

## T<sub>3</sub> Series VAV Diffusers

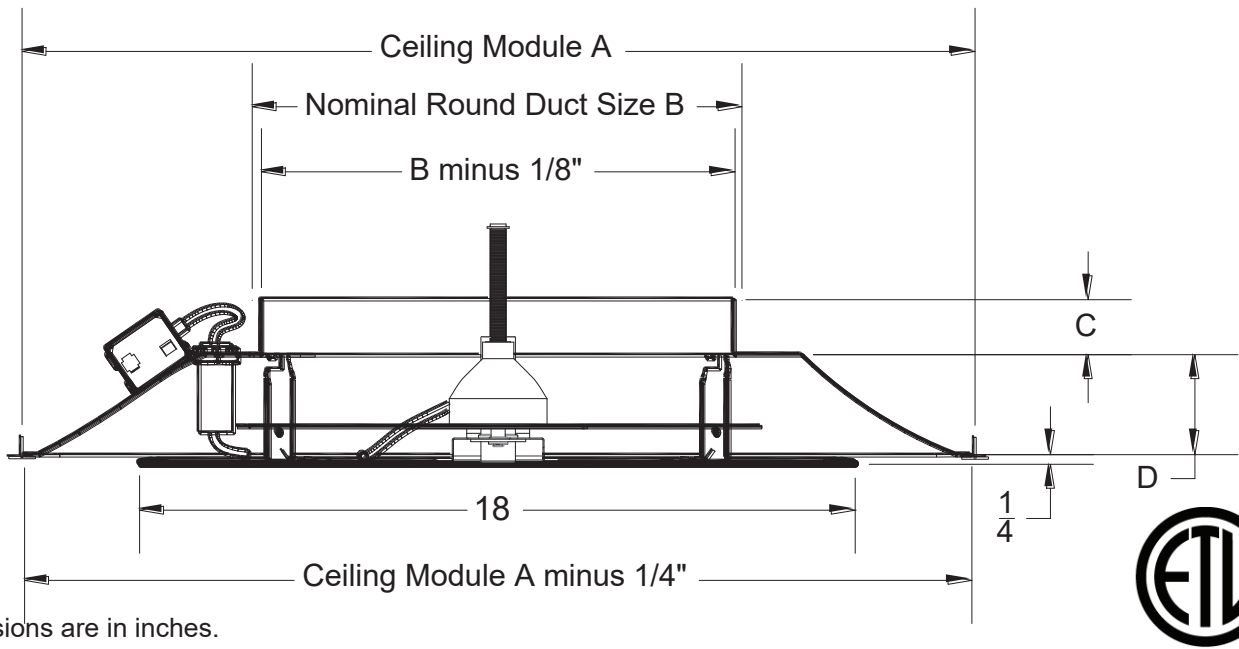
Digital Diffuser • Steel • Square Panel • Horizontal Pattern  
 Model: T<sub>3</sub>SQ



### Model Configuration

- T<sub>3</sub>SQ-M – Heating / Cooling Primary Unit
- T<sub>3</sub>SQ-D – Heating / Cooling Secondary Unit

Border Type 3 (Lay-In) Full Face

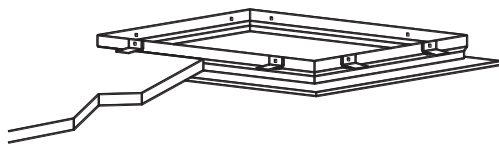


Ceiling Module A	Nominal Round Duct Sizes B	C	D
24	6	1 1/8	3 5/8
	8	1 1/4	3 3/4
	10, 12	1 3/8	3 7/8

Ceiling Module	Face Size	Nominal Round Duct Size	Border Type
24 x 24	24 x 24	6, 8, 10, 12	2, 3, 4, 5, NT

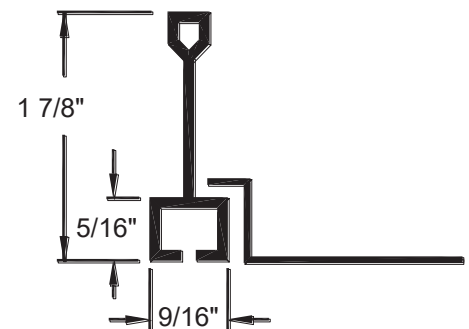
### Other Available Border Types if provided.

Border Type 1 Rapid Mount Frame for Surface Mounting Applications.



The T<sub>3</sub>SQ series of diffusers are not available with standard border type 1. For surface mounting applications, the TRM optional Rapid Mount frame can be used. Using border option TRM, the T<sub>3</sub>SQ series diffusers are shipped with border type 3 (lay-in). The TRM frame is shipped separate for field installation. Once the TRM is installed, the T<sub>3</sub>SQ diffuser simply lays into the frame. This option allows access into the ceiling after installation.

Border Type NT (Narrow Tee)

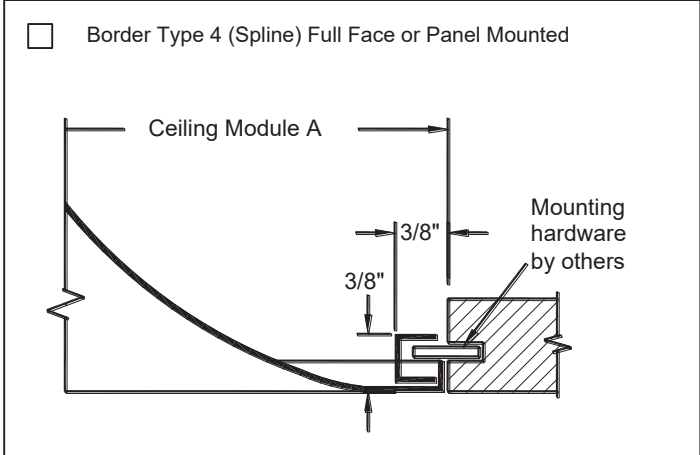
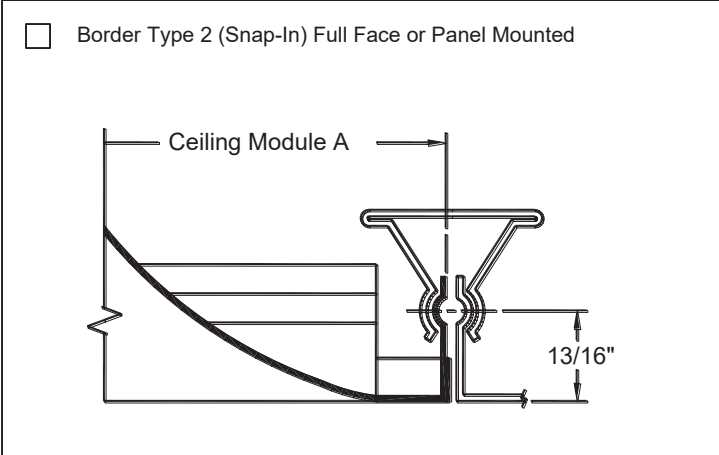


This submittal is meant to demonstrate general dimensions of this product. The drawings are not meant to detail every aspect of the product. Drawings are not to scale. Titus reserves the right to make changes without written notice.

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Other Available Border Types – cont.

Check  if provided.



Standard Finish: #26 White

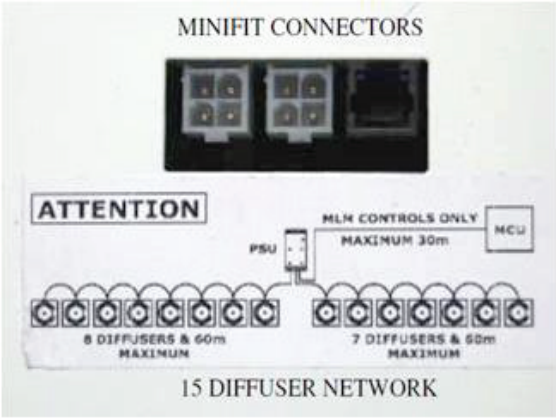
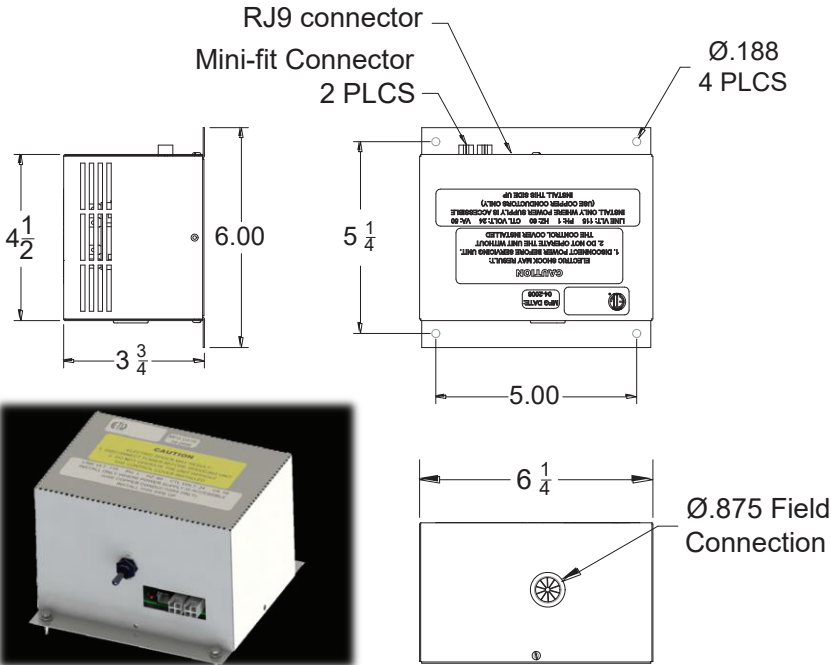
Optional Accessories

Check  if provided.

Power Module

- 120/24VAC transformer (T3PM120)
- 208/24VAC transformer (T3PM208)
- 277/24VAC transformer (T3PM277)

- Power conditioner
- One power module is required for every fifteen (15) primary or secondary diffusers without electric reheat or fourteen (14) primary or secondary diffusers with electric reheat.
- 24VAC output to T<sub>3</sub>SQ-M / T<sub>3</sub>SQ-D diffusers.
- Integral circuit protection protects the power module from shorts in the RJ-9 and mini-fit daisy chain cabling.



Power Module Wiring

- A total of 8 diffusers can be daisy chained off one connector and another 7 diffusers can be daisy chained from the other connector for a total of 15 diffusers.
- An RJ9 female connector is also provided on the power module. This connector allows the communication cable to link the maximum 15 diffuser network to the master communications module (MCM).

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# Optional Accessories

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## Master Communication Module

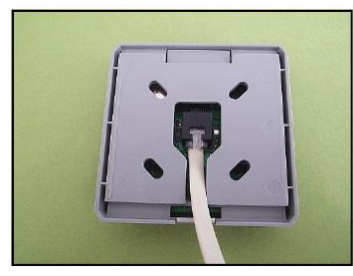
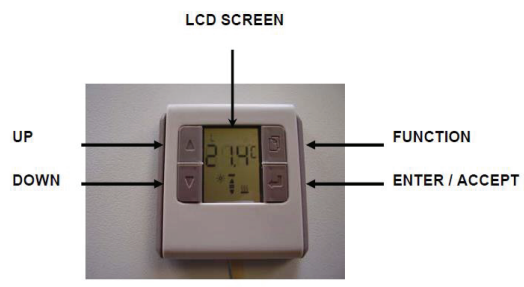
- MCMB1 – Bacnet (TCP/IP)
- MCMB2 – Bacnet (MS/TP)

- Available with BACnet communications module
- MCM Is the central data collection and distribution point for up to 60 VAV field diffusers per module.
- Features four diffuser channel inputs which can accommodate up to 15 diffusers per channel.
- Interface software is designed as a commissioning tool as well as for data monitoring, logging, and fault finding.
- Software is supplied with each shipment.



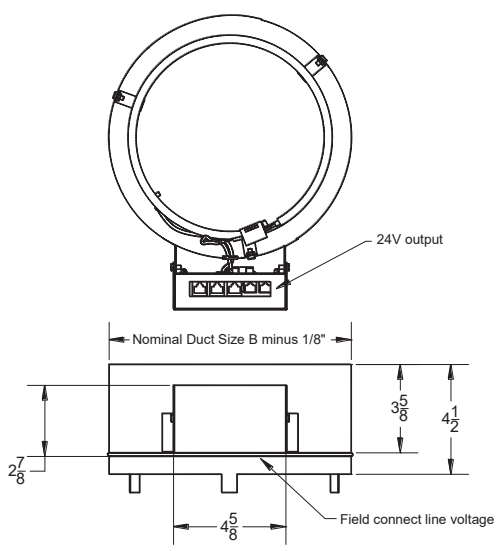
## Controller / Thermostat

- Each T<sub>3</sub>SQ-M primary diffuser comes with a controller / thermostat.
- 24VAC RJ-12 control cable connection.
- Room sensor with LCD display
- Provides Setpoint Temperature adjustment & room temp display.
- Interfaces with a USB module in order to interface with software for further functionality.
- Dimensions are 3" x 3 1/4"



## Inlet Heater (Supplemental)

- Installs into neck of diffuser
- 120V, 208V, or 277V single phase input power (field connect)
- Black heat element
- SCR modulating heater control
- Ships loose for field installation
- Integrated wiring interface box
- Two automatic reset thermal cutouts
- Airflow proving switch



Available kW:

Inlet Size	kW			FLA		
	120V	208V	277V	120V	208V	277V
6	0.75	0.75	0.75	6.3	3.6	2.7
8	1.0	1.0	1.0	8.3	4.8	3.6
10	1.25	1.5	1.5	10.4	7.2	5.4
12	1.25	2.0	2.0	10.4	9.6	7.2

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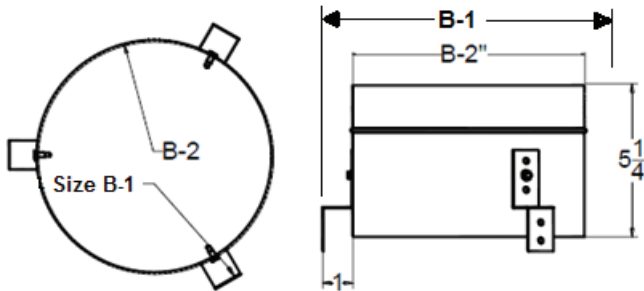
Optional Accessories

Check  if provided.

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**Pressure Relief Ring**

- Relieves pressure by bypassing excess supply air to the ceiling plenum as the control disc closes.
- Attaches to diffuser inlet.
- Duct size is 2" smaller than diffuser inlet size (B-1). Relief ring inlet matches duct size (B-2).
- Performance will be based on the relief ring size.
- Relief rings cannot be used with neck heaters.



General Description

The T<sub>3</sub>SQ-M (Primary unit) and T<sub>3</sub>SQ-D (secondary unit) are electronically controlled through a 12V DC actuator capable of varying the supply of cold and warm air into the space by means of regulating a variable aperture damper, known as a control disc, vertically in the diffuser.

Supply air from the variable geometry diffuser shall discharge horizontally in a 360° pattern and shall maintain air movement in the space throughout the range of volume variation from 100% to 25%.

As the volume of air is decreased by the control disc, the velocity of air is increased, thereby maintaining the longest throw and best entrainment. This ensures superior air distribution at all damper positions.

- The curvature of the backpan works with the formed edges of the face panel to deliver a tight horizontal air pattern, without excessive noise or pressure drop over the full range of operation.
- The position of the control disc is varied by linear drive actuator mounted on the control disc.
- When the zone temperature is 1°F above setpoint, the diffuser is in cooling mode. When the zone temperature is 1°F below setpoint, the diffuser is in heating mode.
- A built-in auto-calibration feature ensures that the volume control damper position is always correct.
- Optional SCR modulating control inlet electric heater, available up to 2 kW depending on inlet size and voltage, is mounted in the neck of the T<sub>3</sub>SQ-M or T<sub>3</sub>SQ-D diffuser. (Line voltage must be supplied to the electric heaters.)
- The T<sub>3</sub>SQ diffuser is designed to satisfy architectural, as well as, engineering criteria. The strong, clean, unobtrusive lines harmonize with the ceiling, without sacrificing performance. The standard finish is #26 White.
- The face panel and backpan are constructed from 18 gauge steel. The formed outer edge also assures a straight and level surface.

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