

ASSEMBLY INSTRUCTIONS

1) SECURITY

- Disconnect the electrical current from the system before beginning any assembly operation.
- Do not use the UP conductor rail system for higher loads than the specified voltage and current.

2) INSTALLATION

The support structure for the power line must be capable of supporting the total weight of the system. Place the support points along the beam through which the hoist will move. These points should be located every 1500mm or every 1800mm depending on the type of line in question and according to previous sketch.

Maximum paralelism tolerance, in vertical and in horizontal planes, between the beam of the crane and the conductor rail should be +/- 20 mm.

2.1 SUPPORT INSTALLATION



Assemble the supporting points for the conductor rail according to the specified distance (See page 5): every 1.500 mm. for profiles UP-1 and every 1.800 mm. for profiles UP-2.

2.2 JOINTS INSTALLATION

The connection part of the conductor and the connector should be polished with abrasive cloth to remove the oxide layer, apply the electrical conductive pastes and screw the bolts,

Check correct alingment of the contact piece and the minimum gap between conductor rails. Mount the joint covers.



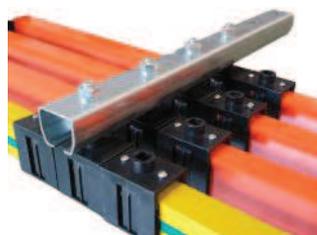
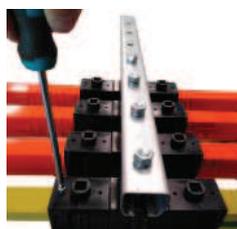
2.3 FIXED POINT CLAMP INSTALLATION

Conductor rails have to be fixed, at least, in one point of the travelling length in order to direct the expansion on the right way.

For installations with travelling length $\geq 100\text{m}$, we advise to assemble the fixed point clamps at the middle of the travelling.

Two fixed clamps should be assembled, one at each side of the fixed point.

In case the line requires expansion joints, please, contact with our Technical Department.





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2.4 FEEDING POINT INSTALLATION



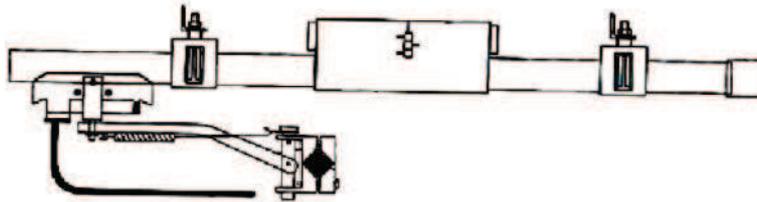
Connect electric cables at both sides using the cable lugs



Assemble the cover

2.5 CURRENT COLLECTORS INSTALLATION

Ensure the correct alignment between the carbon brush and the conductor rail.
Connection cable should be long enough to avoid any lateral force or torsion to the carbon brush.



Check the vertical distance between the conductor rail and the current collector towing arm according to pages 8 and 9.

2.6 END CAP

Install the end caps on both sides and tighten them with rubberized fabric.

3) INSPECTION

Check that the difference in parallelism between the Up conductor rail and the hoist unit does not exceed 20 mm. Make a running test to check the passage of the brushes in the joint areas and tighten all connecting / fastening pieces again.

4) OPERATION

4.1 PREVIOUS TESTS

Carry out several travels by hand with the current collector to check that it moves throughout its length without problems. The extra-flexible cable of the current collector must be connected to the towing arm in a loop, without causing torsion of the trolley. Make the electrical connection to the line and test its insulation.

4.2. FINAL TESTS

Once the electric current is connected, check that the current collector moves forward and backward without problems. Check that the device that the UP system is powered on works correctly.

4.3 NORMAL FUNCTIONING

Do not exceed the maximum voltage and / or amperage specified for UP.
Use the UP line within its corresponding electrical and / or mechanical specifications.

5) MAINTENANCE

Perform periodic maintenance tasks to ensure the status of the UP line. The maintenance operations will depend on the use given to the system.

During each inspection the following points should be checked:

- Wear of carbon brushes.
- Ensure screws are correctly tightened.
- Separation or alignment in the joints.
- Electric cables: cuts, cracks, etc...
- The profile must be clean in the running edges.