

Accuchiller TCFW375 Series

Central Chiller

Benefits:

- **Lower Global Warming Potential*:** Featuring Opteon™ XP10 (R-513A) Refrigerant with low toxicity and low flammability.
- **Variable-Speed Compressor:** Direct drive variable-speed centrifugal compressor technology continuously adjusts speed to match load to reduce operating costs.
- **Magnetic Bearing:** A magnetic field levitates the drive shaft and eliminates the friction of conventional bearings for higher efficiencies and an oil-free refrigeration system.
- **Integral Variable Speed Drive:** High efficiency brushless DC motor with built-in variable-speed drive technology is refrigerant cooled, compact, and energy efficient.
- **Soft Start:** The variable-speed drive limits soft-starts to 2 amps inrush current per compressor to reduce peak energy demand and extend compressor motor life.
- **Low Noise Operation:** The magnetic bearings keep the drive shaft in position under high-speed operation for virtually no structural vibration and low noise.
- **Rotary Circuit Breaker:** A through-the-door rotary circuit breaker allows easy maintenance of the chiller.
- **Warranty:** 1 year parts and labor.



Opteon™



OFFICIAL REFRIGERANT SOLUTION OF THE NHL*

Thermal Care is at the forefront of process cooling technology. TC Series industrial central chillers feature revolutionary, frictionless, magnetic bearing Turbocor compressors for optimal performance and unmatched part load efficiency. The oil-free design eliminates oil management systems, reducing costs and environmental impact while enhancing reliability.

Specifically designed for ice rink applications, the TCFW375 combines the efficiencies of a hybrid film evaporator with the advanced Turbocor TTH375 high lift variable speed centrifugal compressor, consistently achieving 10°F (-12°C) fluid temperatures. These proven technologies provide precise temperature control, adaptability

to varying loads and optimal full and part load efficiencies, all while significantly reducing energy consumption. After the ice is formed, the chiller maintains a stable temperature of 15°F (-9°C) by reducing compressor speed, which further decreases energy consumption.

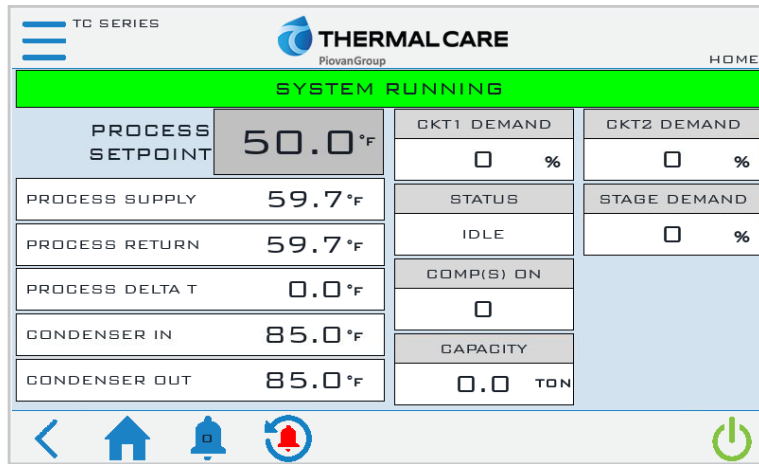
TCF Series chillers feature an intuitive PLC system with a 7" HMI high resolution LCD color touch screen for precise control and monitoring. The user-friendly interface provides real-time system data, allowing users to monitor system operating conditions, adjust parameters, and troubleshoot with ease.

Discover how the TC Series can revolutionize your process cooling operations.

*In comparison to HCFC-22 | NHL AND THE NHL SHIELD ARE REGISTERED TRADEMARKS OF THE NATIONAL HOCKEY LEAGUE. ©NHL 2022. ALL RIGHTS RESERVED.

Additional Benefits:

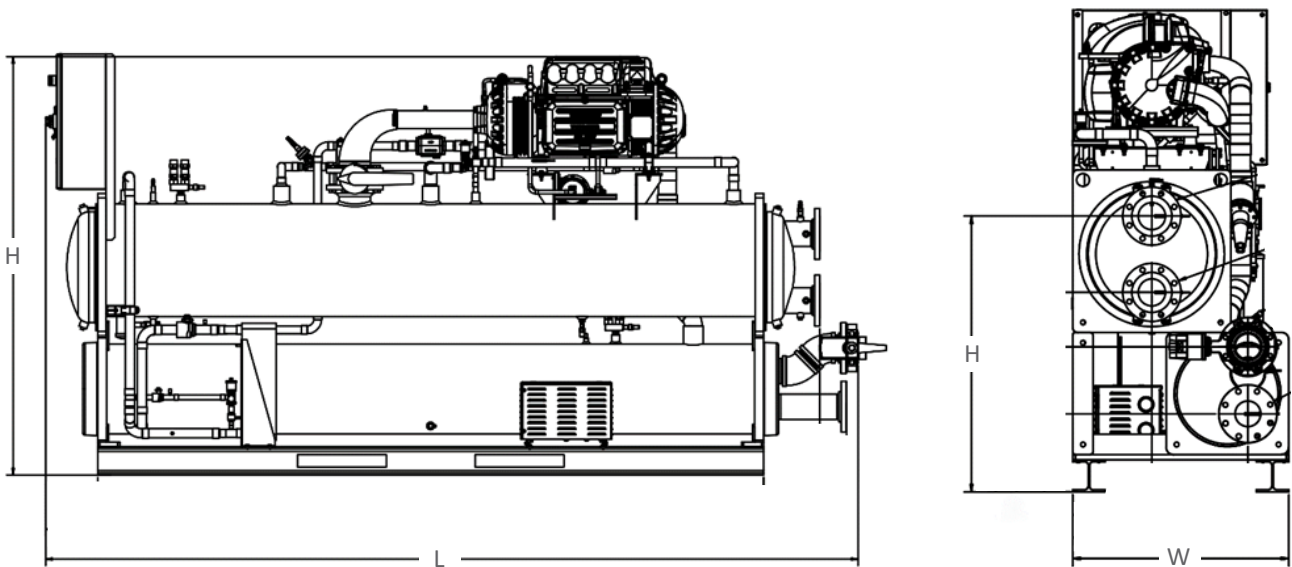
- **UL 508A Industrial Control Panel:** Every chiller has a UL label certifying the panel design and components comply with UL 508A standards ensuring the panels are safe and consistent for reliable operation.
- **Hybrid Film Evaporator:** Advanced design provides the most efficient heat transfer while minimizing the refrigerant charge requirement results in a compact, extremely energy-efficient unit.
- **Slim Footprint:** Unit has a slim design and can fit through a 34" (864 mm) opening.
- **Advanced Controls with Color Touch Screen:** 7-inch color touch screen shows chiller operation for quick and easy monitoring and control of the system. Can control up to six chillers.



- **CONNEX4.0 Ready Controls:** Equipped with an Ethernet port and is fully compatible with the CONNEX4.0 plant-wide equipment control and monitoring system.
- **Modular Expandable System:** Allows for flexible system design and provides for system expansion to over 300 tons (1,055 kW) using up to six chillers.

Available Option:

- **BACnet Communications Port:** Adds a Modbus to BACnet gateway wired to a RS-485 connector on the control panel.



TECHNICAL DATA

| TCFW375 | |
|--|--|
| Cooling Capacity Range ¹ | 45 to 55 tons (158 to 193 kW) |
| Nominal Capacity (ton) | 50 tons (176 kW) |
| Set Point Range | 10 to 55°F (-12° to -4°C) |
| Intended Operating Range | 10 to 15°F (-12° to -9°C) |
| Compressor (qty) | 1 |
| Condenser Water Inlet and Outlet Flange (in) | 4 |
| Process Fluid Inlet and Outlet Flange (in) | 4 |
| Process Fluid | 40% ethylene glycol |
| Evaporator Flow @ 10°/15°F (-12°/-9°C) | 467/427 gpm (1,768/1,616 lpm) |
| Dimensions L x W x H inch (mm) | 144 x 33 x 74 (2,210 x 914 x 1,880) |
| Shipping Weight | 5,600 lbs (2,540 kg) |
| Operating Weight | 6,000 lbs (2,722 kg) |

¹Cooling capacity when cooling water with 13°F (-16°C) set point, 16°F (-9°C) return, 85°F (29°C) condenser water, R513A refrigerant.

ELECTRICAL DATA

| Model | Rated Voltage ¹ FLA @ 208 | | Rated Voltage ¹ FLA @ 230 | | Rated Voltage ¹ FLA @ 460 | | Rated Voltage ¹ FLA @ 575 | |
|---------|---|------------------|---|------------------|---|------------------|---|------------------|
| | MCA ² | MOP ³ | MCA ² | MOP ³ | MCA ² | MOP ³ | MCA ² | MOP ³ |
| TCFW375 | N/A | N/A | N/A | N/A | 229 | 400 | 184 | 300 |

¹Allowable voltage is ± 10% from rated voltage.

²MCA is Minimum Circuit Amps, used for minimum wire size requirement.

³MOP is Maximum Overcurrent Protection, used for sizing main power protection device.



Thermal Care is ISO 9001 Certified
Manufacturer reserves the right to change specification
or design without notification or obligation.



TCFW375 Specification 4

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