

## Piccolo 280 OLÉ

**Rapid heating and cooling of a VMA 0.25 l jacketed stainless steel container**

### Requirement

This case study demonstrates the heating and cooling performance of a Piccolo 280 OLÉ connected to a VMA 0.2 liter non insulated jacketed stainless steel container.

### Method

The Piccolo and container are connected using two 1.0 meter insulated silicone hoses. The container is filled with 0.2 liter of water. Reactor content is stirred by a magnetic stirrer.

### Setup details

#### Unit

Temperature range: +4°C...+70°C  
 Cooling power: 0.28 kW @ +20°C  
 Heating power: 0.62 kW @ +20°C

#### Container

Manufacturer: VMA  
 Volume: 0.25 liter  
 Type: Non insulated jacketed stainless steel container

### Test conditions

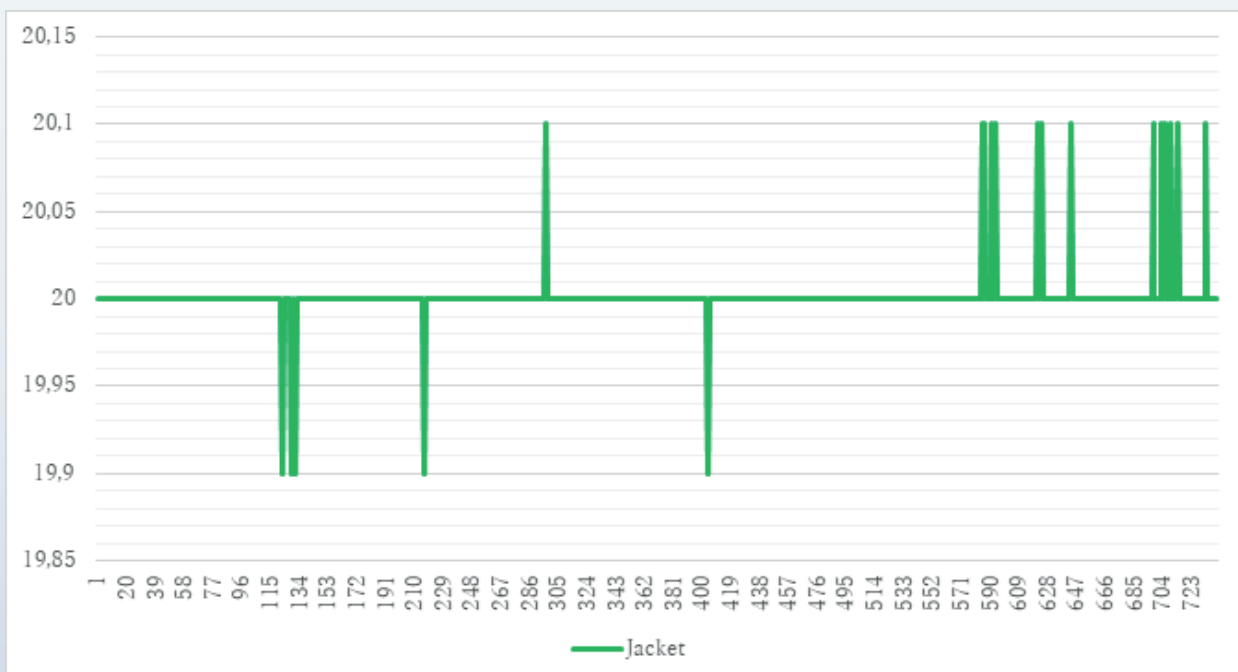
HTF: Water  
 Reactor content: 0,2 l water  
 Stirrer speed: 100 rpm (Magnetic stirrer)  
 Control: Internal (jacket)



## Results

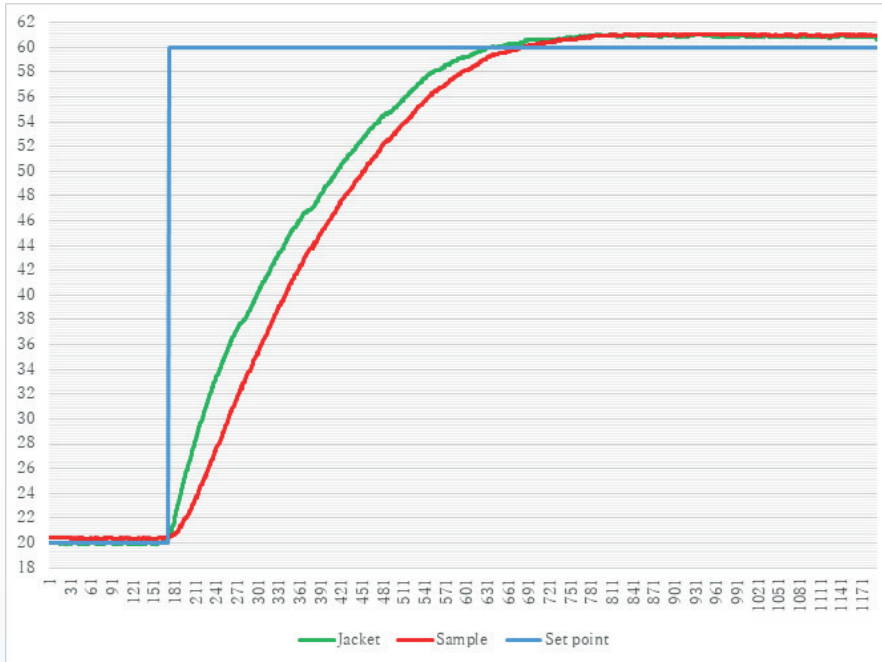
### 1. Stability

The graphic shows the temperature stability of +/-0.1K at +20°C.



## 2. Performance

Start T	End T	Time Taken	Av. Ramp Rate
+20°C	+60°C	8 Minutes	5.0 K/min



Start T	End T	Time Taken	Av. Ramp Rate
+20°C	+5°C	15 Minutes	1.0 K/min

