pick Custom Design®

Case History

Process Heating Solutions Worldwide

Heat/Cool System

PCD- The Division of Pick Heaters, Inc. Dedicated to Providing Process Heating Solutions in Innovative Ways

Application

A chemical processor required a heat/cool system for a 3000 gallon jacketed reactor. A tempered water system was specified over steam to achieve precise temperature control and smooth transition from heating to cooling modes. Use of a steam injection heater was originally considered but later ruled out due to near equilibrium of steam pressure and system pressure required to achieve maximum water temperature of 155ºC (311ºF).

Process Conditions

Recirculation Through Jacket:	220 GPM
Maximum Heat Load:	2 million BTU/hr
Maximum Cooling Load:	1.3 million BTU/hr
Steam Supply:	80 PSIG, Saturated
System Backpressure:	80 PSIG
Cooling Water:	65ºF

Solution

Equilibrium of steam and system backpressure stipulated use of an indirect heat exchanger. A packaged system was designed utilizing a shell & tube exchanger for heating and plate exchanger for cooling. Other major components included an ANSI recirculation pump and control valves fitted with digital positioners to interface with customer's DCS.

Features and Benefits:

- **Precisely Controlled Heating and Cooling**
- **Easy Heat/Cool Transition**
- **Total System Design Capability and Responsibility**

Learn more at www.pickheaters.com

Pick Heaters, Inc. — 730 S. Indiana Ave. — West Bend, WI 53095 USA
Phone: (262) 338-1191 — Email: info1@pickheaters.com

pick® heaters inc.