Unistat® 425

Heating and cooling a 2-litre glass reactor between 20 °C and 100 °C

Requirement
This case study looks at the performance of a Unistat 425 as it heats and cools a jacketed glass reactor between 20 °C and 100 °C.

Method
The Unistat 425 is connected to the 2-litre DDPS glass reactor using two insulated metal 1-metre hoses. The reactor is filled with 1.5 litre of "M90.055.03", a silicon based HTF.

Results
It can be seen that the process is ramped through 80 K (20 °C to 100 °C) within 20 minutes. To cool the process back to 20 °C takes approximately 23 minutes.

Setup details
Unistat® 425 & DDPS reactor

Temperature range:	-40...250 °C
Cooling power:	2.5 kW @ 0 °C 1.8 kW @ -20 °C
Heating power:	2.0 kW
Hoses:	2x1 m; M24x1.5 (#9325)
HTF:	DW-Therm (#6479)
Reactor:	2-litre jacketed glass reactor
Reactor content:	1.5 litre M90.055.03 (#6259)
Stirrer speed:	150 rpm
Control:	process