



Volvo Buses. Driving quality of life

# THE NEW VOLVO 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 CO<sub>2</sub> emissions. The Volvo S-Charge is a proven design, top ranked in uptime and trusted world-wide. All told, more than 5,000 electrified Volvo buses bring people safely to their destinations. The Volvo S-Charge is 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 can get a 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 future is electric

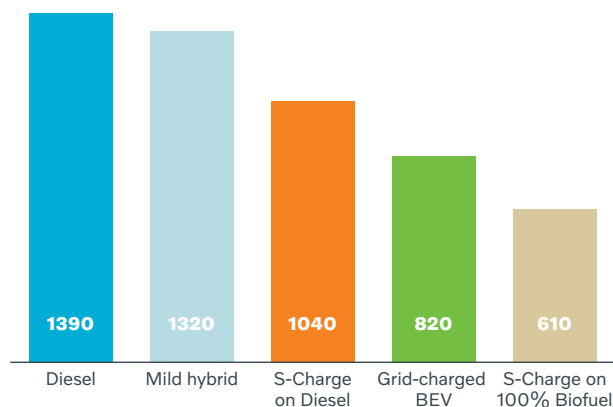
This is the credo of the public transport business and we at Volvo fully agree. However, migration to all-electric propulsion is a huge paradigm shift. And certainly more profound for the cities than for vehicle manufacturers. Infrastructure and grid capacity are issues that take time to resolve. In the meantime cities still need to take steps forward.

## Towards zero emissions

Hybrid technology is a perfect solution on the journey towards zero. With the right vehicles it is possible to not only reduce emissions, but also create bus stops and zones where the buses run silently and cleanly in electric mode\*. For a city fleet, we can remove thousands of tonnes of CO<sub>2</sub> compared to diesel, mild hybrid, and sometimes even electric, buses.

\* Subject to local conditions.

Carbon footprint in g/km of different drivelines



CO<sub>2</sub> 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 CO<sub>2</sub>.

# 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, featuring a powerful 110 kW electric motor. 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.

## **Protecting your TCO**

With the Volvo S-Charge you invest in superior fuel efficiency, uptime, availability and passenger capacity. A smart structure and well-located service points make maintenance swift and efficient. 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**

When local conditions permit, 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 the possibility of electric drive in selectively 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

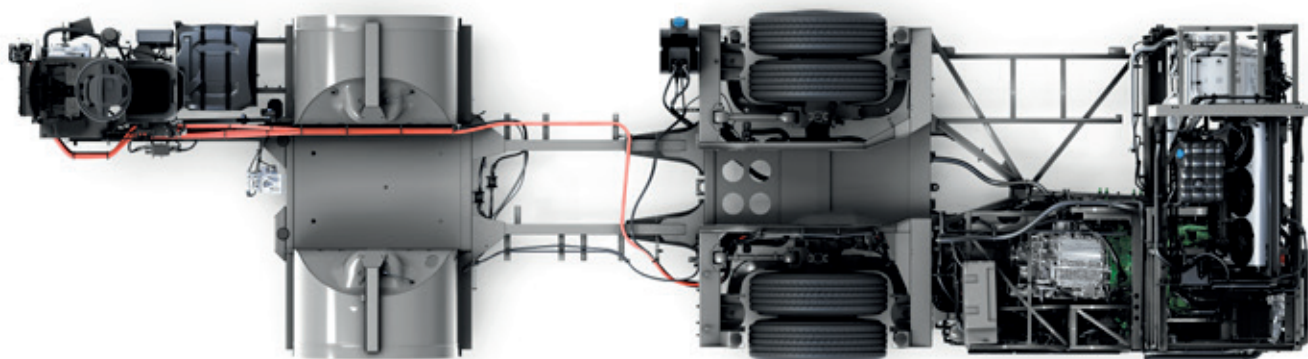
Axles, suspension and steering	
Front axle	Volvo RFS-L
Rear axle	ZF AV 133
Suspension	Electronically controlled air suspension with optional kneeling function. Front and rear stabilisers.
Power steering	Electrically powered hydraulic steering
Steering wheel position	RHD or LHD
Tyres	275/70R22.5"
Rims	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](http://www.volvobuses.com)

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