VIB SmoothTech

Soft and Multinip Calender Steamshower

Paper and board mills manufacturing high smoothness and gloss paper, require a specific level of smoothness and gloss after the surface treatment in the coater or calender. Today, superior grades in smoothness and gloss can be achieved using the VIB SmoothTech and its unique steam application technology. The VIB SmoothTech is a wedged-shaped steam application system for the calender. Our advanced technology enables VIB Systems to provide a reliable, high-performance steam actuator with zone spacing down to 75 mm. This, coupled with our durable reliable pneumatic actuators, provides superior benefits for today's papermakers.

Two different VIB SmoothTech profilers before further treatment in the pickling plant.

Advanced Actuator Control Systems
VIB SmoothTech Description

The most important characteristics of a good steam applicator are its capability and its ability to raise sheet temperature and moisture in the treated surface. These two characteristics improve the sheet's cross-directional smoothness and gloss profile and optimize the two-sideness. With the VIB SmoothTech in the calender, smoothness, gloss level and two-sideness can be regulated.

The compromise between quality increases and profiling capability has been eliminated by increasing the velocity of the steam jets onto the web.

The VIB SmoothTech has two cross-directional headers to make the profiler absolutely drip free. The first steam drying header collects all condensate which might arise from the steam supply and assures that only dry steam reaches the second profiling header. 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 spring-loaded profile valves assure immediate steam shut-off at sheetbreak. The VIB SmoothTech heating system assures that the steam shower is always hot and immediately ready for steam application.

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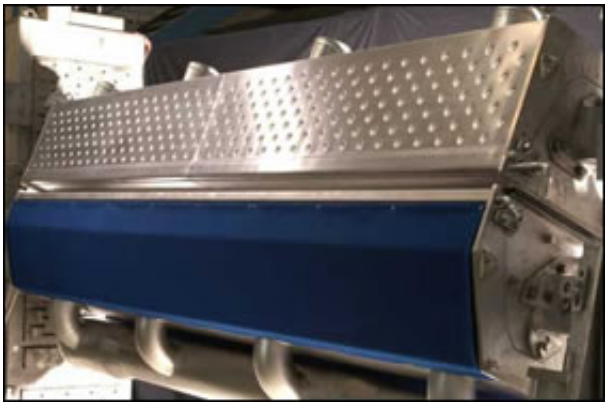

Frontal view of a VIB SmoothTech profiler with integrated heated vapor extraction hood at the upper section and the model-specific retraction unit.

A special steam heating system for the diffuser plate assures complete heating even during longer sheetbreaks.

Primary material for VIB SmoothTech is 1.4571 (316 Ti) stainless steel.

Control Station[ECS] is an 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.

Benefits for the Paper Industry

- Increased smoothness and gloss for new grades and approved ones.
- Flatter smoothness and gloss profiles and caliper profile can be achieved simultaneously.
- Control of two-sideness by using VIB SmoothTech on top and underside.
- 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 SmoothTech Actuator.
- Better edge performance for improved reel building.
- 15 - 30% increase in smoothness and gloss.
- With new multinip calender smoothness and gloss increase from 25 to 50%.
- Better reel building as a result of improved caliper profile.
- CD gloss 2-sigma improvement of 50%.
- 1 - 2% increase in efficiency of total production line with integrated gloss control.

Technical Features

- Two steam headers in cross direction.
- Steam heating system.
- Diffuser plate heating.
- Integrated CD and MD control including PLC functionalities (interlocks, loops).
- Profiling zone spacing down to 75 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)

Options

Vapor extraction hood
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

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