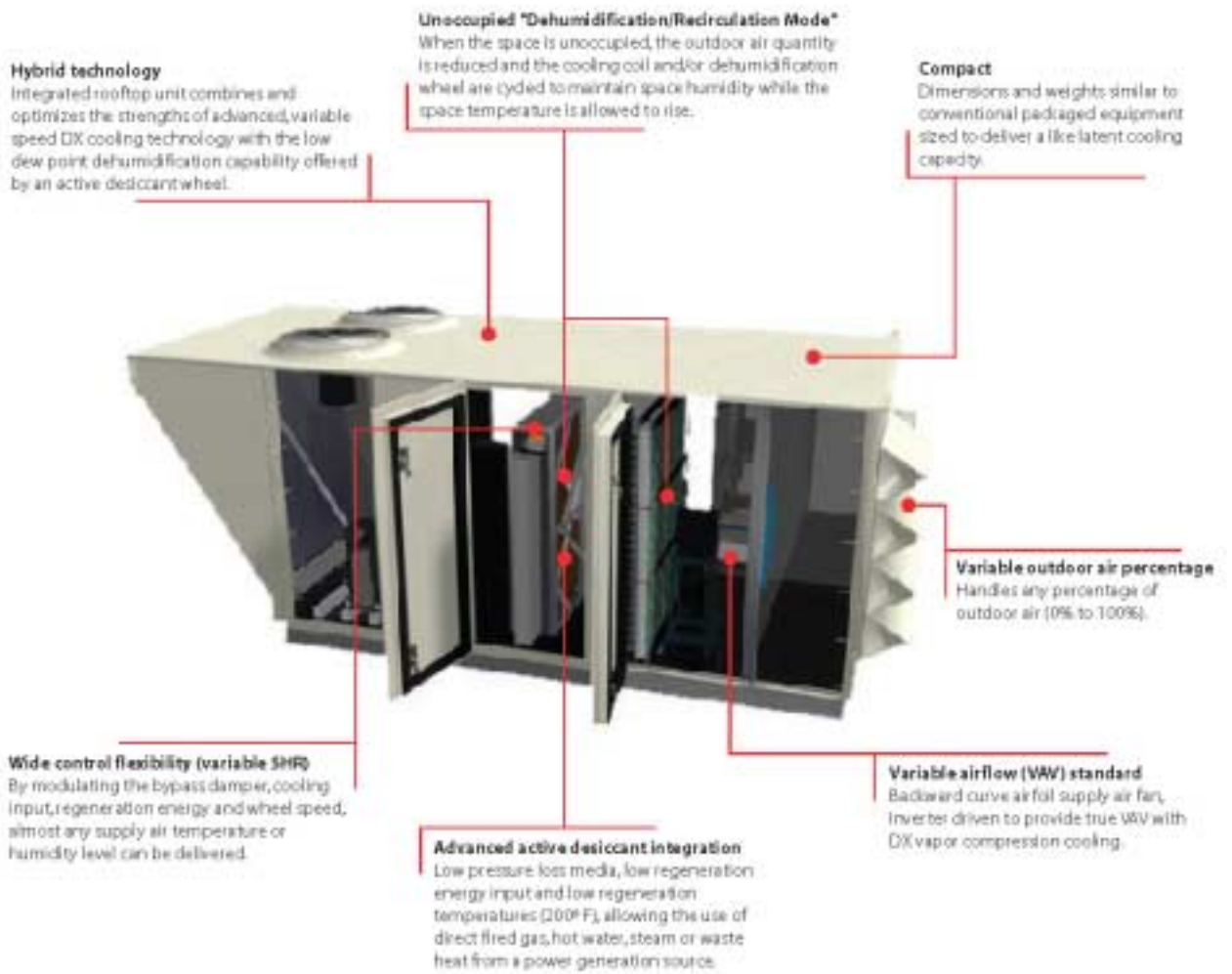


ORNL Energizes HVAC Product Development

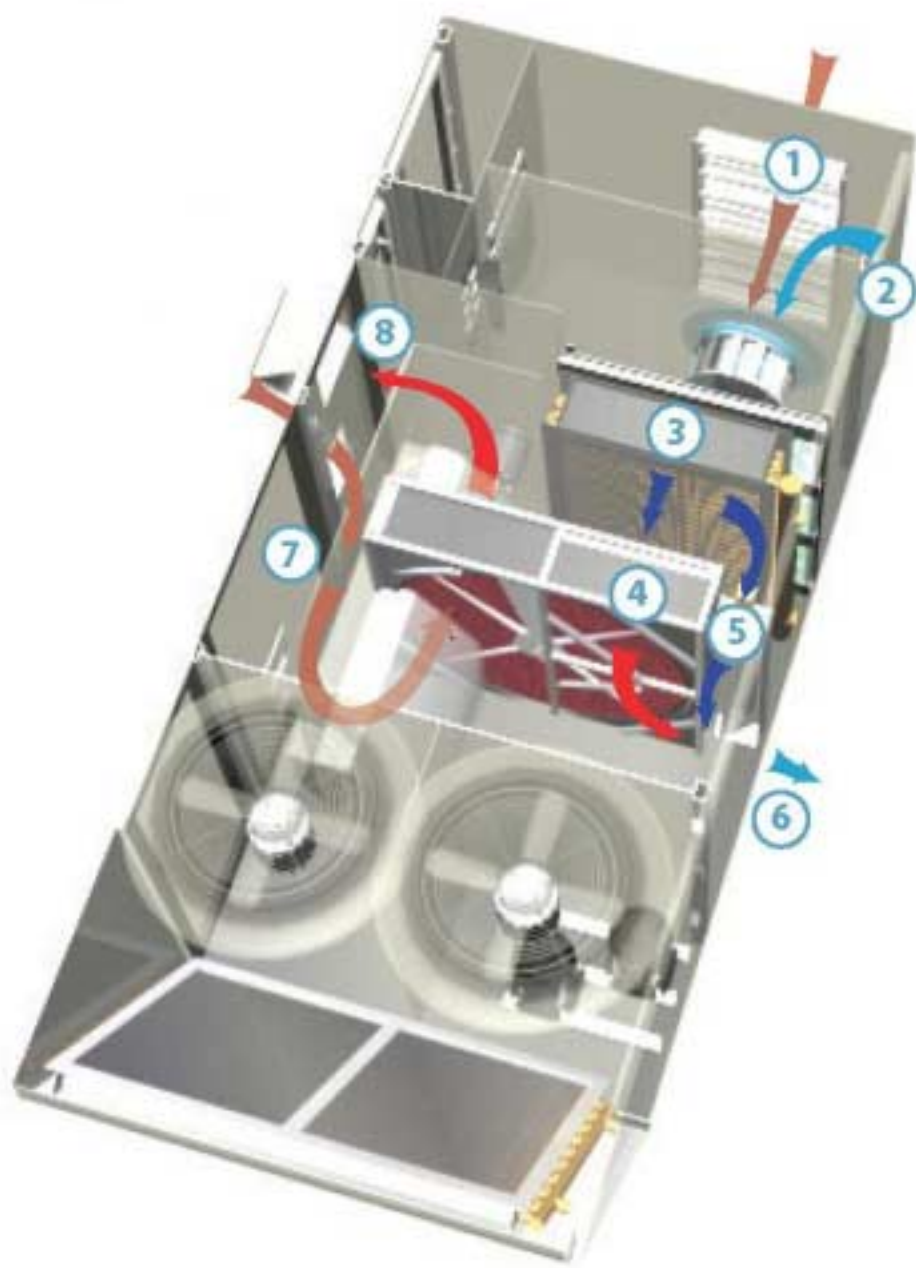
J.R. Sand—June 24, 2004

New, more versatile Heating, Ventilating, and Air-Conditioning (HVAC) products are now available in the U.S. that have resulted from government/industry research and development partnerships formed by ORNL. These new products address many of the complex and conflicting indoor air quality, enhanced fresh air ventilation, humidity control, and energy saving design requirements being placed on modern buildings. Recently, SEMCO, Inc., Columbia, MO, and Trane Company, LaCrosse, WI, have indicated that they would introduce new commercial products incorporating thermally activated solid-desiccant components as a result of recently completed, subcontract research work with ORNL. These high-value, premium technology products which result in new design, manufacturing, and sales jobs at SEMCO and Trane also help provide a market for the variable speed inverter electronics, programmable logic control boards and software, energy recovery heat exchanger, etc. component hardware that is integrated into these innovative products.

The newly available SEMCO Integrated Active Desiccant Rooftop (IADR) hybrid system which requires both electric and thermal energy for normal operation is currently being installed in ORNL's CHP Integration Laboratory, Building 3114. Here, controlled testing will be performed in a collaborative effort with SEMCO to fully explore the unit's unique performance characteristics, to extend system performance to work as a heat pump heating unit, and to show how waste heat from a distributed electric generation source can be used in a Combined Heating and Power (CHP) configuration rather than the on-board natural gas heat sources. In a somewhat unusual approach to laboratory testing, the SEMCO IADR will provide basic air-conditioning, fresh air ventilation, dehumidification, and heating functions to Building 3114 while it is being tested and evaluated. This joint work with SEMCO is a great example of how national laboratories can use their facilities and resident expertise to work with industries to keep American products and jobs current and competitive, improve living and working conditions in buildings, and more efficiently utilize our national energy resources.



Cutaway drawing of SEMCO Integrated Active Desiccant Rooftop illustrating unique design features



Top cutaway view of SEMCO Integrated Active Desiccant Rooftop air-conditioning product showing airflow paths.