Sarens SGC-120 Ring Crane

The Sarens SGC-120 is a giant ring crane designed for use in petrochemical, nuclear and other heavy lift applicaitons. It can lift 3,200 tonnes at a 30 metre radius and 1,000 tonnes at 80 metres. The real crane has a 130 metre main boom to which a 90 metre 'light duty' jib can be fitted.

Among the interesting statistics for this crane is the weight of the hook block at 105 tonnes and the fact that it takes one hour for the crane to slew through one revolution. The ballast is provided by locally sourced material in 36 shipping containers to total 3,600t of counterweight. The entire crane can be shipped in around 135 standard containers.

Sarens commissioned this massive 1:50 scale model from WSI Models. It is configured with the main boom only, but even so laid out the overall length of the model is 3.3 metres long. With the boom up it reaches a height of 2.6 metres and the diameter of the ring to the edge of the spreaders is nearly 900mm.

The model comes in two very large boxes which together weigh 48kg. A comprehensive set of instructions describes the assembly which is mainly straightforward, but sometimes two people are needed to lift parts, and reeving the massive hook requires significant patience.

One interesting aspect is that the model does not come with loaded ballast. Instead the containers are empty and need to be filled with sand or other material. This is a sensible modelling decision by WSI as it reduces the shipping weight while at the same time reflecting the philosophy of the real crane.

The metal ring with the ground bearing plates is all prefabricated and four large bogies are mounted on the ring track. Each bogie is impressively modelled with the individual drive motors visible.

The superstructure is very big, but simple in design and detail as it reflects the uncomplicated concept of the real crane. The structure looks great with realistic beams and the deck has an anti-slip surface. Six large detailed winches are mounted on the deck together with seven metal containers, and there are hydraulic lines running between them. The handrails are metal and there are two sets of excellent metal staircases to provide access to the deck.

A small plastic cab is well detailed inside with controls, screen, cabinet and seat and it would have been nice if it had lifting eyes so it could be posed being lifted. Such is the size of the crane that the cab looks lost on the massive upper deck. The 36 ballast containers are made of tough plastic and stack neatly to provide an impressive array.

The main A-frame is made of huge parts. The rear ties are about 200mm square and heavy. The main struts are giant lattice sections 100mm x 50mm at the widest with member sizes around 8mm thick. This is massive size model engineering and is very impressive on its own. The boom sections are the same dimensions as the A-frame parts and the whole boom is therefore massive, well made and strong. The main boom guy ropes have metal connectors and look good with accurate manufacture meaning that the tensions in the parts look broadly equal with nothing sagging.

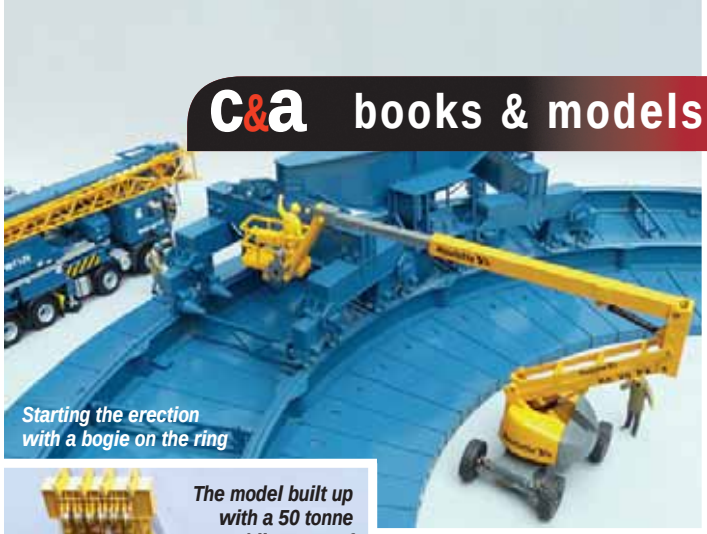
The hook block is very large and heavy, and includes a huge pair of double hooks with working latches. It is very well detailed with excellent graphics and it makes a great model on its own. An amazing feature of the model is that the upper deck sits on the bogies and the whole crane rotates smoothly even though the model is exceptionally heavy. The hook block is controlled by four winches and these work really well with a smooth push-release brake. However it is a challenge to keep the tension in all the threads when trying to raise and lower the hook. Similarly the two luffing winches work, but again it is difficult to maintain the tensions in the luffing ropes.

As a model engineering achievement the Sarens SGC-120 ring crane sets the bar higher. It is a giant of a model and will get attention from anyone who sees it. However it is not the most highly detailed model. The real crane is a simple and efficient design and the model captures that perfectly but at close viewing there are fewer graphics or details such as cables and hoses.

Only 500 models have been made and it costs €1,550 from the Sarens Shop so a collector needs a big wallet and space to match. It would also look great in an office or reception area, where it would no doubt create great interest.

To read the full review of this model visit www.cranesetc.co.uk

Cranes Etc Model Rating	
Packaging (max 10)	8
Detail (max 30)	24
Features (max 20)	16
Quality (max 25)	23
Price (max 15)	12
Overall (max 100)	83%


Starting the erection with a bogie on the ring


The model built up with a 50 tonne mobile crane of the same scale parked at the bottom


One of two huge boxes


Containers filled with local materials act as ballast


The main deck with operator's cabin


Massive hook


The size becomes apparent


Heavy lattice boom construction.