

**V O L V O**



Volvo Electric Compact Wheel Loaders 4.5 - 5.4 t

# **L20 ELECTRIC**

Volvo Construction Equipment

# L20 ELECTRIC



## Uptime you can count on



- Work a full day – Operating time calculator available (contact your dealer)
- Make the most of every charge: fully electric driveline with energy recovery function and auto-shutoff function
- Choice of charging solutions | 0-100% in up to 2 hours
- 2-year free servicing, 2-year full machine warranty

## Open up new opportunities



- Perfect fit for noise sensitive areas
- Ability to work out of standard hours
- Zero-tailpipe emissions: work indoors and in emission-restricted zones

# Electrifying performance



## Proven performance

- High lifting and breakout forces, superior roll-back and dump angles for bucket applications
- 100% parallel movements, outstanding lifting height and forward visibility for fork applications
- Rigid planetary axles, with 100% mechanical differential locks on the front and rear axles, offer maximum traction and minimal tire wear
- Articulating-oscillating center joint provides the best off-road capability and stability



## 30% less maintenance

- Maintenance-free electric motors, featuring auto shutoff to save wear
- Fully electric driveline reduces hydraulic oil need by half
- Easy ground level access to lubrication and maintenance points



## The best battery technology

- Lithium-Ion 48 V battery – 40 kWh or 56 kWh
- On-board charging done via Type 2 automotive standard inlet
- Comes standard with up to 4.6 kW on-board charger capacity. Up to 9.2 kW or 13.6 kW on-board charger capacity available as option.
- Fast charging possibilities
- Can be charged at any State Of Charge (SOC)
- Theft protected fixed battery
- Designed to deliver up to 2 500 full charge cycles



## A new level of operator comfort

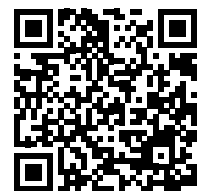
- Low vibration, low noise levels, no exhaust fumes
- Wide 3-point cab access
- Best all-round visibility
- Intuitive interface, Electrohydraulic controls
- Electric parking brake with hill hold functionality
- Programmable cab heater (Option)
- Air conditioning system (Option)



## Work anything, anywhere

- Perfect fit for confined and narrow spaces
- Wide range of Volvo Attachments
- Attachment bracket with integrated third hydraulic function
- Customizable work modes including traction force, joystick and accelerator pedal sensitivity, flow control third hydraulic function
- Maximum speed of 20 km/h

Explore the machine in our walkaround video ▶



# Volvo L20 Electric in detail

## Electrical Motor

|                                      |    |    |
|--------------------------------------|----|----|
| Induction motor                      |    |    |
| Driveline Motor power (net)          | kW | 22 |
| Permanent magnet synchronous motor   |    |    |
| Working Hydraulics Motor power (net) | kW | 14 |

## Electrical System

|                    |             |         |
|--------------------|-------------|---------|
| Battery type       | Lithium-ion |         |
| Battery Voltage    | V           | 48      |
| Indicative runtime | hours       | Up to 8 |

### Standard battery capacity 40 kWh / 900 Ah

|   |             |             |
|---|-------------|-------------|
| <b>On board charging time (10-100%)*:</b>     |             |             |
| Charging cabel AC, 4.6 kW                     | hours / min | ~6 h 45 min |
| Charging cabel AC, 9.2 kW                     | hours / min | ~3 h 25 min |
| Charging cabel AC, 13.8 kW                    | hours / min | ~2 h 15 min |
| <b>Off board fast charging time (20-80%):</b> |             |             |
| 400 VAC, 16A / 9.6 kW                         | hours / min | ~2 h 25 min |
| 400 VAC, 32A / 17.3 kW                        | hours / min | ~1.7        |

### Optional battery capacity 56 kWh / 1 250 Ah

|   |             |             |
|---|-------------|-------------|
| <b>On board charging time (10-100%)*:</b>     |             |             |
| Charging cabel AC, 4.6 kW                     | hours / min | ~9h 30 min  |
| Charging cabel AC, 9.2 kW                     | hours / min | ~4h 45 min  |
| Charging cabel AC, 13.8 kW                    | hours / min | ~3 h 10 min |
| <b>Off board fast charging time (20-80%):</b> |             |             |
| 400 VAC, 16A / 9.6 kW                         | hours / min | ~3 h 20 min |
| 400 VAC, 16A / 17.3 kW                        | hours / min | ~1h 50 min  |

\*Specifications for charging power and time refer to optimum conditions. The maximum charging capacity depends on the local grid conditions. For detailed information, please visit Charging calculator on [www.volvoce.com](http://www.volvoce.com) or contact your local dealer.

## Auxiliary Battery

|          |     |    |
|----------|-----|----|
| Type     | AGM |    |
| Voltage  | V   | 12 |
| Capacity | Ah  | 50 |

## Linkage

The parallel linkage system offers 100% parallel lift with the loading fork. The linkage system and the attachment bracket are designed for an excellent visibility to the front attachment, fork tines and fork tines end. The Volvo Attachment Bracket P (parallel) is equipped with long guide pins and an additional sealing ring for protection against dust and mud.

|                       |              |     |
|-----------------------|--------------|-----|
| Linkage system        | P-Kinematics |     |
| Lift cylinders        | 1            |     |
| Tilt cylinders        | 1            |     |
| Lift time (loaded)    | s            | 6   |
| Lowering time (empty) | s            | 4   |
| Dump time             | s            | 2.5 |

## Wheels and Tires

|      |            |
|------|------------|
| Size | 335/80 R18 |
| Rim  | 11 x 18    |

## Brake System

Central wet disc brake, hydraulic activated service brake and SAHR (spring applied hydraulically released) parking brake.

## Hydraulic System

|  |       |      |
|--|-------|------|
| Thermal controlled oil circuit with integrated cooling system. Electric-Hydraulic control valve: double acting control valve with three spool system. Independent flow share function and fully controllable via joystick. |       |      |
| Flow   | l/min | 55   |
| Working pressure max   | MPa   | 23   |
| 3rd Hydraulic circuit flow   | l/min | 55   |
| 3rd Hydraulic circuit pressure max   | MPa   | 17.5 |

## Drivetrain

|                               |      |       |
|-------------------------------|------|-------|
| Angle of oscillation          | ±°   | 10    |
| Track                         | mm   | 1,300 |
| Travel speed, forward/reverse |      |       |
| 1st gear                      | km/h | 8     |
| 2nd gear                      | km/h | 20    |

## Steering System

|  |     |    |
|--|-----|----|
| Hydrostatic steering. Central articulating-oscillating joint. Gear pump with priority valve. |     |    |
| Steering cylinders   | 1   |    |
| Working pressure   | MPa | 19 |
| Max articulation   | ±°  | 38 |

## Service Refill

|                  |     |      |
|------------------|-----|------|
| Hydraulic tank   | lit | 40.5 |
| Transmission oil | lit | 0.6  |
| Front axle oil   | lit | 3.9  |
| Rear axle oil    | lit | 4.1  |

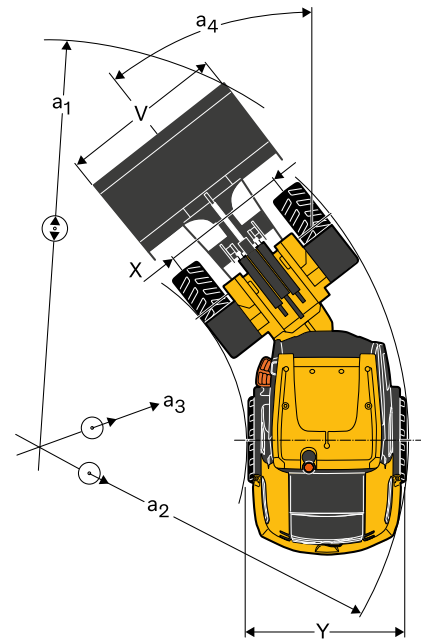
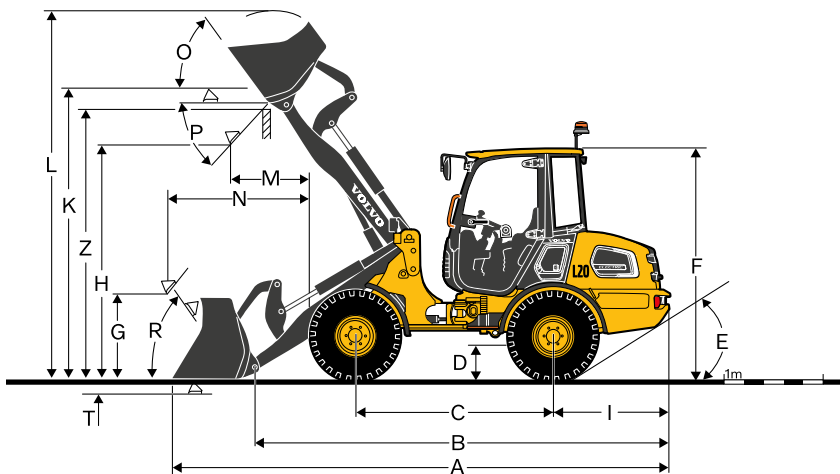
## Cab




**Instrumentation:** All important information is located in the operator's field of vision.

## Sound Level

|  |    |      |
|--|----|------|
| Sound level in cab according to ISO 6396                                     |    |      |
| L <sub>pA</sub>  | dB | 72   |
| Sound level in cab, without cab fan  |    |      |
| L <sub>pA</sub>  | dB | 59.6 |
| External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC |    |      |
| L <sub>WA</sub>  | dB | 89   |
| External sound level   |    |      |
| L <sub>WA</sub>  | dB | 86.3 |

# Specifications



|  | General Purpose   |       |       | Light Material  |  |  | 4 in 1  |  |  |
|--|---|-------|-------|---|--|--|---|--|--|
|  | 55278500  |       |       | 11391063  |  |  | 11391094  |  |  |
| Bucket type  |  |       |       |  |  |  |  |  |  |
| <b>L20 Electric with P-Kinematics and 335/80R18 tires</b>    |   |       |       |   |  |  |   |  |  |
| Capacity heaped  | m <sup>3</sup>  | 0.8   | 1.2   | 0.65  |  |  |   |  |  |
| Material density   | kg/m <sup>3</sup>   | 1 900 | 1 200 | 2 100   |  |  |   |  |  |
| Hydraulic lifting capacity, max.                             | kN  | 35    | 34    | 33  |  |  |   |  |  |
| Breakout force   | kN  | 35    | 28    | 40  |  |  |   |  |  |
| A Total length   | mm  | 5 120 | 5 300 | 5 035   |  |  |   |  |  |
| G Height of the lowest bucket edge                           | mm  | 715   | 710   | 765   |  |  |   |  |  |
| L Lift height, max.  | mm  | 4 170 | 4 300 | 4 060   |  |  |   |  |  |
| V Bucket width   | mm  | 1 650 | 1 800 | 1 650   |  |  |   |  |  |
| a <sub>1</sub> Radius to outer point of machine incl. Bucket | mm  | 4 195 | 4 275 | 4 170   |  |  |   |  |  |
| T Digging depth  | mm  | 45    | 40    | 70  |  |  |   |  |  |
| H Dump height, 45°   | mm  | 2 350 | 2 340 | 2 400   |  |  |   |  |  |
| M Reach at max. height                                       | mm  | 800   | 810   | 690   |  |  |   |  |  |
| N Reach, max.  | mm  | 1 630 | 1 640 | 1 520   |  |  |   |  |  |
| Operating weight   | kg  | 4 500 | 4 550 | 4 650   |  |  |   |  |  |

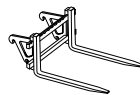
## DIMENSIONS

### L20 Electric with P-Kinematics and 335/80 R18 tyres

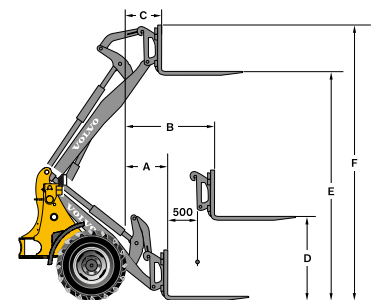
|                |    |       |
|----------------|----|-------|
| B              | mm | 4 280 |
| C              | mm | 2 050 |
| D              | mm | 290   |
| E              | °  | 31    |
| F              | mm | 2 480 |
| I              | mm | 1 263 |
| K              | mm | 3 140 |
| O              | °  | 56    |
| P              | °  | 42    |
| R              | °  | 56    |
| X              | mm | 1 300 |
| Y              | mm | 1 635 |
| Z              | mm | 2 905 |
| a <sub>2</sub> | mm | 3 890 |
| a <sub>3</sub> | mm | 2 100 |
| a <sub>4</sub> | °  | ±38   |

### L20 Electric P-Kinematics and 335/80 R18 tyres

Data with loading fork frame 1 345 mm (11390275) and tines 1 000 mm (2890382)  
Centre of gravity 500 mm



|                                       |    |               |
|---------------------------------------|----|---------------|
| Payload according to EN 474-3, 60/80% | kg | 1 350 / 1 800 |
| A                                     | mm | 695           |
| B                                     | mm | 1 170         |
| C                                     | mm | 350           |
| D                                     | mm | 1 385         |
| E                                     | mm | 3 025         |



# Equipment

## STANDARD EQUIPMENT

### Electric / Electronic control system

Maintenance-free 48 V battery - protected and embedded in the machine structure

5 Pack Battery System - 40 kWh Gross Capacity

4.6 kW On-board charger with country specific charging socket

Maintenance-free 12 V auxiliary battery

High quality connectors

Protected battery cut-off switch

In-cab 12 V power socket

Full LED lights - Travel light equipment (Main Head Lights, Parking-, Rear-, Brake-, Hazard warning lights and direction indicators)

LED lights - Working lights 2 000 lm (2 front and 2 rear)

### Electric powertrain

Full electric drive

Operator-selected 100% differential locks in both axles

Electric parking brake with hill hold function

Maintenance free wet brake system

### Hydraulic System

Gear-type pump

Electric-Hydraulic control valve three-pool system with flow share function

3rd hydraulic circuit with proportional flow regulation

Hydraulic couplings for 3rd hydraulic circuit

### Instrumentation & controls

Single lever including 3rd function - Electroproportional

12 Volt accessories socket

USB charging socket (USB-A + USB-C)

Signal horn

Hazard warning switch

Jogwheel for menu navigation

5 inch multicolor display

Digital information on 5 inch display:

Battery state of charge (SOC)

Working hours

Vehicle speed

Differential locks

Battery charging

Indicators (left/right)

Main beam head lamp

Direction (forward/reverse)

Hydraulic oil temperature

Hydraulic oil filter

Electrically operated parking brake

Jog-Dial for menu navigation and machine controls

Preset Work modes for different applications

## STANDARD EQUIPMENT

### Safety

Driveline shut off via buckle

Orange handrail on cab

Anti-theft system

### Cab, Exterior

ROPS/FOPS-cab

Adjustable steering column

Lockable door

All-round tinted safety glass

Windscreen wiper (front/rear)

Windscreen washer (front/rear)

Openable & lockable window on the right side

Door & window stops

External rear view mirrors (right/left)

4-way adjustable operator's seat

2 inch orange seat belt

Sunvisor

Heater with air-filter and defroster (front/rear)

Cab heating & ventilation navigation fully integrated in display

Storage box in cab

### Working Equipment

Hydraulic P-Attachment bracket

Bucket level indicator

### Carriage Body

Fenders (front/rear)

Lockable engine hood

Towing device

Lifting eyes

Tying down eyes

### Service and Maintenance

Tool kit

### Official approval

Quality: DIN/ISO 9001

Environment: DIN/ISO 14001

Safety: CE compliant acc. Machinery Directive 2006/42/EC and EN 474-series

Electromagnetic compatibility (EMC) confirming to European directive 2014/30/EC

Noise Emission Directive: 2000/14/EC

Tipping load / Payload: ISO 14397-1

ROPS conforming to ISO 3471

FOPS conforming to ISO 3449 (Level 2)

ECE R100 (approval of vehicles with regard to specific requirements for the electric power train)

Vehicle Homologation for public road traffic usage according German StVZO-Requirements

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**OPTIONAL EQUIPMENT**

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**Electric / Electronic control system**

7 Pack Battery System - 56 kWh Gross Capacity

On board charger up to 9.2 kW capacity

On board charger up to 13.8 kW capacity

Preparation for fast charger

AC-Charging cable

Off Board Fast charger IP54 360A – 17.3 kW Outdoor

Off Board Fast charger IP21 200A – 9.6 kW Indoor

Off Board Fast charger IP21 360A – 17.3 kW Indoor

**Hydraulic System**

Return line direct to filter

Leakage line direct to hydraulic tank

Boom Suspension system

Safety valves on lift and tilt cylinders (hose rupture valves)

Combination of Boom Suspension system &amp; Safety valves

BIO degradable hydraulic oil

4th independent proportional hydraulic function with flow control

**Instrumentation & controls**

Configurable joystick buttons

Cruise Control

Simplified HMI

**Safety**

Safety brace

Preparation for LED Rotating beacon (magnetic)

LED Rotating beacon (magnetic)

Foldable LED rotating beacon

3 inch orange seat belt

Audible reverse alarm

Audible reverse alarm 92 dB (white noise)

Audible reverse alarm switchable

Rear view camera

Wheel chock

**Cab, interior**

Programmable cab heater

Air conditioning system

LED work lights (2 000 lm) on cab roof, 4 front / 4 rear

Daytime running headlights

Preparation for DAB radio incl. speakers &amp; antenna

DAB Radio with Bluetooth/USB and AUX connection

Extended backrest for mechanical seat

Air suspended and heated operator's seat

Rear view mirror inside cab

Enhanced rear view mirrors outside cab

Heated rear view mirrors

Additional document box

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**OPTIONAL EQUIPMENT**

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**Carriage Body**

Full light protection

Headlight protection

Worklight protection

Rearlight protection

Protective wax coating for overseas transport only

**Wheels and tires**

335/80R18

340/80R18

365/70R18

400/70R18

405/70R18

**Working equipment**

Attachment bracket SSL

Socket front 7 pin (sweeper preparation)

Socket attachment control 8 pin

**Other**

Special colour painting

Slow Moving Vehicle (SMV) warning triangle

Preparation for license plate (520x110 mm) front and/or rear

Preparation for multiline license plate (340x245 mm) rear

**Attachments**

Forks with mechanical tines movements

Fork with hydraulically operated tines positioning

Fork with hydraulically operated tines positioning &amp; side shift

Refuse bucket with clamp

Light Material bucket

Side-Tip bucket

High-Tip bucket

Material Handling Arm

Multi-Purpose bucket

Grading bucket with / without extension

General Purpose bucket

Custom-Built Attachments

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