

DUCTED CENTRAL SPLIT SYSTEM AIR CONDITIONER / HEAT PUMP

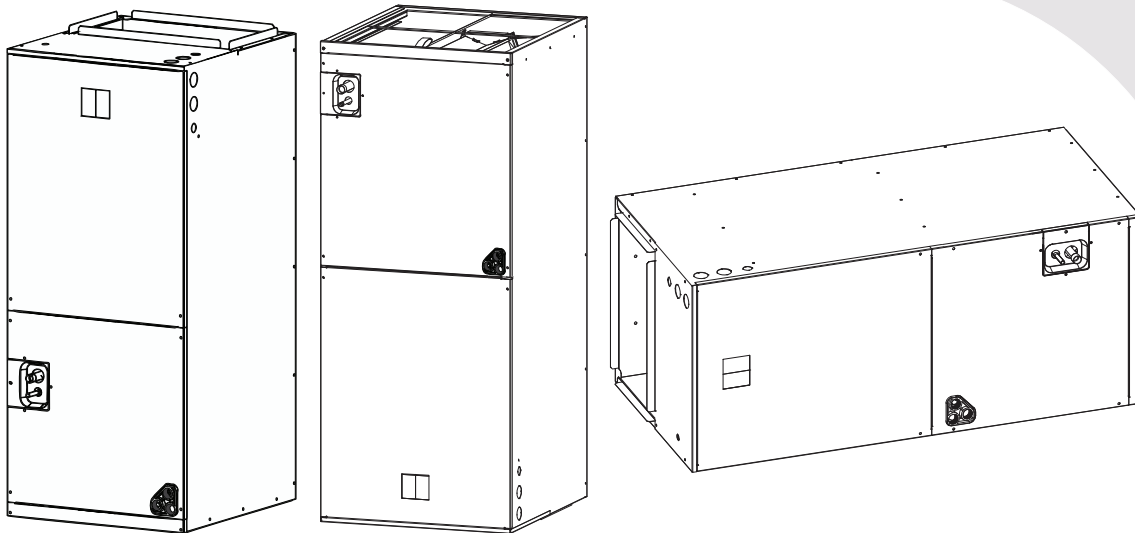
# PIONEER®

## VERTEX™

### DYC-18 Inverter Series

For 24,000-60,000 BTU/hr Systems

*Air Handling Unit (R-454B) - DC Indoor (2 / 3 / 4 / 5 Ton)*



### Models:

DC024GCSICDHRT / DC036GCSICDHRT  
DC048GCSICDHRT / DC060GCSICDHRT

## Product Specifications



\*Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet Energy Star. Ask your Contractor for details or visit [www.energystar.gov](http://www.energystar.gov).



REV250724

## Product Nomenclature for Central-Split Air Handling Units

D C 024 G C S I C D H R T

### Thermostat:

T: Included  
N: Field-Supplied

### Method of Control

R: Analog and Digital (RS485)  
A: Analog Only

### Operational Capability

H: Heat Pump  
C: Cooling Only

### Leakage Detection

D: Factory Installed Detector  
P: Passive Detection

### Control Protocol

C: Communicating System  
L: Legacy (Non-Interacting)

### Technology

A: On-Off  
I: DC Inverter

### Refrigerant

A: R-22  
F: R410a  
D: R-134a  
U: R32  
S: R454-b

### Assembly Line

### Operating Voltage

A: 110-120/1/60  
G: 208-230/1/60

### Cooling/Heating Capacity (MBTU/HR)

### Model Orientation:

C: Configurable (Down/Upflow)  
R: Regular Orientation

### Product Type

D: Ducted Whole-Home  
R: Ductable Zone/Room

# Introduction

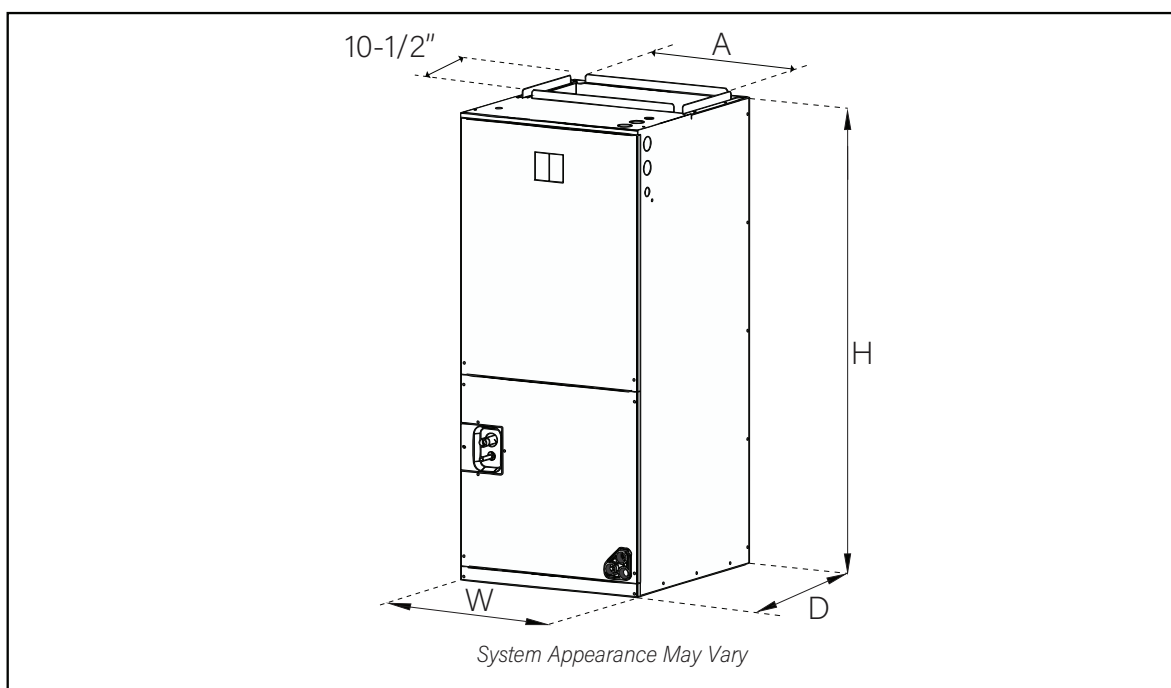
# 1

## Product Specifications

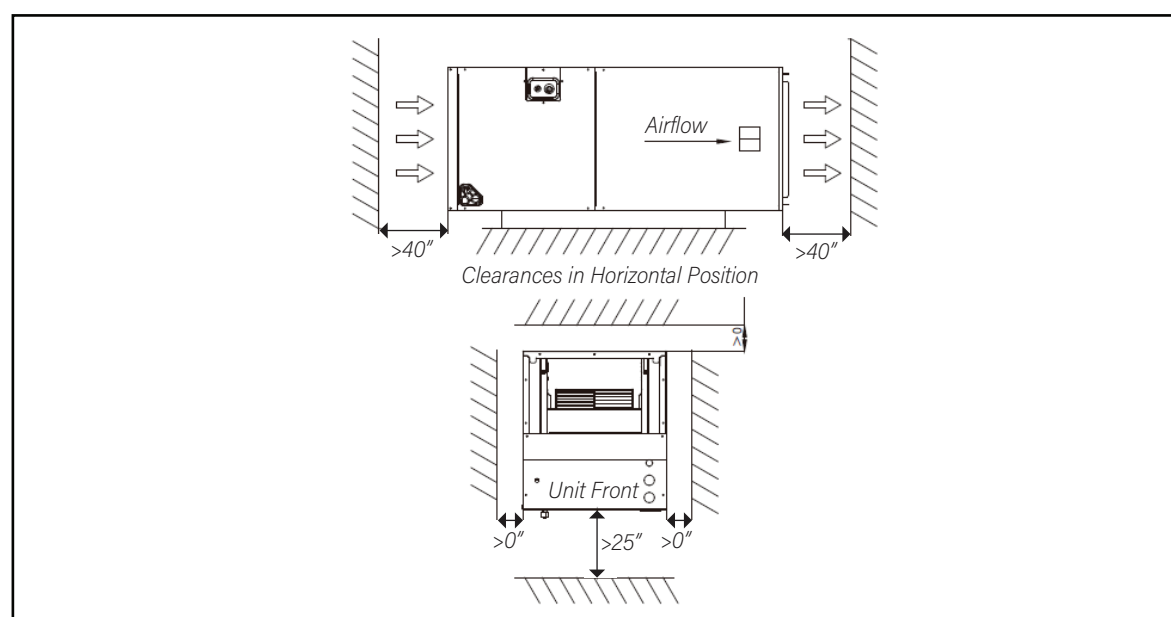
|                                | Unit     | DC024GCSICDHRT           | DC036GCSICDHRT           | DC048GCSICDHRT           | DC060GCSICDHRT           |
|--------------------------------|----------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>Capacity Data</b>           |          |                          |                          |                          |                          |
| Rated Cooling Capacity         | BTU/h    | 24000                    | 34000                    | 47500                    | 55000                    |
| Rated Heating Capacity         | BTU/h    | 24000                    | 34200                    | 48000                    | 57000                    |
| <b>Electrical Data</b>         |          |                          |                          |                          |                          |
| Power Supply                   | V/Ph/Hz  | 208/230 VAC, 1, 60       | 208/230 VAC, 1, 60       | 208/230 VAC, 1, 60       | 208/230 VAC, 1, 60       |
| Min/Max Voltage                | VAC      | 187/253                  | 187/253                  | 187/253                  | 187/253                  |
| Minimum Circuit Ampacity       | A        | 5                        | 5                        | 5                        | 5                        |
| Maximum Circuit Breaker        | A        | 10                       | 10                       | 10                       | 10                       |
| Electric Heater Options        | kW       | 5, 8, 10                 | 5, 8, 10 15              | 5, 8, 10 15, 20          | 5, 8, 10 15, 20          |
| <b>Sound Level</b>             |          |                          |                          |                          |                          |
| Maximum at 100%                | dB(A)    | 51                       | 52                       | 59                       | 59                       |
| <b>Indoor Flow</b>             |          |                          |                          |                          |                          |
| Airflow                        | CFM      | 700                      | 1050                     | 1670                     | 1850                     |
| External Static Pressure       | In. W.C. | 0.5                      | 0.5                      | 0.5                      | 0.5                      |
| <b>Fan Motor</b>               |          |                          |                          |                          |                          |
| Type                           | -        | ECM                      | ECM                      | ECM                      | ECM                      |
| Number of Speeds               | #        | 5                        | 5                        | 5                        | 5                        |
| Rated Power                    | HP       | 1/3                      | 1/2                      | 3/4                      | 3/4                      |
| FLA                            | A        | 2.6                      | 3.8                      | 5.4                      | 5.4                      |
| <b>Refrigeration System</b>    |          |                          |                          |                          |                          |
| Liquid Line Size (OD)          | inches   | 3/8                      | 3/8                      | 3/8                      | 3/8                      |
| Suction Line Side (OD)         | inches   | 3/4                      | 3/4                      | 7/8                      | 7/8                      |
| Connection Type                | -        | Sweat                    | Sweat                    | Sweat                    | Sweat                    |
| Expansion Device               | Type     | TXV                      | TXV                      | TXV                      | TXV                      |
| <b>Wiring Standards</b>        |          |                          |                          |                          |                          |
| Indoor Power Wire              | AWG      | 3*16                     | 3*16                     | 3*16                     | 3*16                     |
| 24V Signal Wire                | AWG      | 18                       | 18                       | 18                       | 18                       |
| RS485 Communications Wire      | Type/AWG | 2 Pin Shielded / 18      | 2 Pin Shielded / 18      | 2 Pin Shielded / 18      | 2 Pin Shielded / 18      |
| <b>Blower</b>                  |          |                          |                          |                          |                          |
| Material                       | -        | Galvanized Plate         | Galvanized Plate         | Galvanized Plate         | Galvanized Plate         |
| Type                           | -        | Centrifugal              | Centrifugal              | Centrifugal              | Centrifugal              |
| Size                           | inches   | 10-3/4 x 10-3/4          | 10-3/4 x 10-3/4          | 10-3/4 x 10-3/4          | 10-3/4 x 10-3/4          |
| Shaft Diameter                 | inches   | 1/2                      | 1/2                      | 1/2                      | 1/2                      |
| <b>Indoor Coil</b>             |          |                          |                          |                          |                          |
| Number of Rows / Coil Quantity | -        | 4 x 2                    | 4 x 2                    | 2 x 4                    | 2 x 4                    |
| Tube Outside Diameter / Type   | inches   | 9/32" / Rifled Copper    | 9/32" / Rifled Copper    | 9/32" / Rifled Copper    | 9/32" / Rifled Copper    |
| Fin Spacing / Thickness        | -        | 15.75 FPI / 3.75 mil     | 15.75 FPI / 3.75 mil     | 15.75 FPI / 3.75 mil     | 15.75 FPI / 3.75 mil     |
| Coil Dimensions                | inches   | 17-5/8 x 16-9/16 x 2-1/8 | 17-5/8 x 16-9/16 x 2-1/8 | 21-1/2 x 20-1/8 x 1-1/16 | 21-1/2 x 20-1/8 x 1-1/16 |
| <b>Physical Parameters</b>     |          |                          |                          |                          |                          |
| Unit Weight                    | lbs      | 130                      | 130                      | 169                      | 169                      |
| Unit Dimensions (WDH)          | inches   | 19-5/8 x 22 x 45-3/4     | 19-5/8 x 22 x 45-3/4     | 22 x 24-1/2 x 53-1/8     | 22 x 24-1/2 x 53-1/8     |

# Dimensions

## Product Dimensions and Required Minimum Clearances



| Central Split Heat Pump | Dimensions (Inches) [mm] |              |               |              |
|-------------------------|--------------------------|--------------|---------------|--------------|
| Model Number            | D                        | W            | H             | A            |
| DC024 / DC036           | 22 [560]                 | 19-5/8 [500] | 45-3/4 [1162] | 17-7/8 [454] |
| DC048 / DC060           | 24-1/2 [623]             | 22 [560]     | 53-1/8 [1350] | 19-1/2 [496] |



# Performance Data

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## Airflow Performance

The airflow data reflects coil performance under cooling conditions and is measured without the air filter installed. When referencing the performance table, select the appropriate product accordingly.

To ensure proper operation in cooling, heating, and electric heating modes, the external static pressure (ESP) must remain within the minimum and maximum limits specified in the table below.

| Model Size of Air Handler | Motor Speed |       | SCFM                                               |            |            |           |           |            |            |            |            |
|---------------------------|-------------|-------|----------------------------------------------------|------------|------------|-----------|-----------|------------|------------|------------|------------|
|                           |             |       | External Static Pressure - Inch Water Column [kPa] |            |            |           |           |            |            |            |            |
|                           |             |       | 0 [0]                                              | 0.1 [0.02] | 0.2 [0.05] | 0.3 [0.7] | 0.4 [0.1] | 0.5 [0.12] | 0.6 [0.15] | 0.7 [0.17] | 0.8 [0.20] |
| 24,000 BTU                | Tap (5)     | SCFM  | 1193                                               | 1130       | 1072       | 1002      | 931       | 853        | 781        | 722        | 653        |
|                           |             | Watts | 139                                                | 145        | 154        | 161       | 171       | 177        | 187        | 197        | 202        |
|                           | Tap (4)     | SCFM  | 1128                                               | 1060       | 998        | 920       | 850       | 766        | 693        | 622        | 573        |
|                           |             | Watts | 117                                                | 122        | 132        | 139       | 148       | 155        | 164        | 170        | 180        |
|                           | Tap (3)     | SCFM  | 1028                                               | 971        | 905        | 827       | 753       | 664        | 598        | 535        | 493        |
|                           |             | Watts | 95                                                 | 102        | 111        | 118       | 127       | 133        | 141        | 148        | 156        |
|                           | Tap (2)     | SCFM  | 907                                                | 826        | 752        | 657       | 574       | 498        | 445        | -          | -          |
|                           |             | Watts | 66                                                 | 71         | 79         | 85        | 93        | 100        | 107        | -          | -          |
|                           | Tap (1)     | SCFM  | 697                                                | 589        | 484        | 382       | 320       | -          | -          | -          | -          |
|                           |             | Watts | 34                                                 | 37         | 45         | 49        | 56        | -          | -          | -          | -          |
| 36,000 BTU                | Tap (5)     | SCFM  | 1491                                               | 1438       | 1390       | 1337      | 1290      | 1245       | 1187       | 1112       | 1053       |
|                           |             | Watts | 250                                                | 256        | 266        | 273       | 284       | 297        | 309        | 317        | 327        |
|                           | Tap (4)     | SCFM  | 1357                                               | 1309       | 1250       | 1206      | 1158      | 1093       | 1018       | 960        | 890        |
|                           |             | Watts | 193                                                | 205        | 209        | 220       | 231       | 239        | 251        | 262        | 268        |
|                           | Tap (3)     | SCFM  | 1238                                               | 1184       | 1115       | 1069      | 1006      | 931        | 870        | 792        | 728        |
|                           |             | Watts | 147                                                | 157        | 163        | 174       | 181       | 193        | 204        | 210        | 220        |
|                           | Tap (2)     | SCFM  | 1116                                               | 1055       | 987        | 932       | 850       | 789        | 720        | 639        | 562        |
|                           |             | Watts | 113                                                | 127        | 128        | 139       | 146       | 157        | 167        | 174        | 183        |
|                           | Tap (1)     | SCFM  | 1061                                               | 937        | 851        | 762       | 692       | 599        | 536        | 472        | 432        |
|                           |             | Watts | 100                                                | 94         | 96         | 104       | 113       | 119        | 128        | 134        | 142        |
| 48,000 BTU                | Tap (5)     | SCFM  | 2081                                               | 2047       | 2011       | 1974      | 1933      | 1884       | 1823       | 1768       | 1718       |
|                           |             | Watts | 520                                                | 532        | 543        | 554       | 566       | 570        | 567        | 563        | 560        |
|                           | Tap (4)     | SCFM  | 1914                                               | 1874       | 1830       | 1787      | 1744      | 1703       | 1660       | 1609       | 1571       |
|                           |             | Watts | 407                                                | 418        | 432        | 439       | 449       | 460        | 473        | 479        | 483        |
|                           | Tap (3)     | SCFM  | 1766                                               | 1720       | 1675       | 1636      | 1588      | 1540       | 1486       | 1441       | 1392       |
|                           |             | Watts | 317                                                | 327        | 337        | 349       | 358       | 367        | 378        | 386        | 403        |
|                           | Tap (2)     | SCFM  | 1559                                               | 1514       | 1462       | 1408      | 1362      | 1318       | 1265       | 1203       | 1137       |
|                           |             | Watts | 214                                                | 235        | 246        | 252       | 263       | 273        | 284        | 296        | 308        |
|                           | Tap (1)     | SCFM  | 1370                                               | 1319       | 1271       | 1215      | 1164      | 1102       | 1035       | 950        | 882        |
|                           |             | Watts | 159                                                | 169        | 179        | 185       | 195       | 207        | 219        | 228        | 239        |
| 60,000 BTU                | Tap (5)     | SCFM  | 2081                                               | 2047       | 2011       | 1974      | 1933      | 1884       | 1823       | 1768       | 1718       |
|                           |             | Watts | 520                                                | 532        | 543        | 554       | 566       | 570        | 567        | 563        | 560        |
|                           | Tap (4)     | SCFM  | 1914                                               | 1874       | 1830       | 1787      | 1744      | 1703       | 1660       | 1609       | 1571       |
|                           |             | Watts | 407                                                | 418        | 432        | 439       | 449       | 460        | 473        | 479        | 483        |
|                           | Tap (3)     | SCFM  | 1766                                               | 1720       | 1675       | 1636      | 1588      | 1540       | 1486       | 1441       | 1392       |
|                           |             | Watts | 317                                                | 327        | 337        | 349       | 358       | 367        | 378        | 386        | 403        |
|                           | Tap (2)     | SCFM  | 1559                                               | 1514       | 1462       | 1408      | 1362      | 1318       | 1265       | 1203       | 1137       |
|                           |             | Watts | 214                                                | 235        | 246        | 252       | 263       | 273        | 284        | 296        | 308        |
|                           | Tap (1)     | SCFM  | 1370                                               | 1319       | 1271       | 1215      | 1164      | 1102       | 1035       | 950        | 882        |
|                           |             | Watts | 159                                                | 169        | 179        | 185       | 195       | 207        | 219        | 228        | 239        |

The highlighted area indicates the airflow within the required range of 300-450cfm/ton.

The design and specifications of this product are subject to change without prior notice as development continues. Consult with the sales agency or manufacturer for details. Refer to the equipment nameplate for all other applicable specifications.



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Parker Davis HVAC International  
7290 NW 77 Court, Miami, FL 33166 - USA  
Tel : (305) 513-4488  
Fax : (305) 513-4499  
E-mail : [info@pdhvac.com](mailto:info@pdhvac.com)  
Website: [www.pdhvac.com](http://www.pdhvac.com)

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