

VIB MoistureTech

On-line Moisture Application

Paper mills manufacturing fine and specialty grades require a specific moisture level and flat profile. Today, superior grades in moisture level can be achieved using the VIB MoistureTech and its unique steam application technology. The VIB MoistureTech is a single side/both sides steam applicator to control on-line moisture in cross and machine direction. Our advanced technology enables VIB Systems to provide a reliable, high-performance steam actuator with zone spacing down to 75 mm. This, coupled with our durable pneumatic actuators, provides superior benefits for today's papermakers.

Advanced Actuator Control Systems

VIB MoistureTech Description

The most important characteristics of a moisture control steamshower are its capability and its ability to raise moisture level on steam treated surface without dripping, marks or other damage to the sheet. These characteristics improve the sheet's cross-directional flatness and optimize sheet running in converting. Sheet moisture and sheet stability can be controlled simultaneously using the VIB MoistureTech in the on-line process.

The compromise between process speed, moisture and sheet stability has been eliminated by increasing the velocity of the steam jets onto the web.

The VIB MoistureTech has two cross-directional headers to make the profiler absolutely drip free. The first steam drying header collects all condensate which might arise from the steam supply and assures that only dry steam reaches the second profiling header.



The one-sided pneumatic retraction unit opens, when required, both units of the VIB MoistureTech.

The profiling zone is fully compartmentalized, supplying high-velocity steam to each cross-direction compartment via a separate, uniquely designed actuation valve that allows optimum zone definition and precise control. The spring-loaded profile valves assure immediate steam shut-off at sheetbreak. These proprietary control valves assure finest control of even the smallest amounts of steam (moisture) and prevent excessive steam application. The VIB control technology assures sophisticated on-line control with special limits for each different grade. The VIB MoistureTech heating system assures that the steam shower is always hot and immediately ready for steam application.

Primary material for VIB MoistureTech is 1.4571 (316 Ti) stainless steel. A special steam heating system of diffuser plate and dwell zone assures complete heating even during longer sheetbreaks.

Control Station^{ECS} is an electronic control station that governs the pneumatic actuators. Each actuator is controlled by an I/P-converter with a control signal of 0.4 to 2 bar (6 - 30 psi). Setpoints are sent from the VIB Control Station^{IPS} using measurement system data.

Control Station^{IPS} is an integrated process station that serves as the central process point for the system. It contains the integrated control, the operator visualization package, PLC functions and the intelligence to control the entire actuator control system.

Benefits for the Paper Industry

- Increased sheet moisture for higher quality grades.
- Flatter profiles and moisture control can be achieved simultaneously.
- Narrow spacing of the actuator can be defined based on sheet flatness.
- Optional feedback of the actuator position ensures reliable functioning of the VIB MoistureTech Actuator.
- Better edge performance for improved converting.
- Moisture increase of 1.5 - 2% by using single-side application.
- Moisture increase of 2 - 3% by using double-side application.
- Moisture control on siliconized paper.
- Moisture control on Coated Paper.
- Moisture control on converting machines.
- Moisture control on Filter Paper.
- **3 - 4% increase in efficiency of the total production line with integrated moisture control.**



A complete MoistureTech system from VIB Systems – here two-sided moistening of thermal paper at a production speed of 1,300 m/min (4,250 fpm).



VIB MoistureTech at work

Technical Specifications

Pneumatic Actuator

Body material 1.4404

Control signal 0.4 - 2 bar (6 - 30 psi)

Position indicator

Closed in the absence of a control signal

Stainless Steel

Primary 1.4571 (316 Ti)

Options

- Pneumatic retraction
- Hydraulic retraction
- Vapor extraction hood
- Steam supply engineering
- PosiTrak position feedback
- Turnkey installation

PSF® - Precision Steam Finishing

VIB SteamTech^{FF} – Fourdrinier Flat Steamshower

VIB SteamTech^{TAD} – Through-Air Drying

Steamshower

VIB SteamTech^{TC} – Tissue Steamshower

VIB SteamTech^{SC} – Press Section Steamshower

VIB SteamTech^{TFF} – Teflon Flat Felt Heating

Steamshower