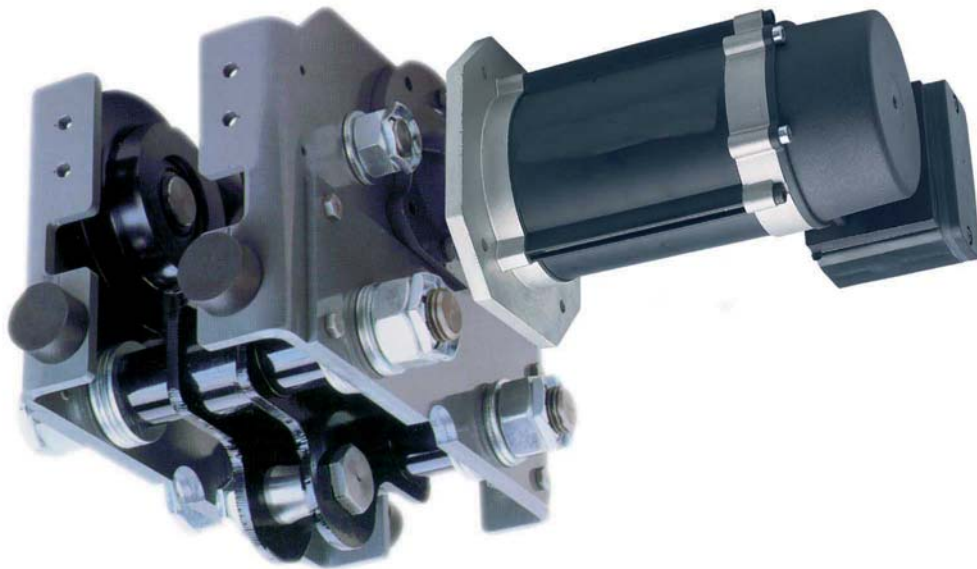


# CH.V



## INSTALLATION MAINTENANCE SPARE PARTS

**VARIABLE SPEED ELECTRIC TROLLEY TYPE CHV**



ANGLAIS

# Table of contents

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Read the instructions supplied with the travelling machinery unit before installation and commissioning.  
Keep the instructions in a safe place for future reference.

## **PART 1**

### **OWNER'S MANUAL FOR NORMAL HEADROOM TROLLEY**

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## **PART 2**

### **OWNER'S MANUAL FOR TRAVELLING MACHINERY**



## 2 - What not to do

Never move or lift the machine by the electric cables.

Do not set down the machine without having an adapted support, to avoid damaging the sensitive sides.

Do not let the machine drop.

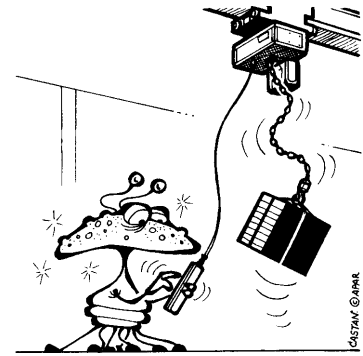
Never modify the machine unless the constructor has studied and authorized the modification.

Never modify the values and adjustments of the safety components, outside the limits provided for in the manual, or without the approval of the constructor.

Never try to repair or intervene on the machine (*welding...*) without the authorization of the constructor or a trained maintenance agent.

Never shunt the disconnect switches, electric switches, prevention or limitation equipment.

Do not let an unqualified person use the machine.

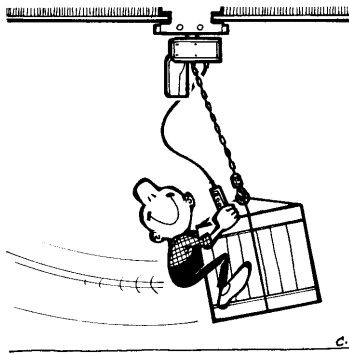


*Do not let an unqualified person use the machine.*

Never lift more than the maximum working load indicated on the machine. Shocks or accidental collision of the load with objects can cause excess loads.

Never remove the hook safety catches.

Never block, adjust or remove the limit switches or stops to go further to the left or right than these allow.



*Never swing the load intentionally.*

Never use the machine to extract, loosen, or pull sideways.

Never use the machine to transport people.

Do not touch the moving components.

Do not operate the machine if your physical condition does not allow it.

Never use the machine when in bad repair (*wear, deformation...*).

Never use suspect spare parts or parts whose origin is not known.

Never swing the load intentionally.

Do not subject the machine to brutal shocks.

Do not use the mechanical stops as a repetitive means of stopping.

Never distract the operator while the machine is being operated.

Never leave a suspended load hanging, if it is not necessary.

Never use the machine as an earth reference for welding.

Do not use the machine for a purpose or in an area for which it is not intended.

Do not expose the machine to an aggressive atmosphere (*temperature, acidity... Refer to 6.2: Environmental data*).

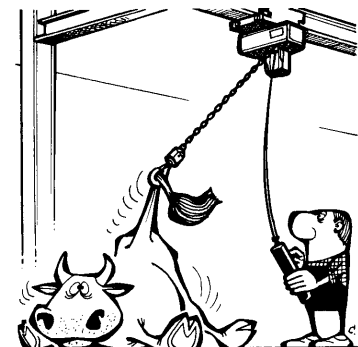
Do not use the safety components as operation components.

Do not use the controls needlessly (avoid inching - stop-start operation of the buttons). This can cause overheating and even damage to the machine.

Never pull the load slantwise. Make sure that the machine is vertical to the load before lifting it.

Do not use the machine with a power supply that is different to the one recommended (*undervoltage or overvoltage, absence of phase...*).

Never transport a load with people nearby. Do not pass the machine, with or without a load, above a person.



*Never pull the load slantwise.*

# 3 - What to do

Handle the machine by its structure, or by the devices provided for this purpose, or in its original packing.

Store the machine in its normal operating position (without load) away from aggressive atmospheres (*dust, humidity...*).

Make sure that the machine is always clean and protected from corrosion (*lubrication...*).

The machine should be installed by a technician with the necessary competence.

Make sure that the machine attaching structure is rigid.

Make sure that the safety rules are followed (*harness, clearance of work areas, posting up of instructions to be followed in the area...*).

Neutralize the power sources.

Comply with the distance between the trolley and the raceway.

Connect the feed cable directly to the supply terminal board in the electric box.

Set up an inspection program and record all of the maintenance operation for the machines, in particular: *the brake, limit switches, fastening beam...*

Replace any element that is worn or may be defective.

The machine should be maintained regularly, following the instructions in this manual.

Check the operation and adjustment of the safety components (*brake, travel limit...*) in conformity with the user manual.

Regularly check the machine.

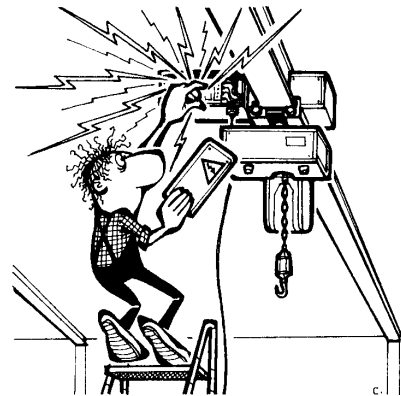
If a deformation or unusual wear is noted, the parts must be changed.

Check that the assembly elements are correctly tightened.

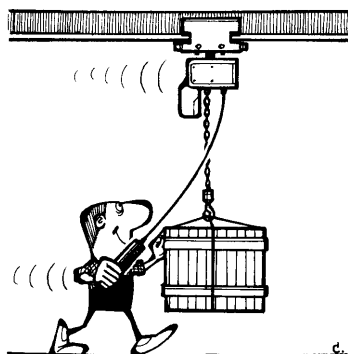
Check that the strands of the steel cable supporting the control box fulfill their functions correctly. The electric cable of the box is not a handling cable.

The components should only be replaced by original parts that are compatible with the type of machine.

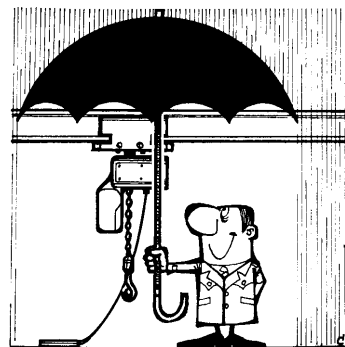
Before operation, check that the load is correctly fastened and installed. Make sure that the load is correctly balanced before moving it. Pay attention to the center of gravity of the load to be moved.



*Make sure that the machine is always clean.*



*If manually moving the machine, push the load.*



*Material used outdoors should be protected as well as possible against bad weather conditions.*

When moving the load, make sure that it is sufficiently raised and distant from the surrounding machines and other objects so as to avoid all obstacles during operation.

If manually moving the machine, push the load.

The prevention instructions to be carried out during the different operations should be well known.

Use the material under normal working conditions (*ambient temperature, atmosphere...*).

Material used outdoors should be protected as well as possible against bad weather conditions.

Notify the necessary people after a dangerous operation or if the machine seems problematic (*abnormal noise, abnormal behavior...*).

## 4 - Guarantee

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Our electric trolleys are guaranteed **for two years** from the date of delivery.

If for a reason outside the control of the vendor, the delivery is delayed, the time lag cannot exceed three months.

If the use (*installation*) of the machine is delayed, the corresponding extension of the guarantee (a single extension limited to three months) must be requested, and written confirmation obtained.

The vendor undertakes to eliminate all operating errors originating from the concept, the execution, the components or the materials themselves.

**The guarantee does not cover normal wear\*, nor the failures resulting from lack of regular and periodic maintenance. It does not cover damage due to a lack of supervision, to false operation or to a bad utilization of the machines, particularly due to overload conditions, slantwise drawing, undervoltage or overvoltage or a connection error.**

The guarantee does not apply when there is disassembly, modification or replacement of parts (*mechanical or electrical*) by an unauthorized party or without our prior agreement.

The guarantee only applies for original, factory-installed spare parts.

For the duration of the guarantee, the vendor undertakes to replace or repair, free of charge, the parts that are acknowledged to be damaged following examination by a qualified and authorized technical service. The guarantee excludes any other services or indemnities.

The repairs covered by the guarantee are carried out, as a rule, in the workshops of the vendor or authorized agent. When servicing of the equipment is done outside these workshops, the labor costs for disassembly or assembly of these parts are borne by the vendor when these are done exclusively by his staff or by an authorized agent. The replaced parts become the property of the vendor and must be returned to the vendor at his expense.

For components of a relative particular importance that are not manufactured by the vendor and which carry the brand name of specialized manufacturers, the manufacturer's guarantee (which can vary according to the manufacturer) is applicable.

\* The guarantee does not apply for expendable parts defined by the manufacturer:

- Brake disk
- Brushes
- Drive pinion
- Rubber buffer
- Rollers
- Guides

# 5 - General

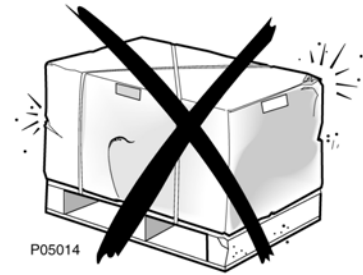
## 5 - General

### 5-1 Acceptance of the material

Carry out a visual inspection of the packing to ensure that it is intact.  
If it is not, issue the appropriate notifications.  
Check that the trolley corresponds to your order.

### 5-2 Installation

The service life of a trolley depends on the way in which it is installed.  
It is essential that the instructions in this manual are followed carefully for the installation, use, and maintenance of your machine.  
Any use contrary to our instructions may be dangerous. In this case, the manufacturer will not accept any liability.  
Do not use the machine without having read and understood the whole of the instruction manual.  
Always keep the manual close to the machine, available to the operator and to the person responsible for maintenance.  
Make sure that the safety rules are followed (harness, clearance of work area, posting of instructions to be followed in the work area, etc.).  
The trolley can be adapted to all runaway profiles. Couple or hook on the hoist after installation of the trolley.



### CAUTION

Check the width of the runaway rail and adapt the spacing of the flanges of the trolley as indicated in the tables

### Make sure:

- \* That the profile is secured.
- \* That the profile is suitable to the loads to be supported.
- \* That the dimensions are compatible with the trolley which is to be installed.
- \* That the electrical characteristics of the mains network conform to those of the motor.

### Carry out:

#### 1 - Disassembly of the trolley

- \* Remove the side plate on the counterweight side
- \* Position the trolley on the beam
- \* Refit the side plate.

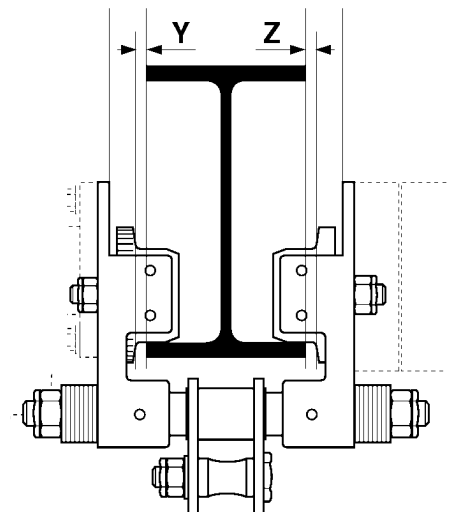
Check that all the nuts are correctly tightened.  
(see 7-4: Tightening torques)

#### 2 - Without disassembly of the trolley:

- Instal the trolley on the profile, by the end
- \* Fit the travel limit stops (not provided) at the end of the runway.

Check that all the nuts are correctly tightened.  
(see 7-4: Tightening torques)

On the curved profiles, the driving wheels should for preference be positioned on the outside of the curve.

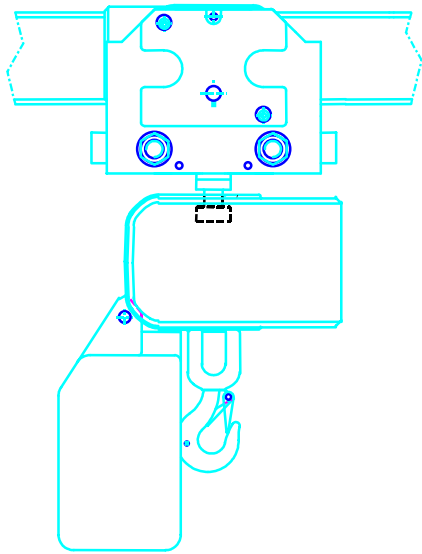


## **Y + Z = 4 mm MAXI**

### **VERY IMPORTANT!**

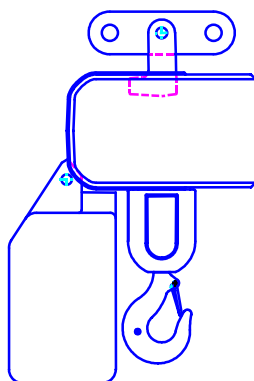
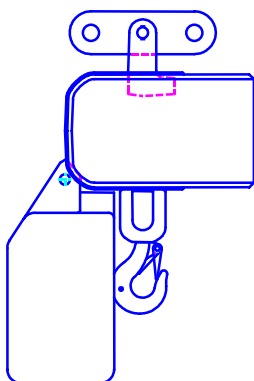
The total play on the same side, between the driving rollers and the edge of the profile, must not exceed 4 mm.

**Suspension with VL1-VL5-VL10-models**

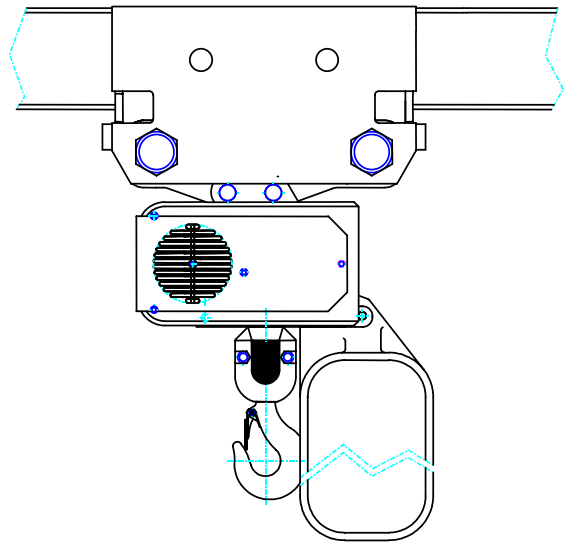


1 fall

2 falls

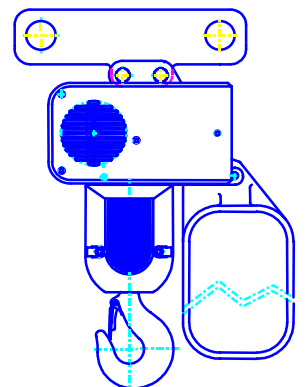
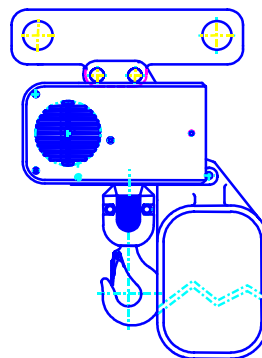


**Suspension with VL16-VL20-VL25**



1 fall

2 falls





# 6 - Description - technical characteristics

The trolley which you have just purchased should only be used with the nominal load indicated on the rating plate.  
The length of its service life depends on the demands placed on it, the average operating time, the number of start-ups and its maintenance

## 6-1 Technical characteristics

The NHT can be used for loads from 250 kg up to 5000 kg with all our electrical chain hoists. It can be driven with a inverter drive unit or a dual or single speed unit.

It can drive on straight trucks or curved trucks with the following radius:

≤1000kg	2 m
≤2000kg	2 m
≤3200kg	2 m
≤5000kg	no radius

## 6-2 Environmental data

- Ambient temperature: -20°C to +40°C
- Protection degree: **IP55** as standard


### Impact on the environment:

- Sound level: 70 decibels at 1 metre

Rating plate

Type

m/min.  /

kg. 

Volts

N
















**CE**

P05022VL

## 6-3 Dimensions

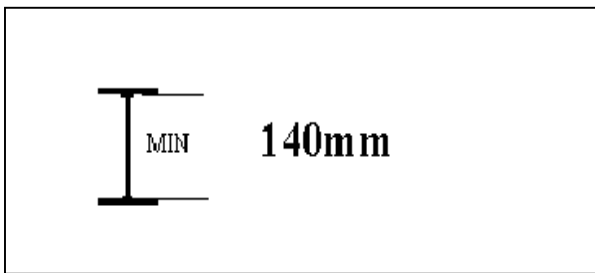
See the dimension sheet

## 6-4 Adjustment of the flanges

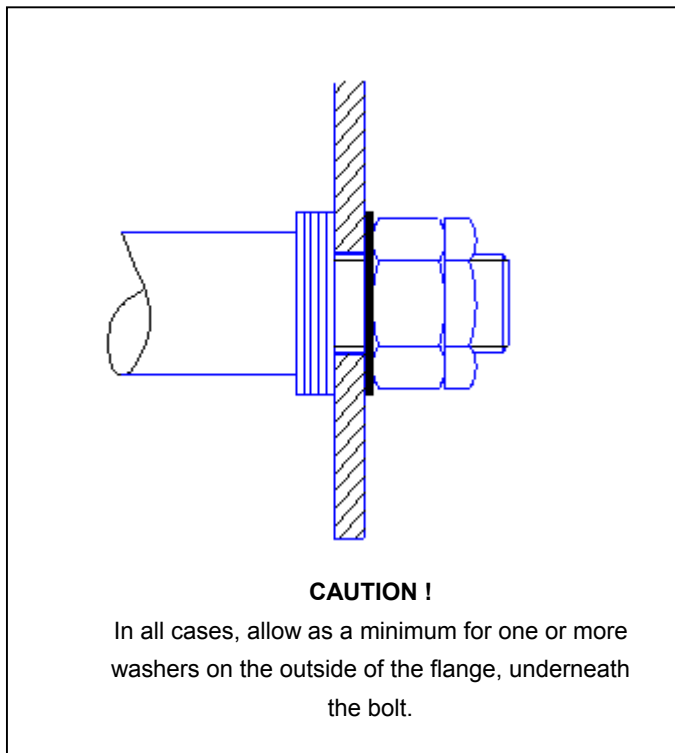
I	C1 ≤1000				C2 ≤2000				C3 ≤3200				C5 ≤5000									
																						
64	225	4	0	2	260	0	0	0	305	3	0	1	309	6	1	0						
66		6	2	0		2	0	1									8	2	0	12	2	0
72		14	4	1		8	2	0									10	2	1	14,5	2	1
73		16	4	2		10	2	1									10	2	1	14,5	2	1
74		18	6	0		17	4	1									17	4	1	20,5	3	1
81		22	6	2		17	4	1									17	4	1	24	4	0
82		24	8	0		25	6	1									198	4	1	30	5	0
89		30	8	3		25	6	1									27	6	1	32,5	5	1
90		30	10	0		28	6	2									30	6	2	35	5	2
91		32	10	1		34	8	1									32	8	0	6	1	0
98	36	12	0	36	8	2	38	8	2	12	2	0										
100	40	12	2	42	10	1	38	8	2	12	2	0										
106	0	0	0	44	10	2	40	10	0	14,5	2	1										
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110	3	1	0	48	12	0	46	10	2	20,5	3	1										
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310	2	0	1	54	12	3	54	12	3	54	12	2										

## **IMPORTANT NOTICE**

- Minimum beam height



- Safety washer



# 7 - Maintenance

## 7-1 Maintenance table

Check	Interval	Qualification of the client's personnel
Checking of the screw tightening torques and checking for signs of corrosion	Annually	Qualified mechanic
Measurement of the diameter of the roller raceway band	Annually	Operator
Condition of the roller drive pinion	Annually	Operator

**CAUTION!** These intervals should be shortened if the machine is used a lot, if it is used with maximum loads or in difficult ambient conditions.

## 7-2 Lubricants

Lubrication point	Specifications	Possible brands	Quantity
Roller drive pinion	KP2K-25 grease (DIN 51502) Soap-based lithium + MoS 2 Approx. melting point + 180°C Worked penetration 355 - 385°C Operating temperature - 25°C à + 130°C	<b>Tribol:</b> Molub Alloy multi-purpose grease <b>Aral:</b> Aral P 64037 grease Aralub PMD0 <b>BP:</b> Multi-purpose grease L 21 M <b>Esso:</b> Multi-purpose grease M <b>Mobil:</b> Mobilgrease Special <b>Shell:</b> Shell Retinax EP <b>Texaco:</b> Molytex grease EP 2 <b>Fuchs:</b> Renolit FLM0	As necessary
Bearing (*)			(*) 0.02 L

## 7-3 Spare parts replacement table

After a long period of non-use or during a routine checks, check the operation and adjustment of the safety items (brake, end stops...). If there is a possibly defective element, deformation or abnormal wear, the parts must be changed.

**CAUTION!** Disconnect the power supply before replacing any parts.

Spare part	To be replaced by	Qualification of the personnel
Roller drive pinion	Authorized manufacturer personnel	Qualified mechanic
Gear reducer assembly	Authorized manufacturer personnel	Qualified mechanic
Brake cap sealing	Authorized manufacturer personnel	Qualified mechanic
Other sealings	Authorized manufacturer personnel	Qualified mechanic
Rubber buffer	Authorized manufacturer personnel	Qualified mechanic

Once a part has been replaced, check the operation of the trolley (*refer to 5.2: Installation*).

## 7-4 Tightening torques (daNm)

	M5	M6	M8	M10	M12
Normal screws	6	10	24	48	83
Self-tapping screws	5	8	20	40	72
Suspension part screws "class 8.8"					83
Gearmotor assembly attaching screws			24		

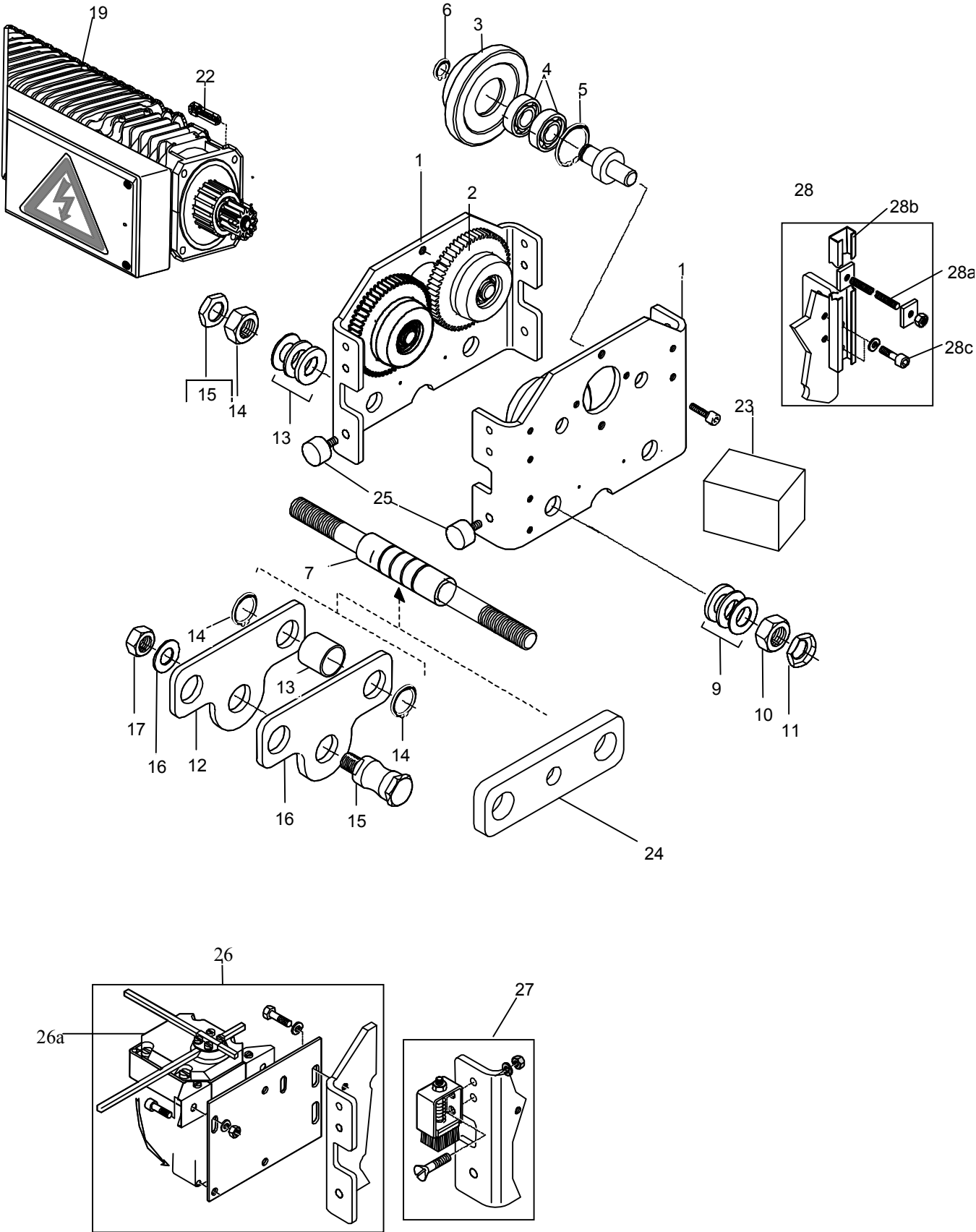
## 7-5 Discarding the trolley

Once the trolley has been used for the **FEM class duration**, all of the components must be checked by an authorized agent or by the manufacturer. **The trolley should no longer be used, unless agreement is obtained from the authorized agent or the manufacturer.**

**Remove all greases from the trolley before discarding it.**

# 8 - Illustrated catalogue

## 8-1 Electric trolley



Rep.	Qty.	<1000kg	<2000kg	<3200kg	<5000kg	Désignations
1	2	2141000	2151000	2161000	2181000	Side plate
2	2	558909	558919	558929	558949	Driving wheel with bearings 2+4+5
3	2	558908	558918	558928	558948	Idle wheel with bearings 3+4+5
6	4	400076	830860	830201	400078	Circlips ext.
7	2	2142553	-	-	-	Tension rod for the wide beam = 55-100
7	2	2142554	-	-	-	Tension rod for the wide beam = 106-150
7	2	2142555	-	-	-	Tension rod for the wide beam = 155-200
7	2	2142556	-	-	-	Tension rod for the wide beam = 206-248
7	2	2142557	-	-	-	Tension rod for the wide beam = 260-307
7	2	2142558	-	-	-	Tension rod for the wide beam = 308-310
7	2		2152563	-	-	Tension rod for the wide beam = 64-126
7	2		2152564	-	-	Tension rod for the wide beam = 131-190
7	2		2152565	-	-	Tension rod for the wide beam = 198-248
7	2		2152566	-	-	Tension rod for the wide beam = 260-310
7	2		-	2162563	-	Tension rod for the wide beam = 82-137
7	2		-	2162564	-	Tension rod for the wide beam = 140-190
7	2		-	2162565	-	Tension rod for the wide beam = 198-248
7	2		-	2162566	-	Tension rod for the wide beam = 260-310
7	2		-	-	2182553	Tension rod for the wide beam = 82-110
7	2		-	-	2182554	Tension rod for the wide beam = 113-150
7	2		-	-	2182555	Tension rod for the wide beam = 155-200
7	2		-	-	2182556	Tension rod for the wide beam = 206-248
7	2		-	-	2182557	Tension rod for the wide beam = 260-310
9	-	832110	-	-	-	Washers M20 ep = 3mm
9	-	832111	-	-	-	Washers M20 ep = 2mm
9	-		832112	-	-	Washers M24 ep = 4mm
9	-		832113	-	-	Washers M24 ep = 2mm
9	-		-	400773	-	Washers M30 ep = 4mm
9	-		-	832114	-	Washers M30 ep = 3mm
9	-		-	-	8584206	Washers M36 ep = 6mm
9	-		-	-	8584225	Washers M36 ep = 2,5mm
10	4	831523	-	-	-	Nut H M20
10	4		831540	-	-	Nut H M24
10	4		-	831530	-	Nut H M30
10	4		-	-	8004234	Nut H M36
11	4	831575	-	-	-	PAL nut M20
11	4		831576	-	-	PAL nut M24
11	4		-	831577	-	PAL nut M30
11	4		-	-	8004208	PAL nut M36
12	1	558940	558941	558942	-	Coupling part
13	2	558943	558944	558945	-	Positioning tube
14	4	100051	400078	400081	-	Circlips
15	1	558946	558947	558947	-	Suspension axle
16	1	400762	832110	832110	-	Washer
17	1	831598	831596	831596	-	Nylstop nut
19	1	52299089	52299087	52299087	52299087	Gearmotor assembly 48vac
22	1	830203	830203	830203	830203	CHC Screw
23	1	558907	558917	-	-	Counterweight
24	1	2222002	2222003	2277020	2182000	Adaptation part (perp)
25	4	558993	558993	558993	558993	Bumper
26	1	601801	601801	601801	601801	Complete limit switch
26a	1	7541312D	7541312D	7541312D	7541312D	Limit switch
27	1		(7661106Q+5531802D)			Earthing brush (brush + support)
28	1	601806	601806	601806	601806	Line drive ironwork 235 mm
28	1	601807	601807	601807	601807	Line drive ironwork 435 mm
28a	1	602910	602910	602910	602910	Line drive ironwork 170 mm
28a	1	602911	602911	602911	602911	Line drive ironwork 400 mm
28b	1	558997	558997	558997	558997	Ram for line drive ironwork 235 mm
28b	1	558999	558999	558999	558999	Ram for line drive ironwork 435 mm
28c	2	7215453J	7215453J	7215453J	7215453J	Screw CHC 8x16

**PART 2**

# **OWNER'S MANUAL FOR TRAVELLING MACHINERY**

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Read the instructions supplied with the travelling machinery unit before installation and commissioning.

Keep the instructions in a safe place for future reference.

## **PART 2**      **OWNER'S MANUAL FOR TRAVELLING MACHINERY**

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# 1 Instructions

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The instructions needed for the safe and effective installation, operation and maintenance of the travelling machinery are included in the delivery. The travelling machinery itself is also provided with labels and markings. The instructions are issued on paper.

**Read all the instructions supplied before starting to install and commission the travelling machinery unit.**

Keep the instructions in a safe place for future reference.

## 2 Safety instructions

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### 2.1 Safety instructions for preparing to install the travelling machinery unit

**Follow these instructions when preparing to install the travelling machinery unit:**

- Ensure that installation personnel are professionally competent, professionally qualified and are provided with adequate instructions for carrying out the installation work.
- Check for any dimensional nonconformance in drawings, instructions, parts and structural measurements.
- Beware of other moving machinery in the installation and servicing site, such as machines, other cranes and automatic doors. The installation area must be arranged so that operation of other equipment does not endanger installation work (or *vice versa*).
- Prevent unauthorized persons and bystanders from walking on or below the work site.

### 2.2 Safety instructions for installing and operating the travelling machinery unit

**Follow these instructions when installing the travelling machinery unit:**

- Use proper safety equipment to prevent objects from falling when working in high places.
- Ensure that machinery and equipment cannot start up accidentally and cannot move during installation and servicing.
- Keep installation and servicing locations, and walkways leading to them, clean and tidy.

**Follow these instructions when operating the travelling machinery unit:**

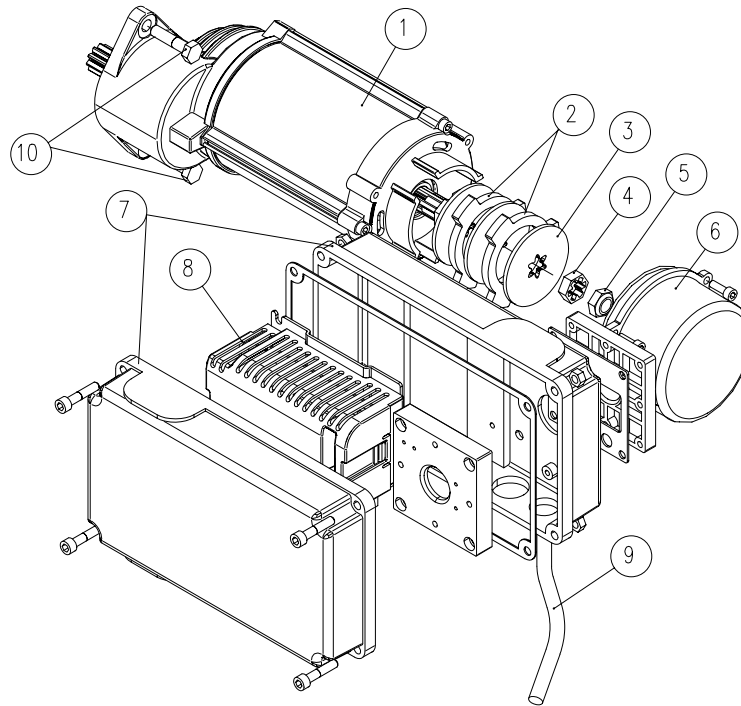
- The useful lifetime of a travelling machinery unit depends very much on whether the machinery is correctly used or not. Use of the machinery for other than the duty group classification for which it was designed changes its useful lifetime.
- During travel motion, ensure that the moving parts do not collide with objects or people.
- If excessive forces are directed to travelling machinery unit, for example due to collision, check the tightness of the fixing bolts and the operation of motor, brake and gear. Check the travelling motions and pay a special attention to any abnormal noises indicating damage in transmission train.
- If defects have been noticed in the travelling machinery unit, carry out the necessary inspections and servicing. Ensure that the travelling machinery unit operates properly before you start to use it again.
- Avoid short, jerky motions. Unnecessary short starts cause the motor to overheat quickly.
- Do not change the size of fuses. A qualified electrician should carry out all electrical work.

### 2.3 Safety instructions for servicing the travelling machinery unit

**Follow these instructions when servicing the travelling machinery unit:**

- Carry out regular inspections and preventive maintenance in compliance with the instructions. Keep a record of inspections and servicing. Regular servicing and inspection procedures are necessary for the safe and efficient operation of the travelling machinery unit. In uncertain or unusual cases, contact the supplier of the travelling machinery unit.
- Pay special attention to the operation of the brake. It is essential that safety devices work correctly and are in full operating order because they safeguard against human error.
- Use trained servicing personnel authorized by the manufacturer of the travelling machinery unit for servicing the travelling machinery unit. The person servicing the travelling machinery unit must be competent for the task and must be familiar with the servicing and inspection instructions.
- Use only genuine spare parts approved by the manufacturer of the travelling machinery unit.
- Any modifications or additions made to the travelling machinery unit's structures or performance values must first be discussed with the supplier of the travelling machinery unit.

### 3 Travelling machinery

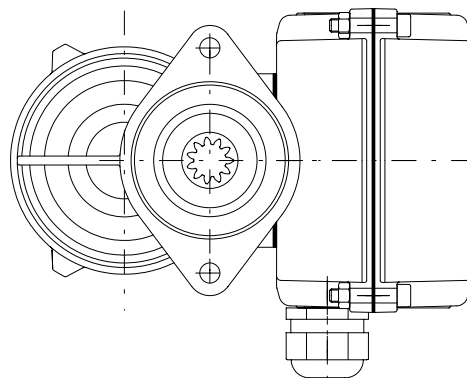


- |                         |                        |
|-------------------------|------------------------|
| 1. Gear/motor unit      | 6. Motor cover         |
| 2. Brake friction discs | 7. Electric box        |
| 3. Brake disc           | 8. Frequency converter |
| 4. Aluminium ring       | 9. Connecting cable    |
| 5. Adjustment nut       | 10. Fixing screws      |

#### 3.1 General

The travelling machinery units are designed to perform the travelling movement of the crane or the hoisting trolley either as a single unit or as several units. Any other kind of use (e.g. hoisting motion) is forbidden. Machinery is suitable for both indoor and outdoor use. Please note possible restrictions for special environments (e.g. galvanization plants).

#### 3.2 Mounting position of the machinery



Travelling machinery unit is to be mounted so that the electric box is on the side of the motor and connecting cables are pointing downwards (see picture above). Different mounting position than pictured above will reduce the cooling of electric box. As a result, inverter may overheat and damage.

#### 3.3 Assembling the travelling machinery unit

Ensure that the working area is safe and the machine cannot be started accidentally when making **the assembly work. Be sure to switch off securely the electric power from the device to avoid the electric shock and sudden start.**

- Align the machinery unit with the teeth of the driving wheel and push it against the face surface.

- Rotate the machinery to a correct angle to align the fixing bolt holes. Note that the motor brake prevents the free rotation. For enabling the rotation release the brake (see the instructions of the motor) or jack the wheel up from the rail.
- Turn the fixing bolts loosely to their places not forgetting the washers.
- If the wheel was jacked up, lower it down before tightening the fixing bolts.

Wheel must lie on the track when the screws are tightened to ensure that no excessive loads are directed towards the secondary shaft.

- Tighten the fixing bolts to a torque. Recommended tightening torque for M8 bolt is 23 Nm.
- Connect the power supply plug to the motor.

### 3.4 Start-up procedure

- Make sure that the conditions at the operating site correspond to the operating conditions for which the travelling machinery is designed (including indoor/outdoor use, ambient temperature/radiance temperature, wind, dust, splashing, snow, water, handling hazardous materials, fire risk, etc).
- Check that the supply voltage and frequency are suitable for the travelling machinery.
- Check the correct direction of rotation. Verify that the direction corresponds to the control signal. In multi-motor systems check that all the units function correctly in series. If any of the motors runs incorrectly the electric connections have to be checked and corrected by a professional electrician and/or authorized serviceman. Refer to the electric instructions and electric wiring diagram for further measures.

Be prepared for equipment moving in the wrong direction when testing.

- Check the function of the brake. The brake is factory set and normally ready to be taken into use.
- Make an audible check of the running sound of the machinery. Very loud growling sound indicates an incorrect connection of the motor. This must be corrected immediately. A regular distinct clatter sound is an indication of a broken bearing and this must be corrected by an authorized serviceman.
- Check the vibration during the run by hand. The cause of the excessive vibration must be identified. If the machinery causes the fault it must be checked by an authorized serviceman.
- Check the running temperature during the long-term operation. The temperature rise of the F-class motor must not exceed 100°C. If the temperature rise is too high the motor may run faulty, the cooling does not function correctly or the motor is overloaded. The reason must be identified and corrected by an authorized serviceman.
- Ensure that the test drive and commissioning inspection have been properly carried out and that the hand-over log has been properly completed.
- Ensure that any safety devices bypassed for testing purposes are restored to full operational status.

### 3.5 Inspection and service procedure for travelling machinery

Carry out the following inspections and servicing procedures at regular intervals. See section 'Inspection and servicing intervals' for the period of time between inspections and services.

- Check the tightness of the fixing bolts.
- Check the travelling motion: acceleration and deceleration.
- Check the brake for wear of friction linings. If necessary, clean the brake and replace the friction linings.
- Check the air gap and adjust if necessary. Refer to the motor instructions section for further measure.
- Check that the frequency converter operates correctly.
- If travelling machinery unit is equipped with gear reducer, check it for leakage.
- Gears are lifetime lubricated with semi-fluid grease and there is no need to add or change the lubricant in normal conditions.

### 3.6 Detaching and replacing the travelling machinery unit

**Ensure that the working area is safe and the machine cannot be started accidentally when making the assembly work. Be sure to switch off securely the electric power from the device to avoid the electric shock and sudden start.**

- Disconnect the power supply plug from the motor.
- Open the fixing bolts of the machinery and remove the bolts.
- Pull out the machinery from the driving wheel.
- Assemble the new machinery unit according to the instructions in section 'Assembling the travelling machinery unit'.

## 4 Compact-brake

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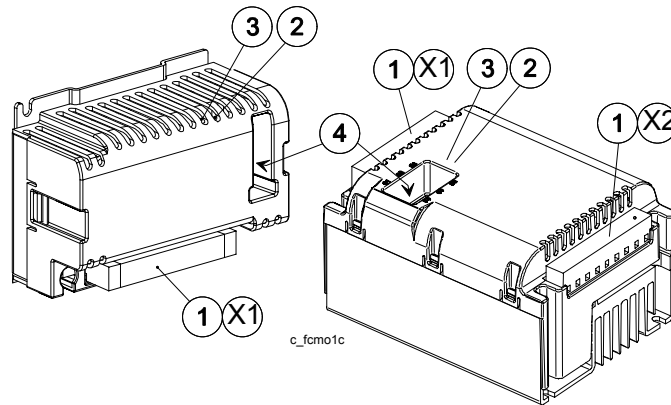
### 4.1 Adjustment of Compact-brake air gap

- Ensure there is no danger of live voltage.
- Remove the power supply plug for the travelling machinery.
- Open the motor cover.
- Push the brake disc and measure the air gap between the adjustment nut and aluminium ring. The air gap have to be 0.2 - 0.3 mm. If needed adjust the air gap using the adjustment nut.
- Fasten the motor cover and the power supply plug.

### 4.2 Removing the Compact-brake

- Ensure there is no danger of live voltage.
- Remove the power supply plug for the travelling machinery.
- Open the motor cover.
- Unscrew the adjustment nut for the brake air gap.
- Extract the brake parts. If the thickness of the friction material is less than 5 mm, replace all the brake parts.
- Re-assemble in the reverse sequence.
- Adjust the brake air gap. Refer to the section 'Adjustment of Compact-brake air gap'.

## 5 Frequency converter for travel



1. Connector, X1 Control (and power) connector, X2 Power connector
2. Signal lamp for malfunction (red)
3. Signal lamp for operating status (green)
4. Parameter switches

The electric box contains a frequency converter that controls the speed of rotation of the travelling motor and the brake. The frequency converter changes the speed of rotation of the travelling motor according to the commands given by the operator.

The frequency converter has a signal lamp (3) indicating its operating status and a signal lamp (2) to indicate a malfunction. When the operating status signal lamp (3) is lit, the frequency converter is operating. When the operating status signal lamp (3) is flashing, a malfunction has been active but operation of the machinery is still possible. When the malfunction signal lamp (2) is lit, a malfunction has occurred that prevents operation of the travelling machinery.

The settings for the frequency converter have been pre-set at the factory with the parameter switches (4). All connections to the frequency converter are made via connector (1).

### 5.1 Inspection and servicing of the frequency converter for travel

**The frequency converter contains live parts at voltages that could cause death by electric shock. Wait at least five minutes after disconnecting the electricity supply before carrying out any servicing procedures on the frequency converter.**

Carry out the following inspections and servicing procedures at regular intervals. See the instruction 'Inspection and servicing intervals' for the allowable period of time between inspections and services.

- Test the correct operation of the frequency converter by driving the trolley.
- Check the signal lamp (3) for operational status and the signal lamp (2) for malfunction.

If the malfunction signal lamp (2) of the frequency converter is lit, contact a service organization authorized by the manufacturer.



## 7 Inspection and servicing intervals

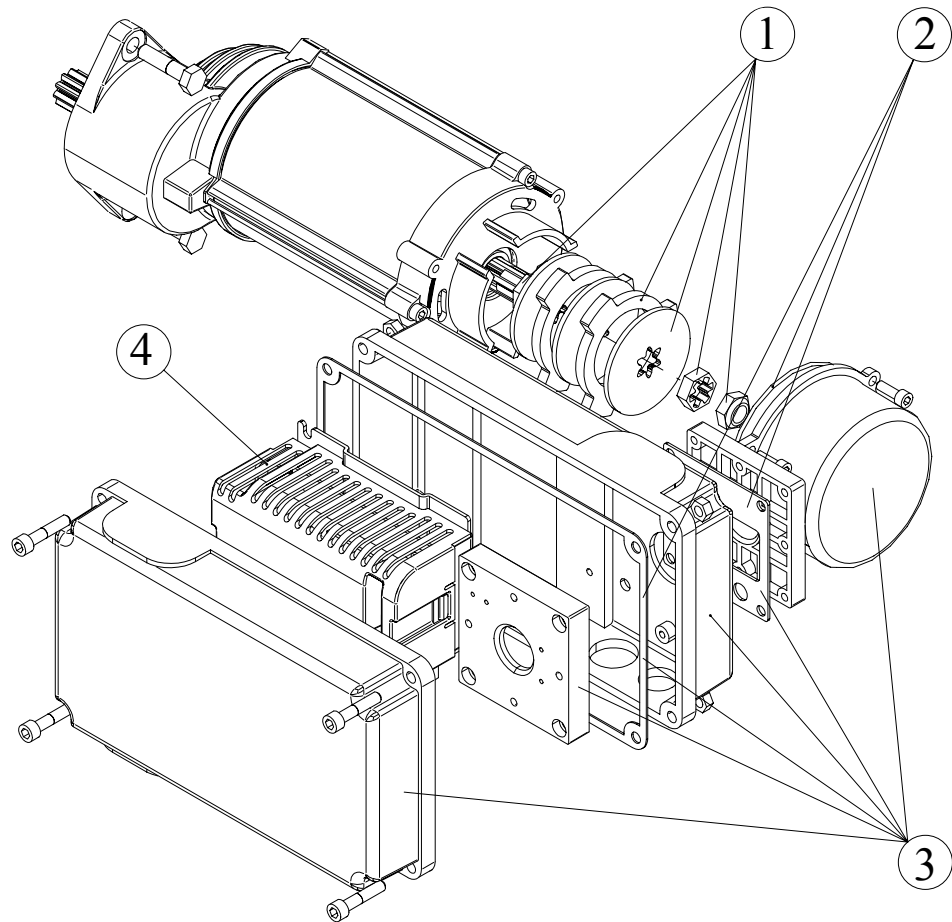
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The inspection and servicing interval for a travelling machinery unit is 12 calendar months. However, travelling machinery unit can be mounted on a crane or a hoist, which inspection and servicing intervals are defined by Safe Working Periods (SWPs). In these cases the servicing procedure must always be carried out at the end of the servicing period (SWP%) of a crane or a hoist, or by the end of the stated number of calendar months, whichever comes first. Travelling machinery units in intermittent duty should be inspected before being used. For ensuring the usability of the travelling machinery unit the servicing intervals can be shorten.

Servicing procedure may only be carried out by a serviceman authorized by the travelling machinery unit manufacturer or service personnel adequately trained by the manufacturer. If any defects or abnormalities are observed, they must be investigated and corrective action must be taken in accordance with the instructions.



## 8 Spare parts



POS	Code	SPECIFICATION	DESCRIPTION
1	52296293	M06-001V	8.1.1 Brake repair set
2	52300292	M06-008V	Sealing set
3	52300291	M06-007V	Terminal box
4	52300287	M06-003V	Inverter: 48V + FILTER
4	52300288	M06-004V	Inverter: 115V + FILTER
5	52297959	CCGCELCP-04	Connection cable



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