Setup details
Unistat® 910w & Diehm 100-litre reactor

Temperature range:	-90…250 °C
Cooling power:	5.2kW from 250 °C to -20 °C 4.7kW @ -40 °C 3.1kW @ -60 °C 0.9kW @ -80 °C
Heating power:	6.0 kW
Hoses:	M38x1.5; 1x 2m #6657; 1x1m # 6655, VPC Bypass installed
HTF:	M90.055.03 (#6259)
Reactor:	100-litre Diehm un-insulated jacketed GLSS reactor
Reactor content:	75 litre M90.055.03
Stirrer speed:	410 rpm
Control:	process

Unistat® 910w

Cooling a Diehm 100-litre jacketed glass reactor to -30 °C from 120 °C

Requirement
This case study examines the performance of a Unistat 910w cooling a Diehm 100-litre jacketed glass reactor from 120 °C to -30 °C then back to 20 °C.

Method
The Unistat and reactor are connected using two 1.5-metre insulated metal hoses. The reactor is filled with 75 litre of "M90.055.03", a Huber supplied silicon based HTF.

Results
Though the Unistat 910w is designed for (efficient) use on reactors up to a maximum of 50 litre, it can be seen how well the Unistat 910w performs on a reactor twice that size.
The control is exact in both heating and cooling as can be seen from the graphic below.