Series R™ Screw Chiller
RTAC Model

Trane Reliability for Chilled Water Systems

TRANE TECHNOLOGIES

A World-Class Testing Program Sets Trane Apart from the Competition

Trane units and compressors are extensively tested in order to ensure robust operation and smooth starting.

Reliability

You need reliable and safe performance on which you can depend. We are committed to the highest levels of design quality and precision in manufacturing in order to ensure that your chiller performs as expected.

There are over 250,000 screw compressors (including air- and water-cooled chillers) operating today with our proven semi-hermetic, direct-drive, low-speed design. These facts, allied with over 25 years of knowledge in manufacturing screw chillers and striving to continuously improve processes, are the ingredients for our continued reliability.

Our rigorous design verification helps to ensure safe operation under a wide range of operating conditions. This involves:

- Testing in extreme conditions, including cold ambient starts, hot water starts and operating at high temperatures.
- Compressor accelerated life cycle testing, including high pressure testing (pressure ratio), high load testing, flooded starts and stops, and phase reversal.
- FEA analysis to ensure that the chiller withstands shipping, lifting and high operational demands.
- Electrical testing with destructive testing for short-circuit withstand rating.
- Performance modeling and verification, performed during design for the life of the chiller.

Testing Facilities

Trane's world-class testing facilities set us apart from the competition. We seek environmental performance, operational longevity and overall operational efficiency in order to provide you with the most reliable product in the long term.

Operational testing at the factory confirms the unit is working correctly and streamlines the commissioning process.

Continuous testing is conducted in order to confirm that performance expectations are being met and a quality product is being produced. After the chiller goes into production, we continually look for ways to make it better, quieter, more reliable and more efficient.

Responsible Energy Savings

Businesses around the world are being challenged to improve their energy efficiency.

The HVAC systems that keep environments comfortable and healthy are responsible for 45% to 65% of the energy use of a building.

Any small inefficiency in cooling and heating equipment results in enormous additional power consumption that can generate a significant financial impact.

The advanced controls, versatility and durability of the RTAC make it the best choice for a variety of chilled water system types, including variable primary flow applications and systems with coolers in series.

EarthWise™ System

The Tracer™ building automation system from Trane, using innovative application engineering concepts, such as EarthWise™, and variable flow in the primary circuit, documents the sustainability and low emissions of RTAC chillers throughout their life.

Compared to conventional designs, the Trane EarthWise™ system helps reduce the total cost of maintaining and operating the air conditioning system during the life of the equipment.

Ice making

The RTAC works with low-power thermal storage systems, making ice at night when the utility companies charge less for electricity. The ice tank complements, and can even replace, mechanical cooling during the day when electricity rates are at their highest. In addition, the RTAC can often make ice with the same (or better) efficiency as producing water at 6.5 °C (44 °F) during the day. This is due to lower ambient temperatures during the night, when the ice is made.

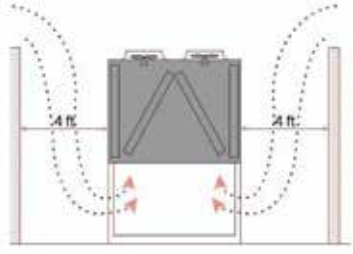
CODELCO
(Santiago, Chile)

Contributing to Building Certifications

Because of its low power consumption and the selection and use of refrigerant, the Trane RTM Series screw chiller model RTAC can help you in gaining the LEED®, Energy STAR® and ASHRAE 189 building certifications. The performance of the RTAC chillers at full load and part load exceeds that specified in the ASHRAE 90.1 standard. In addition, the falling film evaporator design minimizes refrigerant charges, which helps the chiller to attain LEED® Energy and Atmosphere Credit 4 through enhanced refrigerant management.

Energy analysis

Whether you are calculating energy efficiency to determine eligibility for LEED® credits, obtain reductions in energy consumption and costs, or selecting the HVAC system with lowest operating costs, Trane System Analyzer® software can help you. The software evaluates building loads and conducts energy economic analyses of virtually any combination of air distribution systems and cooling equipment for a building operating in any region of Brazil.



The RTAC has the smallest recommended side clearance on the market: 1.13 meters (4 feet) to maintain maximum performance. In locations where space is further limited and airflow is restricted, the RTAC will remain operational.

Comfort and Efficiency with Advanced Controls

In the event of power failure, Trane really shines. The RTAC chiller can restart a compressor within 60 seconds.

Intelligent Controls

The RTAC chiller controls are compatible with the BACnet and LonTalk open protocols, without the need for gateways, thereby reducing the complexity and cost of integration with other building control systems. The superior intelligence is provided by the Trane Adaptive Control algorithm, with patented solutions to respond to variable conditions while maintaining water control and effective plant cooling operation.

Flexible Chiller Management

The Tracer SC building automation system includes the Chiller Plant Control (CPC) software, which allows optimized configuration of a chiller plant. The CPC application provides a flexible and economical management solution for monitoring and controlling daily operations, including lighting and power consumption. Its web-based management routines help improve efficiency, increase tenant comfort and reduce electricity costs.

The Powerful CPC Application

Controls the leaving water temperature, adding chillers as the load increases and calculating the chilled water setpoint for each chiller.

Matches the load and the number of chillers to the building load and equalizes the operating time and wear on each chiller, by means of the various rotation schemes used.

Offers pre-programmed chilled water systems for ease of use with applications in series, variable primary flow, and various other types and systems.

Trane Intelligent Services

Your building's HVAC system operates 24 hours a day, even when there in no one present. Trane provides active, remote and continuous (24/7/365) monitoring of critical alarm points that you can define and specify. Using the advanced technology of our Intelligent Services Center, Trane specialists work behind the scenes to detect faults. Incidents can often be minimized remotely, without involving a field service technician.

Every minute, the Tracer building control system generates a steady stream of data: such as temperature, pressure, humidity and energy consumption, for example. The building performance package contains exclusive analytical programs that automatically convert all raw data into informational reports that Trane engineers use to identify performance deviations and trends. Local professionals recommend Trane aligning the performance and efficiency of your HVAC system with the needs of your business.

TRANE

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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