

VOLVO 7900 RANGE



THE VOLVO 7900
TAKES YOU
FURTHER




THE BEST WAY TO GO



City traffic is a major environmental issue. Emissions, noise and congestion are challenges for many urban areas. At Volvo we are convinced that an efficient bus operation, for city traffic and for commuting, is the best solution in terms of environmental impact as well as cost efficiency.

With the Volvo 7900 range of city buses, we offer an enhancement to any existing fleet. You'll get better performance, both on the road and on the bottom line, and its capabilities add value to your public transport services. You'll simply get more kilometres for your fuel money, and a lead in reaching your environmental goals.

At Volvo we are very much aware that public transport is subject to cost pressure and tough competition. But it is also one of the most effective tools available for making the urban environment a better place. A place where the citizens' tax money last a little longer, where the air gets cleaner and where travelling is easier.



A VOLVO IS MORE THAN A BUS

In fact, much more. The uptime and productivity of your operation – in the full life-cycle perspective – are our highest priorities. That's why we offer Volvo Bus Services, a range of services aimed at securing uptime as well as cost-efficient and uncomplicated operation. Working closely with you we analyse your needs and tailor the solution that best meets your requirements. Volvo's outstanding residual value is a result of this philosophy, and our services will help your vehicles become real profit-makers. Contact us to get the most out of your investment.

Volvo Bus Telematics

Detailed and up to date information about your vehicle, its performance and utilisation will help you to better plan, develop and fine-tune your operation and support your decision-making.

Volvo Bus Service Contracts

Quality-assured maintenance and repairs, using only Volvo Genuine Parts and following the tailor-made service plan, will optimise your workshop visits and minimise the risk of breakdowns.

Genuine Volvo Parts

Quality-assured spare parts that guarantee operational reliability and long service life. High availability and efficient distribution ensure uptime.

Volvo Action Service

Help in emergencies is only a phone call away – 24/7. From quick breakdown service and help with repairs to emergency legal assistance – all in the driver's own language.

Volvo Bus Training

Improve the skills of your drivers and mechanics with the help of our expert trainers worldwide. They will compile a training package that best suits your needs. Efficient driver training is just one example.

Volvo Bus Financing

Tailored financial solutions to ease the purchase process – and the entire ownership period. One single contact for vehicles as well as for financing.



READ MORE ABOUT OUR SERVICES ON WWW.VOLVOBUSES.COM

THE VOLVO 7900 RANGE



Volvo 7900 Articulated

- Length: 18.0 m.
- No. of passengers: 150
41 seated + 1 folding seat
+ space for wheelchair user.
- Max gross weight: 29,600 kg.
- Engine: Volvo D9B 310 hp (228 kW)
or D9B 360 hp (265 kW).
Euro 5 and EEV compliant.

Volvo 7900

- Length: 12.0 m.
- No. of passengers: 95
29 seated + 1 folding seat
+ space for wheelchair user.
- Max gross weight: 19,000 kg.
- Engine: Volvo D9B 260 hp (193 kW)
or D9B 310 hp (228 kW).
Euro 5 and EEV compliant.



The new Volvo 7900 constitutes a complete range for city traffic. Three different drivelines; hybrid, diesel* and gas. Biodiesel and gas are also available as high-capacity, articulated buses.

With this new range we offer a solid foundation for your entire fleet. You'll have the choice of different fuels, the option of a highly efficient hybrid solution, and substantial synergies with the Volvo 8900 for commuter and intercity traffic.

In terms of maintenance and service the Volvo 7900 offers great advantages, especially when your fleet also includes the Volvo 8900. Many of the parts are the same for all models, and your workshop procedures will benefit from the fact that all models have extensive structural similarities.

The new developments of the structure also means weight-savings and, therefore, increased capacity. The articulated gas model can carry an additional 14 passengers. And, of course, the reduced weight also improves your fuel economy.

The high passenger capacity is accompanied by wide, electric or pneumatic, doors and an interior truly built for the passengers. Easy entry and exit mean a lot for passenger flow and overall productivity. And the new electric doors require considerably less adjustment and maintenance.

*All diesel engines run on up to 100% biodiesel or regular diesel fuel.



Volvo 7900 Hybrid

- Length: 12.0 m.
- No. of passengers: 102
32 seated + 1 folding seat
+ space for wheelchair user.
- Max gross weight: 19,000 kg.
- Engine: Volvo D5F 215 hp (161 kW).
Euro 5 and EEV compliant.
Electric motor (120 kW max).
Volvo parallel hybrid system.

Volvo 7900 Gas

- Length: 12.0 m.
- No. of passengers: 80
29 seated + 1 folding seat
+ space for wheelchair user.
- Max gross weight: 19,000 kg.
- Engine: Volvo G9B 300 hp (223 kW).
Euro 5 and EEV compliant.

Volvo 7900 Gas Articulated

- Length: 18.0 m.
- No. of passengers: 150
41 seated + 1 folding seat
+ space for wheelchair user.
- Max gross weight: 29,600 kg.
- Engine: Volvo G9B 300 hp (223 kW).
Euro 5 and EEV compliant.

SAVE UP TO 39% FUEL

Volvo's hybrid technology is probably the most versatile driveline solution there is when it comes to combining environmental improvement with performance, economy and uptime. The Volvo 7900 Hybrid is our second series-produced hybrid bus model. Its predecessor has been on the market for some years and both fuel savings and reliability have been proven in commercial operation.

When you save as much as 39% in fuel consumption, you also reduce CO₂ emissions by the same amount. And when it comes to nitrogen oxides and particles the reduction is even greater; up to 50% compared to the average European Euro 5 diesel bus. The reasons why Volvo can present better

figures than others is no secret. The solution itself, the parallel hybrid, is highly efficient, the I-Shift gearbox provides optimised conditions, and we keep the batteries in the best possible condition by providing both cooling and heating.

Your passengers will benefit from hybrid technology as well. Especially when waiting at the bus stop. The Volvo 7900 Hybrid can take off silently with the diesel engine shut off. This, and the absence of engine idling, substantially reduces noise. And at the bus stop there are zero tailpipe emissions. Add to that the electric doors which close more smoothly – and contribute to the fuel saving.



*Save up to 39% fuel and reduce emissions even more.

Parallel hybrid

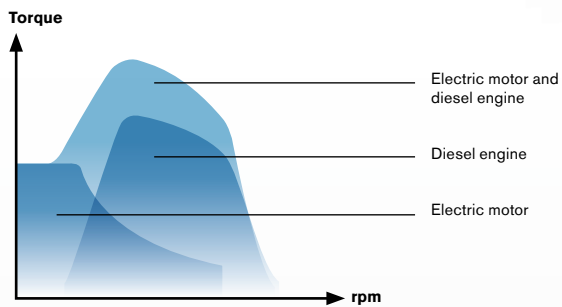
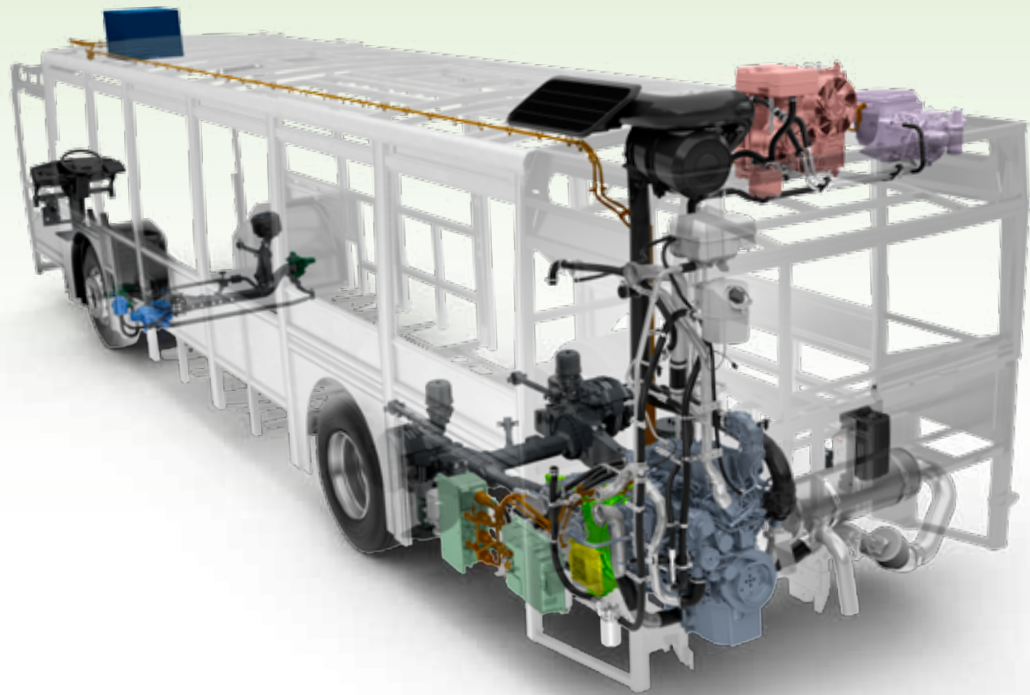
The solution means that the diesel engine and I-SAM electric motor work together under optimised conditions. The power management system decides which power source should be engaged, and to what extent, at every given moment. And, as opposed to many other solutions, should a failure disable the electrical propulsion system, the bus can still run on the diesel engine alone.

Intelligent energy recovery

Volvo has a unique principle for braking energy recovery, largely enabled by the intelligent functions built into the Volvo I-SAM. Through close monitoring and a specially developed algorithm these currents can be controlled and thus contribute to longer battery life.

Electrical auxiliaries

Many of the sub-systems in a bus require continuous power supply. Normally this comes from the engine via a drive. In the Volvo 7900 Hybrid these systems are electrically powered, which means that the bus is fully operational and when the diesel engine is shut off completely, the systems remain fully powered.

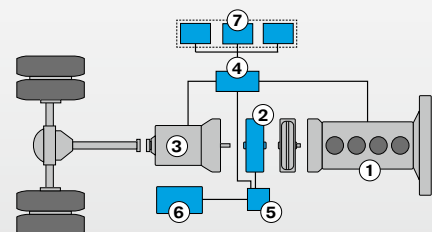


The diesel engine starts when the electric motor has brought the bus up to speed. The two power sources then work in tandem, with the electric motor's impressive low-rev properties adding to the diesel engine's superior pulling power at higher revs.



The main components of the Volvo hybrid system

- 1. Diesel engine
- 2. Electric motor/generator I-SAM
- 3. Transmission
- 4. Powertrain Management Unit (PMU)
- 5. Energy converter DC/DC 600V/24V
- 6. Batteries
- 7. Electrified auxiliaries



OUR NEW BODY CONCEPT A FAMILY MATTER

The new body concept is shared with the Volvo 8900. This means that your entire fleet can benefit from extended parts commonality and simplified service and maintenance routines. Add to that the extended warranties and simplified repair methods; much of the minor damage that frequently occurs in city traffic can be repaired without welding.



Improved parts availability

Greater parts commonality enhances service and maintenance efficiency throughout the product range. Add to that improved documentation and stocking for customer-specific parts and traceability in aftermarket systems according to individual bus specification.

Extended body warranties

The expected lifetime of the bus is extended, and here at Volvo we confirm this by offering a Volvo 7900 with a wide range of services including extended body warranties.

Aluminium doesn't rust

Aluminium is corrosion-resistant, which is an important factor for the expected service life of the bus. There is also an environmental upside, as the aluminium structure can be recycled by as much as 90%.

Long service life

Volvo's new body concept is developed to increase the service life of the bus. We take advantage of the properties of each material used to make the body stronger yet lighter. As a result, kilos are saved which means less mechanical stress on each critical point.

Modularity

Several components are grouped and many elements are bolted to the frame. This means that many repairs require no welding. Uptime increases and repair costs are cut. Add to that swift replacement of bumper corners, GRP side panels and wheelhouse covers.





A city bus runs hundreds of thousands of kilometres in its lifetime. Under very tough conditions. With substantial wear and tear. The strength and durability of the body structure sets the quality level, but there's a lot more to it than that.

Volvo's new body concept optimises several crucial parameters; weight, passenger protection and durability. This has a direct effect on repair, maintenance and life cycle cost. Our patented jointing technique enhances precision and build quality, and the use of both aluminium and steel gives the perfect combination of strength and low weight.

CONVENIENCE IS AN INSIDE AFFAIR

Getting inside the Volvo 7900 is easy. Wide double doors and low steps allow quick entry into a spacious and bright interior. The windows are large and the seats are comfortable yet space-efficient, providing for a wide aisle.

The driver's environment is one of the best available. Clear and logical layout of instruments and controls, superb visibility and a seat with very generous adjustment range all contribute to the world-class ergonomics.

You can specify a powerful climate system and even a separate system with heating and cooling for the driver's area. Passenger information is provided via LED or LCD signs with up to 24 characters.



Outstanding ergonomics

Outstanding scope for adjusting the seat as well as the steering wheel with its control satellites makes it easy to find the ideal driving position, regardless of the driver's height, build or personal preferences.

Driver's climate zone

A separate zone for the driver's climate makes it much easier to stay fit, alert and attentive to the passengers. And for extended safety, Volvo's Alcolock is available as an option.

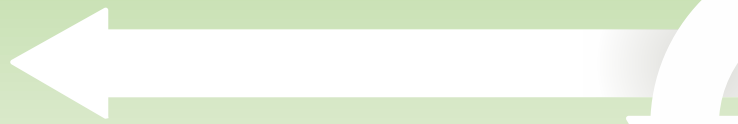
Personal storage for the driver

A generous storage compartment with room for personal belongings enhances convenience and safety.

A clear view

Visibility is a crucial safety factor, and the Volvo 7900 sets a new standard. Large glass panels, three-section rear-view mirrors and an optional reversing camera support safe and careful driving.

Driver's environment with world-class ergonomics.



Buses are part of a city's visual impression, and modern cities require modern buses. The Volvo 7900 makes an immediate visual impression. Large glass panels with blackened-out pillars make the vehicle look modern and very solid. The front carries the Volvo-specific V-shape, distinctive windscreen lines and a high-tech lighting array.



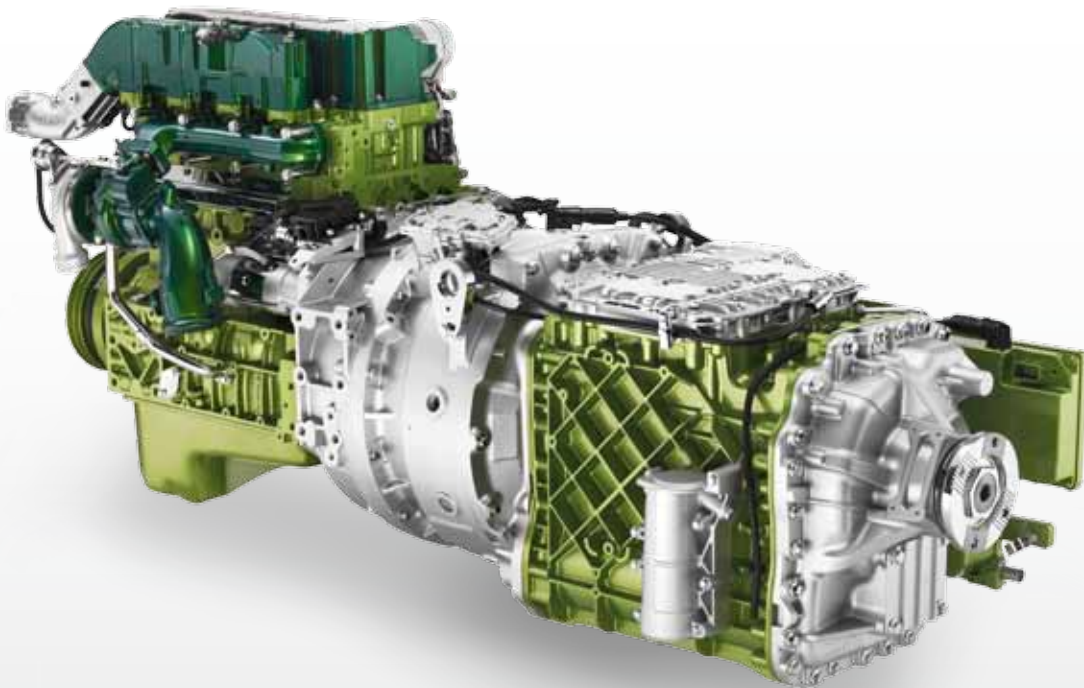
POWER UP YOUR CITY FLEET

Are common automotive performance measures really relevant for city buses? The answer is yes; power reserves are actually the answer to the equation of fuel economy and swift operation. In order to keep today's tight schedules the bus must be able to accelerate quickly and maintain a high average speed.

The solution is not only brute force and masses of power. That would severely increase both consumption and emissions. Instead it's the vehicle's total efficiency; the amount of energy extracted from

each drop of fuel, and an optimised transmission. All Volvo engines are dimensioned to run optimally in the intended traffic situation. Running too small an engine at the top of its capacity is sheer waste, and so is an over-dimensioned engine.

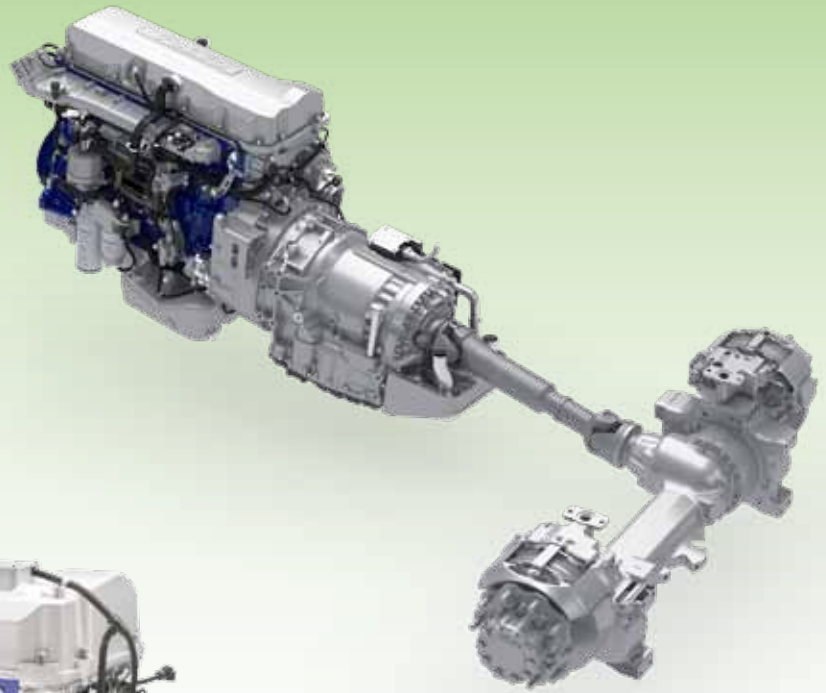
In this field, our hybrid driveline is outstanding. Up to 39% fuel savings might mislead you into expecting limited performance. On the contrary, the high torque of the electric motor and the intelligent function of the Volvo I-Shift make the hybrid bus perform at the top.



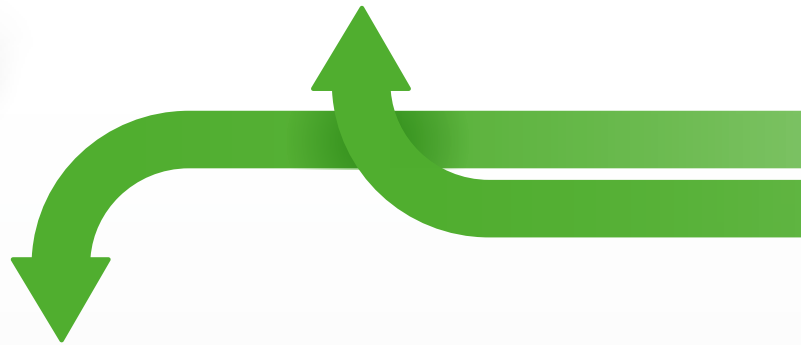
Volvo Hybrid System.



Volvo G9B gas engine.



Volvo D9B with automatic transmission and rear axle.



Volvo Hybrid System

Four-cylinder, in-line, common rail diesel* engine Volvo D5F 215 hp (161 kW/800 Nm). Electric motor (120 kW/800 Nm). Temperature-controlled (cooled and heated) Li-Ion battery, 600 V. 4.8 kWh capacity Volvo EMS 2.2 engine control system.

Volvo D9B

Six-cylinder, in-line diesel* engine. Available in three versions: D9B 260 hp (193 kW/1100 Nm), D9B 310 hp (228 kW/1400 Nm) or D9B 360 hp (265 kW/1640 Nm). Turbocharged with intercooler and Volvo EMS 2 engine control system.

Volvo G9B

Six-cylinder, in-line, gas engine, G9B 300 hp (223 kW/1400 Nm). Turbocharged with intercooler and Volvo EMS 2 engine control system.

Gearboxes

Volvo I-Shift automated 12-speed gearshift system (Volvo 7900 Hybrid). Automatic transmission with four or six speeds, automatic neutral at stop (diesel and gas engines).

Rear axles

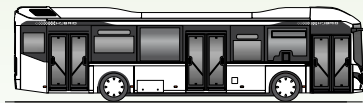
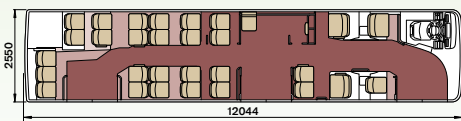
Portal, double reduction rear axle with low offset and optimised ratio.

*All diesel engines run on up to 100% biodiesel or regular diesel fuel.

THE VOLVO 7900 MODEL RANGE

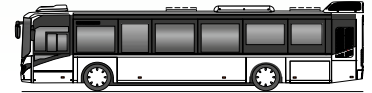
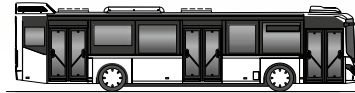
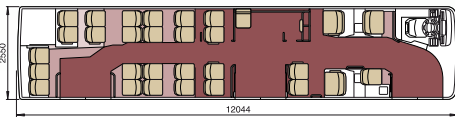
The Volvo 7900 range is a comprehensive offer for your city traffic operation. Diesel and gas buses are available in two-axle low-floor or three-axle articulated configuration. Hybrid buses are available in two-axle low-floor configuration.

VOLVO 7900 HYBRID



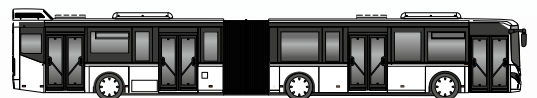
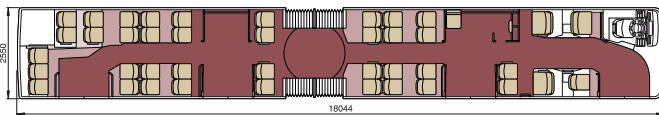
Length: 12.0 m, rear-mounted Volvo Hybrid System, available in LHD and RHD versions.
Length: 10.6 m, rear-mounted Volvo Hybrid System, LHD version only.

VOLVO 7900



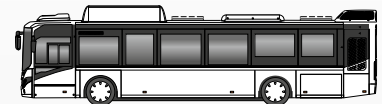
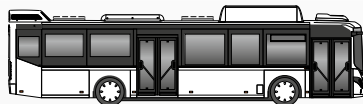
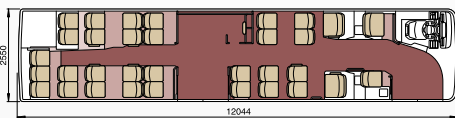
Length: 12.0 m, rear-mounted 9-litre diesel engine.

VOLVO 7900 ARTICULATED



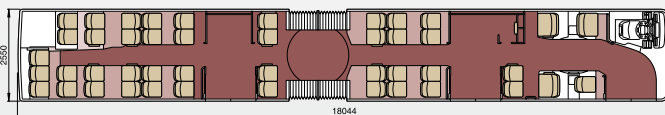
Length: 18.0 m, rear-mounted 9-litre diesel engine.

VOLVO 7900 GAS



Length: 12.0 m, rear-mounted 9-litre gas engine.

VOLVO 7900 GAS ARTICULATED



Length: 18.0 m, rear-mounted 9-litre gas engine.

FACTS AND FIGURES

Driver's environment

The driver's environment is spacious, effectively sound-insulated and presents world-class ergonomics. It features easy-to-view instruments and an adjustable steering wheel with attached control satellites. The high visibility is further enhanced by cornering lights.

Structure

Volvo's new body concept is built on the principle of best choice materials. The use of aluminium and our patented jointing method helps create a strong, corrosion-resistant and easy-to-maintain bus with low weight and a long service life.

Passenger environment and climate control

Spacious, comfortable and safe passenger environment with a controlled climate and a low noise level. A range of options is available, including a fully automatic and powerful ventilation system with separate climate controls for the driver. In the articulated bus, the climate in the front and rear passenger compartments can be controlled separately.

Engines

Volvo 7900 Hybrid: Volvo D5F 215 hp (161 kW/800 Nm) + electric motor (120 kW/800 Nm).

Volvo 7900 Gas: Volvo G9B 300 hp (223 kW/1400 Nm).

Volvo 7900: Volvo D9B 260 hp (193 kW/1100 Nm), D9B 310 hp (228 kW/1400 Nm) or D9B 360 hp (265 kW/1640 Nm).

All engines meet Euro 5 standards. D5F, D9B 260 hp, D9B 310 hp and G9B also comply with EEV standards.

Transmissions

Automatic transmissions from ZF or Voith. The Volvo D5F comes with I-Shift.

Rear axle

Portal, double reduction rear axle with optimised ratios for best performance within each application area.

Suspension

Low floor, front suspension with beam axle. Electronically controlled air suspension with kneeling function available on all variants.

Brakes

Volvo electronically controlled disc brakes (EBS).
Brake Blending function (all).
Automatic transmissions feature an integrated retarder. In the Volvo 7900 Hybrid, the electric motor I-SAM functions as a retarder and recovers braking energy.

Doors

Double, electric or pneumatic doors at all positions. Layouts 2+2+0 or 2+2+2 for two-axle models, 2+2+2+0 or 2+2+2+2 for articulated models.

Gross weight

Max gross weight 19.0–29.6 tonnes depending on model variant.

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VOLVO BUSES. DRIVING QUALITY OF LIFE



VOLVO

Volvo Bus Corporation

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