



Ministat® 240-cc®-NR

Controlling a vacuum insulated Syrris 2-litre glass reactor between 20 and -20 °C

Requirement

The Ministat range comprises of three models of which the Ministat 240-cc-NR is the largest. This case study demonstrates the speed of cooling and heating and level of control when connected with a Syrris "Atlas" system configured with a 2-litre reactor.

Method

The reactor was filled to 1.6 litre with M90.055.03, the HTF used was Ethanol, the stirrer set to 700 rpm and the control to "process". The results were recorded using the "Spyware" software.

Results

It can be seen from the graphic that the Ministat 240-cc-NR cools the jacket to -20 °C from 20 °C in approximately 50 minutes. The control is exact as the process reaches its target.

Similarly, the heat up curve shows the precise

control made possible by the Ministat 240-cc-NR as the process temperature reached exactly 20 °C from -20 °C in approximately 25 minutes.

Setup details

Ministat® 240-cc®-NR & Syrris vacuum-insulated 2-litre glass jacketed reactor

Temperature range:	-45...200 °C
Cooling power:	0.55 kW @ 0 °C 0.35 kW @ -20 °C 0.20 kW @ -30 °C
Heating power:	2 kW
Pump speed:	4500 rpm
Hoses:	2x1 m; M16x1 (#9608)
HTF:	Ethanol)
Reactor:	2-litre jacketed glass reactor
Reactor contents:	1.4 litre M90.055.03 (#6259)
Reactor stirrer speed:	700 rpm
Control:	process

