

# Ultra-Cool®

## Wide temperature recirculating chillers

- Large capacity recirculators for maximum cooling and heating from -40°C to +130°C
- Ideal for applications that require high capacity cooling
- Air-cooled for convenient system placement
- The widest precision-controlled temperature range available



Ultra-Cool recirculating chillers are specifically designed for continuous, 24-hour duty, delivering industrial capacity fluid circulation for applications that require temperatures from -40°C to +130°C. With 10kW of heat, Ultra-Cool offers the widest precision-controlled temperature range in the industry.

Ultra-Cool's high capacity cooling and pumping abilities make it ideal for reaction vessel applications, replacements for equipment water cooling, or as dedicated coolers for large water-cooled equipment or instrumentation.

Standard units are air-cooled for convenient system placement, and include an internal high-pressure bypass to protect your equipment. Ultra-Cool can also be supplied as a water-cooled unit to minimize heat transfer to the installation site, as well as for use in a deionized water-compatible version.

### features at a glance

- > Standard digital/RS-232 control permitting precision control of all temperature parameters
- > ± 0.5°C stability
- > Wide temperature ranges:
  - 15°C to +30°C (standard)
  - 40°C to +130°C
- > Mechanical refrigeration, air or water-cooled
- > Compact footprint

### applications

- > Reaction vessels
- > Lasers
- > AA graphite furnace
- > Condenser cooling
- > Diffusion pumps
- > Turbo-molecular pumps
- > Vacuum systems
- > GC/MS
- > Electron microscopes
- > ICP
- > Plasma etch equipment
- > Sputtering systems
- > Power supplies

### options for UC500, UC500LT, UC750 and UC750LT

#### Heater Options

- Heaters are only available for models UC500LT and UC750LT
- > 4kW to 130°C
  - > 10kW to 130°C (460V or 380V only)  
(20 GPM pump only)

#### Pump Options

- > 6 gpm, 30 to 100 psi positive displacement
- > 20 gpm @ 50 psi centrifugal

### Cooling Option

> Water-cooled system

### Electrical Options

> 220V/50Hz/3ph\*

> 460V/60Hz/3ph

> 380V/50Hz/3ph\*

\* For 50 Hz units, decrease heat removal by 17%.

### Controller Option

> Standard digital control has PID, RS-232 computer interface and low fluid indicator.

> Deluxe digital control (required for +130°C units) has PID RS-232, external temperature sensor, and an alarm package including: low fluid, low flow, and over-temp. with an external contact closure.

### fluid selection facts

For best pumping or stirring results, choose a fluid medium with a kinematic viscosity of 20 centistokes or less over the full operating temperature range. Remember, the heat exchanger in the recirculating cooler may be several degrees colder than your process.

### Ultra-Cool model specifications

Ultra-Cool model		UC500	UC500LT <sup>1</sup>	UC750	UC750LT <sup>1</sup>
Heat removal (watts/BTUs)	+20°C	15500/52850	12500/42625	24000/81910	17000/57970
	+10°C	14100/48080	12100/41295	18000/61435	16000/54560
	0°C	11100/37850	12000/40955	14000/47780	15000/51150
	-10°C	6800/23180	8200/27960	9000/30690	11000/37510
	-15°C	–	7300/24915	–	9000/30690
	-20°C	–	6000/20460	–	8000/27280
	-30°C	–	3600/12285	–	4500/15345
Temperature range °C		-15 to 30	-40 to 30	-15 to 30	-40 to 30
Reservoir (liters)		21	21	21	21
Compressor		6 hp	6 hp	7 1/2 hp	7 1/2 hp
Controls standard:		Digital/RS-232	Digital/RS-232	Digital/RS-232	Digital/RS-232
Option:		Deluxe digital	Deluxe digital	Deluxe digital	Deluxe digital
Stability ± °C		0.5	0.5	0.5	0.5
Heater (optional)		–	130°C/4kW or 10kW <sup>2</sup>	–	130°C/4kW or 10kW <sup>2</sup>
Pump standard: centrifugal		20 gpm@45psi	20 gpm@45psi	20 gpm@45psi	20 gpm@45psi
Option: positive displacement		6 gpm to 100psi	6 gpm to 100psi	6 gpm to 100psi	6 gpm to 100psi
Dimensions WxDxH	inches	37x37x41	37x37x41	37x37x41	37x37x41
	cm	94x94x104	94x94x104	94x94x104	94x94x104
Weight	lbs/kg	700/318	700/318	800/318	800/318
Electrical		208-230V, 50/60Hz/3ph/22A	208-230V, 50/60Hz/3ph/22A	208-230V, 50/60Hz/3ph/28A	208-230V, 50/60Hz/3ph/28A
Option:			380/50/3		
			460/60/3		
<p><sup>1</sup> When air-cooled units are manufactured with the heater option, derate the heat removal by 10%.  <sup>2</sup> 4kW heat option for UC500LT and UC750LT adds 11 amps to utility requirement. 10kW heat option for UC500LT and UC750LT with 380 or 460 volts adds 12 amps to utility requirement.</p>					



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