

Initial results of the new OnQ ModuleJet actuator

Rapid modernization on the headbox

Board producer Moritz J. Weig GmbH in Mayen needed a solution for its outdated profile controller system on the headbox. Because of the harsh environment, the actuators no longer worked reliably, so that along with downtimes, there were unwanted fluctuations in the basis weight profile. With the customer, Voith Paper developed a cost-effective modernization solution in which the new OnQ ModuleJet actuators were used for the first time.

In order to make the existing system resistant to the rugged environment, an overhaul of the 79 actuator motors was necessary. However, Voith Paper had another suggestion that turned out to be technically ideal for the requirements of Weig Karton: the newly developed OnQ ModuleJet actuator. Thanks to its compact design, a high protection class (IP67) and thus greater reliability, and serviceability, this proved to be the most economical solution.

Low investment ensures high availability

The OnQ ModuleJet actuator series facilitates cross-profiling on headboxes with dilution technology. The combination of the OnQ Profilmatic control software and

OnQ ModuleJet actuator system guarantees good and uniform basis weight cross profiles. In order to withstand the difficult operating conditions and guarantee high availability, OnQ ModuleJet offers some important advantages:

- Separated from the motor unit, the electronics can be installed so they are protected from the white water
- One electrical unit controls up to eight actuators and takes on the communication with the OnQ Profilmatic control computer

- Depending on the valve construction, the actuators can even be exchanged during operation within 10 minutes, without parameterization
- The actuator meets the protection class IP67 – it is protected against environmental temperatures up to 70°C and water jets
- A faster and more secure Ethernet field bus (100 Mbit) allows extensive diagnosis up to the motor unit

In a project time of just four weeks, Voith Paper developed an automation

“A thoroughly successful upgrade, no profile problems, no downtimes!”

Thomas Ganster, project manager of the OnQ ModuleJet upgrade, Weig Karton



Separate, protected installation of the electrical units.



An upgrade of outdated headboxes is possible through a simple rebuild.



“We are impressed by this innovative Voith solution.”

Henning Dippel, KM 6 operations manager, Weig Karton

“Although the project was decided on at very short notice, only around five weeks from placing the order to startup, everything went off without a hitch. Since the upgrade, there has not been a single malfunction in the hardware or software. We are impressed by this innovative Voith solution.”

concept to increase the efficiency of the KM 6. In two days of downtime, employees of Voith Paper and Weig Karton worked together in the field to exchange the 79 actuators and lay the cable. The computer network and the data connections were also inspected and renovated. The OnQ Profilmatic hardware and software were upgraded and connected to the customer’s operating data capture system via an OPC link.

The actuator network was implemented via Ethernet, with an optical fiber connection between the computer cabinet and motor control unit. In addition, an extensive replacement parts package was put together and an on-call service contract was concluded. This service ensures that a malfunction will be corrected as quickly as possible.

Challenge in Mayen

Pivotal in the modernization of the KM 6 were production malfunctions that had occurred repeatedly since 2008 as a result of failures in the area of the headbox. The system installed in 2001 for the cross-profiling of the MasterJet FB headbox was out-

dated, so that the actuator motors and distributor boxes were, in part, no longer able to withstand the typical harsh installation conditions of a board machine. The aggressive environment led to heavy corrosion of the connection elements of the distributor boxes. The operators of the KM 6 recognized that, after 10 years, even the most robust system would be subject to breakdowns at that spot. The poor accessibility of the section at a height of approximately seven meters in the upper part of the headbox also made the exchange of the actuators difficult.

In order to improve the situation, Weig Karton turned to Voith Paper in their search for a solution. Based on years of cooperation, the partners quickly found a solution approach and agreed on a rapid implementation.

Economic results

The upgrade of the OnQ ModuleJet control system on the KM 6 took the specific requirements of Weig Karton into account, but nevertheless can be used in many other headboxes. The compact design of the actuator

allows easy rebuilding. The new actuator system is also practically maintenance and service free. Since the upgrade of the KM 6, Weig Karton has achieved a higher overall availability and thus a significant improvement in efficiency. Since startup, the system has operated without a malfunction.

Location

Germany



Mayen
Weig Karton

Mayen is approximately 30 km west of Koblenz and is called “the gate to the Eifel” because of its location. The city of about 18,800 inhabitants is home to companies in the board industry, engineering, and aluminum and plastic processing.

Contact



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