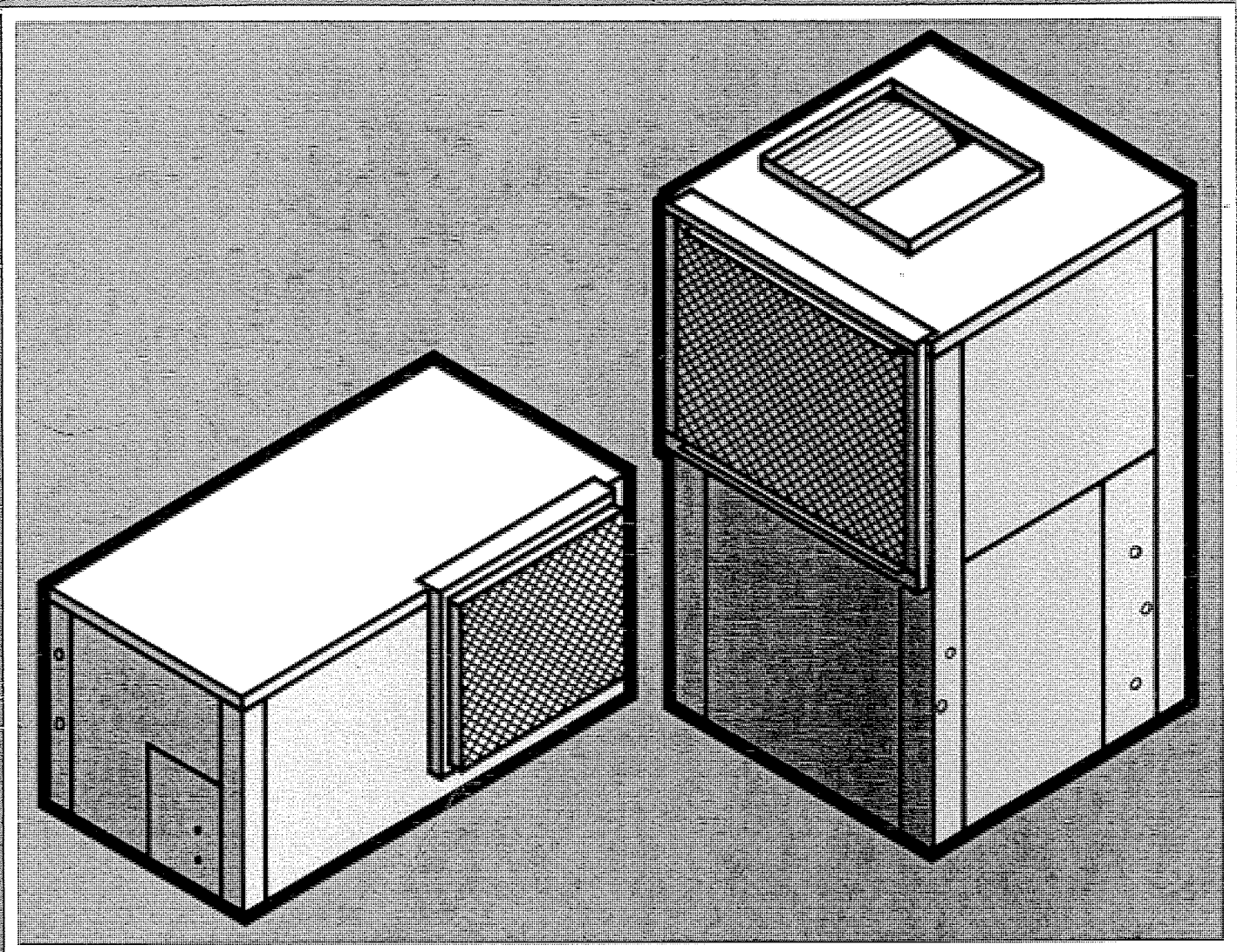


SPECIFICATIONS



Climate Master 803/804

VERTICAL HORIZONTAL
SERIES

WATER-TO-AIR
HEAT PUMPS

Friedrich
Climate Master®

ARI RATINGS

803/804 SERIES PERFORMANCE DATA AT ARI RATING CONDITIONS (ARI STD. 320-81)

Cooling								Heating					
Model Number	Net BTUH	Sensible BTUH	Power Input Watts	EER Rating	Heat of Reject. BTUH	Water GPM	Air CFM	Net BTUH	Power Input Watts	COP	Heat of Absorp. BTUH	Water GPM	Air CFM
803-009 804-009	9100*	6461	825	11.0	11915	2.4	350	10800*	850	3.7	7900	2.4	350
803-012 804-012	12500	8625	1225	10.2	16680	3.34	400	15700	1325	3.5	11179	3.34	400
803-015 804-015	14500	10295	1400	10.4	19300	3.90	500	19000	1525	3.7	13800	3.90	500
803-019 804-019	19000	13870	1750	10.9	25000	5.0	650	23000	1875	3.6	16600	5.0	650
803-024 804-025	25400	17580	2275	11.2	33162	6.6	800	35000	2650	3.9	25960	6.6	800
803-030 804-031	30000	21860	2900	10.3	39900	8.0	1000	40500	3200	3.7	29580	8.0	1000
803-036 804-037	35600	24400	3360	10.6	47064	9.4	1250	42500	3550	3.5	30400	9.4	1250
803-042 804-043	43000 42000	32170 31400	4000 4050	10.8 10.4	56652 55819	11.3 11.2	1500 1450	57000 57000	4200 4450	4.0 3.8	40665 41987	11.3 11.2	1500 1450
803-048 804-048	48000	37250	4750	10.1	64212	12.8	1700	59000	4650	3.7	43130	12.8	1700
803-060 804-060	62000	46800	6100	10.2	82819	16.6	2000	68000	5600	3.6	48892	16.6	2000
804-096	96000	74950	9400	10.2	128082	25.6	3400	112000	9100	3.6	80950	25.6	3400
804-120	124000	93550	12200	10.2	165639	33.1	4000	137000	11500	3.5	97762	33.1	4000

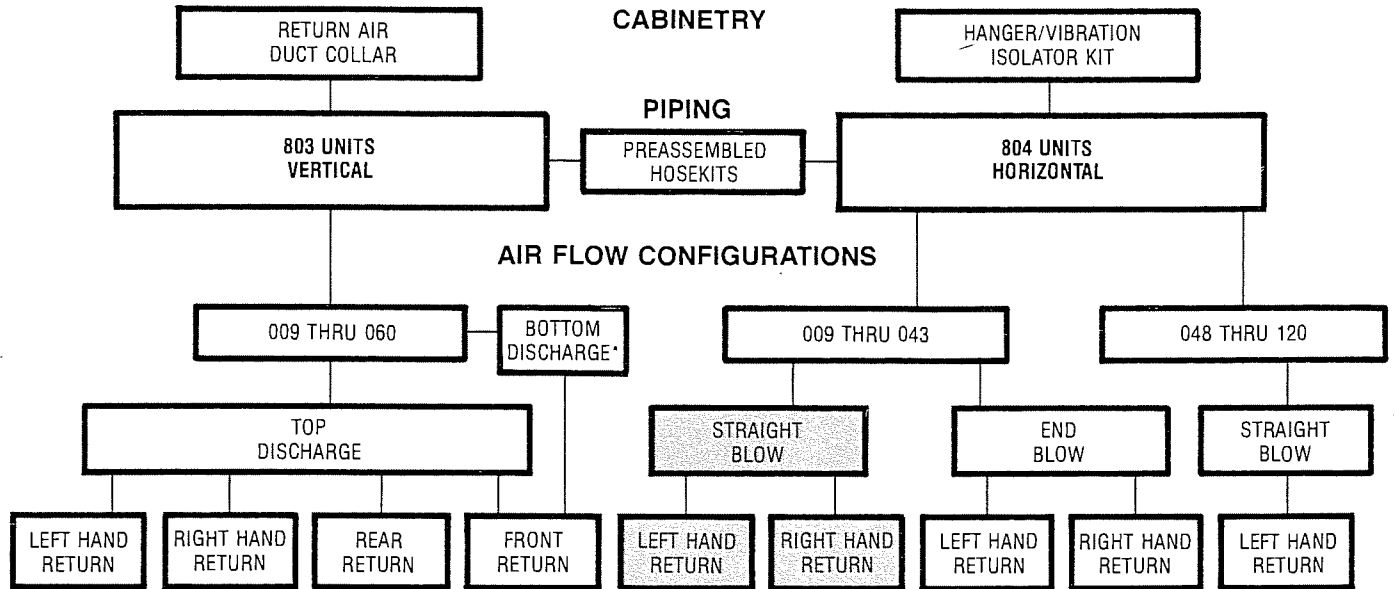
*For Units operating at 208V, deduct 200 BTUH from capacity ratings (009 Models only).

GENERAL DATA CHART

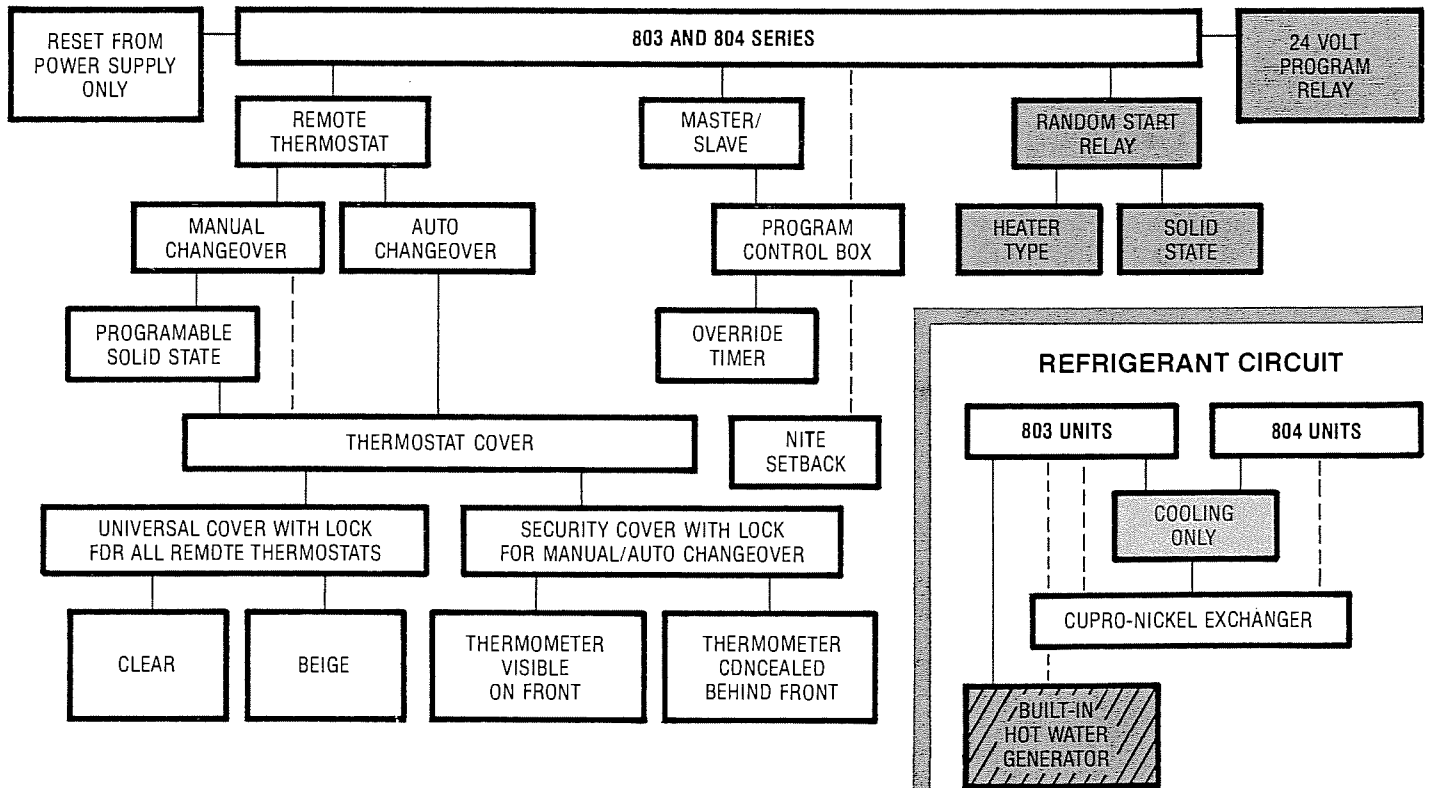
Model Number	Voltage	PH	Min. Wire	Min. CRC Ampacity	Max. Fuse	Comp LRA	Comp RLA	Blower FLA	Total FLA	Blower Whl. Dia.	Blower Whl. Lth.	Blower HP	Ref. to Air Face Area	Coil Depth	Fins /In.	Blower Type	Shipping Wt. Lbs.
803-009 804-009	208/230 265	1 1	#14 #14	4.6 4.0	15 15	20.0 16.0	3.3 2.8	.50 .50	3.8 3.3	5.5	5.0	1/20	.97	3.00	14	DDMS	118 108
803-012 804-012	208/230 265	1 1	#14 #14	8.7 6.9	15 15	31.0 27.0	6.3 4.9	.80 .81	7.1 5.71	6.0	4.0	1/10	.97	3.75	14	DDMS	123 117
803-015 804-015	208/230 265	1 1	#14 #14	8.25 7.35	15 15	36.0 33.0	5.9 5.0	.86 .82	6.76 5.82	6.0	5.0	1/12	2.22	2.25	14	DDMS	150 153
803-019 804-019	208/230 265	1 1	#14 #14	11.1 8.7	15 15	40.6 34.0	7.6 6.0	1.5 1.2	9.1 7.2	9.0	4.0	1/6	2.22	3.0	14	DDMS	173 180
803-024 804-025	208/230 265	1 1	#10 #12	16.4 14.4	25 20	54.0 45.0	11.8 9.3	1.6 1.5	13.4 10.8	9.0	7.0	1/4	2.50	2.25	13	DDMS	210 213
803-030 804-031	208/230 265 460	1 3 1 3	#10 #12 #10 #14	19.5 13.9 17.2 6.5	30 20 25 15	65.0 60.0 55.0 28.0	14.0 9.2 11.2 4.4	2.0 2.0 1.6 1.0	16.0 11.2 12.8 5.4	10.0	6.0	1/4	2.50	3.0	13	DDMS	225
803-036 804-037	208/230 208/230 265 460	1 3 1 3	#8 #10 #8 #14	23.0 16.7 21.6 8.3	35 25 35 15	75.8 65.0 70.0 32.0	15.8 10.4 13.5 5.2	3.2 3.2 3.2 1.8	19.0 13.6 16.7 7.0	9.0	7.0	1/2	3.33	2.25	14	DDMS	248 235
803-042 803-043	208/230 208/230 460	1 3 3	#6 #10 #14	28.7 19.4 9.6	45 30 15	93.0 74.0 41.0	19.4 12.5 6.3	3.4 3.4 1.8	22.8 15.9 8.1	10.0 9.0	8.0 7.0	1/2	3.33	3.00 2.25	14	DDMS	278 240
803-048 804-048	208/230 208/230 460	1 3 3	#6 #8 #14	30.0 23.0 11.0	45 35 15	104.0 72.0 35.0	19.8 14.1 7.0	5.4 5.4 2.2	25.2 19.5 9.2	10.0	10.0	3/4	4.17	3.25	14	DDMS	312 300
803-060 804-060	208/230 208/230 460	1 3 3	#4 #8 #12	39.8 26.4 12.5	60 40 20	132.0 103.0 54.0	26.0 16.1 7.9	5.8 5.8 2.6	31.8 21.9 10.5	12.0	10.0	1	4.17	4.33	13	DDMS	339 357
804-096	208/230 460	3 3	#6 #10	37.4 18.4	50 25	72.0 35.0	14.1 7.0	5.7 2.6	33.9 16.6	(2) 10.0	(2) 10.0	1-1/2	8.33	3.25	14	BDVP	680
804-120	208/230 460	3 3	#4 #10	44.6 21.2	60 25	103.0 54.0	16.1 7.9	7.5 3.4	39.7 19.2	(2) 12.0	(2) 10.0	2	8.33	4.33	13	BDVP	800

OPTION FLOW CHART

OPTIONS



ELECTRICAL — CONTROL



- Not available for Unit 804-031.
- Non-UL and Non CSA.
- 803-024 thru 060 208/230 Volt Models only.
- CSA approved only.

*Pending—available upon release (024 thru 060 models only)

PERFORMANCE

009/012/015

		COOLING PERFORMANCE TABLE					HEATING PERFORMANCE TABLE				
Unit Model Numbers	Ent. Wat. Temp. °F	Water Flow GPM	Cooling Total BTUH	Sensible BTUH	Heat of Reject. BTUH	Power Input Watts	Heating Total BTUH	Heat of Absorp. BTUH	Power Input Watts	P. D. F. T. of Water	
803-009 804-009	60	1.25	9460	6220	11876	708	9900	7054	834	834	1.03
		1.50	9575	6240	11944	694					1.64
		1.75	9580	6260	11921	686					2.27
		2.00	9610	6265	11921	677					2.89
		2.50	9640	6270	11923	669					4.62
		3.00	9660	6275	11919	662					6.58
	65	1.25	9310	6150	11819	735	9950	7100	835	835	1.03
		1.50	9400	6190	11851	718					1.64
		1.75	9470	6220	11883	707					2.27
		2.00	9510	6240	11896	699					2.89
		2.50	9560	6250	11908	688					4.62
		3.00	9670	6260	11998	682					6.58
	75	1.25	8910	5970	11613	792	10650	7732	855	855	1.03
		1.50	9060	6040	11691	771					1.64
		1.75	9150	6080	11744	760					2.27
		2.00	9210	6110	11763	748					2.89
		2.50	9290	6140	11809	738					4.62
		3.00	9340	6160	11831	730					6.58
	85	1.25	8330	5630	11248	855	11300	8327	871	871	1.03
		1.50	8550	5760	11393	833					1.64
1.75		8680	5840	11485	822	2.27					
2.00		8770	5890	11528	808	2.89					
2.50		8900	5960	11613	795	4.62					
3.00		8960	5990	11643	786	6.58					
95	2.00	8000	5470	10990	876	12200	9166	889	889	2.89	
	2.50	8250	5600	11182	859					4.62	
	3.00	8400	5660	11294	846					6.58	
803-012 804-012	60	1.75	13030	8780	16750	1090	13350	9118	1240	1240	1.30
		2.00	13090	8790	16742	1070					1.65
		2.50	13150	8800	16717	1045					2.45
		3.00	13180	8805	16697	1030					3.40
		3.50	13210	8807	16691	1020					4.50
		4.00	13220	8810	16667	1010					5.80
	65	1.75	12920	8750	16760	1125	14000	9693	1262	1262	1.30
		2.00	12980	8765	16751	1105					1.65
		2.50	13060	8780	16746	1080					2.45
		3.00	13100	8790	16735	1065					3.40
		3.50	13130	8795	16731	1055					4.50
		4.00	13150	8800	16717	1045					5.80
	75	1.75	12550	8640	16697	1215	15550	11045	1320	1320	1.30
		2.00	12660	8675	16721	1190					1.65
		2.50	12800	8715	16759	1160					2.45
		3.00	12860	8735	16818	1145					3.40
		3.50	12910	8750	16767	1130					4.50
		4.00	12940	8755	16763	1120					5.80
	85	1.75	11760	8350	16231	1310	16850	12157	1375	1375	1.30
		2.00	12020	8450	16406	1285					1.65
2.50		12300	8550	16583	1255	2.45					
3.00		12420	8600	16635	1235	3.40					
3.50		12520	8630	16684	1220	4.50					
4.00		12590	8650	16703	1205	5.80					
95	3.00	11540	8180	16113	1340	18400	13428	1457	1457	3.40	
	3.50	11700	8290	16188	1315					4.50	
	4.00	11860	8380	16314	1305					5.80	
803-015 804-015	60	2.00	15060	10070	19291	1240	16600	11605	1464	1464	1.60
		2.50	15105	10000	19182	1195					2.40
		3.00	15140	9950	19132	1170					3.40
		3.50	15145	9920	19069	1150					4.50
		4.00	15160	9900	19050	1140					5.80
		5.00									7.10
	65	2.00	14980	10130	19364	1285	16850	11834	1470	1470	1.60
		2.50	15040	10080	19305	1250					2.40
		3.00	15080	10040	19260	1225					3.40
		3.50	15100	10010	19194	1200					4.50
		4.00	15120	9985	19180	1190					5.80
		5.00	15140	9950	19115	1165					7.10
	75	2.00	14560	10230	19303	1390	18600	13424	1517	1517	1.60
		2.50	14765	10195	19371	1350					2.40
		3.00	14860	10170	19381	1325					3.40
		3.50	14920	10150	19373	1305					4.50
		4.00	14980	10130	19381	1290					5.80
		5.00	15010	10110	19343	1270					7.10
	85	2.00	13740	10300	18831	1495	20075	14735	1565	1565	1.60
		2.50	14100	10275	19064	1455					2.40
3.00		14310	10260	19189	1430	3.40					
3.50		14420	10245	19231	1410	4.50					
4.00		14525	10230	19268	1390	5.80					
5.00		14640	10220	19332	1375	7.10					
95	2.00	13680	10300	18798	1500	21000	15473	1620	1620	5.80	
	3.00	13880	10290	18930	1480					7.10	
	4.00										

PERFORMANCE CHARTS 019 024/030/036 025/031/037

		COOLING PERFORMANCE TABLE					HEATING PERFORMANCE TABLE				
Unit Model Numbers	Ent. Wat. Temp. °F	Water Flow GPM	Cooling Total BTUH	Sensible BTUH	Heat of Reject. BTUH	Power Input Watts	Heating Total BTUH	Heat of Absorp. BTUH	Power Input Watts	P. D. F. T. of Water	
803-019 804-019	60	2.50	19580	13555	24953	1575	18800	12810	1755	3.40	
		3.00	19680	14435	24917	1535					
		3.50	19720	13410	24872	1510					
		4.00	19760	13370	24851	1492					
		5.00	19800	13310	24816	1470					
	65	2.50	19420	13670	24981	1630	20600	14406	1815	3.40	
		3.00	19440	13590	24865	1590					
		3.50	19600	13540	24947	1567					
		4.00	19660	13490	24932	1545					
		5.00	19700	13440	24893	1522					
	75	2.50	19000	13870	24971	1750	23200	16721	1900	3.40	
		3.00	19150	13810	25002	1715					
		3.50	19260	13760	25009	1685					
		4.00	19320	13725	24984	1660					
		5.00	19420	13670	24999	1635					
	85	2.50	18360	13955	24758	1875	25100	18380	1970	3.40	
		3.00	18610	13945	24854	1830					
		3.50	18750	13930	24909	1805					
		4.00	18860	13910	24933	1780					
		5.00	19000	13870	24971	1750					
95	2.50	18360	13955	24758	1875	27250	20259	2050	8.50		
	3.00	18610	13945	24854	1830						
	3.50	18750	13930	24909	1805						
	4.00	18860	13910	24933	1780						
	5.00	19000	13870	24971	1750						
803-024 804-025	60	4.00	26975	17850	33628	1950	28500	19970	2500	5.20	
		5.00	27140	17790	33690	1920					
		6.00	27300	17730	33749	1890					
		7.00	27375	17690	33773	1875					
		8.00	27450	17650	33796	1860					
	65	4.00	26625	17880	33551	2030	30650	21898	2565	5.20	
		5.00	26825	17865	33615	1990					
		6.00	27025	17850	33679	1950					
		7.00	27125	17810	33694	1925					
		8.00	27225	17770	33708	1900					
	75	4.00	25825	17710	33331	2200	34875	25816	2655	5.20	
		5.00	26060	17780	33406	2160					
		6.00	26290	17850	33480	2120					
		7.00	26405	17865	33510	2090					
		8.00	26515	17880	33544	2060					
	85	4.00	24900	17270	33072	2395	37250	27928	2732	5.20	
		5.00	25163	17398	33155	2343					
		6.00	25425	17525	33238	2290					
		7.00	25550	17620	33205	2245					
		8.00	25670	17710	33176	2200					
95	4.00	24450	17000	32980	2500	38250	28764	2780	5.20		
	6.00	24750	17140	32776	2440						
	8.00										
803-030 804-031	60	4.00	32775	22070	41851	2660	33400	22823	3100	2.10	
		6.00	33900	22060	42294	2460					
		8.00	34400	21995	42521	2380					
		10.00	34700	21950	42752	2360					
	65	4.00	31900	22700	41044	2680	34600	23869	3145	2.10	
		6.00	33075	22900	41776	2550					
		8.00	33750	22700	42212	2480					
		10.00	33950	22400	42258	2435					
	75	4.00	30050	21865	39945	2900	39700	28645	3240	2.10	
		6.00	31325	22020	40742	2760					
		8.00	32000	22070	41144	2680					
		10.00	32350	22090	41324	2630					
	85	4.00	27900	21410	38614	3140	43300	31887	3345	2.10	
		6.00	29300	21760	39502	2990					
		8.00	30000	21870	39895	2900					
		10.00	30450	21920	40208	2860					
	95	8.00	27775	21410	38489	3140	46950	35039	3490	7.80	
		10.00	28150	21520	38761	3110					
	803-036 804-037	60	5.00	34900	20700	45300	3060	35900	24600	3300	5.10
			7.00	36300	21200	46700	3040				
9.00			37100	22000	47300	3000					
11.00			38000	23400	48200	2980					
65		5.00	34700	21100	45400	3140	39200	27600	3390	5.10	
		7.00	36000	22200	46700	3130					
		9.00	36900	23000	47300	3060					
		11.00	37800	23800	48200	3050					
75		5.00	34300	22000	45500	3280	42900	30800	3550	5.10	
		7.00	35500	23000	46600	3240					
		9.00	36300	23700	47300	3230					
		11.00	36700	24200	47600	3200					
85		5.00	33400	21900	45100	3430	44600	32300	3610	5.10	
		7.00	34600	22900	46200	3390					
		9.00	35300	24200	46700	3360					
		11.00	35800	24700	47200	3340					
95		9.00	33400	24100	45300	3490	46500	33900	3690	11.30	
		11.00	34600	25100	46500	3480					

PERFORMANCE CHARTS

042/043/048

Unit Model Numbers	COOLING PERFORMANCE TABLE						HEATING PERFORMANCE TABLE			
	Ent. Wat. Temp. °F	Water Flow GPM	Cooling Total BTUH	Sensible BTUH	Heat of Reject. BTUH	Power Input Watts	Heating Total BTUH	Heat of Absorp. BTUH	Power Input Watts	P. D. F. T. of Water
803-042	60	7.00	44200	28000	55700	3380	49500	36701	3750	7.40
		9.00	44600	28500	56000	3350	51100	37892	3890	11.50
		11.00	44800	28600	56100	3320	52000	38587	3930	16.60
		13.00	44900	28700	56200	3310	52600	39085	3960	22.60
	65	7.00	44100	29000	56300	3580	52750	39542	3870	7.40
		9.00	44400	29200	56500	3550	54000	40382	3990	11.50
		11.00	44600	29300	56700	3530	54800	40977	4050	16.60
		13.00	44800	29500	56800	3500	55250	41325	4080	22.60
	75	7.00	43400	30300	56500	3830	57200	43207	4100	7.40
		9.00	43900	30600	56900	3810	58200	43763	4230	11.50
		11.00	44200	30800	57100	3790	58900	44224	4300	16.60
		13.00	44600	31100	57400	3760	59400	44622	4330	22.60
85	7.00	41700	31200	55500	4040	60800	46500	4190	7.40	
	9.00	42400	31700	56100	4010	61800	47056	4320	11.50	
	11.00	42900	32100	56600	3990	62400	47417	4390	16.60	
	13.00	43200	32400	56800	3970	62800	47749	4410	22.60	
95	11.00	41300	31200	55600	4190	65600	50242	4500	16.60	
	13.00	41700	31300	55932	4170	66000	50573	4520	22.60	
804-043	60	7.00	43150	30852	55399	3590	49500	35340	4150	7.40
		9.00	43250	30708	55124	3480	51100	36770	4200	11.50
		11.00	43325	30587	54994	3420	52000	37567	4230	16.60
		13.00	43375	30560	54908	3380	52600	38099	4250	22.60
	65	7.00	42925	31078	55584	3710	52750	38232	4255	7.40
		9.00	43100	30946	55417	3610	54000	39328	4300	11.50
		11.00	43175	30827	55288	3550	54800	39992	4340	16.60
		13.00	43210	30766	55186	3510	55250	40374	4360	22.60
	75	7.00	42350	31339	55862	3960	57200	42000	4455	7.40
		9.00	42600	31268	55804	3870	58200	42829	4505	11.50
		11.00	42725	31189	55725	3810	58900	43410	4540	16.60
		13.00	42800	31158	55697	3780	59400	43841	4560	22.60
	85	7.00	41275	31286	55571	4190	60800	45002	4630	7.40
		9.00	41775	31373	55764	4100	61800	45866	4670	11.50
		11.00	42000	31374	55853	4060	62400	46398	4690	16.60
		13.00	42140	31352	55856	4020	62800	46764	4700	22.60
	95	9.00					65000	48759	4760	11.50
		13.00	40360	30916	54929	4270	65600	49308	4775	16.60
		40750	31133	55217	4240	66000	49691	4780	22.60	
803-048 804-048	60	6.00	50300	37800	65600	4470	48800	34300	4240	4.20
		8.00	51100	38200	65900	4330	50400	35700	4300	7.20
		10.00	51900	38600	66200	4180	52000	37100	4360	10.60
		12.00	52700	39000	66400	4030	53500	38400	4430	14.80
	65	6.00	49900	37900	65500	4580	51900	37000	4350	4.20
		8.00	50700	38200	65900	4460	53500	38400	4430	7.20
		10.00	51500	38500	66200	4330	55200	39800	4500	10.60
		12.00	52200	38800	66500	4200	56900	41300	4580	14.80
	75	6.00	48000	37200	64400	4800	57900	42200	4600	4.20
		8.00	48800	37500	64800	4700	59900	43900	4620	7.20
		10.00	49500	37700	65200	4600	61000	44900	4700	10.60
		12.00	50200	38000	65600	4510	61800	45600	4750	14.80
	85	6.00	46200	36400	63300	5000	63300	46800	4810	4.20
		8.00	46800	36700	63600	4930	64800	48100	4880	7.20
		10.00	47300	37000	63900	4850	65600	48700	4920	10.60
		12.00	47900	37200	64200	4780	66000	49100	4950	14.80
	95	14.00	48400	37300	64500	4700	66400	49400	4980	19.40
		12.00	45500	36300	62700	5050	68600	51300	5060	14.80
		14.00	45900	36500	63000	5000	68900	51500	5100	19.40

PERFORMANCE CHARTS

060/096/120

		COOLING PERFORMANCE TABLE					HEATING PERFORMANCE TABLE			
Unit Model Numbers	Ent. Wat. Temp. °F	Water Flow GPM	Cooling Total BTUH	Sensible BTUH	Heat of Reject. BTUH	Power Input Watts	Heating Total BTUH	Heat of Absorp. BTUH	Power Input Watts	P. D. F. T. of Water
803-060 804-060	60	8.00	65100	47400	84300	5620	54800	38700	4700	4.20
		10.00	65600	47700	84200	5460	56000	39700	4780	6.20
		12.00	65900	47900	84100	5340	56900	40400	4830	8.80
		14.00	66400	48200	84200	5220	57500	40900	4860	11.30
		16.00	66700	48400	84100	5100	58000	41300	4880	14.30
		18.00	67100	48700	84100	4980	58200	41550	4890	17.80
	65	8.00	63800	47150	83400	5750	57900	41200	4890	4.20
		10.00	64500	47400	83600	5600	59300	42300	4980	6.20
		12.00	65000	47500	83700	5490	60100	43000	5020	8.80
		14.00	65400	47500	83900	5420	60900	43600	5060	11.30
		16.00	65900	47600	84200	5370	61500	44100	5070	14.30
		18.00	66300	47700	84500	5320	61900	44600	5080	17.80
	75	8.00	62500	46900	83600	6180	64000	46100	5230	4.20
		10.00	62700	47000	83200	6015	65400	47200	5320	6.20
		12.00	63200	47000	83300	5880	66400	48000	5380	8.80
		14.00	63500	47000	83200	5770	67000	48500	5420	11.30
		16.00	63700	47100	83200	5700	67600	49000	5460	14.30
		18.00	63800	47200	83200	5670	68000	49300	5480	17.80
85	8.00	60400	46600	82900	6590	68500	49900	5440	4.20	
	10.00	60900	46600	82700	6380	69500	50600	5550	6.20	
	12.00	61300	46700	82700	6260	69900	50800	5580	8.80	
	14.00	61600	46700	82700	6170	70100	51000	5610	11.30	
	16.00	61800	46800	82600	6100	70300	51100	5630	14.30	
	18.00	62000	46800	82700	6050	70500	51200	5650	17.80	
95	14.00	59300	46400	81700	6570	72500	52900	5740	11.30	
	16.00	59600	46400	81800	6490	72600	53000	5760	14.30	
	18.00	59800	46500	81800	6440	72800	53100	5780	17.80	
804-096	60	12.00	100700	76100	130900	8840	92800	64438	8310	4.90
		16.00	102600	76400	131700	8530	95700	66963	8420	7.90
		20.00	104900	76800	133100	8250	97300	68324	8490	11.80
		24.00	106200	77700	133500	8000	98300	69153	8540	16.40
		28.00	107300	78000	134400	7950	98400	69219	8550	21.70
		12.00	99900	76300	130800	9040	98700	69519	8550	4.90
	65	16.00	101600	77000	131600	8790	101800	72175	8680	7.90
		20.00	103000	77400	132100	8530	104300	74300	8790	11.80
		24.00	104300	78100	132600	8280	105700	75495	8850	16.40
		28.00	105400	78400	133400	8200	106400	76093	8880	21.70
		12.00	96300	74900	128600	9460	110300	79515	9020	4.90
		16.00	97700	75400	129400	9270	113900	82603	9170	7.90
	75	20.00	99100	76000	130100	9070	116000	84430	9250	11.80
		24.00	100500	76600	130800	8860	117800	85991	9320	16.40
		28.00	101400	76900	131200	8720	118300	86354	9360	21.70
		12.00	92700	73300	126300	9840	116800	84547	9450	4.90
		16.00	93700	73900	126900	9720	123200	90503	9580	7.90
		20.00	94800	74500	127500	9590	124800	91796	9670	11.80
85	24.00	95800	74800	128000	9440	125600	92426	9720	16.40	
	28.00	96900	75200	128600	9280	126500	93121	9780	21.70	
	24.00	91100	73000	128000	9970	130500	96507	9960	16.40	
	28.00	91900	73000	128600	9870	131200	97002	10020	21.70	
	16.00	130100	94700	168500	11240	109600	77400	9400	4.60	
	20.00	131100	95400	168400	10910	112000	79400	9560	6.90	
60	24.00	131900	95700	168300	10670	113800	80800	9660	9.50	
	28.00	132600	95900	168500	10520	115400	82100	9740	12.20	
	32.00	133300	96100	168800	10410	116900	83500	9780	15.70	
	36.00	133800	96300	169000	10310	118300	84800	9820	19.20	
	16.00	127600	94300	166900	11500	115800	82400	9780	4.60	
	20.00	129000	94700	167200	11200	118600	84600	9960	6.90	
65	24.00	130000	94900	167500	10980	120200	86000	10040	9.50	
	28.00	130700	95000	167700	10830	121800	87200	10120	12.20	
	32.00	131300	95100	167800	10700	122900	88200	10160	15.70	
	36.00	131800	95100	167900	10570	123800	89000	10180	19.20	
	16.00	124900	93800	167100	12360	128000	92200	10460	4.60	
	20.00	125400	93900	166500	12030	130800	94400	10640	6.90	
75	24.00	126300	94000	166400	11750	132800	96000	10760	9.50	
	28.00	126900	94100	166300	11540	134000	97000	10920	12.20	
	32.00	127200	94200	166200	11400	135200	98000	10960	15.70	
	36.00	127500	94300	166200	11300	136000	98600	10880	19.20	
	16.00	120800	93300	165800	13170	137000	99800	10880	4.60	
	20.00	121800	93300	165400	12760	139000	121200	11100	6.90	
85	24.00	122600	93400	165400	12520	139800	101600	11160	9.50	
	28.00	123100	93400	165200	12340	140200	102000	11220	12.20	
	32.00	123500	93500	165200	12200	140600	102200	11260	15.70	
	36.00	124000	93600	165300	12100	141000	102400	11300	19.20	
	28.00	118600	92700	163500	13140	145000	105800	11480	12.20	
	32.00	119100	92800	163400	12980	145200	106000	11520	15.70	
95	36.00	119500	92900	163400	12870	145600	106200	11560	19.20	

CORRECTION FACTORS AIR TEMP

CORRECTION FACTORS FOR VARIATION IN ENTERING AIR TEMPERATURE

Cooling									Heating					
Model	Ent. Air °F WB	Total Capacity	Sensible Capacity Entering Air Dry Bulb					Heat of Reject.	Power Input	Model	Ent. Air °F DB	Total Capacity	Heat of Absorp.	Power Input
			75°F DB	80°F DB	85°F DB	90°F DB	95°F DB							
803-009 804-009	61	.865	1.060	1.250				.892	.976	803-009 804-009	60	1.046	1.090	.929
	64	.930	.933	1.126	1.320			.944	.992		65	1.021	1.044	1.000
	67	1.000	.792	1.000	1.208			1.000	1.000		70	1.000	1.000	1.000
	70	1.064	.670	.855	1.053	1.250		1.052	1.010		75	.983	.982	1.040
	73	1.125		.746	.927	1.110	1.292	1.101	1.022		80	.967	.925	1.079
	76	1.185			.800	.982	1.165	1.149	1.035					
79	1.242			.875	.855	1.036	1.195	1.054						
803-012 804-012	61	.860	1.062					.890	.978	803-012 804-012	60	1.031	1.073	.927
	64	.943	1.130					.955	.990		65	1.014	1.034	.964
	67	1.000	.795	1.000	1.205			1.000	1.000		70	1.000	1.000	1.000
	70	1.057	.667	.860	1.058	1.255		1.047	1.013		75	.988	.973	1.026
	73	1.115		.740	.925	1.105	1.290	1.092	1.024		80	.978	.940	1.073
	76	1.173			.805	.985	1.115	1.138	1.035					
79	1.230			.860	.845	1.045	1.182	1.047						
803-015 804-015	61	.900	1.075					.917	.974	803-015 804-015	60	1.029	1.069	.923
	64	.954	.935	1.043				.961	.988		65	1.014	1.034	.960
	67	1.000	.788	1.000	1.214			1.000	1.000		70	1.000	1.000	1.000
	70	1.047	.635	.842	1.050	1.255		1.038	1.015		75	.989	.969	1.041
	73	1.092		.645	.855	1.057	1.274	1.074	1.024		80	.978	.935	1.091
	76	1.133			.897	.910	1.125	1.109	1.043					
79	1.172			.950	.690	.927	1.142	1.058						
803-019 804-019	61	.915	1.096					.926	.965	803-019 804-019	60	1.014	1.021	.926
	64	.957	.914	1.156				.962	.982		65	1.007	1.024	.963
	67	1.000	.782	1.000	1.219			1.000	1.000		70	1.000	1.000	1.000
	70	1.050	.645	.850	1.055	1.260		1.043	1.025		75	.973	.953	1.032
	73	1.100		.718	.915	1.100	1.307	1.096	1.057		80	.933	.889	1.060
	76	1.157			.735	.945	1.150	1.147	1.120					
79	1.219			.795	.795	1.015	1.194	1.120						
803-024 804-025	61	.837	1.044	1.320				.985	.952	803-024 804-025	60	1.024	1.061	.922
	64	.920	.918	1.140	1.320			.940	.976		65	1.016	1.035	.964
	67	1.000	.775	1.000	1.220			1.000	1.000		70	1.000	1.000	1.000
	70	1.070		.865	1.080	1.300		1.060	1.025		75	.990	.980	1.017
	73	1.125		.720	.920	1.160		1.115	1.050		80	.933	.967	1.026
	76	1.194			.800	1.000	1.200	1.163	1.075					
79	1.239			.820	.820	1.025	1.198	1.100						
803-030 804-031	61	.826	1.050					.885	.950	803-030 804-031	60	1.028	1.073	.913
	64	.935	.915	1.120				.945	.975		65	1.013	1.029	.966
	67	1.000	.770	1.000	1.220			1.000	1.000		70	1.000	1.000	1.000
	70	1.065		.848	1.080	1.295		1.060	1.030		75	.990	.980	1.017
	73	1.125		.705	.922	1.142		1.150	1.057		80	.937	.954	1.027
	76	1.155			.742	.960	1.180	1.160	1.085					
79	1.230			.750	.750	.970	1.200	1.111						
803-036 804-037	61	.912	1.159					.925	.965	803-036 804-037	60	1.021	1.046	.951
	64	.955	.962	1.216				.962	.983		65	1.011	1.024	.976
	67	1.000	.757	1.000	1.253			1.000	1.000		70	1.000	1.000	1.000
	70	1.048	.554	.775	1.024	1.270		1.040	1.016		75	.989	.976	1.024
	73	1.098		.554	.910	1.049	1.297	1.081	1.031		80	.978	.952	1.049
	76	1.152			.615	.837	1.079	1.125	1.044					
79	1.211			.414	.621	.849	1.172	1.054						
803-042 804-042	61	.915	1.163					.928	.965	803-042 804-042	60	1.022	1.067	.909
	64	.990	.957	1.219				.986	.985		65	1.015	1.037	.960
	67	1.000	.746	1.000	1.256			1.000	1.000		70	1.000	1.000	1.000
	70	1.022	.560	.760	1.061	1.277		1.019	1.011		75	.975	.954	1.027
	73	1.056		.546	.904	.995	1.264	1.050	1.031		80	.937	.895	1.041
	76	1.072			.794	.943	1.170	1.063	1.037					
79	1.116			.694	.896	1.010	1.103	1.066						
804-043 804-043	61	.850	1.193					.882	.980	804-043 804-043	60	1.007	1.025	.954
	64	.935	.976	1.202				.949	.990		65	1.003	1.011	.975
	67	1.000	.784	1.000	1.205			1.000	1.000		70	1.000	1.000	1.000
	70	1.049		.815	1.015	1.208		1.039	1.009		75	.995	.985	1.022
	73	1.085		.657	.845	1.018	1.193	1.068	1.018		80	.989	.961	1.047
	76	1.112			.681	.841	1.013	1.090	1.025					
79	1.130			.557	.707	.843	1.106	1.032						
803-048 804-048	61	.897	1.085					.909	.943	803-048 804-048	60	1.012	1.035	.951
	64	.951	.928	1.167				.956	.968		65	1.006	1.017	.975
	67	1.000	.767	1.000	1.233			1.000	1.000		70	1.000	1.000	1.000
	70	1.045	.673	.833	1.059	1.286		1.042	1.033		75	.993	.981	1.026
	73	1.086		.662	.884	1.103	1.322	1.080	1.062		80	.986	.961	1.061
	76	1.119		.503	.703	.898	1.134	1.113	1.095					
79	1.153			.503	.703	.752	.952	1.145						
803-060 804-060	61	.894	1.076					.911	.958	803-060 804-060	60	1.007	1.025	.954
	64	.946	.923	1.157				.955	.979		65	1.003	1.011	.975
	67	1.000	.770	1.000	1.074	1.301		1.000	1.000		70	1.000	1.000	1.000
	70	1.058	.618	.846	1.074	1.301		1.048	1.019		75	.993	.981	1.026
	73	1.113		.688	.912	1.135	1.358	1.095	1.043		80	.989	.961	1.061
	76	1.190		.543	.766	.989	1.212	1.158	1.067					
79	1.264			.620	.835	1.056	1.217	1.096						
804-096 804-096	61	.897	1.085					.909	.943	804-096 804-096	60	1.007	1.025	.954
	64	.951	.928	1.167				.956	.968		65	1.003	1.011	.975
	67	1.000	.767	1.000	1.233			1.000	1.000		70	1.000	1.000	1.000
	70	1.045	.673	.833	1.059	1.286		1.042	1.033		75	.993	.981	1.026
	73	1.086		.662	.884	1.103	1.322	1.080	1.062		80	.989	.961	1.047
	76	1.119		.503	.703	.898	1.134	1.113	1.095					
79	1.153			.503	.703	.752	.952	1.145						
804-120 804-120	61	.894	1.076					.911	.958	804-120 804-120	60	1.012	1.035	.951
	64	.946	.923	1.157				.955	.979		65	1.006	1.017	.975
	67	1.000	.770	1.000	1.074	1.301		1.000	1.000		70	1.000	1.000	1.000
	70	1.058	.618	.846	1.074	1.301		1.048	1.019		75	.993	.981	1.026
	73	1.113		.688	.912	1.135	1.358	1.075	1.043		80	.989	.961	1.061
	76	1.190		.543	.766	.989	1.212	1.158	1.067					
79	1.264			.620	.835	1.056	1.217	1.096						

To calculate leaving water temperature:

COOLING MODE

$$\text{Lvg. Water Temp.} = \text{Entering Water Temp. } ^\circ\text{F} + \left[\frac{\text{Heat of Rejection BTUH}}{\text{GPM} \times 500} \right]$$

HEATING MODE

$$\text{Lvg. Water Temp.} = \text{Entering Water Temp. } ^\circ\text{F} - \left[\frac{\text{Heat of Absorption BTUH}}{\text{GPM} \times 500} \right]$$

SAMPLE PROBLEM

SAMPLE PROBLEM

1. To estimate the performance of Model 804-043 under the following conditions:

COOLING MODE: Return air at 90°F DB/70°F WB, air flow of 1350 SCFM.

Supply water at 75°F, water flow rate 11 GPM.

HEATING MODE: Same as above except return air at 75°F DB.

SAMPLE SOLUTION				
COOLING				
	From Performance Chart	Correction Factors		Actual Performance
		Ent. Air Temp.	Air Flow	
Total Capacity BTUH	42725	× 1.049	× 0.991	= 44415
Sensible Capacity BTUH	31189	× 1.208	× 0.980	= 36923
Heat of Reject. BTUH	55725	× 1.039	× 0.991	= 57377
Power Input Watts	3810	× 1.009	× 0.989	= 3802
HEATING				
Total Capacity BTUH	58900	× 0.989	× 0.995	= 57961
Heat of Absorp. BTUH	43410	× 0.976	× 0.992	= 42029
Power Input Watts	4540	× 1.024	× 1.003	= 4663

2. Estimate the leaving water temperature for sample problem above.

$$\text{COOLING MODE: Lvg. Water Temp.} = 75 + \left[\frac{57377}{500 \times 11} \right] = 75 + 10.43 = \underline{85.43^\circ\text{F}}$$

$$\text{HEATING MODE: Lvg. Water Temp.} = 75 - \left[\frac{42029}{500 \times 11} \right] = 75 - 7.64 = \underline{67.36^\circ\text{F}}$$

208 VOLT SCFM CORRECTION FACTORS FOR THE FOLLOWING MODELS ONLY			
Model Numbers	High Speed	Medium Speed	Low Speed
803-009/804-009	.931	.914	.892
803-024/804-025	.958	.899	.854
803-036/804-037	.965	.935	.905
803-042	.984	.935	.886
804-043	.971	.937	.927
803-048/804-048	.980	.945	.918
803-060/804-060	.975	.944	.912

CAUTION: Units should not be operated below minimum SCFM in Blower Performance Chart.

BLOWER PERFORMANCE

BLOWER PERFORMANCE CHART

Model Numbers	Fan Speed	SCFM at External Static Pressure I.W.G.									Minimum SCFM
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
803-009 804-009	High Medium Low	356 330 300	332 306 280	306 280 260	254 250 240						240
803-012 804-012	High Medium Low	450 430 410	410 412 395	406 392 378	384 372 356	360 350 334	325 320				320
803-015 804-015	High Medium Low	560 540 516	545 528 507	528 510 493	507 492 478	486 473 460					460
803-019 804-019	High Medium Low	800 700 650	760 675 625	715 635 600	665 600 560	600 550 520					520
803-024 804-025	High Medium Low	1150 1020 890	1070 945 825	970 860 760	895 775 690	780 730 620					620
803-030 804-031	High Medium Low	1110 1020	1165 1055 965	1100 990 910	1035 930 850	955 865	880 805				800
803-036 804-037	High Medium Low	1500 1360 1290	1420 1310 1240	1340 1250 1190	1250 1190 1120	1170 1110 1030	1080 1000				1000
803-042	High Medium Low	1780 1670 1540	1700 1610 1500	1620 1540 1450	1540 1460 1400	1440 1370 1330	1340 1260				1200
804-043	High Medium Low	1620 1475 1385	1545 1415 1335	1465 1340 1275	1375 1270 1205	1275 1190					1150
803-048 804-048	High Medium Low	2130 1980 1810	2050 1900 1730	1960 1810 1650	1860 1720 1570	1750 1620 1490	1630 1520 1400				1400
803-060 804-060	High Medium Low	2200 2110 2060	2140 2050 2000	2080 2000 1940	2010 1940 1880	1940 1870 1820	1860 1800 1760	1700			1700
804-096	Closed 1 Turn 2 Turns 3 Turns 4 Turns 5 Turns		4150 3960 3770 3590 3340	4200 4000 3800 3580 3370 3090	4040 3840 3600 3380 3090 2800	3880 3650 3400 3140 2800	3700 3450 3200 2890	3500 3220 2940	3270 2980	3040	2800
804-120	Closed 1 Turn 2 Turns 3 Turns 4 Turns 5 Turns		4190 3980 3770	4240 4010 3820 3610	4360 4060 3860 3670 3400	4400 4160 3900 3710 3520	4230 3990 3740 3560	4035 3830 3590 3400	3850 3680	3660	3400

CAUTION: Unit should not be operated at SCFM below minimum specified above.

CORRECTION FACTORS

AIR-FLOW

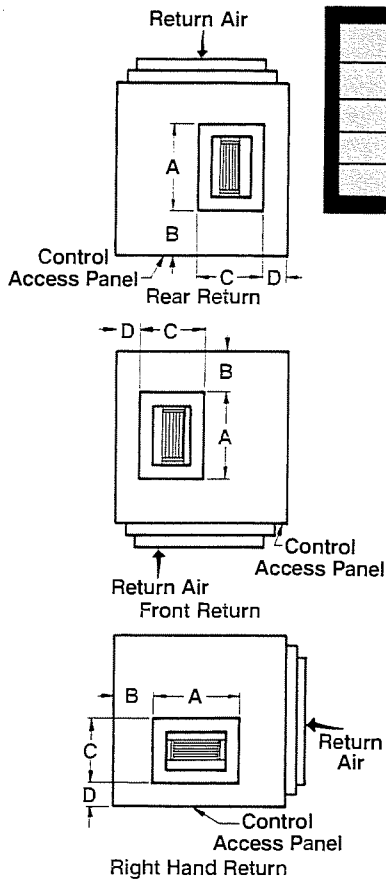
CORRECTION FACTORS FOR VARIATION IN AIR FLOW

Model Numbers	Air Flow SCFM	Speed Tap	Cooling				Heating		
			Total Capacity	Sensible Capacity	Heat of Rejection	Power Input	Heat Capacity	Heat of Absorp.	Power Input
803-009 804-009	250	Low	0.974	0.927	0.972	0.966	0.992	0.985	1.012
	275	Low	0.986	0.962	0.986	0.984	0.995	0.991	1.006
	300	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	325	Med	1.015	1.040	1.015	1.014	1.007	1.012	0.994
	350	High	1.032	1.086	1.031	1.026	1.015	1.025	0.988
803-012 804-012	300	Low	0.960	0.903	0.959	0.956	0.955	0.923	1.035
	350	Low	0.989	0.955	0.986	0.978	0.979	0.965	1.014
	400	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	450	High	1.004	1.030	1.008	1.020	1.020	1.033	0.988
803-015 804-015	400	Low	0.993	0.928	0.986	0.963	0.954	0.927	1.027
	450	Low	0.996	0.968	0.993	0.983	0.987	0.977	1.014
	500	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	550	High	1.007	1.029	1.010	1.020	1.007	1.015	0.985
	600	High	1.016	1.540	1.021	1.038	1.010	1.025	0.969
803-019 804-019	500	Low	0.965	0.861	0.963	0.958	0.940	0.916	1.009
	550	Low	0.976	0.938	0.975	0.970	0.968	0.955	1.005
	600	Low	0.987	0.964	0.987	0.985	0.986	0.955	1.000
	650	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	700	Med	1.013	1.031	1.014	1.018	1.012	1.015	1.003
	750	High	1.028	1.057	1.030	1.038	1.020	1.024	1.008
	800	High	1.043	1.077	1.047	1.060	1.030	1.035	1.015
803-024 804-025	600	Low	0.954	0.867	0.955	0.957	0.944	0.918	1.014
	700	Low	0.980	0.935	0.980	0.980	0.975	0.964	1.007
	800	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	900	Med	1.014	1.063	1.018	1.029	1.015	1.023	0.994
	1000	Med	1.022	1.110	1.032	1.060	1.022	1.035	0.990
	1100	High	1.025	1.146	1.042	1.097	1.024	1.038	0.987
803-030 804-031	800	Low	0.965	0.891	0.964	0.963	0.982	0.972	1.008
	900	Low	0.984	0.947	0.983	0.982	0.993	0.988	1.004
	1000	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1100	Med	1.013	1.049	1.014	1.016	1.003	1.008	0.994
	1200	High	1.019	1.090	1.023	1.035	1.005	1.014	0.981
803-036 804-037	1000	Med	0.972	0.881	0.970	0.963	0.969	0.959	0.993
	1100	Med	0.988	0.925	0.985	0.976	0.981	0.975	0.994
	1200	Med	0.997	0.977	0.996	0.993	0.993	0.992	0.997
	1300	Med	1.002	1.022	1.003	1.007	1.007	1.008	1.003
	1400	High	1.005	1.064	1.009	1.021	1.020	1.025	1.010
	1500	High	1.007	1.095	1.015	1.034	1.034	1.031	1.018
803-042	1250	Med	0.979	0.882	0.982	0.990	0.989	0.987	0.994
	1300	High	0.984	0.910	0.986	0.991	0.991	0.989	0.996
	1400	High	0.993	0.958	0.993	0.992	0.995	0.993	0.998
	1500	High	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1600	High	1.005	1.047	1.006	1.010	1.007	1.009	1.001
	1700	High	1.010	1.066	1.013	1.022	1.017	1.023	1.002
	1800	High	1.014	1.091	1.019	1.035	1.028	1.039	1.003
804-043	1150	Low	0.966	0.929	0.967	0.971	0.982	0.971	1.012
	1250	Low	0.980	0.958	0.980	0.979	0.989	0.982	1.007
	1350	Low	0.991	0.980	0.991	0.989	0.995	0.992	1.003
	1450	Med	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1550	High	1.007	1.018	1.008	1.012	1.005	1.007	0.999
	1600	High	1.009	1.025	1.011	1.018	1.007	1.010	0.998
803-048 804-048	1400	Low	0.987	0.917	0.978	0.952	0.988	0.986	0.993
	1500	Low	0.995	0.947	0.988	0.967	0.992	0.994	0.994
	1600	Low	0.999	0.975	0.995	0.982	0.996	0.996	0.996
	1700	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1800	Med	1.007	1.031	1.010	1.021	1.006	1.003	1.015
	1900	Med	1.012	1.059	1.018	1.035	1.010	1.007	1.016
	2000	High	1.010	1.080	1.024	1.063	1.025	1.010	1.038
803-060 804-060	1700	Low	0.978	0.923	0.971	0.976	0.989	0.985	0.999
	1800	Low	0.987	0.947	0.981	0.985	0.993	0.991	0.998
	1900	Low	0.994	0.974	0.990	0.993	0.996	0.996	0.998
	2000	Low	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2100	High	1.001	1.020	1.023	1.007	1.008	1.004	1.019
	2200	High	1.005	1.044	1.033	1.012	1.012	1.007	1.022
804-096	2800	5 Turns	0.988	0.917	0.978	0.953	0.987	0.986	0.990
	3000	5 Turns	0.993	0.945	0.988	0.972	0.991	0.994	0.989
	3200	5 Turns	0.995	0.971	0.995	0.992	0.994	0.996	0.988
	3400	4 Turns	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3600	4 Turns	1.008	1.063	1.010	1.019	1.003	1.003	1.005
	3800	2 Turns	1.010	1.044	1.018	1.070	1.016	1.007	1.038
	4000	2 Turns	1.004	1.071	1.023	1.084	1.020	1.010	1.046
804-120	3400	5 Turns	0.983	0.929	0.976	0.956	0.986	0.985	0.988
	3600	5 Turns	0.992	0.953	0.985	0.966	0.989	0.991	0.983
	3800	5 Turns	0.999	0.980	0.993	0.976	0.992	0.996	0.984
	4000	3 Turns	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	4200	3 Turns	1.005	1.025	1.007	1.011	1.004	1.004	1.005
	4400	3 Turns	1.008	1.049	1.012	1.024	1.008	1.007	1.009

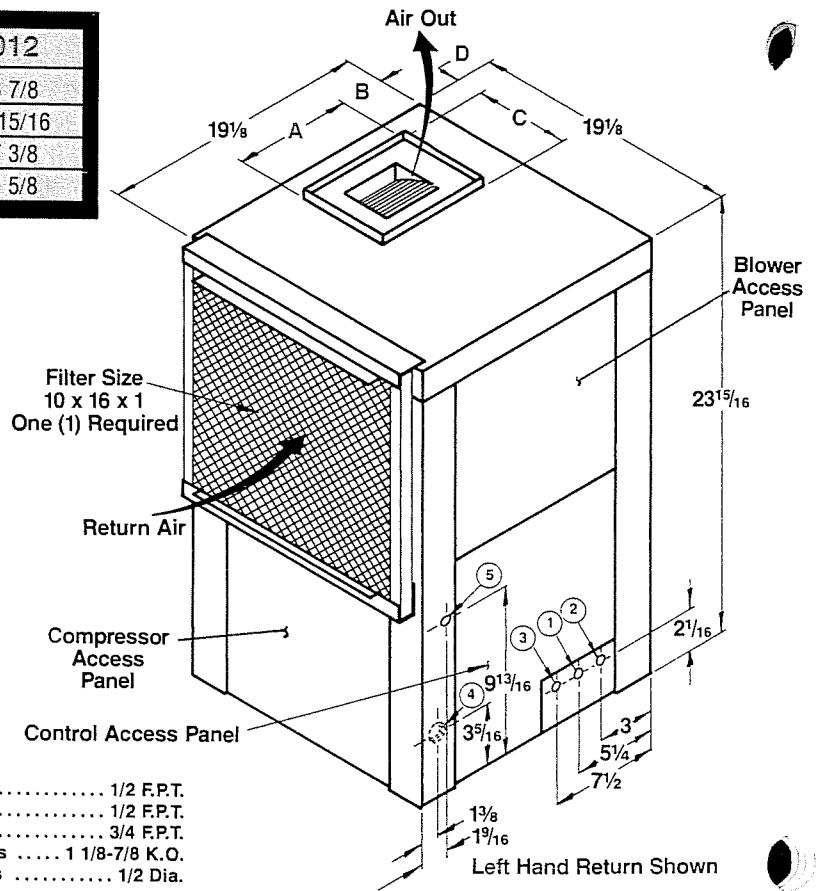
DIMENSIONS

803

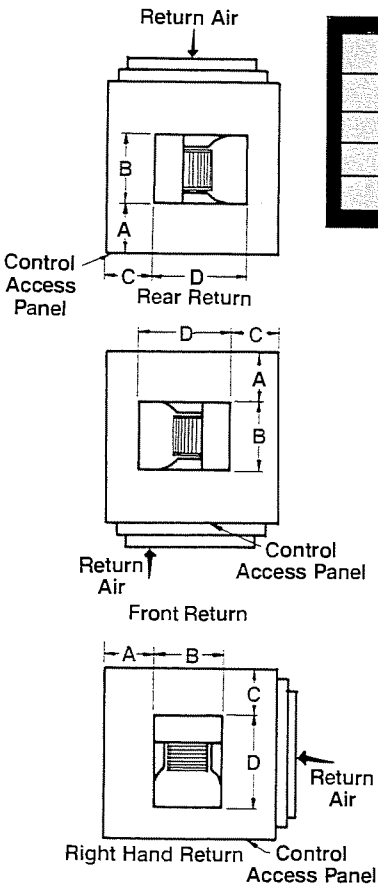
803-009 & 012



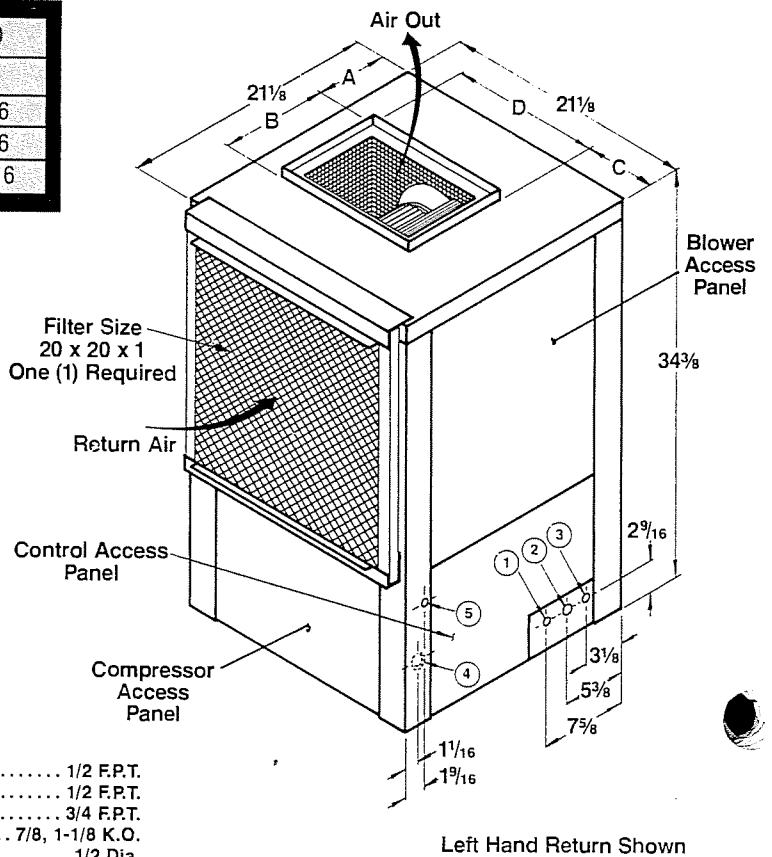
	009	012
A	9 7/8	8 7/8
B	3 13/16	3 15/16
C	7	7 3/8
D	1 13/16	1 5/8



803-015 & 019



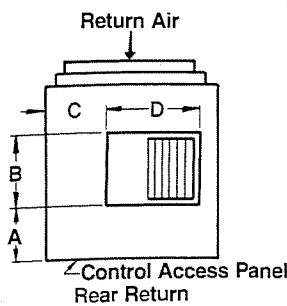
	015	019
A	5 1/2	6
B	7 5/8	9 1/16
C	9 1/4	5 9/16
D	10 1/8	12 9/16



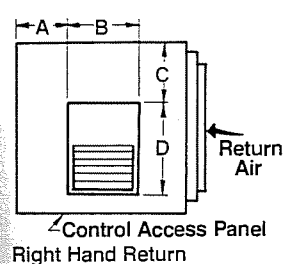
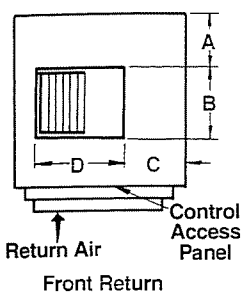
DIMENSIONS

803

803-024 & 030

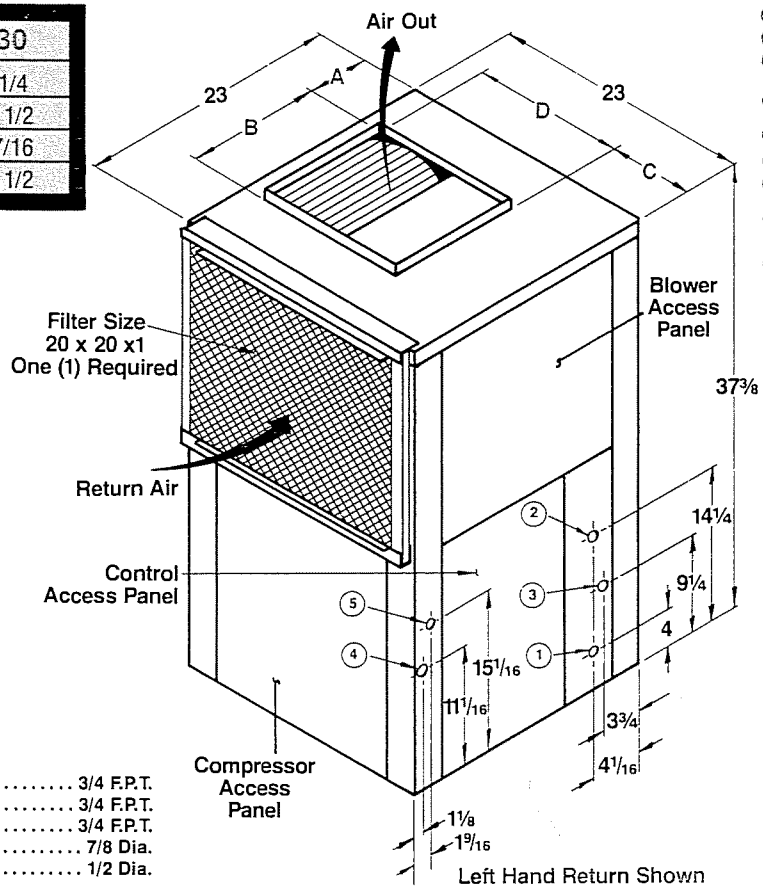


	024	030
A	5 3/4	6 1/4
B	11 11/16	10 1/2
C	7 7/16	8 7/16
D	12 11/16	13 1/2

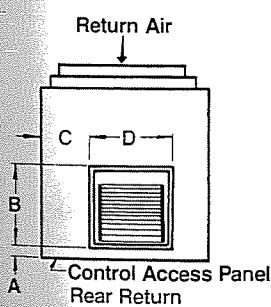


Return Air Duct Size
18 3/4" H x 18 1/8" W

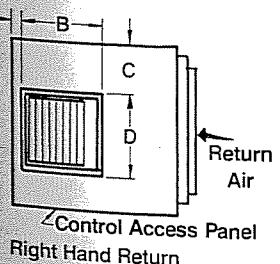
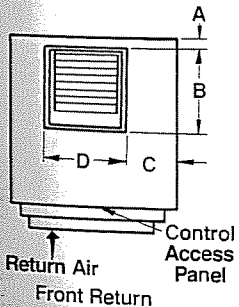
- Legend:
- 1. Water Inlet 3/4 F.P.T.
 - 2. Water Outlet 3/4 F.P.T.
 - 3. Condensate Drain 3/4 F.P.T.
 - 4. High Voltage Access 7/8 Dia.
 - 5. Low Voltage Access 1/2 Dia.



803-036 & 042

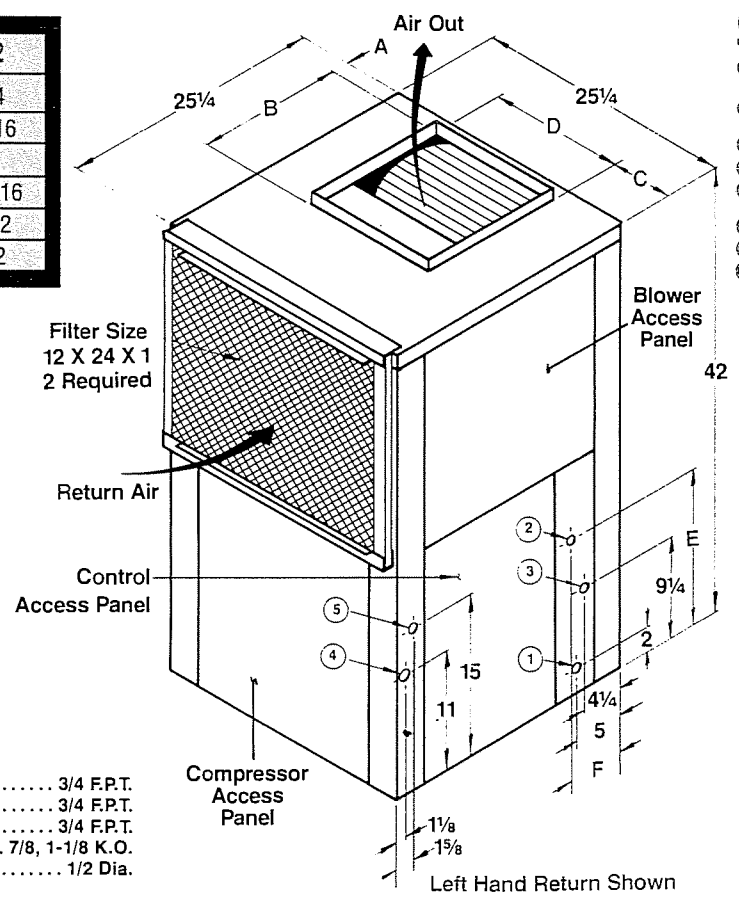


	036	042
A	4 1/4	1 3/4
B	12 5/8	13 9/16
C	6 3/4	6
D	11 5/8	12 13/16
E	13 1/4	14 1/2
F	5 3/8	5 1/2



Return Air Duct Size
23" H x 22" W

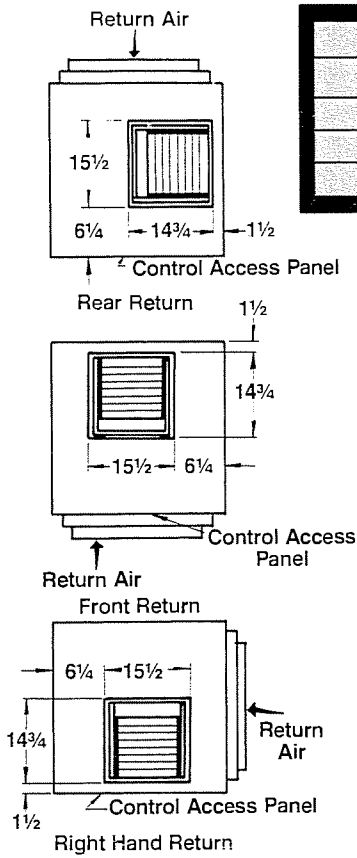
- Legend:
- 1. Water Inlet 3/4 F.P.T.
 - 2. Water Outlet 3/4 F.P.T.
 - 3. Condensate Drain 3/4 F.P.T.
 - 4. High Voltage Access 7/8, 1-1/8 K.O.
 - 5. Low Voltage Access 1/2 Dia.



DIMENSIONS

803

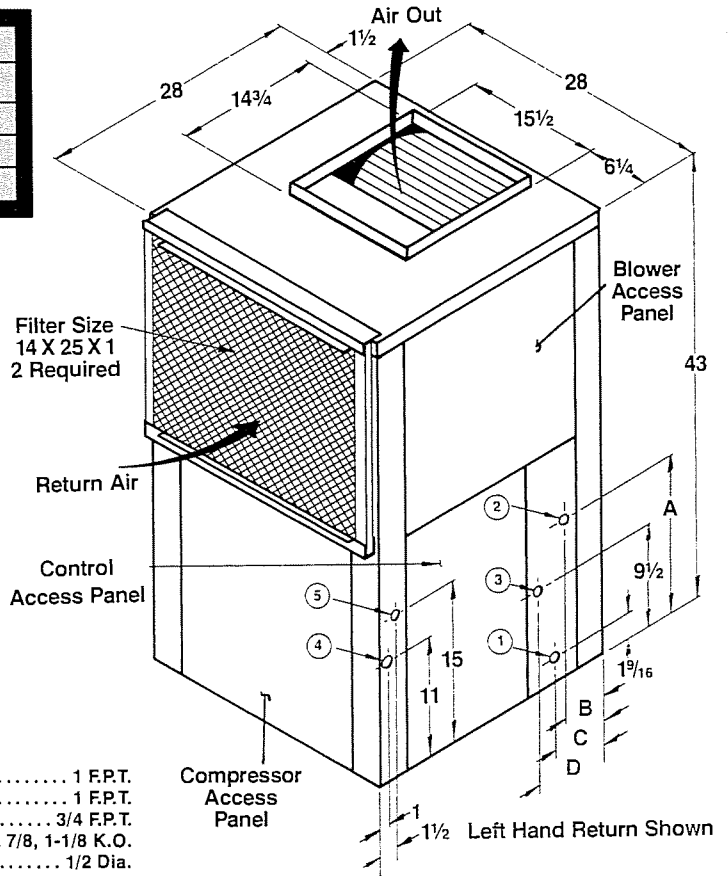
803-048 & 060



	048	060
A	16 9/16	14 7/8
B	2 5/8	3 3/8
C	4 1/4	5 1/8
D	5 1/2	5

Return Air Duct Size
24" H x 26" W

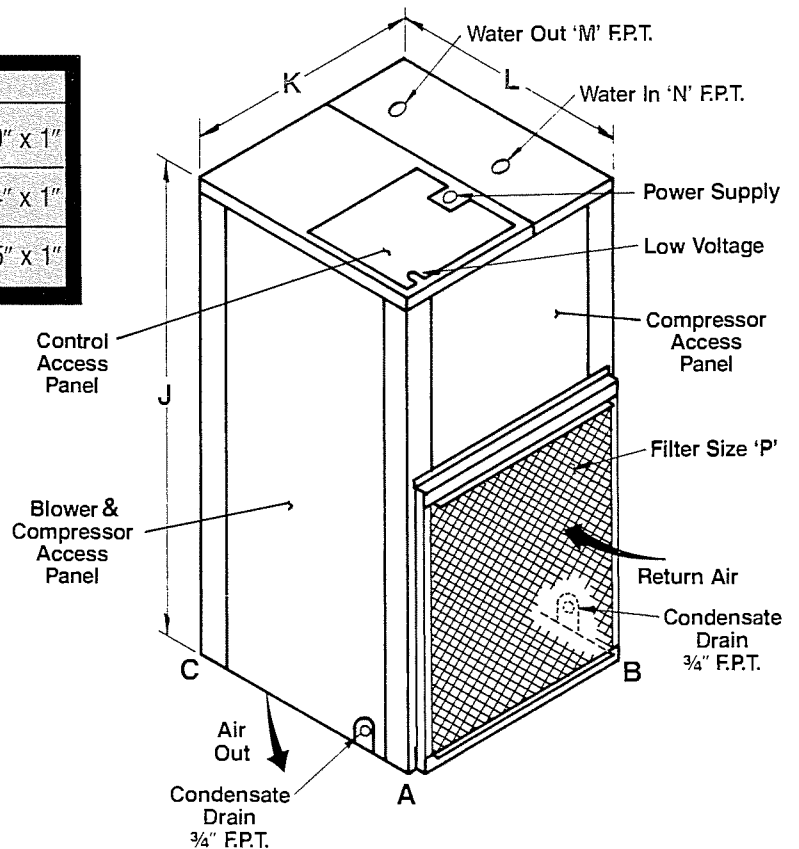
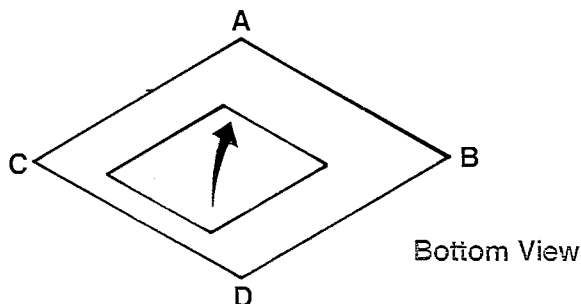
- Legend:
1. Water Inlet 1 F.P.T.
 2. Water Outlet 1 F.P.T.
 3. Condensate Drain 3/4 F.P.T.
 4. High Voltage Access 7/8, 1-1/8 K.O.
 5. Low Voltage Access 1/2 Dia.



803 BOTTOM DISCHARGE (DOWN FLOW)

Model	J	K	L	M	N	P
803-024						
803-030	38 7/8	23 1/8	23 1/8	3/4"	3/4"	(1) 20" x 20" x 1"
803-036						
803-042	43 1/4	25 5/16	25 5/16	3/4"	3/4"	(2) 12" x 24" x 1"
803-048						
803-060	44 3/4	28 1/8	28 1/8	1"	1"	(2) 14" x 25" x 1"

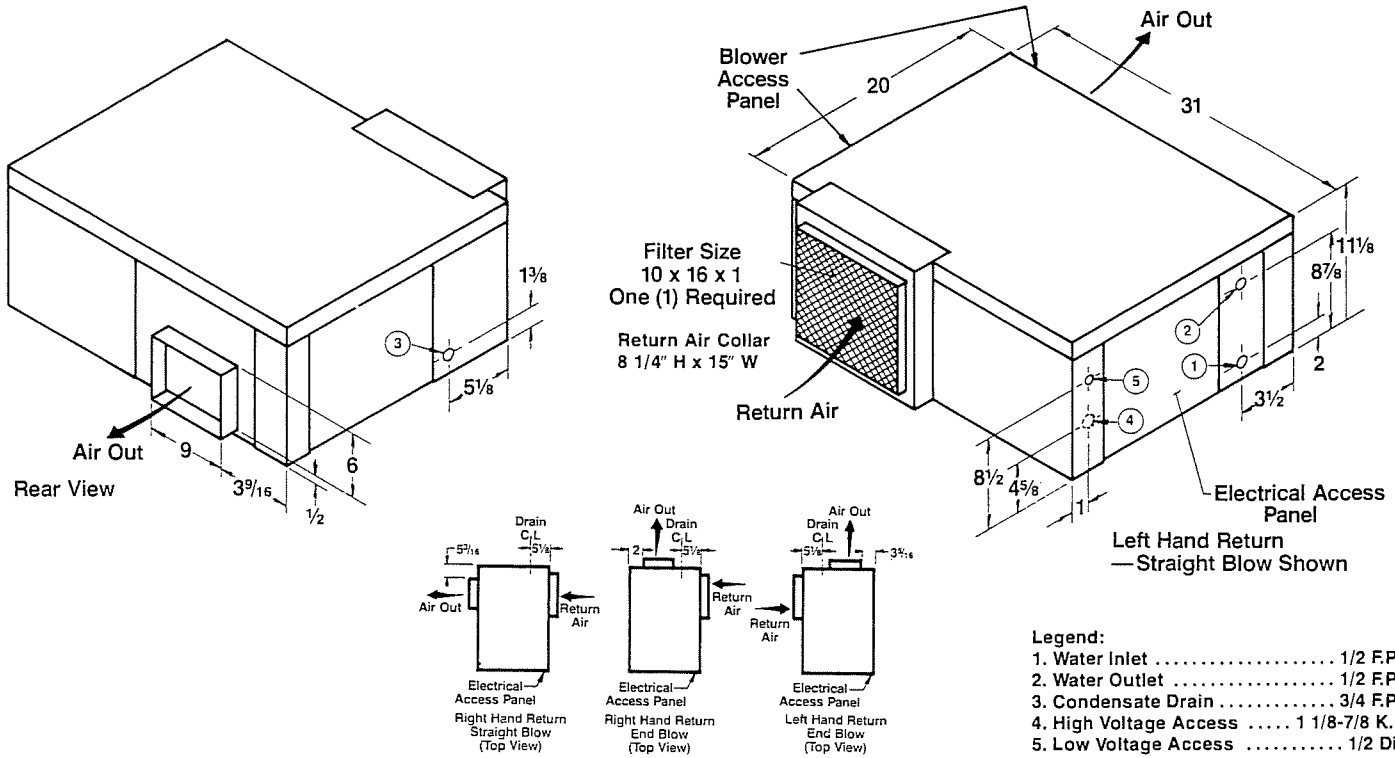
Note: Pending, available upon release.



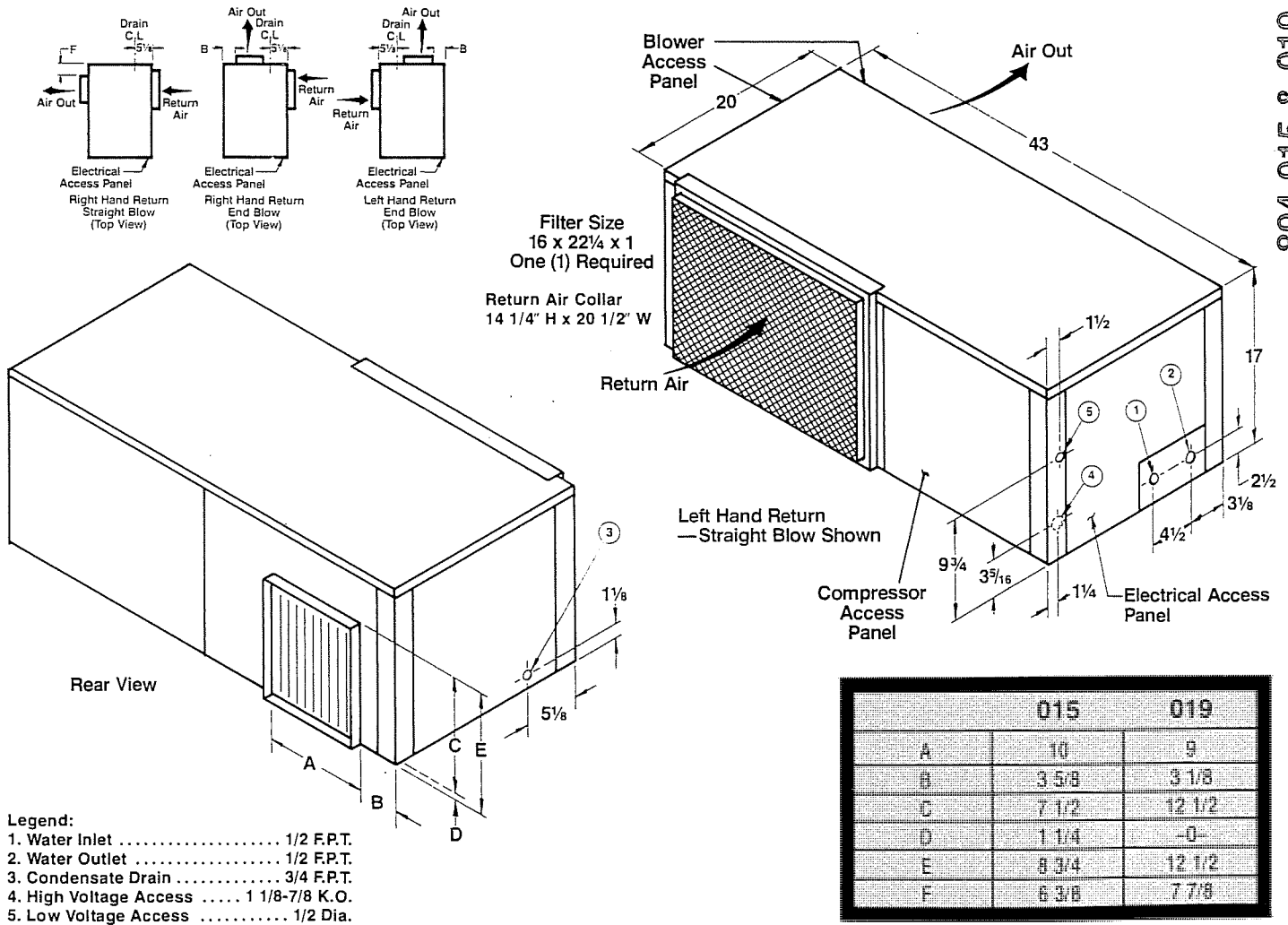
DIMENSIONS

804

804-009 & 012



804-015 & 019

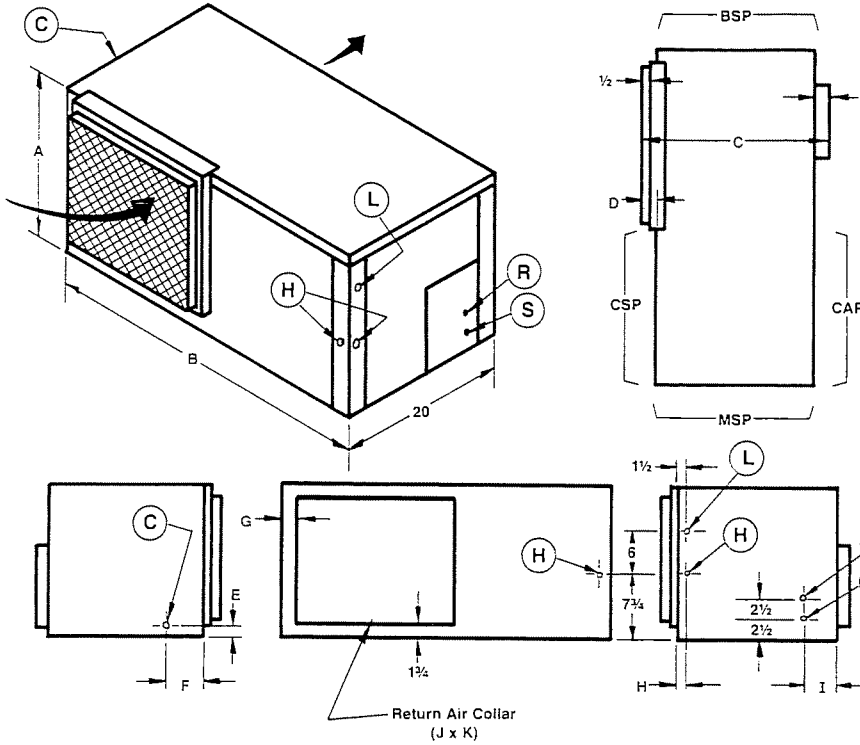


	015	019
A	10	9
B	3 5/8	3 1/8
C	7 1/2	12 1/2
D	1 1/4	-0-
E	8 3/4	12 1/2
F	6 3/8	7 7/8

DIMENSIONS

804

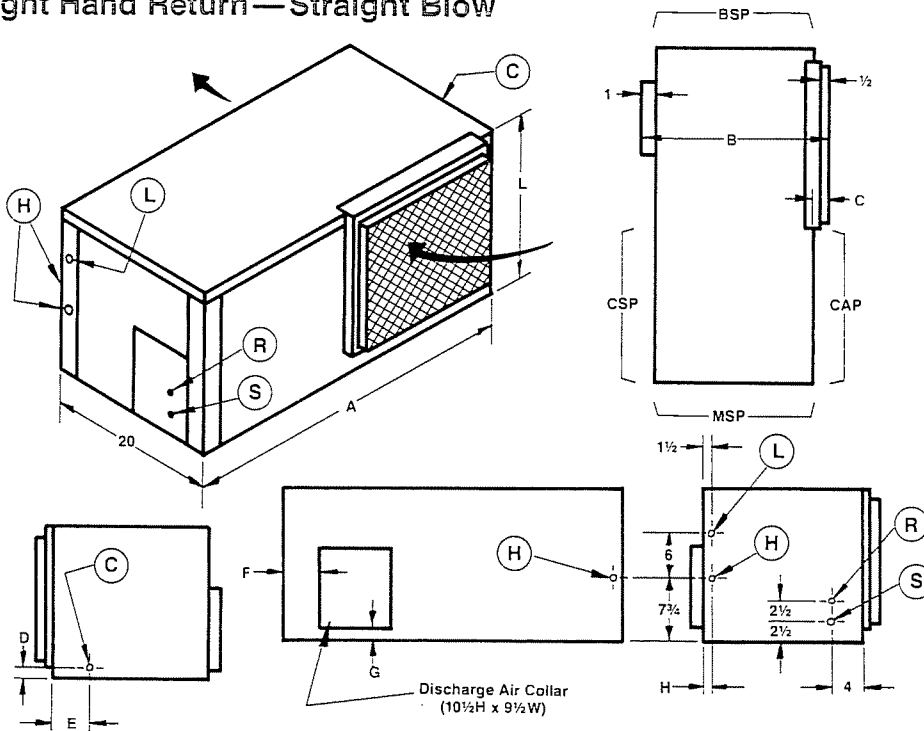
Left Hand Return—Straight Blow



	025	037/043
A	19	21
B	43	47
C	22 ³ / ₄	22 ¹ / ₂
D	1 ³ / ₄	1 ¹ / ₂
E	1 ¹ / ₈	1 ¹ / ₄
F	5 ¹ / ₈	5
G	1 ³ / ₄	2 ¹ / ₄
H	1 ¹ / ₄	1
I	4 ¹ / ₈	5 ¹ / ₄
J	16 ¹ / ₄ H	18 ¹ / ₄ H
K	20 ¹ / ₂ W	23W
L	7 ³ / ₄	6 ¹ / ₄
M	1 ¹ / ₁₆	2 ¹ / ₁₆

804-025/037/043

Right Hand Return—Straight Blow



	025	037/43
A	43	47
B	22 ³ / ₄	22 ¹ / ₂
C	1 ³ / ₄	1 ¹ / ₂
D	1 ¹ / ₈	1 ¹ / ₄
E	5 ¹ / ₈	5
F	2 ⁵ / ₈	4
G	1 ¹ / ₁₆	2 ¹ / ₁₆
H	1 ¹ / ₄	1
I	16 ¹ / ₄ H	18 ¹ / ₄ H
J	20 ¹ / ₂ W	23W
K	1 ³ / ₄	2 ¹ / ₄
L	19	21

Service Access

MSP—Main Service Panel—High & Low Voltage Connection, Controls.

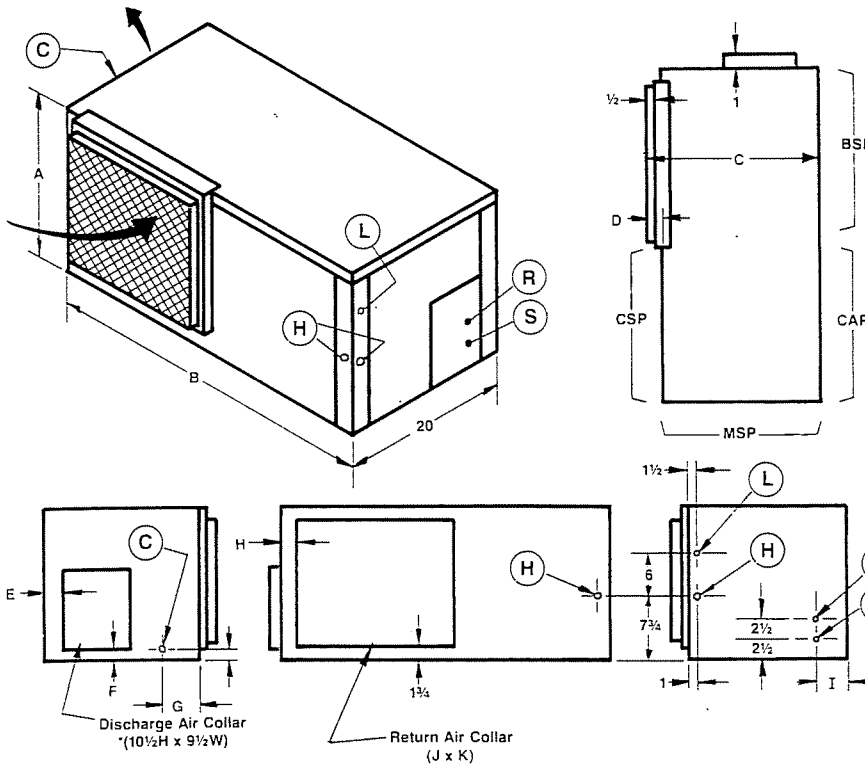
Service Trouble Shooting, Compressor/Condenser Replacement.

BSP—Blower Service Panel—Access to Blower Assembly; Condensate Pan & Air Coil Inspection.

CSP—Compressor Service Panel—Facilitates Compressor Replacement.

CAP—Condenser Access Panel—Facilitates Condenser Coil Replacement.

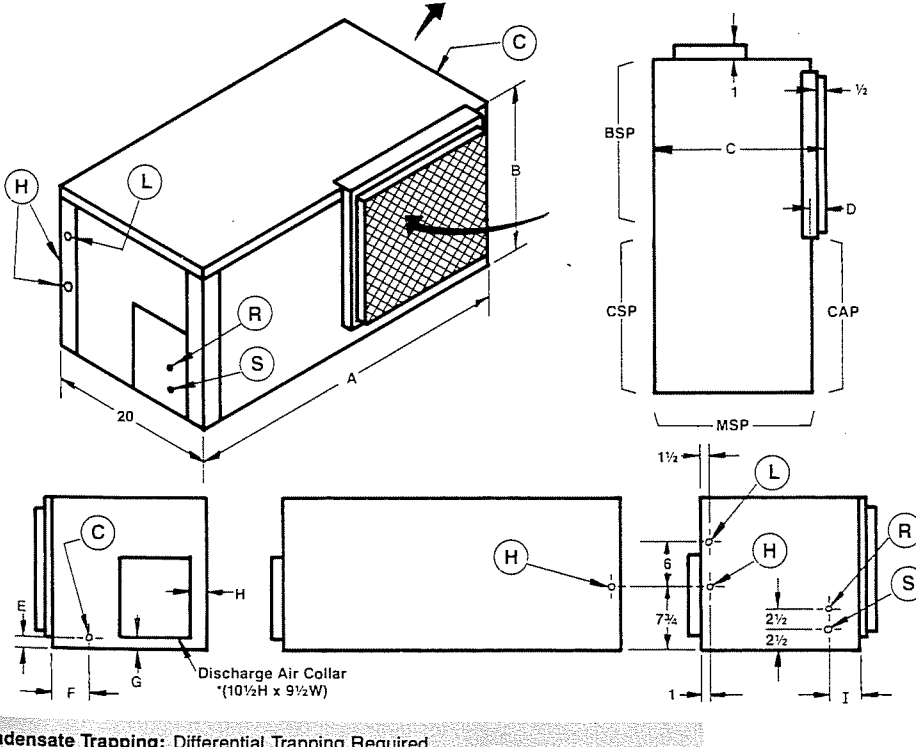
Left Hand Return — End Blow



	025/031	037/043
A	19	21
B	43	47
C	21 3/4	21 1/2
D	1 3/4	1 1/2
E	2 5/8	4
F	1 1/16	2 1/16
G	5 1/8	5
H	1 3/8	2 1/4
I	4 1/8	5 1/4
J	16 1/4 H	18 1/4 H
K	20 1/2 W	23 W

*031 — 11 1/2 H x 8 1/2 W

Right Hand Return — End Blow



	025/031	037/043
A	43	47
B	19	21
C	21 3/4	21 1/2
D	1 3/4	1 1/2
E	1 1/8	1 1/4
F	5 1/8	5
G	1 1/16	2 1/16
H	2 5/8	4
I	4 1/8	5 1/4
J	1 3/4	2 1/4
K	16 1/4 H	18 1/4 H
L	20 1/2 W	23 W

*031-11 1/2 H x 8 1/2 W

Return Air Collar
(K x L)

Condensate Trapping: Differential Trapping Required.

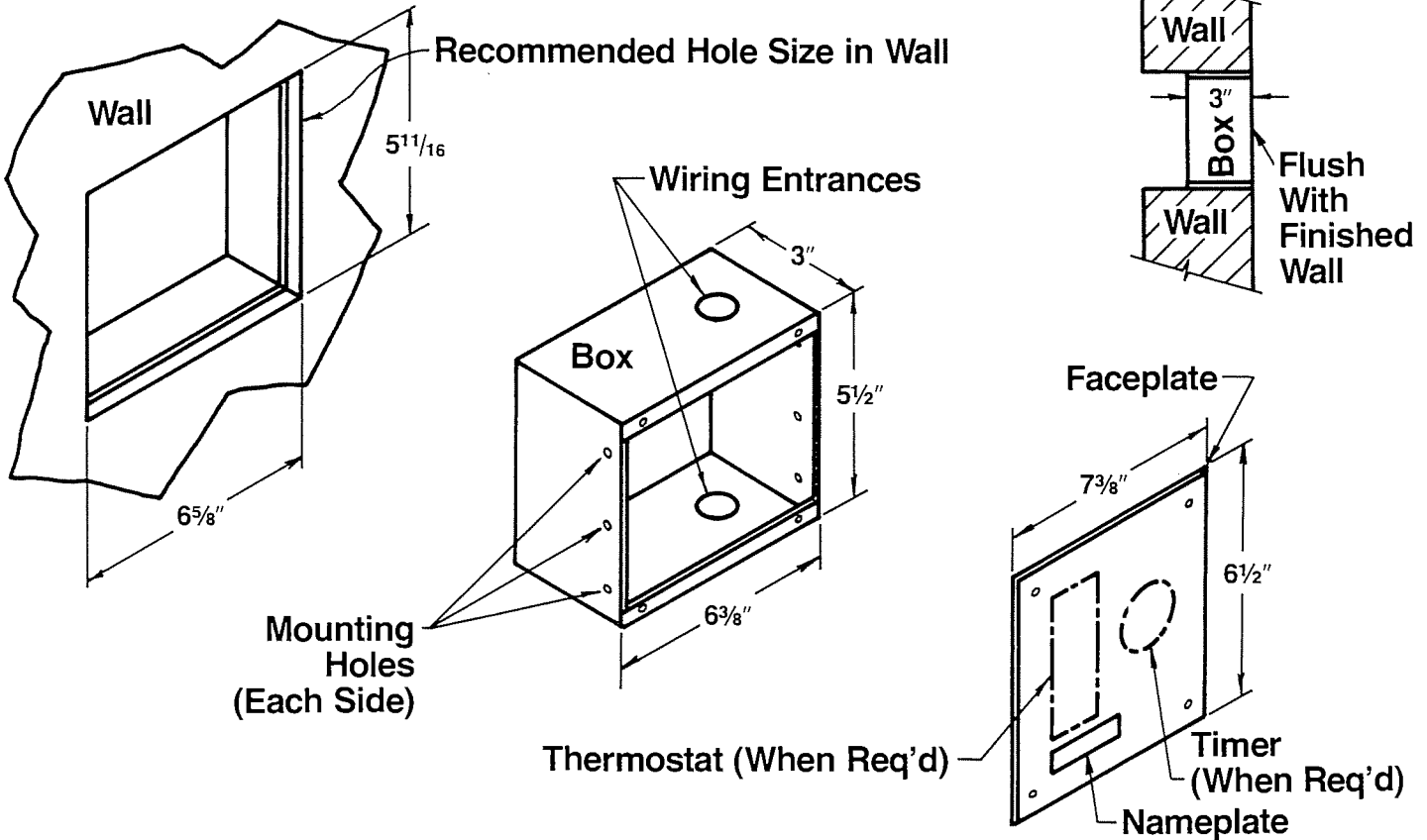
Filter Size: 18 x 22 1/4 x 1" (1 Req.) 037 and 043 Models: 20 x 25 x 1" (1 Req.)

Filter Access: Left and Right on Inlet By Removing Side Clip.

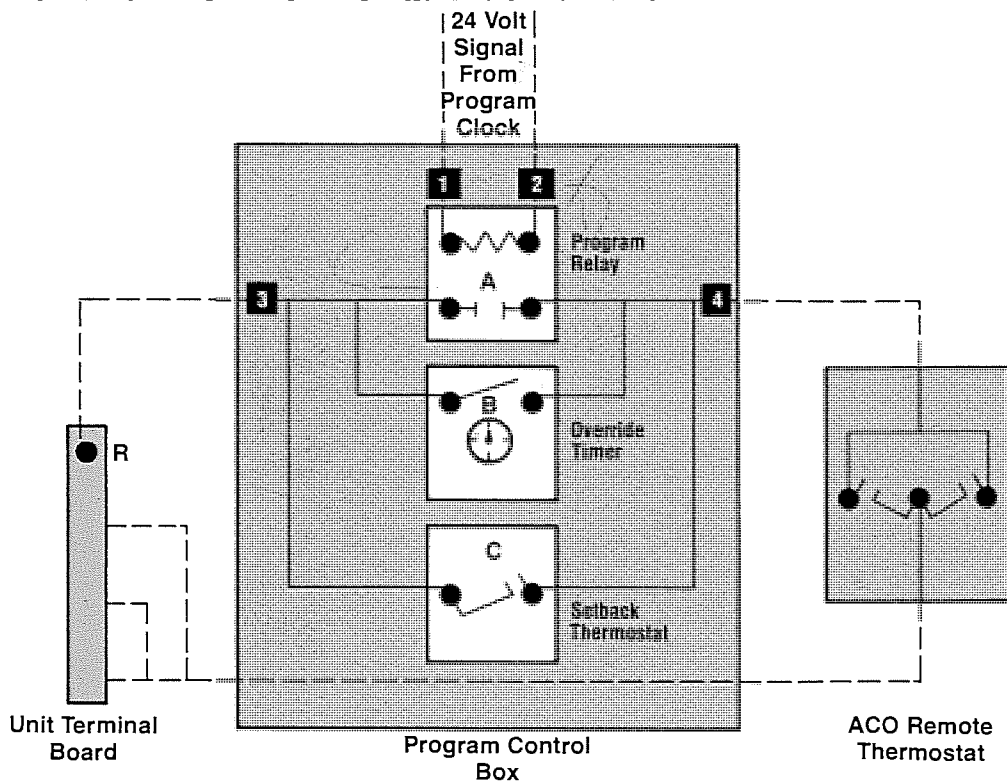
- ③ — 1/4 FPT — Supply & Return Water Connections
- ⊙ — 1/4 FPT — Condensate Connection
- ⊕ — Hi Voltage — 1 1/8" — 7/8" — Combination Knockout (Optional Location On Side)
- ⊖ — Lo Voltage — 1/2 Dia.

OPTIONS

PROGRAM CONTROL BOX



PROGRAM CONTROL BOX COMPONENT SCHEMATIC



Option 1: ABC

Option 2: AB

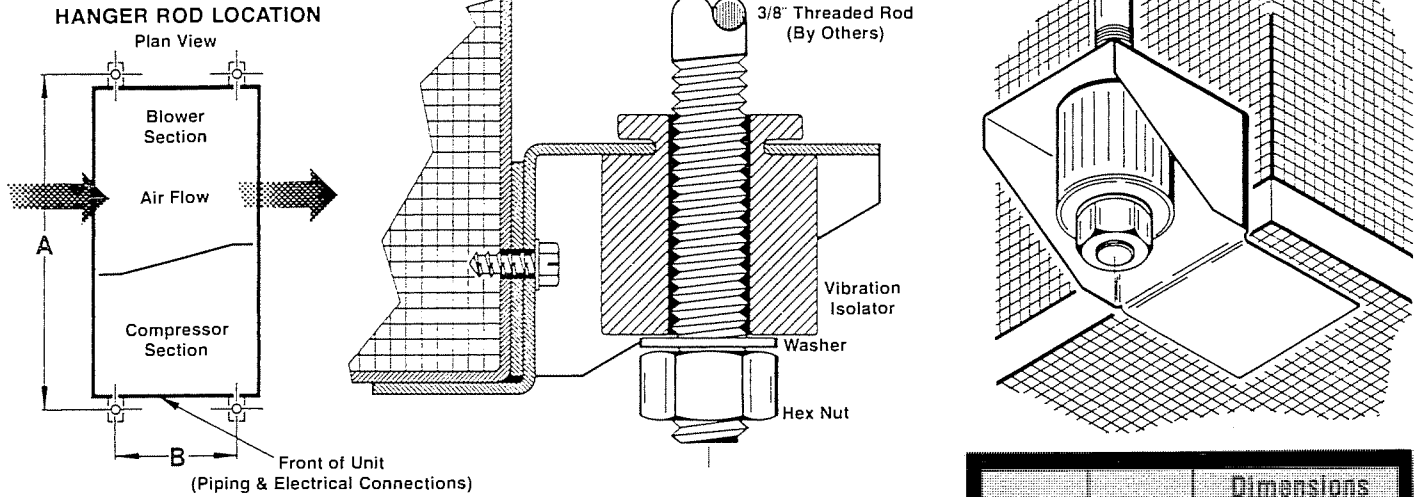
Option 3: AC

Option 4: A Only

----- Field Wiring

OPTIONS

HANGER AND VIBRATION ISOLATION KIT

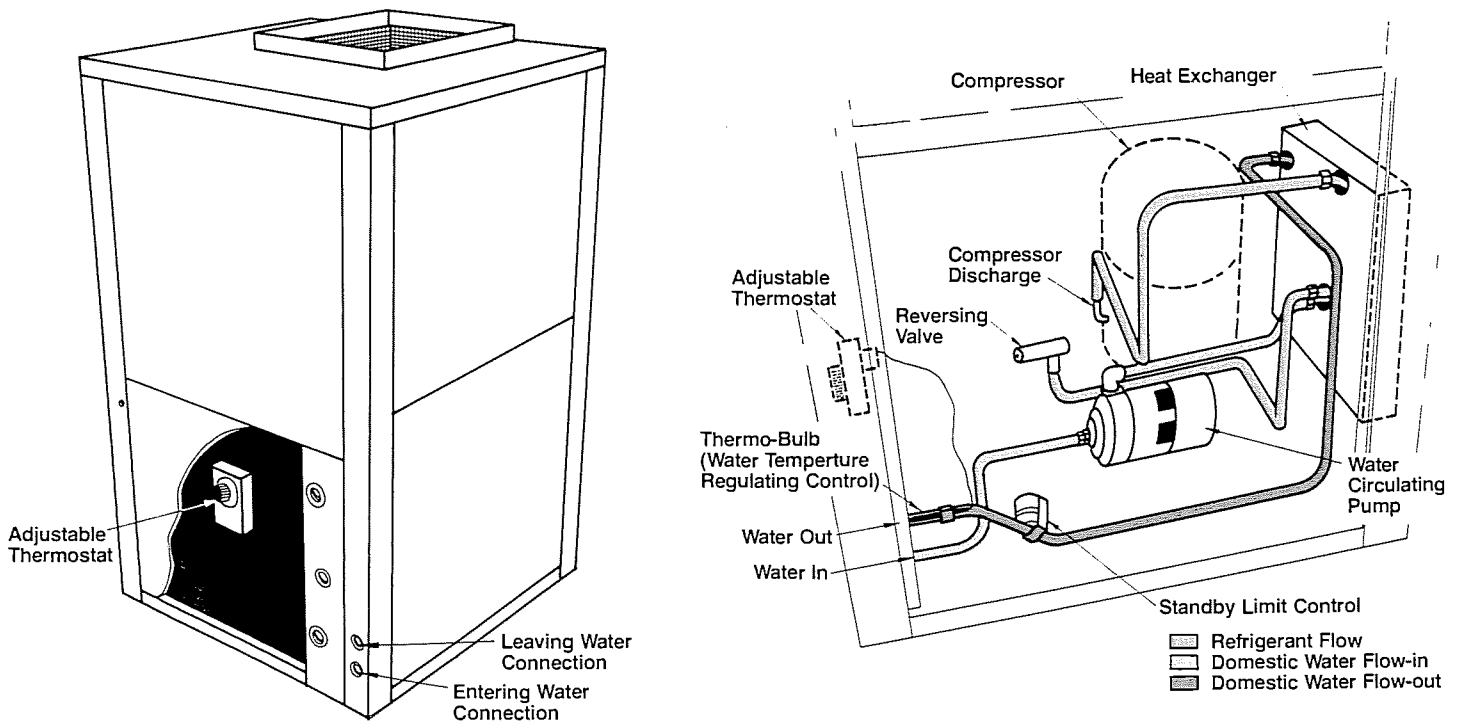


Notes:

1. Kits shipped unassembled and bulk-packed (4 hangers assy-unit).
2. Total head space required: unit height + 1/2 inch + condensate trapping.
3. See unit dimensional drawings for further information.

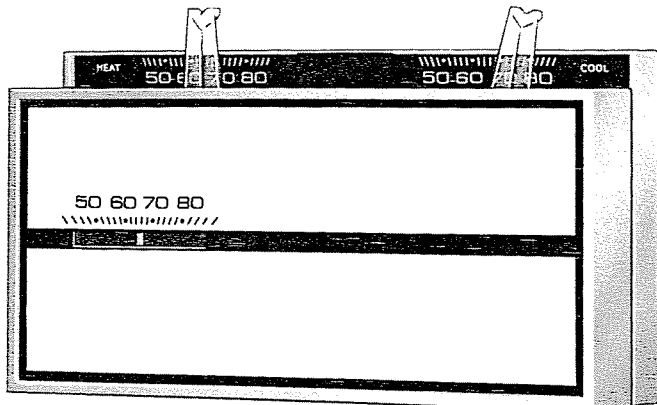
Model	Kit	Dimensions		
		A	B	
804-009 804-015	AB6412	33	18	
804-015 804-019 804-025 804-031		45	17 1/4	
804-037 804-043		49	17 1/4	
804-048 804-060		38 1/4	34 1/4	
804-096 804-120		AB8056	74 1/4	34 1/4

BUILT-IN HOT WATER GENERATOR

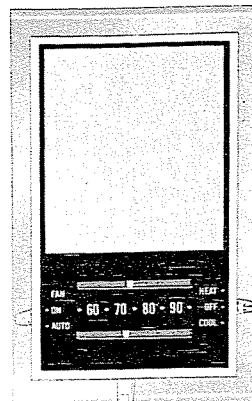


OPTIONS

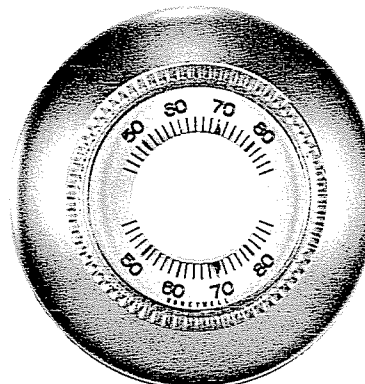
MANUAL AND AUTO CHANGEOVER THERMOSTATS



Thermostat	Subbase	Description
*AT5821	AQ5386	ACO — Single Stage
*AT5413	AQ5204	MCO — Two Stage
*AT5413	AQ5303	ACO — Two Stage



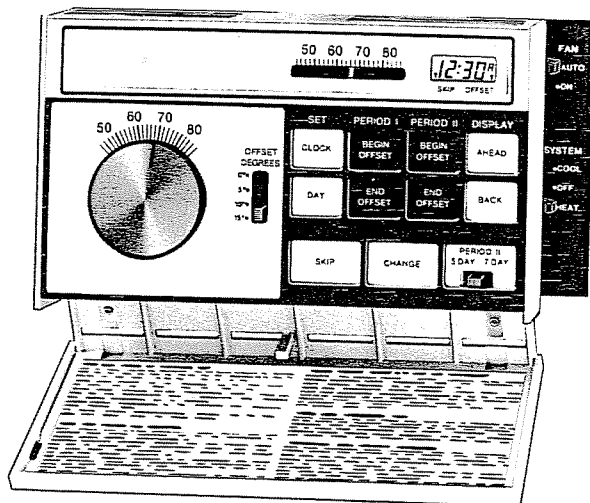
Thermostat	Description
*AT4168	MCO — Single Stage



Thermostat	Description
AT7603	MCO — Single Stage

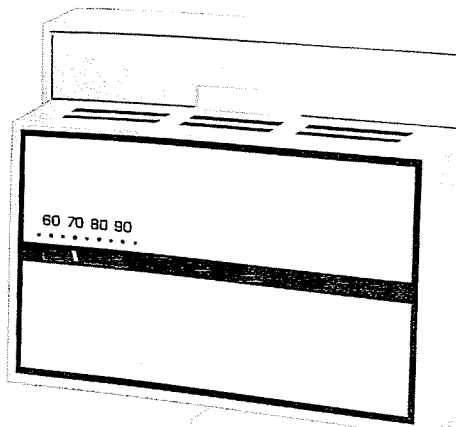
*Celsius Scale Available

PROGRAMMABLE SOLID STATE



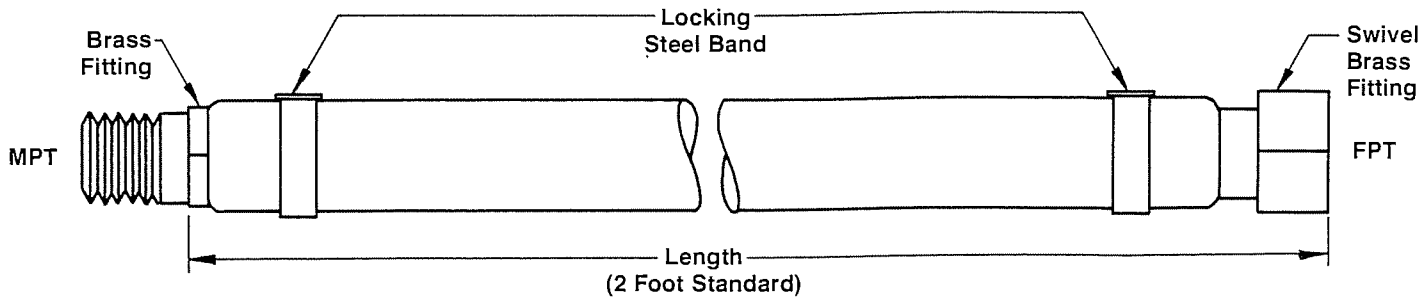
Thermostat	Description
AT8200	Programmable Solid State — MCO — Single Stage
AT8300	Programmable Solid State — MCO — Two Stage

SECURITY COVERS



Cover	Description
AM5417	Locking Cover With External Thermometer (Shown)
AM5409	Locking Cover With Internal Thermometer
AM5045	Universal Plastic Cover With Lock — Clear
AM5060	Universal Plastic Cover With Lock — Beige

HOSE KITS



AK5002 1/2" AK7502 3/4" AK1002 1"

Hoses Are Rated At: 250 PSI Working Pressure
1000 PSI Burst Pressure

Hose Cover Has Been Accepted For Underground Use By MSHA: Acceptance Number 2G-13C

Note: Available in 3 Foot Lengths

SPECIFICATIONS

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

GENERAL

All units must carry ARI certification (Per Std. 320-81) and UL listing via appropriate labeling. The Manufacturer's warranty, unit serviceability and project start-up assistance shall be given economic consideration in bids. Tabulated efficiency and capacity shall be considered minimum.

CABINTRY

Shall be of commercial grade galvanized steel, electrostatically painted and baked to form a thermo-set coating for corrosion protection. The interior side of the cabinet shall be insulated with 1/2" fiberglass. There shall be an insulated partition between the blower and compressor compartments to minimize compressor sound transmission. All water connections shall be female pipe threaded and mounted flush to the cabinet exterior. Service panels shall be easily removable, and sufficiently large to allow access to all components. All units (except horizontal units under 14,000 BTU capacity) shall allow sufficient service access to replace the compressor without removing unit. Standard construction shall include a factory mounted discharge air duct collar and filter retaining rack (804 series only).

REFRIGERANT CIRCUIT

Hermetic compressors shall be internally sprung and externally isolated to minimize sound transmission. Coaxial (tube in tube) refrigerant to water heat exchanger shall be of copper inner water tube and steel refrigerant outer tube design, rated to withstand 450 PSI refrigerant working pressure.

The fin-tube refrigerant to air heat exchanger shall be of aluminum fin and copper tube construction rated to withstand 425 PSI refrigerant working pressure. A 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 the refrigerant metering device (Capillary tubes or expansion valves) shall be carefully selected for optimum performance. Refrigerant high and low pressure cut-outs (low water temperature cutout on 009 and 012 units) shall protect the system against hazardous operation. All interconnecting tubing shall be copper. Access fittings shall be factory installed on the high and low refrigerant lines to facilitate field service.

ELECTRICAL

Single phase blower motors shall be PSC type. All units through 5 tons nominal capacity shall be direct drive with three speed taps. All units over 5 tons shall be belt driven with variable-pitch sheaves. All compressor and blower motors shall be individually protected against current and/or

heat overload. Blower motors shall be permanently lubricated.

CONTROLS

Unit control shall be 24 volt, including a unit mounted 24V terminal board (and an optional remote thermostat). The compressor lock-out circuit shall allow reset at the remote thermostat or via the main power breaker.

OPTIONS

CABINTRY

RETURN AIR DUCT COLLAR (803 Series only) The cabinet shall include a factory mounted return air duct collar designed to accept a return air filter.

Note: Standard on the 804 Series.

HANGER/VIBRATION ISOLATOR KIT (804 Series only) The units shall be provided with hardware to facilitate installation and minimize vibration.

REFRIGERANT CIRCUIT

CUPRO-NICKEL EXCHANGER The coaxial (tube in tube) refrigerant to water heat exchanger shall be 90/10 cupro-nickel inner water tube and steel refrigerant outer tube design.

COOLING ONLY The units shall be designed to perform in the cooling mode only with heating supplied by others.

BUILT-IN HOT WATER GENERATOR The unit shall be supplied with a refrigerant to water heat exchanger designed to absorb superheat from the discharge gas. An adjustable thermostat shall be installed to control the maximum leaving water temperature from 140 degree F to 180 degree F. A standby temperature limit control shall be added for safety. The water pump impeller shall be magnetically driven to eliminate potential leakage. The entire mechanism shall be factory mounted with fittings provided for field piping.

Note: Available for 803 Series, 208/230 Volt Models 024 thru 060 only.

ELECTRICAL

REMOTE THERMOSTAT The unit shall be provided with a 24 Volt anticipating type wall thermostat:

A) **MANUAL CHANGEOVER** The thermostat shall be a manual changeover type with OFF-HEAT-COOL selector switch and FAN-AUTO selector switch.

B) **PROGRAMMABLE SOLID STATE** The thermostat (manual changeover) shall be of solid state microelectronics designed to change temperature up to twice a day, five or seven days per week. The offset temperature difference shall be adjustable from 0 to 15 degrees.

C) **AUTO CHANGEOVER** The thermostat shall be an auto changeover type with OFF-AUTO selector switch and FAN-AUTO selector switch.

D) **THERMOSTAT COVER** The thermostat shall be covered with a clear (or Beige) plastic cover with tumbler type key lock. (The cover locks in place of the standard cover with the temperature thermometer visible or concealed—AM5417 or AM5409).

PROGRAM RELAY The unit shall have factory mounted program relay that accepts a 24 Volt signal from a centrally located time clock which establishes the occupied/unoccupied modes.

PROGRAM CONTROL BOX The unit shall have a factory wired, externally mounted program control box with a random start relay. The box will accept an override timer. The zero to two hour timer shall override a 24 volt signal from a centrally located time clock which establishes the occupied/unoccupied modes. The box will also accept a thermostat to establish a night setback temperature with a minimum space temperature of 50 degree F.

RANDOM START RELAY The unit shall be provided with a factory mounted, heater type or solid state random start relay which delays the normal start of the compressor.

POWER SUPPLY RESET The unit shall be wired so that the compressor lock-out circuit shall allow reset only from the main power breaker.

PIPING

PREASSEMBLED HOSE KITS The units shall be provided with factory assembled hose kits for the supply and return connections to expedite zone piping. A two or three foot hose shall be factory installed with male and female brass fittings and rated at 250 PSI working pressure and 1000 PSI burst pressure. The hose shall be available in 1/2", 3/4" and 1" sizes.



Friedrich
Climate Master

Division of Friedrich
Air Conditioning & Refrigeration Co.
2007 Beechgrove Place
Utica, New York 13501
(315) 724-7111