



Case story | VLT® FlexConcept

VLT® FlexConcept® wins **30% energy savings** in 18,000 bottle/hour Italian bottling lines

by Marco Cani, Business Developer Danfoss VLT Drives

Cantine Riunite, the world-leading wine producer of Lambrusco and sparkling Emilian wines, won many advantages by incorporating VLT® FlexConcept® into a bottling line expansion project.

The key factors for a highly efficient system, fine-tuned to increase the productivity of bottling lines were:

- Improved energy efficiency – savings of more than 30% in comparison to a traditional solution
- Easy, in-depth cleaning
- Minimal maintenance
- Fast return on investment: ROI in just over one year

The energy-efficient choice

The decentralized high-performance Danfoss VLT® Decentral Drive FCD 302 was integrated with the hygienic, energy-efficient Danfoss VLT® OneGearDrive® gearmotor.

Over 80 highly energy-efficient complete driving systems were installed in the wine bottling line, which processes 18,000 bottles per hour. Each driving system comprised a reduction gearbox plus frequency converter.

90%

overall system
energy efficiency
thanks to Danfoss
VLT® FlexConcept®

Engineer Matteo Zanoli, Head of Production, reports: "Our supplier, a world leader in the bottling line and machinery sector, suggested that we use the Danfoss VLT® FlexConcept® operational solution on our conveyors - we immediately accepted. The fact was that we wanted to make a choice which continued our tradition of quality and innovation, so we took the opportunity to equip ourselves with a highly energy-efficient system, fine-tuned to increase line productivity".



Bottling line with VLT® OneGearDrive® and VLT® Decentral Drive FCD 302 installed directly on the conveyor

Exceeds IE4

The Danfoss VLT® OneGearDrive® reduction gearbox is equipped with a permanent magnet motor and has an efficiency equal to 96%, which is higher than the IE4 standard. This value thus not only exceeds current legal requirements, providing significant immediate energy savings, but also meets future legislative developments for at least the next decade.

Cantine Riunite's decision to use the complete Danfoss VLT® FlexConcept® system, which offers overall energy efficiency levels of 90%, allows them to continue production with savings of more than 30% in comparison to a traditional solution, which guarantees that they will recover their investment in just over a year.

Few variants, few spare parts

Saving energy is only the first of the many benefits guaranteed by the Danfoss operations solution:

- Thanks to its smooth surfaces free from cooling fans, the EHEDG-certified hygienic design allows cleaning times to be reduced by 40% compared with traditional systems, while IP67 and IP69K ingress protection levels guarantee perfect system sealing. The system is therefore fully washable.
- In addition, with the Danfoss solution, replacing the oil lubricant is now a simple maintenance operation, performed once every 35,000

hours, or once in every seven years of operation.

- Finally, thanks to the increased level of standardisation together with maximum flexibility, only two reduction connections and two frequency converter sizes are needed for more than 80 fully operational systems. This means that the risk of plant shutdowns due to refurbishment delays is 100% covered, with only two exchangeable mechanical parts and a single electronic control unit.

Maximum energy efficiency, easy in-depth cleaning, minimal maintenance and smaller warehousing are the advantages from which Cantine Riunite can now benefit by opting for the Danfoss VLT® FlexConcept® solution for bottling their high-quality wines.

VLT® FlexConcept®

VLT® FlexConcept® offers the option of centralised or decentralised control:

- Centralised solution with VLT® AutomationDrive FC 302 frequency converter, installed in electric control panel and VLT® OneGearDrive® mounted on the machine
- Decentralised solution with VLT® OneGearDrive® frequency converter and VLT® Decentral Drive FCD 302 mounted directly on the machine, the solution chosen by Cantine Riunite

"Our supplier, a world leader in the bottling line and machinery sector, suggested that we use the Danfoss VLT® FlexConcept® ... so we took the opportunity to equip ourselves with a highly energy-efficient system, fine-tuned to increase line productivity."

Cantine Riunite

Cantine Riunite is a world-leading wine producer of Lambrusco and Emilia sparkling wines, and is a major global exporter of Italian wine.

Riunite Lambrusco is distributed to over 50 countries. In some countries, such as the United States, it has been synonymous with the essence of Italy and quality sparkling wine for decades. Cantine Riunite is the first Italian wine producer to equip itself with a production process that is UNI EN ISO 9002 certified from start to finish.

Every year, the company plant in Campegine, in the province of Reggio Emilia, produces 70 million bottles, destined for Lambrusco and Riunite wine lovers scattered over every continent.

www.riunite.it