

Advanced Cranes for Pinpoint Positioning at Aluminium Plant

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Leading aluminium foil producers Lawson Mardon Star have installed two advanced coil handling cranes, with a value of £250,000, from Street Crane Company. The cranes are radio controlled and feature a unique homing device for accurate horizontal positioning; this is achieved by using reference data stored in memory to calculate a coil's position precisely from up to 100 predefined locations. An unusual design aspect of the two cranes is a low headroom crab that includes a special load rotation device.

Both cranes are double girder semi-Goliath's rated at 16 tonnes safe working load. They are installed in existing bays and span 8.4 metres and 11.6 metres. The limited height envelope of 850mm demanded ultra-compact crabs that comprise a hoist, slewing ring, gearbox and motor. To meet this need, crabs run within the height of the crane beams rather than on the top of the beams.

Inverter control is used on all crane motions to minimise load swing during acceleration and deceleration. Normal forward and sideways crane movement is under the control of the operator. As a coil nears its final location a light on the hand console advises the operator that the coil has reached the critical positioning zone. From this point on the automatic positioning system, based on a programmable logic controller, will take over to ensure a soft landing with no damage to the foil.

In addition to automatic positioning, the new cranes from Street also have dual barrel TVX hoists. These ensure a true vertical lift with greater load stability to aid more accurate positioning and further safeguard product from damage. Similarly, the load rotation device that allows coils to turn through 180 degrees is fitted on the crab rather than on the coil grab. This again gives greater precision in movement.

Street have a long record of supplying cranes to the aluminium industry. Dubai Aluminium operate 11 Street cranes at their Jebail Ali smelt complex where they are in continuous use in harsh environment. Other notable users within the industry include Aluminium Bahrain and Alcan Highland Smelters in Fort William.

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