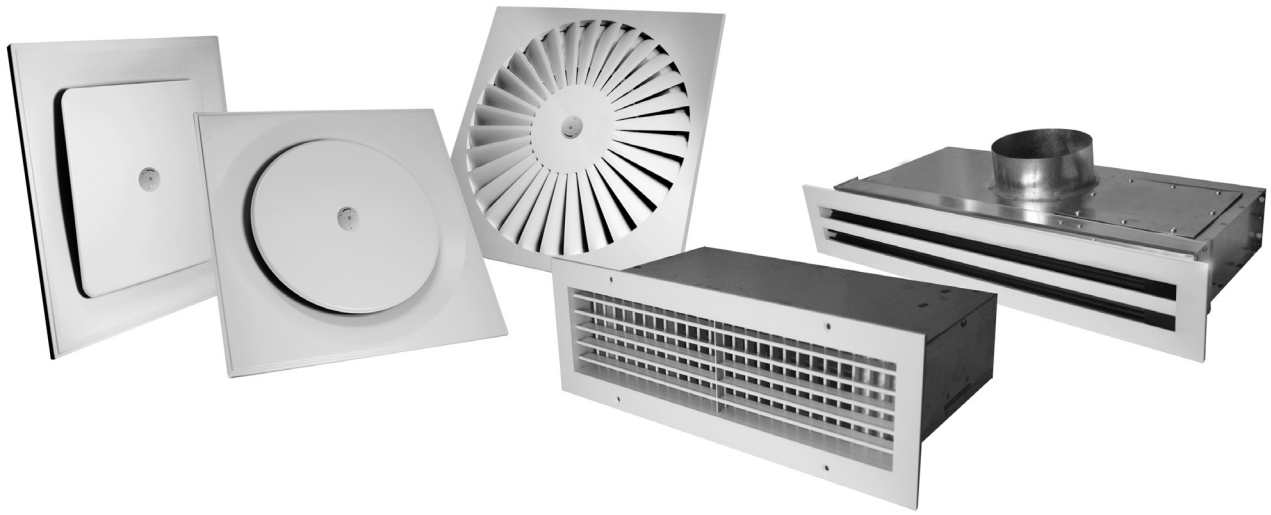


INTRODUCTION

Our next generation of Rickard VAV Diffusers not only provide occupants with optimised thermal comfort, they are also easier to install, and include more features and functionality.
They vary the volume of conditioned air entering a space in accordance with demand, which helps maintain a comfortable and productive indoor temperature.
These auto zoning diffusers can operate through a BMS or Rickard standalone software, and reduce power consumption by lowering demand on the air handling system.

They are very reliable, easy to install and can be individually programmed to provide occupants with total control over their environment. They do not require routine maintenance and will function effectively when the building's air conditioning system is in heating or cooling mode.

Depending on the demands required, Rickard's VAV Electronic diffusers maintain air volumes ranging from 100% to 10% while maintaining constant outlet velocity, which effectively mixes the air and maintains a healthier environment.

Typical Applications

The Rickard Electronic diffuser system can be as simple as one diffuser in a single room or scaled up to work within large open areas with multiple diffusers on multi levels of a building.
60 diffusers can be accommodated on a single Rickard Master Communication Unit (MCU) and multiple MCU's can be connected to a BMS.

Construction

Diffusers are of sheet steel construction and finished in a chip resistant epoxy powder coating. Matt pen white is the standard colour but specific colours 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 opening and closing of the air outlet mechanism within the diffuser. This mechanism is driven by an electric actuator and allows more or less air to enter the occupied space.

Testing

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

CONTROL OPTIONS

The Rickard wall thermostat can control a single diffuser, or up to 15 diffusers. The standard thermostat monitors temperature and controls the set point, while the version with occupancy sensing can also detect a vacant zone and automatically switch off that zone. Generally for larger more complex applications, electronic diffusers connect to the most common BMS protocols on the market; LonWorks and BACnet/IP and MS/TP or the Rickard standalone software. Thousands of Diffusers can be connected, controlled, monitored and fine-tuned via the BMS using the Rickard Master Communications Module.

Rickard software is easy to install, commission and re-program

Rickard's easy to use software is perfect for all applications where a BMS system is not being utilised within the building. This standalone software has been developed for commissioning and setting diffuser parameters, monitoring the network, logging diffuser activity and converting a slave diffuser to a master, all from below the ceiling with a computer. Changes to office layouts are easy as each diffuser can be easily re-positioned and re-programmed according to its new environment.

The Rickard software can show you how each diffuser is connected within the zone and which diffusers make up each zone. By selecting the diffuser parameters you wish to log, data can also be viewed in an easy to understand chart and exported for storage and analysis if required. This ensures that any corrections or adjustment to the system can be made accurately and with minimum disturbance to the building occupants.

SYSTEM FLEXIBILITY

Diffusers can be individually controlled by either a wall thermostat or the on-board master controller that sends its signal back to the BMS. The entire system is then monitored and changes can be made via a computer either on-site or remotely using the Rickard stand-alone software or a BMS.

These intelligent VAV Diffusers operate on a low pressure ductwork design, making them highly energy efficient, but the pressure in the duct work must be controlled for optimal performance. For new installations duct design that achieves static regain is highly recommended. If retrofitting to existing ducting, a relief ring can be fitted to the diffuser to release air pressure when the diffusers close.

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SUGGESTED SPECIFICATION

The diffusers shall be of the Rickard VAV Electronic 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 with the opening and closing of the diffusers aperture which varies the volume of conditioned air to enter the occupied space. The aperture shall be driven by a 12V DC electric actuator which receives a signal from a Rickard diffuser's master controller.

The system shall be supplied with Rickard MLM software that is used for commissioning, setting diffuser parameters, monitoring the network, logging diffuser activity and converting slave diffusers to master diffusers, all from below the ceiling via a computer. The system can also be controlled through the building's BMS. All models shall be fully tested to ANSI/ASHRAE Standard 70-2006 (RA 2011).

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Intelligent Ventilation

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