

PRESTO W91

Cool-down a 50 liters reactor from +20 °C to lowest possible temperature

Objective

This case study tests the lowest possible temperature of the PRESTO W91 with a 50 liters glass reactor. The PRESTO W91 is connected to the reactor via 2 m metal tubings. The PRESTO W91 cools down from +20 °C to the lowest possible temperature.

Environment

Room temperature +20 °C Humidity 45 %

Voltage 400 V / 50 Hz

Test Conditions

JULABO unit PRESTO W91
Cooling power +20 °C 11 kW

0 °C 10 kW -20 °C 9.5 kW

Heating capacity 12 kW
Band limit without
Flow pressure 0.5 bar
Bath fluid Thermal HL80

Reactor 50 l glass reactor (QVF)

filled with 35 I Thermal HL80

Jacket volume 26.5 l

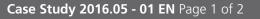
Control External (ICC)

Control Parameters

Xp 0.2 K Tn 720 s Tv 100 s Xpu 24 K



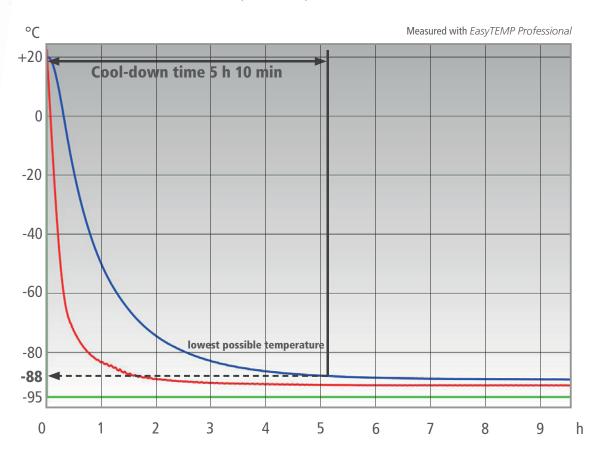






Test Results

The PRESTO W91 cooled the reactor from +20 °C down to the lowest possible temperature in 5 h 10 min. Within these test conditions the lowest possible temperature is -88 °C.



Setpoint

Temperature in reactor's interior

Temperature in reactor's jacket

