

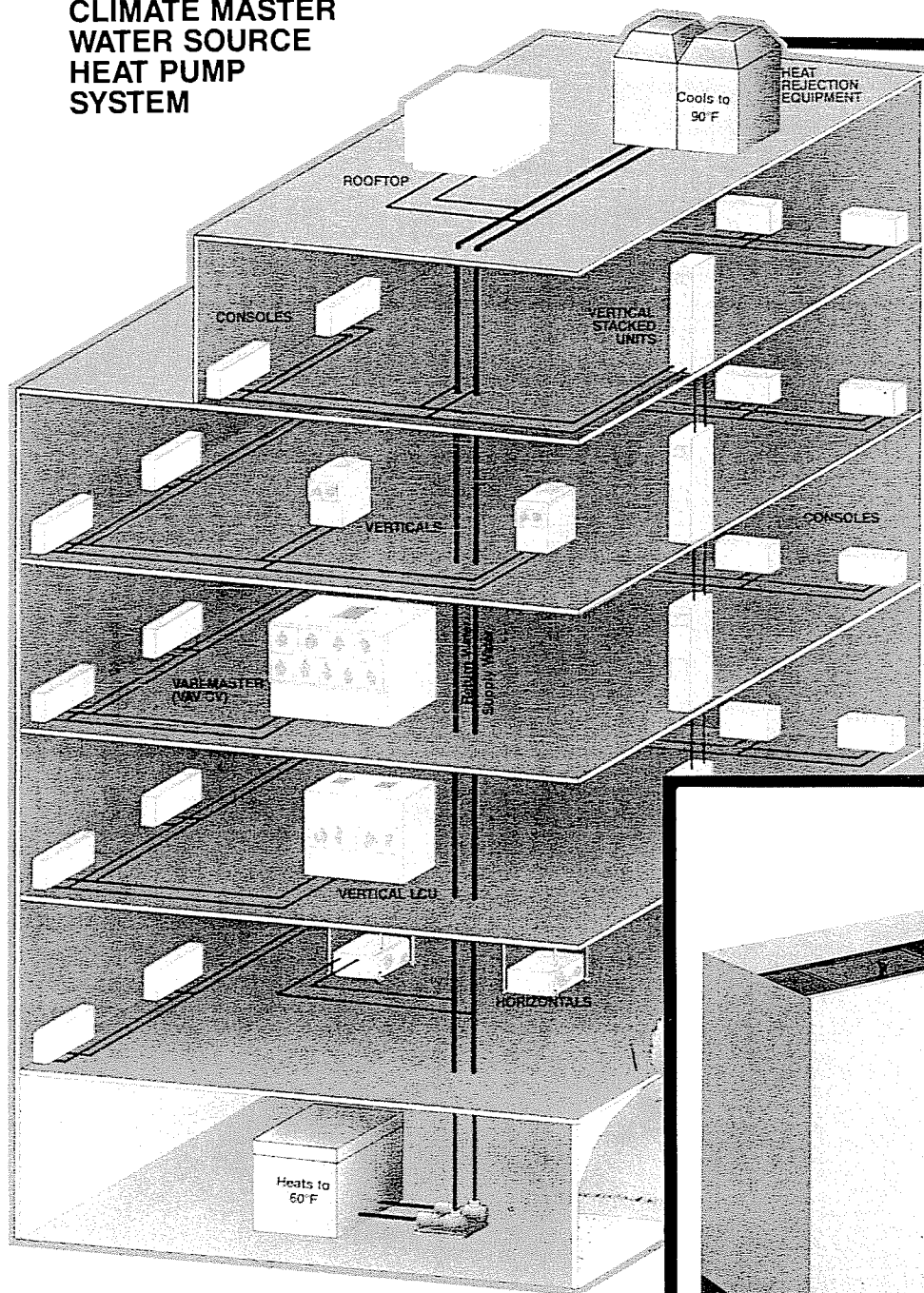


DESIGN GUIDE
CONSOLE
Water-to-Air Heat Pumps
THE 801 SERIES

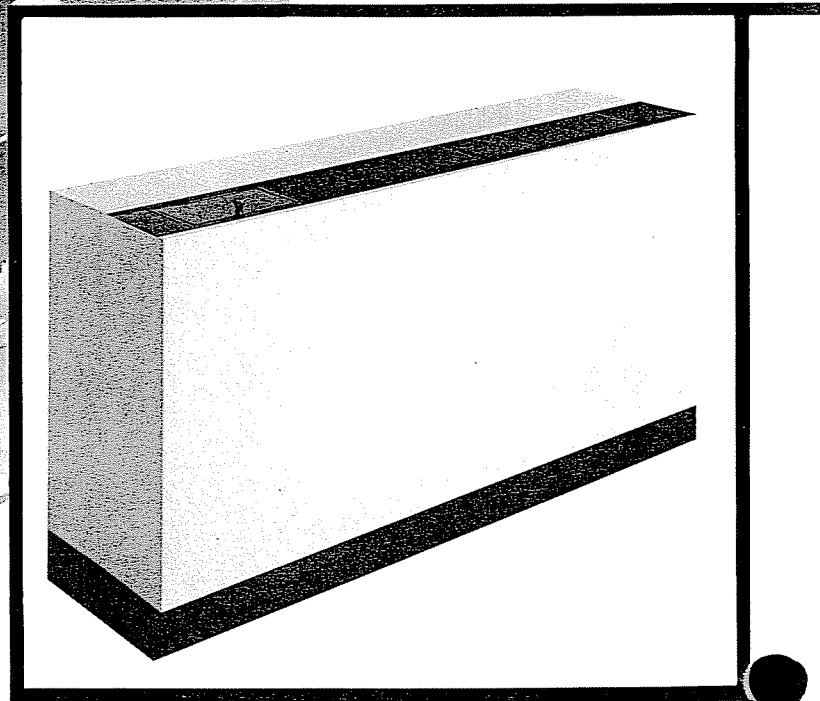
ClimateMaster

THE NATURAL SOLUTION ... USING

CLIMATE MASTER WATER SOURCE HEAT PUMP SYSTEM



Climate Master has experience, equipment, service and support that no one can match. We have the largest selection of units and ship more water source equipment than any other manufacturer in the world. Climate Master is "The world leader in the water source heat pump industry."



801 CONSOLES IN PERIMETER AREAS

A DECENTRALIZED APPROACH

Our equipment is applied at the point of need and thereby provides unparalleled individual comfort control. Our economies of operation are superior because we always operate at peak efficiency with this decentralized approach.

WATER SOURCE HEAT PUMP SYSTEMS

Designed for year around heating and cooling of both new and renovated commercial, industrial and multi-family buildings, our water source heat pump systems offer lower first costs, flexibility of control, and high economies of operation.

A non-insulated two pipe continuous loop system carries moderate temperature water to and from each unit. All units function independently, either adding heat to or removing heat from the water loop. This not only provides independent zone control, it also assures maximum efficiency with the potential of continuous heat recovery.

A typical system includes some type of heat rejection equipment along with a boiler to maintain the moderate loop temperatures. Optional storage tanks and solar collectors can be added to reduce boiler and cooler operation.

801 CONSOLE WATER-TO-AIR HEAT PUMPS

801 console units are attractive, versatile self-contained conditioners designed to please the most demanding occupant. These compact units bring exciting installation flexibility to the Climate Master water source heat pump system. Ideal for perimeter areas, 801 units provide individual comfort control with no outside wall penetration required. Available for both right or left hand water connections, they simplify piping layouts.

First cost savings are significant! 801 units eliminate costly duct work and unnecessary mechanical room/equipment closet areas. Electrical first costs are lower through smaller switch gear, wire sizing, transformer, etc. Lower heat of rejection levels are typically required, reducing the size of heat rejection equipment.

Service time is reduced with easy access to units. Maintenance can immediately restore conditioning to any affected space by simply exchanging the slide in chassis with a spare.

Noise problems are minimized. The fan and compressor are enclosed in insulated compartments with removable, insulated steel panels. The exterior cabinet is completely insulated both thermally and acoustically.

Multiple options are available. See pages 8 and 9.

WARRANTY

Climate Master warrants 801 products to be free from defects in material and workmanship under normal use and maintenance. This limited warranty covers replacement or repair, at our option, of all parts for 12 months from date of installation or 18 months from date of shipment, whichever occurs first. The costs of labor, refrigerant materials, service and transportation are not included. See Terms of Limited Warranty for details.

PERFORMANCE CHARTS

801-08

COOLING PERFORMANCE TABLE

HEATING PERFORMANCE TABLE

G.P.M.	Entering Water Temp. °F	Total Cooling BTUH	Sensible Cooling BTUH	Heat of Rejection BTUH	Power Input Watts	Leaving Water Temp. °F	Total Heating BTUH	Heat of Absorp BTUH	Power Input Watts	Leaving Water Temp. °F	P.D. Ft. of WATER
1.0	60°	7900	6900	9900	584	79.80°	7300	5400	563	49.20°	1.05
1.5	60°	8300	7300	10100	538	73.47°	7800	5800	598	52.27°	2.36
2.0	60°	8400	7400	10100	513	70.10°	8000	5900	619	54.10°	4.20
2.5	60°	8500	7400	10200	499	68.16°	8300	6100	631	55.12°	6.56
1.0	70°	7500	6600	9700	654	89.40°	8400	6200	659	57.60°	1.05
1.5	70°	7800	6800	9900	609	83.20°	9000	6600	700	61.20°	2.36
2.0	70°	7900	6900	9900	585	79.90°	9200	6700	724	63.30°	4.20
2.5	70°	8100	7100	10000	571	78.00°	9300	6800	739	64.56°	6.56
1.0	85°	6800	6000	9400	760	103.80°	10100	7400	803	70.20°	1.05
1.5	85°	7100	6200	9500	715	97.67°	10600	7700	855	74.73°	2.36
2.0	85°	7200	6300	9600	692	94.60°	10900	7900	882	77.10°	4.20
2.5	85°	7300	6400	9600	678	92.68°	11100	8000	899	78.60°	6.56
1.0	90°	6600	5800	9300	795	108.60°	10700	7800	851	74.40°	1.05
1.5	90°	6800	6000	9400	750	102.53°	11200	8100	906	79.20°	2.36
2.0	90°	7000	6100	9500	728	99.50°	11500	8300	935	81.70°	4.20
2.5	90°	7100	6200	9500	714	97.60°	11600	8400	953	83.28°	6.56
1.0	95°	6400	5600	9200	830	113.40°	11300	8200	899	78.60°	1.05
1.5	95°	6600	5800	9300	786	107.40°	11800	8500	957	83.67°	2.36
2.0	95°	6800	6000	9400	764	104.40°	12100	8700	987	86.30°	4.20
2.5	95°	6800	6000	9400	750	102.52°	12200	8800	1006	87.96°	6.56

CORRECTION FACTORS FOR VARIATION IN ENTERING AIR TEMPERATURE

Entering Air °F WB	Total Cooling Capacity	Sensible Capacity Entering Dry Bulb					Heat of Reject	Entering Air °F DB	Total Heating Capacity	Heat of Absorp	Power Input
		70° DB	75° DB	80° DB	85° DB	90° DB					
57°	.851	.961				.824	55°	1.040	1.070	.940	
61°	.910	.763	1.030			.895	60°	1.025	1.047	.965	
64°	.955	.615	.881			.948	65°	1.010	1.023	.990	
67°	1.000	.466	.733	1.000		1.002	70°	.995	1.000	1.015	
70°	1.045		.585	.852	1.118	1.055	75°	.980	0.977	1.040	
73°	1.090		.436	.703	.970	1.109	80°	.965	0.953	1.065	

ARI RATED: 10.4 EER, 3.7 COP

EXAMPLE SELECTION

To estimate the performance of a Model 801-08 under the following conditions:
 COOLING MODE—High Speed Fan, Return Air of 75° F EDB, 64° F EWB, EWT of 90° F at 1.5 GPM.
 HEATING MODE—High Speed Fan, plus Return Air of 65° F EDB and a EWT of 60° F at 1.5 GPM.

EXAMPLE SOLUTION

COOLING

	TOTAL BTUH	SENSIBLE	WATTS	
From Chart:	6800	6000	750	
Factors:	<u>x .955</u>	<u>x .881</u>		HEAT OF REJECTION
Answer:	6494	5286		9400 x .948 = 8911

HEATING

	TOTAL BTUH	
From Chart:	7800	
Factors:	<u>x 1.01</u>	HEAT OF ABSORPTION
Answer:	7878	5800 x 1.023 = 5933

DESIGN POINT DATA

Design Point Data is a IBM compatible software package that contains a complete, up-to-date catalog for all Climate Master equipment. By varying the entering conditions, ratings and data are immediately calculated and displayed at the selected design point, then printed and/or saved, DPD saves time and assures calculation accuracy.

PERFORMANCE CHARTS

801-10

COOLING PERFORMANCE TABLE							HEATING PERFORMANCE TABLE				
G.P.M.	Entering Water Temp. °F	Total Cooling BTUH	Sensible Cooling BTUH	Heat of Rejection BTUH	Power Input Watts	Leaving Water Temp. °F	Total Heating BTUH	Heat of Absorp BTUH	Power Input Watts	Leaving Water Temp. °F	P.D. Ft. of WATER
1.00	60°	9700	7100	12400	797	84.80°	8400	6100	684	47.80°	1.00
1.70	60°	10300	7500	12700	705	74.94°	9200	6700	746	52.12°	2.90
2.25	60°	10500	7600	12800	671	71.38°	9600	7000	769	53.78°	5.08
3.00	60°	10700	7800	12900	645	68.60°	9800	7100	791	55.27°	9.03
1.00	70°	9100	6600	12100	886	94.20°	9800	7100	798	55.80°	1.00
1.70	70°	9700	7100	12400	795	84.59°	10700	7700	872	6.94°	2.90
2.25	70°	9900	7200	12500	763	81.11°	11000	7900	901	62.98°	5.08
3.00	70°	10100	7400	12600	737	78.40°	11300	8100	924	64.60°	9.03
1.00	85°	8200	6000	11700	1019	108.40°	11800	8500	973	68.00°	1.00
1.70	85°	8800	6400	12000	932	99.12°	12700	9100	1063	74.29°	2.90
2.25	85°	9000	6600	12100	900	95.76°	13000	9300	1098	76.73°	5.08
3.00	85°	9200	6700	12200	876	93.13°	13200	9400	1127	78.73°	9.03
1.00	90°	8000	5800	11600	1064	113.20°	12400	8900	1033	72.20°	1.00
1.70	90°	8600	6300	11900	978	104.00°	13300	9500	1128	78.82°	2.90
2.25	90°	8800	6400	12000	946	10.67°	13700	9700	1164	81.38°	5.08
3.00	90°	8900	6500	12000	921	98.00°	14000	9900	1193	83.40°	9.03
1.00	95°	7700	5600	11500	1109	118.00°	13100	9400	1090	76.20°	1.00
1.70	95°	8200	6000	11700	1023	108.76°	14100	10000	1191	83.24°	2.90
2.25	95°	8400	6100	11800	992	105.49°	14400	10200	1230	85.93°	5.08
3.00	95°	8600	6300	11900	968	102.93°	14700	10400	1260	88.07°	9.03

CORRECTION FACTORS FOR VARIATION IN ENTERING AIR TEMPERATURE											
Entering Air °F WB	Total Cooling Capacity	Sensible Capacity Entering Dry Bulb					Heat of Reject	Entering Air °F DB	Total Heating Capacity	Heat of Absorp	Power Input
		70° DB	75° DB	80° DB	85° DB	90° DB					
57°	.851	.961					.824	55°	1.040	1.070	.940
61°	.910	.763	1.030				.895	60°	1.025	1.047	.965
64°	.955	.615	.881	1.148			.948	65°	1.010	1.023	.990
67°	1.000	.466	.733	1.000	1.267		1.002	70°	.995	1.000	1.015
70°	1.045		.585	.852	1.118	1.385	1.055	75°	.980	.977	1.040
73°	1.090		.436	.703	.970	1.237	1.109	80°	.965	.953	1.065

ARI RATED: 10.0 EER, 3.6 COP

801-12

COOLING PERFORMANCE TABLE							HEATING PERFORMANCE TABLE				
G.P.M.	Entering Water Temp. °F	Total Cooling BTUH	Sensible Cooling BTUH	Heat of Rejection BTUH	Power Input Watts	Leaving Water Temp. °F	Total Heating BTUH	Heat of Absorp BTUH	Power Input Watts	Leaving Water Temp. °F	P.D. Ft. of WATER
1.50	60°	12500	9000	15900	993	81.20°	10300	7500	831	50.00°	2.20
2.25	60°	13000	9300	16100	908	74.31°	11000	8000	879	52.89°	4.94
3.00	60°	13200	9500	16200	866	70.80°	11300	8200	906	54.53°	8.78
4.00	60°	13500	9700	16300	833	68.15°	11600	8400	927	55.80°	15.61
1.50	70°	11700	8400	15500	1108	90.67°	11900	8600	972	58.53°	2.20
2.25	70°	12300	8800	15800	1027	84.04°	12600	9100	1029	61.91°	4.94
3.00	70°	12500	9000	15900	985	80.60°	12900	9300	1060	63.80°	8.78
4.00	70°	12700	9100	16000	954	78.00°	13100	9400	1085	65.30°	15.61
1.50	85°	10600	7600	15000	1284	105.00°	14200	10200	1186	71.40°	2.20
2.25	85°	11200	8000	15300	1205	98.60°	15000	10700	1254	75.49°	4.94
3.00	85°	11400	8200	15400	1165	95.27°	15300	10900	1291	77.73°	8.78
4.00	85°	11600	8300	15500	1134	92.75°	15600	11100	1320	79.45°	15.61
1.50	90°	10200	7300	14800	1342	109.73°	15100	10800	1256	75.60°	2.20
2.25	90°	10800	7800	15100	1264	103.42°	15700	11200	1330	80.04°	4.94
3.00	90°	11000	7900	15200	1224	10.13°	16100	11400	1369	82.40°	8.78
4.00	90°	11200	8000	15300	1194	97.65°	16400	11600	1399	84.20°	15.61
1.50	95°	9900	7100	14700	1401	114.60°	15800	11300	1328	79.93°	2.20
2.25	95°	10400	7500	14900	1323	108.24°	16600	11800	1404	84.51°	4.94
3.00	95°	10600	7600	15000	1284	105.00°	16900	12000	1445	87.00°	8.78
4.00	95°	10800	7800	15100	1254	102.55°	171.00	12100	1478	88.95°	15.61

CORRECTION FACTORS FOR VARIATION IN ENTERING AIR TEMPERATURE											
Entering Air °F WB	Total Cooling Capacity	Sensible Capacity Entering Dry Bulb					Heat of Reject	Entering Air °F DB	Total Heating Capacity	Heat of Absorp	Power Input
		70° DB	75° DB	80° DB	85° DB	90° DB					
57°	.851	.961					.824	55°	1.040	1.070	.940
61°	.910	.763	1.030				.895	60°	1.025	1.047	.965
64°	.955	.615	.881	1.148			.948	65°	1.010	1.023	.990
67°	1.000	.466	.733	1.000	1.267		1.002	70°	.995	1.000	1.015
70°	1.045		.585	.852	1.118	1.385	1.055	75°	.980	.977	1.040
73°	1.090		.436	.703	.970	1.237	1.109	80°	.965	.953	1.065

ARI RATED: 9.8 EER, 3.6 COP

PERFORMANCE CHARTS

801-15

COOLING PERFORMANCE TABLE

HEATING PERFORMANCE TABLE

G.P.M.	Entering Water Temp. °F	Total Cooling BTUH	Sensible Cooling BTUH	Heat of Rejection BTUH	Power Input Watts	Leaving Water Temp. °F	Total Heating BTUH	Heat of Absorp BTUH	Power Input Watts	Leaving Water Temp. °F	P.D. Ft. of WATER
1.8	60°	15800	11800	19900	1200	82.11°	13300	9700	1059	49.22°	4.90°
2.7	60°	16500	12300	20200	1096	74.96°	14100	10300	1126	52.37°	11.03°
3.8	60°	16900	12600	20400	1034	70.74°	14700	10700	1169	54.37°	21.85°
4.9	60°	17100	12800	20500	999	68.37°	15000	10900	1195	55.55°	36.33°
1.8	70°	14800	11000	19400	1338	91.56°	15300	11100	1240	57.67°	4.90°
2.7	70°	15500	11600	19700	1236	84.59°	16200	11700	1319	61.33°	11.03°
3.8	70°	15900	11900	19900	1176	80.47°	16800	12100	1369	63.63°	21.85°
4.9	70°	16100	12000	20000	1142	78.16°	17100	12300	1398	64.98°	36.33°
1.8	85°	13500	10100	18800	1548	105.89°	18400	13200	1513	70.33°	4.90°
2.7	85°	14200	10600	19100	1449	99.15°	19400	13900	1607	74.70°	11.03°
3.8	85°	14600	10900	19300	1391	95.16°	19900	14200	1668	77.53°	21.85°
4.9	85°	14800	11000	19400	1358	92.92°	20200	14400	1702	79.12°	36.33°
1.8	90°	13100	9800	18600	1618	110.67°	19400	13900	1604	74.56°	4.90°
2.7	90°	13700	10200	18900	1520	104.00°	20400	14600	1703	79.19°	11.03°
3.8	90°	14000	10500	19000	1462	100.00°	20900	14900	1767	82.16°	21.85°
4.9	90°	14200	10600	19100	1429	97.80°	21200	15100	1803	83.84°	36.33°
1.8	95°	12600	9400	18300	1686	115.33°	20400	14600	1694	78.78°	4.90°
2.7	95°	13200	9900	18600	1590	108.78°	21400	15300	1800	83.67°	11.03°
3.8	95°	13600	10200	18800	1533	104.89°	22000	15600	1867	86.79°	21.85°
4.9	95°	13800	10300	18900	1501	102.71°	22300	15800	1905	88.55°	36.33°

CORRECTION FACTORS FOR VARIATION IN ENTERING AIR TEMPERATURE

Entering Air °F WB	Total Cooling Capacity	Sensible Capacity Entering Dry Bulb					Heat of Reject	Entering Air °F DB	Total Heating Capacity	Heat of Absorp	Power Input
		70° DB	75° DB	80° DB	85° DB	90° DB					
57°	.851	.961				.824	55°	1.040	1.070	.940	
61°	.910	.763	1.030			.895	60°	1.025	1.047	.965	
64°	.955	.615	.881	1.148		.948	65°	1.010	1.023	.990	
67°	1.000	.466	.733	1.000	1.267	1.002	70°	.995	1.000	1.015	
70°	1.045		.585	.852	1.118	1.385	75°	.980	.977	1.040	
73°	1.090		.436	.703	.970	1.237	80°	.965	.953	1.065	

ARI RATED: 10.5 EER, 3.6 COP

801-19

COOLING PERFORMANCE TABLE

HEATING PERFORMANCE TABLE

G.P.M.	Entering Water Temp. °F	Total Cooling BTUH	Sensible Cooling BTUH	Heat of Rejection BTUH	Power Input Watts	Leaving Water Temp. °F	Total Heating BTUH	Heat of Absorp BTUH	Power Input Watts	Leaving Water Temp. °F	P.D. Ft. of WATER
2.40	60°	20600	14600	25600	1460	81.33°	17000	12400	1351	49.67°	2.04°
3.50	60°	21400	15200	26000	1323	74.86°	18000	13100	1428	52.51°	4.35°
4.75	60°	21900	15600	26200	1275	71.03°	18600	13600	1476	54.27°	8.01°
6.30	60°	22100	15700	26300	1227	68.35°	19000	13800	1513	55.62°	14.09°
2.40	70°	19500	13900	25100	1632	90.92°	19600	14200	1582	58.17°	2.04°
3.50	70°	20200	14400	25400	1517	84.51°	20600	14900	1672	61.49°	4.35°
4.75	70°	20700	14700	25600	1450	80.78°	21200	15300	1729	63.56°	8.01°
6.30	70°	21000	14900	25800	1403	78.19°	21600	15600	1769	65.05°	14.09°
2.40	85°	17800	12600	24200	1887	105.17°	23500	16900	1929	70.92°	2.04°
3.50	85°	18500	13100	24600	1778	99.06°	24600	17600	2038	74.94°	4.35°
4.75	85°	19000	13500	24800	1713	95.44°	25200	18000	2106	77.42°	8.01°
6.30	85°	19200	13600	24900	1667	92.90°	25600	18300	2154	79.19°	14.09°
2.40	90°	17200	12200	23900	1973	109.92°	24800	17800	2044	75.17°	2.04°
3.50	90°	17900	12700	24300	1864	103.89°	25900	18500	2160	79.43°	4.35°
4.75	90°	18400	13100	24500	1800	100.32°	26500	18900	2231	82.04°	8.01°
6.30	90°	18600	13200	24600	1755	97.81°	27000	19200	2282	83.90°	14.09°
2.40	95°	16600	11800	23600	2058	114.67°	26100	18700	2160	79.42°	2.04°
3.50	95°	17300	12300	24000	1951	108.71°	27200	19400	2282	83.91°	4.35°
4.75	95°	17800	12600	24200	1888	105.19°	27800	19800	2357	86.66°	8.01°
6.30	95°	18100	12900	24400	1844	102.75°	28300	20100	2410	88.62°	14.09°

CORRECTION FACTORS FOR VARIATION IN ENTERING AIR TEMPERATURE

Entering Air °F WB	Total Cooling Capacity	Sensible Capacity Entering Dry Bulb					Heat of Reject	Entering Air °F DB	Total Heating Capacity	Heat of Absorp	Power Input
		70° DB	75° DB	80° DB	85° DB	90° DB					
57°	.851	.961				.824	55°	1.040	1.070	.940	
61°	.910	.763	1.030			.895	60°	1.025	1.047	.965	
64°	.955	.615	.881	1.148		.948	65°	1.010	1.023	.990	
67°	1.000	.466	.733	1.000	1.267	1.002	70°	.995	1.000	1.015	
70°	1.045		.585	.852	1.118	1.385	75°	.980	.977	1.040	
73°	1.090		.436	.703	.970	1.237	80°	.965	.953	1.065	

ARI RATED: 11.1 EER, 3.6 COP

GENERAL DATA

GENERAL DATA CHART

Model Number	Voltages 1 Phase	Heater Watts	Min. CRC Ampacity	Max. Fuse	Comp. LRA	Comp. RLA	Blower FLA	Total FLA	Hi Speed CFM	Lo Speed CFM	Hi Speed RPM	Lo Speed RPM	Blower HP	Wt. Lbs.	
801-08	208/230		4.83	15	22.4	3.50	0.45	3.95	350	320	1040	1000	1/20	178	
		1000/1220	7.10	15	22.4	3.50	0.45	5.75	350	320	1040	1000	1/20	180	
		1510/1850	10.50	15	22.4	3.50	0.45	8.45	350	320	1040	1000	1/20	180	
		2000/2450	13.80	15	22.4	3.50	0.45	11.15	350	320	1040	1000	1/20	180	
		2960/3600	20.00	20	22.4	3.50	0.45	16.10	350	320	1040	1000	1/20	180	
		3800/4650	25.80	30	22.4	3.50	0.45	20.65	350	320	1040	1000	1/20	180	
	265		4.20	15	19.0	3.00	0.45	3.45	350	320	1040	1000	1/20	178	
		1000	5.20	15	19.0	3.00	0.45	4.25	350	320	1040	1000	1/20	180	
		1500	7.60	15	19.0	3.00	0.45	6.15	350	320	1040	1000	1/20	180	
		2000	9.90	15	19.0	3.00	0.45	8.00	350	320	1040	1000	1/20	180	
		3000	14.60	15	19.0	3.00	0.45	11.75	350	320	1040	1000	1/20	180	
		3700	17.90	20	19.0	3.00	0.45	14.40	350	320	1040	1000	1/20	180	
	801-10	208/230		5.95	15	21.3	4.40	0.45	4.85	350	320	1040	1000	1/20	180
			1000/1220	7.10	15	21.3	4.40	0.45	5.75	350	320	1040	1000	1/20	182
1510/1850			10.50	15	21.3	4.40	0.45	8.45	350	320	1040	1000	1/20	182	
2000/2450			13.80	15	21.3	4.40	0.45	11.15	350	320	1040	1000	1/20	182	
2960/3600			20.00	20	21.3	4.40	0.45	16.10	350	320	1040	1000	1/20	182	
3800/4650			25.80	30	21.3	4.40	0.45	20.65	350	320	1040	1000	1/20	182	
265			5.40	15	22.3	3.90	0.45	4.35	350	320	1040	1000	1/20	180	
		1000	5.40	15	22.3	3.90	0.45	4.35	350	320	1040	1000	1/20	182	
		1500	7.60	15	22.3	3.90	0.45	6.15	350	320	1040	1000	1/20	182	
		2000	9.90	15	22.3	3.90	0.45	8.00	350	320	1040	1000	1/20	182	
		3000	14.60	15	22.3	3.90	0.45	11.75	350	320	1040	1000	1/20	182	
		3700	17.90	20	22.3	3.90	0.45	14.40	350	320	1040	1000	1/20	182	
801-12		208/230		7.58	15	28.0	5.70	0.45	6.15	380	355	1040	1000	1/20	195
			1000/1220	7.58	15	28.0	5.70	0.45	6.15	380	355	1040	1000	1/20	197
	1510/1850		10.50	15	28.0	5.70	0.45	8.45	380	355	1040	1000	1/20	197	
	2000/2450		13.80	15	28.0	5.70	0.45	11.15	380	355	1040	1000	1/20	197	
	2960/3600		20.00	20	28.0	5.70	0.45	16.10	380	355	1040	1000	1/20	197	
	3800/4650		25.80	30	28.0	5.70	0.45	20.65	380	355	1040	1000	1/20	197	
	265		6.70	15	27.4	5.00	0.45	5.45	380	355	1040	1000	1/20	195	
		1000	6.70	15	27.4	5.00	0.45	5.45	380	355	1040	1000	1/20	197	
		1500	7.60	15	27.4	5.00	0.45	6.15	380	355	1040	1000	1/20	197	
		2000	9.90	15	27.4	5.00	0.45	8.00	380	355	1040	1000	1/20	197	
		3000	14.60	15	27.4	5.00	0.45	11.75	380	355	1040	1000	1/20	197	
		3700	17.90	20	27.4	5.00	0.45	14.40	380	355	1040	1000	1/20	197	
	801-15	208/230		8.30	15	36.0	6.20	0.55	6.75	510	430	1040	1000	1/12	200
			1000/1220	8.30	15	36.0	6.20	0.55	6.75	510	430	1040	1000	1/12	202
1510/1850			10.50	15	36.0	6.20	0.55	8.45	510	430	1040	1000	1/12	202	
2000/2450			13.80	15	36.0	6.20	0.55	11.15	510	430	1040	1000	1/12	202	
2960/3600			20.00	20	36.0	6.20	0.55	16.10	510	430	1040	1000	1/12	202	
3800/4650			25.80	30	36.0	6.20	0.55	20.65	510	430	1040	1000	1/12	202	
265			7.30	15	33.0	5.40	0.50	5.90	510	430	1040	1000	1/12	200	
		1000	7.30	15	33.0	5.40	0.50	5.90	510	430	1040	1000	1/12	202	
		1500	7.60	15	33.0	5.40	0.50	6.15	510	430	1040	1000	1/12	202	
		2000	9.90	15	33.0	5.40	0.50	8.00	510	430	1040	1000	1/12	202	
		3000	14.60	15	33.0	5.40	0.50	11.75	510	430	1040	1000	1/12	202	
		3700	17.90	20	33.0	5.40	0.50	14.40	510	430	1040	1000	1/12	202	
801-19		208/230		10.30	15	40.6	7.80	0.55	8.35	545	500	1040	1000	1/12	220
			1000/1220	10.30	15	40.6	7.80	0.55	8.35	545	500	1040	1000	1/12	222
	1510/1850		10.50	15	40.6	7.80	0.55	8.35	545	500	1040	1000	1/12	222	
	2000/2450		13.80	15	40.6	7.80	0.55	8.45	545	500	1040	1000	1/12	222	
	2960/3600		20.00	20	40.6	7.80	0.55	11.15	545	500	1040	1000	1/12	222	
	3800/4650		25.80	30	40.6	7.80	0.55	16.10	545	500	1040	1000	1/12	222	
	265		8.90	15	34.0	6.70	0.50	7.20	545	500	1040	1000	1/12	220	
		1000	8.90	15	34.0	6.70	0.50	7.20	545	500	1040	1000	1/12	222	
		1500	8.90	15	34.0	6.70	0.50	7.20	545	500	1040	1000	1/12	222	
		2000	9.90	15	34.0	6.70	0.50	8.00	545	500	1040	1000	1/12	222	
		3000	14.60	15	34.0	6.70	0.50	11.75	545	500	1040	1000	1/12	222	
		3700	17.90	20	34.0	6.70	0.50	14.40	545	500	1040	1000	1/12	222	

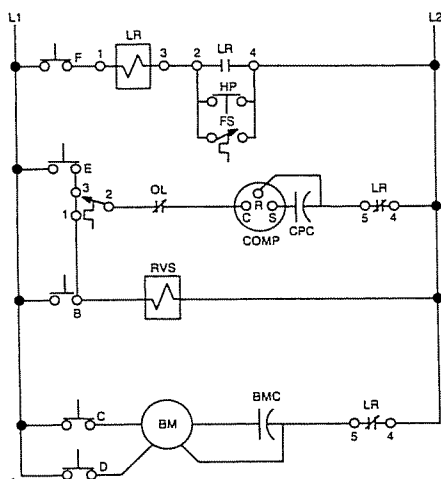
PHYSICAL CHARACTERISTICS

GENERAL 801 UNIT DATA

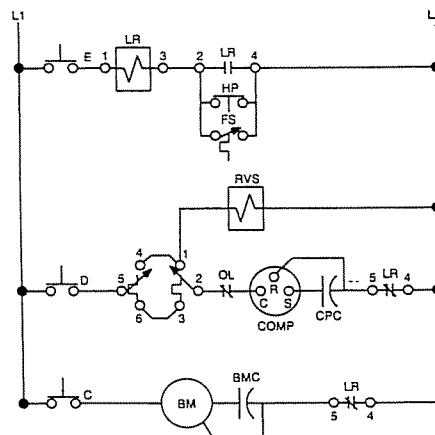
PHYSICAL CHARACTERISTIC	MODEL NUMBER				
	80108	80110	80112	80115	80119
Blower:					
Motor Horsepower	1/20	1/20	1/20	1/12	1/12
Wheel Size (D" x W") In. (2 ea.)	6 3/8" x 5 3/4"	6 3/8" x 5 3/4"	6 3/8" x 5 3/4"	8 1/6" x 5 3/4"	8 1/6" x 5 3/4"
Filter Size	10 3/4" x 30 3/4" x 3/8"			10 3/4" x 32 3/4" x 3/8"	
Unit Weight (Lbs.):					
Shipping	178	180	195	200	220
Operating	170	172	187	190	210
Ref.-to-Air Heat Exchanger:					
Face Area (Sq. Ft.)	1.36	1.56	1.94	2.08	2.08
No. of Rows Deep	2	2	3	3	4
Copper Tube Size (OD In.)	3/8	3/8	3/8	5/16	5/16
No. of Fins/Inch	13	12	13	14	14
Refrig. Charge (R-22)/CKT.					
No. of Circuits	1	1	1	1	1
Unit W" x H" x D"	48" x 24" x 13"			52" x 24" x 13"	
Water In/Out Size (O.D./Sweat)	5/8"	5/8"	5/8"	5/8"	5/8"
Condensate Size (I.D. Vinyl)	5/8"	5/8"	5/8"	5/8"	5/8"

TYPICAL WIRING DIAGRAMS

Typical 801 4 Button Manual Changeover



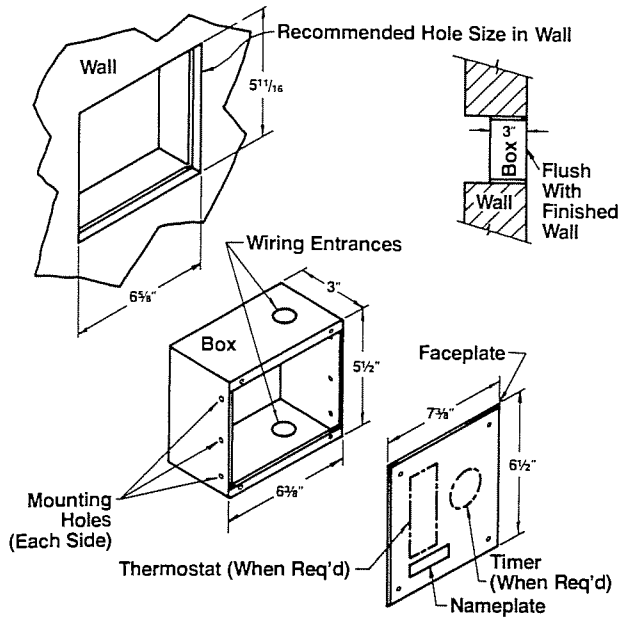
Typical 801 2 Button Automatic Changeover



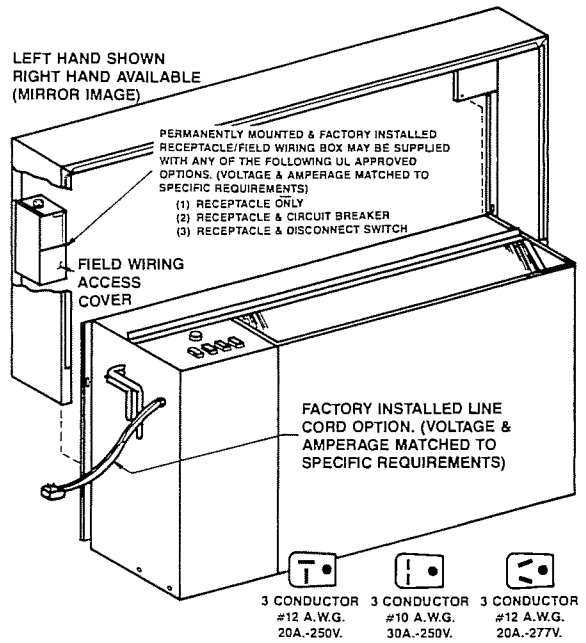
LEGEND

- BM = Blower Motor
- BMC = Blower Motor Capacitor
- COMP = Compressor
- CPC = Compressor Capacitor
- FS = Freezestat
- HP = High Pressure Switch
- LR = Lockout Relay
- OL = Overload
- RVS = Reversing Valve Solenoid

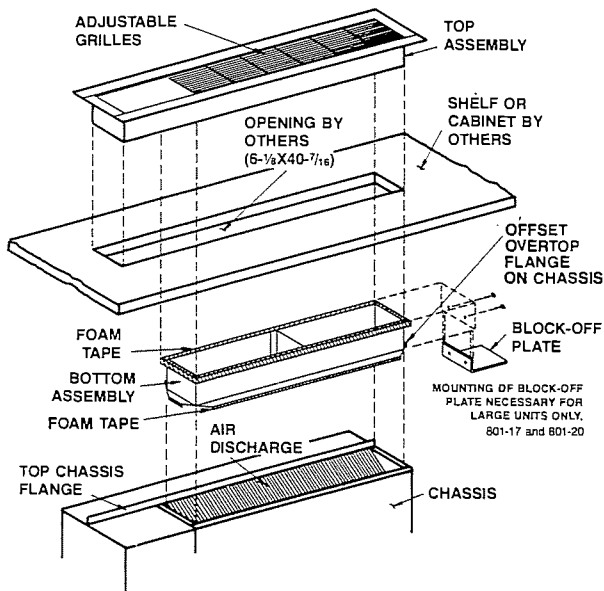
A PROGRAM CONTROL BOX OPTION



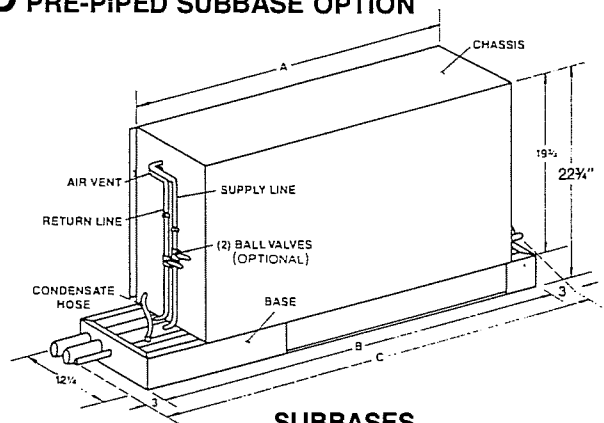
B POWER CONNECTIONS OPTION



C ADJUSTABLE DISCHARGE GRILLE OPTION



D PRE-PIPED SUBBASE OPTION



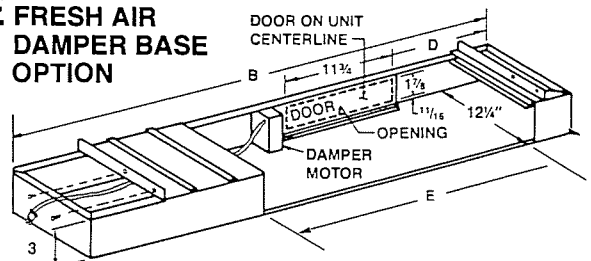
SUBBASES

*Note:

Pipes Extend 3" Beyond Each End of the Unit.

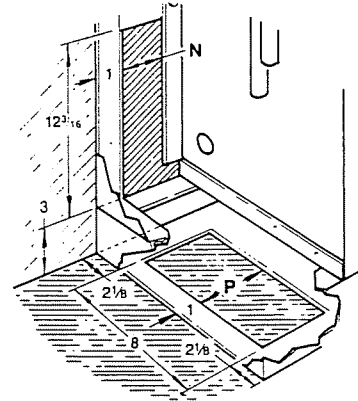
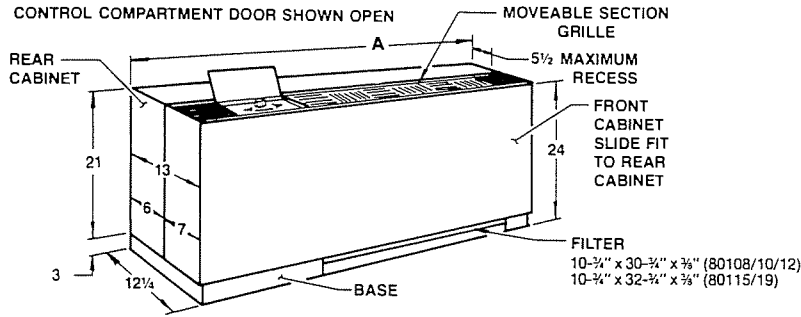
Item	48"	52"	52"
	80108/10/12	80108/10/12	80115/19
A	41"	41"	45"
B	48"	52"	52"
C	54"	58"	58"
D	18 1/8"	20 1/8"	20 1/8"
E	31"	31"	33"

E FRESH AIR DAMPER BASE OPTION

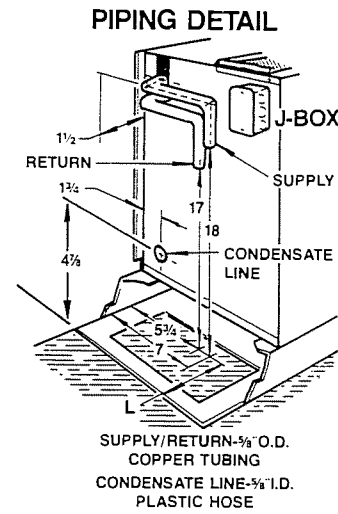
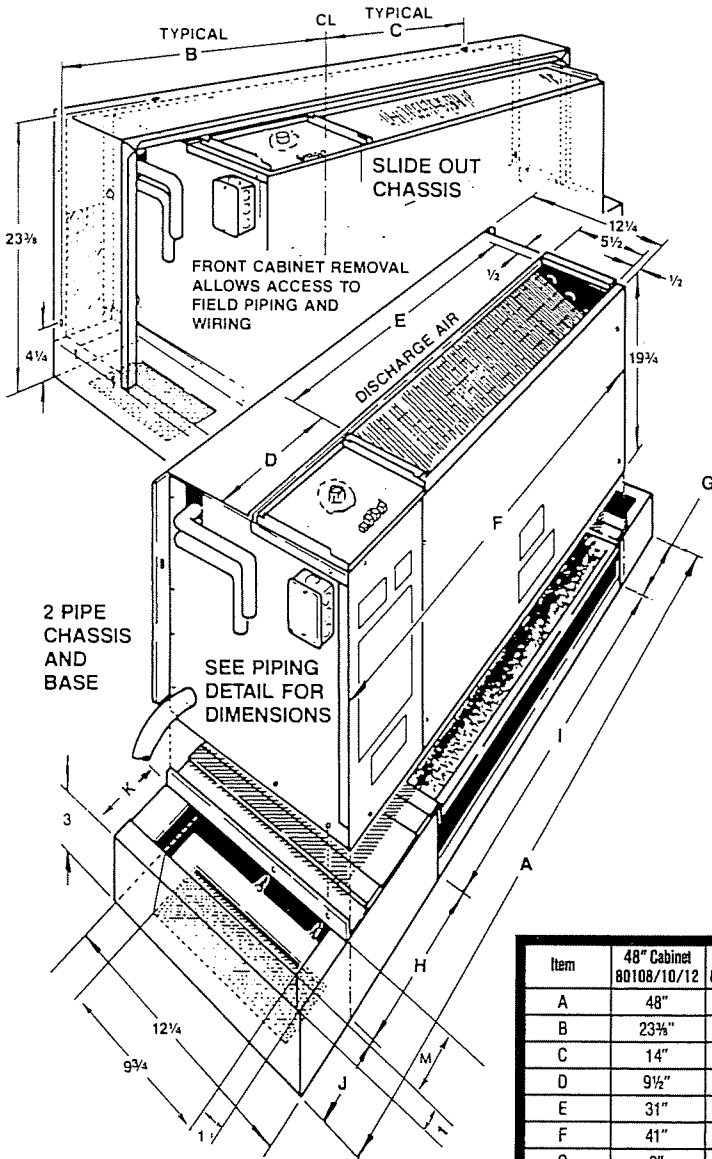


DIMENSIONS

LEFT HAND 2 PIPE



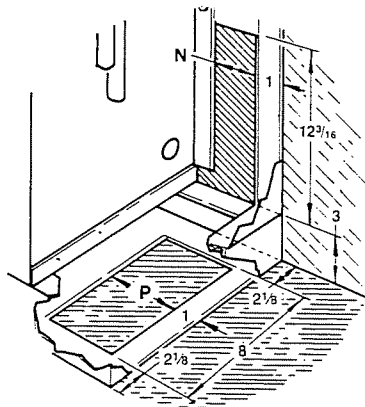
OPTIMUM PIPING LOCATIONS



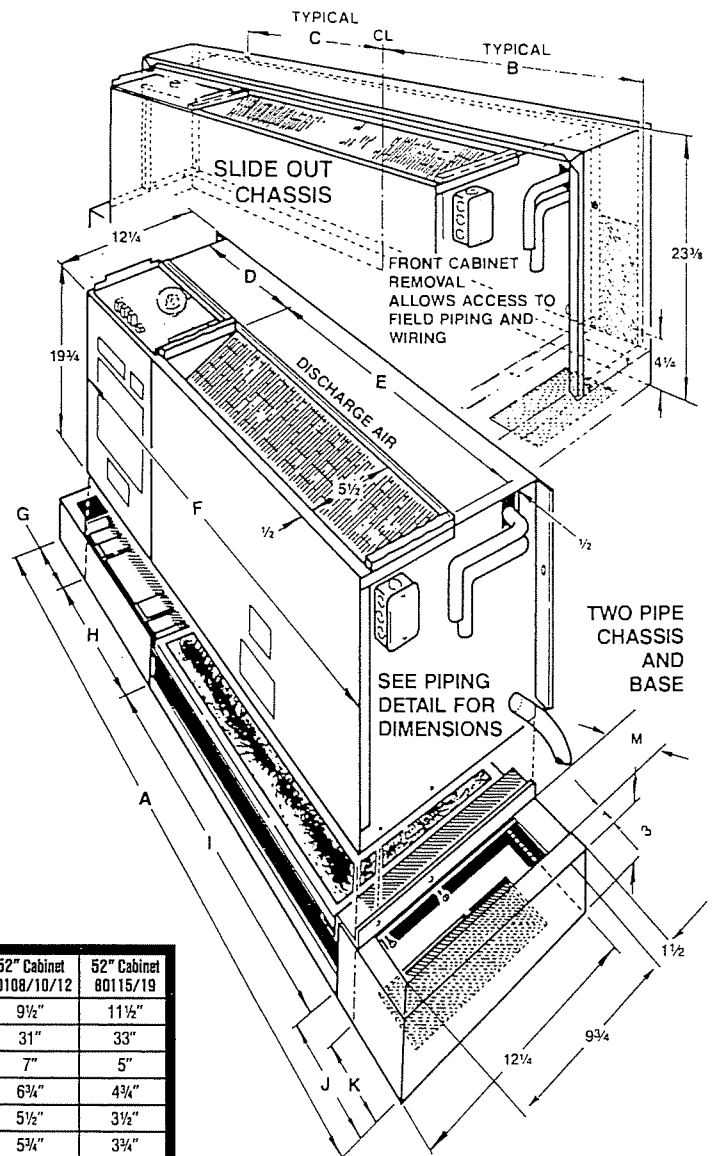
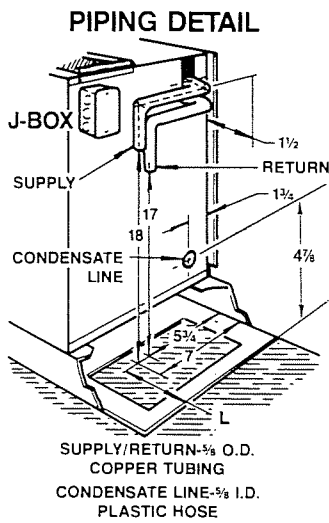
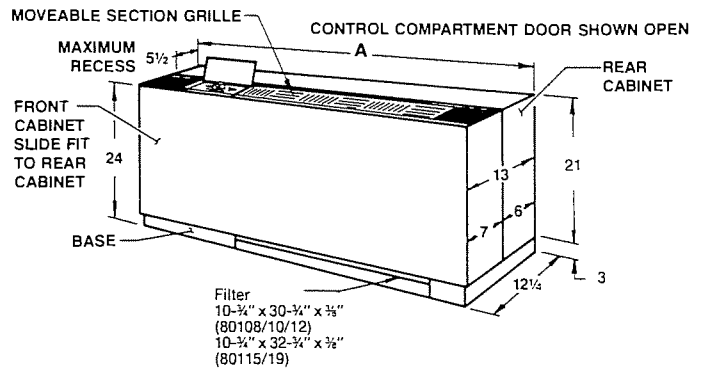
PIPING DETAIL
 SUPPLY/RETURN- $\frac{3}{8}$ " O.D. COPPER TUBING
 CONDENSATE LINE- $\frac{3}{8}$ " I.D. PLASTIC HOSE

Item	48" Cabinet 80108/10/12	52" Cabinet 80108/10/12	52" Cabinet 80115/19	Item	48" Cabinet 80108/10/12	52" Cabinet 80108/10/12	52" Cabinet 80115/19
A	48"	52"	52"	H	9 1/2"	9 1/2"	11 1/2"
B	23 3/8"	25 1/2"	25 3/8"	I	31"	31"	33"
C	14"	16"	16"	J	5"	7"	5"
D	9 1/2"	9 1/2"	9 1/2"	K	4 3/4"	6 3/4"	4 3/4"
E	31"	31"	35"	L	3 1/2"	5 1/2"	3 1/2"
F	41"	41"	45"	M	3 3/4"	5 3/4"	3 3/4"
G	2"	4"	2"	N	3"	5"	3"
				P	4 1/8"	6 1/8"	4 1/8"

RIGHT HAND 2 PIPE



**OPTIMUM
PIPING
LOCATIONS**



Item	48" Cabinet 80108/10/12	52" Cabinet 80108/10/12	52" Cabinet 80115/19	Item	48" Cabinet 80108/10/12	52" Cabinet 80108/10/12	52" Cabinet 80115/19
A	48"	52"	52"	H	9 1/2"	9 1/2"	11 1/2"
B	23 3/8"	25 3/8"	25 3/8"	I	31"	31"	33"
C	14"	16"	16"	J	5"	7"	5"
D	9 1/2"	9 1/2"	9 1/2"	K	4 3/4"	6 3/4"	4 3/4"
E	31"	31"	35"	L	31 1/2"	5 1/2"	3 1/2"
F	41"	41"	45"	M	3 3/4"	5 3/4"	3 3/4"
G	2"	4"	2"	N	3"	5"	3"
				P	4 1/8"	6 1/8"	4 1/8"

SPECIFICATIONS

GENERAL

All units must carry ARI certification (Standard 320) and UL listing via appropriate labeling. All electrical and/or refrigeration components shall be UL recognized. The manufacturer's warranty, unit service and project start-up assistance shall be given economic consideration in bids. Tabulated efficiency and capacity shall be considered minimum.

CABINETWORK

Cabinet shall be heavy gauge furniture steel finished in baked enamel with bottom return and top discharge. Cabinet shall be two-piece with back portion for wall or floor mounting. Front portion shall slide fit to rear portion without tools required. Removal of cabinet front shall give complete side and front access to chassis piping and wiring. Hinged control door shall provide access to unit control box. Cabinet shall be thermally and acoustically insulated.

CHASSIS

Chassis shall be removable without dismantling cabinet. Both compressor and fan compartments shall be insulated and have removable insulated steel cover plates giving (with cabinet insulation) double acoustical protection between the space and the compressor/fan.

REFRIGERANT CIRCUIT

Hermetic compressors shall be internally sprung, externally isolated, and rail-mounted to minimize sound transmission. Co-axial (tube in tube) refrigerant-to-water heat exchanger shall be copper inner water tube and steel refrigerant outer tube designed for 450 PSI refrigerant pressure and 350 PSI water pressure.

Fin-tube refrigerant-to-air exchanger shall be aluminum fin plate and copper tube construction rated to withstand 425 PSI refrigerant working pressure. Four-way solenoid activated refrigerant reversing valve shall allow heating operation should the solenoid fail to function. R-22 refrigerant charge shall be precisely metered and refrigerant metering devices (capillary tubes) shall be carefully selected for optimum performance. All interconnecting tubing shall be copper.

ELECTRICAL

Motor and dual blower assembly shall be removable without disturbing the chassis. Compressor and blower motors shall be individually protected against current and/or heat overload.

CONTROLS

Standard control shall be mounted with manually adjustable thermostat. The control box shall have four buttons consisting of STANDBY, HI COOL, LO COOL and HEAT.

POWER CONNECTION

UL approved units shall be provided with a factory mounted junction box on the side of the chassis for direct wire connection.

The unit shall operate with either 208/230V or 265V, single phase, 60hz supply current.

CONTROL OPTIONS (UL) UNIT-MOUNTED AUTO CHANGEOVER

The thermostat shall be a unit-mounted automatic changeover type. The control box shall have two buttons consisting of STANDBY, ON.

PROGRAM RELAY The unit shall be provided with a relay that accepts a 24 volt signal from a central time clock which establishes occupied/unoccupied modes. This functions with a manual (auto) changeover unit mounted thermostat.

REMOTE THERMOSTAT The unit shall be provided with a 24 volt anticipating type wall thermostat.

a) The thermostat shall be a manual changeover type with an OFF, HEAT, COOL selector switch and a FAN, AUTO selector switch.

b) The thermostat shall be an auto changeover type with an OFF, AUTO selector switch and a FAN, AUTO selector switch.

MASTER-SLAVE The master-slave operation shall be accomplished with a remote thermostat operating the master unit. Additional (slave) units shall be connected with the operation of all dictated by the single wall mounted thermostat.

NIGHT SETBACK/OVERRIDE TIMER The override operation shall be accomplished with a unit mounted manual (auto) changeover thermostat and a random start relay. A zero to two hour timer shall override a 24 volt signal from the centrally located time clock that establishes occupied/unoccupied modes with a night setback function to maintain a minimum space temperature of 50°F.

BOILERLESS UNIT The unit shall have an electric heating coil (1.0kw to 4.5kw), aquastat and override switch such that when the water temperature drops below 60°F, the unit controls will shut off the compressor and activate the electric coil. The override switch permits electric heating in the event of the compressor's failure.

MOTORIZED ZONE VALVES The unit shall be provided with a factory mounted motorized zone valve. When the compressor operates in either heating or cooling modes, the valve is open. The valve closes when the compressor is off.

FRESH AIR DAMPER The unit shall be provided with a motorized fresh air damper, factory mounted and wired, that will cycle with both heating and cooling. A manual override switch will be provided.

PROGRAM CONTROL BOX The unit shall have a factory installed and wired program control box with a random start relay and/or night setback and/or override timer. (Call factory for software/hardware options.)

POWER OPTIONS

FACTORY SUPPLIED PLUG The unit shall be provided with a factory mounted cord and plug, conforming to NEMA (6-20P or 7-20P or 6-30P).

FACTORY SUPPLIED RECEPTACLE

The unit shall be provided with a factory mounted receptacle conforming to NEMA (6-20R or 7-20R or 6-30R). The receptacle box shall be mounted on the back half of the cabinet to receive the power connection. (The unit shall be provided with a factory mounted circuit breaker or disconnect switch.)

CABINET OPTIONS (NON-UL)

ENCLOSURE BY OTHERS The unit shall be chassis only or chassis on subbase.

a) **FRONT RETURN** The unit shall be on a 1" subbase with a front air return.

b) **ADJUSTABLE REMOTE GRILLE** The unit shall be with chassis on subbase with an adjustable supply air duct collar and grille for enclosure by others.

PIPING OPTIONS

FACTORY PIPING KITS The unit shall be provided with factory installed supply and return water connection on right or left side.

a) **BALL VALVE AND UNION** A ball valve and union shall be factory mounted on the supply and return water connections.

b) **THREADED CONNECTIONS** A half inch male or female pipe threaded fitting shall be factory mounted on the supply and return water connections.

c) **PRE-PIPED SUBBASE** A subbase shall be provided. The subbase shall consist of supply, return and condensate piping. The piping shall be total copper or total PVC or PVC condensate with copper headers. Factory mounted union and shut-off valves shall be provided for ease of connection to chassis.



Continuing engineering research results in steady improvements. Therefore, these ratings and specifications are subject to change without notice.

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