

## **Visionary boom system from Liebherr - SX system increases lifting capacity and lifting height of 750-tonne lattice boom cranes to the 1,000 tonne class for erecting wind turbines**

- Improved boom system for LR 1750/2 and LG 1750 for erecting the latest generation of wind turbines
- Lattice sections up to 6 metres in width for crane operation
- New fixed jib for the SX system

**Ehingen/ Donau (Germany), 21 April 2017 – Liebherr has developed a completely new boom system with the designation SX for its 750-tonne lattice boom cranes LR 1750/2 and LG 1750 for erecting the latest generation of wind turbines. Turbines with a hub height of up to 165 metres and component weights of up to 120 tonnes can be erected using the SX system. To date these capacity data were the exclusive domain of cranes in the 1000 tonne class or above.**

The new SX system has already been tested and is available now. It differs from previous boom systems by the fact that 3.5 metre wide lattice sections are used in the bottom area of the boom rather than sections measuring just 3 metres wide. The extended lattice sections increase the lateral stability of the boom and therefore deliver a higher load capacity. Furthermore, the weight of the lattice sections has been reduced. This means that the boom length can now be raised up to 165 metres comprising the main boom plus the fixed lattice jib.

An additional increase in lifting capacity is achieved by a particularly innovative extension to the SX system: instead of 3.5 metre wide lattice sections, two lattice sections each 14 metres in length (SX2 system) or three lattice sections each 14 metres in length (SX3 system) with a width of 6 metres are installed in the lowest area of the main boom. This provides additional rigidity to the boom system, thus increasing its load capacity.

In order to install the 6 metre wide lattice sections in the boom, there is an extension adapter from 3 metres to 6 metres on the pivot section for the turntable. At the top the

width of 6 metres is reduced to 3.5 metres by a second adapter. When designing this system extension, Liebherr focused on ensuring it was highly economical. This means that crane operators only have to buy the 6 metre wide sections and the adapters in addition to the SX system.

The challenge for the development of the 6 metre wide lattice sections, however, was the question of how they could be transported economically on public roads. Liebherr created something completely new to solve this problem: the wide boom sections made up of two halves which can be bolted together in the centre and separated again very quickly. To transport them, the individual halves are slightly offset longitudinally and then joined so that they mesh together like teeth. This means that a practical transport width of 3.5 metres can be achieved.

The complete SX system can be interchanged between the LR 1750/2 crawler crane and the LG 1750 mobile crane. To enable the higher lifting capacities of the SX system to be used, Liebherr has also developed a new fixed jib specially enhanced for this system. A runner is included and the head sheaves and a new hook block are designed so as to prevent the hook block becoming twisted.

### **Captions**

liebherr-lr-1750-sx-boom-system.jpg

The SX2 boom system is tested on the Liebherr acceptance site

liebherr-sx-boom-Adapter.jpg

The boom system is extended from 3 metres to 6 metres at the bottom using lattice adapters and reduced at the top to the 3.5 metre SX system.

liebherr-sx-boom-graphics.jpg

SX2 boom with two lattice sections measuring 14 metres long and 6 metres wide

liebherr-sx-boom-transport.jpg

The two halves of the SX boom are joined to form a transport width of 3.5 metres for transport

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