



Setup details

Unistat® 610w & Buchi Glas Uster «miniPilot»
10 reactor

Temperature range:	-60...200 °C
Cooling power:	7.0 kW @ 200...0 °C 6.4 kW @ -20 °C 3.3 kW @ -40 °C 0.8 kW @ -60 °C
Heating power:	6.0 kW
Hoses:	2x1.5 m; M30x1.5 (#6386)
HTF:	DW-Therm (#6479)
Reactor:	10 litre jacketed glass pressure reactor
Reactor content:	7.5 litre M90.055.03 (#6259)
Stirrer speed:	80 rpm
Control:	internal

Unistat® 610w

T_{min} with "internal" or "jacket" control on a 10-litre glass reactor

Requirement

The test is conducted to investigate the performance of a Unistat 610w working under „internal“ (jacket) temperature control. M30x1.5 hoses are used to connect the machine with a 10-litre glass reactor. DW-Therm is used as the HTF.

Method

The reactor and Unistat are connected using two 1.5 metre insulated hoses. The reactor is filled with 7.5 litre of "M90.055.03", a Huber supplied silicon based HTF.

Results

The graphic illustrates that the Unistat needs only 21 minutes to reach the minimum jacket set-point temperature of -60 °C. With only 0.8 kW of cooling power at -60 °C the process temperature is pulled down to -56 °C in 60 minutes. Then, at the end of the 105-minute-segment a ΔT of 2 K exists between the process and jacket.

