

Indoor Air Quality

The importance of maintaining acceptable levels of Indoor Air Quality (IAQ) in commercial buildings, is becoming critical to ensure building occupant's health, comfort and productivity. The ASHRAE IAQ standard, describes acceptable indoor air quality as: "Air which a substantial majority of occupants express no dissatisfaction with respect to odor and sensory irritation; and air in which there are not likely to be contaminants at concentrations that are known to pose a health risk".

Why should we be concerned about IAQ?

Some reasons are:

- People spend up to 90% of their time indoors (especially children, elderly, and chronically ill)
- 50% of illnesses are caused by or aggravated by polluted indoor air .*
- Poor indoor air quality can cause or contribute to the development of chronic respiratory diseases .**



* American College of Allergy, Asthma, & Immunology

** American Lung Association

IAQ Improvement Strategies

Eliminate

Control source of contamination (e.g. VOCs, dust, mold, bacterias)

Ventilate

Dilution of the indoor air contamination with fresh outside air.

Clean

Filtration/purification. Protect equipment from contamination.

Monitor

IAQ measuring (i.e. Temperatura*, Humedad, VOC y otros contaminantes).

* Temperature is related humidity (Relative Humidity) so we must control both to create optimal comfort.

The HVAC system has been known for improving air quality for a long time; however, an effective design is key to achieving the best results, otherwise the system itself can represent a source of pollution. Today, a good air conditioning design should focus on not only achieving thermal comfort; but, consider the use of energy, indoor air quality and comfort expectations.

Important HVAC considerations:

- ✓ Equipment and ductwork must be sized correctly.
- ✓ Buildings must have good ventilation.
- ✓ Duct must be properly sealed and have minimal leakage.
- ✓ Ensure good filtration.
- ✓ Each space in the building must be pressure balanced
- ✓ Keep Relative Humidity between 45-55%.
- ✓ Contractor must ensure good humidity control.

Lennox offers a wide range of superior products to improve indoor air quality in commercial and residential applications, such as our Healthy Climate Solutions™ and Lennox Humiditrol technology. In addition, Lennox energy recovery systems increase efficiency, reduce the maximum demand and guarantee optimal moisture values.