

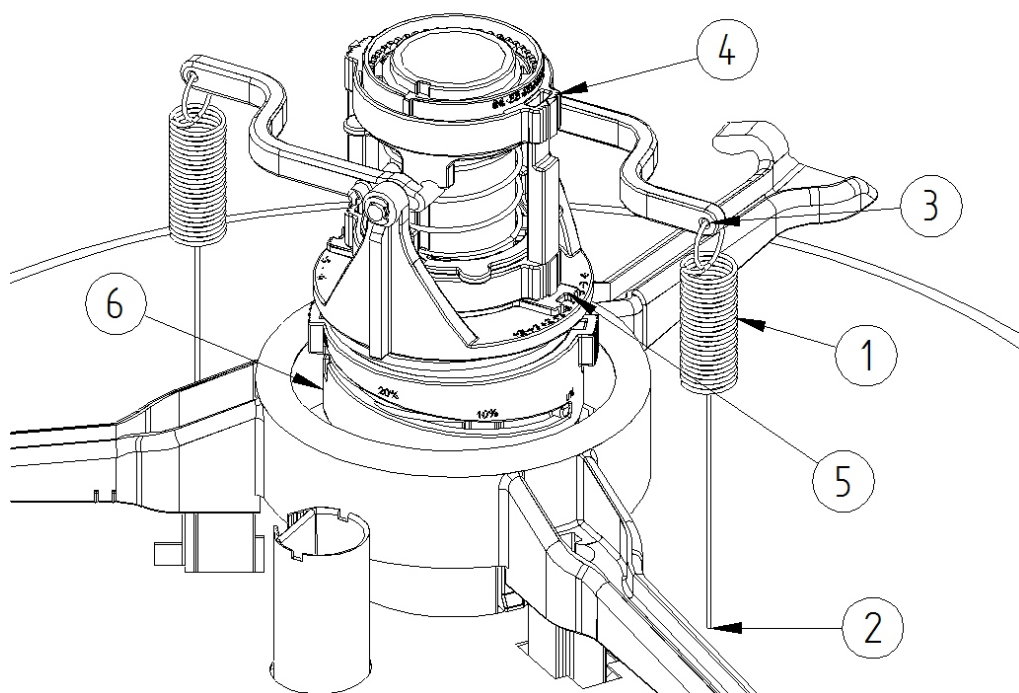
## Installation, Operation and Maintenance Manual

### Heating and Cooling Thermal VAV Ceiling Diffuser with Room Set Point Adjustment and Heating Offset Adjustment

Please study this manual carefully and pay particular attention to all warnings and precautions. Should anything not be entirely clear, please do not hesitate to contact your nearest technical support centre.

#### QUICK OPERATING INSTRUCTIONS

1. All actuators are supplied with the control disk springs (1) connected to the control disc (2). Disconnecting the springs opens the diffuser fully for commissioning purposes.
2. After commissioning, ensure that each control disc spring is attached to both the control disc and the lever arm (3).
3. To adjust room temperature setpoint, turn the blue ring assembly (4) to the desired temperature indicated (19°C/66°F to 24°C/74°F) or (22°C/72°F to 26°C/79°F) depending on the model supplied.
4. To offset the setpoint in heating mode, turn the green ring (5) to the desired value. The value displayed offsets the actuator from the setpoint value by the value indicated.
5. Calibrated set point (22°C/72°F or 24°C/75°F depending on the model) is indicated by the white marking.
6. The blue adjustment ring has a small arrow above the grip indicating its current position.
7. Minimum airflow can be adjusted from 30% of maximum down to fully closed (0%) of maximum. This is done by rotating the grey minimum flow adjustment ring (6) clockwise.



## **GENERAL NOTES**

1. All Rickard Thermo-Disc thermally actuated ceiling diffusers are factory calibrated and set to 22°C/72°F or 24°C/75°F depending on the model. It is strongly recommended that the set-point is not adjusted until the complete air-conditioning system is fully commissioned and functioning properly.
2. Since these diffusers are thermally powered, they require absolutely no pneumatic or electrical power to actuate the control damper.
3. CAUTION: Do not force the diffuser open by either pulling the control disc down or pressing the lever arms down. This will damage the actuator. For proper operation see section 'Commissioning the Thermo-Disc Diffuser' below.

## **DIFFUSER MOUNTING AND ACCESS**

1. The Rickard VCD/VSD is suitable for mounting into various types of ceiling. Refer to the relevant catalogue section for mounting instructions.
2. To protect the diffuser from dust and scratches, it is often beneficial to install the diffuser without removing it from the plastic bag. The bag may then be cut away when all building work is complete.
3. To access the inside of the diffuser from below, unclip the trim from the tile by rotating the plaque/trim plate anti-clockwise from below. The trim plate with the actuator and control disc mounted on it may then be accessed. If required, the entire sub-assembly can be removed from the ceiling by unclipping the safety wire spring.

## **SUMMER/WINTER CHANGEOVER**

1. This facility is used only when primary heating (at the AHU) of the supply air, is provided.
2. The changeover thermal element is shipped with each Series 4 Thermo-Disc diffuser.
3. The actuator will be in "cooling mode" at supply air temperatures below 24°C or 75°F.
4. The changeover thermal element will switch the actuator to "heating mode" at supply temperatures above 31°C or 88°F.
5. To ensure correct operation supply temperatures inside the range of 22°C – 33°C or 72° – 92°F should be avoided.
6. In "heating mode" the action of the actuator will be reversed i.e. the opposite of "cooling mode".

## **COMMISSIONING THE THERMO-DISC DIFFUSER**

1. Connect the flexible duct to the inlet collar and place the diffuser between the ceiling tee bars or fix it to the ceiling using the concealed fixing method.
2. As the actuator is already set to 22°C/72°F or 24°C/75°F depending on the model, no adjustment should be necessary. It is strongly recommended that no adjustments be made until the air-conditioning system is fully operational.

3. Should a warmer or cooler room temperature be required the setpoint can be adjusted by first unclipping the plate support fixture.
4. Allow the faceplate to swing down from its safety wire to expose the thermal mechanism. Turn the Blue adjustment knob (4) clockwise to adjust the room setpoint to a cooler setting and anti-clockwise to a warmer setting. The setpoint adjustment range is (19°C/66°F to 24°C/74°F) or (22°C/72°F to 26°C/79°F) depending on the model supplied. To offset the setpoint in heating mode, turn the green ring (5). The value displayed offsets the actuator from the setpoint value by the value indicated. This offset can provide a green energy saving in heating mode if applied in the negative direction.
5. The minimum air adjustment knob (6) will also be visible. To adjust the required minimum air flow position between 0% and 30% of the maximum air flow simply rotate the minimum air adjustment knob to align the indicated percentage flow. Ensure the scale correlates with the diffusers neck size.
6. For system commissioning purposes the diffuser can be opened to full flow by simply unhooking the control disc from the actuator lever arms.
7. Return the face plate to its original position and rotate it clockwise (perspective from below the diffuser) to engage the sub-assembly fixture.
8. CAUTION: Do not force the diffuser open by pulling the control disc down or pressing the lever arms down. This will damage the actuator.

## **MAINTENANCE**

1. The Rickard THERMO-DISC DIFFUSERS require no routine preventative maintenance.
2. Should the need for adjustment arise, all components have been designed to be easily accessible and such adjustments can be easily carried out with minimal disruption to room occupants.
3. Any dust on the face of the diffuser can be removed with a damp cloth and mild detergent.

## **RICKARD PRODUCT WARRANTY**

RICKARD AIR DIFFUSION (Pty) Ltd (RICKARD) warrants that its Thermal Diffusers shall be free from defects in material or workmanship for a period of ten years from the date of shipment and agrees to repair or replace, at its option, any parts that fail during said ten year 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 components 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 purpose or any other express or implied warranty which extends beyond the limited warranty above. RICKARD'S liability for any or 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 for injury to persons or property. RICKARD shall not be responsible for freight to or from its plant 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.



INTELLIGENT COMFORT CONTROL

Rickard Air Diffusion Pty. Ltd. reserves the right to change specifications and data without prior notice.