

Lift of four heavy oil reactors, Miguel Hidalgo Refinery, Tula, Mexico.

Client: Pemex.

Main Contractor: Snamprogetti S.p.A.



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In late 1995, Fagioli PSC erected four heavy oil reactors at the Miguel Hidalgo Refinery, Tula, Mexico. Each reactor was 45 metres long, 6 metres in diameter, and weighed 1,310 tonnes. Each had to be raised to the vertical, rotated in plan through 180 degrees and then traversed 10 metres to be set on its foundations.

The lift arrangement consisted of a pair of sixty metre high, square format Tower Lift supports spanned by a pair of 23 metre long box beams. On top of the box beams four, Fagioli PSC L600 lifting jacks were supported on a traversing carriage, which was itself supported on 16 Hillman Rollers, each of 150 tonne capacity. The traversing carriage was pulled in either direction by a pair of Fagioli PSC L50 jacks, fixed at each end of the box beams. The L600 lift jacks were connected to a 1,500 tonne capacity swivel, which was connected to the reactor top lifting lugs by a 350 millimetre diameter special steel pin.

During the lifts, each reactor was tailed by a specially fabricated tailing frame mounted on trailers - 2 lines of 18 axles each.

The time taken to lift, traverse, rotate and set each reactor reduced from 9.5 hours for the first, to 6 hours for the fourth.

Moving the Tower Lift arrangement between the lift positions for each of the four reactors took, on average, 10 days.