



### Setup details

Unistat® 910w & Radleys reactor

Temperature range:	-90...250 °C
Cooling power:	5.2 kW @ 250...-20 °C 4.7 kW @ -40 °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	80 rpm
Control	process

## Unistat® 910w

**300 W (258 kcal / hr) exothermic reaction  
Radleys 10-litre jacketed reactor**

### Requirement

A 300 W (258 kcal / hr) exothermic reaction is simulated at 0 °C using an electric heater inside a Radleys 10-litre glass reactor.

### 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. The exothermic reactions are simulated using a controlled electric immersion heater.

### Results

The process temperature rise to approx. 5 °C as the jacket temperature cools to approx. -38 °C in order to remove the heat generated by the simulated exothermic reaction. This cools the process temperature at a rate of 5.4 K/min. As a result the process temperature recovers to target in approximately 13 minutes. When the heater is turned off removing the extra heat, the process cools but is rapidly returned to the set-point.

