

Solaris® for Medium Consistency Pulp Stock

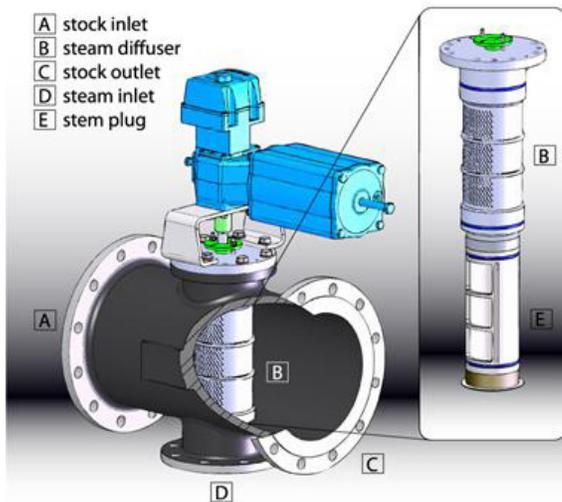
Improve bleaching, brightening, cleaning, flow characteristics, and drainability by uniformly heating stock from .5 to 13% consistency. Requiring no mechanical mixers, motors, external steam valves, or condensate return, the Solaris is the best solution for heating stock uniformly.

- » High velocity steam injection ensures homogeneous heating without mixers or motors
- » Constant steam pressure and velocity eliminate plugging and pressure upsets
- » Precise temperature control, to within 1°F, optimizes bleaching processes, reducing chemical usage and volatile emissions
- » Instantaneous heating, capable of up to 30-50°F temperature rise
- » Straight-through flow design sized to match nominal pipe line sizes and compact design ease installation and minimize flow disturbance.



Applications

- » Improve drainage - increase stock washing effectiveness
- » Bring bleaching reaction up to its optimal temperature to reduce chemical usage & increase throughput
- » Improve flow characteristics to reduce pumping requirements and improve throughput
- » Disperse stickies in recycled fiber for better runnability and quality



How Mach™ Diffuser Technology Works

The liquid or slurry enters at the inlet (A), flows past the steam diffuser (B), and is discharged at the outlet (C). Steam enters at inlet (D) and travels up through the stem plug (E). Steam is discharged into the liquid or slurry where the windows in the stem plug are aligned with any number of hundreds of small holes in the diffuser. To control the amount of steam discharged, an actuator rotates the stem plug to expose the windows to fewer or more diffuser holes, as desired. Each hole exposed to a stem plug window discharges steam at very high, often sonic velocity. The turbulent nature of this high velocity discharge enables steam to instantaneously penetrate, disperse, and efficiently mix with the liquid or slurry to effect uniform heating. Temperature is measured downstream and the steam flow is modulated accordingly to achieve a target temperature.

Note: Steam pressure and velocity remain constant throughout the range of operation regardless of the amount of steam being discharged. The high velocity of the steam discharge prevents the multitude of steam ports from plugging.