# VCH/HCH AIR HANDLER

| SPECIFICATIONS – Performance per ARI Std. 210/240 | | | | | | Model 070 | | | |
|---|---|---|---|---|---|---|---|---|---|
| PERFORMANCE | Applied with | SEER | COP | CFM | Cooling Sensible BTUH | Cooling Total | Heating Total BTUH | | |
| | RC054E | 10.3 | — | 2,000 | 44,900 | 60,700 | — | | |
| | RC64E | 9.5 | — | 2,200 | 49,700 | 68,400 | — | | |
| | — | — | — | — | — | — | — | | |
| | — | — | — | — | — | — | — | | |
| | — | — | — | — | — | — | — | | |
| | — | — | — | — | — | — | — | | |
| | — | — | — | — | — | — | — | | |
| ELECTRICAL DATA | SERVICE | | | | Voltage-Phase-Hz | 208/2 | 208/2 | 460-3- | 380/415-3-50 |
| | 1 HP MOTOR | | | | FLA | 6.4 | 3.6 | 1.8 | 1.9 |
| | | | | | Unit Minimum Circuit Ampacity | 8 | 5 | 3 | 3 |
| | | | | | Max. Time Delay Fuse or HACR Breaker | 15 | 15 | 15 | 15 |
| | 1 ½ HP MOTOR | | | | FLA | 7.7 | 4.6 | 2.3 | 2.7 |
| | | | | | Unit Minimum Circuit Ampacity | 10 | 6 | 3 | 4 |
| | | | | | Max. Time Delay Fuse or HACR Breaker | 15 | 15 | 15 | 15 |
| | 2 HP MOTOR | | | | FLA | 13.0 | 6.2 | 3.1 | 3.5 |
| | | | | | Unit Minimum Circuit Ampacity | 17 | 8 | 4 | 5 |
| | | | | | Max. Time Delay Fuse or HACR Breaker | 25 | 15 | 15 | 15 |
| MECHANICAL DATA | EVAPORATOR BLOWER | | | | DWDI, Dia." x Width" (Qty.) | 12 x 12 (1) | | | |
| | DX Coil | | | | Face Area – Sq. Ft. | 5.2 | | | |
| | | | | | Rows Deep — Fins per Inch | 4 — 12 | | | |
| | Hot Gas Reheat Coil | | | | Face Area – Sq. Ft. | 4.5 | | | |
| | | | | | Rows Deep — Fins per Inch | 1 / 10 | | | |
| | Liquid Sub Cooling Coil | | | | Face Area – Sq. Ft. | 4.5 | | | |
| | | | | | Rows Deep — Fins per Inch | 1 / 10 | | | |
| | Chill Water Coil | | | | Face Area – Sq. Ft. | 5.2 | | | |
| | | | | | Rows Deep — Fins per Inch | 4/12 | | | |
| | Hydronic Heat Coil | | | | Face Area – Sq. Ft. | 5.2 | | | |
| | | | | | Rows Deep — Fins per Inch | 1/8 | | | |
| | Steam Coil | | | | Face Area – Sq. Ft. | 5.0 | | | |
| | | | | | Rows Deep — Fins per Inch | 1/8 | | | |
| | Refrigerant Connections | | | | Suction Line (Number) Size | (1) 1 1/8" | | | |
| | | | | | Liquid Line (Number) Size | (1) 3/8 | | | |
| | Condensate Drain | | | | (Number) Size | (1) ¾" | | | |
| | Filters | | | | (Number) Size | (2) 18 x 22 x 2 | | | |
| | WEIGHTS | | | | Unit (lbs) | 255 | | | |
| | | | | | Shipping Weight(lbs) | 290 | | | |

**Blower Performance**

| | External Static Pressure - Inches $H_2O$ | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | | 1.4 | | 1.6 | |
| CFM | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP |
| 1800 | 770 | 0.6 | 845 | 0.7 | 930 | 0.7 | 1010 | 0.8 | 1080 | 0.9 | 1145 | 1.0 | 1210 | 1.1 |
| 2000 | 800 | 0.7 | 870 | 0.8 | 950 | 0.8 | 1020 | 0.9 | 1100 | 1.1 | 1160 | 1.2 | 1220 | 1.3 |
| 2200 | 830 | 0.8 | 895 | 0.9 | 970 | 0.9 | 1035 | 1.0 | 1120 | 1.2 | 1180 | 1.3 | 1230 | 1.4 |
| 2400 | 860 | 0.9 | 920 | 1.0 | 990 | 1.0 | 1055 | 1.1 | 1125 | 1.3 | 1185 | 1.4 | 1235 | 1.5 |
| 2600 | 885 | 1.0 | 945 | 1.0 | 1010 | 1.2 | 1070 | 1.3 | 1130 | 1.4 | 1190 | 1.5 | 1240 | 1.6 |

Notes: 1. For units with electric heat, add 0.20 inches External Static Pressure prior to making R.P.M and B.H.P. selection.
2. For units with discharge plenum, add 0.02 inches to External Static Pressure prior to making R.P.M and B.H.P selection.
2. Tables can be interpolated but not extrapolated.

## Heating Coil Capacities

| CFM | Steam Coil | | Hot Water Coil | | | |
|---|---|---|---|---|---|---|
| | Heating Capacity BTUH* | °F Lvg. Air Temp. | Heating Capacity BTUH** | °F Lvg. Air Temp. | GPM | W.P.D. Ft. Head |
| 1800 | 106,370 | 124.3 | 66,700 | 103.9 | 6.9 | 1.4 |
| 2000 | 112,930 | 121.9 | 70,600 | 102.3 | 7.3 | 1.6 |
| 2200 | 119,090 | 119.7 | 74,300 | 100.9 | 7.6 | 1.8 |
| 2400 | 124,880 | 117.8 | 77,900 | 99.6 | 8.0 | 2.0 |
| 2600 | 130,360 | 116.0 | 81,100 | 98.5 | 8.3 | 2.1 |

Note: Leaving air temperatures are based on 70°F entering air.

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Listed

## Steam Coil Correction Factors

| Steam Pressure | | 2 PSIG | 5 PSIG |
|---|---|---|---|
| Entering Air Temp. °F | 40° | 1.12 | 1.25 |
| | 50° | 1.13 | 1.18 |
| | 60° | 1.06 | 1.11 |
| | 70° | 1.00 | 1.05 |

## Hot Water Coil Correction Factors

| Entering Water | Entering Air Temp. | | | |
|---|---|---|---|---|
| Temp. °F | 40° | 50° | 60° | 70° |
| 160° | 0.96 | 0.90 | 0.82 | 0.74 |
| 180° | 1.08 | 1.02 | 0.95 | 0.87 |
| 200° | 1.23 | 1.16 | 1.08 | 1.00 |

## 4 Row Chilled Water Coil Performance with 45° entering water

| | | Entering Air to Coil | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 75° F DB | | | 80° F DB | | | 85° F DB | | |
| CFM | Capacity | 63°F WB | 67°F WB | 71°F WB | 63°F WB | 67°F WB | 71°F WB | 63°F WB | 67°F WB | 71°F WB |
| 1800 | Total | 38,800 | 52,600 | 77,500 | 48,300 | 55,900 | 77,200 | 57,200 | 61,500 | 78,000 |
| | Sensible | 36,200 | 33,600 | 33,200 | 47,800 | 44,300 | 42,900 | 57,200 | 55,600 | 52,800 |
| | LAT | 56.7/55.7 | 58.1/57.8 | 58.3/58.3 | 55.9/53.7 | 57.7/57.1 | 58.4/58.2 | 55.7/51.8 | 57.0/56.0 | 58.4/58.0 |
| | GPM | 7.7 | 10.5 | 15.4 | 9.6 | 11.1 | 15.3 | 11.4 | 12.2 | 15.5 |
| | Δ P | 2.9 | 5.2 | 11.0 | 4.4 | 5.9 | 10.9 | 6.1 | 7.0 | 11.2 |
| **2200** | Total | 45,900 | 60,800 | 88,900 | 57,000 | 65,100 | 88,600 | 67,500 | 71,900 | 89,300 |
| | Sensible | 43,200 | 39,600 | 38,400 | 56,600 | 52,500 | 50,000 | 67,500 | 66,000 | 62,000 |
| | LAT | 57.2/55.9 | 58.7/58.4 | 59.2/59.1 | 56.7/54.0 | 58.3/57.6 | 59.4/59.1 | 56.7/52.2 | 57.8/56.5 | 59.4/58.9 |
| | GPM | 9.1 | 12.1 | 17.7 | 11.3 | 12.9 | 17.6 | 13.4 | 14.3 | 17.7 |
| | Δ P | 4.0 | 6.9 | 14.3 | 6.1 | 7.9 | 14.3 | 8.5 | 9.5 | 14.5 |
| 2600 | Total | 52,300 | 68,200 | 98,100 | 63,900 | 73,300 | 97,800 | 77,300 | 81,500 | 98,800 |
| | Sensible | 49,600 | 45,100 | 42,700 | 63,900 | 60,200 | 56,300 | 77,300 | 75,700 | 70,300 |
| | LAT | 57.7/56.2 | 59.3/58.8 | 60.1/60.0 | 57.3/54.5 | 59.0/58.1 | 60.4/60.0 | 57.6/52.5 | 58.6/57.0 | 60.5/59.8 |
| | GPM | 10.4 | 13.5 | 19.5 | 12.7 | 14.6 | 19.4 | 15.4 | 16.2 | 19.6 |
| | Δ P | 5.1 | 8.6 | 17.3 | 7.6 | 9.9 | 17.2 | 11.0 | 12.1 | 17.6 |

## 6 Row Chilled Water Coil Performance with 45° entering water

| | | Entering Air to Coil | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 75° F DB | | | 80° F DB | | | 85° F DB | | |
| CFM | Capacity | 63°F WB | 67°F WB | 71°F WB | 63°F WB | 67°F WB | 71°F WB | 63°F WB | 67°F WB | 71°F WB |
| 1800 | Total | 45,400 | 56,100 | 81,300 | 51,000 | 65,400 | 84,200 | 62,400 | 74,800 | 89,400 |
| | Sensible | 40,100 | 35,000 | 34,600 | 51,000 | 48,500 | 45,600 | 62,400 | 62,300 | 57,500 |
| | LAT | 54.8/54.3 | 57.4/57.2 | 57.6/57.5 | 53.9/53.1 | 55.5/55.3 | 57.0/56.9 | 53.0/50.6 | 53.6/53.2 | 56.0/55.8 |
| | GPM | 9.0 | 11.1 | 16.2 | 10.1 | 13.0 | 16.7 | 12.4 | 14.9 | 17.7 |
| | Δ P | 0.3 | 0.4 | 1.0 | 0.3 | 0.6 | 1.1 | 0.6 | 0.9 | 1.2 |
| **2200** | Total | 54,400 | 67,200 | 95,800 | 61,200 | 78,000 | 99,500 | 74,700 | 88,700 | 105,600 |
| | Sensible | 48,300 | 42,100 | 40,900 | 61,200 | 58,300 | 54,300 | 74,700 | 74,700 | 68,700 |
| | LAT | 55.1/54.5 | 57.6/57.4 | 58.1/58.0 | 54.3/53.3 | 55.9/55.6 | 57.6/57.4 | 53.7/50.9 | 54.2/53.7 | 56.7/56.4 |
| | GPM | 10.8 | 13.4 | 19.0 | 12.2 | 15.5 | 19.7 | 14.8 | 17.7 | 21.0 |
| | Δ P | 0.4 | 0.7 | 1.3 | 0.5 | 0.9 | 1.4 | 0.8 | 1.2 | 1.6 |
| 2600 | Total | 63,200 | 77,800 | 109,200 | 70,900 | 89,900 | 113,700 | 86,500 | 101,800 | 120,800 |
| | Sensible | 56,300 | 49,000 | 46,700 | 70,900 | 67,700 | 62,500 | 86,500 | 86,700 | 79,400 |
| | LAT | 55.4/54.7 | 57.9/57.6 | 58.7/58.6 | 54.9/53.5 | 56.4/55.9 | 58.2/58.0 | 54.3/51.2 | 54.8/54.2 | 57.3/56.9 |
| | GPM | 12.6 | 15.5 | 21.7 | 14.1 | 17.9 | 22.6 | 17.2 | 20.2 | 24.0 |
| | Δ P | 0.6 | 0.9 | 1.7 | 0.8 | 1.2 | 1.8 | 1.1 | 1.5 | 2.0 |

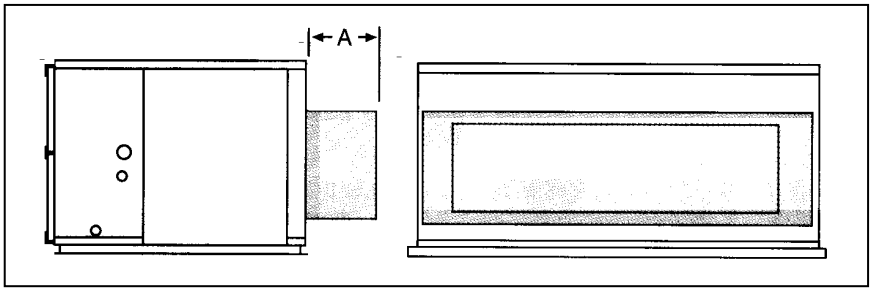
## Optional Factory Installed Electric Heat

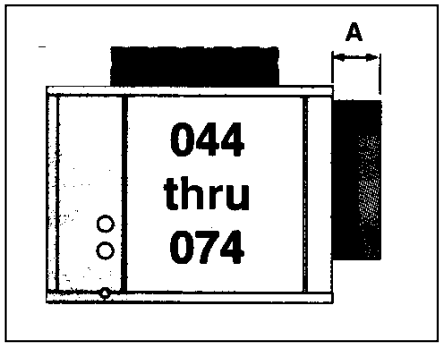
| CFM | KW--> | 5 | 10 | 15 | 20 | 25 |
|---|---|---|---|---|---|---|
| | MBH | 17.1 | 34.1 | 51.2 | 68.3 | 85.3 |
| 1800 | Rise | 8.7 | 17.5 | 26.2 | 35.0 | 43.7 |
| 2200 | | 7.1 | 14.3 | 21.4 | 28.6 | 35.7 |
| 2600 | | 6.0 | 12.1 | 18.1 | 24.2 | 30.2 |
| | | | | | | |
| 208v 1phase | Amps | 24.0 | 48.1 | 72.1 | 96.2 | 120.2 |
| 208v 3 phase | | 13.9 | 27.8 | 41.6 | 55.5 | 69.4 |
| 240v 1 phase | | 20.8 | 41.7 | 62.5 | 83.3 | 104.2 |
| 240v 3 phase | | 12.0 | 24.1 | 36.1 | 48.1 | 60.1 |
| 480v 3 phase | | 6.0 | 12.0 | 18.0 | 24.1 | 30.1 |

## Recommended Refrigerant Line Sizes – O.D.

| Equivalent Line Length — Feet | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 to 25 | | | | | 26 to 50 | | | | | 51 to 75 | | | | |
| | | | Hot Gas Reheat | | | | | Hot Gas Reheat | | | | | Hot Gas Reheat | |
| Suction | Liquid | Hot Gas Bypass | S | R | Suction | Liquid | Hot Gas Bypass | S | R | Suction | Liquid | Hot Gas Bypass | S | R |
| 1 1/8 | 3/8 | 1/2 | 1/2 | 3/8 | 1 1/8 | 1/2 | 5/8 | 1/2 | 3/8 | 1 1/8 | 1/2 | 5/8 | 1/2 | 3/8 |

Notes: 1. Line lengths are equivalent, including all fittings. Use long radius ells only. 2. Line sizes are for both vertical and horizontal runs.
3. Liquid line sizes and hot gas reheat return line sizes are designed to minimize system refrigerant charge.
4. Over 75 equivalent feet, consult factory for sizing recommendations.
5. Over 75 total feet, a special hot gas bypass system must be installed in the condensing unit **with an oil separator**. **Contact factory.**
6. "S" = Hot gas supply line from RC to VC/HC; "R" = Hot gas return line from VC/HC to RC unit. *Hot gas bypass and hot gas reheat only on lead circuit of dual circuit units. Hot gas bypass and hog gas reheat normally not available for heat pump use.

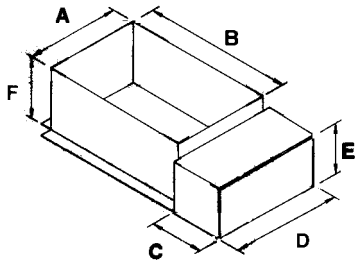



**HCH and VCH Discharge electric Heaters**
**Standard Depth in Direction of Airflow**

| KW Range | Dim. A (In.) |
|---|---|
| 1 – 25 | 12 |

**Note**: Above values for Dim. A are for standard heaters, with or without air pressure switch, staging relay and non-fused disconnect. Addition of more options may require longer Din. A. If space considerations are critical, contact factory for exact information.
**Note**: electric heat sections are designed for mounting directly to air handler cabinet. Electrical box is on the same end as air handler fan motor. Sub-circuit fusing is included when required. Disconnect to be furnished and filed installed by contractor.



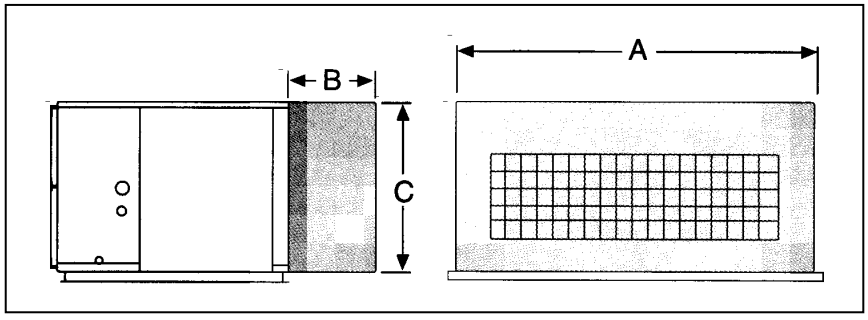

| Electric Heaters | | | | | | |
|---|---|---|---|---|---|---|
| kW Range | A | B | C* | D* | E | F |
| 1 – 20 | 20 1/4 | 20 1/4 | 10 | 22 1/4 | 11 | 12 |
| 21 - 25 | 20 1/4 | 20 1/4 | 12 | 22 1/4 | 11 | 12 |

* These dimensions may vary with added heater options. Contact factory if space considerations are critical.

### Discharge Plenum with 4 way Adjustable Grill

| | A | B | C |
|---|---|---|---|
| HCH Model | 38 1/2 | 14 | 25 |
| VCH Model | — | — | — |

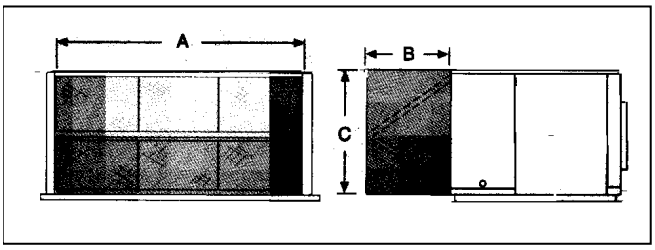
Plenums are fully insulated and shipped separate for field assembly to the air handler and can be installed 180 degrees from the view shown on the drawing.

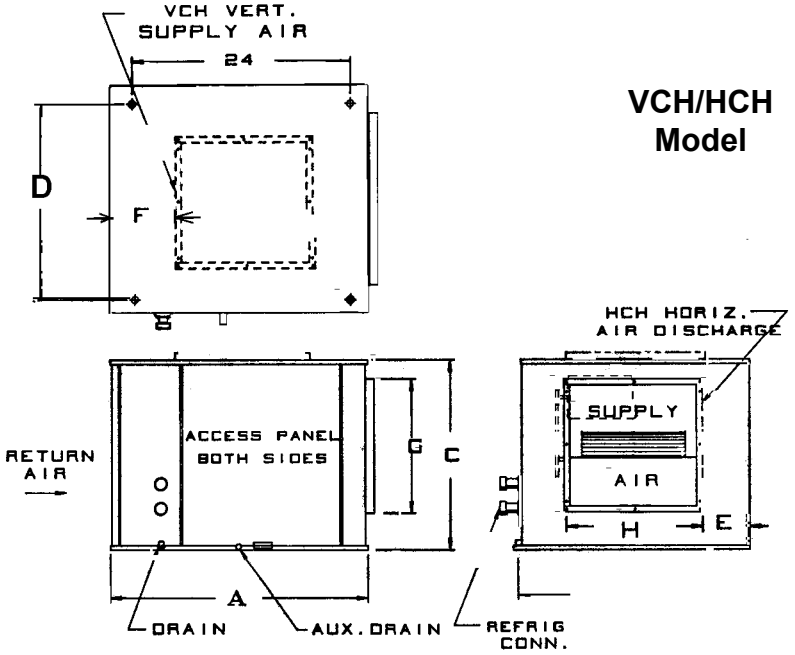


**Angle Filter Section**

| | A | B | C | Filters, Qty. - Size |
|---|---|---|---|---|
| **HCH** | 36 1/2 | 25 | 23 | 2 – 20 x 20 / 2 – 16 x 20 |
| **VCH** | — | — | — | — |

Filter sections are fully insulated and shipped separate for field assembly to the air handler. 2-inch glass fiber media filters standard.




**VCH/HCH Model**

| Dimensions | | | | | | | | Return Air Size | |
|---|---|---|---|---|---|---|---|---|---|
| **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **Width** | **Height** |
| 33 | 38 1/2 | 25 | 36 | 10 3/16 | 6 7/8 | 16 1/8 | 18 | 34 | 20 |

Specifications subject to change without notice

**Installation Code and Annual Inspections:**
All installations and service of ADDISON equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Addison and conform to all requirements set forth in the ADDISON manuals and all applicable governmental authorities pertaining to the installation, service and operation of the equipment. To help facilitate optimum performance and safety, Addison recommends that a qualified contractor annually inspect your ADDISON equipment and perform service where necessary, using only replacement parts sold and supplied by ADDISON.

**Further Information:** Applications, engineering and detailed guidance on systems design, installation and equipment performance is available through ADDISON representatives. Please contact us for any further information you may require, including the Installation, Operation and Service Manual.

**These products are not for residential use.**

**This document is intended to assist licensed professionals in the exercise of their professional judgment.**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