

# Flexible injection molding cell improves quality

## Case study: Limac Formplast AB



After investing in an automated injection molding cell that includes an ABB IRB 1600 robot, Swedish plastics manufacturer Limac FormPlast has not only seen productivity increase, but improved processes have led to better quality end products as well.

Limac FormPlast AB in Lanna, Sweden, some 20 kilometers west of Värnamo in the southern part of the country, is a small family-owned company that makes customized injection molded plastic parts. Working in cooperation with its customers, Limac also develops the molding tools that are used in production.

Since Swedish plastics manufacturer Limac FormPlast invested in an injection molding cell equipped with an IRB 1600 robot it is not only productivity that has increased. Improved process continuity has led to a better quality end product.

The injection molding cell is a standard SVIA MiniFlex machine, with a robotic guidance system. In this cell, an IRB 1600 robot picks up the parts and the guidance system tells the robot what position it should be in. The products are then loaded by the robot into an injection mold, which then molds additional material onto the prefabricated plastic parts. After removing a sprue, the robot places the product on a conveyor for packing. These completed injection molded plastic parts are used in the production of earmuffs.

Limac's owner Lars Jacobsson thought long and hard before investing in the injection molding cell, because in the past the work had been done manually. "We are moving toward monitoring production rather than working on production," he says. "We inject two materials onto the same part, which was done manually before. Thanks to ABB's robot we have been able to take one person off the machine and use them for more important work instead."

The new robot cell ensures production runs without interruption and with much less waste. The company has already seen productivity increase while quality has improved. "The robot is also highly flexible," Jacobsson says. "We use the same robot for three different types of double injection in our production. The cell can also be infinitely reconfigured, which means that we can make a great many different things. Our investment clearly contributes to greater productivity and we are very pleased."

It is likely that Limac will invest in more robots to boost productivity in the face of increased competition. This will allow it to do away with monotonous production tasks and improve the working environment for existing and future employees, with staff taking on more of a supervisory role and concentrating instead on increasing customer satisfaction. In addition to its requirements on production continuity and flexibility, Limac wanted its staff to be able to adjust and program the robot cell themselves. Animex, a leading supplier of industrial automation solutions for the Swedish plastics industry, provided the injection molding cell and necessary training.

“Animex has a very good relationship with ABB and we receive good feedback from their support when we need it,” says Anders Granstrand, Site Manager at Animex. “This installation shows that it is possible for small companies to invest in robots and succeed.”

Granstrand encourages small companies to minimize financial risks by buying standard products with flexible solutions is a way for small companies to minimize the financial risk. “If current production were to disappear from the market or be replaced by something else, the customer can still make use of the robot cell,” he says.

#### **Fact box**

Company: Limac FormPlast

Location: Lanna, about 20 kilometers west of Värnamo in southern Sweden

Installation: Standard SVIA MiniFlex injection moulding cell

Supplier: Animex

Production: Injection molding of plastic parts for use in the production of earmuffs