

# Unistat® 425w

Heating a HWS 5-litre jacketed glass reactor from 20 °C to 100 °C

### Requirement

This case study looks at the performance of a Unistat 425w heating a 5-litre glass reactor from 20 °C to 100 °C under "process" control.

### Method

The Unistat 425w is connected to the 5-litre HWS glass reactor using two insulated metal 1.5-metre hoses. The reactor is filled with 3.75 litre of "M90.055.03", a silicon based HTF.

### Results

The jacket heats from 20 °C to 135 °C within 10 minutes (ramp rate > 8.8 K/min.) pulling the process temperature to its 100 °C set-point within 12 minutes (ramp rate > 6.6 K/min.).

### Setup details

Unistat® 425w & HWS reactor

- Temperature range: -40...250 °C
- Cooling power: 2.8 kW @ 250...100 °C  
2.5 kW @ 0 °C  
1.9 kW @ -20 °C  
0.2 kW @ -40 °C
- Heating power: 2.0 kW
- Hoses: 2x1.5 m; M38x1.5 (#6656)
- 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

