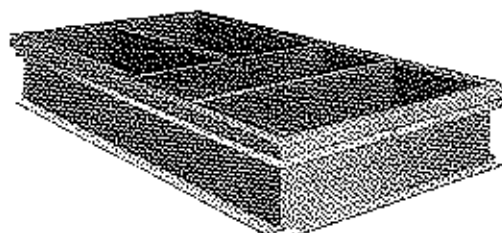
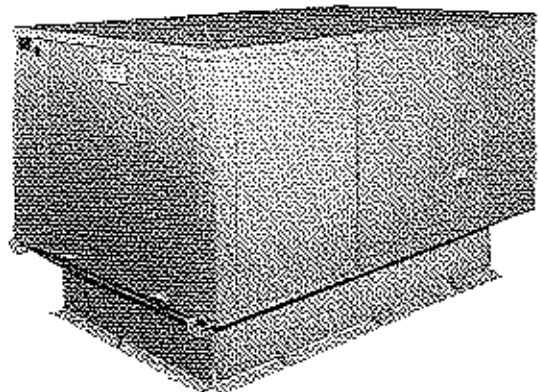




CALIFORNIA HEAT PUMP COMPANY

WATER-TO-AIR PACKAGED HEAT PUMPS



FACTORY BUILT STEEL CURB

STANDARD FEATURES

All DWH models are constructed of heavy gauge galvanized steel cabinets, with an acrylic lacquer paint finish. Each unit includes:

- Compressor with crankcase heat.
- Copper-tube, aluminum fin indoor coil
- Co-axial condenser with steel outer tube, copper inner tube
- Belt-drive blower
- High and Low pressure safety controls
- Service Valves—both high and low pressure
- Reversing Valve to control refrigerant flow path for heating and cooling cycles (Except DWC)
- Thermal expansion valve for refrigerant control
- Pressure Taps—Water Inlet and Outlet

HIGH PERFORMANCE-HIGH EFFICIENCY

Model DWH water-to-air heat pumps allow comfort cooling and heating from a single source...water. These roof-mounted units are normally used with a closed loop system utilizing a cooling tower and a boiler.

Water source heat pumps provide very efficient operation on both heating and cooling cycles, since water is normally maintained at a relatively constant temperature. High energy-efficiency

ratios associated with water-cooled operation provide lower operating costs, and heating coefficient of performance is unusually high.

Water-source models are highly reliable, since they have none of the problems often associated with defrosting controls on air cooled units.

FULL PERIMETER CURB

The factory-built curb is approved by National Roofer's Association. Shipped completely assembled, the curb is of all-welded, heavy gauge galvanized steel construction. Curb is insulated inside with 1" thick, 1½ lb. density glass fiber insulation, and a wood nailer strip is furnished on the outside.

The entire bottom of the DWH and DWC unit is covered with thick sheets of foamed plastic insulation, to serve as a thermal barrier as well as sound attenuator. In addition, it serves as a rain seal on the full curb perimeter.

The unit base channels form a 360 degree perimeter drip cap just outside the curb, so rain cannot drive under the unit and into the curb.

Water connections to the unit are made into the bottom of the unit, through the curb opening.

MODEL	COOLING CAPACITY, BTUH	HEATING CAPACITY, BTUH	MODEL	COOLING CAPACITY, BTUH	HEATING CAPACITY, BTUH
DWH 041	46,900	51,100	DWH 122	121,000	141,000
DWH 051	51,800	62,200	DWH 142	136,000	164,000
DWH 071	66,400	88,400	DWH 222	219,000	246,000
DWH 092	94,400	116,000	DWH 262	258,000	320,000

PRINCIPAL DESIGN AND PERFORMANCE

These heavy duty DWH commercial water source heat pumps are intended for use on closed loop systems and on ground water systems where the ground water temperature is 60F or higher. They are also available in the DWC cooling only configuration with heat rejection accomplished thru a cooling tower or to ground water.

All of these models are optionally available with electric resistance heating factory installed, wired, and fused with single point electrical connections.

With EER's averaging 10.0 and COP's of 3.0 and higher, this product line offers the specifying engineer a logical, proven means of achieving his energy budget.

WEATHER-RESISTANT CABINET

All cabinet material is top grade zinc-coated steel, with heavy duty construction for longer life. Paint finish is acrylic lacquer. Cabinet parts are fabricated of rugged, heavier gauge steel for top quality and resistance to damage. Fasteners are stainless steel.

THERMOSTATIC EXPANSION VALVES

Each system uses expansion valve for refrigerant control.

LOW PRESSURE DROP REVERSING VALVE

New reversing valves with minimum pressure drop for improved efficiency.

PRESSURE CONTROLS

High and Low pressure safety controls, with lockout circuit allowing reset at thermostat.

SERVICES VALVES

Service valves on high and low sides to permit pressure readings.

WEATHER-STRIPPED PANELS

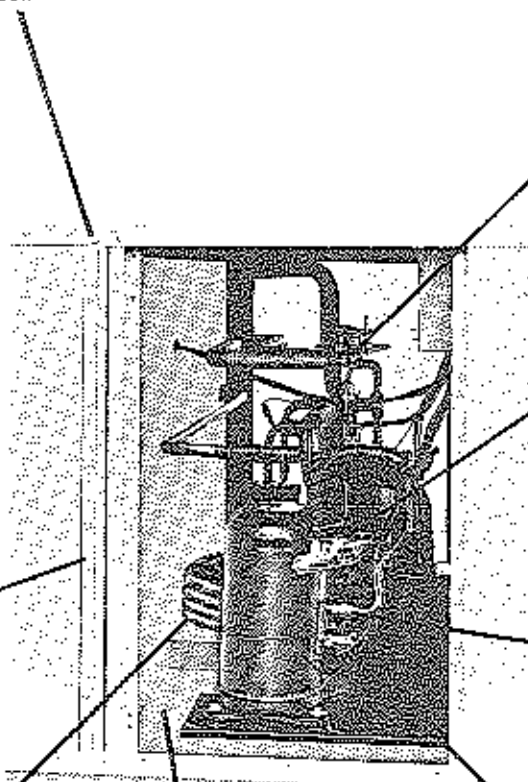
Air handler section panels furnished with individual weather strips to prevent rain leakage.

EFFICIENT CO-AXIAL CONDENSERS

Condenser has copper inner (water) tube and steel outer shell. Cupro-nickel inner tube available for corrosive water conditions.

COATED BASE

All bases have special coating to provide the finest corrosion protection and sound attenuation.



FEATURES

DUAL COMPRESSOR RELIABILITY

Dual compressor heat pumps have two completely separate refrigeration systems. Thus dual compressor models provide the added benefit of partial standby during both cooling and heat pump operation. Also during the air conditioning season they afford two stage compressor operation with each compressor being activated individually from the two stage space thermostat. During the heat pump cycle both compressors are activated simultaneously from the 1st heating stage of the space thermostat (electric resistance heating, if applied, is then activated from the 2nd heating stage.)

System No. 1 At the call of the first stage of thermostat, System No. 1 turns on. If the load is light this system carries the load and the compressor cycles on and off at the call of the thermostat. Examples... cool morning, late in the evening, office before the staff arrives, cloudy days with no sun load, etc.

System No. 2 If System No. 1 can't do the job, the room thermostat automatically turns on the second compressor. It will then cycle off and on, to carry the rest of the load, while compressor No. 1 runs constantly to remove moisture and carry its part of the load. As the load begins to drop, compressor No. 2 will shut down and compressor No. 1 then cycles to carry the reduced load.

POWER SUPPLY CONNECTION

LOW VOLTAGE CONNECTION

ACCESSIBLE CONTROL PANEL

Panel has single point connection for electrical service, including accessory electric heaters.

SUCTION ACCUMULATOR

Every compressor has a suction accumulator to prevent compressor flooding and oil pumpout.

CONDENSATE DRAIN

Threaded condensate drains furnished on both sides of the unit.

SIGHT GLASS AND DRIER

Each system equipped with sight glass-moisture indicator and refrigerant drier.

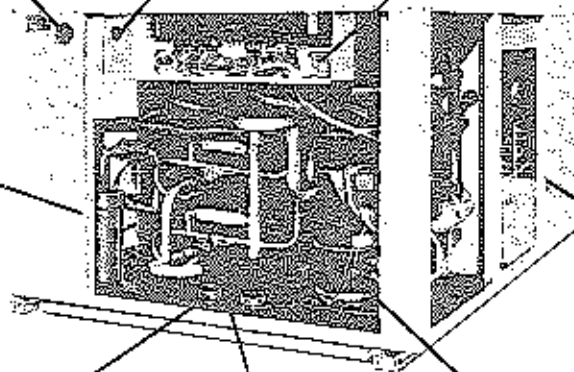
HERMETIC COMPRESSORS

Full hermetic compressors, 3450 rpm, internally sprung, with internal protection and pressure relief.

WATER CONNECTIONS THRU BOTTOM

Water connections are made up thru the steel curb, and thru the bottom of the unit.

All compressors equipped with crankcase heater to prevent flooding and loss of oil on startup.



SPECIFICATIONS

DWH & DWC		041	051	071	092	122	142	222	262
Standard Cooling Rating	Nominal CFM	1,500	1,750	2,100	3,200	3,500	4,000	6,800	8,000
	Total Btuh	46,900	51,800	66,400	94,400	121,000	136,000	219,000	258,000
	Sensible Btuh	35,100	39,600	49,100	72,000	85,400	96,800	162,000	190,000
	EER	9.9	9.8	10.0	9.8	10.1	10.2	10.3	10.0
	Watts	4,760	5,300	6,670	9,680	12,000	13,300	21,300	25,800
Std. Htg. Rating	Total Btuh	51,100	62,200	88,400	116,000	141,000	164,000	246,000	325,000
	COP	3.0	3.2	3.4	3.3	3.3	3.3	3.5	3.5
	Watts	5,030	5,700	7,650	11,300	12,500	14,600	20,600	26,900
Evaporator Fans	No. & Size	(1)10x10	(1)10x10	(1)10x10	(2)12x9	(2)12x9	(2)12x9	(2)15x11	(2)15x11
	Drive Range	830-1090	1030-1350	1090-1350	840-1090	930-1180	1050-1300	720-910	790-970
	Std. Mtr. H.P.	3/4	3/4	1	1 1/2	1 1/2	2	3	3
	Opt. Mtr. H.P.	3/4	1	1 1/2	2	2	3	5	5
Evaporator	Face Area - sq. ft.	3.8	3.8	3.8	7.8	7.8	7.8	14.6	14.6
	Rows Deep	4	4	4	3	4	4	4	4
	Fins Per Inch	12	12	12	14	12	12	12	12
	Condensate Size. FPT	(1) 3/8	(1) 3/8	(1) 3/8	(2) 3/8	(2) 3/8	(2) 3/8	(2) 3/8	(2) 3/8
Compressor	Type*	FH	FH	FH	FH	FH	FH	FH	FH
	Quantity	1	1	1	2	2	2	2	2
Condenser	Type	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial
	Circuits	2	2	2	2	2	2	2	2
	Nominal GPM	12	14	18	28	32	36	50	60
	Nominal Press Drop-Psi	6.4	8.5	4.1	4.1	4.9	4.1	7.6	10.1
	Connections OD Cu	3/8	3/8	1/2	1/2	1/2	2/2	2/2	2/2
Filter—No. & Size	(1)22x28	(1)22x28	(1)22x28	(4)14x25	(4)14x25	(4)14x25	(5)15x30	(5)15x30	
Oper. Wgt. - Lbs.	450	500	600	1,225	1,275	1,285	1,475	1,560	
Curb Wgt. - Lbs.	77	77	77	122	122	122	159	159	

DWC Multiplier For Capacity and Watts is 1.02.

*FH = Full Hermetic

STANDARD RATING CONDITIONS

These products are tested and rated in accordance with AIR Standard 320-81 For Water Source Heat Pumps.

The standard cooling rating conditions are 80F/67F entering air temperature, 85F entering water temperature, and 85F leaving water temperature.

The standard heating rating conditions are 70F entering air temperature 70F entering water temperature, and the same gpm as determined in the Standard Rating Cooling Test.

APPLICATION RATINGS

COOLING CAPACITIES¹ — 85F ENTERING WATER															
MODEL	ENTERING AIR DRY BULB		ENTERING AIR WET BULB				ENTERING AIR WET BULB				ENTERING AIR WET BULB				
			65F	67F	69F	71F	65F	67F	69F	71F	65F	67F	69F	71F	
			1300 CFM				1500 CFM				1700 CFM				
041	@	75F	Total	45,800	47,300	48,800	50,400	46,300	47,900	49,600	51,200	47,100	48,700	50,200	51,700
			Sensible	31,200	27,400	24,500	21,600	31,400	28,200	25,100	21,900	33,200	29,700	26,300	23,200
			Watts	4,190	4,260	4,330	4,390	4,240	4,300	4,360	4,420	4,260	4,330	4,410	4,480
12 gpm	@	80F	Total	46,100	47,500	49,100	50,800	46,900	48,400	49,800	51,400	47,800	49,100	50,400	51,800
			Sensible	37,100	34,200	31,300	28,500	39,300	36,200	32,900	29,500	41,500	38,000	34,600	28,900
			Watts	4,210	4,260	4,350	4,400	4,250	4,320	4,370	4,420	4,290	4,350	4,420	4,480
14 gpm	@	85F	Total	46,700	48,000	49,400	51,000	48,600	49,200	50,500	51,900	49,400	49,800	51,000	52,500
			Sensible	43,900	41,100	38,200	35,100	45,900	43,900	40,700	38,900	48,100	46,400	43,000	37,300
			Watts	4,240	4,300	4,370	4,440	4,330	4,350	4,390	4,450	4,370	4,390	4,440	4,570
			1900 CFM				2100 CFM				2300 CFM				
051	@	75F	Total	51,200	52,900	54,600	56,400	51,800	53,500	55,400	57,200	52,700	54,400	56,100	57,800
			Sensible	34,800	31,500	28,300	24,800	36,200	32,500	28,900	25,300	38,300	34,300	30,300	26,800
			Watts	4,530	4,610	4,680	4,750	4,580	4,650	4,710	4,780	4,600	4,680	4,760	4,840
18 gpm	@	80F	Total	51,600	53,100	54,900	56,800	52,500	54,100	55,700	57,500	53,400	54,900	56,400	57,900
			Sensible	42,700	39,400	36,100	32,900	45,300	41,700	37,900	33,900	47,600	43,800	39,900	33,300
			Watts	4,550	4,620	4,700	4,760	4,610	4,670	4,720	4,780	4,640	4,700	4,780	4,850
28 gpm	@	85F	Total	52,400	53,600	55,200	57,000	54,500	55,100	56,400	58,100	55,300	55,700	57,000	58,600
			Sensible	50,600	47,300	44,000	40,500	52,900	50,500	48,900	42,500	54,500	53,400	49,400	43,000
			Watts	4,590	4,650	4,720	4,810	4,680	4,700	4,750	4,820	4,730	4,740	4,810	4,950
			2900 CFM				3200 CFM				3500 CFM				
092	@	75F	Total	92,200	96,300	99,300	102,700	94,300	97,600	100,900	104,300	96,000	99,100	102,700	105,200
			Sensible	63,400	57,500	51,600	45,300	66,100	59,300	52,700	46,100	59,600	52,500	45,400	48,800
			Watts	8,250	8,390	8,520	8,550	8,340	8,460	8,580	8,790	8,380	8,530	8,670	8,820
32 gpm	@	80F	Total	93,900	96,600	99,600	103,400	95,700	98,500	101,400	104,800	97,200	99,900	102,700	105,500
			Sensible	77,900	71,900	65,800	59,900	82,800	75,000	68,100	61,900	87,100	79,900	72,800	60,800
			Watts	8,280	8,420	8,560	8,670	8,398	8,500	8,620	8,790	8,440	8,560	8,700	8,830
36 gpm	@	85F	Total	95,400	97,700	100,500	103,800	99,300	100,200	102,800	105,700	100,800	101,400	103,900	106,800
			Sensible	92,200	86,400	80,300	73,800	96,400	92,100	85,600	77,500	99,000	97,400	90,200	78,500
			Watts	8,350	8,460	8,600	8,750	8,520	8,560	8,650	8,760	8,510	8,540	8,750	9,010
			3100 CFM				3500 CFM				3900 CFM				
122	@	75F	Total	117,000	120,800	124,800	128,900	118,400	122,400	126,600	130,800	120,500	124,400	128,200	132,100
			Sensible	75,100	68,100	61,100	53,700	78,300	70,200	62,400	54,600	82,700	74,000	65,600	57,800
			Watts	10,290	10,478	10,630	10,790	10,400	10,550	10,700	10,850	10,460	10,648	10,820	11,090
36 gpm	@	80F	Total	117,900	121,400	125,400	129,700	120,100	123,600	127,400	131,500	122,100	125,400	128,900	132,400
			Sensible	92,200	86,200	78,000	71,000	97,600	90,000	81,600	73,300	103,200	94,600	86,200	72,000
			Watts	10,330	10,580	10,840	10,910	10,470	10,600	10,720	10,850	10,530	10,660	10,850	11,010
42 gpm	@	85F	Total	119,700	122,600	126,100	130,300	124,700	125,900	129,600	132,700	126,500	127,400	130,300	134,100
			Sensible	109,300	102,200	95,100	87,400	114,300	109,100	101,400	91,800	119,700	113,300	106,900	92,900
			Watts	10,410	10,550	10,720	10,910	10,630	10,680	10,790	10,940	10,730	10,780	10,918	11,230
			3600 CFM				4000 CFM				4400 CFM				
142	@	75F	Total	132,100	136,400	140,800	145,400	133,600	138,200	142,900	147,700	138,000	140,400	144,800	149,300
			Sensible	83,000	77,100	69,100	60,800	88,500	79,500	70,700	61,800	93,500	83,800	74,200	65,500
			Watts	11,550	11,790	11,930	12,110	11,680	11,850	12,010	12,180	11,740	11,940	12,140	12,350
36 gpm	@	80F	Total	133,000	137,100	141,500	146,400	135,500	139,500	143,800	148,400	138,800	141,600	145,400	149,500
			Sensible	104,600	96,400	88,300	80,300	110,700	101,800	92,700	83,000	118,800	107,100	97,600	81,400
			Watts	11,560	11,790	11,930	12,130	11,750	11,900	12,040	12,180	11,820	11,930	12,150	12,350
48 gpm	@	85F	Total	135,100	138,300	142,400	147,100	140,700	142,100	145,600	149,800	142,800	143,800	147,100	151,300
			Sensible	123,900	115,800	107,700	98,900	129,400	123,600	114,300	104,000	135,600	130,600	121,000	105,200
			Watts	11,680	11,850	12,040	12,250	11,930	11,990	12,110	12,290	12,058	12,100	12,250	12,610

¹ These are gross evaporator capacities. DWT Multiplier for capacity and watts is 1.02.

COOLING CAPACITIES¹ - 85F ENTERING WATER (Continued)

MODEL DWH	ENTERING AIR DRY BULB		ENTERING AIR WET BULB				ENTERING AIR WET BULB				ENTERING AIR WET BULB			
			65F	67F	69F	71F	65F	67F	69F	71F	65F	67F	69F	71F
			6100 CFM				6800 CFM				7500 CFM			
222	75F	Total	215,800	222,800	230,100	237,600	218,300	225,800	233,500	241,300	222,200	229,400	236,500	243,600
		Sensible	142,000	128,700	115,400	101,400	147,900	132,800	118,000	103,200	156,300	139,900	124,000	109,300
		Watts	18,350	18,670	18,950	19,240	18,500	18,820	19,080	19,350	18,650	18,970	19,290	19,610
@ 50 gpm	80F	Total	217,400	224,000	231,300	239,200	221,500	227,900	234,900	242,400	225,100	231,300	237,600	244,300
		Sensible	174,300	161,000	147,400	134,200	184,800	170,100	154,700	138,600	195,100	178,900	162,900	136,000
		Watts	18,420	18,720	19,050	19,270	18,670	18,900	19,120	19,350	18,780	19,050	19,350	19,630
50 gpm	85F	Total	220,800	226,000	232,600	240,400	229,900	232,200	237,900	244,700	233,300	234,900	240,400	242,200
		Sensible	206,600	193,400	179,600	165,300	216,000	206,300	191,700	173,600	226,400	218,000	202,000	175,700
		Watts	18,570	18,820	19,120	19,460	18,950	19,950	19,240	19,520	19,140	19,220	19,450	20,030
			7200 CFM				8000 CFM							
262	75F	Total	254,400	262,700	271,300	280,200	257,400	266,200	275,400	284,500				
		Sensible	187,000	151,500	135,900	119,500	174,100	156,300	138,900	121,500				
		Watts	22,230	22,620	22,960	23,310	22,480	22,800	23,120	23,440				
@ 60 gpm	80F	Total	256,300	264,100	272,700	282,100	261,100	269,700	277,000	285,800				
		Sensible	205,200	189,500	173,500	157,900	217,800	200,200	182,000	163,100				
		Watts	22,320	22,690	23,060	23,350	22,620	22,900	23,170	23,400				
60 gpm	85F	Total	260,300	268,500	274,300	283,400	271,100	273,600	280,500	288,500				
		Sensible	243,200	227,600	211,600	194,500	254,200	242,800	225,600	204,400				
		Watts	22,510	22,800	23,170	23,580	22,980	23,080	23,310	23,680				

¹ These are gross evaporator capacities

COOLING CAPACITY MULTIPLIERS

Entering Water Temperature	60F	65F	70F	75F	80F	85F	90F
Capacity Multiplier	1.11	1.09	1.07	1.05	1.02	1.0	0.98
Watts Multiplier	0.85	0.88	0.91	0.94	0.97	1.0	1.03

FAN PERFORMANCE DATA

MODEL DWH & DWC	CFM	EXTERNAL STATIC PRESSURE, INCHES W.C.									
		0.2"		0.4"		0.6"		0.8"		1.0"	
		R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.
041	1300	830	3	920	4	1010	5	1100	6	1190	7
	1500	880	3	970	4	1060	5	1150	6	1240	7
	1700	930	4	1020	5	1110	6	1200	7	1290	8
051	1550	930	4	1010	5	1090	6	1170	7	1250	8
	1750	980	5	1060	6	1140	7	1220	8	1300	9
	1950	1030	5	1110	6	1190	7	1270	8	1350	9
071	1900	1090	8	1160	9	1230	1.0	1300	1.1	1370	1.2
	2100	1140	8	1210	9	1280	1.0	1350	1.1	1420	1.2
	2300	1190	9	1260	1.0	1330	1.1	1400	1.2	1470	1.3
092	2900	750	6	825	8	900	1.0	975	1.2	1050	1.4
	3200	800	8	875	1.0	950	1.2	1025	1.4	1100	1.6
	3500	850	1.0	925	1.2	1000	1.4	1075	1.6	1150	1.8
122	3100	860	1.0	930	1.2	1000	1.4	1070	1.6	1140	1.8
	3500	910	1.2	980	1.4	1050	1.6	1120	1.8	1190	2.0
	3900	960	1.4	1030	1.6	1100	1.8	1170	2.0	1240	2.2
142	3600	960	1.6	1020	1.8	1080	2.0	1140	2.2	1200	2.4
	4000	1010	1.8	1070	2.0	1130	2.2	1190	2.4	1250	2.6
	4400	1060	2.0	1120	2.2	1180	2.4	1240	2.6	1300	2.8
222	6100	690	1.8	740	2.2	790	2.4	840	2.6	890	2.9
	6800	730	2.2	780	2.6	830	2.8	880	3.0	930	3.3
	7500	770	2.6	820	3.0	870	3.2	920	3.4	970	3.7
262	7200	790	3.0	835	3.4	880	3.8	925	4.2	970	4.6
	8000	830	3.4	875	3.8	920	4.2	965	4.6	1010	5.0

Above Ratings without Electric Heaters Installed. Add 0.20" to Duct Static to Arrive at Total E.S.P. when using Electric Heaters.

GROSS HEATING CAPACITIES — 70F ENTERING AIR TEMPERATURE

DWH MODEL		041	051	071	092	122	142	222	262
CFM		1500	1750	2100	3200	3500	4000	6800	6000
GPM		12	14	18	26	32	36	50	60
60F FW1	BTUH	43,300	52,400	75,000	97,800	119,000	133,000	207,000	271,000
	Watts	4,220	4,710	6,370	8,450	10,400	12,100	16,700	22,100
65F EWT	BTUH	46,300	56,200	80,300	105,000	128,000	149,000	222,000	290,000
	Watts	4,390	4,900	6,620	8,780	10,860	12,600	17,400	23,000
70F EWT	BTUH	49,500	60,000	85,800	112,000	137,000	159,000	237,000	310,000
	Watts	4,570	5,100	6,890	9,140	11,200	13,100	18,160	23,900
75F EWT	BTUH	52,800	63,900	91,500	120,000	145,000	169,000	253,000	330,000
	Watts	4,750	5,300	7,170	9,510	11,700	13,800	18,800	24,900
80F EWT	BTUH	56,100	68,000	97,200	127,000	155,000	180,000	270,000	351,000
	Watts	4,940	5,510	7,440	9,870	13,110	14,100	19,500	25,600

ENTERING AIR TEMPERATURE	65F	70F	75F	80F
HEATING CAPACITY MULTIPLIER	1.05	1.00	.97	.95

NOTE—Multiply Heating Capacity at 70F E.A.T. by multiplier to obtain Heating Capacity at Other Entering Air Temperatures.

HEAT OF ABSORPTION (HEATING CYCLE) — 70F ENTERING AIR, STANDARD RATING CFM

DWH MODEL	CFM	GPM	ENTERING WATER TEMPERATURE				
			60F	65F	70F	75F	80F
041	1500	12	29,000	31,400	33,900	36,400	39,100
051	1750	14	36,500	39,500	42,600	45,800	49,100
071	2100	18	53,800	57,700	62,300	67,000	71,800
092	3200	26	69,300	75,000	80,900	87,000	93,300
122	3500	32	83,900	90,800	98,000	105,000	113,000
142	4000	36	97,700	106,000	114,000	123,000	131,000
222	6800	50	150,000	163,000	175,000	189,000	202,000
262	6000	60	195,000	212,000	228,000	245,000	263,000

NOTE—Heat of Absorption is BTUH Heat drawn from the water into the refrigerant during the heating cycle.

HEAT REJECTION (COOLING CYCLE) — AT ARI STANDARD RATING CONDITIONS

DWH & DWC MODEL	CFM	GPM	ENTERING AIR WET BULB			
			65F	67F	69F	71F
041	1500	12	61,600	63,200	64,900	66,700
051	1750	14	68,200	69,900	71,800	73,700
071	2100	18	87,000	89,200	91,600	94,100
092	3200	26	124,000	127,000	131,000	134,000
122	3500	32	158,000	162,000	166,000	171,000
142	4000	36	177,000	181,000	186,000	191,000
222	6800	50	284,000	292,000	300,000	308,000
262	6000	60	337,000	346,000	355,000	365,000

NOTE—Heat of Rejection is BTUH heat rejected to the water during the cooling cycle.

CONDENSER WATER PRESSURE DROP

041		051		071		092		122		142		222		262	
GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI
7	2.4	9	3.2	12	4.1	18	2.4	22	3.0	26	1.5	32	3.1	40	5.1
8	2.0	10	4.6	13	1.5	20	2.7	24	3.4	28	2.0	36	4.1	44	6.1
9	3.8	11	5.5	14	2.0	22	3.0	26	3.8	30	2.6	40	5.1	48	7.1
10	4.6	12	6.4	15	2.6	24	3.4	28	4.1	32	3.1	44	6.1	52	8.1
11	5.5	13	7.3	16	3.1	26	3.9	30	4.5	34	3.6	48	7.1	56	9.1
12	6.4	14	8.3	17	3.6	28	4.1	32	4.9	36	4.1	52	6.1	60	10.1
13	7.3	15	10.0	18	4.1	30	4.5	34	5.4	38	4.8	56	9.1	64	11.1

NOTE—Allow values with new clean condenser surface.

MODEL DESIGNATIONS

CODE	REFRIGERATION OPTIONS											
	AO	BO	CO	AA	BA	CA	AB	BB	CB	AC	BC	CC
Option	None			Anti-Cycle Timer			Hot Gas Bypass on Lead Compressor			Anti-Cycle Timer Hot Gas Bypass		
Copper Heat Exchanger	*			*			*			*		
Cupro-Nickel Heat Exch.		*			*			*			*	
Other Material Heat Exch.			*			*			*			*

CODE	APPLICATION
DWH	Heat Pump
DWC	Air Conditioner

DWH 051M 4B 30 AO E15

CODE	NOM. MBH	MOTOR HP
041S	47	1/2
041M	47	3/4
051S	52	3/4
051M	52	1
071S	66	1
071M	66	1 1/2
092S	94	1 1/2
092M	94	2
122S	121	1 1/2
122M	121	2
142S	136	2
142M	136	3
222S	219	3
222M	219	5
262S	258	3
262M	258	5

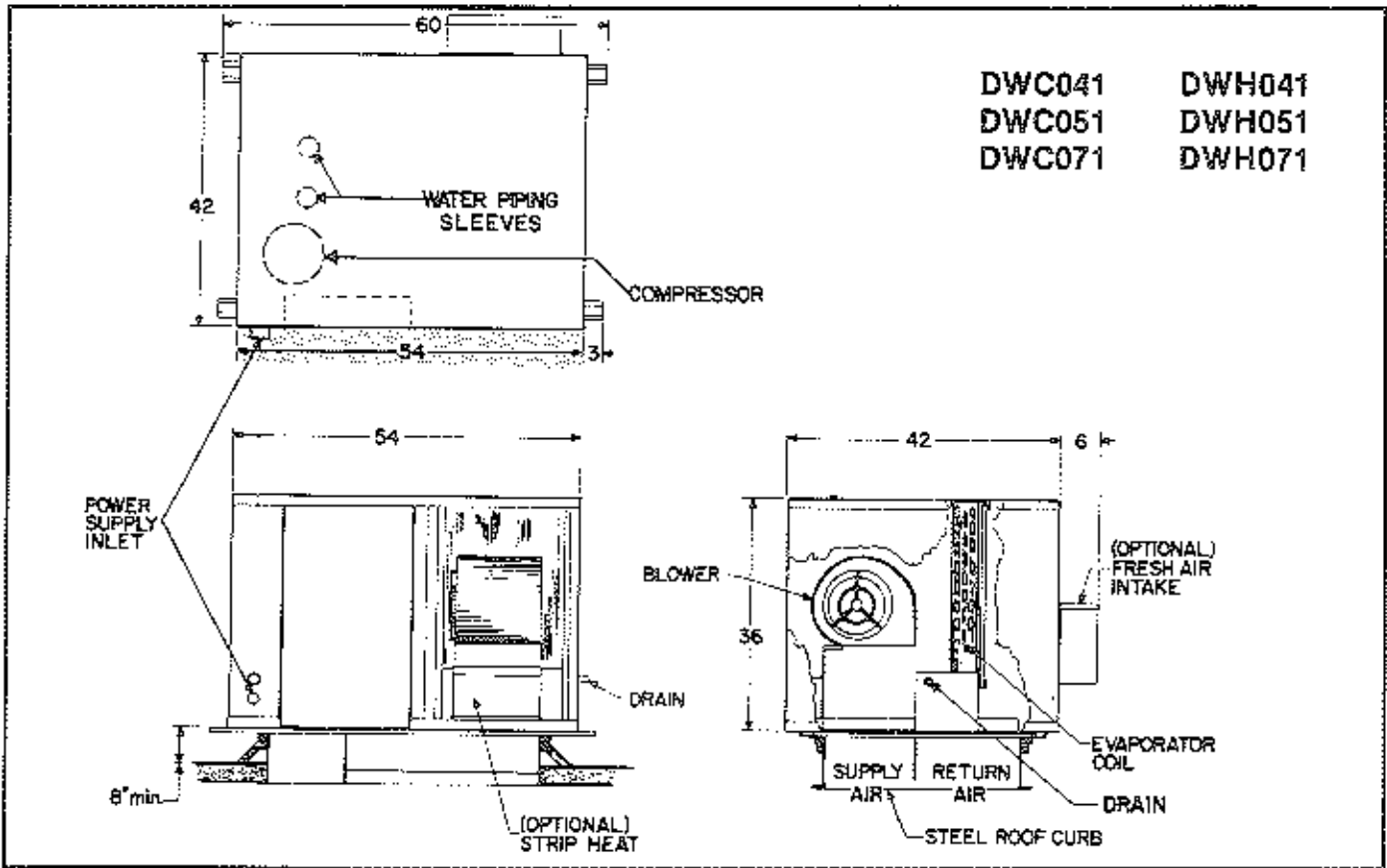
CODE	POWER SUPPLY
3B	208/230-3-60
4B	460-3-60

CODE	FACTORY INSTALLED ELECTRIC HEATERS			
	KW	DWH 041-071	DWH 092-142	DWH 222-262
000	None	*	*	*
E06	6	*		
E09	9	*		
E12	12	*	*	*
E15	15	*	*	*
E18	18	*	*	*
E24	24	*	*	*
E30	30		*	*
E36	36		*	*
E48	48			*
E50	50			*

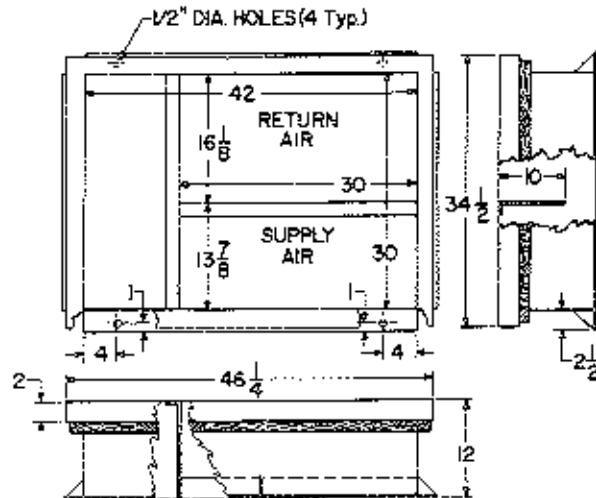
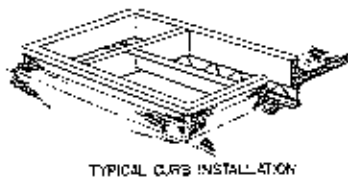
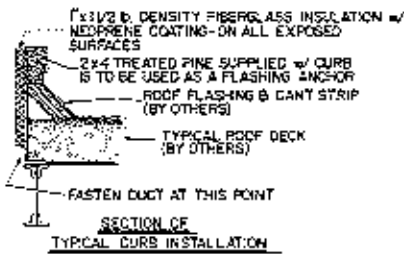
All Two Stage Except E06, E09, E12

CODE	CABINET OPTIONS																																				
	10	20	30	40	11	21	31	41	12	22	32	42	13	23	33	43	14	24	34	44	15	25	35	45	16	26	36	46	17	27	37	47					
Option	None			Sea Coast				Sure Trip				Firestat				Sea Coast Sure Trip				Sea Coast Firestat				Sure Trip Firestat				Sea Coast Sure Trip Firestat									
No Outside Air	*				*				*				*				*				*				*				*				*				
25% Manual Outside Air		*				*				*				*				*				*				*				*				*			
2 Position 25% Outside Air Damper & Oper.			*				*				*				*				*				*				*				*				*		
Fall Economizer				*			*			*			*		*			*		*		*		*		*		*		*		*		*			

DIMENSIONS

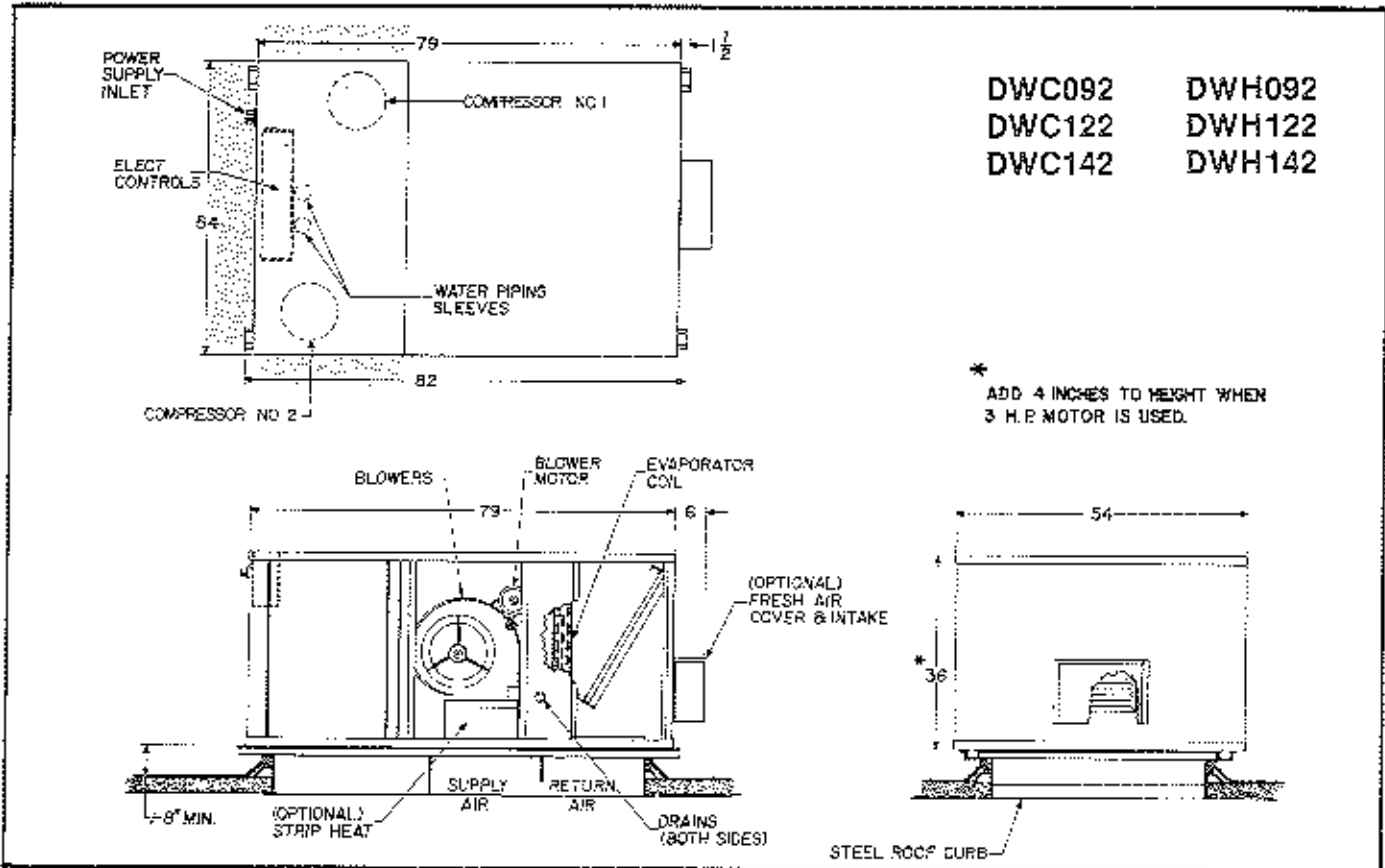


503 CURB

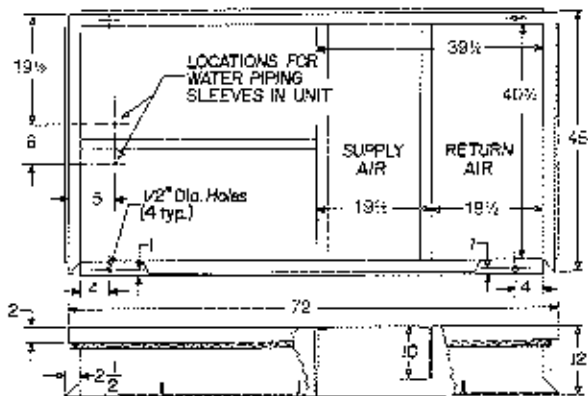
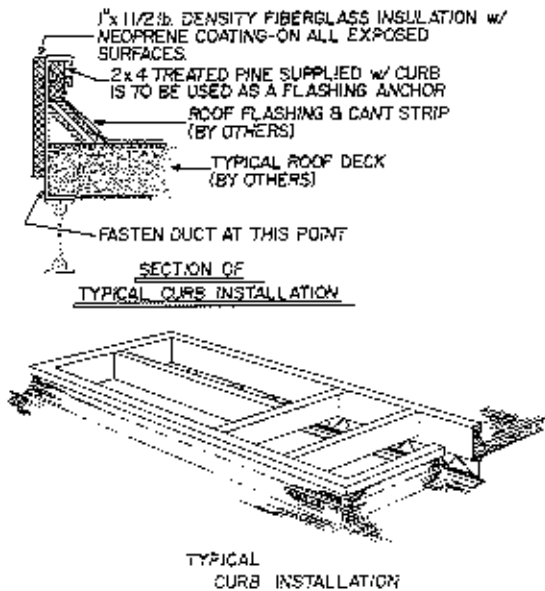



Shaded Area Indicate 3' Clearance must be left for access to Compressor and Electrical Panel.

DIMENSIONS

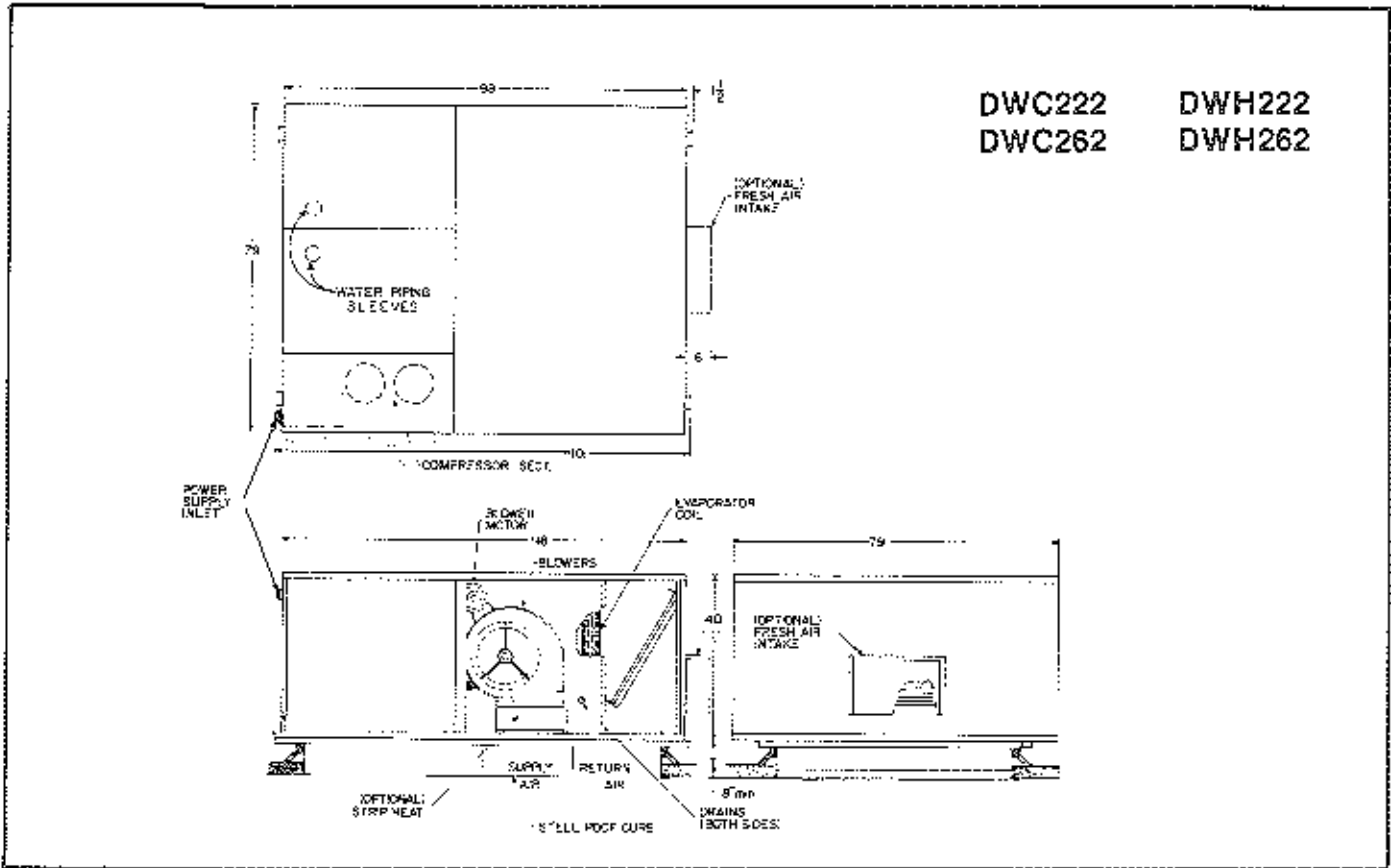


512 CURB

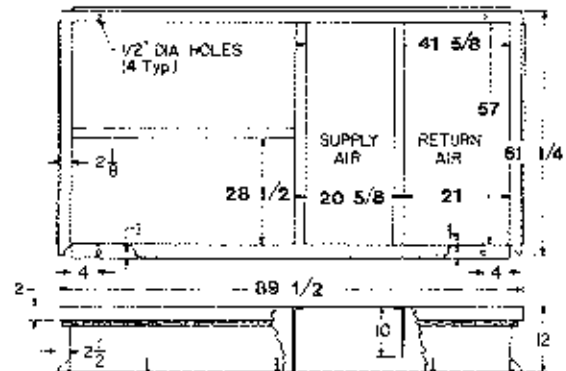
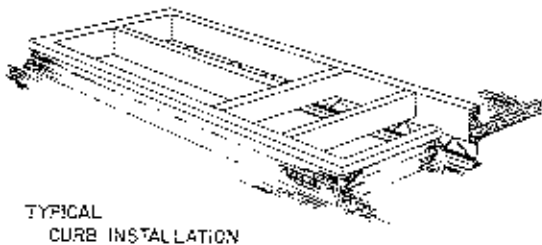
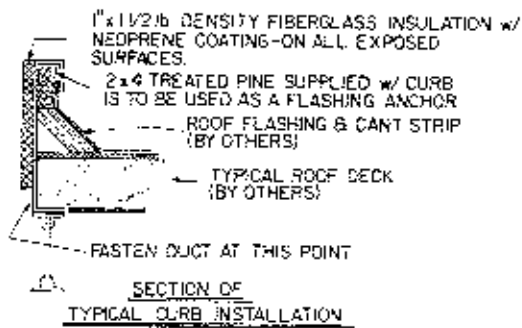


 Shaded Area Indicate 3' Clearance must be left for access to Compressor and Electrical Panel.

DIMENSIONS



505 CURB



Shaded Area Indicate 3' Clearance must be left for access to Compressor and Electrical Panel.

ELECTRICAL DATA

Unit Model	Electric Heat KW	STANDARD MOTORS						OVERSIZED MOTORS					
		208-3-60		230-3-60		460-3-60		208-3-60		230-3-60		460-3-60	
		Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse
041	6	41.8	45	39.8	45	18.6	20	40.1	45	37.8	45	16.8	20
	9	52.2	50	49.3	50	23.3	25	50.6	50	47.5	50	23.5	25
	12	62.7	60	58.7	60	28.0	30	60.9	60	56.7	60	28.2	30
	15	73.1	70	68.1	60	32.8	30	71.4	70	66.1	60	32.9	30
	18	83.5	80	77.5	70	37.5	30	81.8	80	75.5	70	37.6	35
	24	104.0	90	96.4	90	46.9	45	103.0	90	94.4	90	47.1	45
051	6	41.8	45	39.3	45	20.0	20	43.3	50	41.5	50	21.0	20
	9	52.2	50	48.8	50	24.7	25	53.8	60	50.8	50	25.7	25
	12	62.7	60	58.2	60	29.4	30	64.2	60	60.2	60	30.4	30
	15	73.1	70	67.6	60	34.2	30	74.5	70	69.2	70	35.2	30
	18	83.5	80	77.0	70	38.9	30	85.0	80	78.0	80	39.9	35
	24	104.0	90	95.9	90	48.3	45	106.0	100	97.9	90	49.3	45
071	6	48.2	60	45.8	60	23.1	25	49.8	60	47.8	60	24.0	25
	9	58.7	70	55.3	70	27.8	30	60.3	70	57.3	60	28.7	30
	12	69.1	70	64.7	70	32.5	35	70.7	70	66.7	70	33.4	35
	15	79.5	80	74.1	80	37.3	35	81.1	80	76.1	80	38.2	35
	18	90.0	90	83.5	90	42.0	40	91.5	90	85.5	90	42.9	40
	24	110.0	110	102.0	100	51.4	50	112.0	110	104.0	100	52.3	50
092	12	73.2	70	68.8	70	34.3	35	74.8	70	70.5	70	35.3	35
	15	83.6	90	78.2	70	39.1	35	85.2	80	80.2	80	40.1	35
	18	94.0	90	87.6	80	43.8	40	95.5	90	89.8	90	44.8	40
	24	119.0	100	106.0	100	53.2	50	117.0	110	108.5	100	54.2	50
	30	136.0	110	125.0	110	62.8	50	137.0	125	127.0	110	63.6	50
	36	156.0	150	144.0	125	72.0	60	158.0	125	148.0	125	73.0	60

ELECTRICAL DATA

Unit Model	Electric Heat KW	STANDARD MOTORS						OVERSIZED MOTORS					
		208-3-60		230-3-60		460-3-60		208-3-60		230-3-60		460-3-60	
		Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse	Unit Ampacity	Max. Fuse
122	12	84.4	80	80.4	80	39.2	40	85.4	90	81.4	90	39.7	40
	15	94.8	90	89.8	80	44.0	40	95.8	100	90.8	90	44.5	40
	18	106.0	100	99.2	90	48.7	45	106.0	110	100.0	100	49.2	45
	24	126.0	110	118.0	110	58.1	50	127.0	125	119.0	110	58.6	50
	30	147.0	125	137.0	125	67.5	60	148.0	125	138.0	125	66.0	60
	36	168.0	150	158.0	125	76.9	70	169.0	150	157.0	150	77.4	70
142	12	90.4	90	86.4	90	43.5	45	95.0	100	89.5	100	45.1	50
	15	101.0	100	95.5	100	48.3	45	105.0	110	99.0	100	49.9	50
	18	112.0	110	105.0	110	52.0	50	116.0	110	108.0	110	54.5	50
	24	132.0	125	124.0	110	52.4	60	137.0	125	127.0	125	64.0	60
	30	153.0	125	143.0	125	71.5	50	158.0	150	148.0	125	73.4	70
	36	174.0	150	162.0	150	81.7	70	178.0	150	165.0	150	82.6	80
222	12	124.0	125	118.0	125	56.1	60	129.0	125	123.0	125	58.4	60
	15	134.0	150	128.0	125	60.9	60	139.0	150	132.0	125	63.2	60
	18	145.0	150	137.0	150	65.6	70	150.0	150	142.0	150	67.9	70
	24	165.0	175	156.0	150	75.0	80	171.0	175	161.0	150	77.3	80
	30	186.0	175	175.0	175	84.4	80	192.0	175	179.0	175	86.7	80
	36	207.0	200	194.0	200	93.8	90	212.0	200	198.0	200	96.1	90
	48	249.0	225	231.0	225	113.0	110	254.0	225	236.0	225	115.0	110
	60	291.0	250	269.0	250	132.0	125	296.0	250	274.0	250	134.0	125
262	12	145.0	150	139.0	150	66.1	70	153.0	175	146.0	150	69.9	70
	15	155.0	175	148.0	150	70.9	70	163.0	175	156.0	175	74.7	80
	18	165.0	175	155.0	175	75.6	80	173.0	175	165.0	175	79.4	80
	24	187.0	200	176.0	175	84.9	90	194.0	200	184.0	175	88.5	90
	30	207.0	200	193.0	200	94.4	90	215.0	225	203.0	200	98.2	100
	35	228.0	225	214.0	225	104.0	100	236.0	225	222.0	225	108.0	110
	48	270.0	250	252.0	250	123.0	125	278.0	275	269.0	250	127.0	125
	60	312.0	300	290.0	300	142.0	150	319.0	300	297.0	250	145.0	125

ELECTRICAL DATA

UNITS WITH STANDARD FAN MOTOR

		041	051	071	092	122	142	222	262
MIN. CIRCUIT AMPACITY	208-3-60	21.0	20.9	27.4	31.5	42.7	48.7	82.0	103.0
	230-3-60	21.0	20.5	27.0	31.1	42.7	48.7	80.5	101.0
	460-3-60	9.2	10.6	13.7	15.5	20.4	24.7	37.3	47.3
MAX. FUSE SIZE (Dual Element Fuse)	208-3-60	30	30	45	40	50	60	110	125
	230-3-60	30	30	45	40	50	60	110	125
	460-3-60	15	15	20	20	25	30	50	60

UNITS WITH UPSIZED FAN MOTOR

MIN. CIRCUIT AMPACITY	208-3-60	19.3	22.5	29.0	33.1	43.7	53.3	87.3	111.0
	230-3-60	19.0	22.5	29.0	33.1	43.7	51.9	85.1	109.0
	460-3-60	9.4	11.8	14.6	16.5	20.9	26.3	39.6	51.1
MAX. FUSE SIZE (Dual Element Fuse)	208-3-60	30	35	45	45	60	70	110	125
	230-3-60	30	35	45	45	60	70	110	125
	460-3-60	15	15	20	20	25	35	50	60

COMPRESSOR

RLA	208-3-60	12.2	13.5	18.7	12.2	16.5	18.7	31.4	38.5
	230-3-60	12.2	13.5	18.7	12.2	16.5	18.7	31.4	38.5
	460-3-60	6.1	7.0	9.5	6.1	7.8	9.5	14.4	17.8
LRA	208-3-60	72.0	93.0	126.0	72.0	103.0	126.0	183.0	229.0
	230-3-60	72.0	93.0	126.0	72.0	103.0	126.0	183.0	229.0
	460-3-60	35.0	47.0	62.0	35.0	54.0	62.0	93.0	118.0

SUPPLY FAN MOTORS

HP	208-3-60		230-3-60		460-3-60	
	FLA	LRA	FLA	LRA	FLA	LRA
1/2	4.3	25.8	4.3	25.8	1.1	6.6
3/4	5.7	34.2	5.7	34.2	1.6	10.8
1	4.0	24.2	3.6	21.0	1.8	10.7
1 1/2	5.6	35.0	5.6	30.4	2.8	15.2
2	6.6	39.0	6.6	39.2	3.3	19.7
3	11.3	61.9	9.8	54.2	4.9	37.6
5	16.6	104.0	14.4	82.0	7.2	44.6

ENGINEERING GUIDE & SPECIFICATIONS

UNIT LOCATION	C T M	PERCENT OUTSIDE AIR	EXTERNAL STATIC PRESSURE	REFRIGERATION CAPACITY						REVERSE CYCLE HEATING CAPACITY			ELECTRIC HEATING		ELECTRICAL DATA				
				EVAPORATOR PERFORMANCE				CONDENSER		ENTERING WATER - F	ENTERING AIR - F	LEAVING AIR - F	TOTAL M B H	CONNECTED KW	NO. OF STAGES	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE	POWER SUPPLY	
				TOTAL M B H	SENSIBLE M B H	ENTER AIR		LV. AIR											
						DRY BULB - F	WET BULB - F	DRY BULB - F	WET BULB - F										ENTERING WATER - F

The (water to air heat pumps) (water cooled air conditioners) shall provide heating and cooling capacities as stated in the equipment schedule. The piping and duct connection locations shall be as shown in the plans and specifications.

The cabinet shall be a minimum of 20 gauge galvanized steel finished with acrylic lacquer. The interior of the cabinet base pan shall be coated with hot tar for maximum corrosion protection. The cabinet shall be thermally insulated with 1½# density glass fiber insulation. The supply fans shall be forward curve type DIDW mounted on solid steel shaft support in sealed ball bearings. Fan drive shall be belt type with adjustable pulley. Cabinet shall include throwaway filter and filter rack.

Each unit shall be installed on a factory built curb approved by National Roofers Association. Curb shall be fully factory assembled, insulated, and include wood nailer. Entire underside of cabinet shall be externally covered with sound absorbing foamed insulation.

Compressor shall be 3450 rpm, full hermetic type with internal motor protection and crankcase heater. The water to refrigerant

heat exchanger shall have (copper, cupronickel) inner tube. Evaporator coil shall have aluminum fins mechanically bonded to copper tubes, and shall be fed with thermostatic expansion valve. System shall include high and low pressure safety controls located externally from the compressor, which shall break the control voltage to the compressor contactor. (Refrigerant flow shall be directed by a four-way reversing valve.)

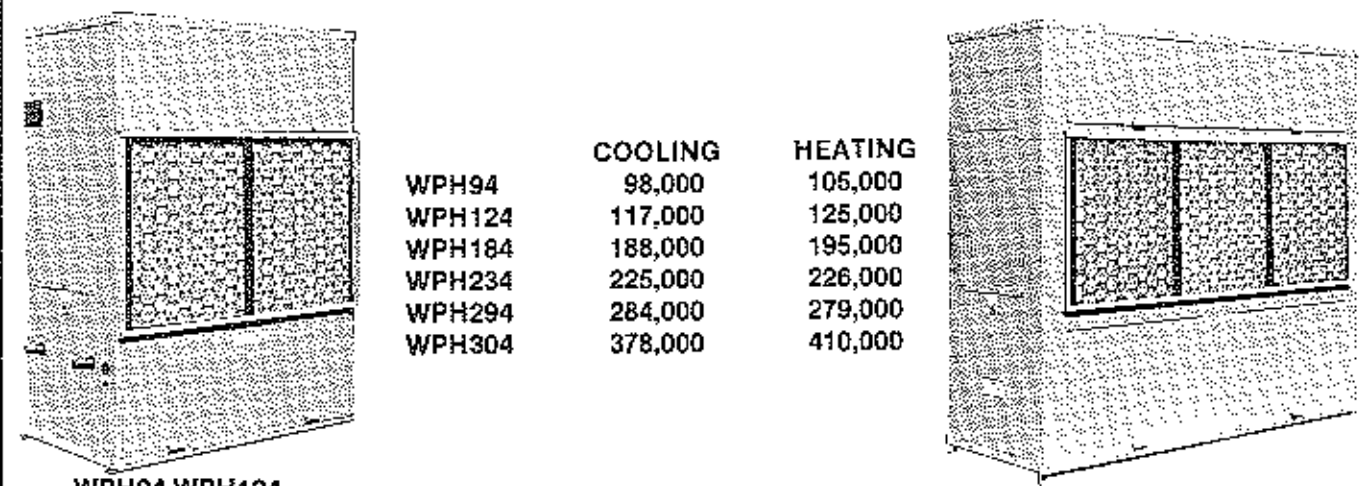
Operating controls shall include contactor, 24 volt control transformer, fan relay, lockout relay, and low voltage terminal board.

Safety controls shall include circuit to lock compressor off in the event one of the safety controls shall have been activated. Unit may not be restarted until the room thermostat has been turned off and then on again.

Each compressor shall be equipped with suction accumulator properly sized to prevent refrigerant flooding. The air conditioner refrigerant compressor shall be warranted by the manufacturer for 5 years from date of installation.

The unit shall be shipped completely factory assembled, precharged, piped and wired internally. Complete unit must be test operated at the factory prior to shipment.

OTHER WATER TO AIR HEAT PUMP PRODUCTS AVAILABLE



	COOLING	HEATING
WPH94	98,000	105,000
WPH124	117,000	125,000
WPH184	188,000	195,000
WPH234	225,000	226,000
WPH294	284,000	279,000
WPH304	378,000	410,000

WPH94-WPH124

WPH184-WPH234

Specifications and tolerances set forth in this catalog may vary according to industry and ARI standards. California Heat Pump Company reserves the right to discontinue, or change at anytime, specifications or designs set forth in this catalog, without notice and without incurring obligations or liability.

CHP co.

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