



## Refrigeration and Cooling System Products

# Chilled Water and Process Cooling Systems for Industrial Applications

- ◆ Rugged, industrial designs with premium quality, highly durable components.
- ◆ Air-cooled & water-cooled systems in indoor & outdoor designs. Numerous options provide highest flexibility.
- ◆ Fully staffed engineering and mechanical design department provides single point responsibility for system design, layout, installation, start-up and maintenance.
- ◆ Compressor options include reciprocating, hermetic, semi-hermetic, screw and scroll technologies. Systems available with multiple circuits.
- ◆ Controls feature premium components, separate electrical and control enclosures, dynamic load balancing.
- ◆ Analog or PLC based systems can include diagnostics and remote monitoring.



### Refrigeration Products

- **Portable Chillers**
- **Compact Chillers**
- **Split Systems**
- **Central Chillers**
- **Modular Chillers**
- **Control Systems**

### Engineered Systems

- **Evaporative Towers**
- **Coolant Reservoirs**
- **Pumping Systems**
- **System Engineering**
- **Complete Installation**
- **System Start-Up**

# Portable Air-Cooled or Water-Cooled Chillers

## FCAC, FCWC & FCAC-R Series - 1 to 30 Tons



### Economical, Compact and Highly Reliable

From the ground up, Freeze Co equipment is designed to deliver the right balance of performance, ruggedness, operational consistency and cost effectiveness desired by the world's largest processing environments. Freeze Co is a unique combination of experts in refrigeration engineering, mechanical design & installation, and real-world, high productivity processing plants worldwide. Freeze Co gives customers wider "systems" capabilities, innovation and attention to detail, mechanical and electrical implementation experience and products of premium quality, yet are economical to own and operate.

The **FCAC** models feature air cooled condensing. **FCWC** models are water cooled. Both use highly reliable reciprocating hermetic compressors (semi-hermetic on larger models), large insulated stainless-steel tank, efficient brazed-plate evaporator, and dual, bronze-fitted process and recirculation pumps. Controls include common chiller functions and safeties as standard, and a wide variety of both equipment and control options, including PLC control, hot gas bypass, and special materials of construction.



Model Shown includes semi-hermetic compressor, oversized tank, separate process and recirc pump, outdoor air cooled condenser and analog controls.



### Generous Standard Features and Widest Options

#### Standard

- Epoxy coated steel cabinet
- NEMA-12 electrical enclosure
- Relay-logic control system
- Insulated stainless-steel tank
- Condenser fan cycling
- High/Low pressure safeties
- Water flow safety switch
- Temp and freeze control
- Anti-recycling timer
- Operation and fault indicators
- Bronze-fitted pump impellers
- Oversized liquid receiver

#### Optional

- Stainless steel cabinet
- Other NEMA, explosion proof
- PLC controls, diagnostics, remote
- Hot gas bypass capacity control
- Semi-hermetic compressors
- Diagnostic color display screen
- Remote control using serial output
- Outdoor models with fan controls
- Heat traced piping
- High ambient models
- Low chilled water temp models
- Oversized water reservoirs

Portable Chillers	Capacity BTU/HR	Flow GPM	Tank Gallons	Comp HP Air Cooled	Comp HP Water Cooled	Chiller Pump	Process Pump	AC Dim LxHxW	WC Dim LxHxW
FCAC/WC-001	12,000	2.4	30	1.5	1.0	.50	.75	36x60x40	36x60x40
FCAC/WC-002	24,000	4.8	30	2.5	2.0	.50	.75	36x60x40	36x60x40
FCAC/WC-003	36,000	7.2	30	3.5	3.0	.50	.75	36x60x40	36x60x40
FCAC/WC-004	48,000	9.6	30	4.5	4.0	.50	.75	36x60x40	36x60x40
FCAC/WC-005	60,000	12	50	5.5	5.0	.50	1.5	40x75x48	40x75x48
FCAC/WC-008	90,000	18	50	8	7.5	.75	2.0	40x75x48	40x75x48
FCAC/WC-010	120,000	24	50	10.5	10	.75	3.0	40x75x48	40x75x48
FCAC/WC-015	180,000	36	100	20	15	1.0	5	40x75x72	40x75x72
FCAC/WC-020	240,000	48	100	25	20	2.0	7.5	40x75x72	40x75x72
FCAC/WC-025	300,000	60	100	30	25	2.0	7.5	40x90x72	40x75x72
FCAC/WC-030	360,000	72	100	35	30	3.0	10	40x90x72	40x75x72

Nominal Capacity in BTUH based on R-22 refrigerant. Chilled water at 2.4 GPM from 60°F to 50°F. Ambient air at 95°F. Condenser water at 3 GPM/ton and 85°F to 95°F

Specifications subject to change without notice

# Modular, Compact Semi-Hermetic Chillers

## FCCWC and FCCAC-R Series - 20 to 80 Tons



### Compact, Open-Frame Water-Cooled Design Reduces Costs

The open, structural steel frame for the Freeze-Co Compact Series allows maximum flexibility in configuring chillers for multiple circuits. **FCCWC** designate water cooled models. **FCCAC-R** models are air cooled and include remote condensers. Components are configured in the rugged frame to minimize floor space and reduce equipment cost.

The models use highly reliable reciprocating semi-hermetic compressors, insulated shell & tube direct expansion evaporator and cleanable shell and tube condensers on water cooled models. Controls include common chiller functions and safeties as standard, and a wide variety of both equipment and control options, including PLC control, various methods of capacity control, and special materials of construction.

Typically specified for central chilling duty, the **FCC-Series** are fully run tested under load and ready to connect to your external pump/tank system, or we can provide equipment suggestions, installation and start-up.



Modular chiller systems from 20 to hundreds of tons.

### Choose the Right Components and Apply Know-

Freeze Co realizes that high reliability, ease of use and operational efficiency are key factors in optimizing refrigeration systems. We have partnered with leading compressor and refrigeration component manufacturers worldwide that provide proven, efficient products and trouble-free service.

An example is Freeze Co's strategic partnership with Frascold, a well known manufacturer of compressors with one of the widest selections of reciprocating and screw technologies available. Freeze Co will exceed your expectations for application flexibility, system configurability, superior capabilities and ongoing

Compact Water Cooled	Capacity BTU/HR	Chiller Flow	Condenser Flow	Compressor HP	Full Load Amps			Dim LxHxW	Weight Lbs
					208	460	575		
FCCWC-020	240,000	48	60	20	77	45	32	36x60x66	2,100
FCCWC-030	360,000	72	90	30	110	64	44	36x60x66	2,300
FCCWC-040	480,000	96	120	40	155	90	63	36x60x66	3,000
FCCWC-050	600,000	120	150	50	192	110	77	36x60x66	3,400
FCCWC-060	720,000	144	180	60	237	136	95	36x60x84	3,600
FCCWC-080	960,000	192	240	80	282	163	113	48x66x102	5,100

Remote Air Cooled	Capacity BTU/HR	Chiller Flow	Remote Cond Fans	Compressor HP	Full Load Amps			Dim LxHxW	Weight** Lbs
					208	460	575		
FCCAC-040R	440,000	88	4 x 1.0	40	155	78	63	36x60x66	3,500/ 1,500
FCCAC-050R	546,000	110	4 x 1.0	50	192	96	77	36x60x66	3,800/2,300
FCCAC-060R	644,000	129	8 x 1.0	60	237	118	95	36x60x84	4,300/2,500
FCCAC-080R	880,000	176	12 x 1.0	2 x 40	282	141	113	48x66x102	4,900/3,000

Nominal Capacity in BTUH based on R-22 refrigerant. Chilled water at 2.4 GPM from 60°F to 50°F. Ambient air at 95°F. Condenser water at 3 GPM/ton and 85°F to 95°F.

Specifications subject to change without notice

\*\* First weight is for chiller, second weight is for remote condenser

# Central Process Chillers

## WCT-Series - 40 to over 400 Tons



### Designed for High Reliability, Flexibility and Tight Equipment Rooms

High productivity plants require abundant amounts of chilled water for critical processes. We designed our central chiller line after considerable up-front planning, consulting with partners in processing plants and experts in refrigeration and mechanical system design. The result is a unique and very practical design, easier to install and maintain and has premium features for consistent performance and higher reliability. Available with semi-hermetic, open-drive or screw compressors, air or water cooled and a variety of controls.

System designs allow plants to operate and monitor banks of multiple Freeze-Co chiller skids within a single control environment. This can provide the benefit of system redundancy for assured up-time, and dynamic load balancing by staging chillers and their refrigeration circuits. Entire systems, including the chilled water and service water loops can be remotely monitored for proper function, temperature variance, process and tower water pressure drop, and respond in real-time to load changes.



200 ton reciprocating compressor modular chiller with PLC controls

Central Water Cooled	Capacity BTU/HR	Chilled Water Flow - GPM	Condenser Flow - GPM	Compressor HP	Full Load Amps			Dim LxHxW	Weight Lbs
					208	460	575		
FCWCT-040	480,000	96	120	40	155	78	63	84 x 70 x 52	3,700
FCWCT-050	600,000	120	150	50	192	96	77	84 x 70 x 52	4,100
FCWCT-060	720,000	144	240	60	237	118	95	120 x 70 x 52	4,300
FCWCT-080	960,000	192	240	80	282	141	113	120 x 70 x 52	4,800
FCWCT-100	1,200,000	240	300	2 x 50	384	192	144	120 x 70 x 52	5,800
FCWCT-120	1,440,000	288	360	2 x 60	474	236	190	120 x 70 x 52	6,300
FCWCT-150	1,800,000	360	450	3 x 50	576	288	231	168 x 70 x 52	7,400
FCWCT-180	1,920,000	384	480	4 x 40	460	312	252	168 x 70 x 52	7,900
FCWCT-200	2,400,000	480	600	4 x 50	768	384	308	168 x 70 x 52	9,900

Remote Air Cooled	Capacity BTU/HR	Chilled Water Flow - GPM	Remote Cond Fans	Compressor HP	Full Load Amps			Dim LxHxW	Weight** Lbs
					208	460	575		
FACT-040R	440,000	88	4 x 1.0	40	155	78	63	84 x 70 x 52	3,500/1,500
FACT-050R	546,000	110	4 x 1.0	50	192	96	77	84 x 70 x 52	3,800/2,300
FACT-060R	645,000	129	8 x 1.0	60	237	118	95	120 x 70 x 52	4,300/2,500
FACT-080R	880,000	176	8 x 1.0	2 x 40	282	141	113	120 x 70 x 52	4,900/3,000
FACT-100R	1,092,000	219	12 x 1.0	2 x 50	384	192	144	120 x 70 x 52	5,200/3,500
FACT-120R	1,320,000	264	12 x 1.0	3 x 40	474	236	190	168 x 70 x 52	5,700/4,000
FACT-150R	1,638,000	328	16 x 1.0	3 x 50	576	288	231	168 x 70 x 52	6,500/5,000
FACT-160R	1,760,000	352	16 x 1.0	4 x 40	660	312	252	168 x 70 x 52	7,100/5,500
FACT-200R	2,184,000	436	20 x 1.0	4 x 50	768	384	308	168 x 70 x 52	8,700/6,000

Capacity in BTUH based on R-22 refrigerant. Chilled water at 2.4 GPM from 60°F to 50°F. Ambient air at 95°F. Condenser water at 3 GPM/ton and 85°F to 95°F.

\*\* First weight is for chiller, second weight is for remote condenser

Air cooled models require remote condenser. Consult factory for selections above 200 tons.

## Implementing New & Re-engineered Thermal Systems

Integrating the knowledge and practical experience from experts in refrigeration, mechanical design and construction and large-scale system users provides Freeze Co customers with significant advantages. It provides a greater depth of expertise supporting high production environments and a single source responsibility. Freeze Co is uniquely qualified to provide initial system or expansion designs, installation and ongoing service. We provide a proper blend of expertise in chilling, tower service, pumping, controls and piping infrastructure to maximize overall efficiency.

Freeze Co offers pre-plumbed, pre-wired and tested thermal systems designed by experts using state of the art CAD and pipe layout software to assure that your expectations for consistent performance and expandability are fully met. Industry standard components are available internationally to ease service and reduce downtime. Capabilities include design, turn-key installation, start-up and ongoing service.



Single and multiple cell tanks to 10,000 gallons available with or without insulation. Pumps are generously sized and fully trimmed and valved. Tank shown has full-flow strainer.

## Fiberglass or Steel Evaporative Cooling Towers

Proper evaporative tower selection involves many factors including site layout, load bearing members, prevailing wind direction, wet bulb rating, distance to other components and other considerations. It takes experts to do it right, meeting current process needs and variables, yet allowing a practical path to modify or expand the system. Freeze Co can provide all types of cooling towers from our own economical fiberglass models, to steel crossflow, counterflow and forced draft technologies to meet individual conditions. Cooling tower systems are available with closed-loop and free-cooling options, side-stream or full-flow filtration, heat trace, insulation, elevating structures and other thermal and mechanical requirements.

Fiberglass tower cells are available from 40 tons to 200 tons based on CTI rating standards and includes the following features:

- Fan motor is weatherproofed for protection and to reduce noise.
- Housing panels and water basin are built from fiberglass reinforced plastic for rust-free operation even under harsh conditions.
- Sprinkler pipes are sturdy PVC material with closely spaced, self-clearing nozzles allowing thorough water distribution in a self-powered rotating spray covering the entire fill area.
- Round design permits maximum air intake regardless of prevailing wind direction. Intakes include wind screen.
- Large capacity, water basin constructed from rust proof materials



### Typical Tower Applications

- Chiller condenser cooling
- Plantwide heat exchanger cooling
- HVAC and controlled environments
- Compressor and reactor jackets
- Free-cooling chiller bypass systems
- Die-cast mold cooling
- Other industrial process needs

## Portable Air-Cooled Chillers

Models are available from 1 to 30 tons in highly compact design. Models feature reciprocating hermetic compressors. Features include generously sized insulated stainless steel tank and separate process and chiller pumps. Systems available with analog or PLC based controls. Side panels remove for easy access to components. All models are run tested under load and ship with a full refrigerant charge.

**Refer to Product Type FCAC, FCWC or FCAC-R.**



## Compact, Low Cost, Water Cooled Chillers

Models are available from 40 to 80 tons in highly compact design. Open frame reduces cost and improves component access. Models feature reciprocating semi-hermetic compressors. Ideal for split systems with remote tank and pumping system. Systems available with analog or PLC based controls. All models are run tested under load and ship with a full refrigerant charge.

**Refer to Product Type FCCAC or FCCWC or FCCAC-R.**



## Central Air or Water Cooled Chillers

Models are available from 40 to over 400 tons in compact, rugged design. Open frame improves component access and maximizes floorspace. Models equipped with individually circuited reciprocating semi-hermetic or screw compressors, ideal for split systems with remote tank and pumping system. Up to 12 unloading increments. Systems available with analog or PLC controls and remote communication port. All models are run tested under load and ship with a full refrigerant charge.

**Refer to Product Type FCWCT and FCACT-R.**



## Central Cooling Tower & Pumping Systems

There is virtually no limit to how we can approach and implement cooling system designs. In-house design capability includes piping systems, service drop stations, evaporative towers, free cooling and heat recovery, forced air systems, air and liquid filtration, elevated equipment mezzanines, and remote diagnostics. With our own mechanical crews, we design, install and service cooling systems worldwide.



## **NEW!** MODULAR CHILLER SYSTEMS

A new range of air and water cooled modular chillers is now available! Compact modules can be assembled in equipment rooms or roof tops. Industrial construction throughout. Scroll, semi-hermetic and screw models from 20 to 120 tons per module. Single point piping and electrical connections. Innovative easy-access strainer cleaning system. Brazed plate or servicable shell & tube condensers. Master/Slave control system. **Refer to Product Type FC MCS**



## **104,000 Sq.Ft. Refrigeration and Mechanical System Center**

Perhaps no other manufacturer of industrial process cooling equipment has so much to offer under one roof. In addition to refrigeration equipment assembly and testing, we have staff who specialize in designing and installing HVAC and process cooling systems. System engineering, industrial piping systems, sheet metal fabrication, specialized equipment and skilled personnel, complete installation, start-up and service are all available..

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