Unistat® Tango® Nuevo

Setup details
Unistat® Tango® Nuevo & Buchi Glas Uster reactor

Temperature range:	-45...250 °C
Cooling power:	0.7 kW @ 250…0 °C 0.4 kW @ -20 °C
Heating power:	1.5 kW
Hoses:	2x1 m; M24x1.5 (#9325)
HTF:	DW-Therm (#6479)
Reactor:	1-litre un-insulated glass pressure reactor glass pressure reactor
Reactor content:	0.75 litre M90.055.03 (#6259)
Stirrer speed:	500 rpm
Control:	process

Heating and Cooling ramps with a 1-litre Buchi Glas Uster reactor

Requirement
This case study looks at the speed at which the Unistat Tango Nuevo can heat and cool the process in a 1-litre un-insulated glass pressure reactor.

Method
Using two large diametre (M24x1,5 DN12) insulated metal hoses, the reactor was connected to the Unistat Tango Nuevo. The reactor was filled with 0.75-litre of "M90.055.03", a Huber supplied silicon based HTF.

Results
Efficient thermal transfer made possible by the low flow resistance of the wide bore tubing coupled with the highly efficient thermal transfer capabilities of the Unistat Tango Technology results in a rapid ramping rate and extremely stable control. The diagram illustrates a heating curve from 20 °C to 180 °C in a time of 37 minutes and back to 20 °C in 38 minutes. The process temperature reached both set-points without any overshoot demonstrating the capability of the controller to ramp temperatures with speed and accuracy.