

VIB SteamTech^{FF}

Fourdrinier Flat Steamshower

Paper and board mills manufacturing high-quality paper require a consistent sheet moisture profile along the entire length of the machine. Today, superior performance can be achieved in the moisture profile using VIB SteamTech and its unique steamshower technology. The VIB SteamTech^{FF} (Fourdrinier flat), a member of the VIB SteamTech Family, is a multi-section steam shower system for the forming section. Our advanced technology enables VIB Systems to provide a reliable, high-performance steam actuator with zone spacing down to 50 mm. This, coupled with our durable pneumatic actuators, provides superior benefits for today's papermakers.

Advanced Actuator Control Systems

VIB SteamTech^{FF} Description

The most important characteristics of a good Fourdrinier steamshower are its profiling capability and its ability to raise dry content in the first press. These two characteristics improve the sheet's cross-directional moisture profile and optimize the paper machine's productivity and runability. A VIB SteamTech^{FF} in the forming section makes it possible to control the moisture profile and average moisture level.

Increasing the velocity of the steam jets onto the web eliminates the compromise between production increases and profiling capability. The VIB SteamTech^{FF} has two steam sealing zones to keep steam under the box, providing maximum benefit with minimum steam leakage.

VIB SteamTech^{FF} has a unique diffuser plate with varying spacing in the machine direction to make the profiler more efficient. The profiling zone is fully

Control Station^{IPS} is an integrated process station that



Thorough inspection through maintenance and cleaning openings.

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 proprietary design of the converging nozzles generates higher steam velocity to ensure greater steam condensation and thermal transfer into the paper web.

Primary material for VIB SteamTech^{FF} is 1.4571 (316 Ti) stainless steel. Special-grade stainless steel 1.4539 (904 L) is used to prevent wear from high corrosion at the diffuser plate, edge-heating zones and in pneumatic control lines. An optional Teflon coating is also available for the diffuser plate and edge heating zones for easier cleaning.

Control Station^{ECS} is a SteamTech electronic control station that governs the pneumatic actuators. Each actuator is controlled by an I/P-converter with a control signal of 0.8 - 4 bar (12 - 60 psi). Setpoints are sent from the VIB Control Station^{IPS} using measurement system data.

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 control the entire actuator control system.

Benefits for the Paper Industry

- Higher output and a flatter moisture profile can be achieved simultaneously.
- Narrow spacing of the actuator can be adjusted to produce the desired profiling effect.
- Optional feedback of the actuator position ensures reliable performance of the SteamTech Actuator.
- Better edge performance for improved reel building.
- CD moisture 2-sigma improvement of 50%, profile correction of 2.5%.
- 1.5 - 2.5% increase in dryness downstream of the suction roll.
- 6 - 10% higher output.
- Improved runability is achieved with a uniform web tension profile.
- Improved felt conditioning of the pick-up felt.
- 1 - 2% increase in efficiency of the total production line with integrated moisture control.

Technical Features

- Three separate zones in the machine direction.
- Integrated CD and MD control including PLC functionalities (interlocks, loops).
- Profiling zone spacing down to 50 mm gives high profiling capability.
- Rigid construction, 316 Ti stainless steel.
- LAN or Serial Link protocol for connection to the measurement system. Activated by mouse click.

Technical Specifications

Pneumatic Actuator

Body material 1.4404

Control signal 0.8 - 4 bar (12 - 60 psi)

Position indicator

Closed in the absence of a control signal

Stainless Steel

Primary 1.4571 (316 Ti)

1.4539 (904 L) used for areas subject to high corrosion (diffuser plate, edge heaters, control lines)

Options

- Teflon coating for diffuser plate and edge heaters
- Removable diffuser plate
- Steam supply engineering
- PosiTrak position feedback
- Turnkey installation

PSF® – Precision Steam Finishing

VIB SteamTech^{FF} – Fourdrinier Flat Steamshower

VIB SteamTech^{TAD} – Through-Air Drying Steamshower

VIB SteamTech^{TC} – Tissue Steamshower

VIB SteamTech^{SC} – Press Section Steamshower

VIB SteamTech^{TFF} – Teflon Flat Felt Heating Steamshower