



Volvo Buses. Driving quality of life

VOLVO 7900 ELECTRIC RANGE

For the Zero City



CREATE YOUR ZERO CITY

with Volvo Buses

E-mobility for transforming cities

Cities around the world are working to solve three major challenges of urbanisation: air quality, noise and congestion. At Volvo, we believe we can make a difference and help cities transform into zero cities, with zero emissions, zero noise, zero congestion and zero accidents.



Zero emissions

More than 90% of people worldwide live in areas exceeding the WHO guideline for healthy air. At Volvo Buses, we are convinced that our e-mobility offer with clean and silent electric buses is part of the solution. With zero tailpipe emissions they can operate in environmental zones and help reduce CO₂ and air pollution.



Zero noise

Noise pollution is on the agenda of virtually every city, both when it comes to public health and the costs related to noise reduction. With our silent electric buses, noise emissions are reduced to a minimum. They can operate anywhere 24/7: in silent zones, in residential areas, and even stop at indoor terminals.



Zero congestion

Congestion is one of the major challenges in cities around the world. We need to travel together to make more efficient use of our streets. Volvo offers high-capacity electric buses for attractive public transport – designed for people, by people. Helping cities to reduce the number of cars and aim for zero congestion.



Zero accidents

At Volvo, safety always comes first. It's part of our DNA and we have a clear safety vision: zero accidents with Volvo products. Our complete e-mobility solution includes connected zone management services and electric buses with advanced safety technologies, helping cities towards zero accidents in city traffic.

EXTEND YOUR ELECTRIC OPERATION

with full flexibility

With the Volvo 7900 Electric bus range you can offer clean, silent and sustainable public transport, with high efficiency and superior reliability. With our 12-metre model and our Articulated model, you can cater for all your passenger capacity needs. Together with different charging possibilities and a scalable battery system, we can tailor a solution to exactly suit your operation, ensuring uptime, capacity and flexibility 24/7. With Volvo as your partner, you get a future-proof solution ready for the next step in the development of public transport systems.

The Volvo 7900 Electric 12-metre version can carry up to 98 passengers. With the Volvo 7900 Articulated version, passenger capacity is increased to 150 passengers, taking productivity to a completely new level.



Maximise uptime and profitability with more zeros

With a Volvo Turnkey solution, including premium electric buses and relevant services, you can add more zeros to improve operational efficiency and profitability.

Zero investment

Is it possible to add a zero and reduce operational costs? Absolutely. With a Volvo Turnkey Contract, you don't have to buy the buses. Instead you get guaranteed, scheduled availability of fully operational vehicles at a specified cost per kilometre. You benefit from improved equity and cash-flow while securing your operational costs.

Zero downtime

Uptime is key for a profitable operation, and for us at Volvo it's top priority. With our Turnkey solution we take care of all maintenance for the vehicles as well as battery management, ensuring both uptime and availability. Add to that Zone Management and you can define low-speed zones to reduce the risk of accidents, even in the depot, and minimise costly downtime.

Zero driver turnover

It takes a lot of effort to attract, recruit and retain skilled drivers. And it's costly. Volvo's buses are highly ranked among drivers, and our electric buses offer the best possible working conditions with world-class ergonomics and Volvo Dynamic Steering. Helping you keep your drivers and bring driver turnover to zero.

Enter the **SAFETY ZONE**

Volvo has a clear safety vision: Zero accidents with Volvo products. And our almost century-long safety research and development has resulted in a line of game-changing innovations. Our roadmap towards our vision includes way-points such as geofencing and automation. Everything we do aims at providing solutions for PTAs and operators, helping them in their mission of bringing people safely to their destination. To provide a journey towards zero accidents.

⋮ *The Volvo 7900 Electric is available
with safety belts on all seats.*

Innovative solutions for improved traffic safety



Minimise accidents with Volvo Zone Management

Zone Management is a refined way of using geofencing to improve road safety, for everyone. The technology makes it possible to actively control the behaviour of the bus depending on geographic location. One application is Volvo Safety Zones which lets you define your own areas where particularly careful driving is required. In such a zone, the vehicle's speed is automatically limited to a speed you decide, for example when passing by schools and hospitals or in your depot. There's no need for driver intervention and when exiting the zone, the limitation automatically ceases.



Pedestrian detection helps the driver

To support the driver, the Volvo 7900 Electric comes with a range of safety features. The most recent addition is our automated Pedestrian and Cyclist Detection System. It's a warning system based on real-time image analysis and algorithms which identify objects that may cross the bus's path. The system alerts the driver when there is a risk of collision with unprotected road users ahead of the bus. At low risk the alert is given as a discreet sound signal, while at a risk for direct interception, a clear alarm is given to the driver.

A QUIET MOMENT

for your passengers

• Silence is a relief. It enables conversation,
• and when listening to music you can lower the
• volume – and the stress level. Your passengers
• will definitely appreciate the difference.

PASSENGER SATISFACTION

Travelling together in superior comfort

The Volvo 7900 Electric is a comfortable passenger experience. Powerful and energy-efficient climate systems, silent propulsion and comfortable seats ensure a pleasant ride all year round. The lightweight and robust Volvo passenger seats are available in a wide range of specifications to meet the demands of individual customers.



Silent comfort

A Volvo 7900 Electric is a silent experience, for everyone. The bus welcomes your passengers silently at the bus stop. Low interior noise makes it easier to talk to others during the ride. The silent propulsion also reduces noise for residents along the route. The bus can get closer to where people live and work, which reduces the walking distance to the bus stop.



Perfect interior climate

To guarantee a perfect interior climate, the Volvo 7900 Electric has separate automatic climate systems for the passengers and driver. The system is highly energy-efficient and 100% emission-free all the way down to -5°C. Below that a fuel heater that can run on HVO or biodiesel will provide a good interior climate.



A smooth ride

The Volvo 7900 Electric is not only free from engine noise; it also offers a smooth and comfortable ride with gentle take-offs and arrivals at bus stops. Wide electrically powered doors make for swift and easy boarding and exiting. On board, the passengers enjoy an efficient layout with comfortable seats and a bright and roomy ambience.

DESIGNED AROUND THE DRIVER

VOLVO

• The Volvo 7900 Electric is designed around
• the driver. Just press the ON-button and drive.
• The smooth electric propulsion also means less
• vibration when driving.

Superior comfort for zero driver turnover

A Volvo electric bus offers the driver the best possible working conditions. World-class ergonomics, low interior noise and Volvo Dynamic Steering all make driving impressively easy, quiet and comfortable. It's a workplace that is designed in every way to attract, recruit and retain skilled drivers and bring driver turnover to zero.

Comfortable silence behind the wheel

The comfortable driver's environment in the Volvo 7900 Electric is probably one of the best available, with superior ergonomics and visibility. But above all, it's an extremely calm and silent workspace for the driver. The low interior noise is a big relief, which reduces stress and improves working comfort. It also helps the driver stay more focused and alert.

Volvo Dynamic Steering (VDS)

Volvo Dynamic Steering is nothing less than a revolution and the benefits are striking. It's a unique Volvo feature that takes most of the effort out of driving a bus. The effortless manoeuvring in roundabouts and when cornering, as well as the automatic return to the dead-ahead position, are major benefits for the driver. They significantly reduce the risk of injuries in the neck, shoulders and arms, which helps reduce sick days and rehabilitation costs.

Automatic high-power charging

For quick high-power charging on route, the procedure at the charging stations is fully automated. The driver doesn't even need to push a button. Just stop in the right position and the charging process starts immediately when the parking brake is activated.

DRIVER PERFORMANCE



Smooth take-off. The optimised two-speed transmission together with Volvo Dynamic Steering contributes to the extremely smooth take-off at bus stops, which significantly improves driver comfort.

A TRUE HILL CLIMBER



ELECTRIC DRIVELINE

Power and driveability for safe operation

Operating in hilly cities puts special demands on your buses. Volvo's electric buses feature powerful Volvo electric drivelines and optimised transmissions, delivering power and driveability for safe operation in the most demanding conditions.

Class-leading driveability

Driving a Volvo 7900 Electric is quite an experience. The Volvo electric driveline delivers impressive power for reliable performance, regardless of climate, topography and passenger load. And the 2-speed automated manual transmission is optimised for city traffic to ensure better torque throughout the speed range. The Articulated model has a dual motor to ensure the same reliable uphill performance as a 12-metre bus. Fully loaded, it can maintain more than 50 km/h on a 6% uphill gradient. Optimised battery positioning and Volvo Dynamic Steering (VDS) also contribute to the excellent handling and smooth driving experience.

20%

The hill start function. The Volvo 7900 Electric is equipped with a Hill Start function, preventing the bus from rolling backwards when starting on hills. The Articulated model guarantees safe starts with heavy loads even on a 20% uphill gradient.

Ultimate CHARGING FLEXIBILITY

With Volvo you can combine and change your charging methods. Quick high-power charging on route or in the depot, as well as manually operated depot charging via CCS cable. And your buses can be specified with battery capacity to suit the individual operation, depending on route distance, capacity need, climate and topography.



Charging on route

Rapid and fully automatic charging at end stations keeps productivity up – and helps you keep your schedule. With no need for returning to the depot for charging, you get virtually unlimited range. The OppCharge system is an open architecture that gives you freedom in choosing your supplier of electrical equipment.



Depot charging

The Volvo 7900 Electric can be manually charged using a CCS cable in the depot, during breaks, off-peak or at night. Charging power can be up to 150 kW. The buses come with a charging plug-in point at the front as standard but can also be equipped with a plug-in socket on the right side, front or rear, to suit your depot layout.



Battery performance

Volvo has long experience of battery-powered vehicles. For different types of application, we know how to optimise battery performance, battery life and driving range throughout the vehicle's lifecycle. The 12-metre bus has a battery capacity of up to 330 kWh, and the articulated bus up to 396 kWh.



Ready to run

A Volvo 7900 Electric is always service-ready. In the depot, the batteries are kept at optimum working temperature, thus enabling direct start without need for pre-heating. Pre-climatisation also ensures the bus is ready for operation by pre-heating the entire cabin in the depot, which is beneficial both for your passengers and for battery capacity.



• The basics of charging are safety, reliability, short charging times and ease of operation.
• The Volvo 7900 Electric accepts both OppCharge and cable charging. Freedom of choice means full flexibility for your operational planning.

VOLVO TURNKEY

An all-inclusive solution



TURNKEY SOLUTION

Guaranteed operation at a specified cost per km

Volvo offers a complete e-mobility solution, developed and configured in close cooperation with each city. It includes everything from high-quality vehicles and relevant services to open-interface infrastructure and implementation. And there's no need to wait. Implementation can be done in increments route by route.

Volvo Turnkey Contract

With a Volvo Turnkey Contract, you get guaranteed operation at a specified cost per km. We jointly define the terms, conditions and capacity need for specific routes. Then we provide an all-inclusive solution encompassing vehicles, battery contract, repair and maintenance, bus monitoring and project management. Volvo takes care of all vehicle maintenance as well as battery management, at a fixed monthly cost. What you get is guaranteed operation at a specified cost per km.

More profitable with more zeros

With a Volvo Turnkey Contract you can add more zeros to develop your operation and improve profitability. Instead of purchasing the vehicles you develop your public transport system. This means zero investment, improved equity and cash-flow, as well as reduced financial and operational risks. With our Turnkey solution you will also maximise availability, with products and services designed to provide zero downtime.



Zero investment

With a Volvo Turnkey Contract, you don't have to buy the buses. Instead you get guaranteed, scheduled availability of fully operational vehicles at a specified cost per kilometre.

Zero downtime

Volvo takes care of all vehicle maintenance as well as battery management, ensuring both uptime and availability. With Zone Management you can also reduce the risk of accidents, even in the depot, minimising both unwanted and costly downtime.

Your partner

INTO THE FUTURE

Volvo has been pioneering the development of e-mobility solutions for many years, and we share considerable expertise throughout the entire Volvo Group. We work closely with leading cities in implementing sustainable and future-proof electric bus systems. Open standards are an important example of how to secure future-proof technologies. Another key ingredient is Volvo's advanced and connected products and services that are ready to meet new regulations, along with stepwise development of automation.

FACTS AND FIGURES

Dimensions and weights

Model	12.0 m	18.0 m	18.7 m
Length (m)	12.00	17.85	18.55
Width (m)	2.55	2.55	2.55
Height (m)	3.30	3.32	3.32
Permitted GVW (kg)	19,500	29,000	29,000

Driveline

Electric motor, output max (kW)	200	2×200	2×200
Max wheel torque (Nm)	19,000	31,000	31,000
Gearbox	2-speed automated manual transmission		

Charging

OppCharge max charge power (kW) max (kW)	300	400	450
CCS max charge power (kW)	150	150	150
400 V AC max charge power (kW)	11	–	–

Energy storage

Battery capacity (kW)	Up to 330	Up to 330	Up to 396
Battery	Lithium-ion battery. Automatically temperature-controlled.		

Passenger capacity

Model	12.0 m	18.0 m	18.7 m
No. of passengers, max	95	150	145
No. of seats, max	38+1	49+1	53+1
Passenger seats	Volvo City bus seats available in several variants, optimised for easy cleaning and maintenance.		

Climate system

Model	12.0 m	18.0 m	18.7 m
Separate climate zones for driver and passengers. For optimal climate and energy efficiency, the passenger temperature is controlled by a pre-set temperature curve. The temperature in the driver's area is manually controlled.			

Cooling capacity	12.0 m	18.0 m	18.7 m
Roof unit, max (kW)	25	2×25	2×25
- optional separate driver AC (kW)	5.5	–	–

Heating capacity	12.0 m	18.0 m	18.7 m
Roof unit			
- heating pump (kW)	16	2×16	2×16
- electric heater (kW)	40	2×40	2×40

Auxiliary heater			
- electric (kW)	14	18	18
- fuel (kW)	16	23	23
Defroster (kW)	18	18	18

Doors and door system

Door system	Electric		
Door layout	2+2+2 2+2+0	2+2+2+2	2+2+2+2

Axles, suspension and steering

Front axle	Volvo rigid low beam axle
Rear axle	ZF AV133
Suspension	Electronically controlled air suspension with kneeling function.
Power steering	Electrically powered hydraulic steering. Volvo Dynamic Steering as option.
Tyres	275/70 R22.5"
Rims	Steel rims, 7.5×22.5"

Brakes

Volvo disc brakes. Electronic Braking System (EBS5). Anti-lock Braking System (ABS). Acceleration Slip Regulator (ASR). Brake blending. Hill Start Aid. Electronic Stability Control (ESC) as option on 12.0 m.

Driver's environment

Spacious driver's environment with wide range of individual adjustment possibilities. Volvo dashboard meets ISO16121 and VDV standards. ISRI driver's seat.



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Volvo Buses. Driving quality of life



VOLVO

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