

V O L V O

BUYER'S GUIDE TO ELECTRIC HEAVY EQUIPMENT.

Five things to consider before making a move.

As electromobility heads off-road and onto construction jobsites, there are a few things to consider before integrating electric machines into your current diesel-powered fleet. Be sure to ask yourself these important questions:

- 1 Do I have adequate charging?** With electric machines, charging infrastructure is key. To have an optimal charging time for electric machines, we strongly recommend a 240-volt NEMA 14-50 outlet utilizing an SAE J1772 charging adapter or J plug — the same as for electric cars. This will provide much quicker charging compared to using a common household 120-volt network.
- 2 How will electric machines perform against diesel?** When it comes to power and performance, these machines are comparable to or exceed their diesel counterparts. For example, the Volvo compact and medium excavators (ECR25, ECR18 and EC230) and compact wheel loaders (L20 and L25) boast nearly identical specs to their diesel equivalents. Electric machines have been known to outperform their diesel counterparts on a number of dimensions (e.g., power and responsiveness). Additionally, electric machines provide operators with significant noise and vibration reduction.
- 3 How will operating costs compare with diesel?** The operating cost of an electric machine is generally lower than that of a diesel unit due to reduced machine idle time. For example, with diesel equipment, operating time is defined by the engine runtime, and a lot of those hours are counted while the machine is idle. With electric, as soon as the operator stops working, the motors turn off and no operating hours are accumulated. These saved hours lower operating costs, thereby lowering total cost of ownership.
- 4 How will maintenance compare to diesel?** With electric, there's no engine-related maintenance. The lithium-ion batteries and electric motors are totally maintenance-free, making electric machines easy to keep up and running with your existing mechanics.
- 5 What are the new jobs I can explore with electric machines?** While we're still discovering all the interesting ways electric machines can be used, the doors of opportunity are wide open. Keep an open mind about new applications for your business — electric machines have proven themselves useful on projects being completed in indoor or busy urban environments. For example, an electric machine was used to successfully renovate a hospital wing without disrupting normal operations. Time to broaden your customer list!



WANT MORE JOB IDEAS?

Using machines that are quiet and emissions-free means more job opportunities for your business. Looking for more ways electric machines can be used? [Get some ideas.](#)



LOOKING FOR A FASTER CHARGE?

We've got it! With an optional DC fast charger, it takes around 45 minutes or less to recharge the compact excavator models and DD25 compactor and two hours for the compact wheel loaders. A simple charge over lunch and you're ready to take on the afternoon. See the [final page of this buyer's guide](#) for full charging details.

VOLVO ELECTRIC COMPACT EQUIPMENT



VOLVO ECR25, ECR18 & EC18

Compact Electric Excavators

These excavators are fitted with lithium-ion batteries and electric motors that replace the diesel engine to power the hydraulics in order to move the machine and attachments. The batteries store enough electric energy to power them for a typical daily duty cycle in their most common applications such as utility work.



VOLVO L25 & L20

Compact Electric Wheel Loaders

These loaders use lithium-ion batteries and perform identically to their diesel equivalents in applications such as light infrastructure work, gardening, landscaping and agriculture. Each incorporates two dedicated electric motors: one for the drivetrain and one for the hydraulics.



VOLVO DD25

Electric Asphalt Compactor

This new zero-exhaust asphalt compactor is ideal for small-scale compaction projects including street repairs and patching, parking lots, driveways, municipalities and rental houses. If you're serious about cutting back costs while driving up productivity, this is your go-to machine.



VOLVO EC230

Midsize Electric Excavator





This 23-ton excavator is based on the conventional diesel-powered EC220E and delivers the same, if not better, performance with the added benefits of zero emissions, low noise and vibration, more responsive hydraulics and a low total cost of ownership.

If you're ready to make the move to electric, we're ready too.

Be one of the first to experience the future of construction equipment technology — build and quote your ideal machine today.

SEE THE LINEUP


COMPACT MACHINE CHARGING TIMES

AC CHARGING		POWER INPUT	DC CHARGING
120V NEMA 5-15	240V NEMA 14-50		Hard Wired 480V 3-Phase 60A
		CHARGING PORT	DC CHARGING
J1772			Direct Current Fast Charger 

	120V AC	240V AC	DC Fast Charging
L20 Electric Wheel Loader	24 hours	6 hours	90 minutes
L25 Electric Wheel Loader			
EC18 Electric Excavator	12 hours		
ECR25 Electric Excavator			
DD25 Electric Asphalt Compactor		3 hours	
ECR18 Electric Excavator	10 hours	5 hours	40 minutes

For optimal charging times, we recommend a 240-volt, 50-Amp, Level 2 AC setup.
Approximate charging times from 0 to 100%.

MIDSIZE MACHINE CHARGING TIMES*

CCS1 Input Plug 	DC Fast Charger			
	Input	480V 3-Phase		
	DCFC Output	50kW	100kW	150kW
	Operating Time per Hour of Charging			
	EC230 Electric Excavator	1 hour	2 hours	3 hours

Got more charging questions?

[Get them answered here](#) — then be sure to sign up for additional electric equipment information and tips.

SIGN UP NOW