

Unistat® 830

Cooling a HWS 5-litre reactor from 20 °C to -60 °C

Requirement

The diagram illustrates the cooling curve of a Unistat 830 cooling a HWS 5-litre reactor to -60 °C.

Method

The Unistat and reactor are connected using two 1.5-metre insulated metal hoses. The reactor is filled with 3.75 litre of "M90.055.03", a Huber supplied silicon based HTF.

Results

The result shows that the process temperature ramps through 80 K (20 °C to -60 °C) and reaches the required set-point in 43 minutes and remains stable at the new set-point.

Setup details

Unistat® 830 & HWS reactor

- Temperature range: -85...200 °C
- Cooling power: 3.6 kW @ 0 °C
2.2 kW @ -60 °C
3.6 @ 0 °C
3.5 @ -20...-40 °C
2.2 @ -60 °C
0.7 @ -80 °C
- Heating power: 3 kW
- Hoses: 2x1.5 m; M30x1.5 (#6386)
- HTF: DW-Therm (#6479)
- Reactor: 5-litre jacketed glass reactor
- Reactor contents: 3.75 litre M90.055.03 (#6259)
- Reactor stirrer speed: 200 rpm
- Control: process

