

## A Balancing Act

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Air balance is an important part of HVAC maintenance

When it comes to HVAC, no news is good news for restaurant facility managers. When you start hearing chatter about the building being hot and humid, drafty, smoky or uncomfortable, you know a problem has already taken root. In addition to creating unhappy customers and employees, these comfort issues typically are indicators of energy inefficiency within a system. So, what can facility managers do to prevent discomfort and energy threats?

### Identifying Common Problems

“Facility managers need to be trained on air balance and push it to their service contractors,” recommends Jeff Dover, CRFP, Facilities Resource Manager at RFMA.

A good place to start is gaining a foundational understanding of building pressure and common HVAC deficiencies, along with following seven easy steps. Most importantly, learn how to look for negative building pressure. Remember, the goal is to stay slightly positive in building pressure (Figure 1).

There are three methods to identify negative building pressure. The first and most reactive method is to look for signs that your building is negative. These signs are hot/cold spots, entry doors that are hard to open, poor smoke capture, humidity, condensation dripping from diffusers and drafts (Figure 2).

Second, you can measure the building pressure yourself or with the help of your service contractor by using a pressure reading tool, such as an anemometer, to get a ballpark pressure reading. The third and most accurate method is to hire an air balance firm to check the facility’s building balance once a year. If you observe comfort-related issues or a negative building pressure reading, then an air balance needs to be scheduled.

### Investigating the Cause

What causes a building to become negative or unbalanced? The usual offenders are equipment deficiencies, improper preventive maintenance programs and adjustment errors, such as kitchen staff fiddling with thermostats or service contractors opening or closing dampers.

Here are 10 common deficiencies you or your service contractors should be on the lookout for:

1. Exhaust fans in poor condition
2. Supply air leaking above ceiling
3. OA dampers improperly installed
4. Exhaust fans not sealed to curb or hinged correctly
5. Dirty compartment/coil in the RTU
6. Tops of diffuser not insulated
7. Filters improperly sized for hoods
8. MUA not operating properly
9. Dirty indoor/outdoor filters
10. Worn/broken belts

### 7 Steps to HVAC Balance

Once you’re ready to bring a facility back into balance, you will need to complete seven easy steps. These steps may be

completed by the facility manager or in a partnership with a service contractor. To get started, use the facility's previous balance report as a baseline for data.

One principal engineer at a hamburger fast-food chain, overseeing thousands of locations, explains how her team uses the air balance report to troubleshoot comfort issues: "The reports really are my first line of defense when someone says 'Hey, my store is cold/hot/humid,' " she said. "The first thing I do is pull out the T&B report and see what it says. I look at the punch list and ask, 'Was anything wrong? Not fixed?' It helps when I have to remotely assess or diagnose problems."

Facility managers need to trust that their service contractors will notify them of airflow-related issues. The technicians are on the roofs and looking at the HVAC system components more than anyone else. If the restaurant has negative pressure or other symptoms, the service contractor needs to inform the facility manager right away. After all, you want your customers and employees to be comfortable and sing your praises.

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