XCMG
UNITED KINGDOM

ALL-TERRAIN MOBILE CRANE XCA60_EV

READY TO MAKE A POWERFUL ENTRANCE INTO THE UK MARKET

- Max. lifting capacity: 60t
- Max. hoist height: 63m
- Boom length: 48m
- Max. torque: 1300Nm/1200rpm
- Engine power: 230kW/2200pm
- Engine model: OM936LA

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CRAWLER CRANES BACK ON TRACK

There appears to have been renewed interest and development in large lattice crawler cranes, seemingly unrelated to it being a Bauma year. Their size, time and costs to display such cranes usually tends to put off all but Liebherr from exhibiting them. However, this year it did not stop Tadano from unveiling its new 1,250 tonne CC 78.1250-1 at the big event, making it the biggest crane on the showground and possibly the star of the show?

Like so many other sectors, the crawler crane market has been quiet over the past six to eight months with many North American and European customers waiting to see how the global political and economic situation plays out. With crawler cranes costing roughly around €1 million for every 100 tonnes of capacity, the larger models used for infrastructure projects are major financial investments with a 1,000 tonner costing in the region of €10 million. So, you need to be fairly certain about future business before committing, and if you are based in the USA - as is lead customer Maxim - the additional cost of tariffs is eye watering.

TADANO'S LATEST

Tadano's CC 78.1250-1 is essentially an updated version of the CC 68.1250-1 which the company says incorporates "improvements in performance, safety, efficiency and transportability". Aimed at heavy lifting applications and the growing wind power market, the CC 78.1250-1 has a maximum hook height of 224.5 metres when equipped with a 15 metre fixed jib. In this configuration it can handle up to 140 tonnes. To improve its stiffness the width of the base crane has been increased to 3.5 metres, and two pad widths of two and 2.4 metres are available allowing it to cope with varying ground pressure requirements.

"The CC 78.1250-1 represents a significant step forward in Tadano's crawler crane development," says vice president of R&D Andreas Hofmann. "The crane is designed to offer multiple redundancies maximising uptime and enhancing safety. It features twin Mercedes engines - compatible with HVO fuel - with an optimised hydraulic system, allowing for single engine operation at reduced speeds. Flexible user friendly interfaces and an optional dual CANBUS system contribute to increased reliability and operational flexibility. Additionally, the optional auxiliary power unit enables cab systems, HVAC, and lighting to function using a compact 17kW diesel engine, reducing fuel consumption and emissions during standby operation."

For improved safety, operator confidence and job site security the crane is equipped with Tadano's full Fall Protection System and incorporates protective access to the superstructure and the undercarriage including improved handrails, catwalks and access ladders. The new cab design gives an expanded field of view and includes an array of cameras and mirrors to help the operator see the hoist drums and other blind spots around the crane.

Tadano's new 1,250t CC 78.1250 at Bauma

Optional Pedestal Crane kits can replace the tracked undercarriage with three outrigger widths of 12x12 metres, 14x14 metres and 16x16 metres, capable of levelling on uneven ground.

Standard features include the IC-1 control system - standard on all Tadano crawler cranes - providing the operator with real time information on ground pressures and rigging aids when erecting long boom systems. Additionally, the IC-1 remote telematics system enables real time diagnostics and remote troubleshooting.

Tadano's largest lattice crawler crane is the 1,600 tonne CC 88.1600-1 with a maximum load moment of 26,160 tonnes. The retrofittable Boom Booster can increase capacities in some parts of the chart by up to 90 percent and be dismantled for easy transport. The CC 88.1600-1 has a slightly higher hook height at 231 metres.

MANITOWOC STILL HERE

While the Manitowoc name is no longer present in most of Europe, the company still produces an extensive range of lattice crawler cranes up to 650/700 tonne MLC 650 and MLC 650 VPC-Max with main boom lengths up to 146 metres. There is however a sizeable gap between this and its largest - the 2,300 tonne 31000 - of which only a few have ever been built. At the moment Chinese manufacturers such as Sany and XCMG are the ones pushing the capacity envelope with crawler cranes up to 4,500 tonnes, largely driven by domestic demand for such beasts, along with a macho competitive streak between rival manufacturers.

In 2020 XCMG's 4,000 tonne XGC88000 crawler installed the world's heaviest wash tower, lifting and placing a 2,000 tonne vessel at the Gulei Refining and Chemical Integration Project in Zhangzhou, China. More recently Sany announced what it claims is the largest crawler crane in the world - the 4,500 tonne SCC45000A. In twin boom configuration the crane has a maximum load moment of 98,000 tonne metres and features a 126.5 metre main boom plus a 15.5 to 48.5 metre fixed jib. A 30.5 to 108.5 metre luffing jib can be added for a maximum system length of 216.5 metres. It has a 62 metre twin Superlift back mast/derrick boom which provides a ballast radius of 28 to 37 metres for its tracked counterweight system. However, these mega cranes are few and far between and rarely seen outside of China, being developed specifically for domestic infrastructure projects.

Maxim Crane Works - the largest crane rental company in the USA - ordered the first two Tadano CC 78.1250-1 at Bauma

LIEBHERR ADDITIONS

Liebherr's largest is its 3,000 tonne LR 13000 but the company is finding more sales success with its most recent addition - the 2,500 tonne LR 12500-1.0 - which was "just too big to exhibit at Bauma".

Since its launch about 18 months ago, Liebherr says it has sold six units - four in Europe including three to Sarens and one to Mammoet, one to Denzai in Japan and one in a deal concluded at Bauma to crane rental company Hanchang Heavy Equipment in South Korea. It also says it has more orders in the pipeline from Bauma, which was a much better show than it had expected as the last six to eight months has been "very slow" for this type of crane. However, it is seeing interest in both crawler and larger wheeled cranes picking up, with customers globally generally optimistic - particularly in the US!? The recent change of government in Germany is also helping to push the sector in the right direction.

Production capacity for the 2,500 tonner is about three cranes a year, with most sold so far being used in the offshore wind power sector loading large components onto ships or on large infrastructure projects. For larger onshore wind projects Liebherr's 800 tonne lattice boomed LG 1800 with wheeled undercarriage is now


Manitowoc 31000


Sany's 4,500 tonne SCC45000A

Mammoet's 2,500 tonne Liebherr LR 12500

the crane of choice, because it is quicker to transport and erect. About 85 percent of LG 1800 sales go into wind turbine erection market.

Liebherr has two main production facilities for crawler cranes - Ehingen in Germany which produces the larger crawlers from 500 tonnes capacity and above and Nenzing in Austria which builds the smaller cranes up to 400 tonnes. Ehingen produces about 70 units per year and Nenzing around 160.

Cranes used for the wind power sector currently need to be able to lift 100 tonne turbine components to a height of around 170 to 180 metres. This will increase to 120 tonnes and 200 metres in the coming years. Over the next five to 10 years more growth is also expected in the offshore sector as most onshore areas for wind have already been developed.

The LG 1800 is very popular for wind turbine work

AT THE SMALLER END

Liebherr's most popular crawler in the US is the 300 tonne LR 1300 because it is the "perfect size for working in tilt up construction with the precast concrete panels weighing between 40 to 45 tonnes". At Bauma the company launched the battery powered LR 1300.2 SX unplugged, with most of the performance and lifting capabilities as the diesel.

The new unplugged crane uses a 438kW electric motor and 392kWh battery pack, said to be enough for up to 13 hours of operation without a mains connection. Charging can take between 4.5 to 8.5 hours although the crane can continue to work when connected to a supply. Maximum lift

Liebherr LR 1300.2 SX unplugged

height is 169 metres with a 143 metre maximum radius.

Safety features include a ground pressure display system and wider track pads that can decrease ground pressure by up to 56 percent. A gradient travel aid system assists with slope monitoring and an additional operating mode has also been added for working on barges. Additional safety systems include a boom up/down assistant for safer boom deployment and a vertical line finder system to prevent side pulls on the boom.

The crane's control system provides real time gradient information as well as the crane's overall centre of gravity. Liebherr's Crane Planner 2.0 lift planning software can also determine and simulate optimal boom combinations for specific project requirements.

Liebherr also launched the new 400 tonne LR 1400.1 SX at Bauma. The crane has slightly more power, a new derrick boom arrangement and suspended counterweight improving capacities significantly, particularly with heavy loads when configured with long booms and luffing jibs. The LR 1400.1 SX features a new cab with two seats and quick connections for the winches.

Battery powered cranes are still only selling in small numbers with customers uncertain of their return on investment. Liebherr says about 10 percent of enquiries/sales are for its electric models, however it will launch a 100 tonne unplugged and a 400 tonne unplugged, possibly at Bauma 2028.

This Bauma also saw the launch of Liebherr's first all-electric duty cycle crane, the 100 tonne HS 8100.2 dual power, with flexible drive variations. The 'dual power' name derives from the drive concept - battery electric and a diesel generator. The unit should be available next year for deliveries in 2027.

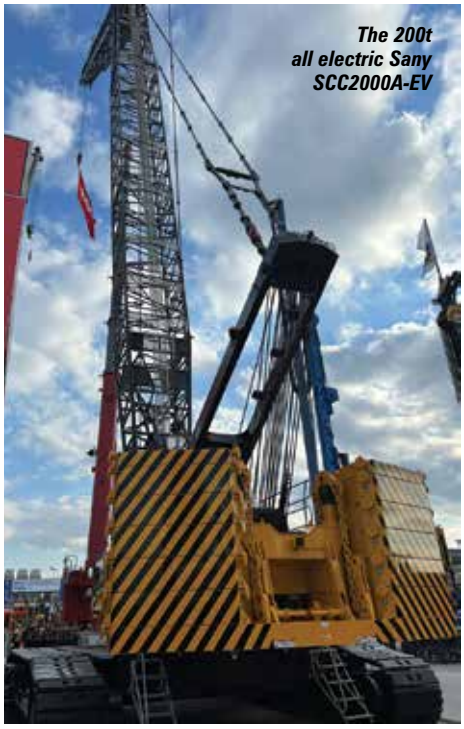
Liebherr's first all-electric duty cycle crane - the 100 tonne HS 8100.2 dual power

SANY CRAWLER CRANES

As with All Terrain cranes, larger Chinese built lattice crawlers are also struggling to establish a strong foothold outside of their home market. However, there are signs that this may be on the turn.

At Bama Sany's stand was stacked with new equipment including telehandlers, a 120 tonne All Terrain crane and a 200 tonne electric lattice boomed crawler crane - the SCC2000A-EV. Its high capacity 423kWh battery is said to provide more than eight hours of runtime including one hour of power hungry travel. Maximum boom length is 86 metres, and its maximum luffing jib combination is 59 metres and 63 metres. Overall weight is 196 tonnes. The crane features European standard DC fast charging allowing a full charge in less than two hours and also supports AC charging which Sany says is safer and more reliable. A third generation intelligent control system offers wireless remote control and new chain-type flat track pads improve tracking in various ground conditions. The crane can be used with Sany's SPL210 - a 210kWh lithium ion phosphate 'plug and play' battery pack that features an aerosol fire suppression system. Weighing 2.75 tonnes it can be trailer towed for easier transportation.

Sany's Andrew Snow said: "European demand for electric cranes is poor in countries like the UK due of the lack of subsidies or help from government. The SCC2000A is currently only available with battery power, but several have been sold in the Netherlands. However major contractors in the UK do not want to pay the additional cost for an electric crane. Clients all talk a good game, but they only want to pay the cheapest price. The crane rental companies that have electric machines have many sitting in the yard because they are too expensive, or they are put out at diesel rates together with a diesel generator!"



The 200t all electric Sany SCC2000A-EV

"The cost differential for our electric powered crawler cranes is not that significant compared to other companies - about 25 to 35 percent - but no one wants to pay a premium for the electric version. Perhaps the problem in the UK is that an electric supply is one of the last services to be installed whereas in other parts of Europe and China it is one of the first things on site."

The next major infrastructure project in the UK is the new Lower Thames crossing - a new road that will connect Kent and Essex through a road tunnel beneath the River Thames. The project's target is to be the greenest road ever built in the UK and includes removing all diesel from its construction sites by 2027 by accelerating the large scale use of electric vehicles and plant and using hydrogen to power its heavy construction machinery - a first for a major UK project.

"The project accepts it will pay a premium for using electric cranes but as our electric crawler prices are a little more competitive than European manufacturers, they may be close to other manufacturers' diesel machines," says Snow. "Crane rental companies also do not want to buy until there is a definite long term rental and we are not at that stage yet. Planning is complete but funding needs to be ironed out as the start is scheduled for 2027."

"Companies buying electric cranes also need to know there is a good used market when they sell at the end of the contract. Sany already has 50 electric crawler cranes working in the Netherlands so there is a secondary market, admittedly not huge but in five years' time, when machines may need to be resold, the market in Holland will be bigger and the market in Europe will have grown."

Zero emissions, full power

The climate change demands power concepts which reduce CO_2 emissions. That is why our LTC 1050-3.1E features an additional electric motor. The crane operations can be powered by electricity so that it can satisfy the requirements of "zero emissions" construction sites. The power for crane operations can be supplied from the site or a battery pack. The crane operates with full power as long as the electrical power supply is sufficient or by powering the machine using its internal combustion engine.

www.liebherr.com

LIEBHERR

LTC 1050-3.1E

XCMG's latest telescopic crawler is the 100t XGTC100

Another Chinese manufacturer producing a range of lattice boom and telescopic crawler cranes is XCMG. Its latest telescopic is the 100 tonne XGTC100 with Stage V engine. Using a 52 metre five section boom and 16 metre offsettable jib it has a maximum lift height of 70.1 metres and a 48 metre working radius. The 3.48 to 5.65 metre extendible tracks give improved stability when lifting. Depending on configuration the transport weight ranges from 43.6 to 99.8 tonnes with the main transport dimensions as compact as 15.59 metres long, 3.14 metres wide and just over three metres high.

NEW OR REFURBISHED?

The option to refurbish an old crane or buy a new one has always been available, however because of the refurbishment costs compared to new, as well as advancements in design and technology very few have gone down this route. However, with crane prices soaring over the past few years more companies are considering refurbishing - particularly high capacity crawler cranes.

US heavy lift contractor Lampson recently used Manitowoc's EnCORE rebuild and remanufacturing programme to refurbish a 24 year old 272 tonne Manitowoc 2250 crawler crane for a second life in its rental fleet.

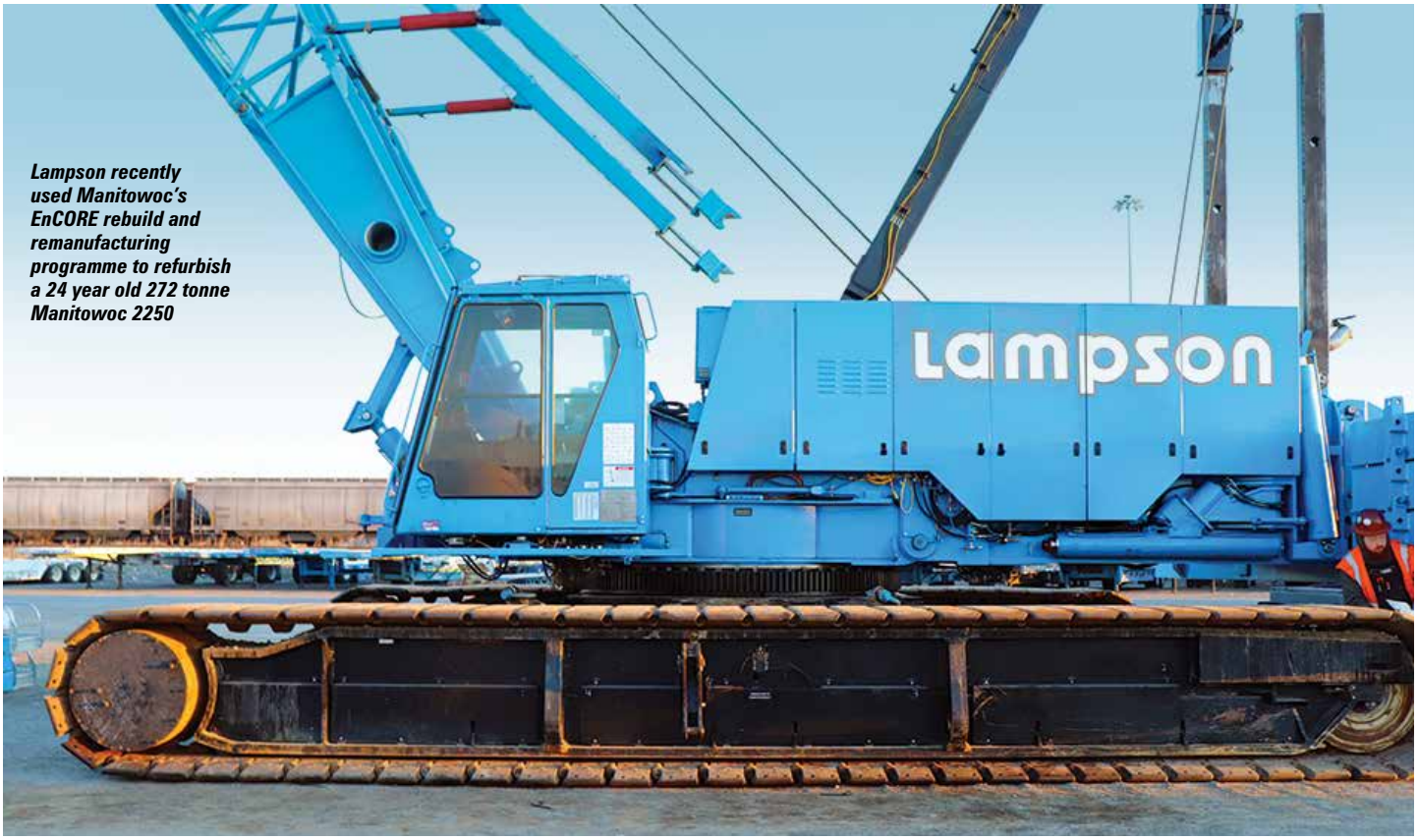
The work was carried out at Lampson's facilities in Pasco, Washington, with the crane overhauled to its original specifications together with some modern upgrades. The process included disassembly, sandblasting, magnetic particle inspections and a thorough component rebuild. The refurbished crane features upgraded electrical systems, hydraulic plumbing, rebuilt pumps and motors, and a Tier 2 compliant engine.

The cab was rebuilt and a new computer board installed, with a further 10 installed throughout the crane's electrical system. The hoists and planetary drives were all rebuilt, and new slew ring installed, with rebuilt motors and updated plumbing. The crane's Load Moment Indicator (LMI) system was also upgraded.

"Compliance with Manitowoc factory standards was paramount throughout the process," said Bruce Stemp, director of quality assurance at Lampson. "By combining our in-house expertise with Manitowoc's EnCORE programme, we have transformed a reliable workhorse into a modern, efficient crane ready to tackle the most demanding projects. Our clients can feel confident in the quality and reliability of this newly rebuilt crane."

UNIVERSAL ADDS 1,200 TONNER

A few months ago Australian rental company Universal Cranes took delivery of a fully refurbished 1,200 tonne Liebherr LTR 11200 telescopic crawler crane. The crane has not been available from Liebherr for several years, however it was the ideal solution for a specific contract - installing nine, 76 tonne 35 metre long



Lampson recently used Manitowoc's EnCORE rebuild and remanufacturing programme to refurbish a 24 year old 272 tonne Manitowoc 2250

TADANO

CC 78.1250-1

NEW

A CLASS OF ITS OWN – REDEFINED.

Engineered for the toughest lifting challenges, the CC 78.1250-1 sets new industry standards. It delivers up to 140 tonnes at a staggering 224.5-meter hook height – and up to 1,250 tonnes rated capacity. With this performance, it dominates heavy-lift applications, including infrastructure, the petrochemical industry, and the expanding wind power sector.

Its reinforced 3.5-meter base ensures maximum stability, while adjustable crawler shoe widths and an optional PC kit provide unmatched adaptability on any terrain.

Precision, power, and efficiency – redefined.

Reaching new heights

www.tadano.com

concrete bridge girders as part of a level crossing modernisation project in Brisbane. The crane was equipped with a 28 metre main boom, 36 metre luffing jib and 182 tonnes of counterweight.

Universal general manager Mark Happer said: "We realised that our customers need to lift larger and heavier loads on casual short term hires along with the ability to relocate while on site without needing to derig the crane. The LTR 11200 was the ideal crane solution for this particular job, given its load chart with the ability to set up in a very limited space."

NEW 200 TONNERS

The telescopic crawler crane sector continues to grow although since Liebherr stopped supplying its 1,200 tonne LTR 11200, the sector tops out at around 250 tonnes - Liebherr's largest is the 220 tonne LTR 1220.

At Bauma Sennebogen unveiled its largest model to date, the 200 tonne 6203E.The new crane has a six section 56.4 metre pinned boom and with extensions has an 81 metre maximum tip height. The crane has a transport width of three metres without tracks, once assembled they extend with variable working widths from 3.5 to six metres, with standard one metre wide double grouser track pads. Polyamide pads are available as an option for sensitive surfaces. The base and weight distribution enable it to pick & carry its full load chart through 360 degrees.

Power comes from a Stage V HVO ready diesel. The main and auxiliary winches are driven by high pressure variable displacement hydraulic motors with single line speeds of up to 115 metres a minute.

Universal Cranes has taken delivery of a fully refurbished 1,200 tonne Liebherr LTR 11200

The new crane also features the company's Maxcab cab, which can be tilted by 20 degrees and can be equipped with hydraulic elevation that provides a viewing height of 5.7 metres and 30 degrees of tilt. Cameras to the rear and to the right extend the operator's field of vision, while the completely revised new Sen-Con load control system features a dedicated display screen which provides all operating data including diagnostic data and engine information. A separate screen displays the load charts, boom telescope programmes and load moment information, including a real time ground pressure display.

Managing director Eric Sennebogen said: "One market trend that we are now observing is the growing demand for large telescopic crawler cranes. To meet this demand, we are expanding our range upwards. This is the 10th telescopic crawler crane model in our range and demonstrates our focus on this market."

Manitowoc has been testing a Grove version of the new Sennebogen which will known as the Grove GHC200. ■

The 200t Sennebogen 6203E