ENGINEERING TOMORROW

Case story | VLT® AutomationDrive FC 302

Small but **mighty efficient**

Compact VLT® drives improve energy efficiency by

15%

The situation

Leading Bavarian company Hans Weber Maschinenfabrik GmbH (WEBER) has developed sanding, grinding and extruder machines for almost 100 years.

The manufacturer was looking for drives that could optimize the efficiency of its grinding machines, whilst maintaining the renowned high-quality finish given to every product, be it metal or wood.

But with limited space in the machine control cabinets, WEBER needed a small solution that could deliver big benefits…

…and the compact Danfoss VLT® AutomationDrive FC 302 was the perfect fit.

The challenge

A wide variety of motor technologies are installed in the grinding machines, from induction to permanent magnet motors, all operated by the same type of drive.
The motors must produce as little vibration and noise as possible to reduce the negative effects on the micrograph and acoustics.

Grinding units also need to work with the greatest speed, accuracy and stability to ensure precision on the grinding surface.
If the workpiece runs into the machine, the speed drops during grinding.

WEBER therefore needed low voltage drives that could keep the motor at a constant speed to achieve an optimal grinding pattern.

Flexibility
to serve all applications

The solution

Up to 13 VLT® drives were installed in different applications in the grinding machines.
Sanding unit: The drive controls the speed of the grinding belts and brushes via PROFINET.
Position controller: Using Integrated Motion Controller functionality available within the VLT® AutomationDrive FC 302, the drive can process the position cycles independently.
No external position controller is required.
Vacuum table: A Danfoss drive is located within the vacuum table, which uses suction to hold the product in place on the conveyor belt to guarantee maximum precision and safety during the grinding process.
Conveyor belt: A feed motor drives the circulating conveyor belt, while a Danfoss drive ensures minimal speed fluctuations when different product loads travel through the machine.
Eco Drive system: Danfoss drives automatically recognize the load and regulate the optimal range of action. This enables energy savings of around 15%.

"The Danfoss VLT® AutomationDrive FC 302 supports our high-precision grinding machines but most importantly it enables us to reduce energy consumption and operating costs."

Stefan Fischer, Head of Electrical Design at WEBER

The outcome

The compact Danfoss VLT® AutomationDrive FC 302 maximizes available space as it does not require any additional electrical components, electromagnetic compatibility filters or chokes.
Thanks to its high level of flexibility, the Danfoss VLT® AutomationDrive FC 302 can serve all required applications, regardless of the motor technology used.

WEBER also benefits from DrivePro® Remote Expert Support, a maintenance service that provides easy, fast and secure access to all drives. In the event of an error, Danfoss can support customers around the world.

Danfoss is committed to providing the highest levels of customer service. A permanent support team made up of application engineers, service technicians, salespeople and back-office employees is available to ensure WEBER machines stay up and running at all times.

Read the full story about WEBER **here**, and discover more case stories on our **website.**

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