

## **First operation of the Liebherr LR 11000 crawler crane a complete success**

- Felbermayr uses new crane in Romania
- Compact design proves its worth on very narrow refinery site
- 335 tonnes lifted to a hook height of 80 m

**Ehingen / Donau (Germany) July 2014 – A Liebherr LR 11000 crawler crane was in operation for the first time. One of the first models of the new 1000-tonne crane was transported to the Petrom refinery in Plojesti, near the Romanian capital Bucharest. In the course of the modernisation of the plant, several columns had to be hoisted into the existing system. The largest of the massive steel cylinders measured 58 metres in length with a 4-metre diameter and weighed in at 335 tonnes. It was a tricky job for the specialists from heavy load contractor Felbermayr based in Austria since the work had to be carried out with the plant running and in extremely constricted conditions.**

The difficult conditions on the site and the requirements on the crawler crane during its première in Romania are almost identical to those described in the company brochure of new Liebherr products produced for the BAUMA 2013 where the crane is described as "ideal for constricted conditions in refineries". The possibility of moving the suspended ballast to within 12 metres of the base machine and the crane's compact design are just a few of the features listed there.

The job in the Romanian refinery therefore exploited several of the features of the new machine. Existing system parts drastically reduced the usage radius of the LR 11000. Above all pipe bridges and tanks made life difficult for crane driver Stephan Kraus and his team. A working area of just around 35 by 35 metres was available for the crane. The erection of the lattice boom and luffing jib also proved to be very difficult. A narrow alley, just 5 metres wide had to suffice for this job.

The setup work nevertheless proceeded quickly and easily using a Liebherr LTM 1250-6.1 mobile crane. After just six days the main boom with the 36-metre luffing jib and the derrick boom towered into the sky with counterweights of over 700 tonnes. The most

impressive thing for the Felbermayr team during the crane erection was the new fast-action bolting of the crawler centre section. Together with the slewing ring and bottom section of the slewing platform it is connected to the slewing platform with just four bolts.

The load handling proved to be exciting as it was not possible to determine the exact weight of the column. The steel cylinder was originally 280 tonnes and was hastily completed on a neighbouring site extremely late and whilst the crane was actually being readied, but it had been made heavier by being fitted with additional items. An LR 1750 crawler crane was used at the foot of the column to raise and control the column. Only when the two Liebherr machines had fully hoisted the load did everything become clear - 335 tonnes, in other words, a massive 55 tonnes overweight was the total weight of the enormous column.

"We can still move it" was the relaxed attitude of the crane driver on site. The engineer from the Dutch heavy load certifier Euro-Rigging also gave the move the green light. He had approved the planning for the hoist which was extremely demanding in both technical and actual terms.

After the smaller crawler crane had moved around 49 metres and the column had been stood upright, the LR 11000 had to manage a gross weight of 357 tonnes after taking the full weight of the column with a radius of 27.5 metres. To overcome the subsequent slewing process over a high pipe bridge the column initially had to be raised to a hook height of around 80 metres, the radius reduced and the crawler crane moved just a few metres. But without reducing the radius of the suspended ballast pallet by around two metres to 13.5 metres, the guying rods and suspended ballast would not have got past the pipes and pillars. "For its hoisting capacity the crane is incredibly compact" said crane driver Stephan Kraus, relaxed and satisfied after completing this job at the limits of the crane's capacity.

"The alternative crane which could have hoisted this component would have been a Terex CC 6800", explained project planner Klaus Ruhland. "But there was definitely not enough space for it. The LR 11000 was driven into the space almost by magic." Felbermayr's man for large cranes and challenging hoists was delighted with the new

crawler crane. "Hoist capacity, handling, construction - it's just fantastic. Liebherr has really built a brilliant crane here!"

The LR 11000 will continue to work at the Romanian plant until the end of July. The entire industrial plant will be shut down for a general overhaul. The new columns will be connected and the crawler crane will then remove the old ones. During this shutdown Felbermayr will be bringing a massive fleet of around 70 cranes to work on the factory site.

### **Captions**

liebherr-LR11000-LR1750-300dpi.jpg

Liebherr LR 11000 and LR 1750 crawler cranes complete a tandem hoist

liebherr-LR11000-derrick-counterweight-300dpi.jpg

The suspended ballast is attached. A total of 710 tonnes of counterweights are now in use

liebherr-LR11000-assembly-300dpi.jpg

Almost there - the 335-tonne column at the assembly site

liebherr-LR11000-few-space-300dpi.jpg

Maximum concentration - pipe bridges and tanks make the slewing process real precision work

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