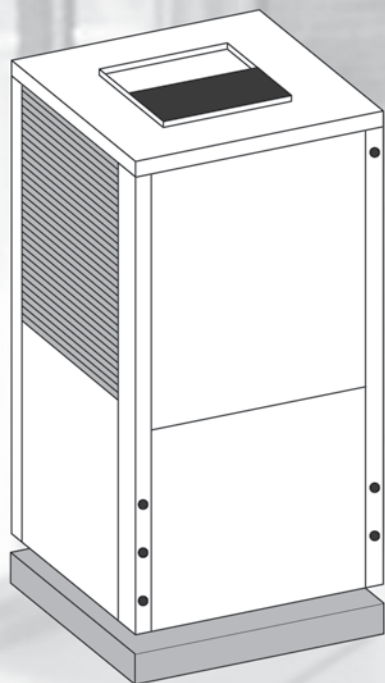


# Dry-Air ES-HGR Series

Dehumidification Systems for Indoor Pools  
ES-HGR 1–6 Tons



*Perfect Balance*



*the Perfect Balance of water and air*

## Efficiency

Environmental Pool Systems Dry-Air ES-HGR Dehumidification Series is equipped with scroll technology compressor technology that provides higher efficiencies in our dehumidifiers. All DRY-AIR 1-60 Tons dehumidifiers are “green machines” in R410A and extremely efficient in operation. These dehumidifiers are available in a variety of configurations with options for air cooled, water cooled, no cooling, boiler, and cooling tower applications. EPS offers over 64 different applications including DRY-AIR Geothermal (ESG & ECG Series) designed to meet your specific pool room design.

## Quiet Operation

The DRY-AIR ES-HGR Dehumidification Series is engineered to be a very quiet unit for your commercial or residential project. Features like the compressor blanket and insulated panels keep sound to an absolute minimum.



Environmental Pool Systems, Inc.

195 Cypress Way East #4 Naples, FL 34110 Phone: (800) 514-7051 Fax: (248) 778-1702 [www.dry-air.com](http://www.dry-air.com) [sales@dry-air.com](mailto:sales@dry-air.com)



## Environmentally Friendly

Environmental Pool Systems offers a “green machine”—the least amount of R410A refrigerant per ton in any dehumidification in the market today! Our ES070–6 ton unit has 6.25 lbs. /refrigerant, our MC720–60 ton has 72.00lbs./refrigerant!

## 3-4 Row Evaporator Coils

All Dry Air Dehumidification Systems are built with large 3-4 Row FIELD CLEANABLE Evaporator Coils. Some competing manufacturers continue to build antiquated 8 Row high-static uncleanable coils, causing lower system efficiencies due to extra blower horsepower required to overcome the bundled coil pressure drop.

## Smallest Footprint

Dry-Air dehumidification systems are designed with cost saving measures from application design, to size and utilization of refrigerant. From application through installation, EPS builds the smallest footprint in the industry; all dehumidification systems will fit through a standard doorway. The larger modular systems are built, tested and then broken down into modules for shipping and installation. No more need for rooftop equipment or large mechanical spaces to accommodate equipment. No need to tear out walls for installation. And—inside installation considerably extends the life expectancy of these systems as equipment is not subjected to weather patterns and preventive maintenance is done on a consistent basis.

## Quality

**All of Environmental Pool Systems' equipment is made in the USA!** Starting with high quality cabinetry, coated evaporator coils, stainless steel drain pans and many other options and features in many DRY-AIR systems; these dehumidifiers are built for the long haul! Coupled with rigorous factory testing that virtually reduces installation, start-up and service costs, EPS offers our clients the highest quality and lowest maintenance dehumidification system in every system built in our ISO 9001:2000 certified facilities.

***DRY-AIR Dehumidifiers provide unsurpassed quality & technology!***



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# GUIDE SPECIFICATIONS

## ES-HGR Series R-410A

### GENERAL

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 manufactured in an ISO9001:2000 certified facility.

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 in Fort Lauderdale, Florida.

### CASING & CABINET

The cabinet shall be fabricated from heavy-gauge steel finished with Galvalume® plus, an aluminum-zinc alloy with a clear acrylic coating for additional corrosion protection. The interior shall be insulated with 1/2" (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 filter rack with 1" (25.4mm) thick disposable filters and a 1" (25.4mm) return air duct collar 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 refrigerant circuit including a hermetic compressor, bi-directional thermal expansion valve metering device, finned tube air-to-refrigerant heat exchanger, refrigerant reversing valve and service ports. Compressor shall be high efficiency rotary or scroll type, designed for heat pump duty, quiet operation and 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 600 Psig (4140 Kpa) working pressure. Coils shall have a baked polyester enamel coating for protection against most airborne chemicals. Coil end plates shall be aluminum. 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 600 Psig (4140 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 an ECM-2 microprocessor controlled DC type motor with internal programming factory set for the specific unit and featuring soft start/stop and a delay off feature for maximum efficiency and quiet operation. There will further be provisions for adjusting the air delivery of the motor and blower by +/- 15% from rated air flow.

### ELECTRICAL

Controls and safety devices will be factory wired and mounted within the unit. Controls shall include compressor contactor, 24V transformer, reversing valve coil and solid state lock-out controller (UPM). The UPM 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 shall reset itself the first time. If the safety controls are subsequently activated, then the lock-out circuit shall 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 40 PSIG (280 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 380 PSIG (2600 Kpa).

The ECM motor interface board shall provide a screw type terminal block for thermostat connection, LED's to indicate thermostat status and air delivery. It shall also provide a means of changing the motor program to any of up to four pre-programmed options. Direct wiring of the motor control harness to the thermostat is not acceptable.

A terminal block with screw terminals shall be provided for control wiring. An optional condensate overflow device shall be factory installed to stop compressor operation if drain pan overflow is imminent. 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.

### INTERNAL ELECTRIC HEAT

208/230-1-60 volt units shall be equipped with optional factory installed internal electric resistance heat for auxiliary 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 an 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 an on/off switch/circuit breaker.

### LOOP PUMP PACKAGE - CONSULT FACTORY

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.

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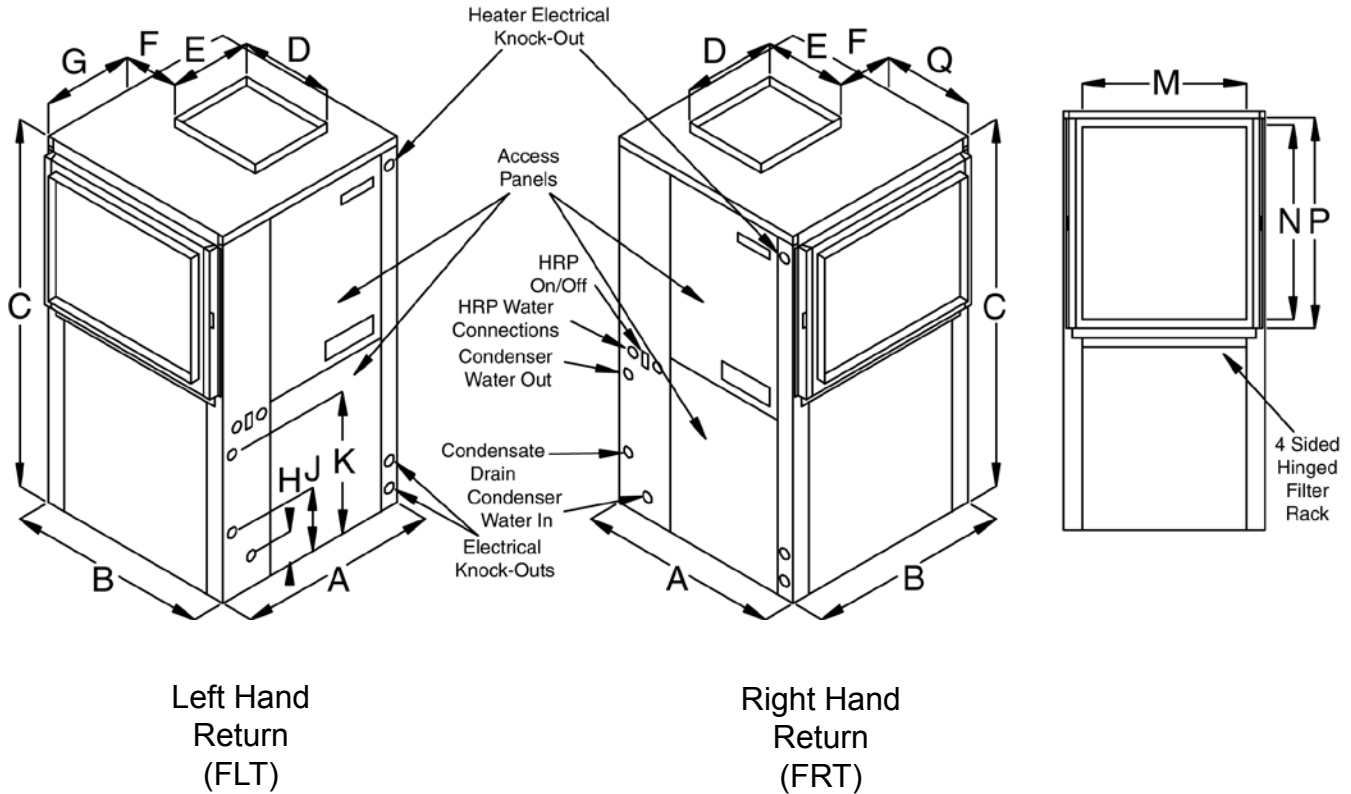
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# ES-HGR SERIES VERTICAL DIMENSIONS

ES-HGR018-070 1-6 tons



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	Height								R/A Duct Flg Width	R/A Duct Flg Height	Filter Rack Height			
ES-HGR018	21.50	21.50	40.25	11.75	13.75	3.75	7.00	2.50	8.00	12.50	18.00	18.00	20.00	4.13	3/4" F.P.T.	20 X 20 X 1
ES-HGR024	21.50	21.50	40.25	11.75	13.75	3.75	7.00	2.50	8.00	12.50	18.00	18.00	20.00	4.13	3/4" F.P.T.	20 X 20 X 1
ES-HGR030	26.00	26.00	47.25	13.75	15.75	6.13	5.25	2.50	8.00	13.50	24.00	22.25	24.00	4.00	3/4" F.P.T.	24 X 24 X 1
ES-HGR042	24.00	32.75	47.25	15.75	15.75	8.38	4.75	2.50	8.00	14.75	30.00	22.25	24.00	3.50	1" F.P.T.	24 X 30 X 1
ES-HGR048	24.00	32.75	47.25	15.75	15.75	8.38	5.50	2.50	8.00	14.75	30.00	22.25	24.00	4.00	1" F.P.T.	24 X 30 X 1
ES-HGR060	26.00	33.25	51.25	17.75	17.75	8.00	6.25	2.50	8.00	14.50	30.00	22.25	24.00	4.00	1" F.P.T.	24 X 30 X 1
ES-HGR070	26.00	33.25	58.25	17.75	17.75	8.00	6.25	2.50	8.00	14.50	32.00	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 Heat Recovery Kit available on 208-230 volt units only.

## Environmental Pool Systems, Inc.

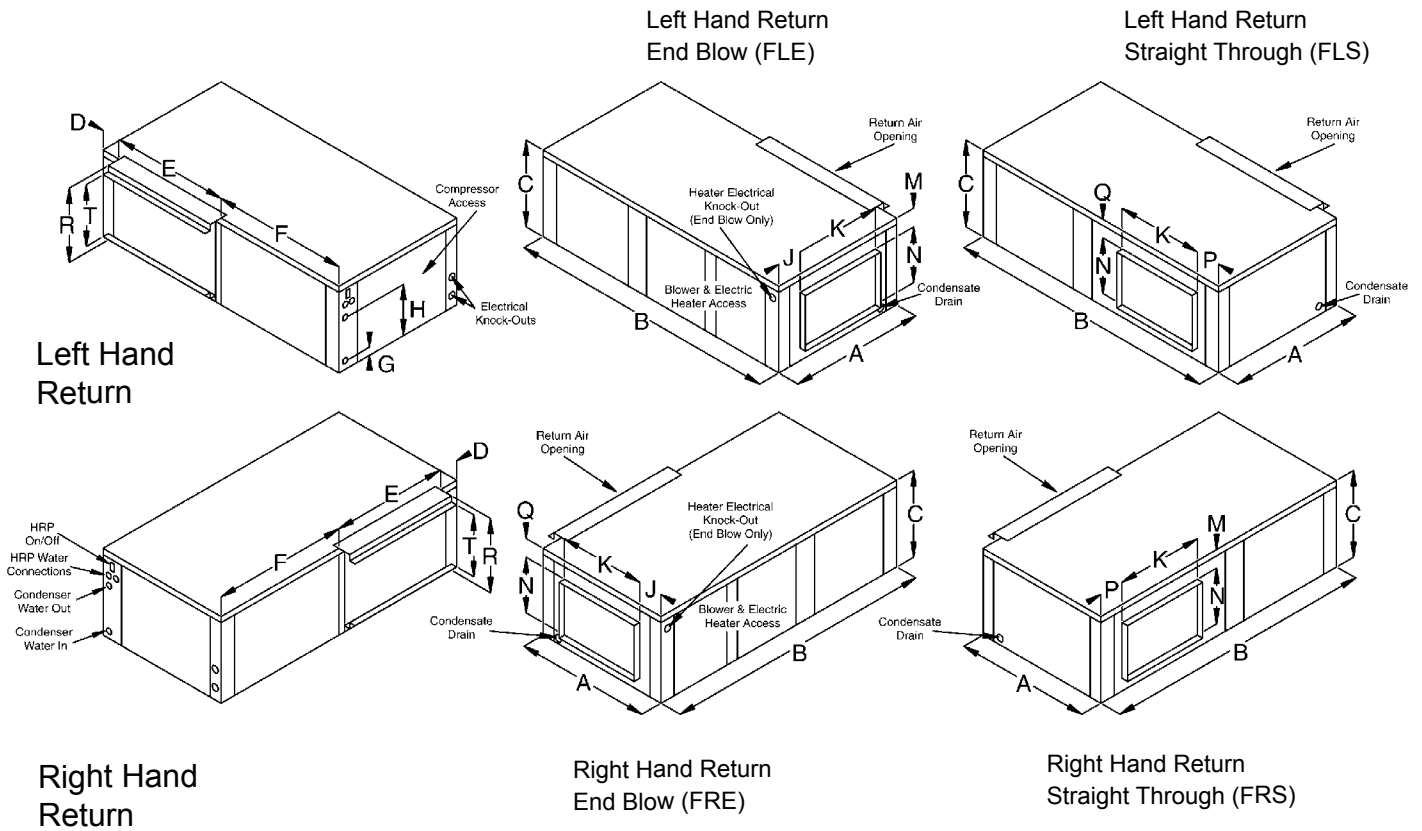
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# ES-HGR SERIES HORIZONTAL DIMENSIONS

ES-HGR018-070 1-6 tons



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										Filter Rack R/A Duct Height	Flg Height		
ES-HGR018	25.50	43.00	21.75	2.00	19.25	23.75	2.50	12.50	4.31	11.75	5.00	13.75	5.25	5.00	20.50	18.50	3/4" F.P.T.	20 X 20 X 1
ESHGR024	25.50	43.00	21.75	2.00	20.00	21.00	2.50	12.50	4.31	11.75	5.00	13.75	5.25	5.00	20.50	18.50	3/4" F.P.T.	20X20X1
ESHGR030,036	26.00	54.50	21.75	2.00	30.00	22.50	2.50	13.50	4.50	13.75	3.00	15.75	4.50	3.00	20.50	18.50	3/4" F.P.T.	18 X 20 X 1 (2)
ES-HGR042	30.00	68.00	21.75	2.50	33.50	32.00	2.50	16.25	5.81	15.75	3.00	15.75	5.81	3.00	20.50	18.50	1" F.P.T.	18 X 20 X 1 (2)
ES-HGR048	30.00	68.00	21.75	2.50	33.50	32.00	2.50	16.25	5.81	15.75	3.00	15.75	5.81	3.00	20.50	18.50	1" F.P.T.	18 X 20 X 1 (2)
ES-HGR060	30.00	68.00	21.75	2.50	33.50	32.00	2.50	14.50	7.66	17.75	2.00	17.75	4.50	2.00	20.50	18.50	1" F.P.T.	18 X 20 X 1 (2)
ES070	30.00	78.00	21.75	2.50	44.00	31.50	2.50	14.50	7.66	17.75	2.00	17.75	4.05	2.00	20.50	18.50	1" F.P.T.	20 X 24 X 1 (2)

NOTES: All dimensions within +/- 0.125".  
 All condensate drain connections are 3/4" FPT.  
 All Heat Recovery connections are 1/2" FPT.  
 Internal Heat Recovery Kit available on 208-230 volt units only.  
 Units can be field converted between end blow and straight through supply air configurations.

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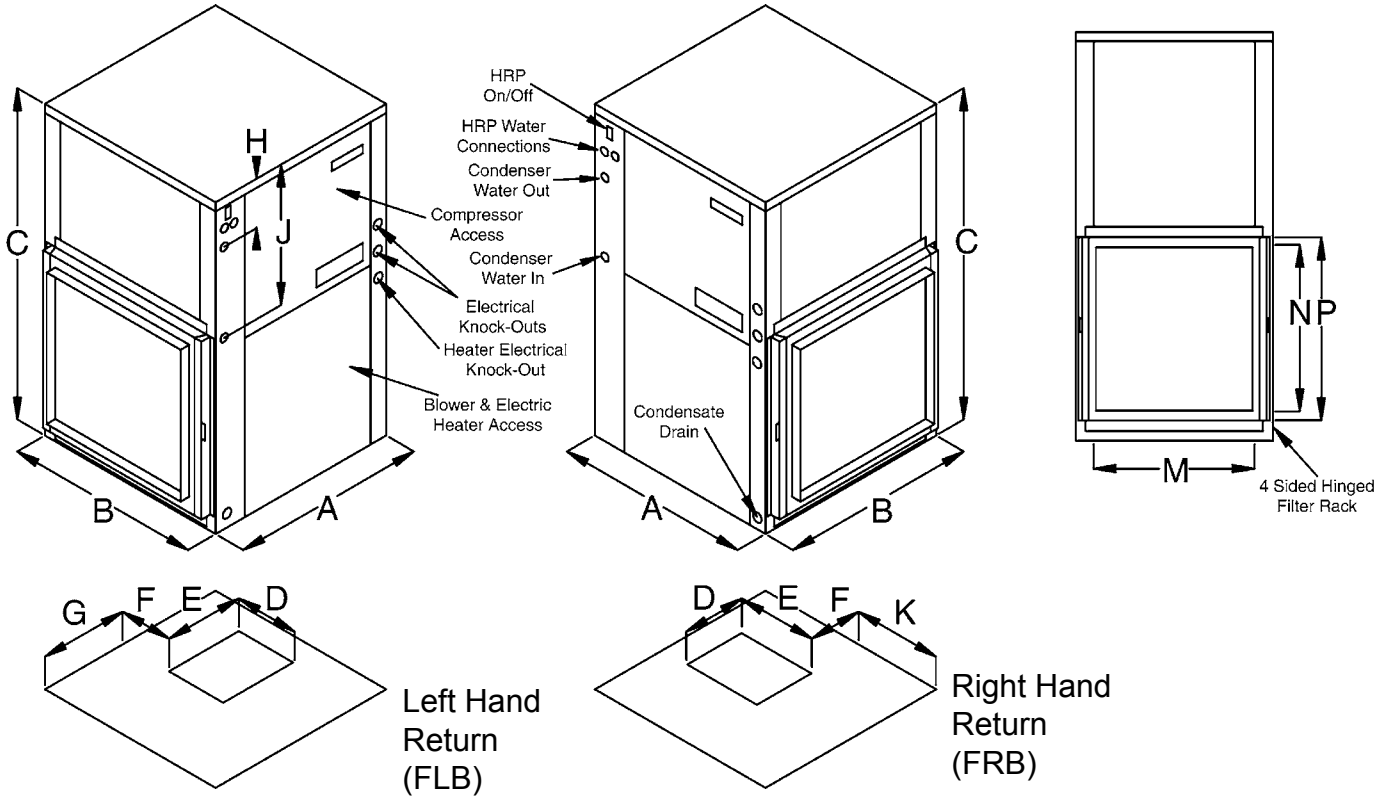
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# ES-HGR SERIES COUNTERFLOW DIMENSIONS

ES-HGR018-070 1-6 tons



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						R/A Duct Flg Width	R/A Duct Flg Height	Filter Rack Height		
ES-HGR018	21.50	21.50	40.25	9.25	9.63	5.00	5.13	6.50	15.00	10.13	18.00	16.00	18.00	3/4" F.P.T.	20 X 20 X 1
ES-HGR024	21.50	21.50	40.25	9.25	9.63	5.00	5.13	6.50	15.50	10.13	18.00	16.00	18.00	3/4" F.P.T.	20 X 20 X 1
ESHGR030,036	21.50	26.00	47.25	9.25	10.25	8.38	5.00	7.00	17.00	9.75	22.00	22.00	24.00	3/4" F.P.T.	24 X 24 X 1
ES-HGR042	24.00	32.75	47.25	9.25	10.25	11.63	4.50	7.50	18.50	9.25	28.00	22.00	24.00	1" F.P.T.	24 X 30 X 1
ES-HGR048	24.00	32.75	47.25	10.75	11.50	11.13	6.88	7.50	18.50	8.75	28.00	22.00	24.00	1" F.P.T.	24 X 30 X 1
ES-HGR060	26.00	33.25	51.25	12.00	12.50	10.63	5.00	7.00	20.25	10.50	28.00	22.00	24.00	1" F.P.T.	24 X 30 X 1
ES-HGR070	26.00	33.25	58.25	12.00	12.50	10.63	5.00	7.00	20.25	10.50	28.00	30.00	32.00	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 Heat Recovery Kit available on 208-230 volt units only.

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR018

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	10.3	51.0	2.8	1/3	-	-	15.7	25
265-1-60	-2	5.8	46.0	2.6	1/3	-	-	9.9	15



## 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
+				690								
Norm				600								
-				510								

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## CAPACITY DATA All performance at 600 CFM and 4.0 GPM

### COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	Power Input (kW)	Heat of Reject (MBtuH)	EER
50°	70°db 61°wb	19.87	0.63	22.01	31.65
60°		18.77	0.77	21.38	24.51
70°		17.67	0.90	20.76	19.55
85°		16.02	1.11	19.82	14.42
100°		14.38	1.32	18.88	10.91
50°	75°db 63°wb	21.27	0.63	23.43	33.69
60°		20.10	0.77	22.72	26.09
70°		18.92	0.91	22.02	20.81
85°		17.16	1.12	20.97	15.35
100°		15.40	1.33	19.92	11.61
50°	80°db 67°wb	23.32	0.64	25.50	36.65
60°		22.04	0.78	24.69	28.38
70°		20.75	0.92	23.88	22.63
85°		18.82	1.13	22.66	16.70
100°		16.88	1.34	21.45	12.63
50°	85°db 71°wb	25.38	0.64	27.57	39.55
60°		23.98	0.78	26.65	30.63
70°		22.57	0.92	25.73	24.43
85°		20.47	1.14	24.35	18.02
100°		18.37	1.35	22.97	13.63

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
2.12	3	3/8	14
Water Coil			
Type	Work Press		
Coaxial	450		
Blower Size	Compr Type		
9 x 7	Rotary		
Net Weight	Ship Weight		
184 lbs	196 lbs		

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
2	0.86	0.37
3	1.78	0.77
4	2.99	1.29
6	6.20	2.68
8	10.40	4.50

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR024

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	13.5	61.0	2.8	1/3	-	-	19.7	30
265-1-60	-2	10.9	58.0	2.6	1/3	-	-	16.2	25
208/230-3-60	-3	8.3	63.0	2.8	1/3	-	-	13.2	20
460-3-60	-4	4.5	27.0	2.6	1/3	-	-	8.2	15



Note: 460 Volt Units (-4) Require Both Ground and Neutral Wires

## 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
+				920								
Norm				800								
-				680								

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## CAPACITY DATA All performance at 800 CFM and 5.0 GPM COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	Power Input (kW)	Heat of Reject (MBtuH)	EER
50°	70°db 61°wb	26.68	1.21	30.82	22.0
60°		25.32	1.37	29.99	18.5
70°		23.96	1.53	29.17	15.7
85°		21.92	1.76	27.93	12.4
100°		19.88	2.00	26.69	9.9
50°	75°db 63°wb	28.56	1.22	32.73	23.4
60°		27.10	1.38	31.81	19.7
70°		25.65	1.54	30.89	16.7
85°		23.47	1.77	29.52	13.2
100°		21.28	2.01	28.14	10.6
50°	80°db 67°wb	31.32	1.23	35.52	25.5
60°		29.72	1.39	34.46	21.4
70°		28.13	1.55	33.41	18.2
85°		25.73	1.79	31.83	14.4
100°		23.34	2.03	30.25	11.5
50°	85°db 71°wb	34.07	1.24	38.31	27.5
60°		32.34	1.40	37.12	23.1
70°		30.60	1.56	35.93	19.6
85°		28.00	1.80	34.15	15.5
100°		25.39	2.04	32.37	12.4

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
2.12	3	3/8	14
Water Coil			
Type	Work Press		
Coaxial	450 psig		
Blower Size	Compr Type		
9 x 7 DD	Scroll		
Net Weight	Ship Weight		
218 lbs	230 lbs		

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
3	1.78	0.77
4	2.99	1.29
5	4.47	1.93
6	6.20	2.68
8	10.40	4.50

## Environmental Pool Systems, Inc.

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR030

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	13.5	61.0	2.8	1/3	-	-	19.7	30
265-1-60	-2	10.9	58.0	2.6	1/3	-	-	16.2	25
208/230-3-60	-3	8.3	63.0	2.8	1/3	-	-	13.2	20
460-3-60	-4	4.5	27.0	2.6	1/3	-	-	8.2	15



Note: 460 Volt Units (-4) Require Both Ground and Neutral Wires

## 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
+						1150						
Norm						1000						
-						850						

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## CAPACITY DATA All performance at 1000 CFM and 7.5 GPM

### COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	Power Input (kW)	Heat of Reject (MBtuH)	EER
50°	70°db 61°wb	30.79	1.18	34.80	26.2
60°		29.36	1.33	33.89	22.1
70°		27.94	1.48	32.99	18.9
85°		25.81	1.71	31.63	15.1
100°		23.67	1.94	30.28	12.2
50°	75°db 63°wb	32.97	1.18	37.00	27.9
60°		31.44	1.34	36.00	23.5
70°		29.92	1.49	35.00	20.1
85°		27.64	1.72	33.50	16.1
100°		25.35	1.95	32.00	13.0
50°	80°db 67°wb	36.15	1.19	40.22	30.3
60°		34.48	1.35	39.08	25.6
70°		32.81	1.50	37.93	21.9
85°		30.31	1.73	36.22	17.5
100°		27.81	1.96	34.50	14.2
50°	85°db 71°wb	39.34	1.20	43.44	32.7
60°		37.52	1.36	42.16	27.7
70°		35.71	1.51	40.87	23.6
85°		32.99	1.75	38.94	18.9
100°		30.26	1.98	37.01	15.3

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
3.5	3	3/8	14
Water Coil			
Type	Work Press		
Coaxial	450 psig		
Blower Size	Compr Type		
9 x 7 DD	Scroll		
Net Weight	Ship Weight		
285 lbs	310 lbs		

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
3	1.23	0.53
4.5	2.56	1.11
6	4.29	1.86
7.5	6.41	2.77
12	14.94	6.47

## Environmental Pool Systems, Inc.

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR036

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	14.7	72.5	4.3	1/2	-	-	22.7	35
208/230-3-60	-3	10.4	63.0	4.3	1/2	-	-	17.3	25
460-3-60	-4	4.5	31.0	4.1	1/2	-	-	9.7	15



Note: 460 Volt Units (-4) Require Both Ground and Neutral Wires

## 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
+						1380						
Norm						1200						
-						1020						

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## CAPACITY DATA All performance at 1200 CFM and 9.0 GPM

### COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	to Total Ratio	Sensible Power Input (kW)	Heat of Reject (MBtuH)	EER
50°	70°db 61°wb	34.44	0.65	1.41	39.24	24.5
60°		32.68	0.65	1.58	38.07	20.7
70°		30.92	0.66	1.75	36.89	17.7
85°		28.28	0.68	2.01	35.13	14.1
100°		25.64	0.70	2.27	33.37	11.3
50°	75°db 63°wb	36.88	0.72	1.41	41.71	26.1
60°		35.00	0.73	1.59	40.41	22.1
70°		33.11	0.74	1.76	39.12	18.8
85°		30.29	0.76	2.02	37.18	15.0
100°		27.46	0.78	2.28	35.24	12.1
50°	80°db 67°wb	40.45	0.73	1.43	45.31	28.4
60°		38.38	0.73	1.60	43.84	24.0
70°		36.32	0.74	1.77	42.37	20.5
85°		33.22	0.76	2.04	40.17	16.3
100°		30.12	0.79	2.30	37.96	13.1
50°	85°db 71°wb	44.02	0.73	1.44	48.92	30.6
60°		41.77	0.74	1.61	47.27	25.9
70°		39.52	0.74	1.79	45.63	22.1
85°		36.15	0.76	2.05	43.16	17.6
100°		32.78	0.79	2.32	40.69	14.2

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
3.5	3	3/8	14
Water Coil			
Type		Work Press	
Coaxial		450 psig	
Blower Size		Compr Type	
9 x 7 DD		Scroll	
Net Weight		Ship Weight	
290 lbs		315 lbs	

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
5	3.05	1.32
7	5.60	2.42
9	8.80	3.81
11	12.63	5.47
13	17.06	7.38

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR042

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	18.6	105.0	4.3	1/2	-	-	27.6	45
208/230-3-60	-3	13.5	88.0	4.3	1/2	-	-	21.2	30
460-3-60	-4	6.4	39.0	4.1	1/2	-	-	12.1	15

Note: 460 Volt Units (-4) Require Both Ground and Neutral Wires



## 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
+						1610						
Norm						1400						
-						1190						

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## CAPACITY DATA All performance at 1400 CFM and 9.0 GPM

### COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	Power Input (kW)	Heat of Reject (MBtuH)	EER	
50°	70°db	41.43	1.90	47.91	21.8	
60°		40.23	2.20	47.74	18.3	
70°		61°wb	39.03	2.50	47.57	15.6
85°		37.23	2.95	47.31	12.6	
100°		35.43	3.40	47.05	10.4	
50°	75°db	44.37	1.91	50.89	23.2	
60°		43.08	2.21	50.63	19.5	
70°		63°wb	41.79	2.52	50.38	16.6
85°		39.87	2.97	50.00	13.4	
100°		37.94	3.42	49.63	11.1	
50°	80°db	48.66	1.93	55.23	25.3	
60°		47.25	2.23	54.86	21.2	
70°		67°wb	45.84	2.54	54.50	18.1
85°		43.73	2.99	53.95	14.6	
100°		41.61	3.45	53.39	12.1	
50°	85°db	52.95	1.94	59.57	27.3	
60°		51.41	2.25	59.09	22.9	
70°		71°wb	49.88	2.56	58.61	19.5
85°		47.58	3.02	57.89	15.8	
100°		45.28	3.48	57.16	13.0	

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
4.5	3	3/8	14
Water Coil			
Type		Work Press	
Coaxial		450 psig	
Blower Size		Compr Type	
9 x 7 DD		Scroll	
Net Weight		Ship Weight	
350 lbs		370 lbs	

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
5	1.98	0.86
7	3.63	1.57
9	5.70	2.47
13	11.05	4.78
15	14.30	6.19

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR048

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	20.5	109.0	6.8	3/4	-	-	32.4	50
208/230-3-60	-3	14.6	91.0	6.8	3/4	-	-	25.1	35
460-3-60	-4	7.1	46.0	5.5	3/4	-	-	14.4	20

Note: 460 Volt Units (-4) Require Both Ground and Neutral Wires



## 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
+												
Norm						1840						
-						1600						

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## CAPACITY DATA All performance at 1600 CFM and 12.0 GPM

### COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	Power Input (kW)	Heat of Reject (MBtuH)	EER
50°	70°db 61°wb	48.94	2.24	56.58	21.9
60°		46.48	2.50	55.01	18.6
70°		44.02	2.76	53.45	15.9
85°		40.34	3.16	51.10	12.8
100°		36.65	3.55	48.76	10.3
50°	75°db 63°wb	52.41	2.25	60.09	23.3
60°		49.78	2.51	58.36	19.8
70°		47.15	2.78	56.63	17.0
85°		43.20	3.17	54.03	13.6
100°		39.25	3.57	51.43	11.0
50°	80°db 67°wb	57.48	2.27	65.23	25.3
60°		54.60	2.54	63.25	21.5
70°		51.71	2.80	61.27	18.5
85°		47.39	3.20	58.31	14.8
100°		43.06	3.60	55.34	12.0
50°	85°db 71°wb	62.56	2.29	70.36	27.3
60°		59.42	2.56	68.14	23.3
70°		56.28	2.82	65.92	19.9
85°		51.58	3.22	62.59	16.0
100°		46.87	3.63	59.25	12.9

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
4.5	3	3/8	14
Water Coil			
Type		Work Press	
Coaxial		450 psig	
Blower Size		Compr Type	
10 x 8 DD		Scroll	
Net Weight		Ship Weight	
318 lbs		348 lbs	

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
5	2.93	1.27
7	3.87	1.67
9.5	6.70	2.90
12	10.20	4.42
16	17.12	7.41

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR060

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	27.6	158.0	6.8	3/4	-	-	41.3	60
208/230-3-60	-3	18.1	137.0	6.8	3/4	-	-	29.4	45
460-3-60	-4	9.0	62.0	5.5	3/4	-	-	16.8	25

Note: 460 Volt Units (-4) Require Both Ground and Neutral Wires



## 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
+						2300						
Norm						2000						
-						1700						

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## CAPACITY DATA All performance at 2000 CFM and 12.0 GPM

### COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	Power Input (kW)	Heat of Reject (MBtuH)	EER
50°	70°db 61°wb	61.03	3.11	71.65	19.6
60°		57.71	3.41	69.36	16.9
70°		54.38	3.71	67.06	14.6
85°		49.40	4.16	63.61	11.9
100°		44.41	4.62	60.16	9.6
50°	75°db 63°wb	65.36	3.13	76.04	20.9
60°		61.80	3.43	73.52	18.0
70°		58.24	3.73	70.99	15.6
85°		52.90	4.19	67.20	12.6
100°		47.56	4.64	63.41	10.2
50°	80°db 67°wb	71.69	3.15	82.46	22.7
60°		67.79	3.46	79.60	19.6
70°		63.89	3.77	76.74	17.0
85°		58.04	4.22	72.45	13.7
100°		52.18	4.68	68.16	11.1
50°	85°db 71°wb	78.02	3.18	88.88	24.5
60°		73.78	3.49	85.68	21.2
70°		69.53	3.80	82.49	18.3
85°		63.17	4.26	77.70	14.8
100°		56.80	4.72	72.90	12.0

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
4.5	3	3/8	14
Water Coil			
Type		Work Press	
Coaxial		450 psig	
Blower Size		Compr Type	
11 x 9 DD		Scroll	
Net Weight		Ship Weight	
390 lbs		415 lbs	

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
8	3.48	1.51
10	5.21	2.25
15	10.80	4.68
18	15.00	6.49
22	21.52	9.32

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# PACKAGED UNITS SPECIFICATION DATA SHEET

# ES-HGR070

## ELECTRICAL SPECIFICATIONS

Electrical Characteristics	Elect. Symbol	Compressor		Blower		Loop Pump		Min. Circuit Amps	Max. Fuse/Breaker
		RLA	LRA	FLA	HP	FLA	HP		
208/230-1-60	-1	30.1	158.0	6.8	3/4	-	-	44.4	70
208/230-3-60	-3	20.5	155.0	6.8	3/4	-	-	32.4	50
460-3-60	-4	9.6	75.0	5.5	3/4	-	-	17.5	25

Note: 460 Volt Units (-4) Require Both Ground and Neutral Wires



## 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
+	_____	_____	_____	_____	_____	-	_____	_____	_____	_____	_____	_____
Norm	_____	_____	_____	_____	_____	2200	_____	_____	_____	_____	_____	_____
-	_____	_____	_____	_____	_____	1870	_____	_____	_____	_____	_____	_____

Units are AHRI Rated excluding the Hot Gas Reheat Option.

## COOLING with DH air by-pass fully closed

Entering Fluid Temp. (°F)	Entering Air Temp. (°F)	Total Capacity (MBtuH)	Power Input (kW)	Heat of Reject (MBtuH)	EER
50°		67.21	3.31	78.51	20.3
60°	70°db	64.72	3.72	77.41	17.4
70°	61°wb	62.22	4.13	76.30	15.1
85°		58.48	4.74	74.64	12.3
100°		54.74	5.35	72.98	10.2
50°		71.98	3.33	83.34	21.6
60°	75°db	69.31	3.74	82.07	18.5
70°	63°wb	66.64	4.15	80.80	16.1
85°		62.63	4.76	78.89	13.1
100°		58.62	5.38	76.97	10.9
50°		78.95	3.36	90.41	23.5
60°	80°db	76.02	3.77	88.89	20.2
70°	67°wb	73.09	4.18	87.37	17.5
85°		68.70	4.80	85.09	14.3
100°		64.31	5.42	82.81	11.9
50°		85.92	3.38	97.47	25.4
60°	85°db	82.74	3.80	95.70	21.8
70°	71°wb	79.55	4.22	93.94	18.9
85°		74.77	4.84	91.29	15.4
100°		70.00	5.46	88.65	12.8

Units are complete packages containing compressor, reversing valve, expansion valve metering device, ECM fan motor and heat exchangers. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and solid state lock-out circuit. Optional UL approved internal electric heater, factory installed with primary thermal overload protection and magnetic contactors (208/230-1-60 only).

## MECHANICAL SPECIFICATIONS

Refrigerant: R-410A			
Air Coil			
Square Feet	Rows Deep	Tube O.D.	Fins/Inch
6.0	3	3/8	14
Water Coil			
Type	Work Press		
Coaxial	450 psig		
Blower Size	Compr Type		
11 x 9 DD	Scroll		
Net Weight	Ship Weight		
450 lbs	495 lbs		

## FLUID PRESSURE DROP

Fluid Flow (GPM)	Pressure Drop	
	(FOH)	(PSIG)
10	6.39	2.77
14	11.72	5.07
16	14.90	6.45
18	18.42	7.97
20	22.27	9.64

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# Notes

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