

A NEW WAY TO DEFINE AIR HANDLERS

PRE-ENGINEERED FLEXIBILITY



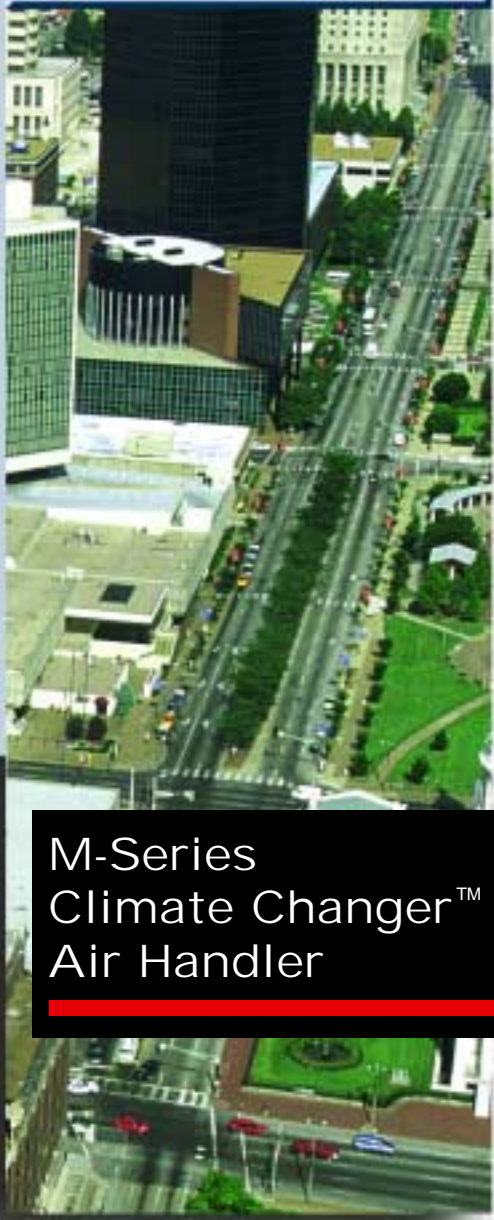
DESIGN ADVANTAGE



IN CONTROL



FINE-TUNED PERFORMANCE



M-Series
Climate Changer™
Air Handler

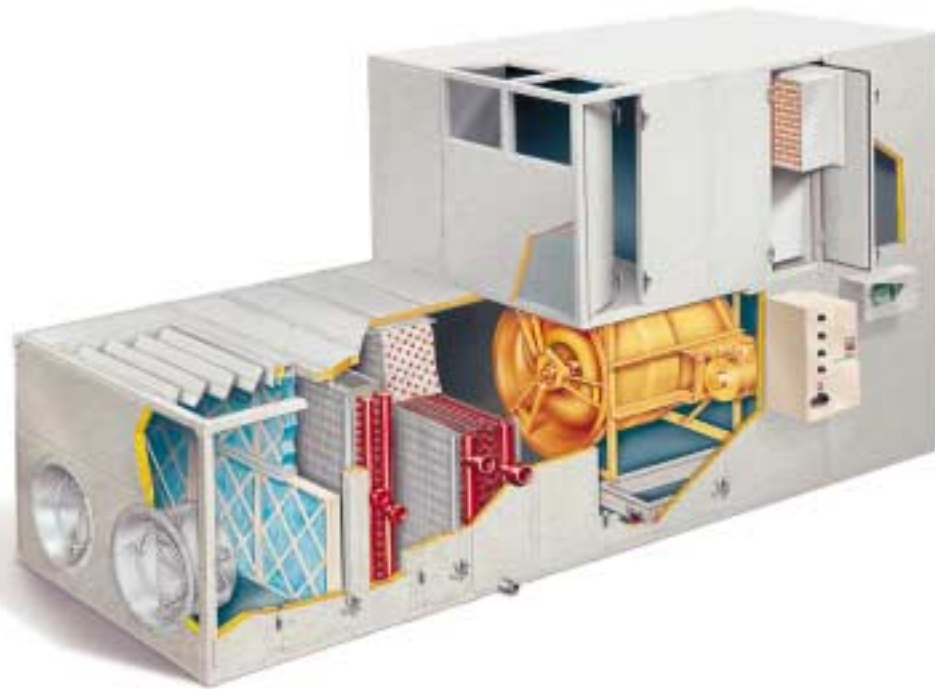


It's Hard To Stop A Trane.®



M-Series Climate Changer Air Handler

Trane revolutionized the air-handling industry with its modular, post-and-panel design. Today, Trane continues the evolution of the air handler with the introduction of the M-Series Climate Changer air handler—one of the tightest, most flexible, pre-engineered air handlers on the market.



Pre-Engineered Flexibility

At Trane, we recognize your need for an air handler with proven performance, competitive pricing, and the best delivery cycles in the industry. We provide that with our pre-engineered M-Series air handlers, in sizes 3 to 120, ranging from 1500 cfm to 60,000 cfm. We also recognize the fact that there are times your project calls for all that, and more. In the majority of cases, the flexibility of the M-Series air handler can address your unique job requirements without having to pay for a full custom-built unit.

Design Advantage

Before our engineers began designing the M-Series air handler, they listened. They asked building owners, engineers and contractors what design features they needed in an air handler. Sturdy, flexible, tight, efficient, cleanable and serviceable were some of the words they heard. Our experienced engineers looked at every panel, every screw, every door, every channel, and every seal to see how they could make it sturdier, more flexible, tighter, more efficient, easier to clean and easier to service. Thus, the M-Series air handler evolved.

In Control

To ensure the most efficient performance from your comfort system, the M-Series air handler provides a complete factory-installed controls package, including end devices and open-protocol controllers. Factory-engineered and installed controls mean immediate and reliable operation, simplifying job-site coordination, reducing expenses, and minimizing risks. Factory mounting assures control components are properly selected, sized, and tested.

Fine-Tuned Performance

Trane continues to raise the standard at every opportunity. Today's air-handling market is far different than it was just a few years ago. Demands have changed from a basic air handler to a series of customizable, highly efficient modules, delivered on time and at a competitive price. The M-Series unit provides this, and more. The M-Series air handler is designed to meet the highest indoor air quality and performance standards, while maximizing operational efficiency.

M-SERIES CLIMATE CHANGER AIR HANDLER

PRE-ENGINEERED FLEXIBILITY



Before the Trane name went on this M-Series air handler, we asked our customers what they needed—then we built it.

DESIGN ADVANTAGE



IN CONTROL



FINE-TUNED PERFORMANCE



Building Blocks



The wide variety of M-Series air handler fan types and options lets you select the exact fan you need to meet capacity and optimize acoustical, efficiency and discharge requirements.

Flexibility



Custom Design



TRANE ONCE AGAIN RAISES THE STANDARD IN THE AIR-HANDLING INDUSTRY WITH THE CUSTOM DESIGN AND FLEXIBILITY OF THE M-SERIES AIR HANDLER.

Building Blocks

The M-Series air handler design adopts a building-block approach that let's you tailor the unit to meet your job requirements:

- You can choose from a wide range of standard and custom-engineered modules in sizes 3 to 120—1500 to 60,000 cfm—and arrange them in any number of configurations to meet your application and space requirements.
- Two new sizes have been added to Trane's family of air handlers—size 57 and size 120. Size 57 allows you to meet more precise capacity requirements without oversizing the unit. Size 120 is the only pre-engineered unit of that capacity in the industry. This gives you a custom alternative—at a published price and delivery cycle.
- The post-and-panel construction that has been the foundation of our air-handling



Building Blocks

units makes it easy to stack modules, reducing the unit footprint. The structural integrity remains intact, even when the panels are removed. Even coil modules can be stacked. For tight mechanical rooms, stacking is an advantageous solution.

- As building loads change, new technologies emerge, and codes and standards are revised, the need for change is inevitable. With its building-block design, the M-Series air handler readily lends itself to the special needs of the renovation, retrofit and replacement markets. The unit can be shipped in small shipping splits that can be easily moved into the tight spaces of existing buildings.



Flexibility

Component flexibility is one of the key strengths of the M-Series air handler, and a key reason Trane continues to be the market leader in the central-station air-handling market.

- Fans are available for a variety of unit sizes in FC, BC, AF, AF plenums, and vaneaxial fans for quiet applications. Our extensive array of fan types and options lets you select the exact fan you need to meet capacity. This allows you to optimize the fan to best fit not only the air-flow and static pressure requirements, but also the acoustical, efficiency, and discharge requirements. Variable-frequency drives for modulation in variable-air-volume systems gives you even more precision.
- Fine-tune your performance with our broad coil offering. The variety of types, sizes, arrangements, and materials gives you an almost infinite choice when selecting a coil





for optimum pressure drop and capacity requirements.

■ Heavy-duty

doors are symmetrically mounted with a removable hinge pin and interchangeable hardware. If an unexpected obstruction in the mechanical room prevents the door from fully opening, the door can be easily adjusted from a right-hand to a left-hand opening in the field.

■ Given the ever-increasing need to address indoor air quality, M-Series air handler filter options provide solutions for most applications. One of those options is a pre-filter, high efficiency filter combination in a compact area.



Custom Design

While several air-handling manufacturers offer some custom features, most find it difficult to incorporate those features into their standard cataloged unit. This leads to increased costs and extended lead times, as well as untested performance results. At Trane, we've engineered custom solutions that allow you to address special demands, without the cost and lead times associated with custom units—and provide tested performance you can depend on. Typical custom options offered by our competitors are standard designs in the M-Series air handler, including:

- HEPA filters
- Integral face-and-bypass coils
- Humidifiers
- Electric heat
- Vaneaxial fans

We also offer some pre-engineered custom solutions that your local Trane sales engineer can select for your



specific application. While these custom options are dependent on the application, our pre-engineering work ensures proven performance and dependability. Some of those custom solutions are:

- Energy wheels
- Silencers
- Air-to-air, fixed-plate heat exchangers
- Custom-length modules
- Gas heat

PRE-ENGINEERED FLEXIBILITY

Building Blocks



Flexibility



Custom Design

Our Demand Flow® manufacturing processes allow us greater flexibility on the production line, providing you with the industry's best, most consistent delivery cycles.



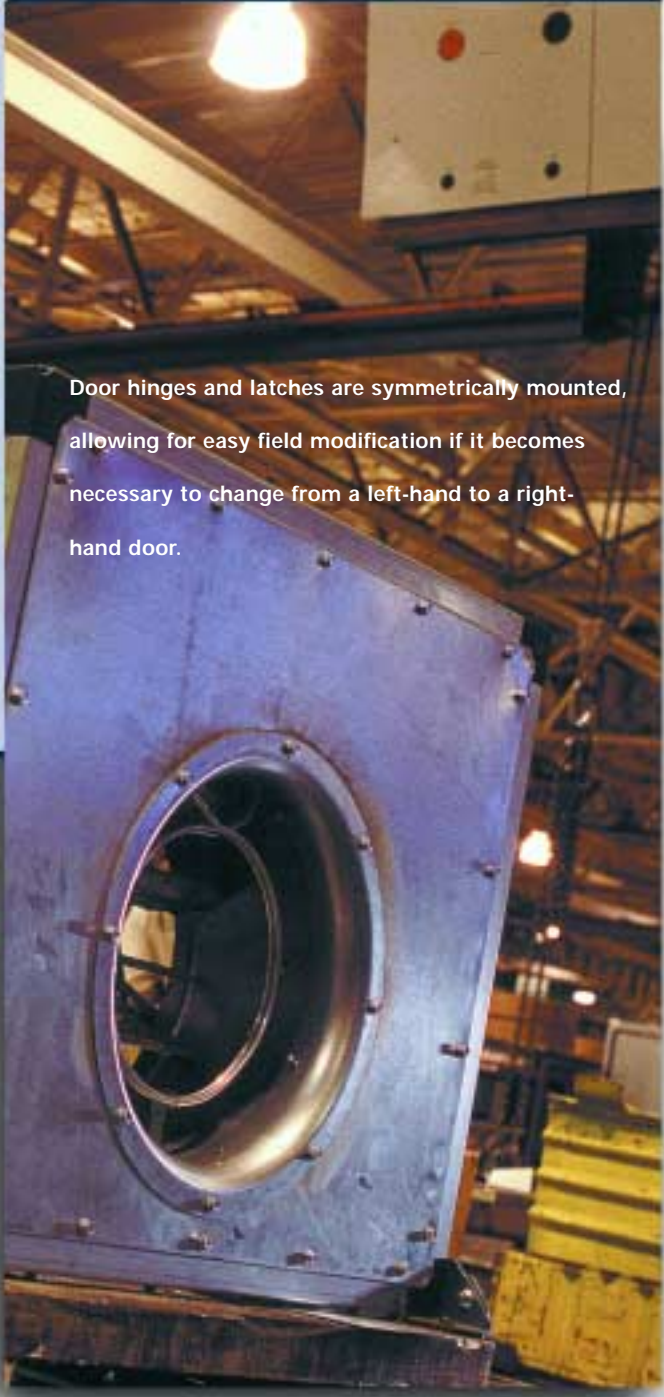
Robust Construction



Tight Design



Serviceability/Cleanability



Door hinges and latches are symmetrically mounted, allowing for easy field modification if it becomes necessary to change from a left-hand to a right-hand door.

THE M-SERIES AIR HANDLER IS DESIGNED TO BE ONE OF THE STURDIEST, TIGHTEST, MOST SERVICEABLE UNITS IN THE MARKET-PLACE. YOU CAN COUNT ON TRANE RELIABILITY.

Robust Construction

Key to the M-Series air-handler flexibility is the structural integrity of its G90 galvanized-steel, post-and-panel construction. This allows stacking—even coil modules—in a variety of space-saving configurations.

- Panels are designed with a hemmed edge, creating four times greater edge stiffness than a typical single-layer panel. This provides more rigidity, while enhancing the unit's appearance.
- Flush-mounted doors, with concealed gasketing on the inside edge of the door, gives a cleaner appearance and makes it much less likely that the gasketing will be damaged over time.



Tight Design

To ensure the highest efficiency and performance, the M-Series air handler is designed to minimize gaps and thermal circuit pathways in the unit:

- By combining several manufacturing processes into a single machining operation, the M-Series unit has

extremely tight tolerances where the panels meet.

- In addition to adding strength, the hemmed edges of the engineered panels create a consistent sealing surface, ensuring even gasket compression along the entire length of the panel, without over compression at the fasteners. This helps maintain a tight panel seal and eliminates potential air leakage paths.
- A wide strip covers the channels and overlaps the panels on either side. The gasketing material at the channels and between modules offers an effective thermal barrier and reduces air gaps at these points.
- Gasketing on the inside edge of the flush-mounted access door fits tightly against the integral threshold to maintain a tight seal.
- Inward-opening doors for positive-pressure applications promote a tight seal between the door and the doorframe.
- Door handles and hinges are

surface-mounted. They do not pierce the casing, eliminating a potential leakage path.

- Solid-surface end caps lessen potential leakage paths and produce a tight seal against the channel.

Serviceability/Cleanability

The M-Series air handler is designed for trouble-free maintenance and cleanability:

- Fully removable panels, full-size access doors, and access sections in 11- to 96-inch lengths make maintenance and cleaning easier.
- Smooth, cleanable interior double-wall surfaces helps achieve optimal indoor air quality.
- Coils are raised up out of the drain pan to make all coils removable from the side and provide easier access to the drain pan for cleaning.
- Drain pans that extend beyond the cooling coil and allow for periodic cleaning are standard options.
- When piping or wiring restricts access, doors are easily removed, by pulling the hinge pins.



M-SERIES AIR HANDLERS OFFER YOU ONE OF THE MOST COMPREHENSIVE FACTORY-PACKAGED CONTROLS SYSTEMS AVAILABLE, FROM END DEVICES TO TOTAL SYSTEM INTEGRATION, WITH INDUSTRY-STANDARD OPEN PROTOCOLS.

Factory-Engineered and Installed Controls

Controls can be mounted on the M-Series production line, alleviating additional lead-time for installation. Factory-installation simplifies jobsite coordination, minimizes risks, and provides single-source responsibility.

Wiring for the M-Series air handler is done with ribbon cables bringing the end-device wiring back to the controller or a terminal strip. Ribbon cables are attached to the internal upper edge of the module to protect them from damage. In every module, the ribbon cables have snap-together connectors on each end to enable easy connection and separation of the modules, regardless of the designated shipping splits. Some of the end devices available on the M-Series air handler are:

- Combination starter/disconnects
- Variable-frequency drives
- Control valves
- Sensors

Controllers

The M-Series unit offers air-handler controllers to meet system design requirements and budget restraints. The controllers are LonMark® certified to be interoperable with other LonMark certified devices:

- The Tracer™ AH540 air-handler controller is a value-priced, factory-wired, -configured, -tested, and -mounted LonTalk® controller available for predefined air-handling functions. Because this controller is configured at the factory, it does not require field programming, enabling a quicker startup. Each point is pre-assigned a specific task.
- The MP580 air-handler controller is a factory-wired, -tested, and -mounted graphically programmable LonTalk® controller. A combination of up to 36 inputs and outputs is available. A user display and time clock are also available for stand-alone applications.

Total System Integration

Full system integration is another key component of the flexibility of the M-Series air handler. Trane air handlers are designed for compatibility with your system.

- Full integration into Trane's Integrated Comfort™ system (ICS) gives you all the benefits of factory-installed controls and links the air handler to the Tracer Summit™ building management system. This ensures maximum operating efficiency for each building subsystem. As part of ICS, Trane controls packages provide industry-standard, open protocols with BACnet® and LonTalk®, allowing full two-way communication to tie in to existing equipment and systems.



Ribbon cables with snap-together connectors on each module make it easy to connect or separate the modules, regardless of shipping splits.



Coil Capacity



Traq™ Dampers



Operating Efficiency



Fine tune your coil performance by selecting the exact capacity you need. Trane manufactures coils with fin spacing between 72 and 168 fins per foot.

YOU CAN FINE TUNE THE PERFORMANCE OF YOUR M-SERIES AIR HANDLER TO MEET THE EXACT CAPACITY YOU NEED, MORE EFFICIENTLY, MORE RELIABLY, AND MORE OFTEN BY USING A SMALLER UNIT.



Coil Capacity

Most coil manufacturers offer a fixed-fin series coil, giving you six to eight options from which to choose. Trane manufactures coils with fin spacing between 72 and 168 fins per foot for both our energy-efficient and high-efficiency fin types. This allows you to select the exact capacity you need to meet the psychometric conditions required for your building load. By getting the exact capacity you need, you won't pay the air-pressure drop penalty associated with fixed-fin series coils, and you won't pay for more coil than you actually need.

Traq™ Dampers

Trane's airflow-monitoring solution, the Traq damper, allows direct measurement and control of outdoor and/or return airflow. The Traq damper requires significantly less straight duct than traditional airflow-monitoring stations. When applied as part of ICS with the Tracer Summit building automation system, ventilation airflow

can be controlled dynamically and documented to verify compliance with ASHRAE Standard 62.1. Key benefits of the Traq damper include:

- Accurate measurement down to 15 percent airflow
- Auto-calibration
- Temperature compensation

Operating Efficiency

Trane's EarthWise™ system is a design philosophy that uses low flow rate and low temperature on both the waterside and airside, along with high-efficiency equipment. Along with reducing emissions, it also reduces first cost, lowers operating costs, and improves the acoustical characteristics and comfort of the HVAC system. Low-temperature, low-flow systems can challenge conventional cataloged air-handling units. The flexibility of the Trane M-Series air handler makes it ideally suited for low temperature applications:

- Trane has developed a unique high-efficiency fin surface that allows face velocities in excess of

625 fpm without moisture carryover. The fins have been engineered and tested to meet these higher face velocities at a given set of design conditions. This allows you to utilize the latest in airside heat transfer to further improve the efficiency of the overall system.

- The ability to choose the exact number of fins per foot of coil surface allows heat transfer and air-pressure-drop performance to be tuned to specifically meet project needs.
- The wide array of fan options lets you choose the right fan for the application.
- Factory-engineered, -mounted, and -tested controls provide the added



INDUSTRY CERTIFICATIONS, IN-HOUSE QUALITY AUDITS, AND STRINGENT TESTING OF EVERY UNIT IS JUST PART OF THE STRENGTH BEHIND THE TRANE NAME.

assurance that the airside sensors and sequences meet your requirements.

- Further system enhancements can be made by taking advantage of the latest controls technology with fan pressurization control (required in most variable-air-volume systems per ASHRAE Standard 90.1) and/or resetting the outside air damper based upon equation 6.1 per ASHRAE Standard 62.

Tested Performance, Proven Quality

Before the Trane name goes on the M-Series air handler, every aspect of design and performance is thoroughly tested, ensuring that our customers get a reliable unit with proven, tested dependability. Quality is built into every air-handling unit.

- M-Series units are performance-tested in accordance with ARI Standard 430. Unlike other rating methods that check fan performance alone, this certification process evaluates the entire air handler on the basis of airflow,

static pressure, fan speed, and brake horsepower.

- One hundred percent of our heating and cooling coils are tested before they leave our plant, and they are certified with ARI Standard 410 to assure they deliver published performance.
- ARI Standard 1060 is a certification standard for airside energy recovery components. Certified ARI performance is third-party assurance that your M-Series energy-recovery components will perform as predicted.
- ARI Standard 260 is the first ducted air-handler sound rating procedure. It provides engineers with better, more accurate, ducted sound power levels so that they can design quieter, more cost-effective comfort systems. Trane M-Series units are all rated per ARI Standard 260.
- Our manufacturing process employs a system of “total quality checks” and verifications at each workstation to ensure consistent quality. With the implementation of

Demand Flow® technology, we can better serve you by providing greater product flexibility, ever-improving product quality, and shorter manufacturing cycles.

- Certification by the International Standardization Organization (ISO) ensures that an organization can consistently deliver a product or service that meets the customer’s contractual requirements by following documented processes. Having the quality management system of our manufacturing plant ISO 9001-certified directly benefits Trane customers because our continuous process improvements enable faster ship cycles and improve product quality.
- The Canadian Registration Number (CRN) is given to companies that comply with Canada’s Technical Safety Standards Act concerning pressure testing of any vessel. In Trane air-handling systems, the CRN applies to coils. The M-Series unit has earned a CRN for its coil offering.

FINE-TUNED PERFORMANCE

Coil Capacity

The M-Series air handler is designed for years of trouble-free operation. Inspired by decades of success in the air-handling industry, we’ve engineered a new way to define air handlers—the M-Series Climate Changer air handler.

Traq™ Dampers

Operating Efficiency





TRANE[®]

Trane
An American Standard Company
www.trane.com

For more information, contact
your local district office or
e-mail us at comfort@trane.com

Literature Order Number CLCH-SLB010-EN

Date May 2002

Supersedes New

Stocking Location La Crosse

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.