



Ministat® 125

Ministat® 125 cooling a 5-litres glass vacuum insulated reactor to T_{min}

Requirement

This Case Study demonstrates the minimum achievable process temperature when a Ministat 125 is connected to an Asahi 5-liter reactor.

Method

The 5-litres Asahi glass vacuum insulated reactor was connected to Ministat® 125 using 1-meter metal insulated hoses. The thermofluid used in the system was "M60.115/200.05". "Process" control was carried out via a Pt100 sensor located in the "process" mass. Stirrer speed was set to 150 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: 2*1 m metal insulated
- HTF: M60.115/200.05
- Reactor: 5-litres glass triple wall, vacuum insulated
- Reactor content: 4 l M60.115/200.05
- Stirrer speed: 150 rpm
- Control: process
- Amb. temperature: +25°C

Results

Lowest achievable temperature (T_{min}):

Once stable at +20°C under the "Process" control, a set point of -40°C is entered. The graphic shows that the minimum process temperature was -14.9°C.

