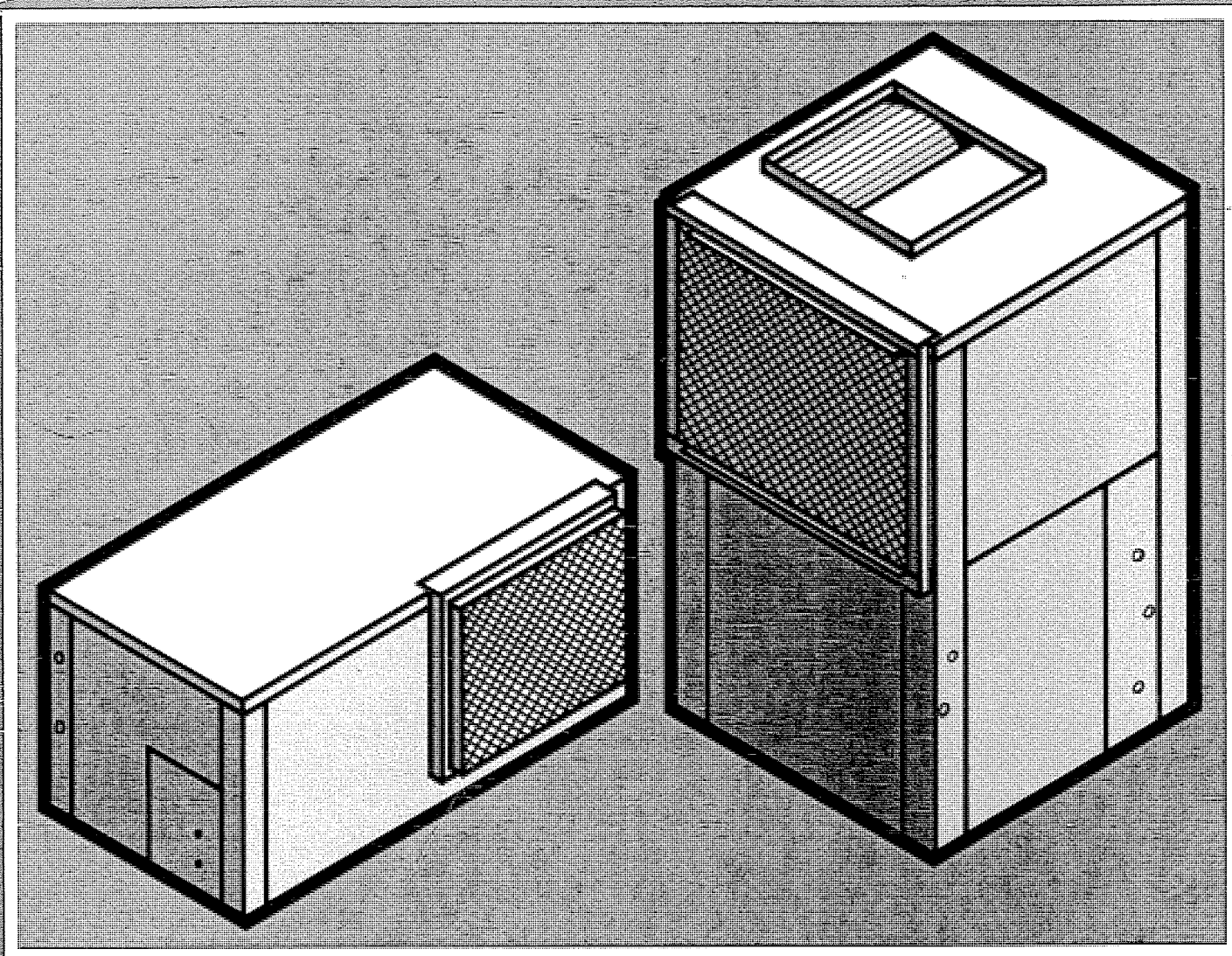


# SPECIFICATIONS



## 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<br>804-009 | 9100*          | 6461           | 825               | 11.0         | 11915                | 2.4          | 350          | 10800*         | 850               | 3.7        | 7900                 | 2.4          | 350          |
| 803-012<br>804-012 | 12500          | 8625           | 1225              | 10.2         | 16680                | 3.34         | 400          | 15700          | 1325              | 3.5        | 11179                | 3.34         | 400          |
| 803-015<br>804-015 | 14500          | 10295          | 1400              | 10.4         | 19300                | 3.90         | 500          | 19000          | 1525              | 3.7        | 13800                | 3.90         | 500          |
| 803-019<br>804-019 | 19000          | 13870          | 1750              | 10.9         | 25000                | 5.0          | 650          | 23000          | 1875              | 3.6        | 16600                | 5.0          | 650          |
| 803-024<br>804-025 | 25400          | 17580          | 2275              | 11.2         | 33162                | 6.6          | 800          | 35000          | 2650              | 3.9        | 25960                | 6.6          | 800          |
| 803-030<br>804-031 | 30000          | 21860          | 2900              | 10.3         | 39900                | 8.0          | 1000         | 40500          | 3200              | 3.7        | 29580                | 8.0          | 1000         |
| 803-036<br>804-037 | 35600          | 24400          | 3360              | 10.6         | 47064                | 9.4          | 1250         | 42500          | 3550              | 3.5        | 30400                | 9.4          | 1250         |
| 803-042<br>804-043 | 43000<br>42000 | 32170<br>31400 | 4000<br>4050      | 10.8<br>10.4 | 56652<br>55819       | 11.3<br>11.2 | 1500<br>1450 | 57000<br>57000 | 4200<br>4450      | 4.0<br>3.8 | 40665<br>41987       | 11.3<br>11.2 | 1500<br>1450 |
| 803-048<br>804-048 | 48000          | 37250          | 4750              | 10.1         | 64212                | 12.8         | 1700         | 59000          | 4650              | 3.7        | 43130                | 12.8         | 1700         |
| 803-060<br>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<br>804-009 | 208/230<br>265                   | 1<br>1           | #14<br>#14             | 4.6<br>4.0                  | 15<br>15             | 20.0<br>16.0                 | 3.3<br>2.8                  | .50<br>.50               | 3.8<br>3.3                  | 5.5              | 5.0              | 1/20      | .97                   | 3.00         | 14        | DDMS        | 118<br>108        |
| 803-012<br>804-012 | 208/230<br>265                   | 1<br>1           | #14<br>#14             | 8.7<br>6.9                  | 15<br>15             | 31.0<br>27.0                 | 6.3<br>4.9                  | .80<br>.81               | 7.1<br>5.71                 | 6.0              | 4.0              | 1/10      | .97                   | 3.75         | 14        | DDMS        | 123<br>117        |
| 803-015<br>804-015 | 208/230<br>265                   | 1<br>1           | #14<br>#14             | 8.25<br>7.35                | 15<br>15             | 36.0<br>33.0                 | 5.9<br>5.0                  | .86<br>.82               | 6.76<br>5.82                | 6.0              | 5.0              | 1/12      | 2.22                  | 2.25         | 14        | DDMS        | 150<br>153        |
| 803-019<br>804-019 | 208/230<br>265                   | 1<br>1           | #14<br>#14             | 11.1<br>8.7                 | 15<br>15             | 40.6<br>34.0                 | 7.6<br>6.0                  | 1.5<br>1.2               | 9.1<br>7.2                  | 9.0              | 4.0              | 1/6       | 2.22                  | 3.0          | 14        | DDMS        | 173<br>180        |
| 803-024<br>804-025 | 208/230<br>265                   | 1<br>1           | #10<br>#12             | 16.4<br>14.4                | 25<br>20             | 54.0<br>45.0                 | 11.8<br>9.3                 | 1.6<br>1.5               | 13.4<br>10.8                | 9.0              | 7.0              | 1/4       | 2.50                  | 2.25         | 13        | DDMS        | 210<br>213        |
| 803-030<br>804-031 | 208/230<br>265<br>460            | 1<br>3<br>1      | #10<br>#12<br>#14      | 19.5<br>13.9<br>17.2<br>6.5 | 30<br>20<br>25<br>15 | 65.0<br>60.0<br>55.0<br>28.0 | 14.0<br>9.2<br>11.2<br>4.4  | 2.0<br>2.0<br>1.6<br>1.0 | 16.0<br>11.2<br>12.8<br>5.4 | 10.0             | 6.0              | 1/4       | 2.50                  | 3.0          | 13        | DDMS        | 225               |
| 803-036<br>804-037 | 208/230<br>208/230<br>265<br>460 | 1<br>3<br>1<br>3 | #8<br>#10<br>#8<br>#14 | 23.0<br>16.7<br>21.6<br>8.3 | 35<br>25<br>35<br>15 | 75.8<br>65.0<br>70.0<br>32.0 | 15.8<br>10.4<br>13.5<br>5.2 | 3.2<br>3.2<br>3.2<br>1.8 | 19.0<br>13.6<br>16.7<br>7.0 | 9.0              | 7.0              | 1/2       | 3.33                  | 2.25         | 14        | DDMS        | 248<br>235        |
| 803-042<br>803-043 | 208/230<br>208/230<br>460        | 1<br>3<br>3      | #6<br>#10<br>#14       | 28.7<br>19.4<br>9.6         | 45<br>30<br>15       | 93.0<br>74.0<br>41.0         | 19.4<br>12.5<br>6.3         | 3.4<br>3.4<br>1.8        | 22.8<br>15.9<br>8.1         | 10.0<br>9.0      | 8.0<br>7.0       | 1/2       | 3.33                  | 3.00<br>2.25 | 14        | DDMS        | 278<br>240        |
| 803-048<br>804-048 | 208/230<br>208/230<br>460        | 1<br>3<br>3      | #6<br>#8<br>#14        | 30.0<br>23.0<br>11.0        | 45<br>35<br>15       | 104.0<br>72.0<br>35.0        | 19.8<br>14.1<br>7.0         | 5.4<br>5.4<br>2.2        | 25.2<br>19.5<br>9.2         | 10.0             | 10.0             | 3/4       | 4.17                  | 3.25         | 14        | DDMS        | 312<br>300        |
| 803-060<br>804-060 | 208/230<br>208/230<br>460        | 1<br>3<br>3      | #4<br>#8<br>#12        | 39.8<br>26.4<br>12.5        | 60<br>40<br>20       | 132.0<br>103.0<br>54.0       | 26.0<br>16.1<br>7.9         | 5.8<br>5.8<br>2.6        | 31.8<br>21.9<br>10.5        | 12.0             | 10.0             | 1         | 4.17                  | 4.33         | 13        | DDMS        | 339<br>357        |
| 804-096            | 208/230<br>460                   | 3<br>3           | #6<br>#10              | 37.4<br>18.4                | 50<br>25             | 72.0<br>35.0                 | 14.1<br>7.0                 | 5.7<br>2.6               | 33.9<br>16.6                | (2)<br>10.0      | (2)<br>10.0      | 1-1/2     | 8.33                  | 3.25         | 14        | BDVP        | 680               |
| 804-120            | 208/230<br>460                   | 3<br>3           | #4<br>#10              | 44.6<br>21.2                | 60<br>25             | 103.0<br>54.0                | 16.1<br>7.9                 | 7.5<br>3.4               | 39.7<br>19.2                | (2)<br>12.0      | (2)<br>10.0      | 2         | 8.33                  | 4.33         | 13        | BDVP        | 800               |

# OPTION FLOW CHART

## OPTIONS

### CABINETRY

RETURN AIR  
DUCT COLLAR

HANGER/VIBRATION  
ISOLATOR KIT

803 UNITS  
VERTICAL

### PIPING

PREASSEMBLED  
HOSEKITS

804 UNITS  
HORIZONTAL

### AIR FLOW CONFIGURATIONS

009 THRU 060

BOTTOM  
DISCHARGE\*

009 THRU 043

048 THRU 120

TOP  
DISCHARGE

STRAIGHT  
BLOW

END  
BLOW

STRAIGHT  
BLOW

LEFT HAND  
RETURN

RIGHT HAND  
RETURN

REAR  
RETURN

FRONT  
RETURN

LEFT HAND  
RETURN

RIGHT HAND  
RETURN

LEFT HAND  
RETURN

RIGHT HAND  
RETURN

LEFT HAND  
RETURN

### ELECTRICAL — CONTROL

RESET FROM  
POWER SUPPLY  
ONLY

803 AND 804 SERIES

24 VOLT  
PROGRAM  
RELAY

REMOTE  
THERMOSTAT

MASTER/  
SLAVE

RANDOM START  
RELAY

MANUAL  
CHANGEOVER

AUTO  
CHANGEOVER

PROGRAM  
CONTROL BOX

HEATER  
TYPE

SOLID  
STATE

PROGRAMABLE  
SOLID STATE

OVERRIDE  
TIMER

THERMOSTAT COVER

NITE  
SETBACK

UNIVERSAL COVER WITH LOCK  
FOR ALL REMOTE THERMOSTATS

SECURITY COVER WITH LOCK  
FOR MANUAL/AUTO CHANGEOVER

CLEAR

BEIGE

THERMOMETER  
VISIBLE  
ON FRONT

THERMOMETER  
CONCEALED  
BEHIND FRONT

### REFRIGERANT CIRCUIT

803 UNITS

804 UNITS

COOLING  
ONLY

CUPRO-NICKEL EXCHANGER

BUILT-IN  
HOT WATER  
GENERATOR

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)

|                    |                    | 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<br>804-009 | 60                 | 1.25                      | 9460               | 6220          | 11876                | 708               |                           |                      |                   | 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               | 9900                      | 7054                 | 834               | 6.58                 |
|                    | 65                 | 1.25                      | 9310               | 6150          | 11819                | 735               |                           |                      |                   | 1.03                 |
|                    |                    | 1.50                      | 9400               | 6190          | 11851                | 718               | 9950                      | 7100                 | 835               | 1.64                 |
|                    |                    | 1.75                      | 9470               | 6220          | 11883                | 707               | 10050                     | 7186                 | 839               | 2.27                 |
|                    |                    | 2.00                      | 9510               | 6240          | 11896                | 699               | 10150                     | 7276                 | 842               | 2.89                 |
|                    |                    | 2.50                      | 9560               | 6250          | 11908                | 688               | 10250                     | 7366                 | 845               | 4.62                 |
|                    |                    | 3.00                      | 9670               | 6260          | 11998                | 682               | 10400                     | 7502                 | 849               | 6.58                 |
|                    | 75                 | 1.25                      | 8910               | 5970          | 11613                | 792               | 10650                     | 7732                 | 855               | 1.03                 |
|                    |                    | 1.50                      | 9060               | 6040          | 11691                | 771               | 10750                     | 7818                 | 859               | 1.64                 |
|                    |                    | 1.75                      | 9150               | 6080          | 11744                | 760               | 10850                     | 7911                 | 861               | 2.27                 |
|                    |                    | 2.00                      | 9210               | 6110          | 11763                | 748               | 10950                     | 8005                 | 863               | 2.89                 |
|                    |                    | 2.50                      | 9290               | 6140          | 11809                | 738               | 11050                     | 8094                 | 866               | 4.62                 |
|                    |                    | 3.00                      | 9340               | 6160          | 11831                | 730               | 11150                     | 8188                 | 868               | 6.58                 |
|                    | 85                 | 1.25                      | 8330               | 5630          | 11248                | 855               | 11300                     | 8327                 | 871               | 1.03                 |
|                    |                    | 1.50                      | 8550               | 5760          | 11393                | 833               | 11450                     | 8467                 | 874               | 1.64                 |
|                    |                    | 1.75                      | 8680               | 5840          | 11485                | 822               | 11550                     | 8560                 | 876               | 2.27                 |
|                    |                    | 2.00                      | 8770               | 5890          | 11528                | 808               | 11650                     | 8653                 | 878               | 2.89                 |
|                    |                    | 2.50                      | 8900               | 5960          | 11613                | 795               | 11750                     | 8747                 | 880               | 4.62                 |
|                    |                    | 3.00                      | 8960               | 5990          | 11643                | 786               | 11800                     | 8793                 | 881               | 6.58                 |
|                    | 95                 | 2.00                      | 8000               | 5470          | 10990                | 876               | 12200                     | 9166                 | 889               | 2.89                 |
|                    |                    | 2.50                      | 8250               | 5600          | 11182                | 859               | 12300                     | 9262                 | 890               | 4.62                 |
|                    |                    | 3.00                      | 8400               | 5660          | 11294                | 848               | 12350                     | 9306                 | 892               | 6.58                 |
| 803-012<br>804-012 | 60                 | 1.75                      | 13030              | 8780          | 16750                | 1090              |                           |                      |                   | 1.30                 |
|                    |                    | 2.00                      | 13090              | 8790          | 16742                | 1070              | 13350                     | 9118                 | 1240              | 1.65                 |
|                    |                    | 2.50                      | 13150              | 8800          | 16717                | 1045              | 13750                     | 9477                 | 1252              | 2.45                 |
|                    |                    | 3.00                      | 13180              | 8805          | 16697                | 1030              | 13900                     | 9600                 | 1260              | 3.40                 |
|                    |                    | 3.50                      | 13210              | 8807          | 16691                | 1020              | 14100                     | 9783                 | 1265              | 4.50                 |
|                    |                    | 4.00                      | 13220              | 8810          | 16667                | 1010              | 14200                     | 9865                 | 1270              | 5.80                 |
|                    | 65                 | 1.75                      | 12920              | 8750          | 16760                | 1125              | 14000                     | 9693                 | 1262              | 1.30                 |
|                    |                    | 2.00                      | 12980              | 8765          | 16751                | 1105              | 14200                     | 9865                 | 1270              | 1.65                 |
|                    |                    | 2.50                      | 13060              | 8780          | 16746                | 1080              | 14550                     | 10175                | 1282              | 2.45                 |
|                    |                    | 3.00                      | 13100              | 8790          | 16735                | 1065              | 14750                     | 10347                | 1290              | 3.40                 |
|                    |                    | 3.50                      | 13130              | 8795          | 16731                | 1055              | 14900                     | 10480                | 1295              | 4.50                 |
|                    |                    | 4.00                      | 13150              | 8800          | 16717                | 1045              | 15050                     | 10606                | 1302              | 5.80                 |
|                    | 75                 | 1.75                      | 12550              | 8640          | 16697                | 1215              | 15550                     | 11045                | 1320              | 1.30                 |
|                    |                    | 2.00                      | 12660              | 8675          | 16721                | 1190              | 15750                     | 11221                | 1327              | 1.65                 |
|                    |                    | 2.50                      | 12800              | 8715          | 16759                | 1160              | 16050                     | 11477                | 1340              | 2.45                 |
|                    |                    | 3.00                      | 12860              | 8735          | 16818                | 1145              | 16300                     | 11692                | 1350              | 3.40                 |
|                    |                    | 3.50                      | 12910              | 8750          | 16767                | 1130              | 16400                     | 11777                | 1355              | 4.50                 |
|                    |                    | 4.00                      | 12940              | 8755          | 16763                | 1120              | 16550                     | 11901                | 1362              | 5.80                 |
|                    | 85                 | 1.75                      | 11760              | 8350          | 16231                | 1310              | 16850                     | 12157                | 1375              | 1.30                 |
|                    |                    | 2.00                      | 12020              | 8450          | 16406                | 1285              | 17050                     | 12333                | 1382              | 1.65                 |
|                    |                    | 2.50                      | 12300              | 8550          | 16583                | 1255              | 17300                     | 12710                | 1345              | 2.45                 |
|                    |                    | 3.00                      | 12420              | 8600          | 16635                | 1235              | 17500                     | 12698                | 1407              | 3.40                 |
|                    |                    | 3.50                      | 12520              | 8630          | 16684                | 1220              | 17650                     | 12831                | 1412              | 4.50                 |
|                    |                    | 4.00                      | 12590              | 8650          | 16703                | 1205              | 17750                     | 12914                | 1417              | 5.80                 |
|                    | 95                 | 3.00                      | 11540              | 8180          | 16113                | 1340              | 18400                     | 13428                | 1457              | 3.40                 |
|                    |                    | 3.50                      | 11700              | 8290          | 16188                | 1315              | 18500                     | 13510                | 1462              | 4.50                 |
|                    |                    | 4.00                      | 11860              | 8380          | 16314                | 1305              | 18550                     | 13543                | 1467              | 5.80                 |
| 803-015<br>804-015 | 60                 | 2.00                      | 15060              | 10070         | 19291                | 1240              |                           |                      |                   | 1.60                 |
|                    |                    | 2.50                      | 15105              | 10000         | 19182                | 1195              |                           |                      |                   | 2.40                 |
|                    |                    | 3.00                      | 15140              | 9950          | 19132                | 1170              | 16600                     | 11605                | 1464              | 3.40                 |
|                    |                    | 3.50                      | 15145              | 9920          | 19069                | 1150              | 16850                     | 11595                | 1467              | 4.50                 |
|                    |                    | 4.00                      | 15160              | 9900          | 19050                | 1140              | 17000                     | 11974                | 1473              | 5.80                 |
|                    |                    | 5.00                      |                    |               |                      |                   | 17200                     | 12157                | 1478              | 7.10                 |
|                    | 65                 | 2.00                      | 14980              | 10130         | 19364                | 1285              | 16850                     | 11834                | 1470              | 1.60                 |
|                    |                    | 2.50                      | 15040              | 10080         | 19305                | 1250              | 17150                     | 12117                | 1475              | 2.40                 |
|                    |                    | 3.00                      | 15080              | 10040         | 19260                | 1225              | 17650                     | 12566                | 1490              | 3.40                 |
|                    |                    | 3.50                      | 15100              | 10010         | 19194                | 1200              | 17900                     | 12792                | 1497              | 4.50                 |
|                    |                    | 4.00                      | 15120              | 9985          | 19180                | 1190              | 18000                     | 12882                | 1500              | 5.80                 |
|                    |                    | 5.00                      | 15140              | 9950          | 19115                | 1165              | 18300                     | 13158                | 1507              | 7.10                 |
|                    | 75                 | 2.00                      | 14560              | 10230         | 19303                | 1390              | 18600                     | 13424                | 1517              | 1.60                 |
|                    |                    | 2.50                      | 14765              | 10195         | 19371                | 1350              | 19000                     | 13746                | 1530              | 2.40                 |
|                    |                    | 3.00                      | 14860              | 10170         | 19381                | 1325              | 19350                     | 14096                | 1540              | 3.40                 |
|                    |                    | 3.50                      | 14920              | 10150         | 19373                | 1305              | 19600                     | 14328                | 1545              | 4.50                 |
|                    |                    | 4.00                      | 14980              | 10130         | 19381                | 1290              | 19750                     | 14438                | 1557              | 5.80                 |
|                    |                    | 5.00                      | 15010              | 10110         | 19343                | 1270              | 19900                     | 14578                | 1560              | 7.10                 |
|                    | 85                 | 2.00                      | 13740              | 10300         | 18831                | 1495              | 20075                     | 14735                | 1565              | 1.60                 |
|                    |                    | 2.50                      | 14100              | 10275         | 19064                | 1455              | 20400                     | 15019                | 1577              | 2.40                 |
|                    |                    | 3.00                      | 14310              | 10260         | 19189                | 1430              | 20500                     | 15082                | 1588              | 3.40                 |
|                    |                    | 3.50                      | 14420              | 10245         | 19231                | 1410              | 20700                     | 15275                | 1590              | 4.50                 |
|                    |                    | 4.00                      | 14525              | 10230         | 19268                | 1390              | 20800                     | 15358                | 1595              | 5.80                 |
|                    |                    | 5.00                      | 14640              | 10220         | 19332                | 1375              | 20900                     | 15441                | 1600              | 7.10                 |
|                    | 95                 | 4.00                      | 13680              | 10300         | 18798                | 1500              | 21000                     | 15473                | 1620              | 5.80                 |
|                    |                    | 5.00                      | 13880              | 10290         | 18930                | 1480              | 21400                     | 15869                | 1621              | 7.10                 |



# PERFORMANCE CHARTS

019 024/030/036  
025/031/037

| 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 |
| 803-019<br>804-019 | 60                        | 2.50           | 19580              | 13555         | 24953                | 1575              |                           |                      |                   |                      |
|                    |                           | 3.00           | 19680              | 14435         | 24917                | 1535              | 18800                     | 12810                | 1755              | 3.40                 |
|                    |                           | 3.50           | 19720              | 13410         | 24872                | 1510              | 19250                     | 13205                | 1770              | 4.50                 |
|                    |                           | 4.00           | 19760              | 13370         | 24851                | 1492              | 19700                     | 13618                | 1780              | 5.80                 |
|                    |                           | 5.00           | 19800              | 13310         | 24816                | 1470              | 20200                     | 14044                | 1800              | 8.50                 |
|                    | 65                        | 6.50           |                    |               |                      |                   | 20850                     | 14638                | 1820              | 10.10                |
|                    |                           | 2.50           | 19420              | 13670         | 24981                | 1630              |                           |                      |                   |                      |
|                    |                           | 3.00           | 19440              | 13590         | 24865                | 1590              | 20600                     | 14406                | 1815              | 3.40                 |
|                    |                           | 3.50           | 19600              | 13540         | 24947                | 1567              | 21000                     | 14770                | 1825              | 4.50                 |
|                    |                           | 4.00           | 19660              | 13490         | 24932                | 1545              | 21400                     | 15132                | 1835              | 5.80                 |
|                    | 75                        | 5.00           | 19700              | 13440         | 24893                | 1522              | 21800                     | 15484                | 1850              | 8.50                 |
|                    |                           | 6.50           | 19750              | 13375         | 24902                | 1510              | 22250                     | 15871                | 1870              | 10.10                |
|                    |                           | 2.50           | 19000              | 13870         | 24971                | 1750              |                           |                      |                   |                      |
|                    |                           | 3.00           | 19150              | 13810         | 25002                | 1715              | 23200                     | 16721                | 1900              | 3.40                 |
|                    |                           | 3.50           | 19260              | 13760         | 25009                | 1685              | 23500                     | 16970                | 1915              | 4.50                 |
|                    | 85                        | 4.00           | 19320              | 13725         | 24984                | 1660              | 23800                     | 17236                | 1925              | 5.80                 |
|                    |                           | 5.00           | 19420              | 13670         | 24999                | 1635              | 24200                     | 17599                | 1935              | 8.50                 |
|                    |                           | 6.50           | 19500              | 13620         | 24976                | 1605              | 24550                     | 17911                | 1945              | 10.10                |
|                    |                           | 2.50           | 18360              | 13955         | 24758                | 1875              |                           |                      |                   |                      |
|                    |                           | 3.00           | 18610              | 13945         | 24854                | 1830              | 25100                     | 18380                | 1970              | 3.40                 |
| 803-024<br>804-025 | 60                        | 3.50           | 18750              | 13930         | 24909                | 1805              | 25500                     | 18743                | 1980              | 4.50                 |
|                    |                           | 4.00           | 18860              | 13910         | 24933                | 1780              | 25650                     | 18874                | 1985              | 5.80                 |
|                    |                           | 5.00           | 19000              | 13870         | 24971                | 1750              | 25900                     | 19087                | 1995              | 8.50                 |
|                    |                           | 6.50           | 19100              | 13830         | 24986                | 1725              | 26250                     | 19400                | 2010              | 10.10                |
|                    |                           | 5.00           | 18369              | 13955         | 24767                | 1875              | 27250                     | 20259                | 2050              | 8.50                 |
|                    | 65                        | 6.50           | 18520              | 13935         | 24713                | 1815              | 27450                     | 20430                | 2060              | 10.10                |
|                    |                           | 4.00           | 26975              | 17850         | 33628                | 1950              | 28500                     | 19970                | 2500              | 5.20                 |
|                    |                           | 5.00           | 27140              | 17790         | 33690                | 1920              | 29200                     | 20533                | 2540              | 8.30                 |
|                    |                           | 6.00           | 27300              | 17730         | 33749                | 1890              | 30100                     | 21416                | 2545              | 10.60                |
|                    |                           | 7.00           | 27375              | 17690         | 33773                | 1875              | 32720                     | 23115                | 2560              | 13.90                |
|                    | 75                        | 8.00           | 27450              | 17650         | 33796                | 1860              | 30850                     | 22081                | 2570              | 17.60                |
|                    |                           | 4.00           | 26625              | 17880         | 33551                | 2030              | 30650                     | 21898                | 2565              | 5.20                 |
|                    |                           | 5.00           | 26825              | 17865         | 33615                | 1990              | 31575                     | 22770                | 2580              | 8.30                 |
|                    |                           | 6.00           | 27025              | 17850         | 33679                | 1950              | 32500                     | 23646                | 2595              | 10.60                |
|                    |                           | 7.00           | 27125              | 17810         | 33694                | 1925              | 32750                     | 24800                | 2605              | 13.90                |
|                    | 85                        | 8.00           | 27225              | 17770         | 33708                | 1900              | 33000                     | 25953                | 2615              | 17.60                |
|                    |                           | 4.00           | 25825              | 17710         | 33331                | 2200              | 34875                     | 25816                | 2655              | 5.20                 |
|                    |                           | 5.00           | 26060              | 17780         | 33406                | 2160              | 35440                     | 26360                | 2670              | 8.30                 |
|                    |                           | 6.00           | 26290              | 17850         | 33480                | 2120              | 36000                     | 26900                | 2690              | 10.60                |
|                    |                           | 7.00           | 26405              | 17865         | 33510                | 2090              | 36250                     | 27085                | 2700              | 13.90                |
| 803-030<br>804-031 | 60                        | 8.00           | 26515              | 17880         | 33544                | 2060              | 36500                     | 27271                | 2705              | 17.60                |
|                    |                           | 4.00           | 24900              | 17270         | 33072                | 2395              | 37250                     | 27928                | 2732              | 5.20                 |
|                    |                           | 5.00           | 25163              | 17398         | 33155                | 2343              | 37475                     | 28123                | 2741              | 8.30                 |
|                    |                           | 6.00           | 25425              | 17525         | 33238                | 2290              | 37700                     | 28317                | 2750              | 10.60                |
|                    |                           | 7.00           | 25550              | 17620         | 33205                | 2245              | 37825                     | 28410                | 2760              | 13.90                |
|                    | 65                        | 8.00           | 25670              | 17710         | 33176                | 2200              | 37950                     | 28499                | 2770              | 17.60                |
|                    |                           | 4.00           | 31900              | 22700         | 41044                | 2680              | 34600                     | 23869                | 3145              | 2.10                 |
|                    |                           | 6.00           | 33075              | 22900         | 41776                | 2550              | 37050                     | 26183                | 3185              | 4.60                 |
|                    |                           | 8.00           | 33750              | 22700         | 42212                | 2480              | 38250                     | 27297                | 3210              | 7.80                 |
|                    |                           | 10.00          | 33950              | 22400         | 42258                | 2435              | 38900                     | 27896                | 3225              | 11.60                |
|                    | 75                        | 4.00           | 30050              | 21865         | 39945                | 2900              | 39700                     | 28645                | 3240              | 2.10                 |
|                    |                           | 6.00           | 31325              | 22020         | 40742                | 2760              | 41700                     | 30723                | 3305              | 4.60                 |
|                    |                           | 8.00           | 32000              | 22070         | 41144                | 2680              | 42600                     | 31255                | 3325              | 7.80                 |
|                    |                           | 10.00          | 32350              | 22090         | 41324                | 2630              | 43200                     | 31787                | 3345              | 11.60                |
|                    |                           | 4.00           | 27900              | 21410         | 38614                | 3140              | 43300                     | 31887                | 3345              | 2.10                 |
| 803-036<br>804-037 | 60                        | 6.00           | 29300              | 21760         | 39502                | 2990              | 44800                     | 33216                | 3395              | 4.60                 |
|                    |                           | 8.00           | 30000              | 21870         | 39895                | 2900              | 45400                     | 33680                | 3435              | 7.80                 |
|                    |                           | 10.00          | 30450              | 21920         | 40208                | 2860              | 45700                     | 33963                | 3440              | 11.60                |
|                    |                           | 8.00           | 27775              | 21410         | 38489                | 3140              | 46950                     | 35039                | 3490              | 7.80                 |
|                    |                           | 10.00          | 28150              | 21520         | 38761                | 3110              | 47100                     | 35120                | 3510              | 11.60                |
|                    | 65                        | 5.00           | 34900              | 20700         | 45300                | 3060              | 35900                     | 24600                | 3300              | 5.10                 |
|                    |                           | 7.00           | 36300              | 21200         | 46700                | 3040              | 36500                     | 25100                | 3350              | 8.10                 |
|                    |                           | 9.00           | 37100              | 22000         | 47300                | 3000              | 37000                     | 25400                | 3400              | 11.30                |
|                    |                           | 11.00          | 38000              | 23400         | 48200                | 2980              | 37400                     | 25700                | 3430              | 14.80                |
|                    |                           | 5.00           | 34700              | 21100         | 45400                | 3140              | 39200                     | 27600                | 3390              | 5.10                 |
|                    | 75                        | 7.00           | 36000              | 22200         | 46700                | 3130              | 39800                     | 28100                | 3440              | 8.10                 |
|                    |                           | 9.00           | 36900              | 23000         | 47300                | 3060              | 40200                     | 28300                | 3480              | 11.30                |
|                    |                           | 11.00          | 37800              | 23800         | 48200                | 3050              | 40600                     | 28600                | 3510              | 14.80                |
|                    |                           | 5.00           | 34300              | 22000         | 45500                | 3280              | 42900                     | 30800                | 3550              | 5.10                 |
|                    |                           | 7.00           | 35500              | 23000         | 46800                | 3240              | 43400                     | 31200                | 3570              | 8.10                 |
|                    | 85                        | 9.00           | 36300              | 23700         | 47300                | 3230              | 43700                     | 31400                | 3600              | 11.30                |
|                    |                           | 11.00          | 36700              | 24200         | 47600                | 3200              | 43900                     | 31500                | 3620              | 14.80                |
|                    |                           | 5.00           | 33400              | 21900         | 45100                | 3430              | 44600                     | 32300                | 3610              | 5.10                 |
|                    |                           | 7.00           | 34600              | 22900         | 46200                | 3390              | 45000                     | 32600                | 3630              | 8.10                 |
|                    |                           | 9.00           | 35300              | 24200         | 46700                | 3360              | 45100                     | 32700                | 3650              | 11.30                |
| 803-036<br>804-037 | 95                        | 11.00          | 35800              | 24700         | 47200                | 3340              | 45300                     | 32800                | 3660              | 14.80                |
|                    |                           | 9.00           | 33400              | 24100         | 45300                | 3490              | 46500                     | 33900                | 3690              | 11.30                |
|                    |                           | 11.00          | 34600              | 25100         | 46500                | 3480              | 46600                     | 34000                | 3700              | 14.80                |

| Unit<br>Model<br>Numbers | COOLING PERFORMANCE TABLE |                      |                          |                       |                            |                         | HEATING PERFORMANCE TABLE |                            |                         |                            |
|--------------------------|---------------------------|----------------------|--------------------------|-----------------------|----------------------------|-------------------------|---------------------------|----------------------------|-------------------------|----------------------------|
|                          | Ent. Wat.<br>Temp.<br>°F  | Water<br>Flow<br>GPM | Cooling<br>Total<br>BTUH | Sen-<br>sible<br>BTUH | Heat of<br>Reject.<br>BTUH | Power<br>Input<br>Watts | Heating<br>Total<br>BTUH  | Heat of<br>Absorp.<br>BTUH | Power<br>Input<br>Watts | P. D.<br>F. T. of<br>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                      |
|                          |                           | 11.00                | 40360                    | 30916                 | 54929                      | 4270                    | 65600                     | 49308                      | 4775                    | 16.60                      |
|                          |                           | 13.00                | 40750                    | 31133                 | 55217                      | 4240                    | 66000                     | 49691                      | 4780                    | 22.60                      |
| 803-048<br>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                      |
|                          |                           | 14.00                | 53400                    | 39300                 | 66700                      | 3890                    | 55100                     | 39800                      | 4500                    | 19.40                      |
|                          | 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                      |
|                          |                           | 14.00                | 53000                    | 39100                 | 67000                      | 4080                    | 58600                     | 42700                      | 4650                    | 19.40                      |
|                          | 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                      |
|                          |                           | 14.00                | 50700                    | 38200                 | 65800                      | 4430                    | 62200                     | 45900                      | 4770                    | 19.40                      |
|                          | 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                      |
|                          |                           | 14.00                | 48400                    | 37300                 | 64500                      | 4700                    | 66400                     | 49400                      | 4980                    | 19.40                      |
|                          | 95                        | 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

| 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 |
| 803-060<br>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                |
| 804-120            | 60                        | 16.00          | 130100             | 94700         | 168500               | 11240             | 109600                    | 77400                | 9400              | 4.60                 |
|                    |                           | 20.00          | 131100             | 95400         | 168400               | 10910             | 112000                    | 79400                | 9560              | 6.90                 |
|                    |                           | 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                |
|                    | 65                        | 16.00          | 127600             | 94300         | 166900               | 11500             | 115800                    | 82400                | 9780              | 4.60                 |
|                    |                           | 20.00          | 129000             | 94700         | 167200               | 11200             | 118600                    | 84600                | 9960              | 6.90                 |
|                    |                           | 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                |
|                    | 75                        | 16.00          | 124900             | 93800         | 167100               | 12360             | 128000                    | 92200                | 10460             | 4.60                 |
|                    |                           | 20.00          | 125400             | 93900         | 166500               | 12030             | 130800                    | 94400                | 10640             | 6.90                 |
|                    |                           | 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                |
|                    | 85                        | 16.00          | 120800             | 93300         | 165800               | 13170             | 137000                    | 99800                | 10880             | 4.60                 |
|                    |                           | 20.00          | 121800             | 93300         | 165400               | 12760             | 139000                    | 121200               | 11100             | 6.90                 |
|                    |                           | 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                |
|                    | 95                        | 28.00          | 118600             | 92700         | 163500               | 13140             | 145000                    | 105800               | 11480             | 12.20                |
|                    |                           | 32.00          | 119100             | 92800         | 163400               | 12980             | 145200                    | 106000               | 11520             | 15.70                |
|                    |                           | 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 Cap-acity | Sensible Capacity Entering Air Dry Bulb |         |         |         |         | Heat of Reject. | Power Input | Model              | Ent. Air °F DB | Total Cap-acity | Heat of Absorp. | Power Input |
|                    |                |                 | 75°F DB                                 | 80°F DB | 85°F DB | 90°F DB | 95°F DB |                 |             |                    |                |                 |                 |             |
| 803-009<br>804-009 | 61             | .865            | 1.060                                   | 1.250   |         |         |         | .892            | .976        | 803-009<br>804-009 | 60             | 1.046           | 1.090           | .929        |
|                    | 64             | .930            | .933                                    | 1.126   | 1.320   |         |         | .944            | .992        |                    | 65             | 1.021           | 1.044           | .980        |
|                    | 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          |                 |                                         | .675    | .855    | 1.036   | 1.195   | 1.054           |             |                    |                |                 |                 |             |
| 803-012<br>804-012 | 61             | .860            | 1.062                                   |         |         |         |         | .890            | .978        | 803-012<br>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          |                 |                                         | .650    | .845    | 1.045   | 1.182   | 1.047           |             |                    |                |                 |                 |             |
| 803-015<br>804-015 | 61             | .900            | 1.075                                   |         |         |         |         | .917            | .974        | 803-015<br>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           |                                         |         | .697    | .910    | 1.125   | 1.109           | 1.043       |                    |                |                 |                 |             |
| 79                 | 1.172          |                 |                                         |         | .690    | .927    | 1.142   | 1.058           |             |                    |                |                 |                 |             |
| 803-019<br>804-019 | 61             | .915            | 1.096                                   |         |         |         |         | .926            | .965        | 803-019<br>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             | .993            | .980            | 1.036       |
|                    | 73             | 1.100           |                                         | .718    | .915    | 1.100   | 1.307   | 1.096           | 1.087       |                    | 80             | .985            | .956            | 1.071       |
|                    | 76             | 1.157           |                                         |         | .735    | .945    | 1.150   | 1.147           | 1.120       |                    |                |                 |                 |             |
| 79                 | 1.219          |                 |                                         |         | .795    | 1.015   | 1.194   | 1.120           |             |                    |                |                 |                 |             |
| 803-024<br>804-025 | 61             | .837            | 1.044                                   | 1.320   |         |         |         | .985            | .952        | 803-024<br>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             | .973            | .953            | 1.032       |
|                    | 73             | 1.125           |                                         | .720    | .920    | 1.160   |         | 1.115           | 1.050       |                    | 80             | .933            | .889            | 1.060       |
|                    | 76             | 1.194           |                                         |         | .800    | 1.000   | 1.200   | 1.163           | 1.075       |                    |                |                 |                 |             |
| 79                 | 1.239          |                 |                                         |         | .820    | 1.025   | 1.198   | 1.100           |             |                    |                |                 |                 |             |
| 803-030<br>804-031 | 61             | .826            | 1.050                                   |         |         |         |         | .885            | .950        | 803-030<br>804-031 | 60             | 1.039           | 1.065           | .977        |
|                    | 64             | .935            | .915                                    | 1.120   | 1.220   |         |         | .945            | .975        |                    | 65             | 1.020           | 1.033           | .989        |
|                    | 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             | .989            | .976            | 1.024       |
|                    | 73             | 1.125           |                                         | .705    | .922    | 1.142   |         | 1.150           | 1.057       |                    | 80             | .975            | .954            | 1.027       |
|                    | 76             | 1.155           |                                         |         | .742    | .960    | 1.180   | 1.160           | 1.085       |                    |                |                 |                 |             |
| 79                 | 1.230          |                 |                                         |         | .750    | .970    | 1.200   | 1.111           |             |                    |                |                 |                 |             |
| 803-036<br>804-037 | 61             | .912            | 1.159                                   |         |         |         |         | .925            | .965        | 803-036<br>804-037 | 60             | 1.022           | 1.067           | .909        |
|                    | 64             | .955            | .962                                    | 1.216   |         |         |         | .962            | .983        |                    | 65             | 1.015           | 1.037           | .960        |
|                    | 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             | .975            | .954            | 1.027       |
|                    | 73             | 1.098           |                                         | .554    | .910    | 1.049   | 1.297   | 1.081           | 1.031       |                    | 80             | .937            | .895            | 1.041       |
|                    | 76             | 1.152           |                                         |         | .615    | .837    | 1.079   | 1.125           | 1.044       |                    |                |                 |                 |             |
| 79                 | 1.211          |                 |                                         | .414    | .621    | .849    | 1.172   | 1.054           |             |                    |                |                 |                 |             |
| 803-042<br>804-042 | 61             | .915            | 1.163                                   | 1.219   |         |         |         | .928            | .965        | 803-042<br>804-042 | 60             | 1.021           | 1.046           | .951        |
|                    | 64             | .990            | .957                                    | 1.219   | 1.256   |         |         | .986            | .985        |                    | 65             | 1.011           | 1.024           | .976        |
|                    | 67             | 1.000           | .746                                    | 1.000   | 1.256   | 1.277   |         | 1.000           | 1.000       |                    | 70             | 1.000           | 1.000           | 1.000       |
|                    | 70             | 1.022           | .560                                    | .760    | 1.061   | .995    | 1.264   | 1.019           | 1.011       |                    | 75             | .989            | .976            | 1.024       |
|                    | 73             | 1.056           |                                         | .546    | .904    | .995    | 1.264   | 1.050           | 1.031       |                    | 80             | .978            | .952            | 1.049       |
|                    | 76             | 1.072           |                                         |         | .794    | .943    | 1.170   | 1.063           | 1.037       |                    |                |                 |                 |             |
| 79                 | 1.116          |                 |                                         | .694    | .896    | 1.010   | 1.103   | 1.066           |             |                    |                |                 |                 |             |
| 804-043<br>804-043 | 61             | .850            | 1.193                                   |         |         |         |         | .882            | .980        | 804-043<br>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<br>804-048 | 61             | .897            | 1.085                                   | 1.167   |         |         |         | .909            | .943        | 803-048<br>804-048 | 60             | 1.012           | 1.035           | .951        |
|                    | 64             | .951            | .928                                    | 1.167   |         |         |         | .956            | .968        |                    | 65             | 1.006           | 1.077           | .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          |                 |                                         |         | .732    | .952    | 1.145   | 1.123           |             |                    |                |                 |                 |             |
| 803-060<br>804-060 | 61             | .894            | 1.076                                   |         |         |         |         | .911            | .958        | 803-060<br>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    | .912    | 1.135   | 1.358   | 1.095           | 1.043       |                    | 75             | .995            | .985            | 1.022       |
|                    | 73             | 1.113           |                                         | .543    | .766    | .989    | 1.212   | 1.158           | 1.067       |                    | 80             | .989            | .961            | 1.047       |
|                    | 76             | 1.190           |                                         |         | .620    | .835    | 1.056   | 1.217           | 1.096       |                    |                |                 |                 |             |
| 79                 | 1.264          |                 |                                         |         |         |         |         |                 |             |                    |                |                 |                 |             |
| 804-096<br>804-096 | 61             | .897            | 1.085                                   | 1.167   |         |         |         | .909            | .943        | 804-096<br>804-096 | 60             | 1.012           | 1.035           | .951        |
|                    | 64             | .951            | .928                                    | 1.167   |         |         |         | .956            | .968        |                    | 65             | 1.006           | 1.077           | .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          |                 |                                         |         | .732    | .952    | 1.145   | 1.123           |             |                    |                |                 |                 |             |
| 804-120<br>804-120 | 61             | .894            | 1.076                                   |         |         |         |         | .911            | .958        | 804-120<br>804-120 | 60             | 1.012           | 1.035           | .951        |
|                    | 64             | .946            | .923                                    | 1.157   |         |         |         | .955            | .979        |                    | 65             | 1.006           | 1.077           | .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    | .912    | 1.135   | 1.358   | 1.095           | 1.043       |                    | 75             | .993            | .981            | 1.026       |
|                    | 73             | 1.113           |                                         | .543    | .766    | .989    | 1.212   | 1.158           | 1.067       |                    | 80             | .986            | .961            | 1.061       |
|                    | 76             | 1.190           |                                         |         | .620    | .835    | 1.056   | 1.217           | 1.096       |                    |                |                 |                 |             |
| 79                 | 1.264          |                 |                                         |         |         |         |         |                 |             |                    |                |                 |                 |             |

To calculate leaving water temperature:

**COOLING MODE**

Lvg. Water Temp. =  $\frac{\text{Entering Water Temp. } ^\circ\text{F} + \left[ \frac{\text{Heat of Rejection BTUH}}{\text{GPM} \times 500} \right]}{2}$

**HEATING MODE**

Lvg. Water Temp. =  $\frac{\text{Entering Water Temp. } ^\circ\text{F} - \left[ \frac{\text{Heat of Absorption BTUH}}{\text{GPM} \times 500} \right]}{2}$



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

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

# CORRECTION FACTORS

AIR-FLOW

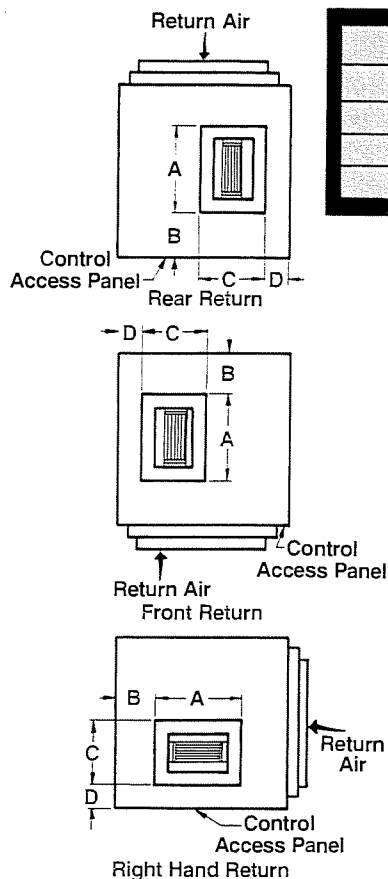
## CORRECTION FACTORS FOR VARIATION IN AIR FLOW

| 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<br>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<br>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<br>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<br>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       |
| 803-024<br>804-025 | 800           | High      | 1.043          | 1.077             | 1.047             | 1.060       | 1.030         | 1.035           | 1.015       |
|                    | 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       |
| 803-030<br>804-031 | 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       |
|                    | 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         |
| 803-036<br>804-037 | 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       |
|                    | 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       |
| 803-042            | 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       |
|                    | 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       |
| 804-043            | 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       |
| 803-048<br>804-048 | 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       |
| 803-060<br>804-060 | 1600          | High      | 1.009          | 1.025             | 1.011             | 1.018       | 1.007         | 1.010           | 0.998       |
|                    | 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         |
| 804-096            | 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       |
|                    | 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       |
| 804-120            | 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       |
|                    | 2800          | 5 Turns   | 0.988          | 0.917             | 0.978             | 0.953       | 0.987         | 0.986           | 0.990       |
| 804-120            | 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       |
| 804-120            | 4000          | 2 Turns   | 1.004          | 1.071             | 1.023             | 1.084       | 1.020         | 1.010           | 1.046       |
|                    | 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         |
| 804-120            | 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       |

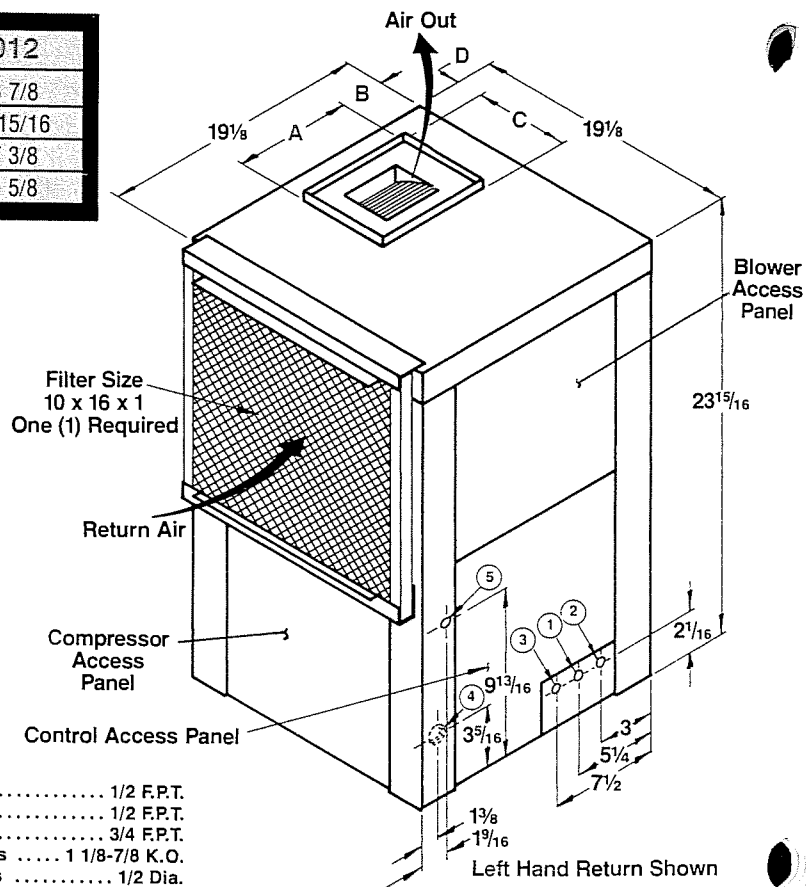
# DIMENSIONS

# 803

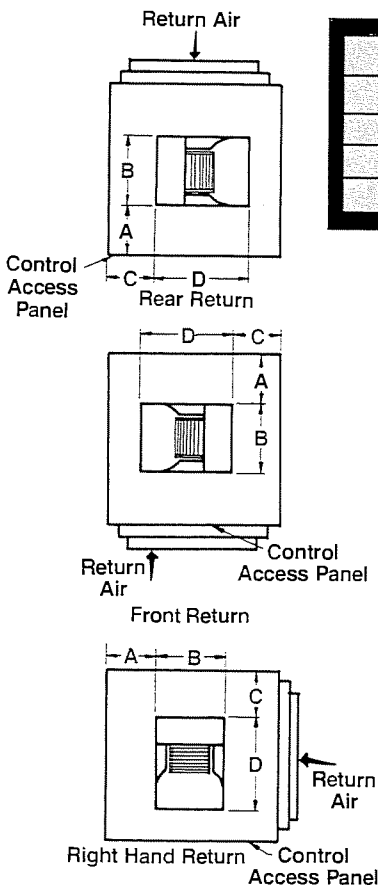
803-009 & 012



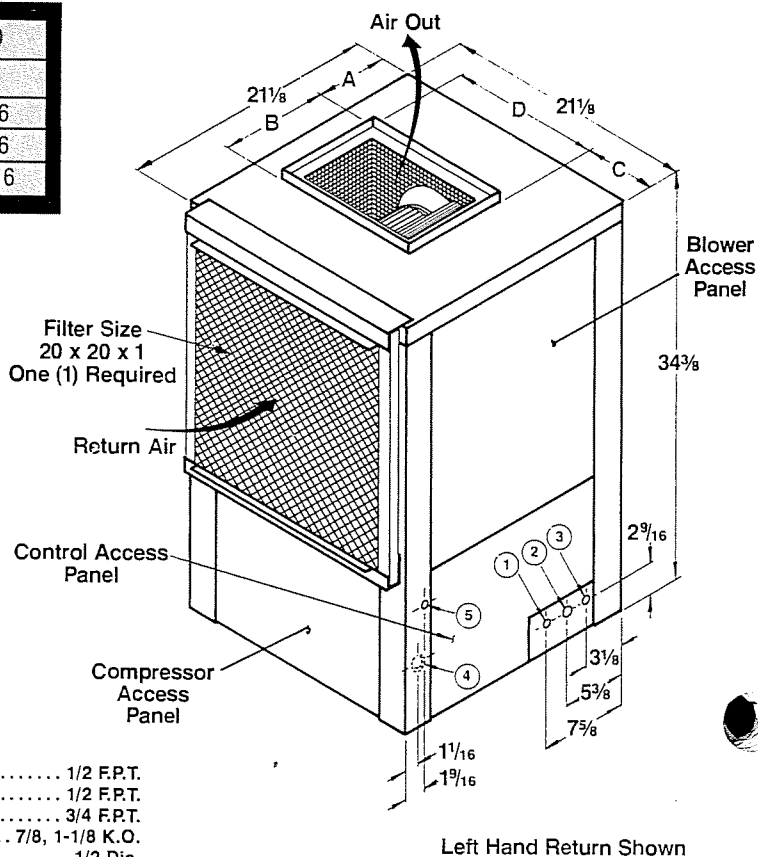
|   | 009     | 012     |
|---|---------|---------|
| A | 9 7/8   | 8 7/8   |
| B | 3 13/16 | 3 15/16 |
| C | 7       | 7 3/8   |
| D | 1 13/16 | 1 5/8   |



803-015 & 019

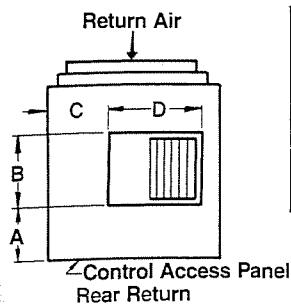


|   | 015    | 019     |
|---|--------|---------|
| A | 5 1/2  | 6       |
| B | 7 5/8  | 9 1/16  |
| C | 9 1/4  | 5 9/16  |
| D | 10 1/8 | 12 9/16 |

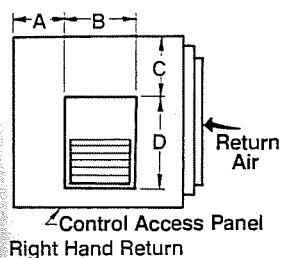
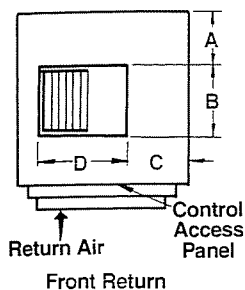


# DIMENSIONS

# 803



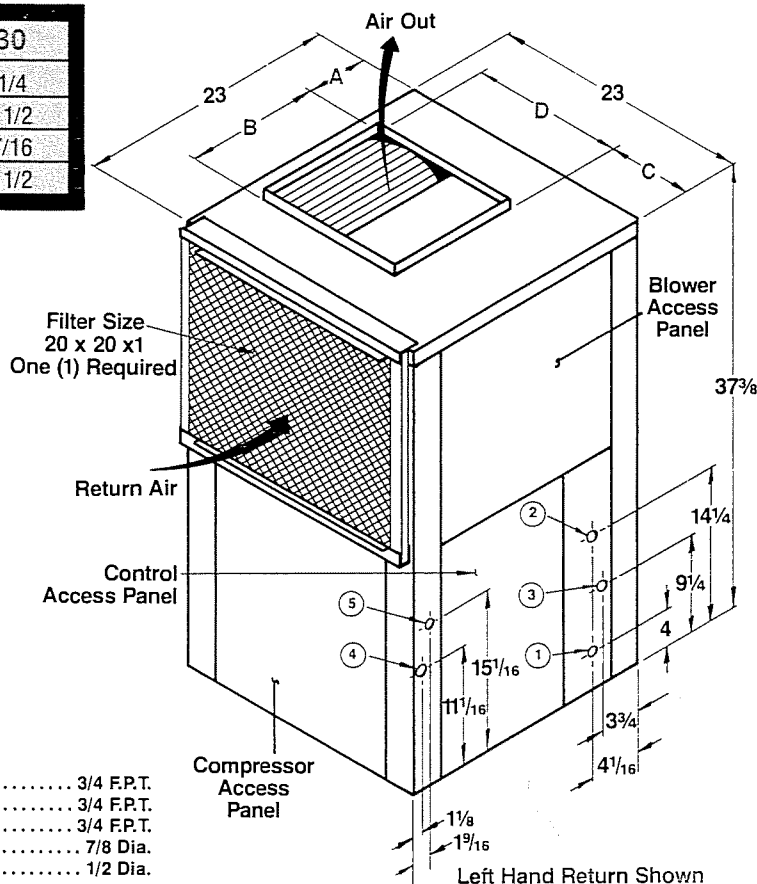
|   | 024      | 030    |
|---|----------|--------|
| A | 5 3/4    | 6 1/4  |
| B | 11 11/16 | 10 1/2 |
| C | 7 7/16   | 8 7/16 |
| D | 12 11/16 | 13 1/2 |



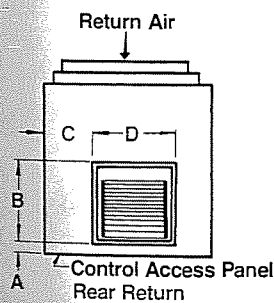
Return Air Duct Size  
18 3/4" H x 18 1/8" W

#### Legend:

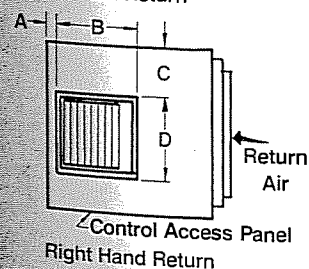
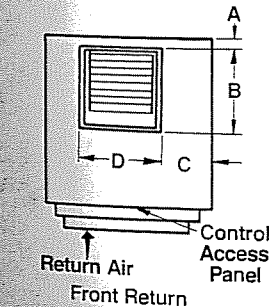
1. Water Inlet ..... 3/4 F.P.T.
2. Water Outlet ..... 3/4 F.P.T.
3. Condensate Drain ..... 3/4 F.P.T.
4. High Voltage Access ..... 7/8 Dia.
5. Low Voltage Access ..... 1/2 Dia.



803-024 & 030



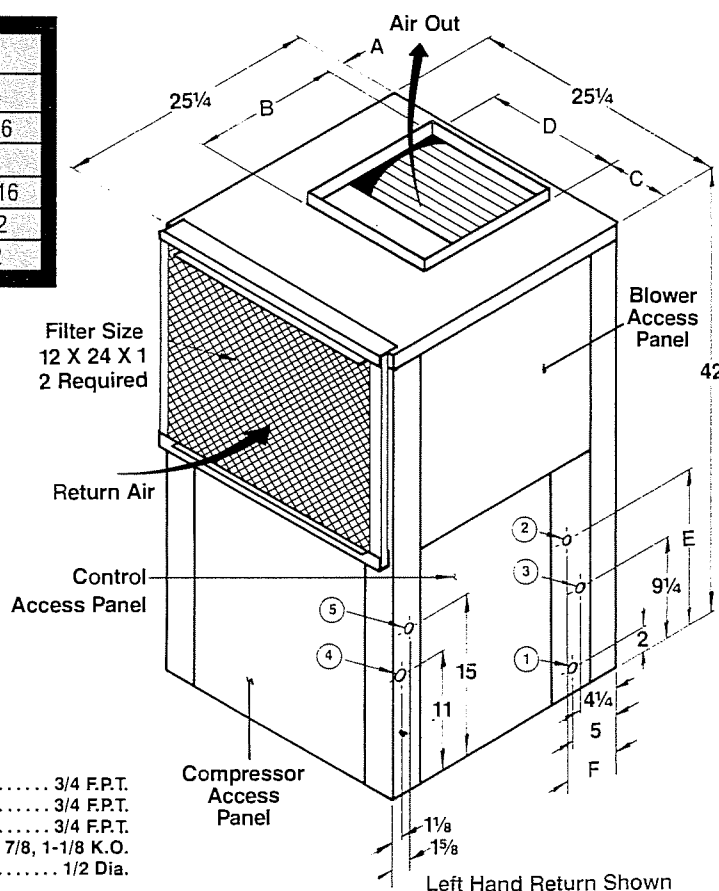
|   | 036    | 042      |
|---|--------|----------|
| A | 4 1/4  | 1 3/4    |
| B | 12 5/8 | 13 9/16  |
| C | 6 3/4  | 6        |
| D | 11 5/8 | 12 13/16 |
| E | 13 1/4 | 14 1/2   |
| F | 5 3/8  | 5 1/2    |



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.



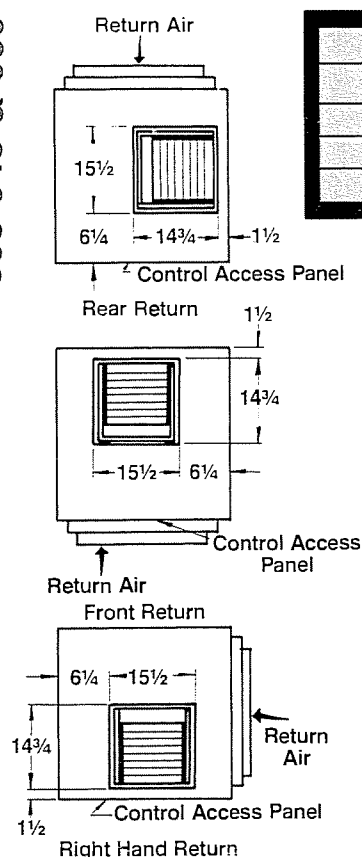
803-036 & 042



# DIMENSIONS

# 803

803-048 & 060

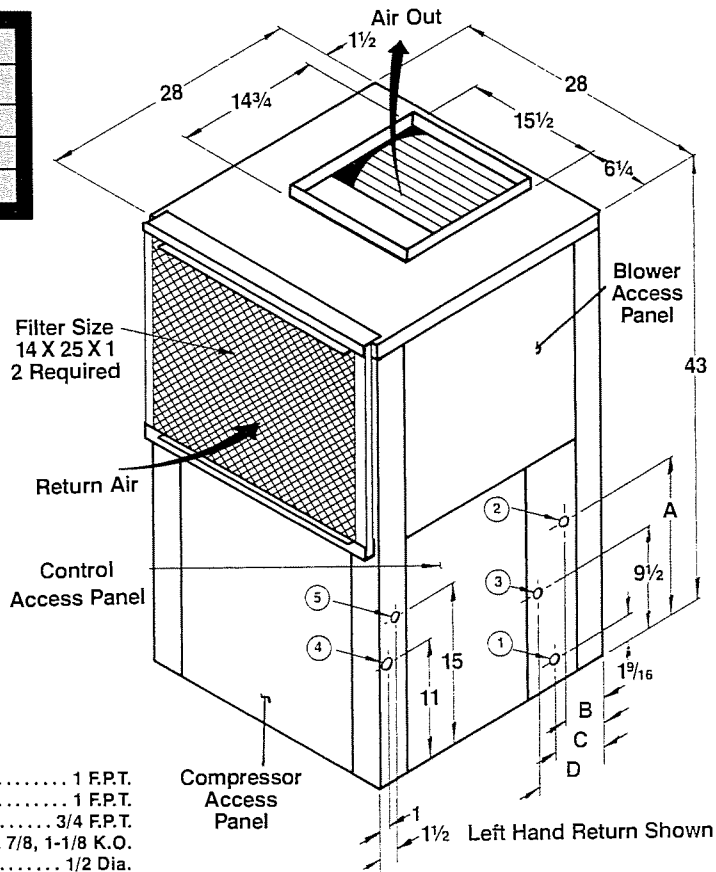


|   | 048     | 060    |
|---|---------|--------|
| A | 16 9/16 | 14 7/8 |
| B | 2 5/8   | 3 3/8  |
| C | 4 1/4   | 5 1/8  |
| D | 5 1/2   | 5      |

Return Air Duct Size  
24" H x 26" W

Legend:

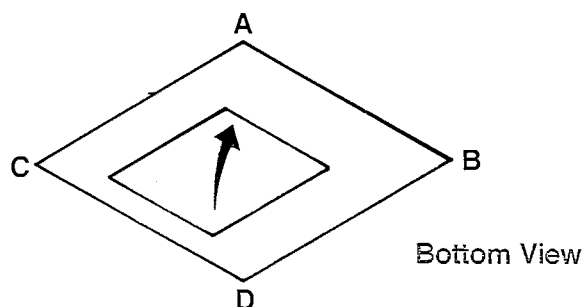
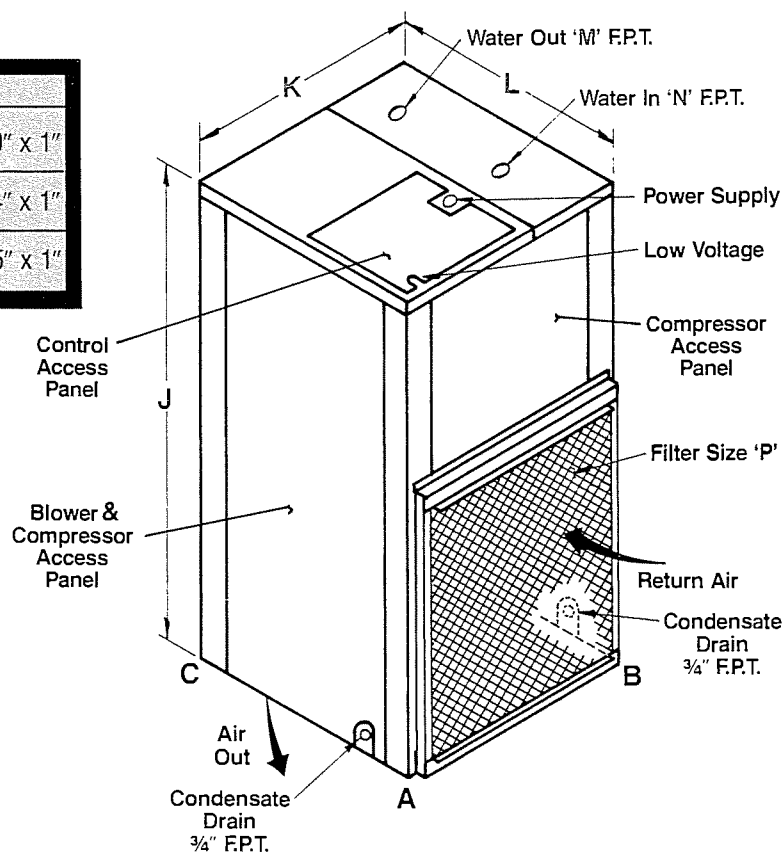
1. Water Inlet ..... 1 F.P.T.
2. Water Outlet ..... 1 F.P.T.
3. Condensate Drain ..... 3/4 F.P.T.
4. High Voltage Access ..... 7/8, 1-1/8 K.O.
5. Low Voltage Access ..... 1/2 Dia.



## 803 BOTTOM DISCHARGE (DOWN FLOW)

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

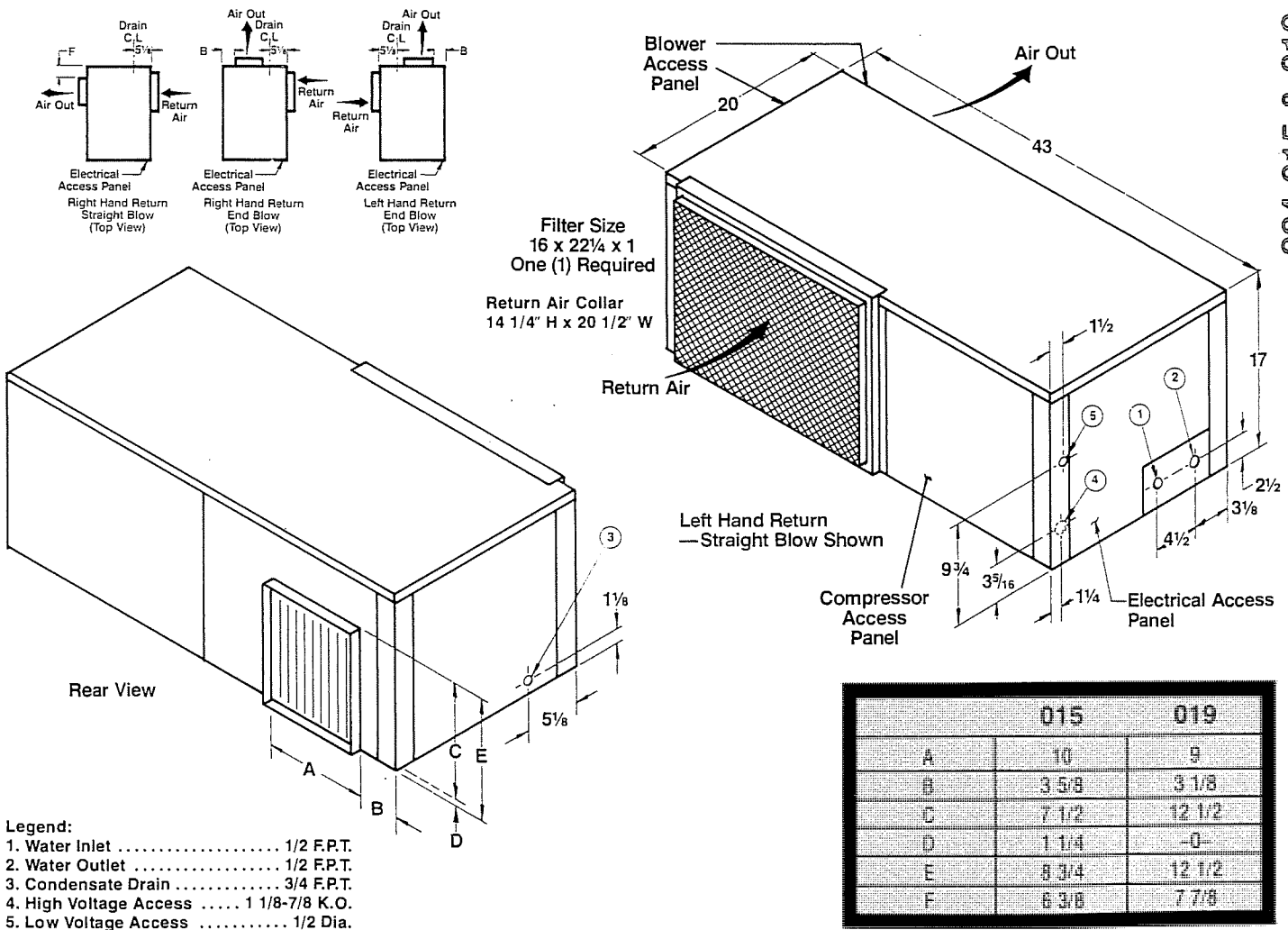
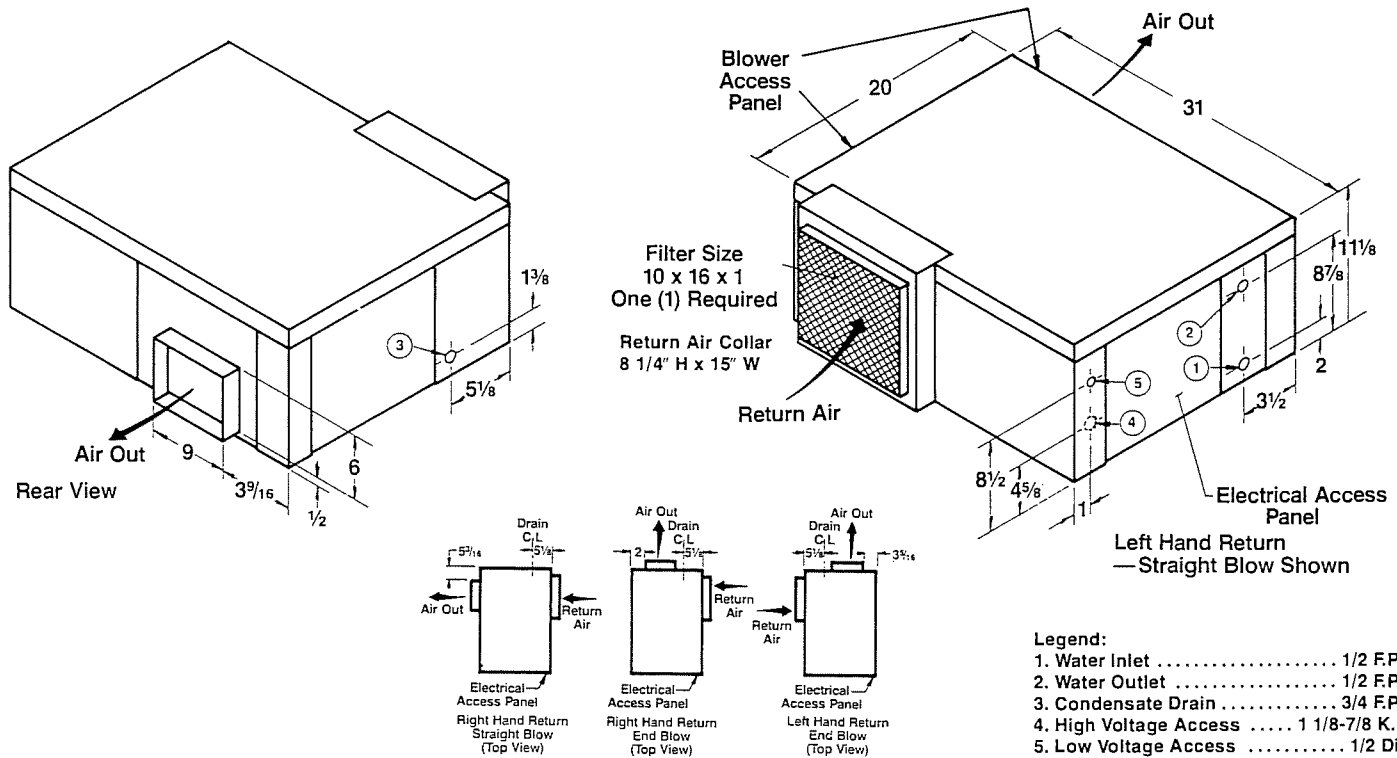
Note: Pending, available upon release.



# DIMENSIONS

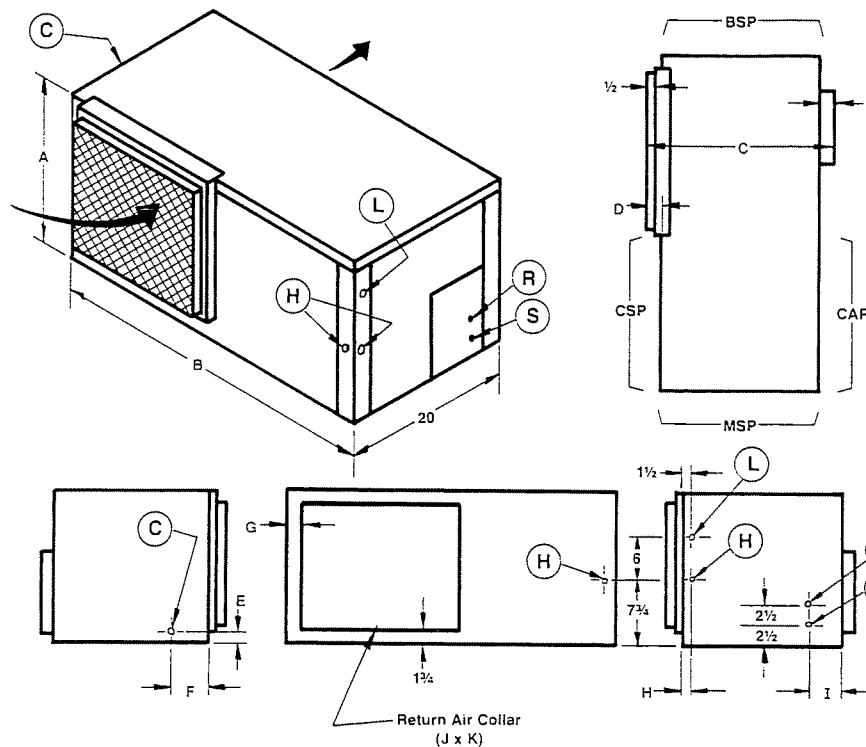
# 804

804-009 & 012



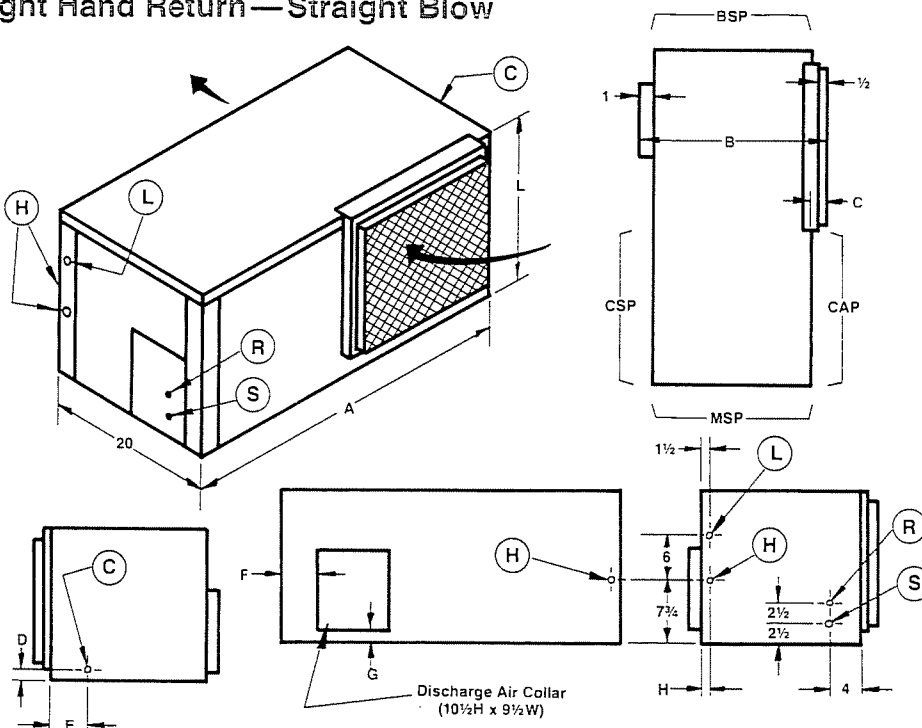
804-015 & 019

## 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 | 23 W     |
| L | 7 3/4    | 6 1/4    |
| M | 1 1/16   | 2 1/16   |

## 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 3/8    | 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 | 23 W     |
| K | 1 3/4    | 2 1/4    |
| L | 19       | 21       |

### Service Access

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

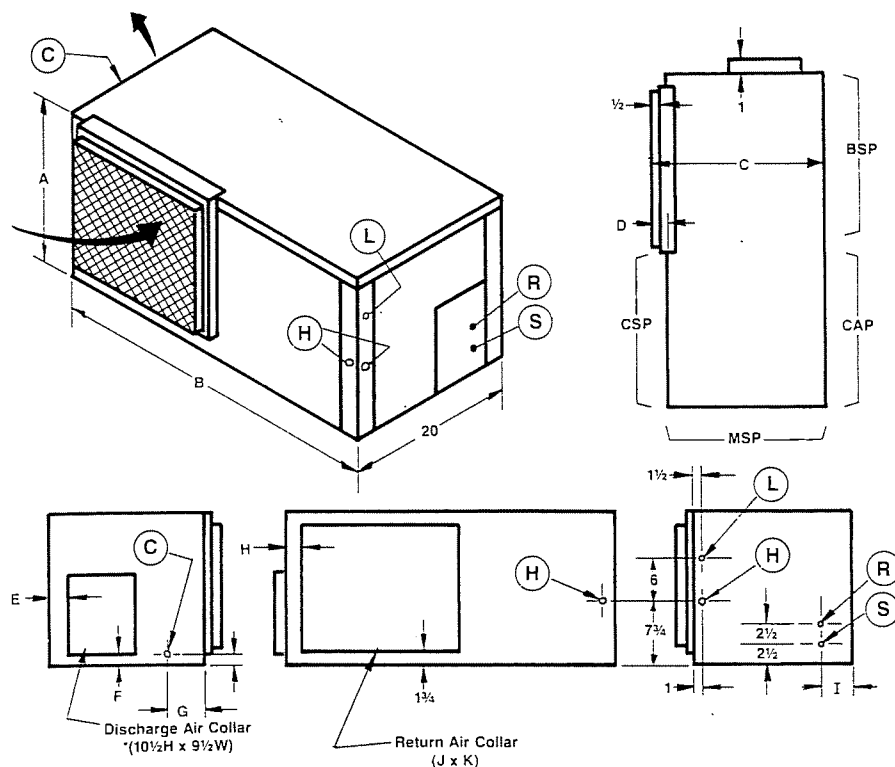
Service Trouble Shooting, Compressor/Condenser Replacement.

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

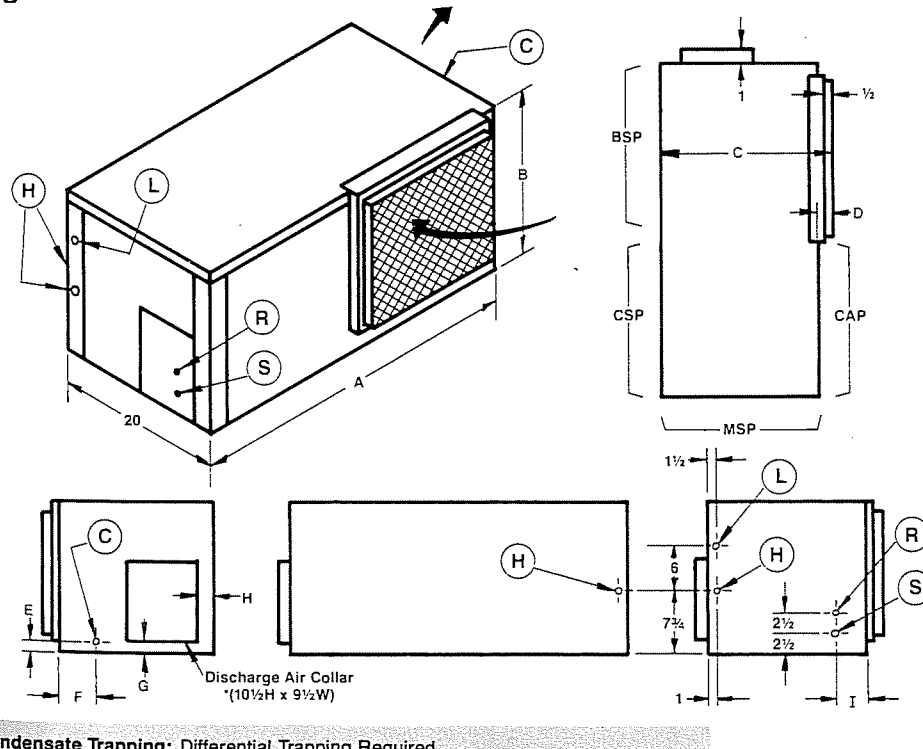
**CSP**—Compressor Service Panel—Facilitates Compressor Replacement.

**CAP**—Condenser Access Panel—Facilitates Condenser Coil Replacement.

## Left Hand Return — End Blow



## Right Hand Return — End Blow



**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.)

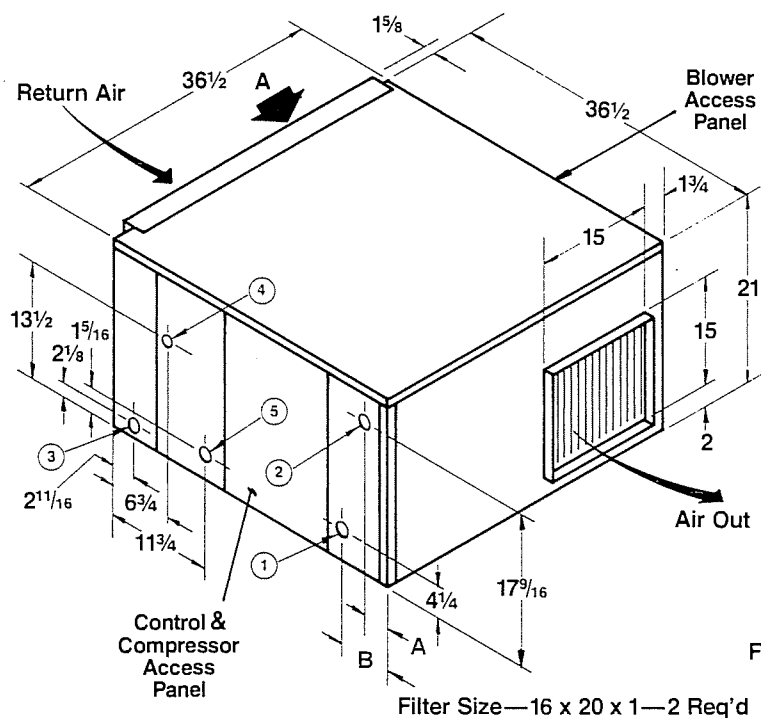
**Filter Access:** Left and Right on Inlet By Removing Side Clip.

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

# DIMENSIONS

# 804

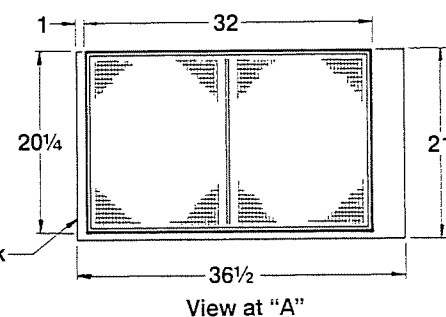
804-048 & 060



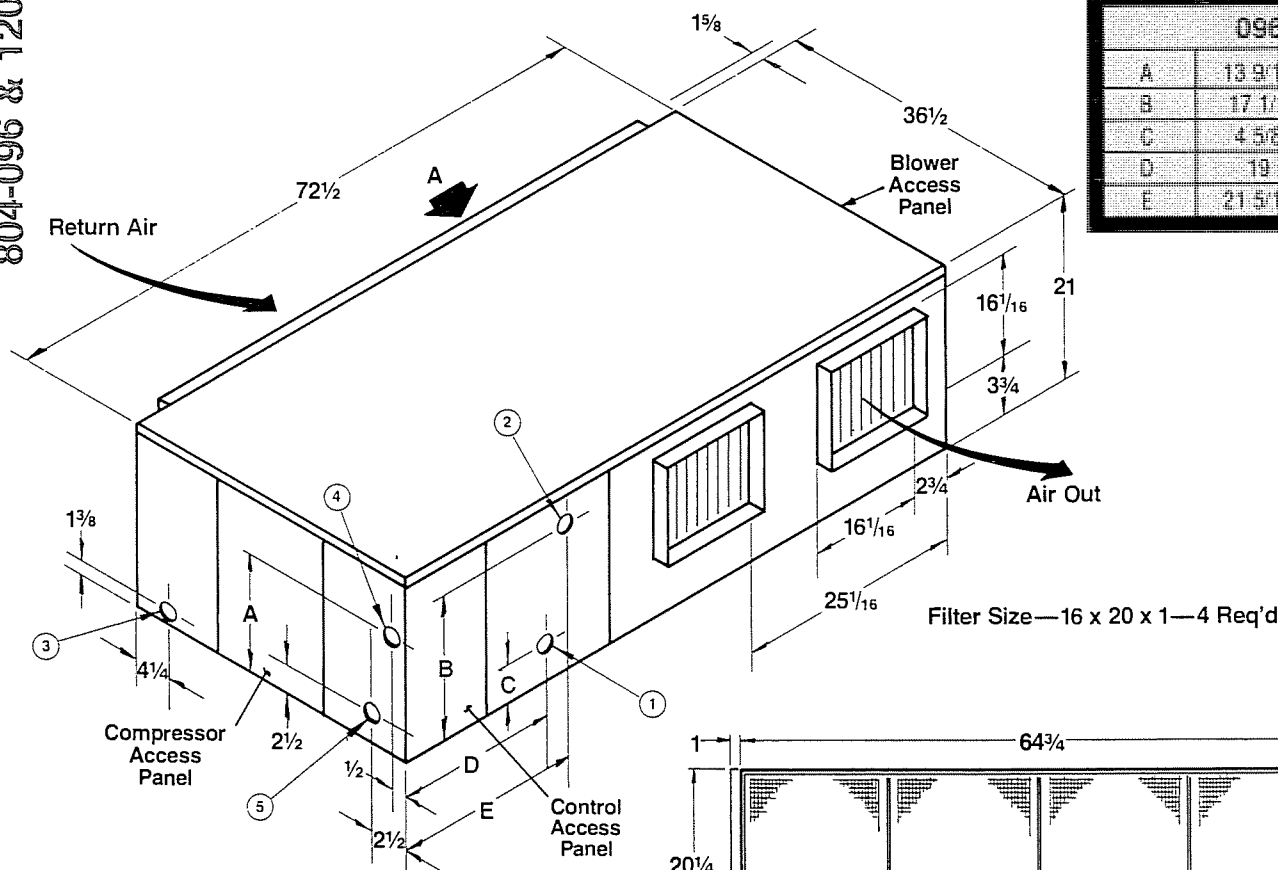
|   | 048 | 060   |
|---|-----|-------|
| A | 3   | 4 1/8 |
| B | 6   | 5 3/8 |

**Legend:**

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



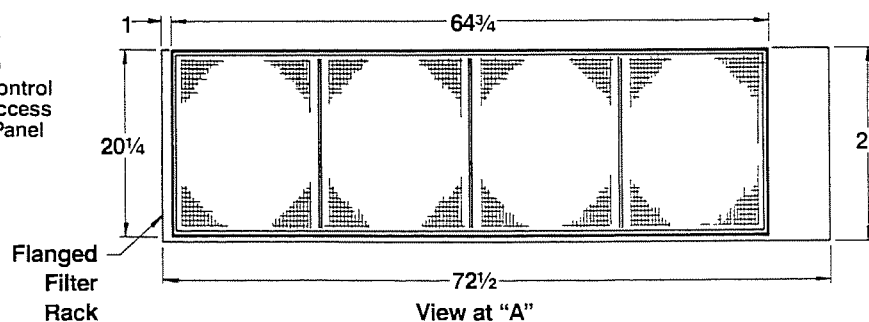
804-096 & 120



|   | 096     | 120      |
|---|---------|----------|
| A | 13 9/16 | 13 13/16 |
| B | 17 1/2  | 16 3/16  |
| C | 4 5/8   | 4 1/8    |
| D | 19      | 19 1/2   |
| E | 21 5/16 | 20 5/8   |

**Legend:**

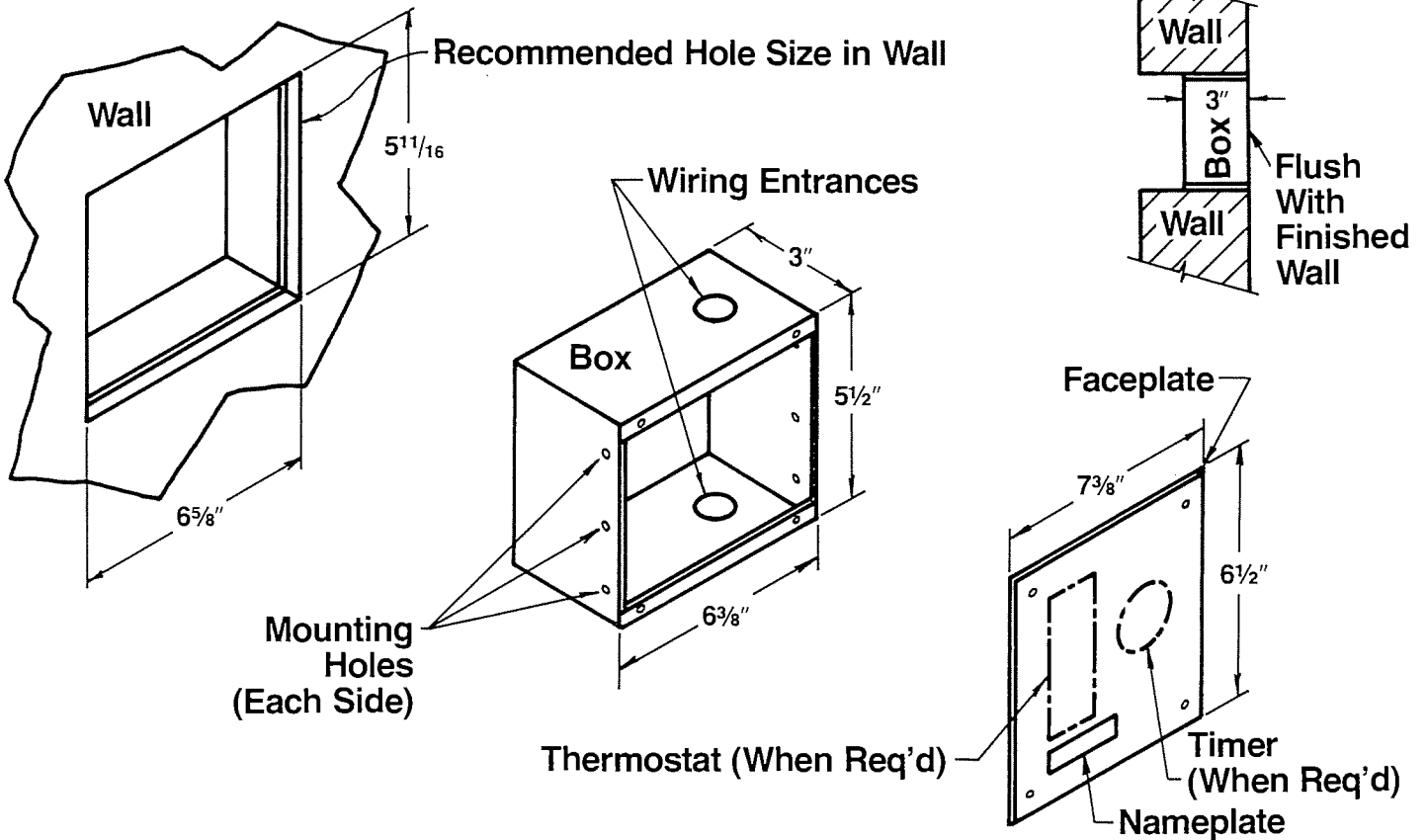
- \*1. Water Inlet ..... 1-1/4 F.P.T.
- \*2. Water Outlet ..... 1-1/4 F.P.T.
- 3. Condensate Drain ..... 3/4 F.P.T.
- 4. Low Voltage Access ..... 1/2 Dia.
- 5. High Voltage Access ..... 1-3/8 K.O.
- \*804-096 Model 1 F.P.T.



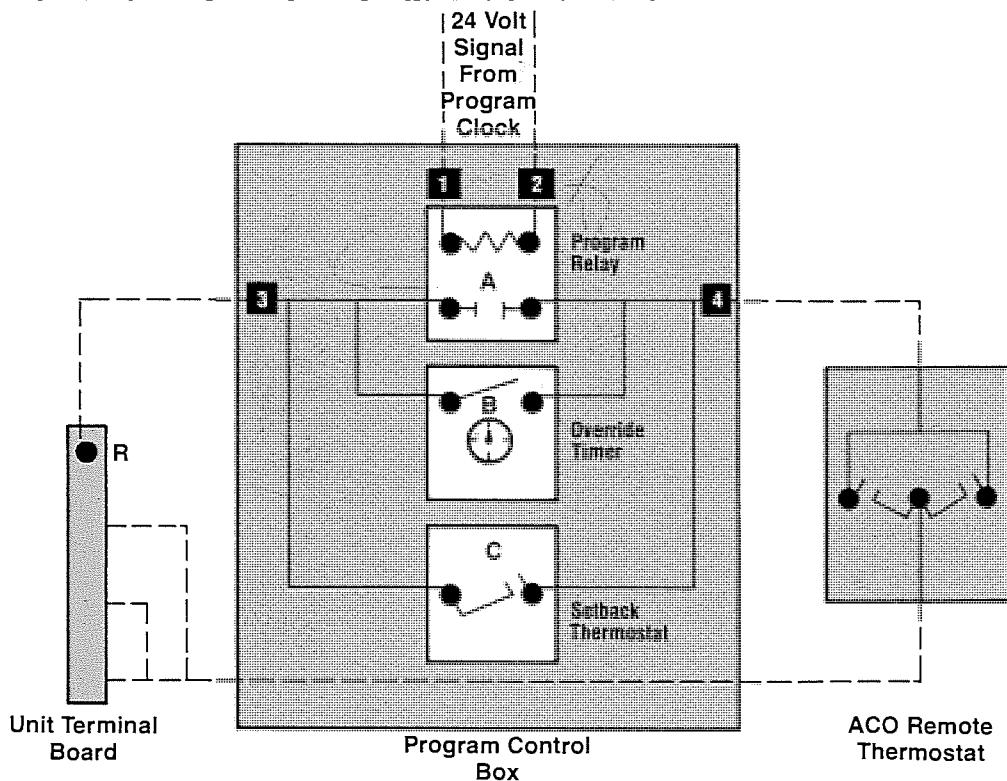


# OPTIONS

## PROGRAM CONTROL BOX



## PROGRAM CONTROL BOX COMPONENT SCHEMATIC



Option 1: ABC

Option 2: AB

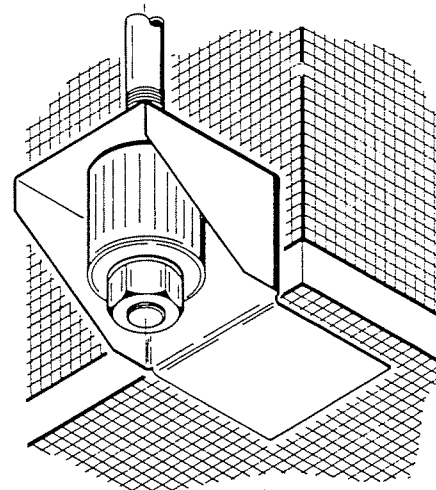
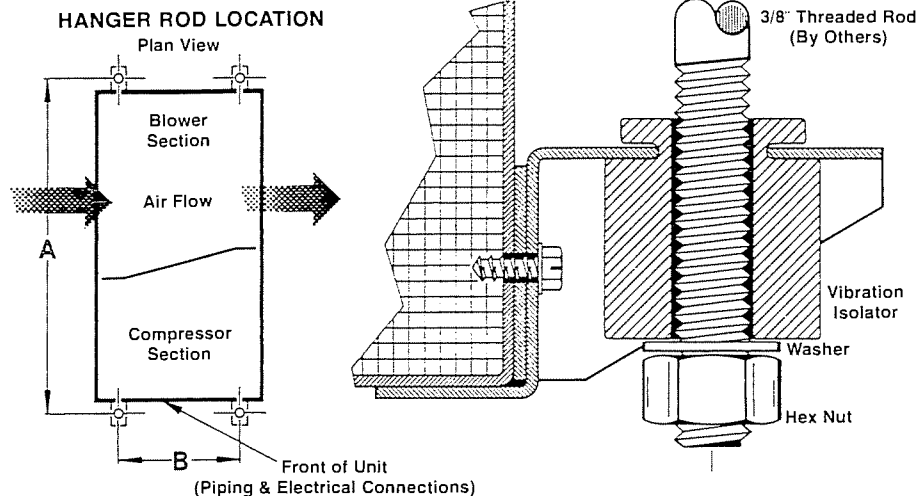
Option 3: AC

Option 4: A Only

----- Field Wiring

# OPTIONS

## HANGER AND VIBRATION ISOLATION KIT

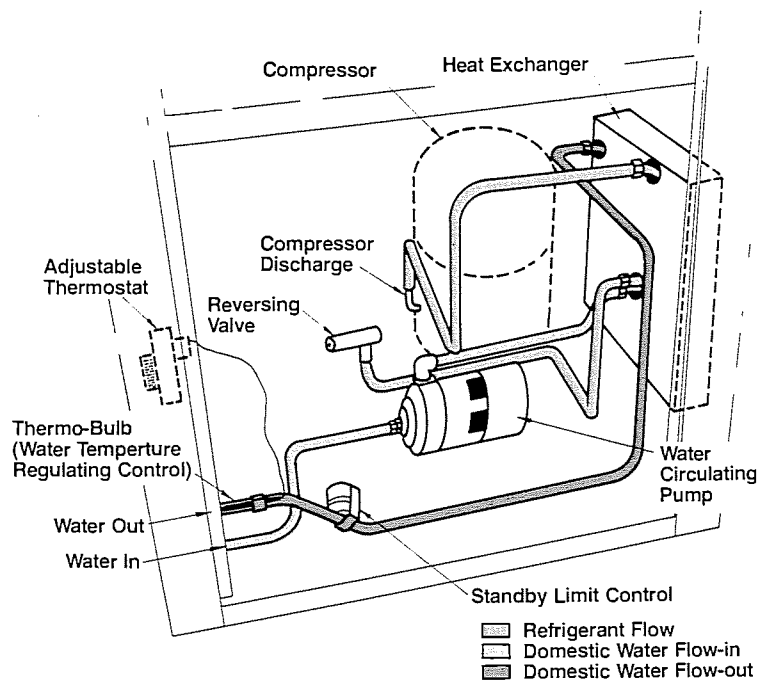
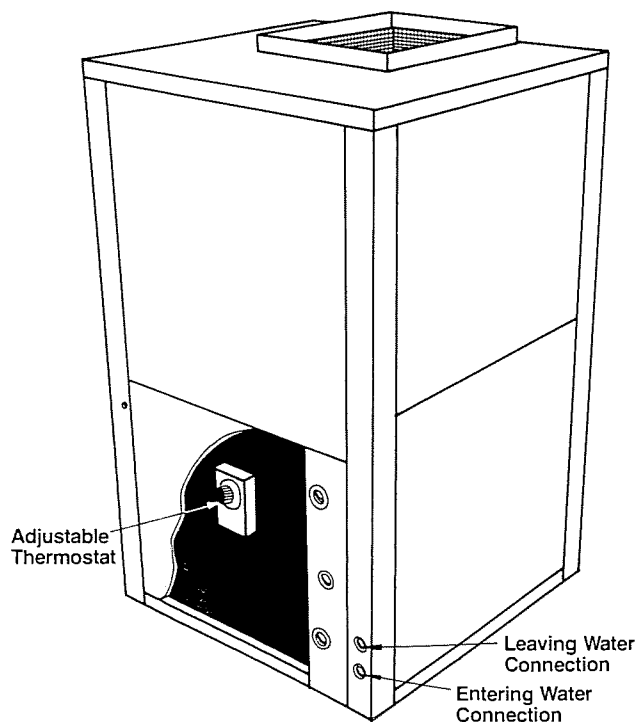


### Notes:

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.

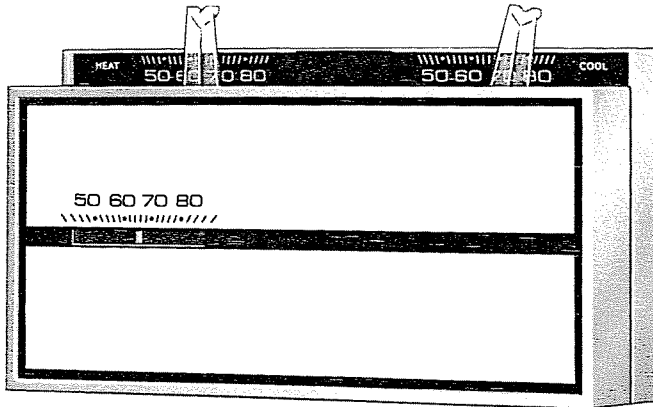
| Model                                    | Kit    | Dimensions |        |
|------------------------------------------|--------|------------|--------|
|                                          |        | A          | B      |
| 804-009<br>804-015                       | AB6412 | 33         | 18   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

## BUILT-IN HOT WATER GENERATOR

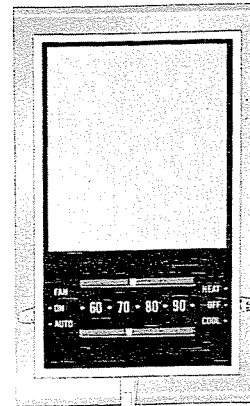


# OPTIONS

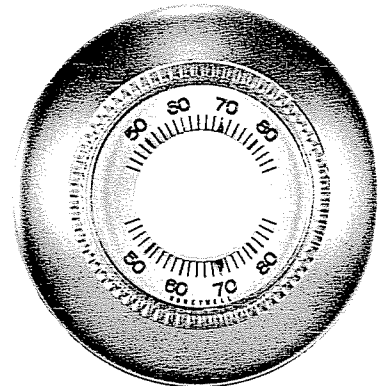
## MANUAL AND AUTO CHANGEOVER THERMOSTATS



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



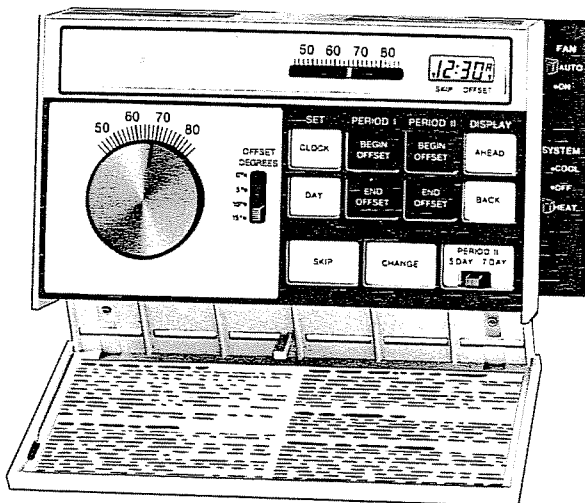
| Thermostat | Description        |
|------------|--------------------|
| *AT4168    | MCO — Single Stage |



| Thermostat | Description        |
|------------|--------------------|
| AT7603     | MCO — Single Stage |

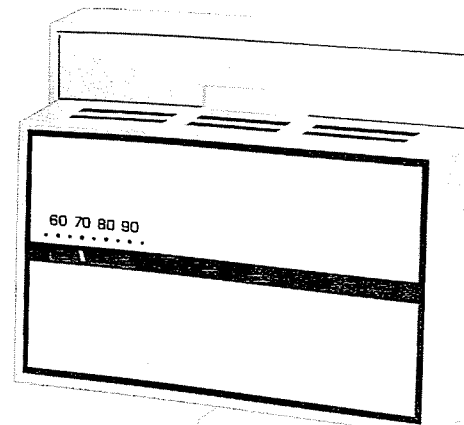
\*Celsius Scale Available

## PROGRAMMABLE SOLID STATE



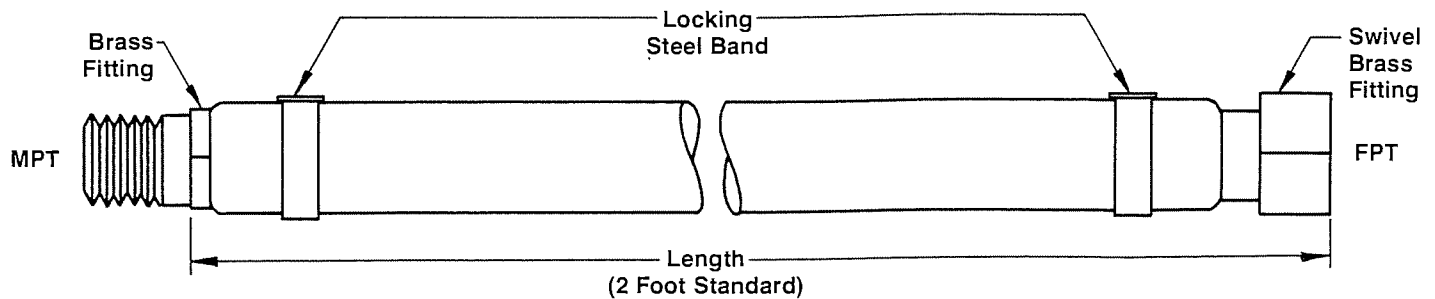
| Thermostat | Description                                   |
|------------|-----------------------------------------------|
| AT8200     | Programmable Solid State — MCO — Single Stage |
| AT8300     | Programmable Solid State — MCO — Two Stage    |

## 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.

## CABINETRY

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

### CABINETRY

**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) **PROGRAMABLE 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**

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