

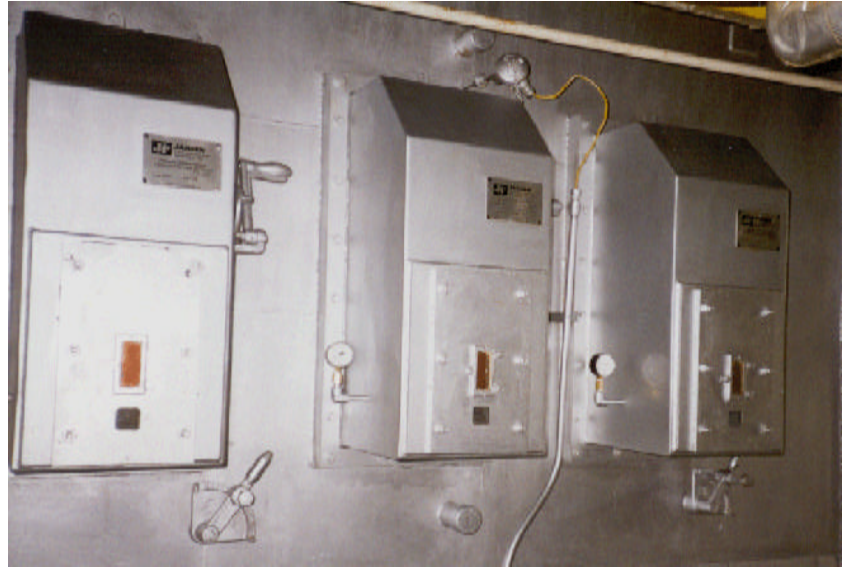
Project Description



Recovery Boiler Air System Upgrade Smurfit Mocarpe San Felipe, Venezuela

Project Scope

Smurfit Mocarpe in San Felipe, Venezuela, installed Jansen High Energy Combustion Air Nozzles™ at the secondary air level of the kraft recovery boiler at this mill. This was the first step to correct combustion air delivery with the intent to improve combustion conditions in the unit. In its two years of operation, the original air ports installed by the OEM proved to be ineffective in keeping up with



the black liquor flow furnished to the unit. Continuous co-oil firing was necessary and, due to low combustion temperatures, bed control had been difficult, resulting in large quantities of char/smelt accumulating in the furnace cavity. These combustion problems were eliminated after the new air nozzles were taken into operation. Oil firing has been discontinued completely, reduction efficiency has improved dramatically, and this small modular unit is now capable of burning 15% to 20% more black liquor than before.

Results

Prior to the installation of the new air nozzles, JANSEN had cleared the way for allowing the steaming rate to be increased significantly above design MCR. Based on actual field measurements of operating conditions and liquor composition, the JANSEN circulation study indicated that, without the need for any pressure part modifications, the unit would be capable of maintaining at least 25% above MCR steaming rate, without jeopardizing the boiler's natural circulation conditions.

Other work that was completed by JANSEN for Smurfit Mocarpe include:

- Recovery boiler firing optimization, prior to the new air nozzles installation.
- Visual inspection of the recovery boiler during shutdowns.
- Outage management.
- Powerhouse audit.
- Black liquor supply piping modifications.
- Tertiary air nozzles installation.