Setup details
Unistat® 705w & Radleys 2-litre "Reactor-Ready" glass reactor

Temperature range:	-70...250 °C
Cooling power:	0.6 kW @ -20 °C 0.6 kW @ -40 °C 0.3 kW @ -60 °C
Heating power:	1.5 kW / 3 kW
Pump speed:	3500 rpm
Hoses:	2x1 m; M24x1.5 (#9325)
HTF:	SilOil P20.275.50 (#6157)
Reactor:	2-litre vacuum jacketed glass reactor
Reactor contents:	1.5 litre P20.275.50 (#6157)
Reactor stirrer speed:	250 rpm
Control:	process

Unistat® 705w

"Stepping" a Radleys 2-litre "Reactor-Ready" from 20 °C to 250 °C

Requirement
Unistats operate over a wide temperature range without the necessity to change the HTF and as they are hydraulically sealed there are no vapours, no oils residue, odour or degradation of the HTF due to oxidisation at high temperatures.

This case study demonstrates the ability of a Unistat 705 to heat the process through a series of programmed steps from 20 °C to 250 °C and then cool it back to 20 °C.

Method
The reactor was filled with 1.5 litre of "P20.275.50" as a thermal load, the stirrer set to 250 rpm and the control to "Process". The results were recorded on the Huber "Spyware" software.

Results
The repeated and precise control at high temperatures can be seen in the graphic. Microelectronics, refrigeration and heating working in unison to provide tight control at elevated temperatures is a practical and here, demonstrated feature of the Unistats wide ranges.