

## VIB SteamTech<sup>TAD</sup>

### *Through-Air Drying Steamshower*

Mills manufacturing high-quality **Tissue** on TAD (through-air dryer) machines require a consistent sheet moisture profile on the through-air dryer for even drying. Today, superior performance can be achieved in the moisture profile using VIB SteamTech and its unique actuator technology. The VIB SteamTech TAD, a member of the VIB SteamTech Family, is a multiple-section steam actuator 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 **Tissue** makers.

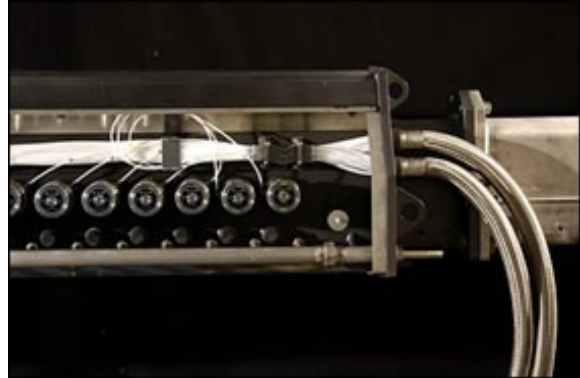
#### **Advanced Actuator Control Systems**

##### **VIB SteamTech<sup>TAD</sup> 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 machine's productivity and runability. With a VIB SteamTech<sup>TAD</sup> on the forming section or upstream of the TAD, managing the moisture profile and drying capacity becomes considerably easier, and reduces gas consumption.

Extra capacity of additional 4 - 10% is possible using a second VIB SteamTech TAD. Enhanced profiling is achieved.

Increasing the velocity of the steam jets onto the web eliminates the compromise between production increases and profiling capability. The VIB SteamTech<sup>TAD</sup> has two steam sealing zones to keep steam under the box, providing maximum benefit with minimum steam leakage.



*Solid high-tech interior of the VIB profiler.*

VIB SteamTech<sup>TAD</sup> has a unique diffuser plate with varying spacing 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. 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<sup>TAD</sup> is 1.4571 (316 Ti) stainless steel. Special 1.4539 (904 L) grade stainless steel 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 easy cleaning and dust removal.



*Pneumatic VIB zone control valve for all models of the SteamTech family. The identification plate includes the technical specifications.*

**Control Station<sup>ECS</sup>** 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<sup>IPS</sup> using measurement system data.

**Control Station<sup>IPS</sup>** 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 creping on wire owing to an even moisture profile.
- CD moisture 2-sigma improvement of 60%, profile correction of 3%.
- 6 - 12% higher output.
- 3 - 4% increase in dryness in TAD dryer.
- Improved runability on the whole production line.
- Improved converting owing to better moisture profiles.

- Reduction in gas consumption owing to better dryness at the through-air dryer.
- **1.5 - 3% 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
- Removable diffuser plate
- Steam supply engineering
- PosiTrak position feedback
- Turnkey installation

### PSF® – Precision Steam Finishing

**VIB SteamTech<sup>FF</sup>** – Fourdrinier Flat Steamshower

**VIB SteamTech<sup>TAD</sup>** – Through-Air Drying Steamshower

**VIB SteamTech<sup>TC</sup>** – Tissue Steamshower

**VIB SteamTech<sup>SC</sup>** – Press Section Steamshower

**VIB SteamTech<sup>TFF</sup>** – Teflon Flat Felt Heating Steamshower

