

# Series R<sup>®</sup> RTWD Helical Rotary Chiller

With Next-Generation, Low-GWP Refrigerant Option 80 - 250 Tons





## Efficiency and design you can rely on



Long-lasting efficiency does not just happen. It is engineered through rigorous testing and research the type of testing and research that have been a way of life at Trane since we built our first chiller in 1938.

With the Series R® RTWD helical rotary chiller, the tradition continues. Ranging in size from 80 to 250 tons, RTWD is designed with efficiency in mind—to help building owners reduce the total cost of ownership. Yet it will still operate reliably over a wide range of conditions, and under widely varying loads.

Easy to install, its industrial-grade design is ideal for both industrial and commercial use. And with features like an infinite unloading compressor, wide operating temperature range, electronic expansion valve and short anti-recycle timers, this Trane Series R<sup>®</sup> chiller is the best choice for tight temperature control in almost any application.

#### Trane looks for ways to reduce your energy use and save money

As the global leader in HVAC, Trane systems and services expertise is unmatched. Our controls and equipment engineers can find ways to reduce your energy use by up to 30 percent compared to a conventional system. We do it by optimizing performance at every stage. And Trane Building Services will find even more ways to save with a full energy audit and performance contract.

Advanced Trane EarthWise<sup>™</sup> System design strategies like Variable Primary Flow, chiller/tower optimization, and thermal storage, plus the EarthWise Elite Central Geothermal System can all be easily applied using RTWD, thus improving total chilled water system energy costs for the life of the system when compared to common system configurations coupled with common design and operation practices.

In fact, its unique flexibility is perfect in almost any high performance cooling and heating system including heat recovery or dry cooler applications.

The Trane TRACE<sup>™</sup> 700 modeling and analysis software can precisely determine your energy-saving potential, so we can design the best system for your needs. The TRACE 700 can analyze configurations to project complete chiller system performance—which can help ensure your whole building meets or exceeds the industry requirements established by ASHRAE 90.1, LEED and the Energy Policy Act of 2005.



#### Trane efficiency begins with installation

The Series R® RTWD helical rotary chiller will save you money right from the start by lowering installation costs. Thanks to its compact size, it easily fits into most existing mechanical rooms without requiring additional floor space or wall tear-outs. In fact, RTWD is so narrow, most units can pass through a standard door opening. So chiller replacement is faster, less expensive and less disruptive. Also, the single-and dual-point power electrical connection options often allow us to use existing electrical wiring.

The RTWD chiller rigs simply into the building, connecting to water, electrical and control lines with minimal changes to the existing infrastructure. All this gets your new chiller up and running fast.

#### Unmatched operating efficiency

The RTWD chiller will save money well beyond installation. With rising energy prices, the operation of a chilled water system can amount to over 90 percent of the total lifetime cost of the system. The Trane RTWD chiller minimizes these expenses with an efficiency level of 0.63kW/ton. It offers other ways to save for owners who require hot water in their buildings. By utilizing the condenser heat from the chiller to heat potable water, swimming pools or laundry services, schools and hotels can further lower their operational costs.



Our patented evaporator design gives the Trane RTWD chiller higher efficiencies using less refrigerant charge, both of which contribute to LEED certification. Refrigerant (red) is uniformly distributed over the first row of tubes. It then flows around them, precisely at the points where heat transfer occurs, to more efficiently cool the fluid (blue) inside.

#### A strong foundation to make buildings better

# **EcoWise**

RTWD chillers are part of the Trane Technologies EcoWise<sup>™</sup> portfolio of products that are designed to lower their environment impact with next-generation, low global warming potential (GWP) refrigerants and high-efficiency operation.

Low-GWP option – RTWD chillers are designed to operate with either R-134a or DuPont<sup>™</sup> Opteon<sup>®</sup> XP10 (R-513A), non-flammable, next-generation refrigerant that delivers the same capacity with a GWP 55 percent lower than that of R-134a.



**Evaporator**—Exclusive Trane design achieves the highest efficiency in the industry, above and beyond industry standards

**Compressors**—Helical rotary design for robust operation and unit reliability over a wide operating range

**Controls**—Precision temperature control (+/-0.5° F), plus advanced adaptive algorithms and preventative unit safeties, keeps the chiller online when other chillers might shut down Unit installation—Installation is easy, based upon water and electrical connections as well as limited footprint and rigging options

**Serviceability**—Optional dual-relief valves for fast and convenient inspection

**Heat recovery**—Leaving condenser temperature control option up to 140°F



#### Trane testing ensures day-to-day reliability

Building owners know building efficiency and profitability are not measured in days, but rather in decades. That is why Trane conducts accelerated life testing that simulates thousands of hours of operation on the compressor, the heart of the Series R<sup>®</sup> RTWD helical rotary chiller. The compressor uses a direct-drive design with fewer moving parts than gear-driven compressor designs.

Industrial facilities cannot afford downtime, imprecision or inefficiency. So RTWD has a chilled-water system designed to keep production, and therefore revenue, flowing with precise temperature control and reliable operation. It delivers such stable water temperature that it can eliminate the need for expensive buffer tanks. The dual-compressor design also provides redundancy within a single unit to reliably satisfy even the most critical operations.

And to help you keep your RTWD running at its best, Trane offers a wide range of service agreements. These include proven preventive maintenance schedules and practices designed to refresh your system to factory specifications. These programs also help you plan your annual maintenance budget by scheduling regular and consistent preventive maintenance for your RTWD.

We are dedicated to making sure you receive trouble-free operation for the lifetime of your chiller.



#### Trane chiller control—from simple to sophisticated

Sometimes chillers need to perform outside traditional comfort conditions. Series R<sup>®</sup> RTWD helical rotary chiller is up to the task. It can be configured to produce leaving-evaporator solution temperatures as low as 10°F (-12°C), making it ideal for cold temperature operations like quick-freezing an ice rink. On the other hand, RTWD can also be used in heat-recovery mode to generate condenser water temperatures as high as 140°F (60°C) for potable water heating or laundry services. So it can serve a variety of applications at either end of the spectrum.

When it comes to chiller plant control, Trane understands that everyone has different needs. That's why RTWD has time-of-day scheduling incorporated directly into the Tracer® CH530 control panel. Users can schedule up to ten events on the chiller for adjusting many settings by time of day or days of the week without having to install a full building automation system. For example, the operation staff for a school can easily program the important school events for the week at the chiller panel, eliminating the need to rely on manual starts and shutdowns to reduce energy costs.

#### Manage multiple chillers from any location

Adding the Trane Tracer® SC controller provides a flexible, cost-effective solution for managing your HVAC system that can extend to lighting and energy consumption. Its simplified, web-based management tools help improve efficiencies, increase tenant comfort and reduce energy costs.

Accessible from most devices with an Internet connection, Tracer SC eliminates the need for a dedicated computer and monitor, so you can manage system performance whenever, wherever it is convenient. Tracer SC simplified, web-based management tool reduces scheduling, reporting and applications programming chores to simple "point and click" tasks. Users do not have to invest in special software or training—so it is easy to control the building without additional costs.

Tracer SC is scalable for most buildings—small, medium or large—and can grow with your building and adapt to your changing needs. With expandable communications from 15 to 240-unit controllers, it is a flexible and cost-effective choice.

#### Your building needs strong support

Trane Field Sales Engineers receive unparalleled technical systems training. They work closely with our engineering experts to help optimize chilled water system design and operation for your specific project. Their experience with thousands of systems worldwide—and their leadership positions in industry associations such as ASHRAE and USGBC—means these experts give you proven, cost-effective and efficient system options to ensure a lifetime of savings.

Backed by knowledgeable service technicians and almost 200 parts outlets, Trane is ready to keep your system performing at its peak for years to come with a wide variety of in-warranty and extended warranty service options.

#### Efficiency begins with a phone call

Discover how Trane can help make your building even more efficient. Go to www.trane.com to contact your local Trane Account Manager. We'll create a customized plan to make your building better with an RTWD chiller.



The flexible Tracer SC controller can adapt to your changing needs.



Tracer SC dashboards use an easy-to-interpret graphical display to report current operating conditions and energy usage.

## Trane Technologies® Climate Commitment



Reduction in the greenhouse gas refrigerant footprint of our products by 2020, and incorporating alternatives with lower GWP across the company's product portfolio by 2030.



Reduction in greenhouse gas footprint of our own operations by 2020.



Investment in product-related research and development by 2020 to fund the long-term reduction of GHG emissions.

# **EcoWise**

The Trane Technologies EcoWise<sup>™</sup> portfolio of products designed to lower environmental impact with next-generation, low global warming potential (GWP) refrigerants and high- efficiency operation is part of our climate commitment to increase energy efficiency and reduce the greenhouse gas emissions (GHG) related to our operations and products.

## Learn more at trane.com



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit *trane.com* or *tranetechnologies.com*.

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