Simplified, economic solutions for every urban mass transit situation

Robust, service proven assemblies.

Meets all requirements for mass transit vehicles.

Easy to change wear strips.

High precision pneumatic pressure system allows perfect control of the pantograph height and contact pressure at every extension level.

Faiveley Transport Range of pantographs
ELECTRIC CONTROL UNIT

Standard Solution
The electric control unit controls electric motor taking into account end stroke switches included in the electric actuator.

Optional Solution
As required as option, the electric control unit can include the following functions:
• DC-DC Converter for all on-board voltage levels
• Reversing unit
• Pantograph control unit

The electric control unit is fitted in a metal box, which should be installed inside the vehicle.
Approximate dimensions of box are: 300 x 150 x 150 (mm)
Level of protection: IP 20

Manual operation
The pantograph is equipped with an emergency raising/lowering system for manual operation in case of power failure.

ACTUATION SYSTEM

The pantograph extension is controlled by the electric actuator.
This electric actuator gives energy to lower the pantograph while the spring gives energy to raise the pantograph.
The lowering and raising speeds are controlled by the electric actuator.
The electric actuator includes end stroke switches.

CURRENT COLLECTION HEAD

The current collecting head includes wear strips, horns and suspension device.

CURRENT COLLECTION DAMPER

The damper is a single acting damper, which comes into action during the downward movements of the hinged system.

INSULATORS

Insulators are fixed on the roof to support the pantograph (3 or 4 feet integration).

FRAME

Made of welded steel profiles, this frame supports:
• Hinged system.
• Balancing system.
• Electric connection points.

HINGED SYSTEM

Made of welded steel tubes, it includes:
• T-shaped lower arm
• Upper arm
• Lower rod
• Upper rod
• Balancing shaft

The registration assembly (upper rod + balancing shaft) keeps the current collecting head horizontal within the whole collecting extension.
Articulations of lower and upper arm are fitted with sealed ball bearings and sealed needle bearings.
Each articulation is protected against current damages by means of flexible shunts.

REFERENCES

LX 3200
Project | Customer | Country
--- | --- | ---
TTNG | Alstom VPF | France
TTC & Metrolinx | Bombardier | Canada

LX 2600
Project | Customer | Country
--- | --- | ---
Metro Istanbul | Alstom VPF | Turkey

GLOBAL TECHNICAL DESCRIPTION

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Maximum speed</td>
<td>up to 140 km/h</td>
</tr>
<tr>
<td>Extension</td>
<td>1100mm up to 3600mm</td>
</tr>
<tr>
<td>Current</td>
<td>up to 3000A</td>
</tr>
<tr>
<td>Insulation</td>
<td>750V DC; 1,5kV DC; 3kV DC; 15kV AC; 25kV AC</td>
</tr>
<tr>
<td>Basic installation</td>
<td>3 feet (600 x 1000mm) or 4 feet (500 x 1000mm)</td>
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<tr>
<td>Motorisation</td>
<td>Electric drive</td>
</tr>
<tr>
<td>Weight without insulators</td>
<td>approximately (according to different equipment and extension) 140kg (version 2600mm)</td>
</tr>
<tr>
<td>Static force for catenary</td>
<td>configurable from 50N to 120N</td>
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</tbody>
</table>

Standard TSI
For mass insulation distances: NF F60 101, Suitable for AC and DC operation