



# TVS/R

FAN COIL UNITS  
HI-RISE, VERTICAL

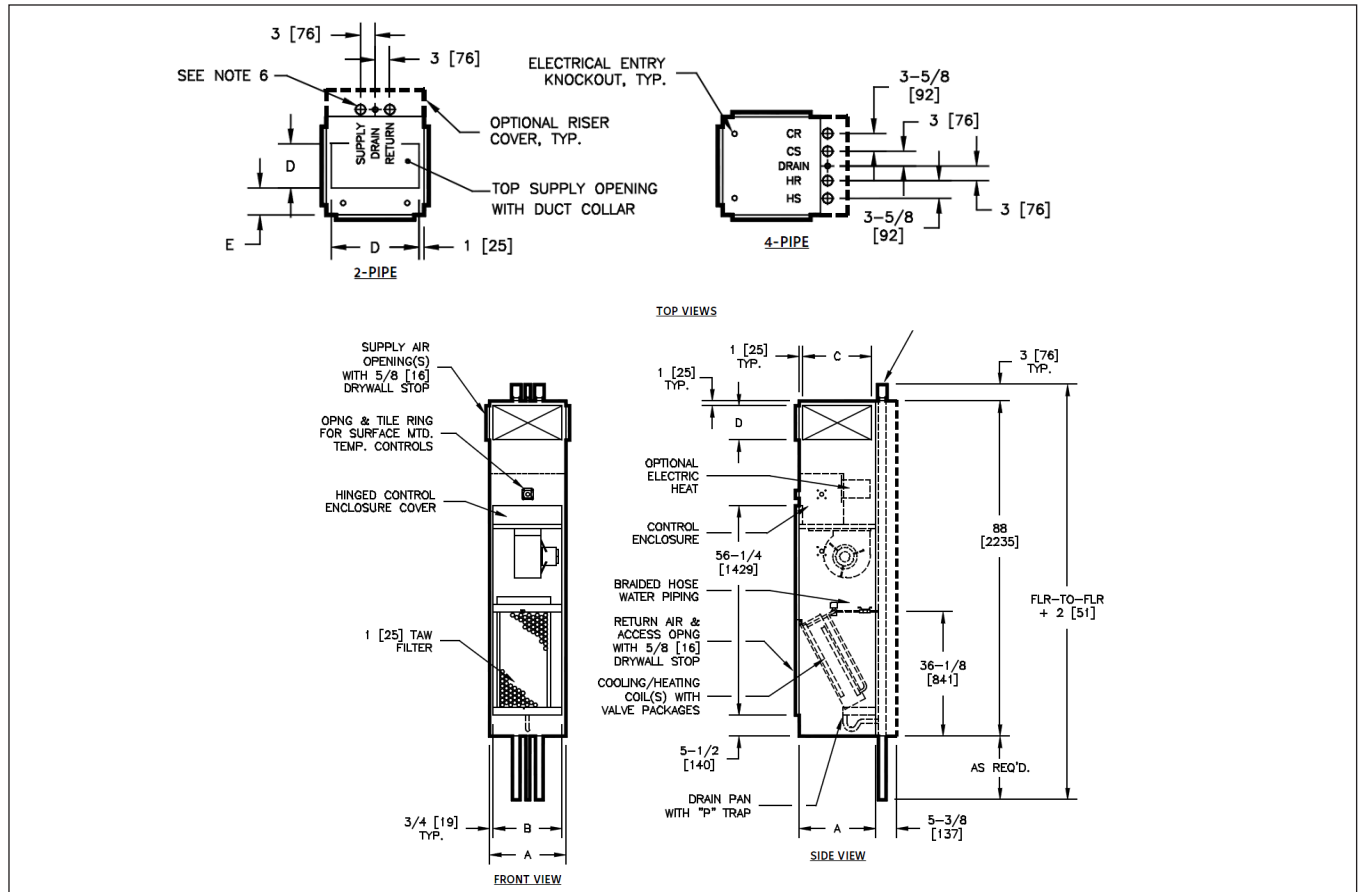
- └ TVRM
- └ TVRP Riser
- └ TVRS
- └ TVSE
- └ TVSM
- └ TVSR
- └ TVSS



# Model TVS/R: CONCEALED, HI-RISE

## Model TVS Concealed Dimensional Data

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Unit Size	Dimensions				
	A	B	Single / Double Supply		E
			C	D	
03 & 04	18" [457]	16½" [419]	16" [406]	8" [203]	6" [152]
06 & 08	20" [508]	18½" [470]	18" [457]	12" [305]	6" [152]
10 & 12	24" [610]	22½" [572]	22" [559]	14" [356]	8" [203]

### Notes:

- All dimensions are inches [mm] and are +/- 1/4" [6mm]. Metric values are soft conversions.
- Tile ring is installed on front of unit as shown, and may be moved to left or right side of unit in field. Tile ring omitted on units with "ADA" control-mounting location.
- Wiring from electrical-entry point to control enclosure is furnished and installed by others in field.
- Risers available from 3/4" [19mm] to 3" [76 mm] diameter with 1/2" [13 mm] thick insulation, and 3/4" [19mm] to 2-1/2" [64 mm] diameter with 3/4" [19 mm] thick insulation.
- Riser length is 120" [3078 mm] max, 100" [2540 mm] min.
- Back riser location shown. See arrangement drawings for available unit configurations.
- Factory-mounted risers shown. Risers may also ship in advance of the unit. See ship-in-advance riser drawings for details.

Note: All data and dimensions are subject to change without notice.

Contact your Titus representative for current submittal drawings. Drawings are not to scale and are not for installation purposes.

## Model TVS/R:

### RAISING THE STANDARD IN FLEXIBILITY AND PERFORMANCE

#### Owners

AHRI Standard 440-certification ensures exacting performance. The TVS fan coil unit's 3-speed, direct-drive motor allows optimized cabinet airflow and sound performance. Enhanced sound levels are achieved through an electronic fan speed controller (SCR) which allows further motor speed fine tuning. TVS fan coil units are constructed of galvanized steel, surpassing the ASTM 125-hour, salt-spray test for corrosion and rust. Decorator front panels, supply grilles, and exposed-cabinet model TVSE feature durable, powder-coat paint that resists fading, scratches and fingerprints.

Models TVSM/TVSS tandem units ship complete with risers enclosed in a wall plenum with one layer of 5/8" gypsum for sound attenuation. Units may be ordered with two layers of gypsum and fire-blocking material for a one-hour fire rating per UL 1479.

Concerned about Indoor Air Quality? Sloped drain pans are standard on TVS fan coils. The coils are easily removed for cleaning. As an option, field removable drain pans may be supplied. Optional stainless-steel drain pans and coil casings are available. IAQ lining options include foil-faced or elastomeric, closed-cell-foam insulation.

#### Designers

The TVS unit's impressive list of standard features provides unparalleled design flexibility. Riser slot knockouts are included on the left, right and back panels. Supply air opening knockouts are included on all sides, as well as the top of the unit. Outside air can be introduced with manual or motorized dampers.

Coil options allow for three or four-row chilled water and one or two-row hot water coils in the reheat position. A total of five rows of coil are accommodated.

#### Contractors

TVS fan coil units provide maximum performance while reducing installed cost to the contractor. Motor wiring is brought to a control compartment on the inside of the unit, reducing electrical hook-up time. Internal stainless steel-braided hoses allow easy field configuration of riser connections without the need for thermal cutting and joining of piping.

Risers may ship in advance of the unit to facilitate installation and fire-safing of floor penetrations in limited space. Additionally, fan coil units are protected from construction debris during installation and pressure testing of the risers.

TVS Fan Coil Airflow		
(CFM)	Unit Size	Nominal
	03	350
	04	450
	06	600
	08	800
	10	1000
	12	1200

Actual performance may vary based on model, options and operating conditions. Ask your Titus representative for complete performance information.



#### Factory-Mounted Control Packages

A wide variety of control options and thermostats are offered. Factory-mounting and wiring of DDC controls by others is also available.

#### Silent Relays

Silent, solid state relays are available for fan and electric heat control in sound-sensitive environments.

#### Factory-Furnished Valve Packages

Valve packages provided by the factory ensure proper fit, operation and performance.

#### Electric Heat

A variety of kW and voltage configurations are available. Options include door-interlock disconnects, low-voltage controls, and silent solidstate relays. All control and electric heat configurations include single point-power connection and are cETL-Listed as an assembly.





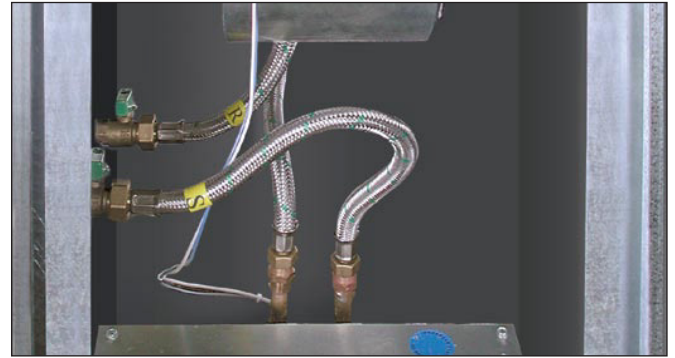
### Fan Deck

For ease of service, the fan/motor assembly is easily removed by unscrewing two locknuts located at the front of the assembly. Slide rails support the fan during removal and installation, and the electrical harness is equipped with a quick-connect plug.



### Drain Pan

The sloped, insulated drain pan is available in stainless steel construction. Standard drain pans are externally insulated, single-wall, galvanized steel. As an option, the TVS drain pan can be equipped for easy removal from the front of the unit for inspection and cleaning. For optimum moisture resistance and cleanability, the unit may be lined with foil-faced fiberglass insulation (shown above) or elastomeric, closed-cell-foam insulation.



### Coils and Piping

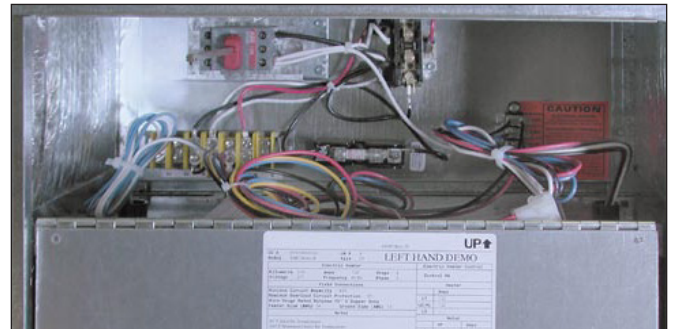
All units are available in 2-pipe or 4-pipe configurations. The heating coil is standard in the reheat position. Access for cleaning on both the entering and leaving-air sides is available. Coils are removable from the front of the unit for service.

### Rises

Risers, coils and piping packages are pressure-tested and ship installed on the unit as a complete package. Risers may also ship in advance of the unit. This option greatly simplifies installation, while keeping the units free of construction debris during pressure testing of the risers.

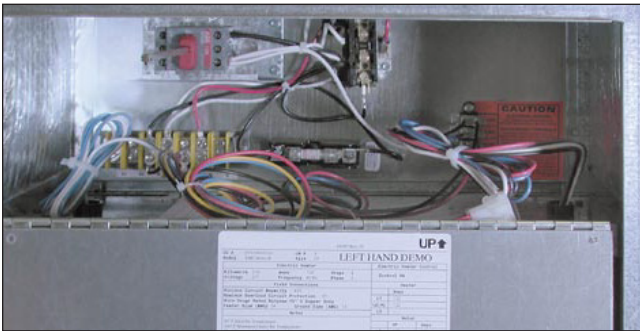
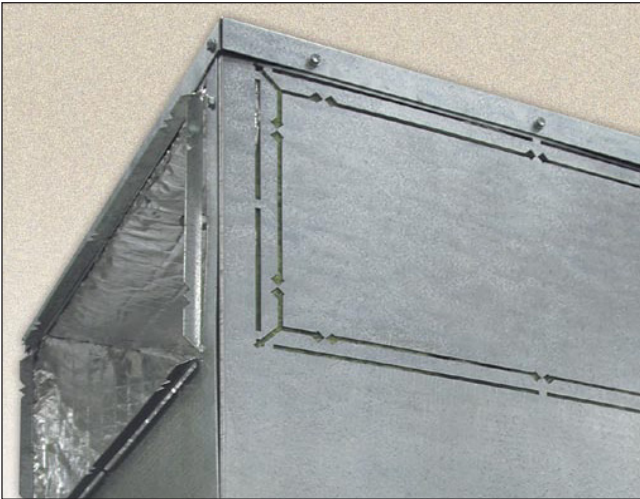
### Filters

Filter options include 1" throwaway (standard), pleated MERV 8, or synthetic media. Filters are easily replaceable from the return air when the front panel is removed.



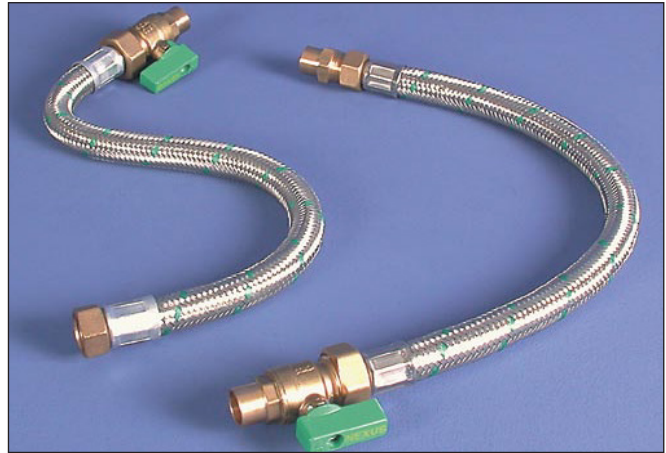
### Control Enclosure

The hinged access door allows entry to a spacious electrical compartment. The compartment houses all electric heat and control components. Terminal strips are furnished for simple power wiring and control wiring connections.



### Field Configurations

Supply air opening knockouts are included on all sides, and the top, of the TVS unit. Riser-slot knockouts are included on both sides, as well as the back panels. If requested, the unit ships from the factory with knockouts removed for the selected arrangement of supply air and riser location.



### Stainless Steel Braided Hoses

Standard on all 1/2" 2-pipe and 4-pipe systems, stainless steel braided hose kits allow for flexibility and thermal expansion within the unit cabinet. The hose-to-coil and hose-to-riser connections are made via a threaded swivel adapter, simplifying coil removal. For more information, see the TVS Hose Kit sales guide at [www.titus-hvac.com](http://www.titus-hvac.com).

### Powder-Coated Painted Surface

Exposed cabinet model TVSE, as well as the front-return, textured, decorator panel, feature a powder-coat finish that resists scuffing, scratching, fading, and fingerprints.



## Model TVS/R: FAN COIL UNIT FEATURES

### Standard Features:

#### Construction

- » AHRI Standard 440-certified and labeled
- » Galvanized-steel construction
- » ½" thick fiberglass insulation
- » Integral filter rack with 1" throwaway filter
- » Riser-slot knockouts
- » Supply-air knockouts

#### Decorator Front Panel

- » Stamped louver return-air grille
- » Durable, powder-coat paint
- » Quarter-turn, cam-lock fasteners

#### Supply Air

- » Single outlet
- » Front, side or top outlets

#### Coils

- » Cooling: 3 or 4-row chilled water
- » Heating: 1 or 2-row hot water - reheat position
- » 5 total rows of cooling and heating coils maximum
- » ½" O.D. seamless copper tubes
- » 0.016" tube wall thickness
- » High-efficiency, aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- » Easily removable for service
- » Manual air vents

#### Drain Pans

- » Single wall, galvanized steel, externally insulated - fire retardant and anti-microbial
- » Positively sloped to drain connection
- » 7/8" O.D. drain connection
- » P-trap is factory installed

#### Fan Assemblies

- » Forward-curved, DWDI, centrifugal type blowers
- » 115-volt, single-phase, three-tap PSC motors
- » Quick disconnect motor connections
- » Easily removable fan/motor for service

#### Electrical

- » cETL-Listed for safety compliance
- » Electrical enclosure with access door for field-wiring terminations
- » Terminal block for field connections

#### Electrical Heat

- » ETL-Listed as an assembly for safety compliance
- » Integral electric heat assembly with removable elements for easy service
- » Automatic reset primary and back-up secondary thermal limits
- » Single point power connection

### Optional Features:

#### Construction

- » Primary/secondary arrangements
- » Foil-faced fiberglass insulation
- » Elastomeric, closed-cell-foam insulation
- » 1" pleated filter (MERV 8)
- » Synthetic media
- » Manual or motorized outside-air damper
- » Blower shield

#### Decorator Front Panel

- » Recessing frame
- » Full-faced aluminum grille

#### Supply Air

- » Double deflection discharge grille(s)
- » Double outlets
- » Sight and sound baffles for double outlet units
- » Opposed blade damper

#### Coils

- » Automatic air vents
- » Stainless steel coil casings

#### Drain Pans

- » Stainless steel construction with external insulation
- » Removable for cleaning

#### Fan Assemblies

- » 208-230 & 277 volt, single-phase, three-tap PSC motors
- » 115, 208-230 & 277 volt high-efficiency EC motor

# Model TVS/R:

## FAN COIL UNIT FEATURES

### Electrical

- » SCR fan speed controller
- » Fan relay packages
- » Silent, solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

### Electric Heat

- » Manual-reset, secondary thermal limit
- » Silent relay/contactors
- » Door interlocking disconnect switches
- » Main fusing

### Piping Packages

- » Factory assembled and installed
- » ½", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Stainless steel braided hoses (threaded swivel connections) for thermal expansion, including isolation ball valves with memory stop
- » Fixed and adjustable-flow control devices
- » P/T ports and Y-strainers
- » Modulating control valves
- » High-pressure, close-off actuators (50 PSIG max)

### Thermostats

- » Analog, digital display, or programmable
- » Unit mounted and wall mounted
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral, three-speed, fan switches
- » ADA mounting location on front panel or unit sides

### Risers

- » Type-M or Type-L copper with swaged connections
- » ¾" to 3" diameters
- » ½" and ¾" closed-cell insulation
- » Type-M copper condensate riser
- » Riser extensions
- » Riser cover
- » Ship in advance risers



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