



**NOTES:**

1. The Mechanical Systems Control Contractor (MSCC) shall be responsible for the selection of, providing & installing all DDC controllers & control devices to accomplish the sequence of operation specified herein. All products, manufacturers & installation requirements shall conform to Masterspec 230905 - "Mechanical Systems Controls".
2. The MSCC shall provide & install all DDC & related wiring, conduit & j-hook hanging systems. See Masterspec 230905 - "Mechanical Systems Controls" for raceway/conduit, cabling and labeling requirements.
3. MSCC shall integrate unit controls back to the UMHC unified front end (i.e. Desigo) per standards outlined in Masterspec 230905 - "Mechanical Systems Controls" All front end graphics, point mapping, alarm & trend management shall be the responsibility of the systems integrator contracted by Systems Monitoring.

**SEQUENCE OF OPERATION:**

**A. Normal Mode:**

- A.1. On a call for cooling, the thermostat signals for the heating control valve to modulate toward the closed position. On a further call for cooling, the thermostat signals for the volume damper to modulate from its minimum setting to its maximum setting.
- A.2. On a call for heating, the thermostat signals the volume damper to modulate towards its minimum position. On a further call for heating, the thermostat signals the heating coil valve to modulate toward the full open position.

**B. Smoke Control Mode:**

- B.1. Upon loss of either supply air or return air duct pressure (i.e. 0.25" or less), as sensed by local pressure switches mounted in respective VAV SA inlet & RA discharge ducts, both the SA & tracking RA VAV boxes shall go to 100% open. Upon increase in both SA and RA duct pressure (0.25" or greater), VAV boxes shall resume normal operation per above.
- C. To support pressure switch maintenance issues, the MSCC shall program an override point which shall allow the BMS to monitor the active pressure switch input status, but can allow a system operator to override the VAV box control into either "Normal Mode" or "Smoke Control Mode".

**Note to Editor: Delete the following paragraph and associated occupancy sensor in above diagram if occupancy sensors are not used:**

- D. When VAV box senses that the space is unoccupied, minimum airflow reduces to 0 CFM and the VAV box modulates to maintain temperature range of 70°F - 74°F.

**TYPICAL DDC VAV UNIT W/  
REHEAT CONTROL & TRACKING  
RETURN DIAGRAM - RETROFIT  
IN EXISTING UH FACILITY**



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**TYPICAL DDC VAV UNIT W/  
REHEAT CONTROL & TRACKING  
RETURN DIAGRAM WITH OCCUP  
SENSOR - RETROFIT IN  
EXISTING UH FACILITY**