Refrigeration Technologies, Inc.

Custom ICEWAGON CHILLERS

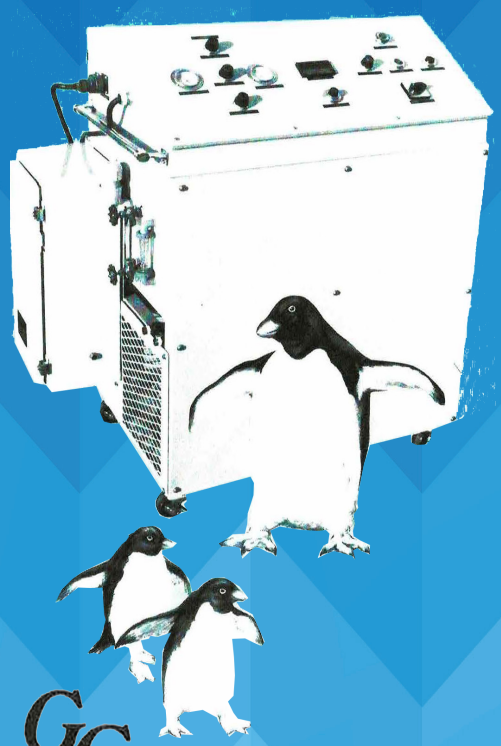
A wide range of capacities In custom designed chillers for specialized cooling

Air and Water Condensing Models

Special Optionos on Standard Models

Models with Modified Systems, Special Components or Controls

Total Custom Engineering



GC INDUSTRIES INC.

AFFORDABLE CUSTOM UNITS TAILORED TO YOUR UNIQUE NEEDS FOR OVER 50 YEARS

When a standard machine will not meet your particular application, GCI Industrials can build the exact machine you need. Our standard building blocks can be combined in unique ways to meet your requirements In a cost-effective way.

You may require a custom unit for any of the following reasons: for resistance to corrosion; for physical configuration of a machine to fit your installation; for special controls, instrumentation or electrics relating to your application: for special components (pumps, motors, compressors, tanks) providing different capacities: for unusual temperature requirements; for unique safety features; for company specified paints and finishes.

We have more than 30-years' experience understanding diverse customers' differing requirements, so we have a strong base from which to offer our services. Working closely with our customers, we design, build, test and deliver machines to remedy each and every cooling need that we consider to be within our capability. For help in determining your chiller requirements, call us at 866-319-7189.

CUSTOM DESIGN FEATURES

Custom units are ordered primarily for the following features:

- **Corrosion Resistance to the Environment**
  By using stainless steel frames and covers; and To The Coolant by using exotic materials to prevent corrosion of the coolant circuit. Though GCI standard units employ all stainless steel and copper in contact with your coolant, specialized materials are available - cu pro-nickel for use with sea water, plastic piping or stainless steel for deionized water
- **Unique Configurations**
  If your application requires a physical configuration that is different, GCI can

accommodate individual needs. The cover photo shows a special workstation arrangement required by a machine tool manufacturer for cooling a high-speed spindle. Other unique configurations include designs to fit inside the customer's system.

- **Special Controls**

  Chiller units can be controlled in unique ways. Remote sensors can monitor process parameters and control the cooling to make the process operate in the optimum manner. Remote controls allow placement of chillers In distant locations, whereas the controls can remain in a more convenient place.

- **Special Electrical Specifications**

  Explosion-pyroelectric are necessary for situations where the chiller must operate in hazardous atmospheres. Where hazardous conditions always exist (Div. 1 specification), special electricals are mandated. When the hazardous conditions do not always exist (Div. 2 specification),purged or pressurized electrical enclosures offer the required safety at reasonable cost.

  Unusual electrical specification can include uncommon voltages, sealed systems for "wash-down" applications in food operations, etc

- Special Pumps Self-priming pumps or pumps of unusual metallurgy can be specified; or pumps can be fitted with special motors or impellers to provide high pressure or high flow.
- Special Temperatures Virtually any temperature range that you can envision can be accommodated.
- Dual Refrigeration Systems Two complete refrigeration systems (dual compressors) can be fitted for those applications with widely varying loads or where redundancy (back-up) is important.
- Standard Options More easily produced than a custom chiller, a standard GCI chiller can Incorporate any of the following options at modest cost:
  - Special paints and colors
  - Outdoor installation packages
  - Special temperature controllers, digital or analog
  - Special instrumentation
  - Mounting clips or casters
  - Remote switching
  - Large/small tanks
  - No tank - arranged for once-through cooling
  - Additional safety switches: low flow, low temperature, high temperature, low water pressure,etc.

HOW TO SPECIFY A CHILLER

Temperature The primary specification to be determined is the coolant temperature required. Whatever temperature the process requires. the coolant will normally have to be 5°F to 20°F cooler. Does your process need +50°F or -50°F?

Capacity How many Btus per hour or minute (or watts or KgCal) are needed?If you do not know, we can help you derive that figure. Often the amount of cooling desired can be ascertained from the power consumption: For example, cooling down a kettle that was heated by a 3000-watt heater for an hour is likely to require 3000 watts of cooling to re-cool in an hour.

SOME RULES OF THUMB ARE:

- 1,000 walls = 3,413 Btu
- 1 horsepower = 2,545 Btu
- Cooling or heating 1 pound of water 1°F = 1 Btu
- Cooling or heating 1 gallon of water 1°F = 8.3 Btu
- Cooling or heating 1 gallon per minute of water flow by 1°F = 500 Btu/hr
- 1 refrigeration =12,000 Btu/hr

Call us at 866-319-7189. We're ready to help you determine the correct capacity.

Special Materials

If the coolant must be deionized water, you will need all stainless steel and/or plastic construction. Sea water requires cu pro-nickel. Some food or medical applications will require stainless steel exteriors. Tell us your parameters.

Coolant Flow and Storage The heat transfer coolant (normally water or water and anti-freeze) may require:

- High-pressure to achieve the needed flow through tiny passages
- High flow to achieve the required turbulence
- Large tank as a thermal flywheel or shock absorber

Physical Configuration

Does your application require a special configuration? Custom chillers can be tall and thin or long and low. They can be built for indoor or outdoor location or can be split systems

We look for you to tax our abilities with your requirements. Our challenge is to design and build cost-effective machine to dependably meet your special needs.

CUSTOMERS FOR GCI CUSTOM CHILLERS INCLUDE:

AT&T	ICI Americas
Abbott Laboratories	Lily Cup
Allen Bradley	Monsanto
Armco	Motorola
Cincinnati Milacron	Nordion International (AECL)
Corning	Olin
Dart Container	Pratt & Whitney
Dow Chemical	Procter & Gamble
E.I. du Pont de Nemours	Seagate Technology
Fischer N.A.	Solo Cup
FMC	Stanford Linear Accelerator Center
Ford	Sweetheart Cup
Fresnel Optical	TRW
General Electric	Union Carbide
General Motors	United Technologies
W.R. Grace	US Naval Research
Hercules	US Army R&D Center
Hershey Foods	Weldon Machine Tool
Himont	Whitnon Spindle Div., GMN
Hoechst Celanese	Xerox