

Ministat® 240-cc®-NR

Ministat® 240-cc®-NR cycling a 2 litre Radleys jacketed reactor

Requirement

This case study demonstrates the ability of Ministat® 240-cc®-NR to cycle the process temperature in a range from +100°C to -20°C, the closeness of the temperature control and the minimum process temperature achievable in the process mass.

Method

The 2 litre Radleys reactor was connected to the Ministat® 240-cc®-NR using two M16x1 1-meter flexible hoses. The thermofluid used in the system was M40.165.10 "Process" control was carried out via a Pt100 sensor located in the process mass. Stirrer speed was set to 200 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
	0.20 kW @ -30°C
Heating power:	2.0 kW
Hoses:	M16x1; 2* 1 m
HTF:	M40.165.10
Reactor:	Radleys 2 litre jacketed reactor
Reactor content:	2 litre M40.165.10
Stirrer speed:	200 rpm
Control:	process



Results

Performance:

Cooling down and heating up in a range from +100°C to -20°C. The Ministat® 240-cc®-NR needs approximately 95 minutes to cool down the reactor from +100°C to -20°C and approximately 40 minutes to heat it up from -20°C to +100°C.

Lowest achievable temperature (T_{min}):

The Ministat® 240-cc®-NR cools the reactor down to the minimum achievable process temperature of -25°C.

