

## Ministat® 125-cc®-NR

**Ministat® 125-cc®-NR controlling Asahi 1 litre triple wall reactor**

### Requirement

This case study demonstrates the closeness of the temperature control and the minimum process temperature achievable in the process mass.

### Method

The 1 litre Asahi reactor was connected to the Ministat 125-cc-NR using two M16x1 1-meter flexible hoses. The thermofluid used in the system was M90.055.03. "Process" control was carried out via a Pt100 sensor located in the process mass. Stirrer speed was set to 250 rpm.

### Setup details

Temperature range:	-25°C...+150°C
Cooling power:	0.30 kW @ +20°C 0.21 kW @ 0°C 0.05 kW @ -20°C
Heating power:	1.0 kW
Hoses:	M16x1; 2* 1 m
Thermofluid:	M90.055.03
Reactor:	Asahi 1 litre insulated reactor
Reactor content:	0,8 litre M90.055.03
Stirrer speed:	250 rpm
Control:	process



## Results

### Performance:

To demonstrate the efficient performance of the Ministat 125-cc-NR, this graphic shows that it can cool the process in a 1-litre glass reactor from +20°C to -10°C in approximately 60 minutes, hitting and stabilizing exactly on the set-point. A rapid heat-up time of less than 30 minutes from -10°C to +20°C with the same accuracy can also be seen.

### Lowest achievable temperature (T<sub>min</sub>):

Once stable at +20°C under "Process" control, a set-point of -25°C is entered. The Ministat 125-cc-NR cools the reactor down to the minimum achievable process temperature of -14°C.

