



Air-Cooled Chillers

High-Performance Chillers for High-Density Data Centers



Built for What's Now and What's Next

As AI workloads accelerate, hyperscalers and colos face the challenge of cooling higher-density racks without compromising uptime or efficiency.

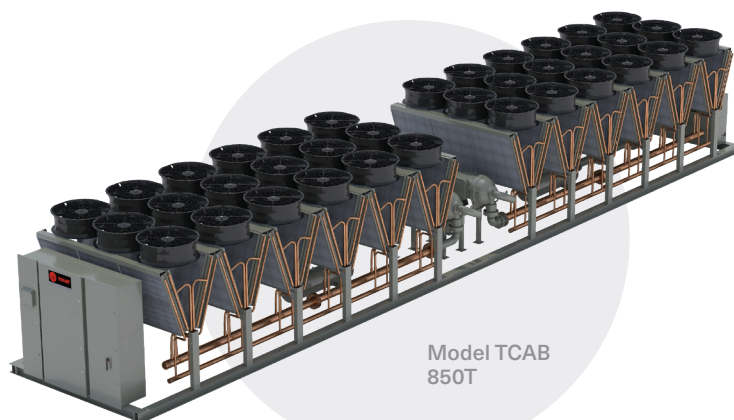
Trane has responded to these challenges with bold advancements to two proven air-cooled chiller platforms. These innovations redefine what's possible in data center thermal management—offering a powerful blend of performance, efficiency and sustainability backed by industry-leading service.

Two chiller
platforms—
one giant
leap.

Trane® Air-Cooled Magnetic Bearing Chiller

Highest Capacity. Lowest Peak Power.

- 200-850 tons, up to 3MW
- The highest capacity per square foot of unit footprint
- Reduces the number of units needed to cool the data center and lowers first costs and installation costs



Model TCAB
850T

Trane® Ascend™ Air-Cooled Chiller

Engineered for the Hottest Rooftop Microclimates.

- Reliable performance up to 145 °F — the highest in the industry
- Next-gen, low-global warming refrigerant R-513A or R-1234ze
- Available environmental product declaration (EPD)



Model ACR
550T

Optional Trane® Ascend™ ACR Trim Cooler

A component that provides supplemental cooling to the primary HVAC system.

A Process That Starts with Listening

With Trane, you're more than a customer—you're a collaborator.

To ensure we fully understand your needs, we'll bring you into the design process from the very beginning. As part of the team, you'll collaborate directly with our engineers, working together to ensure that your thermal management system not only meets, but exceeds your expectations.

We know no single company has all the answers. That's why we work across a broad global network—drawing on AI specialists, applications engineers, your teams and trusted partners—to address challenges that no single supplier can solve alone.

At Trane, we believe that human expertise is essential at every stage of a truly integrated system. From collaborative design to precise implementation and long-term service, our team provides critical support to keep your system running smoothly. For us, this end-to-end process is both an approach and a commitment.



We're Serious About Your Schedule

Hyperscalers and colos operate at the speed of now. That's why we opened dedicated manufacturing lines specifically for equipment needed by data centers. This helps ensure that we can honor our delivery commitments, while shortening your path from design to installation so you can scale faster.



Tested Under Real-World Conditions

Each Trane chiller is thoroughly tested using AI-driven digital twin simulations that closely mirror your data center's actual operating conditions. These factory tests are designed to validate real-world performance, ensuring your system is fully prepared for the demands of your high-density environment. You're invited to see the results firsthand. We welcome you to witness the testing process and verify that the equipment meets your exact specifications. Your chiller won't ship until you're fully confident in its performance. Once your equipment is delivered, our team will conduct detailed start-up and commissioning services, running your system through multiple modes of operation, including your defined parameters, to confirm it performs precisely as required.



Engineered for Sustainability

Whether your goal is to meet ESG commitments or simply reduce your operational impact, Trane's air-cooled chillers are designed to support your sustainability strategy. The Trane Magnetic Bearing Chiller offers maximum cooling capacity per square foot, helping to minimize the number of units needed—and in turn, reducing total installation costs. It also uses R-515B, a low-GWP refrigerant that helps lower direct emissions without compromising performance. Sustainability is further enhanced through the use of ultra-high-efficiency multi-stage compressors, delivering industry-leading peak-load and off-peak efficiencies. Its lightweight, anti-corrosive microchannel coils also reduce refrigerant charge, contributing to greater overall efficiency and sustainability.



Relentless Reliability

We understand that downtime is not an option. That's why Trane supports your operations with a full suite of expert services designed to deliver maximum reliability in your thermal management system. Our nationwide network of data-center-qualified technicians is ready to respond within minutes, ensuring fast, local support when it's needed most. With remote system monitoring and predictive alerts, we help you stay ahead of potential issues—while features like Rapid Restart™ enable quick recovery after power interruptions. With Trane, you get more than equipment—you get confidence, continuity and a team committed to keeping you online.

Trane Air-Cooled Magnetic Bearing Chillers

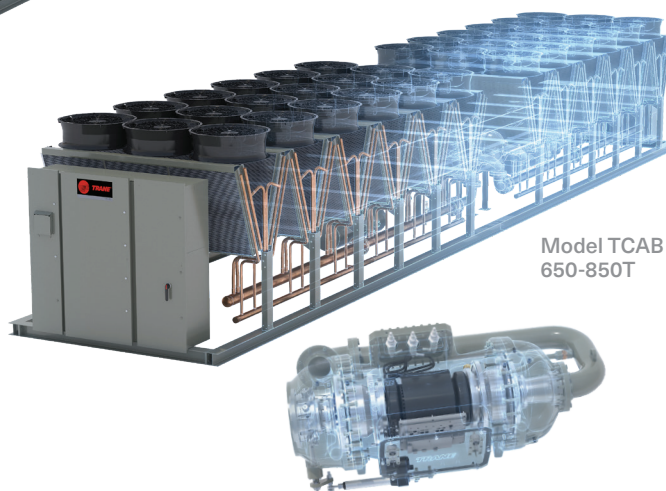
Model TCA



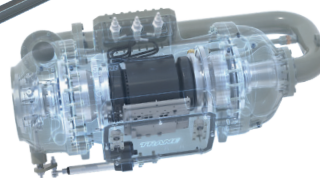
Model TCAB
400-600T



Model TCAA
200-400T



Model TCAB
650-850T



Why It's Right for Data Centers

- ✓ **Improved cooling capacity** offers superior cooling per square foot of unit footprint, often reducing the number of chillers needed on-site.
- ✓ **Reduced installation costs** by replacing multiple chillers with a single, larger-capacity unit.
- ✓ **Less power consumption**, lowering costs and improving profitability.
- ✓ **Improved start-up and commissioning time** for critical tonnage size.
- ✓ **Industry-leading** post-sale support.
- ✓ **Premium** product reliability and uptime.
- ✓ **Reduced sound transmission** to the local environment, ideal for sound-sensitive locations.
- ✓ **Environmental sustainability** using refrigerants with low global warming potential, helping to reduce your carbon footprint.
- ✓ **Advanced control systems** equipped with Trane's Symbio® 800 equipment controller for enhanced connectivity, flexibility and serviceability.

Specifications

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

Ambient Standard: -20 °F to 130 °F

Leaving Fluid Temperatures: 60 °F to 85 °F

Refrigerant: R-515B or R-1234ze

Compressor: Multi-stage centrifugal with refrigerant interstage economizer

Ascend™ Air-Cooled Chiller

Model ACR



Why It's Right for Data Centers

- ✓ **Can operate in the highest ambient temperature (145 °F)** in the industry.
- ✓ **Factory-installed free cooling and pump package**, components that help reduce the chiller's footprint, first cost, installation costs and ongoing operating expenses.
- ✓ **Optional harmonic filtration system** to meet the requirements of IEEE® 519, reducing harmonic distortion to 5% or less total demand distortion (TDD).
- ✓ **Easier, Less Frequent Maintenance:**
 - **Variable speed, permanent magnet motors** that require no periodic maintenance and are designed for exceptionally long life.
 - **Transverse "open V" design condenser coils**, allowing easier cleaning from the inside out to keep coils and chillers functioning properly.
 - **Trane adaptive frequency drive** that's air-cooled and engineered to last the life of the chiller.
 - **Optional Trane connected service** that remotely monitors the chiller 24 hours a day.
 - **Post-installation**, the Symbio 800 equipment controller can connect with Trane energy analysis and 24/7 system monitoring services to provide visibility and assure your chillers are continuously optimized for efficiency and uptime.

Specifications

Capacity Range: 150 to 550 tons

Ambient Temperature: Up to 145°F

Refrigerant: R-513A or R-1234ze

Compressor Design: Helical rotary screw

Controls: Symbio® 800 with Adaptive Controls™

Dimensions: 621" long x 100.5" wide x 105" high

Weight: 48,250 pounds (with pump package)

Energy Efficiency Rating (EER):

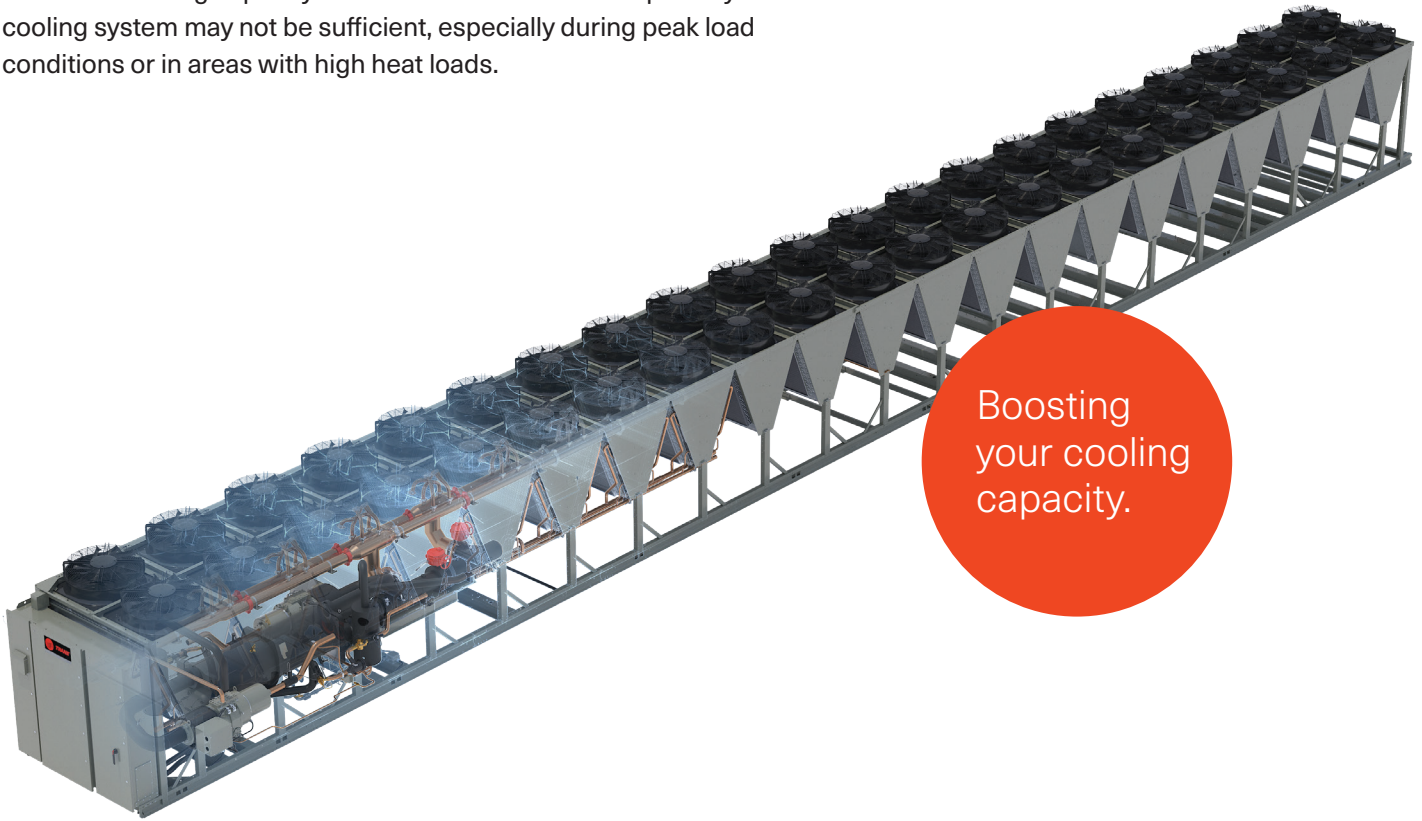
- IPLV: 19.7-21.6
- Full load: Up to 11.7 EER

Ascend™ Trim Cooler

Model ACR



Trane's trim cooler provides precise temperature control and additional cooling capacity. Use in situations where the primary cooling system may not be sufficient, especially during peak load conditions or in areas with high heat loads.



Boosting
your cooling
capacity.



Why It's Right for Data Centers

- ✓ **Allows the primary cooling system to operate more efficiently** by reducing strain and potentially lowering energy consumption during peak loads.
- ✓ **Offers precise temperature control**, essential in environments where even slight temperature variations can affect equipment performance or product quality.
- ✓ **Provides critical redundancy**, maintaining necessary cooling if the primary system fails or requires maintenance.
- ✓ **Enables flexibility in system design**, because they can be used to target specific areas or zones that require additional cooling.
- ✓ **Integrates easily into existing cooling systems** and can be scaled up or down as needed.

More Data Centers are Making the Move to Trane

Here's Why



Proven

Built on trusted chiller platforms with over 100,000 installs—now redesigned for the demands of modern data centers.



Designed to Order

Trane's collaborative approach delivers individualized solutions that fit.



Responsive

Our national network of data-center-qualified technicians means expert support can be on-site within minutes, not days.



Reliable

With end-to-end expertise and ongoing accountability, we're here to get it right—and make sure it stays that way.



Holistic Expertise

We don't just sell chillers. With a broad thermal management portfolio, Trane delivers innovation and expertise across a data center's entire cooling subsystem.




Predictable Performance

Chillers are thoroughly tested, optimized and proven both at the factory and on-site.



Stability

Backed by the company with more than a century of engineering expertise and thermal management experience.



Trusted by
those who
know what's
at stake.



To learn more about our innovations in air-cooled chillers for data centers, visit [Trane.com](https://trane.com) or contact your Trane Account Manager.



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