

Heat/Cool System for Jacketed Reactor Vessel

Features and Benefits:

- ◆ Improved Product Quality
- ◆ Easy Heat/Cool Transition
- ◆ Uniform Jacket Temperatures
- ◆ Accurate Temperature Control
- ◆ Total System Design Capability and Responsibility

Chemical & Pharmaceutical Industry Case History

Application:

A company producing photographic chemicals for the printing industry wanted better temperature control for heating and cooling a gelatin-based emulsion in 480 gallon jacketed vessels. A hot water system was considered to replace their steam jacket method. The steam jacket method exposed sensitive chemicals to hot spots and made transition to cooling difficult. Batches were very expensive, making product quality of utmost importance.

Operating Conditions:

3-23°F temperature rise per pass
180°F jacket temperature
120°F product temperature in 1.1 hour
18 PSIG steam supply pressure

Solution:

The **Pick 6X7-3HCS Pre-Packaged Heat/Cool System** included the basic Constant Flow Heater along with a cooling valve for "metered out" control during cooling mode. Steam and cooling valves are controlled with separate I/P transducers taking signal from customer supplied cascade temperature controller. Complete scope of supply including water circulation pump, check valves, shut off valves, relief valve, piping and fittings assembled on heavy duty angle iron frame.

