Setup details
Unistat® 910w & Radleys 10-litre reactor

Temperature range:	-90...250 °C
Cooling power:	5.2 kW @ 250…-20 °C 4.7 kW @ -40 °C 3.1 kW @ -60 °C
Heating power:	6.0 kW
Hoses:	2x1.5 m; M30x1.5 (#6386)
HTF:	DW-Therm (#6479)
Reactor:	10-litre jacketed glass reactor
Reactor content:	7.5 litre M90.055.03 (#6259)
Stirrer speed:	200 rpm
Control:	process

Unistat® 910w

Cooling a Radleys 10-litre reactor to T_{min}

Requirement
The diagram illustrates the performance of a Unistat 910w undergoing two set-point changes, the second set-point is entered to find out the lowest temperature that the Radleys 10-litre reactor jacket and process can achieve in this set-up ("T_{min}").

Method
The Unistat and reactor are connected using two 1.5-metre insulated metal hoses. The reactor is filled with 7.5 litre of "M90.055.03", a Huber supplied silicon based HTF.

Results
The temperature profile is programmed, controlled and recorded with "SpyControl" software. The Unistat 910w is connected to a 10-litre glass reactor with a pair of M30x1.5 hoses.
For the first segment the process temperature reach -60 °C in approx. 100 minutes. Then the minimum process temperature achieved was -81 °C with a jacket temperature of -84 °C.