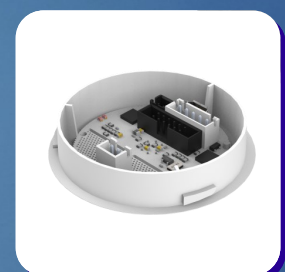


MLM SOLO BLUETOOTH® DIFFUSER

- ✱ THE PERFECT STANDALONE DIFFUSER
- ✱ SIMPLE INSTALLATION
- ✱ TEMPERATURE CONTROL OUT THE BOX,
JUST PLUG AND PLAY
- ✱ NO ZONING REQUIRED
- ✱ A FREE MOBILE APP
- ✱ SEPARATE USER AND INSTALLER FUNCTIONALITY
- ✱ OCCUPANCY SENSING AVAILABLE AS STANDARD



INTRODUCTION

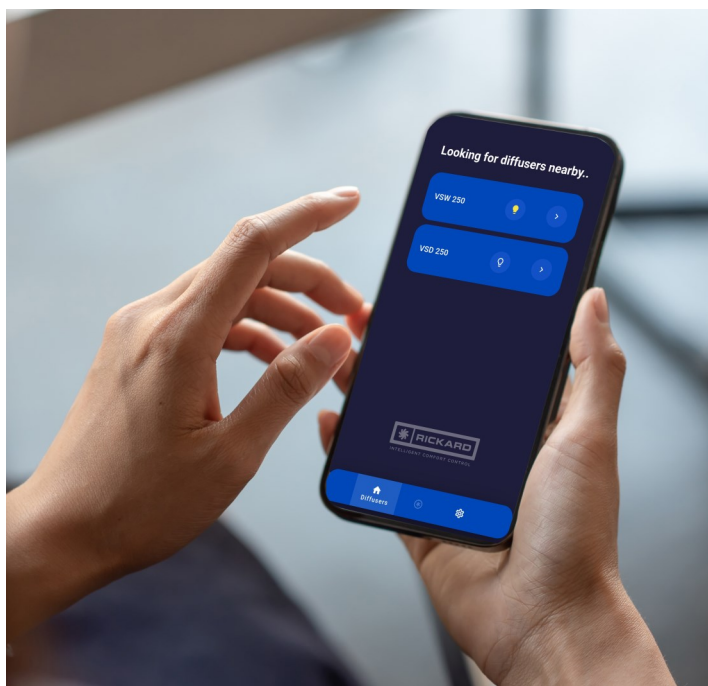
Finally, the perfect standalone diffuser. After years of experience in supplying both thermally powered, mechanical VAV diffusers and electronic, network connected VAV diffusers, Rickard has created the MLM solo Bluetooth diffuser with all the benefits of a thermal diffuser without any of its limitations.

A thermal VAV diffuser is simple to install, requires very little if any setup and works out of the box once installed. Despite these benefits thermal diffusers are slow to respond to temperature changes, do not control temperature accurately, require the diffuser to be opened to adjust the setpoint and don't provide any functional feedback.

The Rickard MLM solo Bluetooth diffuser requires no setup, works out of the box, is accurate, reliable and responsive and has a free mobile app for the occupant to adjust temperature. An administrator mode gives the installer the functionality to adjust the temperature and diffuser settings required when commissioning the system. Not only that, occupancy sensing comes as standard, top-up heating can be easily added if required and plugging in a change-over sensor allows the diffuser to control temperature in climates that need heating and cooling.

Available in VAV plate and swirl diffusers.

"Simplicity is an exact medium between too little and too much."
Sir Joshua Reynolds



FEATURES

EASE OF USE

- Temperature control out the box, just plug and play.
- No zoning required.
- Simple installation: Just connect to the neighboring diffuser or PSU for power.
- A large PSU to power a large installation (up to 15 diffusers).

- A small PSU for smaller installations and diffusers far apart (one diffuser).
- The controller is directly accessible from the face of the diffuser.

CONTROL

- A free mobile app that gives separate user and installer functionality.
- The user gets setpoint control, room and supply air temperature readings.
- The installer gets damper control for airflow system calibration, diffuser tuning, diffuser naming, top-up heater and occupancy settings and fault checking.
- The installer can also adjust diffuser minimum and maximum stops electronically and the heaters maximum output.

ENERGY SAVING

- Occupancy sensing comes as standard. Diffusers close to save fan energy.

ACCURACY

- On-diffuser sensing that utilizes powerful induction technology, a sensor mounted on the PCB and optimized the PCB's molded cover to ensure we measure room temperature extremely accurately.
- Responsive algorithm and actuator to accurately control room temperature in a narrow band.

RELIABILITY

- Robust unidirectional latched connectors and factory built power cables.
- Extensively tested in development and the field.
- The interface board is protected by a cover hard mounted to the diffuser body.
- The controller is directly accessible from the face of the diffuser removing the need to open the diffuser and risk damage.
- A combined sensor and controller reduces cables and connections improving reliability.

SAFETY

- Power Supplies come with built in surge protection.
- Heaters come with built in safety cut-outs.

STRONG

- Robust cables and connectors.
- Full steel diffuser chassis.

EXTRAS

Top up heater: Intended for cold, isolated zones. They save energy in winter by reducing the need to up the buildings supply air temperature to satisfy a few cold zones.

Wired thermostats.

Bluetooth App for your mobile phone

Supply air/change-over sensor

PSU2 for up to 15 diffusers

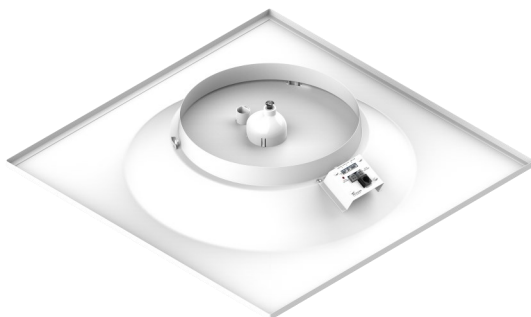
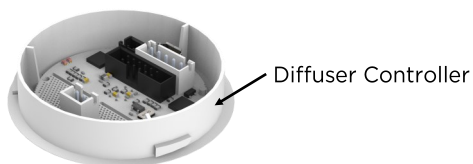
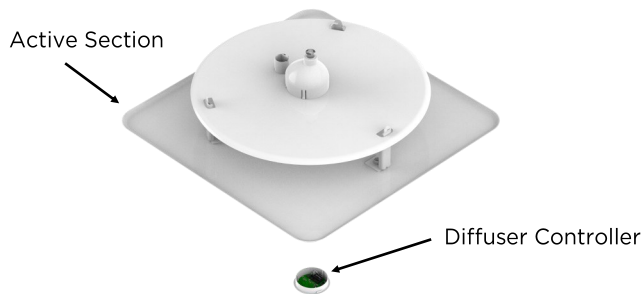
Power supply for individual diffusers

MLM SOLO BLUETOOTH DIFFUSER ARCHITECTURE

The MLM solo Bluetooth diffuser is designed to be simple to install, reliable, easy to work on, and easy to upgrade as required.

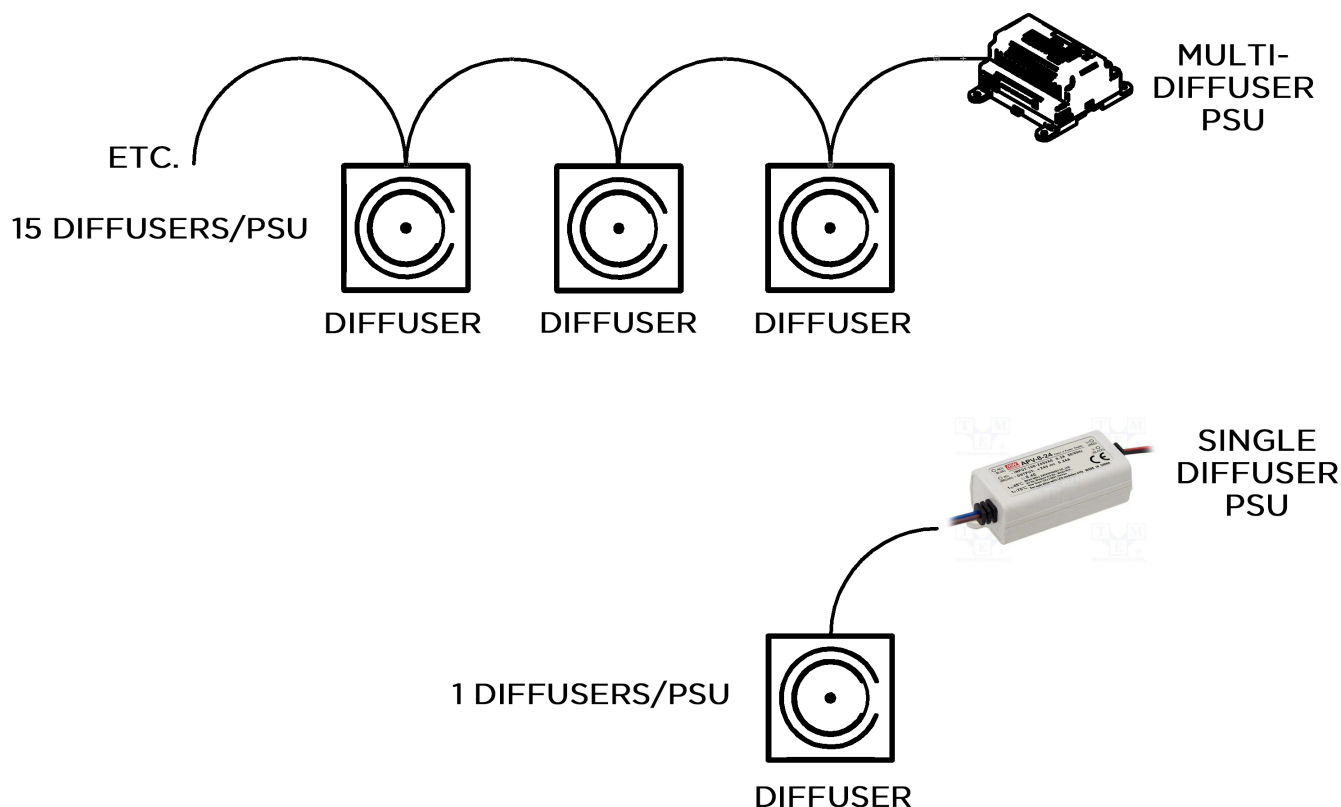
The diffusers controller is mounted on the trim plate and is accessible from the room. A button mounted in the face of the cap can be pressed to identify the diffuser on the app, or open the diffuser's damper for airflow balancing if required. The controller can be replaced by rotating the cap anti-clockwise and unplugging the cables. An occupancy sensor mounted in the centre of the cap is fitted as standard. Occupancy sensors close the diffuser when a zone is unoccupied thereby saving fan energy.

An interface board, protected by a steel cover is mounted to the back of the diffuser. The interface board has two inter-diffuser connections to power more diffusers or receive power from a nearby diffuser or PSU. It also has a connection for a supply air/ change-over sensor and top-up heater.



MLM BLUETOOTH SYSTEM ARCHITECTURE

A Power Supply Unit (PSU2) supplies power to up to 15 diffusers. The inter-diffuser power cable that carries power between diffusers in a daisy chain manner. A maximum length of 150m of inter-diffuser cables and up to 20 cables (Rickard inter-power and extension cables only) can be used per PSU2. Alternatively a small PSU is available for installations that don't have multiple diffusers near to each other.. If a heater module for top up heating is required, a 220V power socket is required for each diffuser.



INSTALLATION GUIDELINES:

- A Multi-diffuser PSU can power a maximum of 15 diffusers.
- Do not exceed 150m of Inter-diffuser cabling.
- Do not exceed 20 sections of Inter-diffuser cabling i.e. a total of 20 inter-diffuser cables and inter-diffuser cable extensions.
- Diffusers fitted with heating require a 220V outlet to be powered.
- Ensure the heater outlets have a flow interlock installed in the ducting to cut power to the heaters when there is no airflow.
- Install the supply/change-over sensor in the flex as far away from the heater as possible.
- A Single diffuser PSU can power one diffuser only.

MLM SOLO BLUETOOTH APP

A mobile phone MLM Solo Bluetooth app makes it possible to connect to all of the diffusers that are powered and in range. The app gives the user, setpoint control, room and supply air temperature readings. Separate user and installer functionality in the app. The mobile app gives the installer manual control for airflow system calibration, diffuser tuning, diffuser naming, top-up heater and occupancy settings and fault checking. Diffuser Minimum and Maximum damper limits can be adjusted electronically. The diffusers Heater maximum can also be adjusted.

Rickard diffusers are shipped as Primary diffusers. It is not necessary to use the app for the MLM Bluetooth standalone diffusers to operate.

WARRANTY

Rickard Air Diffusion (Pty) Ltd. warrants that its electronic diffusers, including options or accessories shall be free from defects in material or workmanship for a period of two years from the date of shipment and agrees to repair or replace, at its option, any parts that fail during said period due to any such defects which would not have occurred had reasonable care been taken, provided that such parts have been inspected by Rickard and found defective and provided the diffusers have been given normal and proper usage and all parts and controls remain unaltered.

Rickard makes no warranty of merchantability of products or of their fitness for any other express or implied warranty which extends beyond the limited warranty above.

Rickard's liability for any and all losses and damages resulting from defects shall in no event exceed the cost of repair or replacement of parts found defective upon examination by Rickard. In no event shall Rickard be liable for incidental, indirect or consequential damages or damages or injury to persons or property. Rickard shall not be responsible for freight to or from its premises in connection with the inspection repair or replacement of parts under the terms of this limited warranty nor for the cost of removal or installation.

This warranty excludes any nonstandard options or accessories installed in the field or factory.