Unistat® 815w

Unistat 815w cycling a 40-litre steel enamel De Dietrich reactor

Requirement
The graphic illustrates the heating and cooling performances of Unistat 815w working with a 40-litre steel enamel De Dietrich reactor in a range from -50°C to +100°C.

Method
The 40 litre reactor was connected to the Unistat 815w using two insulated metal hoses. The thermofluid used in the reactor was M40.165/200.10.

Setup details

Temperature range:	-85 … +250°C
Cooling power:	1,5 kW @ 0°C
	1,5 kW @ -20°C
	1,4 kW @ -40°C
Heating power:	2,0 kW
Hoses:	M24x1,5 ; 2x1,5 m
HTF:	M60.115/200.05 (#6166)
Reactor:	40-litre steel enamel De Dietrich reactor
Reactor content:	30 litres M40.165/220.10 (#6164)
Reactor stirrer speed:	300 rpm
Control:	Process

Results

Temperature control of a 40-litre steel enamel reactor:
Starting from a deep temperature of -50 °C the Unistat 815w heats the process to +50 °C in approximately 180 minutes with a heating rate of 0,55 K/min. The heat-up time from +50 °C to +100 °C is completed within 150 minutes with no over shoot (heating rate 0,33 K/min). The coolling down phase from +100 °C to 0 °C takes around 150 min (cooling rate 0,66 K/min).