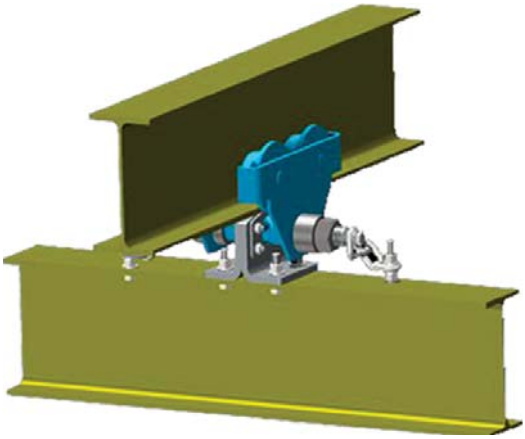
USER MANUAL

TROLLEYS FOR ARTICULATED GIRDER SYSTEM



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DESCRIPTION

This kit of trolleys is intended to build light manual suspended cranes.

It includes :

- A pair of trolleys
- 2 Articulations girder/trolley
- One coupling assembly parts
- 4 safety chains

The choice of the type of trolleys depends on the lifting capacity of the hoist. The trolleys are oversized to take in addition to the nominal load of the hoist the weight of it + the weight of the girder. The displayed capacity is therefore the right lifting capacity.

The manual girder can be equipped with a manual or an electric chain hoist.

INTRODUCTION OF THE RANGE

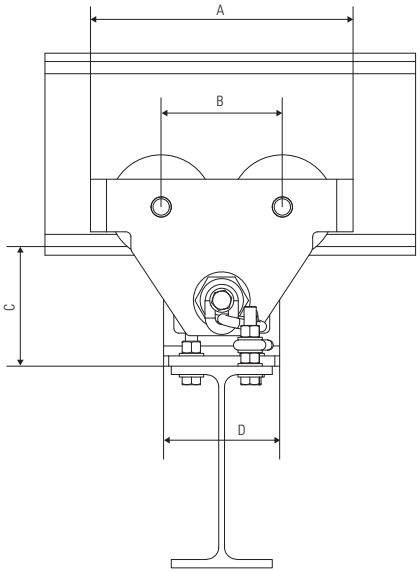
Capacity (Kg)	Span (m)						
	2	3	4	5	6	7	8
250	CHPPA 5						
500	CHPPA 5						
1000	CHPPA 10						
1600	CHPPA 20						
2000	CHPPA 20						

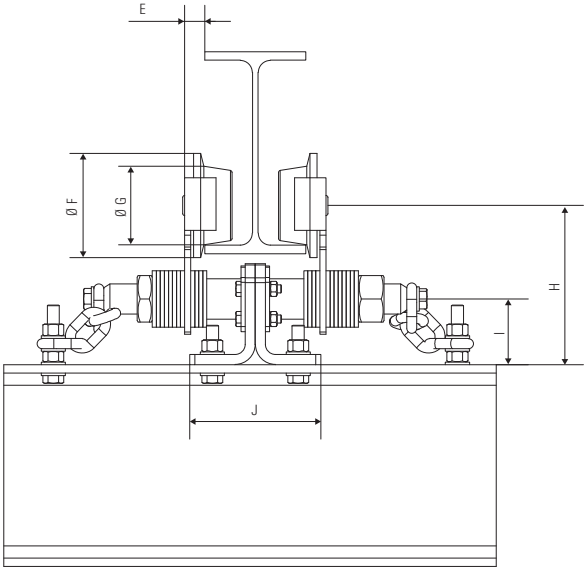
ADJUSTMENT RANGE OF THE TROLLEYS

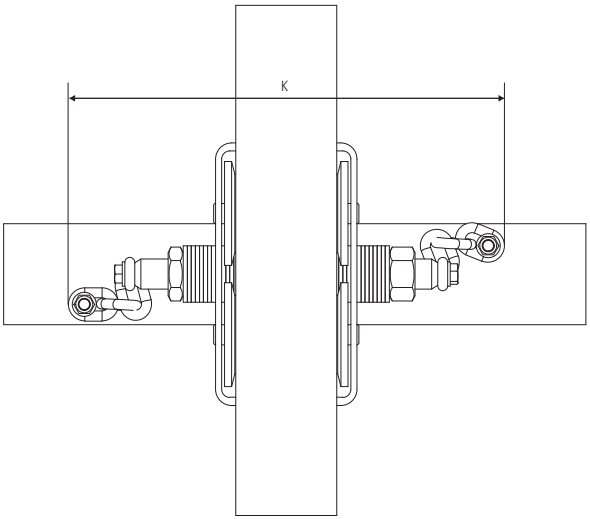
	Wing width		Wing Thickness maximum
	Mini	maxi	
CHPPA 5	64	140	15
CHPPA 10	64	140	15
CHPPA 20	76	165	10

GENERAL DRAWINGS

	A	B	C	D	E	F	G	H	I	J	K
CHPPA 5	220	102	120	100	20	80	56	148	65	100	390
CHPPA 10	260	120	120	115	20	103	78	158	65	130	440
CHPPA 20	302	137	130	120	25	128	91	176	75	150	490





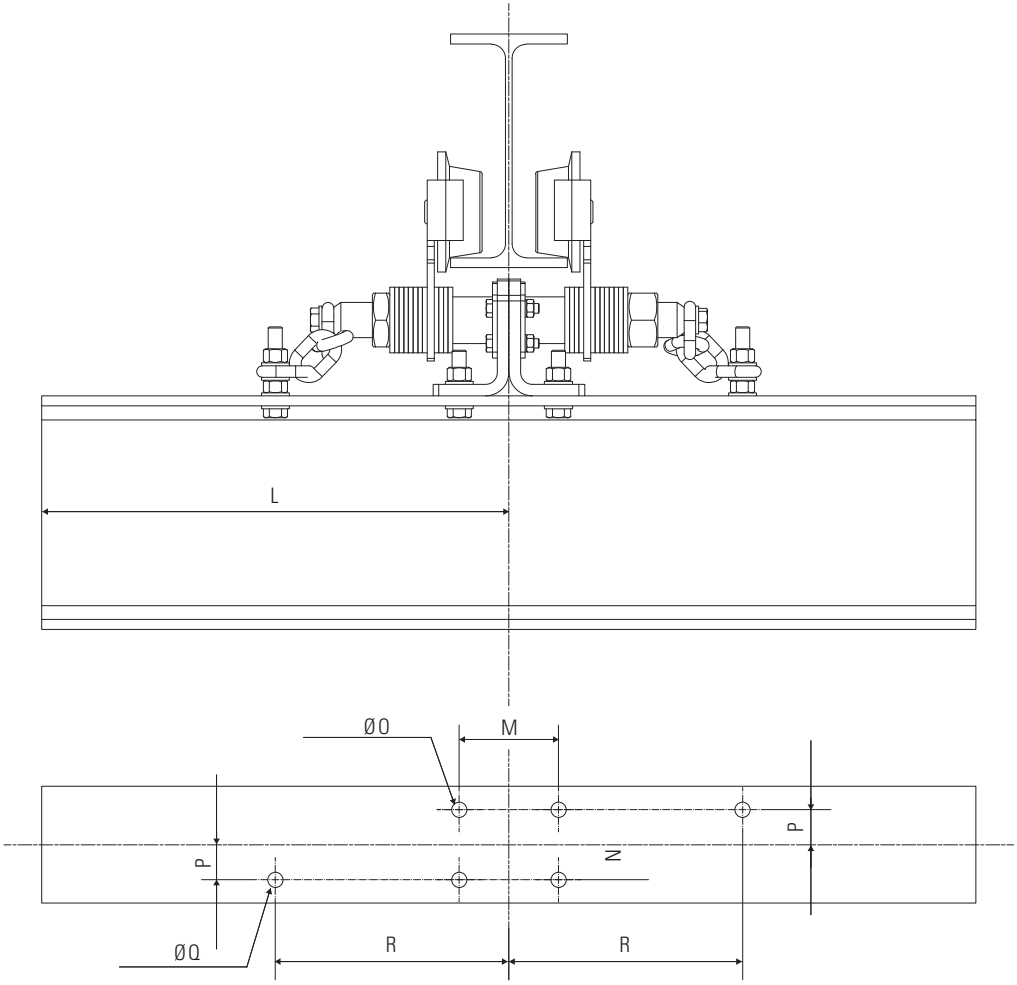


DRILLING OF THE BEAM

The dimensioning of the beam chosen to realize your girder system is your responsibility. This should be calculated in accordance with the legislation and the rules in force. We decline any responsibility for an error in the dimensioning of this.

The holes to make in this beam are detailled in the table below :

	M	N	O	P	Q	R
CHPPA 5	65	42 à 64	11	N/2	9	180
CHPPA 10	85	40 à 78	13	N/2	13	200
CHPPA 20	95	48 à 78	15	N/2	17	230



Nota : the dimension L min rating is the dimension required to secure the safety chains. The end stops of the hoist in the profile are from your supply. They must be positioned in such a way that the lifting axis of the hoist does not protrude beyond the axis of the girder trolley. If you want to carry out a cantilever on the beam, the tilting of the beam will have to be checked as well as the resulting load on the trolley

MOUNTING OF TROLLEYS

Once the beam has been drilled, assemble the coupling straps on the beam with screws facing upwards. Tighten the bolts class 8.8 to the torque indicated in the table below :

Ø screw	Coupling straps
M10	4,6 daN/m
M12	7,9 daN/m
M14	12,7 daN/m

Adjust the width of the two trolleys by moving the washers on the inner or outer side of each flange.

Attention: the number of washer on each side of the shoulder strap must be identical.

The dimension inside the rollers must be 4 to 6 mm wider than the width of girder beam.

Once the width has been adjusted, install the safety chains.

MAINTENANCE

No specific maintenance should be done on this material

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

GENERALLY

- 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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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 book, 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 in 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…)

TEST UNDER LOAD

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 heightbut 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 + 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!

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

For wall jib cranes deflection should not exceed 1/200^{e} 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)

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

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.
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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:

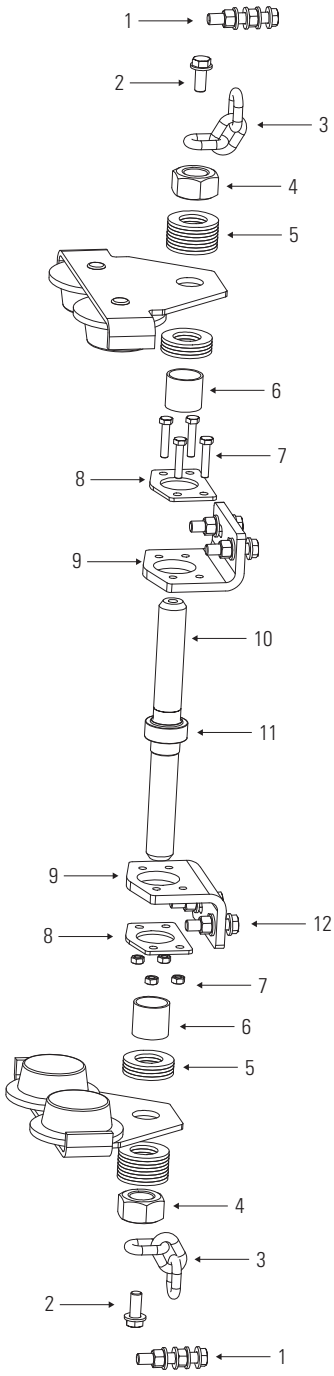
It is reminded that these devices are equipped with **torque limiters** and not **load limiters.**

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.

NOMENCLATURE



N°	Désignation
1	Bolt safety chain / beam
2	Screw safety chain / axis
3	Safety chain
4	Flange tightening nut
5	Wedging washer
6	Spacer
7	Flange holding nut
8	Ball joint holding flange
9	Connecting bracket
10	Axis
11	Ball joint
12	Beam supporting nut