

## Unistat® 510w

**Controlling a simulated 300 W (258 kcal / hr) exothermic reaction in a 15-litre Buchi Glas Uster reactor**

### Requirement

This case study shows the temperature profile of a specific test while undergoing a simulated exothermic reaction.

### Method

A Unistat 510w has been selected to control the process temperature inside a 5-litre glass-lined (enameled) steel reactor which is 2/3 filled with M20.235.20.

### Results

The 300 W exothermic reaction increases the process temperature by approx. 1.7 K and the Unistat compensates the temperature difference in 9 minutes. After a while the heater is removed out of the reactor and the process temperature goes down to approx. 18.3 °C. The Unistat takes 12 minutes to bring back the process temperature to its set-point.

### Setup details

Unistat® 510w & Buchi Glas Uster reactor

Temperature range:	-50...250 °C
Cooling power:	5.3 kW @ 0...250 °C 2.8 kW @ -20 °C 0.9 kW @ -40 °C
Heating power:	6.0 kW
Hoses:	2x1.5 m; M30x1.5 (#6386)
HTF:	DW-Therm (#6479)
Reactor:	15-litre glass-lined (enameled) steel reactor (#6162)
Reactor content:	10 litre M20.235.20 (#6162)
Stirrer speed:	80 rpm
Control:	process

