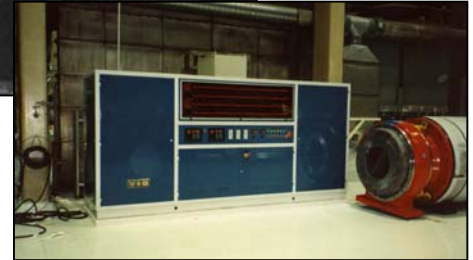


VIB AirTech^{Classic}

Fine Droplets Spray System

Paper and Board Mills making quality paper, need a level sheet moisture profile through the entire length of the paper production line. Today with V I B SprayTech[®] and its unique air water spray technology with PSM[®] (particle size management), superior performance in the moisture profile is achievable. The V I B AirTech^{Classic} a member of the SprayTech[®] Family, is the industry standard for 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 papermakers with the industry's narrowest control zone width (down to 25 mm).



Advanced Actuator Control Systems

VIB AirTech^{Classic} Description

The most important properties of a fine droplet 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 AirTech^{Classic} 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 patented V I B two-stage nozzles that create a balanced and application matched mixture of air and water. The water nozzles are located in the center of the air nozzles. 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 fine droplet size increases the absorption into the web and allows application closer to the dry end of the process. The dry end application reduces the dryer load and results in reduced steam consumption. This eliminates the compromise between production increases and profiling capability.

The V I B AirTech^{Classic} system consists of a sprayboom on which proprietary, two-stage nozzles are mounted; digital hardware station (DHS^{Classic}); 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.

Digital Hardware Station^{Classic} (DHS^{Classic}) is an electronic control station that manages the flow through the digital valve blocks. Each valve block has 16 digital steps from zero to maximum flow. Setpoints are sent from the V I B Integrated Process Station (IPS^{Plus}) using measurement system data.

The **Integrated Process Station (IPS^{Plus})** 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

2 to 5 mm (non-plugging)

Moisture Increase

1.5 to 3 % moisture per row of nozzles

Resolution

.1 % moisture

Stand-off Distance from web

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

SprayTech[®] Actuator Family

VIB AirTech ^{Plus6}	Air-Water Spray Micro Droplets
VIB AirTech ^{Classic}	Air-Water Spray Fine Droplets
VIB AirTech ^{PV}	Air-Water Spray
VIB WaterTech ^{PC}	Hydraulic Water Spray High Flow

Advanced Actuator Control System Layout

