



**Setup details**

Unistat® 910w & Buchi Glas Uster reactor

- Temperature range: -90...250 °C
- Cooling power: 5.2 kW @ 250...-20 °C
- Heating power: 6.0 kW
- Hoses: 2x 1.5 m; M38x1.5 (#6656)
- HTF: DW-Therm (#6479)
- Reactor: 20-litre jacketed glass reactor
- Reactor content: 15 litre M90.055.03 (#6259)
- Stirrer speed: 70 rpm
- Control: process

# Unistat® 910w

**Heating and cooling a Buchi Glas Uster 20-litre jacketed glass reactor from 20 °C to 100 °C to 20 °C**

**Requirement**

This case study looks at the performance of a Unistat 910w heating and cooling a Buchi Glas Uster 20-litre jacketed glass reactor between 20 °C to 100 °C and back to 20 °C.

**Method**

The Unistat and reactor are connected using two 1.5-metre insulated metal hoses. The reactor is filled with 15 litre of "M90.055.03", a Huber supplied silicon based HTF.

**Results**

Under process control the jacket temperature ramps rapidly in order to ramp the process to its set-point as quickly as possible. In the cooling cycle it can be seen that the jacket cools to -42 °C from 100 °C (142 K) to pull the process back to 20 °C within 15 minutes (which is a ramp rate of 9.5 K/min.!) before ramping back to guide the process to its set-point with no under shoot.

