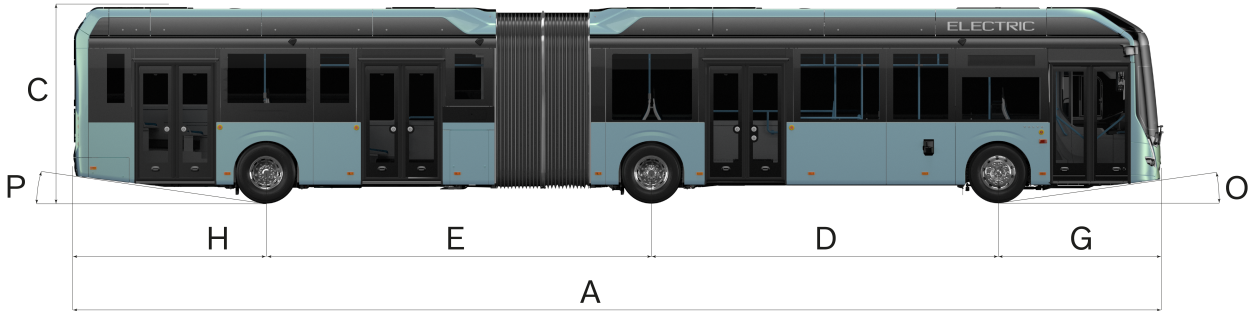


# VOLVO 7900 ELECTRIC ARTICULATED



Model	Articulated, 18.0 m	Articulated, 18.7 m
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Overall dimensions		
A Overall length (mm)	17950	18660
Overall width (mm)	2550	2550
C Overall height (mm)	3300	3300
D Front wheelbase (mm)	5945	5945
E Rear wheelbase (mm)	5897 (4037 + 1860)	6605 (4745 + 1860)
Max horizontal/vertical turning angle of articulated joint (°)	52/10	52/10
G Front overhang (mm)	2800	2800
H Rear overhang (mm)	3310	3310
O Approach angle (°)	7.0	7.0
P Departure angle (°)	7.0	7.0
Turning radius (outer front corner) (mm)	12500	12500
Turning radius (outer front wheel) (mm)	10725	10725
Overall height, approach and departure angles with tyres	275/70 R22.5	275/70 R22.5

Weights		
Permitted front axle load (kg)	7500	7500
Permitted drive axle load (kg)	12500	12500
Permitted middle axle load (kg)	10000	10000
Permitted GVW (kg)	30000	30000

Electric motor: EPT802 (2 motors)		
Output, max (kW)	R85 max 400	R85 max 400
Continuous power (kW)	R85 30 min 337	R85 30 min 337
Max torque (Nm)	850	850
Max wheel torque (Nm)	31000	31000

ESS (Energy Storage System)		
Available storage energy (battery capacity)	94kWh	94kWh
Available storage energy (up to 5 or 6 batteries)	Up to 470 kWh	Up to 564 kWh

# VOLVO 7900 ELECTRIC ARTICULATED

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Battery chemistry type	Lithium-ion, NCA	Lithium-ion, NCA
Voltage	600 V	600 V
Mass (kg)	609 kg	609 kg

Transmission and axles		
Gearbox	2-speed automated manual transmission	2-speed automated manual transmission
Front axle	Volvo RFS-L	Volvo RFS-L
Rear axle	ZF AV133	ZF AV133
Differential lock	No	No

Steering and suspension		
Steering wheel side	LHD	LHD
Power steering	Electric driven hydraulic steering	Electric driven hydraulic steering
Kneeling	Standard	Standard

Tires and rims (steel and aluminium rims)		
Tires	275/70 R22.5	275/70 R22.5
Rims	7.5 x 22.5"	7.5 x 22.5"

Electrical system (automatic shut of of main switch at low voltage level)		
Number of batteries	2 x 12 V	2 x 12 V
Battery capacity	2 x 140 Ah	2 x 140 Ah

# VOLVO 7900 ELECTRIC ARTICULATED

## Charging system

Charging systems available:

- OppCharge
- Panto up
- CCS charging

### Volvo Opportunity Charging (OppCharge)

- Maximum charge power 450 kW
- Roof-mounted interface, installed above the front axle for conductive charging
- Fully automatic charging sequence

### Roof-mounted pantograph (panto up)

- Maximum charge power 450 kW
- Roof-mounted pantograph, installed above the front axle for conductive charging
- Manual initiation by control on the dashboard

### CCS DC

- Maximum charge power 250 kW\* or 150kW
- Plug-in sockets in several locations to suit your depot layout. Double plug-in points are also available
- European standard connector
- Manual Connection

\* Right front or Left front

## ESS (Energy storage system) safety

- Battery management system includes temperature and current management on cell, module and battery pack level
- Battery disconnect unit includes contactors and fuses
- Robust mechanical housing for the module enclosed in a solid battery cage providing high crash safety
- Thermal insulation – foam inside the battery housing maintaining temperature within a suitable range for the battery
- Built-in fuse on the battery pack level and on the string/module level
- Fire-resistant material between cell and modules
- Thermal event detection
- Hazardous voltage interlock loop embracing all connectors and lids - extra safety layer during e.g. maintenance
- Insulation monitoring, detecting e.g. chafing on high voltage cables

## ESS Precondition

- The bus keeps the traction batteries in working temperature, to ensure that the bus can be started directly when needed without a pre-heating period
- The 24V battery is monitored and charged if needed from the traction batteries or grid when connected

## Interior climatisation

Start time of pre-climatisation can be controlled via a timer in the bus or an offboard computer (according to VDV-261 standard)

## Driveline cooling system

- Electrically driven fans with speed control
- No coolant filter
- Coolant level warning in instrument cluster

## Doors and door system

- Electric door system
- Inward gliding and outward sliding doors available
- Double glazing in all doors
- Electric sensitive edge for increased passenger safety
- Single front door (option)

# VOLVO 7900 ELECTRIC ARTICULATED

## Climate system

- Roof-mounted HVAC unit (Heating, Ventilation and Air Conditioning, including heat pump functionality)
- Pipe convectors and air blowers
- Air blowers at doors
- Driver convector or blower
- Auxiliary heaters, electric traction voltage heaters as standard and additional auxiliary heater option with fuel heater (HVO, biodiesel or diesel)
- Completely individual and adjustable AC control for driver
- Preconditioning of the passenger and driver's cabin. Can be started via a timer control via the charging interface (according to VDV 261 standard)
- Heat pump that operate down to -20°C. Below -20°C heating is still available, but with auxiliary heaters
- Stepless regulation strategy for controlling interior climate
- Separate climate zones for driver and passengers
  - For optimal climate and energy efficiency. The passenger temperature is controlled by a preset temperature curve
  - The temperature in the driver's area is manually controlled
- Global warming potential is minimised (GWP:1, ODP:0) and highly efficient refrigerant
- Low maintenance minimized by hermetically sealed piping system
- Energy optimization with using fresh air and recirculating air

## Capacity

### Roof Top Unit:

Roof Heating (-10/16° C)

52 kW (18 A), COP = 2.1 (with max. blower speed)

AC (35/40° C)

58 kW (18 A), COP = 2.3 (with max. blower speed)

Max Blower

12000 m<sup>3</sup>/h

### Defroster:

Heating Q80

Max 17 kW

Cooling

Max 6 kW

Blower fan

880 m<sup>3</sup>/h

### Convectors

551 W/m at  $\Delta$  temp. 60° C

### Auxiliary heater

Fuel 23 kW

Electric 24 kW

## Air and brake system

- Disc brakes
- Electronic Braking System (EBS 5)
- Anti-lock Braking System (ABS)
- Anti slip regulation (ASR)
- Electronic Stability Program (ESP)
- Brake blending
- Hill Start Aid
- Brake temperature warning
- Brake assistance
- Brake pad wear indication
- Pneumatic system, easily accessible for external fill

## Exterior and structure

- Volvo's patented lightweight aluminium body concept
- Front and rear wall in composite material and DPDS / ABS elements
- Front and rear structure in anti-corrosion steel
- Double tinted glazing
- Parts commonality between city and intercity buses to lower maintenance cost
- Anti-corrosion treatment of underbody with conservation sealing and silencing agents
- LED headlights
- LED daytime running lights
- Auxiliary lights and fog lights as options
- Electrically adjustable and heated external mirrors

## Interior

- Spacious and bright
- Comfortable
- Integrated position for passenger information displays
- Interior LED lights

## Passenger seats

Volvo city seats featuring:

- Optimised city bus seat
- Easy maintenance
- Available in a wide range of specifications to meet the demands of individual customers

## Driver's place

Cluster and controls transit mounted. Also available with Volvo dashboard:

- Dashboard that moves with steering wheel adjustment
- Volvo Dynamic Steering
- Fully dynamic instrument cluster
- Steering wheel buttons for easy access
- Integrated infotainment
- Digital speed
- Charging information
- State of charge in %
- Remaining distance
- Power meter
- Volvo Active Safety Platform

## Audio system

- Stereo radio with DAB
- Foot-controlled public address system

# VOLVO 7900 ELECTRIC ARTICULATED

## **Passive safety**

- Flammability according to ECE-R118.02
- Front Impact Protection System compliant with the R29 (test A) front impact requirement
- Front Underrun Protection System compliant with the R93 underrun protection requirement
- Rear Underrun and Impact Protection System compliant with the R58 protection requirement.
- Integrated seat belt for driver (standard)
- Closed driver's cabin for driver's safety (option)
- Passenger two-point or three-point seat belts (option)
- Child seat (option)

## **Active safety systems**

- Front / Rear camera
- Side / front radars
- Collision Warning
- Side Collision Avoidance Support
- Front Short Range Assist
- Lane Keeping Support
- Lane Change Support
- Intelligent Speed Assistance
- Driver Alert Support
- Tire Pressure Monitoring System