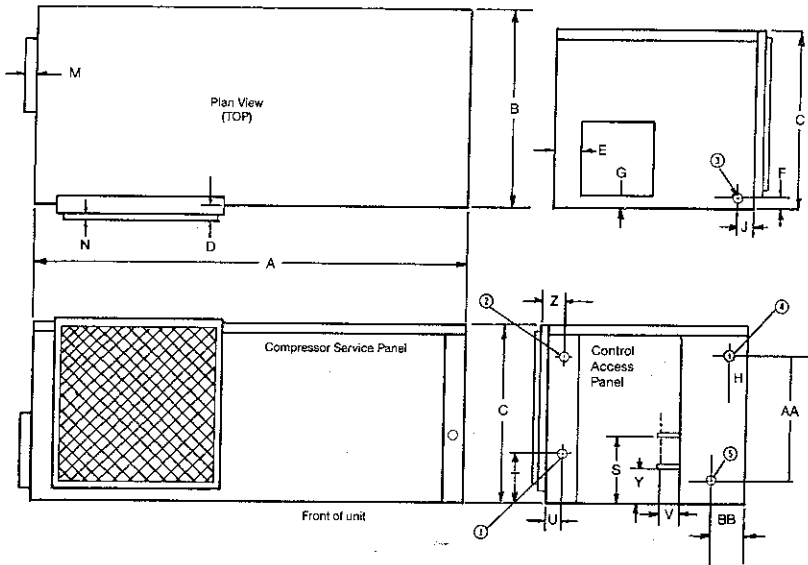


# 814 Series

**Extended Operating Range**  
 25°F to 110°F Entering Water Temp.  
 Below 35°F (1.6°C) Requires Anti-Freeze

# Size 036

## Dimensions

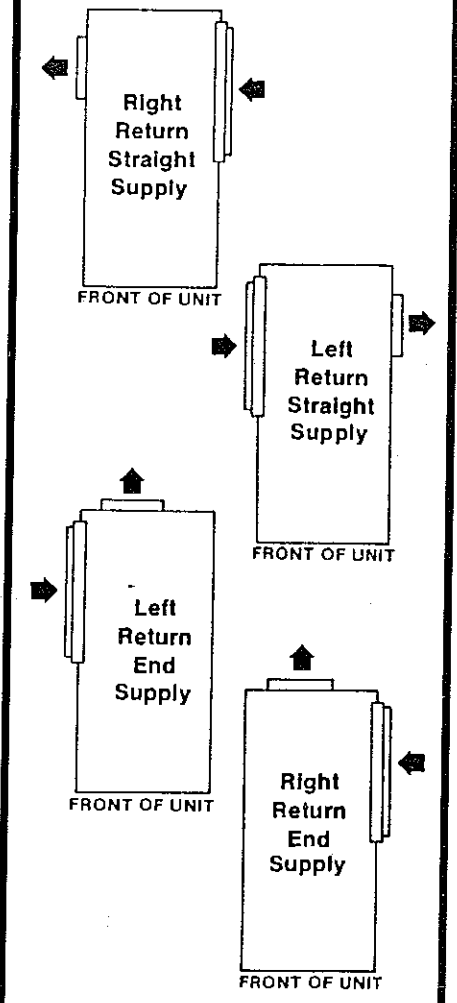


- ① High Voltage      7/8-1 1/2"      2-4 DIA
- ② Low Voltage      1/2"      1.3 DIA
- ③ Condensate Drain      3/4"      1.9 DIA
- ④ Water Out      3/4"      1.9 DIA
- ⑤ Water In      3/4"      1.9 DIA

SZ.	A	B	C	D	E	F	G	H	J	K	L	M	N	S	T	U	V	X	Y	Z	AA	BB
IN.	47	20	21	1 1/2	4	1 1/4	2 1/4	2 1/4	5	39/16	4	1	1/2	10	11	1	1 1/8	2 1/8	5 1/2	2 1/8	13 7/8	3 3/4
CM.	119	51	53	4	10	3	6	5.7	13	9	10	2.5	1	25.4	27.9	2.5	2.7	5	14	5.2	33.9	9.5

FILTER SIZE	20" x 25" x 1"	SHIPPING WGT.	235 lbs.
	51 x 63.5 x 2.5 CM		107 Kg

## Air Flow Patterns



Electrical Data		Blower	Compressor		Min Ckt. Ampacity	Max. Fuse or HACR Size
Voltage	Phase	FLA	RLA	LRA		
208/230	1	3.2	15.5	78.0	22.6	35
265	1	3.2	14.1	73.8	20.8	30
208/230	3	3.2	10.6	59.5	16.5	25
460	3	1.8	4.6	30.7	7.6	15



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# Cooling Performance

Total Cooling Capacity: 35400 Btuh, Power Input: 3540 Watts\*, E.E.R.: 10.0\* (at A.R.I. Standard 325-85 High Cool Rating Conditions)  
 \*Watts and EER include Water Pump Effect (see below)

## Effect of Variation in Entering Air Temperature:

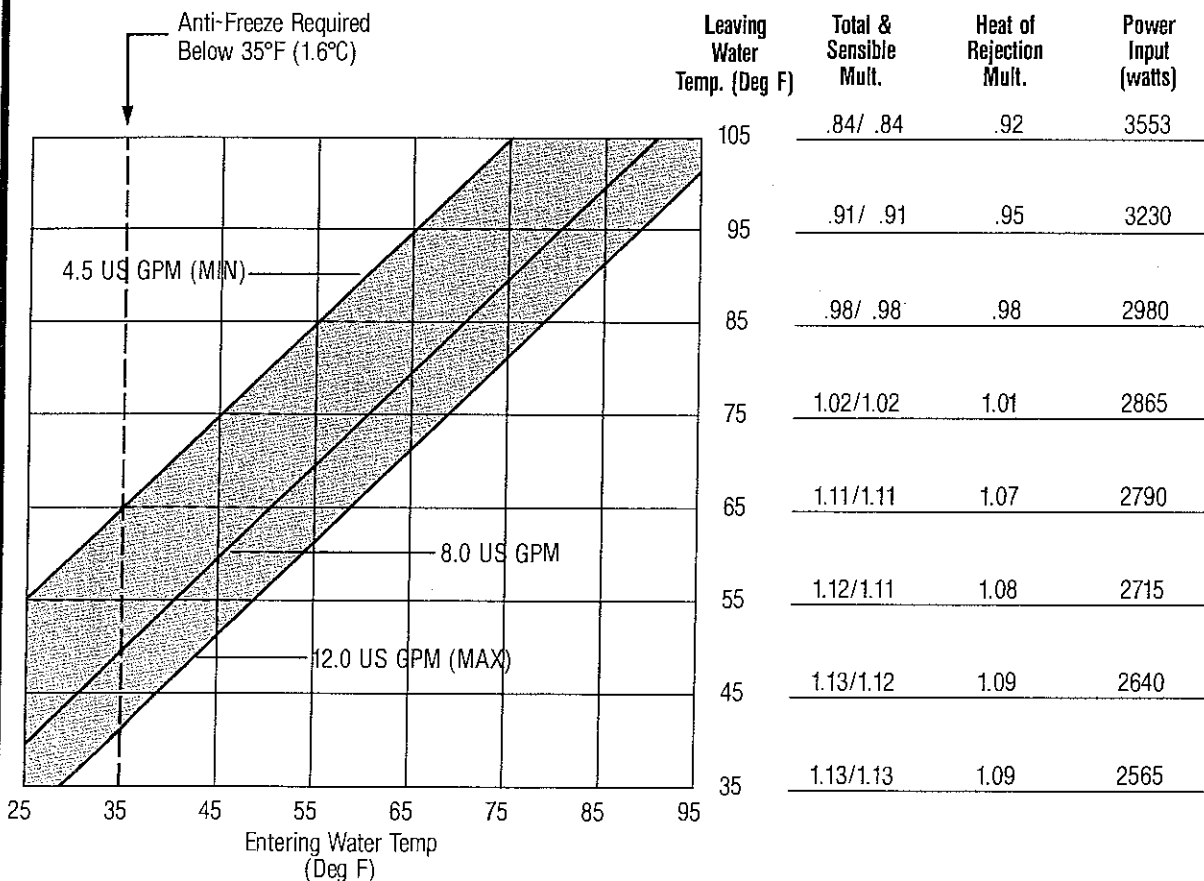
Entering AIR (Deg F) Wet Bulb	Total Capacity (Btuh)	Sensible Capacity (Btuh) @ Entering Air (Deg F) Dry Bulb:					Heat of Rejection (Btuh)	Power Input (watts)
		75	80	85	90	95		
57	32179	—	—	—	—	—	41363	2693
61	33241	27812	—	—	—	—	42978	2856
64	34303	23945	29452	—	—	—	44201	2903
67	<b>35400</b>	20104	<b>25610</b>	31244	—	—	<b>45640</b>	<b>2950</b>
70	36533	16314	21820	27403	32781	—	46753	2997
73	37666	—	18081	23587	29195	31500	48047	3044

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1080	1200	1250	1300	1400	1500
Total Capacity	.981	.994	<b>1.000</b>	1.006	1.017	1.028
Sensible Capacity	.958	.988	<b>1.000</b>	1.012	1.037	1.062
Heat of Rejection	.980	.994	<b>1.000</b>	1.006	1.017	1.029
Power Input	.978	.994	<b>1.000</b>	1.006	1.019	1.032

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Cooling Capacity Correction for Other Leaving Water Temperatures:



## \*Water Pump Effect:

$PP = Wf[(PP_B \times \Delta P) + 65]$   
 PP = Total Pumping Penalty in Watts (Add to Power Input to calculate EER/COP)  
 Wf = Water Flow Rate in G.P.M.  
 PP<sub>B</sub> = Basic Pumping Penalty (see next page)  
 ΔP = Unit Water Side Pressure Drop in P.S.I.

# Heating Performance

Heating Capacity: 39500 Btuh, Power Input: 3860 Watts\*, C.O.P.: 3\* (at A.R.I. Standard 325-85 High Heat Rating Conditions)  
 \*Watts and C.O.P. include Water Pump Effect (see below)

## Multiplier for Effect of Variation in Entering Air Temperature:

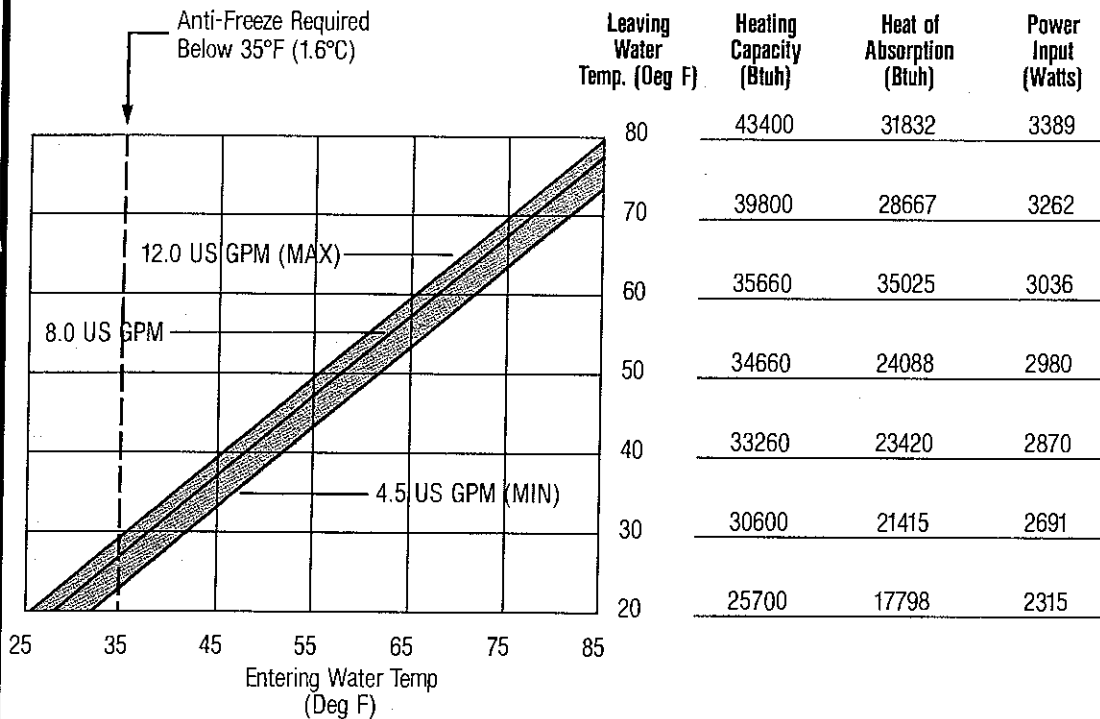
Entering Air Temp. Deg. F.	55	60	65	70	75	80	85
Heating Capacity	1.061	1.040	1.025	<b>1.000</b>	.965	.919	.879
Heat of Absorption	1.112	1.081	1.047	<b>1.000</b>	.939	.863	.789
Power Input	.897	.93	.965	<b>1.000</b>	1.040	1.070	1.100

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1000	1250	1350	<b>1450</b>	1500	1575
Heating Capacity	.960	.980	.990	<b>1.000</b>	1.010	1.010
Heat of Absorption	.943	.975	.987	<b>1.000</b>	1.006	1.016
Power Input	.994	.997	.999	<b>1.000</b>	1.001	1.002

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Heating Capacity Correction for Other Leaving Water Temperatures:



## Water Pressure Drop:

A.R.I. Typical Application Flow Rates:

Rate, (GPM/12 MBTU)	2.67	1.5	2.2	2.67	3.5	4.0
Water Flow, (US GPM)	<b>8.00</b>	4.5	6.6	8.00	10.5	12.0
Pressure Drop, (Ft.) (H <sub>2</sub> O)	<b>9.24</b>	2.92	6.29	9.24	15.92	20.79

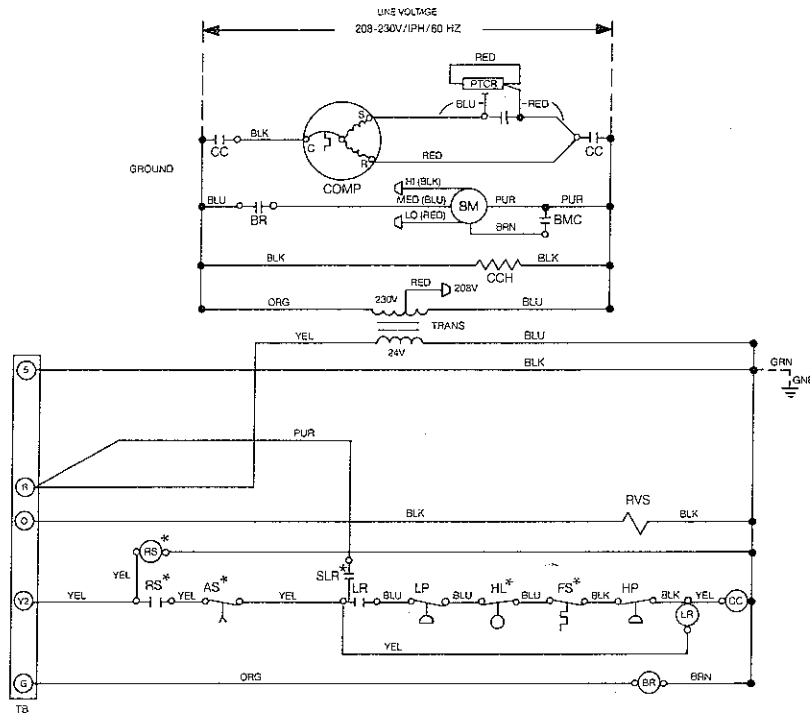
(min.)

(Recommended)

(max.)

GPM	PP <sub>B</sub>
1.0 - 4.0	5.00
4.1 - 7.9	3.88
8.0 - 11.9	2.69
12.0 - 15.6	2.32
16.0 - 19.9	2.14
20.0 - +	2.02

# Wiring Diagram



NOTES:  
 --- Field Wiring

- |                                   |                                   |   |
|-----------------------------------|-----------------------------------|---|
| ACO = AUTOMATIC CHANGEDOVER RELAY | DL = DEMAND LIMIT RELAY           | RVR = REVERSING VALVE RELAY                 |
| AS = ANTI-SHORT CYCLE RELAY       | FS = FREEZE STAT                  | RVS = REVERSING VALVE SOLENOID              |
| BM = BLOWER MOTOR                 | HL = HIGH LEVEL CONDENSATE SWITCH | SD = SHUTDOWN RELAY                         |
| BMC = BLOWER MOTOR CAPACITOR      | HP = HIGH PRESSURE SWITCH         | SLR = SPECIAL LOCKOUT RELAY                 |
| BR = BLOWER RELAY                 | HT = HIGH TEMPERATURE SWITCH      | SSM = SAFETY SHUTDOWN MODULE                |
| CC = COMPRESSOR CONTACTOR         | LP = LOW PRESSURE SWITCH          | TB = 24-VOLT TERMINAL BLOCK                 |
| CCH = CRANKCASE HEATER            | LR = LOCKOUT RELAY                | TD = TIME DELAY RELAY                       |
| COMP = COMPRESSOR                 | OL = OVERLOAD                     | TR = TIMER RELAY                            |
| CPC = COMPRESSOR CAPACITOR        | PR = PROGRAM RELAY                | TRANS = LINE VOLTAGE TO 24-VOLT TRANSFORMER |
| CR = CONTROL RELAY                | RS = RANDOM START RELAY           | NOTE = * (DENOTES AVAILABLE AS OPTION)      |

## Blower Performance

External Static Pressure (In wg)

Fan Speed	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	Min. CFM
Hi	1500	1420	1340	1250	1170	1080					1000
Lo	1360	1310	1250	1190	1110	1000					
Med	1290	1240	1190	1120	1030						

Blower Performance is based on wet coil and clean filter

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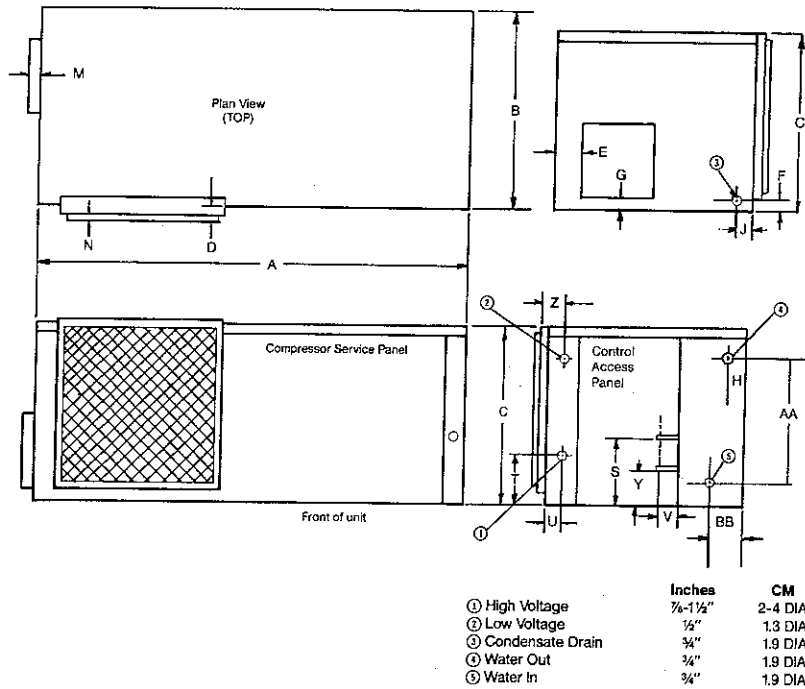
Continuing engineering research results in steady improvements.  
 Therefore, these specifications are subject to change without notice.

# 814 Series

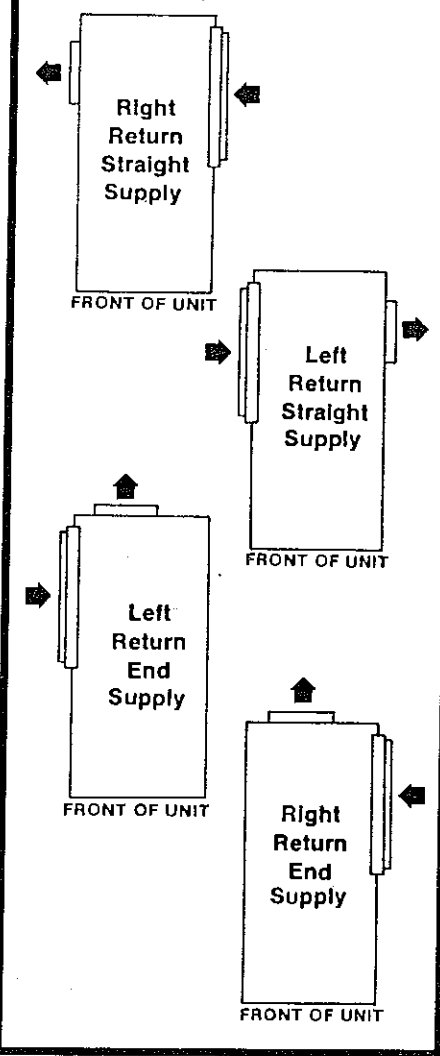
**Extended Operating Range**  
 25°F to 110°F Entering Water Temp.  
 Below 35°F (1.6°C) Requires Anti-Freeze

# Size 042

## Dimensions



## Air Flow Patterns



SZ.	A	B	C	D	E	F	G	H	J	K	L	M	N	S	T	U	V	X	Y	Z	AA	BB
IN.	47	20	21	1 1/2	4	1 1/4	2 1/4	2 1/4	5	35/16	4	1	1/2	10	11	1	1 1/8	2 1/8	5 1/2	2 1/8	13 7/8	3 3/4
CM.	119	51	53	4	10	3	6	5.7	13	9	10	2.5	1	25.4	27.9	2.5	2.7	5	14	5.2	33.9	9.5

FILTER SIZE	20" x 25" x 1"	SHIPPING WGT.	240 lbs.
	51 x 63.5 x 2.5 CM		109 Kg

Electrical Data		Blower	Compressor		Min Ckt. Ampacity	Max. Fuse or HACR Size
Voltage	Phase	FLA	RLA	LRA		
208/230	1	3.2	17.7	88.0	25.3	40
208/230	3	3.2	11.6	65.1	17.7	25
460	3	1.8	5.1	32.8	8.2	15



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# Cooling Performance

Total Cooling Capacity: 43000 Btuh, Power Input: 3981 Watts\*, E.E.R.: 10.8\* (at A.R.I. Standard 325-85 High Cool Rating Conditions)  
 \*Watts and EER include Water Pump Effect (see below)

## Effect of Variation in Entering Air Temperature:

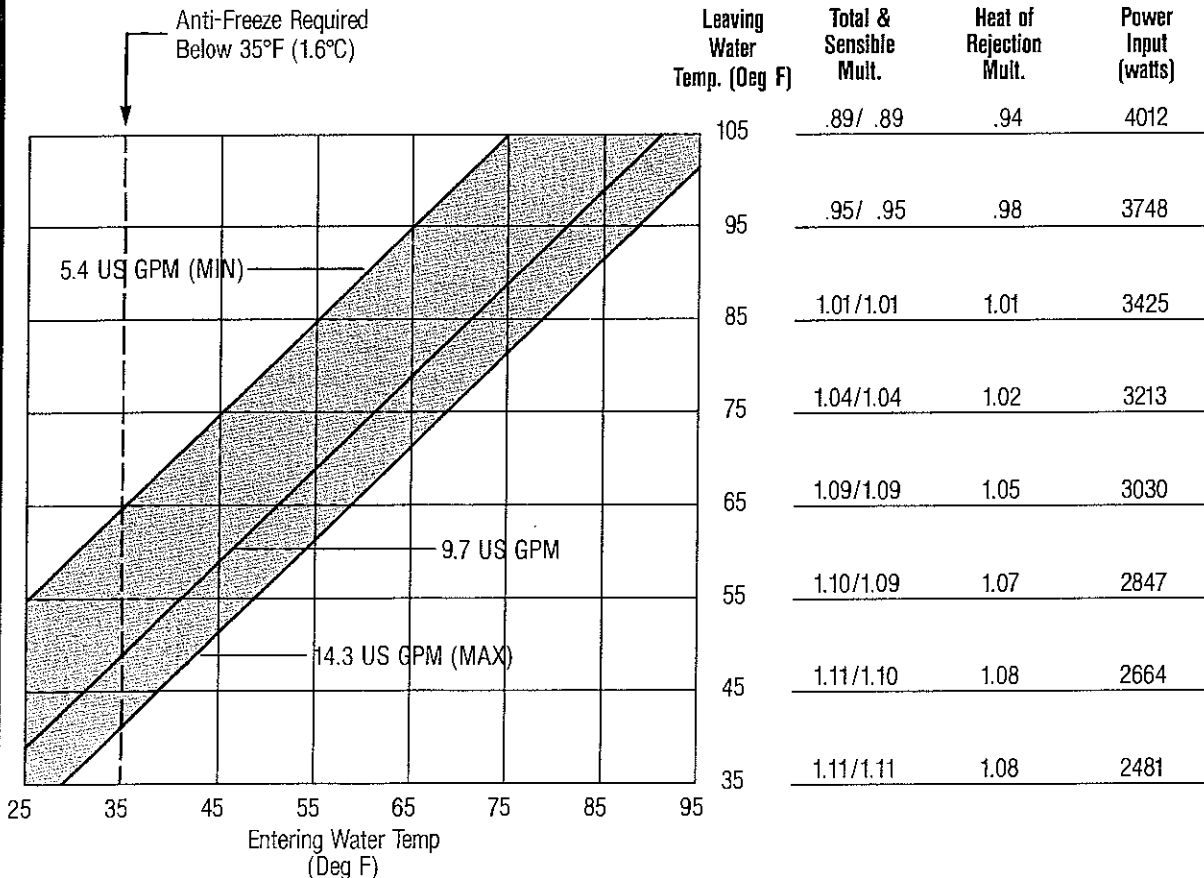
Entering AIR (Deg F) Wet Bulb	Total Capacity (Btuh)	Sensible Capacity (Btuh) @ Entering Air (Deg F) Dry Bulb:					Heat of Rejection (Btuh)	Power Input (watts)
		75	80	85	90	95		
57	39087	—	—	—	—	—	49900	3171
61	40377	29800	—	—	—	—	51841	3362
64	41677	25656	31556	37593	—	—	53320	3417
67	<b>43000</b>	21540	<b>27440</b>	33477	40337	—	<b>54843</b>	<b>3473</b>
70	44376	17479	23379	29361	35123	40611	56408	3529
73	45752	—	19373	25272	31282	33751	57974	3584

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1125	1250	1375	1500	1625	1750
Total Capacity	.965	.977	.988	<b>1.000</b>	1.012	1.023
Sensible Capacity	.923	.948	.974	<b>1.000</b>	1.026	1.052
Heat of Rejection	.966	.976	.988	<b>1.000</b>	1.012	1.024
Power Input	.968	.973	.987	<b>1.000</b>	1.013	1.027

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Cooling Capacity Correction for Other Leaving Water Temperatures:



## \*Water Pump Effect:

$PP = Wf[(PP_B \times \Delta P) + 65]$   
 PP = Total Pumping Penalty in Watts (Add to Power Input to calculate EER/COP)  
 Wf = Water Flow Rate in G.P.M.  
 PP<sub>B</sub> = Basic Pumping Penalty (see next page)  
 ΔP = Unit Water Side Pressure Drop in P.S.I.

# Heating Performance

Heating Capacity: 47000 Btuh, Power Input: 4177 Watts\*, C.O.P.: 3.3\* (at A.R.I. Standard 325-85 High Heat Rating Conditions)

\*Watts and C.O.P. include Water Pump Effect (see below)

## Multiplier for Effect of Variation in Entering Air Temperature:

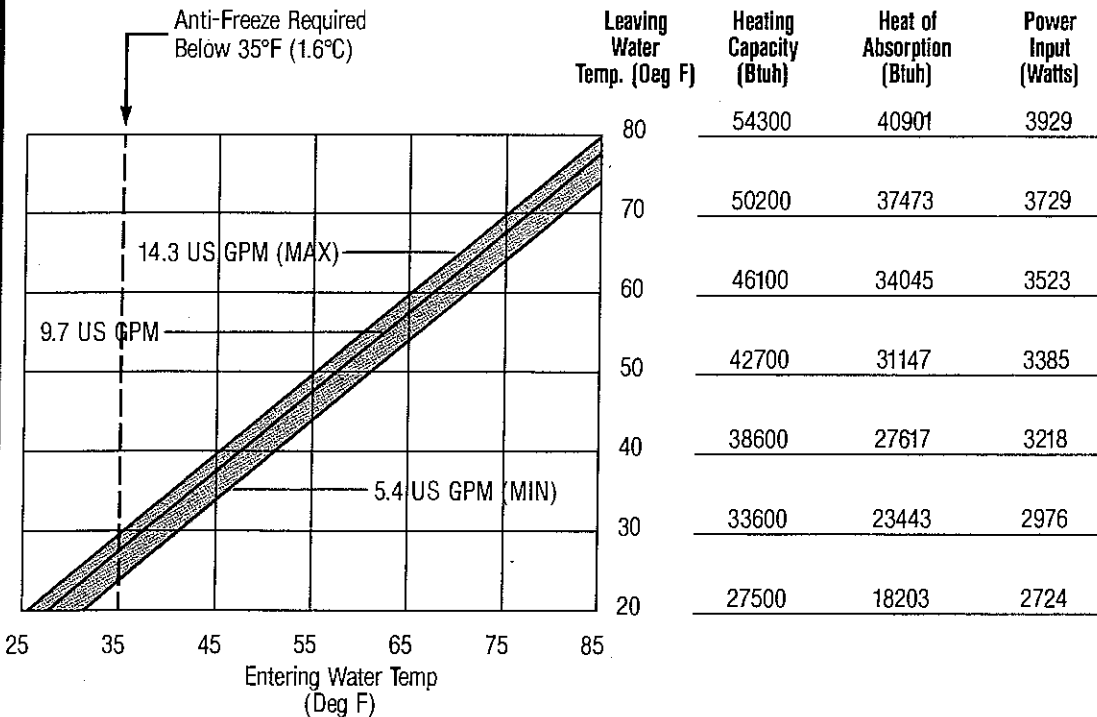
Entering Air Temp. Deg. F.	55	60	65	70	75	80	85
Heating Capacity	1.057	1.040	1.025	<b>1.000</b>	.965	.919	.884
Heat of Absorption	1.112	1.078	1.046	<b>1.000</b>	.941	.866	.791
Power Input	.895	.930	.965	<b>1.000</b>	1.04	1.070	1.100

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1125	1250	1375	1500	1625	1750
Heating Capacity	.957	.981	.990	<b>1.000</b>	1.005	1.020
Heat of Absorption	.944	.975	.987	<b>1.000</b>	1.006	1.026
Power Input	.995	.997	.998	<b>1.000</b>	1.002	1.003

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Heating Capacity Correction for Other Leaving Water Temperatures:



## Water Pressure Drop:

A.R.I. Typical Application Flow Rates:

Rate, (GPM/12 MBTU)	2.23	1.5	2.2	2.7	3.5	4.0
Water Flow, (US GPM)	<b>8.00</b>	5.4	7.9	9.7	12.5	14.3
Pressure Drop, (Ft.) (H <sub>2</sub> O)	<b>11.55</b>	5.26	11.26	16.98	28.20	36.90

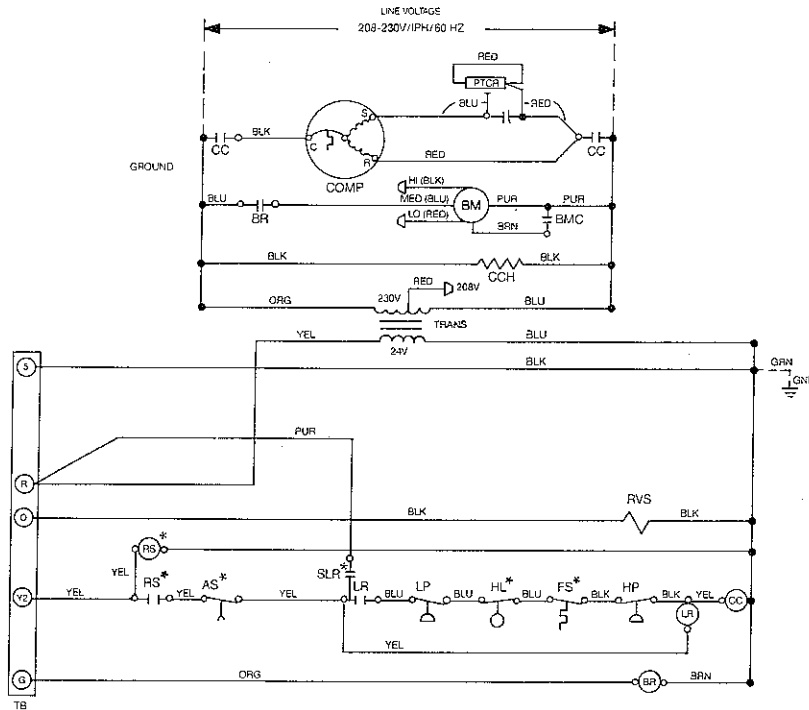
(min.)

(Recommended)

(max.)

GPM	PP <sub>B</sub>
1.0 - 4.0	5.00
4.1 - 7.9	3.88
8.0 - 11.9	2.69
12.0 - 15.6	2.32
16.0 - 19.9	2.14
20.0 - +	2.02

# Wiring Diagram



NOTES:  
--- Field Wiring

- |                                  |                                   |   |
|----------------------------------|-----------------------------------|---|
| ACO = AUTOMATIC CHANGEOVER RELAY | DL = DEMAND LIMIT RELAY           | RVR = REVERSING VALVE RELAY                 |
| AS = ANTI-SHORT CYCLE RELAY      | FS = FREEZESTAT                   | RVS = REVERSING VALVE SOLENOID              |
| BM = BLOWER MOTOR                | HL = HIGH LEVEL CONDENSATE SWITCH | SD = SHUTDOWN RELAY                         |
| BMC = BLOWER MOTOR CAPACITOR     | HP = HIGH PRESSURE SWITCH         | SLR = SPECIAL LOCKOUT RELAY                 |
| BR = BLOWER RELAY                | HT = HIGH TEMPERATURE SWITCH      | SSM = SAFETY SHUTDOWN MODULE                |
| CC = COMPRESSOR CONTACTOR        | LP = LOW PRESSURE SWITCH          | TB = 24-VOLT TERMINAL BLOCK                 |
| CCH = CRANKCASE HEATER           | LR = LOCKOUT RELAY                | TD = TIME DELAY RELAY                       |
| COMP = COMPRESSOR                | OL = OVERLOAD                     | TR = TIMER RELAY                            |
| CPC = COMPRESSOR CAPACITOR       | PR = PROGRAM RELAY                | TRANS = LINE VOLTAGE TO 24-VOLT TRANSFORMER |
| CR = CONTROL RELAY               | RS = RANDOM START RELAY           | NOTE = * (DENOTES AVAILABLE AS OPTION)      |

## Blower Performance

External Static Pressure (In wg)

Fan Speed	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	Min. CFM
Hi	1780	1700	1620	1540	1440	1340					1260
Lo	1670	1610	1540	1460	1370	1260					
Med	1540	1500	1450	1400	1330						

Blower Performance is based on wet coil and clean filter

# ClimateMaster



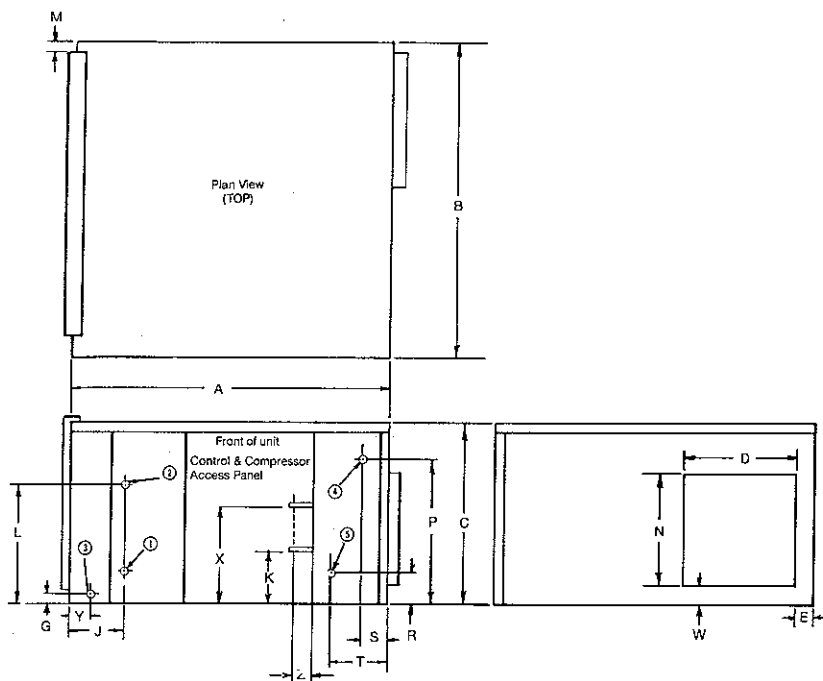
# 814 Series

## Extended Operating Range

25°F to 110°F Entering Water Temp.  
Below 35°F (1.6°C) Requires Anti-Freeze

# Size 048

### Dimensions

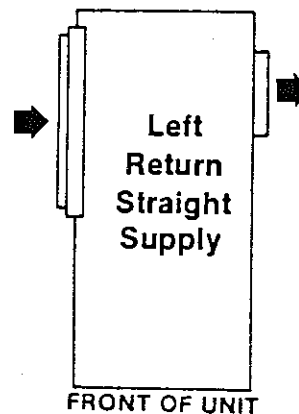


	Inches	CM
① High Voltage	7/8-1 1/2"	2-4 DIA
② Low Voltage	1/2"	1.3 DIA
③ Condensate Drain	3/4"	1.9 DIA
④ Water Out	1"	2.5 DIA
⑤ Water In	1"	2.5 DIA

SZ.	A	B	C	D	E	G	J	K	L	M	N	P	R	S	T	W	X	Y	Z
IN.	36 1/2	36 1/2	21	15	1 3/4	2 3/4	6 1/2	5 1/2	18 1/8	1	15	17 3/4	3 7/8	3 5/8	4 1/8	3 1/4	10	2 3/4	1 1/16
CM.	93	93	53	38	4	6.9	16.5	14	46.0	2.5	38.1	45.1	9.8	9.2	12.4	8.3	25.4	6.9	2.7

FILTER SIZE	16" x 20" x 1"	SHIPPING WGT.	300 lbs.
	41 x 51 x 2.5 CM		136 Kg

### Air Flow Patterns



Electrical Data		Blower	Compressor		Min Ckt. Ampacity	Max. Fuse or HACR Size
Voltage	Phase	FLA	RLA	LRA		
208/230	1	5.4	21.5	95.4	32.3	50
208/230	3	5.4	13.8	82.0	22.7	35
460	3	2.2	6.9	41.0	10.9	15

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# Cooling Performance

Total Cooling Capacity: 44500 Btuh, Power Input: 4406 Watts\*, E.E.R.: 10.1\* (at A.R.I. Standard 325-85 High Cool Rating Conditions)  
 \*Watts and EER include Water Pump Effect (see below)

## Effect of Variation in Entering Air Temperature:

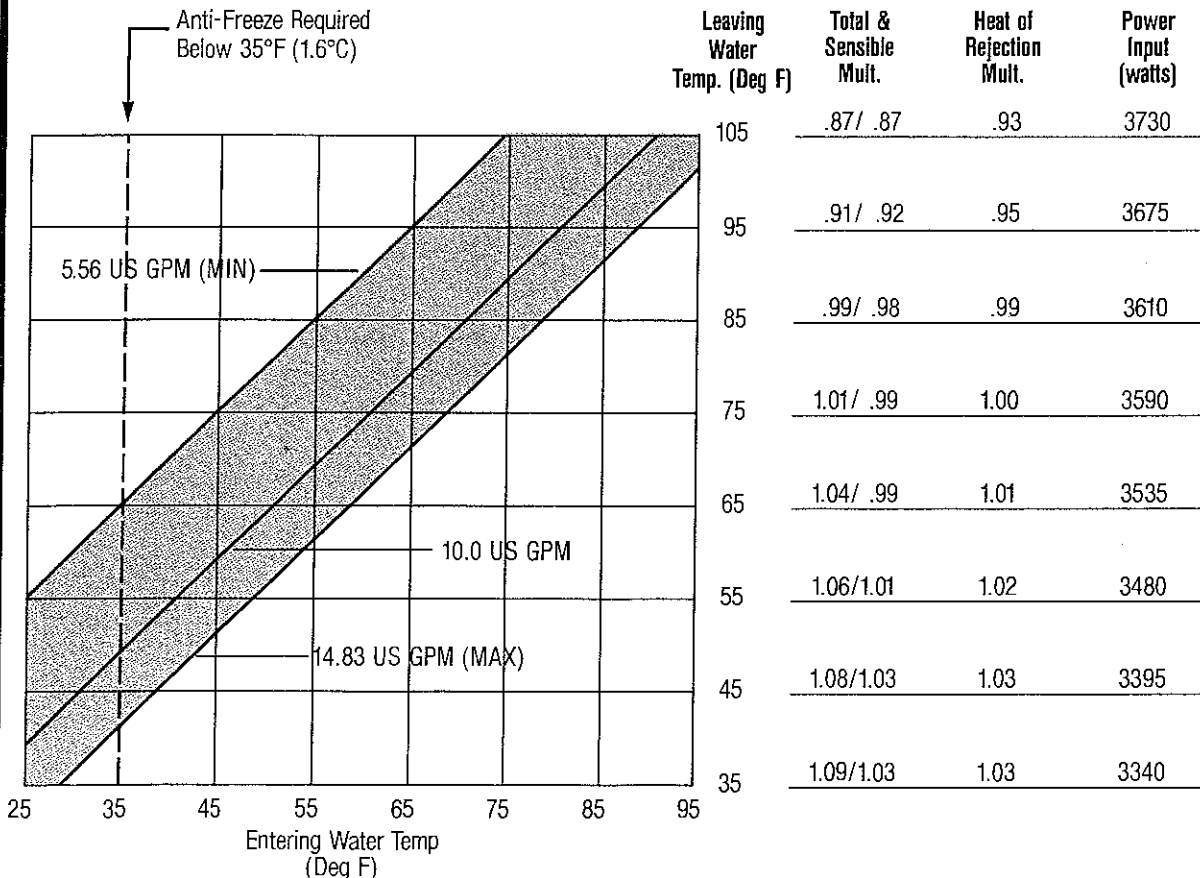
Entering AIR (Deg F) Wet Bulb	Total Capacity (Btuh)	Sensible Capacity (Btuh) @ Entering Air (Deg F) Dry Bulb:					Heat of Rejection (Btuh)	Power Input (watts)
		75	80	85	90	95		
57	40451	---	---	---	---	---	51643	3282
61	41786	30842	---	---	---	---	53652	3480
64	43121	26554	32660	38908	---	---	55183	3537
67	<b>44500</b>	22294	<b>28400</b>	34648	41748	---	<b>56759</b>	<b>3595</b>
70	45924	18091	24197	30388	36352	42032	58379	3653
73	47348	---	20050	26156	32376	34932	59999	3710

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1400	1500	1600	<b>1750</b>	1950	2130
Total Capacity	.972	.980	.988	<b>1.000</b>	1.016	1.030
Sensible Capacity	.938	.956	.973	<b>1.000</b>	1.035	1.067
Heat of Rejection	.969	.978	.987	<b>1.000</b>	1.018	1.034
Power Input	.968	.977	.986	<b>1.000</b>	1.018	1.035

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Cooling Capacity Correction for Other Leaving Water Temperatures:



## \*Water Pump Effect:

$$PP = Wf[(PP_B \times \Delta P) + 65]$$

PP = Total Pumping Penalty in Watts (Add to Power Input to calculate EER/COP)  
 Wf = Water Flow Rate in G.P.M.  
 PP<sub>B</sub> = Basic Pumping Penalty (see next page)  
 ΔP = Unit Water Side Pressure Drop in P.S.I.

# Heating Performance

Heating Capacity: 53000 Btuh, Power Input: 4857 Watts\*, C.O.P.: 3.2\* (at A.R.I. Standard 325-85 High Heat Rating Conditions)  
 \*Watts and C.O.P. include Water Pump Effect (see below)

## Multiplier for Effect of Variation in Entering Air Temperature:

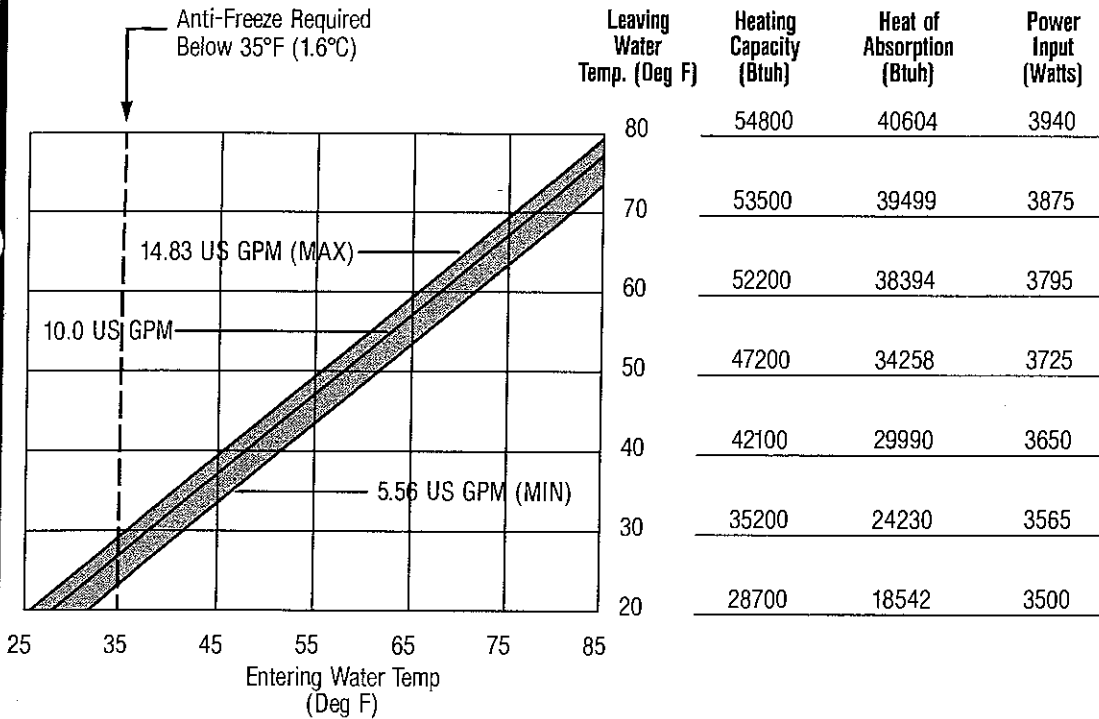
Entering Air Temp. Deg. F.	55	60	65	70	75	80	85
Heating Capacity	1.010	1.007	1.004	<b>1.000</b>	.995	.989	.983
Heat of Absorption	1.114	1.075	1.036	<b>1.000</b>	.996	.934	.902
Power Input	.929	.953	.977	<b>1.000</b>	1.024	1.047	1.070

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1400	1500	1600	<b>1750</b>	1950	2130
Heating Capacity	.972	.980	.988	<b>1.000</b>	1.016	1.030
Heat of Absorption	.992	.994	.996	<b>1.000</b>	1.005	1.009
Power Input	.986	.990	.994	<b>1.000</b>	1.008	1.015

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Heating Capacity Correction for Other Leaving Water Temperatures:



## Water Pressure Drop:

A.R.I. Typical Application Flow Rates:

Rate, (GPM/12 MBTU)	2.7	1.5	2.0	2.7	3.5	4.0
Water Flow, (US GPM)	<b>10.0</b>	5.56	7.42	10.0	12.98	14.83
Pressure Drop, (Ft.) (H <sub>2</sub> O)	<b>13.86</b>	4.28	7.63	13.86	23.35	30.48

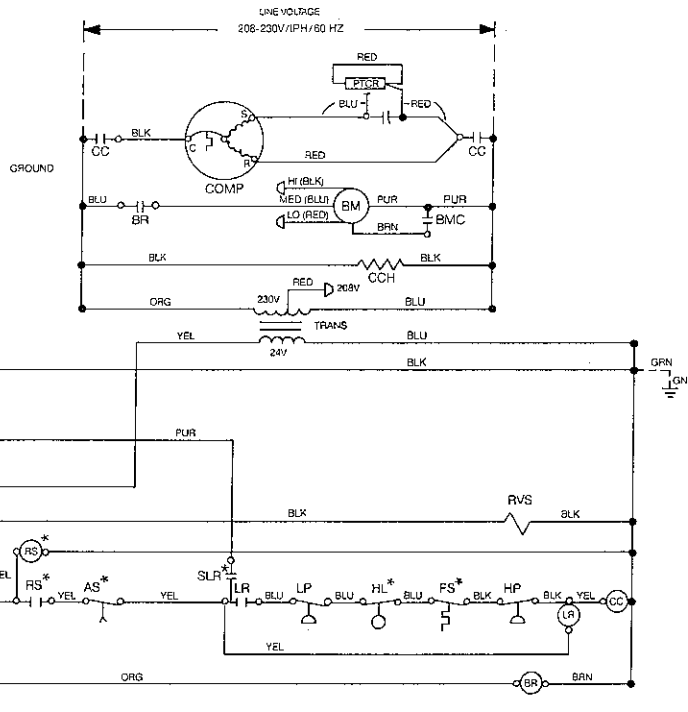
(min.)

(Recommended)

(max.)

GPM	PP <sub>B</sub>
1.0 - 4.0	5.00
4.1 - 7.9	3.88
8.0 - 11.9	2.69
12.0 - 15.6	2.32
16.0 - 19.9	2.14
20.0 - +	2.02

# Wiring Diagram



NOTES:  
 --- Field Wiring

- |                                  |                                   |   |
|----------------------------------|-----------------------------------|---|
| ACO = AUTOMATIC CHANGEOVER RELAY | DL = DEMAND LIMIT RELAY           | RVR = REVERSING VALVE RELAY                 |
| AS = ANTI-SHORT CYCLE RELAY      | FS = FRIEZESTAT                   | RVS = REVERSING VALVE SOLENOID              |
| BM = BLOWER MOTOR                | HL = HIGH LEVEL CONDENSATE SWITCH | SD = SHUTDOWN RELAY                         |
| BMC = BLOWER MOTOR CAPACITOR     | HP = HIGH PRESSURE SWITCH         | SLR = SPECIAL LOCKOUT RELAY                 |
| BR = BLOWER RELAY                | HT = HIGH TEMPERATURE SWITCH      | SSM = SAFETY SHUTDOWN MODULE                |
| CC = COMPRESSOR CONTACTOR        | LP = LOW PRESSURE SWITCH          | TB = 24-VOLT TERMINAL BLOCK                 |
| CCH = CRANKCASE HEATER           | LR = LOCKOUT RELAY                | TD = TIME DELAY RELAY                       |
| COMP = COMPRESSOR                | OL = OVERLOAD                     | TR = TIMER RELAY                            |
| CPC = COMPRESSOR CAPACITOR       | PR = PROGRAM RELAY                | TRANS = LINE VOLTAGE TO 24-VOLT TRANSFORMER |
| CR = CONTROL RELAY               | RS = RANDOM START RELAY           | NOTE = * (DENOTES AVAILABLE AS OPTION)      |

## Blower Performance

Fan Speed	External Static Pressure (In wg)										Min. CFM
	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	
Hi	2130	2050	1960	1860	1750	1630					1400
Lo	1980	1900	1810	1720	1620	1520					
Med	1810	1730	1650	1570	1490	1400					

Blower Performance is based on wet coil and clean filter



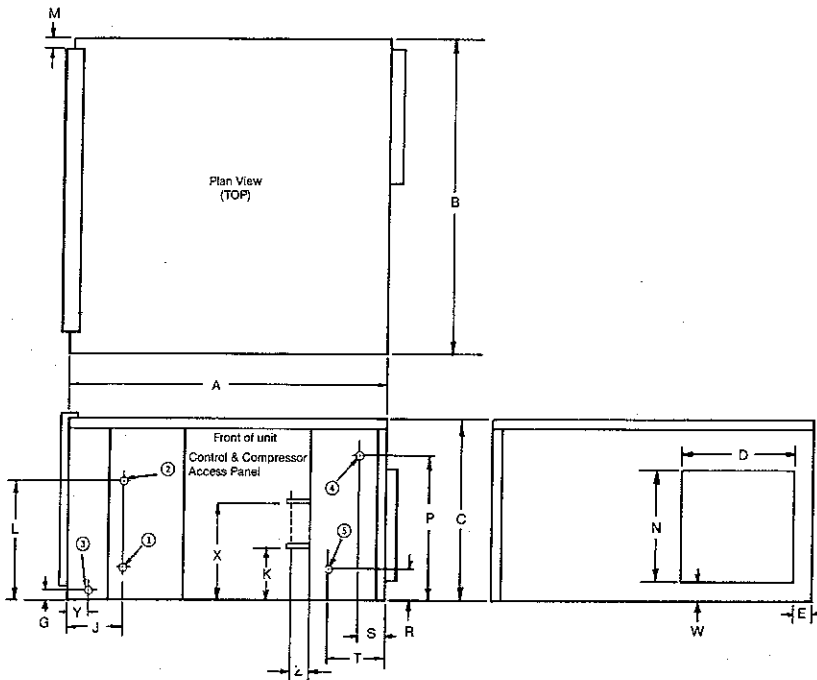
P.O. Box 25788  
 Oklahoma City, OK 73125  
 (405) 745-6000

# 814 Series

**Extended Operating Range**  
 25°F to 110°F Entering Water Temp.  
 Below 35°F (1.6°C) Requires Anti-Freeze

# Size 060

## Dimensions

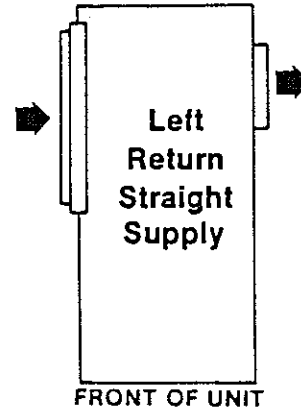


- |                    |               |           |
|--------------------|---------------|-----------|
|                    | <b>Inches</b> | <b>CM</b> |
| ① High Voltage     | 7/8-1 1/2"    | 2-4 DIA   |
| ② Low Voltage      | 1/2"          | 1.3 DIA   |
| ③ Condensate Drain | 3/4"          | 1.9 DIA   |
| ④ Water Out        | 1"            | 2.5 DIA   |
| ⑤ Water In         | 1"            | 2.5 DIA   |

SZ.	A	B	C	D	E	G	J	K	L	M	N	P	R	S	T	W	X	Y	Z
IN.	36 1/2	36 1/2	21	15	1 3/4	2 3/4	6 1/2	5 1/2	18 1/8	1	15	17 3/4	3 3/8	3 3/8	4 7/8	3 1/4	10	2 3/4	1 1/16
CM.	93	93	53	38	4	6.9	16.5	14	46.0	2.5	38.1	45.1	9.8	9.2	12.4	8.3	25.4	6.9	2.7

FILTER SIZE	16" x 20" x 1"	SHIPPING WGT.	357 lbs.
	41 x 51 x 2.5 CM		162 Kg

## Air Flow Patterns



Electrical Data		Blower	Compressor		Min Ckt. Ampacity	Max. Fuse or HACR Size
Voltage	Phase	FLA	RLA	LRA		
208/230	1	5.8	27.6	125.0	40.3	60
208/230	3	5.8	16.1	90.0	26.0	40
460	3	2.6	7.7	45.0	12.3	15

**ClimateMaster®**

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 Oklahoma City, OK 73125  
 (405) 745-6000

# Cooling Performance

Total Cooling Capacity: 62500 Btuh, Power Input: 6188 Watts\*, E.E.R.: 10.1\* (at A.R.I. Standard 325-85 High Cool Rating Conditions)

\*Watts and EER include Water Pump Effect (see below)

## Effect of Variation in Entering Air Temperature:

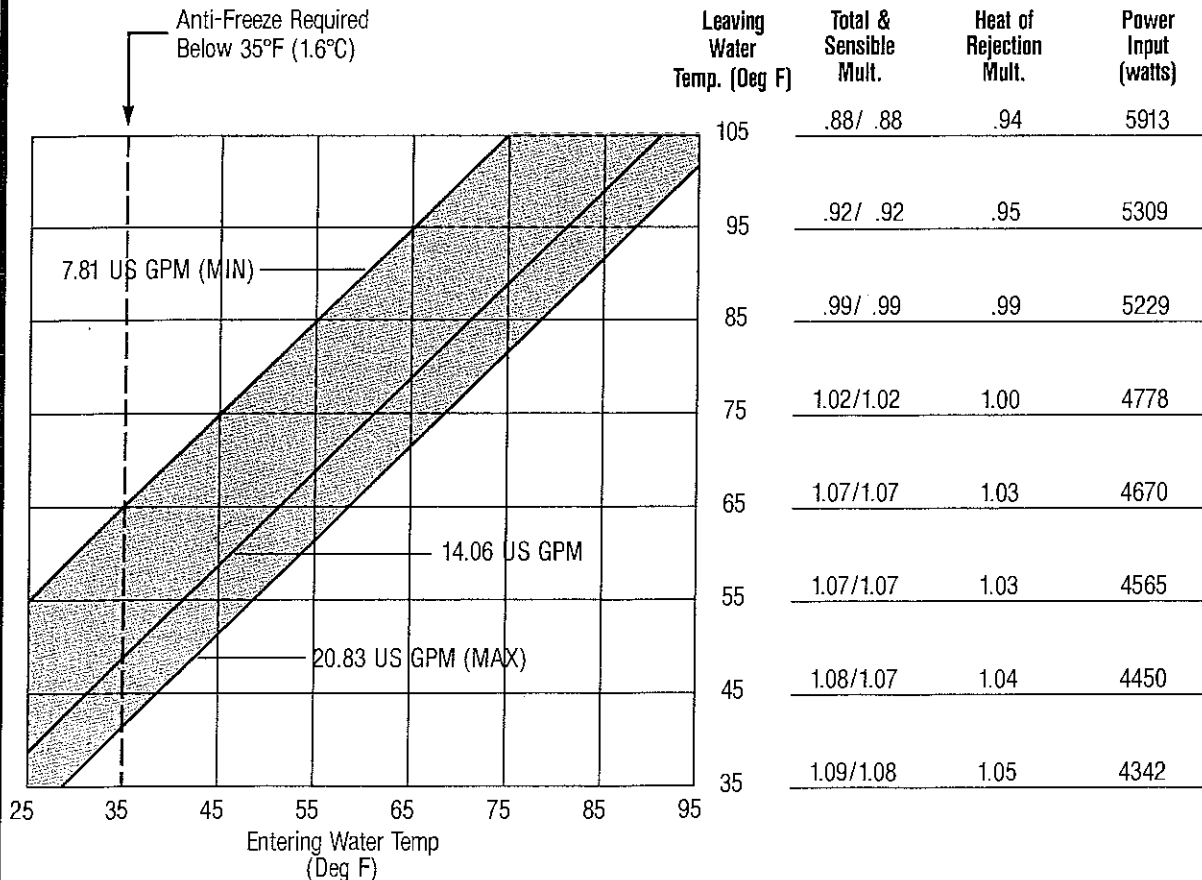
Entering AIR (Deg F) Wet Bulb	Total Capacity (Btuh)	Sensible Capacity (Btuh) @ Entering Air (Deg F) Dry Bulb:					Heat of Rejection (Btuh)	Power Input (watts)
		75	80	85	90	95		
57	56813	---	---	---	---	---	72908	4720
61	58688	46937	---	---	---	---	75753	5005
64	60563	40411	49703	59211	---	---	77910	5087
67	<b>62500</b>	33928	<b>43220</b>	52728	---	---	<b>80130</b>	<b>5170</b>
70	64500	27531	36823	46245	55322	63966	82412	5253
73	66500	---	30513	39806	49271	53161	84694	5335

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1600	1800	2000	2200
Total Capacity	.970	.990	<b>1.000</b>	1.010
Sensible Capacity	.938	.969	<b>1.000</b>	1.031
Heat of Rejection	.971	.986	<b>1.000</b>	1.015
Power Input	.968	.984	<b>1.000</b>	1.016

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Cooling Capacity Correction for Other Leaving Water Temperatures:



## \*Water Pump Effect:

$$PP = Wf[(PP_B \times \Delta P) + 65]$$

PP = Total Pumping Penalty in Watts (Add to Power Input to calculate EER/COP)

Wf = Water Flow Rate in G.P.M.

PP<sub>B</sub> = Basic Pumping Penalty (see next page)

ΔP = Unit Water Side Pressure Drop in P.S.I.

# Heating Performance

Heating Capacity: 72000 Btuh, Power Input: 6398 Watts\*, C.O.P.: 3.3\* (at A.R.I. Standard 325-85 High Heat Rating Conditions)

\*Watts and C.O.P. include Water Pump Effect (see below)

## Multiplier for Effect of Variation in Entering Air Temperature:

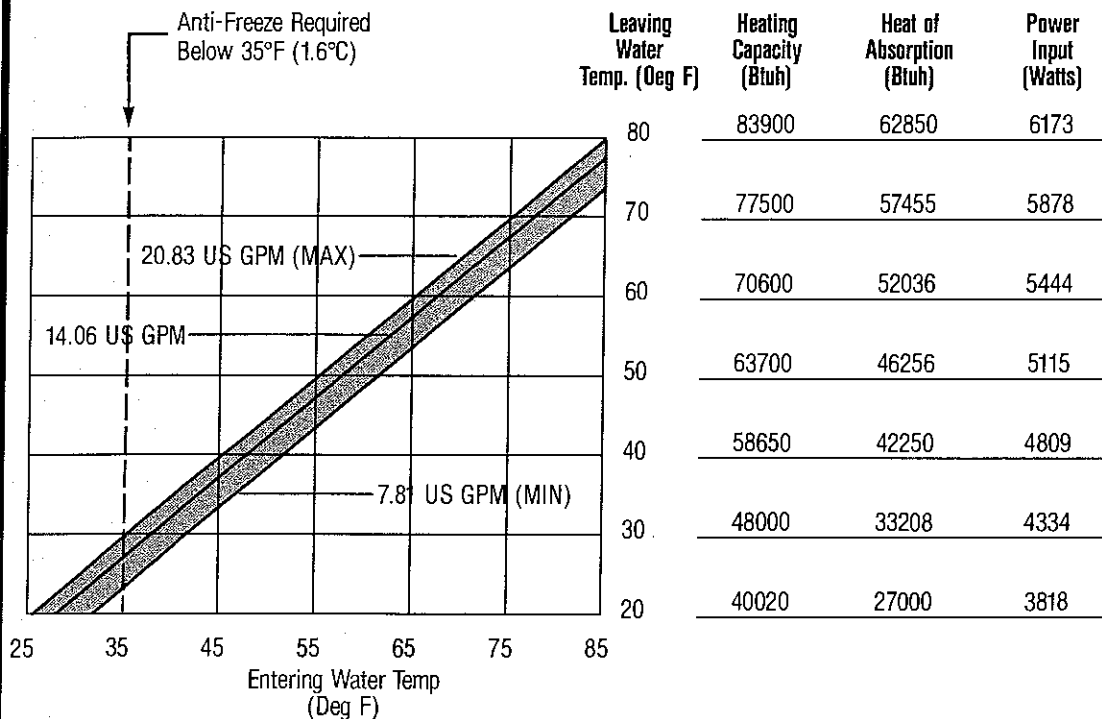
Entering Air Temp. Deg. F.	55	60	65	<b>70</b>	75	80	85
Heating Capacity	1.018	1.013	1.007	<b>1.000</b>	.994	.987	.979
Heat of Absorption	1.052	1.035	1.018	<b>1.000</b>	.983	.965	.948
Power Input	.926	.951	.975	<b>1.000</b>	1.03	1.05	1.07

## Multiplier for Effect of Variation in Air Flow:

Air Flow Rate, CFM	1600	1800	<b>2000</b>	2200
Heating Capacity	.97	.99	<b>1.000</b>	1.010
Heat of Absorption	.966	.983	<b>1.000</b>	1.017
Power Input	.99	.995	<b>1.000</b>	1.005

Figures in Bold Face Type are @ A.R.I. Rating Conditions.

## Heating Capacity Correction for Other Leaving Water Temperatures:



## Water Pressure Drop:

A.R.I. Typical Application Flow Rates:

Rate, (GPM/12 MBTU)	2.3	1.5	2.2	2.7	3.5	4.0
Water Flow, (US GPM)	<b>12.0</b>	7.81	11.46	14.06	18.23	20.83
Pressure Drop, (Ft.) (H <sub>2</sub> O)	<b>16.17</b>	6.85	14.75	22.20	37.32	48.72

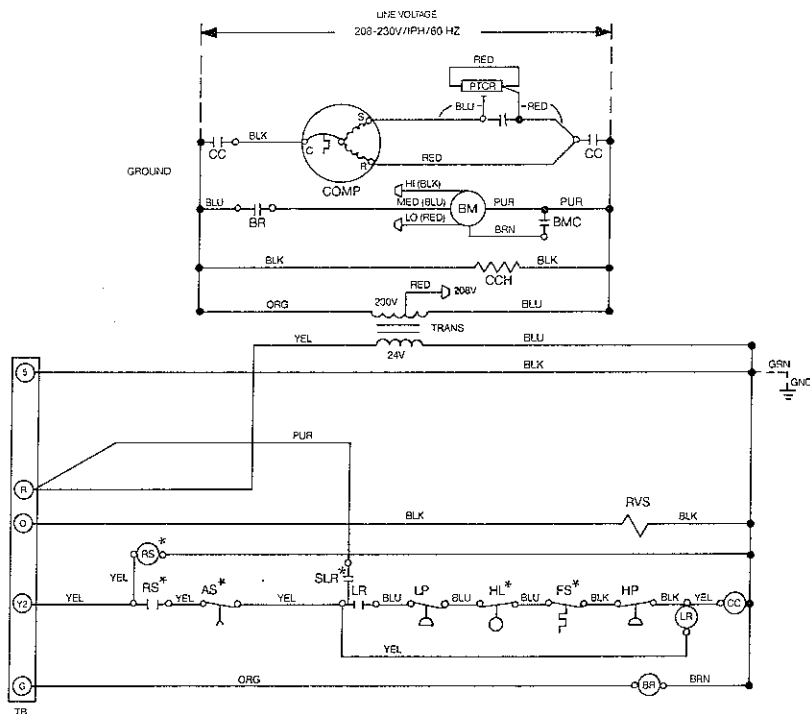
(min.)

(Recommended)

(max.)

GPM	PP <sub>B</sub>
1.0 - 4.0	5.00
4.1 - 7.9	3.88
8.0 - 11.9	2.69
12.0 - 15.6	2.32
16.0 - 19.9	2.14
20.0 - +	2.02

# Wiring Diagram



NOTES:  
 ---- Field Wiring

- |                                  |                                   |   |
|----------------------------------|-----------------------------------|---|
| ACO = AUTOMATIC CHANGEOVER RELAY | DL = DEMAND LIMIT RELAY           | RVR = REVERSING VALVE RELAY                 |
| AS = ANTI-SHORT CYCLE RELAY      | FS = FREEZESTAT                   | RVS = REVERSING VALVE SOLENOID              |
| BM = BLOWER MOTOR                | HL = HIGH LEVEL CONDENSATE SWITCH | SD = SHUTDOWN RELAY                         |
| BMC = BLOWER MOTOR CAPACITOR     | HP = HIGH PRESSURE SWITCH         | SLR = SPECIAL LOCKOUT RELAY                 |
| BR = BLOWER RELAY                | HT = HIGH TEMPERATURE SWITCH      | SSM = SAFETY SHUTDOWN MODULE                |
| CC = COMPRESSOR CONTACTOR        | LP = LOW PRESSURE SWITCH          | TB = 24-VOLT TERMINAL BLOCK                 |
| COH = CRANKCASE HEATER           | LR = LOCKOUT RELAY                | TD = TIME DELAY RELAY                       |
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## Blower Performance

External Static Pressure (In wg)

Fan Speed	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	Min. CFM
Hi	2200	2140	2080	2010	1940	1860					1700
Lo	2110	2050	2000	1940	1870	1800					
Med	2060	2000	1940	1880	1820	1760	1700				

Blower Performance is based on wet coil and clean filter

# ClimateMaster