

J-Series Steam Jet Diffuser – Modulating Steam Control

Technology - The PSX J-Series Steam Injection heater utilizes our PSX Radial Multi-port Jet Diffuser with variable-area steam Jet Diffuser. Our internally modulated design assures smooth and stable operation.

Internally Modulated Steam Control accurately meters the mass flow of steam via choked flow (sonic velocity) conditions. **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** can be metered to precisely control the heating of the liquid. This produces **predictable results** based on the 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.

Features:

Economical Design - Designed for installation on a raised flanged pipe Tee connection for use in inline water or slurry heating.

Simplified Installation – Eliminates costly piping re-configuration to meet inlet and discharge connections. Steam inlet rotates to incoming steam line.

Uniform Heating – The PSX Multi-port Jet Diffuser' 360° injection pattern assures uniform distribution of steam.

Stable Operation: Modulated steam control assures rapid & complete steam condensation eliminating steam cavitation concerns.

Self Cleaning Design – High velocity steam flow eliminates plugging and fouling issues from mineral and scale build-up.

No Steam Control Valve – The PSX J-Series design eliminates the need for a steam pressure control valve on steam line.

Precise Temperature Control - +/- 1°F temperature control.

Design Specifications:

- Multi-port Radial Jet Diffuser design
- Fully modulated steam control with variable area Jet Diffuser
- Suitable for steam pressure of 10-300 psig
- Steam turndown 0-100%
- Liquid turndown up to 20:1
- Linear integral Pneumatic Actuator (Fail-safe close)
- Connections 150 lbs NPT or RFF (300 lbs available)
- Carbon steel or 316SS construction, special alloys available.
- Designed in accordance with ASME B31.1
- Optional Certifications: CRN, SEP, & PED



J-Series Models & Pipe Connections						
Model	Jet Diffuser Size	Steam Inlet	Steam Conn	Min. Pipe Dia.	Max. Pipe Dia.	Mounting Flange Dia.
PSX100-J	1.0"	1.0"	NPT	3.0"	22.0"	3.0"
PSX200-J	2.0"	2.0"	NPT	4.0"	22.0"	4.0"
PSX300-J	3.0"	3.0"	RFF	6.0"	24.0"	4.0"
PSX400-J	4.0"	4.0"	RFF	6.0"	26.0"	6.0"
PSX600-J	6.0"	6.0"	RFF	8.0"	28.0"	8.0"
PSX800-J	8.0"	8.0"	RFF	10.0"	28.0"	10.0"
PSX1000-J	10.0"	10.0"	RFF	12.0"	28.0"	12.0"

Common Applications:

- Water, slurry, or sludge heating
- Continuous inline heating
- Intermittent inline heating
- Tank heating for hi-turnover applications
- Hi-Flow & Lo-Temp heating
- Trim Heating for temperature maintenance
- Seasonal freeze-up prevention
- Boiler Feedwater Heating
- Vent or waste steam recovery

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