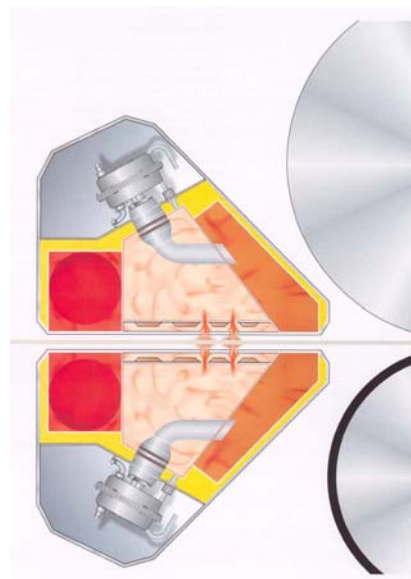


SmoothTech

Soft and Multinip Calender Steamshower

Paper and Board Mills making high smoothness and gloss paper, need a specified level of smoothness and gloss after the surface treatment in the coater or calender. Today with the SmoothTech and its unique steam application technology, superior grades in smoothness and gloss are achievable. The SmoothTech is a wedged shaped steam application system for the calender. Our advanced technology allows V I B Systems to provide a high performance reliable steam actuator with zone spacing down to 75 mm. This, along with our long life reliable pneumatic actuators, provides superior benefits for today's paper makers.



Advanced Actuator Control Systems

SmoothTech Description

The most important properties of a good steam applicator are its capability and its ability to raise sheet temperature and moisture in the treated surface. These two properties will improve the sheet's cross-directional smoothness and gloss profile and optimize the two-sidedness. With the SmoothTech in the calender, managing smoothness and gloss level and two-sidedness is achievable.

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

The SmoothTech has two cross directional headers to make the profiler absolutely drip free. The first steam drying header collects all condensate which might come 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 SmoothTech heating system assures that the steam shower is always hot and immediately ready for steam application.

Special steam heating system of diffuser plate assures complete heating even during longer sheetbreaks.

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

Control Station^{ECS} is an electronic control station that manages the control of the pneumatic actuators. Each actuator is controlled with an I/P-converter with a control signal from 0.4 - 2 bar (6 - 30 psi). Setpoints are sent from the V I B 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 manage the total actuator control system.

Benefits to 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-sidedness by using SmoothTech on top and bottom side.
- Narrow spacing of the actuator can be defined based on the desired profiling effect.
- Optional feedback of the actuator position ensures reliable functioning of the SmoothTech Actuator.
- Provides better edge performance for improved reel building.
- Smoothness and gloss increase from 15 - 30 %.
- With new multinip calender smoothness and gloss increase from 25 - 50 %.
- Improved reel building through better caliper profile.
- CD gloss 2-sigma improvement of 50 %.
- **Efficiency increase of total production line with integrated gloss control of 1 - 2 %.**

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 means high profiling capability.
- Rigid construction, material 316 Ti.
- LAN or Serial Link protocol for connection to the measurement system. Switchable with a mouse click.

Options

- Vapor extraction hood
- Steam supply engineering
- PosiTrak position feedback
- Turnkey installation

Technical Specifications

Pneumatic Actuator

Body material 1.4404
Control signal 0.4 - 2 bar (6 - 30 psi)
Position indicator
Closed when no control signal

Stainless Steel

Primary 1.4571 (316 Ti)

PSF® - Precision Steam Finishing

SmoothTech	Soft and Multinip Calender Steamshower
GlossTech	Super Calender Steamshower for SC and LWC
MoistureTech	On-line Moisture Application
CurlTech	On-line Curl Control

Advanced Actuator Control System Layout

