Unistat P815w

Unistat P815w controls a 20 liter Chemglass reactor

Requirement
This case study demonstrates the temperature control capabilities over the process temperature when a Unistat P815w is connected with an uninsulated 20 liter Chemglass jacketed reactor.

Method
The 20 liter Chemglass reactor was connected to Unistat P815w using metal insulated hoses M24. The thermofluid used in the system was DW-Therm. Process control was carried out. Stirrer speed was set to 100 rpm.

Setup details
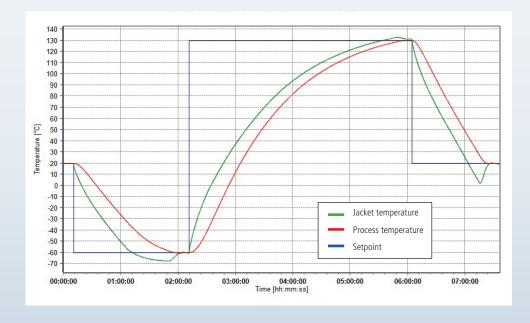|	
Temperature range:	-85°C...+250°C
Heating power:	2.0 kW
Hoses:	metal insulated M24
HTF:	DW-Therm
Reactor:	Chemglass 20 liter
Reactor content:	15 l DW-Therm
Stirrer speed:	100 rpm
Control:	process
Amb. temperature:	+23°C

Results

1. Performance:
The graphic shows the speed and stability as each new set-point is reached.

Start T	End T	Approximate Time	Av. Ramp Rate	Fastest Ramp Rate
+20°C	-60°C	105 minutes	0.8 K/min	(0°C to -30°C) 1.0 K/min
-60°C	+130°C	225 minutes	0.8 K/min	(+30°C to +60°C) 1.2 K/min
+130°C	+20°C	79 minutes	1.4 K/min	(+60°C to +30°C) 1.4 K/min

Technical details and dimensions are subject to change. No liability is accepted for errors or ommisions.

2. Lowest achievable temperature (Tmin):
The graphic shows that the minimum achievable process temperature was -70.5°C.

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