

## **Specification Guide**

# **CP Series**

## Ceiling/Soffit Mount Air Handlers

Electric Heat, Cased and Uncased, available with High Efficiency ECM Motor





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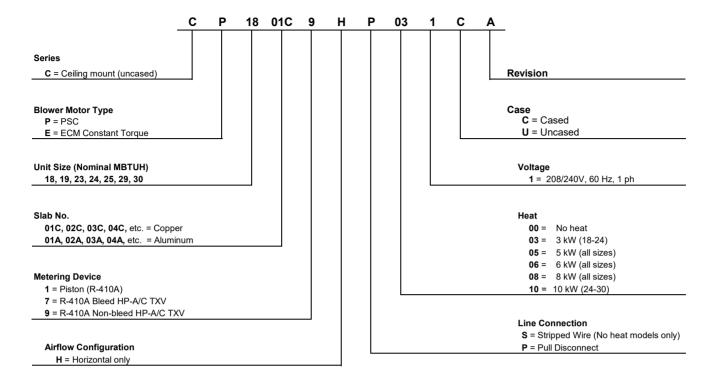




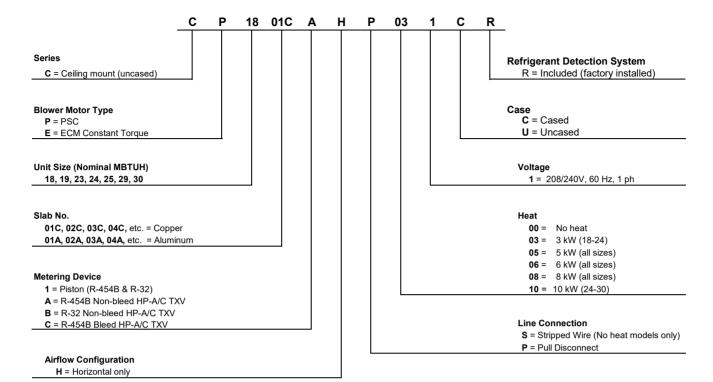
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## A1 Refrigerants Product Nomenclature



### A2L Refrigerants Product Nomenclature



#### **Product Features**

#### General Features

- · Available in uncased and cased configurations from factory.
- · Cases also available for field installation as accessory.
- · Designed for drop ceiling or Fur-Down application.
- Constructed of heavy-gauge, corrosion-resistant galvanized steel.
- · Left hand refrigerant connections.
- · Condensate drain connections on left and right side of air handler.
- · Decorative panels available as accessory.
- Suitable for free air-return installation (non-ducted return).

## **Evaporator Coil Features**

- Coils are air pressure tested at 500psi, leak tested with helium, sealed with rubber plugs, and then charged with dry air.
- A1 models suitable for use with R-22 and R-410A.
- · A2L models suitable for use with R-32 and R-454B
- A2L models include factory installed Refrigerant Detections System (RDS)
- · Available in copper or aluminum construction.
- · High efficiency lanced fin design.
- · Enhanced copper or aluminum tubing.
- Piston or HP-A/C TXV available factory installed. Screw-on TXVs available as kits for field installation (see Accessories & Replacement Parts list for available kits)

### Electrical Features

- ECM Constant Torque motor or PSC motor available.
- · Easy to service electric heat section.
- Pull disconnect line voltage connection included on all electric heat models.

| Physical Data              |                  |                       |      |        | Unit Size | )        |      |      |
|----------------------------|------------------|-----------------------|------|--------|-----------|----------|------|------|
| Pilysica                   | I Dala           | 18                    | 19   | 23     | 24        | 25       | 29   | 30   |
| Available Voltage          |                  |                       |      | 208/24 | 0 V, 60 H | lz, 1 ph | !    |      |
| Maximum Elec. Heat Avail   | able (kW)        | 8 8 8 10 10 10        |      |        |           |          | 10   |      |
| Transformer Size and Typ   | е                | 40 VA, Class 2        |      |        |           |          |      |      |
| Blower Data:               | Motor H. P.      | 1/8                   | 1/8  | 1/3    | 1/3       | 1/3      | 1/3  | 1/3  |
| PSC Motor (CP Models)      | F. L. A. @ 240 V | 1.25                  | 1.25 | 1.9    | 1.9       | 1.9      | 1.9  | 1.9  |
| Blower Data:               | Motor H. P.      | 1/4                   | 1/4  | 1/4    | 1/4       | 1/4      | 1/4  | 1/4  |
| ECM Motor (CE Models)      | F. L. A. @ 240 V | 2.0                   | 2.0  | 2.0    | 2.0       | 2.0      | 2.0  | 2.0  |
| Nominal CFM                | Nominal CFM      |                       |      | 800    | 800       | 800      | 1000 | 1000 |
| Refrigerant Conn. (IDS) So | uction (in)      |                       |      |        | 3/4       |          |      |      |
| Refrigerant Conn. (IDS) Li | quid (in)        |                       |      |        | 3/8       |          |      |      |
| R-410A Piston Size (in)    |                  | .049                  | .049 | .053   | .053      | .053     | .059 | .059 |
| Pallet Quantity (min order | per model)       |                       |      |        | 8         |          |      |      |
| Max Unit Weight (uncased)  |                  |                       | 68   | 63     | 68        | 73       | 70   | 73   |
| Max Shipping Weight (und   | cased)           | 66 71 66 71 76 73     |      |        | 76        |          |      |      |
| Max Unit Weight (cased)    |                  | 92 100 92 100 108 105 |      |        |           | 108      |      |      |
| Max Shipping Weight (cas   | sed)             | 95                    | 103  | 95     | 103       | 111      | 108  | 111  |

#### **Blower Performance**

2-Speed PSC Motor

| Unit Size | Blower Speed<br>Setting | Airflow | W.C.) |     |     |     |
|-----------|-------------------------|---------|-------|-----|-----|-----|
|           | Setting                 | 0.1     | 0.2   | 0.3 | 0.4 | 0.5 |
| 18, 19    | Low - Red               | 610     | 536   | 468 | 392 | 316 |
| 10, 19    | High -Black             | 680     | 607   | 532 | 456 | 368 |
| 23        | Low - Red               | 846     | 777   | 702 | 627 | 546 |
|           | High -Black             | 902     | 830   | 755 | 667 | 589 |
| 24, 29    | Low - Red               | 833     | 781   | 725 | 658 | 580 |
| 24, 29    | High -Black             | 1039    | 976   | 903 | 825 | 728 |
| 25, 30    | Low - Red               | 839     | 771   | 706 | 644 | 553 |
|           | High -Black             | 1050    | 975   | 901 | 820 | 744 |

ECM Constant Torque Motor

| Unit Size     | Blower Speed | Airflow (CFM) vs. External Static Pressure (inches |     |     |     |     |  |  |
|---------------|--------------|--|-----|-----|-----|-----|--|--|
|               | Setting      | 0.1 0.2 0.3  |     | 0.3 | 0.4 | 0.5 |  |  |
|               | Tap 1 (G)    | 604  | 514 | 453 | 437 | 301 |  |  |
|               | Tap 2 (DS)   | 604  | 514 | 453 | 437 | 301 |  |  |
| 18, 19        | Tap 3 (Y1)   | 735  | 651 | 577 | 506 | 444 |  |  |
|               | Tap 4 (Y2)   | 890  | 826 | 764 | 700 | 605 |  |  |
|               | ^ Tap 5 (W1) | 890  | 826 | 764 | 700 | 605 |  |  |
| 23, 24,<br>29 | Tap 1 (G)    | 618  | 547 | 464 | 344 | 270 |  |  |
|               | Tap 2 (DS)   | 617  | 547 | 469 | 351 | 273 |  |  |
|               | Tap 3 (Y1)   | 779  | 720 | 633 | 549 | 441 |  |  |
|               | Tap 4 (Y2)   | 940  | 876 | 812 | 750 | 675 |  |  |
|               | ^ Tap 5 (W1) | 937  | 875 | 812 | 750 | 674 |  |  |
|               | Tap 1 (G)    | 630  | 557 | 485 | 380 | 277 |  |  |
| 25, 30        | Tap 2 (DS)   | 630  | 556 | 483 | 378 | 277 |  |  |
|               | Tap 3 (Y1)   | 803  | 719 | 640 | 576 | 521 |  |  |
|               | Tap 4 (Y2)   | 981  | 909 | 833 | 766 | 705 |  |  |
|               | ^ Tap 5 (W1) | 984  | 909 | 837 | 769 | 709 |  |  |

- · Heating speeds should not be reduced below factory setting.
- Different speeds can be set for cooling mode; see installation instructions for changing cooling speeds.
  - When matched with heat pump, and the room thermostat calls for second stage heat (electric heat strips), the first stage (heat pump) operation must be locked out. See parts sheet for Heat Pump Relay Kit - Part #76701444.

#### Electrical Data

| Unit Size                | Electric Heat        | ing Capacity         |          |            |                   |       |       |                       |   |       |
|--------------------------|----------------------|----------------------|----------|------------|-------------------|-------|-------|-----------------------|---|-------|
| (All have electric heat) | kW                   | втин                 | Blower C | urrent (A) | Total Current (A) |       |       | n Circuit<br>city (A) | Maximum Circuit Breaker<br>Size Per Stage (A) |       |
|                          | 240 V <sup>[1]</sup> | 240 V <sup>[1]</sup> | 208 V    | 240 V      | 208 V             | 240 V | 208 V | 240 V                 | 208 V   | 240 V |
|                          | 0                    | 0                    | 1.25     | 1.25       | 1.25              | 1.25  | 1.6   | 1.6                   | 15  | 15    |
| l f                      | 3                    | 10,236               | 1.25     | 1.25       | 12.1              | 13.8  | 15.1  | 17.2                  | 20  | 20    |
| 18, 19                   | 5                    | 17,061               | 1.25     | 1.25       | 19.3              | 22.1  | 24.1  | 27.6                  | 25  | 30    |
| 1                        | 6                    | 20,473               | 1.25     | 1.25       | 22.9              | 26.3  | 28.6  | 32.8                  | 30  | 35    |
| Ī                        | 8                    | 27,297               | 1.25     | 1.25       | 30.1              | 34.6  | 37.7  | 43.2                  | 40  | 45    |
|                          | 0                    | 0                    | 1.9      | 1.9        | 1.9               | 1.9   | 2.4   | 2.4                   | 15  | 15    |
| Ī                        | 3 <sup>[2]</sup>     | 10,236               | 1.9      | 1.9        | 12.7              | 14.4  | 15.9  | 18.0                  | 20  | 20    |
| 23, 24, 25,              | 5                    | 17,061               | 1.9      | 1.9        | 20.0              | 22.7  | 24.9  | 28.4                  | 25  | 30    |
| 29, 30                   | 6                    | 20,473               | 1.9      | 1.9        | 23.6              | 26.9  | 29.5  | 33.6                  | 30  | 35    |
|                          | 8                    | 27,297               | 1.9      | 1.9        | 30.8              | 35.2  | 38.5  | 44.0                  | 40  | 45    |
| Ī                        | 10 <sup>[3]</sup>    | 34,121               | 1.9      | 1.9        | 38.0              | 43.6  | 47.5  | 54.5                  | 50  | 60    |

<sup>[1]</sup> For 208 Volts use .751 correction factor for kW & MBTUH.

| Unit Size                | Electirc Heat        | ing Capacity         |          |                    |       |           |       |                       |       |                            |
|--------------------------|----------------------|----------------------|----------|--------------------|-------|-----------|-------|-----------------------|-------|----------------------------|
| (All have electric heat) | kW                   | втин                 | Blower C | Blower Current (A) |       | rrent (A) |       | n Circuit<br>city (A) |       | rcuit Breaker<br>Stage (A) |
|                          | 240 V <sup>[1]</sup> | 240 V <sup>[1]</sup> | 208 V    | 240 V              | 208 V | 240 V     | 208 V | 240 V                 | 208 V | 240 V                      |
|                          | 0                    | 0                    | 2.0      | 2.0                | 2.0   | 2.0       | 2.5   | 2.5                   | 15    | 15                         |
|                          | 3 <sup>[2]</sup>     | 10,236               | 2.0      | 2.0                | 12.8  | 14.5      | 16.0  | 18.1                  | 20    | 20                         |
| 18, 19, 23,              | 5                    | 17,061               | 2.0      | 2.0                | 20.1  | 22.8      | 25.1  | 28.5                  | 30    | 30                         |
| 24, 25, 29, 30           | 6                    | 20,473               | 2.0      | 2.0                | 23.7  | 27.0      | 29.6  | 33.8                  | 30    | 35                         |
|                          | 8                    | 27,297               | 2.0      | 2.0                | 30.9  | 35.3      | 38.6  | 44.2                  | 40    | 45                         |
|                          | 10 <sup>[3]</sup>    | 34,121               | 2.0      | 2.0                | 38.1  | 43.7      | 47.6  | 54.6                  | 50    | 60                         |

<sup>[1]</sup> For 208 Volts use .751 correction factor for kW & MBTUH.

All airflow data is with a dry coil and electic heat.

<sup>·</sup> Speeds marked in bold with asterisk are the factory speed settings for both heating and cooling.

<sup>^</sup> Factory setting for heating.

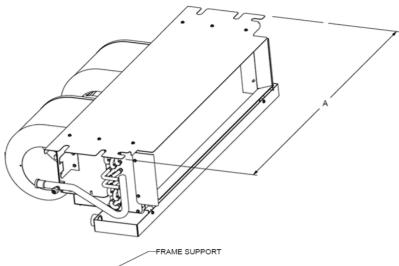
<sup>[2] 3</sup> kW is not available in 25, 30 model [3] 10 kW is not available in 23 model

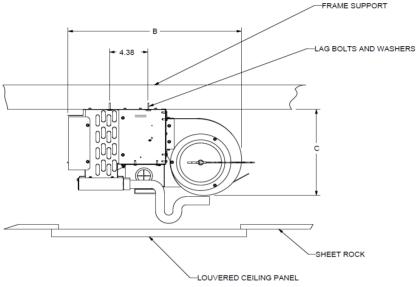
<sup>[2] 3</sup> kW is not available in 25, 30 model

<sup>[3] 10</sup> kW is not available in 18, 23 model

### **Uncased Dimensions**

| Air Handler | A (in) | B (in) | C (in) |
|-------------|--------|--------|--------|
| 18, 23      | 37     | 19.5   | 10.5   |
| 19, 24, 29  | 43     | 20.5   | 10.5   |
| 25, 30      | 49     | 20.5   | 10.5   |





## **Cased Dimensions**

| Air Handler Size | A (in) | B (in) | C (in) | D (in) | E (in) |
|------------------|--------|--------|--------|--------|--------|
| 18, 23           | 39.7   | 24     | 11     | 30.5   | 7      |
| 19, 24, 29       | 45.7   | 24     | 11     | 36.5   | 7      |
| 25, 30           | 51.7   | 24     | 11     | 42.5   | 7      |

