



Air Conditioning & Heating

# AVPTC

## MULTI-POSITION, VARIABLE-SPEED

## AIR HANDLERS

## 1½ TO 5 TONS



### Standard Features

- Compatible with the ComfortNet™ Communicating System family of products
- Maximum four low-voltage wires required for operation in communicating mode
- Auto configuration of the airflow and tonnage in communicating mode
- In non-communicating mode, up to 12 field-selectable airflow settings can be adjusted to optimize the system's CFM for each individual mode of operation
- R-410A refrigerant-compatible
- Factory-installed thermal expansion valves for cooling and heat pump applications
- Variable-speed ECM blower motor
- All-aluminum evaporator coil
- Provides constant CFM over a wide range of static pressure conditions independent of duct system
- Provides adjustable low CFM for efficient fan-only operation
- CFM indicator with front-panel sight glass
- Improved humidity control and comfort
- Compatible with variable-capacity heat pumps and cooling applications
- Built-in coil has horizontal, vertical, and downflow drain pans with secondary drain connections
- AHRI Certified; ETL Listed

### Cabinet Features

- Fully insulated, painted steel cabinet with attractive Architectural Gray finish
- Compact, versatile upflow, downflow, or horizontal multi-position installations
- Low-voltage cabinet connections; control circuit is arranged to permit staging
- Power supply on top; low-voltage entry on top or side
- Cabinet air leakage less than 2.0% at 1.0 inch H<sub>2</sub>O when tested in accordance with ASHRAE standard 193
- Cabinet air leakage less than 1.4% at 0.5 inch H<sub>2</sub>O when tested in accordance with ASHRAE standard 193
- Foil-faced insulation is glued in place and covers the entire blower case to reduce operating sound and cabinet condensation



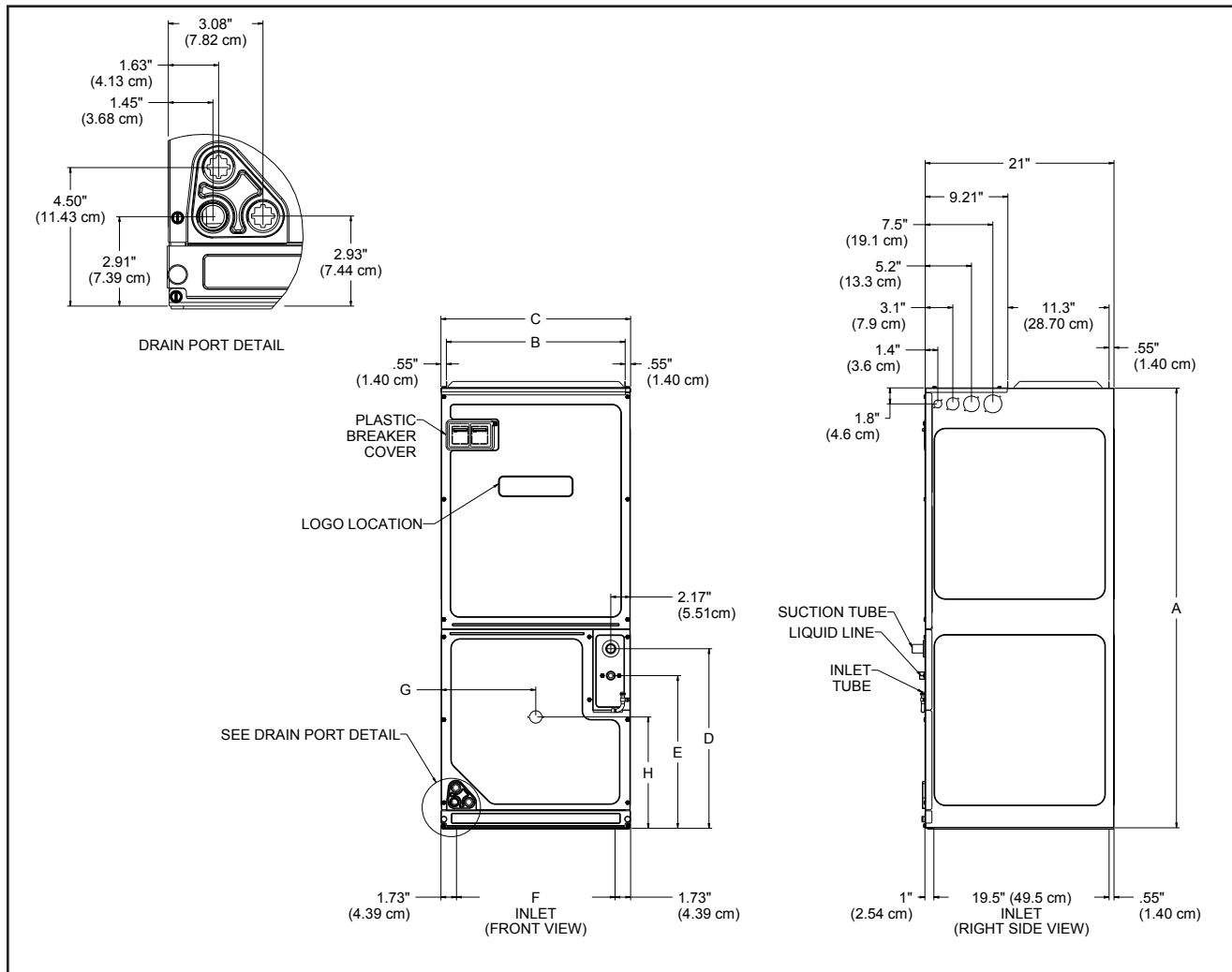
\* Complete warranty details available from your local dealer or at [www.goodmanmfg.com](http://www.goodmanmfg.com). To receive the 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Quebec.



# SPECIFICATIONS

|                                | AVPTC<br>24B14A*                 | AVPTC<br>30C14A*                 | AVPTC<br>36C14A*                 | AVPTC<br>42D14A*                 | AVPTC<br>48D14A*                 | AVPTC<br>60D14A*                 |
|--------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <b>NOMINAL RATINGS</b>         |                                  |                                  |                                  |                                  |                                  |                                  |
| Cooling (BTU/h)                | 24,000                           | 30,000                           | 36,000                           | 42,000                           | 48,000                           | 60,000                           |
| CFM (High)                     | 1100/600                         | 1200/600                         | 1600/800                         | 1700/800                         | 1800/1350                        | 2000/1600                        |
| <b>BLOWER</b>                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Diameter                       | 10 <sup>5</sup> / <sub>8</sub> " | 10 <sup>3</sup> / <sub>8</sub> " | 10 <sup>5</sup> / <sub>8</sub> " | 10 <sup>5</sup> / <sub>8</sub> " | 10 <sup>5</sup> / <sub>8</sub> " | 11 <sup>5</sup> / <sub>8</sub> " |
| Width                          | 6"                               | 8"                               | 10 <sup>5</sup> / <sub>8</sub> " | 10 <sup>5</sup> / <sub>8</sub> " | 10 <sup>5</sup> / <sub>8</sub> " | 10 <sup>5</sup> / <sub>8</sub> " |
| Coil Drain Connection FPT      | <sup>3</sup> / <sub>4</sub> "    | <sup>3</sup> / <sub>4</sub> "    | <sup>3</sup> / <sub>4</sub> "    | <sup>3</sup> / <sub>4</sub> "    | <sup>3</sup> / <sub>4</sub> "    | <sup>3</sup> / <sub>4</sub> "    |
| <b>SERVICE VALVE</b>           |                                  |                                  |                                  |                                  |                                  |                                  |
| Liquid                         | <sup>3</sup> / <sub>8</sub> "    | <sup>3</sup> / <sub>8</sub> "    | <sup>3</sup> / <sub>8</sub> "    | <sup>3</sup> / <sub>8</sub> "    | <sup>3</sup> / <sub>8</sub> "    | <sup>3</sup> / <sub>8</sub> "    |
| Suction                        | <sup>3</sup> / <sub>4</sub> "    | <sup>7</sup> / <sub>8</sub> "    | <sup>7</sup> / <sub>8</sub> "    | <sup>7</sup> / <sub>8</sub> "    | <sup>7</sup> / <sub>8</sub> "    | <sup>7</sup> / <sub>8</sub> "    |
| <b>ELECTRICAL DATA</b>         |                                  |                                  |                                  |                                  |                                  |                                  |
| Voltage                        | 208/240                          | 208/240                          | 208/240                          | 208/240                          | 208/240                          | 208/240                          |
| Electric Heat Capacity (kW)    | 3, 5, 6,<br>8, 10, 15            | 3, 5, 6,<br>8, 10, 15            | 3, 5, 6, 8,<br>10, 15, 19        | 5, 6, 8,<br>10, 15, 20           | 5, 6, 8,<br>10, 15, 20           | 5, 6, 8, 10,<br>15, 20, 25       |
| Min Circuit Ampacity           | 4.9/4.9                          | 4.9/4.9                          | 6.5/6.5                          | 6.5/6.5                          | 6.5/6.5                          | 8.6/8.6                          |
| Max. Overcurrent Device (amps) | 15/15                            | 15/15                            | 15/15                            | 15/15                            | 15/15                            | 15/15                            |
| Minimum VAC                    | 197                              | 197                              | 197                              | 197                              | 197                              | 197                              |
| Maximum VAC                    | 253                              | 253                              | 253                              | 253                              | 253                              | 253                              |
| <b>BLOWER MOTOR</b>            |                                  |                                  |                                  |                                  |                                  |                                  |
| FLA                            | 3.9                              | 3.9                              | 5.2                              | 5.2                              | 5.2                              | 6.9                              |
| HP                             | <sup>1</sup> / <sub>2</sub>      | <sup>1</sup> / <sub>2</sub>      | <sup>3</sup> / <sub>4</sub>      | <sup>3</sup> / <sub>4</sub>      | <sup>3</sup> / <sub>4</sub>      | 1                                |
| <b>SHIP WEIGHT (LBS)</b>       | 100                              | 118                              | 118                              | 167                              | 167                              | 167                              |

# DIMENSIONS



| MODEL      | A  | B                                | C                              | D                               | E                               | F                                | G                               | H                                |
|------------|----|----------------------------------|--------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|
| AVPTC24B14 | 45 | 16 <sup>3</sup> / <sub>8</sub>   | 17 <sup>1</sup> / <sub>2</sub> | 18                              | 15                              | 14 <sup>3</sup> / <sub>16</sub>  | 8 <sup>13</sup> / <sub>16</sub> | 11 <sup>15</sup> / <sub>16</sub> |
| AVPTC30C14 | 49 | 19 <sup>15</sup> / <sub>16</sub> | 21                             | 20                              | 17                              | 17 <sup>11</sup> / <sub>16</sub> | 10 <sup>1</sup> / <sub>2</sub>  | 12 <sup>3</sup> / <sub>8</sub>   |
| AVPTC36C14 | 49 | 19 <sup>15</sup> / <sub>16</sub> | 21                             | 20                              | 17                              | 17 <sup>11</sup> / <sub>16</sub> | 10 <sup>1</sup> / <sub>2</sub>  | 12 <sup>3</sup> / <sub>8</sub>   |
| AVPTC42D14 | 58 | 23 <sup>5</sup> / <sub>16</sub>  | 24 <sup>1</sup> / <sub>2</sub> | 28 <sup>3</sup> / <sub>16</sub> | 25 <sup>3</sup> / <sub>16</sub> | 21 <sup>3</sup> / <sub>16</sub>  | 12 <sup>5</sup> / <sub>16</sub> | 12 <sup>3</sup> / <sub>8</sub>   |
| AVPTC48D14 | 58 | 23 <sup>5</sup> / <sub>16</sub>  | 24 <sup>1</sup> / <sub>2</sub> | 28 <sup>3</sup> / <sub>16</sub> | 25 <sup>3</sup> / <sub>16</sub> | 21 <sup>3</sup> / <sub>16</sub>  | 12 <sup>5</sup> / <sub>16</sub> | 12 <sup>3</sup> / <sub>8</sub>   |
| AVPTC60D14 | 58 | 23 <sup>5</sup> / <sub>16</sub>  | 24 <sup>1</sup> / <sub>2</sub> | 28 <sup>3</sup> / <sub>16</sub> | 25 <sup>3</sup> / <sub>16</sub> | 21 <sup>3</sup> / <sub>16</sub>  | 12 <sup>5</sup> / <sub>16</sub> | 12 <sup>3</sup> / <sub>8</sub>   |

# AIRFLOW DATA

## COOLING / HEAT PUMP AIRFLOW

### AVPTC24B

|   |      | 0.1  | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  |
|---|------|------|------|------|------|------|------|------|------|------|
| A | Low  | 435  | 430  | 430  | 430  | 425  | 420  | 420  | 415  | 415  |
| B | Low  | 580  | 575  | 575  | 570  | 565  | 560  | 555  | 555  | 550  |
| C | Low  | 710  | 705  | 695  | 690  | 675  | 655  | 650  | 640  | 635  |
| D | Low  | 815  | 805  | 795  | 785  | 765  | 745  | 735  | 725  | 710  |
| A | High | 630  | 625  | 625  | 620  | 610  | 605  | 600  | 595  | 590  |
| B | High | 895  | 885  | 875  | 865  | 845  | 825  | 815  | 800  | 790  |
| C | High | 1030 | 1020 | 1005 | 995  | 970  | 945  | 935  | 920  | 910  |
| D | High | 1185 | 1175 | 1160 | 1145 | 1120 | 1090 | 1080 | 1065 | 1050 |

### AVPTC30C

|   |      | 0.1  | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  |
|---|------|------|------|------|------|------|------|------|------|------|
| A | Low  | 515  | 505  | 495  | 490  | 470  | 455  | 445  | 435  | 425  |
| B | Low  | 675  | 670  | 665  | 660  | 655  | 645  | 640  | 640  | 635  |
| C | Low  | 780  | 775  | 770  | 765  | 755  | 745  | 740  | 735  | 730  |
| D | Low  | 915  | 910  | 905  | 900  | 895  | 885  | 880  | 875  | 870  |
| A | High | 680  | 675  | 675  | 670  | 665  | 660  | 660  | 655  | 655  |
| B | High | 870  | 865  | 860  | 855  | 845  | 835  | 830  | 825  | 820  |
| C | High | 1040 | 1040 | 1035 | 1030 | 1020 | 1015 | 1010 | 1005 | 1000 |
| D | High | 1255 | 1245 | 1240 | 1235 | 1220 | 1210 | 1200 | 1195 | 1190 |

### AVPTC36C

|   |      | 0.1  | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  |
|---|------|------|------|------|------|------|------|------|------|------|
| A | Low  | 565  | 555  | 545  | 530  | 510  | 485  | 475  | 465  | 455  |
| B | Low  | 720  | 710  | 700  | 690  | 675  | 655  | 645  | 640  | 630  |
| C | Low  | 945  | 935  | 920  | 910  | 885  | 860  | 850  | 840  | 825  |
| D | Low  | 1120 | 1110 | 1100 | 1090 | 1070 | 1050 | 1040 | 1030 | 1020 |
| A | High | 735  | 725  | 715  | 705  | 685  | 665  | 655  | 645  | 635  |
| B | High | 1020 | 1005 | 995  | 985  | 960  | 940  | 930  | 915  | 905  |
| C | High | 1325 | 1315 | 1305 | 1300 | 1280 | 1260 | 1250 | 1240 | 1230 |
| D | High | 1590 | 1580 | 1570 | 1560 | 1540 | 1520 | 1510 | 1500 | 1490 |

### AVPTC42D

|   |      | 0.1  | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  |
|---|------|------|------|------|------|------|------|------|------|------|
| A | Low  | 675  | 660  | 645  | 635  | 605  | 580  | 565  | 550  | 540  |
| B | Low  | 820  | 810  | 795  | 785  | 765  | 740  | 730  | 720  | 710  |
| C | Low  | 1045 | 1035 | 1025 | 1015 | 990  | 970  | 955  | 945  | 935  |
| D | Low  | 1275 | 1265 | 1260 | 1250 | 1235 | 1220 | 1210 | 1200 | 1195 |
| A | High | 845  | 835  | 825  | 815  | 790  | 770  | 760  | 750  | 735  |
| B | High | 1135 | 1130 | 1120 | 1110 | 1090 | 1075 | 1065 | 1055 | 1045 |
| C | High | 1475 | 1470 | 1460 | 1450 | 1435 | 1420 | 1415 | 1405 | 1395 |
| D | High | 1835 | 1825 | 1820 | 1810 | 1795 | 1780 | 1770 | 1765 | 1755 |

Note: When applying a humidistat (normally closed), refer to the installation and operating instructions. The humidistat can adjust the cooling airflow to 85%.

## AIRFLOW DATA (CONT.)

### COOLING / HEAT PUMP AIRFLOW (CONT.)

#### AVPTC48D

|   |      | 0.1  | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  |
|---|------|------|------|------|------|------|------|------|------|------|
| A | Low  | 935  | 930  | 925  | 920  | 905  | 890  | 885  | 880  | 875  |
| B | Low  | 1075 | 1065 | 1060 | 1055 | 1040 | 1030 | 1020 | 1015 | 1010 |
| C | Low  | 1175 | 1170 | 1160 | 1155 | 1140 | 1125 | 1120 | 1115 | 1105 |
| D | Low  | 1235 | 1225 | 1220 | 1215 | 1200 | 1190 | 1185 | 1175 | 1170 |
| A | High | 1370 | 1365 | 1360 | 1350 | 1340 | 1325 | 1315 | 1310 | 1305 |
| B | High | 1565 | 1560 | 1560 | 1555 | 1545 | 1535 | 1530 | 1530 | 1525 |
| C | High | 1720 | 1715 | 1710 | 1705 | 1690 | 1680 | 1675 | 1670 | 1665 |
| D | High | 1815 | 1810 | 1805 | 1800 | 1785 | 1775 | 1770 | 1760 | 1755 |

#### AVPTC60D

|   |      | 0.1  | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  |
|---|------|------|------|------|------|------|------|------|------|------|
| A | Low  | 1200 | 1195 | 1190 | 1190 | 1180 | 1175 | 1170 | 1170 | 1165 |
| B | Low  | 1365 | 1365 | 1360 | 1360 | 1350 | 1345 | 1345 | 1340 | 1335 |
| C | Low  | 1425 | 1420 | 1420 | 1415 | 1410 | 1405 | 1405 | 1400 | 1395 |
| D | Low  | 1515 | 1515 | 1510 | 1505 | 1500 | 1495 | 1490 | 1485 | 1485 |
| A | High | 1600 | 1595 | 1595 | 1590 | 1585 | 1580 | 1580 | 1580 | 1575 |
| B | High | 1825 | 1820 | 1820 | 1815 | 1810 | 1805 | 1800 | 1800 | 1795 |
| C | High | 1915 | 1910 | 1910 | 1905 | 1900 | 1890 | 1885 | 1885 | 1880 |
| D | High | 2035 | 2030 | 2025 | 2020 | 2010 | 2000 | 1995 | 1990 | 1985 |

Note: When applying a humidistat (normally closed), refer to the installation and operating instructions. The humidistat can adjust the cooling airflow to 85%.

### ELECTRIC HEAT AIRFLOW

| HTR kW    | 9   | 10  | 11  | AVPTC<br>24B14A* | AVPTC<br>30C14A* | AVPTC<br>36C14A* | AVPTC<br>42D14A* | AVPTC<br>48D14A* | AVPTC<br>60D14A* |
|-----------|-----|-----|-----|------------------|------------------|------------------|------------------|------------------|------------------|
| 3         | ON  | ON  | ON  | 730              | 730              | NR               | NR               | NR               | NR               |
| 5         | ON  | ON  | OFF | 780              | 780              | 1200             | 1600             | 1600             | 1620             |
| 6         | ON  | OFF | ON  | 850              | 850              | 1260             | 1630             | 1630             | 1670             |
| 8         | ON  | OFF | OFF | 950              | 950              | 1320             | 1630             | 1630             | 1720             |
| 10        | OFF | ON  | ON  | 1025             | 1025             | 1380             | 1670             | 1670             | 1750             |
| 15        | OFF | ON  | OFF | NR               | NR               | 1440             | 1720             | 1720             | 1780             |
| 19*       | OFF | OFF | ON  | NR               | NR               | 1500             | 1800             | NR               | NR               |
| 20        |     |     |     | NR               | NR               | NR               | NR               | 1815             | 1850             |
| 21 or 25* | OFF | OFF | OFF | NR               | NR               | NR               | NR               | 1850             | 1850             |

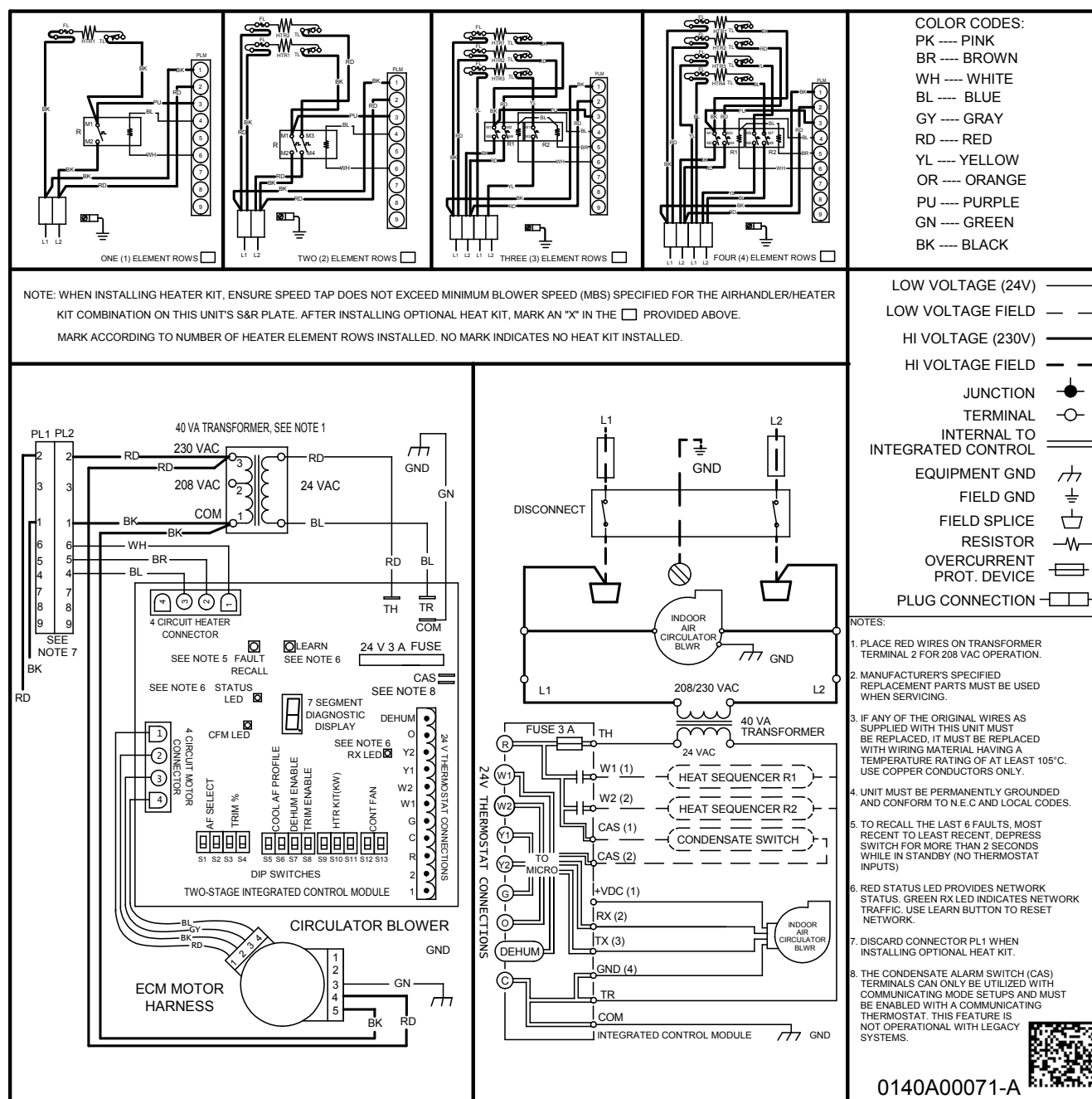
Note: Airflow data shown applies to the electric heat only in either legacy mode or communicating mode operation

\* Within thermostat user menu, CTK0\* communicating thermostat will display 20kW for OFF-

OFF- ON dipswitch selection, 21kW for OFF-OFF-OFF dipswitch selection.

NR - Not Rated

## AVPTC WIRING DIAGRAM



Wiring is subject to change. Always refer to the wiring diagram or the unit for the most up-to-date wiring.



**High Voltage:** Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.



## ACCESSORIES

### HEAT KIT SELECTION

| MODEL      | HK SX<br>03XC | HK SX<br>05XC | HK SX<br>06XC | HK SX<br>08XC | HK SX<br>10XC | HK SC<br>05XC | HK SC<br>08XC | HK SC<br>10XC | HK SC<br>15XA |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| AVPTC24B14 | X             | X             | X             | X             | X             | X             | X             | X             |               |
| AVPTC30C14 | X             | X             | X             | X             | X             | X             | X             | X             |               |
| AVPTC36C14 |               | X             | X             | X             | X             | X             | X             | X             | X             |
| AVPTC42D14 |               | X             | X             | X             | X             | X             | X             | X             | X             |
| AVPTC48D14 |               | X             | X             | X             | X             | X             | X             | X             | X             |
| AVPTC60D14 |               | X             | X             | X             | X             | X             | X             | X             | X             |

| MODEL      | HK SC<br>15XB | HK SC<br>15XF | HK SC<br>19CA | HK SC<br>19CB | HK SC<br>20DA | HK SC<br>20DB | HK SC<br>20XF | HK SC<br>25DC |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| AVPTC24B14 |               |               |               |               |               |               |               |               |
| AVPTC30C14 |               |               |               |               |               |               |               |               |
| AVPTC36C14 | X             | X             | X             | X             |               |               | X             |               |
| AVPTC42D14 | X             | X             |               |               | X             | X             | X             |               |
| AVPTC48D14 | X             | X             |               |               | X             | X             | X             |               |
| AVPTC60D14 | X             | X             |               |               | X             | X             | X             | X             |

C Circuit breaker option

### DOWNFLOW KITS

| DFK-B        | DFK-C        | DFK-D        |
|--------------|--------------|--------------|
| AVPTC24B14** | AVPTC30C14** | AVPTC42D14** |
|              | AVPTC36C14** | AVPTC48D14** |
|              |              | AVPTC60D14** |

### SINGLE POINT KIT \*\*

| MODEL  | HKR-15C | HKR-20C | HKR-21C |
|--------|---------|---------|---------|
| SPW-01 | X       | X       | X       |

\*\* Must be installed along with any of the above compatible heat kits. This kit will fit any AVPTC air handler as long as a compatible heat kit is installed in the unit.