



Technical information sheet

Manufacturer	Siemens Mobility
Manufactured	Siemens Rail Systems plant, Krefeld, Germany
Dates	2015 - 2018
Service entry	2017 – South West Trains
Formation	5 carriages
Fleet numbers	707001 - 707030
Passenger seats	271 (excluding tip-ups x4) all standard class
Maximum speed	160 km/h (100 mph)
Acceleration	0.85 m/s ² approx
Power at wheel	1,200 kW
Power supply	DC 750 V
Gauge	1,435
Unit length	101, 517 mm
Floor height	1,100 mm
Width	2,800 mm
Length	20m
Weight when empty	165 t approx

Environmental credentials

The City Beam is a modern, lightweight, energy efficient and environmentally friendly train.

- It has been designed with energy efficiency in mind, delivering drastically reduced energy consumption. Angel Trains and their supply partner Siemens have undertaken meticulous analysis and design iterations in order to significantly reduce train weight. Bogies, car bodies, interiors and the electrical equipment including the cabling, as an example, are weight optimised – resulting in up to 25% weight reduction compared to the existing UK fleets. For example, the traction and auxiliary converters are designed using the latest transistor (IGBT) technology in order to minimise the use of heavy magnetic components and, more importantly, reduce switching losses.
- In addition, they have integrated an innovative DAS (Driver Advisory System), developed a new cab shape with improved aerodynamics, and implemented energy-efficient LED lighting as well as an intelligent air conditioning system with CO₂ sensors which control the flow of the fresh air according to the number of passengers.

