

Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures.

RTU's (Roof Top Units)

Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the unit's design airflow when possible. Some RTUs were not fully accessible for measurement and their supply airflow was verified through other means, typically a fan performance curve as noted on individual assets. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Any equipment that fell outside of this tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans

Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow. Any EF's that fell outside of this tolerance is noted throughout the report.

Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

Technical Summary

The purpose of this visit was to provide a baseline air balance for the store and identify any HVAC related issues to improve the overall performance and efficiency of the system as well as overall comfort of the store. Throughout the report below you will find details, photos, and videos highlighting these issues as well as recommendations to help resolve them. The main RTU at this store appears to have recently replaced and per our communication, a soffit was recently removed from above the floral area. The new RTU has been balanced to design airflow (40 ton-unit), and the removal of the soffit does not appear to have had any major impact on the store's HVAC. Interviews with store management and floral employees did not reveal any major issues, and the space appeared comfortable and free of any drafts during our visit.

Two major issues to highlight:

1. The store fire monitor system is in alarm and needs to be addressed. Store management indicates this has been a constant issue and the local Fire Department has provided several warnings. Recommend this is addressed. All units appear unaffected by the alarm.
2. RTU-11, which serves the produce area at the main entrance, has its gas valve in the off position. We are unsure of the reason. Recommend this is addressed as winter months are approaching fast.

The original store plans had designs for a very positively pressurized space. As several exhaust hoods originally intended to be operational are no longer used, this proves to be an excessive amount of outside air. We have adjusted the OA values to much lower amounts as indicated/highlighted in the balance schedule below. This should still allow for an appropriately positively pressurized store without excessive amounts of outside air that can lead to inefficient RTU operation and a humid space during summer months. ALL RTU OA FILTERS were found to be clogged. We highly recommend these are cleaned and replaced if necessary and NTAB returns to the store to more accurately set outside air levels. RTU-6 also needs its economizer repaired so its OA can be set.

National TAB



The deli cooking area has some issues with hood capture as well as overall comfort. When heavy cooking is taking place in the deli, it can be smelled throughout the store. We have highlighted this issue in detail below. It is highly recommended that the MAU is reconfigured to supply PSPs on both exhaust hoods, as this will help with pressurization as well as hood capture.

RTU-3, serving the bakery, is on the low end of design airflow. The ducts and air devices appear very dirty and diffuser's within the actual bakery are supplying around 80% of design airflow. Several employees complained of comfort in this space. The drop for this RTU appears restrictive and it supplies 3 sidewall grills that discharge into the large open space between the bakery and deli. Recommend system is thoroughly cleaned and diffuser balance is performed.

RTU-8 and RTU-11 are on the high end of design airflow and their motors are operating above FLA but within SFA. Recommend their motor sheaves are loosened and set 2 additional turns open to bring below FLA and still within supply airflow tolerance.

These and several other issues and recommendations are noted in the report below with more detail. By addressing these items, we believe the overall performance and comfort of the building can be greatly improved. We highly recommend addressing these items and having National Tab return to make further adjustments. Please feel free to reach out with any questions or concerns.