

## Case story

# Energy saving ambitions drive HEINEKEN ZAGORKA Brewery ahead, with **VLT® FlexConcept®**

## Ambitious expansion

The ZAGORKA brewery was founded more than a century ago and over the years it has become a symbol of the Bulgarian town of Stara Zagora.

The ZAGORKA brand has grown to be the favourite beer of generations of Bulgarians. In 1994 ZAGORKA became part of HEINEKEN Company, and since then ambitions have expanded further. Over the last 20 years, more than EUR 133 million has been invested

in the brewery in Stara Zagora, modernising operations and increasing production capacity. It is now one of the most advanced breweries in Central and Eastern Europe.

Focus is on the areas that can make a difference:

- Sustainability – minimising environmental impact
- Water consumption
- CO<sub>2</sub> emission
- Responsible energy consumption

As part of HEINEKEN, and as a leading Bulgarian brewery, ZAGORKA is committed to developing its business in a sustainable and responsible way.

In order to achieve its ambitious sustainability goals, ZAGORKA has actively renovated its brewery equipment and facilities over the last 20 years.



# One

VLT® OneGearDrive®  
variant only, for  
minimal cost of  
spare parts

## High-performance hygienic drive system

One of the main modernisation projects was an upgrade of the gear motors on a glass bottle filling line to more efficient motors, performed in 2013. The main objectives of the project were upgrade to higher performance, flexibility, and reliability of the drive systems that have a direct impact on production cost.

Ultimately these factors impact the competitiveness of the products. High hygiene levels were also an important consideration as the motors operate in the wet part of the filling line, where demanding hygienic compliance applies.

HEINEKEN ZAGORKA chose VLT® FlexConcept® to meet all these demands. In total, around 40 motors

were replaced stepwise in the wet (hygienic) part of the filling line.

The original system comprised a helical gearbox with chain and asynchronous motor. The new drive system consists of the VLT® OneGearDrive® where drive and motor are integrated into a single unit.



Before:  
Helical gearbox with chain and asynchronous motor



After:  
VLT® OneGearDrive®



## Above and beyond target

HEINEKEN chose the VLT® OneGearDrive® solution over competing alternatives due to its unique high performance, above and beyond the aims of the retrofit project:

### ■ Higher system efficiency

A helical gearbox with an asynchronous motor and a chain as an additional gear ratio has an efficiency of about 62.5% compared to 89.4% for VLT® FlexConcept®. The immediate effect is energy savings of up to 25%.

### ■ Cost-efficient mounting

Installation is easy and fast. The VLT® OneGearDrive® is directly mounted on the conveyor shaft, so chains are no longer required. The elimination of chains also means less maintenance and fewer spare parts are required. If there is a breakdown the VLT® OneGearDrive® is quickly and easily replaced, minimising downtime.

### ■ Easy to clean

The hygienic design with no cooling fins, fan, or sharp edges makes the VLT® therefore all hygiene requirements are completely fulfilled.

### ■ Reduced storage cost

For maintenance purposes, storage of only one gear ratio and one frequency converter size is required for this section of the line. Previously storage of up to 10 different components was required. The elimination of variants and reduction in number of components gives a dramatic reduction in warehousing cost.

### Easy integration

The ZAGORKA brewery already has a history of positive experience with Danfoss, with cabinet-mounted VLT® 5000 and VLT® AutomationDrive frequency converters providing central motor control. Because the existing drives and the new VLT® FlexConcept® components share a common operation principle, commissioning and integration into the existing setting was very easy to implement. Currently 25 new units comprising VLT® OneGearDrive® controlled by VLT® AutomationDrive FC 302 are installed and running smoothly to deliver the new energy savings. So HEINEKEN ZAGORKA is completely satisfied with the performance of its new Danfoss VLT® FlexConcept® solution.



**ZAGORKA** is a leading national premium beer brand, popular when it is “time for something special”.

Produced in and named after the city of Stara Zagora in central Bulgaria, ZAGORKA is rich in history and brewing tradition. The HEINEKEN ZAGORKA brewery is one of the oldest and most respected breweries in the country. Founded in 1902, it is today, more than 100 years later, the biggest and technically most advanced brewery in Bulgaria. Currently it employs 510 people in Stara Zagora.

[www.zagorkacompany.bg](http://www.zagorkacompany.bg)  
[www.theheinekencompany.com](http://www.theheinekencompany.com)

The HEINEKEN ZAGORKA brewery in Stara Zagora



# The vision behind VLT®

Danfoss is a market leader in the development and manufacture of frequency converters – serving new customers daily.

## Environmental responsibility

### Danfoss VLT® products – considering people and the environment

All production sites for VLT® frequency converters certified to ISO 14001 and ISO 9001.

Danfoss' activities take employees, jobs and the environment into consideration. Production processes produce minimum noise, emissions and other environmental impacts. In addition, Danfoss seeks to protect the environment when disposing of waste and end-of-life products.

### UN Global Compact

Danfoss has confirmed its commitment to social responsibility by signing the UN Global Compact. Our subsidiaries are aware of their responsibility with respect to local conditions and practices.

### Energy savings through VLT®

The energy saved in the annual production of VLT® frequency converters is as much as that generated by a large power station each year. Improved process control optimises product quality and reduces waste and wear on the production lines.



## Dedicated to drives

Danfoss VLT Drives is a global leader in the area of drive engineering and manufacture. In 1968 Danfoss introduced the world's first mass-produced frequency converters for three-phase motors, and since then has specialised in drive solutions. Today, VLT® stands for reliable technology, innovation and expertise for drive solutions within many different branches of industry.

## Innovative and intelligent frequency converters

Danfoss VLT Drives, headquartered in Graasten, Denmark, employs 2500 staff for the development, production, consulting, sales and maintenance of Danfoss drive solutions in over 100 countries.

The modular frequency converters are manufactured according to customer requirements and supplied fully assembled. This ensures that every VLT® is a state-of-the-art device when delivered.

## Trust the world experts

To ensure the consistent high standard of quality of our products, Danfoss VLT Drives controls and monitors every important product element. The group has its own research and software development department as well as modern production facilities for hardware, power modules, printed circuit boards and accessories.

VLT® frequency converters are used in diverse applications worldwide. The experts of Danfoss VLT Drives support customers with extensive specialised knowledge relating to specific applications. Comprehensive advice and a fast service ensure an optimal solution with high reliability and availability.

A project is only complete when our customers are fully satisfied with the drive solution.

