

Case story | VACON® NXP System Drive

VACON® NXP System Drive – the heart of a paper machine in Brazil

VACON® NXP System Drive is a standardized system drive that can be configured using pre-engineered, verified options. This simplifies integration and installation, and also brings end users significant lifecycle benefits such as lower maintenance costs and a minimal need for spare parts and training. At a paper mill in Brazil, the VACON® NXP System Drive is powering a paper machine and a winder.

Brazil is one of the few countries where new pulp and paper production lines are being built today. The Brazilian market is a strong foothold for Voith, which develops and implements comprehensive automation solutions for the entire paper production process,

perfectly tuned to customer requirements. Voith combines the machine control system, process control system, quality control system, motors and drive control system with a universal and open automation system. For the development of such processes, Voith Paper cooperates with partners like Vacon: in 2008, Vacon was chosen as their preferred AC drives supplier for their paper-machine deliveries worldwide.

Complex process with speed control in focus

Today's paper-making machines are extremely complex and efficient, operating at speeds of up to 2,400 meters per minute, depending on the type and weight of paper. The machine

is divided into sections where the sheet is dried, pressed and wound. Once wound, the sheet is taken to another machine – the winder – where it is cut into smaller rolls according to customer specifications.

At this particular paper mill, the sections of the paper machine and winder are driven by a VACON® NXP System Drive. Controlling the tension of the paper moving through the machine, the drive ensures synchronized speed, and maintains the quality of the sheet and machine efficiency. An automated process is the key to efficiency, especially at high speeds. Active Front End modules are used as supply units enabling regenerative braking. By feeding practically harmonic-free braking energy back into the supply,





the modules improve efficiency and bring energy savings. Profibus is used for communication with the upper-level system, Voith Automation System Control.

Pre-engineered sections, but configurable with options

The VACON® NXP System Drive is based on pre-engineered sections which are configurable. Thanks to the tested and verified enclosure design and the standardization of the process and tools, the engineering lead time is short, which helps system integrators. Mauro Lopes, Automation Manager, Voith Paper is pleased: "Vacon's solution is quick and easy to integrate with our automation system, assuring control of the paper path from the beginning

to the end of the process. We can say that the VACON® NXP System Drive acts as the heart of the machine. As all systems have to work in an integrated manner and in line, the electric equipment powering the motors must be of high quality and easy to operate and maintain. This is what we recognize in the VACON® NXP System Drive," he says.

"Our customers are very satisfied with the quality of the paper as the paper machine has operated well. Vacon also provides excellent technical support."

For Jari Marjo, Marketing Director, Premium Drives, Vacon Plc, positive customer feedback is rewarding: "With the VACON® NXP System Drive concept we want to further enhance our cooperation and ability to serve our partners, to be more responsive and to provide a broader scope of delivery. The concept also allows system integrators to focus on the overall solution, while we focus on the drives. This concept has been given a warm reception among our system integrator partners," he says.

Local support available

Vacon Latin America located in Brazil has delivered AC drive solutions to

VACON NXP System Drives can be used in a wide range of industries, such as power generation (including renewable energy production), water and wastewater, metals, pulp and paper, marine and offshore, and cranes and hoists. Installation and maintenance are quick thanks to easy access: the modules and components can be pulled out from the front of the enclosure. Replacing a module takes only 15 minutes!

The VACON NXP System Drive is based on pre-engineered sections which are configurable. It is based on air-cooled VACON® NXP and VACON® Common DC bus products, comprising an extensive range of modules in a wide power range. The VACON NXP System Drive is available in several IP ratings, and CE and UL certification provides external verification for the product. The control and power sections in the modules are separated for greater safety. Auxiliary components, incoming devices, supply units and inverter modules are provided as separate pre-engineered sections.

several Voith Paper projects in Brazil during the past years. "We are very happy about our partnership with Voith Paper. The VACON® NXP System Drive concept is a good way to further enhance the partnership as it is ideal for the pulp and paper segment where downtime is very costly. The standardized modular design of the VACON® NXP System Drive improves reliability, provides savings and minimizes the need for spare parts and training of maintenance personnel. And, if necessary, Vacon's local or global service network can provide support at any time," explains Claudio Luis Baccarelli, Managing Director, Vacon Latin America.

This case story was originally released before the merger of Vacon and Danfoss Power Electronics was fully completed on 15 May 2015. As a result, Vacon as a company brand no longer exists and contact persons mentioned in the story may have changed. Future case stories on VACON® products will be released on behalf of the new organization – Danfoss Drives – which is part of the Danfoss Group.