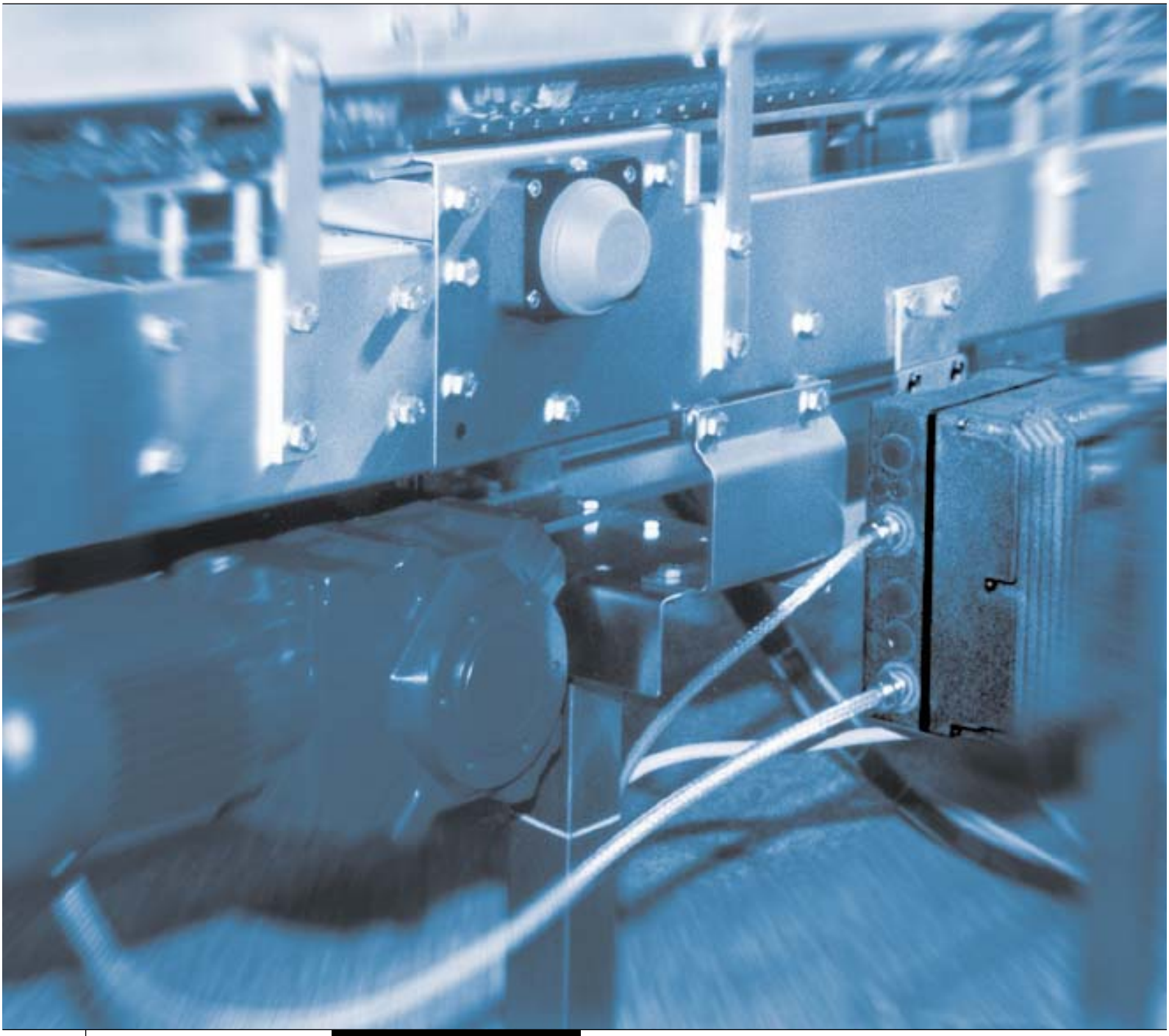

decentral solutions

Drives Solutions

www.danfoss.com/drives

Applied know-how

Decentralized motion control is a growing trend in industrial automation. More and more industries realize that decentralization is an answer to the ever-growing demand for reduced lead-time in construction and for the commissioning of industrial machinery. Retrofitting and upgrading are also considerably easier with decentralization, as the existing layout of the machine or total factory can be preserved. Applying years of application and drives know-how from our existing central solutions gives the decentral solution from Danfoss a comparative edge. We are now expanding the drives solutions for the customers that have already realized the benefits of decentralization.

Make a choice

Central or decentral? Neither of the two principles is unambiguously better than the other. They are different; and as they each have their strong points, the choice of one or the other is always to be taken on grounds of the characteristics of the job in question: What suits your system application the best?

Three primary benefits speak in favor of decentralization:

- Supports modularization – making the design process faster.
- Reduces installation costs – as decentralization reduces cabinet and cable consumption.
- Leads to easy service – as the plug-and-play principle requires limited technical know-how.

Solutions available

VLT® Decentral FCD 300

With the new VLT Decentral FCD 300 series, the latest innovation from Danfoss, the plug-and-play principle has been carried to its full extent. So has the practical design. The VLT Decentral consists of two parts: the installation part (the bottom) and the electronic part (the top). This dual part principle facilitates fast and reliable commissioning and service: simply remove four screws, pull off the electronic part, replace it.

The VLT FCD 300 can be mounted on the motor, directly on the wall, or – if there is a need for additional component space in the installation on any standard cabinet.

The high enclosure class (IP 66/ NEMA 4X) and surface of the VLT Decentral is perfect for decentralization. The cleaning-friendly design makes it suitable for the food and beverage industries. The VLT Decentral works with natural cooling and needs no other ventilation.

The control part of the VLT Decentral can be supplied externally for control commissioning without mains connection. The VLT Decentral comes with a fully protected mechanical brake control and supply, making mechanical brake control straightforward. The power looping facilities combined with the dual part principle ensures trouble free mains cabling, as the mains can be looped in the installation box independently of the electronic part that is plugged on afterwards.

Fieldbus control goes hand in hand with decentral installations. The VLT Decentral supports RS485, Profibus, or AS-i bus. Bus status can be read externally by the easily accessible LEDs.

The power range covers 0.25HP to 4.0HP, (0.37 kW to 3.0 kW) for 3 x 380-480V, which again covers the majority of conveyor applications in the target businesses – i.e. automotive, food, beverage and material handling.

The VLT Decentral can be delivered ready-mounted on any Bauer geared motor, ensuring easy commissioning and a matched design between motor and drive: a genuine drives solution.

DMS 300 Decentral Motor Switch

Providing the same features as the FCD – dual part principle, high enclosure class, rugged surface and mountability on the wall as well as on different motor brands – the DMS 300 is the right choice for soft starting and stopping the motor. The DMS completes the product range for decentral drive solutions when no variable speed control is required. The DMS can soft start and stop the motor in both directions. It also supplies and controls the electromechanical brake of the motor.

The motor and cabling are protected by either a thermistor or by the built-in over-current surveillance. To include the single speed motors in fieldbus systems an ASI-Interface is available as an option.

To complete our decentral drive solution concept both the FCD and DMS can be delivered in different installation variants with integrated local disconnect (service switch), M12-connectors for external sensors and industrial plugs for power and control. Together with the prefabricated cables this once more minimises possible faults in the installation.

VLT® DriveMotor FCM 300

The VLT DriveMotor FCM 300 is a frequency converter and a motor rolled into one - available in 0.75HP to 10HP, (0.55- to 7.5 kW) for 3 x 380-480V. The two are made for each other in that they are developed jointly; and the VLT DriveMotor is indeed a very compact unit that keeps within the standard dimensional envelope of a standard motor. The all-in-one compact design is, of course, a great advantage for the positioning of the VLT DriveMotor – because, if the application has room for a motor, it has room for an FCM 300. It is a multi-purpose product for less demanding pump, fan and conveyor applications. The VLT FCM 300 supports Profibus and standard RS485.

EtaSolution series K

Eta-K geared motors are a combination of spur-geared, flat-geared, bevel-geared and worm-geared motors in all mounting types with an integrated frequency converter. They provide compact drive solutions with variable speed in the motor power range from 0.25HP to 10HP, (0.12 to 7.5 kW) for supply voltage 3 x 380-480 V. The frequency converter is mounted directly onto the motor. Eta-K geared motors are the intelligent drives for the process engineering of the future. This makes them ideally suited to the operating conditions and process speeds required. Control is provided by digital and analog inputs and outputs, via a PC or, preferably, fieldbus systems. The EtaSolution series K is compliant with all EMC standards.

Two principles



Danfoss has two ready-made types of decentralized solutions to offer – each with their unique benefits and advantages. One is an individual solution, the other is a fully integrated solution.

Individual drives solutions:
You may desire the free choice of selecting your own motor supplier. That is possible with the new decentral drives solution from Danfoss - VLT Decentral FCD 300. As with any drives solutions from Danfoss it leaves you with the choice to choose motor supplier as it suits you. The individual drives solution gives you full independence as it can be used on all standard AC motors, or can be mounted on the wall or equipment directly in the application.

The choice is yours!
However, if the motor is a Danfoss Bauer geared motor, there are no unknown concerns regarding responsibility, as the two are already combined and ready for installation when they are delivered.

Integrated drives solutions:
The integrated solutions of a frequency converter and a standard high efficiency motor is a matched design which is optimised with respect to space, costs, EMC compliance and efficiency. It is a ready-made plug-and-play solution that requires a minimum of mounting and adaptation costs.

Cost-effectiveness

Distributing controls over the plant space makes cabinets almost obsolete, and reduces cable expenses. To make it a feasible solution several challenges have to be overcome. The electronics must be robust in terms of material choice and surface protection, and they must also be easy to commission and service efficient. Additional demands for compatibility with the cleaning procedures and material choices in the industries are paramount. All these issues have been addressed innovatively by the Danfoss drives solutions.

Benefits



- Easy installation
- Increased flexibility
- Improved utilization of narrow space
- Easy reconfiguration of the production flow
- Reduced installation costs
- Reduced cabling and cabinet space
- Plug-and-play principle
- Fast and easy service – limited technical know-how required
- Downtime reduced to a minimum

VLT® frequency converters BAUER geared motors

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