

Specification Guide

CP Series

Ceiling/Soffit Mount Air Handlers

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



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A1 Refrigerants Product Nomenclature

| | | | | | | | | | | | | |
|---------------------------|---|---|----|-----|---|---|---|----|---|---|---|--|
| | C | P | 18 | 01C | 9 | H | P | 03 | 1 | C | A | |
| Series | C = Ceiling mount (uncased) | | | | | | | | | | | Revision |
| Blower Motor Type | P = PSC E = ECM Constant Torque | | | | | | | | | | | Case C = Cased U = Uncased |
| Unit Size (Nominal MBTUH) | 18, 19, 23, 24, 25, 29, 30 | | | | | | | | | | | Voltage 1 = 208/240V, 60 Hz, 1 ph |
| Slab No. | 01C, 02C, 03C, 04C, etc. = Copper 01A, 02A, 03A, 04A, etc. = Aluminum | | | | | | | | | | | Heat 00 = No heat 03 = 3 kW (18-24) 05 = 5 kW (all sizes) 06 = 6 kW (all sizes) 08 = 8 kW (all sizes) 10 = 10 kW (24-30) |
| Metering Device | 1 = Piston (R-410A) 7 = R-410A Bleed HP-A/C TXV 9 = R-410A Non-bleed HP-A/C TXV | | | | | | | | | | | Line Connection S = Stripped Wire (No heat models only) P = Pull Disconnect |
| Airflow Configuration | H = Horizontal only | | | | | | | | | | | |

A2L Refrigerants Product Nomenclature

| | C | P | 18 | 01C | A | H | P | 03 | 1 | C | R |
|---|---|---|----|-----|---|---|---|----|---|---|---|
| Series C = Ceiling mount (uncased) | | | | | | | Refrigerant Detection System R = Included (factory installed) | | | | |
| Blower Motor Type P = PSC E = ECM Constant Torque | | | | | | | Case C = Cased U = Uncased | | | | |
| Unit Size (Nominal MBTUH) 18, 19, 23, 24, 25, 29, 30 | | | | | | | Voltage 1 = 208/240V, 60 Hz, 1 ph | | | | |
| Slab No. 01C, 02C, 03C, 04C, etc. = Copper 01A, 02A, 03A, 04A, etc. = Aluminum | | | | | | | Heat 00 = No heat 03 = 3 kW (18-24) 05 = 5 kW (all sizes) 06 = 6 kW (all sizes) 08 = 8 kW (all sizes) 10 = 10 kW (24-30) | | | | |
| Metering Device 1 = Piston (R-454B & R-32) A = R-454B Non-bleed HP-A/C TXV B = R-32 Non-bleed HP-A/C TXV C = R-454B Bleed HP-A/C TXV | | | | | | | Line Connection S = Stripped Wire (No heat models only) P = Pull Disconnect | | | | |
| Airflow Configuration H = Horizontal only | | | | | | | | | | | |

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 | | | | | | |
|--------------------------------------|-----------------------|------------------------|------|------|------|------|------|------|
| | | 18 | 19 | 23 | 24 | 25 | 29 | 30 |
| Available Voltage | | 208/240 V, 60 Hz, 1 ph | | | | | | |
| Maximum Elec. Heat Available (kW) | | 8 | 8 | 8 | 10 | 10 | 10 | 10 |
| Transformer Size and Type | | 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 |
| 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 |
| Nominal CFM | | 600 | 600 | 800 | 800 | 800 | 1000 | 1000 |
| Refrigerant Conn. (IDS) Suction (in) | | 3/4 | | | | | | |
| Refrigerant Conn. (IDS) Liquid (in) | | 3/8 | | | | | | |
| R-410A Piston Size (in) | | .049 | .049 | .053 | .053 | .053 | .059 | .059 |
| Max Unit Weight (uncased) | | 63 | 68 | 63 | 68 | 73 | 70 | 73 |
| Max Shipping Weight (uncased) | | 66 | 71 | 66 | 71 | 76 | 73 | 76 |
| Pallet Quantity (uncased) | | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Max Unit Weight (cased) | | 92 | 100 | 92 | 100 | 108 | 105 | 108 |
| Max Shipping Weight (cased) | | 95 | 103 | 95 | 103 | 111 | 108 | 111 |
| Pallet Quantity (cased) | | 8 | 4 | 8 | 4 | 4 | 4 | 4 |

Blower Performance

2-Speed PSC Motor

| Unit Size | Blower Speed Setting | Airflow (CFM) vs. External Static Pressure (inches W.C.) | | | | |
|-----------|----------------------|--|-----|-----|-----|-----|
| | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 |
| 18, 19 | Low - Red | 610 | 536 | 468 | 392 | 316 |
| | 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 |
| | High -Black | 1039 | 976 | 903 | 825 | 728 |
| 25, 30 | Low - Red | 839 | 771 | 706 | 644 | 553 |
| | High -Black | 1050 | 975 | 901 | 820 | 744 |

- All airflow data is with a dry coil and electric heat.
- Speeds marked in **bold with asterisk** are the factory speed settings for both heating and cooling.
- 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.

ECM Constant Torque Motor

| Unit Size | Blower Speed Setting | Airflow (CFM) vs. External Static Pressure (inches W.C.) | | | | |
|------------|----------------------|--|-----|-----|-----|-----|
| | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 |
| 18, 19 | Tap 1 (G) | 604 | 514 | 453 | 437 | 301 |
| | Tap 2 (DS) | 604 | 514 | 453 | 437 | 301 |
| | 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, 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 |
| 25, 30 | Tap 1 (G) | 630 | 557 | 485 | 380 | 277 |
| | 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 |

^ Factory setting for heating.

Electrical Data

| Unit Size | Electric Heating Capacity | | Blower Current (A) | | Total Current (A) | | Minimum Circuit Ampacity (A) | | Maximum Circuit Breaker Size Per Stage (A) | |
|--------------------------|---------------------------|----------------------|--------------------|-------|-------------------|-------|------------------------------|-------|--|-------|
| | kW | BTUH | | | | | | | | |
| (All have electric heat) | 240 V ^[1] | 240 V ^[1] | 208 V | 240 V | 208 V | 240 V | 208 V | 240 V | 208 V | 240 V |
| 18, 19 | 0 | 0 | 1.25 | 1.25 | 1.25 | 1.25 | 1.6 | 1.6 | 15 | 15 |
| | 3 | 10,236 | 1.25 | 1.25 | 12.1 | 13.8 | 15.1 | 17.2 | 20 | 20 |
| | 5 | 17,061 | 1.25 | 1.25 | 19.3 | 22.1 | 24.1 | 27.6 | 25 | 30 |
| | 6 | 20,473 | 1.25 | 1.25 | 22.9 | 26.3 | 28.6 | 32.8 | 30 | 35 |
| | 8 | 27,297 | 1.25 | 1.25 | 30.1 | 34.6 | 37.7 | 43.2 | 40 | 45 |
| 23, 24, 25, 29, 30 | 0 | 0 | 1.9 | 1.9 | 1.9 | 1.9 | 2.4 | 2.4 | 15 | 15 |
| | 3 ^[2] | 10,236 | 1.9 | 1.9 | 12.7 | 14.4 | 15.9 | 18.0 | 20 | 20 |
| | 5 | 17,061 | 1.9 | 1.9 | 20.0 | 22.7 | 24.9 | 28.4 | 25 | 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 |
| | 10 ^[3] | 34,121 | 1.9 | 1.9 | 38.0 | 43.6 | 47.5 | 54.5 | 50 | 60 |

[1] For 208 Volts use .751 correction factor for kW & MBTUH.

[2] 3 kW is not available in 25, 30 model

[3] 10 kW is not available in 23 model

| Unit Size | Electric Heating Capacity | | Blower Current (A) | | Total Current (A) | | Minimum Circuit Ampacity (A) | | Maximum Circuit Breaker Size Per Stage (A) | |
|----------------------------|---------------------------|----------------------|--------------------|-------|-------------------|-------|------------------------------|-------|--|-------|
| | kW | BTUH | | | | | | | | |
| (All have electric heat) | 240 V ^[1] | 240 V ^[1] | 208 V | 240 V | 208 V | 240 V | 208 V | 240 V | 208 V | 240 V |
| 18, 19, 23, 24, 25, 29, 30 | 0 | 0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | 2.5 | 15 | 15 |
| | 3 ^[2] | 10,236 | 2.0 | 2.0 | 12.8 | 14.5 | 16.0 | 18.1 | 20 | 20 |
| | 5 | 17,061 | 2.0 | 2.0 | 20.1 | 22.8 | 25.1 | 28.5 | 30 | 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 ^[3] | 34,121 | 2.0 | 2.0 | 38.1 | 43.7 | 47.6 | 54.6 | 50 | 60 |

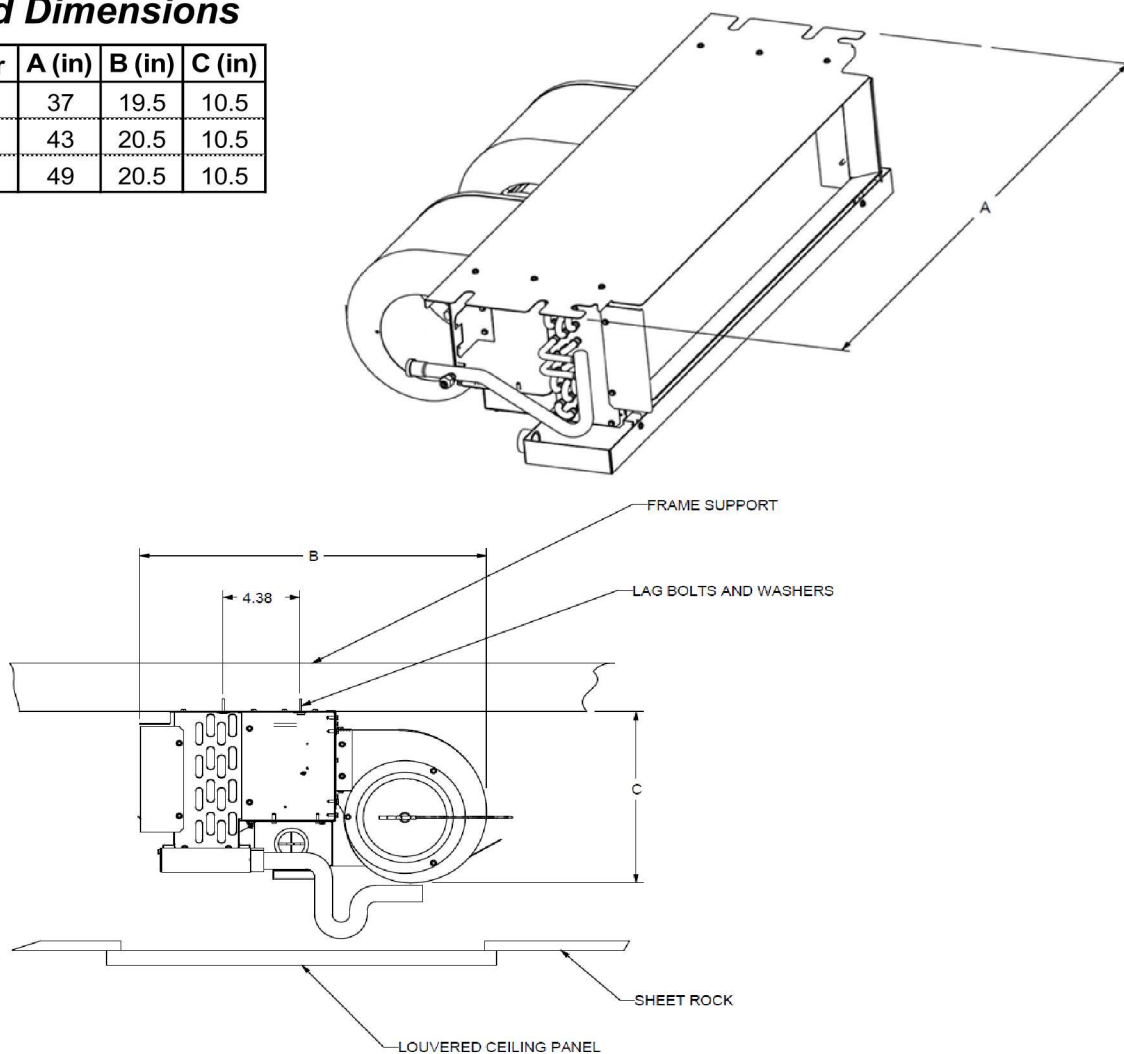
[1] For 208 Volts use .751 correction factor for kW & MBTUH.

[2] 3 kW is not available in 25, 30 model

[3] 10 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 |

