



# *VariTrane<sup>®</sup> VAV terminal unit*

*The quality and reliability you've come to expect with Trane VAV units just got better.*



# Take a look inside the VariTrane unit

## VariTrane – leadership redefined

The Trane Company is pleased to introduce a breakthrough in Variable Air Volume (VAV) technology—the new VariTrane VAV terminal unit. VariTrane units are manufactured in the most state-of-the-art VAV facility in the world. Proven components, such as the patented Trane Flow Ring and the Trane DDC controller, are used. The most advanced manufacturing techniques in the industry have been implemented to provide an exceptionally rugged and reliable VAV unit. All products are UL listed for safety and provide proven performance via accepted industry standards like ARI-880 and 885.

### All VariTrane units have the following:

- Trane flow ring for unmatched airflow measurement accuracy
- Heavy gage air valve cylinder
- Interlocking panels which create an extremely rugged unit
- Insulation edges are encapsulated with metal
- UL and CUL listing
- Fusing and disconnects (optional)
- Control power transformers (optional)

### Single-duct and dual-duct air terminals:

- Single-duct reheat options include water or electric-heating coils
- Unit sizes provide 0 to 8000 nominal cfm
- Access for water coil cleaning
- Factory-commissioned Trane controls
- Factory installation of customer supplied controllers
- Slip and Drive connections as standard

### Fan-powered air terminals:

- Parallel intermittent fan and series continuous fan configurations
- Complete reheat options include water or electric-heating coils
- Fan sizes provide 200 to 3000 nominal cfm
- Single-speed motor with SCR is standard for simplified system balancing

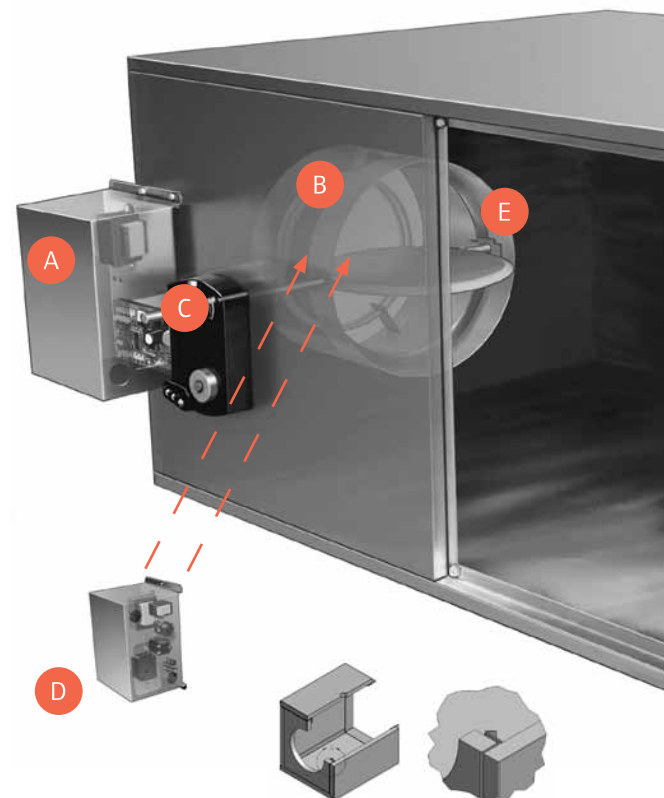
- Optional high efficiency ECM motors
- Low-height models for critical plenum requirements

## Complete VAV control offering

All VariTrane VAV controls are factory commissioned. This means that airflow, temperature setpoints, and addressing are performed in a controlled factory environment. 100% factory-run testing is included to ensure that units arrive and function properly upon job startup. With factory commissioned controls, you have better control over cost and quality. This results in a higher quality installation at a lower cost.

### Trane factory-commissioned controls include:

- DDC controller, the VAV Unit Control Module (UCM) — Optimized performance and integration to Trane Tracer system.



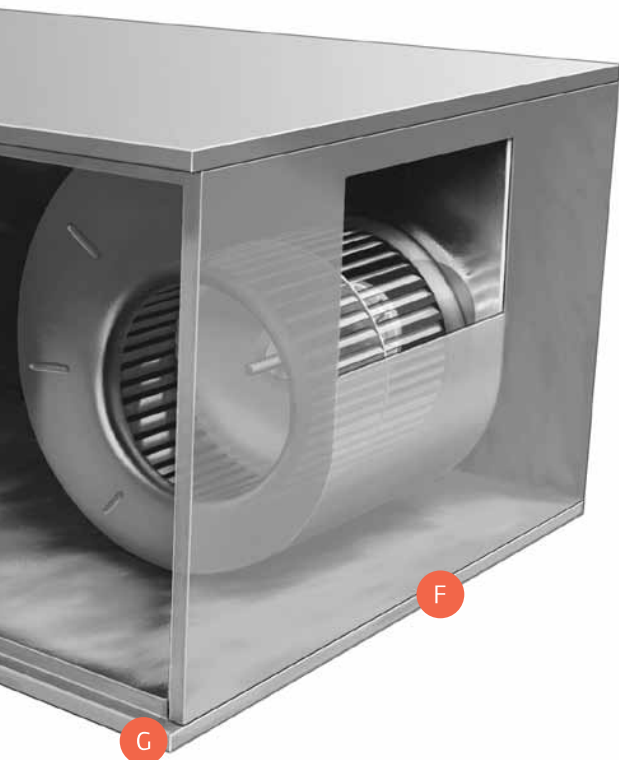
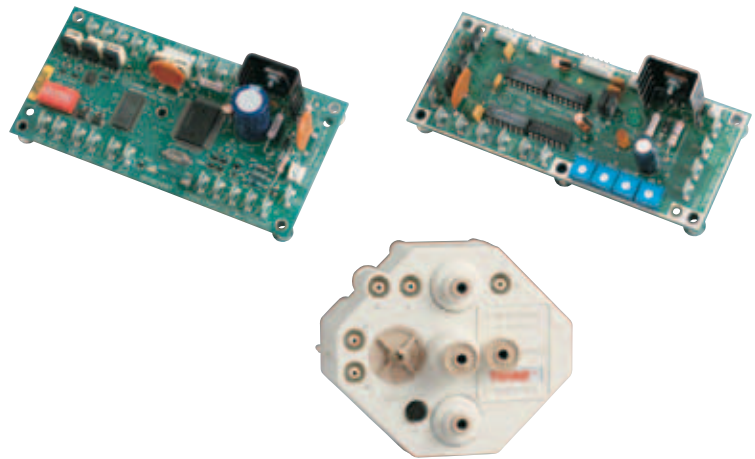
- Pneumatic controller — Field configurable for reverse- or direct acting thermostats.
- Analog controller — Noncommunicating electronic control with optional sensors.

**Factory-installation of customer furnished controls:**

Some customers prefer to provide their own controller to be installed in our manufacturing facility. In these cases, Trane will:

- Ensure compatibility with unit relays, fuses, and transformer
- Install the controller, including piping the pressure transducer to the Trane flow ring
- Coordinate with the owners preferred control vendor

The factory-installed controller option has been available since the early 1990s. It provides unlimited controller flexibility for building owners, and should be considered when Trane controls are not required.



- A** *Controls* – Trane installs more customer-supplied VAV controllers than any other manufacturer in the industry. For the highest quality and reliability, demand Trane controls.
- B** *Flow Ring* – The patented Trane flow ring provides unmatched airflow measurement accuracy and unit performance. It is recessed within the 18-gage air valve cylinder for protection during jobsite handling and installation.
- C** *External Shaft* – Comes with Air Valve Position Indicator for easier service diagnostics. An external shaft also simplifies mounting of all brands of controllers.
- D** *Fan Controls* – Now comes with a standard SCR used for fan-speed control and system balancing.
- E** *Air Valve* – Designed to limit inlet deformation and provide consistent and repeatable airflow across the flow ring.
- F** *Interlocking Panels* – Ruggedness and rigidity are assured with Trane’s patent pending interlocking panel construction. It creates unmatched unit rigidity.
- G** *Metal Encapsulated Edges* – All VariTrane Units are complete with encapsulated edges to arrest cut fibers and prevent erosion in the airstream. This raises the bar in the VAV industry.

# Complete systems include VariTrane units

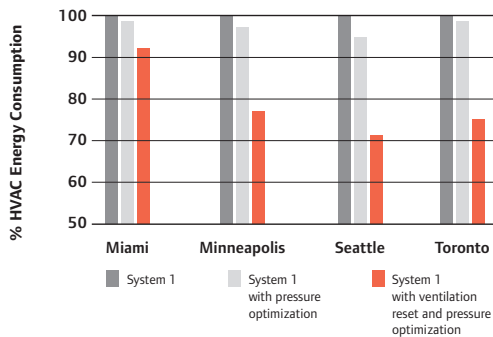


## Integrated Comfort Solutions (ICS)

The Trane Integrated Comfort Solutions (ICS) combines VariTrane VAV terminal units, Trane DDC controls, and factory commissioning. Trane ICS enables system-level control strategies like Ventilation Reset and Static Pressure Optimization to improve system performance and efficiency. It's like fuel injection in a car's engine. A gravity-fed carburetor will provide gas to your car's engine, but fuel injection does it in the most efficient manner, while boosting horsepower. ICS is just that—a horsepower and efficiency boost for your VAV system!

## Energy efficiency

A significant consumer of energy in commercial buildings is heating and air conditioning. One of the most energy-efficient HVAC solutions is the VAV system. This has led to a steady increase in VAV systems over the past several years. VAV systems save significant energy, comply with ventilation requirements, and provide reliable and personalized occupant comfort.



Analysis performed with Trace® 700 building energy and economic analysis software.

Energy-saving features of Trane VAV terminal units include:

- System strategies like Ventilation Reset, and Static Pressure Optimization, etc.
- Night setback
- Occupied/unoccupied control
- Demand controlled ventilation
- Electrically Commutated Motors (ECM)
- EarthWise™ Systems utilizing low temperature air

To determine the potential energy savings a VAV system can bring to your applications, The Trane Company offers energy modeling programs like System Analyzer™, and Trace 700™ simulation software.

## Doesn't ICS increase VAV system complexity, which may impact reliability?

Not really. Again, most VAV systems are already using communicating controllers on VAV units and air handlers. Control strategies that save energy are pre-programmed into the VAV controller and Trane Tracer System, which eliminates field programming errors and complexities. Implementing them only requires minimal time and it actually improves system reliability! All Trane VAV controllers are factory commissioned. This means that all temperature and airflow setpoints are downloaded and 100% run tested in the factory before shipment. You can be assured that Trane DDC systems are the most reliable system available!

## Summary

An integrated system is essential for complete building environmental comfort and system efficiency. Through the use of factory-commissioned controllers, and the existing capabilities of the DDC system, additional energy saving strategies can be implemented. At the same time, the system maintains the highest reliability in the industry. Call your local Trane Sales Office for additional details.



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