

The Benefits of Proper Air Balance in Food Processing Facilities

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Controlling airflow and quality within a food processing facility is critical to food safety and energy efficiency. The air flowing into areas where food is being processed must be tightly controlled. Achieving the optimal air balance within the different areas of the facility is important for maintaining room temperatures, eliminating the potential for contamination and for worker productivity.

The key benefits of achieving and maintaining proper air balance include:

- 1. Lower energy costs** — Improper air balance can place unnecessary pressure on exhaust fans and HVAC systems, requiring the equipment to work harder and longer, which impacts energy costs. A properly installed makeup air system provides conditioned replacement air that can be heated, cooled, humidified or dehumidified more efficiently to help reduce energy costs.
- 2. Condensation control** — Food safety is a priority in the food processing industry. Unwanted moisture and condensation can wreak havoc in areas where sanitation is tightly controlled. Condensation can allow moisture to gather in equipment crevices and on ledges, leading to bacteria and microbial growth. Appropriate air balance can eliminate the potential for moisture and condensation.
- 3. Temperature control** — Room temperatures within food processing facilities must be tightly controlled to maintain sanitation standards and ensure product safety. Air balance between adjacent rooms must be monitored to eliminate the potential for air to flow between areas where temperatures are highly regulated.
- 4. Eliminate airborne contaminants** — Controlling air flow and balance will eliminate the potential for airborne dust particles and contaminants to reach processing areas where products being produced. Food plants such as meat-processing facilities have the potential for dangerous airborne contaminants. In these facilities, the direction and frequency that air flows is especially important. The air from kill floors and rendering areas, where raw poultry and meat are handled, must never flow to areas such as packaging, where the airborne bacteria could infect the final product.

If you'd like to learn more about air balance issues, please email me at lfacemyer@stellar.net.

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