

# Unistat® petite fleur®

**Baby Tango - Petite Fleur® - controlling Syrris 2-litre triple wall reactor**

**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 Syrris 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 450 rpm.

**Setup details**

Temperature range:	-40°C...+200°C
Cooling power:	0.48 kW @ +20°C 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:	Syrris 2-litre insulated reactor
Reactor content:	1 litre M40.165.10
Stirrer speed:	450 rpm
Control:	process



**Results**

**Performance:**

To demonstrate the efficient performance of the Petite Fleur, this graphic shows that it can cool the process in a 2-litre glass reactor from 100°C to -20°C in approximately 70 minutes, hitting and stabilizing exactly on the set-point. A rapid heat-up time of less than 30 minutes from -20°C to 100°C with the same accuracy can also be seen.

**Lowest achievable temperature:**

Once stable at +100°C under "Process" control, a set-point of -40°C is entered. The Petite Fleur cools the reactor down to the minimum achievable process temperature of -31°C.

