

HIGH-EFFICIENCY WATER SOURCE HEAT PUMPS AND WATER COOLED AIR CONDITIONERS

HORIZONTAL & VERTICAL MODELS
1/2 - 5 TONS

GENERAL

All Models 1/2 - 5 tons ship as factory-charged packages. Horizontal (HWP) units are designed for suspended ceiling mounting. HWP models are shipped with 'straight-through' evaporator fan discharge as standard. Fan orientation is field convertible to side discharge. Vertical (VWP) units are designed for free-standing floor mounting. All units are completely factory wired and pre-piped. Water supply, water outlet, and condensate drain connections are via female pipe thread fittings.

CABINET

All cabinets are completely constructed of 18 Ga. corrosion resistant "Galvalume" coated steel. The HWP units are complete with integral hanger channels. The entire unit interior (both evaporator and condensing section) is insulated with 1/2" thick, 2 lb. density insulation. Service panels are equipped with lifting handles for ease of removal and handling. All units provide excellent service access to the reversing valve, thermal expansion valve, and compressor with the unit

remaining in location. An integral duct collar is provided on the blower discharge opening. An optional discharge plenum is available for Vertical VWP models.

REFRIGERANT CIRCUITS

All models utilize hermetic rotary or reciprocating type compressors. Compressors are mounted on rubber isolators to minimize vibration transmission. Internal overload protection is provided. External high pressure and low pressure cutout switches are included in each compressor control circuit. Each refrigeration circuit includes an adjustable bi-flow thermal expansion valve (with external equalizer), bi-flow liquid line filter drier, and service gauge ports. The reversing valve is a pilot operated, sliding piston type with a replaceable magnetic solenoid coil.

The refrigerant-to-air heat transfer coils are constructed of internally enhanced copper tubes mechanically bonded to enhanced aluminum plate fins. The evaporator coil is employed in a draw-through configuration. Large evaporator coil face area minimizes potential water blow-off.

The coaxial refrigerant-to-water heat exchangers feature a convoluted inner tube design for high heat transfer efficiency. Standard models feature a copper inner tube surrounded by a steel outer tube, and carry a 400 psig water side working pressure rating.

INDOOR FANS

Forward curved, double inlet and double width direct-drive centrifugal blowers are used for evaporator air movement. Large diameter wheels are employed to provide required airflow performance at minimum noise levels. Blower wheels are fabricated of galvanized steel. Fan motors are PSC type, with minimum three speeds. The PSC motors feature permanently lubricated bearings and internal thermal overload protection.

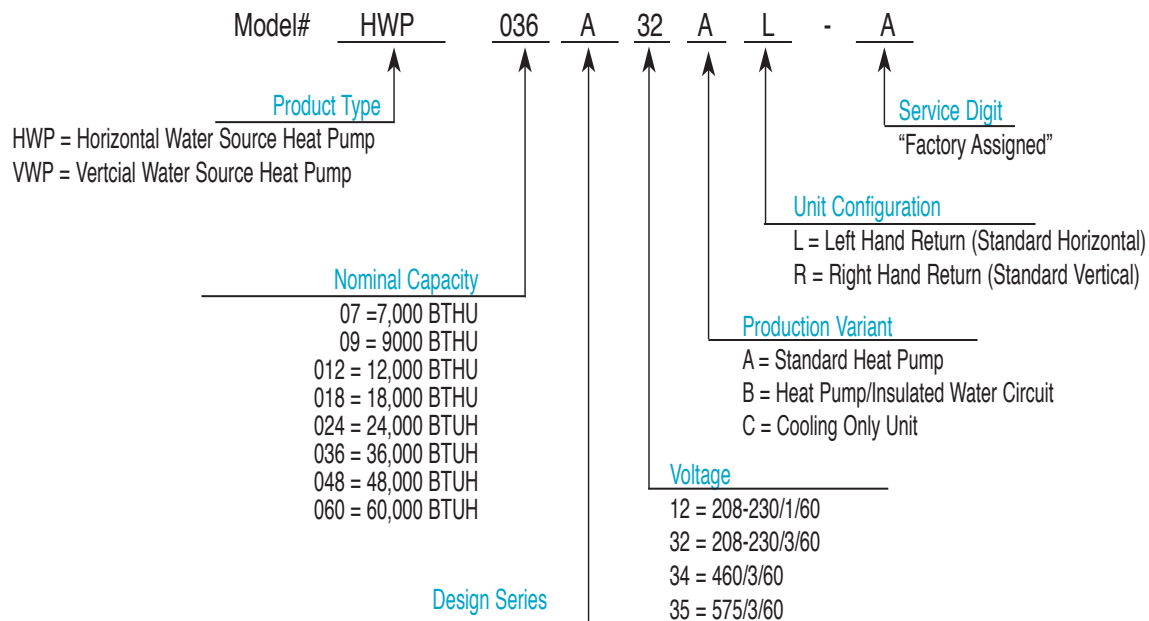
ELECTRICAL/CONTROLS

All units are completely factory wired with all necessary operating controls. A 24 volt control circuit, with oversize transformer, is provided for field connection. Units are designed to operate with conventional thermostat control interface. The reversing valve solenoid coil shall be energized in cooling mode only. A manual reset is provided on each compressor control circuit in the event of high/low pressure cutout. A time delay relay for anti-short cycle protection is standard in all units. An optional condensate overflow switch is available, complete with an alarm output contact. An optional remote management package allows the unit to be controlled by an external source.

FILTERS

All models are shipped with 1 inch thick throw-away filters factory installed. Filters are accessible from either side of unit.

Product Nomenclature



Model Series	007	009	012	018	024	030	036	048	060
Nominal Cooling(Ton)	0.5	0.75	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Cooling Performance									
Cooling Capacity(BTUH)	7000	9000	12800	18100	24200	30800	36100	48200	59000
EER	12.4	13.0	12.6	14.4	14.4	13.5	14.2	14.0	12.6
Heating Capacity (BTUH)	8800	10700	14800	20900	27500	35200	41400	56000	72000
COP	4.2	4.4	4.2	4.5	4.6	4.4	4.6	4.6	4.4
Design CFM	200	300	400	600	800	1000	1200	1600	2000
Nominal Waterflow (gpm)	1.5	2.25	3.0	4.5	6.0	7.5	9.0	12.0	15.0
Compressor-Type	Rotary	Rotary	Rotary	Rotary	Recip.	Recip.	Recip.	Recip.	Recip.
Number Used	1	1	1	1	1	1	1	1	1
Air Coil-Type	Enhanced Copper Tubes, Enhanced Aluminum Fins								
Face Area(sq ft)	1.00	1.00	1.00	1.51	2.56	2.56	2.88	4.38	5.00
Rows/FPI	2/14	2/14	3/14	3/14	3/14	3/14	3/14	3/14	3/14
Water Coil-Type	Co-axial								
Water Connection Size	1/2" FPT	1/2" FPT	1/2" FPT	3/4" FPT	3/4" FPT	3/4" FPT	3/4" FPT	3/4" FPT	1" FPT
Drain Connection Size	3/4" FPT								
Direct Drive Fan-Type	Centrifugal, Forward Curved								
Number Used	1	1	1	1	1	1	1	1	1
Diameter x Width (in)	9x4	9x4	9x4	9x6	9x7	9x7	9x7	10x9	10x9
Motor HP/Speed	0.10/3	0.10/3	0.17/3	0.25/3	0.25/3	0.33/3	0.50/3	0.75/3	1.0/3
Filters									
HWP - Quantity-Size(in)	1-14x16x1	1-14x16x1	1-14x16x1	1-16x20x1	1-18x25x1	1-18x25x1	1-20x25x1	2-20x20x1	1-20x20x1 1-20x25x1
VWP - Quantity-Size(in)	1-14x16x1	1-14x16x1	1-14x16x1	1-16x20x1	1-18x25x1	1-18x25x1	1-20x25x1	1-16x25x1 1-14x25x1	1-18x25x1 1-16x25x1
Weight									
Operating	130	135	155	180	215	235	260	325	345
Shipping	145	150	170	195	230	255	280	345	365

NOTE:

- 1) Performance calculated in accordance with ARI / ISO Standard 13256-1 for Water Loop Application
- 2) Cooling capacities are rated at entering air conditions of 80.6 F db / 66.2 F wb, 86 F entering water temperature.
- 3) Heating capacities are rated at entering air conditions of 68 F db / 59 F wb, 68 F entering water temperature.

OPERATING LIMITS - Water Loop Application

	COOLING	HEATING
Min. Entering Water	50°F	40°F*
Max. Entering Water	110°F	80°F
Normal Entering Water	60-90°F	50-70°F

* Heating operation below 55°F requires insulated water circuit.

PERFORMANCE DATA



HWP/VWP 007 @ 200 CFM Nominal Airflow

EWT (°F)	GPM	WPD (PSI)	COOLING				
			EAT (db/wb)	TC (MBH)	SC (MBH)	KW	THR (MBH)
50	1.0	0.8	75/62	7.1	5.1	0.51	8.8
			80/67	7.7	5.0	0.53	9.5
			85/72	8.3	4.9	0.55	10.2
	1.5	2.0	75/62	7.3	5.2	0.46	8.9
			80/67	8.1	5.2	0.48	9.7
			85/72	8.8	5.1	0.50	10.5
60	1.0	0.7	75/62	6.9	5.0	0.56	8.8
			80/67	7.5	5.0	0.57	9.4
			85/72	8.0	4.8	0.60	10.0
	1.5	1.9	75/62	7.1	5.1	0.52	8.9
			80/67	7.9	5.1	0.54	9.7
			85/72	8.6	5.0	0.56	10.5
70	1.0	0.7	75/62	6.6	4.9	0.61	8.7
			80/67	7.2	4.8	0.63	9.3
			85/72	7.7	4.7	0.66	9.9
	1.5	1.8	75/62	6.8	5.0	0.57	8.7
			80/67	7.6	5.0	0.59	9.6
			85/72	8.3	4.9	0.62	10.4
85	1.0	0.7	75/62	6.2	4.7	0.70	8.6
			80/67	6.7	4.7	0.72	9.1
			85/72	7.2	4.5	0.75	9.7
	1.5	1.7	75/62	6.4	4.8	0.65	8.6
			80/67	7.1	4.8	0.67	9.4
			85/72	7.8	4.7	0.70	10.2
100	1.0	0.6	75/62	5.8	4.6	0.77	8.4
			80/67	6.3	4.5	0.80	9.0
			85/72	6.7	4.3	0.84	9.6
	1.5	1.6	75/62	6.0	4.6	0.73	8.5
			80/67	6.6	4.6	0.76	9.2
			85/72	7.2	4.5	0.80	9.9

EWT (°F)	GPM	HEATING				
		EAT (db)	HC (MBH)	KW	H Absrp. (MBH)	
50	1.0	60	7.2	0.59	5.2	
		70	7.2	0.63	5.0	
		80	7.1	0.67	4.8	
	1.5	2.0	60	7.5	0.60	5.4
			70	7.4	0.64	5.2
			80	7.3	0.68	5.0
60	1.0	60	8.1	0.62	5.9	
		70	8.0	0.66	5.7	
		80	7.9	0.70	5.5	
	1.5	1.9	60	8.4	0.63	6.2
			70	8.3	0.67	6.0
			80	8.2	0.71	5.8
70	1.0	60	9.2	0.65	7.0	
		70	9.1	0.69	6.7	
		80	9.0	0.73	6.5	
	1.5	1.8	60	9.5	0.66	7.3
			70	9.4	0.70	7.0
			80	9.3	0.74	6.7
80	1.0	60	10.1	0.68	7.8	
		70	10.0	0.72	7.5	
		80	9.8	0.76	7.2	
	1.5	1.7	60	10.5	0.69	8.1
			70	10.3	0.73	7.8
			80	10.2	0.77	7.5

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
Tabulated KW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
SC = SENSIBLE COOLING CAPACITY
THR = TOTAL HEAT REJECTION
HC = TOTAL HEATING CAPACITY
WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	160	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	180	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	200	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	220	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	230	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 009 @ 300 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	1.35	1.4	75/62	9.1	7.0	0.55	11.0
			80/67	10.0	6.9	0.56	11.9
			85/72	10.8	6.7	0.57	12.7
	2.25	3.5	75/62	9.2	7.0	0.53	11.0
			80/67	10.2	7.0	0.54	12.0
			85/72	11.1	6.8	0.56	13.0
60	1.35	1.4	75/62	8.8	6.8	0.61	10.9
			80/67	9.7	6.8	0.62	11.8
			85/72	10.5	6.6	0.64	12.7
	2.25	3.5	75/62	8.9	6.9	0.58	10.9
			80/67	9.9	6.8	0.59	11.9
			85/72	10.7	6.7	0.61	12.8
70	1.35	1.4	75/62	8.5	6.7	0.66	10.7
			80/67	9.3	6.6	0.67	11.6
			85/72	10.1	6.5	0.69	12.4
	2.25	3.5	75/62	8.6	6.8	0.64	10.8
			80/67	9.5	6.7	0.65	11.7
			85/72	10.4	6.6	0.66	12.6
85	1.35	1.4	75/62	8.0	6.5	0.74	10.5
			80/67	8.8	6.4	0.75	11.3
			85/72	9.6	6.3	0.78	12.3
	2.25	3.5	75/62	8.1	6.5	0.73	10.6
			80/67	9.0	6.5	0.74	11.5
			85/72	9.8	6.4	0.77	12.4
100	1.35	1.4	75/62	7.5	6.3	0.82	10.3
			80/67	8.3	6.2	0.84	11.2
			85/72	9.0	6.1	0.87	12.0
	2.25	3.5	75/62	7.6	6.3	0.81	10.4
			80/67	8.4	6.3	0.83	11.2
			85/72	9.1	6.2	0.86	12.0

		HEATING			
EWT	GPM	EAT	HC	KW	H Absrp.
(°F)		(db)	(MBH)		(MBH)
50	1.35	60	8.2	0.62	6.0
		70	8.1	0.66	5.8
		80	8.0	0.70	5.6
	2.25	60	8.6	0.64	6.5
		70	8.5	0.68	6.2
		80	8.4	0.72	6.0
60	1.35	60	8.8	0.65	6.6
		70	8.7	0.69	6.3
		80	8.6	0.73	6.1
	2.25	60	9.7	0.68	7.4
		70	9.6	0.72	7.1
		80	9.4	0.76	6.8
70	1.35	60	10.6	0.71	8.1
		70	10.4	0.76	7.8
		80	10.3	0.81	7.5
	2.25	60	11.3	0.74	8.7
		70	11.1	0.79	8.4
		80	11.0	0.84	8.1
80	1.35	60	11.8	0.76	9.2
		70	11.6	0.81	8.8
		80	11.4	0.86	8.5
	2.25	60	12.3	0.78	9.7
		70	12.1	0.83	9.3
		80	12.0	0.88	9.0

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
 SC = SENSIBLE COOLING CAPACITY
 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	240	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	270	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	300	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	330	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	345	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 012 @ 400 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	1.8	2.1	75/62	13.2	10.0	0.80	15.9
			80/67	14.4	9.9	0.83	17.2
			85/72	15.4	9.6	0.89	18.4
	3.0	5.3	75/62	13.4	10.1	0.76	15.9
			80/67	14.7	10.0	0.78	17.3
			85/72	16.0	9.8	0.80	18.7
60	1.8	2.0	75/62	12.7	9.8	0.88	15.7
			80/67	13.8	9.7	0.90	16.8
			85/72	14.9	9.4	0.96	18.1
	3.0	5.1	75/62	13.0	9.9	0.85	15.9
			80/67	13.9	9.8	0.88	16.9
			85/72	15.5	9.6	0.92	18.6
70	1.8	1.9	75/62	12.3	9.6	0.96	15.5
			80/67	13.4	9.5	1.00	16.8
			85/72	14.4	9.3	1.04	17.9
	3.0	4.8	75/62	12.5	9.7	0.91	15.6
			80/67	13.7	9.6	0.95	16.9
			85/72	14.9	9.4	0.98	18.2
85	1.8	1.8	75/62	11.5	9.3	1.08	15.1
			80/67	12.6	9.2	1.11	16.3
			85/72	13.6	9.0	1.16	17.5
	3.0	4.6	75/62	11.8	9.4	1.03	15.3
			80/67	13.0	9.3	1.06	16.6
			85/72	14.1	9.2	1.11	17.8
100	1.8	1.7	75/62	10.8	9.0	1.20	14.8
			80/67	11.8	8.9	1.25	16.0
			85/72	12.7	8.7	1.31	17.1
	3.0	4.4	75/62	11.1	9.1	1.16	15.0
			80/67	12.1	9.0	1.21	16.2
			85/72	13.2	8.8	1.26	17.5

			HEATING			
EWT	GPM		EAT	HC	KW	H Absrp.
(°F)			(db)	(MBH)		(MBH)
50	1.8		60	11.7	0.87	8.7
			70	11.6	0.93	8.4
			80	11.4	0.98	8.1
	3.0		60	12.4	0.90	9.4
			70	12.3	0.96	9.0
			80	12.1	1.01	8.7
60	1.8		60	13.1	0.92	10.0
			70	12.9	0.98	9.6
			80	12.8	1.03	9.3
	3.0		60	13.8	0.94	10.6
			70	13.6	1.01	10.2
			80	13.5	1.07	9.8
70	1.8		60	15.2	1.00	11.8
			70	14.9	1.07	11.3
			80	14.8	1.13	10.9
	3.0		60	15.9	1.02	12.4
			70	15.6	1.09	11.9
			80	15.4	1.15	11.5
80	1.8		60	16.9	1.05	13.3
			70	16.6	1.13	12.8
			80	16.4	1.20	12.3
	3.0		60	17.4	1.07	13.7
			70	17.1	1.15	13.2
			80	16.9	1.22	12.7

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
 Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
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 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	320	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	360	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	400	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	440	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	460	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 0018 @ 600 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	2.75	2.3	75/62	18.4	14.6	1.01	21.9
			80/67	20.2	14.4	1.04	23.8
			85/72	21.8	14.1	1.07	25.5
	4.50	5.7	75/62	18.7	14.7	0.96	22.0
			80/67	20.6	14.5	0.98	24.0
			85/72	22.3	14.3	1.02	25.8
60	2.75	2.2	75/62	17.8	14.3	1.10	21.6
			80/67	19.6	14.2	1.12	23.4
			85/72	21.2	13.9	1.16	25.2
	4.50	5.5	75/62	18.0	14.4	1.07	21.7
			80/67	20.0	14.3	1.09	23.7
			85/72	21.6	14.0	1.12	25.4
70	2.75	2.1	75/62	17.1	14.0	1.21	21.2
			80/67	18.9	13.9	1.24	23.2
			85/72	20.3	13.6	1.28	24.7
	4.50	5.2	75/62	17.4	14.1	1.16	21.4
			80/67	19.2	14.0	1.19	23.3
			85/72	20.8	13.8	1.22	25.0
85	2.75	2.0	75/62	16.1	13.6	1.37	20.8
			80/67	17.8	13.5	1.40	22.6
			85/72	19.2	13.2	1.45	24.2
	4.50	4.9	75/62	16.3	13.7	1.33	20.9
			80/67	18.1	13.6	1.35	22.7
			85/72	19.6	13.4	1.38	24.3
100	2.75	1.9	75/62	15.1	13.2	1.55	20.4
			80/67	16.6	13.0	1.58	22.0
			85/72	17.9	12.8	1.65	23.5
	4.50	4.7	75/62	15.3	13.3	1.51	20.5
			80/67	17.0	13.2	1.54	22.3
			85/72	18.4	12.9	1.59	23.8

			HEATING			
EWT	GPM		EAT	HC	KW	H Absrp.
(°F)			(db)	(MBH)		(MBH)
50	2.75		60	16.2	1.13	12.4
			70	16.0	1.20	11.9
			80	15.8	1.28	11.5
	4.50		60	16.9	1.14	13.0
			70	16.7	1.22	12.5
			80	16.5	1.30	12.1
60	2.75		60	18.5	1.20	14.4
			70	18.2	1.28	13.8
			80	17.9	1.36	13.3
	4.50		60	19.4	1.23	15.2
			70	19.1	1.31	14.6
			80	18.8	1.39	14.1
70	2.75		60	21.1	1.28	16.8
			70	20.8	1.37	16.1
			80	20.5	1.46	15.5
	4.50		60	22.2	1.32	17.7
			70	21.8	1.41	17.0
			80	21.5	1.50	16.4
80	2.75		60	23.4	1.37	18.7
			70	23.0	1.46	18.0
			80	22.7	1.55	17.4
	4.50		60	24.4	1.39	19.7
			70	24.0	1.49	18.9
			80	23.6	1.59	18.2

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
 Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
 SC = SENSIBLE COOLING CAPACITY
 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	480	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	540	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	600	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	660	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	690	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 0024 @ 800 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	3.5	3.3	75/62	25.5	19.9	1.25	29.8
			80/67	28.3	19.8	1.26	32.6
			85/72	30.9	19.5	1.27	35.2
	6.0	8.0	75/62	26.1	20.2	1.15	30.0
			80/67	29.0	20.1	1.17	33.0
			85/72	31.8	19.9	1.19	35.9
60	3.5	3.2	75/62	24.3	19.4	1.41	29.1
			80/67	26.9	19.3	1.43	31.8
			85/72	29.4	19.0	1.45	34.4
	6.0	7.7	75/62	25.0	19.7	1.33	29.6
			80/67	27.8	19.6	1.35	32.4
			85/72	30.2	19.3	1.37	34.9
70	3.5	3.0	75/62	23.1	18.9	1.55	28.4
			80/67	25.6	18.8	1.58	31.0
			85/72	27.8	18.5	1.62	33.3
	6.0	7.3	75/62	23.8	19.2	1.48	28.9
			80/67	26.5	19.1	1.51	31.7
			85/72	28.8	18.8	1.54	34.1
85	3.5	2.9	75/62	21.1	18.1	1.75	27.1
			80/67	23.4	18.0	1.79	29.5
			85/72	25.4	17.7	1.85	31.7
	6.0	6.9	75/62	21.5	18.2	1.70	27.3
			80/67	24.3	18.3	1.75	30.3
			85/72	26.4	18.0	1.79	32.5
100	3.5	2.7	75/62	19.0	17.2	1.95	25.7
			80/67	21.1	17.1	2.00	27.9
			85/72	22.7	16.8	2.06	29.7
	6.0	6.6	75/62	19.3	17.3	1.91	25.8
			80/67	21.7	17.3	1.97	28.4
			85/72	23.6	17.1	2.03	30.5

			HEATING			
EWT	GPM		EAT	HC	KW	H Absrp.
(°F)			(db)	(MBH)		(MBH)
50	3.5		60	21.0	1.43	16.1
			70	20.7	1.53	15.5
			80	20.5	1.62	14.9
	6.0		60	21.8	1.46	16.9
			70	21.5	1.56	16.2
			80	21.3	1.65	15.6
60	3.5		60	23.8	1.50	18.6
			70	23.4	1.61	17.9
			80	23.1	1.71	17.3
	6.0		60	25.1	1.54	19.9
			70	24.7	1.65	19.1
			80	24.4	1.75	18.4
70	3.5		60	27.8	1.61	22.3
			70	27.3	1.73	21.4
			80	26.9	1.84	20.6
	6.0		60	29.5	1.66	23.8
			70	29.0	1.78	22.9
			80	28.5	1.89	22.1
80	3.5		60	30.7	1.69	25.0
			70	30.2	1.81	24.0
			80	29.7	1.92	23.1
	6.0		60	34.0	1.61	28.5
			70	33.3	1.73	27.4
			80	32.7	1.84	26.4

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
 SC = SENSIBLE COOLING CAPACITY
 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	640	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	720	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	800	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	880	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	920	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 030 @ 1000 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	4.5	3.6	75/62	32.8	25.0	1.71	38.6
			80/67	36.2	24.8	1.74	42.1
			85/72	39.5	24.4	1.77	45.5
	7.5	9.0	75/62	33.7	25.4	1.60	39.1
			80/67	37.1	25.2	1.62	42.6
			85/72	40.5	24.8	1.64	46.1
60	4.5	3.5	75/62	31.2	24.3	1.92	37.7
			80/67	34.5	24.2	1.94	41.1
			85/72	37.5	23.8	1.98	44.2
	7.5	8.7	75/62	32.0	24.7	1.82	38.2
			80/67	35.5	24.6	1.84	41.8
			85/72	38.7	24.2	1.86	45.0
70	4.5	3.3	75/62	29.5	23.6	2.09	36.6
			80/67	32.7	23.5	2.12	39.9
			85/72	35.7	23.2	2.17	43.1
	7.5	8.2	75/62	30.5	24.0	1.99	37.3
			80/67	33.9	23.9	2.02	40.8
			85/72	37.0	23.6	2.05	44.0
85	4.5	3.1	75/62	27.0	22.6	2.31	34.9
			80/67	30.0	22.5	2.37	38.1
			85/72	32.7	22.1	2.45	41.0
	7.5	7.8	75/62	27.8	22.9	2.24	35.4
			80/67	31.0	22.9	2.27	38.7
			85/72	33.9	22.5	2.33	41.8
100	4.5	3.0	75/62	24.5	21.5	2.50	33.0
			80/67	27.2	21.4	2.58	36.0
			85/72	29.6	21.1	2.70	38.8
	7.5	7.5	75/62	25.1	21.8	2.46	33.5
			80/67	28.2	21.8	2.51	36.7
			85/72	30.8	21.5	2.60	39.6

			HEATING			
EWT	GPM		EAT	HC	KW	H Absrp.
(°F)			(db)	(MBH)		(MBH)
50	4.5		60	27.0	1.91	20.5
			70	26.6	2.04	19.7
			80	26.4	2.16	19.0
	7.5		60	28.2	1.95	21.5
			70	27.8	2.09	20.7
			80	27.5	2.22	20.0
60	4.5		60	30.9	2.04	23.9
			70	30.4	2.18	23.0
			80	30.1	2.31	22.2
	7.5		60	32.7	2.09	25.6
			70	32.2	2.24	24.6
			80	31.8	2.38	23.7
70	4.5		60	35.7	2.18	28.2
			70	35.1	2.34	27.1
			80	34.6	2.49	26.1
	7.5		60	37.9	2.19	30.4
			70	37.2	2.35	29.2
			80	36.7	2.50	28.1
80	4.5		60	40.2	2.31	32.3
			70	39.4	2.48	31.0
			80	38.9	2.64	29.9
	7.5		60	42.2	2.38	34.0
			70	41.4	2.55	32.7
			80	40.8	2.71	31.5

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
 SC = SENSIBLE COOLING CAPACITY
 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	800	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	900	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	1000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	1100	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	1150	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 036 @ 1200 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	5.5	2.9	75/62	38.8	29.9	1.78	44.8
			80/67	42.9	29.7	1.85	49.1
			85/72	47.1	29.4	1.91	53.6
	9.0	7.0	75/62	39.2	30.1	1.65	44.8
			80/67	43.9	30.1	1.68	49.6
			85/72	48.2	29.8	1.76	54.1
60	5.5	2.8	75/62	36.7	29.0	2.15	44.0
			80/67	40.6	28.9	2.21	48.1
			85/72	44.5	28.5	2.29	52.3
	9.0	6.8	75/62	37.1	29.2	2.03	44.0
			80/67	41.5	29.2	2.09	48.6
			85/72	45.6	28.9	2.14	52.8
70	5.5	2.6	75/62	35.1	28.4	2.30	42.9
			80/67	38.4	28.0	2.38	46.5
			85/72	42.2	27.7	2.43	50.4
	9.0	6.4	75/62	35.5	28.4	2.19	42.9
			80/67	39.6	28.5	2.25	47.2
			85/72	43.4	28.1	2.32	51.3
85	5.5	2.5	75/62	32.6	27.3	2.56	41.3
			80/67	35.6	27.0	2.63	44.5
			85/72	38.6	26.5	2.81	48.1
	9.0	6.1	75/62	33.0	27.3	2.48	41.4
			80/67	36.1	27.1	2.59	44.9
			85/72	40.0	27.0	2.67	49.1
100	5.5	2.4	75/62	28.9	25.8	2.92	38.8
			80/67	31.4	25.4	3.04	41.7
			85/72	35.2	25.4	3.12	45.8
	9.0	5.8	75/62	29.3	25.8	2.85	39.0
			80/67	32.5	25.8	2.96	42.5
			85/72	36.4	25.8	3.03	46.7

			HEATING			
EWT	GPM		EAT	HC	KW	H Absrp.
(°F)			(db)	(MBH)		(MBH)
50	5.5		60	31.4	2.20	23.9
			70	31.0	2.35	23.0
			80	30.7	2.49	22.2
	9.0		60	32.8	2.24	25.2
			70	32.3	2.39	24.2
			80	32.0	2.53	23.3
60	5.5		60	36.0	2.33	28.0
			70	35.4	2.49	26.9
			80	34.9	2.64	25.9
	9.0		60	38.1	2.39	30.0
			70	37.5	2.56	28.8
			80	37.0	2.72	27.8
70	5.5		60	41.9	2.50	33.3
			70	41.1	2.68	32.0
			80	40.6	2.85	30.8
	9.0		60	44.4	2.58	35.6
			70	43.6	2.76	34.2
			80	43.0	2.93	33.0
80	5.5		60	46.7	2.65	37.7
			70	45.9	2.84	36.2
			80	45.2	3.02	34.9
	9.0		60	49.3	2.74	40.0
			70	48.4	2.93	38.4
			80	47.6	3.11	37.0

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
 Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
 SC = SENSIBLE COOLING CAPACITY
 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	960	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	1080	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	1200	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	1320	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	1380	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 048 @ 1600 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	7.5	3.9	75/62	51.2	39.6	2.80	60.7
			80/67	56.9	39.5	2.88	66.7
			85/72	59.9	38.1	3.04	70.2
	12.0	9.6	75/62	52.2	40.1	2.70	61.4
			80/67	58.0	40.0	2.77	67.4
			85/72	62.1	38.9	2.84	71.7
60	7.5	3.7	75/62	48.4	38.5	3.08	58.9
			80/67	53.7	38.3	3.17	64.5
			85/72	56.7	37.1	3.34	68.1
	12.0	9.2	75/62	49.8	39.1	2.94	59.8
			80/67	55.4	38.9	3.03	65.7
			85/72	59.3	37.9	3.01	69.8
70	7.5	3.5	75/62	46.2	37.5	3.31	57.4
			80/67	51.3	37.4	3.42	62.9
			85/72	54.2	36.2	3.59	66.4
	12.0	8.7	75/62	47.3	38.0	3.19	58.1
			80/67	52.8	37.9	3.27	63.9
			85/72	56.1	36.8	3.40	67.7
85	7.5	3.3	75/62	42.9	36.2	3.64	55.3
			80/67	47.2	35.8	3.87	60.4
			85/72	49.3	34.6	4.27	63.8
	12.0	8.3	75/62	43.5	36.4	3.58	55.7
			80/67	48.6	36.4	3.62	60.9
			85/72	51.6	35.3	3.84	64.7
100	7.5	3.2	75/62	38.7	34.4	4.03	52.4
			80/67	43.2	34.4	4.01	57.1
			85/72	45.1	33.2	4.45	60.2
	12.0	7.9	75/62	39.3	34.7	3.98	52.8
			80/67	44.1	34.7	4.02	57.8
			85/72	47.0	33.8	4.27	61.5

			HEATING			
EWT	GPM		EAT	HC	KW	H Absrp.
(°F)			(db)	(MBH)		(MBH)
50	7.5		60	44.3	3.11	33.7
			70	43.7	3.31	32.4
			80	43.2	3.50	31.2
	12.0		60	45.3	3.13	34.6
			70	44.6	3.34	33.2
			80	44.1	3.54	32.0
60	7.5		60	49.7	3.25	38.6
			70	48.9	3.47	37.1
			80	48.3	3.68	35.8
	12.0		60	52.5	3.33	41.1
			70	51.6	3.55	39.5
			80	50.9	3.76	38.1
70	7.5		60	57.4	3.46	45.6
			70	56.4	3.69	43.8
			80	55.6	3.91	42.2
	12.0		60	59.9	3.52	47.9
			70	58.8	3.76	46.0
			80	58.0	3.99	44.3
80	7.5		60	62.8	3.59	50.6
			70	61.7	3.83	48.6
			80	60.7	4.06	46.9
	12.0		60	66.1	3.67	53.6
			70	64.9	3.92	51.5
			80	63.8	4.16	49.6

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
 SC = SENSIBLE COOLING CAPACITY
 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	1280	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	1440	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	1600	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	1760	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	1840	1.010	0.965	1.021	1.017	1.074	1.006	1.016

HWP/VWP 060 @ 2000 CFM Nominal Airflow

			COOLING				
EWT	GPM	WPD	EAT	TC	SC	KW	THR
(°F)		(PSI)	(db/wb)	(MBH)	(MBH)		(MBH)
50	9.0	3.6	75/62	61.7	48.4	3.82	74.7
			80/67	68.1	48.1	3.91	81.4
			85/72	75.0	47.6	4.03	88.7
	15.0	8.8	75/62	63.0	49.0	3.66	75.5
			80/67	69.5	48.6	3.74	82.2
			85/72	76.5	48.1	3.85	89.6
60	9.0	3.5	75/62	59.4	47.5	4.08	73.3
			80/67	65.7	47.2	4.17	79.9
			85/72	72.0	46.6	4.34	86.8
	15.0	8.5	75/62	60.7	48.0	3.94	74.1
			80/67	67.1	47.7	4.02	80.8
			85/72	73.5	47.1	4.18	87.7
70	9.0	3.3	75/62	56.4	46.2	4.39	71.4
			80/67	62.8	46.1	4.47	78.0
			85/72	69.3	45.6	4.60	85.0
	15.0	8	75/62	58.1	46.9	4.22	72.5
			80/67	64.3	46.6	4.32	79.0
			85/72	71.2	46.3	4.40	86.2
85	9.0	3.1	75/62	52.4	44.6	4.87	69.0
			80/67	57.7	44.1	4.95	74.6
			85/72	63.5	43.7	5.12	80.9
	15.0	7.6	75/62	53.8	45.1	4.66	69.7
			80/67	58.9	44.6	4.84	75.4
			85/72	65.5	44.3	5.22	83.3
100	9.0	3.0	75/62	47.7	42.6	5.21	65.5
			80/67	52.4	42.2	5.42	70.9
			85/72	58.5	42.1	5.57	77.5
	15.0	7.3	75/62	49.1	43.2	5.09	66.4
			80/67	54.6	43.0	5.23	72.4
			85/72	60.4	42.7	5.38	78.7

			HEATING			
EWT	GPM		EAT	HC	KW	H Absrp.
(°F)			(db)	(MBH)		(MBH)
50	9.0	60	52.0	3.88	38.7	
		70	51.3	4.13	37.2	
		80	50.8	4.38	35.9	
	15.0	60	56.9	4.05	43.1	
		70	56.1	4.32	41.4	
		80	55.6	4.59	39.9	
60	9.0	60	59.0	4.12	45.0	
		70	58.2	4.39	43.2	
		80	57.6	4.66	41.6	
	15.0	60	66.1	4.36	51.2	
		70	65.1	4.65	49.2	
		80	64.3	4.94	47.4	
70	9.0	60	77.0	4.45	61.8	
		70	75.6	4.75	59.4	
		80	74.5	5.05	57.3	
	15.0	60	76.1	4.70	60.1	
		70	74.8	5.02	57.7	
		80	73.8	5.34	55.6	
80	9.0	60	77.8	4.76	61.5	
		70	76.4	5.08	59.1	
		80	75.4	5.40	57.0	
	15.0	60	87.0	5.09	69.6	
		70	85.5	5.44	66.9	
		80	84.3	5.79	64.5	

NOTE: All capacity data shown is NET - includes motor power/heat at design CFM and HI fan speed.
Tabulated kW values do not include allowance for external pumping power.

TC = TOTAL COOLING CAPACITY
 SC = SENSIBLE COOLING CAPACITY
 THR = TOTAL HEAT REJECTION
 HC = TOTAL HEATING CAPACITY
 WPD = WATER PRESSURE DROP

AIR FLOW CORRECTION FACTORS

AIRFLOW		HEATING			COOLING			
% OF Nominal	CFM	HC	Input Power	Heat Absrp.	TC	SC	Input Power	THR
80	1600	0.986	1.058	0.969	0.966	0.893	0.992	0.971
90	1800	0.993	1.029	0.985	0.983	0.947	0.996	0.986
100	2000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
110	2200	1.007	0.977	1.014	1.011	1.049	1.004	1.011
115	2300	1.010	0.965	1.021	1.017	1.074	1.006	1.016



BLOWER PERFORMANCE / ELECTRICAL DATA

BLOWER PERFORMANCE										
Unit	Speed	External Static Pressure (in w.g.)								
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
007	High	-	-	-	-	270	235	195	150	-
	Med	-	-	260	240	210	175	-	-	-
	Low	225	215	200	180	150	-	-	-	-
009	High	-	-	380	360	330	290	240	-	-
	Med	350	340	325	300	270	235	-	-	-
	Low	285	275	260	240	210	-	-	-	-
012	High	495	475	450	420	385	345	300	-	-
	Med	470	455	430	400	365	325	-	-	-
	Low	385	370	355	330	300	-	-	-	-
018	High	-	-	705	660	610	555	495	430	-
	Med	-	700	660	615	565	510	450	-	-
	Low	690	665	630	585	535	480	-	-	-
024	High	-	-	1005	950	890	820	740	650	-
	Med	925	905	875	840	790	730	660	-	-
	Low	-	-	780	765	725	660	590	-	-
030	High	-	-	1170	1120	1060	985	905	810	-
	Med	1150	1125	1090	1045	990	925	850	765	-
	Low	-	975	970	940	905	855	785	-	-
036	High	-	1390	1330	1270	1210	1140	1055	960	-
	Med	1355	1320	1270	1215	1155	1085	1005	920	-
	Low	1200	1190	1170	1130	1085	1020	950	-	-
048	High	-	-	1990	1915	1835	1750	1660	1550	1415
	Med	1880	1860	1820	1770	1710	1640	1550	1450	1320
	Low	-	1490	1485	1480	1460	1420	1360	1285	1160
060	High	2340	2280	2210	2140	2070	1990	1895	1790	1660
	Med	2040	2030	2005	1970	1925	1860	1785	1700	1590
	Low	-	-	1705	1700	1680	1660	1610	1540	-

Units are shipped pre-wired for Medium speed.

All airflow ratings are at lowest voltage rating of dual rating (ie. 208 volt)

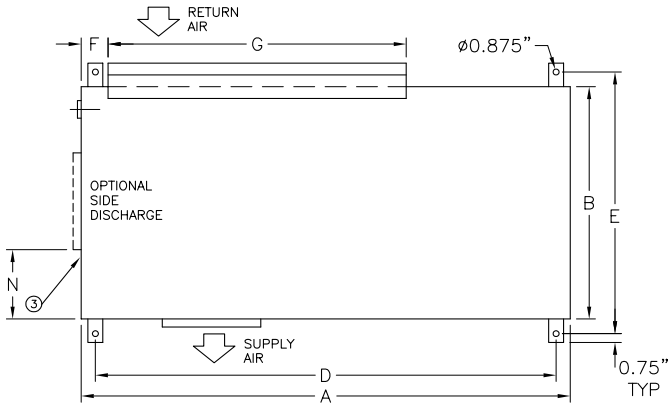
Airflow ratings include resistance of wet coil and clean air filters.

ELECTRICAL DATA									
MODEL	SUPPLY		COMPRESSOR		BLOWER		MIN. CCT.	MAX FUSE /	
Series	VOLTAGE	QTY		RLA	LRA	HP	FLA	AMPACITY	CCT. BKR. AMP
007	208-230/1/60	1	@	2.8	17.7	0.10	0.9	4.35	15
009	208-230/1/60	1	@	3.4	23.0	0.10	0.9	5.15	15
012	208-230/1/60	1	@	4.8	26.3	0.17	1.4	7.40	15
018	208-230/1/60	1	@	9.6	49.0	0.17	1.4	13.40	20
024	208-230/1/60	1	@	10.4	49.0	0.25	1.5	14.50	20
030	208-230/1/60	1	@	12.4	61.0	0.33	2.6	18.10	30
	208-230/3/60	1	@	7.7	55.0	0.33	2.6	12.23	15
036	208-230/1/60	1	@	15.3	82.0	0.50	3.2	22.33	35
	208-230/3/60	1	@	10.0	68.0	0.50	3.2	15.70	25
	460/3/60	1	@	4.8	34.0	0.50	2.5	8.50	15
048	208-230/1/60	1	@	19.0	105.0	0.75	4.9	28.65	45
	208-230/3/60	1	@	14.0	91.0	0.75	4.9	22.40	35
	460/3/60	1	@	5.9	42.0	0.75	2.2	9.58	15
	575/3/60	1	@	4.8	34.0	0.75	1.8	7.80	15
060	208-230/1/60	1	@	24.6	132.0	1.00	5.1	35.85	60
	208-230/3/60	1	@	16.0	97.0	1.00	5.1	25.10	40
	460/3/60	1	@	8.2	50.0	1.00	3.2	13.45	20
	575/3/60	1	@	5.0	44.0	1.00	2.6	8.85	15

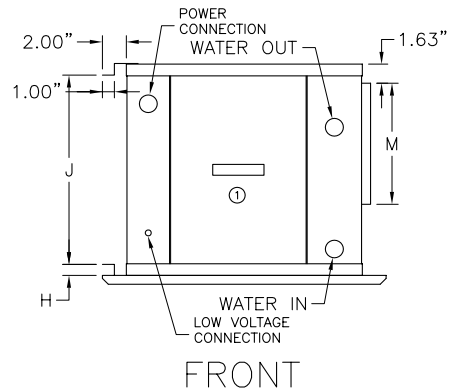
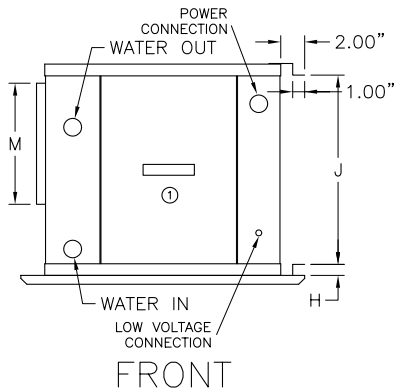
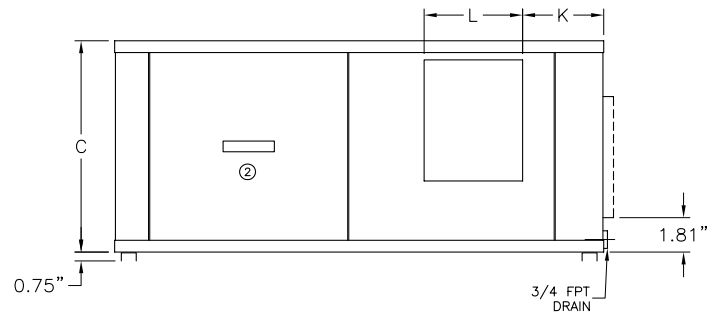
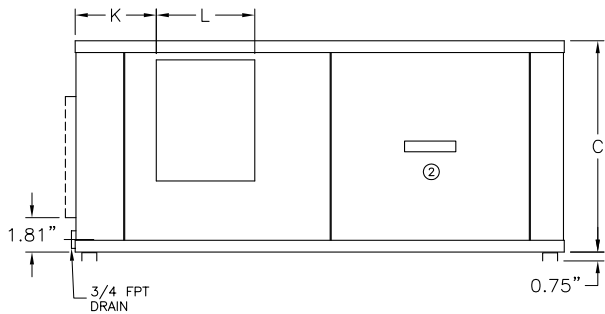
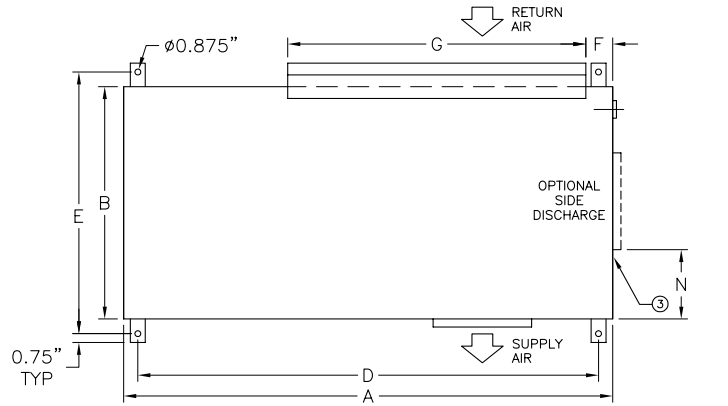
HORIZONTAL HWP DIMENSIONAL DATA



RIGHT HAND RETURN



LEFT HAND RETURN



FRONT

FRONT

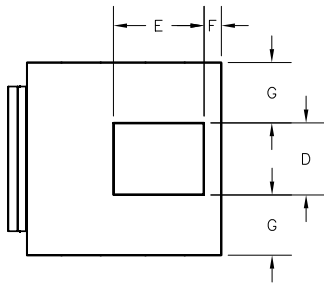
SERVICE DOORS

- ① – ELECTRICAL BOX SERVICE DOOR
- ② – COMPRESSOR AND CONDENSER SERVICE DOOR
- ③ – BLOWER SERVICE DOOR

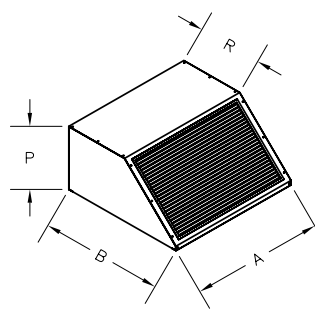
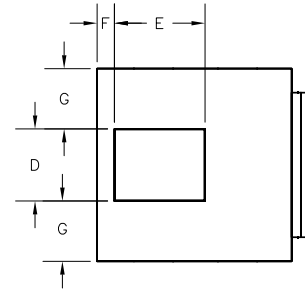
	A	B	C	D	E	F	RETURN AIR			K	SUPPLY AIR		N
							G	H	J		L	M	
HWP007	34.50	19.00	15.00	32.25	21.50	2.56	15.00	2.00	12.00	5.75	6.81	10.31	3.75
HWP009	34.50	19.00	15.00	32.25	21.50	2.56	15.00	2.00	12.00	5.75	6.81	10.31	3.75
HWP012	34.50	19.00	15.00	32.25	21.50	2.56	15.00	2.00	12.00	5.75	6.81	10.31	3.75
HWP018	40.00	21.00	16.00	37.75	23.50	2.56	18.00	1.00	14.00	6.50	8.25	10.31	3.75
HWP024	45.00	21.00	18.00	42.75	23.50	2.25	25.00	1.00	16.00	6.50	9.19	10.31	4.81
HWP030	45.00	21.00	18.00	42.75	23.50	2.25	25.00	1.00	16.00	6.50	9.19	10.31	4.81
HWP036	48.00	23.00	20.00	45.75	25.50	2.25	25.00	1.00	18.00	6.50	9.19	10.31	5.88
HWP048	58.00	25.00	20.00	55.75	27.50	2.25	38.00	1.00	18.00	6.00	12.25	11.38	5.13
HWP060	63.00	25.00	20.00	60.75	27.50	2.25	42.00	1.00	18.00	6.00	12.25	11.38	5.13

DIMENSIONS IN INCHES

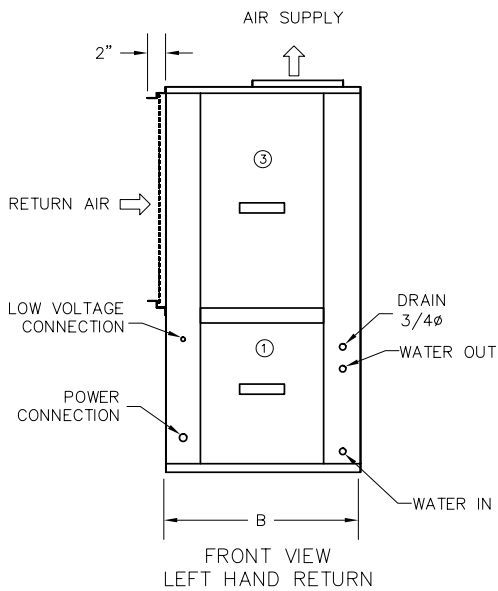
LEFT HAND RETURN



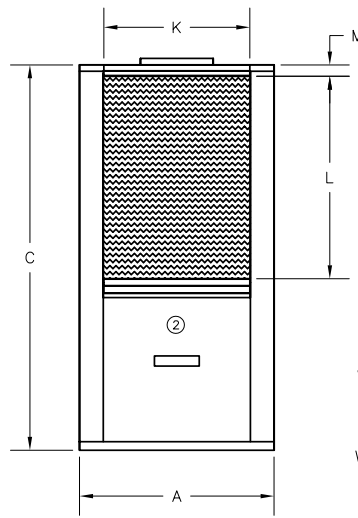
RIGHT HAND RETURN



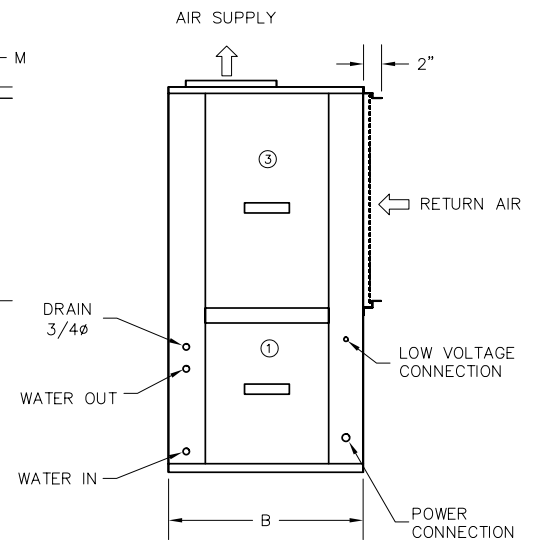
DISCHARGE PLENUM



FRONT VIEW
LEFT HAND RETURN



AIR COIL SIDE



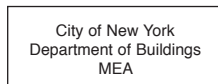
FRONT VIEW
RIGHT HAND RETURN

SERVICE DOORS

- ① - ELECTRICAL BOX SERVICE DOOR
- ② - COMPRESSOR AND CONDENSER SERVICE DOOR
- ③ - BLOWER SERVICE DOOR

MODEL	A	B	C	AIR SUPPLY		F	G	RETURN AIR			OPTIONAL PLENUM	
				D	E			K	L	M	P	R
VWP007	22.50	22.50	33.00	6.81	10.31	2.00	7.81	14.88	12.50	1.25	N/A	N/A
VWP009	22.50	22.50	33.00	6.81	10.31	2.00	7.81	14.88	12.50	1.25	N/A	N/A
VWP012	22.50	22.50	33.00	6.81	10.31	2.00	7.81	14.88	12.50	1.25	11.50	12.00
VWP018	22.50	22.50	35.00	8.25	10.31	2.00	7.13	16.88	14.50	1.25	11.50	12.00
VWP024	22.50	22.50	45.00	9.19	10.31	2.00	7.13	16.88	23.50	1.25	11.50	12.00
VWP030	22.50	22.50	45.00	9.19	10.31	2.00	6.63	16.88	23.50	1.25	11.50	12.00
VWP036	24.50	24.00	45.00	9.19	10.31	3.00	7.63	18.88	23.50	1.25	12.50	12.50
VWP048	29.50	27.50	52.00	12.25	11.38	3.00	8.63	23.00	28.50	0.75	14.19	14.31
VWP060	29.50	27.50	56.00	12.25	11.38	3.00	8.81	23.00	32.50	0.75	14.19	14.31

DIMENSIONS IN INCHES



Skymark maintains a continuous product improvement policy, therefore specifications are subject to change without notice.