

OnQ ModuleJet

Maximum availability and optimum profile accuracy



- 1 OnQ ModuleJet actuator
- 2 OnQ ModuleJet actuator with valves
- 3 Electronic unit for up to eight actuators
- 4 OnQ Profilmatic control software
- 5 OnS FindSet-net diagnostic system

The best actuators just got even better

Over 30,000 OnQ ModuleJet actuators have already been installed for CD profiling in headboxes using dilution water technology. Highly accurate linear motion and a specially developed valve ensure a precisely metered inflow of dilution water. This proven system has now undergone further improvement.

OnQ ModuleJet is an automated control system that consistently ensures that the basis weight CD profile of the produced paper is of the highest quality. It offers all the capabilities and functions of the Voith OnQ Profilmatic control systems.

Consistently high quality

The combination of OnQ Profilmatic control software and OnQ ModuleJet actuator system guarantees good and uniform basis weight cross directional profiles and also ensures short settling times following system disturbances, thus reducing the amount of broke produced. In addition, it offers the papermaker a range of diagnostic options such as trend display, trend correlation and calculation of shrinkage curves. A remote access server also allows the customer to request support from Voith automation specialists at any time.

High availability guaranteed

The powerful electronics are completely isolated from the motor unit with spindle drive and can therefore be installed protected from white water, which substantially increases the life span.

A single electronics unit can control up to eight actuators and also communicates directly with the OnQ Profilmatic control system. The biggest advantage of this independent structure is that the actuators can be replaced by local staff during operation and without any parameter setting in a maximum of ten minutes.

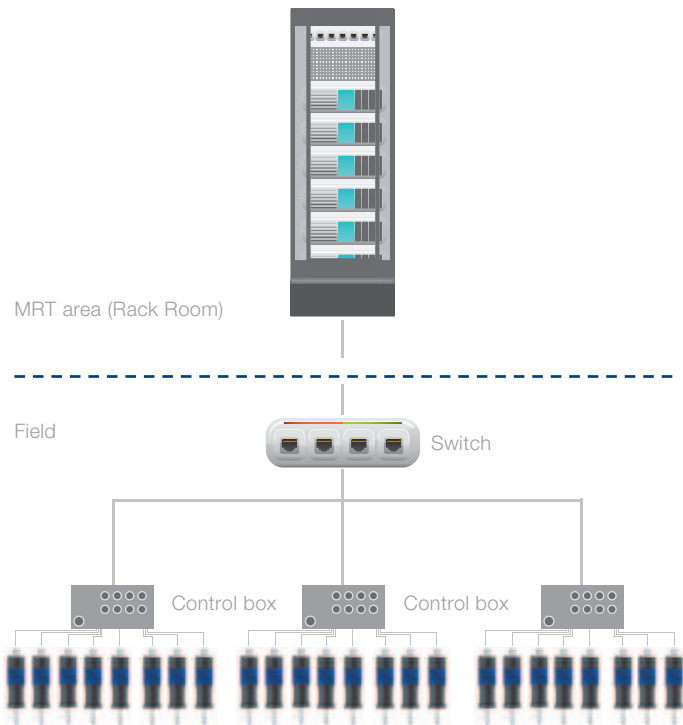
A fast, secure Ethernet-based 100 Mbit/s fieldbus allows comprehensive and fast diagnosis up to and including the motor unit. Because the bus system has a star topology, up to 2,048 drives can be connected per IP segment. In addition, an ingenious software function dispenses with an additional encoder but still guarantees highly accurate positioning of the employed actuators.

OnQ ModuleJet meets the requirements of protection class IP67 and can be used at ambient temperatures of up to 70°C. This makes the actuator system temporarily immersible and thus entirely protected from water spray during normal operation.



Communication structure Ethernet star topology

Up to 2048 drives per IP segment



New systems

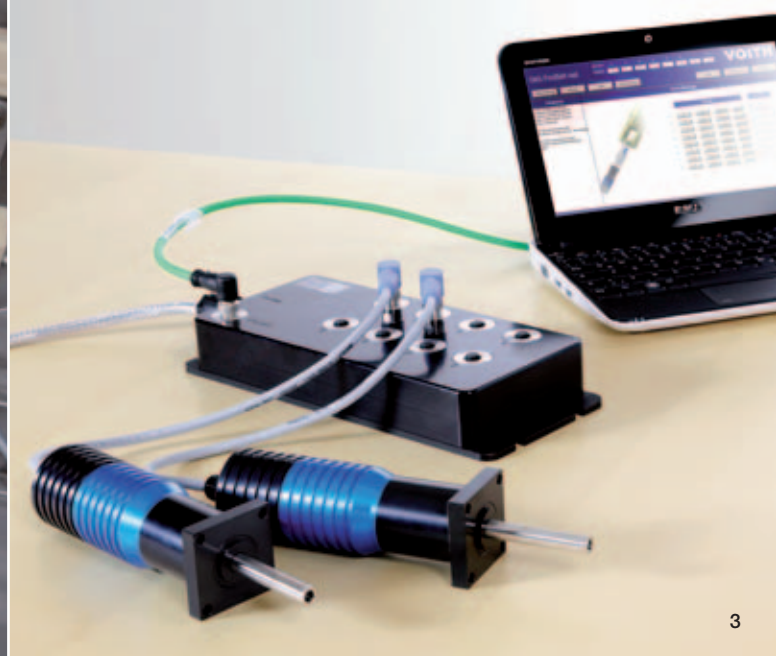
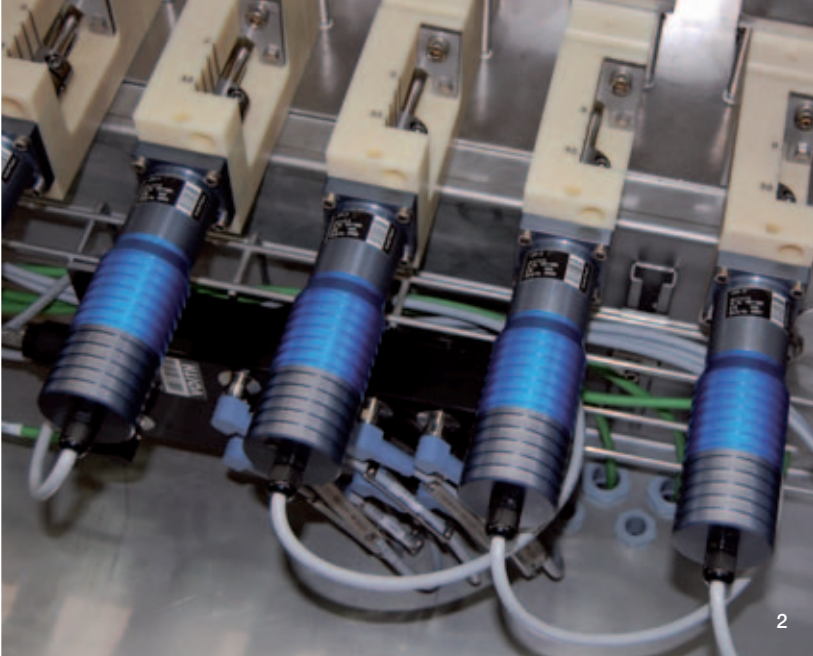
The MasterJet Pro headbox, the ModuleJet valve, as well as the OnQ ModuleJet actuators and the OnQ Profilmatic software are perfectly tailored to one another. This integrated system features uniform profiles, significant improvement in paper quality, lower energy consumption and reduced operating costs.

Upgrades

For existing headboxes the repair costs and production losses increase over the service life of the system. To improve efficiency, Voith Paper has developed upgrade solutions for existing headboxes originally supplied by Voith or other vendors.

OnQ ModuleJet and the newly developed valve with hose connector facilitate efficient and inexpensive connection. This makes it very easy to retrofit the new valve-actuator units to existing headboxes.

Moreover, for many headboxes it is still the operating crew that control the basis weight CD profile. This often results in undesirable profile variations, particularly during start-up, grade changes and felt or wire changes. Retrofitting the OnQ ModuleJet actuator system and an OnQ Profilmatic CD profile controller automatically produces paper of a consistently high quality.



Benefits

- + uniform cross profiles for high quality
- + extended service life by separating control electronics and motor
- + low failure rate of 0.2% per year
- + Failure detection with direct display of the failed actuator
- + 2 ms diagnostic time for key components
- + proven, internationally established Ethernet technology, no special know-how or tools required
- + high transfer security courtesy of Ethernet protocols (IP packets)
- + unlimited number of actuators (2,048 per IP segment), readily expandable
- + complete remote diagnosis via SNMP
- + automatic assignment of IP address to actuator
- + fast support by Voith automation specialists via remote service option
- + simultaneous movement of all actuators, thus avoiding process noise

Stepped motor LVM-6

linear force	nom. 300 N @ v = 200 Hz
travel	30 mm
resolution	2.5 µm/step
steps	200 per revolution
power supply	24V, 1A _{DC}
protection class	IP67 at max. 70°C ambient temperature
operating voltage	22-32 V, 0.6 A

Actuator control box ACB-6

number of axes	8
operating mode	full step
data interface	ethernet TCP/IP
protection class	IP67 at max. 70°C ambient temperature
surface protection	aluminum housing (AlMgSi ₁) black anodized aluminum
rated	for stepped motors 10-60 Ω
step resolution	full step, set up for microstepping
operating voltage	19.2 V _{DC} – 30 V _{DC}
power input	max. 5 A



Optimum long-term CD profile control

To consistently achieve optimum results with the OnQ Module-Jet actuator system a combination with OnQ Profilmatic control software and the use of the OnS FindSet-net analysis tool is recommended.

OnQ Profilmatic

OnQ Profilmatic control software for CD profiles incorporates a large number of advanced control strategies characterized by fast response times and capable of delivering reliable, flat cross profiles.

The OnQ Profilmatic controllers, OnQ actuator systems and Voith quality management system are perfectly matched to one another and therefore achieve optimum measuring and control outcomes.

OnS FindSet-net

Although OnQ CD profile controllers provide the greatest possible level of reliability, it is never possible to rule out malfunctions entirely. Using OnS FindSet-net actuators can be checked while still installed in the paper machine or dismantled on the workbench. The conclusive diagnosis provided helps to quickly and reliably eliminate any faults relating to the actuators, distributor boxes or Profiltronic and in the communication between them.



Benefits OnQ Profilmatic

- + unique, continuous, dynamic mapping (auto mapping) eliminates errors in local mapping and achieves optimum control outcomes
- + adaptive tuning algorithm quickly achieves flat CD profiles
- + automatically detects edge zone actuators
- + optimum control for specific quality parameters affected by several CD profile systems
- + strategy for different weighting of control variables, incorporating secondary quality variables into the control of the primary quality variables
- + fast start-up after web break, basic configuration of CD profile controller in less than an hour

Equipment OnS FindSet-net diagnostic case

- handy netbook
- ACB-6 box or VAM rack
- 90 – 260 V_{AC} to 24 V/6A_{DC} power supply
- adapter cable 4 – 8 pin round connectors
- screwdriver tool for SAI connectors
- screwdriver with torque limiter
- operating instructions



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