



# CC®-508

### CC®-508 cycling a 40-litres steel enamel De Dietrich reactor

#### Requirement

This case study demonstrates the ability of the CC-508 refrigeration bath circulator to cycle the process temperature in a range from +0°C to +37°C, the closeness of the temperature control and the minimum process temperature achievable in the process mass.

#### Method

The 40-litres steel enamel De Dietrich reactor was connected to the CC-508 using two insulated metal hoses. The thermofluid used in the system was M60.115/200.05. "Process" control was carried out via a Pt100 sensor located in the process mass. Stirrer speed was set to 300 rpm.

### Setup details

Temperature range: -55°C...+200°C Cooling power: 1,5 kW @ +100°C

1,5 kW @ +20°C 1,5 kW @ 0°C 1,0 kW @ -20°C 0,3 kW @ -40°C

Heating power: 3,0 kW

Hoses: M16x1; 2 x 1 m M60.115/200.05 (20I) HTF: Reactor: 40-litres steel enamel De Dietrich reactor

M40.165/220.10 (30l) Reactor content:

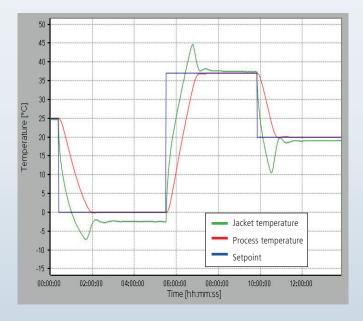
Stirrer speed: 300 rpm Control: Process

## **Results**

#### Performance:

Cooling and heating over the range 0°C to +37°C.

The CC-508 needs approximately 96 minutes to cool the reactor from +25°C to 0°C and 95 minutes to heat it from 0°C to +37°C.



#### Lowest achievable temperature (T<sub>min</sub>):

The CC-508 cools the reactor to the minimum achievable process temperature of -18°C.

