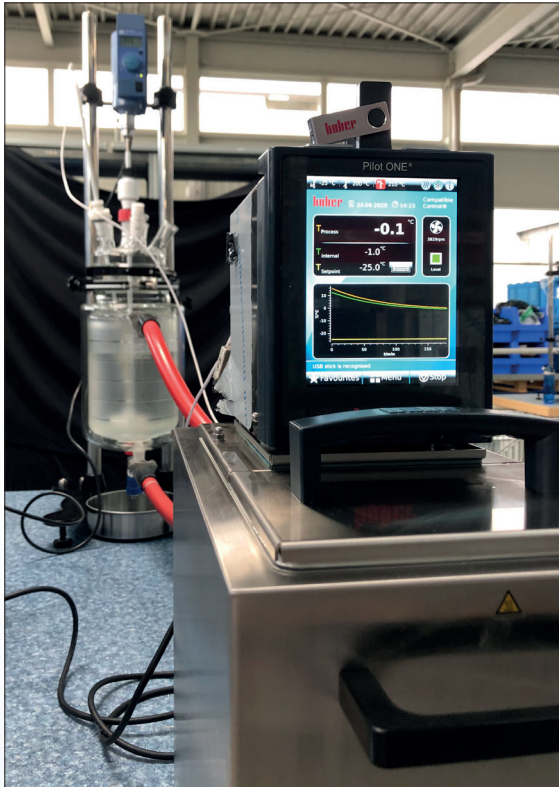


## CC®-K6

### CC®-K6 controlling a 5 liter Asahi reactor



#### Requirement

This Case Study demonstrates the speed and accuracy when a CC-K6 is connected together with an Asahi 5 liter vacuum insulated reactor over the temperature range +20°C to +150°C and back to +20°C.

#### Method

The 5 liter Asahi vacuum insulated reactor, was connected to the CC-K6 using two metal hoses. The thermofluid used in the system was M20.195/235.20. "Process" control was carried out via a Pt100 sensor located in the process mass. Stirrer speed was set to 350 rpm.

#### Setup details

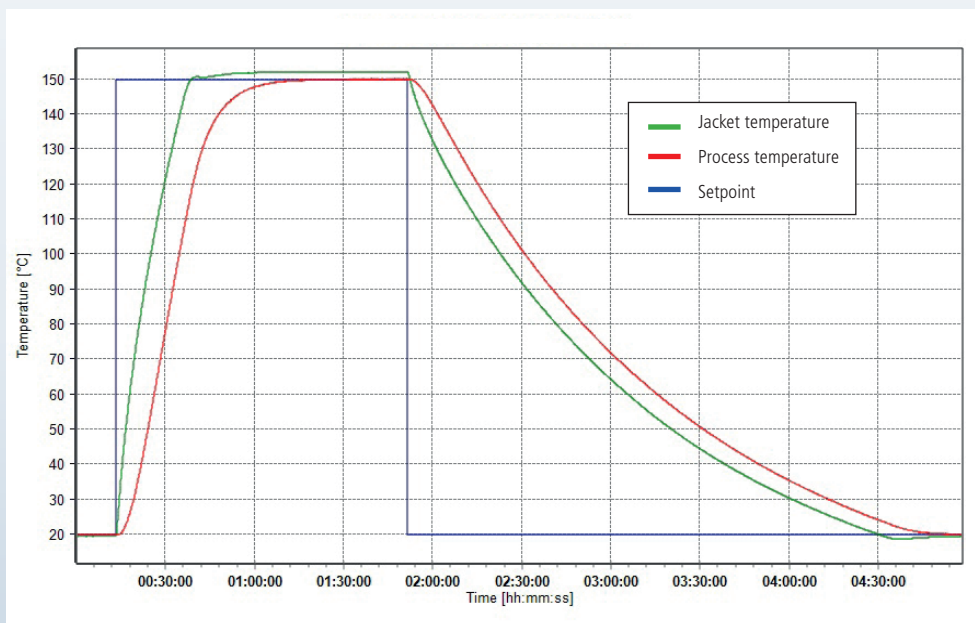
Temperature range: -25°C...+200°C  
 Cooling power: 0,20 kW @ +20°C  
 0,15 kW @ 0°C  
 0,05 kW @ -20°C  
 Heating power: 2,0 kW  
 Hoses: M16x1; 2 x 1 m  
 HTF: M20.195/235.20  
 Reactor: 5 liter Asahi vacuum insulated  
 Reactor content: 4 l M20.195/235.20  
 Stirrer speed: 350 rpm  
 Control: Process  
 Amb. temperature: +23°C

## Results

### 1. Performance:

The graphic shows the CC-K6 reaching and maintaining each new set point.

Start T	End T	Approximate time	Av. Ramp Rate	Fastest Ramp Rate
+20°C	+150°C	65 minutes	2.0 K/min	(+30°C to +60°C) 4.3 K/min
+150°C	+20°C	178 minutes	0.7 K/min	(+130°C to +100°C) 1.3 K/min



**2. Lowest achievable temperature (Tmin):**

The graphic shows the CC-K6 cooling the process to -1°C.

