Professional Property Inspections

WHAT'S A VAV BOX IN A COMMERCIAL BUILDING?

VAV stands for Variable Air Volume. A VAV box controls airflow in commercial and can be a frequent cause of space temperature issues in commercial properties. The VAV is basically a sheet-metal box usually hung in the ceiling which is connected to a thermostat. If the thermostat is calling for more cooling, it opens a damper and allows more airflow through that particular zone of cooling. If a VAV isn't working correctly, the temperature for the zone of cooling will be uncomfortable. The VAV box controls the flow of cool air from a central air conditioning source and, assuming it's working properly, reduces or increases the flow of air into a particular air conditioning zone, based on the thermostat setting.

One of the more common complaints that building occupants have are temperature related. The air-conditioning demands on and air conditioning zone with lots of window glass is much different than the temperature demands on interior spaces. So, there is typically a separate VAV box for spaces with a large heat load from windows versus a minimal heat load for interior space.

We have seen tenants not renew their lease because of frustration with interior temperatures. Long-term temperature issues can reflect poorly on building management. Tenant's may continually complain about improper temperatures to no avail. However, if the building management understands VAV box issues, the repair can be a fairly simple, part of a good maintenance program. In a 100,000 square-foot commercial building, there could be 50 VAV boxes, and several of them may be malfunctioning. This issue can even cause occupancy rates to fall in commercial properties.

Sometimes, even air conditioning technicians do not address the problem correctly, causing spaces to be either too warm or too cool.

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