

FHP SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE052

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
51,000	11.7	65,000	4.0	13	1700	4.5	3	3/8	14	10 x 8	310	334

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	21.2	108	5.5	3/4	32.0	50
208/230-3-60	-3	14.0	74	5.5	3/4	23.0	35
460-3-60	-4	6.5	37	2.8	3/4	11.0	15
575-3-60	-5	5.2	36	2.6	3/4	9.0	15

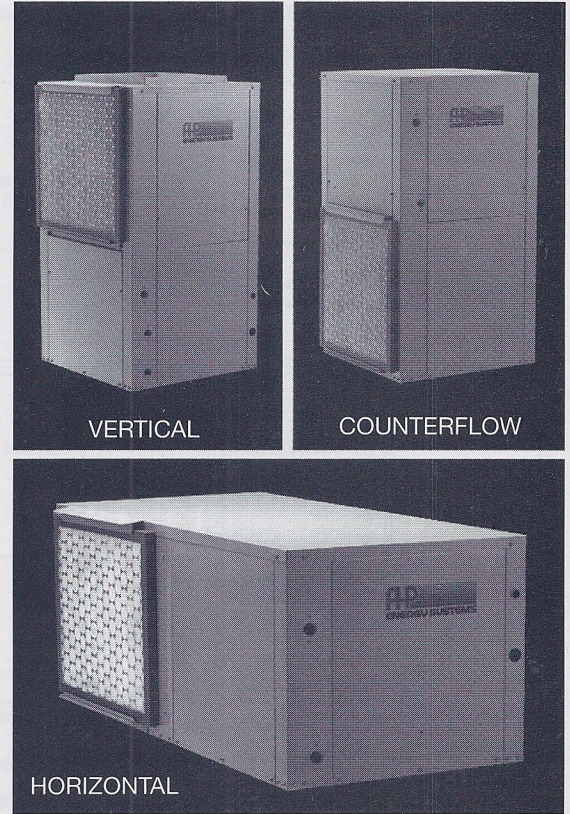
CAPACITY DATA

ARI Standard 320: 1700 SCFM, 13.0GPM/12.0' 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°	51.1	3373	62.6	42.6	51.1	-	15.1
	64°	53.5	3394	65.1	38.8	48.2	53.5	15.8
	67°	55.9	3418	67.6	33.4	43.6	53.3	16.4
	70°	59.6	3438	70.4	26.6	36.8	47.9	17.3
	73°	61.3	3462	73.1	-	30.1	41.2	17.7
65°	61°	50.0	3683	62.5	41.7	50.0	-	13.6
	64°	52.3	3706	65.0	37.2	47.2	52.3	14.1
	67°	54.7	3732	67.5	32.7	42.7	52.1	14.7
	70°	57.4	3754	70.2	26.0	36.0	46.9	15.3
	73°	60.0	3780	72.9	-	29.4	40.3	15.9
75°	61°	48.8	3993	62.4	40.7	48.8	-	12.2
	64°	51.1	4017	64.8	36.3	46.1	51.1	12.7
	67°	53.4	4046	67.3	31.9	41.7	50.9	13.2
	70°	56.0	4070	69.9	25.4	35.2	45.8	13.8
	73°	58.6	4098	72.6	-	28.7	39.3	14.3
85°	61°	46.6	4303	61.3	38.8	46.6	-	10.8
	64°	48.8	4329	63.5	34.6	44.0	48.8	11.3
	67°	51.0	4360	65.9	30.5	39.8	48.6	11.7
	70°	53.4	4386	68.4	24.3	33.6	43.7	12.2
	73°	55.9	4416	71.0	-	27.4	37.5	12.7
95°	61°	42.5	4608	58.2	35.4	42.5	-	9.2
	64°	44.5	4636	60.3	31.6	40.1	44.4	9.6
	67°	46.5	4669	62.5	27.8	36.3	44.2	10.0
	70°	48.7	4697	64.8	22.1	30.6	39.8	10.4
	73°	51.0	4730	67.1	-	25.0	34.2	10.8

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°	56.5	42.3	4161	4.0
	70°	53.3	38.8	4245	3.7
	80°	50.1	35.3	4330	3.4
70°	60°	68.9	53.0	4664	4.3
	70°	65.0	48.8	4760	4.0
	80°	61.1	44.5	4855	3.7
80°	60°	73.0	56.5	4842	4.4
	70°	68.9	53.0	4940	4.1
	80°	64.8	47.6	5039	3.8

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	GPM	P.D. (Ft. of Hd.)
8°	16.3	20.0
10°	13.0	12.0
12°	11.0	9.2
14°	9.4	6.8
16°	8.2	5.0



HE052

HIGH EFFICIENCY

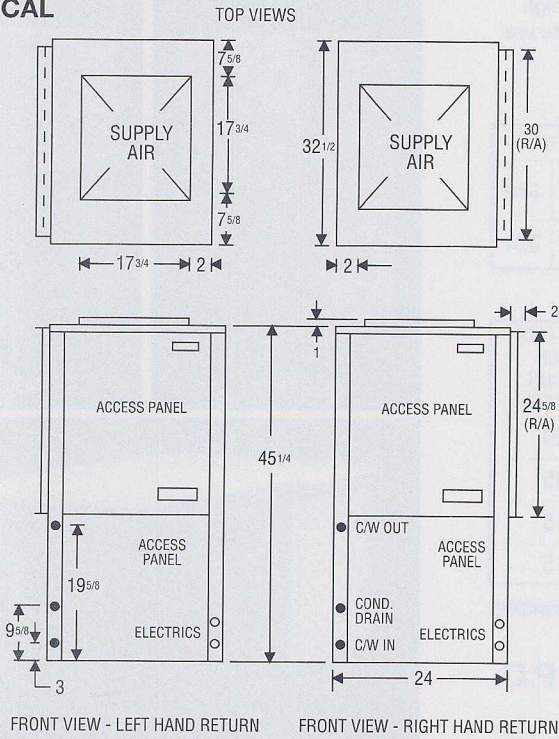
BLOWER PERFORMANCE

Note: 575 Volt models available in high speed only.
Models blower performance (CFM) x1.05

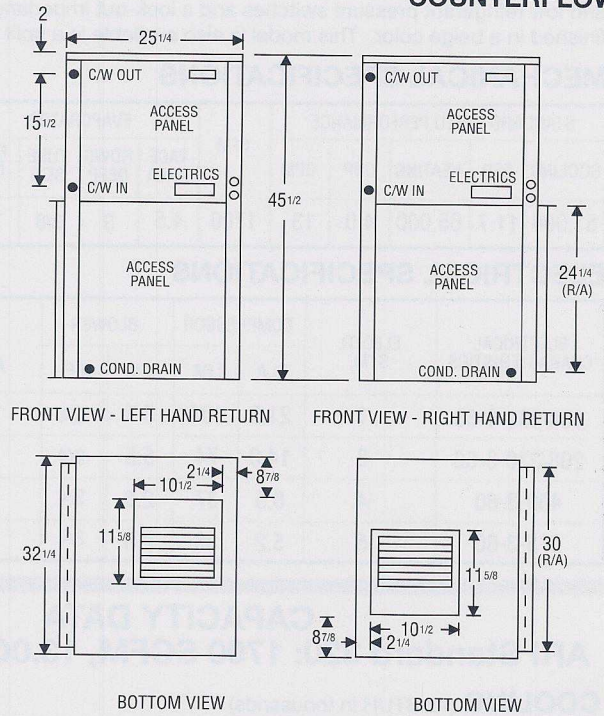
AVAILABLE EXTERNAL STATIC PRESSURE (In. H ₂ O including allowance for wet coil and filter)												
FAN SPEED	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
HIGH	1990	1960	1900	1820	1790	1750	1700	1660	1610	1550	-	-
MED.	1940	1910	1850	1770	1740	1710	1660	1620	-	-	-	-
LOW	1900	1870	1810	1730	1710	1660	-	-	-	-	-	-

PHYSICAL CHARACTERISTICS

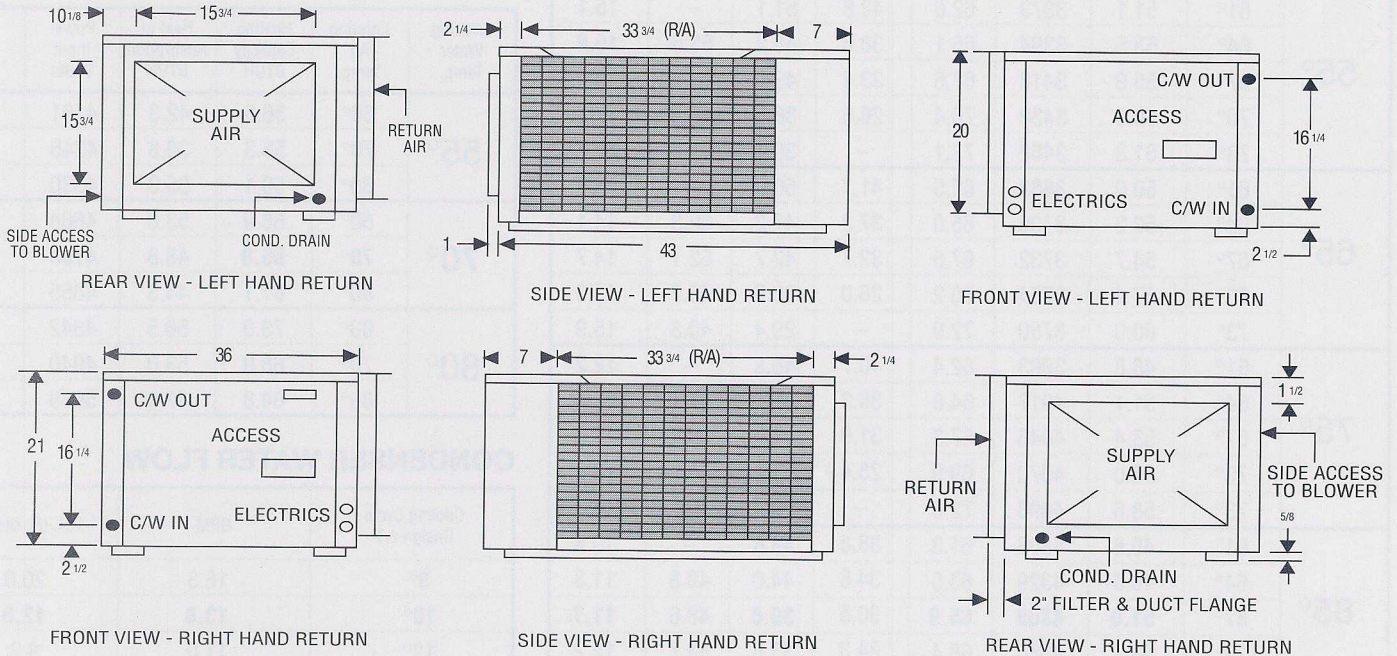
VERTICAL



COUNTERFLOW



HORIZONTAL



OPTIONAL STRAIGHT-THRU AIR CONFIGURATION AVAILABLE

CONDENSER WATER CONNECTIONS: 1" F.P.T.
CONDENSATE DRAIN CONNECTION: 3/4" F.P.T.
FILTER SIZE: VT, CF 24" X 30" X 1"; HZ 19 1/2" X 35" 1"

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



a HARROW company

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FHP SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE062

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	
60,500	11.8	82,000	4.3	15.6	2000	4.5	3	3/8	14	11 X 9	336	356	

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	27.0	135	5.5	3/4	39.3	60
208/230-3-60	-3	16.1	137	5.5	3/4	25.7	40
460-3-60	-4	9.0	69	2.8	3/4	14.1	20
575-3-60	-5	7.7	55	2.6	3/4	12.3	15

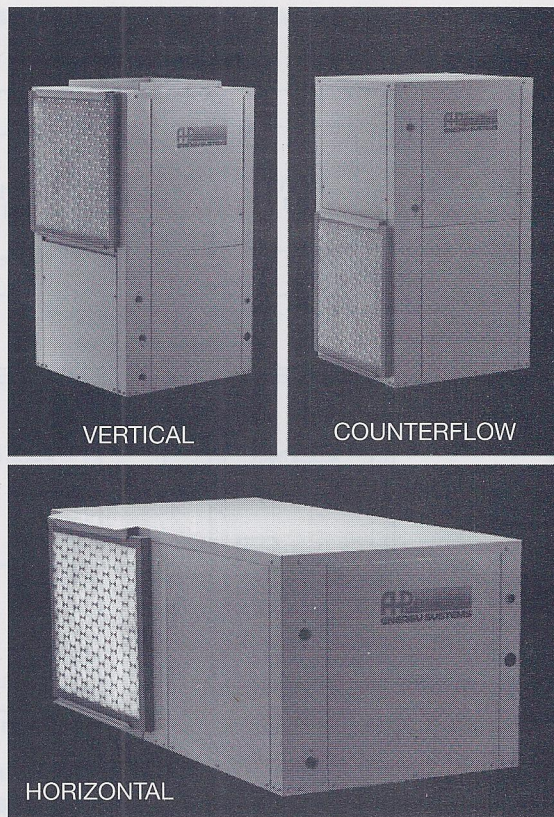
CAPACITY DATA

ARI Standard 320: 2000 SCFM, 15.6GPM/8.8' 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°	60.6	3965	74.1	50.5	60.6	—	15.3
	64°	63.4	3989	77.1	45.1	57.2	63.4	15.9
	67°	66.4	4018	80.1	39.7	51.8	63.2	16.5
	70°	69.6	4042	83.4	31.6	44.7	56.8	17.2
	73°	72.7	4070	86.6	—	35.7	48.8	17.9
65°	61°	59.3	4329	74.5	49.4	59.3	—	13.7
	64°	62.1	4356	76.9	44.1	55.9	62.1	14.2
	67°	64.9	4387	79.9	38.8	50.6	61.9	14.8
	70°	68.0	4413	83.1	30.9	42.7	55.6	15.4
	73°	71.1	4444	86.3	—	34.9	47.8	16.0
75°	61°	57.9	4694	73.9	48.3	57.9	—	12.3
	64°	60.6	4722	76.7	43.1	54.6	60.6	12.8
	67°	63.4	4756	79.6	37.9	49.4	60.4	13.3
	70°	66.4	4784	82.8	30.2	41.7	54.3	13.9
	73°	69.5	4817	85.9	—	34.1	46.6	14.4
85°	61°	55.2	5058	72.5	46.1	55.2	—	10.9
	64°	57.8	5089	75.2	41.1	52.1	57.8	11.4
	67°	60.5	5125	78.0	36.1	47.2	57.6	11.8
	70°	63.4	5155	81.0	28.8	39.8	51.8	12.3
	73°	66.3	5191	84.0	—	32.5	44.5	12.8
95°	61°	50.4	5417	68.9	42.0	50.4	—	9.3
	64°	52.7	5450	71.4	37.5	47.6	52.7	9.7
	67°	55.2	5488	73.9	33.0	43.0	52.5	10.1
	70°	57.8	5521	76.7	26.3	36.3	47.3	10.5
	73°	60.5	5560	79.5	—	29.7	40.6	10.9

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°	71.3	54.6	4886	4.3
	70°	67.2	50.2	4986	4.0
	80°	63.2	45.8	5086	3.6
70°	60°	86.3	68.2	5478	4.6
	70°	82.0	62.9	5590	4.3
	80°	77.1	57.6	5701	4.0
80°	60°	82.1	72.7	5686	4.7
	70°	86.9	67.1	5802	4.4
	80°	81.7	61.5	5918	4.0

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	GPM	P.D. (Ft. of Hd.)
8°	19.5	14.5
10°	15.6	8.8
12°	13.0	6.4
14°	11.1	4.6
16°	9.8	3.5



HE062

HIGH EFFICIENCY

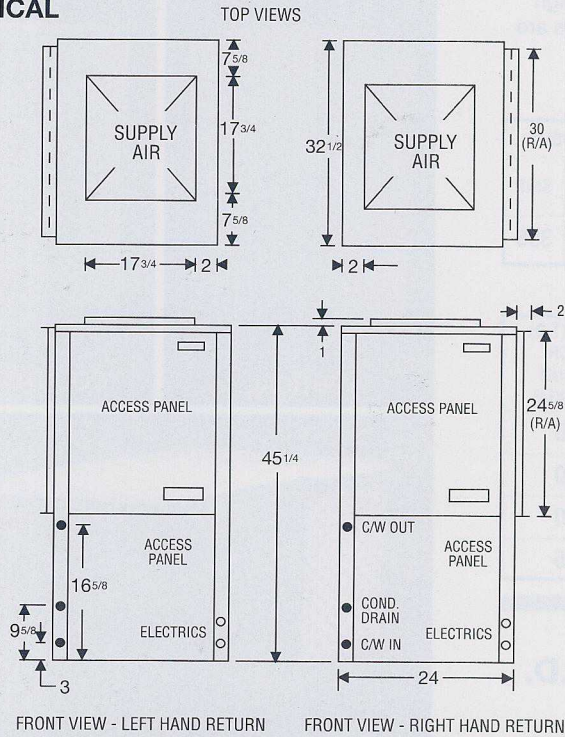
PHYSICAL CHARACTERISTICS

BLOWER PERFORMANCE

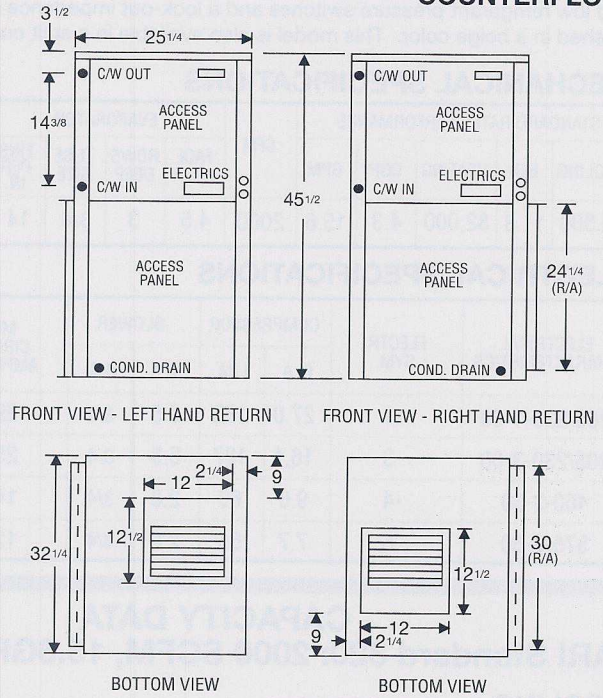
Note: 575 Volt models available in high speed only.
Models blower performance (CFM) x1.05

AVAILABLE EXTERNAL STATIC PRESSURE (In. H ₂ O 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	2160	2090	2030	1960	1870	1800	1730	1680	1640	1600	1550	1500
MED.	2110	2040	1990	1910	1820	1760	1690	1630	1600	-	-	-
LOW	2060	1990	1950	1860	1760	1710	1640	-	-	-	-	-

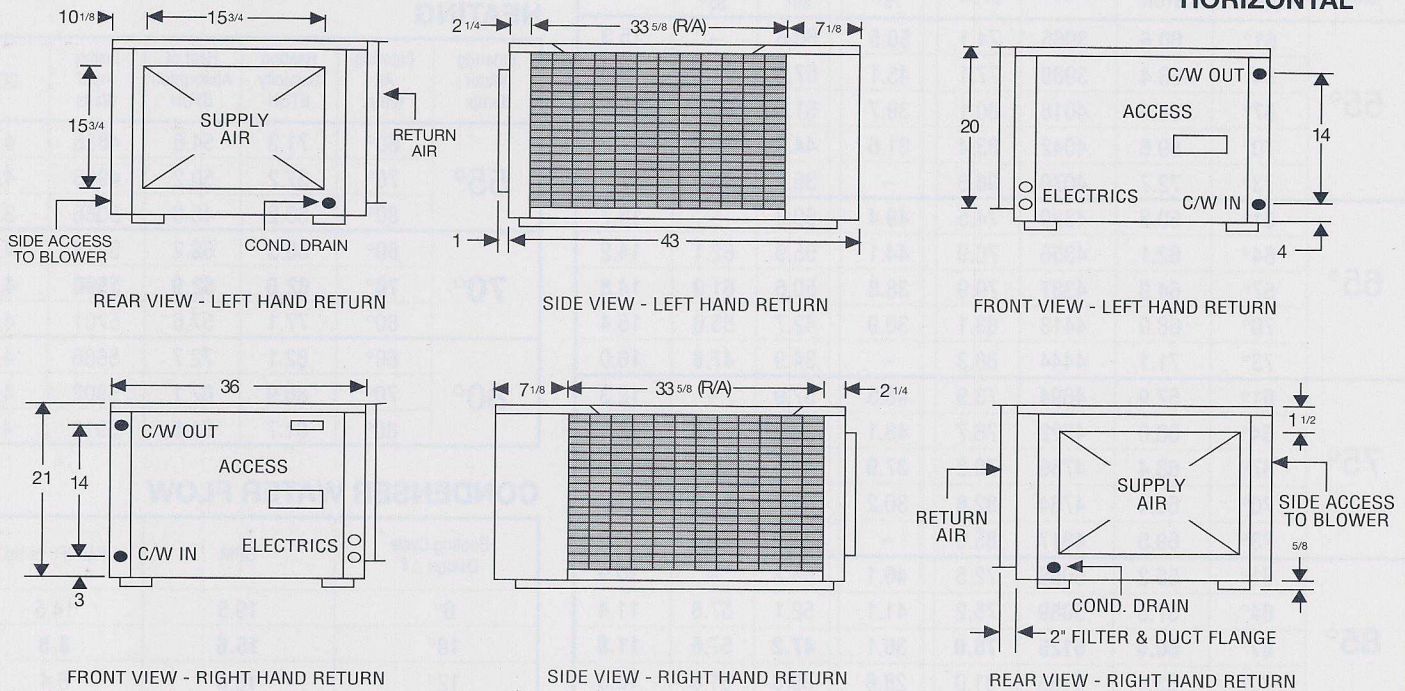
VERTICAL



COUNTERFLOW



HORIZONTAL



OPTIONAL STRAIGHT-THRU AIR CONFIGURATION AVAILABLE

CONDENSER WATER CONNECTIONS: 1" F.P.T.
CONDENSATE DRAIN CONNECTION: 3/4" F.P.T.
FILTER SIZE: VT, CF 24" X 30" X 1" ; HZ 19 1/2" X 35" 1"

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



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SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE070

HIGH EFFICIENCY

Dual circuits feature 2-stage operation. Complete package includes 2 each compressors, reversing valves, capillary tube metering devices and water-to-refrigerant condensers. Contains safety controls: overload motor protection, high and low refrigerant pressure switches and a lock-out impedance relay. Beige.

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
70,000	11.8	94,000	4.5	18.2	2300	7.0	2	%	14	12 x 12	495	540

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR EACH		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	15.4	81.0	7.5	1.0	42.2	50
208/230-3-60	-3	10.3	70.0	3.6	1.0	26.8	35
460-3-60	-4	5.2	30.0	1.8	1.0	13.5	15
-	-	-	-	-	-	-	-

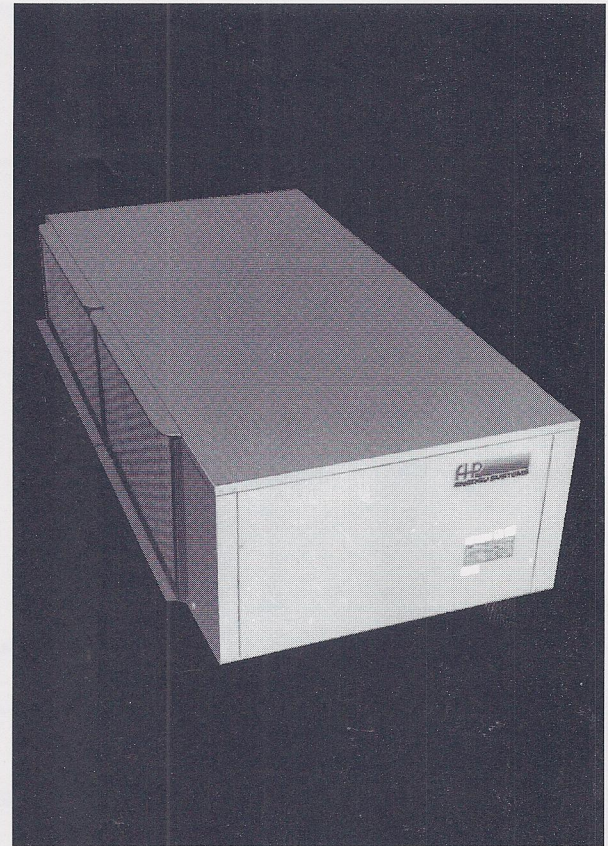
CAPACITY DATA

ARI Standard 320: 2300 SCFM, 18.2GPM/14.3' 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°	70.1	4572	85.7	58.4	70.1	-	15.3
	64°	73.4	4600	89.1	52.1	66.1	73.4	16.0
	67°	76.7	4632	92.6	45.8	59.8	75.1	16.6
	70°	80.4	4660	96.3	36.5	50.5	65.7	17.3
	73°	84.1	4692	100.1	-	41.2	56.4	17.9
65°	61°	68.5	4992	85.6	57.1	68.5	-	13.7
	64°	71.8	5022	88.9	51.0	64.7	71.8	14.3
	67°	75.1	5058	92.3	44.8	58.5	73.4	14.8
	70°	78.7	5088	96.0	35.7	49.4	64.3	15.5
	73°	82.3	5123	99.8	-	40.3	55.2	16.1
75°	61°	66.9	5412	85.4	55.8	66.9	-	12.4
	64°	70.1	5445	88.7	49.8	63.2	70.1	12.9
	67°	73.3	5483	92.0	43.8	57.2	71.7	13.4
	70°	76.8	5516	95.7	34.9	48.2	62.8	13.9
	73°	80.4	5554	99.3	-	39.4	53.9	14.5
85°	61°	63.9	5832	83.8	53.2	63.9	-	11.0
	64°	66.9	5867	86.9	47.5	60.3	66.9	11.4
	67°	70.0	5909	90.1	41.8	54.6	68.4	11.8
	70°	73.3	5944	93.6	33.3	46.0	59.9	12.3
	73°	76.7	5985	97.1	-	37.6	51.4	12.8
95°	61°	58.2	6246	79.6	48.6	58.2	-	9.3
	64°	61.0	6284	82.4	43.3	55.0	61.0	9.7
	67°	63.8	6328	85.4	38.1	49.7	62.4	10.1
	70°	66.9	6366	88.6	30.3	42.0	54.6	10.5
	73°	69.9	6410	91.8	-	34.3	46.9	10.9

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°	81.7	63.3	5387	4.4
	70°	77.0	58.3	5497	4.1
	80°	72.4	53.3	5607	3.8
70°	60°	99.6	79.0	6039	4.8
	70°	94.0	72.9	6163	4.5
	80°	88.3	66.9	6286	4.1
80°	60°	105.6	84.2	6269	4.9
	70°	99.6	77.8	6397	4.6
	80°	93.6	71.3	6525	4.2

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	GPM	P.D. (Ft. of Hd.)
8°	22.5	21.0
10°	18.2	14.3
12°	15.0	10.1
14°	12.9	7.8
16°	11.3	6.0



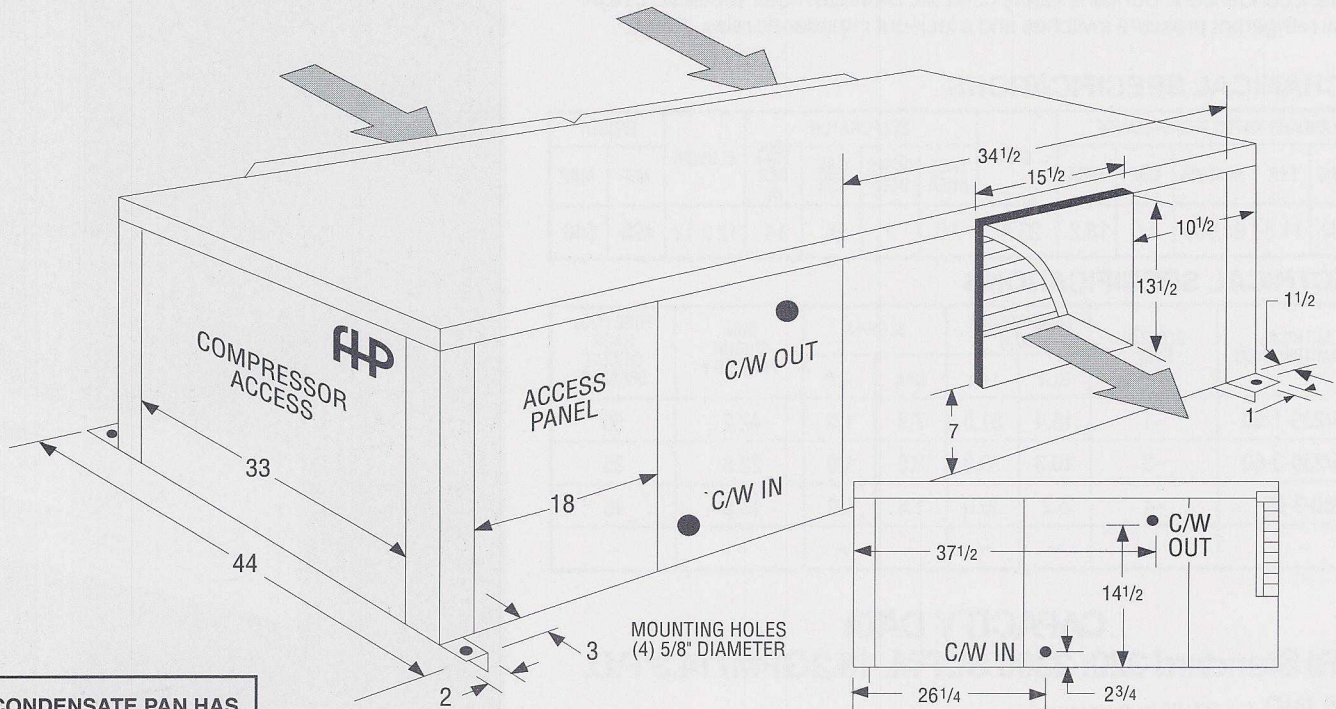
HE070

HIGH EFFICIENCY

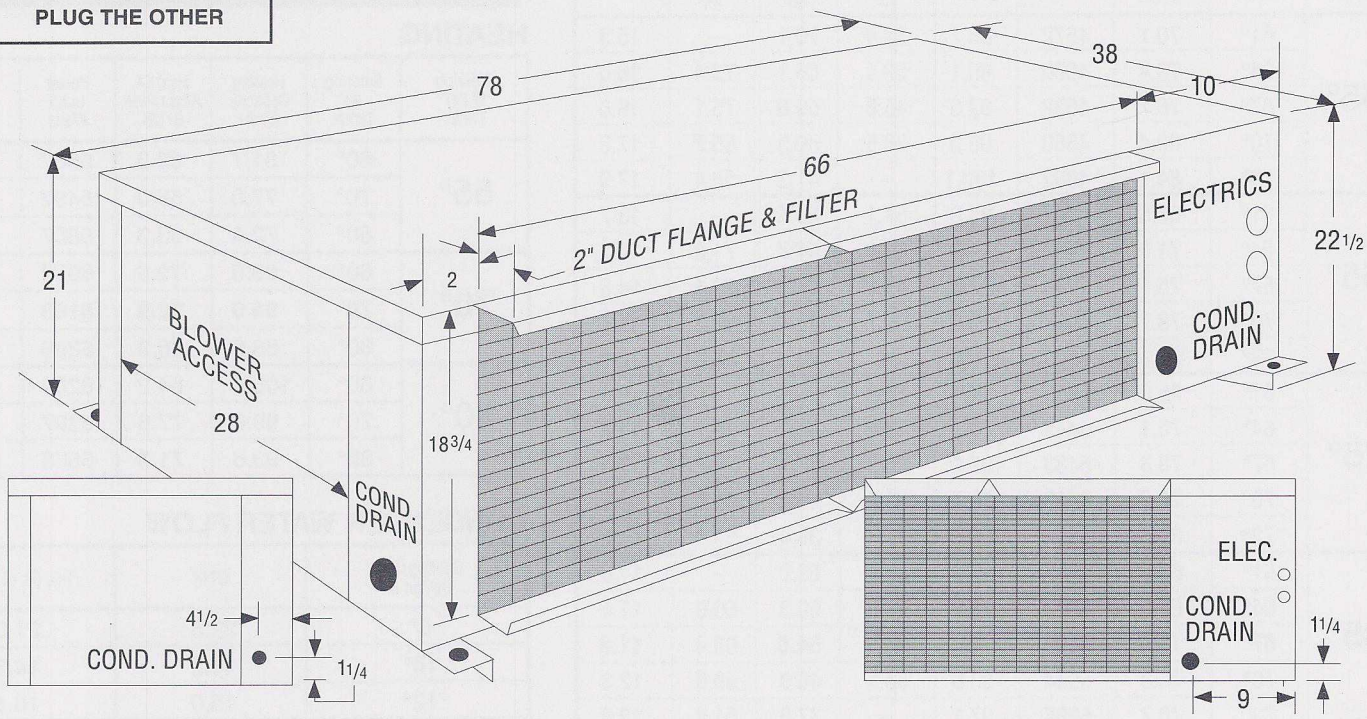
PHYSICAL CHARACTERISTICS

BLOWER PERFORMANCE Ratings are with standard motor pulley drives

AVAILABLE EXTERNAL STATIC PRESSURE (In. H ₂ O including allowance for wet coil and filter)												
MOTOR PULLEY	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
CLOSED	-	-	-	3250	3080	2900	2680	2420	2160	1900	1640	1380
1/2 OPEN	-	-	2800	2610	2400	2100	1800	-	-	-	-	-
OPEN	2590	2350	2050	1780	-	-	-	-	-	-	-	-



CONDENSATE PAN HAS (2) DRAIN CONNECTIONS. USE ONE AT LOW END OF UNIT PLUG THE OTHER



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CONDENSER WATER CONNECTIONS: 1.0" F.P.T.
CONDENSATE DRAIN CONNECTION: 0.75" F.P.T.
FILTER SIZE: HZ 19" X 35" X 1" QTY. (2)

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SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE072

HIGH EFFICIENCY

Dual circuits feature 2-stage operation. Complete package includes 2 each compressors, reversing valves, capillary tube metering devices and water-to-refrigerant condensers. Contains safety controls: overload motor protection, high and low refrigerant pressure switches and a lock-out impedance relay. Beige.

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
72,000	13.0	93,000	4.5	18.2	2,300	7.0	2	3/8	14	12 x 12	590	635

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR, EACH		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	15.4	81.0	7.5	1.0	42.2	50
208/230-3-60	-3	10.3	70.0	3.6	1.0	26.8	35
460-3-60	-4	5.2	30.0	1.8	1.0	13.5	15
-	-	-	-	-	-	-	-

CAPACITY DATA

ARI Standard 320: 2300 SCFM, 18.2GPM/14.0' 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°	72.1	4296	86.7	60.1	72.1	-	16.8
	64°	75.5	4322	90.2	53.6	68.0	75.5	17.5
	67°	78.9	4353	93.8	47.1	61.6	77.2	18.1
	70°	82.7	4379	97.7	37.5	51.9	67.6	18.9
	73°	86.5	4409	101.6	-	42.4	58.0	19.6
65°	61°	70.5	4690	86.5	58.8	72.9	-	15.0
	64°	73.8	4719	89.9	52.4	66.5	73.8	15.7
	67°	77.2	4752	93.4	46.1	60.2	75.5	16.3
	70°	80.9	4781	97.2	36.7	50.8	66.1	16.9
	73°	84.6	4814	101.1	-	41.5	56.8	17.6
75°	61°	68.8	5085	86.2	57.4	68.8	-	13.5
	64°	72.1	5116	89.5	51.2	65.0	72.1	14.1
	67°	75.4	5152	93.0	45.0	58.8	73.8	14.6
	70°	79.0	5183	96.7	35.9	49.6	64.6	15.3
	73°	82.7	5219	100.5	-	40.5	55.5	15.8
85°	61°	65.7	5480	84.4	54.8	65.7	-	12.0
	64°	68.8	5513	87.6	48.9	62.0	68.8	12.5
	67°	72.0	5552	90.9	43.0	56.1	70.4	13.0
	70°	75.4	5585	94.5	34.2	47.3	61.6	13.5
	73°	78.9	5624	98.1	-	38.6	52.9	14.0
95°	61°	59.9	5869	79.9	49.9	59.9	-	10.2
	64°	62.7	5904	82.9	44.6	56.5	62.7	10.6
	67°	65.6	5946	85.9	39.2	51.2	64.2	11.0
	70°	68.8	5982	89.2	31.2	43.2	56.2	11.5
	73°	71.9	6023	92.5	-	35.2	48.2	11.9



HEATING

Entering Water Temp.	Dry Bulb	Heating Capacity BTUH	Heat Of Absorption BTUH	Power Input Watts	COP
55°	60°	80.8	62.7	5306	4.5
	70°	76.2	57.7	5414	4.1
	80°	71.6	52.8	5522	3.8
70°	60°	98.5	78.2	5949	4.9
	70°	93.0	72.2	6070	4.5
	80°	87.4	66.2	6191	4.1
80°	60°	104.4	83.4	6175	5.0
	70°	98.5	77.0	6301	4.6
	80°	92.6	70.7	6427	4.2

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	Water Flow GPM	Pressure Drop (Ft. of Hd.)
8°	22.7	20.8
10°	18.2	14.0
12°	15.2	9.9
14°	13.0	7.5
16°	11.4	5.9

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.



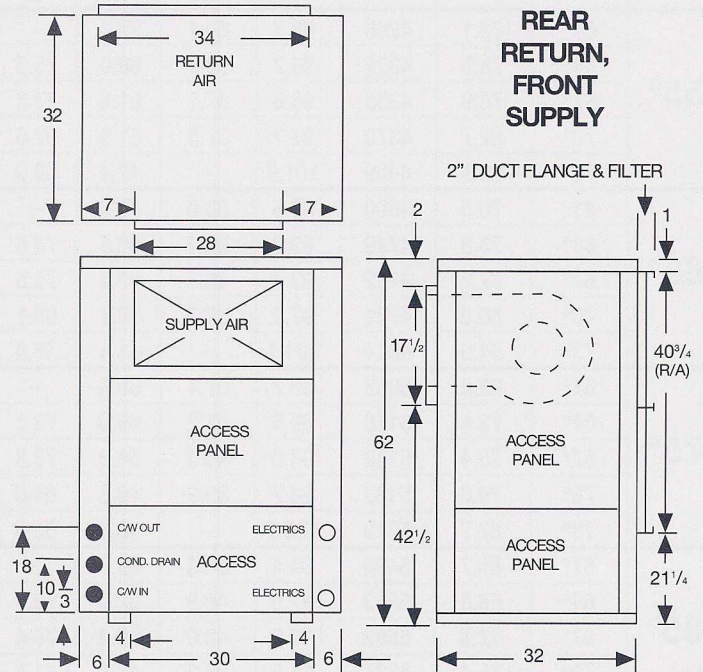
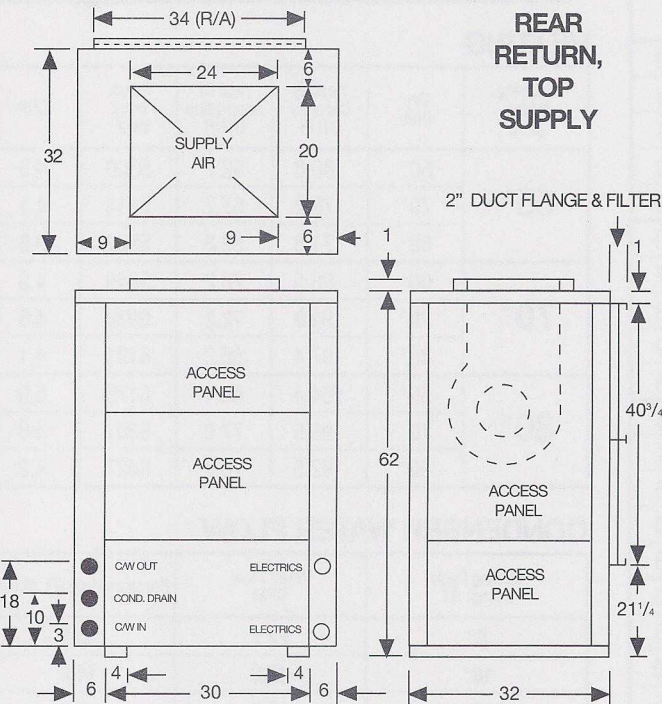
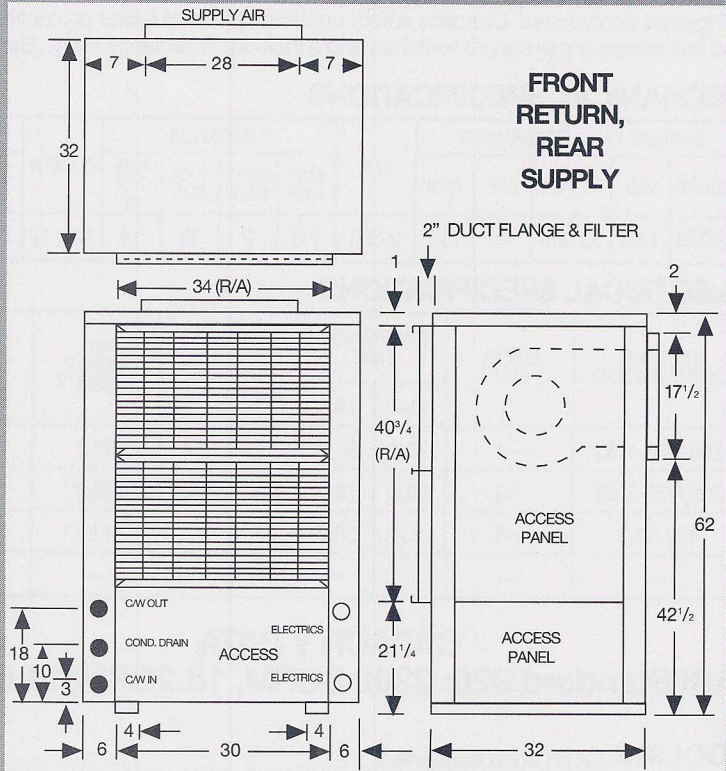
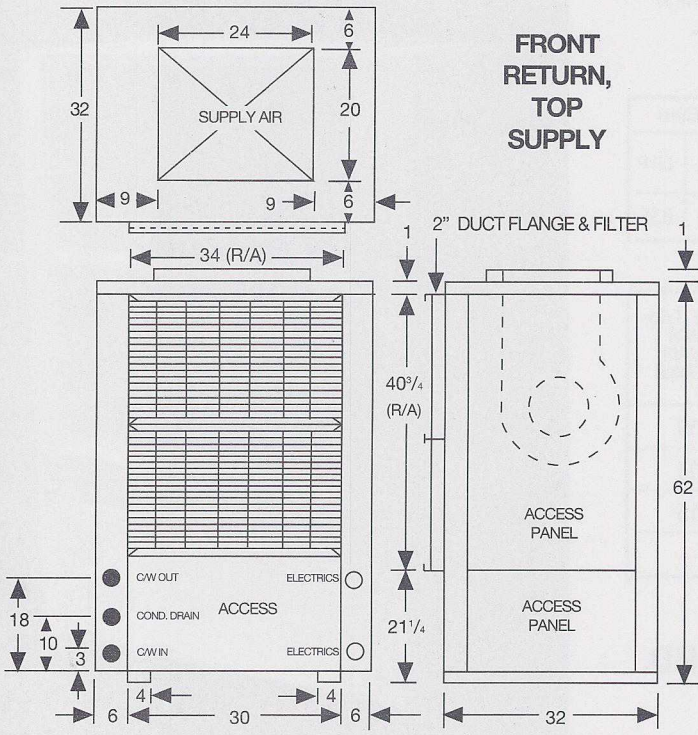
HE072

HIGH EFFICIENCY

PHYSICAL CHARACTERISTICS

BLOWER PERFORMANCE Ratings are with standard motor pulley drives

AVAILABLE EXTERNAL STATIC PRESSURE (In. H ₂ O including allowance for wet coil and filter)												
MOTOR PULLEY	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
CLOSED	-	-	-	-	3250	3080	2900	2680	2420	2160	1900	1700
1/2 OPEN	-	-	-	2800	2610	2400	2100	1800	-	-	-	-
OPEN	2780	2590	2350	2050	1780	-	-	-	-	-	-	-



FHP MANUFACTURING

601 N.W. 65th COURT
FT. LAUDERDALE, FL 33309
PHONE: (305) 776-5471
FAX: 776-5529

CONDENSER WATER CONNECTIONS: 1.0" F.P.T.
CONDENSATE DRAIN CONNECTION: .75" F.P.T.
FILTER SIZES: VT, 19" X 35" X 1" QTY: (2)

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 9/94



SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE084

HIGH EFFICIENCY

Dual circuits feature 2-stage operation. Complete package includes 2 each compressors, reversing valves, capillary tube metering devices and water-to-refrigerant condensers. Contains safety controls: overload motor protection, high and low refrigerant pressure switches and a lock-out impedance relay. Beige.

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
84,000	11.2	112,000	4.4	21.9	2800	7.0	3	3/8"	14	12 x 12	505	550

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR EACH		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	17.6	88.0	8.2	1.5	47.8	60
208/230-3-60	-3	11.6	65.1	5.2	1.5	31.3	40
460-3-60	-4	5.1	32.8	2.6	1.5	14.1	15
575-3-60	-5	5.2	36.0	2.0	1.5	13.7	15

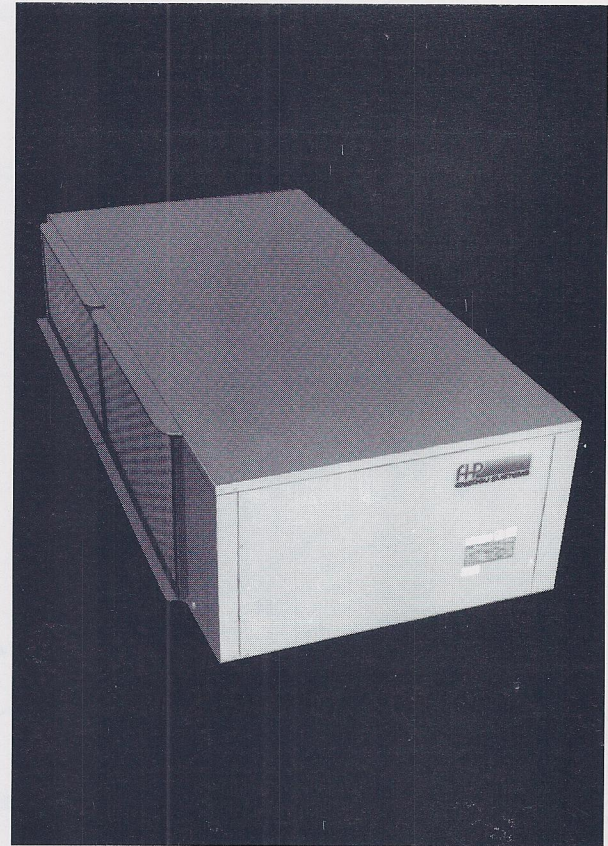
CAPACITY DATA

ARI Standard 320: 2800 SCFM, 21.9GPM/24.0' 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°	84.1	5807	103.9	70.1	84.1	-	14.5
	64°	88.0	5842	108.0	62.6	79.4	88.0	15.1
	67°	92.1	5883	112.2	55.0	71.8	90.1	15.7
	70°	96.5	5919	116.7	43.8	60.6	78.9	16.3
	73°	100.9	5960	121.3	-	49.5	67.7	16.9
65°	61°	82.2	6340	103.9	68.6	82.2	-	13.0
	64°	86.1	6379	107.9	61.2	77.6	86.1	13.5
	67°	90.1	6424	112.0	53.8	70.3	88.1	14.0
	70°	94.4	6462	116.5	42.8	59.3	77.1	14.6
	73°	98.7	6507	120.9	-	48.4	66.2	15.2
75°	61°	80.3	6874	103.8	67.0	80.3	-	11.7
	64°	84.1	6915	107.7	59.8	75.8	84.1	12.2
	67°	88.0	6964	111.8	52.5	68.6	86.1	12.6
	70°	92.2	7006	116.1	41.8	57.9	75.3	13.2
	73°	96.4	7055	120.5	-	47.3	64.7	13.7
85°	61°	76.6	7407	101.9	63.9	76.6	-	10.4
	64°	80.3	7452	105.7	57.0	72.3	80.3	10.8
	67°	84.0	7505	109.6	50.1	65.5	82.1	11.2
	70°	88.0	7550	113.8	39.9	55.2	71.9	11.7
	73°	92.0	7602	118.0	-	45.1	61.7	12.1
95°	61°	69.9	7933	97.0	58.3	69.9	-	8.8
	64°	73.2	7981	100.4	52.0	66.0	73.2	9.2
	67°	76.6	8037	104.0	45.7	59.7	74.9	9.5
	70°	80.2	8086	107.8	36.4	50.4	65.6	9.9
	73°	83.9	8142	111.7	-	41.1	56.3	10.3

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°	97.3	75.0	6519	4.4
	70°	91.8	69.1	6652	4.0
	80°	86.3	63.1	6785	3.7
70°	60°	118.7	93.7	7308	4.8
	70°	112.0	86.5	7458	4.4
	80°	105.2	79.3	7607	4.1
80°	60°	125.8	99.9	7586	4.9
	70°	118.7	92.2	7741	4.5
	80°	111.5	84.6	7896	4.1

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	GPM	P.D. (Ft. of Hd.)
8°	27.4	37.5
10°	21.9	24.0
12°	18.3	16.5
14°	15.7	12.5
16°	13.7	10.5



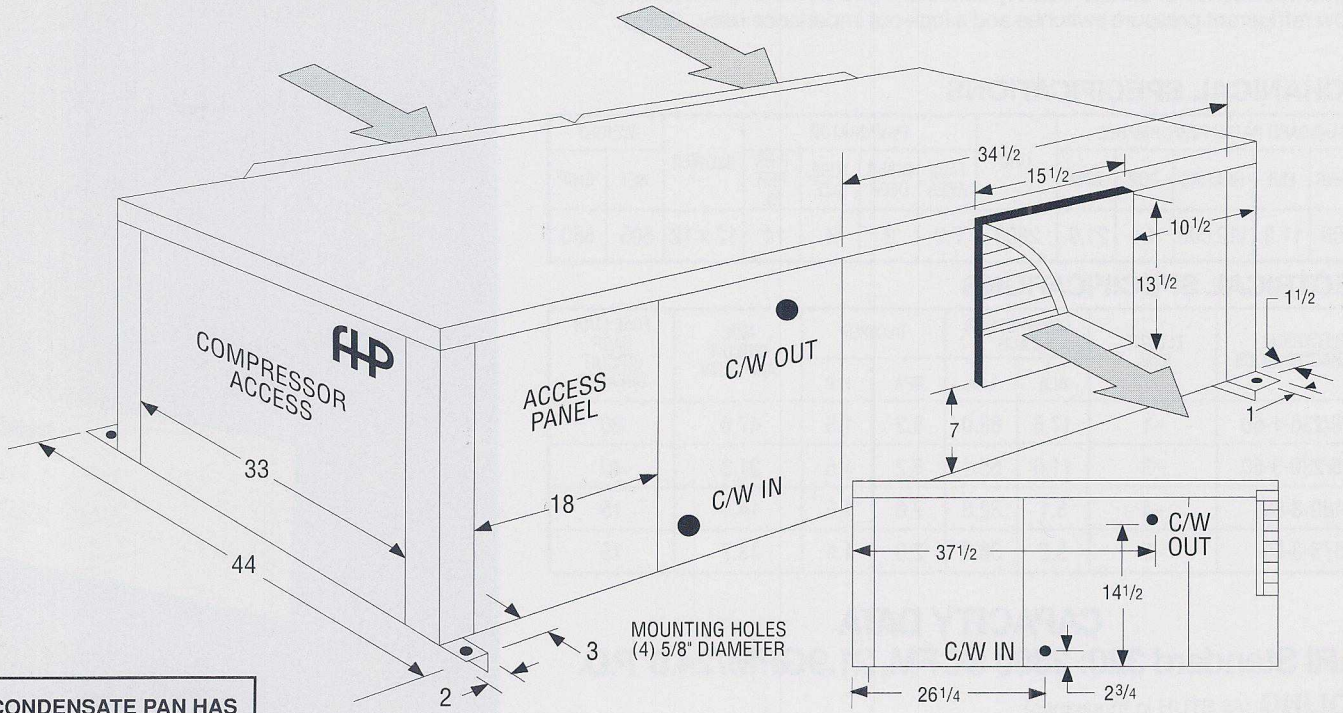
HE084

HIGH EFFICIENCY

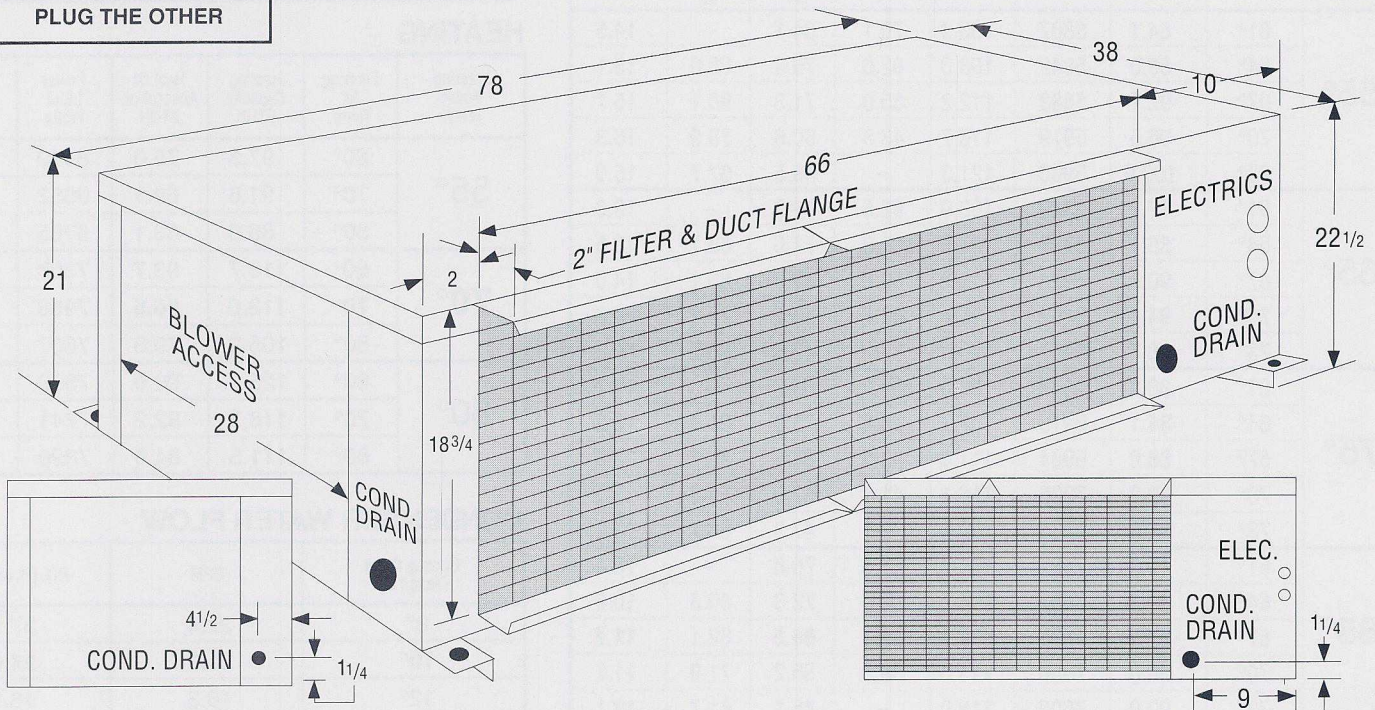
PHYSICAL CHARACTERISTICS

BLOWER PERFORMANCE Ratings are with standard motor pulley drives

AVAILABLE EXTERNAL STATIC PRESSURE (in H ₂ O including allowance for wet coil and filter)												
MOTOR PULLEY	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
CLOSED	-	-	-	-	-	-	3275	3155	3015	2880	2745	2610
½ OPEN	3610	3480	3340	3230	3075	2880	2690	2555	2355	-	-	-
OPEN	2965	2835	2615	2460	2275	-	-	-	-	-	-	-



CONDENSATE PAN HAS (2) DRAIN CONNECTIONS. USE ONE AT LOW END OF UNIT. PLUG THE OTHER.



a HARROW company

FHP MANUFACTURING
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 FT. LAUDERDALE, FL 33309
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 FAX: (305) 776-5529

CONDENSER WATER CONNECTIONS: 1.0" F.P.T.
 CONDENSATE DRAIN CONNECTION: 0.75" F.P.T.
 FILTER SIZE: HZ 17.5" X 30" X 1" QTY. (2)

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 11/93



SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE094

HIGH EFFICIENCY

Dual circuits feature 2-stage operation. Complete package includes 2 each compressors, reversing valves, capillary tube metering devices and water-to-refrigerant condensers. Contains safety controls: overload motor protection, high and low refrigerant pressure switches and a lock-out impedance relay. Beige.

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
94,000	12.9	122,000	4.6	23.8	2,800	7.0	3	3/8	14	12 x 12	660	710

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR, EACH		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	21.8	105.0	8.2	1.5	57.3	70
208/230-3-60	-3	14.1	130.0	5.2	1.5	37.0	50
460-3-60	-4	7.1	64.0	2.6	1.5	18.6	25
575-3-60	-5	5.8	52.0	2.0	1.5	15.1	20

CAPACITY DATA

ARI Standard 320: 2800 SCFM, 23.8GPM/10.1' 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°	94.1	5623	113.3	78.5	94.1	-	16.7
	64°	98.5	5657	117.8	70.0	88.8	98.5	17.4
	67°	103.1	5697	122.5	61.6	80.4	100.8	18.1
	70°	108.0	5731	127.6	49.0	67.8	88.3	18.9
	73°	113.0	5771	132.7	-	55.4	75.8	19.6
65°	61°	92.0	6139	113.0	76.7	92.0	-	15.0
	64°	96.4	6177	117.5	68.5	96.9	96.4	15.6
	67°	100.8	6220	122.0	60.2	78.6	98.6	16.2
	70°	105.7	6257	127.0	47.9	66.3	86.3	16.9
	73°	110.5	6301	132.0	-	54.2	74.1	17.5
75°	61°	89.9	6656	112.6	74.9	89.9	-	13.5
	64°	94.1	6696	117.0	66.9	84.9	94.1	14.1
	67°	98.5	6743	121.5	58.8	76.8	96.3	14.6
	70°	103.2	6784	126.3	46.8	64.8	84.3	15.2
	73°	107.9	6831	131.2	-	52.9	72.4	15.8
85°	61°	85.8	7172	110.3	71.5	85.8	-	12.0
	64°	89.8	7216	114.4	63.8	81.0	89.8	12.5
	67°	94.0	7267	118.8	56.1	73.3	91.9	12.9
	70°	98.5	7310	123.4	44.7	61.8	80.5	13.5
	73°	103.0	7361	128.1	-	50.5	69.1	14.0
95°	61°	78.2	7681	104.4	65.2	78.2	-	10.2
	64°	81.9	7728	108.3	58.2	73.8	81.9	10.6
	67°	85.7	7782	112.2	51.2	66.8	83.8	11.0
	70°	89.8	7829	116.5	40.7	56.4	73.4	11.5
	73°	93.9	7884	120.8	-	46.0	63.0	11.9

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.



HEATING

Entering Water Temp.	Dry Bulb	Heating Capacity BTUH	Heat Of Absorption BTUH	Power Input Watts	COP
55°	60°	106.0	82.8	6792	4.6
	70°	100.0	76.3	6930	4.2
	80°	94.0	69.9	7069	3.9
70°	60°	129.3	103.3	7614	5.0
	70°	122.0	95.4	7770	4.6
	80°	114.6	87.6	7925	4.2
80°	60°	137.0	110.1	7903	5.1
	70°	129.3	101.7	8065	4.7
	80°	121.5	93.4	8226	4.3

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	Water Flow GPM	Pressure Drop (Ft. of Hd.)
8°	29.7	17.1
10°	23.8	10.1
12°	19.8	7.7
14°	17.0	5.9
16°	14.9	4.7



HE094

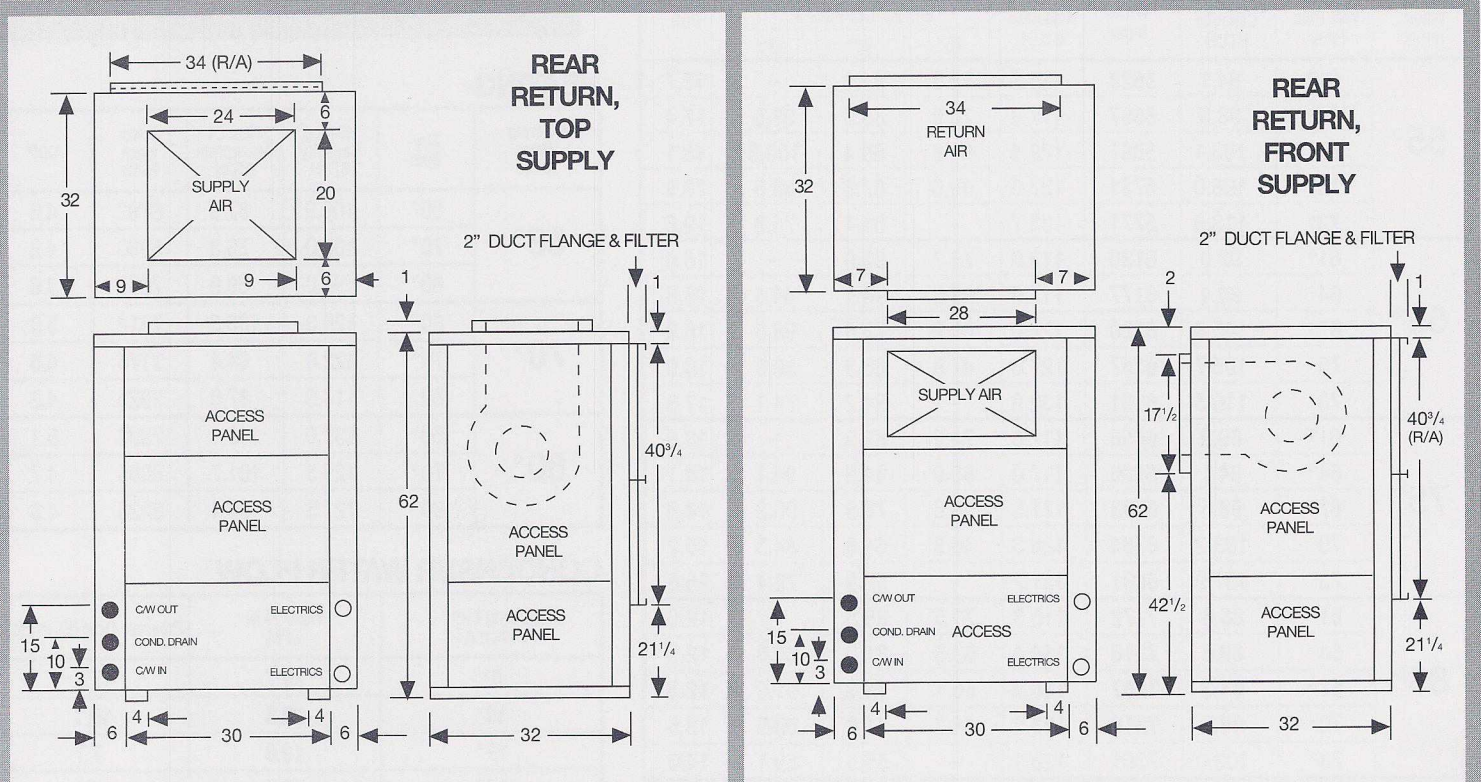
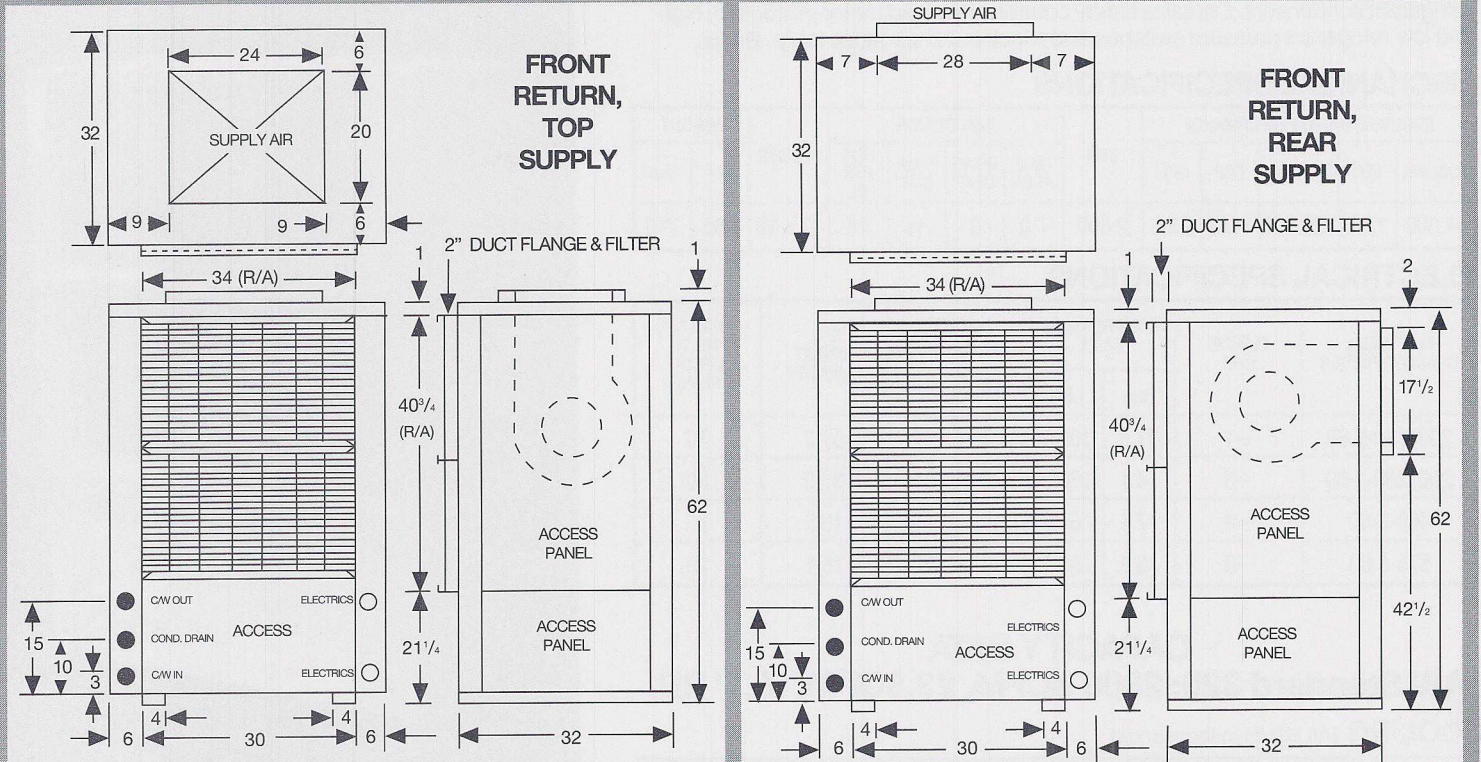
HIGH EFFICIENCY

BLOWER PERFORMANCE Ratings are with standard motor pulley drives

AVAILABLE EXTERNAL STATIC PRESSURE (In. H₂O including allowance for wet coil and filter)

MOTOR PULLEY	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
CLOSED	-	-	-	-	-	-	-	-	3275	3155	3015	2880
1/2 OPEN	3745	3610	3480	3340	3230	3075	2880	2690	2555	2355	-	-
OPEN	3110	2965	2835	2615	2460	2275	-	-	-	-	-	-

PHYSICAL CHARACTERISTICS



FHP MANUFACTURING
 601 N.W. 65th COURT
 FT. LAUDERDALE, FL 33309
 PHONE: (305) 776-5471
 FAX: 776-5529

CONDENSER WATER CONNECTIONS: 1.0" F.P.T.
 CONDENSATE DRAIN CONNECTION: .75" F.P.T.
 FILTER SIZES: VT, 19" X 35" X 1" QTY: (2)

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 9/94



SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE095

HIGH EFFICIENCY

Dual circuits feature 2-stage operation. Complete package includes 2 each compressors, reversing valves, capillary tube metering devices and water-to-refrigerant condensers. Contains safety controls: overload motor protection, high and low refrigerant pressure switches and a lock-out impedance relay. Beige.

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
95,000	10.5	125,000	4.0	25.2	3500	9.03	3	3/8"	14	12 x 12	555	575

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR EACH		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	21.2	108.0	12.3	2.0	60.0	80
208/230-3-60	-3	14.7	74.0	6.4	2.0	36.7	50
460-3-60	-4	6.2	37.0	3.2	2.0	17.4	20
575-3-60	-5	5.2	36.0	2.5	2.0	14.0	15

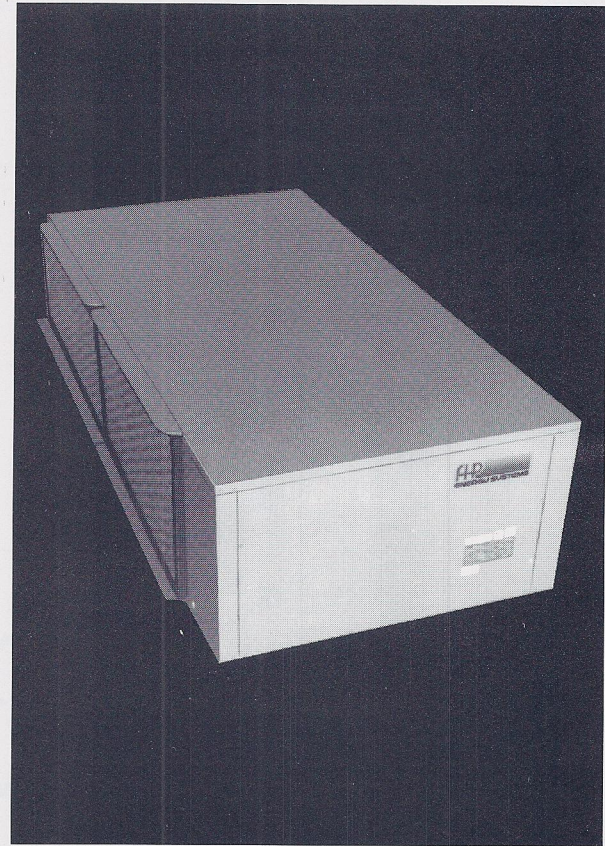
CAPACITY DATA

ARI Standard 320: 3500 SCFM, 25.2GPM/18.0' 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°	95.1	7002	119.0	79.3	95.1	-	13.6
	64°	99.6	7045	123.6	70.8	89.8	99.6	14.1
	67°	104.2	7095	128.4	62.2	81.2	101.9	14.7
	70°	109.2	7137	133.5	49.5	68.6	89.2	15.3
	73°	114.2	7187	138.7	-	56.0	76.6	15.9
65°	61°	93.0	7646	119.1	77.6	93.0	-	12.2
	64°	97.4	7692	123.7	69.2	87.8	97.4	12.7
	67°	101.9	7746	128.3	60.9	79.5	99.7	13.2
	70°	106.8	7793	133.4	48.5	67.1	87.3	13.7
	73°	111.7	7847	138.5	-	54.7	74.9	14.2
75°	61°	90.8	8289	119.1	75.7	90.8	-	11.0
	64°	95.1	8339	123.6	67.6	85.8	95.1	11.4
	67°	99.5	8398	128.2	59.4	77.6	97.3	11.9
	70°	104.3	8448	133.1	47.3	65.5	85.2	12.4
	73°	109.1	8507	138.1	-	53.5	73.2	12.8
85°	61°	86.7	8932	117.2	72.3	86.7	-	9.7
	64°	90.8	8986	121.4	64.5	81.8	90.8	10.1
	67°	95.0	9050	125.8	56.7	74.1	92.9	10.5
	70°	99.5	9104	10.6	45.2	62.5	81.3	10.9
	73°	104.1	9167	135.4	-	51.0	69.8	11.4
95°	61°	79.1	9566	111.7	65.9	79.1	-	8.3
	64°	82.8	9624	115.6	58.8	74.6	82.8	8.6
	67°	86.6	9692	119.7	51.7	69.5	84.7	8.9
	70°	90.7	9750	124.0	41.2	57.0	74.2	9.3
	73°	94.9	9818	128.4	-	46.5	63.7	9.7

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°	108.6	81.3	8002	4.0
	70°	102.5	74.6	8166	3.7
	80°	96.3	67.9	8329	3.4
70°	60°	132.5	101.8	8971	4.3
	70°	125.0	93.7	9155	4.0
	80°	117.5	85.6	9338	3.7
80°	60°	140.4	108.6	9312	4.4
	70°	132.5	100.0	9502	4.1
	80°	124.5	91.4	9692	3.8

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	GPM	P.D. (Ft. of Hd.)
8°	31.6	26.3
10°	25.2	18.0
12°	21.3	13.6
14°	18.2	10.7
16°	15.9	8.7



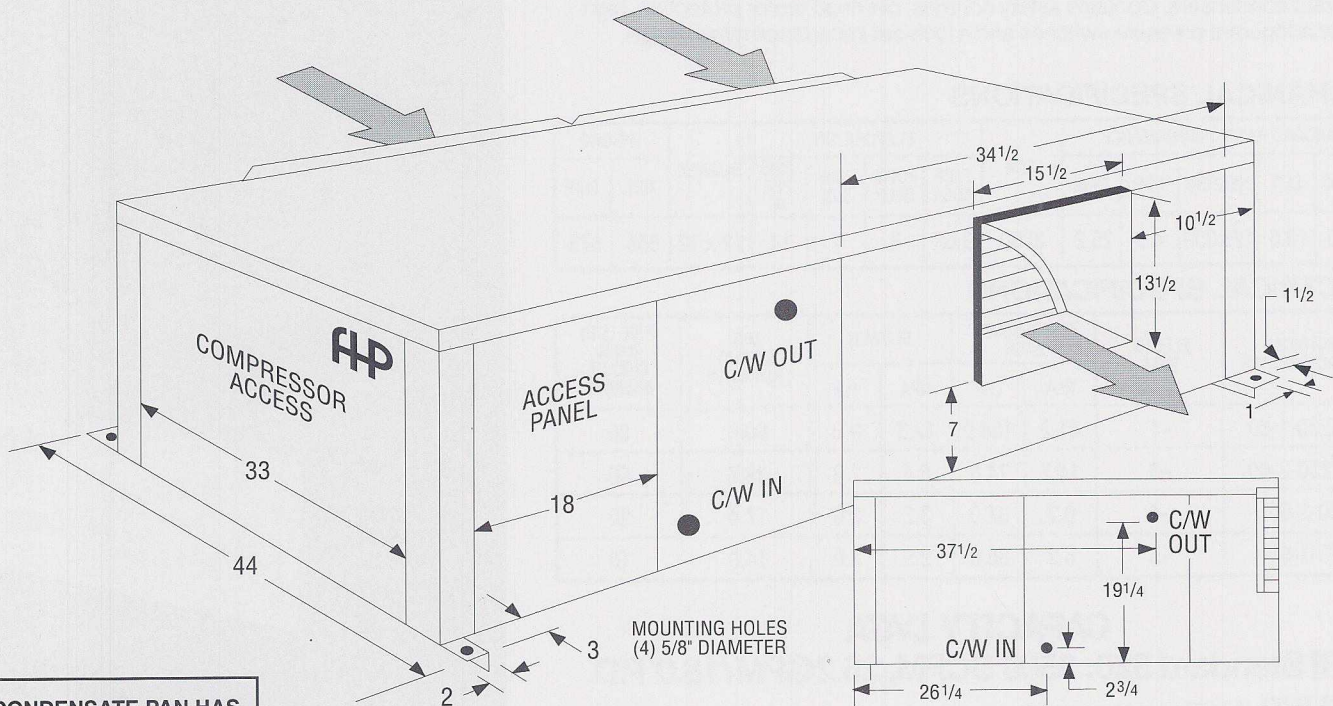
HE095

HIGH EFFICIENCY

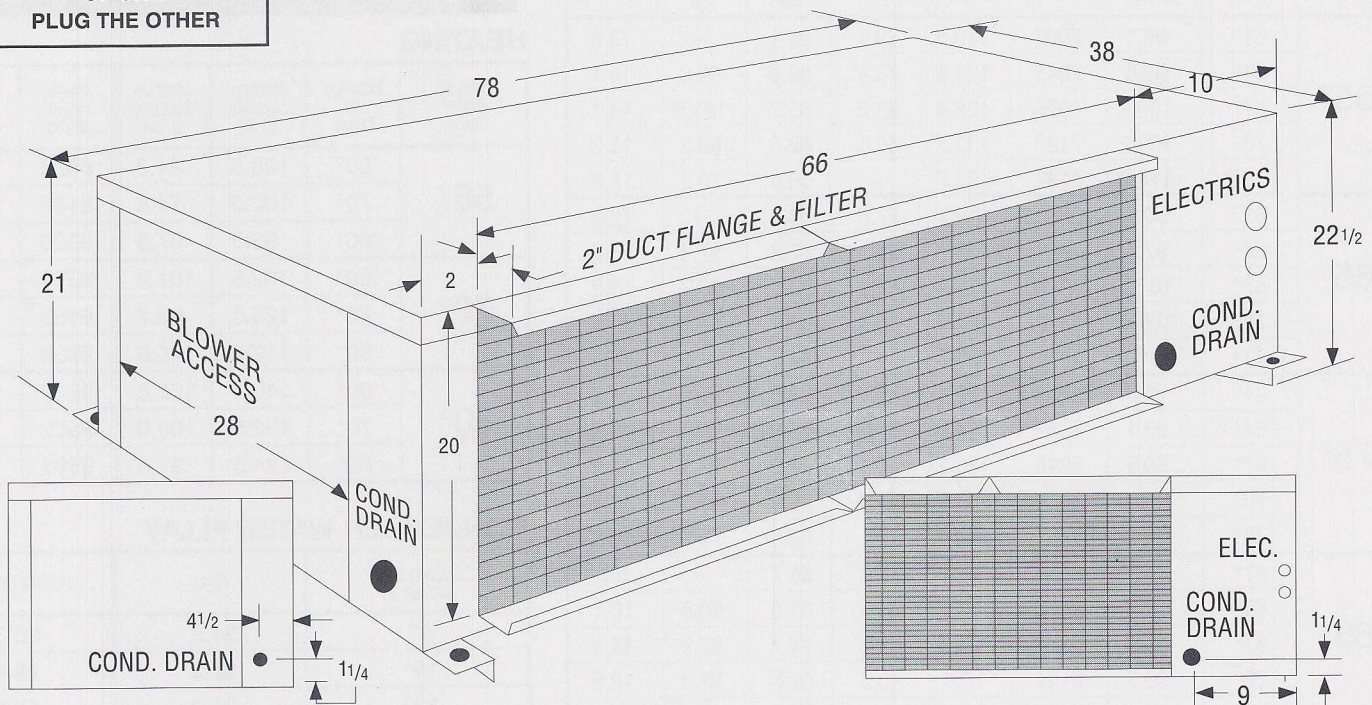
PHYSICAL CHARACTERISTICS

BLOWER PERFORMANCE Ratings are with standard motor pulley drives

AVAILABLE EXTERNAL STATIC PRESSURE (In. H ₂ O including allowance for wet coil and filter)												
MOTOR PULLEY	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.1	1.2
CLOSED	-	-	4100	4000	3900	3750	3640	3530	3380	3250	3080	2880
1/2 OPEN	3780	3650	3520	3350	3190	3050	2920	2750	-	-	-	-
OPEN	3390	3240	3090	2950	2760	2570	-	-	-	-	-	-



CONDENSATE PAN HAS (2) DRAIN CONNECTIONS. USE ONE AT LOW END OF UNIT PLUG THE OTHER



a HARROW company

FHP MANUFACTURING
 601 N.W. 65th COURT
 FT. LAUDERDALE, FL 33309
 PHONE: (305) 776-5471
 FAX: (305) 776-5529

CONDENSER WATER CONNECTIONS: 1.25" F.P.T.
 CONDENSATE DRAIN CONNECTION: 0.75" F.P.T.
 FILTER SIZE: HZ 19" X 35" X 1" QTY. (2)

As a result of continuing research and development, all ratings and specifications are subject to change without notice. Rev. 10/94



SPECIFICATION DATA SHEET

FLORIDA HEAT PUMP HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS

HE104

HIGH EFFICIENCY

Dual circuits feature 2-stage operation. Complete package includes 2 each compressors, reversing valves, capillary tube metering devices and water-to-refrigerant condensers. Contains safety controls: overload motor protection, high and low refrigerant pressure switches and a lock-out impedance relay. Beige.



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
104,000	12.4	138,000	4.4	26.5	3,500	9.0	3	3/8	14	15 x 15	635	680

ELECTRICAL SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	ELECTR. SYM.	COMPRESSOR, EACH		BLOWER		MIN. CIRCUIT AMPACITY	FUSE (T/D) HACR CIRCUIT BREAKER
		RLA	LRA	NPA	H.P.		
208/230-1-60	-1	21.2	108.0	8.2	1.5	55.9	70
208/230-3-60	-3	13.3	74.0	5.2	1.5	35.2	45
460-3-60	-4	6.2	37.0	2.6	1.5	16.6	20
575-3-60	-5	5.2	36.0	2.0	1.5	13.7	15

CAPACITY DATA

ARI Standard 320: 3500 SCFM, 26.5GPM/14.1' 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°	104.1	6491	126.3	86.8	104.1	-	16.0
	64°	109.0	6531	131.3	77.5	98.3	109.0	16.7
	67°	114.0	6577	136.5	68.1	88.9	111.5	17.3
	70°	119.5	6617	142.1	54.2	75.1	97.7	18.1
65°	73°	125.0	6663	147.7	-	61.3	83.9	18.8
	61°	101.8	7088	126.0	84.9	101.8	-	14.4
	64°	106.6	7131	131.0	75.8	96.1	106.6	15.0
	67°	111.5	7181	136.1	66.6	87.0	109.1	15.5
	70°	116.9	7224	141.6	53.0	73.4	95.5	16.2
75°	73°	122.3	7275	147.1	-	59.9	82.0	16.8
	61°	99.5	7684	125.7	82.9	99.5	-	13.0
	64°	104.1	7731	130.5	74.0	93.9	104.1	13.5
	67°	108.9	7785	135.5	65.1	85.0	106.6	14.0
	70°	114.2	7832	140.9	51.8	71.7	93.3	14.6
85°	73°	119.4	7887	146.3	-	58.5	80.1	15.1
	61°	94.9	8280	123.2	79.1	94.9	-	11.5
	64°	99.4	8331	127.8	70.6	89.6	99.4	11.9
	67°	104.0	8390	132.6	62.1	81.1	101.7	12.4
	70°	108.9	8440	137.8	49.4	68.4	89.0	12.9
95°	73°	113.9	8499	142.9	-	55.8	76.4	13.4
	61°	86.5	8868	116.8	72.2	86.5	-	9.8
	64°	90.6	8922	121.1	64.4	81.7	90.6	10.2
	67°	94.8	8985	125.5	56.6	73.9	92.7	10.6
	70°	99.4	9039	130.2	45.1	62.4	81.2	11.0
	73°	103.9	9102	135.0	-	50.9	69.7	11.4

HEATING

Entering Water Temp.	Dry Bulb	Heating Capacity BTUH	Heat Of Absorption BTUH	Power Input Watts	COP
55°	60°	119.9	92.5	8033	4.4
	70°	113.1	85.1	8197	4.0
	80°	106.3	77.8	8360	3.7
70°	60°	146.2	115.5	9006	4.8
	70°	138.0	106.6	9190	4.4
	80°	129.7	97.7	9373	4.1
80°	60°	155.0	123.1	9348	4.9
	70°	146.2	113.7	9539	4.5
	80°	137.5	104.2	9729	4.1

CONDENSER WATER FLOW

Cooling Cycle Design ΔT	Water Flow GPM	Pressure Drop (Ft. of Hd.)
8°	33.2	21.9
10°	26.5	14.1
12°	22.1	9.7
14°	18.9	7.2
16°	16.6	5.5

BOLD DATA ARE AT ARI STANDARD 320 RATING CONDITIONS.



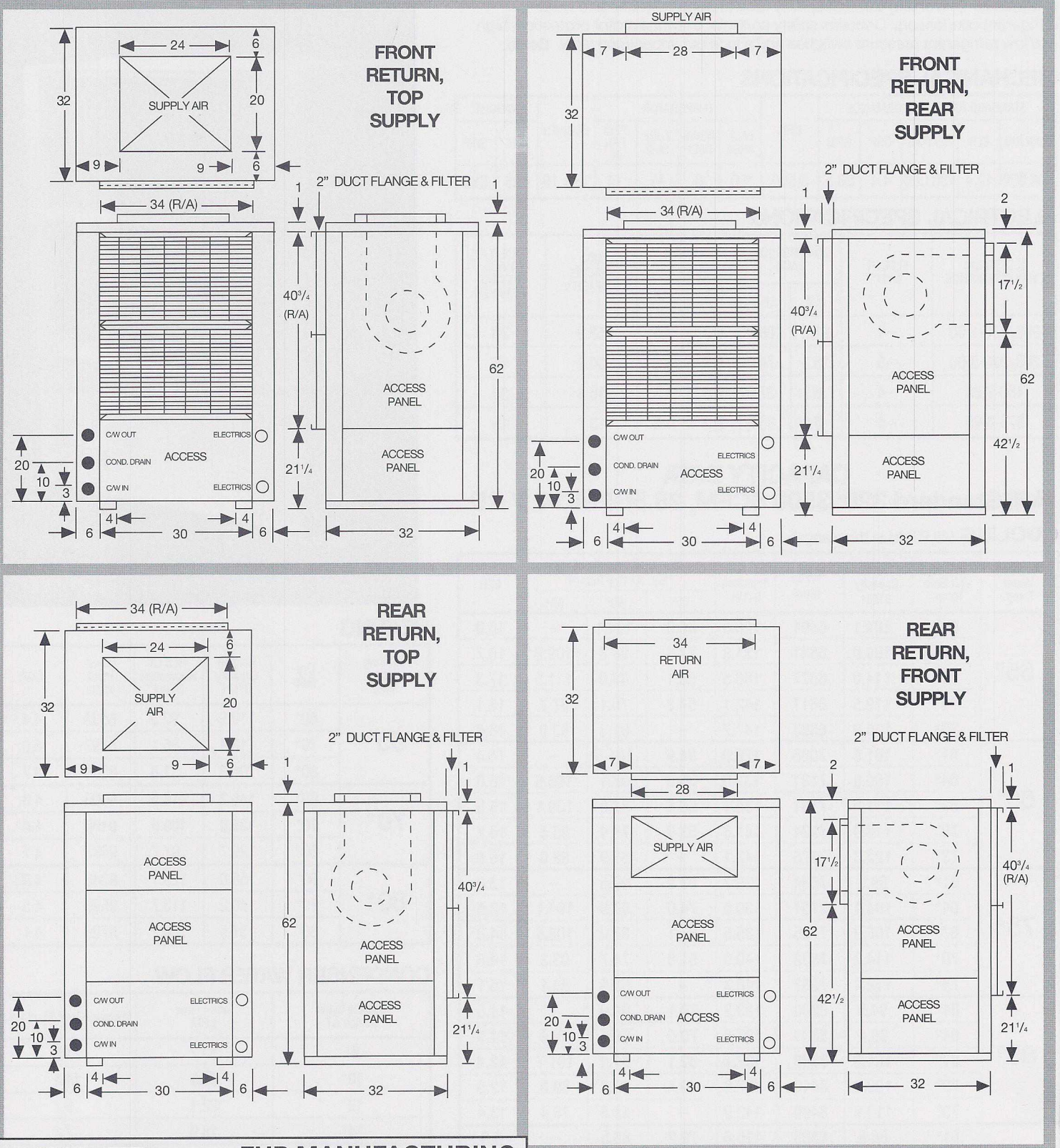
HE104

HIGH EFFICIENCY

BLOWER PERFORMANCE Ratings are with standard motor pulley drives

AVAILABLE EXTERNAL STATIC PRESSURE (In. H ₂ O including allowance for wet coil and filter)													
MOTOR PULLEY	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	
CLOSED	-	-	-	-	-	-	-	-	-	-	-	3900	3750
1/2 OPEN	-	-	-	-	-	4300	4100	3800	3450	2620	-	-	
OPEN	4420	4200	4000	3780	3500	3200	-	-	-	-	-	-	

PHYSICAL CHARACTERISTICS



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