

## Unistat® 815w

**Unistat 815w controlling a 20-litre Chemglass reactor**

### Requirement

The graphics illustrate the performance of Unistat 815w working with a 20-litre Chemglass reactor.

### Method

The Unistat and reactor are connected using two 1,5-metre insulated metal hoses. The reactor is filled with 19 l of ethanol.

### 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: M30x1,5 ; 2x1,5 m  
 HTF: M90.055/170.03 (#6259)  
 Reactor: 20-litre glas reactor  
 Reactor content: 19 l ethanol  
 Reactor stirrer speed: 150 rpm  
 Control: Process



## Results

### 1. Lowest achievable temperature ( $T_{min}$ ):

Once stable at +20 °C under the "Process" control, a set point of -90 °C is entered. The Unistat cools the reactor down to the minimum achievable process temperature of -77 °C with a cooling rate of 0,4 K/min. The corresponding jacket temperature is -84 °C.

