

EVIP60 ISO  
EV Series, Inch Pounds - 60 Hz  
EV018-070 (iso)  
Spec Guides  
Drawings  
Spec Sheets  
Low Temp Heating

Rev 3-02

**GEO**  **EXCEL**™

## GENERAL

Units shall be performance certified to ISO standard 13256-1 for Water Loop Heat Pump, Ground Water Heat Pump and Ground Loop Heat Pump applications. Units shall be Underwriter Laboratories (UL and ULc) listed for safety on all models. Each unit shall be run tested at the factory. Each unit shall be pallet mounted and stretch wrapped.

The units shall be warranted by the manufacturer against defects in materials and workmanship for a period of one year on all parts, and 5 years on the compressor.

The units shall be designed to operate with entering fluid temperatures between 50°F (10°C) and 110°F (43.3°C) in cooling and temperatures between 25°F (-3.9°C) and 80°F (27°C) in heating as manufactured by GeoExcel.

## CASING & CABINET

The cabinet shall be fabricated from heavy-gauge painted galvanized steel. The interior shall be insulated with ½" (12.7mm) thick, multi density, coated, glass fiber. All units shall allow sufficient service access to replace the compressor without unit removal. One blower and two compressor compartment access panels shall be removable with supply and return ductwork in place. A duct collar shall be provided on the supply air opening. A four sided hinged filter rack (2 sided, non-hinged on horizontal units) with a full 1" (25.4mm) duct collar and 1" (25.4mm) thick filters shall be provided with each unit. The units shall have an insulated divider panel between the air handling section and the compressor section to minimize the transmission of compressor noise, and to permit service testing without air bypass. Units shall have a stainless steel condensate drain pan.

## REFRIGERATION CIRCUITS

All units shall contain a sealed R-410A refrigerant circuit including a hermetic scroll compressor, bi-directional thermal expansion valve metering device, finned tube air-to-refrigerant heat exchanger, refrigerant reversing valve, coaxial tube-in-tube water to refrigerant heat exchanger, liquid line filter drier and service ports. Compressor shall be mounted on rubber vibration isolators. Compressor motors shall be equipped with overload protection. Refrigerant reversing valves shall be pilot operated sliding piston type with replaceable encapsulated magnetic coils energized only during the cooling cycle. The finned tube coil shall be constructed of lanced aluminum fins not exceeding fourteen fins per inch bonded to rifled copper tubes in a staggered pattern not less than three rows deep and have a working pressure of no less than 450 PSIG (3100 kPa). The coaxial water-to-refrigerant heat exchanger shall be constructed of a convoluted copper (optional cupronickel) inner tube and steel outer tube with a designed refrigerant working pressure of no less than 450 PSIG (3100 kPa) and a designed water side working pressure of no less than 400 PSIG (2750 kPa). The water-to-refrigerant heat exchanger shall be insulated to prevent condensation at low fluid temperatures.

## FAN MOTOR & ASSEMBLY

The fan shall be direct drive centrifugal forward curved type with a dynamically balanced wheel. The housing and wheel shall be designed for quiet low velocity operation. The fan housing shall be removable from the unit without disconnecting the supply air ductwork for servicing of the fan motor. The fan motor shall be three speed PSC type. The motor shall be permanently lubricated and have thermal overload protection.

## ELECTRICAL

Controls and safety devices will be factory wired and mounted within the unit. Controls shall include fan relay, compressor contactor, 24V transformer, reversing valve coil and solid state lock-out controller. The lock-out controller shall include the following features: diagnostic LED's, low pressure bypass time delay (to prevent nuisance low pressure lock-outs during operation with low fluid temperatures), anti short cycle time delay, random start time delay and one time intelligent reset. When the safety controls are activated the lock-out circuit must reset itself the first time. If the safety controls are subsequently activated, then the lock-out circuit must disable the compressor until it is reset at the thermostat or main circuit breaker to prevent compressor operation during fault conditions. A lock-out indicating terminal shall be provided in the low voltage circuit. Safety devices include a low pressure cutout set a 20 PSIG (140 kPa) for loss of charge protection (freezestat and/or high discharge gas temperature sensor is not acceptable) and a high pressure cutout control set at 600 PSIG (4100 kPa).

A terminal block with screw terminals shall be provided for control wiring. An optional condensate overflow switch shall be factory installed to stop compressor operation if drain pan overflow is eminent. An optional energy management relay to allow unit control by an external source shall be factory installed.

## PIPING

Supply, return water and condensate drain connections shall be brass female pipe thread fittings and mounted flush to cabinet exterior with optional stainless steel, Braided hose kit with swivel connectors.

## INTERNAL ELECTRIC HEAT

208/230-1-60 volt units shall be equipped with optional factory installed internal electric resistance heat for auxilliary and emergency heat. Electric heater must be Underwriter's Laboratories (UL and ULc) approved for safety when installed in the unit. External heater packages or heater packages not specifically listed for use with the unit are unacceptable. Electric heater packages shall include a heater collar mounted to the blower outlet, individual thermal overload protected heater elements no greater than 5kW each and magnetic contactors. Heater packages shall have a separate power supply connection from the compressor and this power supply shall also power the unit blower motor and control transformer for safe operation.

## HEAT RECOVERY PACKAGE

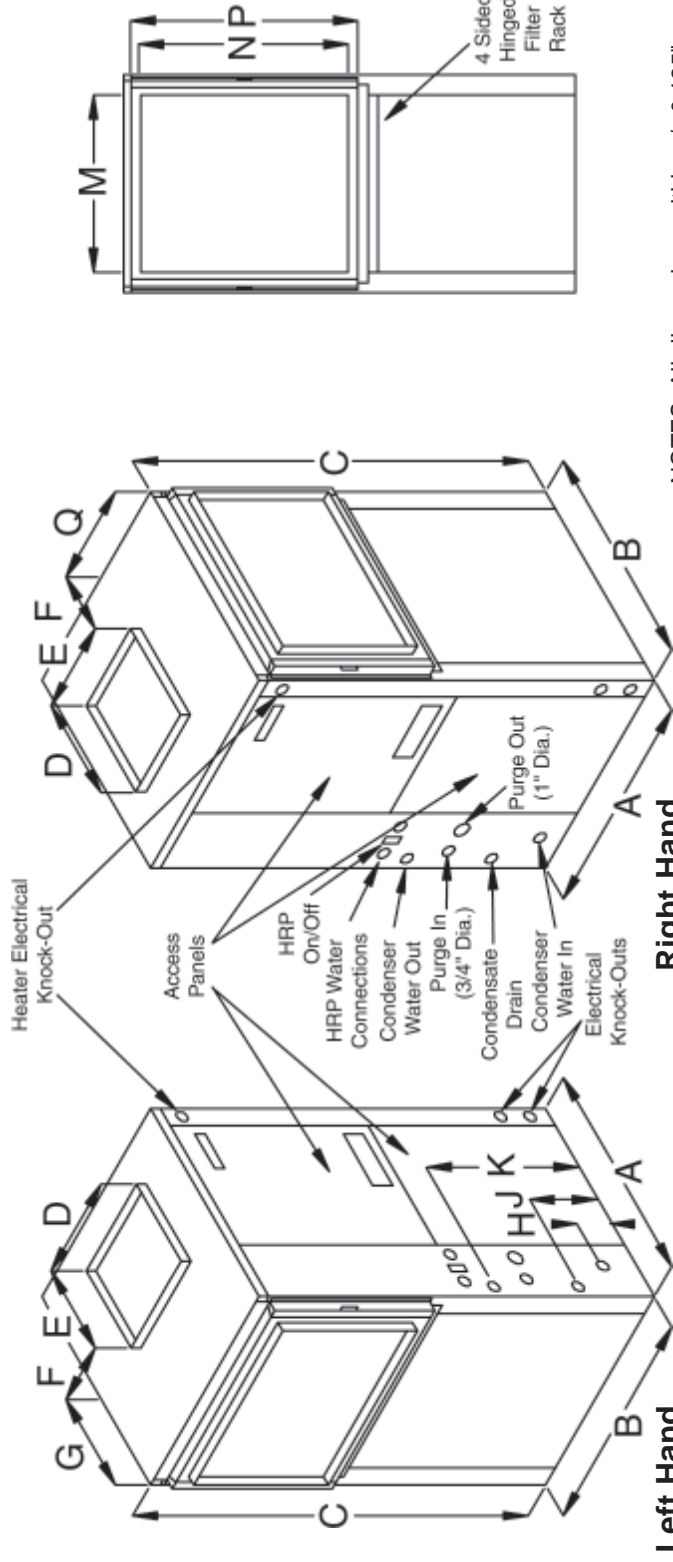
208/230 volt units shall be equipped with a optional factory installed internal heat recovery kit for domestic hot water production. This kit shall include an internally protected pump, double walled coaxial water-to-refrigerant heat exchanger, 140°F (60°C) hot water temperature limit switch and a on/off switch with circuit breaker protection.

## LOOP PUMP PACKAGE

208/230-1-60 volt units shall be equipped with an optional factory installed ground loop pump kit. This kit shall include a 1/6 HP loop pump, isolation valves and a set of purge connections for purging and pressurizing the ground loop with the unit in place. The pump, all piping and valves shall be internal to the unit.

# EV Series Vertical Dimensions

MODEL	A B C		D	E	F	G	H	J	K	M	N	P	Q	Condenser Water Connections	Recommended Replacement Nominal Filter Size
	Width	Depth													
EV018	21.50	21.50	39.25	11.75	13.75	7.00	5.25	8.00	14.25	17.50	16.00	18.00	4.13	3/4" F.P.T.	18 X 20 X 1
EV024	21.50	21.50	39.25	11.75	13.75	7.00	5.25	8.00	14.25	17.50	16.00	18.00	4.13	3/4" F.P.T.	18 X 20 X 1
EV030, 036	21.50	26.00	47.25	13.75	15.75	5.25	5.25	8.00	15.25	22.00	22.25	24.00	4.00	3/4" F.P.T.	24 X 24 X 1
EV042	24.00	32.75	47.25	15.75	15.75	4.75	5.25	8.00	16.25	28.50	22.25	24.00	3.50	1" F.P.T.	24 X 30 X 1
EV048	24.00	32.75	47.25	15.75	15.75	5.50	5.25	8.00	16.25	28.50	22.25	24.00	4.00	1" F.P.T.	24 X 30 X 1
EV060	26.00	33.25	51.25	17.75	17.75	7.13	5.25	8.00	18.50	28.50	22.25	24.00	4.00	1" F.P.T.	24 X 30 X 1
EV070	26.00	33.25	58.25	17.75	17.75	7.13	5.25	8.00	18.50	28.50	30.25	32.00	4.00	1" F.P.T.	16 X 30 X 1 (2)



NOTES: All dimensions within +/- 0.125".

All condensate drain connections are 3/4" FPT.

All Heat Recovery Kit connections are 1/2" FPT.

Internal electric heat available on 208-230/1/60 top discharge units only

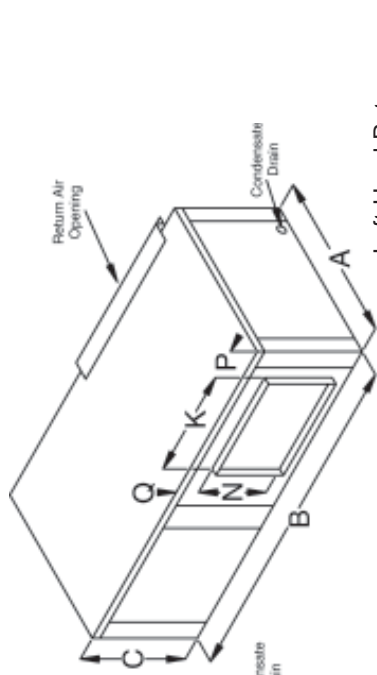
Internal Loop Pump available on 208-230 volt units only.

Internal Heat Recovery Kit available on 208-230 volt units only.

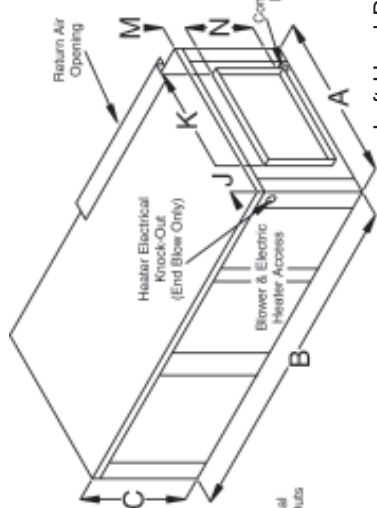
Specifications subject to change without notice.

# EV Series Horizontal Dimensions

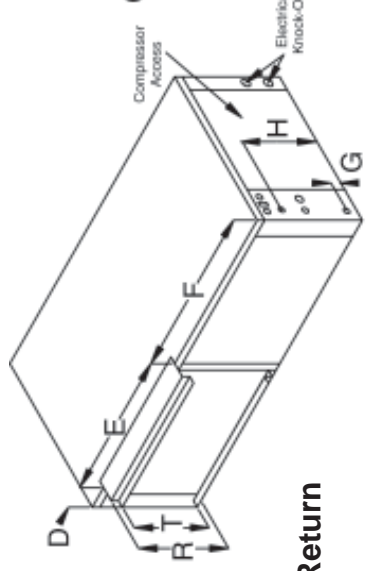
MODEL	A		B	C	D	E	F	G	H	J	K	M	N	P	Q	R	T	Condenser Water Connections	Recommended Replacement Nom. Filter Size
	Width	Depth	Height	R/A Duct Flg Width	R/A Duct Flg Width	R/A Duct Flg Height	Filter Rack Height	Filter Rack Height	R/A Duct Flg Height										
EV018, 024	25.50	43.00	21.75	2.00	21.00	5.25	14.25	6.25	11.75	2.25	13.75	4.25	2.25	20.50	18.50	3/4" F.P.T.	20 X 20 X 1		
EV030, 036	26.00	54.50	21.75	2.00	22.50	5.25	15.25	4.50	13.75	0.75	15.75	8.50	1.50	20.50	18.50	3/4" F.P.T.	18 X 30 X 1		
EV042	30.00	68.00	21.75	2.50	32.00	5.25	16.25	7.50	15.75	2.75	15.75	11.37	3.25	20.50	18.50	1" F.P.T.	18 X 20 X 1 (2)		
EV048	30.00	68.00	21.75	2.50	32.00	5.25	16.25	6.00	15.75	2.63	15.75	11.37	2.63	20.50	18.50	1" F.P.T.	18 X 20 X 1 (2)		
EV060	30.00	68.00	21.75	2.50	32.00	5.25	18.50	5.75	17.75	1.50	17.75	10.37	1.75	20.50	18.50	1" F.P.T.	18 X 20 X 1 (2)		
EV070	30.00	78.00	21.75	2.50	31.50	5.25	18.50	5.75	17.75	1.50	17.75	10.37	1.75	20.50	18.50	1" F.P.T.	20 X 24 X 1 (2)		



Left Hand Return Straight Through (FLS)



Left Hand Return End Blow (FLE)



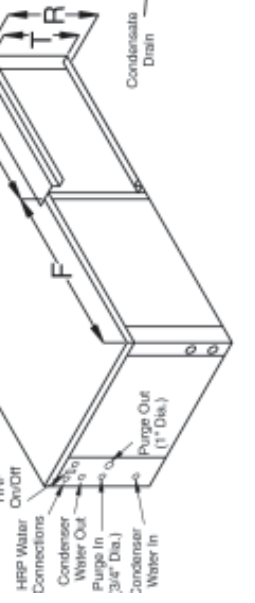
Right Hand Return Straight Through (FRS)



Right Hand Return End Blow (FRE)

Left Hand Return

Right Hand Return

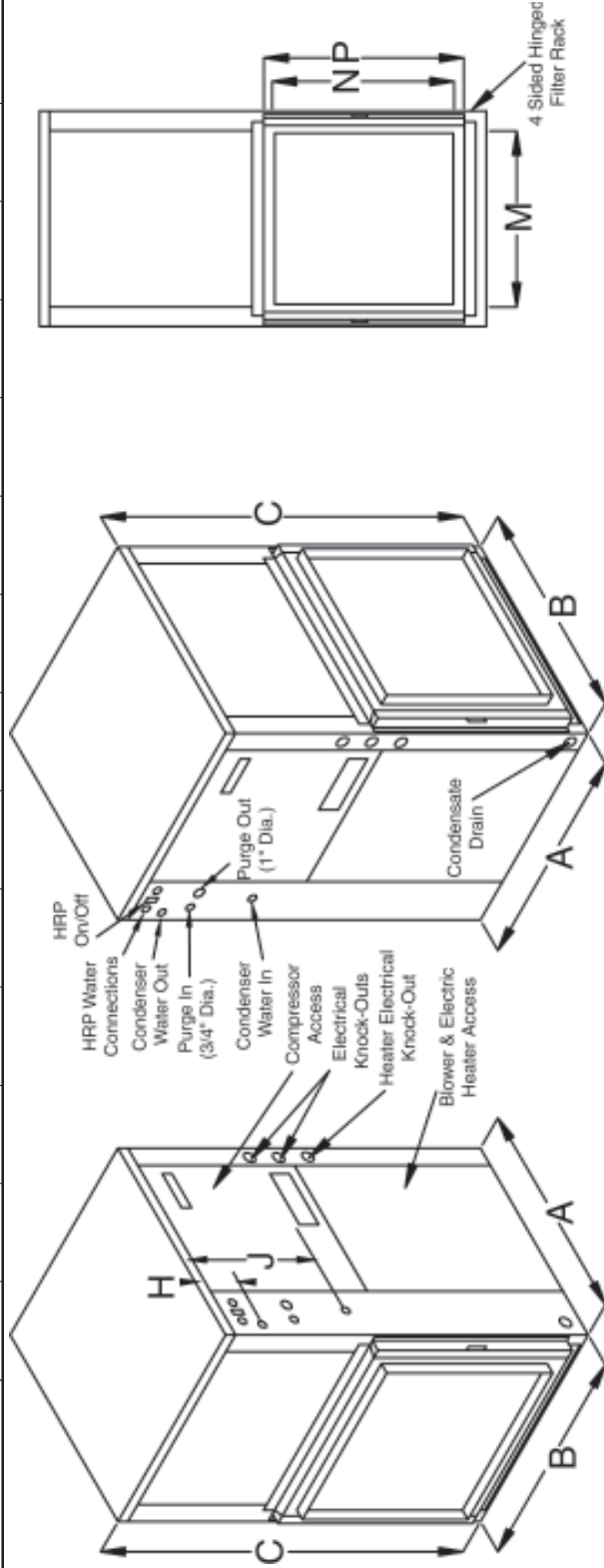


NOTES:  
 All dimensions within +/- 0.125".  
 All condensate drain connections are 3/4" FPT.  
 All Heat Recovery Kit connections are 1/2" FPT.  
 Internal electric heat available on 208-230/1/60 units only

Internal Loop Pump available on 208-230 volt units only.  
 Internal Heat Recovery Kit available on 208-230 volt units only.  
 Specifications subject to change without notice.

# EV Series Counterflow Dimensions

MODEL	A		B		C		D		E		F		G		H		J		K		M		N		P		Condenser Water Connections		Recommended Replacement Nominal Filter Size	
	Width	Depth	Height	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening	Blower Opening
EV018, 024	21.50	21.50	39.25	9.25	9.63	5.00	5.13	6.50	15.50	10.13	18.00	16.00	18.00	18.00	16.00	16.00	18.00	15.50	10.13	18.00	16.00	18.00	18.00	18.00	18.00	18.00	3/4" F.P.T.	18 X 20 X 1		
EV030, 036	21.50	26.00	43.25	9.25	10.25	8.38	5.00	7.00	17.00	9.75	22.00	22.00	22.00	22.00	22.00	22.00	24.00	17.00	9.75	22.00	22.00	22.00	22.00	24.00	24.00	3/4" F.P.T.	24 X 24 X 1			
EV042	24.00	32.75	45.25	9.25	10.25	11.63	4.50	7.50	18.50	9.25	28.00	28.00	28.00	28.00	28.00	28.00	24.00	18.50	9.25	28.00	28.00	28.00	28.00	24.00	24.00	1" F.P.T.	24 X 30 X 1			
EV048	24.00	32.75	45.25	10.75	11.50	10.88	4.50	7.50	18.50	8.75	28.00	28.00	28.00	28.00	28.00	28.00	24.00	18.50	8.75	28.00	28.00	28.00	28.00	24.00	24.00	1" F.P.T.	24 X 30 X 1			
EV060	26.00	33.25	47.25	12.00	12.50	10.63	5.00	7.00	20.25	10.50	28.00	28.00	28.00	28.00	28.00	28.00	24.00	20.25	10.50	28.00	28.00	28.00	28.00	24.00	24.00	1" F.P.T.	24 X 30 X 1			
EV070	26.00	33.25	58.25	12.00	12.50	10.63	5.00	7.00	20.25	10.50	28.00	28.00	28.00	28.00	28.00	28.00	24.00	20.25	10.50	28.00	28.00	28.00	28.00	24.00	24.00	1" F.P.T.	16 X 30 X 1 (2)			



NOTES: All dimensions within +/- 0.125".

All condensate drain connections are 3/4" FPT.

All Heat Recovery Kit connections are 1/2" FPT.

Internal electric heat available on 208-230/1/60 bottom discharge units only

Internal Loop Heat Pump available on 208-230 volt units only.

Internal Heat Recovery Kit available on 208-230 volt units only.

Specifications subject to change without notice.

**Right Hand Return (FRB)**

**Left Hand Return (FLB)**

**GEO-EXCEL** PACKAGE UNITS  
**SPECIFICATION DATA SHEET**

**EV018**  
**ENVIRO-MISER**

**ELECTRICAL SPECIFICATIONS**

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	10.3	51.0	1.80	1/4	1.75	1/6	16.4	25

\* Loop pump is a factory installed option.

**MECHANICAL SPECIFICATIONS**

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
2.12	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
9x7	174	186	R-410A

**BLOWER PERFORMANCE**

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	900	850	800	760	710	690	680	670	650	-	-	-
Medium	750	720	690	670	650	-	-	-	-	-	-	-
Low	670	650	-	-	-	-	-	-	-	-	-	-

**CONDENSER WATER FLOW**

Water Flow (GPM)	Press. Drop (FOH)
2.0	1.1
3.0	2.5
4.5	3.5
6.0	6.2
7.0	8.3
8.0	10.8

**ISO 13256-1 PERFORMANCE DATA** Rated at 650 CFM and 4.0 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
18500	14.5	24000	5.4	22000	25.4	19000	4.3	19500	18.5	14500	3.4

**CAPACITY DATA**

All performance at 650 CFM and 4.0 GPM

**COOLING** EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					75.2°	80.6°	86.0°	
50°	60.8°	20547	806	23299	15636	19116	20547	25.5
	62.6°	21144	817	23933	14935	18972	20647	25.9
	66.2°	22356	839	25218	13958	18545	20901	26.7
	69.8°	23592	861	26529	11230	16457	20874	27.4
	73.4°	24852	882	27864	-	14315	19160	28.2
59°	60.8°	19670	921	22813	14969	18301	19670	21.4
	62.6°	20241	933	23427	14298	18163	19766	21.7
	66.2°	21402	958	24671	13362	17754	20009	22.3
	69.8°	22585	983	25939	10751	15755	19984	23.0
	73.4°	23792	1008	27231	-	13704	18342	23.6
77°	60.8°	17917	1150	21842	13635	16669	17917	15.6
	62.6°	18437	1165	22414	13023	16544	18004	15.8
	66.2°	19494	1196	23576	12171	16171	18225	16.3
	69.8°	20572	1227	24760	9792	14350	18202	16.8
	73.4°	21671	1258	25966	-	12482	16707	17.2
86°	60.8°	17040	1265	21356	12968	15854	17040	13.5
	62.6°	17535	1281	21908	12386	15734	17123	13.7
	66.2°	18540	1315	23029	11575	15380	17334	14.1
	69.8°	19565	1349	24170	9313	13648	17312	14.5
	73.4°	20610	1384	25333	-	11872	15890	14.9
100.4°	60.8°	15637	1448	20578	11900	14549	15637	10.8
	62.6°	16091	1467	21098	11366	14439	15713	11.0
	66.2°	17014	1506	22153	10622	14114	15907	11.3
	69.8°	17954	1545	23227	8547	12525	15886	11.6
	73.4°	18914	1584	24320	-	10894	14582	11.9

**HEATING** EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	20605	16068	1329	4.5
	68.0°	19680	15072	1350	4.3
	80.6°	18132	13399	1387	3.8
59°	59.0°	23074	18502	1340	5.0
	80.6°	22038	17395	1361	4.7
68°	59.0°	25543	20935	1350	5.5
	68.0°	24396	19716	1372	5.2
	80.6°	22477	17670	1409	4.7
77°	59.0°	28012	23368	1361	6.0
	68.0°	26754	22038	1382	5.7
	80.6°	24650	19805	1420	5.1



Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only). Optional UL approved Internal Heat Recovery package and/or Ground Loop Pump with purge connections available.

Minimum entering fluid temperature with fresh water is 45°F. For lower temperatures, Loop Group recommends antifreeze protection to at least 20°F below the lowest EFT.

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**ELECTRICAL SPECIFICATIONS**

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	13.5	69	1.80	1/4	1.75	1/6	20.5	30

\* Loop pump is a factory installed option.

**MECHANICAL SPECIFICATIONS**

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
2.12	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
9x7	184	196	R-410A

**BLOWER PERFORMANCE**

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	900	850	800	760	710	690	680	670	-	-	-	-
Medium	750	720	690	670	-	-	-	-	-	-	-	-
Low	670	-	-	-	-	-	-	-	-	-	-	-

**CONDENSER WATER FLOW**

Water Flow (GPM)	Press. Drop (FOH)
2.0	1.1
3.0	2.5
4.5	3.5
6.0	6.2
7.0	8.3
8.0	10.8

**ISO 13256-1 PERFORMANCE DATA** Rated at 800 CFM and 5.0 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
25000	13.0	32500	4.2	29500	20.3	26500	3.6	27000	15.0	20500	3.0

**CAPACITY DATA**

All performance at 800 CFM and 5.0 GPM

**COOLING** EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					75.2°	80.6°	86.0°	
50°	60.8°	28076	1293	32490	21366	26121	28076	21.7
	62.6°	28891	1311	33365	20408	25925	28212	22.0
	66.2°	30547	1345	35139	19072	25341	28560	22.7
	69.8°	32237	1380	36947	15345	22487	28524	23.4
	73.4°	33959	1415	38789	-	19560	26181	24.0
59°	60.8°	26901	1472	31926	20472	25028	26901	18.3
	62.6°	27682	1492	32774	19554	24839	27032	18.6
	66.2°	29269	1531	34496	18274	24281	27364	19.1
	69.8°	30887	1571	36250	14703	21546	27330	19.7
	73.4°	32538	1611	38036	-	18742	25085	20.2
77°	60.8°	24550	1830	30797	18683	22841	24550	13.4
	62.6°	25264	1855	31594	17845	22669	24670	13.6
	66.2°	26712	1904	33209	16677	22159	24974	14.0
	69.8°	28189	1953	34854	13418	19664	24942	14.4
	73.4°	29695	2003	36530	-	17104	22893	14.8
86°	60.8°	23375	2009	30233	17789	21748	23375	11.6
	62.6°	24054	2036	31003	16991	21584	23489	11.8
	66.2°	25433	2090	32566	15879	21099	23778	12.2
	69.8°	26839	2144	34157	12776	18722	23748	12.5
	73.4°	28273	2199	35777	-	16285	21798	12.9
100.4°	60.8°	21495	2296	29330	16358	19999	21495	9.4
	62.6°	22119	2326	30059	15624	19848	21600	9.5
	66.2°	23387	2388	31536	14602	19401	21865	9.8
	69.8°	24681	2450	33041	11748	17216	21838	10.1
	73.4°	25999	2512	34572	-	14975	20044	10.4

**HEATING** EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	28126	20791	2149	3.8
	68.0°	26863	19413	2183	3.6
	80.6°	24750	17098	2242	3.2
59°	59.0°	31214	23707	2200	4.2
	80.6°	27468	19636	2295	3.5
68°	59.0°	34303	26621	2251	4.5
	80.6°	32762	24961	2287	4.2
77°	59.0°	30186	22172	2349	3.8
	59.0°	37391	29535	2303	4.8
	80.6°	35712	27733	2339	4.5
	80.6°	32904	24708	2402	4.0



Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only). Optional UL approved Internal Heat Recovery package and/or Ground Loop Pump with purge connections available.

Minimum entering fluid temperature with fresh water is 45°F. For lower temperatures, Loop Group recommends antifreeze protection to at least 20°F below the lowest EFT.

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 Fort Wayne, IN 46808  
 877-443-6411  
 www.geoexcel.com  
 Manufactured in Ft. Lauderdale, FL

**ELECTRICAL SPECIFICATIONS**

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	13.5	69	1.80	1/4	1.75	1/6	20.9	30

\* Loop pump is a factory installed option.

**MECHANICAL SPECIFICATIONS**

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
3.50	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
9x7	240	260	R-410A

**BLOWER PERFORMANCE**

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	1275	1210	1140	1060	980	900	820	720	-	-	-	-
Medium	1040	1010	970	920	860	790	730	-	-	-	-	-
Low	950	930	900	860	810	750	-	-	-	-	-	-

**CONDENSER WATER FLOW**

Water Flow (GPM)	Press. Drop (FOH)
3.0	1.2
4.0	2.1
6.0	4.4
8.0	7.2
10.0	10.6
12.0	14.8

**ISO 13256-1 PERFORMANCE DATA** Rated at 1000 CFM and 7.5 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
30000	15.5	33500	4.7	34500	24.0	27500	4.1	31000	18.0	22000	3.4

**CAPACITY DATA**

All performance at 1000 CFM and 7.5 GPM

**COOLING** EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					75.2°	80.6°	86.0°	
50°	60.8°	32570	1410	37382	24786	30302	32570	23.1
	62.6°	33516	1429	38392	23674	30074	32728	23.5
	66.2°	35437	1467	40442	22125	29397	33131	24.2
	69.8°	37396	1505	42532	17801	26087	33089	24.9
	73.4°	39394	1543	44660	-	22691	30371	25.5
59°	60.8°	31215	1562	36547	23755	29042	31215	20.0
	62.6°	32121	1583	37525	22689	28823	31367	20.3
	66.2°	33963	1625	39509	21205	28174	31753	20.9
	69.8°	35841	1667	41530	17061	25001	31713	21.5
	73.4°	37755	1710	43590	-	21747	29108	22.1
77°	60.8°	28506	1868	34882	21694	26522	28506	15.3
	62.6°	29334	1893	35794	20721	26322	28645	15.5
	66.2°	31016	1943	37646	19365	25730	28998	16.0
	69.8°	32731	1993	39533	15580	22832	28961	16.4
	73.4°	34480	2044	41455	-	19860	26582	16.9
86°	60.8°	27152	2020	34047	20663	25262	27152	13.4
	62.6°	27941	2047	34928	19736	25072	27284	13.6
	66.2°	29543	2101	36714	18445	24508	27620	14.1
	69.8°	31176	2156	38533	14840	21748	27585	14.5
	73.4°	32842	2211	40386	-	18917	25320	14.9
100.4°	60.8°	24986	2265	32715	19015	23246	24986	11.0
	62.6°	25711	2295	33544	18162	23071	25107	11.2
	66.2°	27185	2356	35225	16973	22552	25416	11.5
	69.8°	28688	2417	36936	13656	20012	25384	11.9
	73.4°	30221	2478	38679	-	17407	23299	12.2

**HEATING** EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	29617	22547	2071	4.2
	68.0°	28287	21106	2104	3.9
59°	80.6°	26062	18687	2161	3.5
	59.0°	32545	25348	2109	4.5
68°	68.0°	31084	23774	2142	4.3
	80.6°	28639	21131	2201	3.8
77°	59.0°	35474	28147	2147	4.8
	68.0°	33881	26439	2181	4.6
86°	80.6°	31216	23573	2240	4.1
	59.0°	38403	30949	2185	5.2
100.4°	68.0°	36678	29108	2219	4.8
	80.6°	33794	26018	2279	4.3



Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only). Optional UL approved internal Heat Recovery package and/or Ground Loop Pump with purge connections available.

Minimum entering fluid temperature with fresh water is 45°F. For lower temperatures, Loop Group recommends antifreeze protection to at least 20°F below the lowest EFT.

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# PACKAGE UNITS SPECIFICATION DATA SHEET

# EV036

ENVIRO-MISER

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	14.8	72.5	3.90	1/2	1.75	1/6	24.6	35
208/230-3-60	-3	10.4	35.0	3.90	1/2			16.9	20

\* Loop pump is a factory installed option on 208/230-1-60 units only.

## MECHANICAL SPECIFICATIONS

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
3.50	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
9x7	255	275	R-410A

## BLOWER PERFORMANCE

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	1500	1440	1370	1290	1210	1120	1000	900	-	-	-	-
Medium	1410	1350	1290	1220	1150	1060	900	-	-	-	-	-
Low	1290	1250	1200	1150	1080	1000	-	-	-	-	-	-

## CONDENSER WATER FLOW

Water Flow (GPM)	Press. Drop (FOH)
4.0	2.1
5.0	3.5
7.0	5.8
9.0	8.8
11.0	10.6
13.0	17.3

## ISO 13256-1 PERFORMANCE DATA Rated at 1200 CFM and 9.0 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
33000	14.8	39000	5.0	38500	22.6	31500	4.3	34000	16.0	24000	3.4

## CAPACITY DATA

All performance at 1200 CFM and 9.0 GPM

### COOLING EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					75.2°	80.6°	86.0°	
50°	60.8°	36386	1697	42177	27690	33853	36386	21.4
	62.6°	37443	1719	43311	26448	33598	36563	21.8
	66.2°	39589	1765	45613	24718	32842	37013	22.4
	69.8°	41778	1811	47958	19887	29143	36966	23.1
	73.4°	44010	1857	50348	-	25350	33930	23.7
59°	60.8°	34711	1861	41064	26416	32295	34711	18.6
	62.6°	35720	1886	42157	25231	32052	34880	18.9
	66.2°	37767	1936	44374	23580	31331	35310	19.5
	69.8°	39856	1986	46634	18972	27802	35265	20.1
	73.4°	41985	2037	48936	-	24183	32369	20.6
77°	60.8°	31362	2192	38841	23867	29179	31362	14.3
	62.6°	32273	2221	39852	22796	28959	31514	14.5
	66.2°	34123	2279	41902	21305	28307	31902	15.0
	69.8°	36010	2338	43991	17141	25119	31862	15.4
	73.4°	37933	2398	46118	-	21850	29245	15.8
86°	60.8°	29687	2357	37731	22593	27621	29687	12.6
	62.6°	30550	2388	38700	21579	27412	29832	12.8
	66.2°	32301	2451	40666	20167	26796	30199	13.2
	69.8°	34087	2515	42669	16226	23778	30161	13.6
	73.4°	35908	2579	44709	-	20683	27684	13.9
100.4°	60.8°	27008	2620	35950	20554	25128	27008	10.3
	62.6°	27793	2655	36854	19632	24939	27139	10.5
	66.2°	29386	2725	38686	18347	24377	27474	10.8
	69.8°	31011	2796	40552	14761	21632	27439	11.1
	73.4°	32667	2867	42452	-	18816	25185	11.4

### HEATING EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	33788	25854	2325	4.3
	68.0°	32271	24213	2361	4.0
	80.6°	29733	21456	2425	3.6
59°	59.0°	37633	29554	2368	4.7
	80.6°	33116	24688	2470	3.9
68°	59.0°	41477	33251	2411	5.0
	80.6°	36499	27917	2515	4.3
77°	59.0°	45322	36950	2454	5.4
	68.0°	43286	34784	2492	5.1
	80.6°	39882	31149	2560	4.6



Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors. Optional UL approved internal Heat Recovery package and/or Ground Loop Pump with purge connections available (208/230-1-60 only).

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# PACKAGE UNITS SPECIFICATION DATA SHEET

# EV042

ENVIRO-MISER

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	18.6	105.0	3.90	1/2	1.75	1/6	29.3	40
208/230-3-60	-3	13.5	77.0	3.90	1/2			20.8	30

\* Loop pump is a factory installed option on 208/230-1-60 units only.

## MECHANICAL SPECIFICATIONS

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
4.50	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
9x7	270	290	R-410A

## BLOWER PERFORMANCE

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	-	1570	1500	1420	1330	1260	1190	1100	-	-	-	-
Medium	1560	1520	1450	1380	1290	1140	1000	-	-	-	-	-
Low	1380	1290	1200	1090	980	-	-	-	-	-	-	-

## CONDENSER WATER FLOW

Water Flow (GPM)	Press. Drop (FOH)
4.0	1.1
5.0	1.8
7.0	3.5
9.0	5.7
13.0	12.2
15.0	16.1

## ISO 13256-1 PERFORMANCE DATA Rated at 1400 CFM and 9.0 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
43000	13.5	47000	4.6	47000	20.0	39000	4.0	44500	15.3	30500	3.2

## CAPACITY DATA

All performance at 1400 CFM and 9.0 GPM

### COOLING EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					75.2°	80.6°	86.0°	
50°	60.8°	45631	2170	53038	34726	42455	45631	21.0
	62.6°	46957	2199	54462	33169	42135	45853	21.4
	66.2°	49649	2257	57352	30998	41187	46418	22.0
	69.8°	52394	2316	60297	24940	36548	46359	22.6
	73.4°	55193	2375	63298	-	31791	42552	23.2
59°	60.8°	43704	2436	52018	33260	40662	43704	17.9
	62.6°	44974	2468	53399	31768	40356	43917	18.2
	66.2°	47552	2534	56199	29689	39448	44458	18.8
	69.8°	50181	2599	59053	23887	35005	44401	19.3
	73.4°	52862	2665	61960	-	30449	40755	19.8
77°	60.8°	39851	2969	49983	30328	37077	39851	13.4
	62.6°	41009	3008	51276	28967	36798	40045	13.6
	66.2°	43360	3088	53898	27072	35970	40538	14.0
	69.8°	45757	3168	56568	21781	31919	40487	14.4
	73.4°	48202	3248	59288	-	27764	37162	14.8
86°	60.8°	37925	3235	48966	28862	35285	37925	11.7
	62.6°	39027	3278	50215	27567	35019	38109	11.9
	66.2°	41264	3365	52747	25763	34231	38579	12.3
	69.8°	43545	3452	55327	20728	30376	38530	12.6
	73.4°	45872	3540	57953	-	26422	35365	13.0
100.4°	60.8°	34842	3661	47337	26515	32417	34842	9.5
	62.6°	35854	3710	48515	25326	32172	35012	9.7
	66.2°	37909	3808	50904	23669	31448	35443	10.0
	69.8°	40006	3906	53338	19043	27907	35398	10.2
	73.4°	42143	4006	55815	-	24274	32491	10.5

### HEATING EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	40003	29633	3039	3.9
	68.0°	38207	27674	3086	3.6
59°	80.6°	35202	24383	3170	3.3
	59.0°	43924	33436	3074	4.2
68°	68.0°	41952	31300	3122	3.9
	80.6°	38652	27711	3207	3.5
77°	59.0°	47846	37237	3109	4.5
	68.0°	45697	34923	3158	4.2
	80.6°	42103	31036	3244	3.8
	59.0°	51768	41036	3145	4.8
	68.0°	49443	38544	3194	4.5
	80.6°	45554	34359	3281	4.1



Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors. Optional UL approved internal Heat Recovery package and/or Ground Loop Pump with purge connections available (208/230-1-60 only).

Minimum entering fluid temperature with fresh water is 45°F. For lower temperatures, Loop Group recommends antifreeze protection to at least 20°F below the lowest EFT.

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# PACKAGE UNITS SPECIFICATION DATA SHEET

# EV048

ENVIRO-MISER

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	20.6	109.0	3.90	1/2	1.75	1/6	31.8	50
208/230-3-60	-3	14.6	91.0	3.90	1/2			22.2	35

\* Loop pump is a factory installed option on 208/230-1-60 units only.

## MECHANICAL SPECIFICATIONS

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
4.50	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
10x8	320	345	R-410A

## BLOWER PERFORMANCE

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	-	1770	1700	1620	1530	1460	1390	1300	1210	-	-	-
Medium	1760	1720	1650	1580	1490	1340	1200	-	-	-	-	-
Low	1580	1490	1400	1290	1180	-	-	-	-	-	-	-

## CONDENSER WATER FLOW

Water Flow (GPM)	Press. Drop (FOH)
4.5	1.4
6.0	2.6
7.0	3.5
9.5	6.4
12.0	10.2
16.0	18.3

## ISO 13256-1 PERFORMANCE DATA Rated at 1600 CFM and 12.0 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
47500	13.5	58000	4.8	55000	20.2	47000	4.2	48000	15.0	37500	3.4

## CAPACITY DATA

All performance at 1600 CFM and 12.0 GPM

### COOLING EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					Ent. Air	Dry Bulb	Temp.	
					75.2°	80.6°	86.0°	
50°	60.8°	51565	2364	59634	39242	47976	51565	21.8
	62.6°	53063	2396	61239	37482	47614	51816	22.2
	66.2°	56105	2459	64497	35029	46543	52454	22.8
	69.8°	59207	2523	67817	28183	41301	52388	23.5
	73.4°	62370	2587	71200	-	35925	48085	24.1
59°	60.8°	49227	2675	58356	37463	45800	49227	18.4
	62.6°	50657	2710	59908	35782	45455	49467	18.7
	66.2°	53561	2782	63056	33441	44433	50076	19.3
	69.8°	56523	2854	66264	26905	39429	50012	19.8
	73.4°	59542	2927	69532	-	34296	45905	20.3
77°	60.8°	44544	3295	55790	33899	41444	44544	13.5
	62.6°	45838	3339	57234	32378	41131	44761	13.7
	66.2°	48466	3427	60162	30260	40206	45312	14.1
	69.8°	51146	3516	63146	24346	35678	45255	14.5
	73.4°	53879	3605	66184	-	31034	41538	14.9
86°	60.8°	42215	3605	54519	32126	39276	42215	11.7
	62.6°	43441	3653	55909	30685	38980	42420	11.9
	66.2°	45931	3749	58728	28677	38103	42943	12.3
	69.8°	48471	3847	61600	23073	33812	42888	12.6
	73.4°	51061	3945	64524	-	29411	39366	12.9
100.4°	60.8°	38475	4102	52474	29280	35797	38475	9.4
	62.6°	39593	4156	53778	27967	35527	38662	9.5
	66.2°	41862	4266	56422	26137	34728	39138	9.8
	69.8°	44177	4377	59114	21029	30817	39089	10.1
	73.4°	46537	4488	61855	-	26805	35878	10.4

### HEATING EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	50856	38945	3490	4.3
	68.0°	48572	36475	3544	4.0
59°	80.6°	44752	32327	3641	3.6
	59.0°	56085	43974	3550	4.6
68°	68.0°	53567	41266	3605	4.4
	80.6°	49354	36719	3703	3.9
77°	59.0°	61315	48998	3610	5.0
	68.0°	58561	46052	3666	4.7
	80.6°	53956	41107	3766	4.2
	59.0°	66545	54025	3669	5.3
	68.0°	63556	50841	3726	5.0
	80.6°	58558	45498	3828	4.5

Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors. Optional UL approved internal Heat Recovery package and/or Ground Loop Pump with purge connections available (208/230-1-60 only).

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Fort Wayne, IN 46808  
877-443-6411  
www.geoexcel.com  
Manufactured in Ft. Lauderdale, FL



# PACKAGE UNITS SPECIFICATION DATA SHEET

# EV060

ENVIRO-MISER

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	27.6	158.0	5.00	3/4	1.75	1/6	41.7	60
208/230-3-60	-3	18.1	137.0	5.00	3/4			27.7	40

\* Loop pump is a factory installed option on 208/230-1-60 units only.

## MECHANICAL SPECIFICATIONS

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
4.50	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
11x9	390	415	R-410A

## BLOWER PERFORMANCE

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	2160	2100	2030	1950	1870	1800	1730	1680	1640	1600	1550	1500
Medium	2110	2050	1990	1900	1820	1750	1690	1650	1600	1550	-	-
Low	2060	2000	1950	1850	1760	1700	1640	1580	-	-	-	-

## CONDENSER WATER FLOW

Water Flow (GPM)	Press. Drop (FOH)
6.0	1.7
8.0	3.0
10.0	4.8
15.0	10.8
18.0	15.5
22.0	23.2

## ISO 13256-1 PERFORMANCE DATA Rated at 2000 CFM and 12.0 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
57500	13.0	66000	4.3	68000	19.2	56000	3.8	60000	15.0	45000	3.2

## CAPACITY DATA

All performance at 2000 CFM and 12.0 GPM

### COOLING EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					75.2°	80.6°	86.0°	
50°	60.8°	64721	2978	74885	49254	60216	64721	21.7
	62.6°	66602	3018	76900	47045	59762	65036	22.1
	66.2°	70419	3097	80990	43966	58418	65837	22.7
	69.8°	74313	3178	85158	35374	51839	65754	23.4
	73.4°	78283	3258	89405	-	45091	60353	24.0
59°	60.8°	61556	3341	72959	46846	57271	61556	18.4
	62.6°	63345	3385	74899	44744	56840	61856	18.7
	66.2°	66976	3475	78835	41816	55561	62617	19.3
	69.8°	70679	3565	82846	33644	49304	62538	19.8
	73.4°	74455	3656	86932	-	42886	57402	20.4
77°	60.8°	55226	4067	69105	42028	51382	55226	13.6
	62.6°	56831	4121	70894	40143	50995	55495	13.8
	66.2°	60088	4229	74523	37516	49847	56178	14.2
	69.8°	63411	4339	78220	30184	44233	56107	14.6
	73.4°	66799	4450	81985	-	38476	51499	15.0
86°	60.8°	52061	4429	67178	39620	48437	52061	11.8
	62.6°	53574	4488	68892	37842	48072	52315	11.9
	66.2°	56644	4607	72367	35366	46991	52959	12.3
	69.8°	59777	4726	75907	28454	41698	52892	12.6
	73.4°	62970	4847	79512	-	36271	48548	13.0
100.4°	60.8°	46997	5009	64094	35766	43726	46997	9.4
	62.6°	48362	5076	65686	34161	43396	47226	9.5
	66.2°	51135	5210	68916	31926	42420	47807	9.8
	69.8°	53962	5345	72205	25686	37642	47747	10.1
	73.4°	56845	5481	75553	-	32743	43825	10.4

### HEATING EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	59545	44455	4422	3.9
	68.0°	56871	41545	4491	3.7
59°	80.6°	52399	36656	4613	3.3
	59.0°	64867	49534	4494	4.2
68°	68.0°	61954	46381	4564	4.0
	80.6°	57082	41086	4688	3.6
77°	59.0°	70190	54609	4566	4.5
	68.0°	67037	51214	4638	4.2
80.6°	59.0°	75512	59684	4639	4.8
	68.0°	72120	56046	4711	4.5
80.6°	66449	49937	4839	4.0	



Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors. Optional UL approved Internal Heat Recovery package and/or Ground Loop Pump with purge connections available (208/230-1-60 only).

Minimum entering fluid temperature with fresh water is 45°F. For lower temperatures, Loop Group recommends antifreeze protection to at least 20°F below the lowest EFT.

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**ELECTRICAL SPECIFICATIONS**

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump*		Min. Circuit Amps	Max. Fuse Size
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	28.8	169.0	5.00	3/4	1.75	1/6	42.8	70
208/230-3-60	-3	19.3	129.0	5.00	3/4	-	-	29.1	40

\* Loop pump is a factory installed option on 208/230-1-60 units only.

**MECHANICAL SPECIFICATIONS**

Evaporator			
Square Feet	Rows Deep	Tube Size (O.D.)	Fins Per Inch
6.00	3	3/8	14
Blower Size	Weight		Refrigerant Type
	Net	Ship	
11x9	450	495	R-410A

**BLOWER PERFORMANCE**

Available External Static Pressure (Inches of Water, Gauge. Wet coil and Filter Included)												
Blower Speed	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
High	2260	2229	2202	2177	2139	2093	2040	1977	1917	1855	1790	1729
Medium	1990	1961	1945	1930	1908	1876	1838	1795	1750	1700	1646	-
Low	1720	1692	1687	1682	1677	1659	1635	1613	1583	1545	-	-

**CONDENSER WATER FLOW**

Water Flow (GPM)	Press. Drop (FOH)
9.0	4.7
12.5	9.1
14.2	11.8
16.0	14.9
17.8	18.5
20.0	23.4

**ISO 13256-1 PERFORMANCE DATA** Rated at 2200 CFM and 16.0 GPM

Water Loop				Ground Water				Ground Loop			
Cooling		Heating		Cooling		Heating		Cooling		Heating	
Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
68000	13.5	80000	4.5	76000	19.8	68000	4.0	70000	15.2	53000	3.2

**CAPACITY DATA**

All performance at 2200 CFM and 16.0 GPM

**COOLING** EFT Range 45°F to 110°F

Entering Fluid Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH			EER
					Ent. Air Dry Bulb Temp.			
					75.2°	80.6°	86.0°	
50°	60.8°	72677	3590	84929	55309	67618	72677	20.2
	62.6°	74788	3638	87203	52827	67108	73031	20.6
	66.2°	79075	3734	91818	49371	65598	73930	21.2
	69.8°	83448	3830	96521	39722	58211	73836	21.8
	73.4°	87906	3928	101312	-	50634	67772	22.4
59°	60.8°	69826	3937	83261	53139	64966	69826	17.7
	62.6°	71855	3989	85469	50755	64476	70166	18.0
	66.2°	75973	4094	89947	47434	63025	71030	18.6
	69.8°	80174	4200	94510	38164	55927	70940	19.1
	73.4°	84458	4307	99159	-	48648	65114	19.6
77°	60.8°	64125	4630	79927	48800	59661	64125	13.8
	62.6°	65987	4692	82000	46611	59211	64437	14.1
	66.2°	69770	4815	86205	43561	57879	65230	14.5
	69.8°	73628	4940	90489	35048	51361	65147	14.9
	73.4°	77562	5066	94852	-	44675	59797	15.3
86°	60.8°	61274	4977	78259	46631	57009	61274	12.3
	62.6°	63054	5043	80265	44539	56579	61572	12.5
	66.2°	66668	5176	84334	41624	55306	62330	12.9
	69.8°	70355	5310	88479	33490	49077	62251	13.2
	73.4°	74113	5446	92699	-	42689	57139	13.6
100.4°	60.8°	56713	5532	75592	43159	52765	56713	10.3
	62.6°	58360	5605	77490	41223	52367	56989	10.4
	66.2°	61705	5753	81341	38526	51189	57690	10.7
	69.8°	65118	5902	85262	30997	45424	57617	11.0
	73.4°	68596	6053	89254	-	39512	52885	11.3

**HEATING** EFT Range 25°F to 80°F

Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
50°	59.0°	70856	53820	4991	4.2
	68.0°	67674	50372	5069	3.9
	80.6°	62352	44580	5207	3.5
59°	59.0°	77983	60543	5111	4.5
	68.0°	74481	56768	5191	4.2
68°	80.6°	68624	50430	5332	3.8
	59.0°	85110	67261	5232	4.8
77°	68.0°	81288	63159	5313	4.5
	80.6°	74896	56274	5458	4.0
	59.0°	92238	73978	5352	5.1
	68.0°	88095	69551	5435	4.8
	80.6°	81167	62119	5583	4.3



Units are complete packages containing R-410A refrigeration compressor, reversing valve, expansion valve metering device and water to refrigerant heat exchanger. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a solid state lock-out control circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors. Optional UL approved internal Heat Recovery package and/or Ground Loop Pump with purge connections available (208/230-1-60 only).

Minimum entering fluid temperature with fresh water is 45°F. For lower temperatures, Loop Group recommends antifreeze protection to at least 20°F below the lowest EFT.

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# LOW TEMP HEATING PERFORMANCE

Model Number	Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
<b>EV024</b> Future Model	25°	59.0°				
		68.0°				
		80.6°				
	30°	59.0°				
		68.0°				
		80.6°				
	40°	59.0°				
		68.0°				
		80.6°				
<b>EV030</b> 7.5 GPM 1000 CFM	25°	59.0°	22462	15905	1922	3.4
		68.0°	20115	13304	1996	3.0
		80.6°	17552	10437	2085	2.5
	30°	59.0°	24163	17534	1943	3.6
		68.0°	21638	14752	2018	3.1
		80.6°	18881	11688	2108	2.6
	40°	59.0°	27566	20796	1984	4.1
		68.0°	24685	17653	2061	3.5
		80.6°	21540	14194	2153	2.9
<b>EV036</b> 9.0 GPM 1200 CFM	25°	59.0°	24161	16806	2156	3.3
		68.0°	21637	13996	2239	2.8
		80.6°	18880	10899	2339	2.4
	30°	59.0°	26395	18958	2180	3.5
		68.0°	23637	15912	2264	3.1
		80.6°	20626	12556	2365	2.6
	40°	59.0°	30862	23265	2227	4.1
		68.0°	27637	19745	2313	3.5
		80.6°	24116	15872	2416	2.9
<b>EV042</b> 9.0 GPM 1400 CFM	25°	59.0°	30438	20632	2874	3.1
		68.0°	27257	17071	2985	2.7
		80.6°	23784	13144	3119	2.2
	30°	59.0°	32716	22845	2893	3.3
		68.0°	29297	19043	3005	2.9
		80.6°	25565	14853	3139	2.4
	40°	59.0°	37272	27270	2931	3.7
		68.0°	33377	22987	3045	3.2
		80.6°	29125	18271	3181	2.7
<b>EV048</b> 12.0 GPM 1600 CFM	25°	59.0°	37985	26900	3249	3.4
		68.0°	34016	22501	3375	3.0
		80.6°	29682	17654	3525	2.5
	30°	59.0°	41023	29827	3281	3.7
		68.0°	36737	25106	3409	3.2
		80.6°	32056	19907	3561	2.6
	40°	59.0°	47099	35680	3347	4.1
		68.0°	42178	30316	3477	3.6
		80.6°	36804	24413	3632	3.0

Model Number	Entering Fluid Temp.	Dry Bulb	Heating Capacity BTUH	Heat of Absorb. BTUH	Power Input Watts	COP
<b>EV060</b> 12.0 GPM 2000 CFM	25°	59.0°	46802	32720	4127	3.3
		68.0°	41912	27283	4287	2.9
		80.6°	36572	21291	4479	2.4
	30°	59.0°	49894	35678	4166	3.5
		68.0°	44681	29913	4328	3.0
		80.6°	38988	23562	4521	2.5
	40°	59.0°	56077	41593	4245	3.9
		68.0°	50218	35171	4410	3.3
		80.6°	43820	28102	4607	2.8
<b>EV070</b> Future Model	25°	59.0°				
		68.0°				
		80.6°				
	30°	59.0°				
		68.0°				
		80.6°				
	40°	59.0°				
		68.0°				
		80.6°				

Minimum entering fluid temperature with fresh water is 45°F (7.2°C). The above ratings are based on the use of a solution of 15% methanol and 85% water by weight. GeoMaster, LLC recommends antifreeze protection to at least 20°F (11°C) below the lowest entering fluid temperature. Coefficients of Performance do not include a pumping power penalty.

Note: Published fluid side pressure drop tables are based on 70° (21°C) fresh water. When designing the system, pressure drop should be modified for antifreeze content and fluid temperature. GeoMaster, LLC recommends adding 0.2% to the system pressure drop for every 1°F (0.36% / 1°C) below 70°F (21°C) in addition to any antifreeze correction factors.

# Operating Temperatures & Pressures, EV024-036

Environmentally Safe R-410A Refrigerant			OPERATING DATA								
			COOLING				HEATING				
Model	Entering Water Temp., °F	Water Flow GPM	Suction Pressure PSIG	Discharge Pressure PSIG	Water Temp. Rise, °F	Air Temp. Drop, °F	Suction Pressure PSIG	Discharge Pressure PSIG	Water Temp. Drop, °F	Air Temp. Rise, °F	
EV024 Future Model	30°										
	40°										
	50°										
	60°										
	70°										
	80°										
	90°										
	100°										
EV030	30°	3.5					73 - 89	266 - 325	5 - 6	15 - 18	
		7.5					77 - 94	272 - 333	3 - 4	16 - 19	
	40°	3.5	117 - 143	189 - 231	14 - 17	18 - 22	86 - 105	279 - 341	6 - 7	17 - 21	
		7.5	112 - 137	178 - 217	8 - 9	19 - 24	90 - 110	286 - 350	4 - 5	18 - 22	
	50°	3.5	126 - 154	221 - 270	14 - 17	18 - 21	98 - 119	293 - 358	7 - 8	20 - 24	
		7.5	121 - 148	207 - 253	8 - 9	19 - 23	102 - 120	300 - 366	5 - 6	21 - 25	
	60°	3.5	131 - 160	252 - 308	13 - 16	17 - 21	110 - 134	306 - 374	8 - 10	22 - 27	
		7.5	125 - 153	237 - 290	8 - 9	18 - 22	115 - 141	314 - 383	6 - 7	23 - 29	
	70°	3.5	135 - 165	284 - 347	13 - 16	17 - 20	122 - 150	320 - 391	9 - 11	24 - 30	
		7.5	130 - 158	266 - 326	7 - 9	18 - 22	129 - 157	327 - 400	6 - 8	26 - 32	
	80°	3.5	140 - 171	320 - 391	13 - 16	16 - 20	134 - 164	333 - 407	11 - 13	27 - 33	
		7.5	134 - 164	300 - 367	7 - 9	17 - 21	141 - 172	341 - 417	7 - 9	28 - 35	
	90°	3.5	144 - 176	360 - 440	13 - 16	16 - 19	147 - 179	347 - 424	12 - 14	29 - 36	
		7.5	138 - 169	338 - 414	7 - 9	17 - 21	154 - 188	355 - 434	8 - 10	31 - 38	
	100°	3.5	149 - 182	405 - 495	13 - 15	15 - 19					
		7.5	143 - 174	381 - 465	7 - 9	16 - 20					
	EV036	30°	4.5					74 - 90	244 - 299	3 - 4	13 - 15
			9					78 - 95	251 - 306	2 - 3	13 - 16
40°		4.5	122 - 149	183 - 224	14 - 18	19 - 23	87 - 106	257 - 314	4 - 5	15 - 18	
		9	117 - 143	172 - 210	8 - 10	20 - 24	91 - 111	263 - 322	3 - 3	16 - 19	
50°		4.5	131 - 160	214 - 261	14 - 18	18 - 22	99 - 121	269 - 329	5 - 6	17 - 20	
		9	126 - 154	201 - 245	8 - 10	19 - 24	104 - 127	276 - 337	3 - 4	18 - 22	
60°		4.5	136 - 166	244 - 298	14 - 17	18 - 22	111 - 136	282 - 344	6 - 7	19 - 23	
		9	131 - 160	230 - 281	8 - 10	19 - 23	117 - 143	289 - 353	4 - 5	20 - 24	
70°		4.5	141 - 172	275 - 336	14 - 17	17 - 21	124 - 152	294 - 360	7 - 8	21 - 25	
		9	135 - 165	258 - 316	8 - 10	18 - 22	131 - 160	302 - 369	5 - 6	22 - 27	
80°		4.5	145 - 178	310 - 378	14 - 17	17 - 20	136 - 166	307 - 375	8 - 9	23 - 28	
		9	140 - 171	291 - 356	8 - 10	18 - 22	143 - 175	314 - 384	5 - 6	24 - 30	
90°		4.5	150 - 183	349 - 426	14 - 17	16 - 20	149 - 182	319 - 390	8 - 10	25 - 30	
		9	144 - 176	328 - 401	8 - 9	17 - 21	156 - 191	327 - 400	6 - 7	26 - 32	
100°		4.5	155 - 189	392 - 480	13 - 16	16 - 19					
		9	149 - 182	369 - 451	8 - 9	17 - 21					

This chart shows approximate temperatures and pressures for a unit in good repair. The values shown are meant as a guide only and should not be used to estimate system charge. This chart assumes rated air flow and 80.6°F d.b./66.2°F w.b. entering air temperature in cooling, 68°F d.b. entering air temperature in heating. Heating data at entering fluid temperatures below 50°F assumes the use of antifreeze.

As a result of continuing research and development, specifications are subject to change without notice.

# Operating Temperatures & Pressures, EV042-060

Environmentally Safe R-410A Refrigerant			OPERATING DATA								
			COOLING				HEATING				
Model	Entering Water Temp., °F	Water Flow GPM	Suction Pressure PSIG	Discharge Pressure PSIG	Water Temp. Rise, °F	Air Temp. Drop, °F	Suction Pressure PSIG	Discharge Pressure PSIG	Water Temp. Drop, °F	Air Temp. Rise, °F	
EV042	30°	5					64 - 78	248 - 303	5 - 6	15 - 18	
		9					67 - 82	254 - 311	3 - 4	16 - 19	
	40°	5	109 - 134	183 - 224	18 - 22	19 - 23	75 - 91	261 - 319	6 - 8	17 - 21	
		9	105 - 128	172 - 210	10 - 12	20 - 25	79 - 96	267 - 327	4 - 5	18 - 23	
	50°	5	118 - 144	214 - 261	18 - 22	19 - 23	85 - 104	273 - 334	8 - 10	20 - 24	
		9	113 - 138	201 - 245	10 - 12	20 - 24	90 - 110	280 - 342	5 - 7	21 - 26	
	60°	5	122 - 149	244 - 298	17 - 21	18 - 22	96 - 117	286 - 349	9 - 11	22 - 27	
		9	117 - 143	230 - 281	10 - 12	19 - 24	101 - 123	293 - 358	6 - 8	24 - 29	
	70°	5	126 - 154	275 - 336	17 - 21	18 - 22	107 - 131	299 - 365	11 - 13	25 - 30	
		9	121 - 148	258 - 316	10 - 12	19 - 23	113 - 138	306 - 374	7 - 9	26 - 32	
	80°	5	130 - 159	310 - 378	17 - 21	17 - 21	117 - 143	311 - 380	12 - 15	27 - 33	
		9	125 - 153	291 - 356	10 - 12	18 - 22	123 - 151	319 - 390	8 - 10	29 - 35	
	90°	5	134 - 164	349 - 426	17 - 20	17 - 20	128 - 157	324 - 396	13 - 16	29 - 36	
		9	129 - 158	328 - 401	9 - 12	18 - 22	135 - 165	332 - 406	9 - 11	31 - 38	
	100°	5	139 - 170	392 - 480	16 - 20	16 - 20					
		9	133 - 163	369 - 451	9 - 11	17 - 21					
	EV048	30°	6					71 - 87	277 - 339	6 - 7	15 - 19
			10					75 - 92	284 - 347	4 - 5	16 - 20
40°		6	118 - 144	194 - 237	21 - 25	19 - 23	84 - 102	291 - 356	7 - 9	18 - 22	
		10	113 - 138	182 - 223	12 - 14	20 - 24	88 - 108	299 - 365	5 - 6	19 - 23	
50°		6	127 - 155	226 - 276	21 - 25	18 - 22	96 - 117	305 - 373	9 - 11	20 - 25	
		10	122 - 149	213 - 260	12 - 14	19 - 24	100 - 123	313 - 383	6 - 7	21 - 26	
60°		6	131 - 160	259 - 316	21 - 25	18 - 22	108 - 132	320 - 391	10 - 13	23 - 28	
		10	126 - 154	243 - 297	12 - 14	19 - 23	113 - 138	328 - 400	7 - 9	24 - 29	
70°		6	136 - 166	291 - 355	20 - 25	17 - 21	120 - 147	334 - 408	12 - 15	25 - 31	
		10	130 - 159	273 - 334	12 - 14	18 - 22	126 - 154	342 - 418	8 - 10	27 - 32	
80°		6	140 - 171	328 - 401	20 - 24	17 - 20	131 - 161	348 - 425	14 - 17	27 - 34	
		10	135 - 165	308 - 377	11 - 14	18 - 22	138 - 169	356 - 436	9 - 11	29 - 36	
90°		6	145 - 177	369 - 451	20 - 24	16 - 20	144 - 176	362 - 442	15 - 18	30 - 37	
		10	139 - 170	347 - 424	11 - 14	17 - 21	151 - 185	371 - 453	10 - 12	32 - 39	
100°		6	149 - 183	415 - 508	19 - 24	16 - 19					
		10	143 - 175	391 - 477	11 - 14	17 - 21					
EV060		30°	8					64 - 78	266 - 326	5 - 6	15 - 18
			12					67 - 82	273 - 334	3 - 4	16 - 19
	40°	8	109 - 134	180 - 219	19 - 23	20 - 24	75 - 91	280 - 342	6 - 8	17 - 21	
		12	105 - 128	169 - 206	11 - 13	21 - 26	79 - 96	287 - 351	4 - 5	18 - 22	
	50°	8	118 - 144	209 - 256	19 - 23	19 - 24	85 - 104	293 - 359	8 - 10	19 - 24	
		12	113 - 138	197 - 241	11 - 13	21 - 25	90 - 110	301 - 368	5 - 7	21 - 25	
	60°	8	122 - 149	239 - 293	19 - 23	19 - 23	96 - 117	307 - 375	9 - 11	22 - 27	
		12	117 - 143	225 - 275	11 - 13	20 - 25	101 - 123	315 - 385	6 - 8	23 - 28	
	70°	8	126 - 154	269 - 329	19 - 23	18 - 23	107 - 131	320 - 392	11 - 13	24 - 30	
		12	121 - 148	253 - 309	11 - 13	20 - 24	113 - 138	329 - 402	7 - 9	26 - 31	
	80°	8	130 - 159	303 - 371	18 - 23	18 - 22	117 - 143	334 - 408	12 - 15	27 - 32	
		12	125 - 153	285 - 349	11 - 13	19 - 23	123 - 151	342 - 418	8 - 10	28 - 34	
	90°	8	134 - 164	342 - 418	18 - 22	17 - 21	128 - 157	348 - 425	13 - 16	29 - 35	
		12	129 - 158	321 - 393	10 - 13	19 - 23	135 - 165	356 - 435	9 - 11	31 - 37	
	100°	8	139 - 170	385 - 470	18 - 22	17 - 21					
		12	133 - 163	362 - 442	10 - 12	18 - 22					

This chart shows approximate temperatures and pressures for a unit in good repair. The values shown are meant as a guide only and should not be used to estimate system charge. This chart assumes rated air flow and 80.6°F d.b./66.2°F w.b. entering air temperature in cooling, 68°F d.b. entering air temperature in heating. Heating data at entering fluid temperatures below 50°F assumes the use of antifreeze.

As a result of continuing research and development, specifications are subject to change without notice.