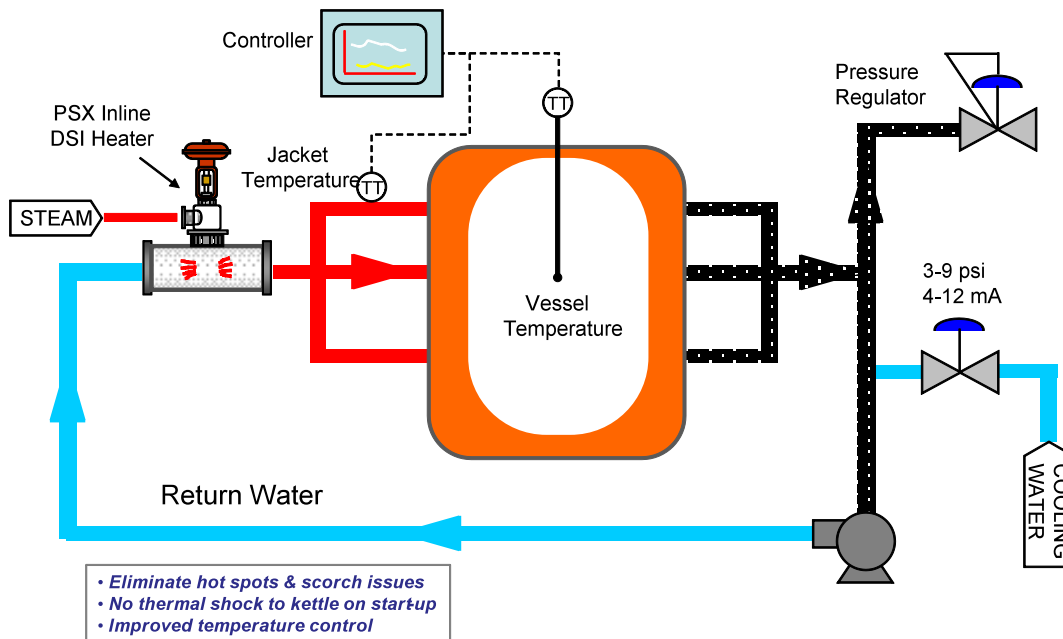


Application Profile

Jacketed Vessel & Reactor Heating



Application: Jacketed Vessel Heating:

Heating of Jacketed Vessels is critical to stimulating the solution reaction in the vessel. Typically live steam is introduced to the jacket on the vessel to heat the vessel. Many Jacketed Vessels are heated in controlled ramp up scenarios to affect the chemical reaction and then the cool down stage brings the vessel and solution back down to safe handling temperatures. Live steam's temperature uniformity in vessel's jacket can produce hot spots. Also, the thermal shock that occurs by the introduction of live steam can crack and damage glass vessels and crack welds on steel tanks.

PSX Heater Solution:

A PSX heater can be placed on the heat/cool recirculation loop to instantaneously heat the water to the required temperature. Water flowrates from 1 - 2,000 gpm can be efficiently handled with the PSX heater. The PSX can also heat the incoming water from 1 – 250 °F in a single pass with temp control to +/- 1 °F. As water is heated instantaneously, ramping up temperatures to control reaction timing becomes much more linear and controllable. When cooling cycle is initiated, the PSX steam injector can be closed to allow for cooling fluid to be re-circulated through the system.

ProSonix Direct Steam Injection Key Benefits:

- **Precise temperature control** can improve heating control and ramp up
- **Reduced maintenance** by elimination of thermal shock by using hot water rather than live steam
- **Uniform heating** via hot water vs. steam reduces hot spots
- **Ease of integration** for cascade heating control systems
- **Compact size** allows for minimal installation requirements

For additional information, please visit ... www.pro-sonix.com