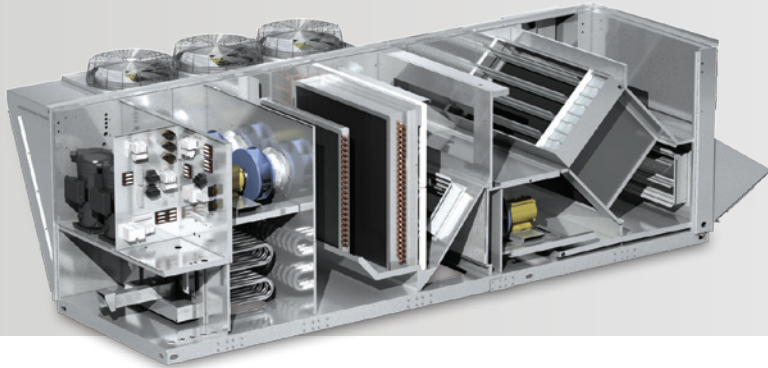


Air-Source Heat Pump Refrigeration



Integral heating option with greater efficiency than a traditional indirect gas furnace or electric heater.

FEATURES

Air-cooled Packaged Refrigeration with Reversing Cycle

- Direct-expansion refrigeration system designed to efficiently remove heat and humidity from high levels of outdoor air (up to 100% OA)
- Digital Scroll™ compressors for capacity modulation in cooling, dehumidification, and heating modes
- Optional fully-modulating hot-gas reheat system for dehumidification control
- Internal controls to enable mechanical heat when heat pump is unable to provide enough capacity to meet the space load

DefrostPLUS

- Defrost cycle based on outdoor air temperature and humidity allows heat pump to run longer at cold ambient conditions

Active Head Pressure Control

- VFD-driven condensing fans modulate refrigerant pressures for optimal performance
- Provides greater reheat capacity during part-load dehumidification

BENEFITS

- Increased efficiency over traditional heating options such as gas, electric, or hot water
- Expanded application range for cold climates through seamless integration of heat pump and a traditional heating source
- Reduced design considerations by utilizing existing packaged air-cooled casings and footprints



AIR-SOURCE HEAT PUMP EFFICIENCY

According to the US Department of Energy, air-source heat pumps are more efficient than traditional heating methods because they *move* energy as opposed to *creating* energy.

A HEAT PUMP FOR ALL CLIMATES

Valent's packaged heat pump ventilators are designed to be used in a wide range of climates. Capable of operating down to 17°F ambient, the air-source heat pump serves as the primary form of heat when able. When the ambient condition drops below 17°F, mechanical heat is used to maintain the discharge and space temperatures desired.

INTEGRAL CONTROLS

As with all Valent units, a fully-integrated microprocessor control system is included with the air-source heat pump refrigeration option. Along with running a discharge air control sequence, the controller constantly monitors the refrigeration system performance to protect the equipment, maintain space comfort, and transition between mechanical heat when needed.

THE VALENT ADVANTAGE

Valent Air Management Systems is a manufacturer of high-outdoor-air packaged rooftop units designed to address the needs of building owners, specifying engineers, and installing contractors. Valent units are built on a foundation of four key attributes: premium quality construction, comprehensive packaging, a thorough run-testing program, and powerful and flexible controls packages.



KEY TECHNOLOGY: DefrostPLUS

What: A standard control sequence designed to safely remove the buildup of ice on the outside coil when frosting conditions arise.

How it works: In defrost mode, the unit reverts to 100% recirculation and reverses the flow of refrigerant. In addition, mechanical heat is used to ensure space comfort is maintained during the defrost cycle.

Why it's different: DefrostPLUS enables defrost mode by looking at the outdoor air temperature and relative humidity—as opposed to outdoor air temperature alone (typical of a timer-based system).

The result: Valent's air-source heat pump with DefrostPLUS runs more continuously with fewer defrost cycles.

Contact your Valent representative today for more information.

www.valentair.com

60 28TH AVENUE NORTH, SUITE 100
MINNEAPOLIS, MINNESOTA 55411
T – 612.877.4850

