DESCRIPTION

The Rickard range of Thermo-Disc VAV ceiling diffusers help to provide an indoor environment that maintains a consistent and comfortable temperature. Diffusers only allow the required volume of hot or cold air to enter the conditioned space according to the diffuser's set point. It is mechanically controlled and thermally powered which means it is easy to install and requires no external wiring or power supply.

Typical Applications

Can be used for single diffuser, single room applications through to large open areas with multiple diffusers on multi levels. Ideal as a retrofit solution in buildings that experience specific areas that are either too hot or too cold.

Features

- Reduces the energy consumption of a building by lowering the demand on the air handling system.
- Provides the occupant with control over their specific environment. (Temperature set point adjustable from 19 °C to 24 °C.
- Each unit contains its own in-built temperature sensing and volume control mechanism.
- Lightweight, easy to install and ideal as a retrofit solution.
- Available in a 595mm square overall size and 150 to 300mm duct neck sizes.
- Square to square and square to round diffuser styles available.
- Flush to the ceiling stylish look.
- Maintains constant air movement from 100% down to 25%.
- Discharge pattern ensures the air within the space is thoroughly mixed.
- Works when system is in cooling or heating mode.

Construction

Diffusers are of sheet steel construction and finished in a chip resistant epoxy powder coating. Matt pen white is the standard colour but others can be ordered to suit the architectural requirements*. Internal components of non-metallic construction are moulded in fire retardant Makrolon glass reinforced plastic.

Mechanism

Air volume control is achieved through the vertical up and down movement of the control disc within the diffuser. This increases or decreases the aperture size which allows either more or less conditioned air to enter the space.

The position of the control disc is varied by means of a wax filled thermal element which responds to changes in sensed room temperature. With a rise or fall in sensed temperature the wax extends or retracts the plunger, causing the mechanism to move the control disc to match the air volume requirements of the space served by the diffuser.

Testing

Methods of testing the performance of air outlets and air inlets. ANSI/ASHRAE Standard 70-2006 (RA 2011).

SUGGESTED SPECIFICATION

The diffusers shall be of the Rickard Thermo-Disc VAV ceiling diffuser range as supplied by Fantech Pty Ltd and be of the model number shown on the schedule/drawings.

They shall be manufactured from sheet steel and finished in a chip resistant epoxy powder coating. All internal components of non-metallic construction shall be moulded in fire retardant Makrolon glass reinforced plastic.

Air volume control shall be achieved through the vertical up and down movement of the control disc within the diffuser. The position of the control disc is varied by means of a wax filled thermal element which responds to changes in sensed room temperature. It shall require no external wiring or power supply.

Temperature set point shall be adjustable from 19°C to 24°C via an adjustment ring located on the diffusers thermal mechanism.

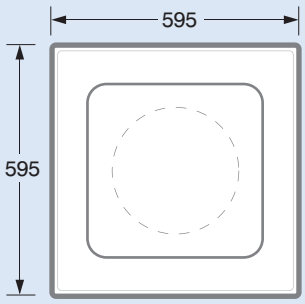
All models shall be fully tested to ANSI/ASHRAE Standard 70-2006 (RA 2011)

* Minimum 12 weeks lead time.

Scan the QR Code to view more information online.

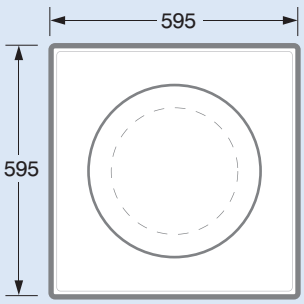
DIMENSIONS

Square to Square style



Neck/Spigot size:
Ø150
Ø200
Ø250
Ø300

Square to Round style



Neck/Spigot size:
Ø150
Ø200
Ø250
Ø300

Dimensions in mm

RANGE

Neck Size (mm)	Style	Model 595mm x 595mm		Neck Total Pressure (Pa) 20	30	40	50	60	70	80	90	100
150	□	VSD1504S595	Air flow (L/s)	63	77	88	99	108	117	125	133	140
	○	VCD1504S595	Throw (m)	2.0	2.1	2.7	3.0	3.3	3.5	3.7	4.0	4.2
			NC Level (NC)	-	-	-	-	26	28	31	33	35
200	□	VSD2004S595	Air flow (L/s)	96	118	137	153	169	184	195	207	218
	○	VCD2004S595	Throw (m)	2.0	2.6	3.0	3.2	3.6	3.9	4.2	4.5	4.7
			NC Level (NC)	-	27	28	29	30	33	36	38	40
250	□	VSD2504S595	Air flow (L/s)	140	171	198	221	242	261	279	296	313
	○	VCD2504S595	Throw (m)	2.4	2.6	3.2	3.5	3.9	4.2	4.5	4.7	5.1
			NC Level (NC)	-	27	29	31	33	36	38	40	42
300	□	VSD3004S595	Air flow (L/s)	176	216	250	280	307	332	355	377	398
	○	VCD3004S595	Throw (m)	2.5	2.8	3.3	3.7	4.2	4.6	4.8	5.2	5.4
			NC Level (NC)	27	28	30	32	35	37	39	41	43

Throw data is taken 25mm below the ceiling on a line through the centre of the diffuser with the control disc fully open & an air velocity of 0.25m/s.

Noise criteria levels apply to a single diffuser mounted in a room having a Sound Absorption of 10dB in octave bands having centre frequencies from 125Hz to 8000Hz (ie. the difference between Sound Pressure Level (dB re: 10-6 Pa) and Sound Pressure Level (dB re: 10-12 Pa) is equal to 10dB). These levels represent only the noise generated by the diffuser and do not take into account any duct-borne noise.

Diffusers are factory set for a minimum of 30% of the maximum flow levels reflected above. It should be noted that minimum air flow settings are approximate & may require to be reset on site to compensate for actual site system pressures.