

# Electric lifters

Electric power is rapidly gaining traction in the realm of small plant, as can be seen from JCB's latest offering (see pages 54–57). And now two crane manufacturers have recently unveiled all-electric versions of their heavy-lift machines

Although the smallest in the SGC range, *Little Celeste* can still lift more than 1,600 tonnes

**H**heavy-lift cranes don't get much bigger than the SGC range of ring-mounted cranes from Belgian lifting specialist Sarens.

The latest model to join the range – the SGC-90, nicknamed *Little Celeste* – can lift a maximum load of 1,650 tonnes. And not only is the new crane powered by electricity, but it can also regenerate its own electrical power.

Despite its impressive dimensions, *Little Celeste* is aptly-named being the smallest machine in the SGC (Sarens Giant Crane) range. It is the little sister of *Big Karl*, the 5,000-tonne-capacity SGC-250 that is claimed to be the world's most powerful land-based crane. *Big Karl* is currently working on the Hinkley Point C power station project in Somerset.

While all of Sarens' other SGCs are regular diesel-powered hydraulic cranes, the SGC-90 is designed for connection to the electric grid. All of its functions are electric; no diesel, no hydraulics.

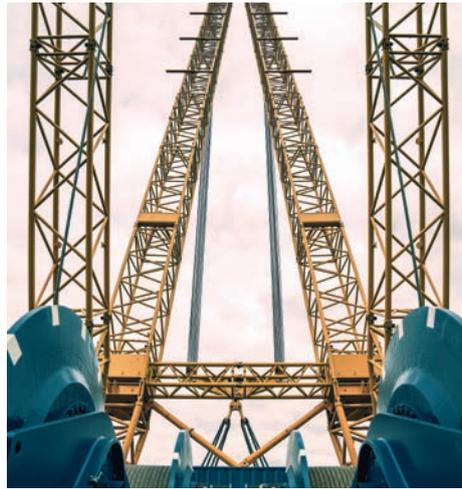
It can even produce its own energy, recovering and reusing some of the electricity it uses for lifting, each time it lowers a load. When connected to the mains electricity network, *Little Celeste* recovers energy and feeds it back, reducing energy consumption by up to 40%, according to Sarens.

Because it runs on electricity, the SGC-90 in operation is much quieter than a comparable diesel-powered machine. There are also no exhaust emissions and there is no risk of oil contamination. And with no hydraulic pumps, filters or engines, maintenance requirements are significantly lower.

The crane's ring diameter is 35m, maximum counterweight is 2,700 tonnes and maximum load moment is 99,000 tonne-metres. It can be configured in a variety of ways, with main boom lengths of 100, 120 and 130m. The Sarens heavy duty and light jib can also be used to reach further or attain a higher hook height. ▶p29



Sarens says it already has a job lined up for the new SGC-90



SELECT INVESTS



In addition to the battery-powered LR 1250.1 Unplugged (*above*), Select Plant has also bought three new telescopic boom crawler cranes from Liebherr – an LTR 1060, LTR 1100 and LTR 1220 rated at 60, 100 and 220 tonnes capacity respectively.

Select Plant now has a fleet of 66 lattice- and telescopic-boom crawler cranes, of which 38 are Liebherrs. Select's crawlers range in capacity from eight to 300 tonnes.

Nick Hooper, product leader at Select Plant Hire, says: "By modernising our fleet, we are able to ensure that our equipment performs to a high standard environmentally whilst maintaining high levels of productivity. There really is a drive to modernise the construction industry and we're taking all the possible steps we can in order to support our customers in delivering the UK's key infrastructure projects.

"In the coming months, we are looking to get as much feedback as possible from our operators and clients about the new fleet, so that we can ensure that it is performing as expected."



TABLET USERS

Liebherr unveils its new 2020 crawler range

The all-electric SGC-90 can be rigged with a main boom of up to 130m

Sarens says that it already has a project lined up for the new crane before the end of the year but did not disclose the location.

No sooner had Sarens unveiled the all-electric SGC-90 than German crane manufacturer Liebherr announced the development of its own debut electric models which it claims are the world's first full-sized battery-powered crawler cranes.

Liebherr says that the LR 1200.1 Unplugged and LR 1250.1 Unplugged have maximum rated lifting capacities of 200 tonnes and 250 tonnes respectively. In fact, they have exactly the same performance specification and load charts as the existing diesel-powered versions of the same machines. The only difference is that these models are driven by 255kW electric motors instead of diesel engines.

Laing O'Rourke's plant division, Select Plant, has already ordered an LR 1250.1 Unplugged (which Select is calling the LR 1250e) with delivery expected in February or March 2021. The crane will be the first of this series in the UK and only the second in the world.

The cranes can be recharged on a conventional site electric supply (32A or 63A) in four and a half hours and optionally with 125A in two hours 15 minutes. The capacity of the battery is designed for four hours of lifting operation. Unlike Sarens' new SGC-90, the Liebherr cranes can be operated without a power cable, hence the "unplugged" suffix thanks to the battery-electric drive design.

There are several electrically-powered mini crawler cranes on the market, from manufacturers such as Unic, Jekko and Meada, but these can only

lift up to about five tonnes. Nothing of this size, and nothing with a lattice boom, has been available in battery power before.

The LR 1200.1 Unplugged and LR 1250.1 Unplugged are produced in Austria by Liebherr-Werk Nenzing, which also makes a battery-powered drilling rig.

"The year 2020 has shown that one must be open-minded and bold to break new ground," says Gerhard Frainer, managing director for sales at Liebherr-Werk Nenzing. "With our unplugged cranes we offer our customers an alternative drive design. As we have already seen with the LB 16 Unplugged, the first battery-powered drilling rig, the strategy is a complete success.

"Strict requirements regarding environmental sustainability in tenders for construction projects increase the demand for advanced technologies," adds Frainer. "For us, it was clear that we extend and successfully establish the design in further product groups."

Such is the interest in Liebherr's latest innovation that the video released for its launch received more than 25,000 views in its first 14 hours. ■



Liebherr battery-powered LR 1250.1 Unplugged



TABLET USERS

Matthias Sarens introduces the new SGC-90