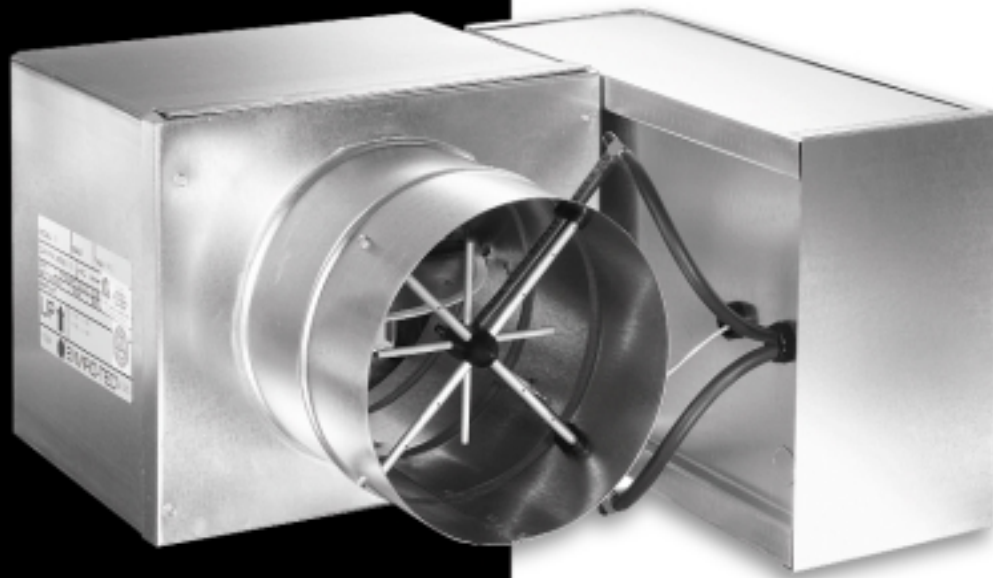


TSS – Single Duct Variable Air Volume Terminal



- An integrated VAV box with direct digital controls eliminates the coordination and difficulties associated with factory mounting
- Downloading of software, setting of parameters, addressing and testing at the factory reduces startup time and lowers risk
- Superior flow measuring provides for lower minimum cubic feet per minute (CFM) values, which reduces energy costs and noise while maintaining comforts in the zone
- Installation time can be reduced with the low profile compact design and standard metal hanging straps
- Units wired in compliance with all applicable National Electrical Code (NEC) requirements and tested in accordance with Air Conditioning and Refrigeration Institute (ARI) standard 880
- Offers damper stall detection, starved box detection, actuator motor duty cycle, VAV box flow test, and other diagnostics on most models (VMA Series)

TSS Terminals provide Variable Air Volume (VAV) control beyond the typical single duct box. They are specifically designed for precise air delivery throughout the entire operating range, regardless of the installed inlet conditions. These units can be ordered with or without a Direct Digital Controller (DDC), which can operate as a stand-alone unit, on a Johnson Controls N2 trunk, or on a LON® trunk.

TSS Terminals take advantage of typical benefits provided by single duct units, while performing at extremely low sound levels. This is critical in today's buildings where occupants are placing more emphasis on indoor acoustics. The TSS Terminal is manufactured and assembled with a multi-point, center-averaging airflow sensor, which provides a signal to the controller enabling it to quietly and precisely measure airflow.

Bundled with the TSS Terminal is a digital controller from the VAV Modular Assembly (VMA) Series or the LN Series. Each model in the VMA1400 Series and the LN Series combines a controller, pressure sensor, and actuator housed in one pre-assembled unit.

Standard Features

Construction

- ARI 880 certified and labeled
- 22-gauge galvanized steel casing and valve
- G90 galvanized steel
- 1/2", 4lb/ft³ skin, dual density fiberglass insulation, glued and clinch-pinned in place

Hot Water Coils

- ARI 410 certified and labeled
- 1-, 2-, 3-, 4-row coils
- Tested at a minimum of 350 psig under water
- Mechanically expanded copper tubes leak tested to 350 psig air pressure
- Male sweat type water connections

Primary Air Valve

- Embossed rigidity rings
- Low-thermal conducting damper shaft with position indicator
- Mechanical stops for open and closed position
- Multi-point center-averaging airflow sensor
- Brass balancing tees
- Plenum-rated sensor tubing

Electrical Components

- cETL listed for safety compliance
- National Electrical Manufacturers Association (NEMA) Type 1 wiring enclosure

Electric Heat

- ETL listed as an assembly for safety compliance
- Integral electric heat assembly
- Automatic reset primary and back-up secondary thermal limits
- Single-point power connection
- Hinged electrical enclosure
- Fusing per NEC
- Airflow switch
- Ni-chrome elements
- Primary/Secondary power terminations
- Wiring diagram

Optional Features

Construction

- 20-gauge galvanized steel construction
- 3/4" or 1" fiberglass insulation
- Scrim-reinforced, foil-faced insulation meeting American Society for Testing and Materials (ASTM) C1136 for mold, mildew, and humidity resistance
- 1/2" Elastomeric closed-cell foam insulation
- Double wall construction with 22-gauge liner
- Mounting brackets to accept all-thread hanging rods or wire hangers
- Low temperature construction for use in thermal storage applications, including a thermally isolated primary air inlet and a composite damper shaft

Hot Water Coils

- Low pressure steam coils
- Multi-circuit coils for reduced water pressure drop
- Opposite hand water connections
- Bottom and top access plates for cleaning

Electrical Components

- Full unit toggle disconnect and inline motor fusing
- Primary and secondary transformer fusing

Electric Heat

- Proportional solid state relay (SSR) heater control
- Mercury contactors
- Door interlocking disconnect switches
- Disconnect (toggle or door interlocking)
- Pneumatic Electric (PE) switches
- Mercury and magnetic contactors
- Manual reset secondary limit
- 24 volt control transformer
- Special watt densities
- Finned tubular elements

Controls

- Factory-provided controls
- Direct digital controls (DDC) for N2 or LON[®] networks
- Pneumatic controls

