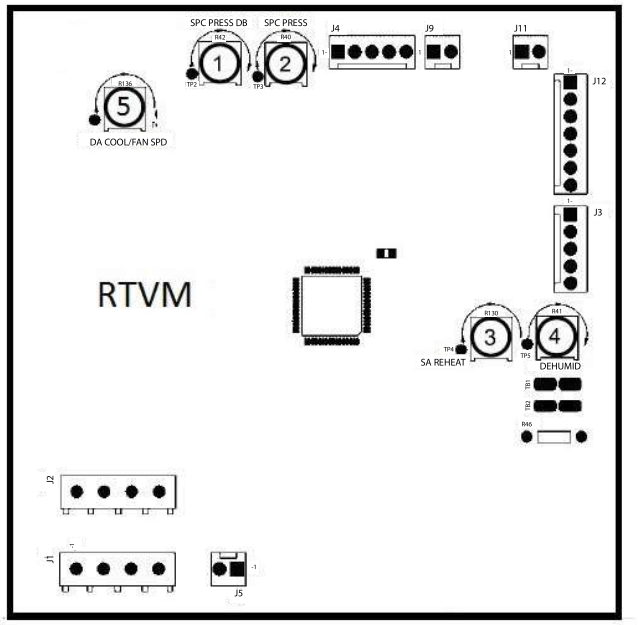
RTVM Module Installation

⚠WARNING

Hazardous Voltage!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

Figure 6. ReliaTel ventilation module (RTVM)



1 = Space Pressure Deadband (iwc)
2 = Space Pressure Setpoint (iwc)
3* = R130 (SA REHEAT SP) = Design Minimum Position Setpoint at Minimum Fan Speed Command
4* = R41 (DEHUMID) = DCV Minimum Position at Minimum Fan Speed Command
5* = R136 (DA COOL/FAN SPD) = Design Minimum Position at 50% Fan Speed Command
*Setpoints only required for Single Zone VAV units with Demand Controlled Ventilation installed.

Installing the RTVM Module in Horizontal Supply Configured Units

1. Inspect the BAYRTVM001AA kit and locate the following items:
   - RTVM Module - X13651517*
   - 4x #6-32 x 0.75 - X25330033130 Phillips Panhead Screws
   - 4x #10-16 x 0.50 Sheetmetal Screws
   - 1x Mounting Plate - 438573000100
   - RTOM to RTVM Harness - 438573030100
   - RTVM to ECA Harness - 438573030200
   - BAYRTVM001AA Label - X39002335200
2. Remove Control box access panel, Return air/Filter access panel and Fan access panel. See Figure 1, p. 5.
3. Using a #1/8 bit, drill 4x 0.125" diameter holes where necessary as shown in Figure 7 and Figure 8 below.
4. Using 4x 10-16 Sheetmetal screws, mount the 438573000100 RTVM mounting plate to the panel as shown in Figure 7 and Figure 8 below.

Figure 7. Installing the RTVM in horizontal supply configuration (B cabinet)

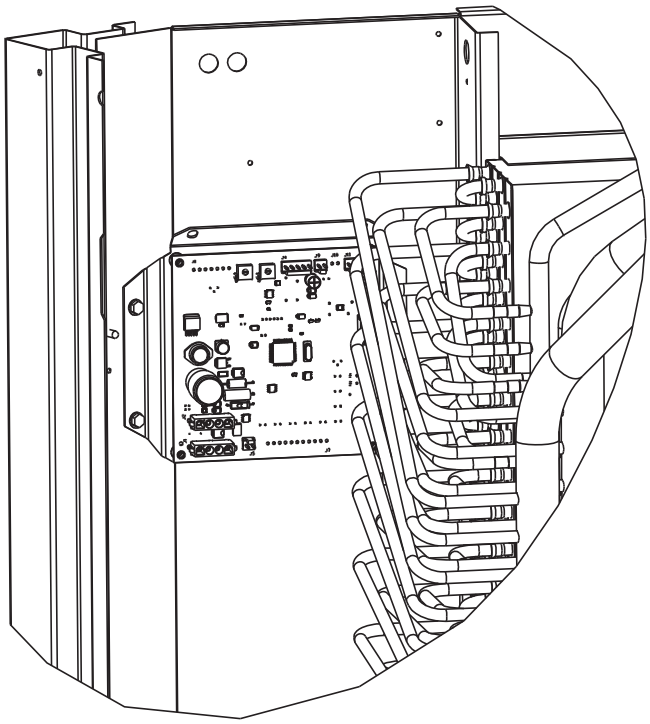
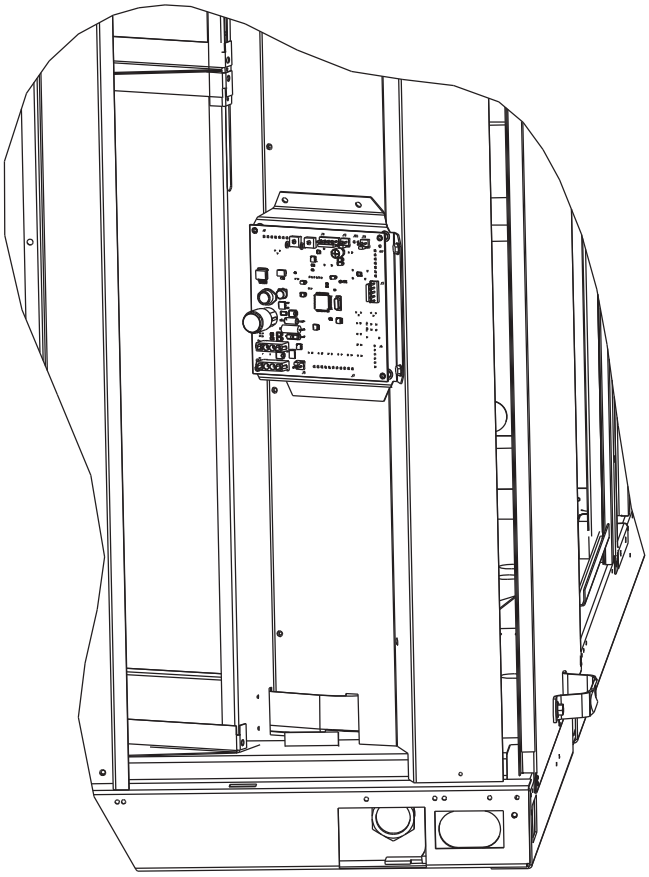


Figure 8. Installing the RTVM in horizontal supply configuration (C cabinet)



5. Mount the RTVM to the RTVM mounting plate using the provided 4x #6-32 screws.
6. Return to the unit control box.
7. Locate and remove the following wires connected to the RTOM board at the J2 connector:
   - W54
   - W55
   - W56
   - W57
8. Return to the fresh air section of the unit.
9. Locate and remove the following wires connected to the RTEM board:
   - W54
   - W55
   - W56
   - W57

Note: *Wires W54, W55, W56, and W57 will be replaced with a new harness included in the BAYRTVM001AA kit.*

10. Note the wire routing path for the above wires and remove them from the unit.
11. In the BAYRTVM001AA kit, locate the RTOM to RTVM Harness - 438573030100.
12. Connect the end of the 438573030100 harness labeled "RTOM - J2" to the J2 connection on the Options Module.
13. Using the path noted from wires W54, W55, W56, and W57, route the remainder of the 438573030100 harness through the control box - pull them through the large hole in the far left side of the control box and then through the hole in the divider panel.
14. Connect the end of the 438573030100 harness labeled "RTVM - J1" to the J1 connection on the RTVM module.
15. In the BAYRTVM001AA kit, locate the RTVM to ECA Harness - 438573030200.
16. Connect the end of the 438573030200 harness labeled "RTVM - J2" to the J2 connection on the RTVM Module.
17. Carefully route the wiring of the 438573030200 harness from the RTVM module to the ECA, while avoiding any sharp edges. Connect the end of the 438573030200 harness labeled "ECA" to the 4-pin "MBUS/XFMR1" connection on the RTEM/ECA Module.
18. Using the supplied zip ties, bundle any excess wiring and zip tie it out of any unit interference.
19. Using the supplied zip ties, secure the 438573030200 and 438573030100 harnesses to ensure that there is no loose wiring that could get caught in any moving parts.
20. Install the “BAYRTVM Kit Has Been Installed” label next to the main unit wiring diagram label.

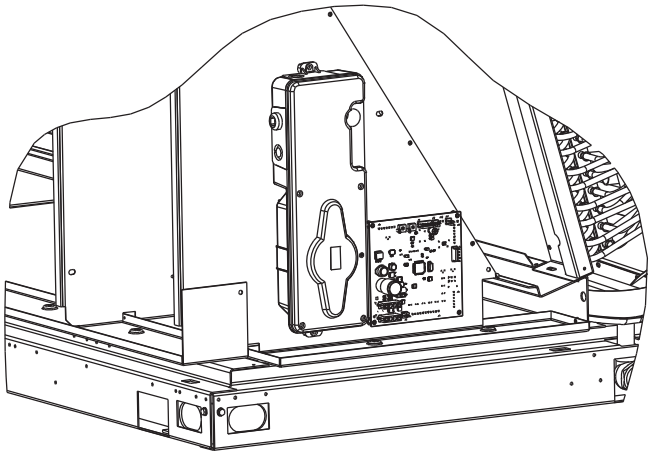
Unit Close up

1. Replace Filter/Coil access panel.
2. Replace Supply fan access panel.
3. Replace Compressor/Control box access panel.

Installing the RTVM Module in Downflow Supply Configured Units

1. Inspect the BAYRTVM001AA kit and locate the following items:
   - RTVM Module - X13651517*
   - 4x #6-32 x 0.75 - X25330033130 Phillips Panhead Screws
   - RTOM to RTVM Harness - 438573030100
   - RTVM to ECA Harness - 438573030200
   - BAYRTVM001AA Label - X39002335200
2. Remove Control box access panel, Return air/Filter access panel and Fan access panel. See Figure 1, p. 5.
3. Using a #32 bit, drill 4x 0.116" diameter holes where necessary as shown in Figure 9.

Figure 9. Installing the RTVM in downflow supply configuration



4. Mount the RTVM module to the panel as shown in Figure 9 using the provided 4x #6-32 screws.
5. Return to the unit control box.
6. Locate and remove the following wires connected to the RTOM board at the J2 connector:
   - W54
   - W55
   - W56
   - W57
7. Return to the fresh air section of the unit.
8. Locate and remove the following wires connected to the RTEM/ECA board :
   - W54
   - W55
   - W56
   - W57

Note: *Wires W54, W55, W56, and W57 will be replaced with a new harness included in the BAYRTVM001AA kit.*

9. Note the wire routing path for the above wires and remove them from the unit.
10. In the BAYRTVM001AA kit, locate the RTOM to RTVM Harness - 438573030100.
11. Connect the end of the 438573030100 harness labeled "RTOM - J2" to the J2 connection on the Options Module.
12. Using the path noted from wires W54, W55, W56, and W57, route the remainder of the 438573030100 harness through the control box - pull them through the large hole in the far left side of the control box and then through the hole in the divider panel.
13. Connect the end of the 438573030100 harness labeled "RTVM - J1" to the J1 connection on the RTVM module.
14. In the BAYRTVM001AA kit, locate the RTVM to ECA Harness - 438573030200.
15. Connect the end of the 438573030200 harness labeled "RTVM - J2" to the J2 connection on the RTVM Module.
16. Carefully route the wiring of the 438573030200 harness from the RTVM module to the ECA, while avoiding any sharp edges. Connect the end of the 438573030200 harness labeled "ECA" to the 4-pin "MBUS/XFMR1" connection on the RTEM/ECA Module.
17. Using the supplied zip ties, bundle any excess wiring and zip tie it out of any unit interference.
18. Using the supplied zip ties, secure the 438573030200 and 438573030100 harnesses to ensure that there is no loose wiring that could get caught in any moving parts.

Install the “BAYRTVM Kit Has Been Installed” label next to the main unit wiring diagram label.

Unit Close up

1. Replace Filter/Coil access panel.
2. Replace Supply fan access panel.
3. Replace Compressor/Control box access panel.

Minimum Position Setpoint Adjustment Procedure

⚠CAUTION

Live Low Voltage Electrical Components!

The following procedure involves working with live low voltage electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform this procedure. Failure to follow all electrical safety precautions when exposed to live electrical components could result in minor to moderate injury.

To adjust the DCV Minimum and Design Minimum Position power must be connected to the economizer module.

1. Close the unit's disconnect and place the unit into Step 1 (Fan ON) of Service Test Mode by momentarily shorting the Test terminals at the unit LTB 1.
2. Using caution, adjust the DCV UL and DCV LL potentiometers on the RTEM module to full clockwise.
3. To select the DCV Min Position @ Minimum Fan Speed Command, adjust the potentiometer R41 (labeled DEHUMID) located on the RTVM module to get the desired outside airflow.
4. Using caution, adjust the DCV UL and DCV LL potentiometers on the RTEM module to full counter clockwise.
5. To select the Design Min Position @ Minimum Fan Speed command, adjust the potentiometer R130 (labeled SA REHEAT) located on the RTVM module to get the desired outside airflow.
6. Place the unit into Step 3 (Cool 1) of Service Test Mode by momentarily shorting the Test terminals at the unit LTB 1 until only the 1st compressor is running.
7. To select the Design Min Position @ 50% Fan Speed command, adjust the potentiometer R136 (labeled DA COOL - FAN SPD) located on the RTVM module to get the desired outside airflow.
8. Place the unit into Step 4 (Cool 2) of Service Test Mode by momentarily shorting the Test terminals at the unit LTB 1.
9. To select the Design Min Position @ 100% Fan Speed command, adjust the potentiometer DESIGN MIN POS located on the RTEM module to get the desired outside airflow.
10. Using caution, adjust the DCV UL and DCV LL potentiometers on the RTEM module to full clockwise.
11. To select the DCV Min Position @ 100% Fan Speed command, adjust the potentiometer DCV MIN POS located on the RTEM module to get the desired outside airflow.
12. Adjust the DCV Setpoint Upper Limit to the correct setpoint per the application requirements.
13. Adjust the DCV Setpoint Lower Limit to the correct setpoint per the application requirements.
14. Replace all panels on the unit.
15. Cycle power to the unit.

Unit Close up

Replace all panels.