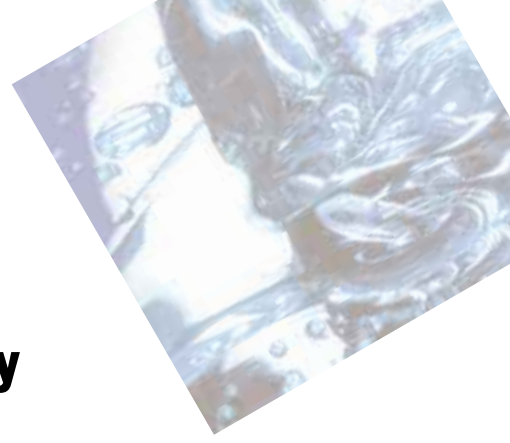


Cryostats – Low Temperatures for the Laboratory



ThermoHaake

Application and Selection

The selection of a cryostat depends on its intended usage. Very low temperatures are best reached with both P2-CT90L and -W, the P1/P2-C75P and the DC50-K75. The P2-CT50L and -W both deliver a high cooling capacity.

The cryostats are cooled by powerful, quiet-running compressors. The cooling circuits are either air-cooled (K75, C75P, CT50L, CT90L) or water-cooled (CT50W, CT90W).

The powerful water-cooled units are equipped with a water flow limiter. The water consumption is kept low thus considerably reducing the operating costs. The cooling capacity for all Phoenix cryostats is controlled by a new fuzzy logic-supported energy management system.

The floor-based units are fitted with stable, adjustable castors.

The cryostats DC50-K75 and P1/P2-C75P are suitable for location either under or on the lab table.

Phoenix Cryostats

Innovative materials combined with the latest state-of-the-art technology and advanced design form the basis for the new Phoenix circulators.



Phoenix P1-C75P / P2-C75P

- Compact cryostat down to -75°C
- Unit can be placed on the lab table
- 280 W cooling capacity at 20°C

The Phoenix circulators come equipped with a powerful pressure and suction pump, feature a cooling capacity of up to 5000 W and are thus ideally suited to meet the extreme technical specifications that many applications require.

Phoenix circulators are available in two versions:

- Basic version Phoenix 1 (P1) with a 1 kW heating capacity
- Full version Phoenix 2 (P2) with 1 to 3 kW heating capacity and with additional functional features



Phoenix P2-CT50L

- Cryostat with high capacity down to -50°C
- Air-cooled floor-based unit
- Ideal for direct temperature control in the bath
- 2500 W cooling capacity at 20°C
- Large bath volume (24 l)

Phoenix P2-CT50W

- Cryostat with big power down to -50°C
- Water-cooled floor-based unit
- 5000 W cooling capacity at 20°C
- Large bath volume (24 l)

Phoenix P2-CT90L

- Cryostat with high capacity down to -90°C
- Air-cooled floor-based unit
- Ideal for direct temperature control in the bath
- 1650 W cooling capacity at 20°C

Phoenix P2-CT90W

- Cryostat with big power down to -90°C
- Water-cooled floor-based unit
- 1900 W cooling capacity at 20°C
- 200 W cooling capacity at -80°C

The Highlights

- FuzzyStar control with neuronal adaptation
- Easy operation of the units due to a large monitor with plain text display and direct value setting
- Very powerful combined pressure and suction pump with automatic speed recognition for the precise temperature control of external objects
- 4 savable fixed temperatures
- Up to 10 ramp programs with a maximum of 30 segments (for P2)
- Flexible interface concept: RS232C (standard), multifunctional output (standard), RS485 (for P2), Profibus (optional for P2)
- External Temperature Control (ETC) with connection for an external Pt100 sensor as standard
- User can choose from 6 different dialog languages
- Permanent display of date and time
- 3-point calibration function (for P2)

Cryostat DC50-K75

The DC50 cryostats are units which are used for a wide range of standard applications. A powerful pump enables the temperature controlling of small, closed external systems.

The settings on the unit are carried out via a push-button keypad. The read-out is shown via two separate display panels.

The Highlights

- Powerful pumps with Turbulence Reduction System (TRS)
- Simple operation due to separate display panels for menu selection and temperature
- Microprocessor control with PID control
- Resolution of the digital display for the set and actual temperature optionally 0.1 or 0.01 °C
- Real Temperature Adjustment (RTA)
- Saving of 3 user-defined fixed temperatures with their respective RTA values



- The reason for a unit fault is shown on the display via the Fault Identification System (FIS)
- RS 232C interface, optional RS485
- External Temperature Compensation (ETC) for controlling external systems with connection for an external Pt100 sensor

DC50-K75

- Compact cryostat down to -75°C with a temperature accuracy of ±0.05 K
- Unit can be placed on the lab table
- 280 W cooling capacity at 20°C
- 130 W cooling capacity at -40°C

Technical specifications acc. to DIN 58966		DC50-K75	P1-C75P	P2-C75P	P2-CT50L	P2-CT50W	P2-CT90L	P2-CT90W
Working temperature range	°C	-75..100	-75..100	-75..100	-50..100	-50..100	-90..100	-90..100
Temperature accuracy	+/-K	0.05	0.02	0.02	0.1	0.1	0.1	0.1
Heater capacity	W	1000	1000	1000	2000	3000	2000	2000
Cooling capacity	at 20°C / 0°C	W	280 / 220	280 / 220	2500 / 1750	5000 / 3000	1650 / 1500	1900 / 1700
	at -20°C / -40°C	W	180 / 130	180 / 130	1100 / 300	1900 / 800	1300 / 1150	1500 / 1300
	at -60°C / -80°C	W	50 / -	50 / -	-	-	600 / 170	700 / 200
Pump:	Pressure / Flow rate max.	mbar/L / min	300 / 12.5	560 / 24	560 / 24	560 / 24	560 / 24	560 / 24
	Suction / Flow rate max.	mbar/L / min	- / -	380 / 22	380 / 22	380 / 22	380 / 22	380 / 22
Bath opening W x L x D	cm	13 x 10 x 20	13 x 10 x 20	13 x 10 x 20	22 x 27 x 20	22 x 27 x 20	22 x 15 x 20	22 x 15 x 20
Bath volume	l	6	6	6	24	24	15	15
Overall dimensions W x L x H	cm	38 x 46 x 72	40 x 51 x 77	40 x 51 x 77	50 x 75 x 109	50 x 75 x 109	50 x 90 x 109	50 x 90 x 109
Net weight	kg	65	68	95	125	180	190	185
Total wattage	VA	2450	2500	3600	3300	5800	5300	5300
Order-No.	for 230 V / 50 Hz	426-5751	440-0751	441-0751	-	-	-	-
	for 220 V / 60 Hz	426-5759	440-0759	441-0759	-	-	-	-
	for 380 V / 3 Ph / 50 Hz	-	-	-	446-0503	447-0503	448-0903	449-0903
	for 220 V / 3 Ph / 60 Hz	-	-	-	446-0504	447-0504	448-0904	449-0904

Star rating

★★★★★

★★★★★

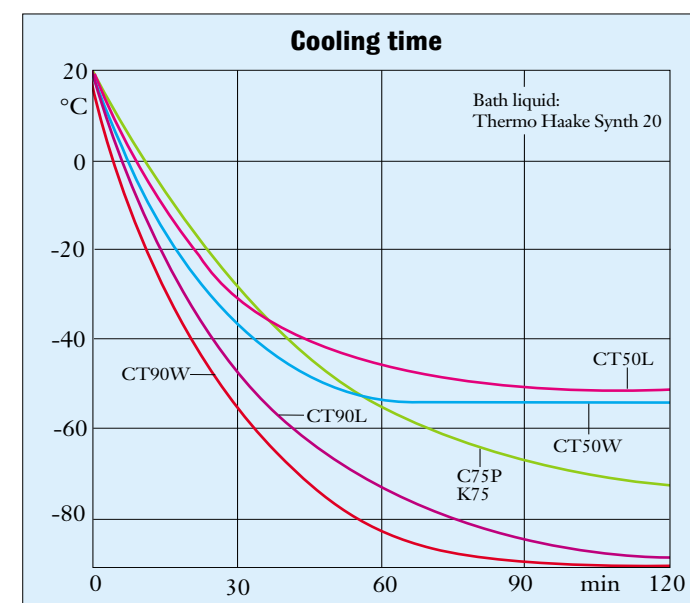
★★★★★

★★★★★

★★★★★

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★★★★★



Star rating and unit functions see pages 31/32 in the circulator main catalog

Accessories

Comes with

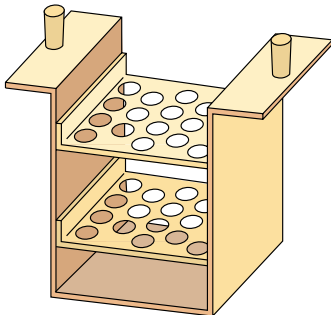
2 nozzles each for tubings with 8 and 12 mm i.Ø

Reservoir drain for CT50L, CT50W, CT90L, CT90W

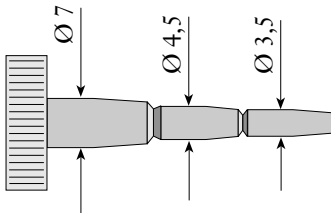
Accessories

Optional accessories Order-no.

Rack for 20 tubes / 16 mm Ø for DC50-K75, P1-C75P and P2-C75P
333-0456



Universal hose nozzle for tubing of 3 to 6 mm Ø
001-3718

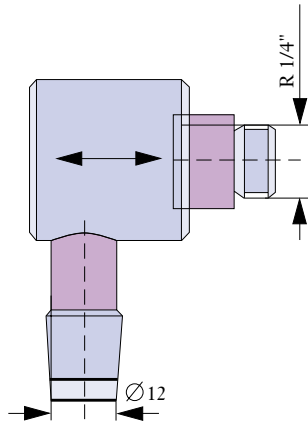


Software ThermStar95plus
 Programming temperature set values and ramp programs for cryostats via PC under Win95, 98 or NT
091-2950

Optional accessories Order-no.

Universal hose nozzle for tubing of 3 to 6 mm Ø for DC50-K75
832-0275

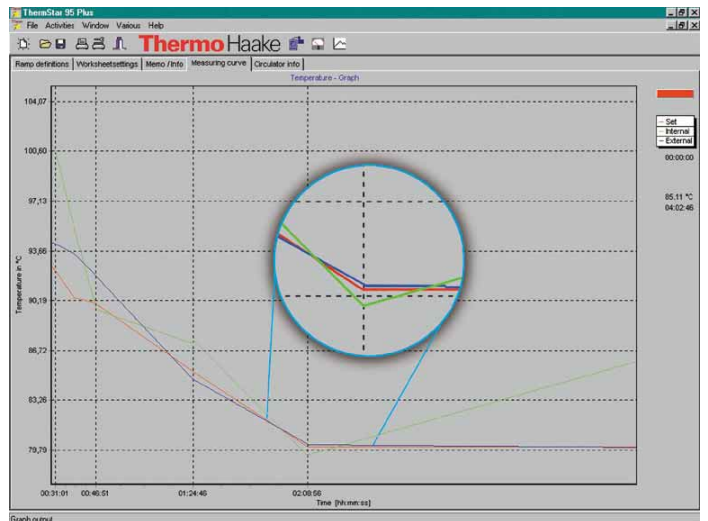
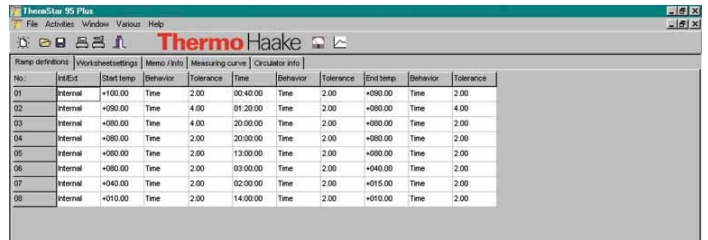
Reservoir drain for DC50-K75, P1-C75P and P2-C75P
333-0499



Trolley with castors for DC50-K75
333-0508

Trolley with castors for P1-C75P and P2-C75P
333-0678

Choose the necessary tubes, bath liquids and Pt100 sensors from the circulator main catalog.



ThermoHaake

A Thermo Electron business

Gebr. HAAKE GmbH
 Dieselstr. 4 · D-76227 Karlsruhe
 Germany
 Tel. +49(0)721 40 94-0
 Fax +49(0)721 40 94 300
 Hotline +49(0)18 05 04 22 53
 info@thermohaake.com
 www.thermohaake.com

HAAKE Instruments Inc.
 53 W. Century Road
 Paramus, NJ 07652, USA
 Tel. 201 265 7865
 Fax 201 265 1977
 infousa@thermohaake.com
 www.thermohaake.com

RHEO S.A.
 99 route de Versailles
 F-91160 Champlan, France
 Tel. +33(0)1 64 54 01 01
 Fax +33(0)1 64 54 01 87
 info@thermorheo.com
 www.thermorheo.com

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