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VOLVO B5L S-CHARGE

The self-charging electric bus



VOLVO S-CHARGE

Self-charging sustainability

Volvo S-Charge is the perfect solution for cities that are serious about efficient public transport – and about reducing CO₂ emissions. The Volvo S-Charge is a proven design, top ranked in uptime and trusted world-wide, including in Australia. All told, more than 5,000 electrified Volvo buses bring people safely to their destinations. Powered by a highly energy-efficient full hybrid driveline, certified for up to 100% biofuel and with supreme energy recovery. As a matter of fact, with Volvo S-Charge you get a much smaller carbon footprint than with a battery-only powered bus.





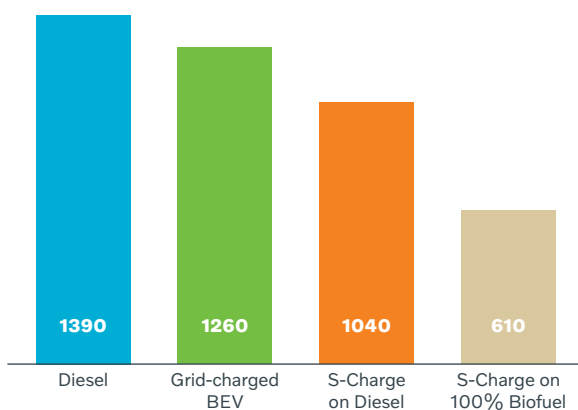
Aiming for the Zero City with Volvo Buses

At Volvo Buses we have a vision of the Zero City, where emissions, accidents, congestion and noise will vanish. We know that many cities share this vision. We also know that the Zero City is more than a day's ride away. That's why we provide solutions for all stages of that journey.

The carbon footprint of electricity production varies between regions and also over time of day and year. A Euro 6 diesel engine emits approximately 800 g/kWh when fuelled by conventional diesel. This means that in Australia, a diesel bus and a grid-charged electric bus are on a par in terms of CO₂ emissions. Electric buses need to be charged and the energy has to be generated somewhere.

The energy can be produced in a fossil-fuelled power plant – or on board the bus by one of the cleanest biofuel engines in the world. A Volvo S-Charge running on biofuel emits approx 370 g/kWh which is a reduction by more than 50%. For a city fleet that means thousands of tonnes in reduction compared to conventional diesel buses as well as battery-powered electric buses.

Carbon footprint in g/km of different drivelines



CO₂ emissions grammes per kilometre. Calculation based on UITP Annex IV model, for 12 m bus in City 2 cycle, 25°C average temperature, 18 km/h commercial speed and a grid footprint of 750 g/kWh CO₂.

Proven technology for progressive cities

The Volvo S-Charge is powered by Volvo's own unique parallel hybrid driveline. It's a full hybrid with extended capabilities. It offers several vital benefits in terms of functionality and flexibility. As a leading, and R&D-intensive, manufacturer Volvo has the ability to develop a complete driveline. All the components are designed to work perfectly together for optimal performance and efficiency.

Massive fuel savings

With the Volvo S-Charge you invest in superior fuel efficiency, uptime, availability and passenger capacity. And the maintenance cost is well in line with that of conventional buses. Bottom line performance by Volvo.

Immediate implementation

The Volvo S-Charge can replace gas and diesel buses immediately. There's no need for additional infrastructure and hybrid drive will work on any length of route, with full operational flexibility.

Clean and silent at bus stops

The Volvo S-Charge can arrive at the bus stop in electric mode, idle with the diesel engine turned off, and then depart silently in electric drive. A true benefit for the city.

For warm climates

The Volvo S-Charge features an ESS Active Cooling System. Specially developed for warm climates, the system ensures optimal temperature in the battery, which secures its function and lifetime.

Extended electric performance

The Volvo S-Charge offers electric drive in defined zones. At bus stops, but also in other areas such as depots or sensitive places in the city. With Volvo's Zone Management you can define Zero Emission Zones and zones for sustained self-charging, but also Safety and Silent Zones where speed is automatically kept down. These capabilities are subject to local conditions and a route analysis, performed jointly by Volvo and the operator.



Facts and figures

Dimensions and weights

Overall chassis length, depending on body, up to (m)	12–12.5
Approved wheelbase (m)	5.7–6.3
Frame height at rear structure (m)	2.26
Overall width approx. (m)	2.50–2.55
Permitted GVW (kg)	19,500

Powertrain

Emission standard	Euro 6, up to 100% biofuel compatible
Engine system	EGR, Common Rail
Diesel engine	Volvo D5K240, 4-cylinder, in-line diesel engine with common rail injection
Output (hp)	240
Output ISO 1585 (kW)	177
Torque ISO 1585 (Nm)	918
Electrical motor	Volvo I-SAM
Output, max (kW)	110
Torque ISO 1585, max (Nm)	800
Energy storage system	Lithium-ion battery with active cooling
Transmission	Volvo I-Shift AT2412F

Axles, suspension and steering

Front axle	Volvo RFS-L
Rear axle	ZF AV 133
Suspension	Electronically controlled air suspension with optional kneeling function. Front and rear stabilisers.
Power steering	Electrically powered hydraulic steering
Steering wheel position	RHD or LHD
Tyres	275/70R22.5"
Rims	Steel or aluminium rims available

Brakes

Volvo Electronic Braking System (EBS) with integrated Anti-lock Braking System (ABS), Brake Blending, Hill Start Aid, Brake Assist. Volvo Electronic Stability Program (ESP).

Frame

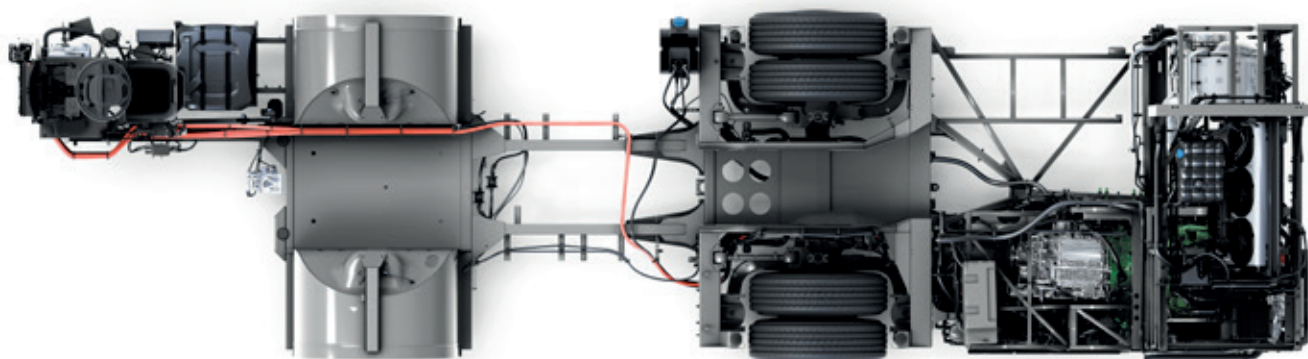
Precision-built, strong, durable frame made of carbon steel. C-profile beams with flat, bodybuilder-friendly upper surface.

Driver's environment

Ergonomic design with easy-reach controls. Adjustable steering wheel (reach and rake). Volvo instrument cluster with enhanced HMI.

Tanks

Diesel (L)	220
AdBlue (L)	30
AdBlue tank side (RHS/LHS)	RHS
ADTP-T Right hand side	Transport fitted tank



The Volvo S-Charge chassis is manufactured in Volvo's Renewable Energy Certified bus production plant in Borås, Sweden.

Discover more on www.volvobuses.com

Volvo Buses. Driving quality of life



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Equipment that is shown or mentioned in the brochure may be optional or available as an accessory and may vary from one country to another. We retain the right to alter product specifications without prior notification.