

Unistat® 910w

Alternating between 20 °C and -60 °C on a Buchi Glas Uster 10-litre reactor

Requirement

The graphic shows the cooling and heating performance of a Unistat 910w on a Buchi Glas Uster 10-litre reactor between 20 °C and -60 °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

The „internal“ (jacket) temperature cools to -65 °C within 10 minutes and finally to -77 °C to pull the process temperature as quickly as possible to -60 °C. This represents a cooling rate of 7.8 K/min. and the cooling process is completed in 65 minutes. Meanwhile the heating process occurs at a rate

of 10.5 K/min. at the internal temperature. It jumps to approximately 70 °C and pulls the process temperature to 20 °C in 30 minutes.

Setup details

Unistat® 910w & Buchi Glas Uster «miniPilot» 10 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: 400 rpm
- Control: process

