Unistat® 615w

Heating and cooling a Buchi 250-litre glass lined stainless steel reactor through 60 K

Setup details

Temperature range:	–60...200 °C
Cooling power:	9.5 kW @ 200…0 °C
	8.0 kW @ -20 °C
	4.8 kW @ -40 °C
	1.2 kW @ -60 °C
Heating power:	12 kW
Hoses:	M38x1,5; 2x2 m
HTF:	DW-Therm (#6479)
Reactor:	Buchi Glas Uster CR252 250-litre glass-lined (enameled) steel reactor
Reactor content:	200 litre Ethanol
Reactor stirrer speed:	90 rpm
Control:	process

Requirement

This case study shows the remarkable power transfer capabilities of the Unistat range in using a Unistat 615w to heat and cool a 250-litre Buchi Glas Uster GLSS reactor.

Method

The Unistat was connected to the reactor using two 2-metre insulated metal hoses. The reactor was filled with 200 litre of Ethanol.

Results

The Unistat cools the process from 20 °C to -40 °C (60 K) in approximately 150 minutes. It can be seen from the jacket temperature that the system is "comfortable" with this load. The heat up time back to 20 °C takes approximately 60 minutes.