

Owner: Kentucky Finance Cabinet - DECA

User Agency: KCTCS

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Construction Cost: Phase I - \$ 232,000

Phase II - \$ 722,482

Project Status: Phase I – Completed
Phase II – Construction

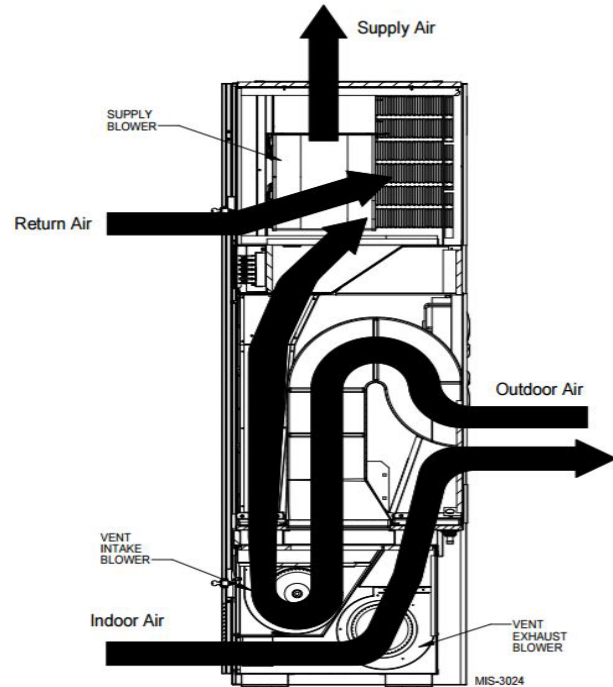
Hazard Community & Technical College

Devert Owens HVAC Phase I & II – Hazard, KY

Project Description:

Phase I – Replacement of unit ventilators in classrooms with standalone air to air heat pumps with energy recovery wheel.

Phase II – Providing gas fire rooftop units with integral energy recovery wheels and providing two new VAV systems for administration areas plus replacement of a boiler and related pumps and controls.



Engineering Highlights:

What can you do when you have only \$ 250,000 to replace a \$ 1,000,000 HVAC system that needs immediate attention? You make a priority list of which rooms have the worst HVAC and provide equipment that can standalone and meet current codes. One of the largest complaints were the existing HVAC system has become very noisy which was the no. 1 concern of the occupants. Immediate solutions were needed for this on-going multiphase HVAC upgrade for a classroom/administration building.

One of today's biggest challenges in HVAC design is managing the outside air requirements. Classroom and meeting rooms present a further challenge because their high occupant loads require special equipment to dehumidify outside air. This equipment is expensive and would have used up all the Phase I money and would not have helped the sound and control issues currently hampering instruction. So an alternative solution was sought. A piece of equipment that could be added to a space, dehumidify the air, provide energy recovery, and be quiet was sought out. The equipment chosen was an air to air packaged heat pump with energy recover. This unit provides all these functions and allows each classroom to stand on its own without the need of a central plant, which is failing, or central outside air makeup air system. Trips by design team and Owner were made to existing installations, to evaluate the equipment's performance and sound prior to acceptance. All agree the system would be acceptable and has been operating very successfully for the one year warranty period afterward.

Phase II is currently under construction with completion date in May. Phase III boiler and mechanical room upgrades is scheduled to bid in July 2018.