



## ProSonix™ Inline I-Series with Angled Steam Injector

**Direct Steam Injection Heater for Difficult to Pump & Aggressive Fluids...**

### ProSonix DSI Heating Solutions...

- Angled Steam Injector for difficult to pump sluges & slurries
- Low Pressure Drop typically 1-2 psig.
- Precise temperature control to +/- 1 °F.
- **Single or Multi-stage heating** for flow rates from 1 – 15,000 gpm.
- **High temperature rise** (up 250 °F) in a single pass.
- **Materials of Construction** - Standard carbon steel or 316SS. Optional alloys & wear coatings available for erosive or corrosive applications.
- **Designed to ASME B31.1** - Optional ASME, CRN, or CE/PED certification.
- **Patent No. US 8,167,278, B2**

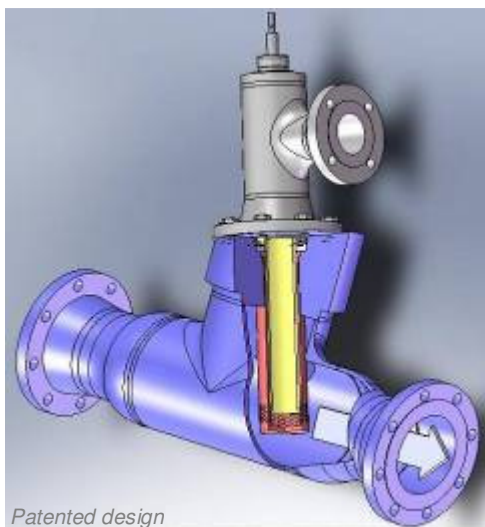
### Well Suited for...

- High solids, high viscosity, & difficult to pump slurries.
- Fibrous slurries such as pulp stock and biomass.
- Anaerobic digestion of municipal wastewater, animal by-products, & biogas production.
- Mining & mineral processing applications.



PSX Jet Diffuser  
Internal View

The **ProSonix™** I-Series Direct Steam Injection heater's unique method of direct steam injection utilizes **internal steam modulation** via an integral Pneumatic Actuator to accurately deliver the appropriate mass flow of steam for the required heating. This modulating design offers a precise method of steam control through a choked flow control delivery of the steam. **Choked flow** is the phenomenon of accelerating a vapor to maximum velocity by creating a pressure differential through an engineered opening. By establishing choked flow, the **steam mass flow is metered** to precisely control the heating of the liquid. This produces predictable results based on position of the stem plug. Through a variable-area steam diffuser, steam flow is metered at the point where steam and liquid first contact and mix.



Patented design

### Angled Steam Jet Diffuser Design

### **FEATURES & BENEFITS:**

- **3-Dimensional Steam Injector** delivers up, down, and side to side steam injection pattern to optimize steam mixing and rapid condensation.
- **Angled Diffuser** reduces flow disruptions and suitable for fibrous slurries.
- **Single Point Steam Injector** diffuser connection allows for complete fluid pass through clearance with no build-up points for fibrous materials.
- **Eliminates Plugging & Fouling** from burn and scorch sensitive slurries and sludge's.
- **Internally Modulated Steam Injection** controls mass flow of steam allowing for smooth and stable operation.
- **Energy Savings** as a result of low pressure drop across the PSX DSI heater.
- **Positional Steam Inlet** allows steam inlet flange to be rotated in 360° for ease of steam piping connection.
- **Secondary Internal Steam Shut-off** (Optional) for integral steam shut-off

For additional information, please visit us at ... [www.pro-sonix.com](http://www.pro-sonix.com)

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