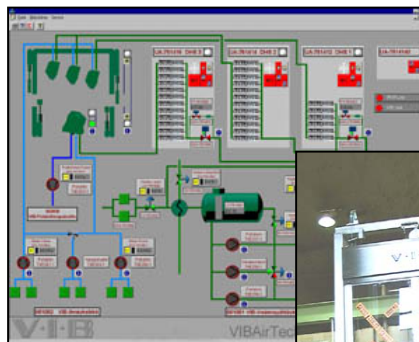


## VIB AirTech<sup>Plus 6</sup>

### Micro Droplets Spray System

Paper and Board Mills making high-quality paper, need a level sheet moisture profile through the entire length of the production line. Today with V I B SprayTech<sup>®</sup> and its unique air water spray technology with PSM<sup>®</sup> (particle size management), superior performance in the moisture profile is achievable. The V I B AirTech<sup>Plus 6</sup>, a member of the SprayTech<sup>®</sup> Family, is the industry's most advanced spraydampening system. The proprietary micro droplets nozzle technology allows V I B Systems to provide an application matched solution. These high performance spray nozzles provide paper-makers with the industry's narrowest control zone width (down to 12,5 mm).



# Advanced Actuator Control Systems

## VIB AirTech<sup>Plus 6</sup> Description

The most important property of a micro droplet spraydampening system is its ability to prevent water drops or marks in the coating or calendering processes. With the patented micro droplets from the particle size management technology, the system can achieve improved sheet properties in both surface smoothness and gloss. For the first time, this improvement is possible without effecting the runability and efficiency of the production line.

The critical proprietary component of the system is the patented V I B two-stage nozzles that create a balanced and application matched mixture of air and water. Directional vanes integrated into the nozzle create a rotational air flow from the nozzle. The rotating air pulls the water from the nozzle and transforms it into a highly atomized, full cone spray pattern that is efficiently applied to the web. The micro droplet size increases the absorption into the web and allows application closer to the treated surface.

The VIB AirTech<sup>Plus 6</sup> system consists of a sprayboom on which proprietary, two-stage nozzles are mounted; digital hardware station (DHS<sup>Plus 6</sup>); air supply unit and water supply unit; integrated process station; operator station; and the necessary system cable and interfaces to communicate with the measurement systems.

### New Grades for the Paper Industry

- On-line SC A/B with multinip calender
- On-line curl control for single side coated process
- On-line single side gloss application with soft calender and multinip calender.

**Digital Hardware Station (DHS<sup>Plus</sup>)** is an electronic control station that manages the flow through the digital valve blocks. Each valve block has 64 digital steps from zero to maximum flow. Setpoints are sent from the V I B Integrated Process Station (IPS<sup>Plus</sup>) using measurement system data.

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 60 %, profile correction of 3 % to 5 %.
- Reel average moisture increased 0.5 % - 4.0 %.
- Energy savings derived from a level moisture profile and higher average moisture.
- Improved tension profile and reel building.
- Increased caliper and flatter caliper profile.
- Less rejects through better paper quality of 2 - 3 %.
- **Efficiency increase of total production line with integrated moisture control of 2 - 4 %.**

## Technical Features

- Advanced proprietary two-stage 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 25 mm means high profiling capability.
- Constant air flow through the nozzles keeps them free from broke and debris.
- LAN or Serial Link protocol for connection to the measurement system. Switchable with a mouse click.
- Narrowest cross direction control zone and highest speed of response to process changes.

## Options

- Custom vertical or pivot retraction
- Turnkey Installation
- Heated drip pan
- Mist removal system

## Technical Specifications

### Nozzle Orifices

1 to 3 mm (non-plugging)

### Moisture Increase

1 to 2 % moisture per row of nozzles

### Resolution

.01 % moisture

### Stand-off Distance from web

120 mm (5 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

