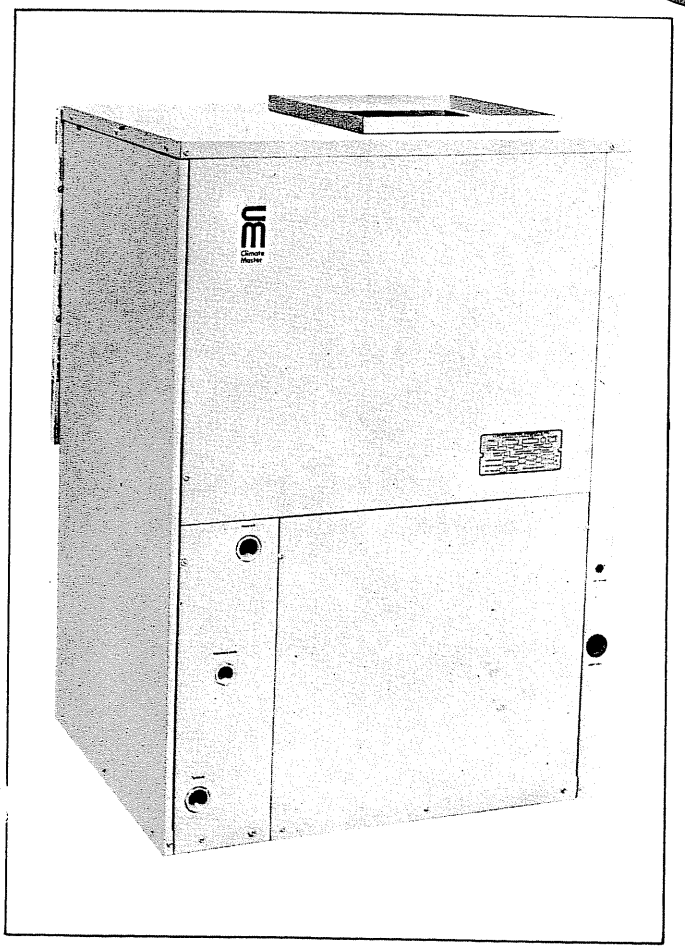
CLIMATE MASTER. 62 Series

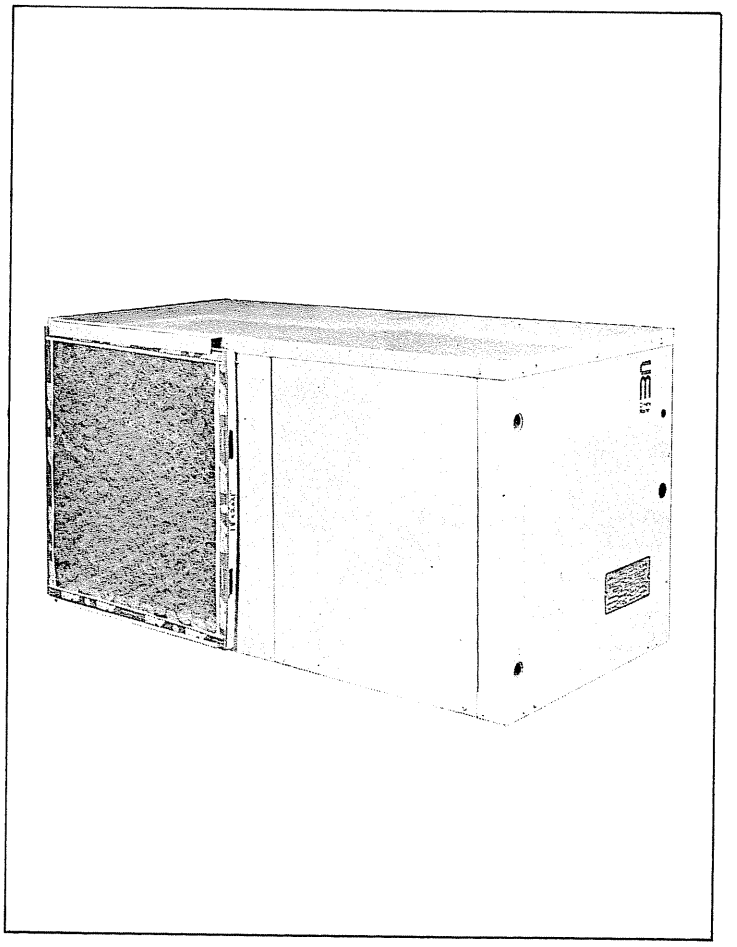
WATER TO AIR **HEAT PUMPS** VERTICAL MODEL HORIZONTAL MODEL

Better Cooling...Better Heating...Economically

CHOOSE FROM VERTICAL AND HORIZONTAL MODELS

- 3 Electrical Options
- Different Return Air Configurations
- Belt Driven Blower
- Versatility of Application
- Compact, Space-Saving Design
- Designed & Tested for High Efficiency
- Superior Accessibility
- Accoustically Improved





MAKE CLIMATE MASTER YOUR BEST BUY IN ALL WEATHER COMFORT...

The Climate Master® is a complete factory-packaged water-to-air heat pump that provides total comfort. Each unit is designed and built per the specifications listed below:

Cabinet:

The cabinet is made of heavy gauge, galvanized steel, and painted electro-statically to prevent corrosion. The interior of the cabinet is lined with high density, coated insulation with improved thermal insulating and accoustical absorption characteristics. The units have access panels for ease of inspection and service to all components. The design incorporates externally stubbed water and drain (FPT) connections in the front of the unit for easy installation. The electrical power, control voltage wiring and control box are also accessible from the front of the unit. The supply air opening is provided with a duct collar and the return air incorporates a filter rack permitting removal of the filter in any direction (also optionally available is a flanged filter rack for ducted returns). The horizontal unit has threaded fasteners on the top for ceiling suspended installation.

Compressor:

The hermetic compressor is internally spring-mounted and mounted in the cabinet on rails with vibration isolators for quiet, smooth running operation. The compressor is furnished with external (line break) motor protection and features an anti-slug device for extended life.

Reversing Valve:

The reverse cycle feature is provided by a four way electro-magnetic reversing valve designed for low pressure drops and reliable operation.

Refrigerant-To-Water Heat Exchanger:

The heat exchanger is coaxial (tube-in-tube) spirally wound with booster fins on the refrigerant side to provide optimum heat transfer. The inner (water) tube is available in copper or 90/10 cupro-nickel construction designed to withstand water pressures of 500 psi. The outer (refrigerant) tube is made of primed and painted steel. Design working pressure on the refrigerant side is 450 psi.

Air-To-Refrigerant Heat Exchanger:

The large face area, fin coil heat exchanger utilizes 5/16" staggered copper tubes with rippled and corrugated aluminum fins for added heat transfer. The refrigerant circuiting is designed for optimum pressure drops and efficiency.

Refrigerant Control:

The optimum factory charge of Refrigerant 22 is metered by precisely designed capillary tubes. The critical charge and sizing of capillary tubes is laboratory researched for balancing on the cooling and heating modes at varied conditions. The refrigerant piping is factory pressure and leak tested. Abnormal pressures within the refrigerant circuit are prevented with safety high and low pressure switches.
Charging and service ports are provided on the high and low pressure sides of the unit as standard equipment.

Blower and Motor:

The belt driven blower wheel and housing is custom designed for quiet operation and efficient air delivery. The blower is mounted on permanently lubricated, maintenance free ball-bearings. The blower is coupled to a motor with inherent overload protection. The variable pitch sheave on the motor affords multiple variations of airflow at different external statics. Each unit is provided with a high velocity type disposable filter.

Controls:

The control box, easily accessible from the front panel, includes a 24 volt control transformer, compressor contactor, blower and impedance relays. The single phase model is furnished with a run capacitor and starting components (capacitor and relay). Completely factory wired, the circuit features a lock-out relay to provide a manual reset at the thermostat in case of interrupted operation by the safety controls. The individual control components are designed for ease of inpsection and serviceability. A terminal block is provided for convenient field wiring to the thermostat. A remote thermostat for comfort control is furnished with the unit

SUPERIOR COOLING CAPACITIES AND PERFORMANCE

COOLING

In accordance with ARI Standard 240-67.
Cooling Capacity: 62,000 BTUH*.
Power Input: 7300 Watts.

*Basis: 2100 CFM of 80° F DB/67° F WB entering air
8.8 GPM of Water entering at 75° F, leaving at 95° F.

APPLICATION DATA

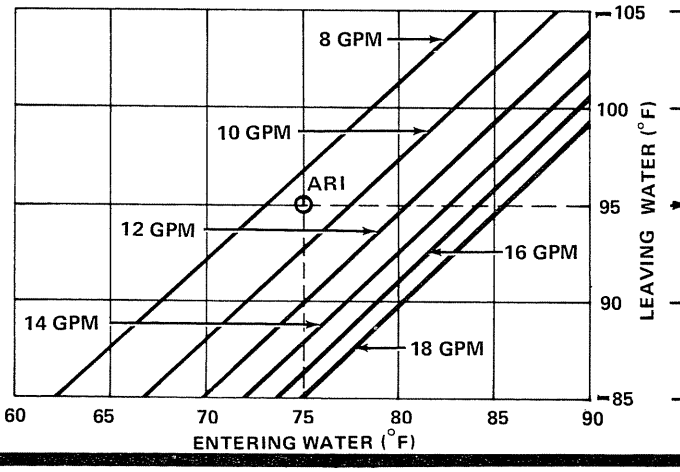
ENTERING AIR (°F) WET BULB	BASED ON 2100 CFM & 95° F LEAVING WATER					
	TOTAL CAPACITY (BTUH)	SENSIBLE CAPACITY (BTUH) ENTERING AIR (°F) DRY BULB				HEAT OF REJECTION
		75	80	85	90	(BTUH)
61	54000	42700	48500	–	–	79500
64	57800	39300	45400	52000	–	84000
67	62000	36000	42000	48400	55500	88000
70	66300	–	38400	44400	51000	94500
73	71000	–	–	41000	47500	98000

CORRECTION FACTORS

(A) VARIATION OF AIRFLOW

CFM	1800	1900	2000	2100	2200	2300	2400
TOTAL CAPACITY	.942	.962	.981	1.000	1.013	1.027	1.033
SENSIBLE CAPACITY	.925	.950	.975	1.000	1.021	1.043	1.063
HEAT OF REJECTION	.957	.971	.986	1.000	1.033	1.067	1.080

(B) VARIATION OF ENTERING WATER TEMP. AND FLOW RATE MULTIPLIER



TOTAL & SENSIBLE CAPACITY MULTIPLIER	HEAT OF REJECTION MULTIPLIER	POWER INPUT (WATTS)
0.928	0.948	7770
0.974	0.979	7500
1.000	1.000	7300
1.029	1.022	7140
1.056	1.043	7000

BLOWER PERFORMANCE (INCLUDES ALLOWANCE FOR WET COIL & FILTER)

BLOWER SPEED	SCFM @ AVAILABLE EXTERNAL STATIC PRESSURE (IWG)						
	.2	.25	.3	.35	.4	.5	.6
HIGH	–	–	–	–	2300	2100	1890
MEDIUM	2410	2300	2200	2100	2000	1790	–
LOW	2100	2000	1890	–	–	–	–

SAMPLE PROBLEM (COOLING)

2000 CFM AIR ENTERING AT 80° DB/61° WB
12 GPM OF 86° F ENTERING WATER

		AIRFLOW CORRECTION ▼		WATER FLOW CORRECTION ▼	
TOTAL CAPACITY	= 54000 X	.981 X	.974	=	51600 BTUH
SENSIBLE	= 48500 X	.975 X	.974	=	46060 BTUH
HEAT REJECTION	= 79500 X	.986 X	.979	=	76740 BTUH

SUPERIOR HEATING CAPACITIES AND PERFORMANCE

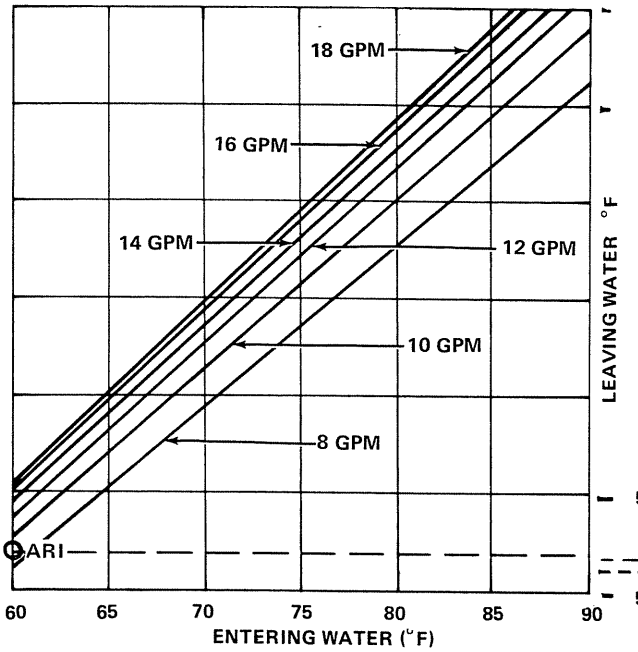
HEATING

In accordance with ARI Standard 240-67.
Heating Capacity: 59,000 BTUH*.
Power Input: 7200 Watts.

*Basis: 2100 CFM of 70° F entering air
8.8 GPM of 60° F entering water.

APPLICATION DATA

VARIATION OF ENTERING WATER TEMPERATURE AND FLOW RATE



HEATING CAPACITY (BTUH)	HEAT OF ABSORPTION (BTUH)	POWER INPUT (WATTS)
85000	55700	8950
80600	52400	8550
76200	49000	8200
72000	46500	7850
67900	43000	7630
62300	38000	7370
59000	35000	7200

VARIATION OF ENTERING AIR TEMPERATURES CORRECTION FACTOR

ENTERING AIR (° F)	60	65	70	75	80
HEATING CAPACITY MULTIPLIER	1.05	1.03	1.00	0.97	0.94
HEAT OF ABSORPTION MULTIPLIER	1.07	1.04	1.00	0.95	0.94
POWER INPUT MULTIPLIER	0.96	0.98	1.00	1.04	1.08

VARIATION OF AIRFLOW CORRECTION FACTOR

CFM	1800	1900	2000	2100	2200	2300	2400
HEATING CAPACITY MULTIPLIER	.942	.962	.981	1.000	1.013	1.027	1.033
HEAT OF ABSORPTION MULTIPLIER	.931	.954	.977	1.000	1.018	1.037	1.054
POWER INPUT MULTIPLIER	1.087	1.057	1.034	1.000	0.989	0.977	0.969

WATER PRESSURE DROP-PSIG.

WATER FLOW RATE (GPM)	8	10	12	14	16	18
PRESSURE DROP (PSIG)	1.2	1.6	2.1	2.8	3.7	4.9

SAMPLE PROBLEM (HEATING)

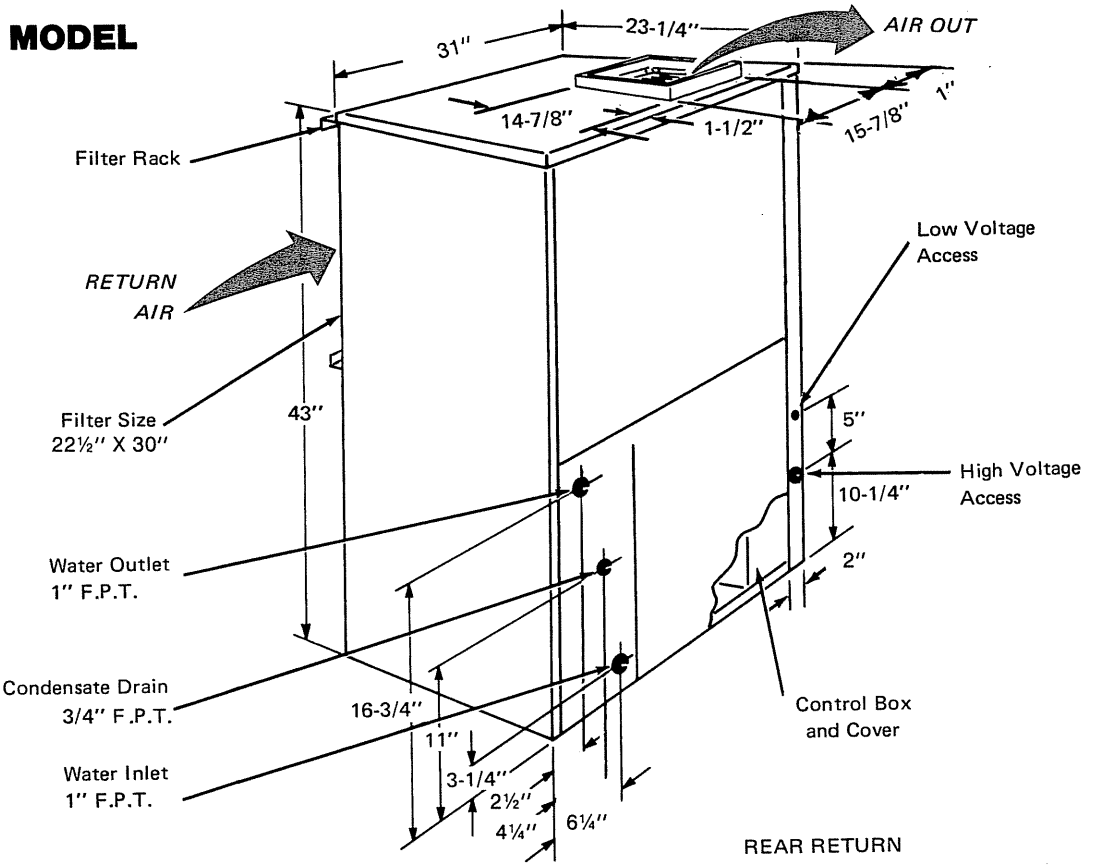
2000 CFM OF AIR ENTERING @ 75° F
12 GPM OF 67° F ENTERING WATER

		ENTERING AIR CORRECTION		AIRFLOW CORRECTION		
HEATING CAPACITY	= 67900	X 0.97	X	0.981	=	64610 BTUH
HEAT OF ABSORPTION	= 43000	X 0.95	X	0.977	=	39910 BTUH
POWER INPUT (WATTS)	= 7630	X 1.04	X	1.034	=	8205 WATTS

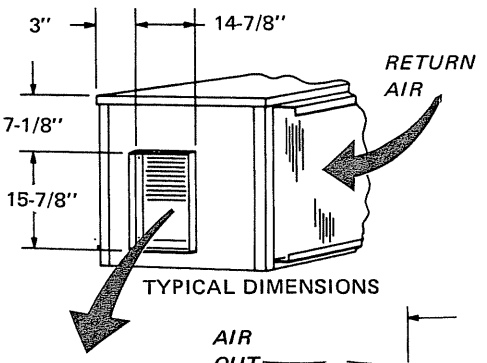
CHOOSE FROM VERTICAL AND HORIZONTAL STYLES

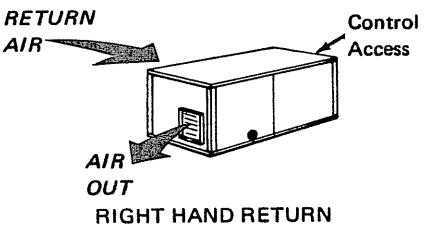
DIMENSIONAL DATA

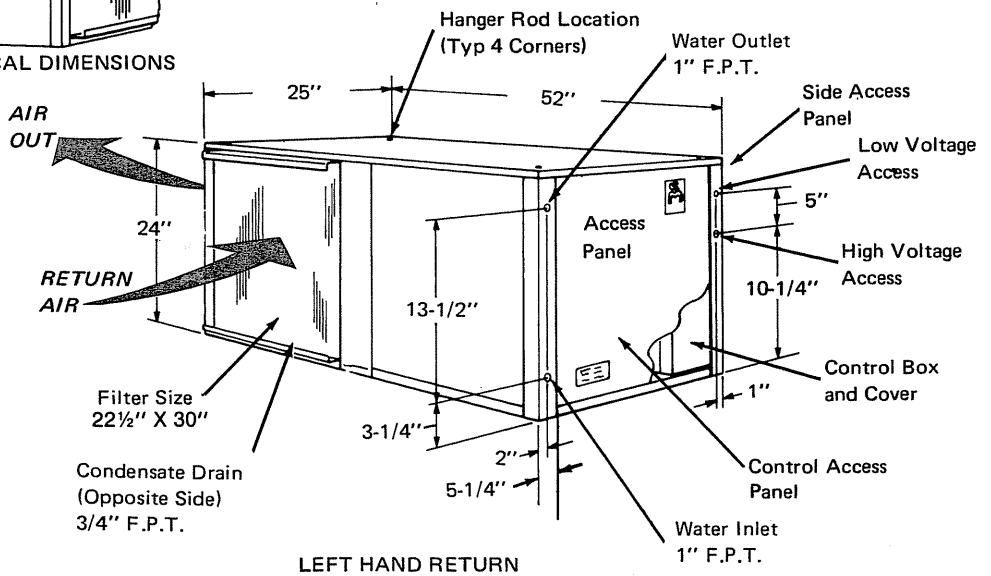
VERTICAL MODEL



HORIZONTAL MODEL







CLIMATE MASTER FOR QUALITY AND ECONOMY

PHYSICAL DATA

SPECIFICATION CHART

FOR VERTICAL AND HORIZONTAL MODELS

MODEL		V62-12	H62-12	V62-32	H62-32	V62-34	H62-34
CONFIGURATION		VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL
VOLTAGE *		208/230	208/230	208/230	208/230	480	480
PHASE		1	1	3	3	3	3
MIN. CIRCUIT AMPACITY		46.9	46.9	27.5	27.5	15.0	15.0
MAX. FUSE SIZE **		70	70	45	45	25	25
COMPRESSOR F.L.A.		30.6	30.6	19.4	19.4	10.7	10.7
COMPRESSOR L.R.A.		147	147	132	132	62	62
BLOWER F.L.A.		7.6	7.6	3.1	3.1	1.6	1.6
BLOWER MOTOR-HP		3/4	3/4	3/4	3/4	3/4	3/4
NO. OF SPEEDS		VARIABLE BELT DRIVE	VARIABLE BELT DRIVE	VARIABLE BELT DRIVE	VARIABLE BELT DRIVE	VARIABLE BELT DRIVE	VARIABLE BELT DRIVE
BLOWER WHEEL DIA.		13-3/16	13-3/16	13-3/16	13-3/16	13-3/16	13-3/16
BLOWER WHEEL LEN.		9-11/16	9-11/16	9-11/16	9-11/16	9-11/16	9-11/16
REF. TO AIR HEAT EXCHANGER	ROWS	3	3	3	3	3	3
	FACE AREA	4.14	4.14	4.14	4.14	4.14	4.14
	FINS/INCH	12	12	12	12	12	12
WATER INLET (FPT)		1"	1"	1"	1"	1"	1"
WATER OUTLET (FPT)		1"	1"	1"	1"	1"	1"
DRAIN (FPT)		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
FILTER SIZE		22½ x 30 x 1	22½ x 30 x 1	22½ x 30 x 1	22½ x 30 x 1	22½ x 30 x 1	22½ x 30 x 1
OPERATING, WT. (APPROX.)		450	470	450	470	450	470

* MIN. VOLTAGE ON 208/230 VOLT MODELS IS 197 VOLTS.

** TIME DELAY TYPE

NOTE: ALL UNITS ARE OPTIONALLY AVAILABLE WITH CONTROLS FOR AN AUTOMATIC CHANGEOVER THERMOSTAT.

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CLIMATE MASTER PRODUCTS

DIVISION OF WEIL - MC LAIN COMPANY, INC.

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