

Unistat Chili

Unistat Chili controls a 1 liter vacuum insulated reactor



Requirement

This Case Study demonstrates the process temperature control abilities of the Unistat Chili when it is connected to an Asahi 1 liter vacuum insulated glass reactor.

Method

The 1 liter Asahi vacuum insulated reactor was connected to Unistat Chili using 1 meter metal insulated hoses M16. The thermofluid used in the system was "M20.195/235". Process control was carried out. Stirrer speed was set to 100 rpm.

Setup details

Temperature range: +65°C...+300°C
 Heating power: 3.0 kW
 Hoses: 1 m metal insulated M16
 HTF: M20.195/235
 Reactor: Asahi 1 liter vacuum insulated
 Reactor content: 0.7 l M20.195/235
 Stirrer speed: 100 rpm
 Control: process
 Amb. temperature: +24°C

Results

Performance:

The graphic shows the speed, accuracy and stability of the Chili as it reaches and maintains 180°C.

The accessory to assist in cooling: the HTF, the Cooling coil coupling (# 359353) was used to accelerate cooling from +100°C to +30°C. The effect on the cooling rate can clearly be seen on the graphic.

Start T	End T	Approximate Time	Av. Ramp Rate
+30°C	+180°C	40 minutes	3.8 K/min

