

# Unistat® 830

Cooling a HWS 5-litre jacketed reactor to  $T_{min}$

### Requirement

The graphic shows the performance of a Unistat 830 working with a HWS 5-litre glass reactor. This test is conducted with internal control mode in order to measure the lowest possible temperature that can be reached by the machine.

### 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 machine reaches a minimum temperature of  $-85\text{ }^{\circ}\text{C}$  in 60 minutes pulling the process temperature down to  $-75\text{ }^{\circ}\text{C}$ .

### Setup details

Unistat® 830 & HWS reactor

- Temperature range:  $-85\text{...}200\text{ }^{\circ}\text{C}$
- Cooling power:
  - $3.6\text{ kW @ }0\text{ }^{\circ}\text{C}$
  - $2.2\text{ kW @ }-60\text{ }^{\circ}\text{C}$
  - $3.6\text{ @ }0\text{ }^{\circ}\text{C}$
  - $3.5\text{ @ }-20\text{...}-40\text{ }^{\circ}\text{C}$
  - $2.2\text{ @ }-60\text{ }^{\circ}\text{C}$
  - $0.7\text{ @ }-80\text{ }^{\circ}\text{C}$
- Heating power:  $3\text{ kW}$
- Hoses:  $2 \times 1.5\text{ m; M30} \times 1.5$  (#6386)
- HTF: DW-Therm (#6479)
- Reactor: 5-litre jacketed glass reactor
- Reactor contents:  $3.75\text{ litre M90.055.03}$  (#6259)
- Reactor stirrer speed:  $200\text{ rpm}$
- Control: process

