

DOX SprayTech^{Fine}

Spray System

Paper and board mills manufacturing quality paper require a consistent sheet moisture profile along the entire length of the paper production line.

Using the spray dampener process a good moistening without formation streaks and with controlled percentages of atomized water will result in better paper machine roll condition and level control.

The DOX SprayTech^{Fine} a member of the SprayTech Family is the industry standard for spray dampening systems. The patented fine droplet nozzle technology enables DOX systems to provide an application matched solution.

Advanced Moistening Control System

DOX SprayTech^{Fine} Description

The most important characteristics of a fine droplet spraydampening system are its profiling capability and its ability to control the average moisture level. These two characteristics improve the sheet's cross-directional moisture profile and optimize the paper machine's productivity and runability.

The critical proprietary components of the system are the patented DOX 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.

The DOX SprayTech^{Fine} system consists of a sprayboom on which proprietary, two-stage nozzles are mounted; control station; air supply unit and water supply unit.

Control Station is for operation of the spray dampener. Each single nozzle is connected with an individual flow meter and regulation valve for selective water control. The total flow is automatically measured and shown on a display.

Integrated control with PLC for all systems.

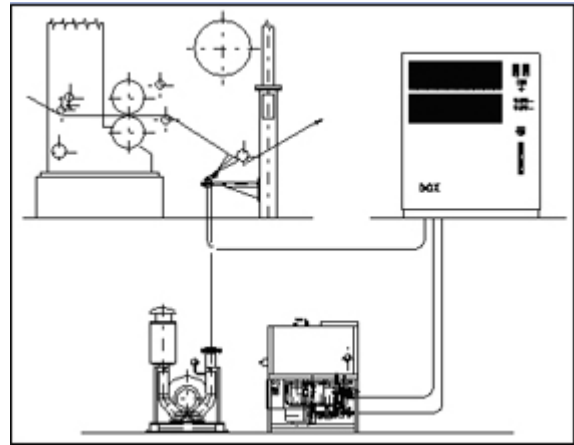
The preselected total quantity of water is automatically varied when individual nozzles are adjusted. The system allows accurate control of moisture profile.

Benefits for the Paper Industry

- Higher output and a flatter moisture profile can be achieved simultaneously
- Better edge performance for improved reel building
- Reel average moisture increased by 0.5 - 4.0%
- Energy savings derived from a consistent moisture profile and higher average moisture
- Improved tension profile and reel building
- Higher caliper and flatter caliper profile

Technical Features

- Advanced patented two-stage nozzle applies a highly atomized, low-pressure spray mist to the sheet
- Profiling zone spacing down to 25 mm gives high profiling capability
- Constant air flow through the nozzles keeps them free from broke and debris
- Integrated control system with PLC (Allen Bradley or Siemens S7)



Advanced Moistening Control System Layout

Technical Specifications

Nozzle Orifices

2 to 5 mm (non-clogging)

Nozzle Spray Capacity

min. 0.2 - 4 l/h each nozzle

max. 2 - 30 l/h each nozzle

The System consists of:

- spray boom
- control station
- air supply unit
- water supply unit

Options

- custom vertical or pivot retraction
- turnkey installation
- heated drip pan

DOX Family

- DOX Brush Finishing
- DOX Air Web Cleaning
- DOX Knife Dust Removal
- DOX Spray Tech^{Fine}
- DOX Brush Spray Unit
- DOX Brush RollHighTech