

| Air Handler Heat Pump System |                             |
|------------------------------|-----------------------------|
| Location:                    | Approval:                   |
| Engineer:                    | Date:                       |
| Submitted to:                | Construction:               |
| Submitted by:                | Unit Qty:                   |
| Reference:                   | Unit Designation (Model #): |



| INDOOR SPECIFICATION                |                           |
|-------------------------------------|---------------------------|
| Indoor Air Flow (High/Low) (CFM)    | 965/766                   |
| Indoor Noise Level (High/Low) (dBA) | 49                        |
| Dimension (W×D×H)                   | 22-3/64×19-3/32×39-9/16   |
|                                     | 560×485×1005              |
| Package (W×D×H)                     | 24-21/64×21-9/64×42-53/64 |
|                                     | 620×538×1085              |
| Net/Gross Weight                    | 88/95                     |
|                                     | 39.9/43.1                 |

| OUTDOOR SPECIFICATION        |                         |
|------------------------------|-------------------------|
| Compressor Type              | TWIN-ROTARY             |
| Compressor Model             | KTM240D57UMT            |
| Refrigerant                  | R32                     |
| Refrigerant Oil Charge(mL)   | 670                     |
| Refrigerant Oil              | VG74                    |
| Outdoor Air Flow (Max) (CFM) | 2800.0                  |
| Outdoor Noise Level (dBA)    | 59                      |
| Dimension (W×D×H)            | 29-9/64×29-9/64×25      |
|                              | 740×740×635             |
| Package (W×D×H)              | 30-5/16×30-5/16×26-3/16 |
|                              | 770×770×665             |
| Net/Gross Weight             | 140/148                 |
|                              | 63.5/67                 |

| EFFICIENCY |      |         |      |
|------------|------|---------|------|
| Cooling    |      | Heating |      |
| SEER2      | 15.0 | HSPF2-5 | 7.2  |
| EER2       | 9.5  | COP     | 3.50 |

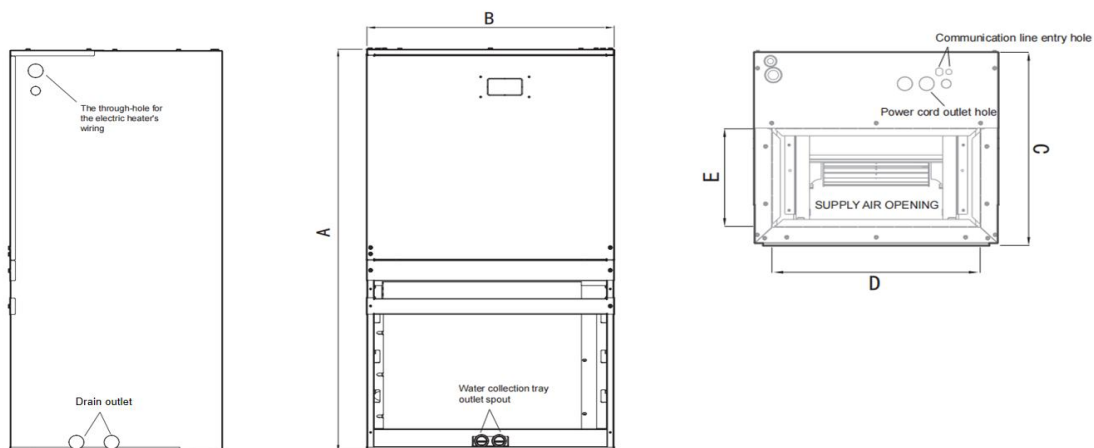
| PERFORMANCE of Cooling          |               |
|---------------------------------|---------------|
| Cooling (Btu/hr)                |               |
| Rated Capacity                  | 30000         |
| Min/Max Capacity                | 9800~32000    |
| Moisture Removal(L/h)           | 3.1           |
| Standard Operating Range(*F/*C) | 5~131(-15~55) |
| Rated Cooling Conditions:       |               |
| Indoor: 80°F DB/67°F WB         |               |
| Outdoor: 95°F DB/75°F WB        |               |

| PERFORMANCE of Heating            |               |
|-----------------------------------|---------------|
| Heating (Btu/hr)                  |               |
| 1. @ 47°F Rated                   | 31000         |
| 2. @ 47°F Min/Max Capacity        | 11500~34000   |
| 3. @ 17°F Rated                   | 16000         |
| 4. @ 5°F Rated: Capacity / COP    | 20000/1.9     |
| 5. @ 5°F Max: Capacity            | 23000         |
| Standard Operating Range(*F/*C)   | -4~75(-20~24) |
| 1. Rated Heating Conditions:      |               |
| Indoor: 70°F DB/60°F WB           |               |
| Outdoor: 47°F DB/43°F WB          |               |
| 2. Rated Heating Conditions:      |               |
| Indoor: 70°F DB/60°F WB           |               |
| Outdoor: 17°F DB/15°F WB          |               |
| 3. Heating Conditions, Compressor |               |
| Indoor: 70°F DB/60°F WB           |               |
| Operating at Max. Frequency       |               |
| Outdoor: 5°F DB/5°F WB            |               |

| ELECTRICAL                       |                                        |
|----------------------------------|----------------------------------------|
| Indoor Power Supply              | 208/230V,60Hz,1Ph                      |
| Indoor MCA 115V/(208/230V)       | 2.8                                    |
| Indoor MOP                       | 3                                      |
| Outdoor Power Supply             | 208/230V,60Hz,1Ph                      |
| Outdoor MCA                      | 22.5                                   |
| Outdoor MOP                      | 25                                     |
| Communication Wiring             | AWG 25×3 Shielded                      |
| Compressor RLA                   | 9.45                                   |
| Outdoor Fan Motor RLA            | 2.3                                    |
| Outdoor Fan Motor W              | 200                                    |
| Indoor Fan Motor RLA             | 2.23                                   |
| Indoor Fan Motor W               | 220                                    |
| System Power Input @ Cooling (W) | 3157.89473684211(400~3200)             |
| System Power Input @ Heating (W) | 2700(550~3250)                         |
| MCA: Min. circuit amps (A)       | MOCP: Max. over current protection (A) |
| RLA: Rated load amps (A)         | W: Fan motor rated output (W)          |

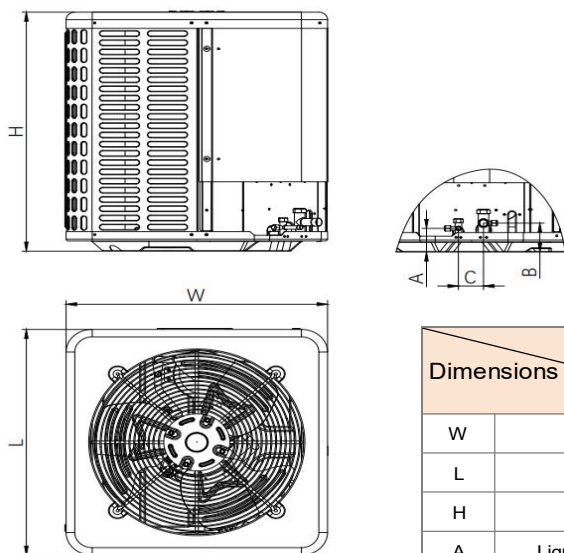
| PIPING                                          |               |
|-------------------------------------------------|---------------|
| Throttle type(Indoor)                           | Piston        |
| Throttle type(Outdoor)                          | Capillary     |
| Liquid Size                                     | 9.52mm(3/8in) |
| Gas Size                                        | 19mm(3/4in)   |
| Max. Piping Length(ft/m)                        | 164(50)       |
| Max. Height Difference(ft/m)                    | 82(25)        |
| Max. Pre-charged Length(ft/m)                   | 24.6(7.5)     |
| Refrigerant Pre-charged Amount(oz/kg)           | 102.29(2.9)   |
| Additional Charge of Refrigerant((oz/ft)/(g/m)) | 0.52(48)      |
| Connection Method                               | Flared        |

## Indoor Unit Dimension



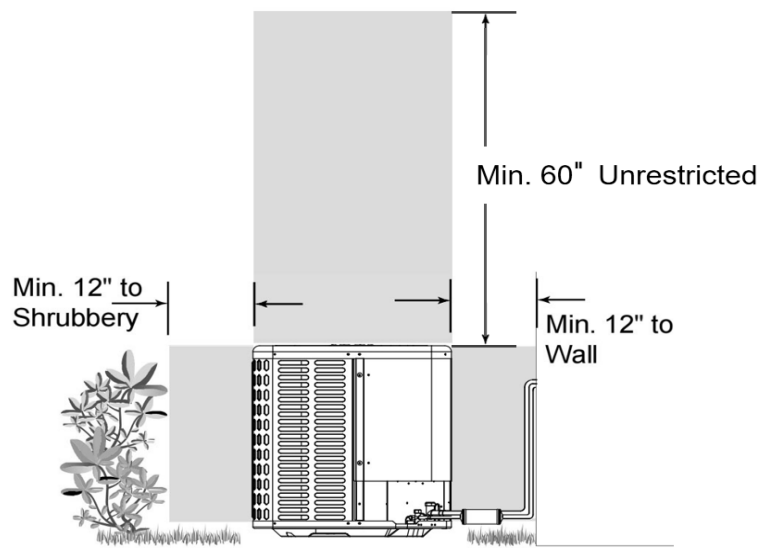
| Dimensions \ Model |                          | 18/24K   |     | 24/36K   |      |
|--------------------|--------------------------|----------|-----|----------|------|
|                    |                          | inch     | mm  | inch     | mm   |
| A                  | Model Height             | 36-1/32  | 915 | 39-9/16  | 1005 |
| B                  | Model width              | 20-15/32 | 520 | 22-3/64  | 560  |
| C                  | Supply Air Opening width | 14-61/64 | 380 | 19-3/32  | 485  |
| D                  | Return Air Opening Width | 17-33/64 | 445 | 18-57/64 | 480  |
| E                  | Model Depth              | 9-29/64  | 240 | 9-27/32  | 250  |

## Outdoor Unit Dimension

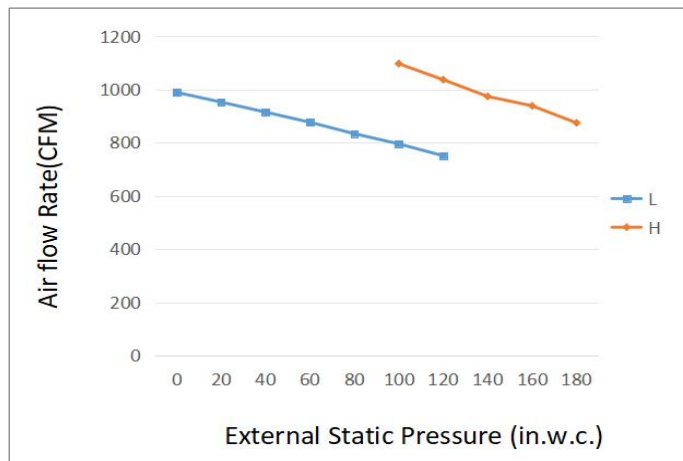


| Dimensions \ Model |                             | 18K/24K |     | 30K/36K |     |
|--------------------|-----------------------------|---------|-----|---------|-----|
|                    |                             | inch    | mm  | inch    | mm  |
| W                  | Model width                 | 23-5/8  | 600 | 29-9/64 | 740 |
| L                  | Model length                | 23-5/8  | 600 | 29-9/64 | 740 |
| H                  | Model height                | 25      | 635 | 25      | 635 |
| A                  | Liquid side valve height    | 2-31/64 | 63  | 2-31/64 | 63  |
| B                  | Distance between two valves | 3-1/32  | 77  | 3-1/32  | 77  |
| C                  | Gas side valve height       | 2-9/32  | 58  | 2-9/32  | 58  |

## Installation Instruction For Outdoor Unit



## Fan Performance For Indoor Unit



## Features

- Front air intake, easy installation
- External static pressure up to 0.80 In.W.G
- 1 inch R4.2 fiberglass free insulation reduces condensation and boosts efficiency(optional)
- Optional Auxiliary heat kit up to 20kW
- Easy Maintenance
- Multiple control options available:
  - Wired controller with built-in WiFi
  - Third-Party 24V Thermostat
- Adaptive Control System
- Crankcase heater equipped as standard

# ComfortStar®

Air Conditioning & Heating Products

## Performance Capacity Ratings

### COOLING PERFORMANCE DATA

| OD_Model    | ID_Model    | Furnace | Brand       | ARIREF | ID_Type | Stage | Est_AirFlow | ACHP  | IsHSVTC |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------|-------------|---------|-------------|--------|---------|-------|-------------|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BAH32-30-15 | CWM32-30-15 |         | ComfortStar |        | A       | High  | 1000        | H     |         |       |       |       |       |       |       |       |       |       |       |       |       |
| OUTDOOR DB  | IWB(°F)     | 59      |             |        |         |       | 63          |       |         |       |       | 67    |       |       |       |       | 71    |       |       |       |       |
|             | IDB (°F)    | 72      | 74          | 76     | 78      | 80    | 72          | 74    | 76      | 78    | 80    | 72    | 74    | 76    | 78    | 80    | 72    | 74    | 76    | 78    | 80    |
| 85          | TC¹         | 27.20   | 27.28       | 27.36  | 27.45   | 27.53 | 28.90       | 28.99 | 29.07   | 29.16 | 29.25 | 30.70 | 30.79 | 30.88 | 30.98 | 31.07 | 32.60 | 32.70 | 32.80 | 32.89 | 32.99 |
|             | Sensible²   | 22.40   | 24.38       | 26.37  | 27.20   | 27.20 | 18.17       | 20.15 | 22.14   | 24.12 | 26.11 | 13.89 | 15.87 | 17.85 | 19.84 | 21.82 | 9.56  | 11.54 | 13.52 | 15.50 | 17.48 |
|             | kW          | 2.07    | 2.07        | 2.07   | 2.08    | 2.08  | 2.08        | 2.08  | 2.08    | 2.09  | 2.09  | 2.09  | 2.09  | 2.10  | 2.10  | 2.10  | 2.10  | 2.10  | 2.11  | 2.11  | 2.11  |
| 90          | TC¹         | 27.00   | 27.08       | 27.16  | 27.24   | 27.33 | 28.70       | 28.79 | 28.87   | 28.96 | 29.05 | 30.50 | 30.59 | 30.68 | 30.78 | 30.87 | 32.40 | 32.50 | 32.59 | 32.69 | 32.79 |
|             | Sensible²   | 21.13   | 22.85       | 24.57  | 26.29   | 27.00 | 17.46       | 19.17 | 20.89   | 22.61 | 24.33 | 13.73 | 15.44 | 17.16 | 18.88 | 20.60 | 9.95  | 11.67 | 13.38 | 15.10 | 16.82 |
|             | kW          | 2.22    | 2.22        | 2.22   | 2.23    | 2.23  | 2.22        | 2.22  | 2.22    | 2.23  | 2.23  | 2.23  | 2.23  | 2.23  | 2.23  | 2.24  | 2.24  | 2.24  | 2.24  | 2.25  | 2.25  |
| 95          | TC¹         | 26.30   | 26.38       | 26.46  | 26.54   | 26.62 | 28.00       | 28.08 | 28.17   | 28.25 | 28.34 | 29.70 | 29.79 | 29.88 | 29.97 | 30.06 | 31.60 | 31.69 | 31.79 | 31.89 | 31.98 |
|             | Sensible²   | 20.78   | 22.49       | 24.21  | 25.93   | 26.30 | 17.13       | 18.84 | 20.56   | 22.28 | 24.00 | 13.38 | 15.09 | 16.81 | 18.53 | 20.25 | 9.63  | 11.34 | 13.06 | 14.77 | 16.49 |
|             | kW          | 2.33    | 2.33        | 2.33   | 2.34    | 2.34  | 2.34        | 2.34  | 2.34    | 2.35  | 2.35  | 2.35  | 2.35  | 2.35  | 2.36  | 2.36  | 2.36  | 2.36  | 2.36  | 2.37  | 2.37  |
| 100         | TC¹         | 25.50   | 25.58       | 25.65  | 25.73   | 25.81 | 27.20       | 27.28 | 27.36   | 27.45 | 27.53 | 28.90 | 28.99 | 29.07 | 29.16 | 29.25 | 30.70 | 30.79 | 30.88 | 30.98 | 31.07 |
|             | Sensible²   | 20.37   | 22.09       | 23.81  | 25.50   | 25.50 | 16.75       | 18.47 | 20.18   | 21.90 | 23.62 | 13.02 | 14.74 | 16.46 | 18.18 | 19.90 | 9.26  | 10.98 | 12.69 | 14.41 | 16.13 |
|             | kW          | 2.45    | 2.45        | 2.45   | 2.46    | 2.46  | 2.46        | 2.46  | 2.46    | 2.47  | 2.47  | 2.47  | 2.47  | 2.47  | 2.47  | 2.48  | 2.48  | 2.48  | 2.48  | 2.49  | 2.49  |
| 105         | TC¹         | 24.70   | 24.77       | 24.85  | 24.92   | 25.00 | 26.40       | 26.48 | 26.56   | 26.64 | 26.72 | 28.00 | 28.08 | 28.17 | 28.25 | 28.34 | 29.80 | 29.89 | 29.98 | 30.07 | 30.16 |
|             | Sensible²   | 19.97   | 21.69       | 23.41  | 24.70   | 24.70 | 16.38       | 18.09 | 19.81   | 21.53 | 23.25 | 12.64 | 14.35 | 16.07 | 17.79 | 19.51 | 8.90  | 10.61 | 12.33 | 14.05 | 15.77 |
|             | kW          | 2.58    | 2.58        | 2.59   | 2.59    | 2.59  | 2.59        | 2.59  | 2.59    | 2.60  | 2.60  | 2.60  | 2.60  | 2.60  | 2.61  | 2.61  | 2.61  | 2.61  | 2.62  | 2.62  | 2.62  |
| 115         | TC¹         | 23.90   | 23.97       | 24.04  | 24.12   | 24.19 | 25.50       | 25.58 | 25.65   | 25.73 | 25.81 | 27.20 | 27.28 | 27.36 | 27.45 | 27.53 | 28.90 | 28.99 | 29.07 | 29.16 | 29.25 |
|             | Sensible²   | 19.57   | 21.29       | 23.01  | 23.90   | 23.90 | 15.96       | 17.67 | 19.39   | 21.11 | 22.83 | 12.29 | 14.01 | 15.73 | 17.45 | 19.17 | 8.54  | 10.25 | 11.97 | 13.69 | 15.41 |
|             | kW          | 2.51    | 2.51        | 2.52   | 2.52    | 2.52  | 2.52        | 2.53  | 2.53    | 2.53  | 2.53  | 2.54  | 2.54  | 2.54  | 2.54  | 2.55  | 2.55  | 2.55  | 2.55  | 2.56  | 2.56  |

### HEATING PERFORMANCE DATA

| Model                                    | Heating              |       | Outdoor conditions (DB) |         |        |        |        |       |       |       |       |       |        |
|------------------------------------------|----------------------|-------|-------------------------|---------|--------|--------|--------|-------|-------|-------|-------|-------|--------|
|                                          | Indoor Conditions DB |       | 5°F                     | 10°F    | 17°F   | 20°F   | 25°F   | 32°F  | 35°F  | 40°F  | 47°F  | 50°F  | 57°F   |
|                                          |                      |       | -15°C                   | -12.2°C | -8.3°C | -6.7°C | -3.9°C | 0°C   | 1.7°C | 4.4°C | 8.3°C | 10°C  | 13.9°C |
| CWM32-30-15<br>BAH32-30-15<br>(208-230V) | 60°F<br>(15.6°C)     | TC    | 20.97                   | 22.66   | 24.35  | 25.98  | 27.62  | 29.25 | 30.88 | 32.52 | 34.24 | 35.87 | 37.50  |
|                                          |                      | Input | 2.82                    | 2.73    | 2.67   | 2.64   | 2.60   | 2.58  | 2.54  | 2.55  | 2.60  | 2.54  | 2.48   |
|                                          | 65°F<br>(18.3°C)     | TC    | 20.36                   | 22.00   | 23.64  | 25.22  | 26.81  | 28.40 | 29.98 | 31.57 | 33.24 | 34.82 | 36.41  |
|                                          |                      | Input | 2.90                    | 2.82    | 2.74   | 2.71   | 2.67   | 2.64  | 2.62  | 2.61  | 2.66  | 2.59  | 2.54   |
|                                          | 70°F<br>(21.1°C)     | TC    | 19.77                   | 21.36   | 22.95  | 24.49  | 26.03  | 27.57 | 29.11 | 30.65 | 32.27 | 33.81 | 35.35  |
|                                          |                      | Input | 2.99                    | 2.89    | 2.81   | 2.78   | 2.75   | 2.72  | 2.67  | 2.69  | 2.77  | 2.66  | 2.59   |
|                                          | 75°F<br>(23.9°C)     | TC    | 19.30                   | 20.11   | 20.81  | 21.31  | 21.60  | 22.18 | 22.57 | 26.40 | 31.09 | 31.59 | 32.57  |
|                                          |                      | Input | 3.09                    | 2.98    | 2.89   | 2.88   | 2.83   | 2.79  | 2.77  | 2.76  | 2.82  | 2.74  | 2.68   |