

Unistat® 830

Heating and cooling a Radleys 10-litre jacketed reactor

Requirement

The graphic shows the performance of Unistat 830 working to heat and cool a 10-litre glass reactor between 20 °C to 100 °C and back to 20 °C.

Method

The Unistat and reactor are connected using two 1.5-metre insulated metal hoses. The reactor is filled with 7.5 litre of "M90.055.03", a Huber supplied silicon based HTF.

Results

The Unistat ramps the process through 80 K (20 °C to 100 °C) in approximately 39 minutes. The cooling cycle back to 20 °C takes approximately 38 minutes. In both cases the control is exact with minimal over shoot.

Setup details

Unistat® 830 & Radleys reactor

Temperature range: -85...200 °C
 Cooling power: 3.8 kW @ 100 °C
 3.6 kW @ 0 °C
 Heating power: 3 kW
 Hoses: 2x1.5 m; M30x1.5 (#6386)
 HTF: DW-Therm (#6479)
 Reactor: 10-litre jacketed glass reactor
 Reactor contents: 7.5 litre M90.055.03 (#6259)
 Reactor stirrer speed: 80 rpm
 Control: process

