

Unistat® 830

Cooling a DDPS 25-litre jacketed glass reactor from 180 °C to 20 °C

Requirement

The graphic shows the performance of a Unistat 830 cooling a DDPS 25-litre jacketed glass reactor from 180 °C to 20 °C.

Method

The Unistat and reactor are connected using two 1.5-metre insulated metal hoses. The reactor is filled with 18.75 litre of "M90.055.03", a Huber supplied silicon based HTF.

Results

The "internal" (jacket) temperature cools to approx. -40 °C at a ramp rate of 2.86 K/min. As a result the set-point is achieved in 71 minutes.

Setup details

Unistat® 830 & DDPS reactor

Temperature range: -85...200 °C
 Cooling power: 3.6 kW @ 0 °C
 2.2 kW @ -60 °C
 Heating power: 3 kW
 Hoses: 2x1.5 m; M38x1.5 (#6656)
 HTF: DW-Therm (#6479)
 Reactor: 25-litre vacuum insulated glass reactor
 Reactor contents: 18.75 litre M90.055.03 (#6259)
 Reactor stirrer speed: 70 rpm
 Control: process

