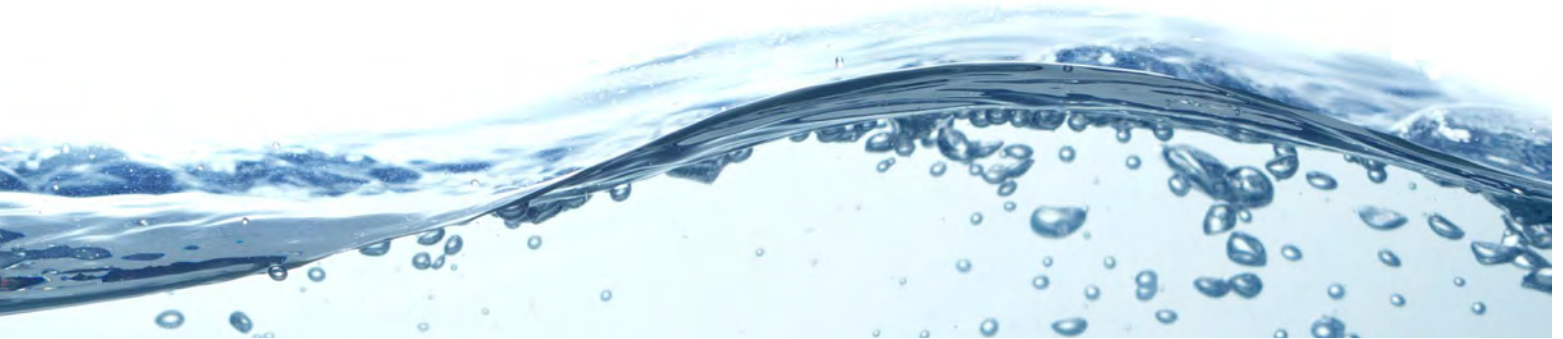




# Water-Source Heat Pumps

## WH SERIES



Horizontal Configuration Water-Source Heat Pumps

### Features:

- ½ to 15 ton Horizontal Configuration
- Left or Right Return
- Left, Right, or End Discharge
- High Efficiency PSC or ECM Supply Fan Motor
- Reliable Scroll or Rotary Compressors
- Complete and Easy Service Access with Toolless Panels
- Bottom Access to Expansion Valve, Reversing Valve, Filter Drier, Air Filters, Supply Fan, and Motor
- Option Flexibility including Disconnect, High Efficiency Filtration, Hot Gas Reheat Dehumidification, and Waterside Economizer
- All Aluminum Cabinet
- Aluminum Microchannel Air Coil
- 5 Year Parts Warranty

o *Designed in Quality*

o *Easy Service Access*

o *Aluminum Cabinet Construction*

o *Replacement Ready Size*

# WSHP | WH series

*AAON WH Series Horizontal Water-Source Heat Pumps incorporate state-of-the-art manufacturing processes with the latest HVAC design technical knowledge to create a WSHP product with innovative design, performance, and serviceability. The technologically advanced AAON WSHP 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.*

## Applications

- Horizontal Configuration Water-Source Heat Pumps, from ½ to 15 tons
- Multiple Levels of Efficiency
- Standard efficiency level significantly exceeding ASHRAE Standards

## Standard Features

- R-410A Scroll (2 to 15 tons) or Rotary (½ to 1 ½ tons) Compressors for reliable operation
- Aluminum Microchannel DX Coil with large face area for improved efficiency, reduced air pressure drop, reduced fan horsepower and reduced unit weight
- Copper Coaxial Refrigerant-to-Water Heat Exchanger for reliable operation
- High Efficiency Direct Drive Forward Curved Supply Fans available with Permanent Split Capacitor (PSC) motors or Electronically Commutated Motors (ECM)
- AAON Pioneer Silver Controller with terminal block for connection to a standard heat pump thermostat containing the following terminals:

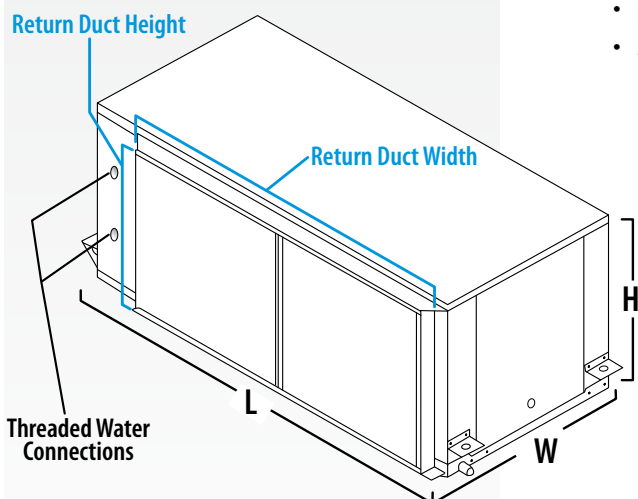
G = Blower                      R = 24V Supply  
Y = Compressor                COM = Common  
O = Reversing Valve

## Construction

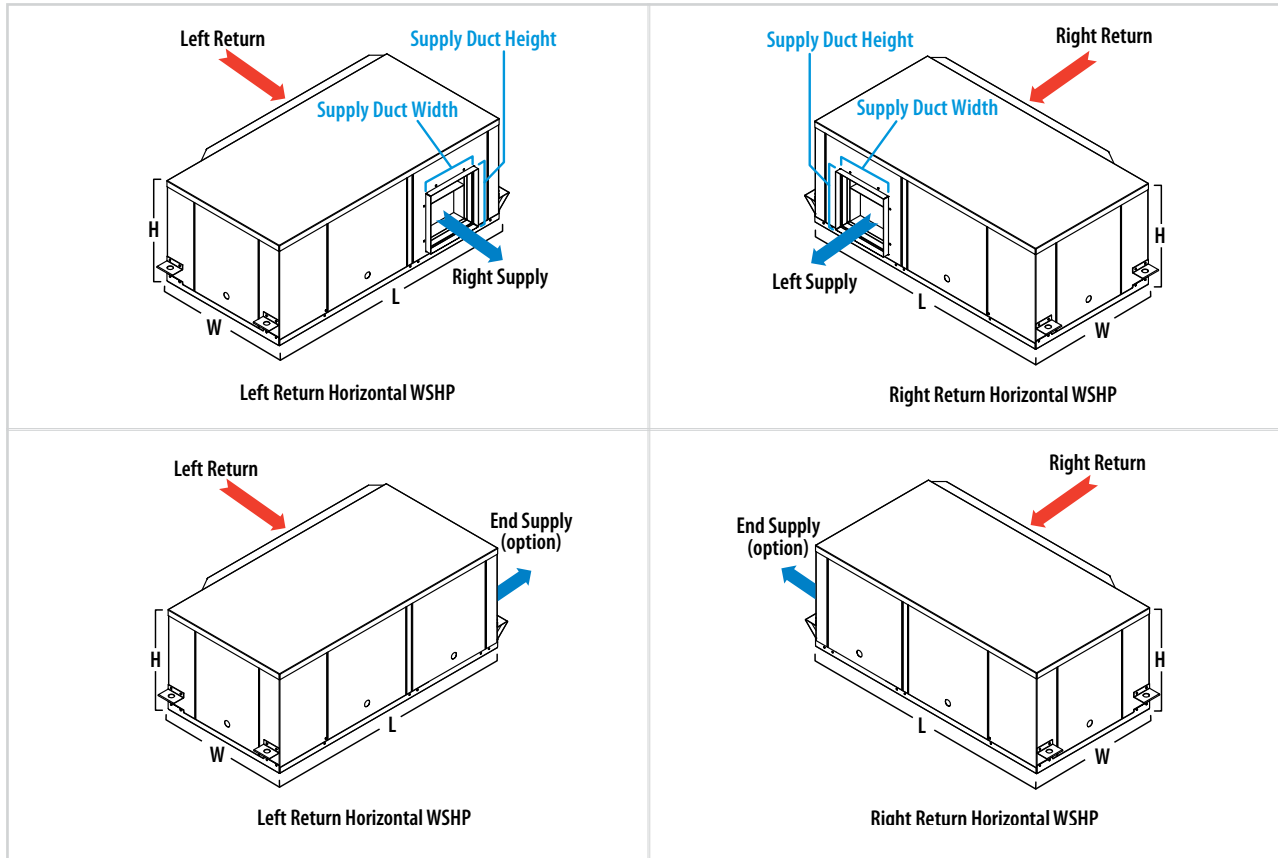
- Replacement Ready size matches with conventional water-source heat pumps
- All Aluminum Construction results in significantly less weight and superior corrosion resistance
- Hem Bends reduce sharp edges and improve serviceability
- Left or Right Hand Return
- Left, Right or End Discharge (field convertible)
- One Inch Foil Faced Cotton Fiber Cabinet Insulation
- Toolless Control Panel Service Access
- **Bottom Service Access** to expansion valve, reversing valve, filter drier, supply fan, and filters
- Integrated Hanging Brackets with Rubber Vibration Isolation are durable and simplify installation
- Sloped Stainless Steel Drain Pan includes Automated TIG and Induction Welding
- Induction Brazed Copper Piping Connections
- Integrated Two Inch Filter Rack - Standard on B Cabinet (1 ¼ ton) and Larger!
- Sellable or Recyclable Sheet Metal Pallet - Standard!
- 5 Year Parts Warranty - Standard!

## Factory Installed Options

- Corrosion Resistant Cupronickel Coaxial Refrigerant-to-Water Heat Exchanger
- Factory Installed Non-Fused Disconnect Switch
- Low Sound Package reduce fan and compressor sound
- Foam Rubber Insulation for IAQ sensitive applications
- Four Inch Filter Rack available with High Efficiency Filters, Up to MERV 14
- Factory Provided Return Air Duct Connection
- ECM Fan Speed Control Dehumidification
- Hot Gas Reheat Dehumidification
- Factory Installed Waterside Economizer with Three-Way Motorized Valve
- Ground/Ground Water Loop Insulation for Geothermal application



# Horizontal Configuration Airflow



## WSHP Cabinet Dimensions

WH Model (MBH)	Cabinet	Configuration	Width	Height	Length	Supply Duct		Return Duct		Water (FPT)		Weight (lbs)
						W	H	W	H	In	Out	
WH-006	A	Horizontal	19	10 3/4	34	9 1/8	4 1/4	23 1/2	9 3/4	1/2	1/2	73
WH-009												75
WH-012												78
WH-015	B	Horizontal	20	17	43	7 3/8	10 3/8	31 1/2	15 3/4	1/2	1/2	120
WH-018												122
WH-024	C	Horizontal	22	17	43	9 3/8	9 7/8	31 1/2	15 3/4	1/2	1/2	158
WH-030										3/4	3/4	162
WH-036	D	Left or Right Return	22	21	48	10 3/4	10 3/8	38 3/4	19 3/8	3/4	3/4	179
WH-042												199
WH-048	E	Left, Right or End Discharge	24	21	54	10 3/4	13	46 1/2	19 5/8	3/4	3/4	239
WH-060										1	1	247
WH-072	F											
WH-084	G											
WH-120												
WH-144												
WH-180												

All dimensions are in inches. Dimensions and weight may vary depending on options selected. Hanging brackets add 2 inches to each side (length). Supply duct flange and two inch return filter rack add 4 1/4 inches to A Cabinet, 3 1/4 inches to B, C, and D Cabinet, and 3 5/8 inches to E Cabinet (width). Four inch filter rack adds an additional 2 inches (width).



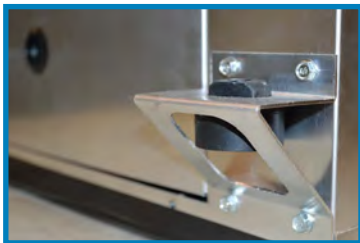
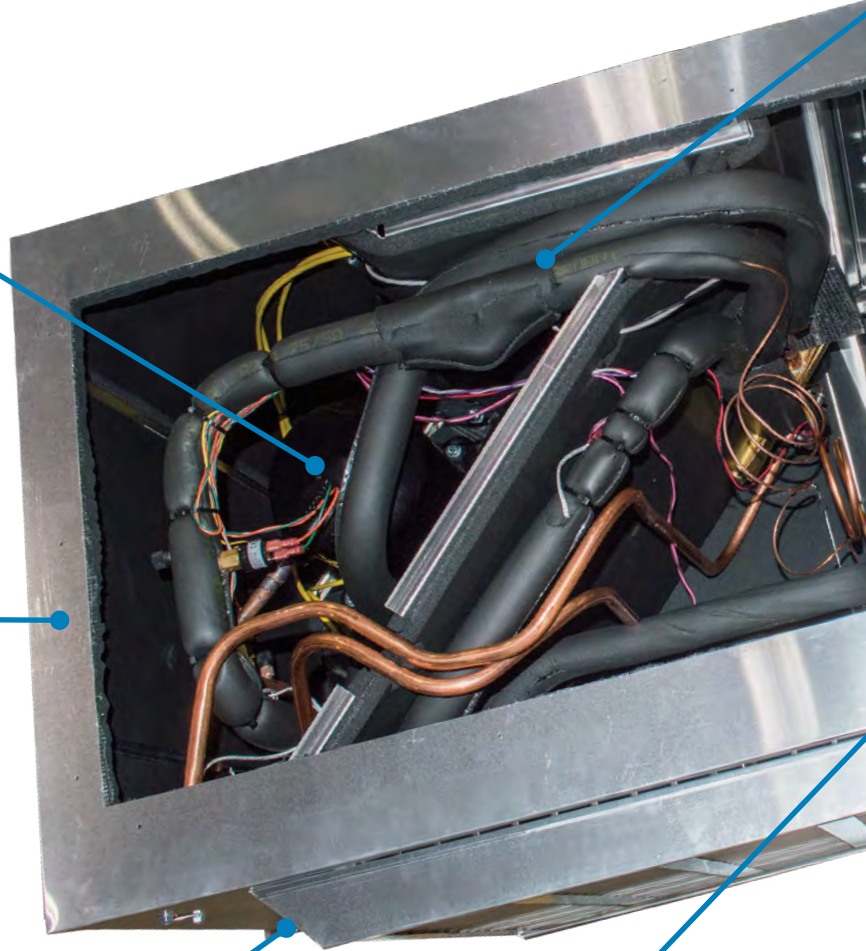
### Reliable Scroll/Rotary Compressors

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.



### 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.



### Integrated Hanging Brackets (Rubber Vibration Isolation)

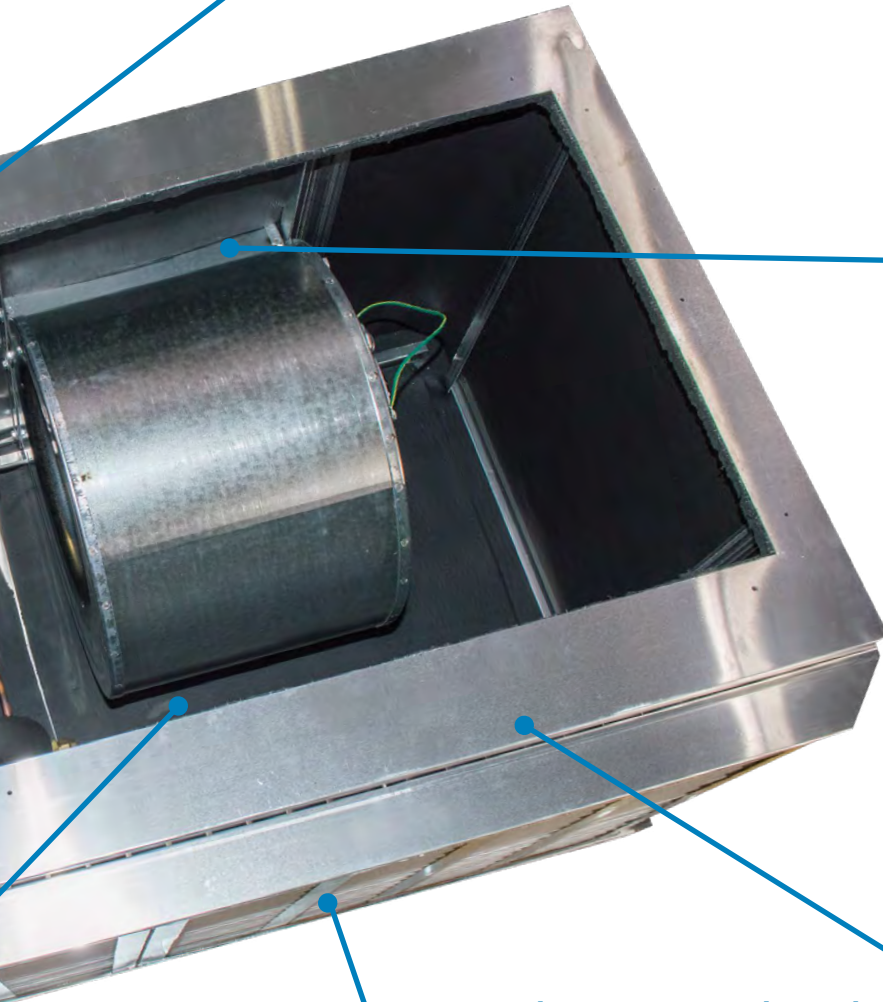
Hanging brackets are integrated into the unit base and include factory provided rubber-in-shear vibration isolation.

### Bottom Service Access

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.

**Copper Coaxial Refrigerant-to-Water Heat Exchanger**

Coaxial heat exchanger provides reliable operation. Cupronickel heat exchanger option is available for additional corrosion resistance.



**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.

**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.

**Standard Two Inch Pleated Filter**

Two inch filter rack is included as standard on B Cabinet (1 ¼ ton) and larger units for pleated MERV 8 filtration. 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.



## WSHP Performance Data with PSC Motor Fan

WH Model	Airflow (cfm)	Fluid Flow (gpm)	Voltage	Water Loop (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)			
				Cooling EWT 86°F		Heating EWT 68°F	
				Btu/hr	EER	Btu/hr	COP
WH-015	600	3.75	208/230V-60Hz-1ph 265V-60Hz-1ph	14,100	15.5	18,100	5.8
WH-018	700	4.5		17,200	15.4	21,600	5.5
WH-024	800	6.0	208/230V-60Hz-1ph 265V-60Hz-1ph 208/230V-60Hz-3ph 460V-60Hz-3ph	23,600	14.4	27,800	4.7
WH-030	1,000	7.5		28,400	14.7	35,100	4.3
WH-036	1,200	9.0		35,600	14.7	43,800	4.7
WH-042	1,400	10.5		41,200	15.0	49,200	4.7
WH-048	1,600	12.0		49,500	14.5	63,700	5.1
WH-060	2,000	15.0		60,000	14.6	76,700	4.8
WH-072							
WH-084							
WH-120			208/230V-60Hz-3ph 460V-60Hz-3ph				
WH-144							
WH-180							

### All Aluminum Construction

AAON Water-Source Heat Pumps feature all aluminum cabinet construction with a unit weight significantly less than a conventional water-source heat pump galvanized steel unit. Additional construction features include hem bends on exposed edges, integrated hanging brackets with rubber vibration isolation, 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. The metal pallet prevents damage 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 face 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.



▲ Metal Shipping Pallet

## WSHP Performance Data with Electronically Commutated Motor Fan

WH Model	Airflow (cfm)	Fluid Flow (gpm)	Voltage	Water Loop (Ratings at AHRI Cooling Tower/Boiler Conditions as in accordance with ISO Standard 13256-1)			
				Cooling EWT 86°F		Heating EWT 68°F	
				Btu/hr	EER	Btu/hr	COP
WH-006	250	2.0	115V-60Hz-1ph	5,700	14.0	7,200	4.9
WH-009	380	3.0	208/230V-60Hz-1ph	8,700	14.6	10,800	5.1
WH-012	425	4.0	265V-60Hz-1ph	11,000	12.8	15,100	4.6
WH-015	600	3.75	208/230V-60Hz-1ph	14,200	17.0	17,900	6.3
WH-018	700	4.5	265V-60Hz-1ph	16,600	16.7	20,000	5.6
WH-024	800	6.0	208/230V-60Hz-1ph 265V-60Hz-1ph 208/230V-60Hz-3ph 460V-60Hz-3ph	24,000	15.1	27,700	5.0
WH-030	1,000	7.5		28,800	15.2	34,900	4.5
WH-036	1,200	9.0		36,100	15.2	43,500	5.0
WH-042	1,400	10.5		41,800	15.3	48,900	5.0
WH-048	1,600	12.0		51,700	16.8	63,200	5.3
WH-060	2,000	15.0		61,000	15.1	76,700	4.8
WH-072							
WH-084							
WH-120							
WH-144							
WH-180							

### Advanced Testing Technology

All AAON Water-Source Heat Pump designs are lab tested before going into production. The new AAON Water-Source Heat Pump Laboratory utilizes the most recent advances in HVAC chamber testing technology to allow testing from 20-120°F, 30-80% RH, 147-6,000 cfm, and 1-50 gpm. Unit performance information provided is based lab testing in accordance with ISO Standard 13256-1.



High Tech Water-Source Heat Pump Testing Laboratory

# AAON Environmentally Friendly HVAC Product Family

## ROOFTOP UNITS (2-240 tons)



RZ/RL SERIES



RN SERIES



RQ SERIES

## OUTDOOR AIR HANDLING UNITS (800 - 100,000 + cfm)



RZ/RL SERIES



RN SERIES



RQ SERIES

## CONDENSING UNITS (2-230 tons)



CB SERIES



CF SERIES



CN SERIES



CL SERIES

## PACKAGED OUTDOOR MECHANICAL ROOMS (4-540 tons)



BOILER MECHANICAL ROOM



LF SERIES



LN SERIES



FLUID COOLER



LZ SERIES

## SELF-CONTAINED UNITS (3-70 tons)



SB SERIES

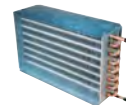


SA SERIES



M2 SERIES

## COILS



BOOSTER, HYDRONIC, & DX

## INDOOR AIR HANDLING UNITS (800 - 100,000 + cfm)

F1 SERIES



H3 SERIES



V3 SERIES



SA SERIES



M2 SERIES



M3 SERIES

## WATER-SOURCE HEAT PUMPS (1/2 - 230 tons)



RQ SERIES



RZ/RL SERIES



RN SERIES



VERTICAL & HORIZONTAL WSHP



M2 SERIES



SA SERIES

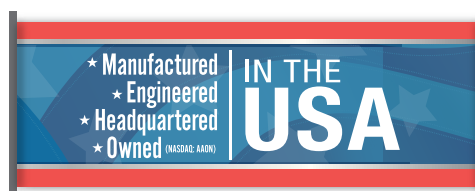


SB SERIES



Defining Quality. Building Comfort.

2425 S. Yukon Ave. • Tulsa, OK 74107-2728 • [www.AAON.com](http://www.AAON.com)



It is the intent of AAON to provide accurate and current product information. However, in the interest of product improvement, AAON reserves the right to change pricing, specifications, and/or design of its product without notice, obligation, or liability. Copyright © AAON, all rights reserved throughout the world. AAON® and AAONAIRE® are registered trademarks of AAON, Inc., Tulsa, OK.