

Mission Critical Chilled Water Systems Engineered to Exacting Standards

- Magnetic Resonance Imaging Systems
- CT Scanners
- Oncology Linear Accelerators
- Blood Cooling Systems
- Precise Laboratory Applications
- Lasers and Electron Microscopes



MEDICAL CHILLER SYSTEMS

When precision counts, **count on us.**



We were cool long before it was a trend.

Since the early 80's, ArctiChill has earned a valuable reputation for producing **mission-critical**, precision water cooled and air cooled refrigeration systems for medical applications. Models are **pre-engineered** to meet major medical equipment specifications such as General Electric, Siemens, Varian, Hitachi, and others.

They have evolved into a suite of products and accessories that are guaranteed to meet the **precision flow, pressure and delivery** requirements for accurate, dependable critical cooling. With unmatched experience in both the refrigeration and site installation and start-up aspects of medical applications, we are uniquely qualified to provide a **complete solution**, matching OEM requirements and site, piping or ambient variables to assure the right equipment and long term reliability that recognizes your patient loads and bottom line. Let us show you how easy complete **customer satisfaction** can be.

Fully redundant chillers are available including refrigeration, microprocessors and electrical service components. Model shown is a small footprint redundant package chiller system including redundant air cooled condensers, controls and pumps. Dedicated redundant systems share a tank so that switchover occurs with no temperature loss.

Unparalleled Commitment to Service

When a diagnostic or treatment center is handling a high patient load, even small lapses of operations due to equipment failures is simply unacceptable and unnecessary. By employing the **highest quality non-proprietary** and widely available components, assembled and tested by highly skilled technicians, and bolstered by advanced **microprocessor control systems**, system redundancy, automated city-water switch over schemes and our new web-based **diagnostic and alerting system**, there is simply no need for second-best - no better choice than ArctiChill. We make component access, local part availability and **serviceability a primary ingredient**.

And when you do need us on site, our **in-house and trained field service** staff stands ready. We can even handle initial site planning and startup. We also maintain a **24 hour service hotline**.

Components, controls and know-how are combined to provide high performance consistency—critical for advanced imaging requirements.



When cool is critical, so is design.

Never lose your cool.

When critical process cooling equipment is deployed, downtime due to equipment failure, or poor delivery of process liquids within the temperature and pressures required can be disastrous. Even unplanned circumstances such as inconsistent power, improper maintenance, failure due to normal wear and tear, or improper usage can result in unnecessary downtime. To ensure that conditions remain within your parameters, ArctiChill has developed a number of methods to reduce downtime.

- *Redundancy in refrigeration circuits*
- *Redundant controls with automatic operation*
- *Dual Pumping with automatic lead/lag pump*
- *Automatic City-Water Switch over Panels*
- *Remote Control Room Indicator Panels*
- *Modem or Wireless Remote Diagnostics*
- *Advanced eMail based Alerting System*



Automatic city water switch over panel includes optional heat exchanger to isolate process liquid/glycol from drain.

NEW refrigeration-free system uses YOUR chilled water source.

Imaging equipment requires close control of temperature variation, consistent flow and constant pressure, things a traditional plant chilled water system can rarely do consistently. ArctiChill has a solution that utilizes **NO refrigeration**. Combining a thermal mass tank of water, a **cleanable heat exchanger** and accurate thermostatic mixing methods and controls, the system provides **highly accurate chilled water** cooling to meet OEM specifications. It rejects the heat from sensitive equipment to the plant chilled water system and provides outlet water temperatures to within a **5 degree approach** to the chilled water. Can incorporate **automatic backup chiller** control.

- *Simple, refrigeration-free system*
- *All non-ferrous piping, factory engineered*
- *Precise control of flow, temperature and pressure*
- *Optional city-water switch over built right in*



Reliability & service, designed in.

Refrigeration Controls

- *Copeland Scroll compressors for higher reliability*
- *Pump down to eliminate liquid migration*
- *Flooded head pressure maintains head pressure in any ambient. Effective from 105 to minus 20 degrees.*
- *ORD valve for effective head pressure control*
- *Correct refrigeration piping using pipe benders*
- *ALL non-proprietary components - available world-wide. Competitors use hard to obtain components!*



Water and Flow Controls

- *Pressurized large volume reservoir for temperature stability. Includes vacuum vent and pressure relief.*
- *Large tank volume may be used as expansion tank*
- *Stainless-steel single or multi-stage pump. NO pumps in series or oversized pumps to achieve system pressure. Redundant lead/lag pumps available.*
- *Circuit setter included and pre piped. Allows flow balancing internally and adjustable external flow rate.*
- *External, non-immersed evaporator prevents hard-to-access proprietary component. Provides correct fluid velocity across evaporator for higher efficiency.*



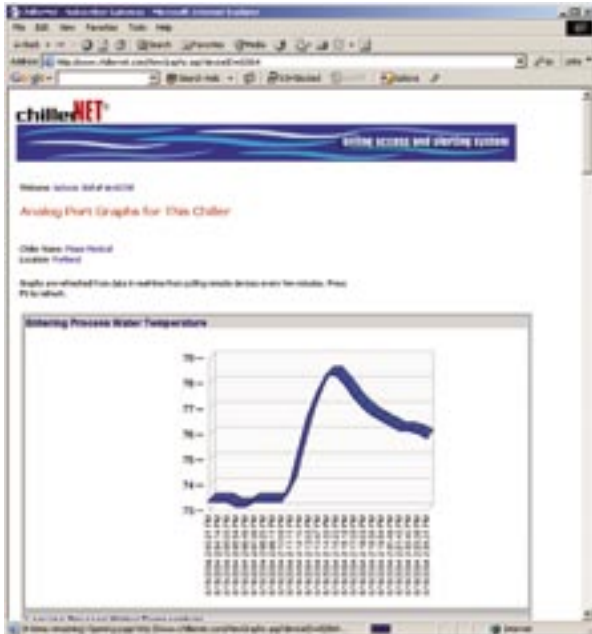
Electronic System Controls

- *Microprocessor based system has much higher reliability than analog based systems.*
- *Enabled use of flow, pressure and temperature transducers for precise control. Includes Schrader valves for field replacement without evacuation and recharge*
- *Phase monitor included and part of control system. Phase errors are shown and recorded as alarms.*
- *Removable cover compressor contactor permits point inspection during preventative maintenance.*
- *Communications options includes BacNET, ModBUS, LonWorks and ChillerNET. Others available.*



ChillerNET, Advanced Web-Based System

ChillerNET allows chillers equipped with an our optional Ethernet interface to notify internal staff, representatives, 3rd-party service contractors and customers of alarms and abnormal operational conditions of a chiller, or entire system. Communicating with remote chillers across the Internet using a simple web browser is only half the news. What makes ChillerNET truly unique is its advanced duplex capabilities and user definable alerting technology.



- **Monitor and control remote chillers from the Web.**
- **100% web-based, worldwide accessibility.**
- **View operation, performance, alarms and analog values in near-real time.**
- **Make changes to any read/write port in real time. Change setpoints, reset alarms, enable functions.**
- **Allow 3rd-party contractors to view certain screens.**
- **Subscribe to chillers, alarms and analog value changes. Know about changing conditions before a shut-down.**
- **Automatically receive eMail alerts, SMS coming soon.**
- **View real-time Flash graphs showing performance activity and trends over time.**
- **View logs of SET and CLEARED alarms and switches.**
- **Set up security levels for users.**
- **Works with any ModBus enabled controllers**

Know us by the customers we serve and the company we keep

Nothing speaks louder than the trust and long-term loyalty from customers. In a world where competitors are a click away, we know our niche is in creating higher value by producing close performance highly reliable and attractive products using innovative designs, combined with advanced services. We are honored to be a supplier to these and many other fine companies.



**UNITED STATES
WHITE HOUSE**



HITACHI



The Coca-Cola Company



M-Series Chillers - Specifications

Component	Standard Specifications	Optional Specifications
Cabinet	Models 2 through 5 ton have all aluminum, reinforced metal cabinet and frame of white epoxy painted aluminum. 7.5 tons and above have welded steel frame and white epoxy painted aluminum panels. Easy access hardware.	<ul style="list-style-type: none"> Stainless steel cabinet panels Epoxy finishes Custom Colors Engineered frames to accommodate special size restrictions
Controls and Safeties	Microprocessor controller with 4x20 LED interface for all chiller operations and alarm status. Includes internal logging for 100 alarms. Remote alarm indicator panel. Power supply phase monitor.	<ul style="list-style-type: none"> Dual pump lead/lag controls Flooded head pressure controls for low ambient conditions to -40 F Remote web-based diagnostics Automatic city-water switch over
Electrical	Models can be specified for 208-230/50 or 60 Hz, single phase. Three phase service is available for 208/230/460/50 or 60 hZ, 380/50/3 or 575/60/3 operation. 24 volt control circuit.	<ul style="list-style-type: none"> Fused or non-fused disconnect Single phase for large models Special voltages
Indicators	Water temperature, pump and refrigerant pressure, low tank, high temp and no flow alarms. Remote start/stop and dry contact for general alarm notification.	<ul style="list-style-type: none"> Remote flow rate indication using Microprocessor controls Remote panel with flow, temp, and pressures indicators
Refrigeration	Single R-22 circuit includes filter dryer, receivers with 90% capacity, hot gas bypass capacity control, and service valves.	<ul style="list-style-type: none"> Alternate refrigerants Redundant circuits with staged capacity control
Air Cooled Condensers	Enhanced seamless copper tubing. Mechanically bonded aluminum fins. Integral sub cooling. Overload protected TEAO fan motors. Aluminum fans.	<ul style="list-style-type: none"> Coated or copper fins for corrosion resistance High ambient designs High altitude designs
Water Cooled Condensers	Coaxial type through 10 tons. Cleanable shell & tube heat exchanger on larger models.	<ul style="list-style-type: none"> Special construction materials Shell and tube on smaller models 3-way water regulating valve
Evaporators	Coaxial type through 5 tons. Direct expansion shell & tube on larger models. Closed cell insulation.	<ul style="list-style-type: none"> Special construction materials Shell & tube (small models) Dual circuit evaporators
Compressors	Hermetic scroll or reciprocating types. Internal overload protection. Crankcase heaters and service valves.	<ul style="list-style-type: none"> Tandem Scroll sets Multiple circuit designs Lead/lag operation
Reservoirs	High volume, insulated stainless steel with vacuum vents and pressure relief valves.	<ul style="list-style-type: none"> Special tank sizes Remote pump/tank designs
Pumps	All stainless steel, high head pressure, end suction centrifugal designs.	<ul style="list-style-type: none"> Dual lead/lag configurations Higher pressure designs All non-ferrous liquid path
Piping	Refrigerant piping is rigid copper with service valves. Insulated suction lines. Water circuit is insulated seamless heavy grade copper.	<ul style="list-style-type: none"> Alternative materials for special fluids and corrosion resistance
Warranty	One year parts, five year limited compressor warranty	<ul style="list-style-type: none"> Extended parts & labor warranty Guaranteed emergency response Factory start-up and maintenance

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