

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



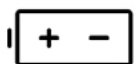
## Proven performance

- 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 48V battery – 40kWh or 33 kWh
- On-board charging done via Type 2 automotive standard inlet
- Comes with 6kW on-board charger and necessary charging cable, plug and adapters
- Fast charging possibilities
- Can be charged at any State Of Charge (SOC)
- Theft protected fixed battery
- Designed to deliver up to 2500 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, Electro-hydraulic controls
- Electric parking brake with hill hold functionality
- Programmable cab heater (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
- Maximum speed of 20km/h

Explore the machine in our walkaround video

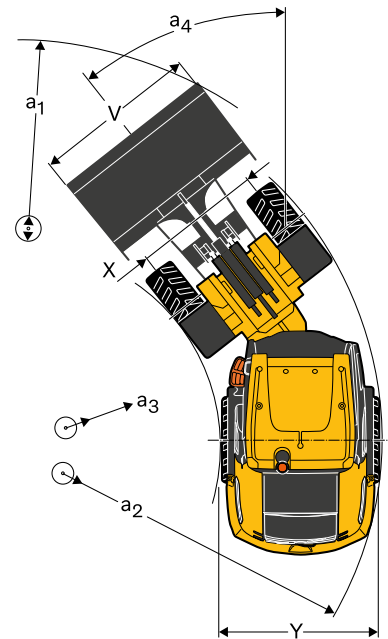
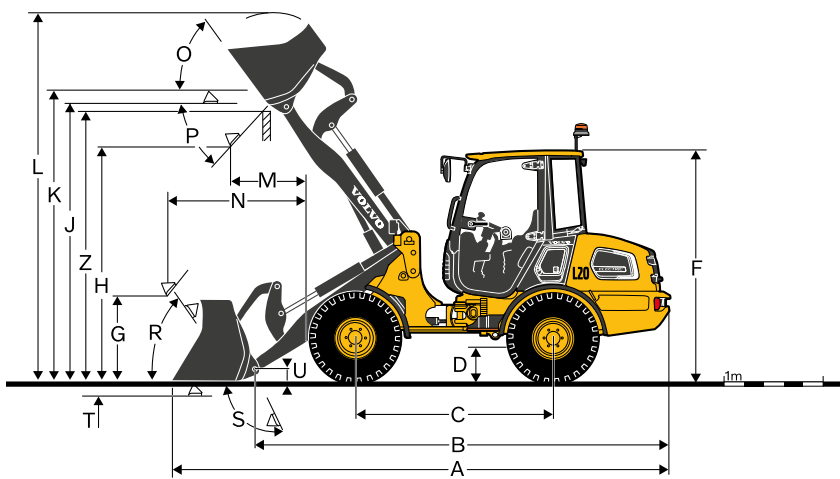


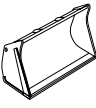
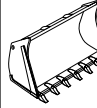
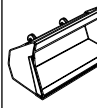
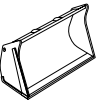
# Volvo L20 Electric in detail

Electrical System		
Battery type		Lithium-ion
Battery Voltage	V	48
Indicative runtime	hours	Up to 8
<b>Battery capacity 33kWh / 750Ah</b>		
<b>On board charging time (0-100%):</b>		
230 VAC, 6A	hours	~24
230 VAC, 8A	hours	~18
230 VAC, 10A	hours	~14
230 VAC, 13A	hours	~11
400 VAC, 16A (CEE)	hours	~5
230 VAC, 16A (caravan adapter)	hours	~10
120 VAC, 15A	hours	~19
240 VAC, 40A	hours	~5
<b>Off board fast charging time (0-100%):</b>		
400 VAC, 16A / 9.6kW	hours	~3
400 VAC, 32A / 17.3kW	hours	~1.7
<b>Battery capacity 40kWh / 900Ah</b>		
<b>On board charging time (0-100%):</b>		
230 VAC, 6A	hours	~29
230 VAC, 8A	hours	~22
230 VAC, 10A	hours	~17
230 VAC, 13A	hours	~13
400 VAC, 16A (CEE)	hours	~6
230 VAC, 16A (caravan adapter)	hours	~12
120 VAC, 15A	hours	~23
240 VAC, 40A	hours	~6
<b>Off board fast charging time (0-100%):</b>		
400 VAC, 16A / 9.6kW	hours	~3.5
400 VAC, 16A / 17.3kW	hours	~2
<b>Auxiliary Battery</b>		
Type		AGM
Voltage	V	12
Capacity	Ah	50
Electrical Motor		
Driveline Motor type		Induction motor
Driveline Motor power (net)	kW	22
Working Hydraulics Motor type		Permanent magnet synchronous motor
Working Hydraulics Motor power (net)	kW	14
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. Flow independent and fully controllable via joystick		
Working pressure max	MPa	20
Flow	l/min	55
3rd Hydraulic circuit pressure max	MPa	17.5
Drivetrain		
Angle of oscillation	± °	10
Oscillation at wheel, max.	mm	221
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	l	40.5
Transmission oil	l	0.6
Front axle oil	l	3.9
Rear axle oil	l	4.1
Cab		
<b>Instrumentation:</b> 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



Bucket type	General Purpose		Light Material	4 in 1	
					
<b>L20 Electric with P-Kinematics and 335/80R18 tires</b>					
Capacity heaped	m <sup>3</sup>	0.8	0.9	1.2	0.65
Material density	kg/m <sup>3</sup>	1900	1700	1200	2100
Static tipping load, straight (ISO 14397)	kg	3 450	3 500	3 300	3 450
Static tipping load, full turn 38° (ISO 14397)	kg	3 050	3 100	2 950	3 050
Hydraulic lifting capacity, max.	kN	35	34	34	33
Breakout force	kN	35	34	28	40
A Total length	mm	5 120	5 300	5 300	5 035
L Lift height, max.	mm	4 170	4 175	4 300	4 060
V Bucket width	mm	1 650	1 800	1 800	1 650
a <sub>1</sub> Clearance circle	mm	8 390	8 540	8 550	8 340
T Digging depth	mm	45	45	40	70
H Dump height, 45°	mm	2 350	2 340	2 340	2 400
M Reach at max. height	mm	800	810	810	690
N Reach, max.	mm	1 630	1 640	1 640	1 520
Operating weight	kg	4 550	4 600	4 700	4 700

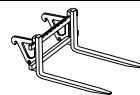
## DIMENSIONS

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

B	mm	4 280
C	mm	2 050
D	mm	290
F	mm	2 480
G	mm	690
J	mm	2 980
K	mm	3 140
O	°	56
P	°	42
R	°	56
S	°	65
U	mm	145
X	mm	1 300
Y	mm	1 635
Z	mm	2 905
a <sub>3</sub>	mm	2 100
a <sub>2</sub>	mm	3 890
a <sub>4</sub>	°	±38

## L20 Electric P-Kinematics

Data with loading fork  
Centre of gravity 500 mm



Tipping load, full turn (ISO / DIS)	kg	2 250
Payload according to EN 474-3, 60/80%	kg	1 350 / 1 800

# Equipment

## STANDARD EQUIPMENT

### Drivetrain

- Full electric drive
- Operator-selected 100% differential locks in both axles
- Electric parking brake with hill hold function
- Maintenance free wet brake system

### Electric / Electronic control system

- Maintenance-free 48V battery - protected and embedded in the machine structure
- 5 Rack Battery System - 33kWh Gross Capacity
- 6 kW On-board charger with Type 2 socket
- Standard charging cable with 3 plugs (domestic - white, CEE plug blue and red (for 230VAC 16A 1 phase)
- Maintenance-free 12V auxiliary battery
- High quality connectors
- Protected battery cut-off switch
- In-cab 12V power socket
- Full LED lights - Travel light equipment (Main Head Lights, Parking-, Rear-, Brake-, Hazard warning lights and direction indicators)
- Full LED lights - Working lights (2 front and 2 rear)

### Hydraulic System

- Gear-type pump
- Electric-Hydraulic control valve three-spool system
- 3rd hydraulic circuit
- Hydraulic couplings for 3rd hydraulic circuit
- Flow share function

### Instrumentation & controls

- Single lever including 3rd function - Electroproportional
- 12 Volt accessories socket
- Signal horn
- Hazard warning switch
- Jogwheel for menu navigation
- 5 inch multicolor display
- Digital information on 5 inch display
- Battery state of charge (SOC)
- Operating hours
- Differential locks
- Battery charging
- Indicators (left/right)
- Main beam head lamp
- Direction (forward/reverse)
- Hydraulic oil temperature
- Hydraulic oil filter
- Parking brake
- Jog-Dial for menu navigation and machine controls
- Preset Work modes for different applications
- Cruise control
- Adjustable timer for cab heating

### Safety

- Rotating beacon (foldable)
- Audible reverse alarm
- Anti-theft system

## STANDARD EQUIPMENT

### Cab, Exterior

- ROPS/FOPS-cab with flexible mountings
- Adjustable steering column
- DAB Radio preparation
- Lockable door
- All-round tinted safety glass
- Windscreen wiper (front/rear)
- Windscreen washer (front/rear)
- Openable window on the right side
- Door stops
- External rear view mirrors (right/left)
- 4-way adjustable operator's seat
- Orange seat belt
- Sunvisor
- Heater with air-filter and defroster (front/rear)
- Cab ventilation
- Storage box in cab

### Working Equipment

- Hydraulic P-Attachment bracket
- 7 pin electrical socket on boom (Sweeper preparation)
- 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
- ROPS ISO 3471
- FOPS ISO 3449
- Noise Emission Directive 2000/14/EC
- EMC 2014/30/EC
- Tipping load / Payload: ISO 14397-1
- 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**

Fast charging machine preparation with weather protected socket  
Off Board Fast charger IP54 360A – 17.3kW Outdoor  
Off Board Fast charger IP21 200A – 9.6kW Indoor  
Off Board Fast charger IP21 360A – 17.3kW Indoor  
6 Rack Battery System - 40kWh Gross Capacity

**Hydraulic System**

3rd function oil return line via filter  
Leakage line direct to hydraulic tank  
BIO degradable hydraulic oil  
4th hydraulic circuit switched from 3rd function

**Instrumentation & controls**

Boom Suspension System

**Safety**

Safety brace  
Rotating beacon (magnetic)  
Safety valves on lift and tilt cylinders (hose rupture valves)  
Audible reverse alarm 92dB (white noise)

**Cab, Interior**

Programmable cab heater  
DAB Radio with Bluetooth/USB and AUX connection  
Air suspended and heated operator's seat  
Heated rear view mirrors  
Additional document box

**Carriage Body**

Headlight protection  
Worklight protection  
Rearlight protection

**Wheel/Tires**

335/80R18  
340/80R18  
405/70R18  
365/70R18

**Other**

Special colour painting  
Slow Moving Vehicule (SMV) warning triangle  
Preparation for license plate front and/or rear

**Attachments**

Forks with mechanical tines movements  
Light Material bucket  
Side-Tip bucket  
Material Handling Arm  
Multi-Purpose bucket  
Grading bucket  
General Purpose bucket  
Custom-Built Attachments

**V O L V O**