



**TRANE**<sup>®</sup>



# *CVGF centrifugal water chiller*

*Save energy through improved efficiency*



# Proven technology meets high expectations



Trane has been designing and manufacturing water-cooled centrifugal chillers since 1938, with over 65,000 Trane centrifugal chillers in operation around the world today.

The gear-driven centrifugal water chiller design was introduced by Trane in 1976, and its performance has been proven in thousands of installations since then. Trane continuously improves its technology to deliver better chiller performance, while the CVGF achieves unprecedented levels of reliability and energy efficiency.

## Owners want more

Building owners want efficient air conditioning systems that contribute to operational cost savings, while delivering an improved level of reliability. Around the world, one company is widely recognized for its ability to meet that challenge: Trane, providing industry-leading air conditioning systems for nearly 100 years.

Whether it's a high-rise in Singapore or a mall in Madrid, Trane has the technology to keep buildings and occupants cool and comfortable.

## The CVGF centrifugal chiller

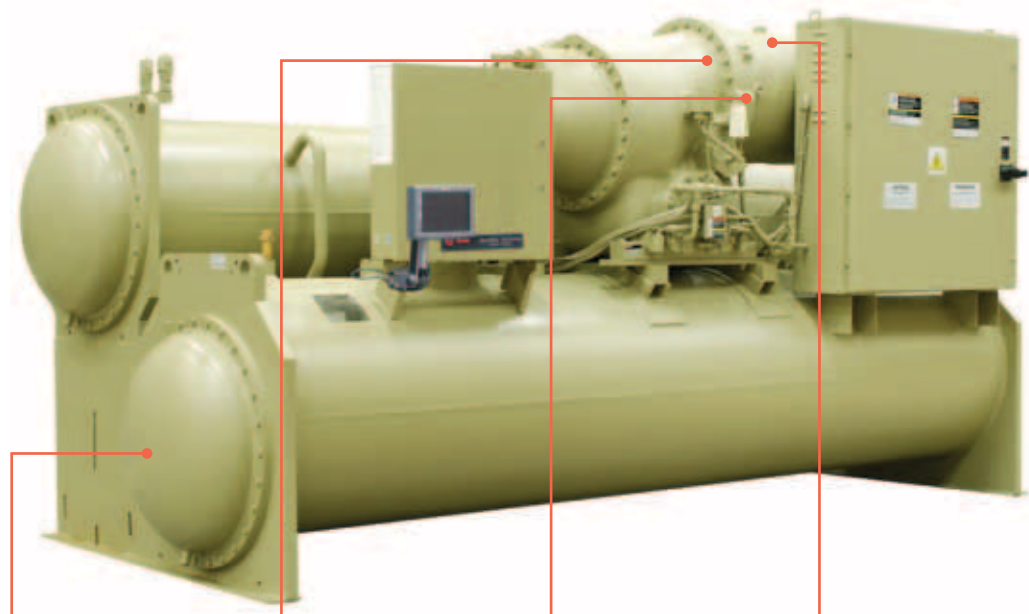
Ideal for comfort and process-cooling applications in office buildings, hospitals, schools, hotels, retail stores and industrial

buildings, the CVGF chiller represents the newest generation of gear-driven centrifugal water-filled chillers from Trane. It operates with HFC-134a refrigerant. And it can be computer-optimized to deliver low first cost, low operating cost, and meet critical performance criteria for specific applications. The CVGF computer selection program is certified in accordance with ARI Standard 550/590.

Your Trane sales engineer can help you select a CVGF chiller that is ideally suited to fulfill the requirements of your specific project.

## Reliability made simple

When it comes to chillers, simplicity is the key to reliability. No one knows that better



• State-of-the-art heat transfer surface technology improves the chiller efficiency

• Two-stage compressor provides better unloading capacity

• Refrigerant-cooled motor extends operating life; reduces heat in equipment rooms

• Inter-stage economizer improves system efficiency

than Trane: the tens of thousands of Trane centrifugal chillers that are in place and operating smoothly every day provide world-wide evidence that Trane designs equipment that is made to last.

In developing the CVGF chiller, Trane stayed true to its design philosophy.

- Surrounding the motor with liquid refrigerant keeps it uniformly cool
- The calibrated, fixed-orifice refrigerant expansion system – free of moving parts – ensures efficient and reliable evaporator operation
- A simple and reliable integral lubrication system extends operational life

### Cost-saving efficiency

Chiller efficiency is only relevant if it reduces the utility bill for a building owner. The CVGF chiller was developed to deliver cost-saving efficiency by adding innovative features to proven Trane technology.

- Inter-stage economizer improves efficiency by injecting refrigerant gas into the second compressor stage
- Evaporator uses a patented new refrigerant distribution system
- Evaporator and condenser use the latest heat-transfer technology
- Optimized inlet-guide vanes and impellers improve cycle efficiency

### Environmentally-sensitive refrigerant and design

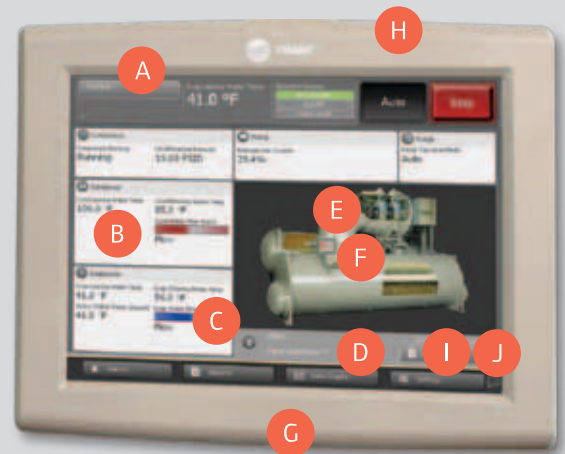
The 134a refrigerant used in the CVGF chiller is chlorine-free with an Ozone Depletion Potential (ODP) equal to zero. Of course, ODP is not the only environmental aspect to consider. The CVGF chiller is also designed to minimize the risk of leaks. It reduces both direct and indirect greenhouse gas effects.

- New refrigerant distribution system reduces the amount of refrigerant used

- Innovative oil sump, integrated into the compressor/motor, eliminates vent and drain lines –further minimizing the risk of leaks
- Simplified design reduces the number of joints by 30% over previous designs
- Beaded flat-gasket technology (instead of O-rings ) reduces system susceptibility to leaks

### Tracer AdaptiView™ Controls

Get a better view into chiller operations.



- A** At-a-glance status: Easy-to-read color display shows key operating parameters of major chiller components.
- B** Intuitive navigation: Operators have easy access to data and alarms for quick and accurate response and resolution.
- C** Reports: Performance data is summarized to simplify interpretation.
- D** Graphs: Visually-conveyed trend data supports troubleshooting and helps fine-tune performance.
- E** Adaptive controls™: Algorithms built into Tracer AdaptiView™ controls pre-empt chiller disruptions during rapidly changing conditions.
- F** Open protocol flexibility: Supports BACnet, Lontalk, and Modbus with no gateways.
- G** Adjustable viewing angle: Ergonomic arm provides easy access for operators working in close quarters.
- H** Water-and weather- resistance: Optional cover protects the unit from cleaning overspray and allows it to be mounted outdoors.
- I** Programmable security: Access can be limited to designated, qualified staff members.
- J** 24 selectable languages: Built-in language conversion feature means every Tracer AdaptiView™ is ready for global deployment.

## Controller options

Trane has over thirty-five years of expertise in chiller controls. The CVGF comes with Tracer AdaptiView™, which is one of the most advanced unit controller on the market, designed to keep chiller plants running at peak efficiency levels. With Tracer AdaptiView, you can readily see how well your chiller plant is running . . . and identify what you can do to make it run even better.

The CVGF chiller with Tracer AdaptiView can also connect to Trane Tracer control systems to optimize the chiller plant control applications.

- The Tracer Summit® Building Control Unit (BCU) facilitates chiller plant automation and energy optimization
- Tracer Summit PC Workstation is a dedicated workstation to provide global control, and it serves as a communication link between the operator and the building management panel. The operator has the ability to create and edit system databases, acknowledge alarms and perform other operator transactions from the PC workstation
- Tracer SC is a web-enabled controller, allowing you to manage system performance from any PC with an Internet connection. It provides a flexible, cost-effective solution for programming and managing your facility HVAC systems

## Industrial grade chiller design

The Trane CVGF packaged centrifugal water chiller, utilizing HFC-134a refrigerant, consists of the following: a hermetic, two-stage gear-drive centrifugal compressor; an evaporator; a condenser; an inter-stage

economizer; a unit-mounted, microprocessor-based control panel; and a compressor motor starter.

Each chiller is fully factory-assembled on a Trane Demand Flow Technology (DFT) production line. It is run-tested in the factory before shipment to assure trouble-free installation, start-up and operation. Quality is built-in from initial design through final production. Trane invites all building owners and consulting engineers to an in-factory “witness performance test” before the chiller ships.

## Trane . . . your solutions provider

Trane defines chiller “success” in terms of long-term performance. That means we provide extensive support for our equipment, including start-up assistance, convenient parts availability, operational training and warranty support. If a problem does occur, a quick resolution is only a single phone call away.

Turn to the Trane CVGF chiller for improved energy efficiency and reliable, long-term performance. These two-stage, water-filled, gear-drive centrifugal chillers provide energy-fit operation year after year. From energy-saving strategies to total chiller system solutions, Trane professionals are available to support you – and to make sure your air conditioning system continues to provide the level of performance it was designed to deliver. With a network of professionals that reaches virtually every region of the world, Trane is never far away.



Ingersoll Rand (NYSE:IR) is a world leader in creating and sustaining safe, comfortable and efficient environments in commercial, residential and industrial markets. Our people and our family of brands—including Club Car®, Hussmann®, Ingersoll Rand®, Schlage®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings, transport and protect food and perishables, secure homes and commercial properties, and increase industrial productivity and efficiency. We are a \$13 billion global business committed to sustainable business practices within our company and for our customers.

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.  
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