

B.P. Chemicals Ltd., KG Ethylene Project Super-Heavy Lifts Contract

Design Contractor: Stone & Webster Engineering Ltd.



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PETROCHEM 04

The KG Ethylene Plant construction at Grangemouth, Scotland, was directly managed by B. P Chemicals Ltd. who awarded the Super Heavy Lifts Contract to Fagioli PSC.

The scope of the works of this contract included the transportation from the vendors' lay-down area at Grangemouth site and the erection of the vessels.

The seven large vessels involved ranged from the smallest at 35 metres height and 110 tonnes weight to the largest at 105 metres height and 600 tonnes weight. The dressing on all of them required that they be lifted to the vertical and then rotated before placing on their permanent foundations.

Table 1 adjacent summarises the erection method employed in each case.

Table 1

Vessel No.	Height (metres)	Weight (tonnes)	Lifted by	Tailed by
T10	105	600	PSC Tower Lift	Nicolaas Trailer
301A	95	700	PSC Tower Lift	Nicolaas Trailer
301B	95	700	PSC Tower Lift	Nicolaas Trailer
T9	65	170	Demag TC3200	American 11320
T8	50	120	Demag TC3200	American 11320
T6	47	110	American 11320	American 11320
T4	35	110	American 11320	American 11320



Left & Above: Fagioli PSC's Towerlift system lifts vessel 301B. When reaching the vertical position the vessel will be rotated before placement on its permanent foundations.

Fagioli PSC engaged A.L.E. Marine Ltd. as sub-contractors for transportation and Grayston White & Sparrows Ltd. for the supply of cranes. The complete equipment schedule for the contract thus included:

1. Fagioli PSC Tower Lift system of 2 x 108 metres high square format towers with paired crosshead beams which carried 2 x L600 (560 tonnes capacity) strand jacks and a hydraulic power pack. All operation, monitoring and control functions were by radio control from ground level. The vessel lifting beam incorporated a Fagioli PSC swivel of 1,000 tonnes capacity.
2. Nicolaas Hydraulic Modular Trailers.
3. Two Faun Tractor Units.
4. Two American 11320 Cranes.
5. One Demag TC3200 Crane.

The contract was completed ahead of schedule in only 3 months, despite a continuous stoppage of 2 weeks enforced by bad weather.