



SB Series



VERTICAL SELF-CONTAINED UNITS



Features:

- Water-source and geothermal heat pump vertical self contained units with capacities from 3-18 tons
- Remote air-cooled condenser and air-source heat pump configurations
- 10%-100% variable capacity R-410A scroll compressors for load matching cooling and heating with improved part load efficiency
- Double wall rigid polyurethane foam injected panel construction reduces air leakage and dampens resonated sound
- Electronically Commutated Motor (ECM) driven direct drive backward curved plenum supply fans provide precise air flow control and reduced power consumption
- Optional modulating hot gas reheat humidity control
- Hinged service access doors with lockable handles
- Corrosion resistant stainless steel drain pans
- Split configuration for retrofit or space limited applications
- Factory installed high performance electric, hot water, or steam heating

Application Flexibility
Minimizes Installation Time and Reduces Cost

○ *Makeup Air Applications
Up to 100% Outside Air*

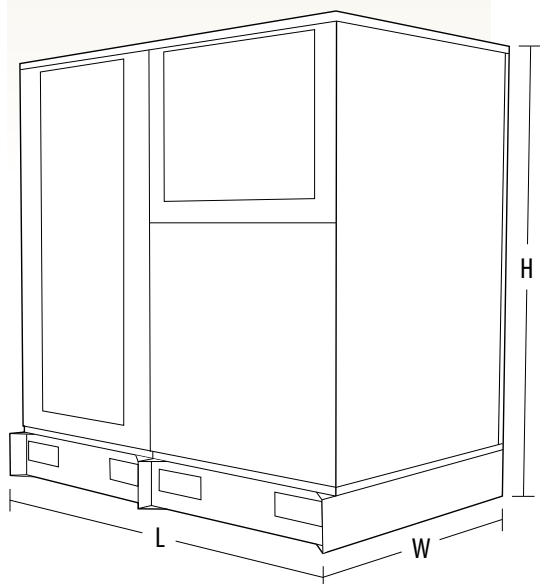
○ *Dehumidification and
Filtration Capabilities*

○ *Variable Capacity
Scroll Compressors*

○ *Factory Provided or Customer
Provided Controls Options*

SB Series Self-Contained Units

SB Series self-contained units are engineered for high performance and energy efficient full and part load operation. Variable capacity scroll compressors, ECM direct drive backward curved plenum supply fans, double wall rigid polyurethane foam insulated cabinet construction and heat pump configuration provide the SB Series with unmatched performance.



Superior Features

- Double wall rigid polyurethane foam injected panel cabinet construction has a higher thermal resistance, or R-value, compared with fiberglass construction. Panels include a thermal break, with no metal contact from inside to outside, to prevent heat transfer through the panel and prevent condensation on the outside of the cabinet. This construction also makes the cabinet more rigid and resistant to damage, provides increased sound dampening, and reduces air leakage and infiltration.
- Split configuration with refrigerant-to-water heat exchanger and compressor compartment shipped separate from the air tunnel section for retrofit or space limited applications.
- Access doors with chrome plated steel hinges and quarter turn lockable handles make the unit easily serviceable.
- Unit control and compressors are contained within a compartment isolated from the air stream for ease of service and quiet operation.
- Perforated, galvanized steel sound attenuators are installed in the compressor compartment.
- Double sloped stainless steel drain pans eliminate standing water which can support microbial growth and stainless steel construction prevents corrosion that could lead to water leaks and contaminants in the air stream.
- Direct drive backward curved plenum fans are more energy efficient, quieter, and require less maintenance than belt driven fans.
- ECM (Electronically Commutated Motor) supply fans provide precise airflow control and reduced power consumption.
- Air-Source, water-source, and geothermal heat pump configurations allow for energy efficient heating and cooling.
- Labeled electrical components and color-coded wiring match the unit specific color-coded wiring diagram that is laminated and permanently affixed inside the control compartment.
- Factory run test report, wiring diagram, and Installation, Operation, and Maintenance manual with startup form are provided in the control compartment of every unit.

SB Model	Cabinet	cfm	Width	Height*	Length*
003					
004	B	1,000-2,000	30	53	
005					
006					65
007					
009	C	1,800-4,000	42	72	
010					
014					
016	D	3,000-6,000	56	73	69
018					

All dimensions are in inches

Design cfm may be 30-50% greater or less than nominal cfm.

**Units can be shipped in a split configuration for ease of installation such that each section will fit through a standard 36" door.*

**Dimension may vary depending on options selected*

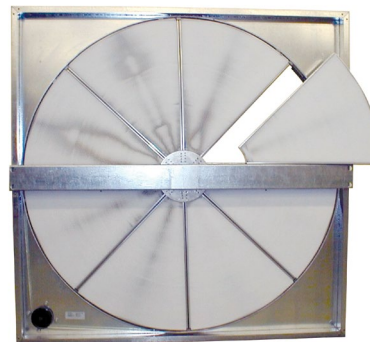
Compact Construction

Premier Options

- Makeup air ventilation with up to 100% outside air.
- Factory provided or customer provided controller can be selected to meet existing or new building control architecture.
- Modulating humidity control provides energy efficient dehumidification, even with low sensible heat loads, without the temperature swings common with on/off reheat systems.
- Polymer e-coated coils, copper finned coils, and stainless steel coil casings are available to extend the life of the coils and protect them in corrosive environments.
- Multiple high efficiency filtration options, with up to a MERV 14 efficiency rating.
- SCR (Silicon Controlled Rectifier) electric heat control for reduced power consumption, longer heater life and improved occupant comfort.
- Factory installed constant or variable flow waterside economizer allows for free cooling at low ambient conditions.
- Interior and exterior corrosion protection is available to protect the cabinet in corrosive environments.
- Factory installed mixing boxes with gear driven outside air and return air dampers allow for airside economizer free cooling. Additional high efficiency filtration is also available in the mixing box.
- Modulating head pressure control allows operation with lower temperature condenser supply water.
- Factory installed total or sensible AAONAIRE energy recovery wheels.



Variable capacity scroll compressors provide load matching cooling and heat pump heating and improve part load efficiency.



Factory installed AAONAIRE energy recovery wheel saves heating and cooling energy.

Variable Capacity Scroll Compressors

With 10-100% capacity control these scroll compressors can match the load needed by the unit. The compressors vary the volume of refrigerant that flows through the cooling system allowing the unit to tightly control the air temperature and save energy when the unit is not running at full load.

Variable Speed Supply Fans

ECM (Electronically Commutated Motor) driven direct drive backward curved plenum supply fans are available on SB Series units to provide precise air flow control and reduced power consumption. Direct drive fans do not have belt energy losses and backward curved plenum fans are more energy efficient than housed forward curved fans.

AAONAIRE Energy Recovery Wheels

AAONAIRE energy recovery wheels, total or sensible, provide energy savings by recycling energy instead of losing energy through the exhaust air stream. AAONAIRE systems also enhance indoor air quality by allowing larger amounts of outside air to be provided to the space with improved humidity control

Water-Source and Geothermal Heat Pump Configuration

An SB Series water-source/geothermal heat pump unit can heat the air as energy efficiently as it cools it. By transferring heat from the earth to the building, the SB Series heat pump requires no fossil fuels.

Ease of Installation

SB series units (B cabinet) are designed to fit through standard 36in wide by 80in tall doors for ease of installation and retrofit applications. C and D cabinets can be shipped from the factory in a split configuration in order to fit through a standard door opening. SB series units can be shipped from the factory with a forklift capable base to further ease installation.



SB Series
Self-Contained Units

AAON Environmentally Friendly HVAC Product Family

**Custom & Cataloged
Air Handling Units** ■.....
(800-200,000+ cfm)

Condensers & Condensing Units ■.....
(2-230 tons)

**Chillers (Air-Cooled &
Evaporative-Cooled)** ■.....
(4-540 tons)

Rooftop Units ■.....
(2-240 tons)

Outdoor Equipment Rooms ■.....
(Chillers, Boilers & Pumps)

Self-Contained Units ■.....
(3-70 tons)

Residential Systems ■.....
(2-5 tons)

Geothermal & WSHP Units ■.....
(2-230 tons)

Air-Source Heat Pumps ■.....
(2-230 tons)

Heating and Cooling Coils ■.....
(Booster, Hydronic, & DX)

Fluid Coolers ■.....
(50-450 tons)

Heating and Cooling *for...*

Auditoriums
Convenience Stores
Health Clubs
Healthcare Facilities
Homes
Lodgings
Manufacturing
Museums & Libraries
Natatoriums
Office Buildings
Restaurants
Retail Stores
Schools
Supermarkets



Defining Quality. Building Comfort.

2425 S. Yukon Ave.
Tulsa, OK 74107-2728
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.