Ministat® 240

Ministat® 240 cooling a 5-litres glass vacuum insulated reactor to Tmin

Requirement
This Case Study demonstrates the minimum achievable process temperature when a Ministat 240 is connected with a 5-litres Asahi glass vacuum insulated reactor.

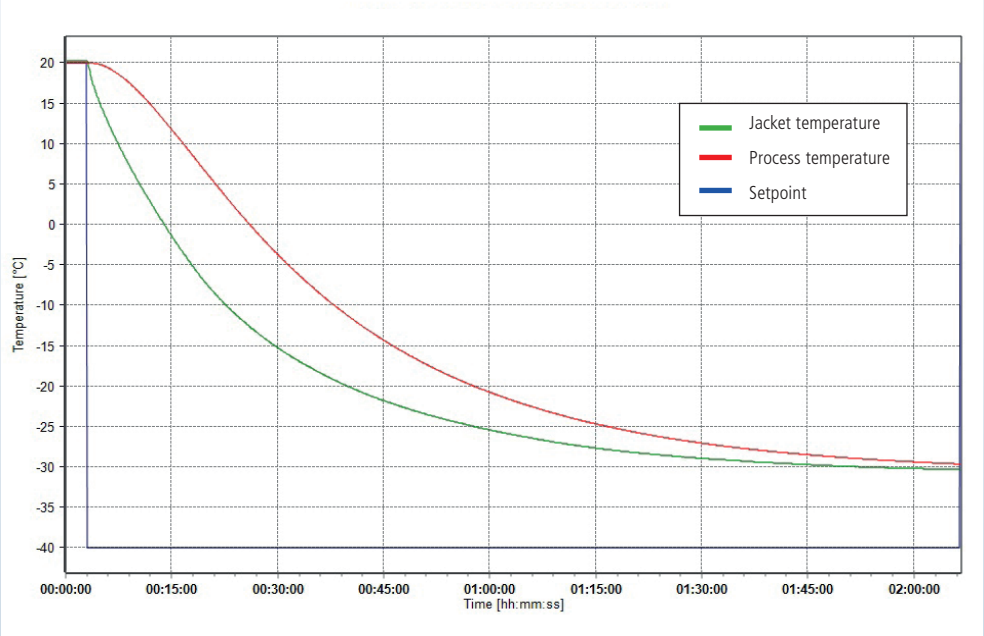
Method
The 5-litres Asahi glass vacuum insulated reactor was connected to Ministat® 240 using 1-meter metal insulated hoses. The thermofluid used in the system was "M60.115/200.05". "Process" control was carried out via a Pt100 sensor located in the "process" mass. Stirrer speed was set to 150 rpm.

Setup details

Temperature range:	-45°C...+200°C
Cooling power:	0.60 kW @ +20°C 0.55 kW @ 0°C 0.35 kW @ -20°C
Heating power:	2.0 kW
Hoses:	2*1 m metal insulated
HTF:	M60.115/200.05
Reactor:	Asahi 5-litres glass vacuum insulated
Reactor content:	4 l M60.115/200.05
Stirrer speed:	150 rpm
Control:	process
Amb. temperature:	+25°C

Results

Lowest achievable temperature (Tmin):
Once stable at +20°C under the "Process" control, a set point of -40°C is entered. The graphic shows that the lowest temperature achieved in a 1-liter Chemglass jacketed reactor was -29.6°C.



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