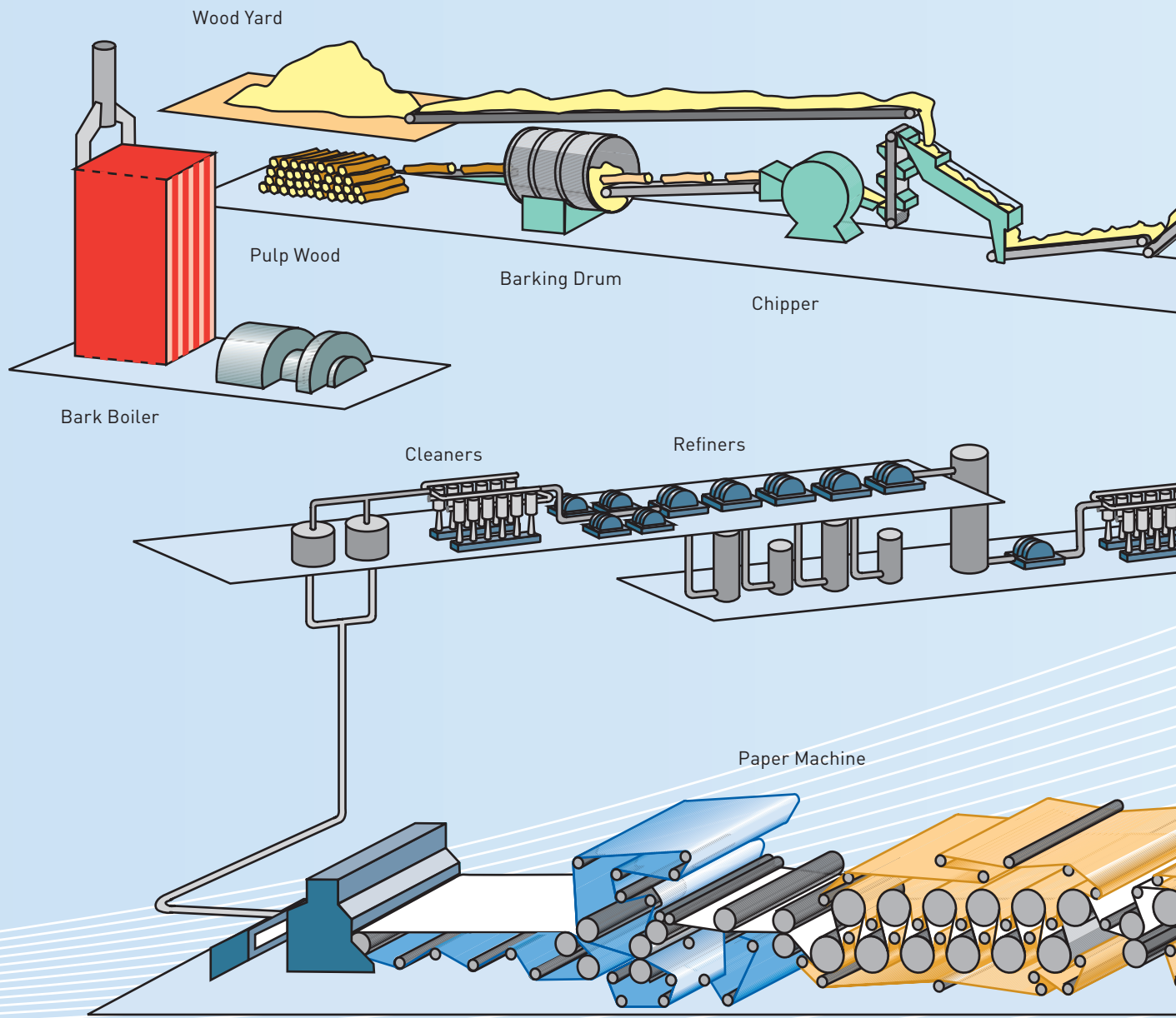




**VACON AC DRIVES
FOR EVERY NEED IN PULP AND PAPER**

VACON
DRIVEN BY DRIVES

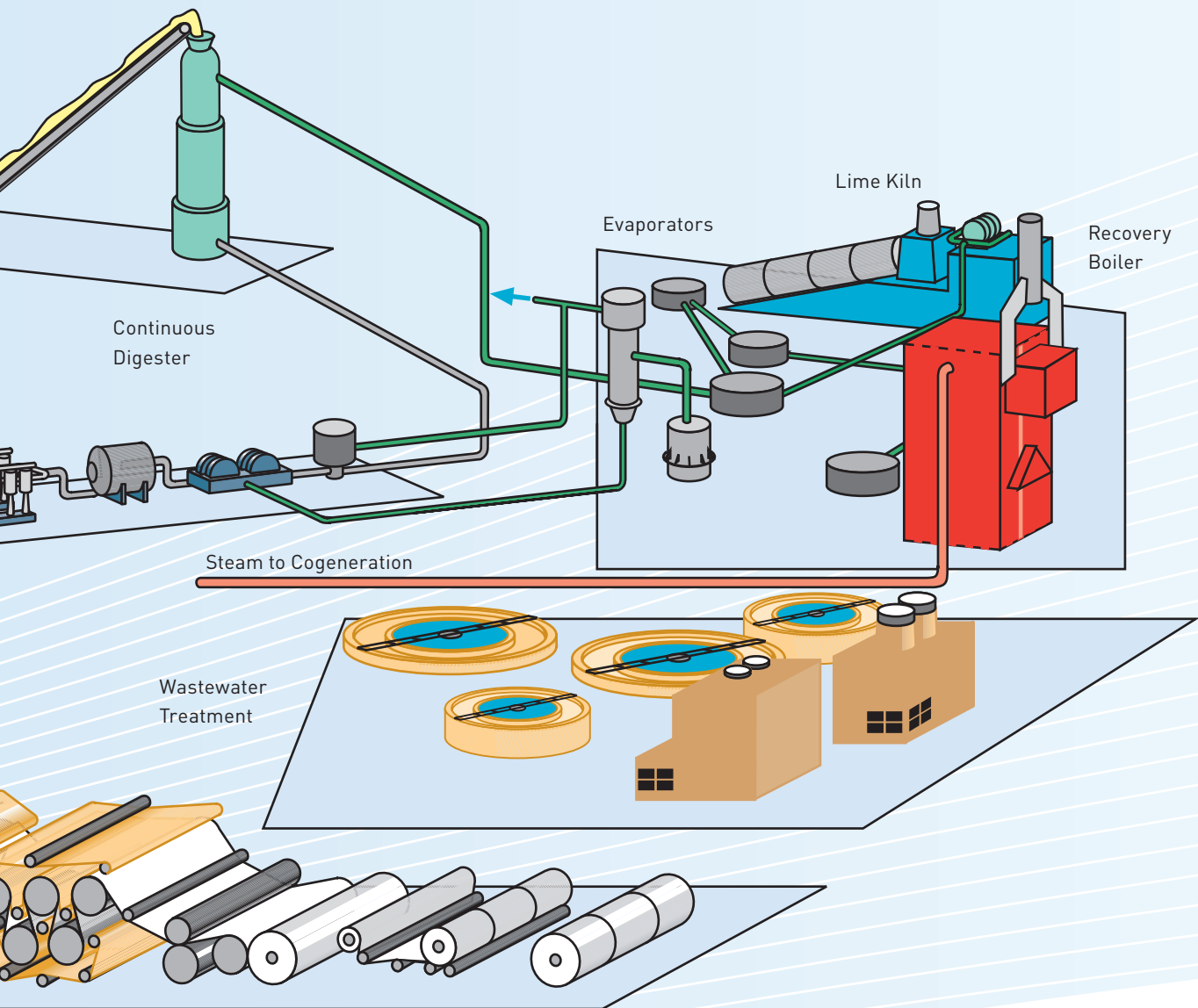


IT'S ALL ABOUT THE ATTITUDE

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

We offer the complete power range from 0.25 kW to 5 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 success in even the most demanding applications.

System integration

Flexible standardized connections with proper information and diagnostics are 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.

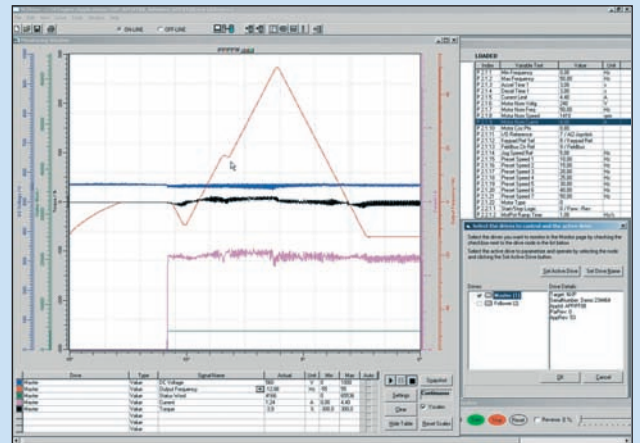
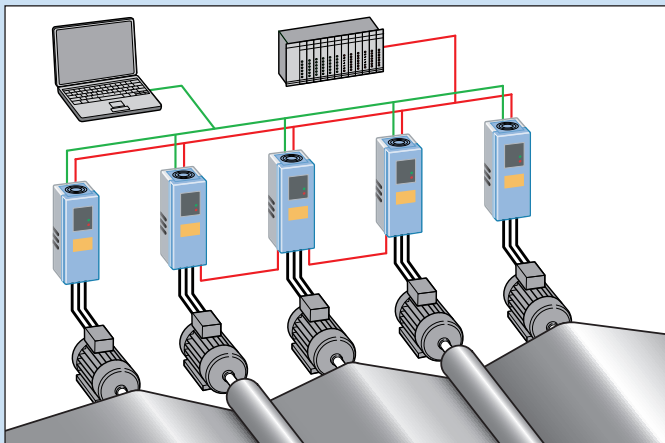
Comprehensive support and service

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 NCDrive

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.



MAKE THE PERFECT CHOICE

To choose the right Vacon AC drive for your needs, Vacon's 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.

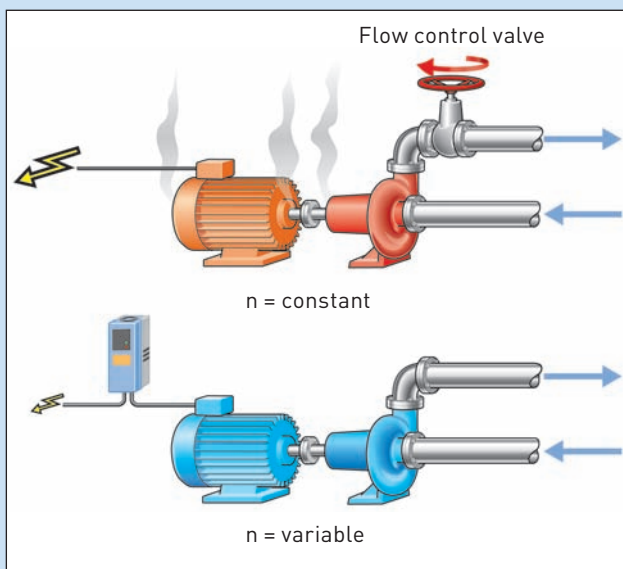
Reduced starting current

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.

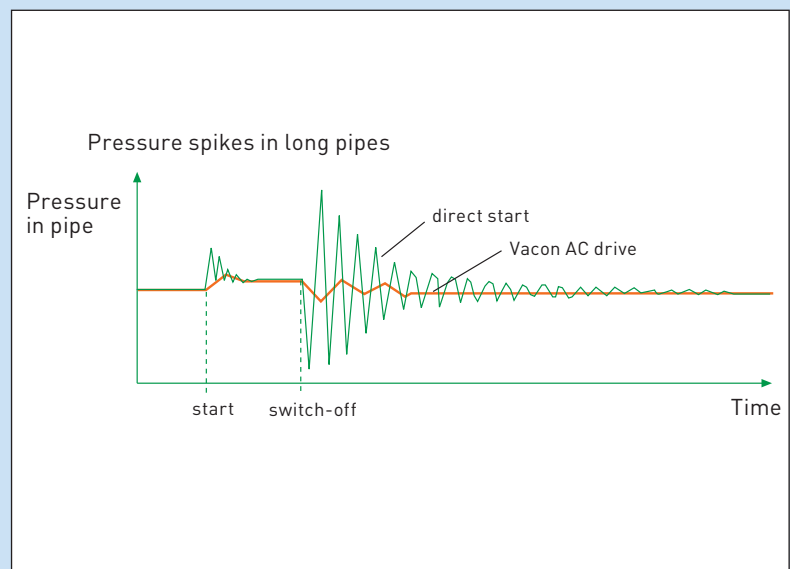
Reduced noise level

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



ROBUST TECHNOLOGY FOR PULP AND PAPER

The Vacon NX product family is designed to fulfill 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
- 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 field-buses
- Dedicated inter-drive bus for coordinated drives
- Sophisticated, expandable I/O connections with terminals
- A large number of I/O cards available for different applications

Innovative and modern

- Quick and easy installation
- Start-up wizards for easy commissioning
- Compact size
- Motor parameter identification capability
- NC61131-3 Engineering tool for most demanding uses
- Versatile PC tools for loading, setting and comparing parameters
- Parameter transfers between drives and applications

INDUSTRIAL AC DRIVES

Vacon's industrial drives have been designed to provide the best possible reliability and availability of a machine or a process under all circumstances for the entire lifetime of the system.

The air-cooled Vacon NXS/NXP is a state-of-art AC drive for use in various applications where robustness, dynamic performance, precision and power are required.

The liquid-cooled Vacon NXP is our most space-saving AC drive, well suited for locations where air-cooling would be difficult or expensive, or where the installation space is at a premium. Total space savings of up to 70% can be achieved.

The enclosed Vacon NXC drive is designed to meet the most demanding requirements of flexibility, robustness, compactness and service-friendliness.

The Vacon common DC bus product portfolio fulfills all solution demands with a flexible architecture, covering a number of front-end units, inverter units and brake chopper units.



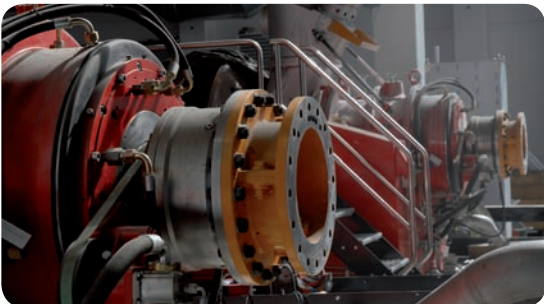
PROVEN TECHNOLOGY

Vacon has delivered thousands of AC drives for the paper industry. Most of the drives are sold either directly to the end-users or through system integrators. However, a wide range of drives is also delivered via brand label customers, distributors and OEMs.



UPM CHANGSHU MILL

UPM, China – The world's biggest and fastest paper machine for uncoated fine papers at UPM Changshu, uses Vacon AC drives to control pumps, fans and conveyors at their site. Vacon offers robust and reliable single-drive and sectional drive solutions for system integrators to be used, e.g., in pulp and paper as well as in mechanical wood processing.



HOLMEN PAPER BRAVIKEN

Holmen Paper, Sweden – Thermo Mechanical Pulping Line (TMP). The delivery includes both air-cooled and liquid-cooled drives from 2.2 kW up to 2300 kW. Vacon AC drives are used to save energy and to improve the process.



BOTNIA KASKINEN

Botnia, Finland - Vacon helps in controlling Botnia's wood handling process in Kaskinen. The barking drum is driven by 16 Vacon NXP drives. The two chippers are also controlled by Vacon NXP drives, which enable controlled start-up of the chipper and avoid overload of the electrical network.



UPM KAIPOLA

UPM, Finland - Winders are the most demanding applications in the paper industry. The AC drive must be able of extremely accurate torque and speed control over a wide range. At Kaipola Mill, the Vacon NXP drives are configured as a common DC bus system. Vacon's state-of-art active front end (AFE) is used as a rectifier.



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