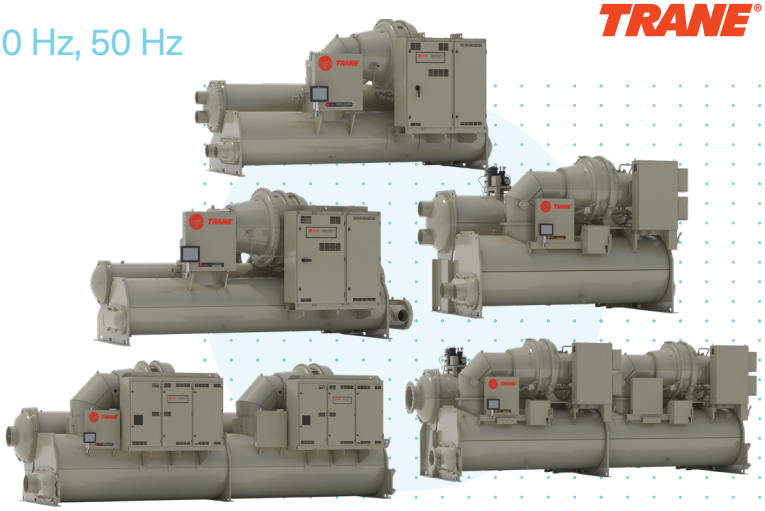
CenTraVac® Water-Cooled Centrifugal Chillers

200 – 4,000+ Tons (5,100 – 60,000 MBH); 60 Hz, 50 Hz



Meeting today's efficiency and sustainability challenges.

Buildings account for nearly 40 percent of the total energy consumption in the United States, and 38 percent of carbon dioxide emissions.[1] As much as 50 percent of energy used by commercial buildings is attributable to HVAC systems.[2] As the global focus shifts towards improving heating and cooling efficiency, enhancing the use of natural resources, and protecting our environment, building owners, engineers and architects are seeking ways to reduce both immediate and long-term environmental impacts. Trane® is committed to helping achieve this through HVAC systems that are highly efficient and offer environmental advantages.

More flexibility with system enhancement options

Trane CenTraVac water-cooled centrifugal chillers offer innovative features designed for high performance, sustainability, and efficiency. Capable of operating at temperatures as low as 34°F (1.1°C) without energy-robbing anti-freeze, these chillers provide reliable thermal management while reducing operational costs and environmental impact. Available options include integrated full or partial heat recovery, integrated free cooling, and thermal energy storage for flexible operation to help manage peak demand. These features can often pay for themselves by reducing water consumption, lowering heating and ancillary power consumption, or decreasing operating costs.

Industry-renowned reliability

Each CenTraVac chiller is custom-built to last for decades, following robust quality control processes. The CenTraVac compressor, with only one moving part supported by two bearings, provides reliability through its simplicity. Designed to meet rigorous industrial and commercial requirements, CenTraVac chillers feature a time-tested low-pressure design capable of sustaining precise temperatures with extremely tight tolerances, essential for occupant comfort and mission critical processes.

The low-speed direct-drive design reduces sound and vibration levels, making CenTraVac ideal for acoustically sensitive environments.Factory testing is available to verify performance under customer-defined conditions, providing additional peace of mind.

An environmentally considerate solution

As part of the EcoWise™ portfolio of products, CenTraVac chillers utilize next-generation refrigerants with a Global Warming Potential (GWP) value of 2 or lower — among the lowest in the industry. CenTraVac chillers are backed by a refrigerant leak tight warranty, and their low-pressure design enables some of our lowest documented refrigerant leak rates. Additionally, Trane evaporator technology reduces the refrigerant charge, requiring less refrigerant to operate, which is better for both cost and environmental impact.

EcoWise

CenTraVac chillers are a part of the Trane Technologies™ EcoWise™ portfolio of products designed to help lower environmental impact through high efficiency operation and the use of a next-generation, low global warming potential (GWP) refrigerant.

» ***Trane's focus on decarbonization has helped advance the industry with the CenTraVac CVHF and Duplex model CDHH's third-party verified Environmental Product Declaration.***

1. U.S. Environmental Protection Agency, "Why Build Green?" https://archive.epa.gov/greenbuilding/web/html/whybuild.html
2. U.S. Department of Energy.

CenTraVac® Chiller Options and System Enhancements

CenTraVac chillers leverage proven technology to help deliver stable operation under a variety of conditions. These chillers incorporate advanced design features and innovative controls to enhance performance and efficiency. They are engineered with a range of energy-saving options that assist with benefiting both the environment and operational costs.

Adaptive Frequency™ Drives

Enhance chiller efficiency at reduced loads with the fully integrated variable-speed drive. This advanced drive works with the chiller motor and Symbio® 800 controller to continuously match compressor speed to required levels for operation at peak efficiency.

Symbio® 800 Equipment Controller

The Symbio 800 controller features pre-programmed sequences of operation to help offer seamless performance. It also enables connectivity with the Tracer® SC+ building automation system for even more system enhancement.

Thermal Energy Storage

When coupled with thermal energy storage (TES) tanks, CenTraVac chillers can be used during off-peak hours to create ice, which is then stored in modular tanks for use in cooling during peak hours the following day.

Heat Recovery

CenTraVac chillers offer integrated partial or full heat recovery up to 140°F (60°C). With heat recovery, the chiller can recover heat rather than rejecting it, providing hot water and tight temperature control that lowers operating costs by reducing boiler/hot water heater usage.

Free Cooling

By adding a free cooling valve, CenTraVac chiller models CVHE, CVHF and CVHH can utilize refrigerant migration to provide cooling up to 45 percent of the nominal chiller capacity without running the compressor. This is ideal for climates with cooler wet-bulb temperatures where a cooling load is present, applications with elevated leaving chiller water temperatures, and settings where heat is rejected into a river, lake, or pond.

High Efficiency Tubing

Enhanced tubes have greater surface area where heat can be transferred from one side of the tube to the other, and they provide more fluid turbulence. External enhancements suit the refrigerant properties and the application (boiling or condensing), while internal enhancements improve fluid flow.

*Some available options may vary by unit. Please consult with a Trane representative for specific details.

To learn more about the comprehensive capabilities of our CenTraVac chillers, visit Trane.com/CenTraVac or contact your Trane Account Manager.

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