

# Safe solution for sensitive enzymes

**For filling drums with enzymes, Feige provides a fully automated solution that is not only efficient, but keeps employees separate from the product.**

> A leading Danish enzyme manufacturer recently started filling its products using two RobotFillers made by Feige GmbH in Bad Oldesloe, Germany. The new RobotFiller is currently the most flexible filling system available on the world market for liquid products and pastes.

In front of the actual filling area, a new type of unstacking unit has been installed which separates the stack of containers or stacked pallets. Materials airlocks in the areas for incoming and outgoing containers before the filling cabin ensure the necessary separation of the filling area from the storage area.

The heart of the installation consists of two type 91 RobotFillers from Feige GmbH, Abfülltechnik. The company is the global market leader in machinery for filling liquids and pastes.

The space available for the Danish enzyme manufacturer for filling its products – five different types into container drums – was so tight that conventional filling technology could not be installed there. On top of this, the enzymes and their vapors can affect the operators. So the entire filling process had to be automated and separated from other areas by means of a filling cabin.

The company turned to Feige GmbH, who provided two type 91 RobotFillers, which crucially offers fully automated product changes without the necessity for operator intervention in the installation or filling cabin. The operator merely has to select a new data set on the touch panel. The exchangeable filling valves can be cleaned fully automatically in the meantime.

**The central component** of each filling unit is an IRB 660 4-axis industrial robot with a load-bearing capacity of 180 kg. The RobotFiller starts working on the pallet from the top as soon as the pallet is in the operating position. The IRB 660 traverses the calculated coordinates and computes the positions of the bungholes. It then establishes the height of the pallet. After this, it picks up the filling valve and fills the containers one after another.

Once the pallet is completely filled, the IRB 660 exchanges the filling valve with the screwing unit, and finally clinches it with a metal sealing cap. The sealing cap is fitted to the drums by the robot.

“The sealing cap is an important factor for many customers as a seal of authenticity” says Bert Lindenberg, who as one of the two directors of Feige, is responsible for sales, customer services and technology. The fully processed containers leave the filling area through a materials airlock, connecting to a turntable on which the pallets are automatically labeled.

**ABB supplied** the two IRB 660 robots including the IRC5 control system. For Bert Lindenberg, precise accuracy of the individual steps is a decisive criterion. “If a robot moves to a certain position, it must travel precisely to this position without fail two million times. As the space is very limited on the customer’s premises, absolutely precise positioning of the robot is a key factor,” he explains. ☺

The IRB 660 opens and closes the containers with its bung screwing tool.

## > FACTS

### Automated advantages

For filling drums with enzymes, using robots provides a range of benefits:

- Process is fully automated so employees don't come in contact with the enzymes
- Cleaning is also automated
- Space-saving robots fit into tight quarters
- High-load bearing capacity of robots that have to deal with heavy product pipes
- High production rates of 45 x 200-liter drums per hour



### Feige at a glance

Feige GmbH, Abfülltechnik is part of the Haver & Boecker Group.

Feige is a leading company in the manufacture of machines and installations for the filling of liquids and pastes into pails, canisters, cans, drums and IBCs. Its customer base includes well-known major companies and a large number of medium-sized concerns in the chemical, pharmaceutical and petrochemical industries, manufacturers of building materials, dyes and paints, and also in the food processing, logistics and packaging businesses. Read more at [www.feige.de](http://www.feige.de).