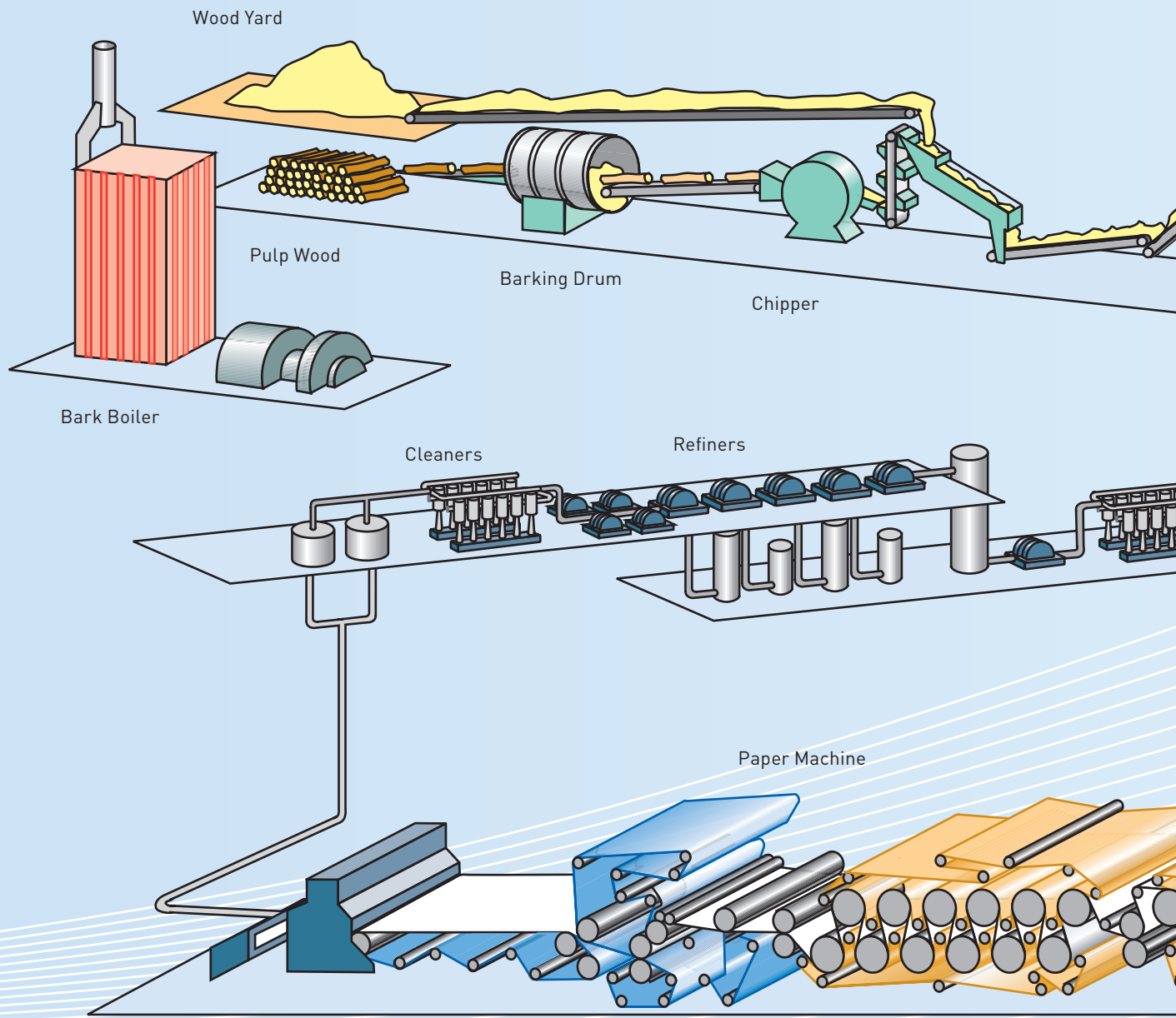




**VACON AC DRIVES
PERFECTION IN PULP & PAPER**

vacon
DRIVEN BY DRIVES

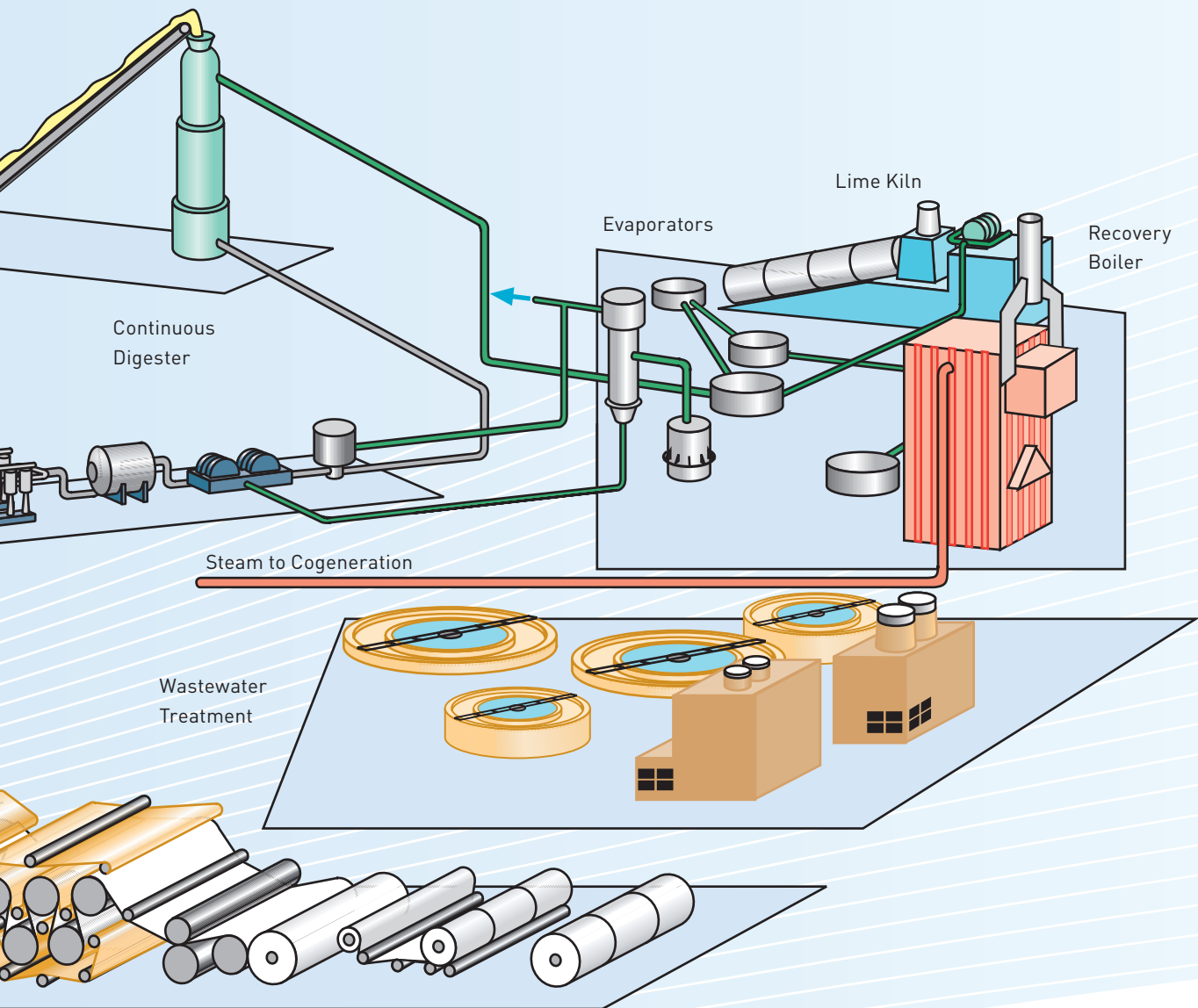


IT'S ALL ABOUT THE ATTITUDE

Vacon's professional and innovative personnel have a long field experience in pulp and paper processing and a wide expertise in various applications and services. This is why we have the skills to offer robust AC drives solutions to your production line requirements.

We offer the complete power range from 0.25 kW to 3 MW, with global sales, support and service network. Our drives can substantially improve the quality and efficiency of your

process or production. From a small single-drive application to a complex process control application covering part of your plant or the whole plant.



Vacon AC drives, together with our technical expertise, improve your process in terms of

- Runnability
- Efficiency
- Quality

We provide superior AC drives solutions to your needs with

- High reliability
- Advanced technology
- 24/7 customer support
- Local and global service network
- Experienced AC drives specialists at your service
- Integration

SUPERIOR PERFORMANCE

The Vacon AC drives with advanced and reliable control solutions bring the advantage for Vacon customers in the pulp and paper business.

Reliable process control

Flexible integration and easy operation, together with robust motor control, ensures the maximal efficiency and benefits. Vacon AC drives guarantee the success even in the most demanding applications.

System integration

The flexible standardized connections with proper information and diagnostics are the native features of all Vacon AC drives.

- multiple fieldbuses
- serial interfaces
- expandable I/O
- Ethernet

Vacon’s dynamic application solutions enable the process and diagnostic data availability for overriding systems. Comprehensive run-time self-supervision and alarm system enhance the reliability and safety.

Fast installation and commissioning

The compact size and full modularity of Vacon AC drives together with well-designed mechanical construction and instructions minimize your installation time. Informative PC tools reduce commissioning time and optimize machine tuning for a successful start-up.

Comprehensive support and service

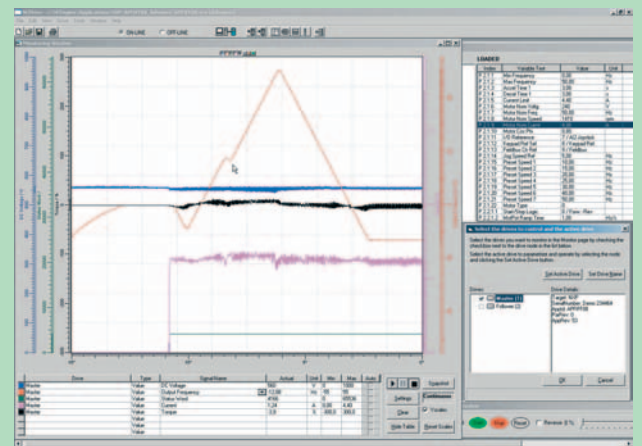
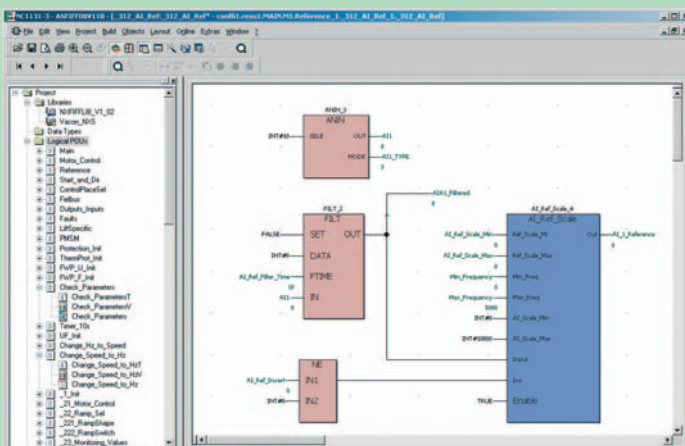
Vacon’s experienced AC drives specialists keep your production running. Our local and global service network gives a fast and professional response wherever and whenever it is needed, 7 days a week, 24 hours a day. The Vacon Internet site provides an easy access to PC tools, manuals and all special applications for downloading.

Vacon NC1131-3

All drive applications are created with the Vacon NC1131-3 programming tool. This tool incorporates a wide range of IEC programming standards, and good online diagnostic features.

Vacon NCDrive

The Vacon NCDrive, an easy-to-use commissioning tool, enables full control of all Vacon AC drives: parameter back up, parameter comparison, simultaneous monitor of up to 8 drives, operating window, drive diagnostics and service info.



MAKE THE PERFECT CHOICE

To choose the right Vacon AC drive for your needs, the experienced Vacon personnel is pleased to assist you in making the right decision. We know there are several issues to consider. Therefore, we have the know-how and willingness to help you to concentrate on the essentials.

Energy savings

Running motors with variable speed instead of constant speed can save up to 50% in your energy consumption. Vacon AC drives bring considerable energy savings in many pulp and paper applications, particularly in pumps, fans and compressors.

Decreased mechanical stress

In direct online starts, the driven equipment is subject to a high stress. Vacon AC drives gradually ramp the motor up to the operating speed, decreasing the mechanical stress. For instance, pressure spikes in pipes will be substantially lower due to smooth regulation. The extended lifetime of the mechanics also means lower maintenance and repair costs.

When making important decisions, you want to be sure and confident that your choice is right from the very beginning. Your choice of Vacon guarantees that you can sustain and improve your competitive power.

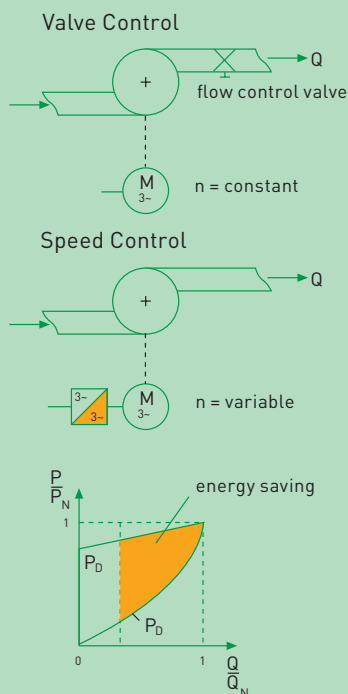
Reduced starting current

Using single-speed starting methods results in abrupt motor starts and in a high level of current from the supplying network to the motor. Using Vacon AC drives, the current from the supply will be much lower, and the high starting torque is still available when needed.

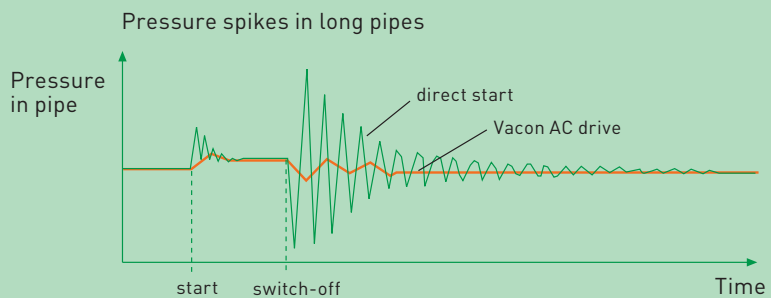
Reduced noise level

Most of the time, the nominal speed of the motor is too high for optimal process control. High speed, especially in fans, is the major source of noise. Vacon AC drives adjust the speed of the motors to the optimum, therefore reducing the level of noise.

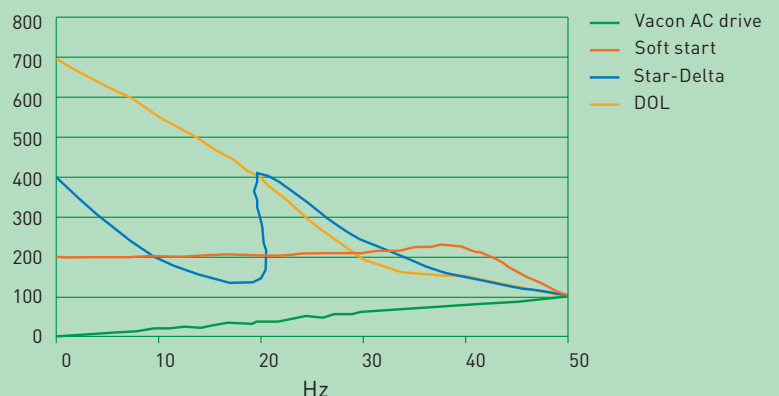
Energy savings



Decreased mechanical stress



Reduced starting current



ROBUST TECHNOLOGY FOR PULP AND PAPER

The Vacon NX product family is designed to fulfil the requirements of the whole production line with a single product family. The major features of Vacon AC drives are:

Robust and reliable

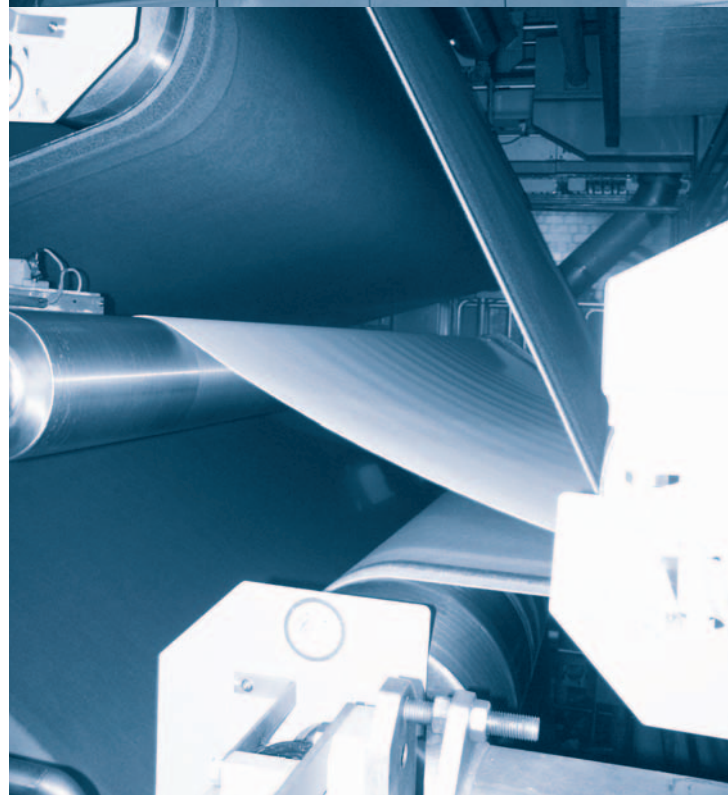
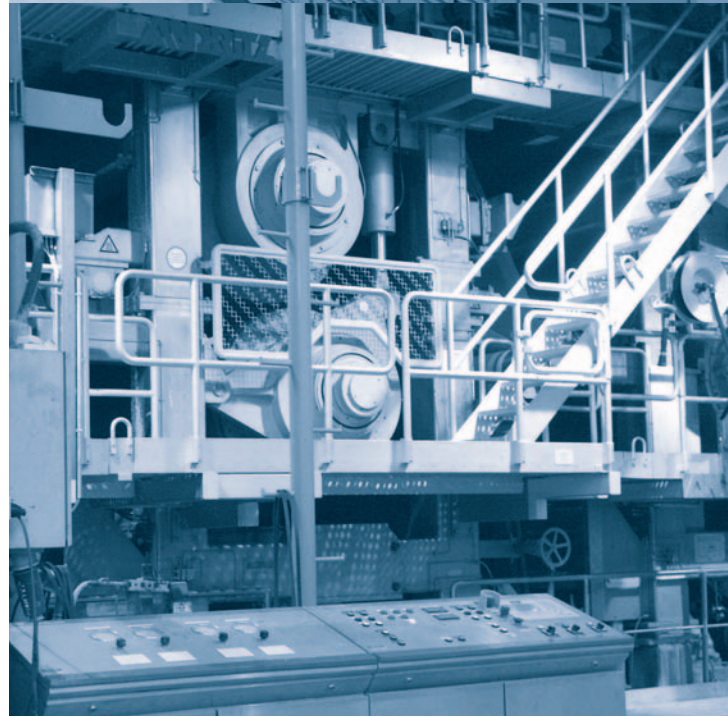
- Each drive tested at maximum temperature and at full motor load prior to shipment
- All drives made of high-quality components for long lifetime
- Comprehensive run-time self-supervision and alarm system for enhanced reliability and safety

Versatile control and integration

- Single-drive and complex process control applications possible
- Unsurpassed flexibility in communication via multiple fieldbuses
- Dedicated inter-drive bus for coordinated drives
- Sophisticated, expandable I/O connections with quick terminals
- A large number of I/O cards available for different applications
- Control logic can be powered from an external supply
- Wide selection of application software available
- RS232C terminal for PC connection

Innovative and modern

- Quick and easy installation
- Start-up wizards for easy commissioning
- Compact size
- Motor parameter identification capability
- NC1131-3 Engineering tool for most demanding uses
- Versatile PC tools for loading, setting and comparing parameters
- Parameter transfers between drives and applications



PAPER MACHINE SECTIONAL DRIVES AS A PART OF INTEGRITY

During the past few years, Vacon has invested heavily in designing sectional drives. Vacon AC products and solutions are highly applicable to the needs of system and sectional drives used in the heavy industry. In cooperation with our highly skilled partners, Vacon is always able to deliver even the most demanding total solutions. Vacon sectional drives can be integrated into a production line automation system, thus making separate drive control systems unnecessary.

Pulp drying driven by Vacon at UPM Pietarsaari mills

The UPM kraft pulp mill in Pietarsaari, Finland, is one of the world's biggest kraft pulp production lines. The major investment, known as Wisa 800, is planned to increase the production capacity of the kraft pulp from 620,000 to 800,000 tonnes per year.

A clear bottleneck has been the pulp drying line No. 2, built originally in 1962. The line has been re-built several times since then. Aiming for the increase in production capacity and cost efficiency, the line speed of the pulp drying line No. 2 was increased from 60 m/min to the target speed of 100 m/min.

All in all, 27 Vacon AC drives in the power range from 2.2 to 250 kW (400 V and 690 V) are now controlling the pulp drying line No. 2. All Vacon drives are connected via Profibus DP to the Metso automation and drive control system.

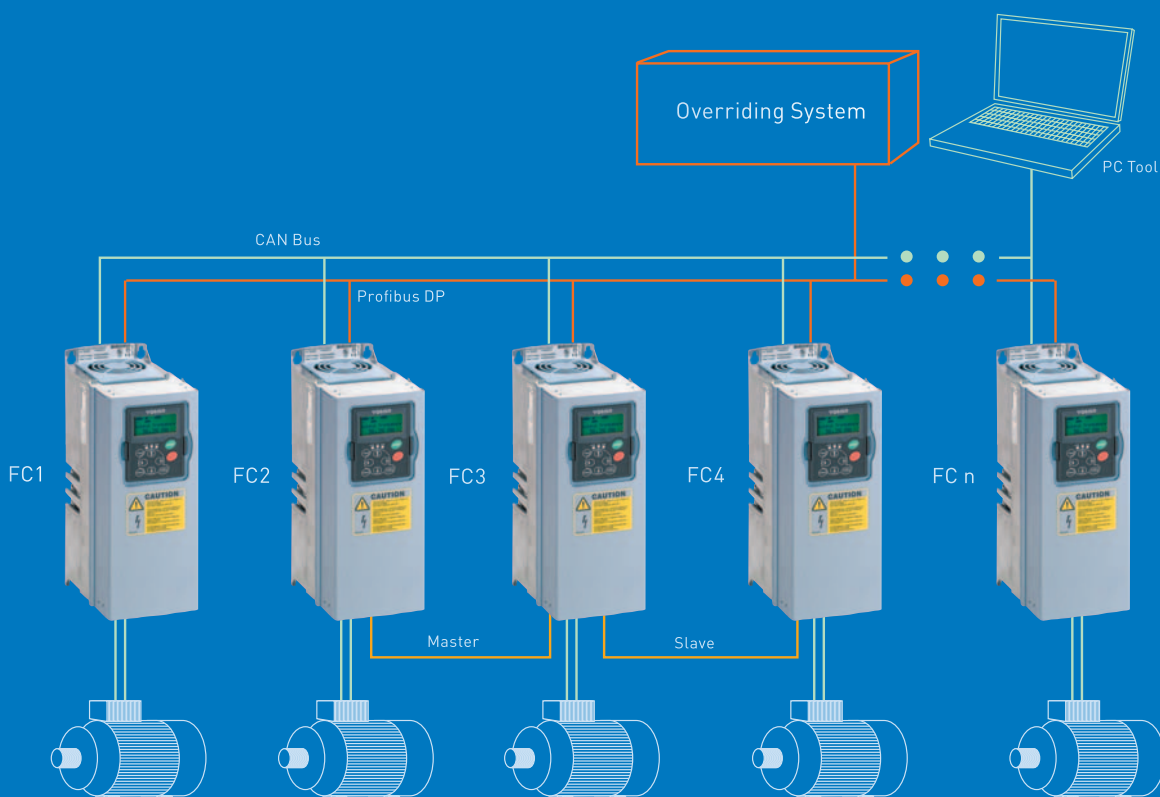
After a planned downtime, the pulp drying line No. 2 was re-started successfully during the peak period of the Finnish summer in June 2003. The service experience gained during the first 11 months of operation has been positive.

State-of-the-art integration

Open architecture and seamless integration of drives to the automation system is a modern way to optimize the operating and control of the production line.

Communication via Profibus provides standard control commands and access to a wide range of measurement and control data on the process itself. Profibus DP also reduces the amount of wiring and the number of connections as well as the costs of installation, commissioning and service.

Signal processing and analyzing the different process situations are essential to achieve smooth and synchronized operation. Vacon's NCDrive tool offers a possibility to analyze 8 drives from a maximum of 255 drives at a time, with the minimum sampling interval of 1 ms for monitoring. Among the various features, the tool also incorporates a function that saves the logged data on the hard disk, which is useful for monitoring long-term trends.





Vacon Plc

Runsorintie 7, 65380 Vaasa, Finland
Tel. +358 (0)201 2121, Fax +358 (0)201 212 205
www.vacon.com, email: info@vacon.com

Vacon Partner