Contact your local AAON representative for more information about the AAON Water-Source Heat Pump Units.

www.AAON.com

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Innovative Design, Performance, & Serviceability

Water-Source Heat Pump

Rooftop Units • Self-Contained Units • Horizontal/Vertical Units
For over 15 years AAON has manufactured Water-Source Heat Pump (WSHP) Rooftop Units, Vertical Self-Contained Units, and Modular Air Handling Units with capacities ranging from 2-230 tons. AAON offers all of these units with mass customization or the ability to configure the features and options of the unit at the factory to meet nearly any application’s requirements. These products may be used as Makeup Air ventilation units, Variable Air Volume (VAV) units, or Single Zone VAV units with variable capacity cooling and variable speed supply fans.

The mass produced Water-Source Heat Pump has been a reliable product in the HVAC market for more than 50 years, its design and functionality not significantly changing over time. Today there is a great need for competitively priced, innovative, premium quality water-source heat pumps that can be quickly produced. AAON recognized this need and has answered with the AAON Water-Source Heat Pump. The AAON Water-Source Heat Pump is offered in two configurations, horizontal and vertical, and multiple efficiency levels to meet any application’s requirements. The AAON Water-Source Heat Pump leads in innovative design, performance, and serviceability.
The AAON Water-Source Heat Pump technologically advanced manufacturing line is unmatched in the industry, utilizing a unique production methodology that integrates mass production with mass customization and allows production of up to 180 units per day. State-of-the-art automated sheet metal production provides a consistent, premium quality aluminum cabinet construction. Induction brazing on all copper connections enables the highly automated production line to electronically heat joints rather than using torch welding for a higher quality low leakage refrigerant circuit. Quality has been designed into the AAON Water-Source Heat Pump and all designs have been lab tested before going into production.
AAON Water-Source Heat Pump Features:

- ½ to 15 ton Capacities
- Horizontal and Vertical Configurations
- Left or Right Return
- Left, Right, or End Discharge
- High Efficiency PSC or ECM Supply Fan Motor
- Multiple Levels of Efficiency
- Standard Level Efficiency Significantly Exceeds ASHRAE Standards
- High Efficiency Scroll or Rotary Compressors
- Complete and Easy Service Access to the Supply Fan, Compressor, Reversing Valve, Expansion Valve, Controls, and Filters
- Bottom Access to Expansion Valve, Reversing Valve, Filter Drier, Supply Fan, and Filters
- Factory installed options including disconnect, high efficiency filtration, hot gas reheat dehumidification, and waterside economizer.
- 5 Year Parts Warranty

All Aluminum Construction
AAON Water-Source Heat Pumps feature all aluminum cabinet construction with an unit weight that is significantly less than a conventional water-source heat pump galvanized steel unit. Additional construction features include hem bends on all exposed edges, integrated hanging brackets and a filter rack that is integrated into the unit cabinet.

AAON Metal Pallet
AAON designed a custom sheet metal pallet for the AAON Water-Source Heat Pump. The pallet allows multiple units to be stacked and is used to ship and store the units. It will not be damaged during transit or storage as is common with wood pallets used with conventional water-source heat pump units. Once the equipment is installed at the jobsite the metal pallet can be easily sold or recycled!

Microchannel Coils
AAON Water-Source Heat Pumps feature an aluminum microchannel indoor DX coil with a larger surface area than conventional water-source heat pumps. Microchannel coils improve the efficiency of the unit, reduce air pressure drop, reduce fan horsepower, and reduce unit weight.

Replacement Ready
AAON Water-Source Heat Pumps will be stocked and ready to ship. Contact your local AAON representative for availability. Replacement units match the size of conventional water-source heat pump units.

AAON Water-Source Heat Pump Release Dates:

½ - 7 ton horizontal units - Fourth Quarter 2016
½ - 5 ton vertical units - First Half 2017
8-15 ton horizontal units - Second Half 2017
**Water-Source Heat Pump Indoor Unit**

*Horizontal Configuration*

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**Copper Coaxial Refrigerant-to-Water Heat Exchanger**
Coaxial heat exchanger provides reliable operation. Cupronickel heat exchanger option is available for additional corrosion resistance.

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**R-410A scroll compressors are included on units 2 tons and larger. R-410A rotary compressors are included on units from ½ through 1 ½ tons. Compressors are mounted with rubber-in-shear on an isolation plate that is rubber-in-shear isolated in the cabinet for reduced vibration.**

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**High Efficiency Fan (Left, Right, or End Discharge)**
Direct drive forward curved supply fan is available with Permanent Split Capacitor (PSC) motor or Electronically Commutated Motor (ECM). Fan can be factory or field converted between side and end discharge.

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**Expansion valve, reversing valve, filter drier, air filters, supply fan and motor can all be accessed from the bottom of the unit for ease of in-place maintenance.**

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**Standard Two Inch Pleated Filter**
Two inch filter rack is included as standard on B Cabinet (1 ¾ ton) and larger units. Unit can also be factory configured with a four inch filter rack for high efficiency filtration applications. Filters can be access from the side or bottom of the unit for ease of maintenance.

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**Aluminum Microchannel Air Coil Horizontal Configuration (Left or Right Return)**
Large face area DX coil improves the efficiency of the unit, minimizes air pressure drop, and reduces required fan horsepower. Aluminum microchannel coils minimize refrigerant charge and overall unit weight. Factory provided return duct flange connection is available.

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**Toolless Control Panel Service Access**
Access panels do not require tools to open/close. Panels provide service access to the controls, compressor, filters, and supply fan.

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**Bottom Service Access**
Access panels do not require tools to open/close. Panels provide service access to the controls, compressor, filters, and supply fan.
AAON

Water-Source/Geothermal Heat Pump System

WSHP Rooftop Units

WSHP Indoor Self-Contained Units

WSHP Indoor Units

Packaged Outdoor Mechanical Rooms

Water-Source/Geothermal Heat Pump System
RL/RZ Series (55-240 tons)

Indirect Evaporative-Cooler, Boiler, and Pumping Package

WSHP

M2 Series (3-70 tons)

SA Series (23-70 tons)

SB Series (3-18 tons)

Horizontal Water-Source Heat Pumps (1/2-7 tons)

Horizontal Water-Source Heat Pumps (8-15 tons)

Vertical Water-Source Heat Pump (1/2 - 15 tons)

Boiler and Pumping Package

Geothermal Heat Exchanger

Indirect Evaporative-Cooler, Package
WSHP Rooftop Units

RL/RZ Series (55-240 tons)
- Constant Volume, Variable Air Volume, Single Zone VAV, and Makeup Air Units
- Staged and VFD Controlled Variable Speed Compressors
- VFD Controlled Variable Speed Direct Drive Backward Curved Plenum Fans
- Double Wall Rigid Polyurethane Foam Panel Construction

RN Series (6-140 tons)
- Constant Volume, Variable Air Volume, Single Zone VAV, and Makeup Air Units
- Staged and 10-100% Variable Capacity Compressors (6-70 tons)
- Staged and VFD Controlled Variable Speed Compressors (55-140 tons)
- VFD Controlled Variable Speed Direct Drive Backward Curved Plenum Fans
- Double Wall Rigid Polyurethane Foam Panel Construction

RQ Series (2-10 tons)
- Constant Volume, Variable Air Volume, Single Zone VAV, and Makeup Air Units
- Staged, Two-Step, and 10-100% Variable Capacity Compressors
- VFD Controlled Variable Speed Compressors
- VFD Controlled and ECM Driven Variable Speed Direct Drive Backward Curved Plenum Fans
- Double Wall Rigid Polyurethane Foam Panel Construction

WSHP Indoor Self-Contained Units

M2 Series (3-70 tons)
- Constant Volume, Variable Air Volume, Single Zone VAV, and Makeup Air Units
- Staged, Two-Step, and 10-100% Variable Capacity Compressors
- VFD Controlled and ECM Driven Variable Speed Direct Drive Backward Curved Plenum Fans
- Double Wall Rigid Polyurethane Foam Panel Construction
- Modular cabinet construction can be configured to meet the application

SA Series (23-70 tons)
- Constant Volume, Variable Air Volume, Single Zone VAV, and Makeup Air Units
- Staged and 10-100% Variable Capacity Compressors
- VFD Controlled Variable Speed Direct Drive Backward Curved Plenum Fans
- Double Wall Rigid Polyurethane Foam Panel Construction
- Vertical self-contained unit cabinet construction can be configured to meet the application

SB Series (3-18 tons)
- Constant Volume, Variable Air Volume, Single Zone VAV, and Makeup Air Units
- Staged and 10-100% Variable Capacity Compressors
- ECM Driven Variable Speed Direct Drive Backward Curved Plenum Fans
- Double Wall Rigid Polyurethane Foam Panel Construction
- Vertical self-contained unit cabinet construction can be configured to meet the application

WSHP Indoor Units

Horizontal Water-Source Heat Pumps
- (1/2-7 tons)
- Replacement Ready Stocked Units
- Staged Scroll or Rotary Compressors
- High Efficiency PSC or ECM Fans
- Microchannel Indoor DX Coil
- Easy Service Access
- All Aluminum Construction

Vertical Water-Source Heat Pumps
- (1/2-15 tons)
- Replacement Ready Stocked Units
- Staged Scroll or Rotary Compressors
- High Efficiency PSC or ECM Fans
- Microchannel Indoor DX Coil
- Easy Service Access
- All Aluminum Construction

Options
- Waterside Economizer with Three-Way Control
gate
- Hot Gas Reheat Humidity Control
- Factory Wired Disconnect
- Four Inch High Efficiency Filtration
- Corrosion Resistant Cupronickel Heat Exchanger

Packaged Outdoor Mechanical Rooms

Boiler and Pumping Package
- Packaged Boiler Outdoor Mechanical Room
- 98% Thermal Efficiency Condensing Boilers
- VFD Controlled Variable Flow Pumping Package
- Boilers heat the water in the system during the heating season
- Used when additional heating is needed beyond the capacity of the Geothermal Exchanger

Indirect Evaporative-Cooler, Boiler and Pumping Package (Future)
- Packaged Evaporative-Cooler and Boiler Outdoor Mechanical Room
- VFD Controlled Variable Flow Pumping Package
- Evaporative-cooler cools the water in the system during the cooling season
- Used when additional cooling is needed beyond the capacity of the Geothermal Exchanger
- Optional complete Packaged System with Evaporative-Cooler and Boiler

Geothermal Heat Exchanger
- Transfers heat from the ground to the water or glycol loop during the heating season
- Transfers heat to the ground from the water or glycol loop during the cooling season
- Energy efficient first stage of the water or glycol loop heat exchange
Contact your local AAON representative for more information about AAON Water-Source Heat Pump Units

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