Air-Cooled Chillers

A Wide Range of Options for Sustainability, Efficiency, Acoustics & Beyond

Customized Comfort with Trane Air-Cooled Chillers

You can have it all—in varying degrees

In today's dynamic commercial building landscape, achieving the perfect balance between cost, sustainability, efficiency, and sound is paramount.

At Trane, we understand these multifaceted goals and are committed to providing solutions that meet and exceed your expectations. Our extensive portfolio of air-cooled chillers and heat pumps is designed to offer unparalleled flexibility and performance, forming the cornerstone of a holistic thermal management system.

What sets Trane apart is our ability to transform every air-cooled chiller into a bespoke solution tailored to your specific needs. Unlike equipment-only manufacturers, Trane delivers comprehensive systems that are meticulously configured to align with your desired outcomes. Our wide range of features, options, and controls ensures that you can easily select from our catalog while enjoying the confidence that your system is custom-tailored to your unique requirements.

Discover the Trane difference and experience the peace of mind that comes with a solution designed to optimize your building's thermal management, enhance sustainability, and deliver superior efficiency. Welcome to a new era of commercial HVAC solutions with Trane's air-cooled chiller portfolio.

Get the Results You Need

Configurability

The range of our air-cooled chiller and heat pump models, features, options and controls is so wide, customers can essentially configure a custom system to meet their priorities. Customers don't want to choose between competing priorities but rather find the solution that best balances their specific goals for capacity, cost, sustainability, efficiency and acoustics. Integrated with precise controls, applications knowledge and services, their configured chiller or heat pump can become a smart, connected asset. Our consultative approach ensures a deep understanding of customers' needs to make strategic recommendations for today and tomorrow.

Advanced Sustainable Technologies

Trane is challenging what's possible, incorporating industry-leading technologies for decarbonization and sustainability. Trane is committed to sustainable heating and cooling solutions to advance the four pillars of decarbonization: electrification, refrigerant management, energy efficiency and renewable energy. Our wide range of models, features and options allow customers to meet their decarbonization goals within budget without sacrificing performance.

Energy Efficiency

Trane air-cooled chillers and heat pumps utilize innovative technology and energy solutions to deliver maximum efficiency and cost savings, featuring advanced heat pump technology, various compressor types, and energy storage options. As part of a comprehensive thermal management system with precise controls and expert service, they operate at peak efficiency. Committed to sustainability, Trane offers low-GWP refrigerants and third-party verified environmental product declarations to reduce environmental impact.

Acoustical Performance

Trane air-cooled chillers and heat pumps offer a range of ways to achieve performance without excess sound. Low noise and high efficiency are hallmarks of our air-cooled chillers and heat pumps. Trane acoustic technology plays an important role in our customers' indoor environmental quality, ensures compliance with local ordinances and demonstrates commitment to being a good neighbor.

Proven Reliability and Service

Trane air-cooled chillers and heat pumps offer proven dependability and rapid support from the largest original equipment manufacturer (OEM) service footprint in North America. For more than 100 years, organizations of all sizes have trusted Trane to deliver reliable performance. As an OEM, our end-to-end expertise—from manufacturing to service—ensures holistic knowledge of every aspect of a customer's heating or cooling system. Options for smart, connected building integration enable predictive services and remote diagnostics 24/7/365.

Customers Aren't Just Buying Chillers

Along with advanced technology they're buying a thermal management system and the value and potential of a connected, more efficient chiller plant. HVAC systems account for about 35% of a building's energy costs on average*.

Symbio controllers—standard on Trane chillers—with expert performance programming can increase equipment efficiency. Adding our innovative building automation system enables smart, high-level control, system interoperability and remote monitoring of the full chiller plant system. This facilitates data-driven improvements to help customers meet their goals for energy usage, operating costs, carbon emissions and system performance.

Service Agreements	Intelligent Services	Controls Integration	Warranty Coverage
Provides on-site coverage from our own team of pros. Trane technicians are factory trained to maintain peak chiller performance—within its system and under challenging operating conditions.	Enables Trane to monitor and manage performance remotely through your connected equipment.	Ensures seamless and powerful connectivity that optimizes building performance through connected HVAC, lighting, and more.	Provides the peace of mind you need. Go further with Trane extended warranties—for a longer duration or more comprehensive coverage.

Symbio® Equipment Controller

A Symbio controller is the advanced microprocessor that's factory installed on most Trane air-cooled chillers and heat pumps. It provides connectivity that enables two-way communication between the equipment controller and building automation system. Symbio controls enable efficiency and optimization through analysis, monitoring, operating and servicing of complex HVAC systems. And they facilitate remote and secure equipment access and open standard integration to building automation systems.

Tracer® Building Automation System (BAS)

Tracer is a single platform for centralizing control and management of building systems. It integrates HVAC with lighting, security systems and more, with essential applications driving comfort, indoor air quality and energy efficiency. A Symbio controller captures and translates a broad range of equipment-based points into Tracer systems, providing the basis for data-driven services to increase equipment performance and energy efficiency.

*Energy.gov/https://www.energy.gov/eere/buildings/heating-ventilation-air-conditioning-refrigeration-and-water-heating

AC Portfolio Brochure Table

Solution	Capacity	Low GWP Refrigerant	Compressor Technology	OPERATING RANGE (leaving fluid range, ambient temp range)	
				Cooling	Heating
Trane® Air-Cooled Model CGAM	20-130T	R-454B	Scroll	0°F to 65°F; -20°F to 125 °F ambient	Heat recovery up to 140°F
Sintesis™ Air-Cooled Chiller Model RTAF	115-500T	R-513A	Screw	10°F to 68°F, -4°F to 130°F ambient	Cooling only
Ascend™ Air-Cooled Chiller Model ACS	140-230T	R-454B	Scroll	0°F to 68°F, -20°F to 125°F ambient	Heat recovery up to 140°F
Ascend™ Air-Cooled Chiller Model ACR	150-550T	R-513A or R-1234ze	Screw	10°F to 72°F, -20°F to 125°F ambient *(550 Tons up to 145°F ambient for Mission Critical applications)*	Cooling only
Ascend™ Air-to-Water Heat Pump Model ACX	80-230T	R-454B	Scroll	20°F to 65°F, -4°F to 125°F ambient	55°F to 140°F, max leaving temp at minimum ambient -90°F at 0°F, 145°F at 20°F ambient
Air-Cooled Magnetic Bearing Data Center Chiller Model TCA	200-850T	R-515B or R-1234ze	Centrifugal	60°F to 86°F, -20°F to 130°F ambient	Cooling only

Air-Cooled Scroll Chiller

Model CGAM

The CGAM air-cooled scroll chiller offers the perfect combination of sustainability, efficiency and low noise—all within a compact footprint. It is one of the quieter air-cooled chillers available today.

Key Features

- ✓ **Enhanced Energy Use:** Scroll compressors with Intermediate Discharge Valves
- ✓ **Quiet Operation:** Low-noise, variable-speed fans
- ✓ **Advanced Control:** Symbio® controller for advanced HVAC control
- ✓ **Efficient Cooling:** Ideal for thermal energy storage, ensuring energy savings
- ✓ **Easy Installation:** Integrated optional pump package
- ✓ **Compact Design:** Brazed plate heat exchanger
- ✓ **Heat Recovery:** Partial heat recovery option for 158°F water

Ultra-Quiet Operation for Peaceful Environments

Consistently delivering sound levels five to eight decibels lower than typical fixed speed helical rotary chillers, the CGAM chiller ensures a quieter environment. Factory-installed attenuation can achieve an additional three-decibel reduction, making it ideal for noise-sensitive settings like schools, hospitals, and residential areas.

Energy Efficiency with Partial Heat Recovery and Thermal Storage

With a partial heat recovery option, the CGAM chiller redirects heat from the condenser through a factory-installed heat exchanger, efficiently dehumidifying buildings or preheating laundry and pool water in hotels. The thermal storage system uses ice made at night to cool buildings during the day, reducing energy costs.

Factory-Installed Reliability and Remote Connectivity for Optimal Performance

Featuring factory-installed options like a pump package, dual pump setup, and buffer tank for redundancy and precise temperature control, the CGAM chiller ensures reliable performance. The Symbio® 800 unit controller remotely monitors, troubleshoots, and controls the chiller 24/7, maximizing efficiency and uptime with secure IP connectivity and optional wireless technology.

Specifications

Capacity Range: 20-130T

Refrigerant: R-454B

Compressor Design: Scroll with variable volume ratio

Controls: Symbio® 800 controller with Adaptive Controls™

Factory-Installed Optional Features:
Pump packages, extreme low-ambient, energy storage, partial heat recovery and sound-reduction packages

Energy Efficiency Rating (EER):
- IPLV: 16.0-17.4
- Full Load: 9.8-11.9

Sintesis™ Air-Cooled Chiller

Model RTAF

When sustainability is a priority, Sintesis chillers stand out.

Key Features

- ✓ **Robust Energy Use:** Helical rotary compressors
- ✓ **Efficient Cooling:** Ideal for thermal energy storage, ensuring energy savings
- ✓ **Quiet Operation:** Low-noise, variable-speed fans
- ✓ **Advanced Control:** Symbio® controller for advanced HVAC control
- ✓ **Optimal Function:** Transverse "open V" condenser coils for easier inside-out cleaning
- ✓ **High Efficiency:** Compact CHIL evaporator with low refrigerant charge

Superior Energy Efficiency

Utilizing the next-generation, low-GWP R-513A refrigerant, this advanced design significantly reduces operational costs and environmental impact. The Sintesis RTAF chiller is an ideal choice for sustainable building solutions.

Advanced Controls for Reliability

Equipped with state-of-the-art Symbio® 800 adaptive controls and AFD Adaptive Frequency™ Drive, the Sintesis RTAF chiller employs proven algorithms to optimize performance. These features reduce maintenance needs and enhance system efficiency, ensuring smooth and reliable operations for long-term reliability.

Quiet and Cost-Effective Operation

Featuring variable speed EC fans with Variable Frequency Drives (VFDs), this chiller improves efficiency and reduces sound levels at part load. The Sintesis RTAF chiller offers a quiet, reliable cooling solution with the lowest installed cost, ensuring a comfortable environment and significant savings during installation.

Specifications

Capacity Range: 115-500T

Refrigerant: R-513A

Compressor Design: Helical rotary screw

Controls: Symbio® 800 controller with Adaptive Controls™

Factory-installed Optional Features:
Energy storage

Energy Efficiency Rating (EER):
- IPLV: 16.0-18.0
- Full load: 9.7-10.7

Ascend™ Air-to-Water Heat Pump

Model ACX

Trane's air-to-water heat-pump chiller provides cooling or heating from one all-electric source, making it an effective—and more affordable—way to decarbonize.

Key Features

- **Versatile Operation:** Air-source heat pump for heating or cooling
- **Optimized Energy Use:** Scroll compressors with Intermediate Discharge Valves
- **Quiet Operation:** Low-noise, variable-speed fans
- **Advanced Control:** Symbio® controller for advanced HVAC control
- **Easy Installation:** Optional integrated pump package
- **Vapor Injection:** For warmer leaving fluid temperatures at lower ambientes
- **System-Ready:** Defrost and ice making capabilities

3x More Efficient Than Gas-Fired Boilers

The Trane ACX is an all-in-one electric model that forms the foundation of a highly efficient thermal management system. With advanced heat pump technology, it can operate efficiently in temperatures as low as -15°F and can be three times more efficient than gas-fired boilers. Featuring vapor injection technology, it ensures superior performance and reliability.

Sustainable. Affordable. All-Electric.

Generating heating and cooling from one all-electric source, the Ascend ACX air-to-water heat pump utilizes low Global Warming Potential (GWP) refrigerant. This makes it an ideal solution for organizations transitioning to electrification of heat while prioritizing environmental sustainability.

Expanded Capacity for More Application Flexibility

Our newest model is built upon the proven Ascend platform and serves smaller capacity needs, expanding the tonnage range to 80-230T while expanding the operating temperature range down to -15°F.

Specifications

Capacity Range: 80-230T

Refrigerant: R-454B

Compressor Design: Scroll with variable volume ratio

Controls: Symbio® 800 controller with Adaptive Controls™

Factory-installed Optional Features:
Pump packages, energy storage, sound reduction, waterside reversing valve

Energy Efficiency Rating (EER): EER 9.35-9.69

Ascend™ Air-Cooled Chiller

Model ACS

Model ACS chillers are optimized for part-load efficiency and low sound. Best of all, these chillers require little oversight, so they are easy to maintain when you are short on maintenance staff.

Key Features

- **Optimized Energy Use:** Scroll compressors with Intermediate Discharge Valves
- **Quiet Operation:** Low-noise, variable-speed fans
- **Advanced Control:** Symbio® controller for advanced HVAC control
- **Efficient Cooling:** Ideal for thermal energy storage, ensuring energy savings
- **Optimal Function:** Transverse "open V" condenser coils for easier inside-out cleaning
- **Sound Control:** Optional acoustic packages keeping sound as low as 95 dBA
- **Heat Recovery:** Partial heat recovery option for up to 140°F

The Right Balance of Energy Efficiency and Quiet Operation

The ACS model, part of Trane's Ascend™ line of air-cooled chillers, offers just the right balance of energy efficiency and quiet operation. ACS models, in particular, are optimized for part-load efficiencies, making them ideal for buildings with a large amount of off-peak operation.

Choose the Sound Treatment That's Right for You

ACS chillers offer flexible acoustic options, allowing you to choose the level of sound treatment that best meets application requirements, with packages that offer sound levels as low as 95 dBA at AHRI® conditions for full-load operations. As a result, ACS chillers are especially well-suited for residential or school environments where sound sensitivity is a top priority.

Partial Heat Recovery for Enhanced Efficiency

The ACS model features a partial heat recovery option, allowing you to capture and reuse waste heat for other applications within your building. This not only enhances overall energy efficiency but also reduces operating costs and environmental impact. Ideal for facilities looking to maximize resource utilization and sustainability.

Specifications

Capacity Range: 140-230T

Refrigerant: R-454B

Compressor Design: Scroll with variable volume ratio

Controls: Symbio® 800 with Adaptive Controls™

Factory-installed Optional Features:
Energy storage, heat recovery, integrated pumping packages and sound-reduction packages

Energy Efficiency Rating (EER):
- IPLV: 15.8-16.5
- Full load: 9.7-10.4

Ascend™ Air-Cooled Chiller

Model ACR

Mission Critical

High ambient temperature. Energy-efficient performance. Quiet operation. This chiller checks every box.

Key Features

- ✓ **Cost Efficiency:** Integrated Free Cooling for reduced lifecycle costs
- ✓ **Rapid Restart:** Capability after power interruptions
- ✓ **Optimal Efficiency:** Adaptive Frequency Drive
- ✓ **Optimal Function:** Transverse "open V" condenser coils for easier cleaning
- ✓ **Peak Efficiency:** Variable volume ratio screw compressor
- ✓ **High Efficiency:** Compact CHIL evaporator with low refrigerant charge
- ✓ **Harmonic Filtration:** Meets IEEE® 519 requirements, reducing harmonic distortion

High Ambient Operation Up to 145°F

Designed to perform efficiently even in extreme temperatures, the Ascend™ ACR operates reliably up to 145°F. This high-ambient capability ensures cooling performance in the most demanding environments, making it ideal for a wide range of commercial and mission-critical applications.

Exceptional Efficiency Across All Operating Conditions

Experience superior energy efficiency with the Ascend™ ACR, engineered for exceptional performance and low sound across the entire operating range. This chiller manages energy use effectively, reducing operational costs and contributing to lower energy expenses. With a published Environmental Product Declaration (EPD), it demonstrates enhanced sustainability and reduces environmental impact.

Integrated Free Cooling for Cost Reduction

Featuring integrated free cooling, the Ascend™ ACR significantly reduces energy consumption and operational costs throughout its lifecycle. By utilizing ambient air for cooling when conditions allow, this technology minimizes the need for mechanical cooling, offering substantial savings and improved efficiency.

Specifications

Capacity Range: 150-550T

Refrigerant: R-513A or R-1234ze

Compressor Design: Helical rotary screw

Controls: Symbio® 800 with Adaptive Controls™

Factory-installed Optional Features:
Harmonic filters, Sound-reduction packages, Integrated free cooling package and power meter

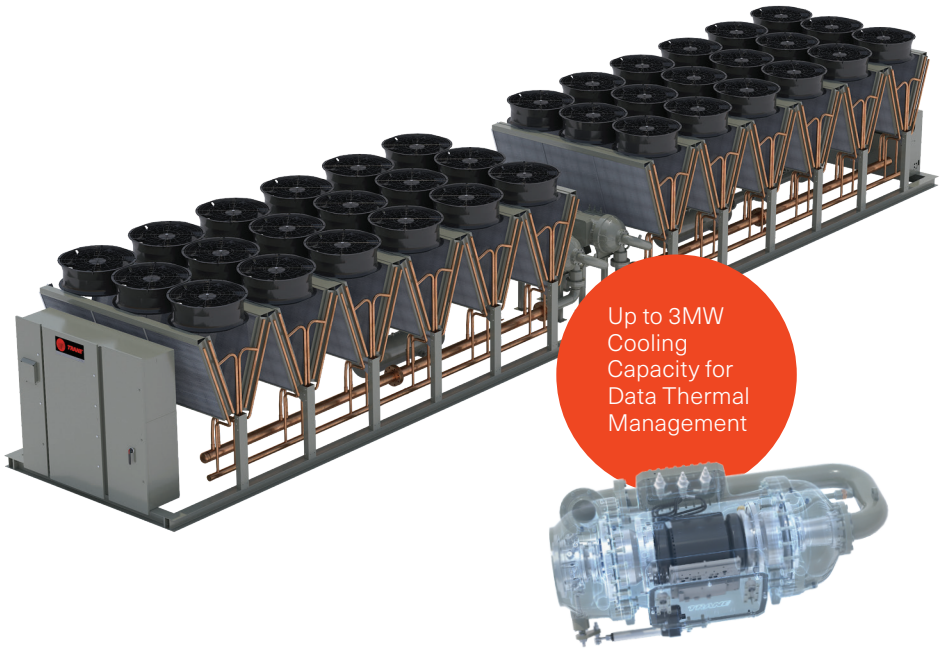
Energy Efficiency Rating (EER):
- IPLV: 19.7-21.6
- Full load: Up to 11.7 EER

Air-Cooled Magnetic-Bearing Chiller

Model TCA

Mission Critical

Highest capacity per square foot of unit footprint. Lowest peak power.



Key Features

- **Data Center Focus:** Design with a focus on reliability and up-time
- **Rapid Restart:** Capability after power interruptions
- **Exceptional Efficiency:** High full and part-load efficiency reduces data center power demand
- **High Capacity:** Up to 850 Ton, 3MW, reducing the number of chillers needed
- **Efficient Operation:** Low-temp operation with compressor-assisted economizer

High-Capacity Cooling

Our advanced magnetic bearing compressor delivers up to 850 tons (3MW) of cooling in a compact, single-unit footprint. This innovation allows you to cool more space with fewer units, reducing initial costs, installation expenses, and construction time.

Superior Energy Efficiency

The TCA model leads the industry in full and part load energy efficiency across a wide range of loads and ambient temperatures. This best-in-class performance helps lower long-term energy use and operational costs, making it an eco-friendly choice.

Intelligent Monitoring and Maintenance

Trane's Intelligent Services offer proactive monitoring and predictive maintenance, enhancing the reliability and efficiency of your thermal management systems. This ensures optimal performance and minimizes downtime, providing peace of mind.

Specifications

Capacity Range: 200-850T, up to 3MW

Refrigerant: R-515B or R-1234ze

Compressor: Oil-free Centrifugal

Controls: Advanced Intelligent Controls for Data Centers

Factory-installed Optional Features:
Harmonic Filter, Compressor-Assisted Economizer, Factory Pumping Packages

Achieve the level of performance that your building or process requires. You define the outcomes, and we'll get you there.

Contact your local Trane sales office or visit trane.com to learn more.