



Performance Climate Changer™

Next generation air handler from Trane



Trane Performance Climate Changer™ Air Handler



Trane has a history of combining customer needs, engineering expertise, advanced technology and cutting-edge innovation to provide superior products that deliver exceptional performance. The next generation of Trane air handlers continues this tradition.

Superior performance

The Performance air handler has the tightest casing in the commercial ARI market, meeting an ASHRAE 111 Class 6 leakage level. This leakage rate is better than most custom designs. Superior performance features include:

- Low-leak casing design that achieves less than 1.0 percent leakage rate and can withstand +/- 8 inches w.g. static pressure, with no more than 0.0042 inch deflection.

- Two-inch, R-13 foam-injected panels with mid-span, internal thermal breaks and standard thermal break access doors. The no-through-metal design delivers thermal performance that helps ensure condensation will not form on the casing exterior, even with 55°F supply air temperature and unit external conditions of 81°F dry bulb and 73°F wet bulb.
- Filter technology that exceeds LEED requirements and reduces pressure drops up to 50 percent versus previous designs.

Energy efficient

Trane has designed even the most basic features to encourage energy conservation, allowing the system to surpass minimum ASHRAE Standard 90.1 requirements.

The Performance air handler delivers:

- Superior performance
- Industry-leading energy efficiency
- System optimization
- Highest quality
- Lowest installed cost

Energy efficient components include:

- Positional service lights with light emitting diode (LED) fixtures, which last up to ten times longer than fluorescent bulbs and one hundred times longer than incandescent bulbs, while using only 2–10 watts of electricity.
- Traq™ dampers, an AMCA 611-certified airflow monitoring solution with standard and low-flow options, which allow direct measurement and control of outdoor and return airflow. The low-flow Traq damper is a key part of a demand control ventilation strategy to help drive down energy costs.
- High-efficiency coil fins deliver superior heat-transfer efficiency while allowing face velocities in excess of 625 fpm without moisture carryover.
- Discharge plenums and plenum fan sections, which are available with variable size, type and location of openings, to reduce static pressure loss and lower energy consumption.

System optimization

The Trane EarthWise™ design philosophy incorporates high-efficiency air handlers and water chillers with low-flow rates and low temperatures on both the waterside and airside. Benefits include:

- Reduced emissions
- Lower first cost
- Lower operating cost
- Improved acoustical performance
- Smaller equipment and components
- Better comfort with lower space humidity

Low-temperature, low-flow systems can be challenging, but the Performance air handler is engineered to capitalize on the benefits of an EarthWise system:

- Low-leak casing design incorporates foam-injected and mid-span internal thermal break panels and standard thermal break access doors to minimize condensation from low-leaving air temperatures.

The Trane EarthWise™ design philosophy incorporates high efficiency air handlers and water chillers with low flow rates and low temperatures on both the waterside and airside.



System Optimization, continued

In addition to the obvious energy savings, moving less air reduces the size of air handlers and ductwork. This can result in a quieter unit and a smaller mechanical room, leaving more space for tenants. In addition, the colder air lowers building dew point, improving building humidity control and indoor air quality.

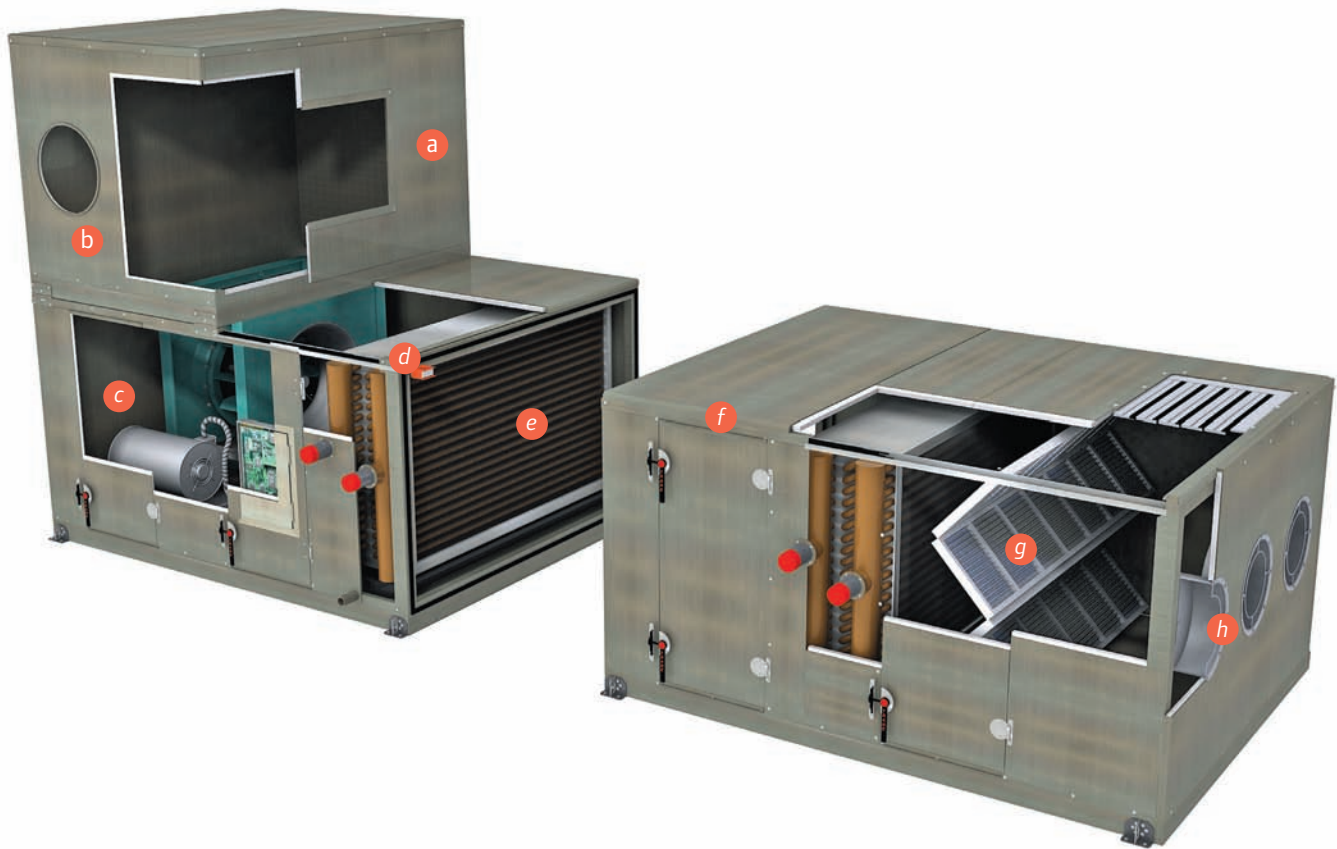
- Factory-engineered, -mounted, and -tested controls ensure that sensors and sequences deliver optimal operating efficiencies and that casing openings have been properly sealed.
- Numerous coil types and high-efficiency coil fin technology enables the latest in airside heat transfer, which improves overall system efficiency by lowering the coil approach temperature and reducing the chance of moisture carryover.
- The ability to choose the exact number of fins per foot of coil surface allows heat transfer and air pressure performance to be tuned to specific application requirements.
- A wide array of fan options provides optimal sound and efficiency choices for the application.
- The latest controls technology easily incorporates fan pressurization and/or demand control ventilation strategies to further enhance the system.

EarthWise design provides many benefits—both for the environment, and for business. Few building design and construction strategies can offer a solution as complete as the EarthWise system.

High quality

Trane has a long-term commitment to quality and manufacturing excellence ensuring our customers receive a reliable unit with proven and tested dependability. The innovative new Performance air handler—ARI Standard 430-certified—will provide optimal, energy-efficient comfort for decades to come.

Exceptional quality is built into every component of the new Performance air handler. Formulated panels and an integral base frame minimize the number of seams that could introduce air leak paths. All Trane coils are ARI Standard 410-certified and tested at one-and-a-half times the maximum operating pressure. In addition, all Trane fans are dynamically balanced in the horizontal and vertical planes. Fans with variable frequency drives also undergo inverter balancing at peak airflow and at all operating points on the system curve. Experienced technicians factory-mount and -wire controls using standard control point locations so that each unit is wired the same way, every time, making check out and servicing quicker and easier.



Performance Climate Changer features:

- a** *Low casing air leakage:* ASHRAE Standard 111 Class 6 leakage level achieves less than one percent leakage rate
- b** *Discharge plenum sections:* Minimize air pressure drop by transforming sections to the most efficient opening sizes, types and locations
- c** *Fan sections:* Twice the fan flexibility and an average 3–5 percentage points more efficient than previous Climate Changer™ air handler designs
- d** *Single-point power and quick connect wiring:* Factory wiring minimizes installation costs and provides wiring integrity between sections
- e** *Coil sections:* More coil options with industry-leading low pressure drop fin designs and infinitely variable fin spacing to exactly match capacity requirements
- f** *Thermal-break casing panels and doors:* Two-inch R-13 foam-injected casing panels and doors with thermal breaks minimize heat transfer and withstand +/- 8-inches w.g. pressure with no more than 0.0042 inches deflection
- g** *Filter sections:* Filter technology that exceeds LEED requirements and reduces pressure drops up to 50 percent versus previous designs
- h** *Mixing sections:* New AMCA 611-certified Traq technology capable of accurately measuring lower flow for demand control ventilation applications

Lowest installed cost

The Performance air handler includes many features designed to reduce installation time and cost:

- Lifting lugs are included on the integral base frame; and all units ship with a skid designed for forklift transport.
- Discharge plenums are available with variable height, size, type and location of openings, which minimizes the need for duct transitions by the installing contractor.
- Factory-installed interoperable controls shorten construction cycles, simplify job site coordination, reduce installation time and expense, and provide single-source responsibility for warranty and service issues.
- Single-point power is available with a high-voltage distribution block and external main unit disconnect with lockout/tagout capabilities.
- LED service lights are factory wired to an external factory-provided Service Module, which includes a switch and GFCI receptacle.
- Quick-connect wiring minimizes installation costs and provides wiring integrity between sections without having to identify or check continuity.
- Factory-installed conduit connectors eliminate penetrations in the wrong location, and all electrical casing penetrations and coil connections are properly sealed at the factory.
- NEMA 4 external motor junction box and motor conduit is available. Motor leads are run through flexible metal conduit to the external junction box, and penetrations are properly sealed.

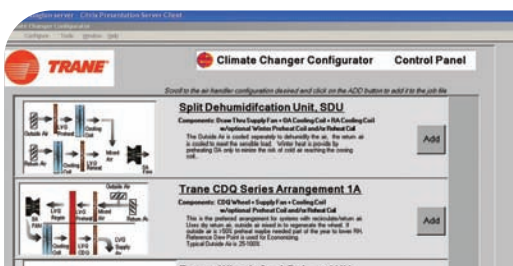


Trane consistently delivers the best HVAC solution for your buildings.

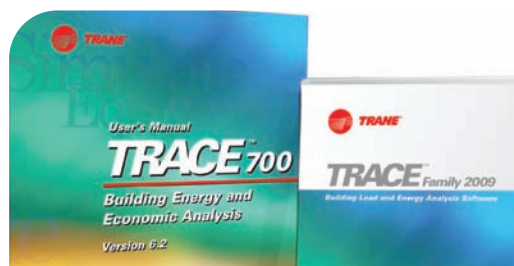
Trane analysis and design tools

Trane has comprehensive analysis and design software tools to provide whole building analysis, acoustical design guidance, equipment performance data, suggested control strategies, and more. Talk with your local Trane sales

engineer to learn how these tools will help achieve an energy-efficient system design that provides optimal IAQ, and stays within the project budget.



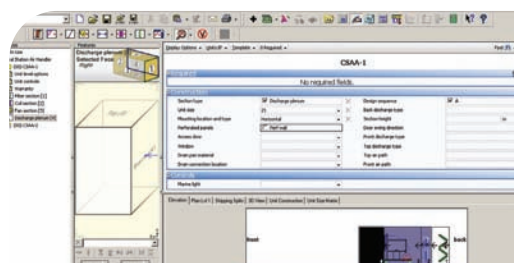
Trane Climate Changer Configurator (CCC) software evaluates air handler design alternatives such as split dehumidification units, energy wheels, and CDQ™ desiccant dehumidification systems for energy efficiency and humidity control



Trane Air Conditioning Economics (TRACE™) optimizes and compares the design of virtually any building's HVAC system based on energy utilization and lifecycle cost, factoring in construction, orientation and size.



Trane Controls Pre-Packaged Solutions (PPS) quickly lays out and optimizes control strategies for superior equipment and system performance.



Trane Official Product Selection System (TOPSS™) selects and calculates performance of Trane equipment.

Trane Acoustics Program (TAP™) accurately predicts and compares system sound levels.

Trane Expertise

The innovative Performance air handler was developed by the trusted leader in the industry: Trane. For superior performance, industry leading energy efficiency, system optimization, the highest quality and the lowest installed cost, the right choice is the Trane Performance Climate Changer air handler.

Trane is a pioneer in the HVAC industry and has consistently led the industry in providing solutions for its ever changing needs. With a portfolio of proven equipment and controls, systems-focused solutions, leading industry experts, and highly trained sales engineers, Trane has the experience and expertise to design, manufacture, install and service an HVAC system that will meet your environmental, business and building performance goals.



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.

