

# MoistureTech

## On-line Moisture Application

*Paper Mills making fine and specialty grades, need a specified moisture level and flat profile. Today with the MoistureTech and its unique steam application technology, superior grades in moisture level are achievable. The MoistureTech is a single side/both sides steam applicator to control on-line moisture in cross and machine direction. Our advanced technology allows V I B Systems to provide a high performance reliable steam actuator with zone spacing down to 75 mm. This, along with our long life pneumatic actuators, provides superior benefits for today's paper makers.*



## Advanced Actuator Control Systems

### MoistureTech Description

The most important properties 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 properties will improve the sheet's cross-directional flatness and optimize sheet runability in converting. With the MoistureTech in the on-line process, managing sheet moisture and sheet stability at the same time are achievable.

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

The MoistureTech has two cross directional headers to make the profiler absolutely drip free. The first steam drying header collects all condensate which might come from the steam supply and assures that only dry steam reaches the second profiling header. 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 too high steam application. The V I B control technology assures sophisticated on-line control with special limits for each different grade. The MoistureTech heating system assures that the steam shower is always hot and immediately ready for steam application.

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

**Control Station<sup>ECS</sup>** is an electronic control station that manages the control of the pneumatic actuators. Each actuator is controlled with an I/P-converter with a control signal from 0.4 to 2 bar (6 - 30 psi). Setpoints are sent from the V I B control station<sup>IPS</sup> using measurement system data.

**Control Station<sup>IPS</sup>** 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 manage the total actuator control system.

### Benefits to 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 MoistureTech Actuator.
- Provides 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.
- **Efficiency increase of total production line with integrated moisture control of 3 - 4 %.**

## Technical Features

- Two steam headers in cross direction.
- Steam heating system.
- Diffuser plate heating.
- Steam heated dwell zone.
- Integrated control including PLC functionalities (interlocks, loops).
- Profiling zone spacing down to 75 mm means high profiling capability.
- Rigid construction, material 316 Ti.

## Options

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

## Technical Specifications

### Pneumatic Actuator

Body material 1.4404  
Control signal 0.4 - 2 bar (6 - 30 psi)  
Position indicator  
Closed when no control signal

### Stainless Steel

Primary 1.4571 (316 Ti)

## PSF<sup>®</sup> - Precision Steam Finishing

SmoothTech Soft and Multinip Calender Steamshower  
GlossTech Super Calender Steamshower for SC and LWC  
MoistureTech On-line Moisture Application  
CurlTech On-line Curl Control

## Advanced Actuator Control System Layout

