

# Julabo Case Study

## JULABO FP50-HL

Heating a 10 liters reactor from  
-20 °C to +20 °C



### Objective

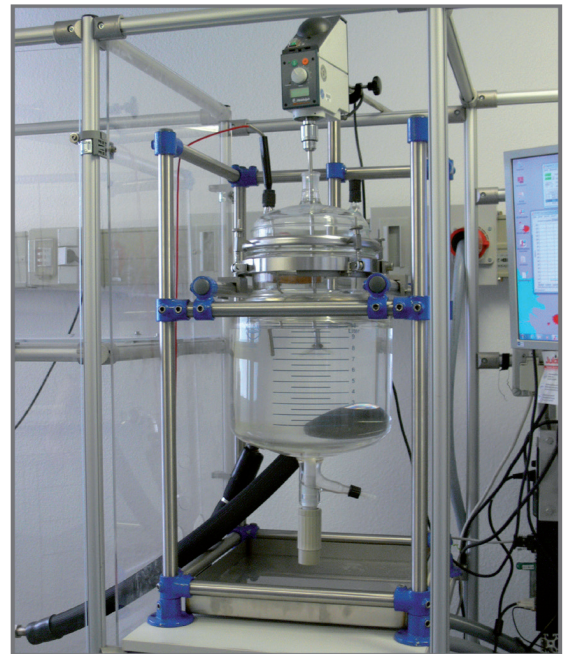
This case study tests the heating power of **FP50-HL** with a 10 liters glass reactor. The FP50-HL is connected to the reactor via two 2 m metal tubings. The FP50-HL is programmed to heat up from -20 °C to +20 °C.

### Test Conditions

JULABO unit	JULABO FP50-HL
Cooling power	+20 °C 0.9 kW
	0 °C 0.8 kW
	-20 °C 0.5 kW
Heating capacity	2 kW
Band limit	without
Flow pressure	0.4 bar
Bath fluid	JULABO Thermal H10
Reactor	10 liters glass reactor (Normag) filled with 10 liter JULABO Thermal H10
Jacket volume	5.0 l
Control	External (ICC)

### Environment

Room temperature	20 °C
Humidity	45 %
Voltage	230 V / 50 Hz



### Test Results

See chart on back page: The FP50-HL heating process from -20 °C to +20 °C in 70 min without overshoot.

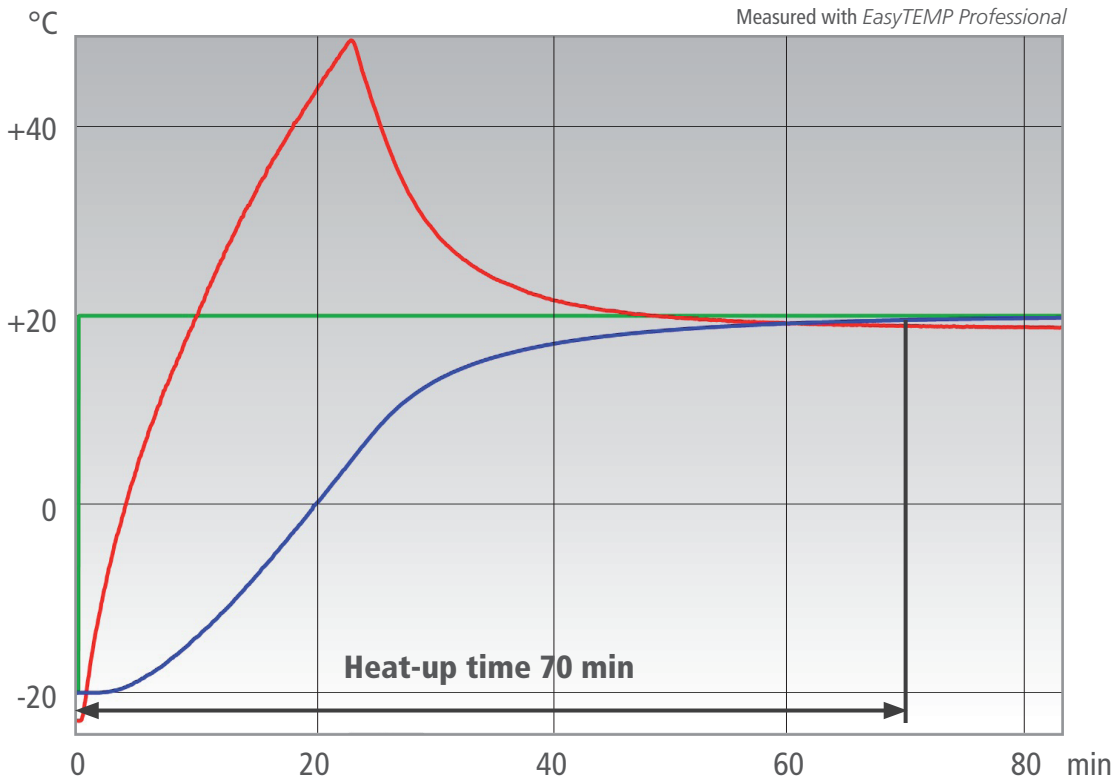
### Tip

You can also use the robust Pt100 with PTFE coating.

More tips on  
back page >>



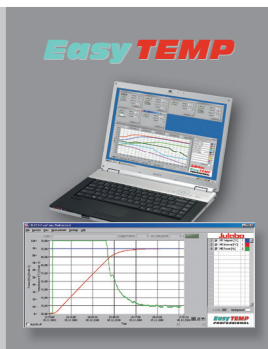
JULABO GmbH  
Eisenbahnstraße 45  
77960 Seelbach / Germany  
Tel. +49 (0) 7823 51-0



- Setpoint
- Temperature in reactor's interior
- Temperature in reactor's jacket

### Tip

Use the free of charge *EasyTEMP* software to control the units with the PC and to show the temperature curves graphically.



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