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Product Specifications

**HAAKE Phoenix II drop-in circulators have been designed to precisely control your laboratory processes under temperature conditions from -90 to +280 degree C. They fit a wide range of baths, refrigerators and cryostats. These versatile circulators come in three capacities (1, 2 and 3 kW) and offer many additional features.**

# HAAKE Phoenix II

## Drop-in circulators for general purpose applications





**Phoenix II drop-in circulators**



### Ease of Use

A single screen display with a “wide angle” view allows the user to set the system in any of six languages using a simple command structure.

### Electronic Connections

The unit can be connected to a wide range of external controls via an RS232/RS485 and/or Profibus interface.

### A Reliable Supplier

Thermo is a proven industry leader with over 75 years of extensive industry experience. Thermo professionals – around the globe – continue to develop and support the solutions that help you analyze, detect, measure and control your business with increasingly advanced precision.

### External Conditions

An optional PT 100 external sensor allows the use of the Phoenix II circulator in precision reactor control to assure ideal temperature conditions in external vessels.

### Precision Tool

The use of FuzzyStar software allows the system to make minor changes to optimize your application.

### Bath Temperature Gradient

The circulation pump assures even temperature conditions throughout the bath, guaranteeing high precision and low turbulence.



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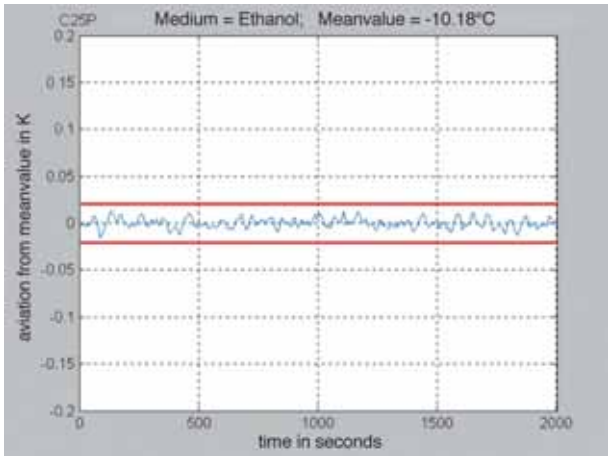
# Specifications and Accessories

The HAAKE Phoenix II circulator is the successor to the established circulator series Phoenix for precise temperature control of small to medium volumes. The Phoenix II temperature controller is at the heart of a series of devices such as heating, refrigerating or cryostat baths. It allows the user to exactly control the environment in which his or her analyses or tests should run for maximum result or output. The Phoenix II circulator enables pilot production to study the influence of heating or cooling for pilot scale up. Responding to noise level concerns, temperature stability or communication with other instruments, the Phoenix II circulator is the temperature control device for applications in:

- the Pharmaceutical industry for fermentation or other biological processes
- the Petrochemical industry e.g. for viscosity testing of kerosene composition
- the Plastics industry for Fogging Tests and thermal stability of cables or isolated lines
- the Semiconductor industry for controlling wet bench chemical temperatures or sputtering processes and
- common applications like calibration of sensor devices or material characterization analyses in a wide industry field

## HAAKE Phoenix II Performance

The graph shown here was generated during the validation process of the Phoenix II circulator. The test validated the Phoenix II circulator according to DIN 12876-1, 2 and 3 to demonstrate temperature accuracy. After the system reached stability at minus 10 degree in ethanol the test was run tor 30 minutes. The temperature in the bath was measured via a calibrated measuring system.




## HAAKE Phoenix II Order Nos. and Types

| Order Nos. | Type | Description | Capacity |
|---|---|---|---|
| 440-0001 * | P1 | Phoenix II version P1 drop-in Circulator for non-chilled baths, baths of the series V15, V26, W26, W45, B5, B7 and B12 with bath bridges H70, H71, H72 or H73 | 2 kW |
| 441-0001 * | P2 | Phoenix II version P2 drop-in Circulator for non-chilled baths, and as for 440-0001 | 3 kW |
| 438-0001 | P2 | Phoenix II version P2 drop-in Circulator with Profibus connection for non-chilled baths, and as for 440-0001 | 3 kW |
| 442-0001 * | P1 Cool | Phoenix II version P1 drop-in Circulator for use in cooling baths C25P, C30P, C35P, C40P, C41P and C50P | 2 kW |
| 445-0001 | P1 Cool | Phoenix II version P1 drop-in Circulator for use in cooling bath C75P | 1 kW |
| 443-0001 | P2 Cool | Phoenix II version P2 drop-in Circulator for use in Cryostat bath CT50W | 3 kW |
| 444-0001 * | P2 Cool | Phoenix II version P2 drop-in Circulator for use in cooling baths C25P, C30P, C35P, C40P, C41P, C50P and Cryostat baths CT50L, CT90 and CT90L | 2 kW |
| 438-0011 | P2 Cool | Phoenix II version P2 drop-in Circulator with Profibus connection as 444-0001 | 2 kW |
| 446-0001 | P2 Cool | Phoenix II version P2 drop-in Circulator for use in cooling bath C75P and CT80 | 1 kW |

All products mentioned above are available in 230V/50-60 Hz

* These products are also available in 115 V/6O Hz version and 1.2 kW (replace Order Nos. XXX-0001 with XXX-0002)

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