

Boiler Piping for Fynsværket Unit 8

Project Details

Project	Biomass Boiler
Client	Vattenfall
Contractor	Bioener ApS
Built	Fynsværket, Odense, Denmark
Year	2007

Scope of Work

Engineering of both external and internal piping for the straw fired power plant at Fynsværket. The engineering was based on advanced 3D PDMS model and we produced:

- GA - General Arrangement Drawings
- section flat, section perpendicular and isometric views
- DA - Detailed Arrangement Drawings
- section flat, section perpendicular and isometric views
- Isometric drawings of piping
- Piping isometrics
- Bending tables for manufacturing of pipes

PlantWare final output was manufacturing drawings for fabrication of piping. The piping shall be manufactured at SEFACO in Poland.

Input to Engineering

Engineering was done on the basis of PID and equipment drawings of vessels, headers for panel walls etc.

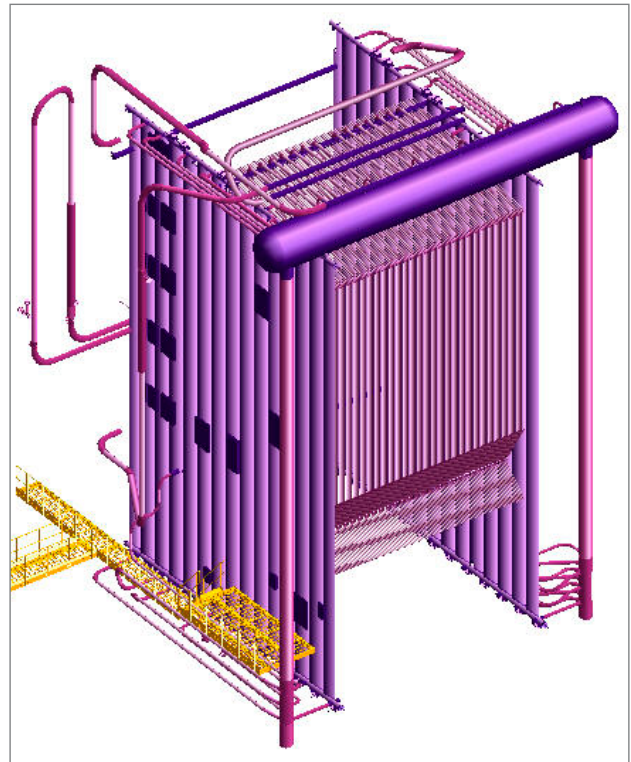
Fast Track

This job was fast track and was performed in just 8 working days from order to delivery of final documentation.

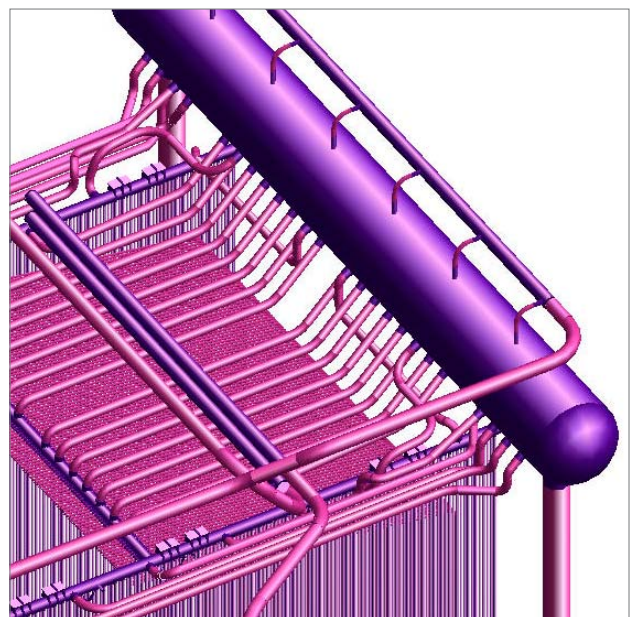
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3D model of boiler



Internal piping from vessel to panel walls

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Engineering tools

PlantWare uses the following engineering tools

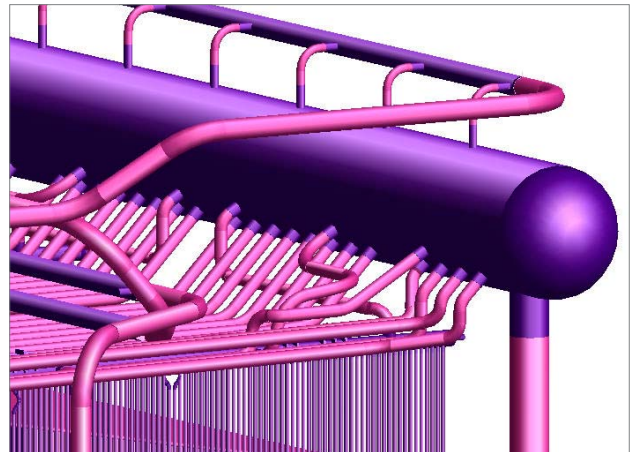
- 3D PDMS from AVEVA Ltd (UK)
- 3D INVENTOR™ from AutoDesk®
- 2D AutoCAD from AutoDesk®
- Virtual Vessel Design (NO)
- ROHR2 from SIGMA GmbH Engineering und Software im Rohrleitungsbau (DE)
- CONVAL from F.I.R.S.T GmbH (DE)
- PIPE-FLO from Engineered Software Ltd (USA)
- PUMP-FLO from Engineered Software Ltd (USA)
- SmartPlant3D from Intergraph

- Furthermore, CFD and FEM are engineering tools used by PlantWare.

Engineering of Piping System

Pipe installations typically comprises the following elements:

- Determining operating and construction parameters (pressure, temperature, mass flow)
- PF and PI chart
- Pipe sizing
- Material selection
- Pipe routing
- Pipe flexibility calculations - determination of stress in pipe shell and loads on supports and equipment
- Pipe Isometrics with parts and welding lists
- General Arrangement drawings
- QA and NDT
- Supervision
- Inspection assembly and welding



Piping isometric example

