



BOSCH

Invented for life

Bosch Water Source Heat Pump

EC Model

The EC Model, provides the best combination of performance, comfort and one-of-a-kind features that satisfy the high demands of any commercial building.





The High-Performance EC Model

Bosch EC

The EC Model water-to-air heat pump provides one of the best combinations of performance and efficiency available. Safety devices are built into each unit to provide the maximum system protection possible.

Quiet Comfort

- ▶ **Cabinet** - All panels are insulated with ½" thick, 1.5 lb./cu. ft. dual-density fiberglass insulation for both thermal insulation and noise reduction. For vibration isolation, all compressors are mounted on rubber grommets. Vertical cabinets have an insulated divider panel between the blower compartment and the compressor section to minimize the transmission of compressor noise, and to permit operational service testing without air bypass
- ▶ **Closed-cell Foam Insulation (option)** - Helps to provide cleaner, fiber-free air and reduces sound transmission
- ▶ **Compressor Blanket (option)** - A high density sound blanket that minimizes the transmission of compressor noise

Service Friendly

- ▶ **Unit Arrangement** - All units are designed to be serviced from the front of the unit. Schrader valves for the high and low pressure gauges are standard, along with easily accessible electrical box components, allow the diagnosing and servicing of the unit to become a simple task. Insulated bulkheads in all vertical EC Models separate the compressor section from the blower section, allowing the unit to be serviced easily during operation. Panels are removable to facilitate servicing of the unit. Separate electrical knockouts in the unit corner post allow for easy routing of high and low voltage lines to the inside of the cabinet of refrigerant hoses quickly and securely

Robust and Durable Construction

- ▶ **Galvanized Steel Cabinet** - Provides strength and corrosion protection
- ▶ **Cupro-nickel Coaxial Heat Exchanger (option)** - Protects against corrosion when water conditions are of low quality
- ▶ **Heat Pump Scroll compressors** - Provides durability & ensures that each unit will provide many years of trustworthy performance

Safety

- ▶ **Flow Proving Switch (option)** - Prevents the operation of the compressor should the water supply fail
- ▶ **Unit Protection Module (UPM)** - Monitors the unit operation and safety controls that protect the unit
- ▶ **Dual Refrigerant Freeze Sensors** - Monitors if refrigerant temperatures reach freeze limits and disables unit to protect it
- ▶ **Condensate Overflow Protection** - Continuously monitors the drain pan for high condensate water level, and if this exceeds normal operating levels, the compressor operation is interrupted to protect against drain pan overflow

Quality Design & Efficiency

- ▶ **Boilerless Control (option)** - Disables the compressor and/or activates electric heater should the water temperature drop below adjustable set point
- ▶ **Water Side Economizer (option)** - Provides free-cooling without the use of mechanical cooling (compressors)
- ▶ **Dual Capacity** - All units are designed with dual refrigeration circuits for staged operation



Options Designed for any Application

DuoGuard™ Air Coil Protection

The EC Model is available with this state-of-the-art coil protection option that features two layers of corrosion protection. All active copper heat transfer surface on the air coil is coated in a tin plating to resist all common forms of formicary coil corrosion. Additionally, the aluminum fins are pre-coated in a state-of-the-art gold enamel protective layer to provide a long service life in the harshest of environments, including sea coast installations. DuoGuard™ protected coils exceed 1000 hours of ASTM B117 salt spray testing.

DDC Controls

The optional factory mounted DDC Controller is preprogrammed and installed on the unit with the Unit Protection Module (UPM) to be job site ready. The unit will operate in a 100% stand-alone control mode or connect to a Building Automation System (BAS) using open protocols BACnet™, Modbus, N2 or LonWorks® (with an optional Lon card). Stand-alone DDC modules must use ZS Series remote intelligent zone sensors; minor changes to operating points are made using a separate Control Air M/ M+ HMI connected to either the DDC unit controller or through the wall sensor wall sensor (Android tablet only with Equipment Touch app). Zone temperature, leaving air temperature, and leaving water temperature can be monitored from the central control computer and unit fault indication displayed.

For complete Warranty details please go to boschheatingandcooling.com

DDC Room and Zone Sensors

To complement the controller, Bosch Thermotechnology Corp. offers a line of intelligent ZS Series Zone Sensors, which provide precision measurement and communication capabilities in an attractive low profile enclosure.



Even More Options Designed for any Application

Take-Apart Construction

To make installations possible into buildings where space is limited with standard-sized doorways and older elevators, the EC units are the perfect choice.

On/Off Hot Gas Reheat

Allows the user to not only control space temperature, but also humidity levels within the conditioned space. Modulating hot gas reheat will maintain the leaving air temperature at a preset value to deliver neutral air to the space.

100% Outside Air

The EC Model, as a special order, is capable of providing 100% fresh outside air to most commercial buildings. The purpose is to deliver the make-up air dehumidified and reheated per the design requirements for space temperature, humidity and not to burden the recirculating units.

Additional Features

- ▶ Belt driven
- ▶ TXV
- ▶ 75VA transformer

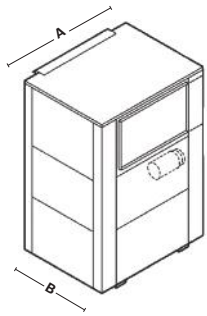
Additional Options

- ▶ 100VA transformer
- ▶ Hot water or chilled water coil
- ▶ Inverter duty fan motor
- ▶ Relays - EMS, blower monitor, compressor monitor, and pump/valve
- ▶ Phase monitor
- ▶ Fire alarm relay/dual power
- ▶ Wire to 208V
- ▶ Extended range with Schrader valve for head pressure control (by others)
- ▶ Variable frequency drive for fan motors
- ▶ Rotate blower
- ▶ 2" MERV-8 filter

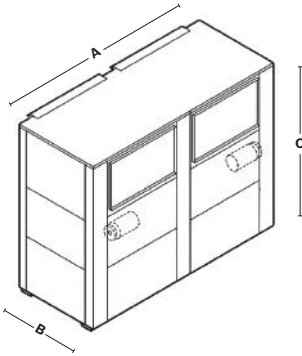
A photograph of a Bosch EC HVAC unit installed in a commercial building. The unit is a large, stainless steel cabinet with various copper pipes, valves, and a pressure gauge connected to it. A blue circular callout is overlaid on the left side of the unit.

The Bosch EC offers the best combination of performance, comfort and one-of-a-kind features that satisfy the high demands of any commercial building.

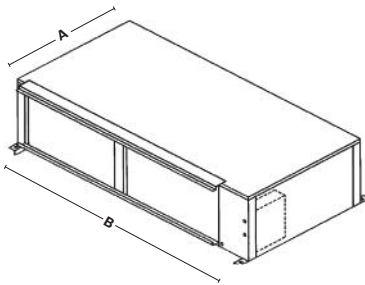
Technical Specifications



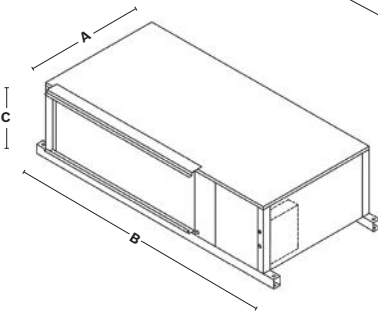
Single Blower
Large Vertical



Dual Blower
Large Vertical



EC072-150
Large Horizontal



EC180-242
Large Horizontal

Model	EC072-120 Single Blower Large Vertical Unit Dimensions (in inches)		
	A (width)	B (depth)	C (height)
EC072	42.00	32.00	62.00
EC096	42.00	32.00	62.00
EC120	42.00	32.00	62.00

Model	EC0151-181 Single Blower Large Vertical Unit Dimensions (in inches)		
	A (width)	B (depth)	C (height)
EC151	52.50	32.00	70.00
EC181	52.50	32.00	70.00

Model	EC210-360 Dual Blower Large Vertical Unit Dimensions (in inches)		
	A (width)	B (depth)	C (height)
EC210	80.00	32.00	62.00
EC240	80.00	32.00	66.50
EC300	80.00	32.00	66.50
EC360	80.00	32.00	86.50

Model	EC072-150 Large Horizontal Unit Dimensions (in inches)		
	A (width)	B (depth)	C (height)
EC072	38.00	78.00	21.50
EC096	38.00	78.00	21.50
EC120	38.00	78.00	21.50
EC150	42.00	82.00	21.50

Model	EC180-242 Large Horizontal Unit Dimensions (in inches)		
	A (width)	B (depth)	C (height)
EC180	60.25	106.50	25.25
EC242	60.25	106.50	36.00

NOTE: All dimensions in inches unless otherwise noted. All dimensions within +0.125". Specifications subject to change without notice. Height excludes mounting rails.

Performance & Electrical Data

ASHRAE/AHRI/ISO 13256-1 — AHRI Certified														
Model	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump				Air Flow (CFM)	GPM
	Cooling 86 °F		Heating 68 °F		Cooling 59 °F		Heating 50 °F		Cooling 77 °F		Heating 32 °F			
	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		
EC072	72900	13.9	79500	4.8	82200	20.2	67000	4.2	76500	16.1	53800	3.5	2320	16
EC096	92000	13.0	114200	4.7	105600	20.5	92200	4.1	95000	15.3	74300	3.5	2820	21
EC120	124000	13.2	158000	4.4	134000	18.3	123000	3.9	127200	14.7	100000	3.2	4000	28
Performance in accordance with ARI/ISO 13256-1														
EC150	157000	16.00	181000	5.60	185000	24.00	140000	5.00	166000	17.90	107000	4.20	N/A	35
EC151	147000	16.00	181000	5.60	175000	24.00	140000	5.00	155000	17.90	107000	4.20		35
EC180	182000	14.20	204000	5.00	195000	20.00	156000	4.20	185000	15.40	118000	3.50		42
EC181	170000	14.20	204000	5.00	185000	20.00	156000	4.20	175000	15.40	118000	3.50		42
EC210	220000	14.60	270000	5.10	292000	22.50	204000	4.50	250000	17.20	152000	3.90		50
EC240	248000	14.40	315000	5.00	310000	21.10	250000	4.50	275000	16.00	180000	3.90		60
EC242	248000	14.40	315000	5.00	310000	21.10	250000	4.50	275000	16.00	180000	3.90		60
EC300	295000	13.00	376000	4.20	365000	18.80	300000	3.80	318000	14.00	222000	3.20		75
EC360	386000	14.80	435000	4.20	472000	22.00	342000	4.00	412000	16.40	252000	3.30		90

NOTE: Ratings based upon AHRI/ANSI 13256-1 with 1" disposable filter

About Bosch

Bosch Group

The Bosch Group is a leading global supplier of technology and services in the areas of Automotive, Industrial Technology, Consumer Goods and Building Technology. The company was founded in Stuttgart, Germany, in 1886 and presently has more than 440 subsidiaries and is represented in over 150 countries.

In the U.S., Canada and Mexico, the Bosch Group manufactures and markets automotive original equipment and aftermarket solutions, industrial drives and control technology, power tools, security and communication systems, packaging technology, thermotechnology, household appliances and software solutions. The Bosch Group's products and services are designed to improving quality of life by providing innovative and beneficial solutions. In this way, the company offers technology worldwide that is "Invented for life." Additional information is available online at boschheatingandcooling.com and bosch.ca.

Bosch Thermotechnology in North America

Bosch Thermotechnology is a leading source of high quality water heating and comfort systems. The company offers gas tankless, electric whole house and point-of-use water heaters, Bosch and Buderus floor-standing and wall mounted boilers, Bosch and FHP geothermal, water-source and air-source systems as well as controls and accessories for all product lines. Bosch Thermotechnology is committed to being Simply Smart by offering products that work together as integrated systems that enhance quality of life in an ultra-efficient and environmentally friendly manner. For more information, visit boschheatingandcooling.com.



Heating



Cooling



Hot Water



Controls

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