



# ZERO DEGREE COLD CLIMATE AIR-SOURCE HEAT PUMPS

AAON is making tomorrow's sustainability possible today with the first unitary cold-climate ASHP tested and proven to zero degrees.

AAON Zero Degree Cold Climate Air-Source Heat Pumps are a critical solution that meets the increasing demand for building decarbonization in cold climates.

## BENEFITS

### Heat pump heating down to 0°F outdoor temperatures

AAON Zero Degree Cold Climate Air-Source Heat Pumps operate at lower ambient temperatures than traditional heat pumps with high heating capacities over a wide range of operating conditions. They simply perform in climates where traditional heat pumps cannot.

### High-efficiency electrified heating and high-efficiency cooling temperatures

AAON Zero Degree Cold Climate Air-Source Heat Pumps have AHRI-certified heating COP of up to 3.7 and cooling IEER up to 21.5, saving energy costs in both the winter and the summer.

### Precise comfort control without burning fossil fuels

Variable speed compressor heat pump heating combined with an auxiliary modulating electric heater allows comfortable heating control, even on extreme off-design days without the use of fossil fuels. The variable speed compressor system also provides precise cooling control.

### Tested, proven, reliable performance

AAON has tested and verified this solution's heat pump heating performance down to an ambient temperature of 0°F in the NAIC laboratory psychrometric testing chambers. The integrated data acquisition system in the chambers is capable of reading, processing, and saving over 93,000 points of data per minute. The psychrometric test chambers are capable of creating ambient test conditions from -20°F to 130°F. AAON Zero Degree Cold Climate Air-Source Heat Pumps cooling and heat pump heating performance is AHRI certified.



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## FEATURES

### Wide range of capacities

Available from 2-50 tons.

### Variable speed compressors

These operate with the highest part load efficiencies over any other compressor technology and provide precise temperature control, and precise humidity control in cooling. Specific controls protect the compressor by ensuring it operates within the safety of the compressor operating envelope. In heating, the speed of the compressor is increased for additional heating capacity at lower ambient temperatures.

### Variable speed fans

Variable speed supply fans and variable speed outdoor fans provide high-performance heat pump heating and cooling airflow. Variable speed control allows for energy savings at reduced airflow.

### High-quality cabinet

Standard two-inch rigid polyurethane foam insulated panels have a thermal resistance R-value of 13 or greater, exceeding that of a cabinet with four-inch fiberglass construction. This retains useful heating to the building instead of wasting it through the rooftop cabinet.

### Economizer option

Up to 100% airflow economizer dampers provide energy-saving, free conditioning when conditions meet setpoint values. This feature also provides ventilation air under all conditions to meet indoor air quality requirements with fresh outside air.

### Dual fuel option

AAON provides the option to select a gas heater with the Zero Degree Cold Climate ASHP to provide supplemental heat. The gas heat is only used in extreme temperatures, greatly reducing overall fossil fuel usage while providing comfort in all conditions.

### Energy recovery option

Selecting this feature increases the COP significantly and also provides more effective heating by preconditioning the outside air.

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