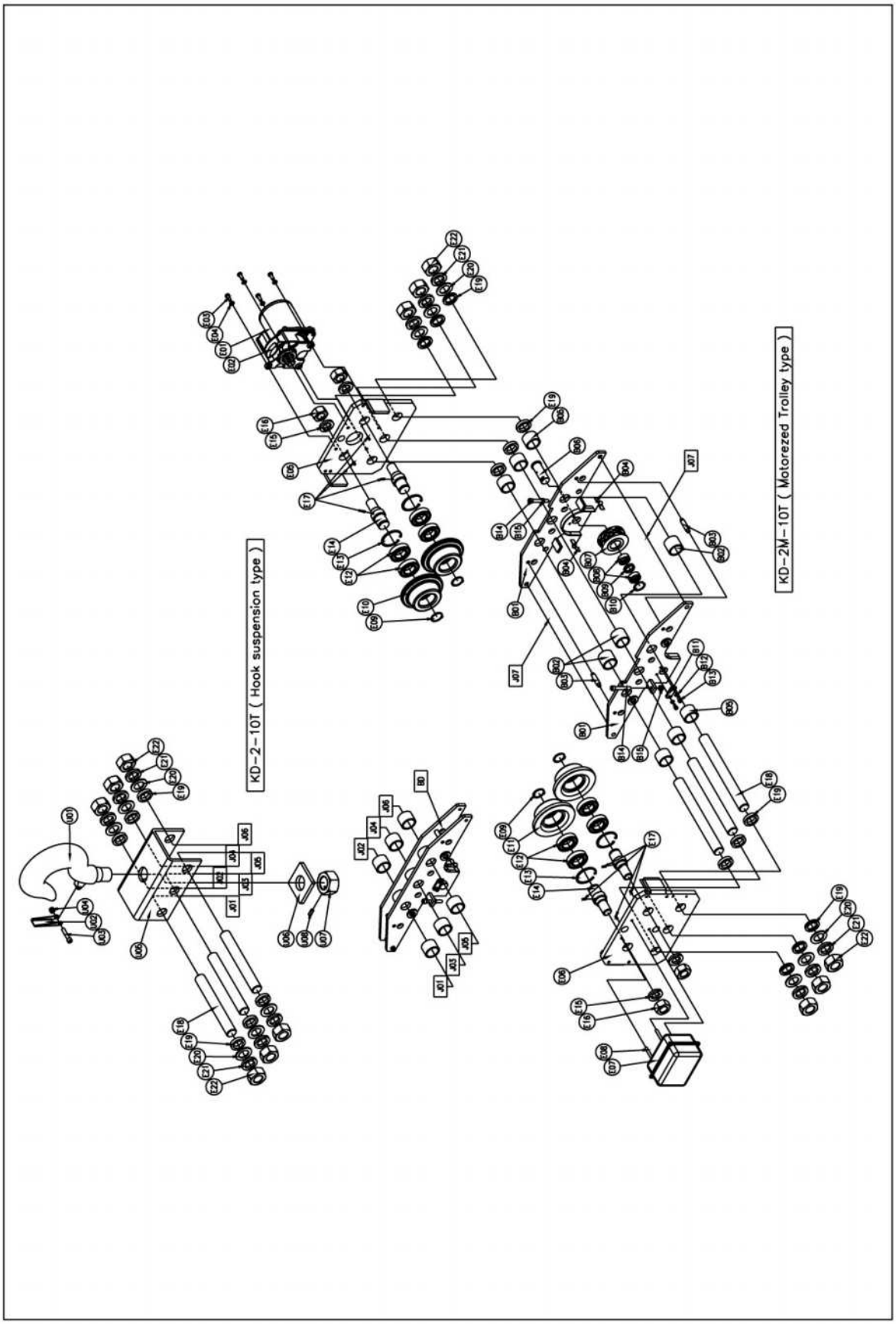
PART No.	PART NAME	SIZE			Q'TY	REMARK	PART No.	PART NAME	SIZE			Q'TY	REMARK
		2T	3T	5T					2T	3T	5T		
E01	SOCKET HEAD BOLT	M6x25			4		E29	GEARED WHEEL	Ø135.8	Ø156.8	Ø180.9	2	
E02	SWITCH HOLDER (TOP)	KMT-0.4kw			1		E30	SNAP RING	S25	S30	S45	4	
E03	SWITCH HOLDER GASKET	O-ring Ø2			1		E31	WHEEL PIN	Ø40x68	Ø44x81	Ø55x112	4	
E04	SEMS BOLT	M4x16			4		E32	SPRING WASHER	-	-	M30	4	5Ton Only
E05	MAGNETIC CONTACTOR	DMC12b			2		E33	Hex. NUT	-	-	M30	4	5Ton Only
E06	S/W HOLDER BASE PLATE	200x145x2t			1		E34	SPRING PIN	-	-	Ø6x20	8	5Ton Only
E07	SOCKET HEAD BOLT	M6x50			4		E35	OUT PINION	Ø35x102			1	
E08	SPRING WASHER	M6			4		E36	SNAP RING	R52			1	
E09	CABLE GLAND	PG DAM-25 / PG-13.5			2 / 2	Hole Cover:2ea	E37	REDUCER CASE	KMT-0.4kw			1	
E10	SWITCH HOLDER (BOTTOM)	KMT-0.4kw			1		E38	SPRING WASHER	M10			4	
E11	STAY PIPE	Ø6.5xØ10x28L			4		E39	Hex. HEAD BOLT	M10x25			4	
E12	SEMS BOLT	M6X12			5		E40	BALL BEARING	6205zz			2	
E13	ANTI-FALLING STRAP	-			1		E41	REDUCER COLLAR	Ø34x3.4tx9L			1	
E14	TERMINAL BLOCK COVER	20Ax10P			1		E42	PINION GEAR	LOW(M1.5,Z:80)/HIGH(M1.5,Z:40)		LOW(M1.5,Z:80)	1	
E15	TERMINAL BLOCK BOLT	M4X75			2		E43	SNAP RING	S25			1	
E16	TERMINAL BLOCK	20Ax10P			1		E44	TROLLEY GASKET	KMT-0.4kw			1	
E17	TERMINAL BLOCK PIPE	Ø5x7x63L			2		E45	REDUCER COVER	KMT-0.4kw			1	
E18	PLAIN SIDE PLATE	T12x296x225	T16x337x255	T20x384x300	1		E46	TRAVERSING MOTOR	0.4kw x 4P			1	
E19	PLAIN SIDE COLLAR PIPE	Ø48.6x7.1tx47L	Ø60.5x8.7tx49.5L	Ø76.3x10.4tx82.5L	1		E47	SPRING WASHER	M10			4	
E20	SOCKET HEAD STOP BOLT	M8x15			1	Cup point	E48	SOCKET HEAD BOLT	M10x30			4	
E21	STAY PIN	Ø12x42L			4		E49	STAY BOLT	Ø35x300	Ø42x325	Ø55x370	1	
E22	GEAR SIDE COLLAR PIPE	Ø48.6x7.1tx47L	Ø60.5x8.7tx49.5L	Ø76.3x10.4tx82.5L	1		E50	SPLIT PIN	Ø4x55	Ø4x65	Ø4x65	1	
E23	SOCKET HEAD BOLT	M10x65	M12x90	M12x90	1	High-Tension	E51	COLLAR	T12.5xØ48.6xØ36.8	T12.5xØ60.5xØ43	T12.5xØ76xØ57	4	
E24	Hex. LOCK NUT	M10	M12	M12	1		E52	HANGER	-			1	
E25	GEAR SIDE PLATE	T12x296x225	T16x337x255	T20x384x300	1		E53	PLAIN WASHER	M30	M36	M42	1	
E26	SNAP RING	R62	R72	R85	4		E54	SPRING WASHER	M30	M36	M42	1	
E27	BALL BEARING	6305zz	6306zz	6209zz	4		E55	Hex. NUT	M30	M36	M42	2	
E28	PLAIN WHEEL	Ø135.8	Ø156.8	Ø180.9	2		E56						

7-4. HOOK & CHAIN ASSEMBLY



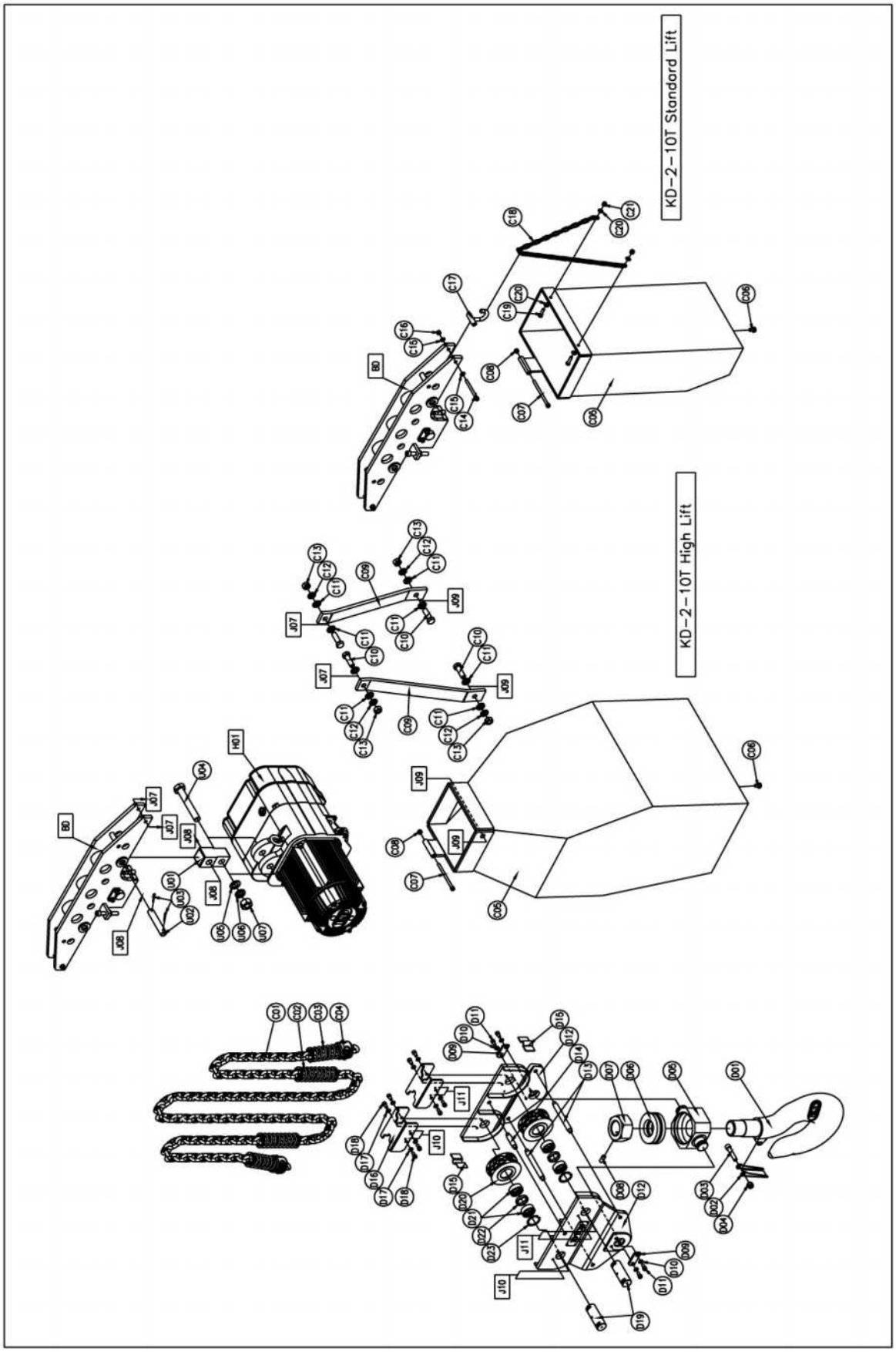
PART No.	PART NAME	SIZE			Q'TY	REMARK	PART No.	PART NAME	SIZE			Q'TY	REMARK
		2T	3T	5T					2T	3T	5T		
U01	TOP HOOK				1		L01	SAFETY LATCH & SPRING				1	
U02	TOP HOLDER				1	2fall Only	L02	ROUND HEAD BOLT	M4x25	M4x30	M4x30	1	
U03	Hex. HEAD BOLT	1ea	2ea	2ea	–	High-Tension(M22x150)	L03	Hex. LOCK NUT	M4	M4	M4	1	
U04	PLAIN WASHER	1ea	2ea	2ea	–	M22							
U05	SPRING WASHER	1ea	2ea	2ea	–	M22	C01	CHAIN BUCKET				1	
U06	Hex. NUT	1ea	2ea	2ea	–	M22	C02	Hex. HEAD BOLT				1	OIL DRAIN BOLT
U07	Hex. HEAD BOLT	–	M12x60	M12x60	1	High-Tension	C03	CHAIN BUCKET RING				1	
U08	Hex. LOCK NUT	–	M12	M12	1		C04	CHAIN BUCKET PIN				2	
							C05	CHAIN STOP HOLDER	2	4	4	–	
D01	BOTTOM HOOK				1		C06	SOCKET HEAD BOLT	2ea	4ea	4ea	–	M8x35
D02	THRUST BEARING	#51105	#51106	#2908	1		C07	Hex. LOCK NUT	2ea	4ea	4ea	–	M8
D03	Hex. NUT	–	M30	M36	1		C08	LOAD CHAIN	Ø11.2	Ø9.5	Ø11.2	–	
D04	COTTER	Ø42x19		–	2	1fall Only							
D05	BOTTOM HOLDER	1fall	2fall	2fall	2		P01	PUSH BUTTON				1	3P, 5P, 7P
D06	IDLE SHEAVE PIN	–	Ø25x93	Ø35x98	1	2fall Only	P02	CONTROL CABLE				–	
D07	IDLE SHEAVE		Ø9.5	Ø11.2	1	2fall Only							
D08	NEEDLE BEARING	–	RNA4904	RNA4906	2	2fall Only							
D09	IDLE SHEAVE COLLAR	–	Ø27.2xØ34x10T	Ø37xØ44x8T	1	2fall Only							
D10	SNAP RING	–	R37	R47	1	2fall Only							
D11	SOCKET HEAD BOLT	M8x30		–	2	1fall Only							
D12	Hex. LOCK NUT	M8		–	2	1fall Only							
D13	SOCKET HEAD BOLT	–	M8x50	M10x40	4	2fall Only							
D14	KEY PLATE	–	T6x60x25	T6x60x25	1	2fall Only							
D15	SPRING WASHER	–	M8	M8	2	2fall Only							
D16	SOCKET HEAD BOLT	–	M8x15	M8x15	2	2fall Only							
D17	BOTTOM HOOK SPRING	Ø6.2x151			1								
D18	TAIL SPRING	Ø6.2x102			1								

7-5. TOP PARTS of LARGE CAPACITY TYPE (10Ton)



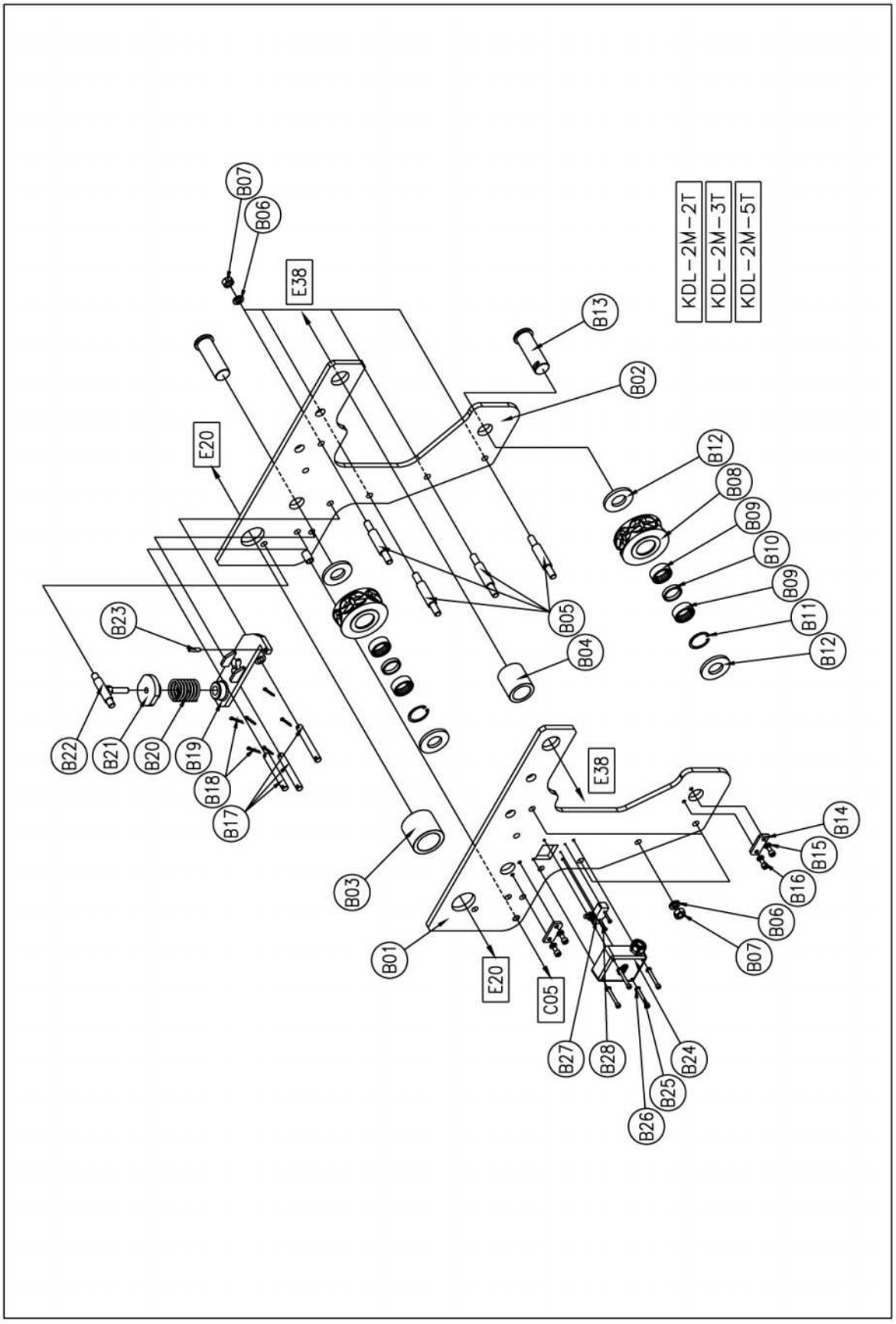
PART No.	PART NAME	SIZE	Q'TY	REMARK	PART No.	PART NAME	SIZE	Q'TY	REMARK
B01	TOP HOLDER PLATE	T12x770x220	2		E19	COLLAR	Ø60.5xØ43.5x12.5T	12	Monorail type
B02	STAY PIPE A	Ø60.5x5.5tx51	3			COLLAR	Ø60.5xØ43.5x12.5T	6	Hook suspension type
B03	STAY PIN A	Ø16x71	2		E20	PLAIN WASHER	M42	6	
B04	CHAIN GUIDE A	T1.5	2	for TOP HOLDER	E21	SPRING WASHER	M42	6	
B05	STAY PIPE B	Ø60.5x5.5tx63.5	6	Monorail type	E22	Hex. NUT	M42	6	
	STAY PIPE B	Ø60.5x5.5tx42.5	6	Hook suspension type					
B06	IDLE SHEAVE PIN	Ø35x95	1	for TOP HOLDER	U01	TOP HOOK	10Ton	1	
B07	IDLE SHEAVE	Ø11.2	1		U02	SAFETY LATCH	10Ton	1	with SAFETY LATCH SPRING
B08	NEEDLE BEARING	RNA4906	2		U03	SOCKET HEAD BOLT	M12x60	1	
B09	IDLE SHEAVE COLLAR	Ø42xØ47x8.2t	1		U04	Hex. LOCK NUT	M12	1	
B10	SNAP RING	R47	1		U05	TOP HOLDER	10Ton	1	
B11	KEY PLATE	T6x60x25	1		U06	TOP HOLDER SUPPORTER	T15x120x120	1	
B12	SPRING WASHER	M8	2		U07	Hex. NUT	M56	1	TOP HOOK NUT
B13	SOCKET HEAD BOLT	B8x15	2		U08	SOCKET HEAD STOP BOLT	M12x30	1	
B14	SOCKET HEAD BOLT	M12x80	2						
B15	Hex. NUT	M12	2		BD	TOP HOLDER Ass'y	10 Ton	1	
E01	TRAVERSING MOTOR	0.75kwx4P	1		J01	TOP HOLDER-STAY BOLT			
E02	REDUCER CASE	KMT-0.75kw	1		J02	TOP HOLDER-STAY BOLT			
E03	Hex. HEAD BOLT	M10x25	4		J03	TOP HOLDER-STAY BOLT			
E04	SPRING WASHER	M10	4		J04	TOP HOLDER-STAY BOLT			
E05	GEAR SIDE PLATE	T20x410x310	1		J05	TOP HOLDER-STAY BOLT			
E06	PLAIN SIDE PLATE	T20x410x310	1		J06	TOP HOLDER-STAY BOLT			
E07	SWITCH HOLDER	KMT-0.75kw	1		J07	TOP HOLDER-CHAIN BUCKET PIN			
E08	STAY PIPE	Ø6.5xØ10x60	3						
E09	SNAP RING	S45	4						
E10	GEARED WHEEL	Ø180.9	2						
E11	PLAIN WHEEL	Ø180.9	2						
E12	BALL BEARING	6209zz	8						
E13	SNAP RING	R85	4						
E14	WHEEL PIN	Ø55x112	4						
E15	SPRING WASHER	M30	4						
E16	Hex. NUT	M30	4						
E17	SPRING PIN	Ø6x20	8						
E18	STAY BOLT	Ø42x405	3	Monorail type					
	STAY BOLT	Ø42x320	3	Hook suspension type					

7-6. BOTTOM PARTS of LARGE CAPACITY (10Ton)



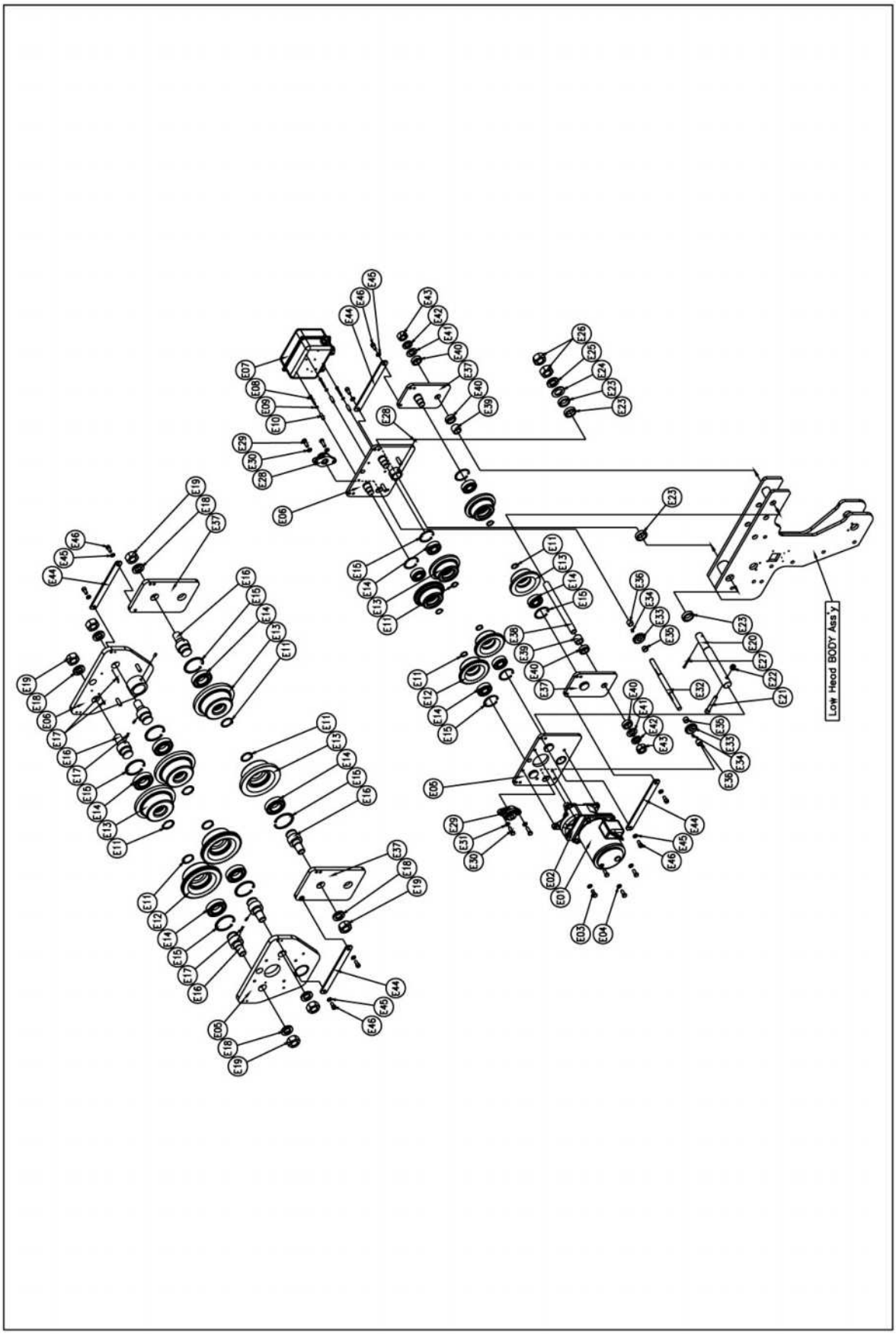
PART No.	PART NAME	SIZE	Q'TY	REMARK	PART No.	PART NAME	SIZE	Q'TY	REMARK
D01	BOTTOM HOOK	10Ton	1		C11	PLAIN WASHER	M16	16	for High lift type
D02	SAFETY LATCH	10Ton	1	with SAFETY LATCH SPRING	C12	SPRING WASHER	M16	8	for High lift type
D03	SOCKET HEAD BOLT	M12x60	1		C13	Hex. NUT	M16	8	for High lift type
D04	Hex. LOCK NUT	M12	1		C14	SOCKET HEAD BOLT	M8x90	2	for Standard lift type
D05	TAIL CROSS	10Ton	1		C15	PLAIN WASHER	M8	4	for Standard lift type
D06	THRUST BEARING	51312	1		C16	Hex. LOCK NUT	M8	2	for Standard lift type
D07	Hex. NUT	M56	1	BOTTOM HOOK NUT	C17	CHAIN BUCKET RING		2	for Standard lift type
D08	SOCKET HEAD STOP BOLT	M12x30	1	CUP POINT	C18	CHAIN BUCKET CHAIN	Ø5	2	
D09	KEY PLATE	T6x60x25	2		C19	Hex. HEAD BOLT	M8x30	4	
D10	SPRING WASHER	M8	4		C20	PLAIN WASHER	M8	8	
D11	SOCKET HEAD BOLT	M8x15	4		C21	Hex. LOCK NUT	M8	4	
D12	BOTTOM HOLDER PLATE	T12x314x360	2						
D13	STAY PIN B	Ø16x148	2		U01	HANGER	10Ton	2	
D14	STAY PIN A	Ø16x71	1		U02	TOP HOOK PIN	Ø22x117	2	for HANGER
D15	CHAIN GUIDE B	T1.5	2	for BOTTOM HOLDER	U03	SPLIT PIN	Ø4x32	4	for TOP HOOK PIN
D16	BOTTOM HOLDER BRACKET	T4.5	2	for BOTTOM HOLDER	U04	Hex. HEAD BOLT	M22x150	2	High-Tension
D17	SPRING WASHER	M8	8		U05	PLAIN WASHER	M22	2	
D18	SOCKET HEAD BOLT	M8x15	8		U06	SPRING WASHER	M22	2	
D19	IDLE SHEAVE PIN	Ø35x100	2	for BOTTOM HOLDER	U07	Hex. NUT	M22	2	
D20	IDLE SHEAVE	Ø11.2	2						
D21	NEEDLE BEARING	RNA 4906	4		H01	HOIST BODY Ass'y		2	KD-2-5Ton
D22	IDLE SHEAVE COLLAR	Ø42xØ47x8.2t	2		BD	TOP HOLDER Ass'y		1	10Ton
D23	SNAP RING	R47	2						
					J07	TOP HOLDER-CHAIN BUCKET PIN			
C01	LOAD CHAIN	Ø11.2	1	4fall lines	J08	TOP HOLDER-HANGER			
C02	BOTTOM HOOK SPRING	Ø6.2x151	2		J09	CHAIN BUCKET-CHAIN BUCKET GUIDE			
C03	TAIL SPRING	Ø6.2x102	2		J10	BOTTOM HOLDER-BOTTOM HOLDER BRACKET			
C04	CHAIN STOP HOLDER	Ø9.5 / Ø11.2	4		J11	BOTTOM HOLDER-BOTTOM HOLDER BRACKET			
	SOCKET HEAD BOLT	M8x35	4						
	Hex. LOCK NUT	M8	4						
C05	CHAIN BUCKET		2						
C06	Hex. HEAD BOLT	M10x15	2	OIL DRAIN BOLT					
C07	SOCKET HEAD BOLT	M8x120	2	High-Tension					
C08	Hex. LOCK NUT	M8	2						
C09	CHAIN BUCKET GUIDE	T12x50x494	2	for High lift type					
C10	Hex. HEAD BOLT	M16x50	8	for High lift type					

7-7. BODY ASSEMBLY for LOW HEAD TYPE



PART No.	PART NAME	SIZE			Q'TY	REMARK
		2T	3T	5T		
B01	SIDE PLATE B				1	KDL-2M
B02	SIDE PLATE A				1	KDL-2M
B03	TROLLEY CENTER COLLAR PIPE	Ø48.6x5.9tx65	Ø60.5x8.7tx65	Ø76.3x10.4tx65	1	
B04	SUB TROLLEY CENTER COLLAR PIPE	Ø34x4.5tx65	Ø42.7x4.9tx65	Ø60.5x8.7tx65	1	
B05	STAY PIN	Ø20x128			4	2-M14 Bolt
B06	SPRING WASHER	M14			8	
B07	Hex. NUT	M14			8	
B08	IDLE SHEAVE	Ø11.2(2ea)	Ø9.5(3ea)	Ø11.2(3ea)	-	
B09	NEEDLE BEARING	RNA4906(4ea)	RNA4904(6ea)	RNA4906(6ea)	-	
B10	IDLE SHEAVE COLLAR	Ø37.5xØ45x8.2t(2ea)	Ø27.2xØ34x10t(3ea)	Ø37.5xØ45x8.2t(3ea)	-	
B11	SNAP RING	R47(2ea)	R37(3ea)	R47(3ea)	-	
B12	SHEAVE COLLAR	Ø70xØ35.1x7t(4ea)	Ø70xØ35.1x7t(6ea)	Ø70xØ35.1x7t(6ea)	-	
B13	IDLE SHEAVE PIN	Ø45x108(2ea)	Ø35x110(3ea)	Ø45x108(3ea)	-	
B14	KEY PLATE	T6x60x25(2ea)	T6x60x25(3ea)	T6x60x25(3ea)	-	
B15	SPRING WASHER	M8(4ea)	M8(6ea)	M8(6ea)	-	
B16	SOCKET HEAD BOLT	M8x15(4ea)	M8x15(6ea)	M8x15(6ea)	-	
B17	SUPPORT PIN	Ø18x100			3	
B18	SPLIT PIN	Ø4x32			6	
B19	LIMIT HANDLE	Ø11.2	Ø9.5	Ø11.2	1	
B20	COIL SPRING	Ø5x62			1	
B21	SPRING POSITIONER	Ø70x27			1	
B22	SPRING RECEIVER				1	
B23	SOCKET HEAD STOP BOLT	M8x30			1	CUP POINT
B24	LIMIT SWITCH COVER	110x80x85 (ABS B85G)			1	
B25	SOCKET HEAD BOLT	M6x25			4	
B26	SPRING WASHER	M6			4	
B27	Micro LIMIT SWITCH	HY-P701A			1	
B28	ROUND HEAD BOLT	M4x30			2	
C05	Hex. HEAD BOLT	-	-	M12x100	1	High-Tension(5Ton Only)
E20	STAY BOLT	Ø35x300	Ø42x325	Ø55x370	1	Main Trolley
E38	STAY BOLT	Ø24x290	Ø30x320	Ø42x355	1	Sub Trolley

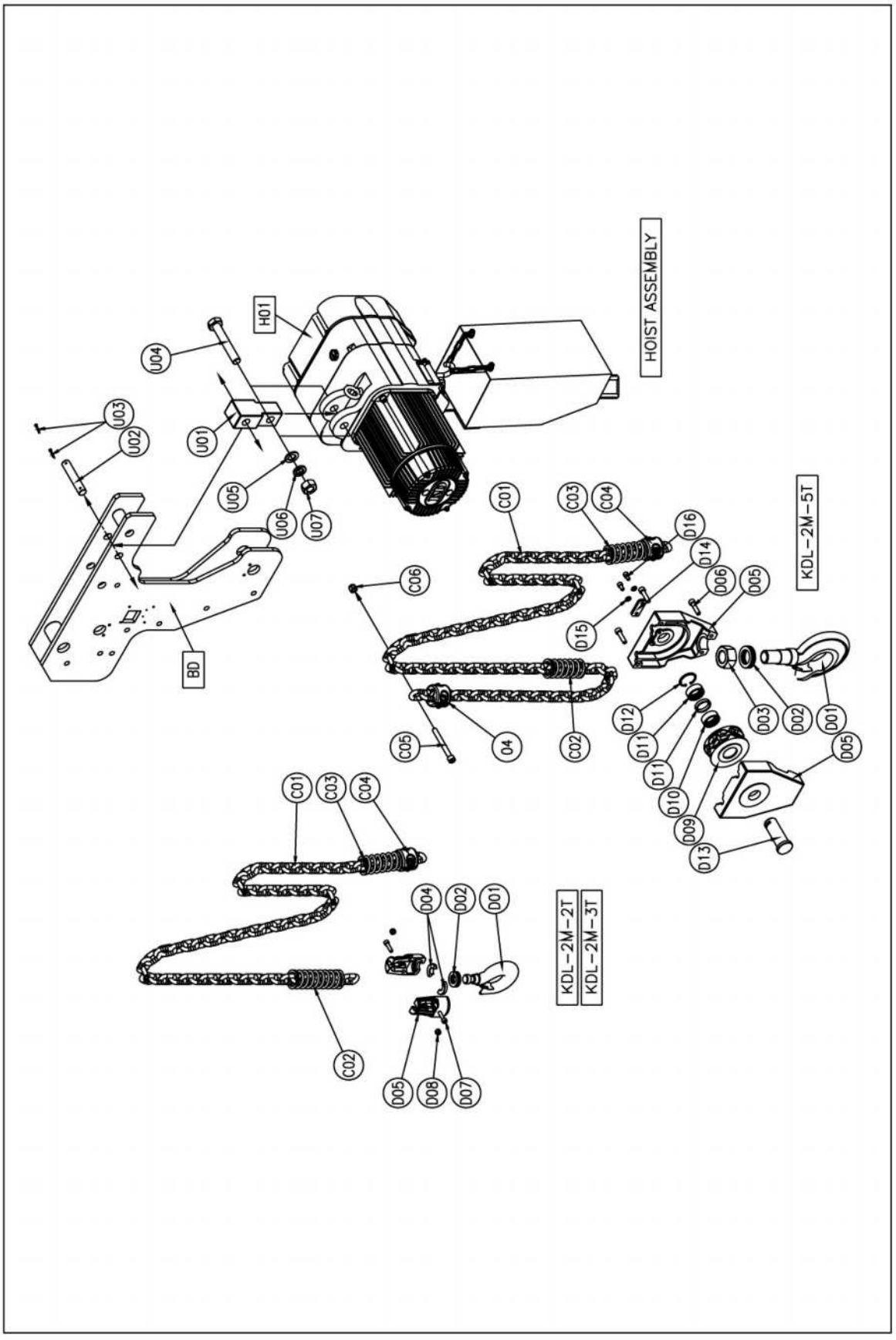
7-8. TROLLEY ASSEMBLY for LOW HEAD TYPE



PART No.	PART NAME	SIZE			Q'TY	REMARK
		2T	3T	5T		
E01	TRAVERSING MOTOR	0.4kw x 4P			1	
E02	REDUCER CASE	KMT-0.4kw			1	
E03	Hex. HEAD BOLT	M10x25			4	
E04	SPRING WASHER	M10			4	
E05	GEAR SIDE PLATE	T12x296x217	T16x337x255	T20x384x300	1	
E06	PLAIN SIDE PLATE	T12x296x217	T16x337x255	T20x384x300	1	
E07	SWITCH HOLDER	KMT-0.4kw			1	
E08	SOCKET HEAD BOLT	M6x45			3	
E09	SPRING WASHER	M6			3	
E10	STAY PIPE	Ø6.5xØ10x28			3	
E11	SNAP RING	S25	S30	S45	6	
E12	GEARED WHEEL	Ø135.8(3ea)	Ø156.8(3ea)	Ø180.9(2ea)	-	
E13	PLAIN WHEEL	Ø135.8(3ea)	Ø156.8(3ea)	Ø180.9(4ea)	-	
E14	BALL BEARING	6305zz	6306zz	6209zz	6	
E15	SNAP RING	R62	R72	R85	6	
E16	WHEEL PIN	-	-	Ø55x112	6	
E17	SPRING PIN	-	-	Ø6x20	12	5Ton Only
E18	SPRING WASHER	-	-	M30	6	5Ton Only
E19	Hex. NUT	-	-	M30	6	5Ton Only
E20	STAY BOLT	Ø35x300	Ø42x325	Ø55x370	1	
E21	SOCKET HEAD BOLT	M10x65	M12x90	M12x90	1	High-Tension
E22	Hex. LOCK NUT	M10	M12	M12	1	
E23	COLLAR	T12.5xØ48.6xØ36.8	T12.5xØ60.5xØ43	T12.5xØ76xØ57	4	

PART No.	PART NAME	SIZE			Q'TY	REMARK
		2T	3T	5T		
E24	PLAIN WASHER	M30	M36	M42	1	
E25	SPRING WASHER	M30	M36	M42	1	
E26	Hex. NUT	M30	M36	M42	2	
E27	SPLIT PIN	Ø5x55	Ø4x65	Ø4x65	1	
E28	SOCKET HEAD STOP BOLT	M8x15			1	CUP POINT
E29	BALL BEARING	UCFL203		-	2	Flange type
E30	Hex. HEAD BOLT	M10x30		-	4	
E31	SPRING WASHER	M10		-	4	
E32	IDLE SHAFT	Ø20x290	Ø20x310	-	1	
E33	IDLE GEAR	Ø51x17		-	2	
E34	KEY	6x6x12L		-	2	
E35	IDLE COLLAR A	Ø21.7x2.65Tx12.5		-	4	
E36	IDLE COLLAR B	Ø21.7x2.65Tx17.3		-	2	
E37	SUB TROLLEY SIDE PLATE	T12x136x217	T16x245x150	T16x284x180	2	
E38	SUB TROLLEY STAY BOLT	Ø24x290	Ø30x320	Ø42x355	1	
E39	SUB TROLLEY COLLAR A	Ø34x4.5Tx25.5	Ø42.7x4.9Tx30.5	Ø60.5x8.7Tx42.5	2	
E40	SUB TROLLEY COLLAR B	Ø45xØ26x12.5	Ø50XØ31x12.5	Ø67xØ43x12.5	4	
E41	PLAIN WASHER	M24	M30	M36	2	
E42	SPRING WASHER	M24	M30	M36	2	
E43	Hex. NUT	M24	M30	M36	2	
E44	FIXING PLATE	T6x30x294	T6x30x281		2	
E45	SPRING WASHER	M10			4	
E46	SOCKET HEAD BOLT	M10x20			4	

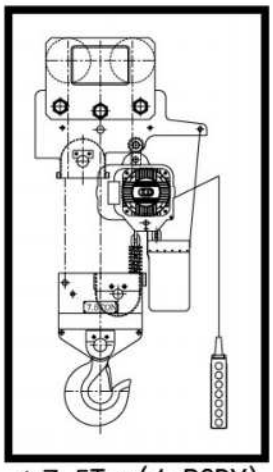
7-9. HOOK & CHAIN ASSEMBLY for LOW HEAD TYPE



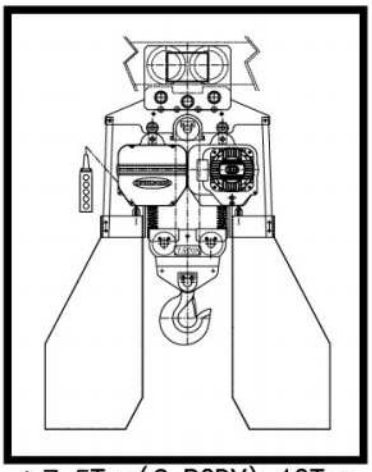
PART No.	PART NAME	SIZE			Q'TY	REMARK	PART No.	PART NAME	SIZE			Q'TY	REMARK
		2T	3T	5T					2T	3T	5T		
U01	HANGER				1		C01	LOAD CHAIN	Ø11.2	Ø9.5	Ø11.2	–	
U02	TOP HOOK PIN	Ø22x117			1		C02	BOTTOM HOOK SPRING	Ø6.2x151			1	
U03	SPLIT PIN	Ø4x32			2		C03	TAIL SPRING	Ø6.2x102			1	
U04	Hex. HEAD BOLT	M22x150			1	High-Tension	C04	CHAIN STOP HOLDER	2ea	4ea	4ea	–	Ø11.2
U05	PLAIN WASHER	M22			1			SOCKET HEAD BOLT	2ea	4ea	4ea	–	M8x35
U06	SPRING WASHER	M22			1			Hex. LOCK NUT	2ea	4ea	4ea	–	M8
U07	Hex. NUT	M22			1		C05	Hex. HEAD BOLT	–	M12x110	M12x110	1	High-Tension
							C06	Hex. LOCK NUT	–	M12	M12	1	
D01	BOTTOM HOOK ASS'Y	1fall	2fall	2fall	1								
D02	THRUST BEARING	#51105	#51106	#2908	1		H01	HOIST BODY ASS'Y				1	KD-2
D03	Hex. NUT	–	M30	M36	1	2fall Only	BD	Low Head BODY ASS'Y				1	KDL-2M
D04	COTTER	Ø42x19		–	1	1fall Only							
D05	BOTTOM HOLDER	1fall	2fall	2fall	2								
D06	SOCKET HEAD BOLT	–	M8x50	M10x40	4	2fall Only							
D07	SOCKET HEAD BOLT	M8x30		–	2	1fall Only							
D08	Hex. LOCK NUT	M8		–	2	1fall Only							
D09	IDEL SHAEVE	–	Ø9.5	Ø11.2	1	2fall Only							
D10	NEEDLE BEARING	–	RNA4904	RNA4906	2	2fall Only							
D11	IDLE SHEAVE COLLAR	–	Ø27.2xØ34x10T	Ø37xØ44x8T	1	2fall Only							
D12	SNAP RING	–	R37	R47	1	2fall Only							
D13	IDLE SHEAVE PIN	–	Ø25x93	Ø35x98	1	2fall Only							
D14	KEY PLATE	–	T6x60x25	T6x60x25	1	2fall Only							
D15	SPRING WASHER	–	M8	M8	2	2fall Only							
D16	SOCKET HEAD BOLT	–	M8x15	M8x15	2	2fall Only							

MEMO

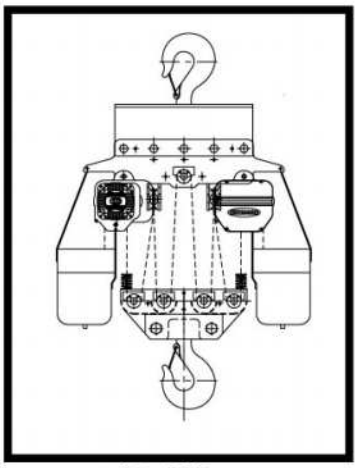
KUKDONG HOIST【SPECIAL TYPE】



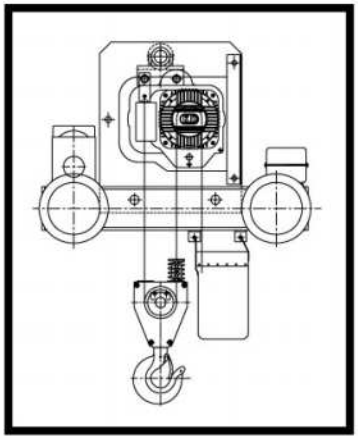
▲7.5Ton(1-BODY)



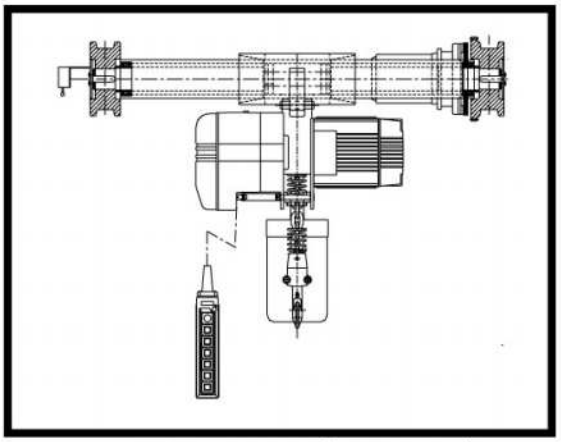
▲7.5Ton(2-BODY),10Ton



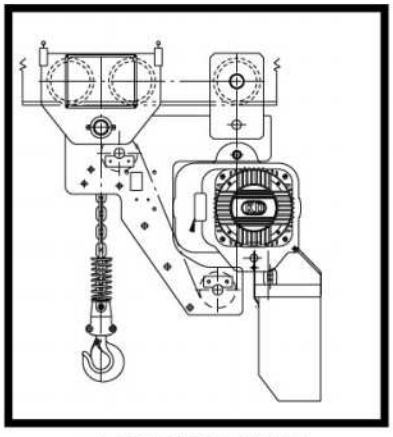
▲15~30Ton



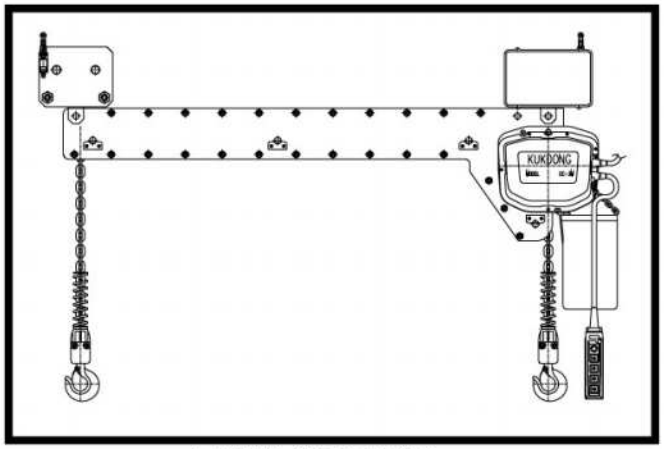
▲CRAB TYPE-I
(Standard TYPE)



▲CRAB TYPE-II(PIN TYPE)



▲LOW HEAD TYPE



▲TWIN HOOK TYPE

KUKDONG

PRODUCTS

- ELCTRIC CHAIN HOIST(0.5~30ton)
- ELCTRIC CHAIN HOIST(0.125~0.5ton)
  - MINI HOIST
- CHAIN BLOCK(0.5~30ton)
- LEVER BLOCK(0.75~6ton)
- CRANE :
  - SUSPENSION CRANE
  - OVER HEAD CRANE
  - JIB CRANE
  - GANTRY CRANE
- GEARED & PLAIN TROLLEY(0.5~30ton)
- GEARED MOTOR(0.4Kw,0.75Kw,1.5Kw)
- END CARRIAGE(SADDLE)
- LOAD CHAIN

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