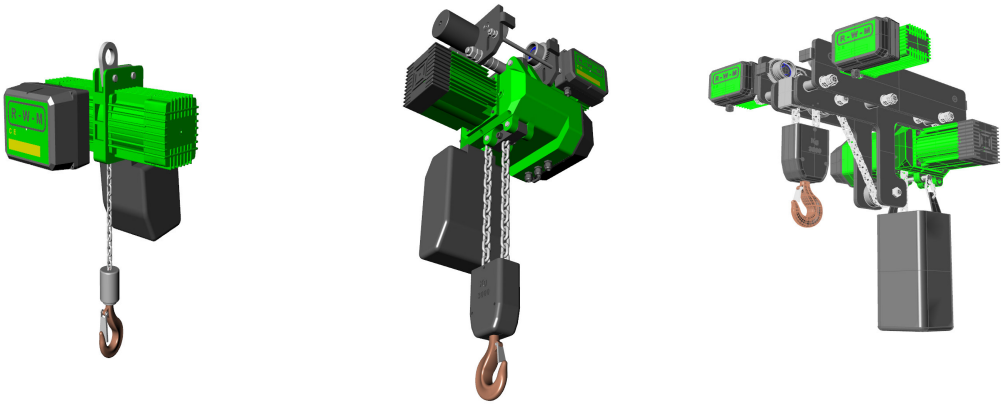


Maintenance manual

Delta Palan International Ltee.
8070 Boul. Metropolitain Est
Montreal, Quebec. H1K 1A1
Tel: 514 729.2124
Fax: 514 729.2548
www.dphoist.com

Dear Customer

Thank you for choosing the RWM Hoist. We are sure you will be entirely satisfied with its efficiency, high performance and good design. To ensure the high technical standard and accuracy in assembling the RWM hoist, please thoroughly read this installation and operating manual **before** starting to use the hoist. This manual will fully explain all the controls and functions of the hoist and will identify the parts in order to obtain the highest performance.

Provided the hoist is correctly installed, maintained and used in the correct way, your RWM hoist will give many years of trouble - free service.

RWM thanks you again for your preference and remains at your disposal for any further requirement.

With Compliments

A PRODUCT FOR THE WORLD

RWM electrical chain hoists are designed and manufactured according to the specification of standard CSA C22.2

STANDARD SPECIFICATIONS

CSA standard C22.2 No 0 – General requirements – Canadian Electrical Code, Part II
CSA standard C22.2 No 0.4 – Bonding and Grounding of electrical equipment
CSA standard C22.2 No 33 – construction and test of electrical cranes and hoists
CSA standard C22.2 No 100 – Motors and generator

ELECTRIC CHAIN HOIST

Model …….. Type ……..

Capacity kg. ……. Serial number ……..

Lifting speed m/min ……..... Manufactured ……

Hook stroke mt. …….

With trolley ……. Travelling speed m/min ……..

CUSTOMER IDENTIFICATION

……

……

……

……

INDEX

1. CONTENT OF THE MANUAL

This manual contains instructions for installation, use, and maintenance of the electric chain hoist and must always be in the possession of a responsible person and always available for consultation. Therefore it is obligatory to read this manual ***before*** using the hoist. This manual conforms to all of the standard CSA 22.2 and all consecutive amendments and covers the safe use of the hoist with respect to the statutory requirements.

2. GENERAL INFORMATION

Important please read

This publication should be read by:

- The supervisor of the business
- The installation engineers
- The user of the hoist
- The maintenance department

THE HOIST MANUAL MUST ALWAYS BE IN A PLACE WHERE IT IS READILY ACCESSIBLE FOR CONSULTATION.

In case of loss or damage a replacement manual is available from:

RWM Srl
Via Colleoni 80/7 - 36034 Molina di Malo - VI
Tel. + 39 445 637002 Fax. +39 445 637019

Production building :
Via Della Tecnica 15 – 36034 Molina di Malo - VI

Or from your local authorised distributor.

- RWM Electric chain hoists are available in a full range of sizes from 125kg through to 5000kg and with eye or hook suspension, push travel trolleys, electric travelling trolleys and manual geared trolleys.
- They are available in a full range of voltages to cover all applications.

- All hoists up to 2000kg capacity, are available as single fall hoists; 2000, 3000 and 4000kg are available as 2 fall hoists.
- All hoists are available with a full range of hoisting speeds both single and two speed.

3. PRE-INSTALATION, BEFORE USE

Before using your RWM Hoist, you must read this manual fully.

The correct functioning of the hoist is strictly related to the correct application of the instructions contained in this manual.

The instructions written in this manual fully comply with the standard CSA 22.2.

4. SAFETY INSTRUCTIONS

The hoist must only be used to lift in the vertical position and the stated SWL must not be exceeded. Any improper use, which does not conform to the specifications, is in no way the responsibility of RWM.

- **Ensure correct use of the hoist at all times.**
- **The hoist must ONLY be used by the assigned, trained personnel.**
- **Do not use the hoist to lift or transport personnel.**
- **Do not lift the load near or over any personnel.**
- **Do not allow the load to swing.**
- **Do not leave a load suspended from the hoist.**
- **Warn all personnel in the immediate area that you are going to operate the hoist.**
- **Do not lift a load above the maximum capacity specified in the hoist and on the bottom hook.**
- **Always concentrate fully while operating the hoist.**
- **If you are unsure about the hoist, the load to be lifted, the slings or the weight of the load, check with your supervisor before carrying out the lift.**
- **Do not modify the hoist hook in any way.**
- **Any slings used for lifting should be checked for the correct SWL for the load to be lifted, and any signs of damage that could effect the SWL.**
- **Do not use the load chain for slinging the load.**

4.2 BEFORE USE, AND EACH DAY :-

- Do not allow the load to swing.
- Check that the brake and clutch are operating correctly.
- Do not leave a load suspended from the hoist.
- Check that the chain is correctly lubricated.
- Ensure that the load chain is not twisted.
- Check the correct operation of all motions.
- Check the load hook for any damage, cracks and the correct fit of the safety catch.
- If the hoist is fitted onto a runway beam, crane or jib crane, check the correct seating of the trolley and wheels on the bottom flange and that the end stops are in place and correctly fitted.
- Check the load to be lifted is within the lifting capacity of the hoist.
- On dual speed hoists the slow speed should be used only for the positioning of the load.
- On two fall hoists ensure that the load chain is not twisted and runs freely through the bottom block casings.
- If at any time you notice any excessive noise from the hoist or the load drops when the hoist stops, report it to your supervisor and do not use the hoist.
- Do **NOT** use any other chain than that specified.

4.3 DURING USE AND AT ALL TIMES

- Ensure that the load is well secured and correctly seated in the load hook.
- Always concentrate fully when using the hoist.
- Never side load the hoist by pushing or pulling the load to one side.
- Do not allow the load to swing.
- Do not leave a load suspended from the hoist.
- When lifting a load the chain's tension must always be vertical to the hoist.
- Never use the chain to pull loads that are not directly under the hoist.
- Avoid continuous ON – OFF switching of the control buttons.
- Never support the load on the point of the hook.
- Do NOT use the clutch continuously at a top limit, as it will cause excessive wear, leading to eventual and premature failure of components.
- Do NOT use the pendant cable to pull the hoist into position.

4.4 AFTER USE.

- NEVER leave a load suspended or unattended.
- ALWAYS set the emergency STOP button.
- ALWAYS isolate the hoist.
- NEVER make repairs without observing the instructions.

4.5 ROUTINE INSPECTION &MAINTENANCE

All hoists should be regularly inspected and checked for damage, correct operation and wear. If the following guides are carried out it will help extend the working life of the hoist.

5 TECHNICAL FEATURES

SUPPLY: 600 V 3ph 60 Hz. Control system is supplied at 24 V for operators' safety (EN60204) Waterproof and drip proof for complete protection and longer life (IP55 DOM 40050). Pendant and hoist panel.
Hoist motor IP55, general in-door non-aggressive use.

INSULATION: All parts are F insulated (max 95° centigrade)

CHAIN: Treated, tempered and nitrified. These special treatments ensure a high degree of resistance to wear and corrosion. Its safety factor is better than 10.

LOAD SPROCKET RWM's unique design ensures that the chain runs smoothly. It has been thermally treated to prevent, almost entirely, its wear and that of the chain.

Motor Features 600v 3Phase 60hZ					Weights of Hoists in Kg			
Hoist Code	RPM	Motor Type	Load Current	Starting Current	Eye Suspension	Push Travel	Elec. Travel	Gear Travel
125W5	1400	4P	0.9	1.5	28	33	56	53
125W8	1400	4P	0.9	1.5	28	33	56	53
125W16	2800	2P	1.5	2.8	28	33	56	53
125W14	700/2800	2/8p	0.7/1	1/1.8	28	33	56	53
125W28	700/2800	2/8p	0.7/1	1/1.8	30	35	58	55
125W416	700/2800	2/8P	0.7/1	1.8/2.1	30	35	58	55
250W5	1400	4P	0.9	1.5	30	35	58	55
250W8	1400	4P	1.1	2.5	30	35	58	55
250W16	2800	2P	1.5	2.8	30	35	58	55
250W14	700/2800	2/8P	0.7/1	1/1.8	30	35	58	55
250W28	700/2800	2/8P	0.7/1	1.6/2.1	35	40	63	60
250W416	700/2800	2/8P	0.7/1	1.6/2.1	35	40	63	60
500W4	1400	4P	1.1	2.5	35	40	63	60
500W6	1400	4P	1.1	2.5	38	43	66	63
500W8	1400	4P	1.5	2.8	38	43	66	63
500W16	2800	4P	1.9	2.8	42	64	72	90
500W14	700/2800	2/8P	0.7/1.7	1.6/2.1	38	43	66	63
500W28	700/2800	2/8P	0.8/2.1	1.3/2.5	45	67	75	70
1000W4	1400	4P	1.5	2.4	45	67	75	70
1000W6	1400	4P	1.9	2.8	45	67	75	70
1000W8	1400	4P	2.3	3.4	60	82	90	85
1000W14	700/2800	2/8P	1.7/2	2.5/5.5	48	70	78	73
1000W28	700/2800	2/8P	1.2/2.5	1.7/3.4	60	82	90	85
1500W4	1400	4P	2.5	3.4	64	86	94	89
1500W8	1400	4P	3.8	4.7	75	105	113	108
1500W14	700/2800	2/8P	1.2/2.5	1.7/3.4	64	86	94	89
1500W28	700/2800	2/8P	1.6/3.8	2.1/4.7	75	105	113	108
2000W4	1400	4P	2.5	3.4	64	86	94	89
2000W8	1400	4P	4.6	5.5	75	105	113	108
2000W14	700/2800	2/8P	1.2/2.5	1.7/3.4	64	86	94	89

Motor Features 600v 3Phase 60hZ					Weights of Hoists in Kg			
Hoist Code	RPM	Motor Type	Load Current	Starting Current	Eye Suspension	Push Travel	Elec. Travel	Gear Travel
1000WR8	2800	4P	5,8	10,5	78	93	110	96
1000WR12	2800	2P	9	18,5	98	120	130	123
1000WR28	700/2800	2/8P	4,9/9,2	6,8/11,5	80	95	110	98
1000WR312	700/2800	2/8P	6,2/12,5	8,5/14,6	83	98	130	102
1500WR4	1400	4P	5,8	10,5	90	105	115	108
1500WR8	280000	2P	9	18,5	98	120	130	123
1500WR12	2800	2P	9	18,5	98	120	130	123
1500WR14	700/2800	2/8P	4,9/9,2	6,8/11,5	90	105	115	108
1500WR312	700/2800	2/8P	6,2/12,5	8,5/14,6	105	120	130	123
1500WR28	700/2800	2/8P	6,2/12,5	8,5/14,6	98	120	130	123
2000WR4	1400	4P	5,8	10,5	90	105	115	108
2000WR8	1400	4P	9	18,5	105	120	130	123
2000WR14	700/2800	2/8P	4,9/9,2	6,8/11,5	90	105	115	108
2000WR28	700/2800	2/8P	6,2/12,5	8,5/14,6	105	120	130	123
2500WR8	1400	4P	9	18,5	105	125	134	128
2500WR28	700/2800	2/8P	8,5/12	10,5/19	105	125	134	128
3000WR4	2800	2P	9	18,5	103	125	140	128
3000WR14	700/2800	2/8P	6,2/12,5	8,5/14,6	103	125	140	128
4000WR4	2800	2P	9	18,5	113	135	150	138
4000WR14	700/2800	2/8P	6,2/12,5	8,5/14,6	113	135	150	138
5000WR4	2800	2P	9	18,5	123	145	158	148
5000WR14	700/2800	2/8P	8,5/12	10,5/19	123	145	158	148

Travel Motors			
All	0.2Kw	Single speed	Full load current 1.2A Starting current 1.3A
All	0.1/0.2Kw	Dual speed	Full load current 0.7/1A Starting current 1/1.8A
All	0.5Kw	Single speed	Full load current 3.5A Starting current 6.1A
All	0.2/0.5Kw	Dual speed	Full load current 1.7/2,6A Starting current 1,8/2.8A

REDUCTION GEAR LUBRIFICATION

W SERIE

GREASE ROLOIL LITEX EP1
Hoist 0,12 t / 0,25 t / 0,5 t = 150 g
Hoist 1 t / 2 t = 200 g

WR SERIE

OLIO MOBIL GEAR 600 XP 460
hoist 1 t / 1,5 t / 2 t / 3 t = quantiti 400 ml
hoist 2,5 t /4 t / 5 t = quantiti 500 ml

6 SAFETY ITEMS

6.1 MOTOR BRAKE

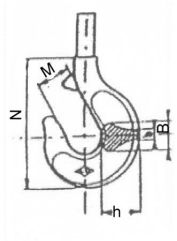
The DC electromagnetic brake system guarantees high power stopping allowing you to hold the load in the desired position.
For the W serie it is 220 VDC
For the WR serie it is 600 VAC

6.2 CLUTCH

The RWM hoist is fitted with a clutch to prevent overloading, ensuring that loads to be lifted do **NOT** exceed the maximum capacity of the hoist. The clutch also intervenes when the hook reaches to the top and bottom of its path. However this is only a safety feature and should not be used as a working limit. Prolonged use will lead to mechanical failure.
THE CLUTCH IS TESTED AT 20/25% MORE THAN THE NOMINAL CAPACITY.

6.3 SAFETY HOOK

The hook has been forged in highly resistant material which prevents it from breaking in the event that it is over loaded. The safety catch ensures that the load is picked up securely and prevents unhooking. In the event that the hook becomes deformed, it must not exceed more than 0.25%. If this percentage is exceeded, replace immediately with a new hook supplied by RWM with the relevant certificate.



Capacity Kg	M	H	B	N
125	25	27	20	93
250	25	27	20	93
500	27	30	23	114
1000	36	38	29	132
2000	43	49	39	160
3000	45	57	48	182
4000	50	70	56	206
5000	50	70	56	206

6.4 EMERGENCY STOP BUTTON

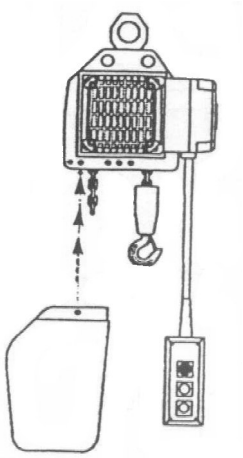
In compliance with the standard CSA 22.2, the push button control panel is supplied with an emergency mushroom head button, which, if pressed in an emergency situation, stops the hoist. To re-start the hoist, turn the stop button to the RIGHT to release the button.

7. INSTALLATION

Prior to installing the hoist, ALWAYS ensure that the structure it is being suspended from is capable of carrying the hoist AND its load, and has been certified to do so. Also make sure that the power supply being used complies with that specified for the hoist.

8. ASSEMBLING THE HOIST

8.1 ASSEMBLING THE CHAIN COLLECTOR



1: Position the chain collector in such a way that the hole corresponds with that of the hoist body; the bevel must be facing backwards.

2: Insert the chain evenly.

3: To avoid irregular bunching, NEVER insert all the chain in together.

4: Insert the screws and secure with the nut to the relevant hole at the edge of the central body.

Once the hoist is fully assembled to the supporting structure, it is considered by the current legislation as a new machine and is, therefore, subject to testing of the entire system.

8.2 LUBRICATING THE CHAIN

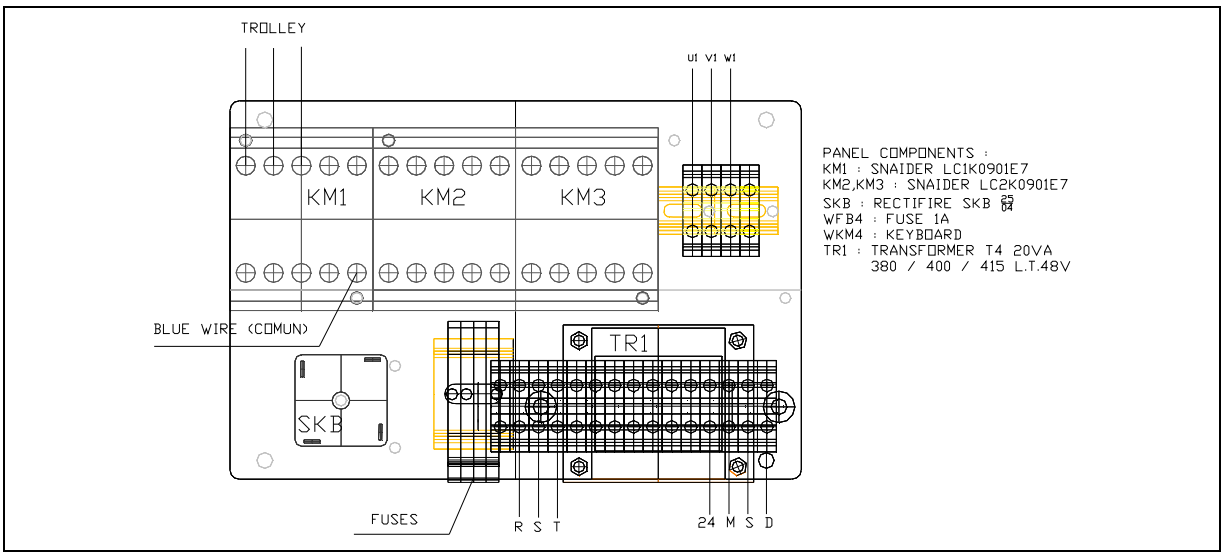
Smear the chain with industrial oil or gears oil in order to prevent wear of the chain itself and the load sprocket.

8.3 CONNECTION TO THE FEED

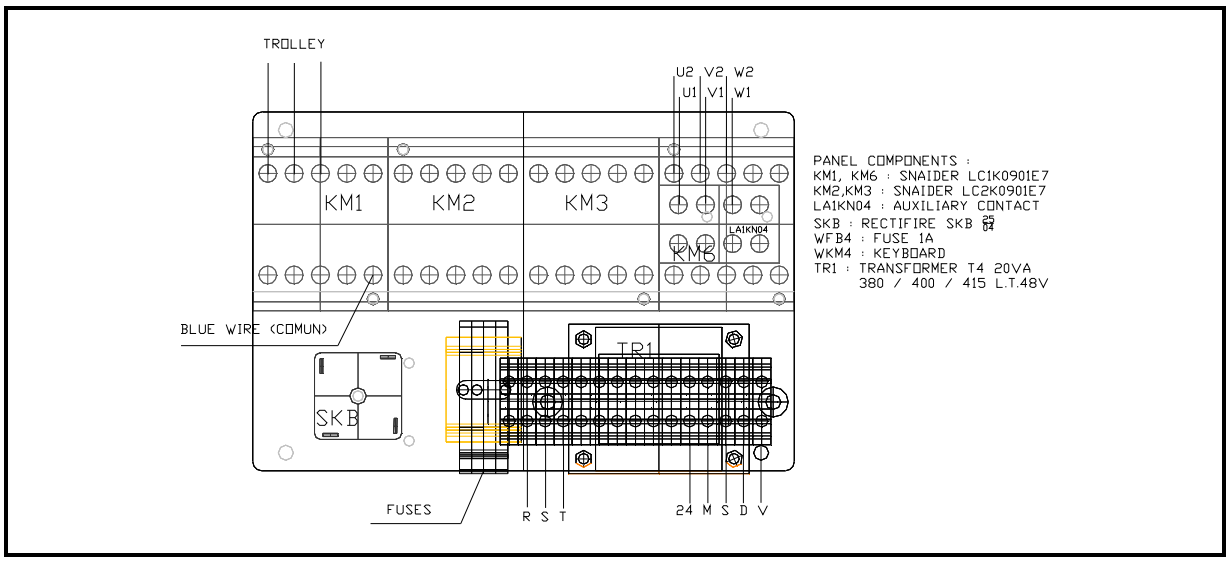
Ensure that the hoist is compatible to the line voltage of the installation and if necessary perform the relevant modifications to adapt it. Connect the feed line to the hoist, to the R,S and T terminals of the printed circuit. The hoists' power feed supply should be provided from a suitable fused and isolatable supply. Minimum cable size 1.5mm. The isolator should be mounted in an accessible place as close to the hoist as possible. The fourth wire, with a yellow-green insulating sheath, must be connected to the earth terminal situated inside the electrical board and then connected to the earth system.

WARNING!: If used with an incorrect voltage, the hoist can suffer serious damage. Ensure that the line voltage corresponds to that required, (voltage indicated on the hoist plate.)

HOIST PANEL W SERIE SINGLE SPEED

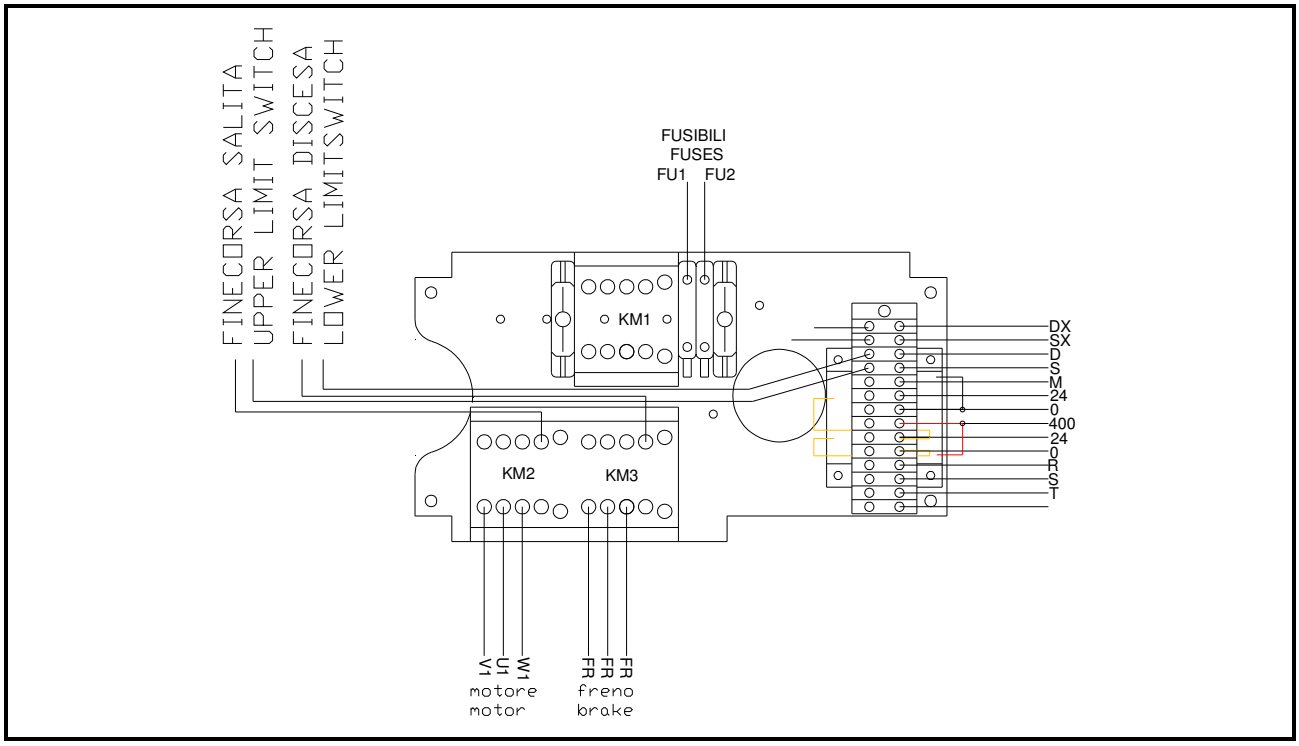


HOIST PANEL W SERIE SINGLE SPEED

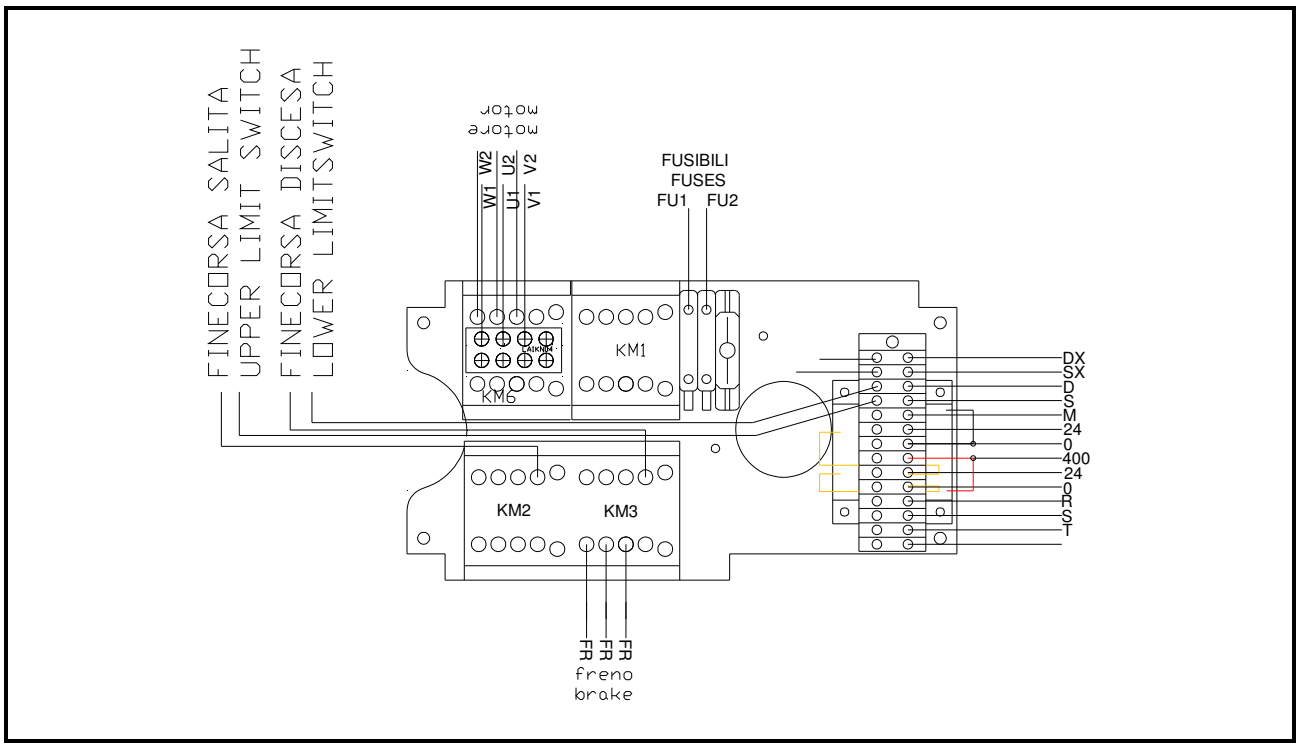


For pendant connection look at page 12

HOIST PANEL WR SERIE 2t SINGLE SPEED

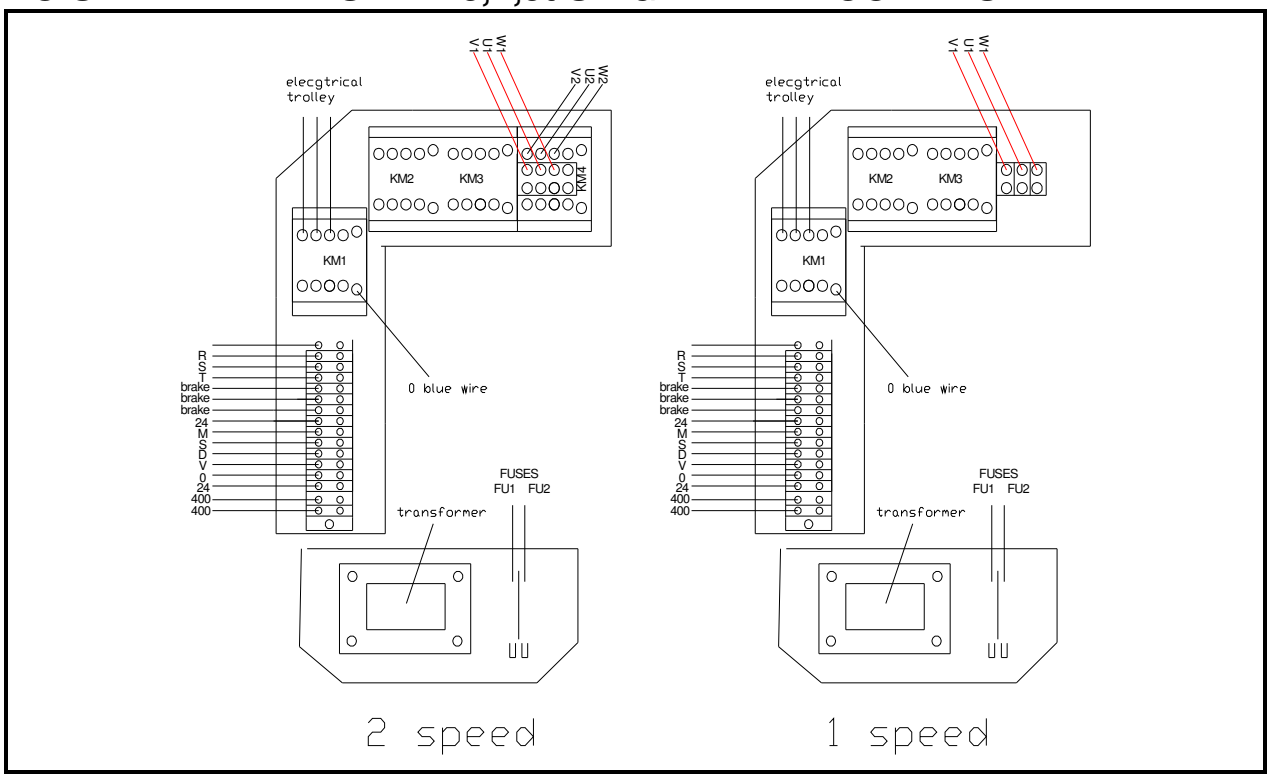


HOIST PANEL WR SERIE 2t DOUBLE SPEED



For pendant connection look at page 12

HOIST PANEL WR SERIE 3,4,5t SINGLE AND DOUBLE SPEED



MOTORS KEYBOARD

U1, V1, W1 = SINGLE SPEED MOTOR

U1, V1, W1 = SINGLE SPEED MOTOR
U2, V2, W2 = DOUBLE SPEED MOTOR

HOIST PENDANT KEYBOARD

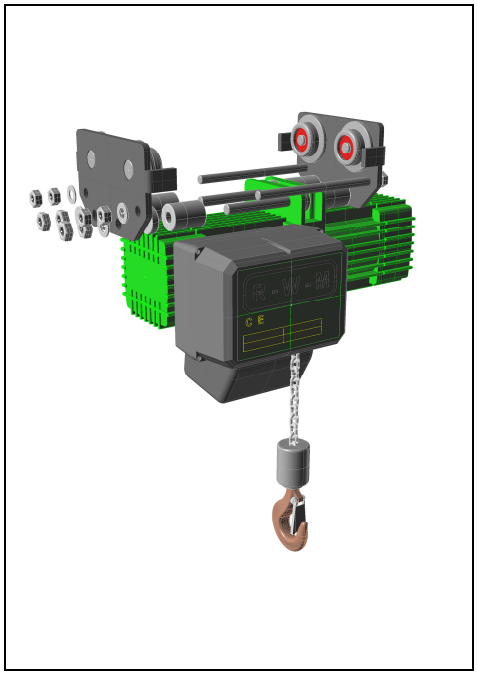
24V : LOW TENSION	WIRE N.1
M : LINE	WIRE N.5
S : UP	WIRE N.2
D : DOWN	WIRE N.3
V : 2° SPEED	WIRE N.4

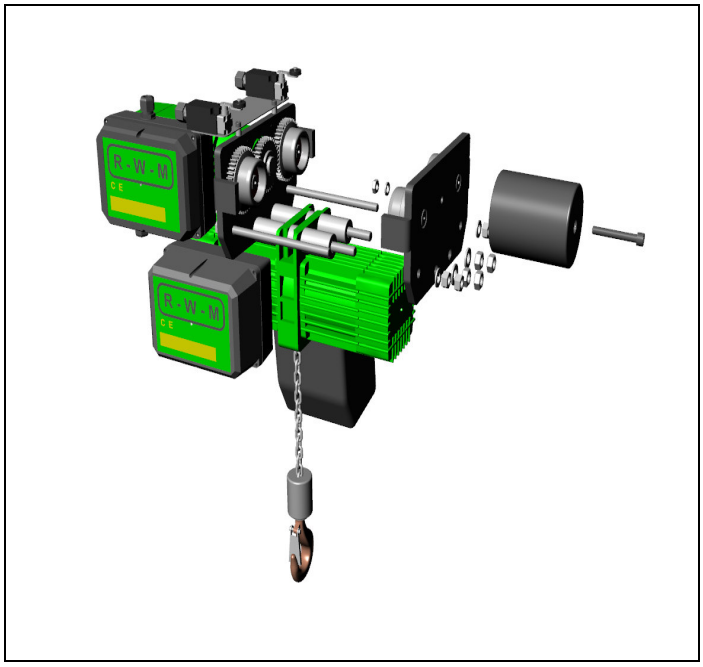
HOIST + TROLLEY PENDAT KEYBOARD

24V : LOW TENSION	WIRO N.1
M : LINE	WIRE N.7
S : UP	WIRE N.2
D : DOWN	WIRE N.3
V : 2° SPEED HOIST	WIRE N.4
Dx : LEFT	WIRE N.5
Sx : RIGHT	WIRE N.6
V : 2° SPEED TROLLEY	WIRE N.8

9 INSTALLATION OF PUSH, ELECTRIC OR MECHANIC TROLLEY.

- The trolley should be set with a 3-4mm gap between the flange of the beam and the hoist trolley wheel flanges.
- To set the width, add or subtract an even number of spacers from either side of the hoist.
- Adjust the crossbars as required to ensure the trolley side plates are parallel.
- Ensure the hoist is positioned in the centre of the trolley and the green spacers are fitted in the centre of the hoist suspension plates.
- Lift up the hoist and install on the beam.
- Check all bolts and nuts for correct tightness.
- If utilising a power travel trolley, fit the correct limit trips to the lifting beam to allow the travel limits to operate.
- Check the operation of the hoist on the beam.
- Lubricate the trolley gears with a suitable open gear lubricant.





A = side plate
B = spacer
C = trolley load bar
D = load bar nut
E = spacer bar nut
F = balancer weight

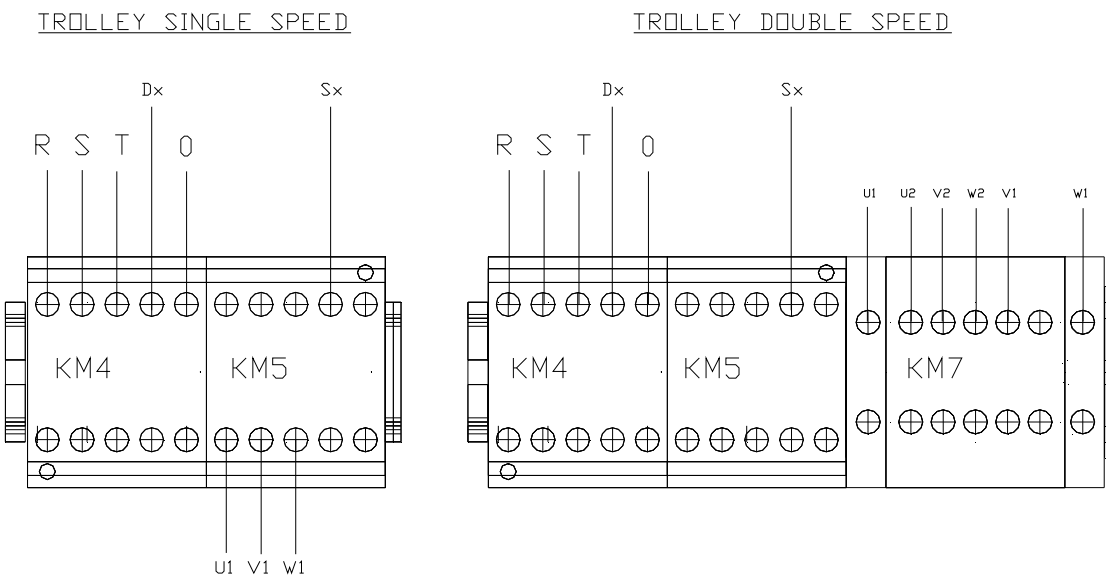
10. CHANGING THE VOLTAGE

WARNING!: The trolley as sold is already set to the voltage requested by the user. ANY change in voltage MUST be performed by qualified personnel.

1. Remove the cover by unscrewing the socket head screws and removing them from their seats.

2. For 600 V three-phase line voltage, connect together the three wires from the motor into a terminal (motor with star connection.)

3. For 220 V three-phase line voltage connect the three wires from the motor to the terminals 2.4 and 6 (motor with triangular connection).
   This operation is possible only for single speed trolley.



MOTORS CONNECTION

R,S,T, = POWER

U1, V1, W1 = SINGLE SPEED MOTOR

U1, V1, W1 = SINGLE SPEED MOTOR
U2, V2, W2 = DOUBLE SPEED MOTOR

0 = BLUE WIRE (COMUN)

Dx = LEFT
Sx = RIGHT

11. OPERATIONAL TEST

11.1 LIFTING TEST

Switch on the power to the hoist with the isolator and then turn the emergency stop button in order to release it. Press the button  or  on the pendant to check the direction of the hoist. The movement of the chain should correspond with what is indicated on the pendant button.

If the direction is reversed, disconnect the isolator and reverse the two wires on terminals S and T.

If the hook does not move, check the power supply - is there power to the hoist? / Is there a phase down?

11.2 TESTING THE 2 SPEEDS.

If the hoist has two speeds, the buttons have a double pressure, and are marked for up  and down  . With the first pressure, either raising, or lowering, the hoist runs at the slower speed; pressing the button in to the second stage, makes the hoist run at the faster speed.

11.3 TRAVEL TEST

Press the button  or  on the pendant to verify that the trolley runs in the right direction. If the rotation is reversed, disconnect the isolator switch and reverse the two wires on terminals S and T on the electrical control panel, which is mounted on the trolley motor.

11.4 CLUTCH TEST

Keep the button  on the pendant pressed to make the hook climb to the hoist body where it stops. Repeat the same manoeuvre pressing the button  to lower the hook until the chain stop comes up against the hoist body. In both cases check that the hoist motor continues to run and the clutch slips, if it does not, call RWM, or an authorised retailer.

11.5 BRAKE TEST

With a small load of 20kg operate the  and  several times to check the correct operation of the hoist and brake. When either button is released the hoist should stop and the load held without slipping.

Repeat the above with the SWL of the hoist, again the load should be held without slipping.

11.6 OPERATING TEST OF THE EMERGENCY STOP BUTTON

Press one of the buttons  and then the emergency stop button to check that the hoist stops and remains stopped until it is released. Repeat with the other  button. If this is not the case check the control connections.

12. OPERATION

12.1 DESIGN OF THE HOIST

The hoist is designed to lift vertically and to carry loads in a horizontal path. These loads have to be within the maximum capacity specified on the hoist and certificate. ANY improper use or a use that does NOT conform to the operating specifications relieves RWM of any responsibility.

12.2 SAFETY IN THE WORK ENVIRONMENT

- The operator must have a clear view of the load at all times to operate the hoist.
- The hoist must only be used for the purpose it has been intended for i.e. the lifting and moving of loads.
- The loads which have to be moved must have a weight equal to or lower than the maximum capacity of the hoist, this is marked on the hoist and on the test certificate.
- You MUST switch off the hoist when not in use.
- When the work is finished, the emergency stop button must be pressed in order to stop the electric feed until work starts again.
- Before carrying out any maintenance operations, tests etc. you MUST ensure that the electrical supply is disconnected.
- No operation / repairs or maintenance should be made when the hoist is moving.

- You should not use the machine with an electrical cable or a plug, which is damaged or in bad condition.
- The isolator must be easily accessible to the operator.
- The electrical panel of the machine can not be changed and has to be connected with the appropriate electric voltage.
- The structure of the hoist can not be modified.
- ANY improper use or any use that does not conform to the specifications as above, releases RWM of any responsibility.

13. INSTALLING THE HOIST AFTER A PERIOD OF INACTIVITY

After a period of inactivity (6-12 months) it is recommended that you check the motor functions correctly before installing the hoist. It is possible that the brake disk may be stuck due to the process of oxidation and warping of the brake lining, especially if the machine has been left in a damp atmosphere or where steam is present. In this case, to ensure that the motor functions correctly, simply remove the cover, remove the coils and clean the brake.

14. MAINTENANCE AND PERIODICAL CHECKS

14.1 DAILY CHECKS

1. Ensure that the brake is functioning correctly.
2. Ensure that the clutch is functioning correctly, both up and down.
3. Ensure on the pendant, that the emergency stop button operates correctly.
4. Ensure that all the components are properly secured.
5. Ensure that the chain is well lubricated.
6. Ensure that the trolley runs evenly on the beams.
7. Ensure that the limit switch is working efficiently.
8. Ensure that the trolley brake functions correctly.

14.2 MONTHLY CHECKS

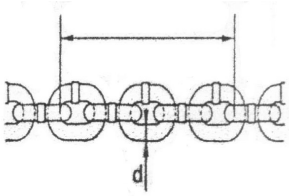
1. All checks as daily checks

2. Ensure that the pins of the hoist carrying the trolley are not bent or loose.

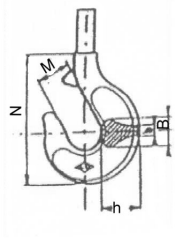
3. Inspect the trolley plates to ensure that they are not out of shape.

4. Measure the pitch of the chain and ensure that the dimensions do not exceed those featured in the following table. If the dimensions do exceed the allowable the chain should be replaced by a competent person, paying particular attention to the fit of the new chain on the load sprocket. Using a gauge, carefully check the measurements indicated below by measuring 5 chain links.

Nominal diameter	Pitch	5 link pitch		Tolerance limit (d)
		Standard	Limit	
4	12	60	62	3.6
5	15	75	77.5	4.5
7	22	110	113.5	6.3
10	28	140	135	9
11	31	155	149.5	9.9



5. Ensure that the hook is not deformed. Measure the size of the hook and check that it is not worn. Otherwise replace. Permanent deformation measured from the hook opening must never exceed 0.25%



Capacity Kg	M	H	B	N
125	25	27	20	93
250	25	27	20	93
500	27	30	23	114
1000	36	38	29	132
2000	43	49	39	160
3000	45	57	48	182
4000	50	70	56	206
5000	50	70	56	206

! WARNING: Only assemble original RWM spare parts on the hoist.

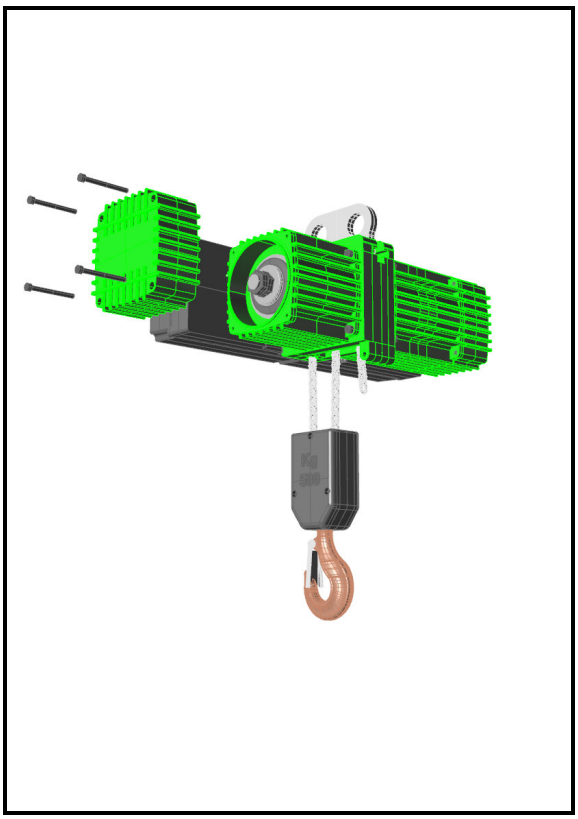
It is a statutory requirement that a competent person inspects the hoist at regular intervals.

15. MAINTENANCE

15.1 ADJUSTMENT OF THE CLUTCH W SERIE HOIST

1. Isolate the hoist.
2. Remove the aluminium reduction gear cap on the left of the motor.
3. Set the central bolt to encrese the capacity of the hoist
4. Connect the hoist, lift the SWL of the hoist, adjust the screw until the hoist lifts the load. Repeat with the SWL plus 20%.
5. Isolate the hoist.
6. Replace the aluminium cap
7.

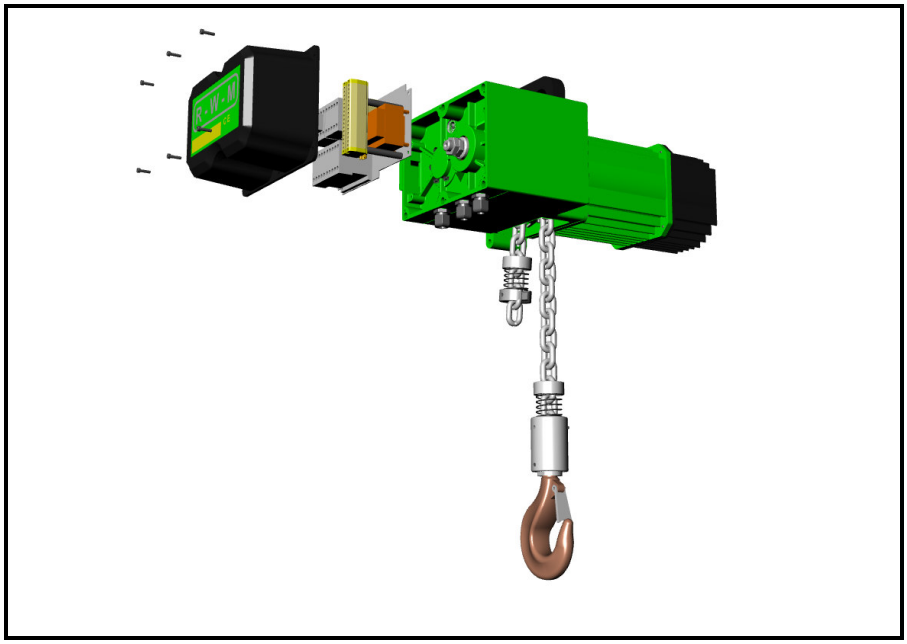
USE A 24 KEY TO ADJUST THE CLUTCH.



15.2 ADJUSTMENT OF THE CLUTCH 2t WR SERIE HOIST

8. Isolate the hoist.
9. Remove the black aluminium cover and the electic panel.
10. Set the central bolt to encrese the capacity of the hoist
11. Connect the hoist, lift the SWL of the hoist, adjust the screw until the hoist lifts the load. Repeat with the SWL plus 25%.
12. Isolate the hoist.
13. Replace the aluminium electric panelcover.

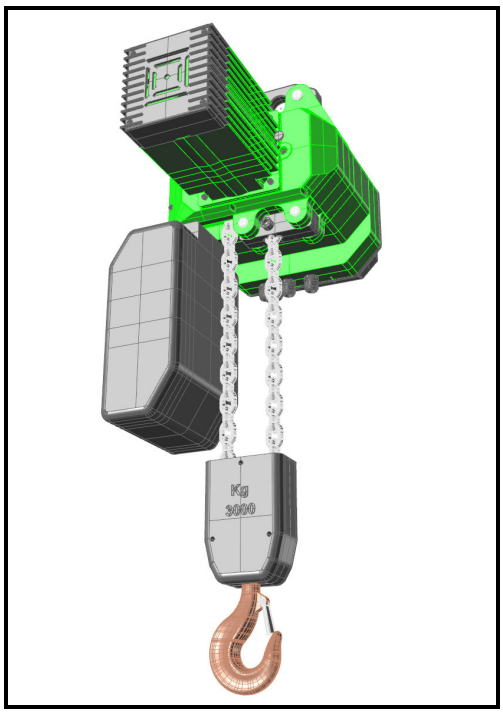
USE A 27 KEY TO ADJUST THE CLUTCH.

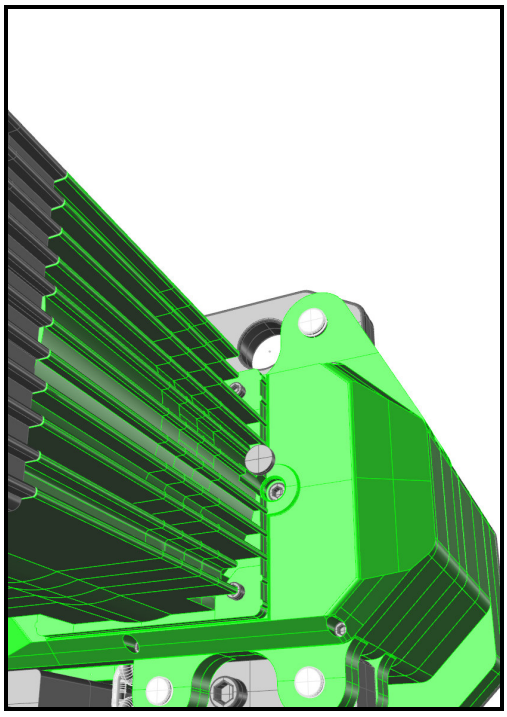


15.3 ADJUSTMENT OF THE CLUTCH 3,4,5t WR SERIE HOIST

14. Isolate the hoist.
15. Remove the black cap on the left of the motor case.
16. Set the central screw to encrese the capacity of the hoist
17. Connect the hoist, lift the SWL of the hoist, adjust the screw until the hoist lifts the load. Repeat with the SWL plus 25%.
18. Isolate the hoist.
19. Replace the black cap.

USE AN HEXAGON KEY OF 6 mm TO ADJUST THE CLUTCH.





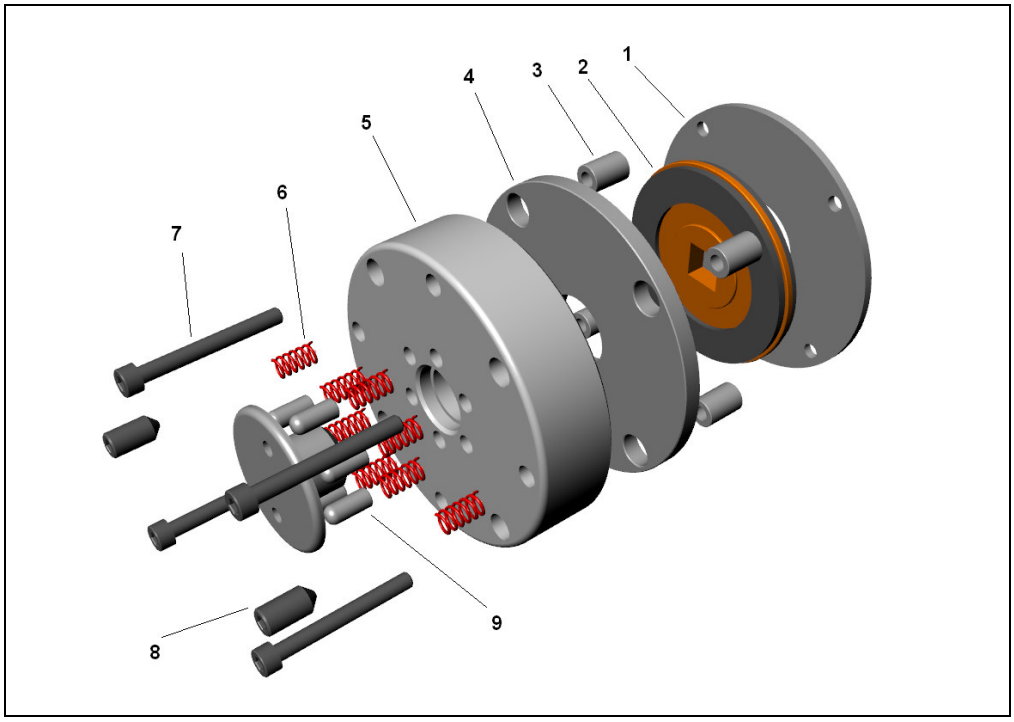
15.4 ADJUSTMENT OF THE W SERIE BRAKE (220 VDC)

1. Isolate the hoist.
2. Remove the reduction gear cover..
3. Loosen the adjusting round bolt (5) to adjust the tension of the springs.
4. Connect the hoist, lift the SWL and check the brake. Repeat stage 1,3, and 4 until the brake does not slip with the load lifted. (maximum load is indicated in the certificates enclosed with the hoist.)
5. Isolate the hoist
6. Replace the end cap and screws.

!ATTENTION!: The braking flange (3) must have from 0,3 to 0,5 mm of air gap from the electro magnet.

15.5 REPLACING THE W and WR BRAKE OR THE SPRINGS **W SERIE HOIST**

1. Isolate the hoist.
2. Take off the cap (completely unscrewing the screws) and take the cap off its seat.
3. Completely unscrew the screws and take off the springs (6).
4. Draw out the screws and take off the magneto (5).
5. Clean the flat-seats.
6. Assemble the new lining-plate.
7. Finish assembling putting in order: magneto, screws, springs and the plug.
8. Adjust the brake (ref.15.4)
9. Replace the cap and close the screws.



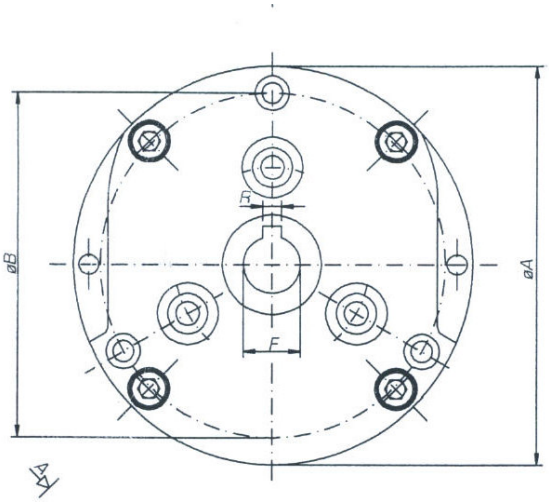
15.6 ADJUSTMENT OF THE WR SERIE BRAKE (600 VAC)

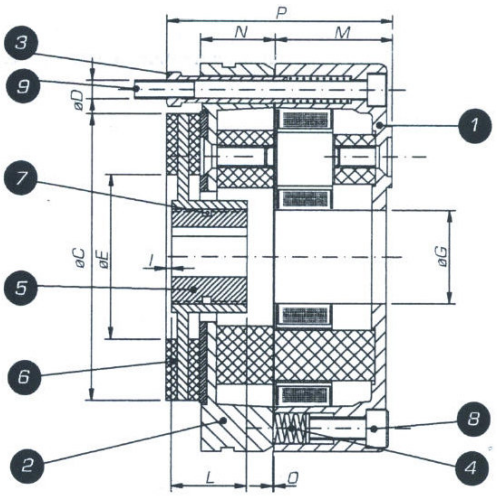
1 Isolate the hoist.
2 Take off the black cap (completely unscrewing the screws) and take the cap off its seat.
3 Unscrew the bolts (3) .
4 Loosen the adjusting screws (9) to adjust the air gap.
5 Fix the bolts (3) to block the brake
6 Replace on the blac cap.

!ATTENTION!: The braking flange (4) must have from 0,2 to 0,5 mm of air gap from the coil (5).

15.7 REPLACING THE WR BRAKE OR THE SPRINGS **WR SERIE HOIST**

1 Isolate the hoist.
2 Take off the cap (completely unscrewing the screws) and take the cap off its seat.
3 Completely unscrew the screws (9).
4 Draw out the screws and take off the magneto.
5 Clean the flat-seats.
6 Assemble the new lining-plate.
7 Finish assembling putting in order: magneto, screws, springs and the plug.
8 Adjust the brake (ref. 15.6)
Replace the cap and close the screws

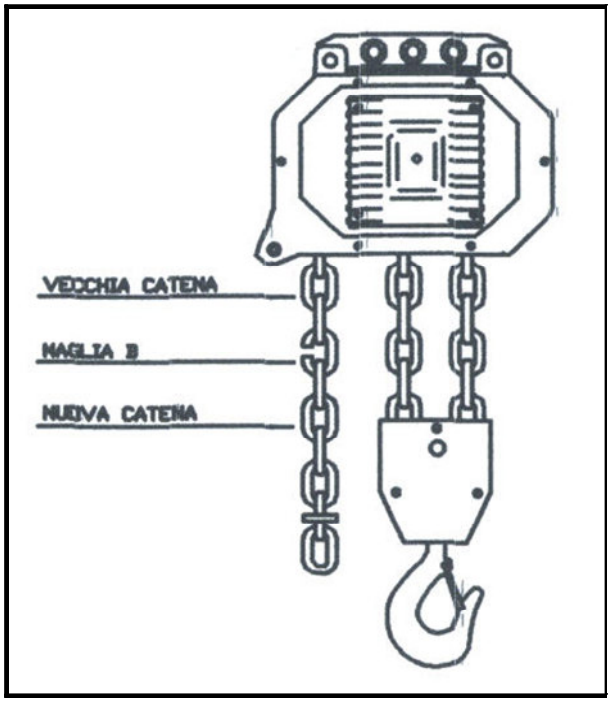




!ATTENTION!: The braking flange (2) must have from 0,3 to 0,5 mm of air gap from the electro magnet.

9 REPLACING THE CHAIN

1. Disassemble the chain collector.
2. Remove the aluminium chain strap.
3. Hook link B to the end of the chain.
4. Hook the new chain link to link B.
5. Operate the hoist by lowering the chain.
6. Stop the chain's descent when a sufficient amount of the chain has accumulated on the load side.
7. Assemble the chain stop on the opposite side to the load.
8. Remove the hook and fit it to the new chain.
9. Re-assemble the chain collector, inserting the linear chain without it kinking.



TO PREVENT THE CHAIN FROM WEARING, LUBRICATE IT ONCE A WEEK, OR MORE FREQUENTLY, DEPENDING ON ITS ENVIRONMENT. (E.G. ENVIRONMENTS WITH HIGH LEVELS OF ACID, DUST, SALT WATER.)

17 RESOLVING DEFECTS

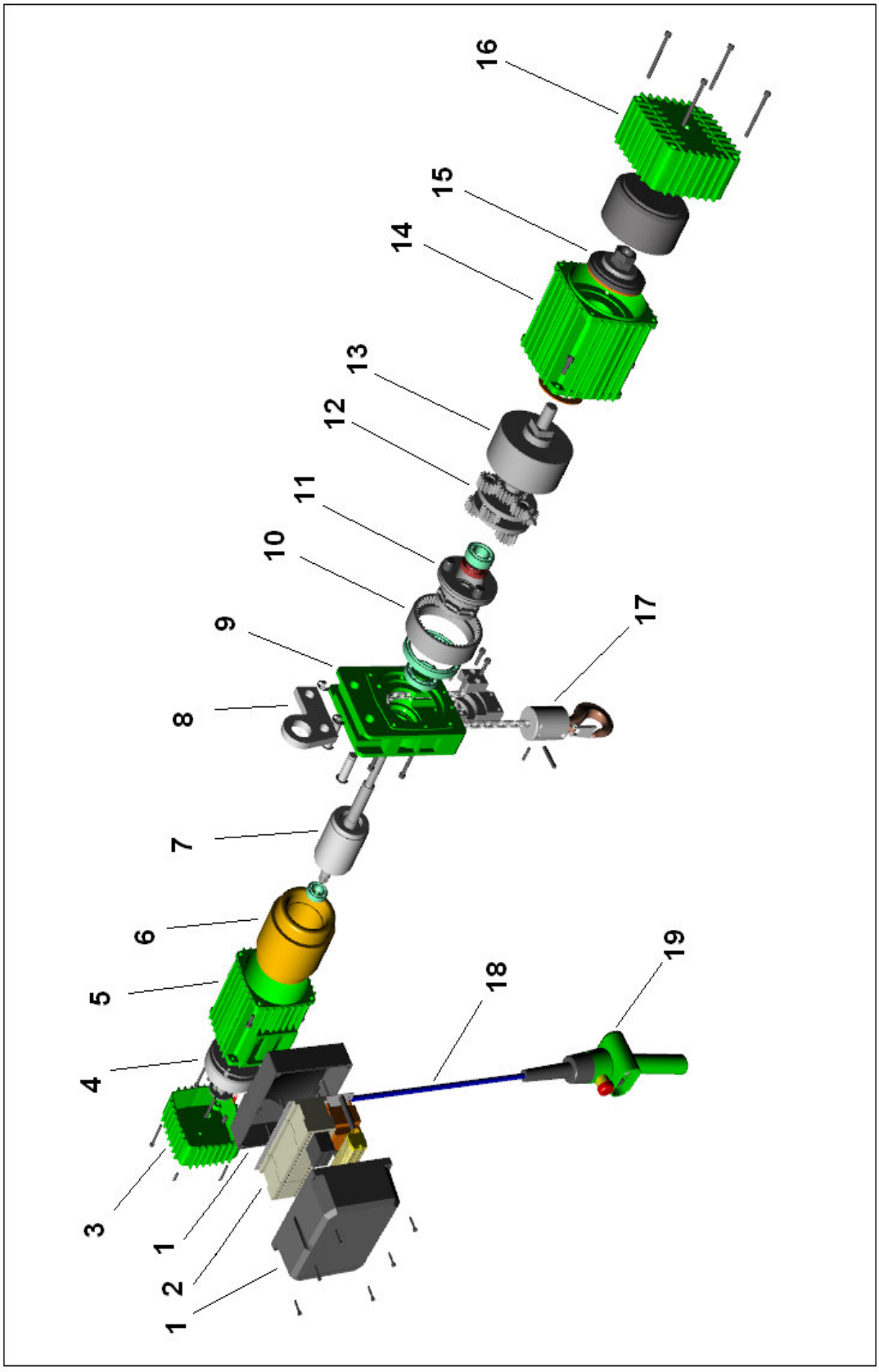
THE HOIST DOES NOT MOVE	1: A phase is missing; connect the wires in the box correctly and ensure that the current is correct. 2: A fuse is burnt out; replace. 3: The brake is blocked; disassemble it and clean it thoroughly (this can occur after a 6/12 month period of inactivity due to oxidation of the brake lining.)
THE LOAD DROPS	The brake motor is worn out; check and repair the motor.
THE HOIST DOES NOT LIFT THE LOAD	Adjust the clutch.
THE HOIST DOES NOT STOP	The pendant control switch is stuck; replace.
CURRENT IS PRESENT ON THE HOOK	The system is not insulated; inspect the system thoroughly and ensure that the system's earthing is correct.
THE CHAIN MAKES AN ABNORMAL NOISE	1: The chain is dry: lubricate. 2: The load sprocket is worn out; replace.
THE TROLLEY DOES NOT RUN ON THE BEAMS	1: The beam is tilted; check and correct the tilt. 2: The beam is dirty with oil; clean the trolley beam with a cloth.

!WARNING!: FOR ALL REPAIRS, RE-ASSEMBLE ONLY ORIGINAL SPARE PARTS.

18 GUARANTEE

All our equipment has undergone vigorous tests and is covered by a 12-month guarantee valid from the purchase date. RWM undertakes to repair or replace free of charge those parts that it deems defective within the guarantee period. The guarantee does not cover replacement of the entire equipment. The guarantee shall only be valid if the equipment has been purchased from an authorised distributor, and if it has been used in accordance with the information given in the Instructions Manual and on the warning signs. The guarantee shall not cover: accidental damage due to transportation, the incorrect or negligent use of the equipment or should the equipment be connected to voltages other than those recommended. Any defective part that is replaced shall become the property of RWM. The guarantee shall not be valid if the product is repaired or tampered with by any unauthorised third parties. The guarantee for all RWM products is valid for 12 months from the purchase date.

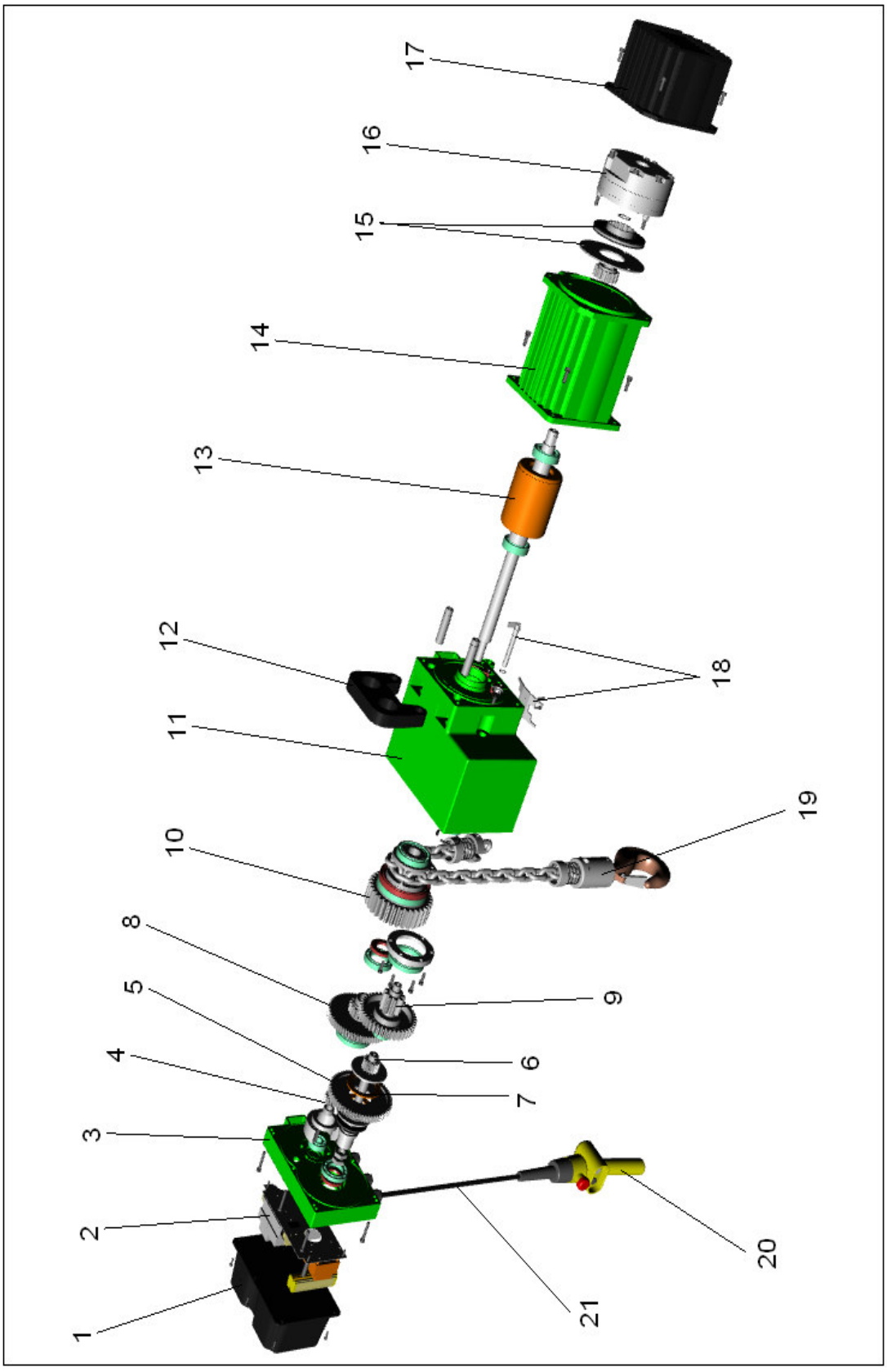
W SERIE HOIST



SPARE PARTS / RIPARAZIONE

1. PLASTIC BOX / scatola porta scheda
2. ELECTRICAL PANEL L.T. 24V / quadro elettrico bassa tensione 24V
3. ALUMINIUM MOTOR COVER / coperchio lato motore
4. COMPLETE BRAKE SYSTEM D,100/220 VDC / gruppo freno V.220DC
5. MOTOR CASE / cassa motore
6. STATOR / statore
7. MOTOR SHAFT / albero motore + rotore
8. EYEBOLT SUSPENSION / golfare di sospensione
9. ALUMINIUM CENTRAL BODY / corpo centrale
10. RING GEAR / corona dentata
11. CHAIN SPROCKET / noce di carico
12. COMPLETE REDUCTION GEAR / gruppo riduttore
13. BELL GEAR / campana dentata
14. REDUCTION GEAR ALUMINIUM CASE / cassa riduttore
15. COMPLETE CLUTCH SYSTEM / gruppo frizione
16. REDUCTION GEAR ALUMINIUM COVER / coperchio lato ridurttore
17. COMPLETE BOTTOM BLOCK / bozzello con gancio
18. PENDANT CABLE / cavo autoportante antifiamma CEI
19. PENDANT / pulsantiera

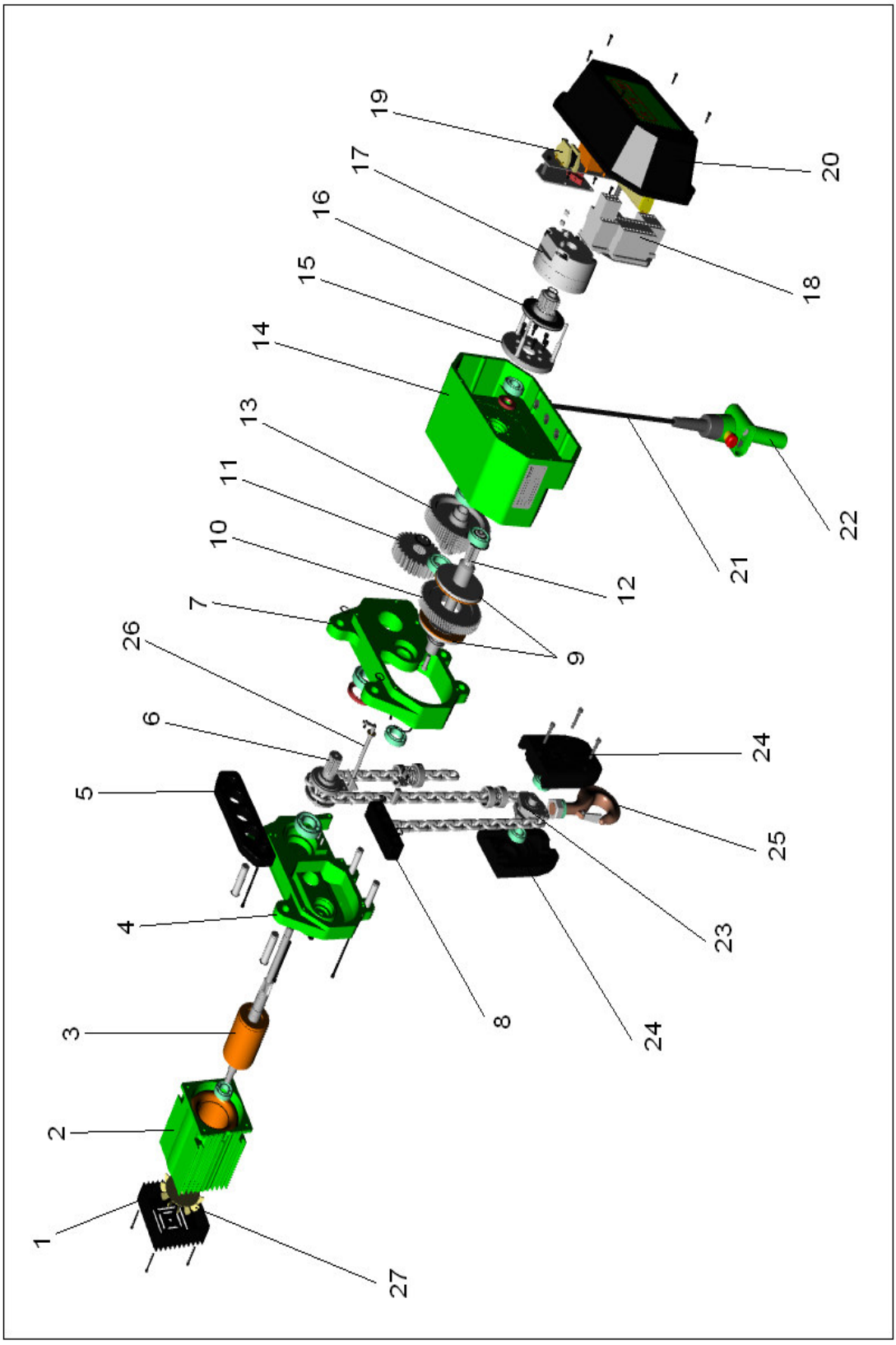
WR 2t HOIST



SPARE PARTS / riparazione

1. ALUMINIUM PANEL COVER / coperchio coprischeda
2. ELECTRICAL PANEL L.T. 24V / quadro elettrico
3. ALUMINIUM REDUCTION GEAR FLANGE / flangia riduttore
4. PINION / pignone dentato
5. CLUTCH GEAR / ingranaggio frizione
6. GEAR PINION CLUTCH / pignone dentate frizione
7. COMPLETE CLUTCH SYSTEM / kit frizione complete
8. FLANGE DOUBLE GEAR / flangida doppio ingranaggio
9. DOUBLE GEAR / ingranaggio doppio
10. CHAIN SPROCKET / noce di carico
11. ALUMINIUM CENTRAL BODY / corpo centrale
12. EYEBOLT SUSPENSION / golfare di sospensione
13. MOTOR SHAFT / albero motore + rotore
14. STATOR COMPLETE OF ALUMINIUM CASE / statore+cassa motore alluminio
15. BRAKE DISC / dischi freno
16. ELECTROMAGNET BRAKE AC4 / bobina elettromagnete V. 400 AC
17. ALUMINIUM BRAKE COVER / coperchio freno
18. UPPE/LOWER LIMITS SHAFT / kit finecorsa salita/discesa
19. COMPLETE BOTTOM BLOCK / bozzello con gancio
20. PENDANT / pulsantiera
21. PENDANT CABLE / cavo autoportante

WR 3t / 4t / 5t HOIST



SPARE PARTS / riparazione

1. ALUMINIUM COVER / coperchio lato motore
2. STATOR WITH ALUMINIUM CASE / statore + cassa motore
3. DRIVING SHAFT + ROTOR / albero motore + rotore
4. CENTRAL BODY (MOTOR SIDE) / corpo central lato motore
5. EYEBOLT SUSPENSION / golfare di sospensione
6. CHAIN SPROCKET / noce di carico
7. CENTRAL BODY (REDUCTION GEAR SIDE) / corpo central lato riduttore
8. STEAL CHAIN BLOCK / staffa capofisso
9. CLUTCH KIT / kit frizioni
10. CLUTCH GEAR / corona dentata
11. GEAR / ingranaggio dentato
12. CLUTCH SHAFT / albero frizione
13. DOUBLE GEAR / flangia doppio ingranaggio
14. ALUMINIUM GEARS CASE / cassa riduttore
15. IROND DISC / disco in acciaio per freno
16. BRAKE DISC / disco freno
17. ELECTROMAGNETIC 400VAC / bobina elettromagnete V. 400 AC
18. ELECTRICAL PANEL / gruppo teleruttori
19. KIT TRANSFORMER + FUSES / gruppo trasformatori + fusibili
20. ALUMINIUM PANEL COVER / coperchio coprischeda
21. PENDANT CABLE / cavo autoportante antifiamma CEI
22. PENDANT / pulsantiera
23. BOTTOM SPROCKET / noce di rinvio
24. BOTTOM BLOCK / bozzello in alluminio
25. LOAD HOOK / gancio di carico
26. UPPE/LOWER LIMIT KIT / kit finecorsa salita/discesa
27. PLASTIC FAN / ventola di raffreddamento

MAINTENANCE

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