

Improve heating of high viscosity slurries, slurries with high solids concentrations, and corrosive liquids and slurries. Requiring no mechanical mixers, motors, external steam valves, or condensate return, the Solaris is the best solution for heating liquids and slurries 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 process performance and saves energy
- » 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.
- » Up to 16" for the standard design and up to 32" for the elbow design



Applications

- > Well suited for heating of fibrous and large particulate slurries.
- > Uniform heating of liquids or slurries with viscosities up to 40,000cP
- > Replace inefficient and maintenance-intensive heat exchangers or spargers

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.

