



Who's got the power?

Material handlers

One of the most useful and versatile pieces of kit on farm, the telescopic handler does the jobs nothing else can, but what about if it's electrically powered? *CPM* explores what battery power has to offer.

By Melanie Jenkins

As the drive to switch to alternative fuels continues, a number of manufacturers have ventured into the realms of electric telescopic handlers with various concept and commercial machines now on offer.

While an electric telehandler might not be every farm's first choice, the market has continued to expand slowly with new concept machines from both Claas and Merlo launched at Agritechnica last November, an incoming commercial

machine from Manitou, and continued production by JCB and Faresin.

Claas

Venturing into the electric telehandler market, Claas has revealed a fully electric version of its Scorpion. Showcased at Agritechnica 2023, the Scorpion 732e boasts almost 7m in boom height with a total lift capacity of 3.2t, offers a maximum power of 53kW and has a top speed of 30km/h.

The machine has two 90kW (121hp) electric motors developed in conjunction with Liebherr — one for drive and the other for hydraulic power. A 64kW battery pack provides a maximum of four hours work and has a 22kW charger.

The firm believes battery-electric telehandlers are capable of fitting into the lower performance range sector for use in material handling, yard work and municipal use. According to Claas, the battery can be charged using electricity generated from an on-farm PV system or biogas plant, as well as via mains chargers.

Faresin

Although seen less frequently on UK farms than other manufacturers, Faresin has also produced a fully electric telehandler. The firm has both a small and large range of electric machines with the smaller series capable of lifting up to 2.6t with a maximum boom height of 5.6m. However,

“It felt like an expensive purchase initially but the grabs have stood the test of time.”

the large range can lift 4.2-4.5t and has booms ranging from 13.6m up to 16.4m.

Distributed in the UK by GGR Group, the largest 17.45 model features a 45kWh battery and offers a run time of up to eight hours for non-intensive use and up to 3.5 hours intensive use. It includes an onboard charger as standard, capable of producing 0-80% charge in four hours and 0-100% charge in six hours.

It also has a universal charging socket identical to the type used on motor vehicles, which features intelligent charging to ensure the machines can be charged with whatever power source is available on site, including single or three-phase options.

JCB

Although JCB has turned its attention

Originally launched in October 2021, Merlo's e-Worker 25.5-90 with 4WD produces 90hp and has the capacity to work for eight hours without recharging.

more towards hydrogen power, it also launched an electric telehandler in 2021. JCB's 525-60E compact telehandler is part of the firm's 100% electric E-Tech range, with zero emissions and less noise than its diesel counterparts.

Although not designed specifically for agriculture, the machine has a 6m lift height and 3.5m reach, a maximum of 2.5t lift capacity or 2t at full height, and can travel at speeds of up to 15km/h.

A 24kWh lithium-ion battery weighs in at 340kg and can power the machine for up to 3.5 hours. A 17kW motor provides drive for traction while a second 22kW motor runs the hydraulics.

It can be powered up using 110v, 230v and 415v connections and is fast charge ready, taking eight hours to reach 100% with the 3kW on-board kit (240V) or 110 minutes with 18kW rapid-charging kit (415V) connected to three-phase power supply.

The machine has constant 4WD and three steering modes, is compact in size at 1.89m in height and 1.84m wide, and weighs 5.2t.

Manitou

Winning a bronze medal at Lamma 2024 in the IAgRE Best Environmental Award, Manitou's MLT 625e is the firm's first agricultural electric telehandler, which is based on the diesel MLT 625.

The prototype of the machine on display at Lamma back in January had a 6m reach and 2.5t lift capacity and is fully electric with two electric motors — one (14kW) to replace the hydrostatic drive of the diesel version, and the other (25kW) for the hydraulic system.

Power is delivered via a 25kWh mid-set lithium-ion battery which can deliver up to four hours of constant use. The machine includes an on-board integrated (9kW) charger, meaning that the battery can be recharged at any point able to connect to a Type 2 EV charger. It also comes with adapter plugs to suit different points.

On a three-phase 380v power supply the charging time to 100% takes around three hours, but lower power supplies will take longer.

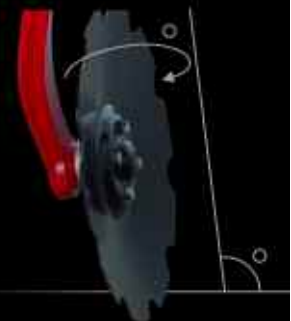
The dashboard and in-cab electrical system has had an upgrade from the diesel version, including expected run time and battery levels. ▶



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Material handlers



JCB's 525-60E compact telehandler is part of the firm's 100% electric E-Tech range, with zero emissions and less noise than its diesel counterparts.

► According to Manitou, the benefits of the machine are that it's zero emission, low noise and reduce maintenance.

But customers won't be able to get their hands on it just yet. Despite a construction version being previewed last year, production of the electric version isn't expected to begin until later this year.

Merlo

Originally launched in October 2021, Merlo's e-Worker 25.5-90 with 4WD produces 90hp, has the capacity to work for eight hours without recharging and can lift to 5m with a total load capacity of 2.5t at 1.5t maximum lift height.

The machine has 24 48v batteries weighing 400kg which can be recharged with a three-phase power supply, taking around nine hours to reach full capacity.

At just 1.5m wide and under 2m in height, it's a highly compact machine but includes a full-sized cab with a split door. It includes a capacitive joystick, has a clevis hitch and is rear-wheel steer.

Fast-forward to Agritechnica 2023 and the firm showcased a full-size electric concept targeted at agriculture. Although at this point it's not a production machine, the concept TF43.7 has a six-hour run time, a 7m boom and a 4.3t lift capacity, offering similar performance to the firm's TF42.7 diesel machine. While the e-Worker runs on lead acid batteries, Merlo has switched to lithium-ion in the TF43.7 with a Type 2 charger. ■



Manitou's MLT 625e is the firm's first agricultural electric telehandler and is based on the diesel MLT 625.

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MERLO
UK



Grabbing attention

No telescopic handler is complete without the correct and safe implements to be able to operate effectively — aspects which Aaron Hughes, manager at Roger Davies Contractors, Eaton Constantine in Shropshire, takes very seriously.

A hay and straw merchant, the firm runs four balers, two of which are Fendt high density and three JCB telescopic loaders which move at least 32,000 bales of straw per year, as well as a lot of hay bales, explains Aaron. “Historically we’ve built our own bale grabs, which may have been over-engineered to be very strong and heavy, to avoid them breaking due to many different people operating them.”

Although having large sheds to house the straw, the prongs which had been designed to hold onto the bales would hit the tops of the shed when bales were being stacked, meaning Aaron had concerns. “When travelling on the road, despite the spikes being lowered, I still had concerns about the safety of the grab especially as we have five different full-time members of staff and multiple students at harvest.”

Another issue that arose with the farm grab was that bales would shift about as the loaders

travelled across a field, especially when going over tramlines or bumps, he adds.

So around five years ago when he came across MX grabs at an arable event, he decided to invest and now has three on site including two Manubal V7000 models. “Initially I was concerned that the MX grab wouldn’t be strong enough to do what we required of it because it’s a lot lighter than the grabs we’d made previously. But I’ve been really impressed, not just the quality of the steel used but also the build quality — it has strength in all the right places.”

Aaron also likes the set-up of the MX grabs in that bales can now be stacked without catching the roof of the shed, and that it provides the capability of stacking the bales on their edge on the lorries for much faster loading.

A further aspect that’s been well received is the multiple spike set up, which means bales no longer move around on bumpy terrain because of the tines down the back of the grab. “With bales coming in at around 525kg each, and the grab capable of holding four at once, it’s lifting up to 2100kg in one go and these aren’t moving around at all,” he explains. “The grab also folds in the tines for road transport which



Having invested in several MX grabs, Aaron Hughes has been impressed with the strength, build quality and the performance.

has removed my safety fears and everyone is now happier with the set up.”

Additionally, he notes that the previous grab had a large nut on the back of each tine which would require tightening daily, but on the MX grabs the tine holder has pins which don’t require tightening, making it easier to remove or replace the tines.

“It felt like an expensive purchase initially but the grabs have stood the test of time and I now feel they’re money well spent. I’ve been really pleased with the quality, wear and even the paintwork,” he adds.

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