# Unistat® 825w

**Heating and cooling a Buchi Glas Uster 10-litre jacketed reactor**

## Requirement

This case study intended to investigate the performance of a Unistat 825w heating and cooling a Buchi Glas Uster 10-litre reactor between 20 °C to 100 °C and then from 20 °C to 180 °C.

## 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

In the first segment (20 °C to 100 °C) the heating ramp rate of 2.94 K/min. heats the process temperature to 100 °C in 47 minutes.
In the second segment (20 °C to 180 °C) the average heating ramp rate of 1.9 K/min. brings the process temperature to the set-point within 1:47 hour.

## Setup details

Unistat® 825w & Buchi «miniPilot» 10 reactor

| | |
|---|---|
| Temperature range: | -85…250 °C |
| Cooling power: | 2.4 kW @ 0…-40 °C<br>1.5 kW @ -60 °C |
| Heating power: | 3.0 kW |
| Pump speed: | 3500 rpm |
| Hoses: | 2x1.5 m; M30x1.5 (#6386) |
| HTF: | DW-Therm (#6479) |
| Reactor: | 10-litre jacketed glass reactor |
| Reactor contents: | 7.5 litre M90.055.03 (#6259) |
| Reactor stirrer speed: | 400 rpm |
| Control: | process |