

# Danfoss VLT® AutomationDrive ensures optimal consumer-friendly packaged portions

**A total of 52 Danfoss VLT® AutomationDrives ensure optimal operation of the conveyors and the packing unit.**

HOLMATEC Maschinenbau GmbH in Salzbergen, Germany, specialises in the design and development of machines for production and packing of high quality pre-processed food products. The company, founded in 1992, is a renowned company in the food industry and uses Danfoss drives.

HOLMATEC has positioned itself as a single source provider from design and construction to installation and commissioning. Effective production is crucial for business success, as the following example shows.

**Packed in seconds**

To satisfy the demand for delicious products, HOLMATEC Maschinenbau GmbH, has designed and constructed a packaging system that provides more than 30,000 consumer-friendly packaged portions per hour, nicely packed with five portions together. The journey continues through a funnel-shaped container enroute to the shipping station.

Provided in ten lines, the fresh products must pass a final quality test before they are packed.

Cameras take photos of each individual product, and those who do not meet the requirements are sorted out.

Prior to the shipping station the flow divides in two, each with five rows. Five individual pieces are gently placed into the packaging - around 530 pieces per minute.

The control system of the plant has a specific characteristics that has shown substantial cost savings for the customer.



HOLMATEC chose to use the RS 485 protocol imbedded in the VLT® AutomationDrive.

The 52 speed controlled conveyor motors are connected directly to the control module in 2 groups of 26 motors.

**RS 485 interface**

For Holmatec the high reliability and availability of the solution was important. The speed of all 52 conveyor drives ought to be easily and inexpensively adapted to the production. For this task a bus system such as profibus is quite expensive. An investment of around EUR 160 for each Profibus option card in 52 drives would equal EUR 8300.

Together with the Danfoss system partners, EAT (Elektro-Anlagen-Technik GmbH) HOLMATEC has provided a cost-effective solution that fully complies with all requirements.

With the two-wire integrated RS 485 interface, 32 VLT® drives can be directly connected to a network.

In the bottling plant the HOLMATEC

designers divided the drives into two groups each with 26 frequency converters. Through this simple system, all the frequency converter data will provide the system with exact data about speed and ensure the desired conveying speed of the meat products at all times.

**Perfect fit to the application**

The Danfoss VLT® AutomationDrive is built on a highly modular technology platform, ranging from 0.25 kW to 1.4 MW. The performance of the drives range from basic V/f control over the VVC+ Vector Control to Flux Vector Control.

Wide parameter ranges and a variety of options enables the VLT® AutomationDrive to operate various motor types such as asynchronous and synchronous motors, AC servo motors and permanent magnet torque motors.

The modular structure is the basis for the optimal adaptation to any application. The user gets exactly the inverter he needs and does not pay for further functions. Ready-assembled and factory tested units with full warranty and support are delivered.

The VLT® AutomationDrive is also extremely flexible and expandable for future developments.

Like all inverters of the VLT® series the AutomationDrive has integrated EMC filters and DC chokes.

In addition to the aforementioned RS 485-interface, a standard USB interface is built in for communication with the outside world.

Because of the uniform design of the drives in the shipping station the cost of spare parts is limited. Because of the plug-and-play options, the company need hold only one device in stock for emergencies. Also, the plug-in CageClamp® terminals makes for quick and easy exchange.

For the programming of individual installations, Danfoss offers a graphical and intuitive user interface as a modular component. Since all frequency converters in the shipping station are programmed with predetermined values, the HOL-MATEC planners could copy settings from one panel to all the drives.

When a large number of drives are mounted in a cabinet, good heat conduction properties are important. VLT® drives have an aluminium base heatsink. This ensures an efficient cooling, high mechanical stability and the possibility of "Cold Plate" installation.



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