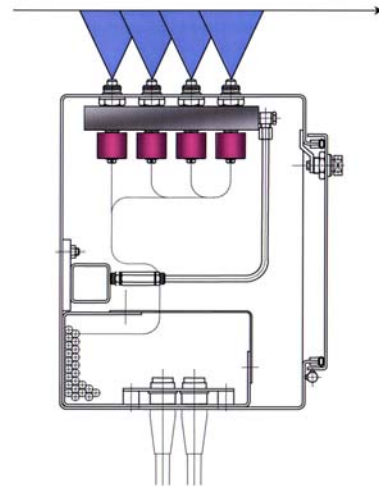


## VIB WaterTech<sup>PC</sup>

### Hydraulic High Flow Spray System

Paper and Board Mills making large tonnage, need a level sheet moisture profile through the entire length of the paper production line. Today with V I B SprayTech<sup>®</sup> and its unique water spray technology with PSM<sup>®</sup> (particle size management), superior performance in the moisture profile is achievable. The V I B WaterTech<sup>PC</sup>, a member of the SprayTech<sup>®</sup> Family, is the industry high flow spraydampening system. The proprietary fine droplets nozzle technology allows V I B Systems to provide an application matched solution. These high performance spray nozzles provide paper-makers with a control zone width (down to 75 mm).



# Advanced Actuator Control Systems

## VIB WaterTech<sup>PC</sup> Description

The most important properties of a spraydampening system are its profiling capability and its ability to control the average moisture level. These two properties improve the sheet's cross-directional moisture profile and optimize the paper machine's productivity and runability. With a V I B WaterTech<sup>PC</sup> in the drying section, controlling to a flat moisture profile with a high average moisture target is possible.

The critical proprietary component of the system are the V I B water nozzles that create a balanced and application matched mixture of water droplets. Directional vanes integrated into the nozzle create a rotational water flow from the nozzle. The pressure pulls the water from the nozzle and transforms it into a fine mist, full cone spray pattern that is efficiently applied to the web. The droplet size increases the absorption into the web and allows application where high flow rates are needed. This eliminates the compromise between production and profiling capability.

The V I B WaterTech<sup>PC</sup> system consists of a sprayboom on which proprietary, water nozzles are mounted on the digital valve blocks; water supply unit, purge air unit, integrated process station, operator station, and the necessary system cable and interfaces to communicate with the measurement systems. Each valve block has 16 digital steps from zero to maximum flow.

The **Actuator Control Station (ACS<sup>Plus</sup>)** is an electronic control station that manages the digital valve blocks in the sprayboom. Setpoints are sent from the V I B Integrated Process Station (IPS<sup>Plus</sup>) using measurement system data. All field signals are wired to the Actuator Control Station.

The **Integrated Process Station (IPS<sup>Plus</sup>)** serves as the central process point for the system. It contains the integrated MD/CD control, the operator visualization package, PLC functions and the intelligence to manage the total actuator control system.

## Benefits to the Paper Industry

- Increased production and flatter moisture profile can be achieved simultaneously.
- Narrow spacing of the actuator is application matched to produce the desired profiling effect.
- Digital flow steps determine the exact flow rate through each digital block and each nozzle for precise and responsive control.
- Provides better edge performance for improved reel building.
- CD moisture 2-sigma improvement of 50 %, profile correction of 4 % to 6 %.
- Reel average moisture increased 0.4 % - 2.0 %.
- Energy savings derived from a level moisture profile and higher average moisture.
- Improved tension profile and reel building.
- Less rejects through better paper quality of 1 - 2 %.
- **Efficiency increase of total production line with integrated moisture control of 1 - 2 %.**

## Technical Features

- The water nozzle applies a highly atomized, low-pressure spray mist to the sheet.
- Integrated CD and MD control including PLC functionalities (interlocks, loops).
- Profiling zone spacing down to 75 mm means high profiling capability.
- LAN or Serial Link protocol for connection to the measurement system. Switchable with a mouse click.
- Narrow cross direction control zone and highest speed of response to process changes.

## Options

- Custom vertical or pivot retraction
- Turnkey Installation
- Heated drip pan

## Technical Specifications

### Nozzle Orifices

.1 to .5 mm (non-plugging)

### Moisture Increase

3 to 6 % moisture

### Resolution

.2 % moisture

### Stand-off Distance from web

100 mm (4 in.) to 150 mm (6 in.)

## SprayTech<sup>®</sup> Actuator Family

V I B AirTech <sup>Plus6</sup>	Air-Water Spray Micro Droplets
V I B AirTech <sup>Classic</sup>	Air-Water Spray Fine Droplets
V I B AirTech <sup>PV</sup>	Air-Water Spray
V I B WaterTech <sup>PC</sup>	Hydraulic Water Spray High Flow

## Advanced Actuator Control System Layout

