



DUC SERIES

DUC Nomenclature

| | | | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|
| Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Example | D | U | C | 0 | 6 | B | A | A | S | 1 | A | B | A | M |

Model Series

DUC- DIRECT DRIVE

Multiple Position AHU

M -- not used

DRAIN PAN OPTIONS

RETURN AIR CABINET OPTIONS

B -- BOTTOM RETURN (STD)

R -- RIGHT RETURN

L -- LEFT RETURN

CONTROLS

B -- FAN CONTROL 24V (STD)*

Notes:

- *1. Blower time delay on break provided on DX cooling. No time delay provided for chilled water cooling.

MOTOR VOLTAGE/PHASE

1 -- 120/1/60

2 -- 208/240/1/60 (customer to change transformer tap for 208V)

Notes:

1. Motor voltage must match electric heat voltage for single phase electric heat.

FUTURE USE

S -- not used

Unit Size

- 06 -- 600 CFM
- 08 -- 800 CFM
- 10 -- 1000 CFM
- 12 -- 1200 CFM
- 14 -- 1400 CFM
- 16 -- 1600 CFM
- 20 -- 2000 CFM

Primary Coil Type & Capacity

- B -- 3 ROW WATER or LOW CAP
- C -- 4 ROW WATER or HIGH CAP
- D -- 4 ROW DX with biflow TXV (HP ready) R-22
- F -- 4 ROW DX with biflow TXV (HP ready) R-410A
- H -- 4 ROW DX with no metering device R-22/R-410A*

*TXV is shipped separately and field installed.

Secondary coil type and capacity

(2ND COIL IN AIRFLOW)

- A -- NONE OR 2 PIPE CW/HW/DX (Hot Water Top will be provided)
- B -- Electric Heat Ready (field installed Electric Heat)
- 2 -- 2 ROW HW (06 - 12 models only)
- 3 -- 3 ROW HW
- 4 -- 4 ROW HW (14 - 20 models only)
- C -- 3.0 kW - single phase (06 - 12 models only) (1-stage)
- D -- 5.0 kW - single phase (06 - 12 models only) (1-stage)
- E -- 6.0 kW - single phase (06 - 12 models only) (1-stage)
- F -- 8.0 kW - single phase (2-stage)
- G -- 10.0 kW - single phase (2-stage)
- H -- 15.0 kW - single phase (10 - 20 models only) (2-stage)
- I -- 20.0 kW - single phase (14 - 20 models only) (2-stage)

Notes:

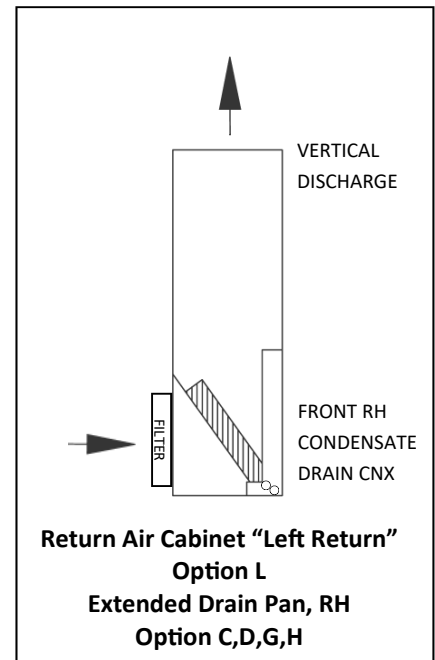
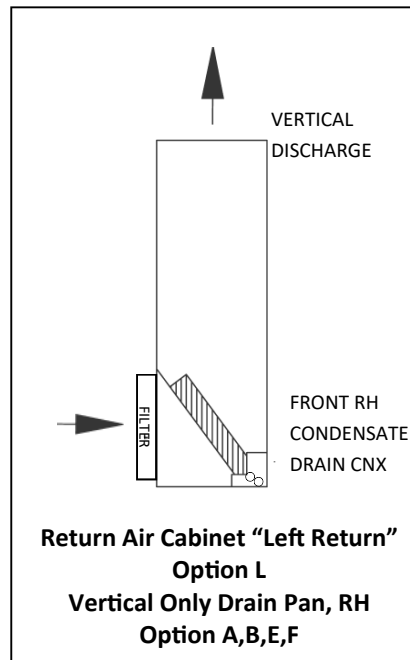
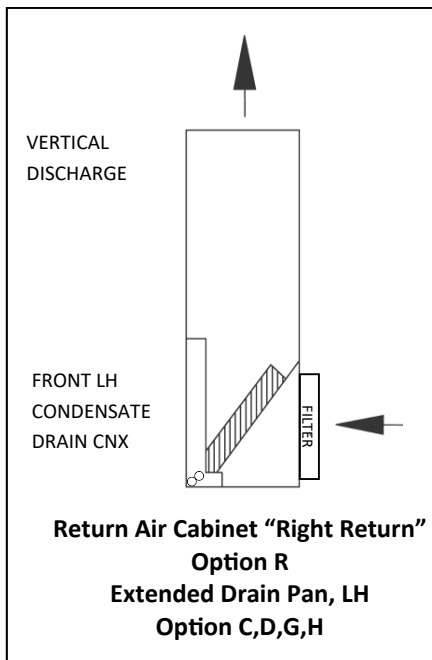
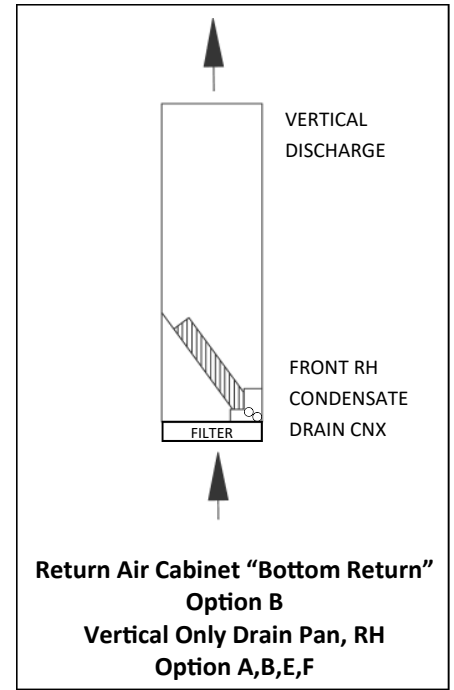
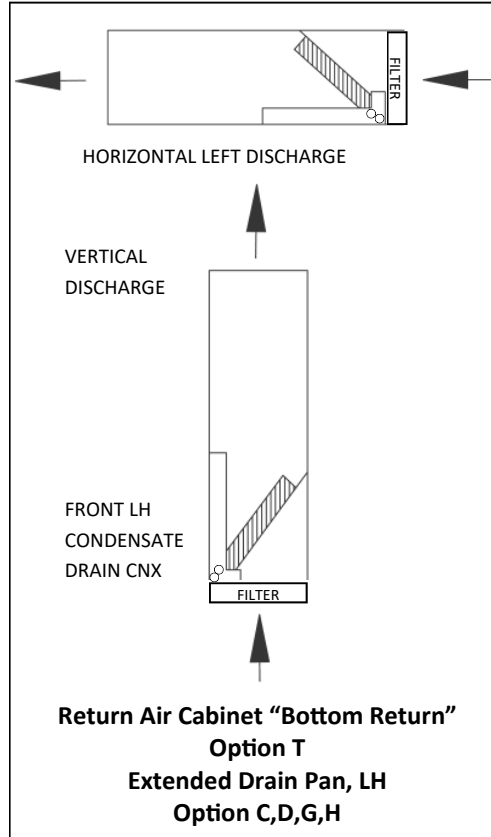
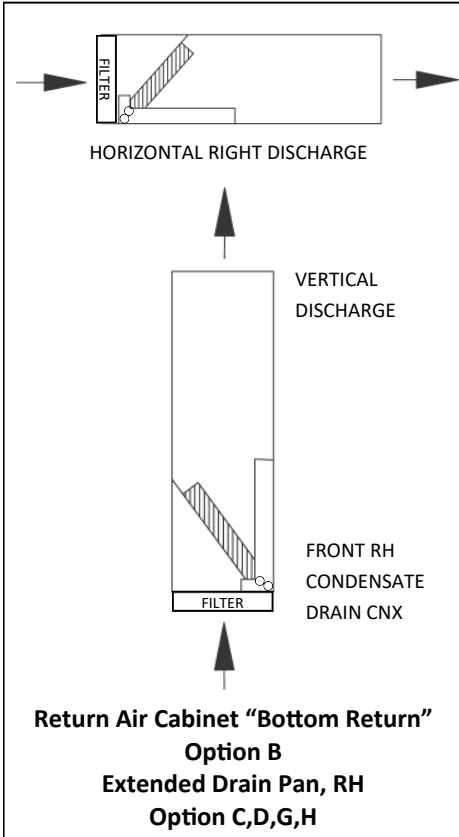
1. Electric Heat kW rated at 240V. 208V Heaters are derated from 240V.
2. Electric Heat complete with molded case switch.
3. 15 and 20 kW shall have two supply circuits.
4. Option "A" is not field convertible to electric heat

FUTURE USE

A -- not used

REFER TO NM4 SELECTION SOFTWARE FOR MODEL NUMBER SELECTION AND AVAILABLE OPTIONS. THIS PAGE FOR REFERENCE ONLY

Cabinet and Drain Pan Configurations



Notes:

1. Return Air Cabinet is model digit 12; Drain pan is digit 13. Refer to New Magic 4 software for selections and performance.
2. All drain pans have front condensate drain connections (primary and auxiliary), and so are RH or LH, not both.



DUC SERIES

Physical Data

| Model DUC | 06 | 08 | 10 | 12 | 14 | 16 | 20 |
|----------------------------------|-----------|-----------|-----------|-----------|-------------|-------------|---------------|
| Nominal Capacity (tons) | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 5 |
| Nominal CFM | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 2000 |
| Fan | | | | | | | |
| Diameter (in) | 9 | 9 | 11 | 11 | 11 | 11 | 12 |
| Width (in) | 6 | 6 | 7 | 7 | 9 | 9 | 9 |
| Filter | | | | | | | |
| Quantity | 1 | | | | | | |
| Nominal Size | 16 x 20 | 16 x 20 | 18 x 24 | 18 x 24 | 20 x 25 | 20 x 25 | 20 x 30 |
| Coils | | | | | | | |
| Face Area - DX (sqft) | 2.01 | 2.01 | 3.06 | 3.06 | 3.97 | 3.97 | 5.24 |
| FPI - DX | 14 | 14 | 14 | 14 | 10 | 10 | 10 |
| Face Area - Chilled Water (sqft) | 2.01 | 2.01 | 3.06 | 3.06 | 3.97 | 3.97 | 5.24 |
| FPI - Chilled Water | - | 10 | - | 10 | - | 10 | 10 |
| Face Area - Hot Water (sqft) | - | 1.72 | - | 2.30 | - | 2.84 | 3.72 |
| FPI - Hot Water | - | 12.00 | - | 12.00 | - | 12.00 | 12.00 |
| Coil Connections | | | | | | | |
| Chilled Water - Supply-Return | 7/8 - 7/8 | 7/8 - 7/8 | 7/8 - 7/8 | 7/8 - 7/8 | 7/8 - 7/8 | 7/8 - 7/8 | 1 1/8 - 1 1/8 |
| Hot Water - Supply-Return | 5/8 - 5/8 | 5/8 - 5/8 | 5/8 - 5/8 | 5/8 - 5/8 | 7/8 - 7/8 | 7/8 - 7/8 | 7/8 - 7/8 |
| DX - Liquid - Suction | 3/8 - 7/8 | 3/8 - 7/8 | 3/8 - 7/8 | 3/8 - 7/8 | 3/8 - 1 1/8 | 3/8 - 1 1/8 | 3/8 - 1 1/8 |
| Condensate Drain Line | | | | | | | |
| Primary | 3/4" FPT | | | | | | |
| Secondary | 3/4" FPT | | | | | | |
| Approximate Weight (lb) | | | | | | | |
| Cooling Only - Electric Heat | 135 | 135 | 145 | 145 | 158 | 158 | 190 |
| Cooling and Hydronic Heating | 160 | 160 | 170 | 170 | 183 | 188 | 220 |
| Unit Dimensions (in) | | | | | | | |
| Height | 46.75 | 46.75 | 51.75 | 51.75 | 55.75 | 55.75 | 57.75 |
| Width | 17.50 | 17.50 | 20.00 | 20.00 | 22.00 | 22.00 | 24.00 |
| Depth | 22.00 | 22.00 | 25.00 | 25.00 | 27.00 | 27.00 | 31.00 |

DUC Chilled Water Unit Dimensional Information

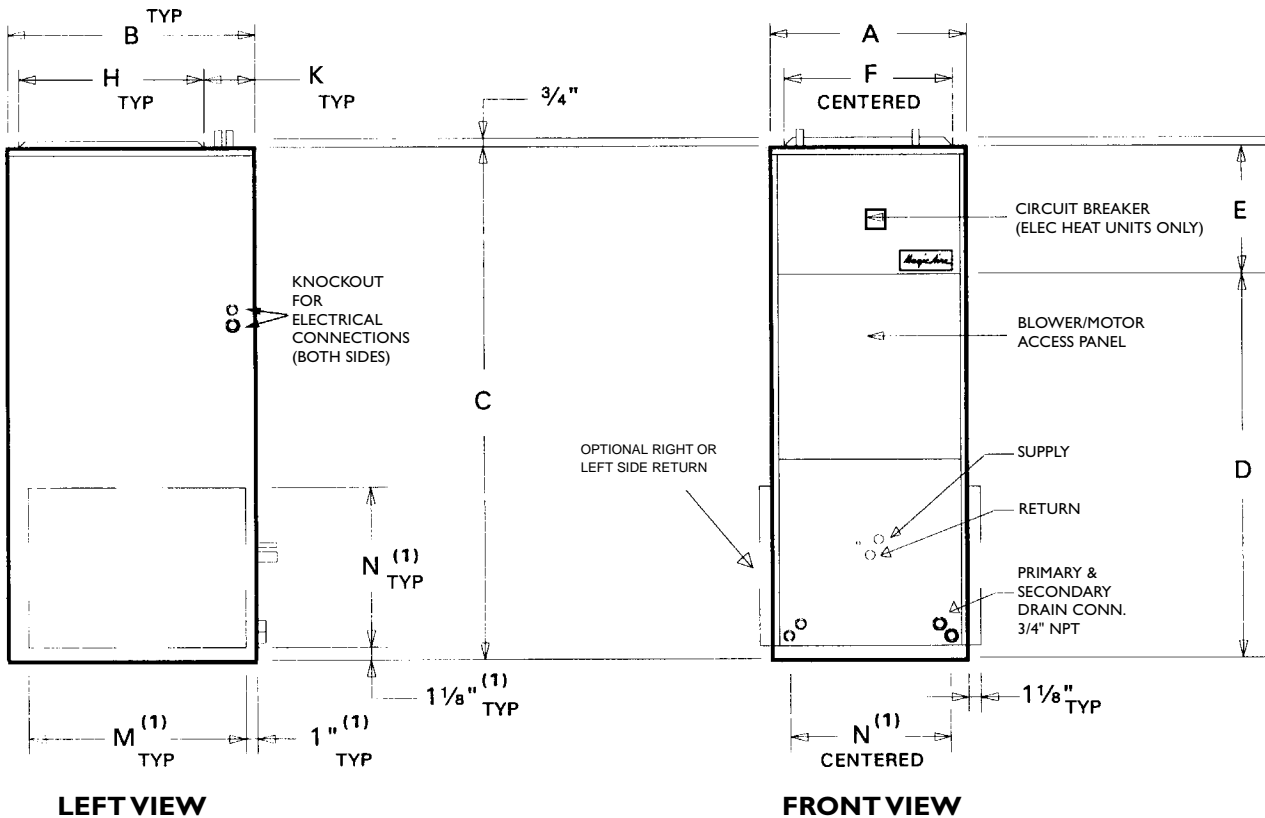
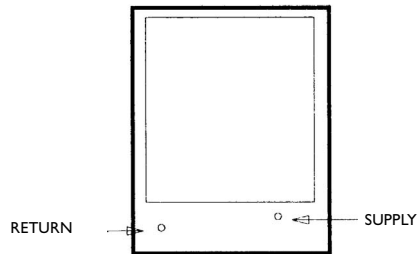
| MODEL | A | B | C | D | E | F | H | K | M | N |
|----------|------|------|------|-------|-------|------|------|------|-------|-------|
| DUC06/08 | 17.5 | 22.0 | 46.0 | 35.75 | 10.25 | 15.0 | 16.5 | 4.63 | 18.25 | 14.31 |
| DUC10/12 | 20.0 | 25.0 | 51.0 | 40.75 | 10.25 | 17.0 | 19.5 | 4.63 | 22.25 | 16.31 |
| DUC14/16 | 22.0 | 27.0 | 55.0 | 43.75 | 11.25 | 19.0 | 21.5 | 4.63 | 23.25 | 18.31 |
| DUC20 | 24.0 | 31.0 | 57.0 | 45.75 | 11.25 | 21.0 | 25.5 | 4.63 | 28.25 | 18.31 |

NOTES:

(I) Return air openings – Side return air openings require selection of correct return air orientation (factory option)

STANDARD CABINET (Cooling & Heating)

TOP VIEW (Hot Water Heat Unit)



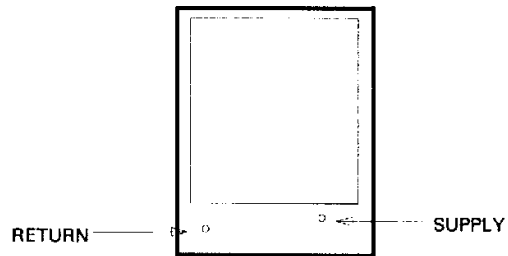
Universal Drain pan (opt) required for horizontal and left-hand conversions.

DUC DX Unit Dimensional Information

| MODEL | A | B | C | D | E | F | H | K | M | N |
|----------|------|------|------|-------|-------|------|------|------|-------|-------|
| DUC06/08 | 17.5 | 22.0 | 46.0 | 35.75 | 10.25 | 15.0 | 16.5 | 4.63 | 18.25 | 14.31 |
| DUC10/12 | 20.0 | 25.0 | 51.0 | 40.75 | 10.25 | 17.0 | 19.5 | 4.63 | 22.25 | 16.31 |
| DUC14/16 | 22.0 | 27.0 | 55.0 | 43.75 | 11.25 | 19.0 | 21.5 | 4.63 | 23.25 | 18.31 |
| DUC20 | 24.0 | 31.0 | 57.0 | 45.75 | 11.25 | 21.0 | 25.5 | 4.63 | 28.25 | 18.31 |

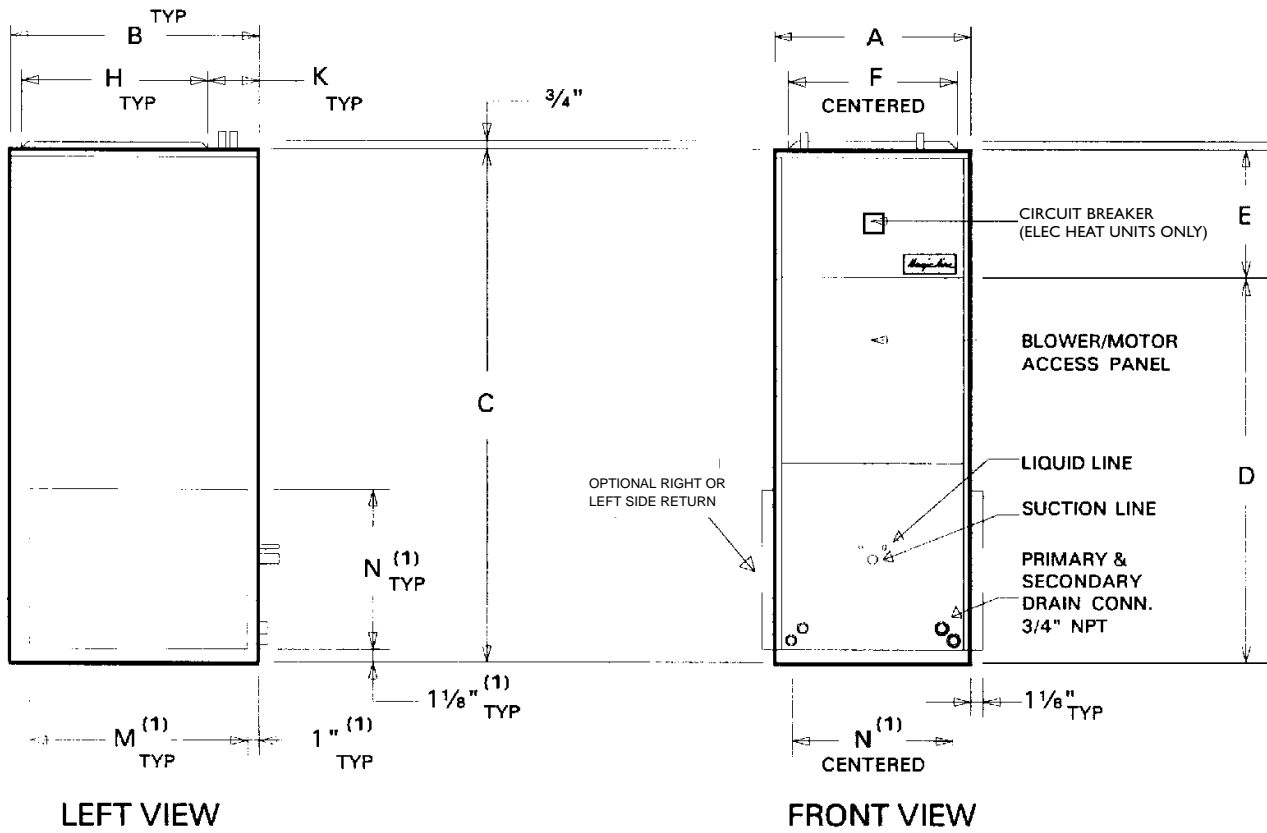
NOTES:

(I) Return air openings – Side return air openings require selection of correct return air orientation (factory option)



TOP VIEW
(HOT WATER HEAT UNIT)

STANDARD
CABINET



Airflow Data – DX Units

| Model | Coil Config | Fan Speed | ESP | | | | |
|-----------|--------------|-----------|------|------|------|------|------|
| | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 |
| DUC-06/08 | DX | HIGH | 899 | 832 | 743 | 635 | 543 |
| | | MED* | 867 | 774 | 712 | 619 | 517 |
| | | LOW** | 837 | 761 | 678 | 599 | 505 |
| | DX/Hot Water | HIGH* | 809 | 736 | 665 | 581 | 488 |
| | | MED | 768 | 706 | 631 | 564 | 471 |
| | | LOW** | 752 | 691 | 615 | 546 | 458 |
| DUC-10/12 | DX | HIGH | 1273 | 1167 | 1042 | 925 | 811 |
| | | MED* | 1229 | 1121 | 1002 | 871 | 711 |
| | | LOW** | 1108 | 1041 | 944 | 823 | 677 |
| | DX/Hot Water | HIGH | 1294 | 1243 | 1175 | 1085 | 1043 |
| | | MED* | 1094 | 1043 | 1004 | 970 | 920 |
| | | LOW** | 956 | 934 | 897 | 851 | 811 |
| DUC-14/16 | DX | HIGH | 1571 | 1458 | 1314 | 1157 | 912 |
| | | MED* | 1446 | 1327 | 1192 | 1022 | 866 |
| | | LOW** | 1371 | 1300 | 1167 | 974 | 802 |
| | DX/Hot Water | HIGH* | 1808 | 1720 | 1637 | 1539 | 1446 |
| | | MED** | 1570 | 1539 | 1462 | 1400 | 1296 |
| | | LOW | 1353 | 1339 | 1271 | 1232 | 1192 |
| DUC-20 | DX | HIGH* | 2234 | 2109 | 1966 | 1823 | 1656 |
| | | MED** | 1753 | 1705 | 1649 | 1552 | 1419 |
| | | LOW | 1511 | 1483 | 1433 | 1367 | 1304 |
| | DX/Hot Water | HIGH* | 2205 | 2176 | 2091 | 2007 | 1959 |
| | | MED** | 1887 | 1870 | 1853 | 1806 | 1764 |
| | | LOW | 1606 | 1599 | 1592 | 1579 | 1558 |

Airflow Data – Chilled Water Units

| Model | Coil Config | Fan Speed | ESP | | | | |
|--------|-------------------------|-----------|------|------|------|------|------|
| | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 |
| DUC-08 | Chilled Water | HIGH | 992 | 917 | 855 | 778 | 681 |
| | | MED | 957 | 891 | 824 | 747 | 654 |
| | | LOW | 929 | 864 | 801 | 726 | 646 |
| | Chilled Water/Hot Water | HIGH | 925 | 861 | 804 | 733 | 645 |
| | | MED | 894 | 836 | 781 | 707 | 629 |
| | | LOW | 876 | 824 | 764 | 689 | 612 |
| DUC-12 | Chilled Water | HIGH | 1372 | 1293 | 1195 | 1083 | 945 |
| | | MED | 1293 | 1209 | 1114 | 1010 | 875 |
| | | LOW | 1233 | 1160 | 1066 | 957 | 834 |
| | Chilled Water/Hot Water | HIGH | 1424 | 1375 | 1324 | 1267 | 1207 |
| | | MED | 1212 | 1183 | 1154 | 1098 | 1056 |
| | | LOW | 1072 | 1051 | 1029 | 1000 | 954 |
| DUC-16 | Chilled Water | HIGH | 1658 | 1539 | 1404 | 1278 | 1121 |
| | | MED | 1504 | 1401 | 1289 | 1166 | 1001 |
| | | LOW | 1376 | 1284 | 1201 | 1079 | 898 |
| | Chilled Water/Hot Water | HIGH | 1880 | 1811 | 1740 | 1666 | 1595 |
| | | MED | 1794 | 1728 | 1666 | 1595 | 1513 |
| | | LOW | 1659 | 1608 | 1548 | 1485 | 1420 |
| DUC-20 | Chilled Water | HIGH | 2145 | 2013 | 1878 | 1732 | 1593 |
| | | MED | 1726 | 1645 | 1567 | 1463 | 1343 |
| | | LOW | 1463 | 1434 | 1381 | 1287 | 1185 |
| | Chilled Water/Hot Water | HIGH | 2240 | 2188 | 2129 | 2063 | 1996 |
| | | MED | 1964 | 1926 | 1893 | 1859 | 1807 |
| | | LOW | 1730 | 1711 | 1686 | 1655 | 1603 |

Notes:

1. Data based on dry coil
2. *Factory setting for whole tonnage units.
3. **Factory setting for partial tonnage units.



DUC ELECTRICAL DATA

120V UNITS

| Model | MOTOR FLA | Coil Configuration | UNIT FLA | MINIMUM CIRCUIT AMPACITY | Maximum Overcurrent Protective Device (A) | MIN WIRE SIZE AWG* |
|----------------|-----------|----------------------|----------|--------------------------|---|--------------------|
| DUC06 DUC08 | 2.9 | CW/DX/EH | 2.9 | 3.6 | 15 | 14 |
| DUC10 | 5.0 | CW / DX and HW | 5 | 6.3 | 15 | 14 |
| DUC12 | 8.4 | CW / DX / EH (no HW) | 8.4 | 10.5 | 15 | 14 |
| DUC14 DUC16 | 11.7 | CW / DX and HW | 11.7 | 14.6 | 25 | 12 |
| DUC20 | 8.4 | CW / DX / EH (no HW) | 8.4 | 10.5 | 15 | 14 |

208-240V UNITS

| Model | MOTOR FLA 240-208V | TOTAL ELECTRIC HT (KW) | | ELECTRIC HEAT AMPS | | | | UNIT FLA | | | | MINIMUM CIRCUIT AMPACITY | | | | Maximum Overcurrent Protective Device (A) | | | | MIN WIRE SIZE AWG* |
|-------------------------|--------------------|------------------------|-------|--------------------|------|------------|------|-----------|------|-----------|------|--------------------------|------|-----------|------|---|----|-----------|-----|--------------------|
| | | 240 | 208 | CIRCUIT 1 | | CIRCUIT 2 | | CIRCUIT 1 | | CIRCUIT 2 | | CIRCUIT 1 | | CIRCUIT 2 | | CIRCUIT 1 | | CIRCUIT 2 | | |
| DUC06 DUC08 | 1.3 | NONE | | NONE | | NONE | | 1.3 | 1.3 | 0.0 | 0.0 | 1.6 | 1.6 | 0.0 | 0.0 | 15 | 15 | n/a | n/a | 14 |
| | 1.3 | 3 | 2.25 | 12.5 | 10.8 | 0.0 | 0.0 | 13.8 | 12.1 | 0.0 | 0.0 | 17.3 | 15.2 | 0.0 | 0.0 | 20 | 20 | n/a | n/a | 12 |
| | 1.3 | 5 | 3.76 | 20.8 | 18.1 | 0.0 | 0.0 | 22.1 | 19.4 | 0.0 | 0.0 | 27.7 | 24.2 | 0.0 | 0.0 | 30 | 25 | n/a | n/a | 10 |
| | 1.3 | 6 | 4.51 | 25.0 | 21.7 | 0.0 | 0.0 | 26.3 | 23.0 | 0.0 | 0.0 | 32.9 | 28.7 | 0.0 | 0.0 | 35 | 30 | n/a | n/a | 8 |
| | 1.3 | 8 | 6.01 | 33.3 | 28.9 | 0.0 | 0.0 | 34.6 | 30.2 | 0.0 | 0.0 | 43.3 | 37.7 | 0.0 | 0.0 | 45 | 40 | n/a | n/a | 8 |
| | 1.3 | 10 | 7.51 | 41.7 | 36.1 | 0.0 | 0.0 | 43.0 | 37.4 | 0.0 | 0.0 | 53.7 | 46.8 | 0.0 | 0.0 | 60 | 50 | n/a | n/a | 6 |
| DUC10 DUC12 | 2.2 | NONE w/HW | | NONE w/HW | | NONE w/HW | | 2.2 | 2.2 | 0.0 | 0.0 | 2.8 | 2.8 | 0.0 | 0.0 | 15 | 15 | n/a | n/a | 14 |
| | 4.2 | NONE-wo/HW | | NONE-wo/HW | | NONE-wo/HW | | 4.2 | 4.2 | 0.0 | 0.0 | 5.3 | 5.3 | 0.0 | 0.0 | 15 | 15 | n/a | n/a | 14 |
| | 4.2 | 3 | 2.25 | 12.5 | 10.8 | 0.0 | 0.0 | 16.7 | 15.0 | 0.0 | 0.0 | 20.9 | 18.8 | 0.0 | 0.0 | 25 | 20 | n/a | n/a | 10 |
| | 4.2 | 5 | 3.76 | 20.8 | 18.1 | 0.0 | 0.0 | 25.0 | 22.3 | 0.0 | 0.0 | 31.3 | 27.8 | 0.0 | 0.0 | 35 | 30 | n/a | n/a | 8 |
| | 4.2 | 6 | 4.51 | 25.0 | 21.7 | 0.0 | 0.0 | 29.2 | 25.9 | 0.0 | 0.0 | 36.5 | 32.3 | 0.0 | 0.0 | 40 | 35 | n/a | n/a | 8 |
| | 4.2 | 8 | 6.01 | 33.3 | 28.9 | 0.0 | 0.0 | 37.5 | 33.1 | 0.0 | 0.0 | 46.9 | 41.4 | 0.0 | 0.0 | 50 | 45 | n/a | n/a | 8 |
| | 4.2 | 10 | 7.51 | 41.7 | 36.1 | 0.0 | 0.0 | 45.9 | 40.3 | 0.0 | 0.0 | 57.3 | 50.4 | 0.0 | 0.0 | 60 | 60 | n/a | n/a | 6 |
| | 4.2 | 15 | 11.27 | 41.7 | 36.1 | 20.8 | 18.1 | 45.9 | 40.3 | 20.8 | 18.1 | 57.3 | 50.4 | 26.0 | 22.6 | 60 | 60 | 30 | 25 | 6 |
| DUC14 DUC16 DUC20 | 3.6 | NONE w/HW | | NONE w/HW | | NONE w/HW | | 3.6 | 3.6 | 0.0 | 0.0 | 4.5 | 4.5 | 0.0 | 0.0 | 15 | 15 | n/a | n/a | 14 |
| | 4.2 | NONE-wo/HW | | NONE-wo/HW | | NONE-wo/HW | | 4.2 | 4.2 | 0.0 | 0.0 | 5.3 | 5.3 | 0.0 | 0.0 | 15 | 15 | n/a | n/a | 14 |
| | 4.2 | 8 | 6.01 | 33.3 | 28.9 | 0.0 | 0.0 | 37.5 | 33.1 | 0.0 | 0.0 | 46.9 | 41.4 | 0.0 | 0.0 | 50 | 45 | n/a | n/a | 8 |
| | 4.2 | 10 | 7.51 | 41.7 | 36.1 | 0.0 | 0.0 | 45.9 | 40.3 | 0.0 | 0.0 | 57.3 | 50.4 | 0.0 | 0.0 | 60 | 60 | n/a | n/a | 6 |
| | 4.2 | 15 | 11.27 | 41.7 | 36.1 | 20.8 | 18.1 | 45.9 | 40.3 | 20.8 | 18.1 | 57.3 | 50.4 | 26.0 | 22.6 | 60 | 60 | 30 | 25 | 6 |
| | 4.2 | 20 | 15.02 | 41.7 | 36.1 | 41.7 | 36.1 | 45.9 | 40.3 | 41.7 | 36.1 | 57.3 | 50.4 | 52.1 | 45.1 | 60 | 60 | 60 | 50 | 6 |

Notes:

- *1. Minimum Wire Gauge is based upon Circuit 1 ampacity and the use of 75C wire at the unit.
- 2. 15 and 20 KW Heating units require two supply circuits.

LEGEND

- CW - Chilled Water Coil
- DX - Direct Expansion Coil
- HW - Hot Water coil
- EH - Electric Heat