

# Unistat® 830

## Cooling a 25-litre reactor to T<sub>min</sub>

### Requirement

The test is performed to investigate the minimum achievable process temperature in a DDPS 25-litre glass reactor when connected to a Unistat 830.

### Method

The Unistat and reactor are connected using two 1.5-metre insulated metal hoses. The reactor is filled with 18.75 litre of "M90.055.03", a Huber supplied silicon based HTF.

### Results

The graphic demonstrates that the Unistat is able to pull the "internal" (jacket) temperature to -80 °C with a corresponding process temperature to approximately -69 °C within the test period.

### Setup details

Unistat® 830 & DDPS reactor

Temperature range: -85...200 °C  
 Cooling power: 3.6 kW @ 0 °C  
 2.2 kW @ -60 °C  
 Heating power: 3 kW  
 Hoses: 2x1.5 m; M38x1.5 (#6656)  
 HTF: DW-Therm (#6479)  
 Reactor: 25-litre vacuum insulated glass reactor  
 Reactor contents: 18.75 litre M90.055.03 (#6259)  
 Reactor stirrer speed: 70 rpm  
 Control: process

