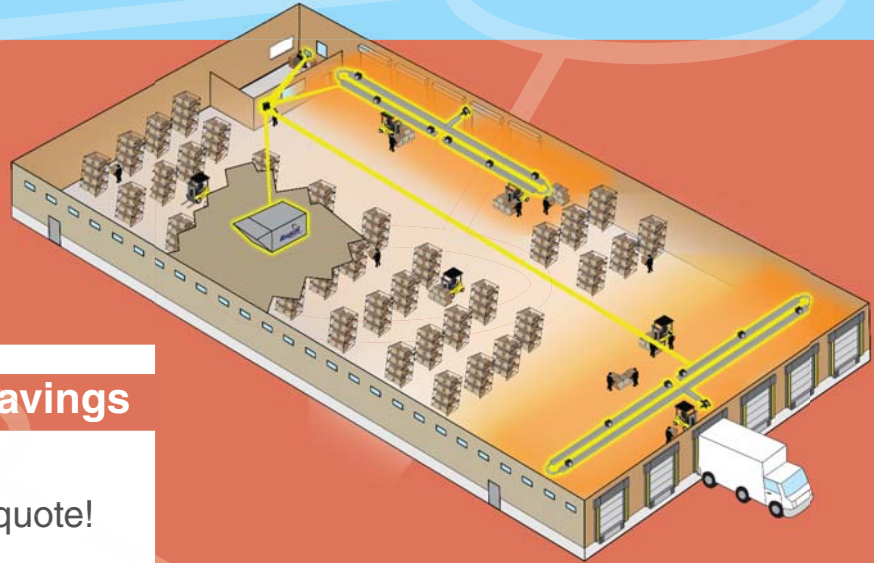


How VIRTUAL WALL™ Hybrid HVAC System Saves Distribution Facilities Over \$250,000!

Project:

900,000 square feet distribution facility located in Grand Rapids, MI



Labor/Installation Savings

\$200,000

direct from contractor quote!

Less equipment to install

Equipment Savings

\$50,000

Optimum results with less equipment

Energy Savings

Approximately **35%**

And More Savings

Reduced structural steel from removing rooftop units

No need for crane rental

Overview

An over 900,000 square feet distribution facility located in Grand Rapids was faced with the dilemma of how to efficiently condition & heat mixed use spaces within the building. The building owner needed to keep employees comfortable & productivity up in packing & shipping areas, without wasting energy heating unoccupied storage areas, all while meeting fresh air requirements.

Original Design

The original plans for the facility included 63 different HVAC units, all individually installed. Of those, ten horizontal roof mounted & 11 vertical direct-fired, make-up air handlers were specified to provide heating & fresh air. To satisfy the remaining heat load & for perimeter dock door heating, 42 gas-fired unit heaters were proposed.

Disadvantages of Original Design

Given the large amount of equipment specified, labor & material cost would be significant, as would be the cost of structural steel required for roof mounting. In addition, the proposed use of warm air heaters in loading dock areas would mean significant energy waste when overhead doors opened. As a result, dock door employees would still be cold, even though energy use would be high.



www.VirtualWallHVAC.com
716.852.4400



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Increased comfort levels by combining **best in class** HVAC technologies:
ROBERTS GORDON® gas-fired, low-intensity infrared heaters **for occupied spaces**
RAPID® direct-fired, make-up air handlers for base level heating **in unoccupied areas.**

Reduced number of air handling units by 50%

Replaced **21** small units with **11 large RAPID® 4000** Series direct-fired, make-up air handlers (none roof mounted, eliminating all structural steel required for roof mounting & crane rental.)



Used 30% less equipment for perimeter heating

Removed **42** unit heaters & strategically placed **13 ROBERTS GORDON® VANTAGE® TF Twin Fire** infrared heaters over dock doors & worker areas.



Reduced energy use by 35% or more

Utilized **high efficiency** backward incline fans (standard on **RAPID® 4000 Series units**) instead of forward curve fans on original equipment specified.

Reduced fuel consumption & overall installation requirements of unit heaters by replacing with energy efficient **ROBERTS GORDON® infrared heaters.**

Results that Speak Volumes

Over \$250,000 Savings from Only Hybrid HVAC System - **VIRTUAL WALL™**

Better lifetime cost with more “industrial grade” equipment.



\$200,000 Labor/Installation Savings

38% less equipment installation overall
30 less gas piping penetrations & hookups



\$50,000 Equipment Savings

24 pieces of equipment vs. 63



Approximately 35% Energy Savings

Utilized higher efficiency equipment



Material Savings

Reduced structural steel