

# Forward thinking schools design HVAV systems outside-the-box with great results

What makes classroom air handlers popular in many territories are people and organizations willing to think about the vertical unit ventilator in a new way.

By thinking outside-the-box, these customers take advantage of all the features of the classroom air handler design and are getting great results. They also do not limit themselves to one or two designs but match the model to the application, often working outside the traditional “box”.

The key to this type of strategy is to think of the vertical unit ventilator within the concept of a “decentralized vertical classroom air handler”. The vertical unit design offers a decentralized alternative to the traditional centralized HVAC equipment. They are interior “air handlers.”

People who favor interior air handlers are also open to the modern redesign of this equipment while refraining from sweeping statements like “We don’t use unit ventilators” or “Unit ventilators are hard to maintain and noisy”.

Once the decentralized concept is accepted, customers begin to see the versatility and financial advantages this product offers. This is especially true for renovations and new construction where the vertical unit design is a very popular choice.



Today, forward thinking school boards and engineers are less restricted and view the concept of vertical classroom air handlers as another tool they can use when trying to provide a cost effective option for conditioning a classroom.

## The top reasons why customers choose vertical air handler designs.

Below are a few of the comments we hear during conversations with happy school boards or design engineers on why they like Change’Air vertical air handler designs.

1. Verticals use less floor space than a unit ventilator
2. Verticals are easier to service than floor mounted UV’s
3. No ladders are required to service like a ceiling mounted UV / WSHP
4. Verticals are quieter than traditional UV’s
5. They have better Air Distribution than a UV
6. They are less expensive to Install than a Central VAV system
7. Discharge options like spiral or fabric duct, free discharge or ducted above drop ceiling
8. Optional Energy Recovery Wheels
9. No mechanical closet required
10. No mechanical room with Gas Heat/AC units
11. No frozen coils with Gas Heat/ AC units
12. No roof penetrations
13. No lost wall space - refrigerator magnets make units teaching displays
14. Zone control easily accomplished for each classroom
15. When a unit is down for maintenance, it only affects one classroom
16. Equipment is indoors protected from the elements and vandalism
17. Mechanical rooms/boiler rooms can be much reduced or eliminated

## The top reasons why customers are satisfied with the operation and efficiency of the vertical air handler designs.

Following are some of the reasons we hear regarding the operation and/or efficiency of the Change'Air vertical air handler designs.

1. ECM Motors offer high efficient zone control
2. Standard size 2" Merv 13 filters
3. Humidity control with 2 stage compressors and hot gas reheat
4. LonMark & BACNet Controls for full control of each classroom
5. CO2 based Demand Control Ventilation to efficiently ventilate each classroom from one person to full occupancy
6. Motion Sensors to efficiently occupy each zone when human occupancy is present

## The Change'Air Vertical Classroom Air Handler ... definitely not the "Traditional Unit Ventilator!"

Renovations are the majority of Change'Air projects. A typical project would consist of replacing conventional UV's, ceiling mounted UV's, ceiling mounted heat pumps, radiators with no ventilation or upgrading from heat only to heating/cooling units.

While some school districts or engineers prefer to use central VAV systems, many buildings are not designed for central ductwork or the roof load of equipment. As a result, engineers are constantly looking for ways to meet architects and school board requirements for HVAC systems within a tight budget.

For new construction architects have confirmed that every one foot that can be removed from the height of the building translates into a 6% savings in cost.

The concept of the vertical classroom air handlers (not vertical unit ventilators) may very well be the answer for your next school project.

One of the advantages of Change'Air is that we offer a full range of products. There are preferences to a specific design

in some territories. In West Michigan it is the Freshman hot water/chilled water 4 pipe valve control, in Southeast Michigan the Junior hot water self-contained cooling is preferred, Indiana concentrates on the Freshman 2 pipe face and bypass design, Florida and coastal states focus on the Freshman dehumidification design, Missouri and Western Canada have a lot of success with the modulating gas furnace and many other territories experience a variety of these and other designs including the water source heat pump which seems to have generally caught on across the country.

However, the most popular territories have not limited themselves to one or two designs but matched the model to the application, often working outside the traditional "box".

To sum it up, the key to taking advantage of the vertical design is to not let traditional thinking restrict you but rather think of the Change'Air unit within the concept of a decentralized vertical classroom air handler.