

VIB SteamTech^{TFF}

Teflon Flat Felt Heating 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 actuator technology. The VIB SteamTech^{TFF}, a member of the VIB SteamTech Family, is a flat-type steam actuator system for the press 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.

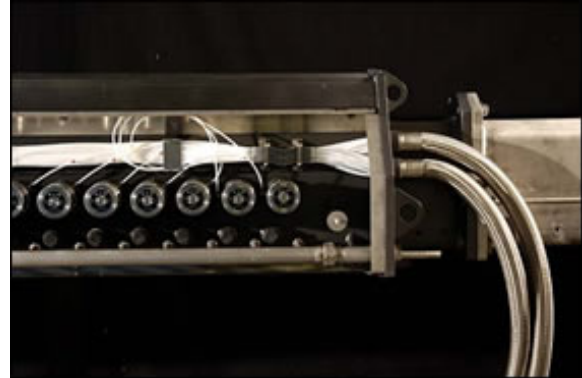
Advanced Actuator Control Systems

VIB SteamTech^{TFF} Description

The most important characteristics of a good steam actuator are its profiling capability and its ability to raise dry content. These two characteristics improve the sheet's cross-directional moisture profile and optimize the paper machine's productivity and runability. With a VIB SteamTech^{TFF} in the press section, managing the moisture profile and drying capacity becomes considerably easier.

The compromise between production increases and profiling capability has been eliminated by increasing the velocity of the steam jets onto the web in two separate machine direction zones.

VIB SteamTech^{TFF} has two zones in the machine direction to make the profiler more efficient. The profiling zone is fully 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.



Solid high-tech interior of the VIB profiler.

The constant full-width zone has higher steam velocity to ensure greater steam condensation on the paper web.

An additional boosting effect is created with a felt heating zone which increases the surface temperature of the felt to prevent heat losses when felt and paper are in contact.

Primary material for VIB SteamTech^{TFF} 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. The VIB SteamTech^{TFF} is Teflon-coated on diffuser plate and edge heating zones for easy cleaning, especially upstream of the first press.

Control Station^{ECS} is a VIB 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.

Control Station^{IPS} is an integrated process station that 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 functioning of the VIB SteamTech Actuator.
- Better edge performance for improved reel building.
- CD moisture 2-sigma improvement of 50%, profile correction of 3%.
- 6 - 10% increase in output.
- Felt heating improves increase in output by another 3 - 4%.
- Dryness increase of 1.5 - 2.5%.
- Improved runability is achieved with a uniform web tension profile.
- **1 - 2% increase in efficiency of the total production line with integrated moisture control.**

Technical Features

- Two separate zones in the machine direction.
- One separate felt heating zone.
- 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) for areas subject to high corrosion (diffuser plate, edge heaters, control lines)

Options

- Teflon coating for diffuser plate
- 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