

V O L V O



Volvo Electric Compact Wheel Loaders 4.5 - 5.4 t / 9,921 - 11,905 lb

# 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
- Full machine warranty for 2 years (or 2,000 hours) – with an extra powertrain warranty for 4 years (or 3,000 hours)

## 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



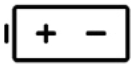
## Proven performance

- 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 1 automotive standard inlet
- Comes with 6kW on-board charger, 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 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, 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 (12mph)

Explore the machine in our walkaround video ▶

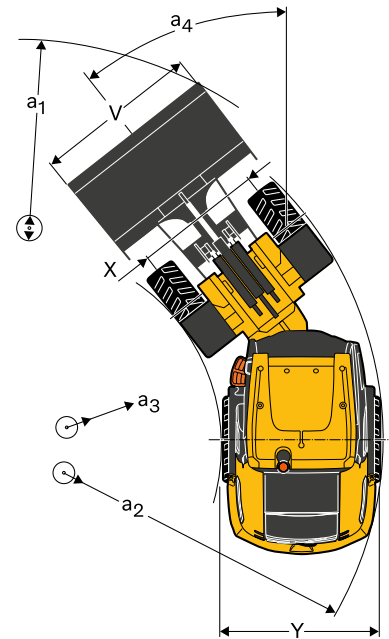
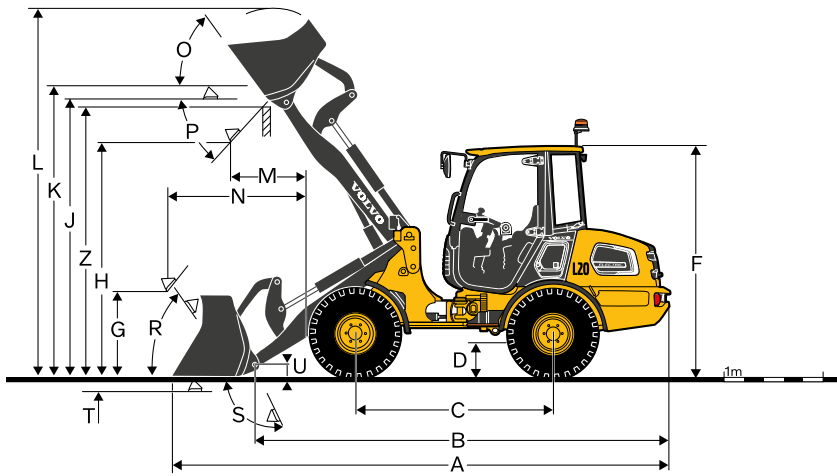



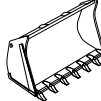
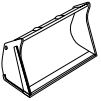
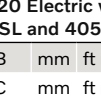

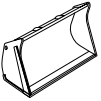
# Volvo L20 Electric in detail

Electrical System		
Battery type		Lithium-ion
Battery Voltage	V	48
Average runtime	hours	4 to 6
<b>Battery capacity 33kWh / 750Ah</b>		
<b>On board charging time (0-100%):</b>		
120V standard outlet	hours	~20
240V	hours	~5
<b>Off board fast charging time (0-100%):</b>		
3P 480V or 3P 600V / 11.6kW	hours	2.5
3P 480V / 17.3kW	hours	~1.7
<b>Battery capacity 40kWh / 900Ah</b>		
<b>On board charging time (0-100%):</b>		
120V standard outlet	hours	24
240V	hours	~6
<b>Off board fast charging time (0-100%):</b>		
3P 480V or 3P 600V / 11.6kW	hours	~3
3P 480V / 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
Driveline 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
Tires		
Size		405/70 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 (bar)	20 (200)
Flow	l/min (gal/min)	55 (14.5)
3rd Hydraulic circuit pressure max	MPa (bar)	17.5 (175)
Drivetrain		
Angle of oscillation	± °	10
Oscillation at wheel, max.	mm (in)	221 (8.7)
Track	mm (in)	1,300 (51.2)
Travel speed, forward/reverse		
1st gear	km/h (mi/h)	8 (5)
2nd gear	km/h (mi/h)	20 (12.4)
Steering System		
Hydrostatic steering. Central articulating-oscillating joint. Gear pump with priority valve		
Steering cylinders		1
Working pressure	MPa (psi)	19 (2,756)
Max articulation	± °	38
Service Refill		
Hydraulic tank	l (gal)	40.5 (10.7)
Transmission oil	l (gal)	0.6 (0.16)
Front axle oil	l (gal)	3.9 (1.03)
Rear axle oil	l (gal)	4.1 (1.08)
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 L20 Electric with P-Kinematics, SSL and 405/70R18 tires			General Purpose				4 in 1	
								
Capacity heaped	m <sup>3</sup>	yd <sup>3</sup>	0.8	1.05	0.95	1.24	0.8	1.05
Material density	kg/m <sup>3</sup>	lb/yd <sup>3</sup>	1,900	3,203	1,500	2,528	1,800	3,034
Static tipping load, straight (ISO 14397)	kg	lb	3,400	7,496	3,350	7,385	3,250	7,165
Static tipping load, full turn 38° (ISO 14397)	kg	lb	3,050	6,724	3,000	6,614	2,950	6,504
Hydraulic lifting force, max.	kN	lbf	35	7,868	34	7,644	35	7,868
Breakout force	kN	lbf	31	6,969	28	6,295	31	6,969
A Total length	mm	ft in	5,195	17'11"	5,295	17'4"	5,185	17'0"
L Lift height, max.	mm	ft in	4,193	13'9"	4,270	14'00"	4,180	13'9"
V Bucket width	mm	ft in	1,800	5'11"	1,800	5'11"	1,800	5'11"
a <sub>1</sub> Clearance circle	mm	ft in	8,540	28'0"	8,600	28'3"	8,530	27'12"
T Digging depth	mm	in	12	0.5	12	0.5	12	0.5
H Dump height, 45°	mm	ft in	2,430	7'12"	2,360	7'9"	2,440	8'0"
M Reach at max. height	mm	ft in	750	2'6"	740	2'5"	820	2'8"
N Reach, max.	mm	ft in	1,545	5'1"	1,615	5'4"	1,535	5'0"
Operating weight	kg	lb	4,650	10,251	4,700	10,362	4,800	10,582

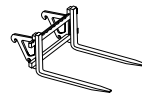
## DIMENSIONS

L20 Electric with P-Kinematics, SSL and 405/70 R18 tires

B	mm	ft in	4,243	13'11"
C	mm	ft in	2,050	6'9"
D	mm	ft in	310	1'0"
F	mm	ft in	2,499	8'2"
G	mm	ft in	705	2'4"
J	mm	ft in	3,040	9'12"
K	mm	ft in	3,160	10'4"
O	°		57	
P	°		43	
R	°		45	
S	°		70	
U	mm	ft in	125	0'5"
X	mm	ft in	1,325	4'4"
Y	mm	ft in	1,725	5'8"
Z	mm	ft in	2,945	9'8"
a <sub>3</sub>	mm	ft in	2,100	6'11"
a <sub>2</sub>	mm	ft in	3,885	12'9"
a <sub>4</sub>	°		±38	

## L20 Electric with P-Kinematics

Data with loading fork (SSL)  
Centre of gravity 500 mm



Tipping load, full turn (ISO / DIS)	kg	lb	2,250	4,960
Payload according to EN 474-3, 60/80%	kg	lb	1,350 / 1,800	2,976/3,968

# Equipment

## STANDARD AND OPTIONAL EQUIPMENT

Standard Equipment : •  
Optional Equipment : o

	L20 Electric
<b>Drivetrain</b>	
Full electric drive	•
Operator-selected 100% differential locks in both axles	•
Electric parking brake with hill hold function	•
Maintenance free wet brake system	•
<b>Electric / Electronic control system</b>	
Maintenance-free 48V battery - protected and embedded in the machine structure	•
5 Rack Battery System - 33kWh Gross Capacity	•
6 Rack Battery System - 40kWh Gross Capacity	o
6 kW On-board charger with Type 2 socket	•
Charging cable Type 1 with 120V and 240V NEMA 14-50 adapter	•
Fast charging machine preparation with weather protected socket	o
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)	•
<b>Hydraulic system</b>	
Gear-type pump	•
Electric-Hydraulic control valve three-spool system	•
3rd hydraulic circuit	•
4th hydraulic circuit switched from 3rd function	o
Hydraulic couplings for 3rd hydraulic circuit	•
Flow share function	•
3rd function oil return line via filter	o
Leakage line direct to hydraulic tank	o
<b>Instrumentation &amp; controls</b>	
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	•
Boom Suspension System	o

## STANDARD AND OPTIONAL EQUIPMENT

Standard Equipment : •  
Optional Equipment : o

	L20 Electric
<b>Safety</b>	
Safety brace	o
Rotating beacon (magnetic)	o
Rotating beacon (foldable)	•
Audible reverse alarm	o
Audible reverse alarm 92dB (white noise)	•
Anti-theft system	•
Safety valves on lift and tilt cylinders (hose rupture valves)	o
<b>Cab</b>	
ROPS/FOPS-cab with flexible mountings	•
Adjustable steering column	•
DAB Radio preparation	•
DAB Radio with Bluetooth/USB and AUX connection	o
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)	•
Heated rear view mirrors	o
4-way adjustable operator's seat	•
Air suspended and heated operator's seat	o
Orange seat belt	•
Sunvisor	•
Heater with air-filter and defroster (front/rear)	•
Cab ventilation	•
Programmable cab heater	o
Storage box in cab	•
Additional document box	o
<b>Working Equipment</b>	
Hydraulic SSL-Attachment bracket	•
Hydraulic P-Attachment bracket	o
7 pin electrical socket on boom (Sweeper preparation)	•
Bucket level indicator	•
<b>Carriage Body</b>	
Fenders (front/rear)	•
Lockable engine hood	•
Towing device	•
Lifting eyes	•
Tying down eyes	•
Headlight protection	o
Worklight protection	o
Rearlight protection	o
<b>Wheel/Tires</b>	
335/80R18	o
340/80R18	o
365/70R18	o
405/70R18	•
<b>Service and maintenance</b>	
Tool kit	•

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**STANDARD AND OPTIONAL EQUIPMENT**

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Standard Equipment : •  
Optional Equipment : o

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L20 Electric

**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	•

**Other**

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

**Attachments**

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

**V O L V O**