



**Setup Details:**

Temperature range:  
-40°C +200°C

**Cooling power:**

- .42 kW @ +100
- .42 kW @ +20°C
- .38 kW @ 0°C
- .33 kW @ -10°C
- .25 kW @ -20°C
- .05 kW @ -40°C

**Heating power:** 1.5 kW

- Hoses: M16; 6'
- Fluid: M40.165.10
- Reactor: Chemglass 1L
- Reactor content: 750mL (M40.165.10)
- Stirrer speed: 275 rpm
- Control: process

# Ministat 230

**Ministat® 230-cc®-NR controlling a Chemglass 1 Liter glass jacketed reactor from -25°C to 100°C**

**Requirement** This case study demonstrates how fast the Ministat 230 Can Heat from -25°C to 100°C when connected with a 1 Liter Chemglass reactor system.

**Method** The reactor was filled to 750mL with CG-1978-F132, the HTF used was M40.165.10, the stirrer set to 275 rpm and the control to “process”. The purpose of this case study is to show how fast the Ministat can heat from -25°C to 100°C process temperature. The results were recorded using the “Spyware” software.

**Results** It can be seen from the graphic that the Ministat 230 heats the jacket temperature to 100°C in just about 23 Minutes, with the process temp quickly following the trend 44 minutes later, bringing the total time to heat the contents of the reactor in just 44 minutes.

