HE019

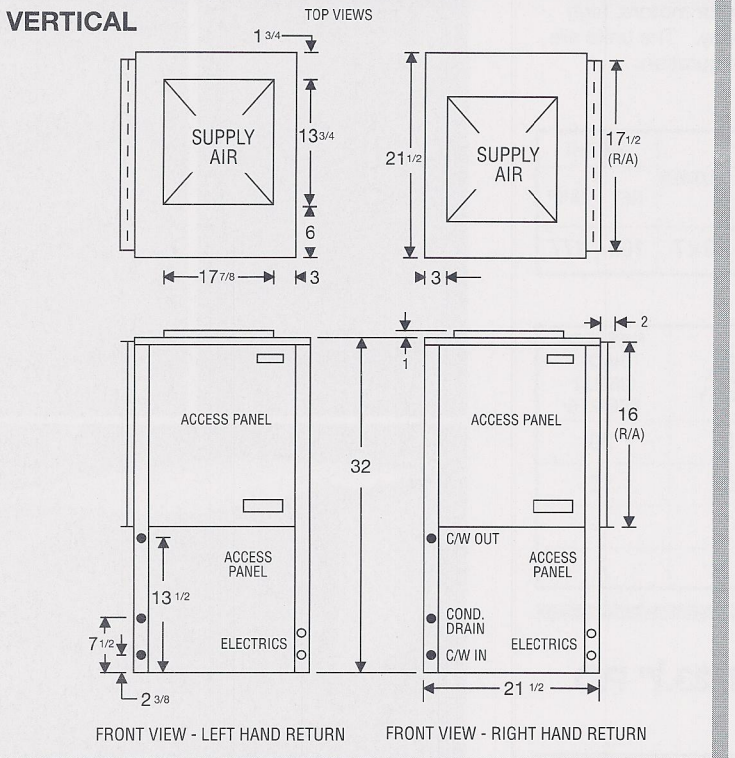
HIGH EFFICIENCY

BLOWER PERFORMANCE

AVAILABLE EXTERNAL STATIC PRESSURE (In. H20 including allowance for wet coil and filter)												
FAN SPEED	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
HIGH	800	760	700	680	655	600	560	520	–	–	–	–
MED.	690	650	630	600	565	520	–	–	–	–	–	
LOW	580	540	520	–	–	–	–	–	–	–	–	

PHYSICAL CHARACTERISTICS

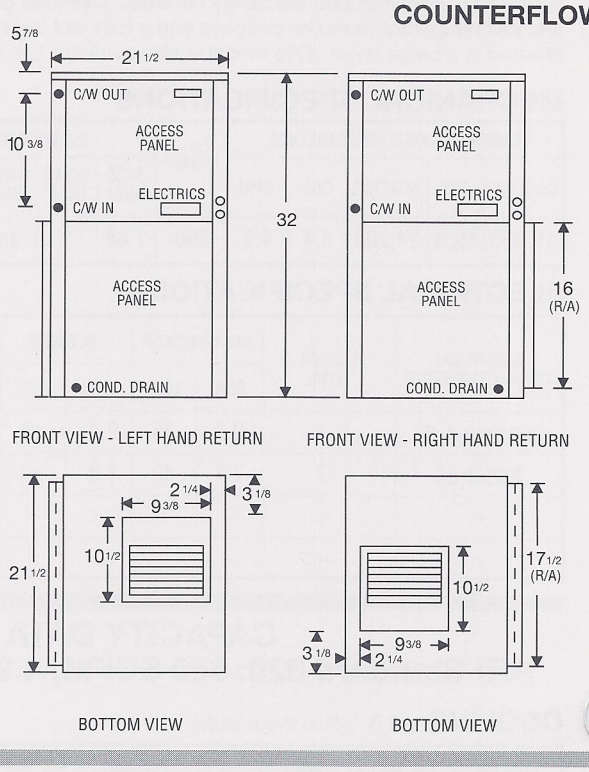
VERTICAL



FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

COUNTERFLOW



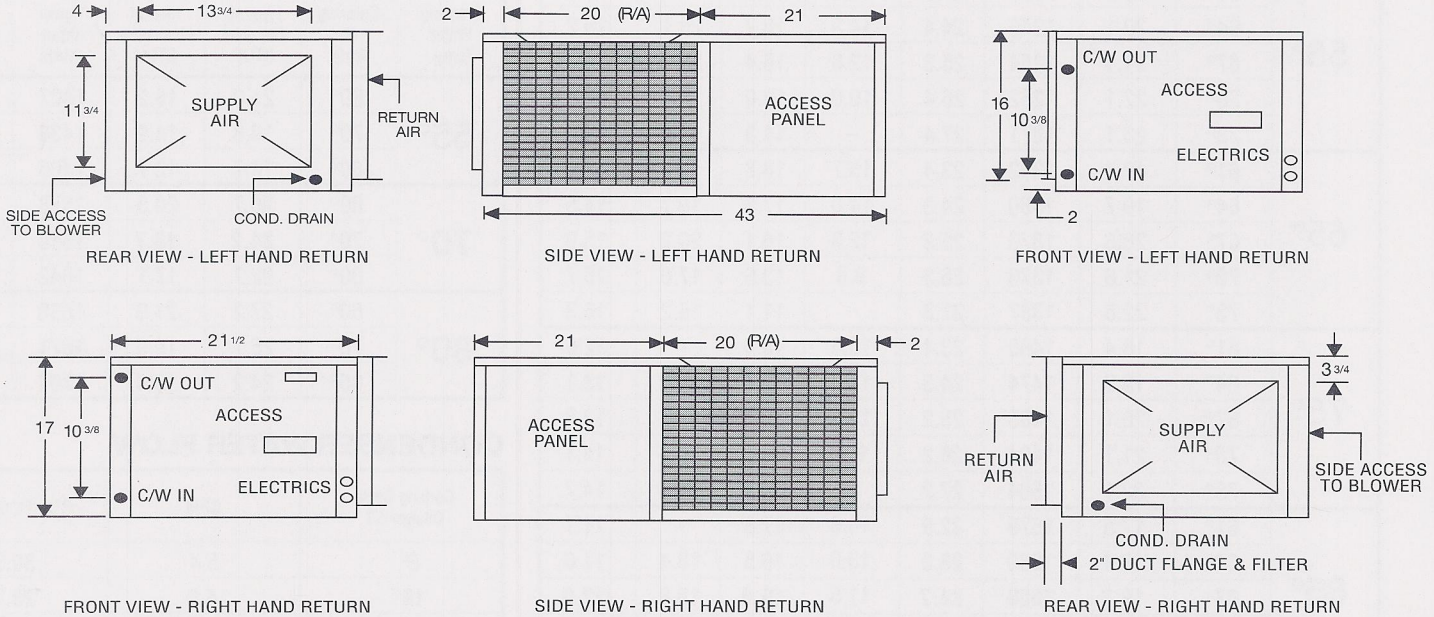
FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

BOTTOM VIEW

BOTTOM VIEW

HORIZONTAL



FRONT VIEW - LEFT HAND RETURN

SIDE VIEW - LEFT HAND RETURN

FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

SIDE VIEW - RIGHT HAND RETURN

REAR VIEW - RIGHT HAND RETURN

OPTIONAL STRAIGHT-THRU AIR CONFIGURATION AVAILABL

CONDENSER WATER CONNECTIONS: 3/4" F.P.T.
CONDENSATE DRAIN CONNECTION: 3/4" F.P.T.
FILTER SIZE: VT, CF 15" X 20" X 1" ; HZ 16" X 20" X 1"

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 3/95

a HARROW company

FHP MANUFACTURING
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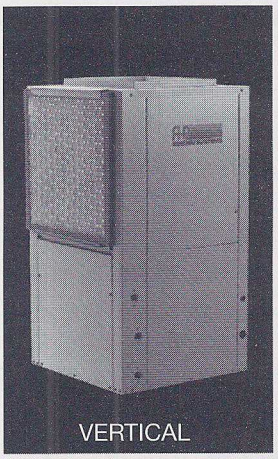
SPECIFICATION DATA SHEET

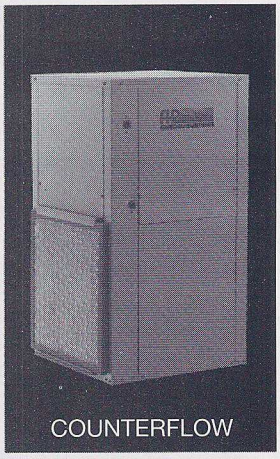
HE019

HIGH EFFICIENCY

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

Units are complete packages containing all refrigeration components: compressor, reversing valve, capillary tube metering device and water-to-refrigerant condenser. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a lock-out impedance relay. The units are finished in a beige color. This model is also available in a split configuration.


VERTICAL


COUNTERFLOW


HORIZONTAL

MECHANICAL SPECIFICATIONS

STANDARD RATED PERFORMANCE					CFM	EVAPORATOR				BLOWER	WEIGHT	
COOLING	EER	HEATING	COP	GPM		FACE AREA	ROWS DEEP	TUBE SIZE	FINS PER IN.		NET	SHIP
19,200	12.0	24,200	4.4	4.9	650	1.88	3	3/8	14	9 x 7	166	177

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	9.0	45	2.0	1/4	13.3	20
265-1-60	-2	7.7	42	1.6	1/4	11.3	15
–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–

CAPACITY DATA
ARI Standard 320: 650 SCFM, 4.9GPM/23.7' P.D.

COOLING (All BTUH in thousands)

Entering Water Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH Ent. Air Dry Bulb °F			EER
					75°	80°	85°	
55°	61°	19.2	1238	23.5	16.0	19.2	–	15.5
	64°	20.1	1246	24.4	14.3	18.2	20.1	16.2
	67°	21.1	1254	25.3	12.6	16.4	20.6	16.8
	70°	22.1	1262	26.4	10.0	13.9	18.0	17.5
	73°	23.1	1271	27.4	–	11.3	15.5	18.2
65°	61°	18.8	1352	23.4	15.7	18.8	–	13.9
	64°	19.7	1360	24.3	14.0	17.8	19.7	14.5
	67°	20.6	1370	25.3	12.3	16.1	20.2	15.0
	70°	21.6	1378	26.3	9.8	13.6	17.6	15.7
	73°	22.6	1387	27.3	–	11.1	15.2	16.3
75°	61°	18.4	1465	23.4	15.3	18.4	–	12.5
	64°	19.2	1474	24.3	13.7	17.3	19.2	13.1
	67°	20.1	1485	25.2	12.0	15.7	19.7	13.6
	70°	21.1	1494	26.2	9.6	13.2	17.2	14.1
	73°	22.1	1504	27.2	–	10.8	14.8	14.7
85°	61°	17.5	1579	22.9	14.6	17.5	–	11.1
	64°	18.4	1589	23.8	13.0	16.5	18.4	11.6
	67°	**19.2**	**1600**	**24.7**	11.5	**15.0**	18.8	**12.0**
	70°	20.1	1610	25.6	9.1	12.6	16.4	12.5
	73°	21.0	1621	26.6	–	10.3	14.1	13.0
95°	61°	16.0	1691	21.8	13.3	16.0	–	9.5
	64°	16.7	1702	22.5	11.9	15.1	16.7	9.8
	67°	17.5	1714	23.4	10.5	13.7	17.5	10.2
	70°	18.4	1724	24.2	8.3	11.5	15.3	10.6
	73°	19.3	1735	25.2	–	9.2	13.0	11.1

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.

HEATING

Entering Water Temp.	Entering Air Temp.	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP
55°	60°	21.0	16.2	1407	4.4
	70°	19.8	14.9	1436	4.0
	80°	18.7	13.7	1465	3.7
70°	60°	25.7	20.3	1578	4.8
	70°	**24.2**	**18.7**	**1610**	**4.4**
	80°	22.7	17.1	1642	4.1
80°	60°	27.2	21.6	1638	4.9
	70°	25.7	19.9	1671	4.5
	80°	24.2	18.4	1703	4.2

CONDENSER WATER FLOW

Cooling Cycle Design △T	GPM	P.D. (Ft. of Hd.)
8°	5.4	30.3
10°	**4.9**	**23.7**
12°	4.2	19.3
14°	3.6	15.4
16°	3.0	11.9

HE015

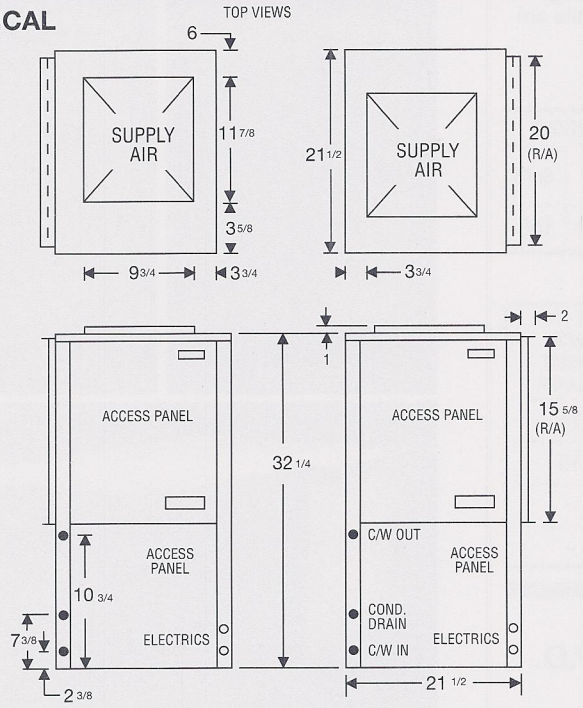
HIGH EFFICIENCY

BLOWER PERFORMANCE

AVAILABLE EXTERNAL STATIC PRESSURE (In. H20 including allowance for wet coil and filter)												
FAN SPEED	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
HIGH	540	515	485	460	425	385	–	–	–	–	–	–
MED.	500	475	450	420	385	–	–	–	–	–	–	–
LOW	460	435	410	380	–	–	–	–	–	–	–	–

PHYSICAL CHARACTERISTICS

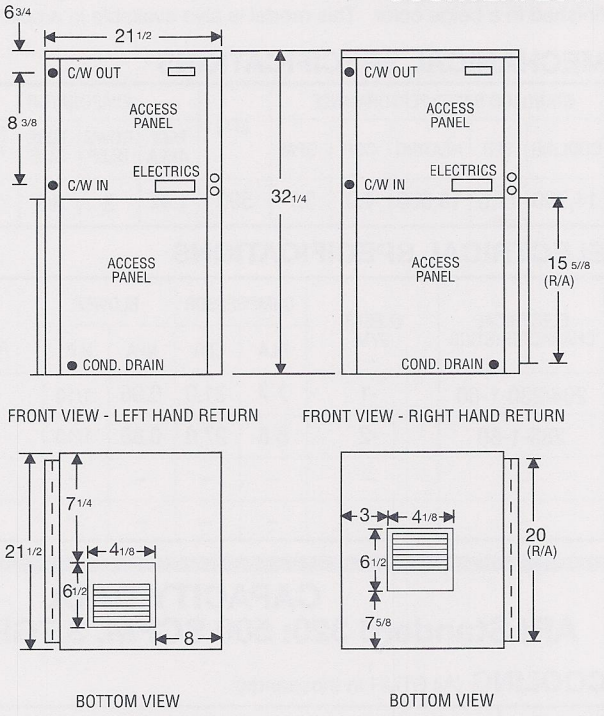
VERTICAL



FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

COUNTERFLOW



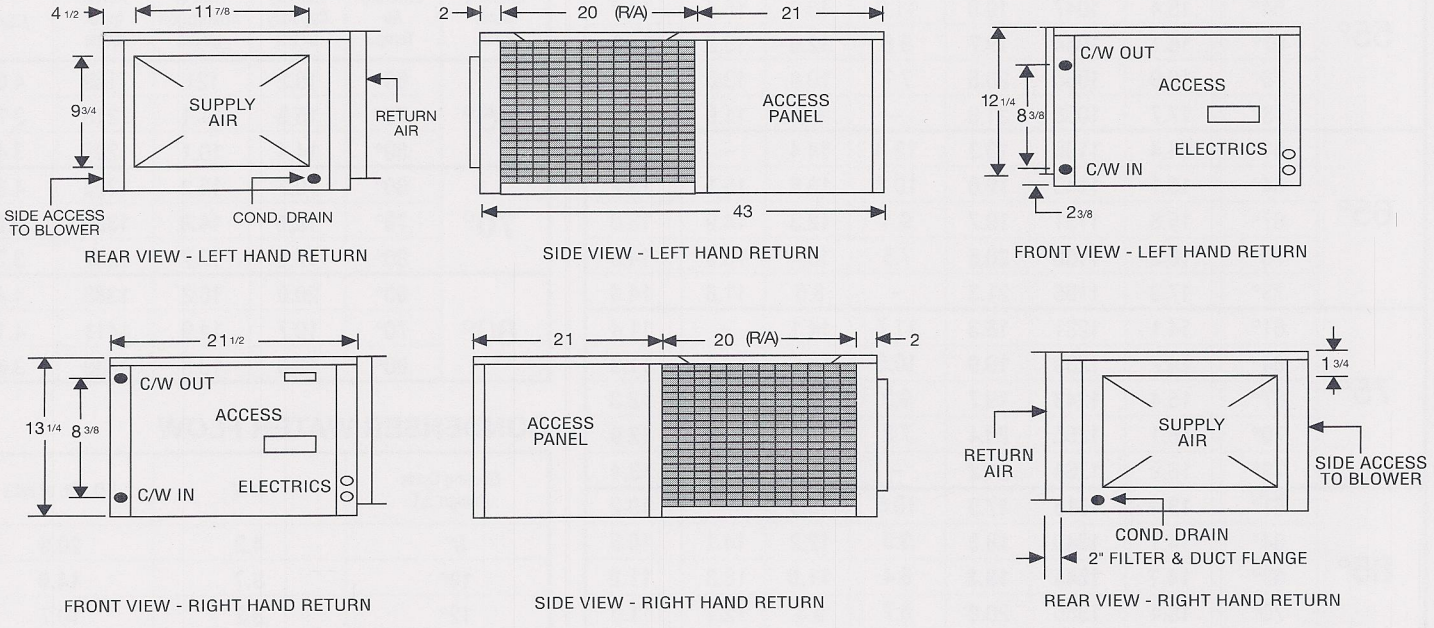
FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

BOTTOM VIEW

BOTTOM VIEW

HORIZONTAL



REAR VIEW - LEFT HAND RETURN

SIDE VIEW - LEFT HAND RETURN

FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

SIDE VIEW - RIGHT HAND RETURN

REAR VIEW - RIGHT HAND RETURN

OPTIONAL STRAIGHT-THRU AIR CONFIGURATION AVAILABLE

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CONDENSER WATER CONNECTIONS: 3/4" F.P.T.
CONDENSATE DRAIN CONNECTION: 3/4" F.P.T.
FILTER SIZE: VT, CF 15" X 20" X 1" ; HZ 11 1/2" X 20" X 1"

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 6/94

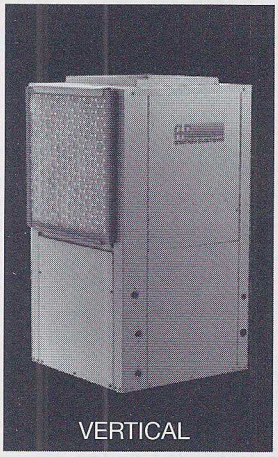
SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE015

HIGH EFFICIENCY

Units are complete packages containing all refrigeration components: compressor, reversing valve, capillary tube metering device and water-to-refrigerant condenser. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a lock-out impedance relay. The units are finished in a beige color. This model is also available in a split configuration.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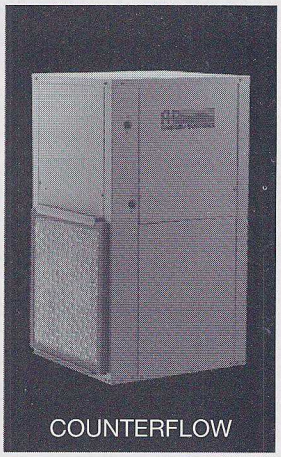
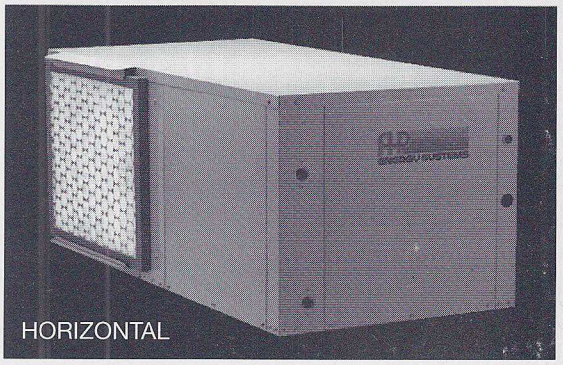

COUNTERFLOW


HORIZONTAL

MECHANICAL SPECIFICATIONS

STANDARD RATED PERFORMANCE					CFM	EVAPORATOR				BLOWER	WEIGHT	
COOLING	EER	HEATING	COP	GPM		FACE AREA	ROWS DEEP	TUBE SIZE	FINS PER IN.		NET	SHIP
14,700	11.0	18,600	4.0	3.7	500	1.42	3	3/8	14	4 x 7	139	150

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	7.7	31.0	0.96	1/10	10.6	15
265-1-60	-2	6.8	27.0	0.85	1/10	9.4	15
–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–

CAPACITY DATA
ARI Standard 320: 500 SCFM, 3.7GPM/14.9' P.D.

COOLING (All BTUH in thousands)

Entering Water Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH Ent. Air Dry Bulb °F			EER
					75°	80°	85°	
55°	61°	14.7	1040	18.3	12.3	14.7	–	14.2
	64°	15.4	1047	19.0	11.0	13.9	15.4	14.7
	67°	16.1	1054	19.7	9.6	12.6	15.2	15.3
	70°	16.9	1060	20.5	7.7	10.6	13.8	15.9
	73°	17.7	1068	21.3	–	8.7	11.9	16.5
65°	61°	14.4	1136	18.3	12.0	14.4	–	12.7
	64°	15.1	1143	19.0	10.7	13.6	15.1	13.2
	67°	15.8	1151	19.7	9.4	12.3	14.9	13.0
	70°	16.5	1158	20.5	7.5	10.4	13.5	14.3
	73°	17.3	1166	21.3	–	8.5	11.6	14.8
75°	61°	14.1	1231	18.3	11.7	14.1	–	11.4
	64°	14.7	1239	19.0	10.5	13.3	14.7	11.9
	67°	15.4	1248	19.7	9.2	12.0	14.5	12.3
	70°	16.1	1255	20.4	7.3	10.1	13.2	12.9
	73°	16.9	1264	21.2	–	8.3	11.3	13.4
85°	61°	13.4	1315	17.9	10.8	13.3	–	10.2
	64°	14.1	1340	18.3	9.6	12.2	14.1	10.5
	67°	**14.7**	**1345**	**19.3**	8.4	**11.0**	13.8	**11.0**
	70°	15.4	1350	20.0	6.7	9.3	12.1	11.5
	73°	16.1	1355	20.7	–	7.6	10.4	11.9
95°	61°	12.2	1410	17.0	10.4	12.2	–	8.7
	64°	12.8	1420	17.7	9.1	11.7	12.8	9.0
	67°	13.4	1430	18.3	8.0	10.5	13.3	9.4
	70°	14.1	1440	19.0	6.4	8.8	11.6	9.8
	73°	14.7	1445	19.7	–	7.1	9.9	10.2

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.

HEATING

Entering Water Temp.	Entering Air Temp.	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP
55°	60°	16.2	121	1189	4.0
	70°	15.3	11.1	1213	3.7
	80°	14.4	10.1	1237	3.4
70°	60°	19.7	15.2	1333	4.3
	70°	**18.6**	**14.0**	**1360**	**4.0**
	80°	17.5	12.7	1387	3.7
80°	60°	20.9	16.2	1383	4.4
	70°	19.7	14.9	1411	4.1
	80°	18.5	13.6	1439	3.8

CONDENSER WATER FLOW

Cooling Cycle Design △T	GPM	P.D. (Ft. of Hd.)
8°	4.2	20.9
10°	**3.7**	**14.9**
12°	3.2	10.7
14°	2.7	7.9
16°	2.2	5.1

HE012

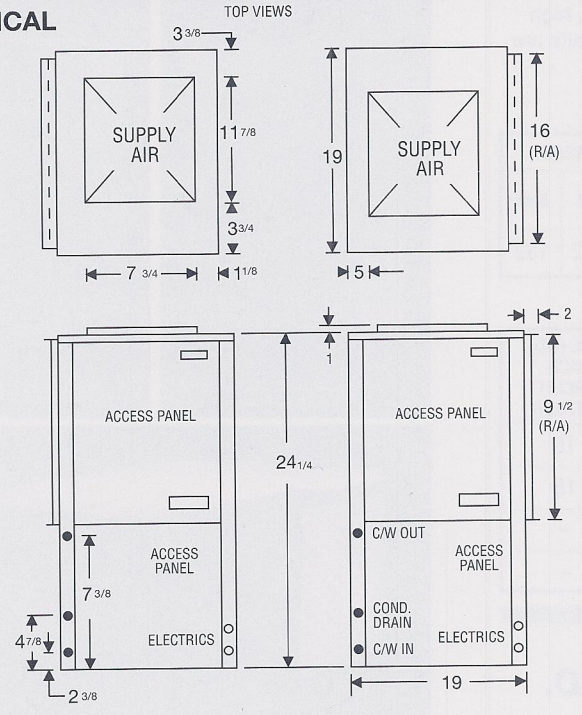
HIGH EFFICIENCY

BLOWER PERFORMANCE

AVAILABLE EXTERNAL STATIC PRESSURE (In. H20 including allowance for wet coil and filter)												
FAN SPEED	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
HIGH	425	410	390	370	350	325	300	–	–	–	–	–
MED.	410	395	375	355	330	305	–	–	–	–	–	–
LOW	385	370	350	330	305	–	–	–	–	–	–	–

PHYSICAL CHARACTERISTICS

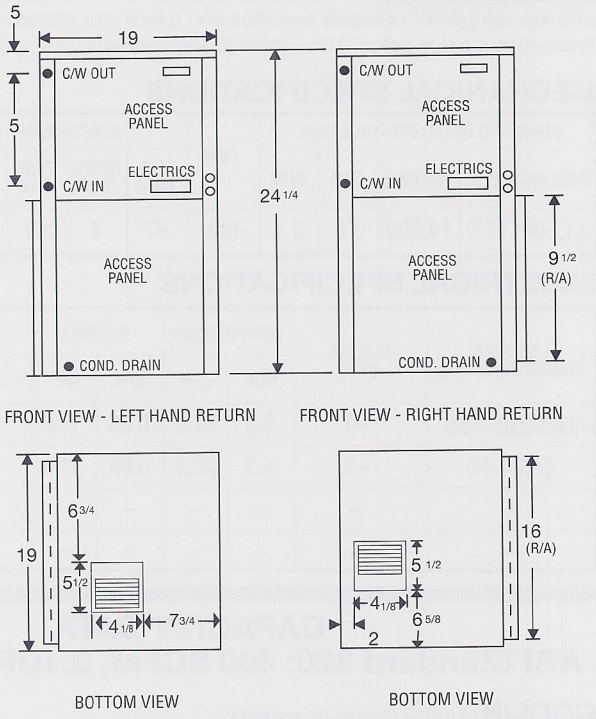
VERTICAL



FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

COUNTERFLOW



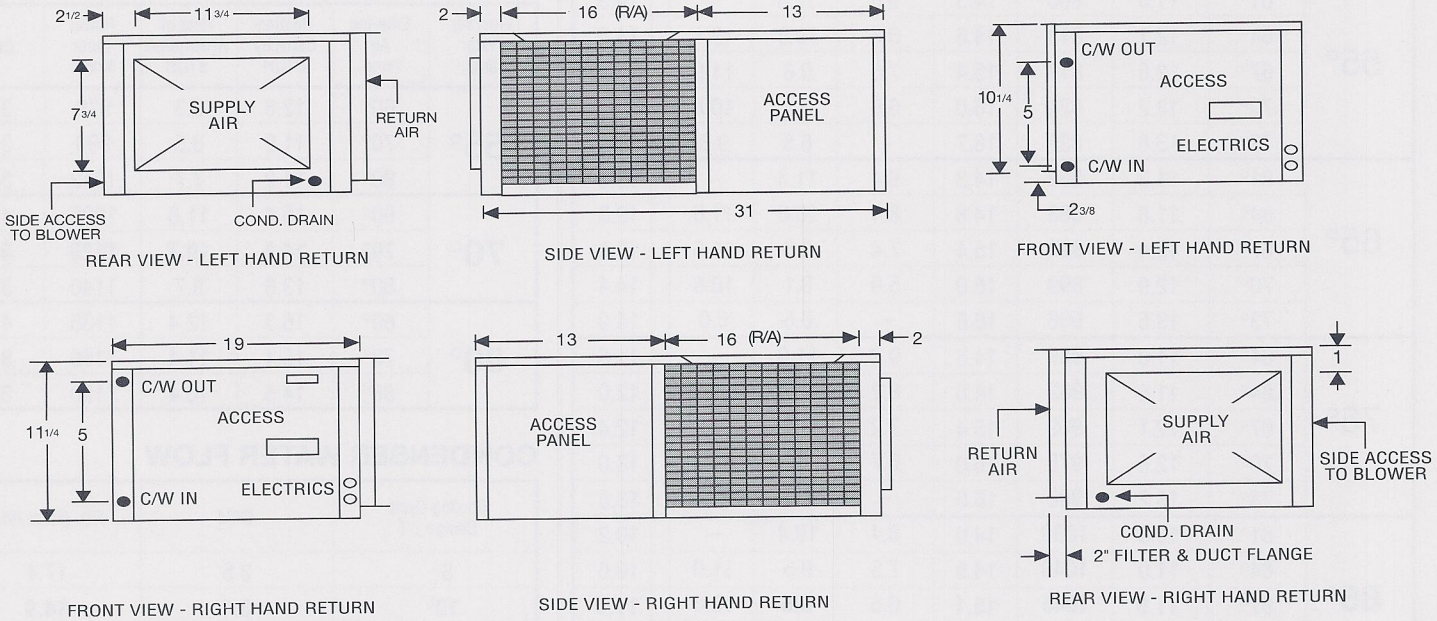
FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

BOTTOM VIEW

BOTTOM VIEW

HORIZONTAL



REAR VIEW - LEFT HAND RETURN

SIDE VIEW - LEFT HAND RETURN

FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

SIDE VIEW - RIGHT HAND RETURN

REAR VIEW - RIGHT HAND RETURN

OPTIONAL STRAIGHT-THRU AIR CONFIGURATION AVAILABLE

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CONDENSATE DRAIN CONNECTION: 3/4" F.P.T.
FILTER SIZE: VT, CF 15" X 20" X 1" ; HZ 15" X 20" X 1"

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SPECIFICATION DATA SHEET

HE012

HIGH EFFICIENCY

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

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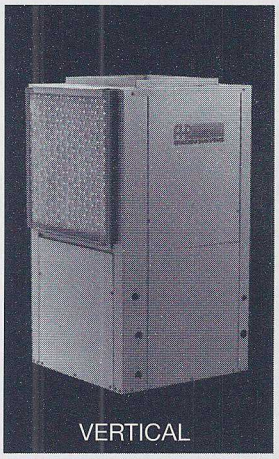
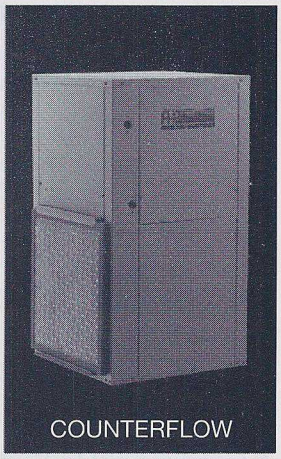
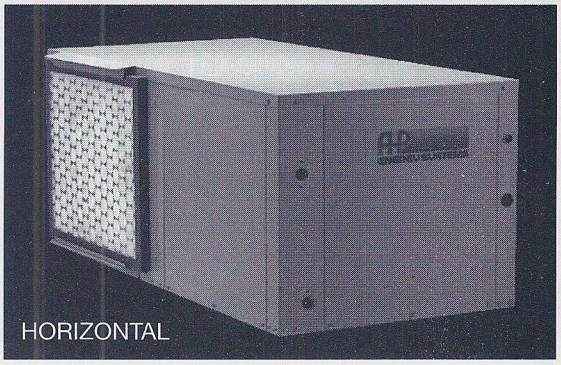

VERTICAL


COUNTERFLOW


HORIZONTAL

MECHANICAL SPECIFICATIONS

STANDARD RATED PERFORMANCE					CFM	EVAPORATOR				BLOWER	WEIGHT	
COOLING	EER	HEATING	COP	GPM		FACE AREA	ROWS DEEP	TUBE SIZE	FINS PER IN.		NET	SHIP
11,500	11.0	14,500	3.8	3.1	400	.97	4	3/8	14	4 x 7	122	132

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	–1	5.3	31.0	0.96	1/10	7.6	15
265-1-60	–2	4.3	22.9	0.85	1/10	6.2	15
–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–

CAPACITY DATA
ARI Standard 320: 400 SCFM, 3.1GPM/14.9' P.D.

COOLING (All BTUH in thousands)

Entering Water Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH Ent. Air Dry Bulb °F			EER
					75°	80°	85°	
55°	61°	11.5	808	14.3	9.6	11.5	–	14.3
	64°	12.1	813	14.8	8.6	10.9	12.1	14.8
	67°	12.6	819	15.4	7.5	9.8	11.9	15.4
	70°	13.2	824	16.0	6.0	8.3	10.8	16.0
	73°	13.8	829	16.7	–	6.8	9.3	16.7
65°	61°	11.3	882	14.3	9.4	11.3	–	12.8
	64°	11.8	888	14.8	8.4	10.6	11.8	13.3
	67°	12.4	894	15.4	7.4	9.6	11.6	13.8
	70°	12.9	899	16.0	5.9	8.1	10.6	14.4
	73°	13.5	906	16.6	–	6.6	9.0	14.9
75°	61°	11.0	957	14.3	9.2	11.0	–	11.5
	64°	11.5	962	14.8	8.2	10.4	11.5	12.0
	67°	12.1	969	15.4	7.2	9.4	11.3	12.4
	70°	12.6	975	16.0	5.7	7.9	10.3	13.0
	73°	13.2	982	16.6	–	6.5	8.9	13.5
85°	61°	10.5	1030	14.0	8.4	10.4	–	10.2
	64°	11.0	1040	14.5	7.5	9.5	11.0	10.6
	67°	**11.5**	**1045**	**15.1**	6.6	**8.6**	10.8	**11.0**
	70°	12.1	1050	15.7	5.3	7.3	9.5	11.5
	73°	12.6	1060	16.2	–	5.9	8.1	11.9
95°	61°	9.6	1105	13.3	8.0	9.6	–	8.7
	64°	10.0	1110	13.8	7.1	9.1	10.0	9.0
	67°	10.5	1120	14.3	6.3	8.2	10.4	9.4
	70°	11.0	1125	14.8	5.0	6.9	9.1	9.8
	73°	11.6	1135	15.4	–	5.6	7.8	10.2

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.

HEATING

Entering Water Temp.	Entering Air Temp.	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP
55°	60°	12.6	9.3	979	3.8
	70°	11.9	8.5	999	3.5
	80°	11.2	7.7	1012	3.2
70°	60°	15.4	11.6	1095	4.1
	70°	**14.5**	**10.7**	**1120**	**3.8**
	80°	13.6	9.7	1140	3.5
80°	60°	16.3	12.4	1135	4.2
	70°	15.4	11.4	1160	3.9
	80°	14.5	10.4	1180	3.6

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	GPM	P.D. (Ft. of Hd.)
8°	3.5	17.4
10°	**3.1**	**14.9**
12°	2.7	10.0
14°	2.3	7.1
16°	1.9	5.0

HE009

HIGH EFFICIENCY

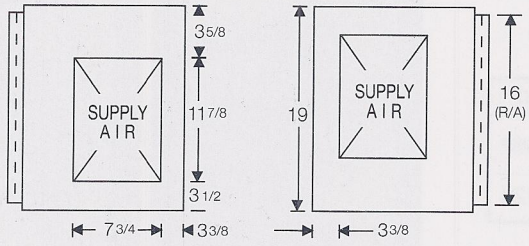
BLOWER PERFORMANCE

AVAILABLE EXTERNAL STATIC PRESSURE (In. H_20 including allowance for wet coil and filter)												
FAN SPEED	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
HIGH	–	355	330	305	275	240	–	–	–	–	–	–
MED.	360	345	320	290	260	–	–	–	–	–	–	–
LOW	340	320	290	260	225	–	–	–	–	–	–	–

PHYSICAL CHARACTERISTICS

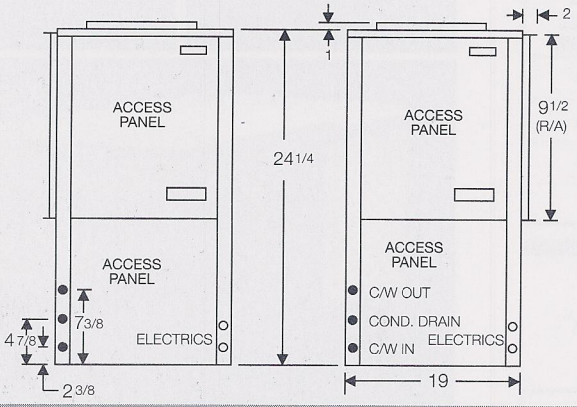
VERTICAL

TOP VIEWS

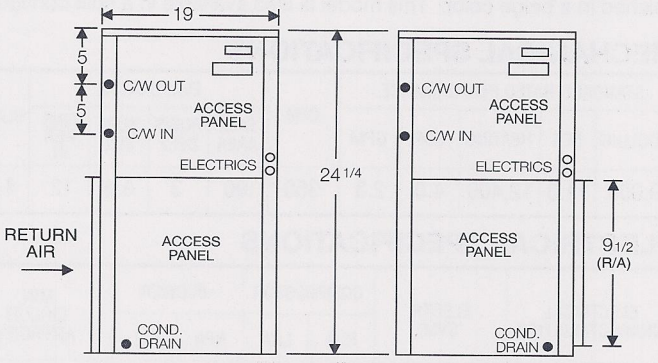


FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

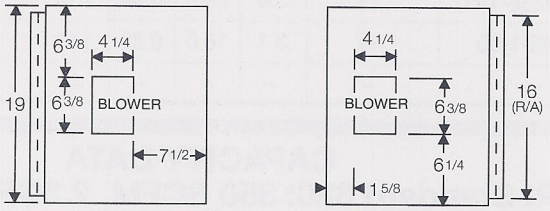


COUNTERFLOW



FRONT VIEW - LEFT HAND RETURN

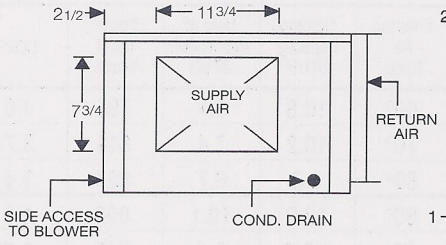
FRONT VIEW - RIGHT HAND RETURN



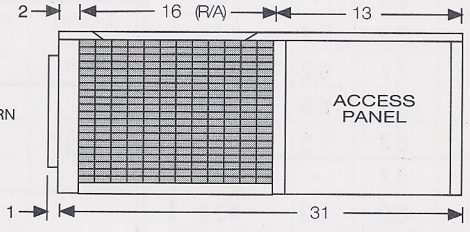
BOTTOM VIEW

BOTTOM VIEW

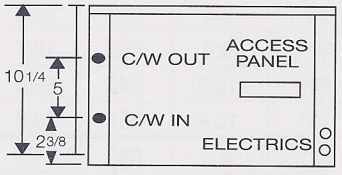
HORIZONTAL



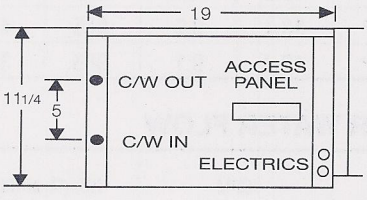
REAR VIEW - LEFT HAND RETURN



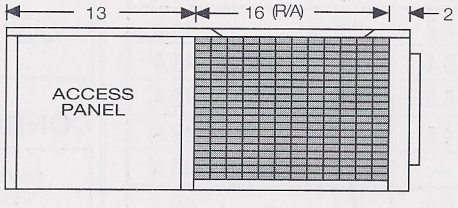
SIDE VIEW - LEFT HAND RETURN



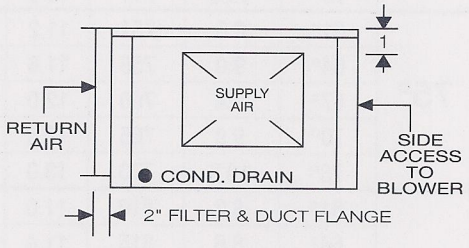
FRONT VIEW - LEFT HAND RETURN



FRONT VIEW - RIGHT HAND RETURN



SIDE VIEW -RIGHT HAND RETURN



REAR VIEW - RIGHT HAND RETURN

OPTIONAL STRAIGHT-THRU AIR CONFIGURATION

CONDENSER WATER CONNECTIONS: 3/4" F.P.T.
CONDENSATE DRAIN CONNECTION: 3/4" F.P.T.
FILTER SIZE: VT, CF 9 1/2" X 16" X 1" ; HZ 9 1/2" X 16" x 1"

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 8/94

a HARROW company

FHP MANUFACTURING
601 N.W. 65th COURT
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PHONE: (305) 776-5471
FAX: (305) 776-5529

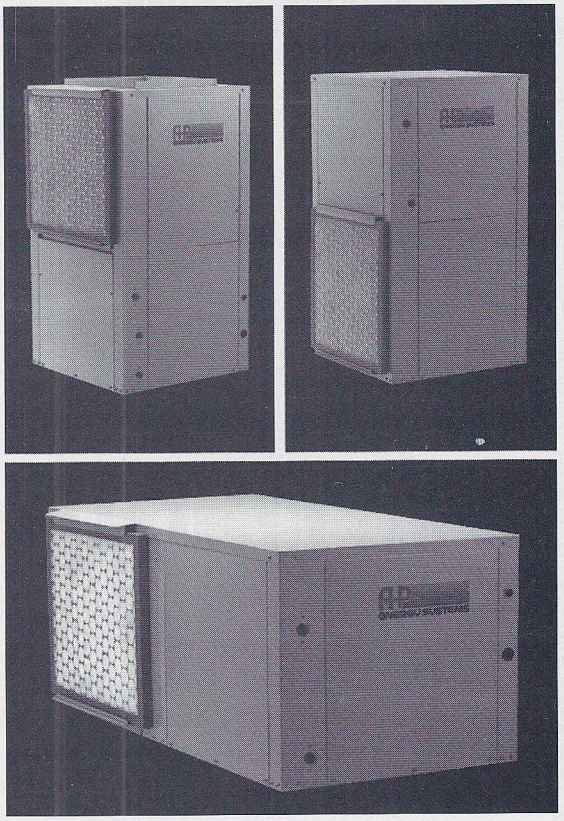
FHP SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE009

HIGH EFFICIENCY

Units are complete packages containing all refrigeration components: compressor, reversing valve, capillary tube metering device and water-to-refrigerant condenser. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a lock-out impedance relay. The units are finished in a beige color. This model is also available in a split configuration.



MECHANICAL SPECIFICATIONS

STANDARD RATED PERFORMANCE					CFM	EVAPORATOR				BLOWER	WEIGHT	
COOLING	EER	HEATING	COP	GPM		FACE AREA	ROWS DEEP	TUBE SIZE	FINS PER IN.		NET	SHIP
9,000	11.0	12,400	4.0	2.3	350	.90	3	3/8	12	4 x 6	120	129

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
115-1-60	-0	7.0	40.0	2.20	1/10	11.0	15
208/230-1-60	–1	3.6	20.0	0.96	1/10	5.5	15
265-1-60	–2	3.1	16.0	0.85	1/10	4.8	15
–	–	–	–	–	–	–	–

CAPACITY DATA
ARI Standard 320: 350 SCFM, 2.3GPM/7.7' P.D.

COOLING (All BTUH in thousands)

Entering Water Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH Ent. Air Dry Bulb °F			EER
					75°	80°	85°	
55°	61°	9.0	634	11.2	7.5	9.0	-	14.2
	64°	9.4	638	11.6	6.7	8.5	9.4	14.8
	67°	9.9	642	12.1	5.9	7.7	9.2	15.4
	70°	10.3	646	12.6	4.7	6.5	8.5	16.0
	73°	10.8	651	13.0	–	5.3	7.3	16.6
65°	61°	8.8	692	11.2	7.4	8.8	–	12.7
	64°	9.2	697	11.6	6.6	8.3	9.2	13.2
	67°	9.7	701	12.1	5.8	7.5	9.0	13.8
	70°	10.1	706	12.5	4.6	6.4	8.3	14.3
	73°	10.6	711	13.0	–	5.2	7.1	14.9
75°	61°	8.6	751	11.2	7.2	8.6	–	11.5
	64°	9.0	755	11.6	6.4	8.1	9.0	11.9
	67°	9.4	760	12.0	5.6	7.4	8.8	12.4
	70°	9.9	765	12.5	4.5	6.2	8.1	12.9
	73°	10.3	770	13.0	–	5.3	7.3	13.4
85°	61°	8.2	810	11.0	6.6	8.2	–	10.1
	64°	8.6	815	11.4	5.9	7.5	8.6	10.6
	67°	**9.0**	**820**	11.8	5.2	**6.8**	8.5	**11.0**
	70°	9.4	825	12.2	4.1	5.7	7.4	11.4
	73°	9.9	830	12.7	–	4.7	6.4	11.9
95°	61°	7.5	865	10.4	6.3	7.5	–	8.7
	64°	7.9	875	10.8	5.6	7.2	7.9	9.0
	67°	8.2	880	11.2	4.9	6.4	8.1	9.3
	70°	8.6	885	11.6	3.9	5.4	7.1	9.7
	73°	9.0	890	12.1	–	4.4	6.1	10.2

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.

HEATING

Entering Water Temp.	Entering Air Temp.	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP
55°	60°	10.8	8.1	795	4.0
	70°	10.2	7.4	811	3.7
	80°	9.6	6.7	827	3.4
70°	60°	13.2	10.1	890	4.3
	70°	**12.4**	**9.3**	**910**	**4.0**
	80°	11.7	8.5	930	3.7
80°	60°	13.9	10.8	925	4.4
	70°	13.1	9.9	945	4.1
	80°	12.4	9.1	965	3.8

CONDENSER WATER FLOW

Cooling Cycle Design △T	GPM	P.D. (Ft. of Hd.)
8°	2.6	10.2
10°	**2.3**	**7.7**
12°	2.0	5.7
14°	1.7	4.2
16°	1.4	2.8

HE007

HIGH EFFICIENCY

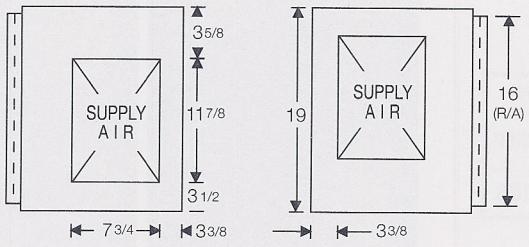
BLOWER PERFORMANCE

AVAILABLE EXTERNAL STATIC PRESSURE (In. H_20 including allowance for wet coil and filter)												
FAN SPEED	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
HIGH	–	355	330	305	275	240	195	–	–	–	–	–
MED.	360	345	320	290	260	220	–	–	–	–	–	–
LOW	340	320	290	260	225	175	–	–	–	–	–	–

PHYSICAL CHARACTERISTICS

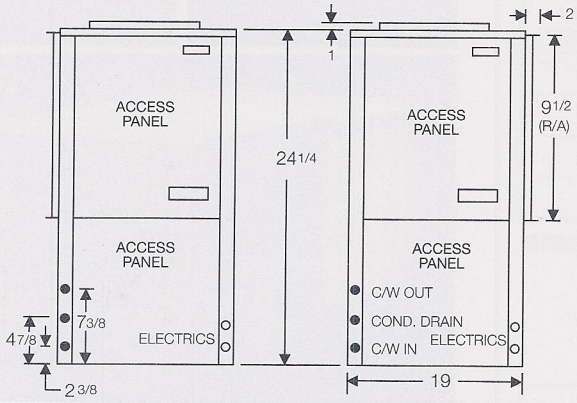
VERTICAL

TOP VIEWS

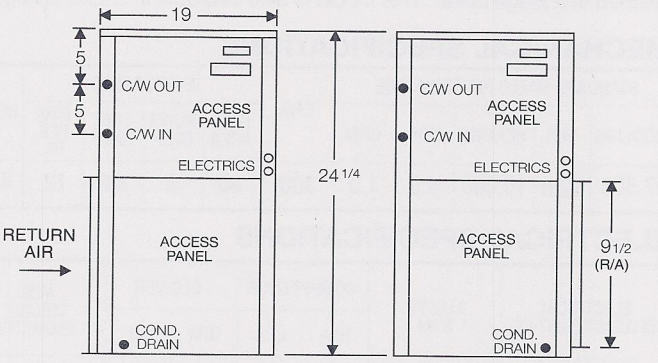


FRONT VIEW - LEFT HAND RETURN

FRONT VIEW - RIGHT HAND RETURN

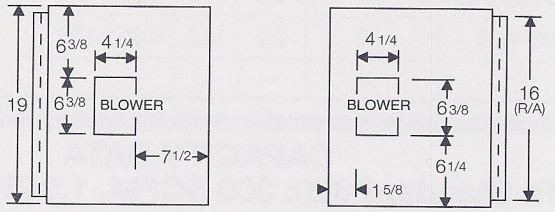


COUNTERFLOW



FRONT VIEW - LEFT HAND RETURN

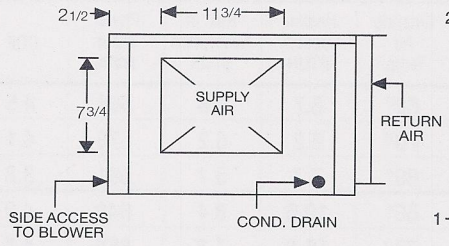
FRONT VIEW - RIGHT HAND RETURN



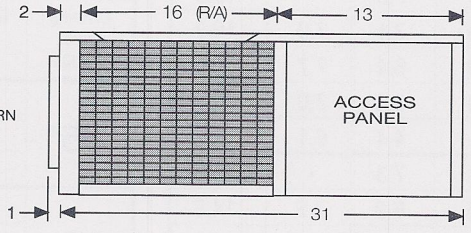
BOTTOM VIEW

BOTTOM VIEW

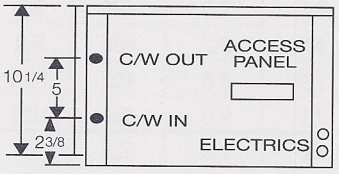
HORIZONTAL



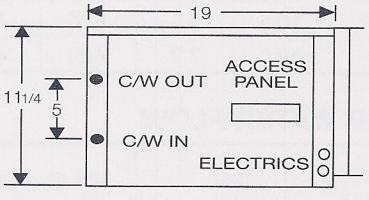
REAR VIEW - LEFT HAND RETURN



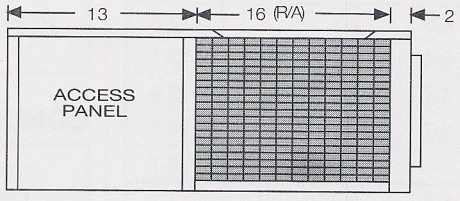
SIDE VIEW - LEFT HAND RETURN



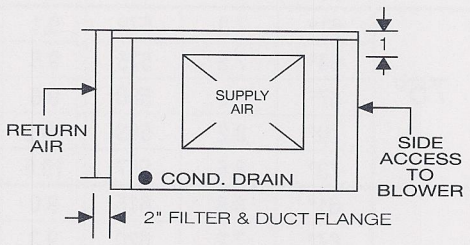
FRONT VIEW - LEFT HAND RETURN



FRONT VIEW - RIGHT HAND RETURN



SIDE VIEW -RIGHT HAND RETURN



REAR VIEW - RIGHT HAND RETURN

OPTIONAL STRAIGHT-THRU AIR CONFIGURATION

CONDENSER WATER CONNECTIONS: 3/4" F.P.T.
CONDENSATE DRAIN CONNECTION: 3/4" F.P.T.
FILTER SIZE: VT, CF 9 1/2" X 16" X 1" ; HZ 9 1/2" X 16" x 1"

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 8/94

a HARROW company

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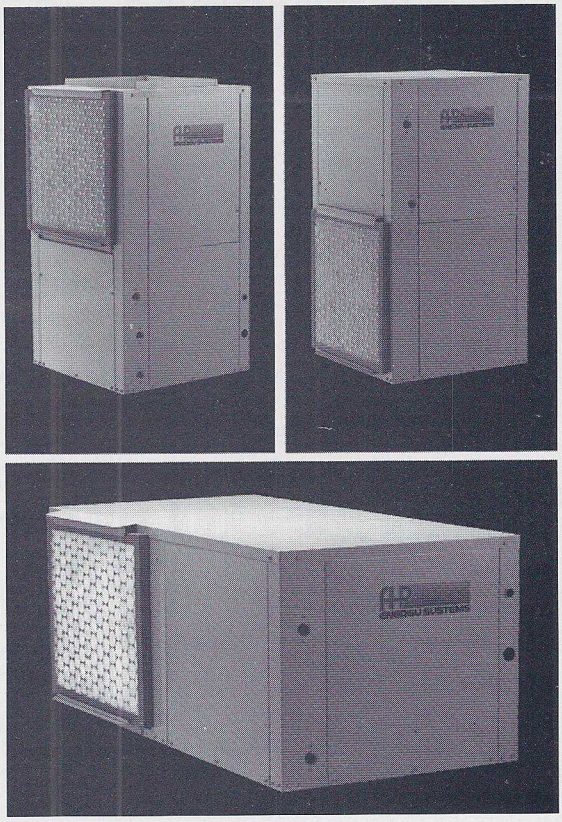
PHONE: (305) 776-5471
FAX: (305) 776-5529

SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE007
HIGH EFFICIENCY

Units are complete packages containing all refrigeration components: compressor, reversing valve, capillary tube metering device and water-to-refrigerant condenser. Also included are safety controls: Overload protection for motors, high and low refrigerant pressure switches and a lock-out impedance relay. The units are finished in a beige color. This model is also available in a split configuration.



MECHANICAL SPECIFICATIONS

STANDARD RATED PERFORMANCE					CFM	EVAPORATOR				BLOWER	WEIGHT	
COOLING	EER	HEATING	COP	GPM		FACE AREA	ROWS DEEP	TUBE SIZE	FINS PER IN.		NET	SHIP
7,500	12.0	10,000	4.5	1.9	300	.90	3	3/8	12	4 x 6	119	128

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
115-1-60	-0	6.2	29.8	2.20	1/10	10.0	15
208/230-1-60	–1	2.8	15.9	0.96	1/10	4.5	15
265-1-60	–2	2.2	12.3	0.85	1/10	3.6	15
–	–	–	–	–	–	–	–

CAPACITY DATA
ARI Standard 320: 300 SCFM, 1.9GPM/5.3' P.D.

COOLING (All BTUH in thousands)

Entering Water Temp.	Ent. Air Wet Bulb Temp.	Total Capacity BTUH	Watts Input	Heat Rejection BTUH	Sensible Capacity BTUH Ent. Air Dry Bulb °F			EER
					75°	80°	85°	
55°	61°	7.5	483	9.2	6.3	7.5	-	15.6
	64°	7.9	486	9.5	5.6	7.1	7.9	16.2
	67°	8.2	490	9.9	4.9	6.4	7.7	16.8
	70°	8.6	492	10.3	3.9	5.4	7.0	17.5
	73°	9.0	496	10.7	-	4.4	6.1	18.2
65°	61°	7.3	528	9.1	6.1	7.3	-	13.9
	64°	7.7	531	9.5	5.5	6.9	7.7	14.5
	67°	8.1	535	9.9	4.8	6.3	7.5	15.0
	70°	8.4	538	10.3	3.8	5.3	6.9	15.7
	73°	8.8	541	10.7	-	4.3	5.9	16.3
75°	61°	7.2	572	9.1	6.0	7.2	-	12.5
	64°	7.5	575	9.5	5.4	6.8	7.5	13.1
	67°	7.9	580	9.8	4.7	6.1	7.3	13.6
	70°	8.2	583	10.2	3.7	5.2	6.7	14.1
	73°	8.6	587	10.6	-	4.2	5.8	14.7
85°	61°	6.9	615	9.0	5.9	6.9	-	11.1
	64°	7.2	620	9.3	5.2	6.6	7.2	11.6
	67°	**7.5**	**625**	**9.6**	4.6	**6.0**	7.5	**12.0**
	70°	7.9	630	10.0	3.7	5.1	6.6	12.5
	73°	8.2	635	10.4	-	4.1	5.7	12.9
95°	61°	6.2	660	8.5	5.6	6.2	-	9.5
	64°	6.5	665	8.8	5.0	6.3	6.5	9.8
	67°	6.8	670	9.1	4.4	5.7	6.8	10.2
	70°	7.2	670	9.5	3.5	4.8	6.3	10.7
	73°	7.5	675	9.8	-	3.9	5.4	11.2

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.

HEATING

Entering Water Temp.	Entering Air Temp.	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP
55°	60°	8.7	6.8	568	4.5
	70°	8.2	6.2	579	4.1
	80°	7.7	5.7	591	3.8
70°	60°	10.6	8.4	640	4.9
	70°	**10.0**	**7.8**	**650**	**4.5**
	80°	9.4	7.2	660	4.2
80°	60°	11.2	9.0	660	5.0
	70°	10.6	8.3	670	4.6
	80°	10.0	7.7	680	4.3

CONDENSER WATER FLOW

Cooling Cycle Design △T	GPM	P.D. (Ft. of Hd.)
8°	2.1	6.2
10°	**1.9**	**5.3**
12°	1.6	4.6
14°	1.4	3.4
16°	1.2	2.6

FHP MANUFACTURING
Florida Heat Pump Environmental Equipment

GUIDE SPECIFICATIONS

HE SERIES

GENERAL – Units shall be A.R.I. Standard 320 performance certified and Underwriters Laboratories (UL) listed and Canadian Standards Association (CSA) certified for safety. Each unit shall be run tested at the factory. Each unit shall be pallet mounted and shipped in a corrugated box.

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 water temperature between 55°F and 95°F as manufactured by FHP Manufacturing in Fort Lauderdale, Florida.

CASING & CABINET – The cabinet shall be fabricated from heavy-guage "paint-grip" galvanized steel and finished with two coats of lacquer acrylic. The interior shall be insulated with 1/2" 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 2" return air filter rack/duct collar which uses standard size 1" 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 operational service testing without air bypass.

REFRIGERANT CIRCUIT – All units shall contain a sealed refrigerant circuit including a hermetic compressor, capillary tube metering device, finned tube air-to-refrigerant heat exchanger, refrigerant reversing valve and service ports. Compressors shall be high efficiency designed for heat pump duty and mounted on vibration isolators. Compressor motors shall be equiped with internal overload protection. Refrigerant reversing valves shall be pilot operated sliding piston type with replaceable encapsulated magnetic coil 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 450 PSIG working pressure. 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 450 PSIG.

FAN MOTOR & ASSEMBLY – The fan shall be a direct drive centrifugal 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 lockout relay. A terminal block with screw terminals will be provided for field control wiring. When the safety controls are activated to prevent compressor short cycling, the lockout circuit must be reset at the thermostat or main circuit breaker. A lockout indicating terminal shall be provided in the low voltage circuit. An optional five minute time delay control shall be provided to prevent short cycling of the compressor (delay on break). An optional ninety second low pressure bypass time delay control shall be provided to prevent nuisance lockouts during cold weather startup. Safety devices include a low pressure cutout set at 20 PSIG and a high pressure cutout control set at 380 PSIG. An optional condensate over flow safety switch shall be factory installed to stop compressor operation. 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.

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