

Motorized gantry crane
Ref. 914

Instruction manual

EN



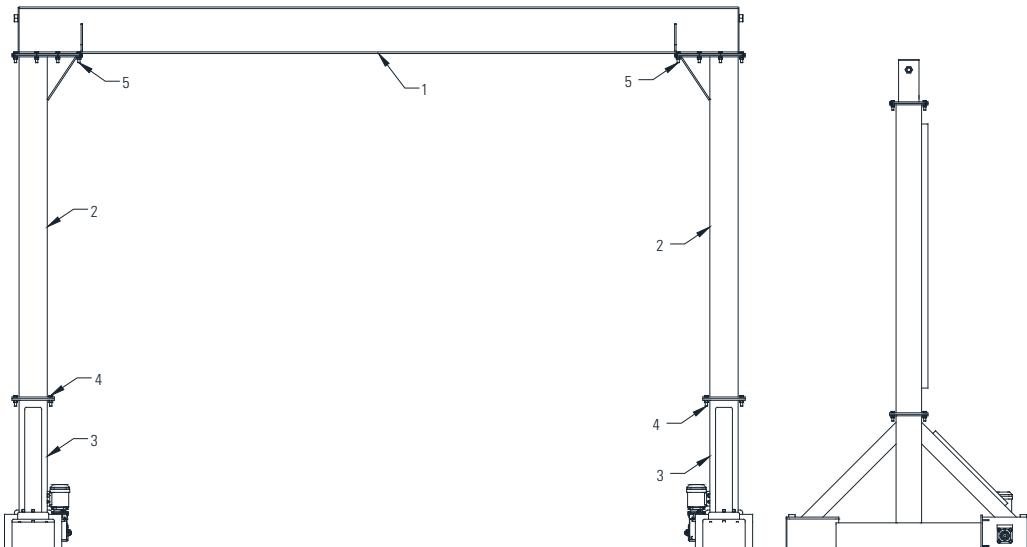
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1. DRAWING & ASSEMBLY INSTRUCTIONS

1.1. Gantry crane



GENERAL ASSEMBLY

1. If the feet of the gantry are dismountable, assemble the tubes **2** to the end-carriage **3** with the provided bolts **4**.
2. Remove the bolts **5** mounted on the plates of the beam.
3. Lift the beam with an appropriate mean up to the height of the feet.
4. Raise up one of the feet **2 + 3** in vertical position and make the plates coincide, put the screws + nuts **5** then lock the plates against each other.
5. Repeat the same process with the second foot.

An another method consisting in putting the beam set on the floor and the feet laid on the side and then lift up the complete set. However the process of assembly will not be different.

Tightening torque of the bolts :	M 10 : 3.5 daN.m	M 18 : 20 daN.m
	M 12 : 6 daN.m	M20 : 29 daN.m
	M 14 : 9.6 daN.m	M24 : 49 daN.m
	M 16 : 14.6 daN.m	M27 : 71 daN.m

USE

Use accordingly to the safe working load (swf) define by the technical sheet.

Maintenance

No special maintenance is required however following operation has to be done:

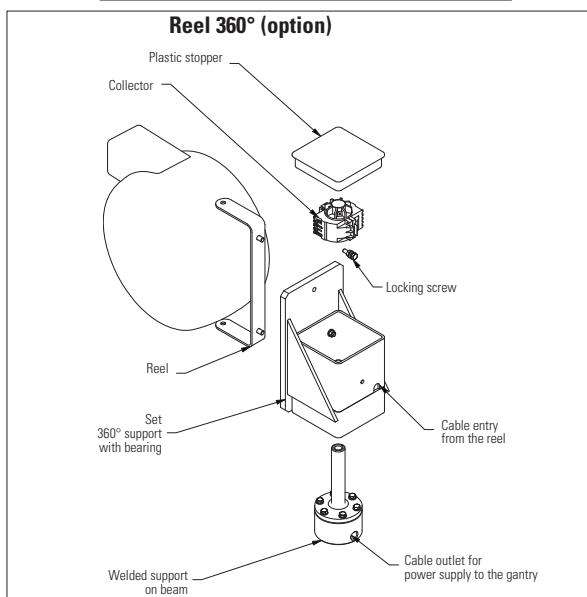
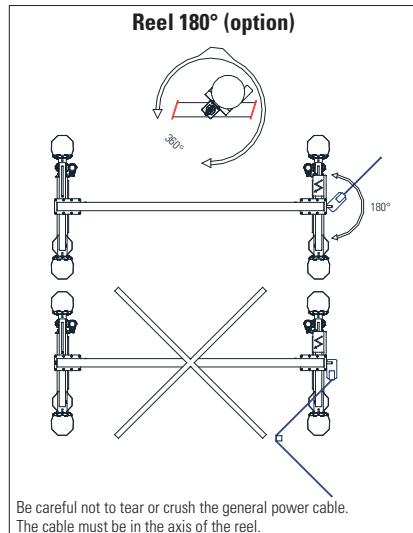
- Lubricate regularly the wheels shaft.
- Check once a year the correct tightening of the screws and generally the tightening of all mounting screws.
- Check the oil level of the motor and complete if necessary (see motor manual).

Reminder

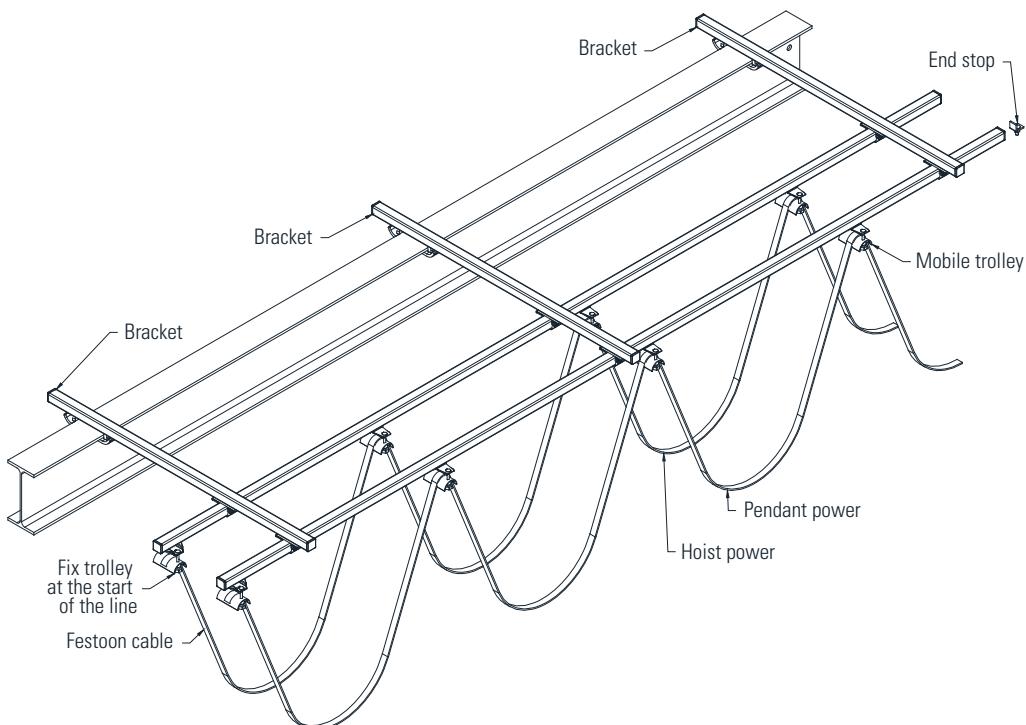
All lifting equipment devices must be validated by an official certificated organism before use.

It is strictly forbidden to use such installation for people transportation usage.

1.2. Reel



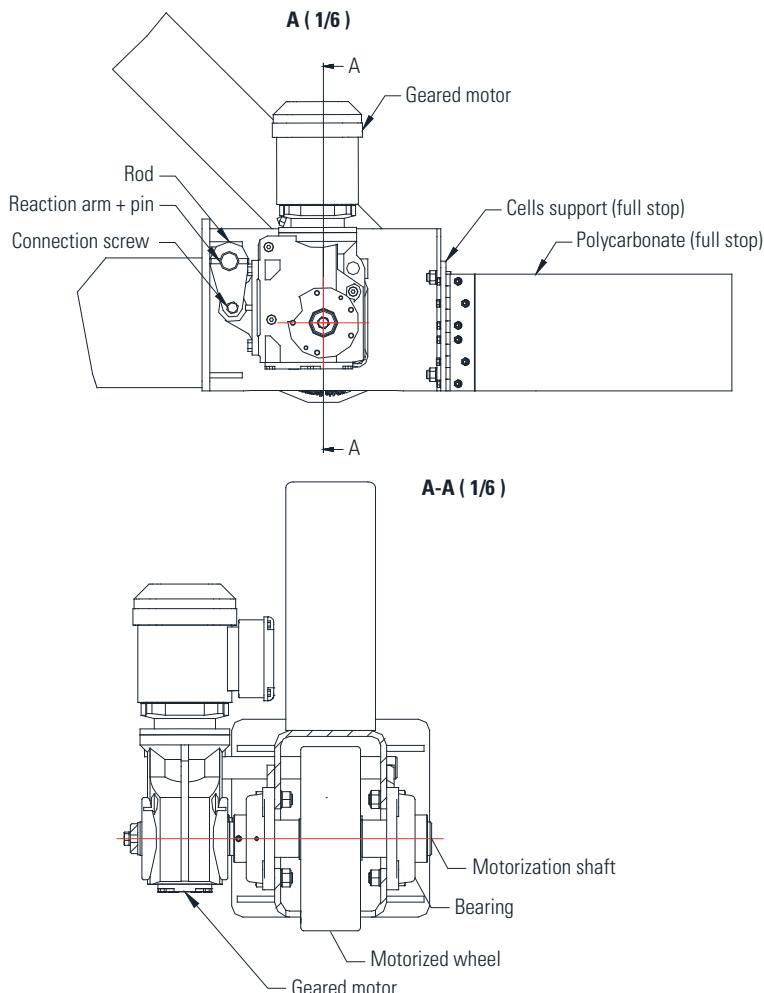
1.3. Power supply line



MOUNTING INSTRUCTIONS OF THE POWER SUPPLY LINE

1. Set the 1st bracket according to the sketch.
2. Place the next bracket with a space of max 2m between each one.
3. When the brackets are locked, engage the rail of the line in each bracket and fix it
4. Insert first the fix trolley at the beginning of the line then the mobile trolley and finally the end stop.
5. Put the flat cable through the trolleys distributing them equally along the rail. Let 1m of cable at the end of the rail to lug in the hoist

1.4. Motorization

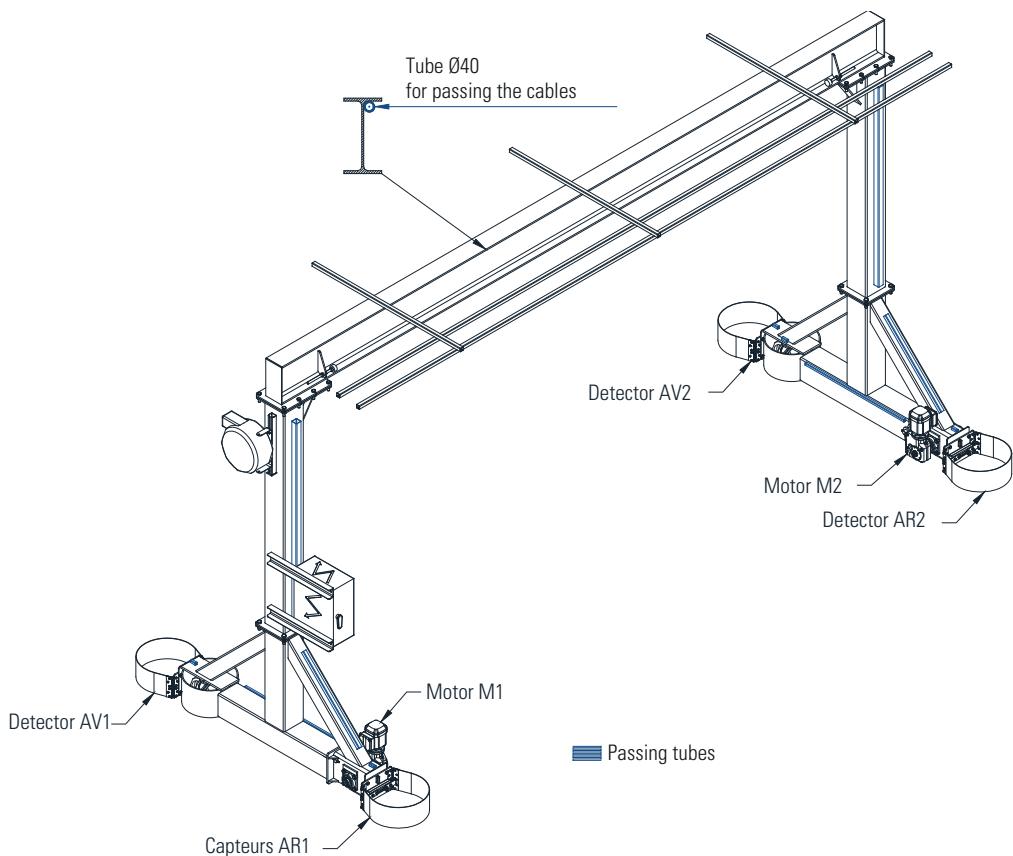


Operating instructions for the motor

- The gantry should be used on a smooth, clean surface without any obstacle.
- Concerning the operation of the translation movement:
 - switch in central position: moving the gantry straight forward or backward, in low or high speed;
 - switch in right or left position: swiveling of the gantry on itself until the needed position (This movement can only be done on low speed). Return the switch to the central position for the straight motion.
- Be careful not to tear or crush the general power cable.
- Do not use the full stop switches permanently. This device is a safety device and must be used as such.
- Do not play improperly on the button box.
- Access to the electrical cubicle and maintenance of the gantry are reserved for authorized personnel.
- Do not use the gantry for purposes other than those for which it was designed.

1.5. Electrical cubicle

After assembling the gantry and its accessories, refer to the sketch below to pass the cables marked in the provided tubes.



Note on the electrical connections of the gearmotors:

- 5-wire motor power cable :
 - Wires 1, 2 and 3 on terminals U, V and W of the motor terminal block.
 - Wires 4 and 5 on terminals 2 and 3 of the rectifier bridge (Black module - Leave the red wire on terminal 3).

Make sure that all 8 'Full Stop' switches are switched on in normal operation.

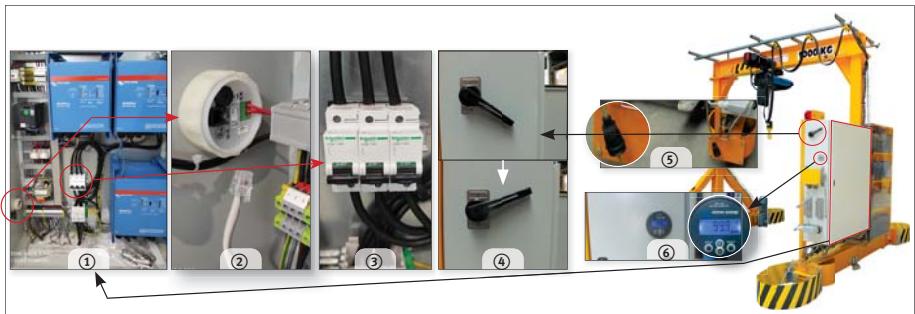
If the Full Stop operation is reversed or abnormal, check the position of Full Stop AR1, AR2, AV1 and AV2 according to the above diagram.

If necessary, reverse 2 phases of motor terminals U and V for example.



WARNING !

PROCEDURE BELOW MUST BE FOLLOWED



1. AT FIRST COMMISSIONING

- OPEN THE MAIN CABINET. CHECK THAT THE 3 SWITCHES ARE IN «ON» POSITION ON THE 3 MULTIPLE PANELS. *PHOTO 1*
- REPLUG THE RJ45 CABLE ON THE «VUMETER». *PHOTO 2*
- TURN «ON» THE 3 BATTERY SWITCHES. *PHOTO 3*
- TURN ON THE MAIN SIDE SWITCH IN POSITION I. *PHOTO 4*
- AFTER 10 SECONDS, THE 3 MULTIPLE PANELS ARE SYNCHRONIZING AND THE LIGHTS ARE «GREEN NOT FLASHING». *PHOTO 1*
- THE 3 MULTIPLUS BOXES MUST REMAIN IN THIS POSITION DURING OPERATION (EXCEPT DURING TRANSPORT, POSITION 0) *PHOTO 1*
- THE GANTRY CRANE IS READY FOR USE.
(SEE THE INSTRUCTIONS FOR RADIO CONTROL IF NEEDED).

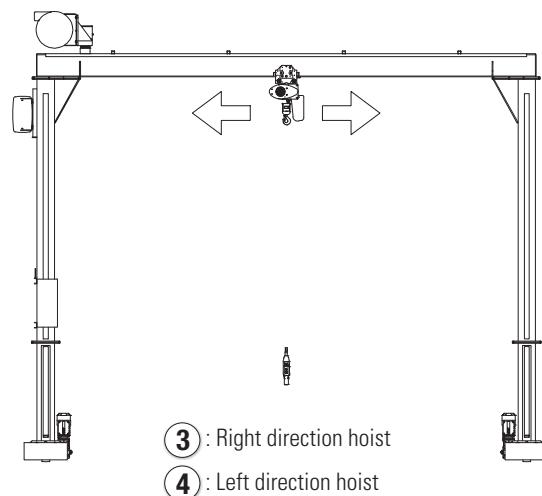
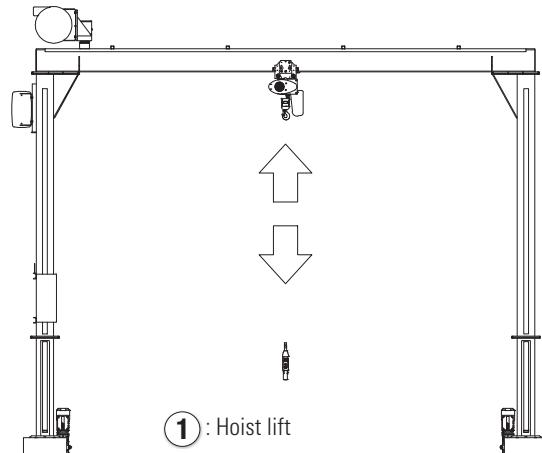
2. CHARGE

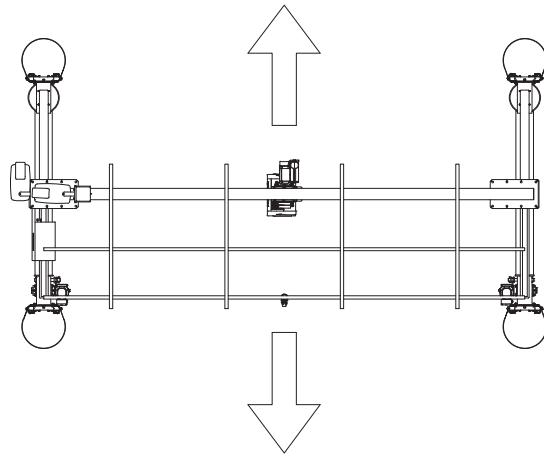
- THE BATTERY CHARGE LEVEL IS INDICATED ON THE «VUMETER»
(ON THE SIDE OF THE GENERAL BOX). *PHOTO 6*
- WHEN THE GANTRY CRANE IS NOT IN OPERATION, IT MUST BE CONNECTED TO THE POWER SUPPLY THROUGH THE 230 V SINGLE PHASE POWER SUPPLY UNDER THE GENERAL BOX. *PHOTO 5*
- **BELLOW 50 %** BATTERY LOAD, COMPULSORY CHARGING. *PHOTO 6*
- **THE GANTRY CRANE MUST NEVER WORK WHEN IS UNDER CHARGING.**

3. USE (LOAD LEVEL)

- FROM 100 % TO 60 %, NORMAL USE.
- AT 55 % OF THE LOAD LEVEL, AN ALARM SIGNAL RINGS TO INDICATE TO THE USER TO CHARGE THE GANTRY CRANE (SEE ABOVE CHARGE CHAPTER 2). THE ALARM NOISE STOPS FROM 60 % OF THE LOAD LEVEL.
- **BELLOW 50 %, THE GANTRY CRANE STOPS (MANDATORY CHARGE). THE GANTRY CRANE CAN BE REUSED FROM 60 %.**

3. USE OF THE CONTROL SYSTEM



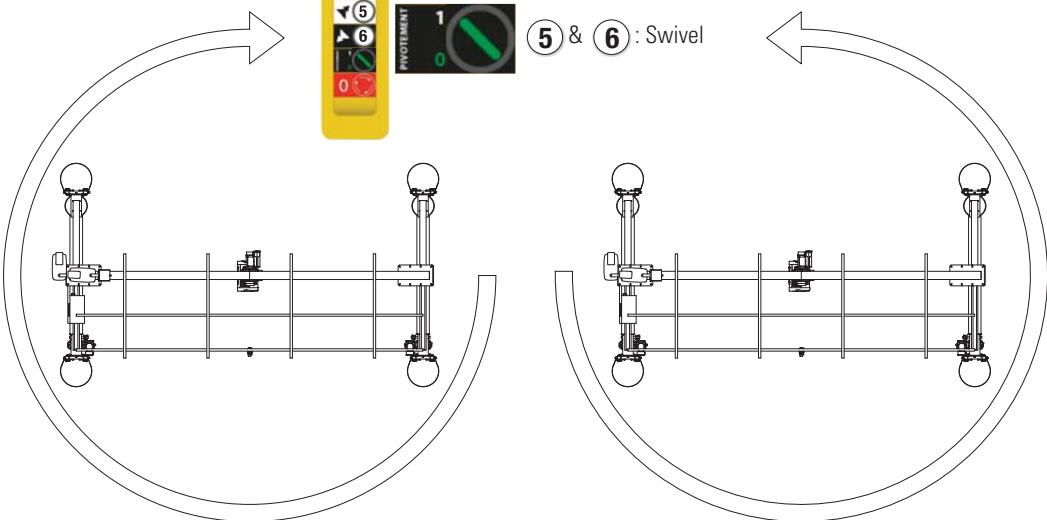


⑤ : Straight front of the gantry

⑥ : Straight back of the gantry crane



⑤ & ⑥ : Swivel



4. WHAT TO DO AND WHAT NOT TO DO

It is very important to read these instructions carefully to enable you to install, use and maintain your equipment and reduce any risks caused by its incorrect use.

Any use that is not compliant with the following is dangerous and the manufacturer refuses to accept any liability in such cases.

Please comply with the instructions given below.

WHAT TO DO

GENERAL

- Read and follow the instructions given in the introduction manual carefully, starting from initial commissioning.
During repair or maintenance, use only «standard parts».
- Always keep the instructions manual and the user instructions near the equipment, available to the operator and the person in charge of maintenance.

TRANSPORT / STORAGE

- Handle the equipment and its structure either using the devices provided for the purpose or in the original package.
- Store the equipment away from any harsh environmental conditions (dust, damp...). It must be cleaned and protected from corrosion (lubrication...)

INSTALLATION / MAINTENANCE / INTERVENTIONS

- Have trained people who are electrically and mechanically competent deal with installation.
- Require absolute compliance with the safety rules (harnesses, clearance around working areas, cordoning off the area...)
- Ensure that the equipment attaching structure is rigid.
- Neutralize any sources of electric power.
- Keep strictly to the installation instructions mentioned in the equipment instructions manual.
- Connect directly the power supply cable to the power supply terminal of the electrical unit :
 - the cable must be assembled in accordance with the manual, greased and run in by several maneuvers without a load,
 - the line must be assembled in accordance with the manual, oiled and run in by several maneuvers without a load.
- Set out an inspection program and record all the maintenance work carried out on the equipment, and more particularly: hooks, sheave assemblies, chains or cables, brakes and travel end switches.
- Replace any suspicious or worn parts.

AFTER EXTENDED STOPPAGE OR DURING A CHECK :

- Check the operation and adjustment of the safety devices (brake, travel ends, limiters...) in accordance with the instruction manual.
- Regularly check the condition of the chain or cable and of the hooks.
- If a deformation or any wear is observed, replace the parts.
- Keep the cable clean and greased at all times.
- Check that all of the assembly components are tight.
- Check the condition of the lifting cable component wires.
- Check that the chains are not twisted and are free of any damage.
- Check that the steel cables strands supporting the pushbutton box fulfil their functions. The pushbutton box conductor cable is not a handling cable.

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Please comply with the instructions given below.

WHAT NOT TO DO

TRANSPORT / STORAGE

- Never move or lift the equipment of using the electrical cables.
- Never put the hoist down without using a suitable support to avoid damage to the components on the underside.

INSTALLATION / MAINTENANCE / INTERVENTIONS

- Never modify the equipment without suitable study and the authorization of the manufacturer.
- Never change the values and settings of the safety devices outside the limits provided for in the manual or without the agreement of the manufacturer.
- Never bypass isolating switches, electrical switches, prevention or limiting equipment.

IN USE

- Never transport a load without keeping the personnel at a distance. Never have the hook, loaded or empty, move above the personnel.
- Never let anybody unqualified use the equipment.
- Never lift a load exceeding the maximum operating load indicated on the equipment. Shock or accidental catching of the load being handled with the environment can generate overloads.
- Never remove the tab from the hook.
- Never block, adjust or remove switches or end of travel devices to go higher or lower than permitted by them.
- Never use the equipment to pull away, un-jam or pull sideways.
- Never use the equipment to transport people.
- Never touch any moving parts.
- Never use equipment that is in poor condition (wear, deformation...)
- Never use defective spare parts or whose origin is not fully known.
- Never swing the load intentionally.
- Do not cause abrupt movement so n the equipment.
- Never use the mechanical stops as a means of repetitive stoppage.
- Never use the lifting chain or cable as a sling.
- Never sling anything from the nose of the hook (risk of damage to hook and falling of load)
- Never use the hook when cantilevered.
- Never twist the loading chains. (turn-around of the sheave...).
- Never use the electric cables to move the equipment around.
- Never leave a load hanging.
- Never use the equipment as a ground reference for welding.
- Never use the equipment for any purpose or in any place for which it was designed.
- Never use the safety devices as a means of measuring the carried weight.
- Never use the controls pointlessly (avoid keying on them). This can cause overheating or even the deterioration of the equipment.
- Never pull a load cross-wise or bring the equipment vertically above the load before lifting it.
- Never use the equipment with an electric power supply that is different from the one recommended (under or over voltage, absence of a phase...)

5. TEST UNDER LOAD OF THE JIB CRANES AND OF THE GANTRY CRANES

To ensure the good performance of the equipment, and in the absence of specific legislation, the following is recommended by the manufacturer in terms of dynamic and static load tests on standard devices.

Any other regulation, whether related to specific conditions of a country or a particular use should be specifications duly approved by the manufacturer.

DYNAMIC TESTS

For the dynamic tests will be added an overload of 10% at rated load, whether electric or manual lifting.

The tests are therefore performed on all movements (lifting, travelling, translation, rotation etc ...) It will not be necessary to lift the load to its maximum height but it is possible to do it and no time is imposed.

One move of each movement is necessary and sufficient.

Interpretation of dynamic tests :

During these tests the hoist + trolley must remain stable. Ensure no visible distortion too important.

Measure the height under beam or over beam empty before applying the load (Load at the end of the arm if it is a jib crane or at the center if it is a gantry crane) and remeasure under dynamic load.

Do the ratio to recalculate the measured deflection under dynamic load by dividing by 1.1 in order to interpret **Deflection under nominal load**, this deflection is directly proportional to the load.

Only the deflection under nominal load is interpretable to the exclusion of any other!

For pillar jib cranes, deflection observed (**interpreted under nominal load**) must not exceed 1/100th of the span and 1/200th of the sum Height + Span.

For wall jib cranes, deflection should not exceed 1/200th of the span (it will not take into account the possible deformation of the post which is supposedly of sufficient size and have been calculated by the user).

For gantry cranes, deflection should not exceed 1/500th of the span.

If the dynamic tests give satisfaction, there will be static tests.

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STATIC TESTS

Static testing has for single purpose to ensure the strength of the assembly and verify the absence of permanent deformation or residual.

No deflection measurement shall be interpreted during these tests if it is only to verify the absence of permanent deformation

Requirements during the static tests :

For static tests, it will be an overload applied **in more than 25% of the rated load**, whether it be a manual or electric lifting.

These tests will be performed only on the lifting arms of the bracket in the center position (end of the load arm in the case of jib crane and to the center of a gantry).

It is forbidden to lift the load increased by 25% with the device but additional weights are added to the dynamic load. In the case of a wall jib, the static test will be done in the sense that less strains the the building structure.

The duration of this test shall not exceed 30 min.

Interpretation of static tests:

If after static tests, no permanent or residual deformation is found, the device can be operated.

As defined in the European Machinery Directive, any calculation notes will not be issued unless requested to ordering and duly accepted by Comege, as well as the detailed plans, schedules etc. which are the subject of the information folder and as such are confidential documents.

Concerning electric chain hoists:

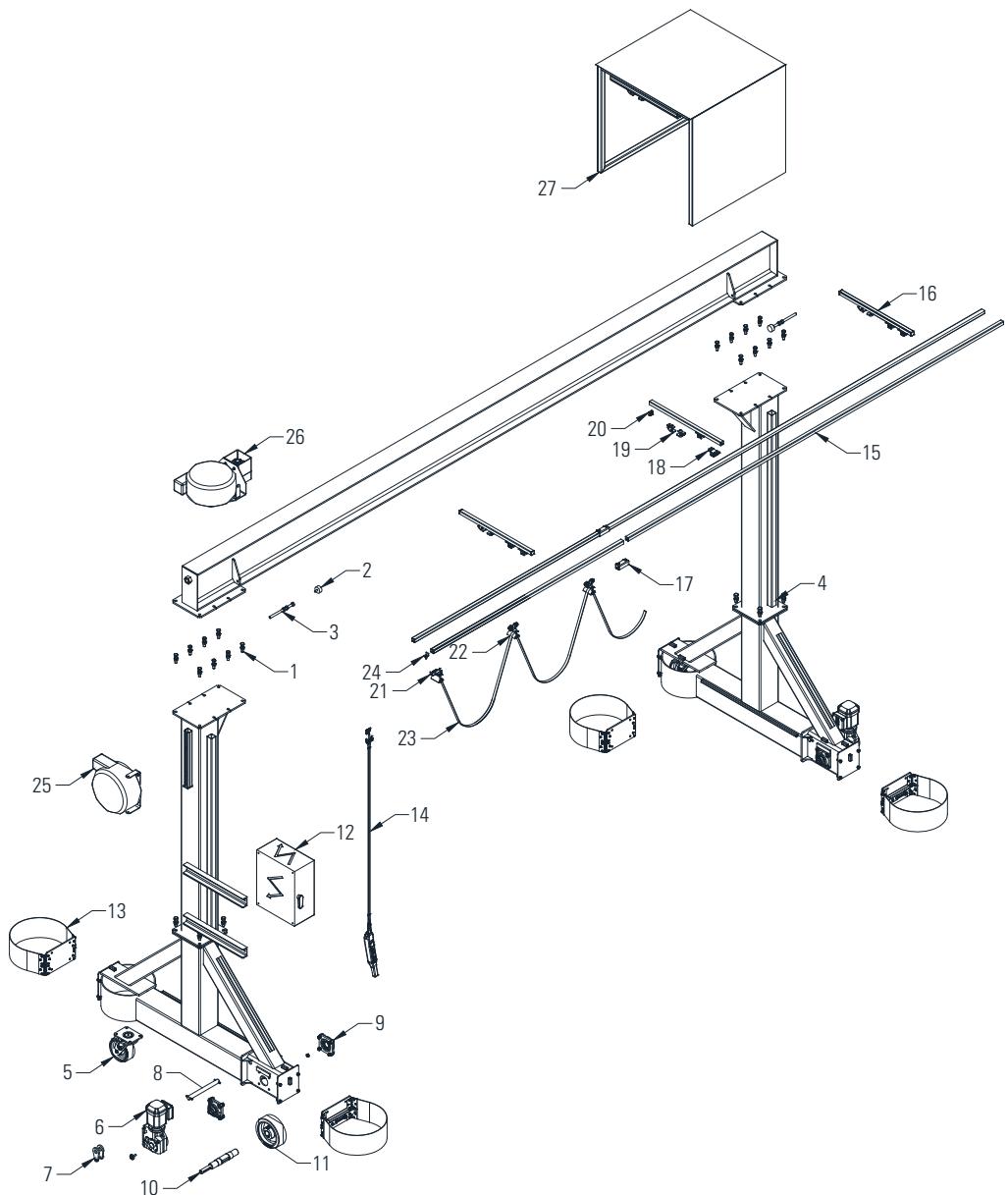
It is reminded that these devices are equipped with **torque limiters** and not **load limiters**.

Also for security reasons, their setting far exceeds the trigger threshold 110% of the rated load.

It is quite acceptable that the torque limiters can be «*calibrated*» to 125 or even 130% of rated load.

This measure aimed to anticipate wear slip friction system providing torque limit and prevent and to the risk of «*slippage*» of the load.

6. SPARE PARTS



Repère	Designation	
1	Screws set for assembly of the beam	Gantry crane
2	Rubber stop	
3	End stop M16	
4	Screws set for assembly of the dismountable foot	
5	Caster wheel	
6	Geared motor	Motorization
7	Rod	
8	Reaction arm	
9	Motor bearing	
10	Drive shaft	
11	Motorized wheel	Electrical equipment
12	Electrical cubicle	
13	Full stop	
14	Button box	
15	Power line rail	Power supply line
16	Bracket	
17	Connector platejonction	
18	Hanger	
19	Clamp	
20	Plastic cap for rail	
21	Fix cable trolley	
22	Mobile cable trolley	Options
23	Cable	
24	End stop	
25	Reel	
26	Reel support 360°	Options
27	Hoist cover	

7. SPECIFICATIONS

