



Alfa Laval heat exchangers cut energy costs at India's largest specialty chemicals plant

Balaji Amines, BAL, Tamalwadi, Maharashtra, India

Case story

Balaji Amines Limited, BAL, India, operates in the niche market specialty chemicals and aliphatic amines. An Alfa Laval customer since 2002, BAL has 48 Compabloc compact heat exchangers installed for heat recovery duties in the production of amines. Managing Director Prathap Reddy is not only impressed with the role the Compablocs have played in reducing energy costs, he also appreciates the high level of process know-how and professional service his company gets from Alfa Laval.

BAL's first contact with Alfa Laval was when the company replaced its existing carbon steel shell-and-tube heat exchangers with compact heat exchangers. "We bought our first set of eight Compablocs for heat recovery duties in the production of amines," relates Prathap Reddy. "Alfa Laval then assisted us in fine-tuning the processes."

Advantages over shell-and-tube

"It seemed risky at the time because Compabloc was more expensive than alternative products. But I'm happy we

Fast Facts: about Balaji Amines

BAL, India's largest producer of specialty chemicals and aliphatic amines

Balaji Amines Limited, BAL, is the largest producer of methyl amines in India, with a capacity of 70 tonnes per day, and the second largest producer of ethyl amines. It also leads the market by being the only manufacturer of NMP (N-methyl 2-pyrrolidone) and Morpholine in India. BAL serves a range of chemical industries in the Indian and global markets



The first installation of eight Compablocs laid the foundation for savings of around USD 700,000 per year.

took the risk. The Compabloc is a reliable and efficient product. Furthermore, it can withstand aggressive media and high temperature and pressure. It is also almost maintenance free and can be cleaned in a few hours instead of days, two more advantages over shell-

and-tube models. In addition, payback period for a Compabloc is shorter due to the huge energy savings it provides. We have now replaced nearly all our old shell-and-tubes with Compablocs from Alfa Laval."



Steam consumption reduced 40%

The central challenge facing BAL is to reduce production costs, while maintaining its world-class technology. "Alfa Laval's energy efficient heat exchangers have helped us achieve this," says Prathap Reddy. When we installed Alfa Laval's Compabloc the steam consumption was reduced by 40%, giving major savings in energy costs."

This first installation of eight Compablocs alone laid the foundation for savings of around USD 700,000 per year.

Today, BAL has 48 Compablocs, 20 spiral heat exchangers, six semi-welded heat exchangers and 12 gas-ketted heat exchangers from Alfa Laval



in its plants. The heat exchangers are used as condensers, reboilers, vaporizers and coolers.

Process know-how

"Alfa Laval also has a high level of process know-how," continues Prathap Reddy. "We just state our requirements and they provide suitable solutions. They also make suggestions for improving our processes."

When it comes to customer support Prathap Reddy is equally satisfied. "We get excellent back-up from Alfa Laval. With other suppliers the response time differs if there is a low requirement. But with Alfa Laval, whether you need one heat exchanger or 20, you get a similar response. We can contact Alfa Laval with our inquiries and get a quality response from them within 24 hours. This is what we call a professional attitude. We look forward to growing with Alfa Laval."

Compabloc compact heat exchangers replaced shell-and-tube units for heat recovery duties in the production of amines at BAL in India. A 40% reduction in steam consumption was achieved

Compabloc – a breakthrough plate heat exchanger design

Compabloc combines a range of technological advantages into one compact unit. The all-welded plate pack eliminates gaskets between plates, and makes it possible to operate with a wide range of aggressive media and at high temperatures and pressures.

- Small footprint – compact design in relation to heat transfer efficiency
- Load on vent and secondary condenser is negligible
- Fully welded, no recurring cost for gaskets
- Easy to install
- Suitable for all aggressive media due to lack of gaskets
- Low maintenance
- Close temperature approach, ref. load is eliminated

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com.