



Separating out reliable partners

Usina da Barra improves the process with Alfa Laval equipment



Usina da Barra is a large industrial complex situated in Barra Bonita, 300 km north-west of São Paulo in Brazil. The complex includes a sugar mill, a sugar refinery and a distillery. In Brazil, a country used to huge sugar mills, Usina da Barra – with an impressive crushing capacity of 38,000 tonnes of cane per day – is one of the largest, making it also one of the largest in the world.

The distillery is situated directly adjacent to the sugar mill, and is also impressive in terms of size. With a production capacity of 2,100 m³ per day, it is Brazil's major producer of ethanol, and – again – one of the largest in the world. This versatile distillery produces both anhydrous and hydrous alcohol for fuel, industry and pharmaceuticals.

Reliable partners and long-lasting relationships

Walter Luiz Polonio, the engineering department supervisor, has worked at the distillery for more than twenty years. He knows more than anyone else the importance of investing in high-quality products, and dealing with suppliers that have a well-developed service network. As the distillery industry has numerous suppliers of process equipment, it is important to separate out the ones that can contribute to securing as well

as improving the company's bottom line. A key factor in the selection process is the availability of high-quality products that ensure minimum down time. Another consideration is whether or not the supplier is sufficiently familiar with the production to be able to help the customer to improve the processes involved. Such expertise separates a mere supplier from a valued partner.

Says Polonio, "We have been doing business with Alfa Laval ever since this distillery was built almost sixty years ago, so for us, Alfa Laval is not just any supplier. We consider Alfa Laval to be a reliable partner with whom we have frequent consultations. Like no other supplier, Alfa Laval combines professional personnel, tools, know-how and a broad range of key equipment to help improve performance. We place great value on their expertise in heat transfer and separation technology as well as the general Alfa Laval process know-how."

Usina da Barra probably has more experience of using Alfa Laval yeast separators than any other company in the world. In normal operation, there are currently eleven Alfa Laval separators to remove the yeast from the weak beer and



Long-lasting, high-quality yeast separators decrease down time and improve bottom-line performance

recycle it to the fermenters. Yeast recycling is beneficial for several reasons. It increases yield, since less sugar is used for yeast growth, and it significantly reduces scaling and fouling problems in distillation columns and evaporators.

“We have a long track record of using Alfa Laval yeast separators,” Polonio continues. “This plant was built in 1945 and we have used Alfa Laval yeast separators from the very beginning. They have always performed very well. They just keep on going and when they eventually wear out, we replace them with new Alfa Laval machinery.”

Improving the process

Usina da Barra has also taken full advantage of plate technology when it comes to heating and cooling. In the old days, the twenty-four batch fermenters were equipped with cooling coils, and this resulted in mixed performance. There were corrosion problems as well as difficulties in controlling the fermenter temperatures. These problems were solved by replacing the coils with Alfa Laval plate heat exchangers.

“The first plate heat exchangers for fermenter cooling were installed around 1978, replacing cooling coils for fermentation. They have been operating perfectly ever since that time. The coils had corrosion problems and needed to be replaced frequently. The plate heat exchangers turned out to have a much longer lifetime than the coils, which means that we have saved money and improved production. Other benefits include less contamination in the fermenters, as a more precise and consistent temperature is maintained,” comments Polonio.

“Ever since the first plate heat exchangers were installed in 1978, plate technology has been our first choice when it comes to heat exchangers. Alfa Laval has supplied every single plate heat exchanger in our distillery. The performance of the equipment and the support provided have always been excellent. As for reboilers and condensers, we currently use shell-and-tube designs. However, studies are going on with a view to replacing these units with plate technology. In fact, we just recently started up a liquid sugar plant next door using plate-type condensers supplied by Alfa Laval – and they work just fine,” says Polonio.



Replacing cooling coils with plate heat exchangers has increased yield and decreased maintenance costs

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Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval

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