



*Comfort Solutions*<sup>®</sup>  
A Taco Family Company

# *Safer Air Doesn't Have to Cost You More*

Don't sacrifice indoor air safety due to increased energy costs. Taco Comfort Solutions' Whole Systems Approach can provide increased ventilation, safer indoor air AND reduced energy costs.



## Safer, healthier indoor air quality has never been more critical

Wearing masks and social distancing have become part of our everyday routine. Though these precautions reduce the likelihood of transmitting viruses to people and surfaces, what about the indoor air we breathe? Is it safe? Could it be made safer? We have the answers.

Taco Comfort Solutions' expertise in chilled beam systems enables us to take a Whole Systems Approach to mitigate airborne pathogens while providing healthier indoor air quality and reducing energy costs.



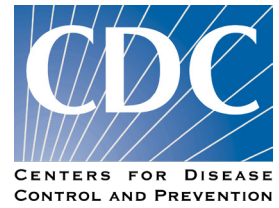
### Chilled beam systems address key expert recommendations

- No recirculation of air to adjacent spaces
- No indoor air is recirculated back into the building; 100% is exhausted outside the building
- Low velocity reduces air mixing and drafts



## Increased ventilation reduces airborne pathogens

Most experts agree that COVID-19 will not be the last pandemic, and protecting buildings from the current and future pandemics needs to be considered. And most experts agree that one of the best mitigation strategies is to increase the outdoor air ventilation of the building's HVAC system.



## What is ventilation and how much is required?

Ventilation within a building space is defined as outside air. The current guidelines for commercial buildings are 12 CFM (cubic feet per minute) to 17 CFM per person of outside air. The potential guidelines to mitigate airborne pathogens are 24 CFM to 34 CFM per person of outside air.

### The problem with increased ventilation

Increasing the outdoor air ventilation of a building poses some unique challenges. Not only does the heating and cooling of the increased air ventilation result in higher energy costs, but the current building HVAC system needs to be assessed to determine whether it can handle the increased load on equipment.



## How much more could increased ventilation cost?



### Current Ventilation Standard

17 CFM/Person

Five Floor Office Building

- 200,000 SQ FT
  - 400 SQ FT / Ton
  - 500 Tons
  - **Annual Operating Costs = \$360,000\***
- \*based on \$0.15/kw-hr and \$.95/Therm

### Potential Ventilation Standard

34 CFM/Person

Five Floor Office Building

- 200,000 SQ FT
  - 300 SQ FT / Ton
  - 667 Tons
  - **Annual Operating Costs = \$440,000\***
- \*based on \$0.15/kw-hr and \$.95/Therm

### Taco Comfort Solutions Whole System Solution

Radiant/Chilled Beam  
Injection Pumping System

34 CFM/Person

**Annual Operating Cost = \$350,000**  
**\$90,000 Annual Savings!**

For more information, please contact your local Commerical Taco Rep. [www.tacomfort.com/rep-locator](http://www.tacomfort.com/rep-locator)

## Radiant/Chilled Beam Injection Pumping System: A Safer, Healthier, and More Efficient Solution

The variable air volume comfort systems found in most buildings today provide inadequate protection against airborne germs, viruses, and mold. How does that happen? In these type of systems, air is blown through ducts into every room, recirculating time and again. That air can pick up contaminants along the way and disperse them everywhere, bringing the risk of infection to everyone in its path.

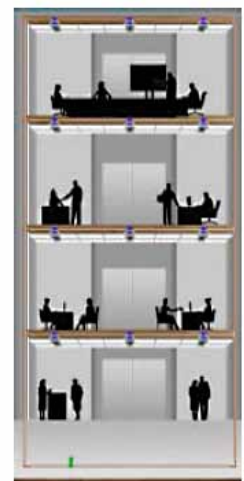
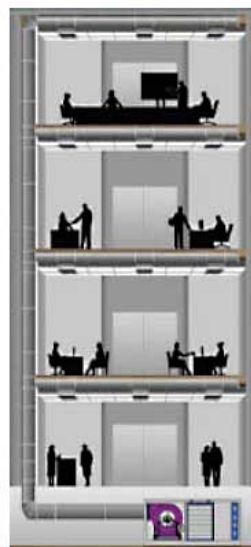
Fortunately there is a healthier heating and cooling option: A radiant/chilled beam system, powered by Taco's LOFlo® Injection pumping and Clarity3™ Building Automation Controls. Chilled beams use water to transfer safe, consistent comfort without the use of in-room fans. There are no drafts, no noise, and little risk of spreading germs because chilled beams do not recirculate air to adjacent spaces.



And because radiant/chilled beam systems use water, the most efficient and natural energy transfer medium on the planet, the increased ventilation won't result in increased energy costs. You may even see a savings from your previous HVAC system. It's a system that's perfect for schools, hospitals, and office buildings. What's more, there are chilled beam solutions for both new building construction and retrofit projects.

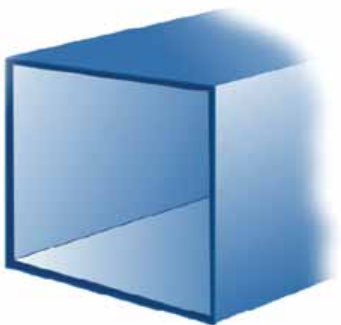
## No Rain, All Gain

One concern with chilled beams is the possibility of condensation forming and dripping off the beams, or "raining" to the space below. Taco's Clarity3™ Building Automation Control monitors room temperature, supply water temperature, and ever-changing dewpoint, adjusting the system's water temperatures to prevent condensation and deliver quiet, worry-free comfort.



Air System with large ducts    Hydronic system with small pipes

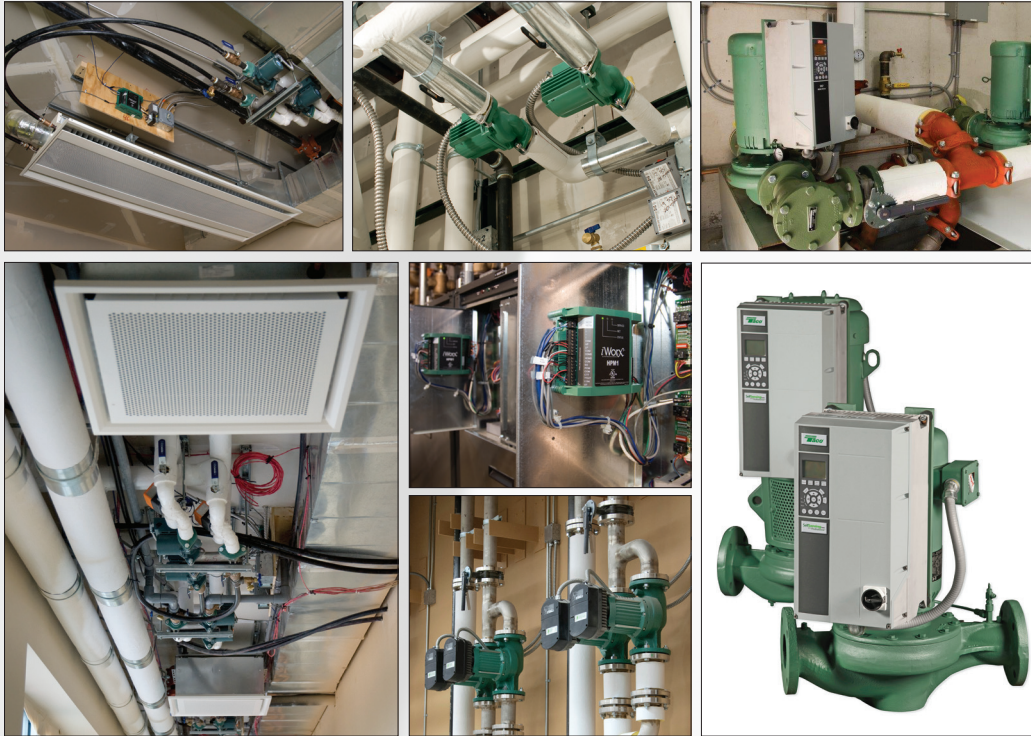
18" x 18"  
Air Duct



1" Diameter  
Water Pipe

## Cost Competitive

Taco's LOFlo® Injection pumping system eliminates the need for large air ducts in new buildings because it uses small pipes to transfer heating and cooling. This means a lower building height and less raw materials in the construction phase. Combined with superior efficiency and longer life cycles, you'll save in the construction phase and all the way through the life of the system.



Taco is a third generation family owned American manufacturer of quality hydronic components and comfort systems. Based in Cranston RI, Taco manufactures electronic controls, scalable, compatible web-based building monitoring and management controls, valves, tanks, pumps, heat exchangers, high efficiency variable speed drives, ECM circulators, and ancillary products. Our LoadMatch® and LOFlo® single pipe comfort systems are recognized as the most efficient, cost effective hydronic systems on the market.

Taco is a people company that understands the value of solid working relationships backed with design assistance and support for the life of the system. We are here before, during, and after your project to help you bring your systems up to peak efficiency as quickly and economically as possible. We do business with a personal touch because we believe that your personal success is as important as the success of the project.

For more information, please contact your local Commercial Taco Rep.  
[www.tacomfort.com/rep-locator](http://www.tacomfort.com/rep-locator)

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