Unistat®
petite fleur®

Petite Fleur® heating and cooling a 0.5-litre reactor between 20 °C and -30 °C

Requirement
This case study looks at the repeatability of control as the Unistat Petite Fleur cycles the process temperature of a 0.5-litre un-insulated glass reactor.

Method
The Unistat Petite Fleur is connected to the reactor with two insulated metal 1-metre hoses. The Petite Fleur is then programmed to cycle between low and high temperatures.

Results
The Process is cooled rapidly from 20 °C to -30 °C hitting exactly -30 °C with no overshoot. The heating ramp is very fast resulting in a 2 °C overshoot before maintaing perfect stability at 20 °C.

Setup details
Petite Fleur® & Schlee GmbH

Temperature range:	-40...200 °C
Cooling power:	0.48 kW @ 200…0 °C
	0.27 kW @ -20 °C
Heating power:	1.5 kW
Hoses:	2x1 m; M16x1 (#9608)
HTF:	Ethanol
Reactor:	0.5-litre un-insulated glass reactor
Reactor content:	375 ml M90.055.03 (#6259)
Stirrer speed:	160 rpm
Control:	process

Legend:
- Jacket temperature (green)
- Process temperature (red)
- Setpoint (blue)

X-axis: Zeit in [hh:mm:ss]
Y-axis: Temperatur in [°C]