



Setup details

Unistat® 705w & Buchi Glas Uster reactor

Temperature range: -75...250 °C
 Cooling power: 0.6 kW @ 250...100 °C
 0.65 kW @ 0 °C
 0.6 kW @ -20...-40 °C
 0.3 kW @ -60 °C

Heating power: 1.5 kW / 3 kW
 Pump speed: 3500 rpm
 Hoses: 2x1 m; M24x1.5 (#9325)
 HTF: DW-Therm (#6479)
 Reactor: 3-litre un-insulated metal pressure reactor

Reactor content 2.25 litre M90.055.03 (#6259)

Stirrer speed 200 rpm
 Control process

Unistat® 705w

Heating and cooling a Buchi Glas Uster 3-litre metal reactor

Requirement

The graphic illustrates the heating and cooling performances of Unistat 705w working with a Buchi Glas Uster 3-litre un-insulated metal pressure reactor. As metal has a good conductor the heat transfer is executed in an efficient manner that the ΔT is always below 20 K.

Method

The machine and reactor are connected using two 1-metre insulated metal hoses. The reactor is filled with 2.25 litre of "M90.055.03", a Huber supplied silicon based HTF.

Results

The machine needs approx. 49 minutes to reach 180 °C. On the other hand it requires 64 minutes to get back to 20 °C. The heating and cooling rates for the heating and cooling processes are 4.4 K/min and 2.7 K/min.

