



Ductwork Solutions **Healthcare**



What distinguishes Healthcare buildings from other projects?

Proper ventilation and indoor air quality (IAQ) are imperative in healthcare buildings. Typically in place for temperature, humidity, and odor control, HVAC systems in healthcare environments must also guard against the creation or spread of infection and disease. Ventilation systems are engineered and take into account the designated use for each conditioned space. For example, an operating room demands more air changes per hour (ACH) than a nurse's station or typical patient's room.

This document will address concerns related or resolved by proper HVAC ductwork installation and management. [Does ductwork play a role in the solution?](#)

Concern #1

Poorly sealed ductwork leak and cause:

- higher operating expenses
- unbalanced air pressure
- may disturb unseen areas
- increase risk of circulation of infectious material

Solution #1

Lindab Safe® is a patented self-sealing air duct system. An installed Lindab Safe system is built in accordance with 2005 SMACNA HVAC Duct Construction Standards for +10" WG and meets SMACNA's Leakage Class 3 performance.

The factory-installed double-lipped EPDM gasket creates a snug single-slip connection limiting air leakage. This system does not require installers to double back and glue connection points to prevent air leakage. In fact, installation with the Lindab Safe product line is easier to maneuver, faster to install, and less expensive in operation.





Concern #2

As facilities aged, contaminated air was found to originate from fiberglass erosion of flexible duct or double wall metal duct.

Solution #2

Newly constructed buildings should consider single wall duct wrapped in insulation or Lindab Safe's Double Wall product which is constructed with a fiber retention system to reduce contamination, prevent fiberglass erosion, and maintain acoustic attributes.



Concern #3

Filter change out and duct cleaning is necessary, but proves restrictive. System cannot be turned off for long periods of time and occupants comfort must be attended.

Solution #3

Round ductwork has proven to be easier and more effective to clean than rectangular. The absence of corners saves valuable time in the healthcare setting.

There are several reasons for specifying round ductwork versus rectangular ductwork. Its round spiral shape conveys airflow with minimal energy loss while also reducing the system's noise signature. Round ductwork has the lowest possible duct friction loss for a given perimeter. It is lighter, thus easier to install and cheaper to transport. Round ductwork requires less supports per running foot and handles negative pressures with less weight and reinforcement. A round duct system can be sealed at a lower cost than rectangular. Lastly, round ductwork handles higher air velocities than rectangular ductwork while achieving the same acoustic design criteria.

Concern #4

Installation of new building products in a healthcare environment increases the risk of adverse health effects from volatile organic compounds (VOCs).

Building owners can rest easy as Linx Industries's products, including Lindab Safe, do not emit VOCs.



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