Ministat® 230

Ministat® 230 cycling a 500 mL DWK flat bottomed bottle reactor

Requirement
This Case Study demonstrates the temperature control capabilities of the process temperature when a Ministat 230 is connected with a 500 mL DWK flat bottomed bottle reactor.

Method
The 500-mL flat bottomed bottle reactor was connected to Ministat® 230 using Tygon A-60-G hoses. The thermofluid used in the system was "M40.165/220.10", reactor was filled with 400 mL Isopropyl Alcohol. "Process" control was carried out. Magnetic stirrer speed was set to 200 rpm.

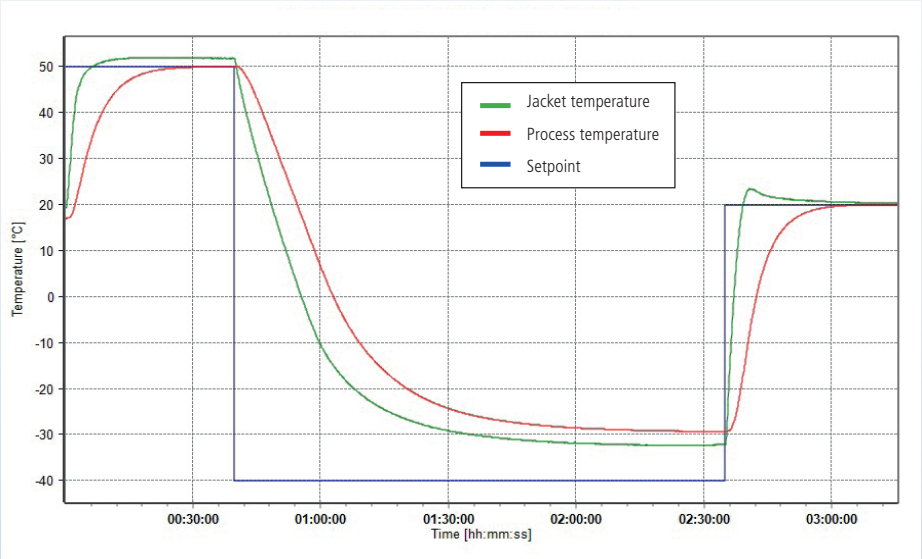
Setup details

Temperature range:	-40°C...+200°C
Cooling power:	0.42 kW @ +20°C 0.38 kW @ 0°C 0.25 kW @ -20°C
Heating power:	2.0 kW
Hoses:	Tygon A-60-G
HTF:	M40.165/220.10
Reactor:	DWK 500 mL flat bottomed bottle reactor
Reactor content:	400 mL Isopropyl Alcohol
Stirrer speed:	200 rpm
Control:	process

Results

Performance:
The graphic shows the control of this simple bench-top application.

Start T	End T	Time Taken	Av. Ramp Rate
+20°C	50°C	31 minutes	1.0 K/min
+50°C	-29°C	T-min	xxxx
-29°C	+20°C	36 minutes	1.4 K/min



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