

New 900te capacity gantry crane, China

Client: Dalian New Shipyard



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Fagioli PSC Ltd. erected this 104 metre high, 182 metre span crosshead beam weighing 3,450 tonnes, as part of the new shipyard development at Dalian in China.

The methodology involved a two tower Fagioli PSC Towerlift system that performed the construction lifts for the main pier leg, after which the same system was transferred to the shear leg location to perform the lift of the crane beam in tandem with the stabilised pier leg. The project was performed in several stages:

1. After erection of the two tower system at the pier leg location, 2 No. Fagioli PSC 560 tonne capacity strand jacks (L600), mounted on crossbeams at the top of the towers, performed the 'chain lift' construction operation of the pier leg. This method allows the leg to be fabricated in several sections, at which point the first section is connected to the jacking system and lifted to a height that allows the next section to be brought under and bolted to the first. The jacking system takes up the load and lifts to a height to allow the third section to be connected and so on. After the final lift, and before releasing the load, Fagioli PSC provided a guying system to stabilise the pier leg until completion of the crane.

2. The tower system was transferred to the shear leg location in the same format with two L600 jacks added to the crossbeam location. In tandem with four L600 jacks mounted on the erected pier leg, the jacking system performed the synchronised lift of 3,450te crane beam.

3. Before releasing the load and guying systems, the shear leg was skidded under the crane beam for final connection.

Below: Jacking system at top of completed pier leg performs lift with jacks mounted on relocated tower system at shear leg end. **Below:** completion of the pier leg 'chain lift'.

