

Case story

Italian brewery moves into the fast lane

Relying on Danfoss VLT® FlexConcept® to control the motors on their new inspection line, FORST Brewery has increased efficiency with significant energy savings.

Beautifully situated in the Italian Alps, close to the Austrian border, FORST Brewery has produced beer since 1857. Combining natural products to produce first class beer has always relied on mastering the balance between time, temperature and technology.

Technology upgrade

In 2011 the Lagundo based brewery embarked on a project to replace its old rotary inspecting machine on the bottling line with a new on-line inspecting machine fitted with VLT drives and Danfoss' VLT® OneGearDrive®.

Commissioned in 1989 the now obsolete line inspected returnable and non-returnable containers and was built with traditional motors controlled by a centrally installed Danfoss VLT® 3000 frequency converter. The new system is a significant upgrade in terms of both efficiency and ease of maintenance.

Already well acquainted with Danfoss drives, FORST had VLT drives in bottling and keg filling lines and also in the many process applications crucial to beer production: transfer pumps, washing pumps, water supply pumps and also the air conditioning systems that carefully control the temperature as the beer moves through the production process. It seemed logical to continue and remain within the same control concept.

VLT FlexConcept increases efficiency

The speed of the new conveyor belts is controlled by Danfoss VLT FlexConcept. Specially developed for conveyor applications in the food and beverage industry, the solution consists of a VLT OneGearDrive in combination with either a VLT® AutomationDrive FC 302 or a VLT® Decentral Drive FCD 302 frequency converter.

A total of 10 OneGearDrives, in the EHEDG compliant hygienic version, and 10, 1.5 kW, FC 302 units now control the line that has a capacity of 50,000 bottles per hour. The retrofit was completed in two weeks, and has enabled



25%

Increase in energy efficiency compared to the old system by applying Danfoss VLT FlexConcept

FORST to improve the production process with softer acceleration and deceleration ramps for increased conveyor stability. In addition the new setup has increased energy efficiency by about 25% compared to the old system.

Mr. Floretta, head of the technical department at FORST, who coordinated both the installation of the ori-

ginal line and now also the upgrade, is satisfied with the results of the new line

“The OneGearDrives have provided significant savings in the installation and commissioning of the plant. They integrate perfectly with the environment and also convey a visual sense of cleanliness and functionality.”



The smooth surface and IP67/IP69K protection enable easy cleaning of the drive which is certified according to EHEDG regulations for hygienic design.



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Mr. Floretta,
head of technical department,
FORST



At a glance

What	Inspection line upgrade
Where	Birra FORST S.p.A. Lagundo, Italy
When	2012
Business area	Brewery
Type of project	Retrofit
Products	VLT® FlexConcept®, consisting of 10 VLT® OneGearDrive® Hygienic and 10 VLT® AutomationDrive FC 302



VLT OneGearDrives ensure smooth transport of bottles on the inspection line. Smooth ramp up and ramp down prevent unwanted stops due to bottles tipping over.

About VLT FlexConcept

Danfoss' award winning VLT FlexConcept comprises the VLT OneGearDrive, combined with a VLT Decentral Drive FCD 302 or VLT AutomationDrive FC 302 frequency converter. For conveyor applications in particular, this system dramatically simplifies project engineering, installation, commissioning and maintenance – and is equally suited to central or decentral installations, in dry, wet or aseptic areas. For retrofit applications, all VLT FlexConcept components are compatible with existing industry standard system components, including PM motors.

Exceeds IE4 efficiency

VLT OneGearDrive is a highly efficient permanent-magnet three-phase synchronous

motor coupled to an optimised bevel gear box. The drive can achieve up to 89% efficiency and high torque, already exceeding the IE4 Super Premium Efficiency class, in a compact motor frame.

Hygienic design. EHEDG

The VLT® OneGearDrive® Hygienic is compliant with the requirements for best cleaning and hygienic design according to EHEDG (European Hygienic Engineering & Design Group). The IP67 and IP 69K enclosures allow unrestricted use in wash down areas. Completely smooth, easy to clean surfaces without cooling fins and the fan-free motor prevent contamination and enable high temperature and high pressure cleaning.

About FORST

BIRRA FORST SpA was founded in 1857. In 1863 ownership was transferred to Josef Fuchs to become a family dynasty where the fourth generation continues to ensure the quality drinking experience made famous the by original brewers. The brewery is one of Italy's largest and produces 700.000 hl beer per year, using a mix of traditional techniques and cutting edge technology.