Setup details
Unistat® 405w & 1-litre vacuum insulated Asahi reactor

Temperature range:	-45...250 °C
Cooling power:	1.3 kW @ 250...0 °C 0.7 kW @ -20 °C
Heating power:	1.5 kW/3 kW
Pump speed:	3300 rpm
Hoses:	2x1 m; M24x1.5 (#9325)
HTF:	DW-Therm (#6479)
Reactor:	1-litre jacketed glass reactor
Reactor contents:	0.75 litre M90.055.03 (#6259)
Reactor stirrer speed:	200 rpm
Control:	process

Unistat® 405w

1-litre vacuum insulated Asahi reactor

Requirement
This case study looks at the performance of a Unistat 405w when connected to an Asahi 1-litre vacuum insulated glass reactor and compares the performance to a reactor with no insulation.

Method
The Unistat 405w is connected to the reactor using two 1-metre insulated metal hoses. The reactor is filled with 0.75 litre of "M90.055.03", a silicon based HTF. The Unistat 405w was connected in its 3-phase option increasing the available heating power from 1.5 kW to 3 kW.

Results
The set-point is changed from 20 °C to 180 °C. The jacket temperature rapidly ramps bringing the process temperature exactly to 180 °C in 29 minutes.

Unistat® 405w – Asahi reactor insulated:
This graphic shows the performace of Unistat 405w working with an insulated 1-litre glass reactor. It takes 29 minutes to reach 180 °C from 20 °C.