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BG patents new features

Spider crane manufacturer BG Lift has filed three new patents that are said to make lifting in tight and complex spaces easier. It says that the new technology not only improves efficiency but also safety, while making the units easier to operate.

One of the patents apples to its new 9.7 tonne T4000 articulated crane, designed for installation on a four axle truck. The crane is equipped with an advanced hydraulic circuit featuring three load sensing pumps, one driven by the vehicle's engine and two driven by electric motors, allowing it to easily adapt to lifts in enclosed spaces, while reducing fuel consumption and emissions.

BG Lift's new T4000

The specially designed hydraulic distributor allows the flow rate to be adjusted based on specific movement demands providing a high level of control and precision. The crane's control system is also totally separate from the outrigger system, eliminating any chance of interference between the two functions.
Another patent is its 'Synchronised Activation Hydraulic Device' installed on its new 990kg M100 telescopic crane mounted on a tracked carrier. The machine is powered by both a combustion engine and an electric motor, each of which is equipped with dual hydraulic pumps.

The hydraulic circuit includes two independent distributors, one dedicated to controlling the tracks and winch, and the other to boom functions such as boom

elevation, telescope and slew. When the crane is not lifting, an ‘intelligent solenoid valve’ automatically redirects flow from all four pumps to the track drive motors, boosting power and travel speed. The M100 has a maximum lift height on the three section boom of almost five metres at which point it can handle 510kg at a radius of 1.5 metres. Or take 260kg out to 3.6 metres. Offsetable extensions take the tip height to six metres with a 320kg capacity.

The new M100

The all electric version of the M100 – the M100E – is also fitted with what it calls ‘Controlled Side Rotation Without Stabilisers’. Powered by a lithium battery, the M100E features ‘next generation electronic controls', which allow up to 180 degrees of slew thanks to an active stability control system that employs a network of integrated sensors measuring: lift cylinder pressure, boom length and elevation along with slew angle, and track extension. The inputs are processed dynamically in order to constantly adjust lifting and travel operations.

When the tracks are extended from 780mm to 1.1 metres, and with a main boom angle of up to 25 degrees, the crane can pick & carry a load at speed. When the boom exceeds this angle, the crane can handle static lifts through 180 degrees – 90 degrees either side of centre.

Engineer and prototype manager Roberto Marinoni said: “We are extremely pleased with the results achieved through these patents, which reflect our ongoing commitment to innovation in the lifting sector. Our priority is to address the real needs of our customers by offering not only highly efficient solutions but also ones that ensure maximum safety. We believe it is our duty to monitor emerging innovations across all industrial sectors, integrate them strategically to our crane for continuous improvement of lifting performance.”

Fabio Di Minico, engineer and head of the technical office, added: “These achievements reflect the company’s continuous effort to seek innovative solutions for our clients. For the technical department, the main focus is balancing innovation and reliability, while introducing cutting edge technological solutions.“

Cranes Spider Cranes New products