



# **Unistat®** petite fleur®

Petite Fleur® cycling a 2-litre Radleys jacketed reactor between +100°C and -20°C

## Requirement

This case study demonstrates 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 Petite Fleur using two M16x1 1-meter flexible hoses. The thermofluid used in the system was "M90.055.03". "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: -40°C...+200°C 0.48 kW @ +20°C Cooling power:

0.48 kW @ +200°C 0.45 kW @ 0°C 0.27 kW @ -20°C 0.16 kW @ -30°C

Heating power: 1.5 kW Hoses: M16x1; 2\* 1 m Thermofluid: M90.055.03 Reactor: Radleys 2-litre

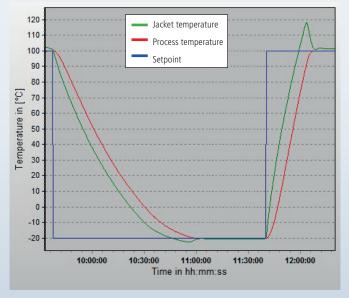
jacketed reactor 1 litre M40.165.10 Reactor content:

Stirrer speed: 200 rpm Control: process

### Results

#### Performance:

This graphic shows the Petite Fleur cooling the process in a 2-litre glass jacketed reactor from 100°C to -20°C in a time of approximately 80 minutes, hitting and controlling at -20°C with no overshoot. Heating back to 100°C from -20°C takes only 26 minutes with the same tight control at the target temperature.



# Lowest achievable temperature ("T<sub>min</sub>"):

To demonstrate the working range of the Petite Fleur when connected to a 2-litre reactor, this graphic shows that the Process temperature asymptotes at -27°C.

