Volvo Buses. Driving quality of life

VOLVO 7900 HYBRID

Top ranking hybrid in fuel efficiency and reliability

Model	Volvo 7900 2-axle low floor single deck hybrid citybus
Body specification	The 12 metre single deck body is based on the established Volvo Bus construction concept, where an aluminium alloy is used, providing superior corrosion resistance. A glued one-piece windscreen is fitted and is available with a clear or green tint; the side windows are available with single or double glazing. The front and rear exterior body sections are made from glass fibre and ABS plastic mouldings. The exterior side paneling is made from single sheet aluminium under the window line combined with glass fibre and ABS plastic mouldings and is finished off with an aluminium lower skirt for the sides. ISAF double inward gliding doors with pneumatic operation with single bronze tinted glazing are fitted as standard at the front of the vehicle. An electrically operated door system is available as an option. The passenger saloon heating system comprises a 2-pipe convector system with a blower heating unit for the driver's area. Air conditioning for the driver's area and passenger saloon is available as an option.
Hybrid driveline	Volvo parallel hybrid system. Traction power supplied by either the diesel engine or electric motor working independently or together. Power for the electric motor power is supplied by a 600 volt battery. Driveline uses stop/start technology.
Engine	Volvo D5K 240 4cyl 5.1 litre Euro 6 engine rated at 240hp @2200 rpm with maximum torque of 918Nm at 1200-1600rpm. Engine emission control uses SCR, EGR, DPF & DOC technology.
Electric motor	I-SAM 600v ac permanent magnet water cooled electric motor mounted between engine and gearbox. Motor is rated at 160hp/800Nm max and 94hp/400Nm continuous. Motor acts as a generator to recharge 600 volt batteries during braking.
Transmission	Volvo AT2412E I-Shift fully automated 12 speed gearbox. 3 button gear selector control.
Energy storage system	Lithium-Ion battery with battery management unit, isolation resistance and battery disconnect unit. Water cooled and heated with independent system.
Rear axle	ZF drop centre portal axle with a 4.72:1 ratio. Electronically limited max speed options of 70km/h, 80km/h and 90km/h are available.
Brakes	The EBS 5 brake system is an electronically controlled pneumatic system. The front and rear disc brakes incorporate integral automatic adjusters. The chassis mounted screw compressor is electrically driven by a 600 volt motor. The anti-lock braking system features traction control, door brake interlock, brake temperature warning and lining wear indicator.
Steering	ZF hydraulic power assisted steering. Steering pump is electrically driven. The steering wheel position is adjustable for height and rake.
Suspension	Electronically controlled air suspension. Beam front axle, with front axle kneeling and ferry lift.
Electrical	The chassis electrical system is of multiplex design (BEA 3) and is a 24 volt negative earth system with two 12 volt, 225 amp hour heavy duty lead acid batteries (maintenance free as standard) mounted in a swing out carrier. 1 x Bosch 120 amp alternator is fitted. The 24 volt chassis electrical system is also supplied via DC/DC converter from the hybrid 600 volt system. Electronic monitoring of oil and coolant levels is fitted as standard.
Fuel system	A 205 litre aluminium fuel tank fitted over O/S/F wheel arch. The fuel filler is located on the right hand side (offside) of the body; this can be offered with Posilock.
Tyres & Wheels	10 stud 22.5" wheels with 275/70R22.5 tyres.