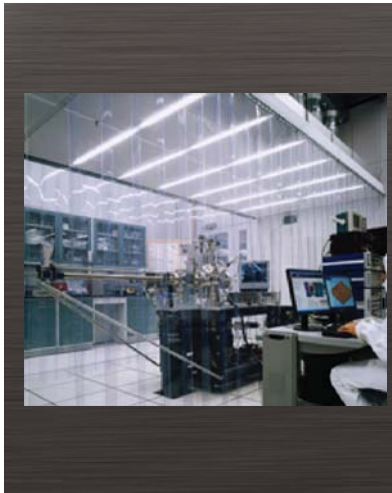
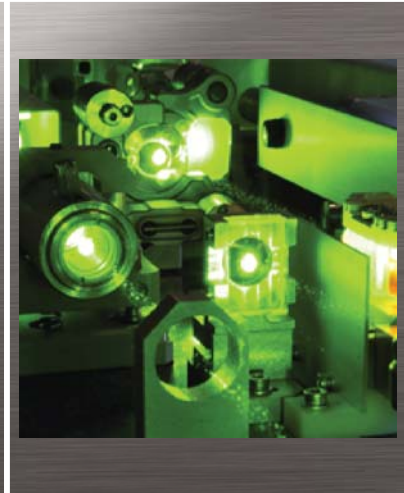
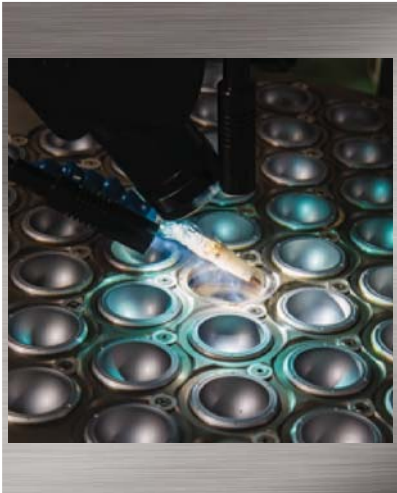


Quality is the Difference



Since 1980, BV Thermal Systems has produced recirculating chillers and heat exchangers. With a variety of models including standard temperature (5 to 35°C), low temperature (-40 to +30°C) and extended temperature (-40 to +160°C) as well as rack mounted chillers and heat exchangers. BV Thermal Systems has become a leader in temperature control. Additionally, BV Thermal Systems is also able to produce reliable fluid temperature control systems running at 200°C and above.

The units manufactured by BV Thermal Systems are manufactured for longevity. We build our units to last BV Thermal Systems Corporate Headquarters, not just through the warranty, but for the life of your tool. In most cases our units are running for 20, 30 and sometimes even 40 years.

Maintenance of product quality and customer service are the foundations upon which BV Thermal Systems has grown and will continue to serve the high technology temperature control marketplace. Extensive engineering effort has been provided to design unique plumbing and refrigeration circuits to eliminate the major causes of system failure (coolant and refrigeration leaks).



Budzar Industries, Inc. has specialized in process fluid heat transfer systems since 1975. As a result, Budzar Industries has earned a global reputation for quality and ingenuity in the design, engineering, and manufacturing of temperature control systems. Just look around. You will find Budzar Industries systems in action throughout the world, delivering accurate temperature measurement and control to the production of chemicals, petroleum, plastics, rubber, paper, power, steel, food, and pharmaceuticals.

Budzar Industries equipment and engineering gives the producer precise controls over process variables. Budzar Industries chillers, hot water systems, hot oil systems, cooling towers, pump tank systems, and the Budzar World Alliance family of portable temperature control systems, equal greater productivity, extended equipment life, increased productive capacity, and power and resources conservation, which equates to time and bottom line savings. Budzar Industries is committed to operating with complete integrity and delivering the highest quality equipment and services available today.

# MERCURY CHILLERS



## Features

- 828 watts to 52,000 watts
- External pressure/flow adjustment
- Touch screen control with safety package
- PLC driven
- Auto tuning PID controller
- 100 million cycle solenoid valves
- RoHS compliant
- 3" fill port with screw on top
- CFC free refrigerant
- Reservoir drain with valve
- Liquid filled pressure gauge
- Corrosion free wetted surfaces
- Platinum temperature probe
- Adjustable high & low temperature alarms
- Locking, non-marring casters

Mercury Chillers from BV Thermal Systems, Division of Budzar Industries, deliver chilling control with excellent accuracy. Standard features include the highest quality refrigeration and plumbing components in the industry – stainless steel evaporator/heat exchanger, hot gas bypass and fluid bypass/pressure regulating valve. Other standard features included are: PID temperature controller, hard brazed or welded connections, seamless reservoirs, Din rail mounted components, heavy duty powder coated paint and service without equal.

## Options available

- Water condenser
- Analog Remote control of temperature controller
- RS-232 or RS-485 interface
- Return temperature display
- Various voltages
- Resistivity meter
- Resistivity status
- Solenoid controlled anti-flood back system
- Auto fill with redundant safety ports for supply and return
- Pressure regulating valve
- Positive displacement pump
- Centrifugal type pump
- Magnetically coupled stainless steel pump
- Fluorinated fluid
- NEMA 4x electrical enclosure & weather proofing measures

For a more complete list of options available, please contact us.

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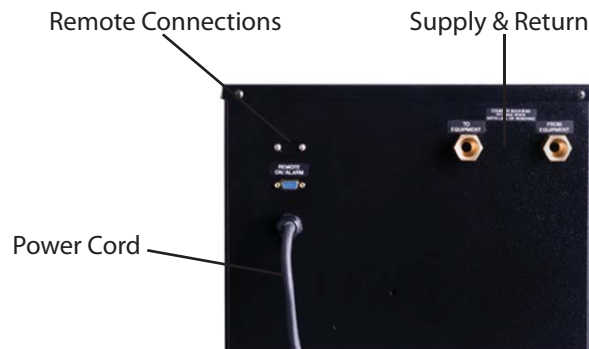
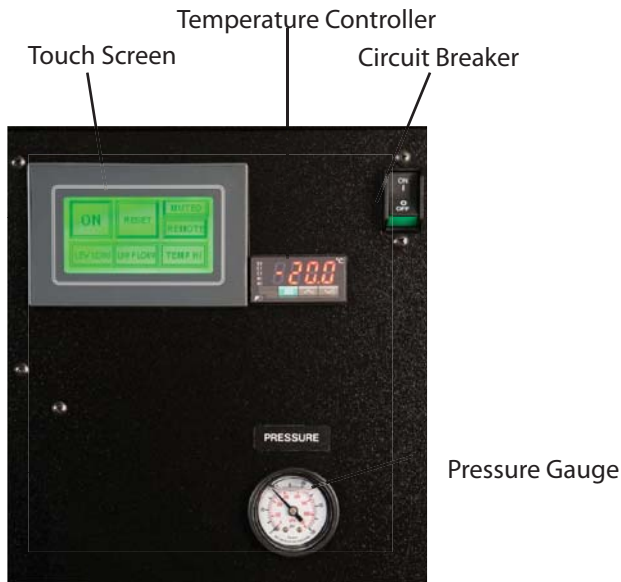
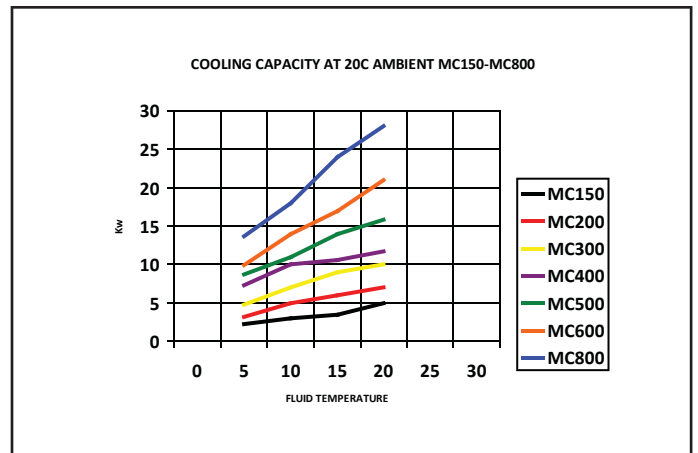
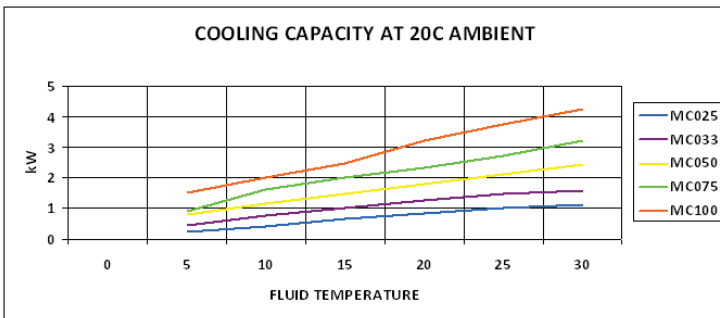


# Specifications

MODEL	MC025	MC033	MC050	MC075	MC100	MC150	MC200
Cooling Capacity	828 watts @ 20°C	1073 watts @ 20°C	1764 watts @ 20°C	2393 watts @ 20°C	3163 watts @ 20°C	4895 watts @ 20°C	7000 watts @ 20°C
Stability	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C
Temperature Range	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C
Pump	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	4.0 GPM to 99 PSI	4.0 GPM to 99 PSI
Reservoir Volume	1.3 gal	1.3 gal	1.3 gal	1.3 gal	2 gal	2 gal	7 gal
Dimensions (w x d x h) in	14.5 x 22 x 29	14.5 x 22 x 29	14.5 x 22 x 29	14.5 x 22 x 29	36 x 27 x 29.75	36 x 27 x 29.75	38 x 32 x 39
Power Requirements	115V, 9A	115V, 12A	200-230V, 8A	200-230V, 10A	200-230V, 12A	200-230V, 20A	200-230V, 17A
Weight (lbs)	130	130	142	180	258	270	404

MODEL	MC300	MC400	MC500	MC600	MC800	MC1000	MC1500
Cooling Capacity	10,000 watts @ 20°C	12,800 watts @ 20°C	16,400 watts @ 20°C	20,000 watts @ 20°C	26,000 watts @ 20°C	34,500 watts @ 20°C	52,000 watts @ 20°C
Stability	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C
Temperature Range	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C
Pump	4.0 GPM to 99 PSI	10 GPM to 40 PSI	10 GPM to 40 PSI	10 GPM to 40 PSI	10 GPM to 40 PSI	10 GPM to 40 PSI	20 GPM to 40 PSI
Reservoir Volume	7 gal	7 gal	7 gal	7 gal	7 gal	7 gal	7 gal
Dimensions (w x d x h) in	38.5 x 32 x 39	48.5 x 33 x 48	48.5 x 33 x 48	65 x 45 x 42.25	65 x 45 x 42.25	65 x 45 x 42.25	65 x 45 x 42.25
Power Requirements	200-230V, 20A	200-230V-3, 16A	200-230V-3, 20A	200-230V-3, 22A	200-230V-3, 26A	460V-3, 20A	460V-3, 28A
Weight (lbs)	442	484	531	720	825	955	110



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# FLUID TO FLUID HEAT EXCHANGER



The fluid to fluid heat exchangers from BV Thermal Systems offer the advantage of using existing in-house water for heat removal and provide a clean stable, controlled closed-loop water cooling system. The heat exchangers are ideal when in-house water is either too cold, too dirty or does not have enough pressure to adequately support your water cooled equipment. By eliminating the problems associated with direct use of in-house water such as insufficient or fluctuating flow and changing pressure, the fluid to fluid heat exchangers from are the ideal low cost energy saving heat removal process.

## Options available

## Features

- 20,000 watts to 500,000 watts
  - PIC Driven - no proprietary PC boards
  - Auto-tuning PID controller
  - Easy fill reservoir with 3" fill port
  - Liquid filled pressure gauge in PSIG/kPA
  - RoHS compliant
  - 3" fill port with screw on top
  - Pulsation dampener on solenoid circuit
  - Reservoir drain with valve
  - Liquid filled pressure gauge
  - Corrosion free wetted surfaces
  - Adjustable high & low temperature alarms
  - Locking, non-marring casters
- RS-232 or RS-485 interface
  - Alternate water pump
  - Various voltages
  - Flow switch
  - Flow meter
  - Supply water particulate filter
  - High supply water temperature thermostat
  - High supply water temperature thermostat and alarm
  - NEMA 4x electrical enclosure & weather proofing measures

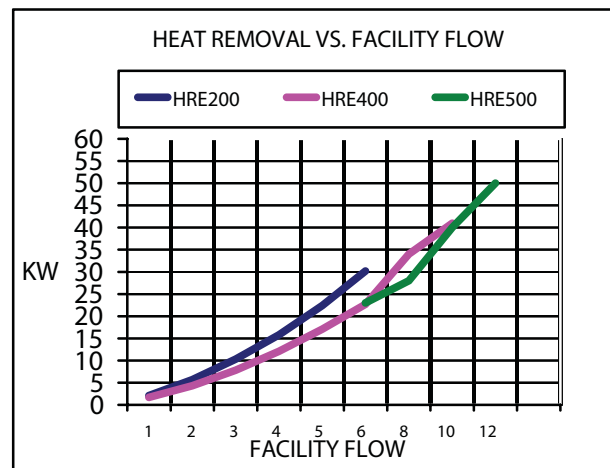
For a more complete list of options available, please contact us.

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## Specifications

MODEL	HRE200	HRE400	HRE500	HRE1000
Cooling Capacity	20,000 watts @5°CΔ	40,000 watts @5°CΔ	50,000 watts @6°CΔ w/12 GPM supply	100,000 watts @10°CΔ w/15 GPM supply
Stability	±0.1°C	±0.1°C	±0.1°C	±0.1°C
Temperature Range	5°C to +50°C	5°C to +50°C	5°C to +50°C	5°C to +50°C
Pump	2.2 GPM to 60 PSI	4.2 GPM to 60 PSI	7 GPM to 40 PSI	10 GPM to 40 PSI
Reservoir Volume	1.3 gal	1.3 gal	2 gal	2 gal
Dimensions (w x d x h) in	14.5 x 22 x 29	14.5 x 22 x 29	22 x 30 x 28.5	24 x 29.5 x 37
Power Requirements	115V, 5A	115V, 7A	200-230V, 10A	200-230V, 10A
Weight (lbs)	50	60	100	110



If you don't see a standard unit that works for your process, we have the ability to design, engineer and manufacture the unit you require for your process. If it's possible, we can do it

## Other Units Available from BV Thermal Systems



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# MERCURY RACK-MOUNTED CHILLERS



Mercury Rack-Mounted Chillers from BV Thermal Systems, Division of Budzar Industries, deliver chilling control with excellent accuracy. Standard features include the highest quality refrigeration and plumbing components in the industry – stainless steel evaporator/heat exchanger, hot gas bypass and fluid bypass/pressure regulating valve. Other standard features included are: Auto-tuning PID temperature controller, easy front fill reservoir and CFC free refrigerants along with unparalleled customer service.

## Options available

- Analog Remote control of temperature controller
- RS-232 or RS-485 interface
- Return temperature display
- Phase monitor
- Resistivity meter
- Resistivity status
- Anti-flood back system
- Flow meter with flow control
- Positive displacement pump
- Magnetically coupled stainless steel pump
- Various voltages
- Various fluids ((glycol, water, fluorinated)
- NEMA 4x electrical enclosure & weather proofing measures

## Features

- 500 watts to 1,764 watts
- PID temperature controller
- O-ring, hard brazed or welded connections
- Minimized thread seals
- Seamless reservoirs
- UL, CE & RoHS certifiable
- Separate electrical enclosure
- Din rail mounted components
- Powder coated paint
- Welded steel frame
- Adjustable fluid bypass line
- Thermal protection of pump motors via motor overload device
- CFC free refrigerants

For a more complete list of options available, please contact us.

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## Specifications

MODEL	MC017-19	MC025-19	MC033-19	MC050-19
Cooling Capacity	500 watts @20°C	828 watts @20°C	1073 watts @-20°C	1764 watts @20°C
Stability	±0.1°C	±0.1°C	±0.1°C	±0.1°C
Temperature Range	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C
Pump	2.2 GPM to 60 PSI	2.2 GPM to 60 PSI	2.2 GPM to 60 PSI	2.2 GPM to 60 PSI
Reservoir Volume	.075 gal	.075 gal	.075 gal	.075 gal
Dimensions (w x d x h) in	17 x 22 x 15.75	17 x 22 x 15.75	17 x 22 x 15.75	17 x 22 x 15.75
Power Requirements	120V, 6A	120V, 8A	120V, 9A	120V, 15A
Weight (lbs)	60	68	68	79



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# EXTENDED TEMPERATURE CHILLERS



Extended Temperature Chillers from BV Thermal Systems, Division of Budzar Industries, deliver chilling control with excellent accuracy and are designed for use with fluids like glycol, HFE's and Oils. The Extended Temperature Chillers have a temperature range of -40° to 230°C and features include the highest quality refrigeration and plumbing components in the industry – stainless steel evaporator/heat exchanger, hot gas bypass and fluid bypass/pressure regulating valve. Other standard features included are: PID temperature controller, hard brazed or welded connections, seamless reservoirs, Din rail mounted components, heavy duty powder coated paint and service without equal.

## Options available

## Features

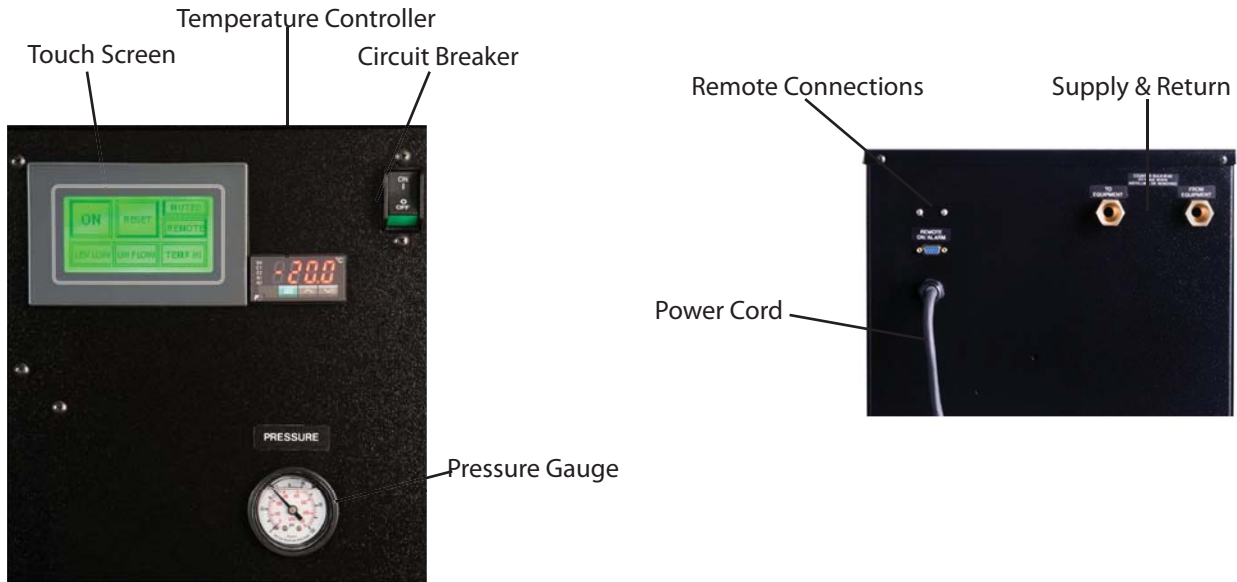
- 828 watts to 52,000 watts
- External pressure/flow adjustment
- Touch screen control with safety package
- PLC driven
- Auto tuning PID controller
- 100 million cycle solenoid valves
- RoHS compliant
- 3" fill port with screw on top
- CFC free refrigerant
- Reservoir drain with valve
- Liquid filled pressure gauge
- Corrosion free wetted surfaces
- Platinum temperature probe
- Adjustable high & low temperature alarms
- Locking, non-marring casters
- Water condenser
- Analog Remote control of temperature controller
- RS-232 or RS-485 interface
- Return temperature display
- Various voltages
- Resistivity meter
- Resistivity status
- Solenoid controlled anti-flood back system
- Auto fill with redundant safety ports for supply and return
- Pressure regulating valve
- Positive displacement pump
- Centrifugal type pump
- Magnetically coupled stainless steel pump
- Fluorinated fluid
- NEMA 4x electrical enclosure & weather proofing measures

For a more complete list of options available, please contact us.

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## Specifications



If you don't see a standard unit that works for your process, we have the ability to design, engineer and manufacture the unit you require for your process. If it's possible, we can do it

## Other Units Available from BV Thermal Systems



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# CUSTOM DESIGN OPTIONS



*Custom* Chillers and *Custom* Fluid to Fluid Heat Exchangers. That phrase says it all. What makes BV Thermal Systems stand out from the other manufacturers? We have the ability to customize a chiller or exchanger to meet your exact specifications. No detail is too small or too large. We take the time to understand your process and use that knowledge to design, engineer and manufacture the unit you need.

## Customization Options

Water Cooled Condenser

Custom Colors

### CONTROLS

Control Package includes Touch Screen Control

- Level Low •Mute •Normal Screen GREEN/RED on fault
- Low Flow
- Temperature Alarm
- Cooling on LED
- Relay contacts open on fault (NC dry), via DB9-F, pins 1 & 9
- Remote start/stop in DB9-F, pins 3 & 7
- Auto Restart when in REMOTE mode on power loss
- RUN ON FAULT version available

RS-232 Interface with temp. controller VIA USB/LAN & PC based software

RS-485 Interface with temp. controller with PC based software

Analog remote control 1-5, 0-5 or 0-10VDC of temp. controller

Devicenet communication with temp controller

Safety Control Package PLR driven (No proprietary boards)

- LED display of: Low Level, Low Flow, Temperature High
- Push to Start and Push to Stop Buttons
- Relay contact open on fault, (NC dry), via DB9-F pins 1 & 9
- Remote start/stop on DB9-F, pins 3 & 7

Full PLC temperature control and monitoring of all refrigeration and fluid circuit pressures, fluid circuit flow rate, full flow particulate filter pressure drop alarm, tank level low flow, alarms, RS-485/232 communications via DB9F, USB or LAN, Full color HMI or LED type HMI

Energy meter

Return temperature display option, not available for all units

Hour meter

### POWER

- 100-120 VAC 50/60Hz
- 200-230 VAC 50/60Hz Single Phase
- 200-230 VAC 50/Hz Single Phase
- 200-230 VAC 50/60Hz Three Phase
- 460VAC, 60Hz Three Phase
- 380VAC, 50Hz Three Phase

### Fluid Maintenance

DI (50Ω-2MΩ) resistivity status LED, filter & plumbing includes replaceable DI cartridge

Resistivity meter (20-MΩ) an add on with option

80C DI (50kΩ - 2mΩ) resistivity status LED, filter & plumbing includes replaceable DI cartridge

DI (50Ω-2MΩ) resistivity status LED, filter & plumbing includes replaceable DI cartridge, Resistivity meter (20-MΩ) an add on with solenoid control of resistivity level

Stainless steel/plastic plumbing (1/2") (up to 10 GPM)

Particle filter (5 microns) 1/2" NPT

Particle filter (30 microns) 1/2" NPT

Particle filter (30 microns) 3/4" NPT

Particle filter SS housing(5 or microns) 3/4" port

Particle filter (5 microns) 80C compatible 1/2" NPT

Particle filter (30 microns) 80C compatible 1/2" NPT

Particle filter (30 microns) 20 GPM compatible 3/4" NPT

### FLUID MEASUREMENT & CONTROL

2nd supply & return loop with flow switch 1/2" NPT

2nd supply & return loop with flow switch 3/4" NPT

Anti flood back kit 1/2", consult for usage

Anti flood back kit 3/4", consult for usage

SS anti flood back kit 1/2", consult for usage

SS anti flood back kit 3/4", consult for usage

Solenoid controlled anti-flood back system

Flow meter with flow control, (0.2-1.5 GPM) 1/2" NPT

Flow meter with flow control, (0.5-2.5 GPM) 1/2" NPT

Flow meter with flow control, (1-8 GPM) 1/2" NPT

Flow meter with flow control (20, GPM) 1" NPT

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## Customization Options continued

### FLUID MEASUREMENT & CONTROL - CONTINUED

Flow meter with flow control, (40 GPM) 1" or 2" NPT  
 Flow meter with flow control, (100 GPM) 1.5" or 2" NPT  
 0-5 GPM digital flow display with flow control adjustment  
 0-10 GPM digital flow display with flow control adjustment  
 1.5-19 GPM digital flow display with flow control adjustment  
 4-40 GPM digital flow display with flow control adjustment  
 Heater 500 watts stainless sheath type in reservoir  
 Heater 1000 watts stainless sheath type in reservoir  
 Heater 2000 watts stainless sheath type  
 Heater 5000 watts stainless sheath type  
 Custom heater  
 Heater with separate control  
 Auto fill with redundant safety 1/4" ports for supply & return  
 Pulsation dampener on supply line Brass  
 Pressure regulating valve, for limiting supply pressure

### PUMPS

Special or custom pump  
 Centrifugal plastic pump, 0-4 GPM @ 0-10 PSIG  
 Positive displacement pump-Brass 4.0 GPM  
 Positive displacement pump-SS 2.2 GPM  
 Positive displacement pump-SS 4.0 GPM  
 Turbine type pump BRASS 5 GPM @ 60 PSI  
 Turbine type pump BRASS 10 GPM @ 60 PSI  
 Turbine type pump BRASS 15 GPM @ 60 PSI  
 Turbine type pump SS 15 GPM @ 60 PSI  
 Turbine type pump BRASS 20 GPM @ 60 PSI  
 Turbine type pump SS 20 GPM @ 60 PSI  
 Centrifugal type pump SS 10 GPM @ 40 PSI  
 Centrifugal type pump SS 15 GPM @ 40 PSI  
 Centrifugal type pump SS 20 GPM @ 40 PSI  
 Magnetically coupled SS pump 2 GPM @ 80 PSI  
 Magnetically coupled SS pump 4 GPM @ 80 PSI  
 Magnetically coupled SS pump 30 GPM @ 60 PSI

### HOSE KITS

1/2" id opaque hose push-lok type 10', 20' or 50'  
 3/4" id opaque hose push-lok type 10', 20' or 50'  
 1/2" id opaque hose push-lok type 10', 20' or 50' with 3/8" wall thermal insulation  
 3/4" id opaque hose push-lok type 10', 20' or 50' with 3/8" wall thermal insulation  
 1/2" id opaque hose push-lok type 10', 20' or 50' with 3/4" wall thermal insulation  
 3/4" id opaque hose push-lok type 10', 20' or 50' with 3/4" wall thermal insulation

### FLUIDS

Ethylene glycol industrial grade  
 Ethylene glycol/water 50% mixture industrial grade  
 Ethylene glycol/water 60/40% mixture industrial grade  
 Galden Fluorinated fluid for up to 110°C  
 Galden Fluorinated fluid for up to 135°C  
 Galden Fluorinated fluid for up to 200°C  
 Galden Fluorinated fluid for up to 270°C

### REMOTE

25' Null Modem DB M to F cable  
 USB to serial, (RS-232) Converter  
 RS232 to RS485 Port Powered converter

### OTHER

NEMA 4X Electrical enclosure & weather proofing measures  
 Open loop plumbing configuration (for non-pressurized return)  
 Dual channel system  
 Three channel system  
 Four channel system  
 Five channel system  
 Six channel system  
 Rack mount frame sliding mount rails  
 Seismic restraints with adjustable height for easy installation

*If you don't see an option you require, please ask your sales representative. There are many other options available. Not all options are available for all models, please ask your sales representative if you have any questions.*

## Recirculating Chiller - sample of standard sizes available



MODEL	MC025	MC033	MC050	MC075	MC100	MC150	MC200
<b>Cooling Capacity</b>	828 watts @ 20°C	1073 watts @ 20°C	1764 watts @ 20°C	2393 watts @ 20°C	3163 watts @ 20°C	4895 watts @ 20°C	7000 watts @ 20°C
<b>Stability</b>	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C	±0.1°C
<b>Temperature Range</b>	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C	+5°C to +35°C
<b>Pump</b>	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	2.2 GPM to 99 PSI	4.0 GPM to 99 PSI	4.0 GPM to 99 PSI
<b>Reservoir Volume</b>	2 gal	2 gal	2 gal	2 gal	2 gal	2 gal	7 gal
<b>Dimensions (w x d x h) in</b>	14.5 x 22 x 29	14.5 x 22 x 29	14.5 x 22 x 29	14.5 x 22 x 29	36 x 27 x 29.75	36 x 27 x 29.75	38 x 32 x 39
<b>Power Requirements</b>	115V, 9A	115V, 12A	200-230V, 8A	200-230V, 10A	200-230V, 12A	200-230V, 20A	200-230V, 17A
<b>Weight (lbs)</b>	130	130	142	180	258	270	404

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