

EP Model

Water Source Heat Pump

½ to 6 Ton

Industry-leading single-stage efficiencies, standard features, and a variety of options - providing energy efficient solutions to accommodate your building requirements.



EP Model	UP TO 21.7 EER GLHP	UP TO 6.0 COP WSHP

 **Made in the U.S.A.**



Commercial Sales Catalog
boschheatingandcooling.com



BOSCH
Invented for life

Enhanced **EP Model**

The EP Model, water-to-air heat pump offers high efficiency, value added features and a single stage compressor (scroll type 1 1/2 - 6 ton size). An optional ECM constant airflow fan motor can give you the flexibility, performance and quiet operation needed to meet the expectations of your clients.

Features Designed for any Application

Quiet Comfort

- ▶ **Floating Compressor Base** - Reduces vibration and noise transmission from the compressor to the structure
- ▶ **Closed-cell Foam Insulation** (option) - Helps to provide cleaner, fiber-free air and reduces sound transmission
- ▶ **Compressor Blanket** (option) - Offers optimum low sound levels (not available on smaller units with rotary compressor)

Service Friendly

- ▶ **Blower Inlet Ring** - (available in 015-070 only) Allows quick servicing of blower fan motor without disassembly of blower housing
- ▶ **Insulated Divider** - Separates the compressor and blower sections, allowing the unit to be serviced easily during operation
- ▶ **Schrader Charging Valves** - Facilitates service diagnosis by allowing the connection of refrigerant hoses quickly and securely

Robust and Durable Construction

- ▶ **Galvanized Steel Cabinet** - Provides strength and corrosion protection
- ▶ **Evaporator Coil Protection with DuoGuard™** (option) - Tin electro-plated copper tubing with high-tech polymer coated aluminum fins that aid in protecting the evaporator coil from most forms of corrosive elements in the air stream
- ▶ **Stainless Steel Drain Pan** - Resists cracking and corrosion which provides long-lasting reliability for condensate collection
- ▶ **Cupro-nickel Coaxial Heat Exchanger** (option) - Protects against corrosion when water conditions are of low quality
- ▶ **40A Non-fused disconnect** (option) - Allows shut off of the unit without lockout of the main panel (N/A with electric heat)

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

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)
- ▶ **Extended Range** (option) - Accommodates geothermal closed loop applications when Entering Fluid Temperatures are anticipated below 60 °F
- ▶ **TXV** - Bi-flow thermal expansion valve for optimum performance over a wide range of heating and cooling conditions
- ▶ **Heat Recovery Package** (option for 024-070 in -1 or -3 voltage only) - Provides domestic water heating during the air conditioning or heating mode to supplement your building's potable water heating needs assisting any electric domestic water heating storage tank

ECM Constant Airflow Fan Motor

The high efficiency Electrically Commutated Motor (ECM), available in 1/3hp to 1hp, provides constant airflow in a wide static pressure range up to 1 in.w.g. Optional in all unit sizes except 1/2 through 1 ton, this motor is a great choice in high filtration applications. The motor has a soft start/stop feature, keeping noise to a minimum. Passive dehumidification can be achieved with the constant airflow ECM by reducing nominal airflow by 15%. This control feature lowers air coil temperature and prevents over-cooling of the space when in dehumidification mode. The constant airflow ECM requires a neutral wire in a 460V application.

Blower and Motor

PSC blower motors are standard on unit sizes 1/2 through

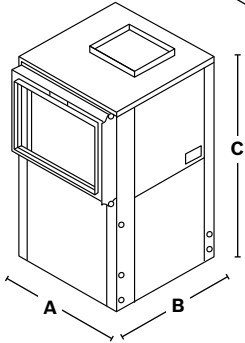
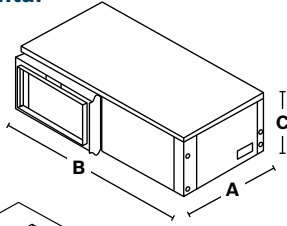
1 ton. Multiple speed constant torque ECM motors are standard on units sizes 1 1/2 through 6 tons, allowing the user to select the correct speed to deliver the specified airflow and the design system static pressure.

MERV-8 and MERV-13 Filters

The optional 2" MERV-8 or -13 filter is most advantageous for premium air filtration on commercial HVAC projects. High efficiency filtration is a cost-effective way of upgrading air quality while maintaining low pressure drop and sustaining long service life. These filters effectively remove up to 98% of airborne matter, such as fine particulates, bacteria, smoke, gases and allergens including dust mites, pollen, mold spores, dust and smog. MERV-8 and MERV-13 rated filters are a minimum requirement for EQ credits

Technical Specifications

Horizontal



Vertical

Model	Horizontal Unit Dimensions (in inches)		
	A (width)	B (depth)	C (height)
EP007	21.75	43.25	16.75
EP009	21.75	43.25	16.75
EP012	22.25	45.25	19.75
EP015	22.25	45.25	19.75
EP018	22.25	45.25	19.75
EP024	26.25	54.75	22.00*
EP030	30.25	68.25	22.00*
EP036	30.25	68.25	22.00*
EP042	30.25	79.00	22.00*
EP048	30.25	79.00	22.00*
EP060	30.25	89.25	22.00*
EP070	30.25	89.25	22.00*

Model	Vertical Unit Dimensions (in inches)		
	A (width)	B (depth)	C (height)
EP007	21.75	21.75	32.75
EP009	21.75	21.75	32.75
EP012	21.75	21.75	32.75
EP015	21.75	21.75	39.25
EP018	21.75	21.75	39.25
EP024	21.75	26.25	47.25
EP030	24.25	33.50	47.25
EP036	24.25	33.50	47.25
EP042	26.25	33.50	58.25
EP048	26.25	33.50	58.25
EP060	26.25	33.50	66.25
EP070	26.25	33.50	66.25

All dimensions in inches unless otherwise noted. All dimensions within +0.125". Specifications subject to change without notice.

*Total unit height is 22.75 with base rails for EP030 - EP070.

ASHRAE / AHRI / ISO 13256-1. English (I-P) Units												
Model	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
	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
EP with PSC Motor												
EP007	6,800	15.7	8,800	5.7	8,400	25.1	7,000	4.9	7,400	18.5	5,100	3.6
EP009	9,000	16.2	11,200	5.5	10,500	25.5	9,000	4.5	9,500	19.3	6,800	3.6
EP012	12,200	14.9	16,500	5.1	114,600	22.7	13,000	4.3	13,000	17.5	10,000	3.6
EP with ECM Motor (Constant Torque or Constant Air Flow)												
EP015	15,200	17.5	17,500	5.6	17,000	28.8	13,000	4.6	16,200	20.6	11,000	3.9
EP018	19,500	16.4	21,300	5.3	21,300	25.6	17,700	4.5	20,500	19.0	14,800	3.8
EP024	24,500	18.2	28,500	5.7	28,400	28.1	23,700	4.6	26,000	21.1	18,000	4.0
EP030	27,000	16.6	31,000	5.9	31,700	27.0	25,000	5.2	28,500	19.4	20,500	4.3
EP036	36,000	17.2	41,000	5.6	40,200	25.9	34,400	4.9	37,500	19.7	26,000	4.1
EP042	40,600	18.2	42,400	6.0	45,000	25.7	35,000	5.1	42,200	21.7	26,800	4.1
EP048	47,400	17.2	50,000	5.3	52,900	26.1	40,500	4.3	49,500	20.0	33,400	3.7
EP060	60,400	16.2	71,500	5.7	66,500	24.1	56,700	4.9	61,500	18.5	47,000	4.2
EP070	68,000	16.2	86,000	5.6	71,400	22.4	71,400	5.0	70,500	18.5	56,500	4.2

Tabulated performance data is at noted water temperatures and entering air conditions of 80.6°F DB/66.2°F WB at ARI/ISO 13256-1 rated CFM.

3.1 and 5 on LEED® projects. Note: MERV-13 factory option requires ECM Constant Airflow fan motor option. With the optional ECM constant airflow motor the EP is prepared to handle higher external pressure drops when utilizing the higher efficiency MERV-13 filters.

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. With a factory-supplied DDC wall sensor, 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).

DDC Room and Zone Sensors (optional)

To complement the controller, Bosch Thermotechnology Corp.

offers a line of intelligent FHP space sensors, which provide precision measurement and communication capabilities in an attractive low profile enclosure.

Additional Options

- ▶ 5, 10, 15, 20 kW electric heaters
- ▶ Relays - EMS, blower monitor, compressor monitor, and pump/valve
- ▶ Fire alarm/dual power
- ▶ Comfort alert module
- ▶ 2-Way internal solenoid valve
- ▶ Autoflow water regulator valve
- ▶ Hot gas bypass
- ▶ Hot gas reheat
- ▶ Straight cooling

Electrical Data

For units with a factory installed heater kit option, there will be two separate data plates for each electrical circuit. The first data plate will be for the compressor power connection.

Model	Voltage Code	Voltage/ Phase/Hz	Voltage Min/Max	Compressor			Compressor Electrical Sizing	
				Quantity	RLA	LRA	Min Circuit Amps	Max Fuse/ HACR
EP018	1	208-230/60/1	197/253	1	7.4	33.0	9.3	15
EP024	1	208-230/60/1	197/253	1	13.5	58.3	16.9	30
EP030	1	208-230/60/1	197/253	1	12.8	58.3	26.5	25
EP036	1	208-230/60/1	197/253	1	16.0	77.0	20.0	30
EP042	1	208-230/60/1	197/253	1	16.7	79.0	20.9	30
EP048	1	208-230/60/1	197/253	1	19.9	109.0	24.9	40
EP060	1	208-230/60/1	197/253	1	25.0	134.0	31.3	50
EP070	1	208-230/60/1	197/253	1	26.3	134.0	26.5	50

Standard Motor – PSC for 007-012, ECM Constant Torque for 015-070

Model	Voltage Code	Voltage/Ph/Hz	Compressor			Blower			Min Circuit Amps	Max Fuse
			Quantity	RLA	LRA	Quantity	FLA	HP		
EP007	-1	208-230/1/60	1	2.5	17.7	1	0.96	0.1	4.1	15
	-2	265/1/60	1	2.6	13.5	1	0.85	0.1	4.1	15
EP009	-1	208-230/1/60	1	3.4	22.2	1	0.96	0.1	5.2	15
	-2	265/1/60	1	2.9	18.8	1	0.85	0.1	4.5	15
EP012	-0	115/1/60	1	9.6	58.4	1	2.2	0.1	14.2	20
	-1	208-230/1/60	1	4.6	27.9	1	0.96	0.1	6.7	15
	-2	265/1/60	1	3.8	22.2	1	0.85	0.1	5.6	15
EP015	-1	208-230/1/60	1	5.6	29	1	2.8	0.33	9.8	15
	-2	265/1/60	1	4.6	20	1	2.6	0.33	8.4	15
EP018	-1	208-230/1/60	1	7.4	33	1	2.8	0.33	12.1	15
	-2	265/1/60	1	6	28	1	2.6	0.33	10.1	15
EP024	-1	208-230/1/60	1	13.5	58.3	1	2.8	0.33	19.7	30
	-2	265/1/60	1	9	54	1	2.6	0.33	13.9	20
	-3	208-230/3/60	1	7.1	55.4	1	2.8	0.33	11.7	15
	-4	460/3/60	1	3.5	28	1	2.1	0.5	6.5	15
EP030	-1	208-230/1/60	1	12.8	58.3	1	4.1	0.5	20.1	30
	-2	265/1/60	1	9.6	54	1	3.6	0.5	15.6	25
	-3	208-230/3/60	1	7.7	55.4	1	2.8	0.5	12.4	20
	-4	460/3/60	1	3.6	28	1	2.1	0.5	6.6	15
EP036	-1	208-230/1/60	1	16	77	1	6	0.75	26.0	40
	-3	208-230/3/60	1	10	71	1	6	0.75	18.5	25
	-4	460/3/60	1	4.7	38	1	4.6	0.75	10.5	15
EP042	-1	208-230/1/60	1	16.7	79	1	6	0.75	26.9	40
	-3	208-230/3/60	1	10.4	73	1	6	0.75	19.0	25
	-4	460/3/60	1	5.8	38	1	4.6	0.75	11.9	15
EP048	-1	208-230/1/60	1	19.9	109	1	6	0.75	30.9	50
	-3	208-230/3/60	1	13.6	83.1	1	6	0.75	23.0	35
	-4	460/3/60	1	6.1	41	1	4.6	0.75	12.2	15
EP060	-1	208-230/1/60	1	25	134	1	7.6	1	38.9	60
	-3	208-230/3/60	1	15.9	110	1	7.6	1	27.5	40
	-4	460/3/60	1	7.1	52	1	4	1	12.9	20
EP070	-1	208-230/1/60	1	26.3	134	1	7.6	1	40.5	60
	-3	208-230/3/60	1	15.6	110	1	7.6	1	27.1	40
	-4	460/3/60	1	7.8	52	1	4	1	13.8	20

NOTE: For the wiring diagram please refer to pages 33 and 34 in the Installation & Maintenance Manual (IOM)

Electrical Data

ECM Constant Airflow Motor

Model	Voltage Code	Voltage/Ph/Hz	Compressor			Blower			Min Circuit Amps	Max Fuse
			Quantity	RLA	LRA	Quantity	FLA	HP		
EP015	-1	208-230/1/60	1	5.6	29	1	2.8	0.33	9.8	15
	-2	265/1/60	1	4.6	20	1	2.6	0.33	8.4	15
EP018	-1	208-230/1/60	1	7.4	33	1	2.8	0.33	12.1	15
	-2	265/1/60	1	6	28	1	2.6	0.33	10.1	15
EP024	-1	208-230/1/60	1	13.5	58.3	1	2.8	0.33	19.7	30
	-2	265/1/60	1	9	54	1	2.6	0.33	13.9	20
	-3	208-230/3/60	1	7.1	55.4	1	2.8	0.33	11.7	15
	-4	460/3/60*	1	3.5	28	1	4.1	0.5	8.5	15
EP030	-1	208-230/1/60	1	12.8	58.3	1	4.3	0.5	20.3	30
	-2	265/1/60	1	9.6	54	1	4.1	0.5	16.1	25
	-3	208-230/3/60	1	7.7	55.4	1	4.3	0.5	13.9	20
	-4	460/3/60*	1	3.6	28	1	4.1	0.5	8.6	15
EP036	-1	208-230/1/60	1	16	77	1	6.8	0.75	26.8	40
	-3	208-230/3/60	1	10	71	1	6.8	0.75	19.3	25
	-4	460/3/60*	1	4.7	38	1	5.5	0.75	11.4	15
EP042	-1	208-230/1/60	1	16.7	79	1	6.8	0.75	27.7	40
	-3	208-230/3/60	1	10.4	73	1	6.8	0.75	19.8	30
	-4	460/3/60*	1	5.8	38	1	5.5	0.75	12.8	15
EP048	-1	208-230/1/60	1	19.9	109	1	6.8	0.75	31.7	50
	-3	208-230/3/60	1	13.6	83.1	1	6.8	0.75	23.8	35
	-4	460/3/60*	1	6.1	41	1	5.5	0.75	13.1	15
EP060	-1	208-230/1/60	1	25	134	1	9.1	1	40.4	60
	-3	208-230/3/60	1	15.9	110	1	9.1	1	29.0	40
	-4	460/3/60*	1	7.1	52	1	6.9	1	15.8	20
EP070	-1	208-230/1/60	1	26.3	134	1	9.1	1	42.0	60
	-3	208-230/3/60	1	15.6	110	1	9.1	1	28.6	40
	-4	460/3/60*	1	7.8	52	1	6.9	1	16.7	20

* 460V models with a constant airflow motor require a neutral wire to provide 265V power to the motor.

For Units with Internal Electric Heat Option – Constant Torque ECM Motor

Model	EH Rated kW	Stage	Heater Watts		Heater AMPS			Circuit Fuses	MCA		MOP	
			240	208	240V	208V	Motor FLA (A)		240V	208V	240V	208V
EP018	4.8	1	4,800	3,600	20.0	17.3	2.8	-	28.5	25.1	30	30
EP024	4.8	1	4,800	3,600	20.0	17.3	2.8	-	28.5	25.1	30	30
EP024	9.6	1	9,600	7,200	40.0	34.6	2.8	-	53.5	46.8	60	50
EP030	4.8	1	4,800	3,600	20.0	17.3	4.1	-	30.1	26.8	35	30
EP030	9.6	1	9,600	7,200	40.0	34.6	4.1	-	55.1	48.4	60	50
EP036	4.8	1	4,800	3,600	20.0	17.3	6.0	-	32.5	29.1	35	30
EP036	9.6	1	9,600	7,200	40.0	34.6	6.0	-	57.5	50.8	60	60
EP036	14.4	2	14400	10800	60	51.9	6	F1/F2 F3/F4	82.5	72.4	90	80
EP042	4.8	1	4,800	3,600	20.0	17.3	6.0	-	32.5	29.1	35	30
EP042	9.6	1	9,600	7,200	40.0	34.6	6.0	-	57.5	50.8	60	60
EP042	14.4	2	14400	10800	60	51.9	6	F1/F2 F3/F4	82.5	72.4	90	80
EP048	4.8	1	4,800	3,600	20.0	17.3	6.0	-	32.5	29.1	35	30
EP048	9.6	1	9,600	7,200	40.0	34.6	6.0	-	57.5	50.8	60	60
EP048	14.4	2	14400	10800	60	51.9	6	F1/F2 F3/F4	82.5	72.4	90	80
EP048	19.2	2	19200	14000	80	69.2	6	F1/F2 F3/F4	107.5	94.0	110	100
EP060	4.8	1	4,800	3,600	20.0	17.3	7.6	-	34.5	31.1	35	35
EP060	9.6	1	9,600	7,200	40.0	34.6	7.6	-	59.5	52.8	60	60
EP060	14.4	2	14400	10800	60	51.9	7.6	F1/F2 F3/F4	84.5	74.4	90	80
EP060	19.2	2	19200	14000	80	69.2	7.6	F1/F2 F3/F4	109.5	96.0	110	100
EP070	4.8	1	4,800	3,600	20.0	17.3	7.6	-	34.5	31.1	35	35
EP070	9.6	1	9,600	7,200	40.0	34.6	7.6	-	59.5	52.8	60	60
EP070	14.4	2	14400	10800	60	51.9	7.6	F1/F2 F3/F4	84.5	74.4	90	80
EP070	19.2	2	19200	14000	80	69.2	7.6	F1/F2 F3/F4	109.5	96.0	110	100

*Electric heat is not available for horizontal-straight through airflow configuration or with hot gas reheat.

Units with electric heat require dual point power connections. Chart above is for the blower and heater only. Refer to catalog for compressor electrical data.

Electrical Data

For Units with Internal Electric Heat Option – Constant Airflow ECM Motor

Model	EH Rated kW	Stage	Heater Watts		Heater AMPS			Circuit Fuses	MCA		MOP	
			240	208	240V	208V	Motor FLA (A)		240V	208V	240V	208V
EP018	4.8	1	4,800	3,600	20.0	17.3	2.8	-	28.5	25.1	30	30
EP024	4.8	1	4,800	3,600	20.0	17.3	2.8	-	28.5	25.1	30	30
EP024	9.6	1	9,600	7,200	40.0	34.6	2.8	-	53.5	46.8	60	50
EP030	4.8	1	4,800	3,600	20.0	17.3	4.3	-	30.4	27.0	35	30
EP030	9.6	1	9,600	7,200	40.0	34.6	4.3	-	55.4	48.6	60	50
EP036	4.8	1	4,800	3,600	20.0	17.3	6.8	-	33.5	30.1	35	35
EP036	9.6	1	9,600	7,200	40.0	34.6	6.8	-	58.5	51.8	60	60
EP036	14.4	2	14,000	10,800	60.0	17.3	6.8	F1/F2 F3/F4	83.5	73.4	90	80
EP042	4.8	1	4,800	3,600	20.0	51.9	6.8	-	33.5	30.1	35	35
EP042	9.6	1	9,600	7,200	40.0	17.3	6.8	-	58.5	51.8	60	60
EP042	14.4	2	14,400	10,800	60	51.9	6.8	F1/F2 F3/F4	83.5	73.4	90	80
EP048	4.8	1	4,800	3,600	20.0	17.3	6.8	-	33.5	30.1	35	35
EP048	9.6	1	9,600	7,200	40.0	34.6	6.8	-	58.5	51.8	60	60
EP048	14.4	2	14,400	10,800	60	51.9	6.8	F1/F2 F3/F4	83.5	73.4	90	80
EP048	19.2	2	19,200	14,000	80	69.2	6.8	F1/F2 F3/F4	108.5	95.0	110	100
EP060	4.8	1	4,800	3,600	20.0	17.3	9.1	-	36.4	33.0	40	35
EP060	9.6	1	9,600	7,200	40.0	34.6	9.1	-	61.4	54.6	70	60
EP060	14.4	2	14,400	10,800	60	51.9	9.1	F1/F2 F3/F4	86.4	76.3	90	80
EP060	19.2	2	19,200	14,000	80	69.2	9.1	F1/F2 F3/F4	111.4	97.9	120	100
EP070	4.8	1	4,800	3,600	20.0	17.3	9.1	-	36.4	33.0	35	35
EP070	9.6	1	9,600	7,200	40.0	34.6	9.1	-	61.4	54.6	70	60
EP070	14.4	2	14,400	10,800	60	51.9	9.1	F1/F2 F3/F4	86.4	76.3	90	80
EP070	19.2	2	19,200	14,000	80	69.2	9.1	F1/F2 F3/F4	111.4	97.9	120	100

Electric heat is not available for horizontal-straight through airflow configuration. Use a Bosch flanged duct heater in this application. Units with electric heat require dual point power connections. Chart above is for the blower and heater only. Refer to catalog for compressor electrical data.

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