

Electrolux

Case study: Metal Fabrication

Applications

- Press tending, de-stacking

Products

- Cookers



Keeping up down under

Electrolux in Australia uses a combination of Manzioni presses and ABB robots to double parts output and increase safety in the production of its cookers.

> Colin Thomas is the Manufacturing Engineering Manager of the Electrolux Cooking Products manufacturing plant. The engineering department he runs at the company's plant in Adelaide, Australia, is a bustle of activity, with phones ringing and conversations taking place on the run. Linked to the office by a short pathway is a massive manufacturing hall. Inside this building there is the same sense of energetic purpose, with hundreds of workers going about the business of assembling ovens and cookers.

Walk through all of this to a far corner of the factory, and you come to a room that has a different rhythm. The sounds here are synchronized and steady – a perfectly timed industrial symphony and a total contrast to the rest of the Electrolux site.

This is where the tandem press line, TPL, lives, a multi-million dollar investment linking metal presses with robotics. The line has transformed the way Electrolux makes its ovens.

And this plant makes a lot of ovens. The company makes some 120 different models, and every day about 1,700 units roll into the packaging room fully tested and ready for delivery to the retail world and, ultimately, to the homes and apartments of Australia and New Zealand. The TPL is the engine that helps drive this output, punching out doors and panels for the various cooker models with an efficiency that has exceeded expectations.

Thomas says that when the TPL was installed, the company was hoping for an operational efficiency of

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➤ about 70 percent. Now, he says, “it’s in the nineties.”

Responsible for this feat are an array of ABB robots, which work with Manzonni presses in a steady, relentless flow.

“We asked for an output of nine parts per minute,” says Thomas. “But the TPL is giving us better than 11 parts per minute. “It has delivered everything we hoped to get out of it.”

When Electrolux decided to upgrade the plant two years ago and replace labor-intensive manual presses with an automated line, the company looked at about 15 different suppliers.

“We chose ABB and Manzonni because they promised that together they would achieve the results that we wanted,” says Thomas. “The effort by ABB to surpass the original specifications, and their willingness to assist us to get more and more out of the system, has been excellent.”

The Electrolux application is interesting not just because of its outstanding operational success, but also because ABB has successfully adapted robotic technology from the auto industry. As part of the selection process, Thomas and his team visited the Ford production line in Melbourne to see the ABB robots in action.

“This is new territory for ABB in Australia,” says Paul

>FACTS

Benefits for Electrolux with robots

- Operational efficiency around 90 percent.
- Flexibility allowing for a wide range of parts.
- Doubled parts output – more than 11 parts a minute.

Gekas, general manager of ABB’s robotics division in Australia. “Most of our work comes from the car builders like Ford, Holden and Mitsubishi, and in the packaging area with companies like Cadbury and Nestle.”

One of the things ABB’s robots bring to Electrolux is flexibility, a big factor in the decision to install them, says Thomas.

“We have a wide range of parts to handle,” he says. “The TPL allows us to change the dies quickly, vary the speed of the presses and change the arms on the robots easily to cater for small volumes.”

The TPL represents an investment of 8 million AUD for Electrolux, but the returns to the company are evident in more than just the doubled parts output.

“It is also an investment in doing things the right way,” says Thomas. “Safety is always a concern, and by employing robots to work with the presses, it keeps people away from the action.

“It also eliminates what were some very boring tasks, and there are fewer mistakes,” he says.

The robots have replaced about 20 people. The TPL is now managed by a team of three operators who handle the die changes, the stacking of parts at the end of the line and the cleaning. There are three eight-hour shifts, but the TPL has been punching out the required parts in two, allowing the engineers a shift in which to “tweak the settings,” as Thomas puts it.

Another feature of the ABB relationship with Electrolux is the 24-hour support supplied by the ABB lead center in Spain.

The technicians in Spain can dial into the TPL’s Stampmaster control system and locate and correct any problems, a huge advantage when trying to meet tight production schedules.

“We would be stuffed without it,” says Thomas. ☉