



# eco series

FRESH-PAK

Space Constrained Heat Pump  
with Electric Heating and Fully Integrated ERV (EPE)

- 1.0 - 2.5 Tons
- 3 to 10 kW Electric Heat
- 11.9 SEER2 & 6.3 HSPF2



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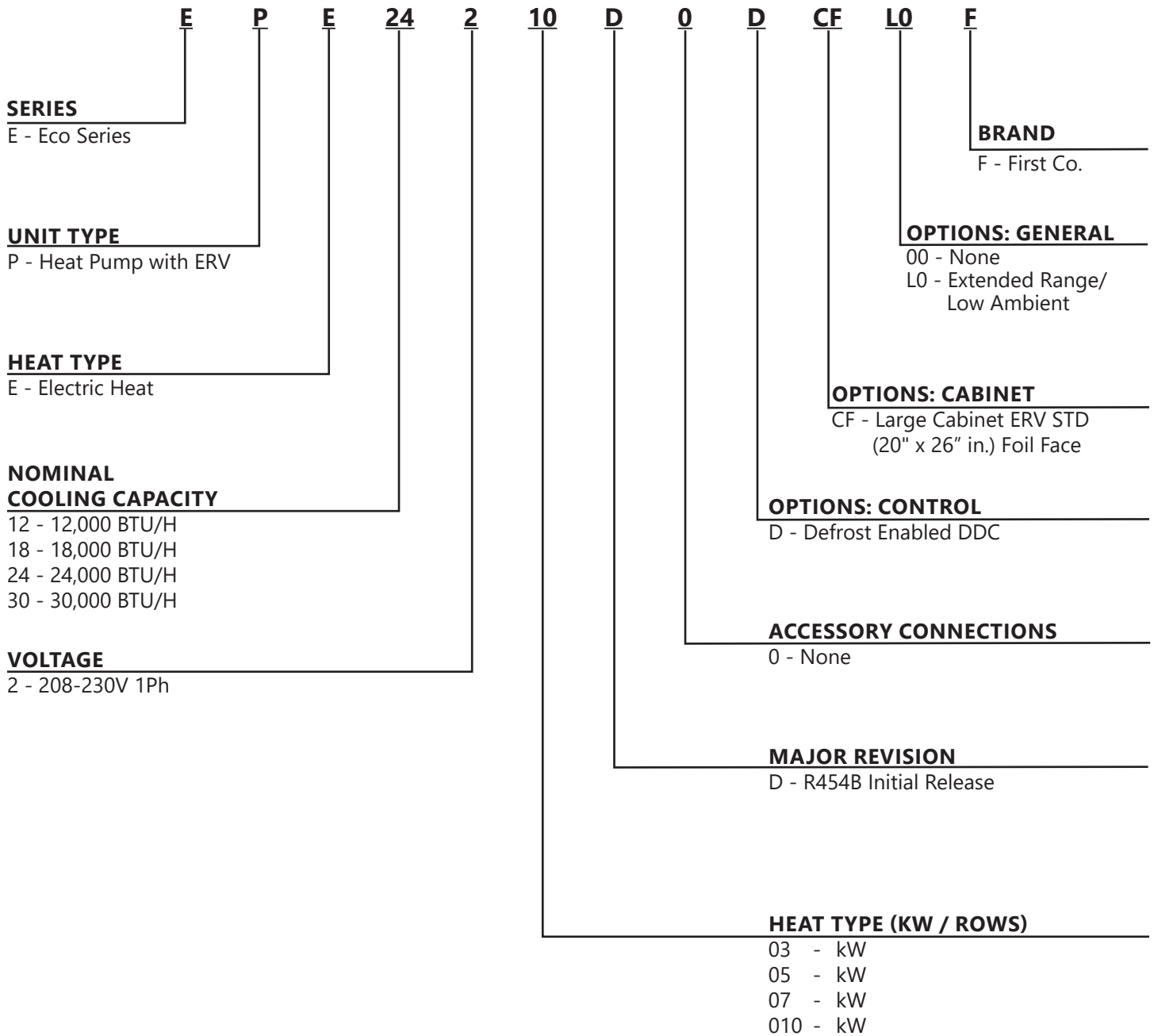
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To determine certified indoor/outdoor combinations, go to [www.firstco.com](http://www.firstco.com) or contact the factory.

In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice.

# NOMENCLATURE



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# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### PRODUCT DESCRIPTION

- Space constrained low ambient heat pump with integrated energy recovery ventilator (ERV)
- Pre-wired and pre-charged with R-454B refrigerant, capable of delivering conditioned air to multiple rooms
- Easily installs into a closet or mechanical room on an exterior wall, utilizing a minimal amount of floor space
- Controlled by a standard low voltage heat pump thermostat with ventilation capabilities

### APPLICATIONS

Hospitality, Apartments/Condominiums, Assisted Living/Memory Care, Student Housing, Senior Living and Modular/Prefabricated Buildings

### STANDARD FEATURES

- Shipped ready for top supply and front return (with optional ducted return)
- Insulated compartment to improve cooling performance, reduce noise, and prevent sweating
- ECM indoor blower & outdoor fan motor to provide precise airflow selection and improve system efficiency
- High-efficiency two stage scroll, single stage scroll and rotary compressors with double isolated compressor mount to lower compressor noise and vibration
- Larger evaporator coil with low face velocity for improved cooling performance
- Drain pan with corrosion resistant coating to drain condensate in cooling and heating operations
- Thermal expansion valve (TXV) for both cooling and heating to optimize performance
- Operates down to as low as 5°F ambient temperature with time-temperature defrost board with selectable defrost interval times
- High and low pressure switch protection
- Electric heat with automatic reset limit switch and non-resettable fuse link
- Filter brackets and disposable filter shipped with unit for field installation; no tool needed to replace filter
- Multi-function microprocessor control board
- Factory installed condensate float switch for overflow protection
- Refrigerant leak migration on units over 4lbs of charge

### SERVICEABILITY FEATURES

- Easy access for in-place service of most components
- All electrical components and control boards are serviceable from front of the unit

### WARRANTY

Five (5) year limited warranty on compressor and part

### REQUIRED ACCESSORIES

- Single piece weight bearing wall sleeves with integrated ventilation air intake and exhaust ports for various wall thicknesses from 5" to 20"
- Flush type aluminum louver with finish and paint options
- Standard low voltage heat pump thermostat with ventilation capabilities
- WLAN service stick to program ERV control board

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### OPTIONAL ACCESSORIES

- Interior Access Panels - Louvered or Solid
- ERV Sensors - Humidity or Carbon Dioxide (field provided)
- ERV Exhaust Controls - Analog Egg Timer or Digital Timer Switch (field provided)

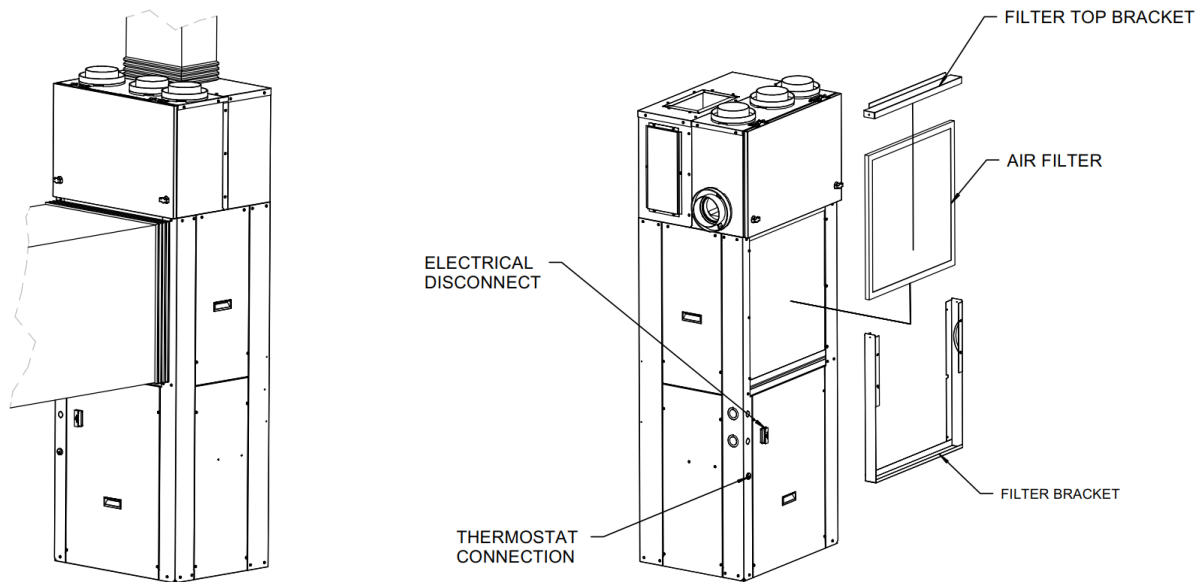
### STANDARD UNIT FEATURES

**Ductwork Connections** - Shipped ready for top supply duct connection and front non-ducted return with optional ducted return. If require by code, return air can be ducted to the unit.

**NOTE:** If ducted return is utilized, the filter will need to be relocated to a suitable location outside the cabinet for ease of service.

**Filter Rack** - Filter brackets and a disposable filter ship with each unit to be field installed over the evaporator coil.

**NOTE:** Do not use filters which will cause the total external static pressure, including ducts, louvers, registers, and filters to exceed 0.5 in. w.c.



### MULTI-FUNCTION MICROPROCESSOR CONTROL BOARD

**Evaporator coil low temperature protection** – During the cooling mode, should the evaporator coil experience either a low temperature condition that could result in ice buildup on the coil or a reduced air flow situation, a temperature sensor attached to the coil will de-energize the unit. The sensor will re-energize the unit when the coil warms back up.

**Random restart** – When power is turned on after a power outage, a built-in random restart delay of 3-4 minutes prevents all compressors from restarting simultaneously.

**Compressor restart delay** – This delay ensures that system pressures are allowed to equalize before a compressor restart, which extends compressor life.

**Fan delay** – A fan delay allows the evaporator blower to continue running for up to 45 seconds after the thermostat is satisfied which maximizes cooling performance.

**Defrost controls** - During the heating mode, if conditions for frost build-up are detected in the outdoor section, the unit will enter a temporary defrost mode to thaw the condenser coil and allow the unit to continue operation down to 5°F.

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### SERVICE PULL OUT SWITCH

Provides a visible means of disconnect when performing maintenance; models with 10 kW electric heat also have terminal block.

**WARNING: The incoming conductors of the service switch remain energized when the service switch is pulled out. Always disconnect power at the main source as well as the service switch before servicing. All lockout/tag out procedures must be followed.**

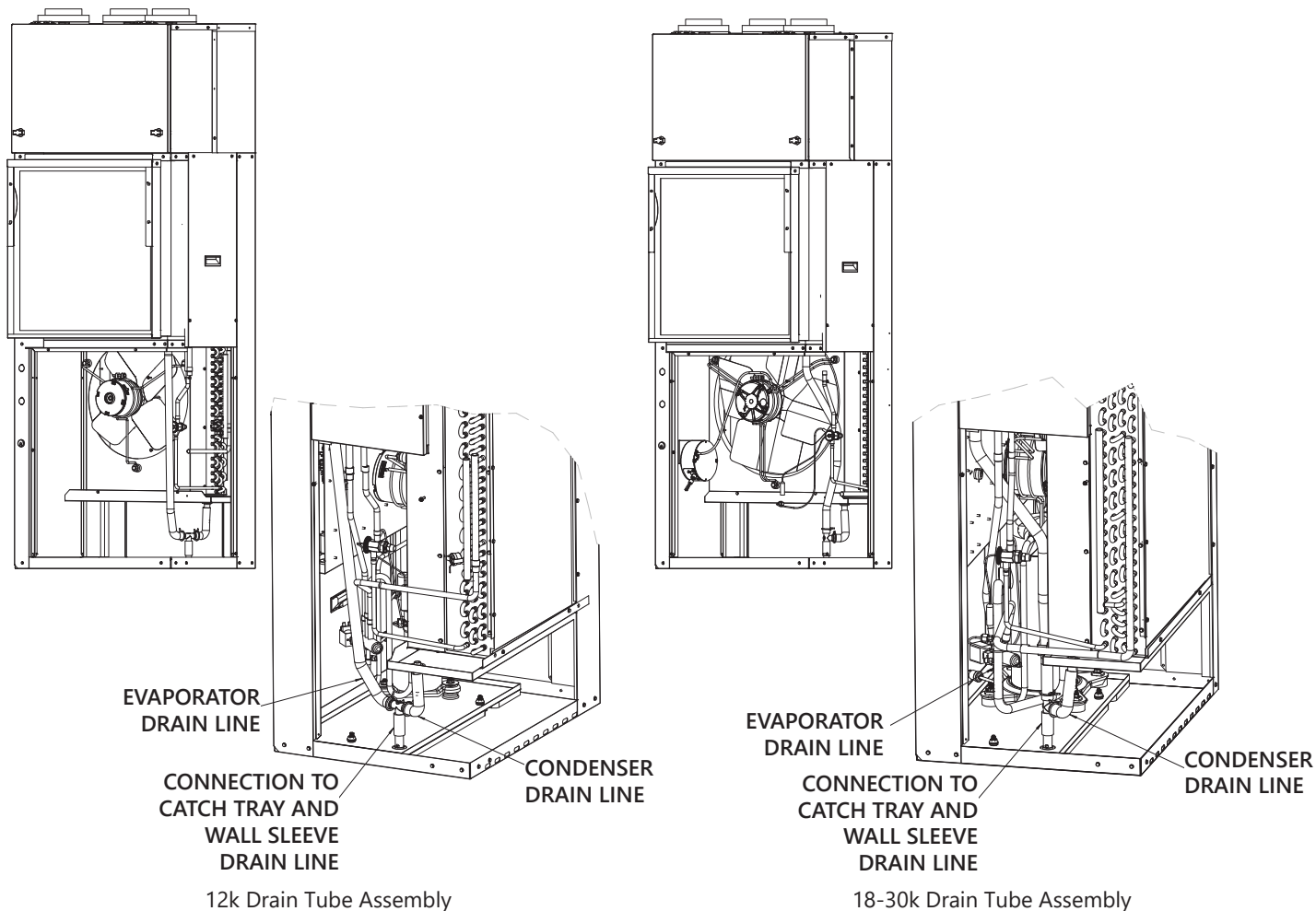
### CONDENSATE SYSTEM

#### Primary Condensate

Factory installed drain line connects the evaporator drain pan to a vertical pipe connection in the unit base pan. Evaporator condensate is delivered from the unit to a catch tray in the wall sleeve and exits the sleeve through the 3/4" male NPT fitting. This design allows the plumber to completely pipe the drain to a condensate riser during the rough-in stage, thus eliminating condensate connection problems usually encountered when trying to connect the HVAC drain to the riser after the HVAC unit is installed in the closet. This features also allows the unit to be removed for service without disconnecting the condensate piping. This configuration does not require any additional closet space to make the drain connection, as do some competitive products.

#### Secondary Condensate

If for any reason, the primary condensate riser becomes clogged, water will fill the catch tray and then be diverted through the wall sleeve to the exterior of the building, rather than be allowed to overflow into the closet or living area. Rain water entering the wall sleeve is automatically diverted to the condensate drain.



# FRESH-PAK HP

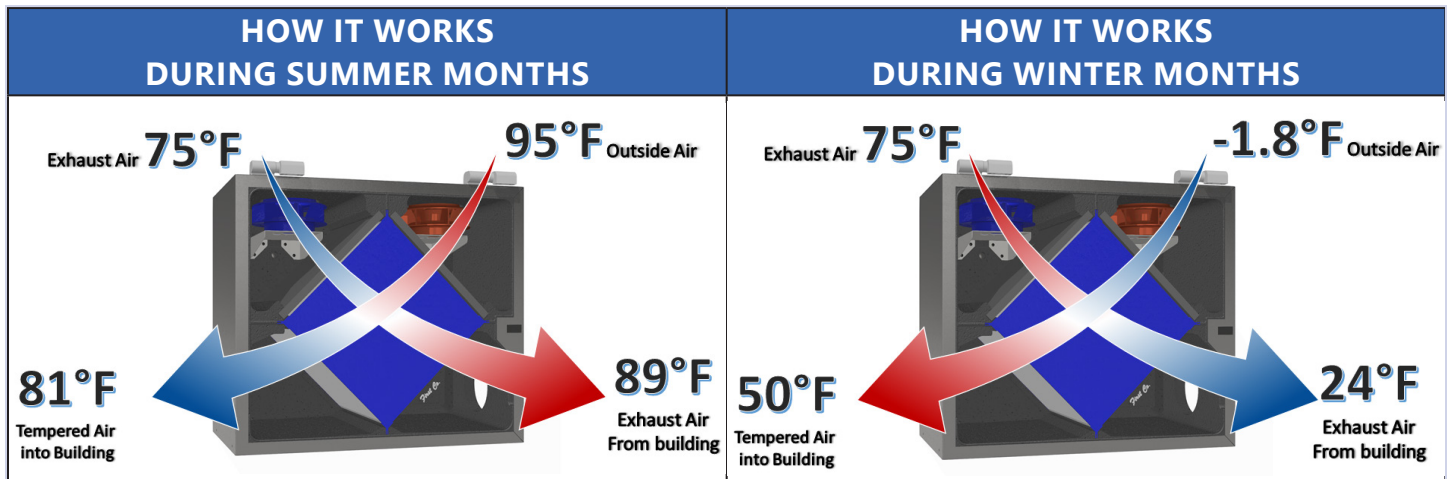
## SPACE CONSTRAINED HEAT PUMP

### WHAT IS ERV ?

**ENERGY RECOVERY VENTILATOR (ERV)** is a device that uses waste/stale air to precondition incoming outside/fresh air for ventilation.

**ERV** uses a polymer core to transfer temperature (sensible energy) and moisture (latent energy) from waste air to incoming ventilation air. It will cool the air in the warmer months and warm the air in the colder months.

Tighter construction requirements create less natural ventilation, the **ERV** offers the solution with balanced ventilation.



### INTEGRATED ENERGY RECOVERY VENTILATOR (ERV)

- Core Enclosure: Insulated one piece molded enclosure, made from mold/mildew resistant material. Completely sealed providing noise and air leakage reduction
- Core: Full enthalpy core made from polymer material that is removable for servicing & cleaning
- Core Filters: Filtration of ventilation air & return air with MERV 5 washable and disposable filters



**DEFROST** – The ERV will sense when the exhaust drops below the set temperature and will activate the built-in multi-stage defrost mode. The first stage will reduce the fan speed to help warm up the core and prevent freezing. The second stage will, if optional, activate a 3rd party field installed electric preheater.

The ERV will cycle between defrost and normal operation until the temperature rises to the set point. It can be field configured so the supply fan can be switched off while the exhaust runs to warm up the core.

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### REQUIRED ACCESSORIES

**WALL SLEEVE, LOUVER AND THERMOSTAT ARE REQUIRED FOR EACH INSTALLATION**

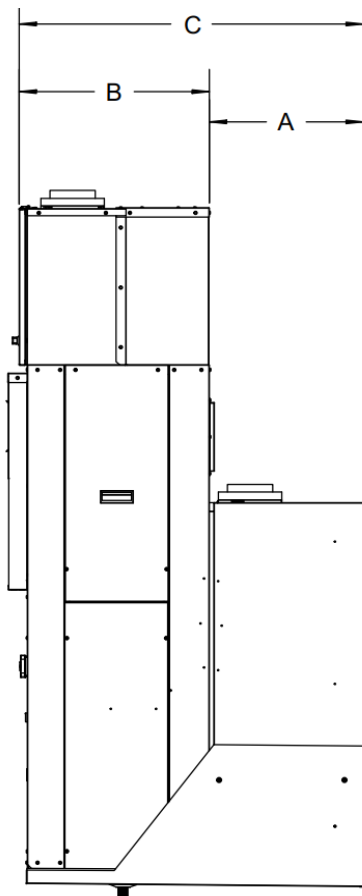
#### WALL SLEEVES

- Fresh air intake and exhaust ports are built in to wall sleeve
- Provided for installation during rough-in or when ready the unit is slid into the wall sleeve and ductwork and electrical are connected.
- Weight bearing wall sleeve that supports the entire weight of the unit and provides a weather tight seal against wind and water infiltration
- Four wall sleeve depths are available to accommodate wall thickness from 5" to 20".
- Includes a weather guard to cover the sleeve opening and a debris guard to cover wall sleeve base and drain during construction

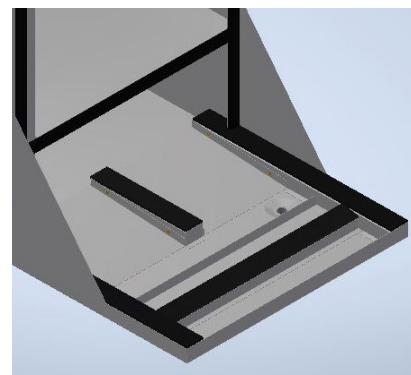
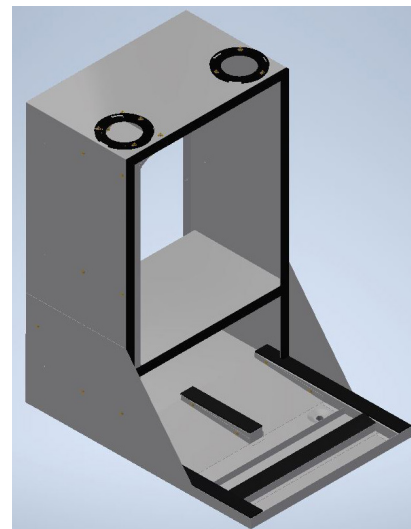
| ACCESSORY                             | DESCRIPTION               | DIMENSIONS (H x W x D)   | PART #    | A       | B         | C         |
|---------------------------------------|---------------------------|--------------------------|-----------|---------|-----------|-----------|
| <b>FRESH-PAK INTEGRATED TOP PORTS</b> | For 5" - 8" thick walls   | 43-1/4 x 26-1/2 x 37-1/4 | 999-21B-E | 16-3/4" | 20-15/16" | 37-11/16" |
|                                       | For 8" - 12" thick walls  | 43-1/4 x 26-1/2 x 41-1/4 | 999-22B-E | 20-3/4" | 20-15/16" | 41-11/16" |
|                                       | For 12" - 15" thick walls | 43-1/4 x 26-1/2 x 44-1/4 | 999-23B-E | 23-3/4" | 20-15/16" | 44-11/16" |
|                                       | For 15" - 20" thick walls | 43-1/4 x 26-1/2 x 50-1/4 | 999-24B-E | 29-3/4" | 20-15/16" | 50-11/16" |

All wall sleeves are shipped two (2) per carton, fully assembled.

**Wall sleeve, louver and thermostat are required for each installation.**



WALL SLEEVE WITH TOP PORTS



WALL SLEEVE CONDENSATE DRAIN



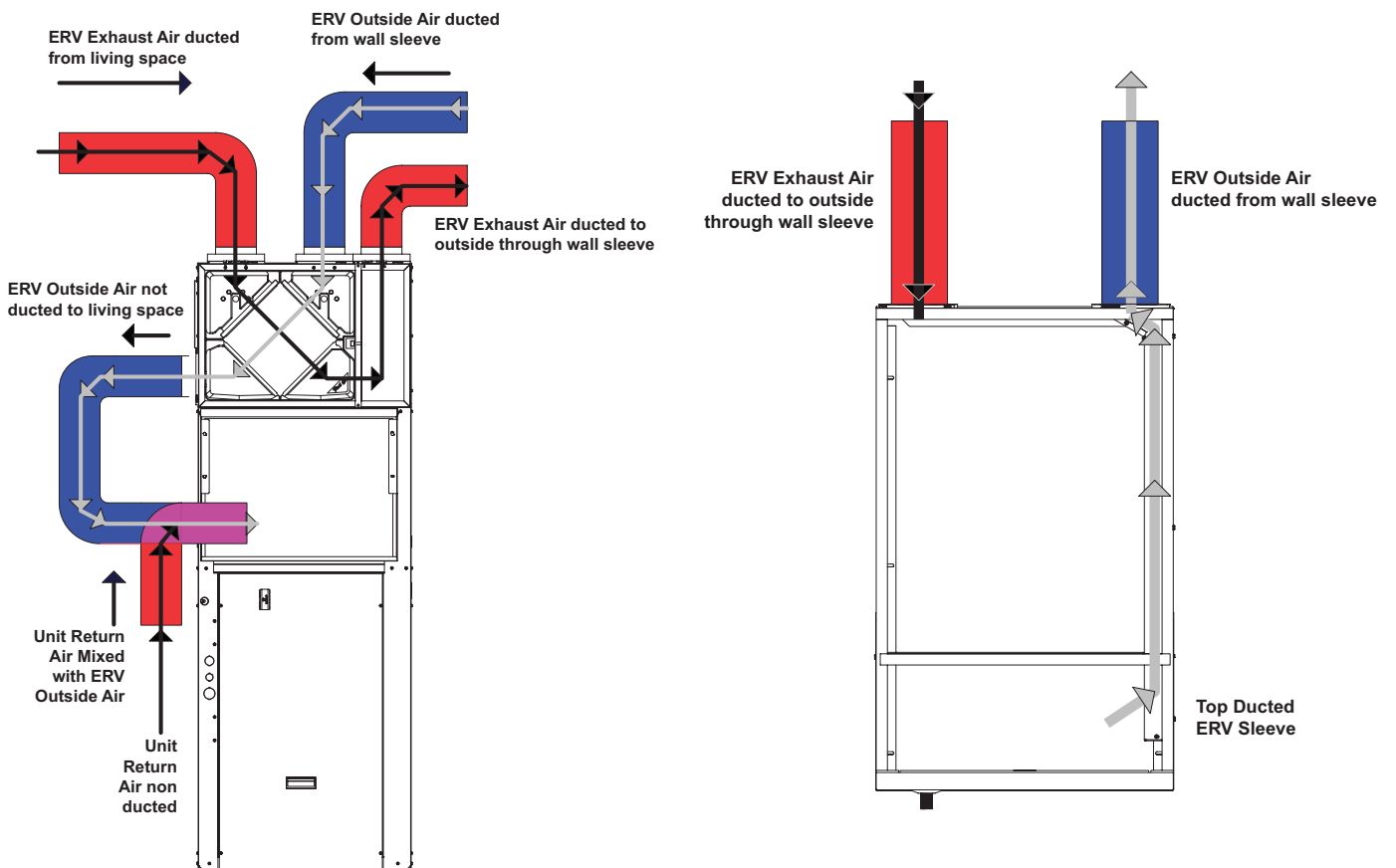
# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### WALL SLEEVE ERV DUCTING



Top Ducted Installation



# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### LOUVERS

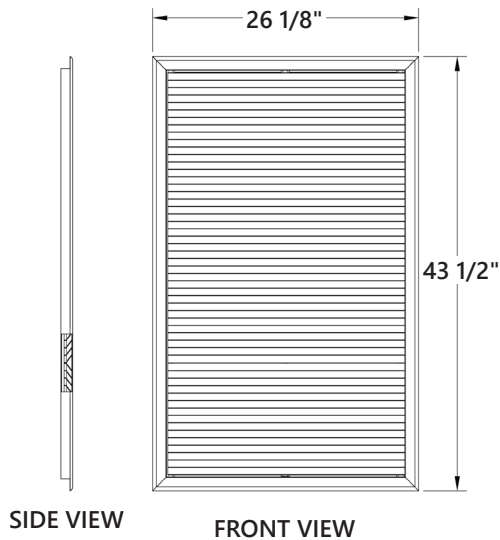
Extruded aluminum louver that attaches to the outside face of the wall sleeve. The blades of this unique louver recess into the wall sleeve for a neat, flush appearance.

Louver attachment screws are tightened from inside of the wall sleeve. Do not install the unit into the wall sleeve before installing the louver and tightening attachment screws.

| DESCRIPTION         | DIMENSIONS (H x W x D) | PART NUMBER |
|---------------------|------------------------|-------------|
| Field Painted       | 43-1/2 x 26-1/8        | G8502PPA    |
| Anodized Clear Coat | 43-1/2 x 26-1/8        | G8501A      |
| Custom Painted      | 43-1/2 x 26-1/8        | G8503S*     |

S\* indicates custom color, to be provided by customer. Minimum order quantity is 15 per color, if less than 15 set up fees will be applied

### STANDARD PAINT COLORS:





# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### CONTROLS

#### THERMOSTATS

Units are controlled by a standard low voltage heat pump thermostat with ventilation capabilities.

| BRAND     | DESCRIPTION   | PART NUMBER    | IMAGE   |
|-----------|---|----------------|---|
| Honeywell | Programmable<br>7-day/5-2/5-1-1<br>3H/2C HP 2H/2C Conv.<br>24v Hardwired, C-wire only,<br>Wi-Fi, w/ventilation control                      | TH6320WF2003   |  |
| Honeywell | Programmable<br>7-day/5-2/5-1-1<br>3H/2C HP 2H/2C Conv.<br>24v Hardwired, C-wire only,<br>Wi-Fi, aux heat lockout w/<br>ventilation control | THX321WFS2001W |  |

#### WLAN SERVICE STICK

ERV Programming via WLAN\* service stick - Must purchase one stick per project. Required to program ERV board through the ABT GO app.

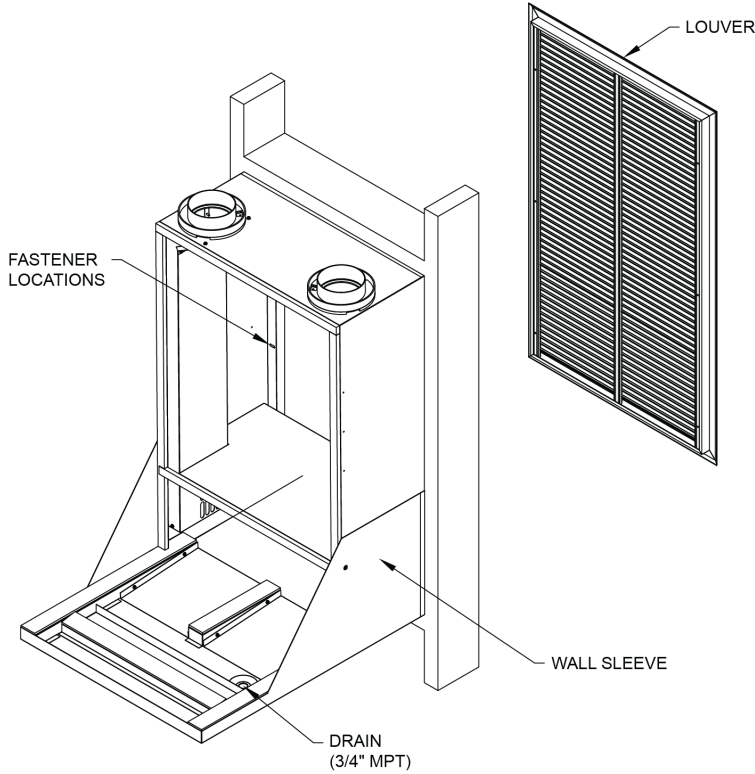
| PART NUMBER | IMAGE  |
|-------------|--|
| USB-300     |  |

\*WLAN = wireless local area network

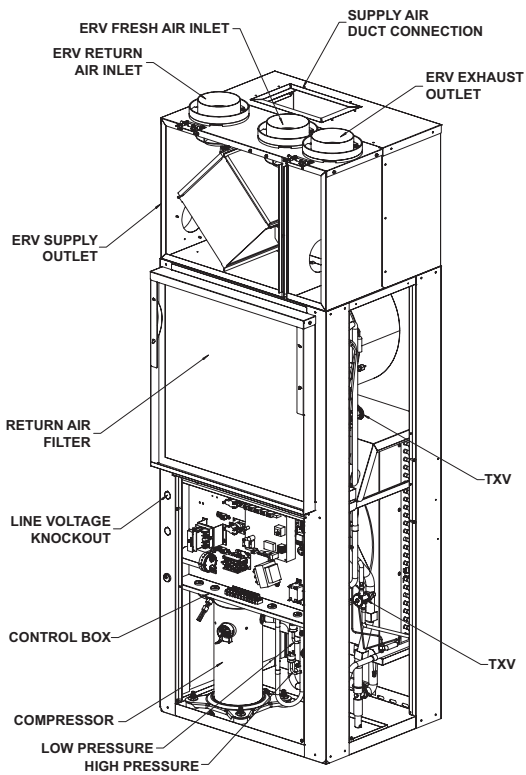
# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### GENERAL ASSEMBLY AND MAJOR COMPONENTS



GENERAL ASSEMBLY FOR WALL SLEEVE AND LOUVER



MAJOR COMPONENTS

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### OPTIONAL ACCESSORIES

#### ACCESS PANELS

| COMPONENT        | DESCRIPTION | FRAME (A x C) | OPENING (B x D) | PART NUMBER | SHIPPING WEIGHT LBS. |
|------------------|-------------|---------------|-----------------|-------------|----------------------|
| RETURN AIR PANEL | LOUVERED    | 87 X 37       | 84 X 34         | 931-20      | 55                   |
| ACCESS PANEL     | SOLID       | 87 X 37       | 84 X 34         | 931-16      | 55                   |

**NOTE:**

No filter provided, requires unit mounted filter.

Both panels are insulated for sound reduction and have tamperproof screws.

Panels are shipped ten per carton.

A solid door or panel with a side wall return air grille will result in lower sound levels.








# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### ERV SENSORS

#### FIELD PROVIDED

- Humidity: Measures temperature and air humidity, signals ERV board to bring on ventilation
- Carbon Dioxide (CO2): Used for determining ventilation necessity and to manage the amount of ventilation air supplied to maintain acceptable levels of CO2 in the space

| BRAND     | DESCRIPTION  | PART NUMBER | IMAGE   |
|-----------|--|-------------|---|
| Honeywell | Carbon Dioxide (CO2) Sensor<br>Duct mounted no display                       | C7232       |    |
| Honeywell | Carbon Dioxide (CO2) Sensor<br>wall mounted sensor with<br>LED light display | C7233       |    |
| Honeywell | Carbon Dioxide (CO2) Sensor<br>wall mounted sensor with<br>digital display   | C7263       |    |
| PCE       | Humidity Sensor<br>wall mounted<br>4 – 20 mA output                          | PCE-P18     |   |
| Honeywell | Humidistat wall mounted<br>HumidiPRO<br>Digital Humidity Control             | H6062       |  |

### ERV EXHAUST SENSORS

#### FIELD PROVIDED

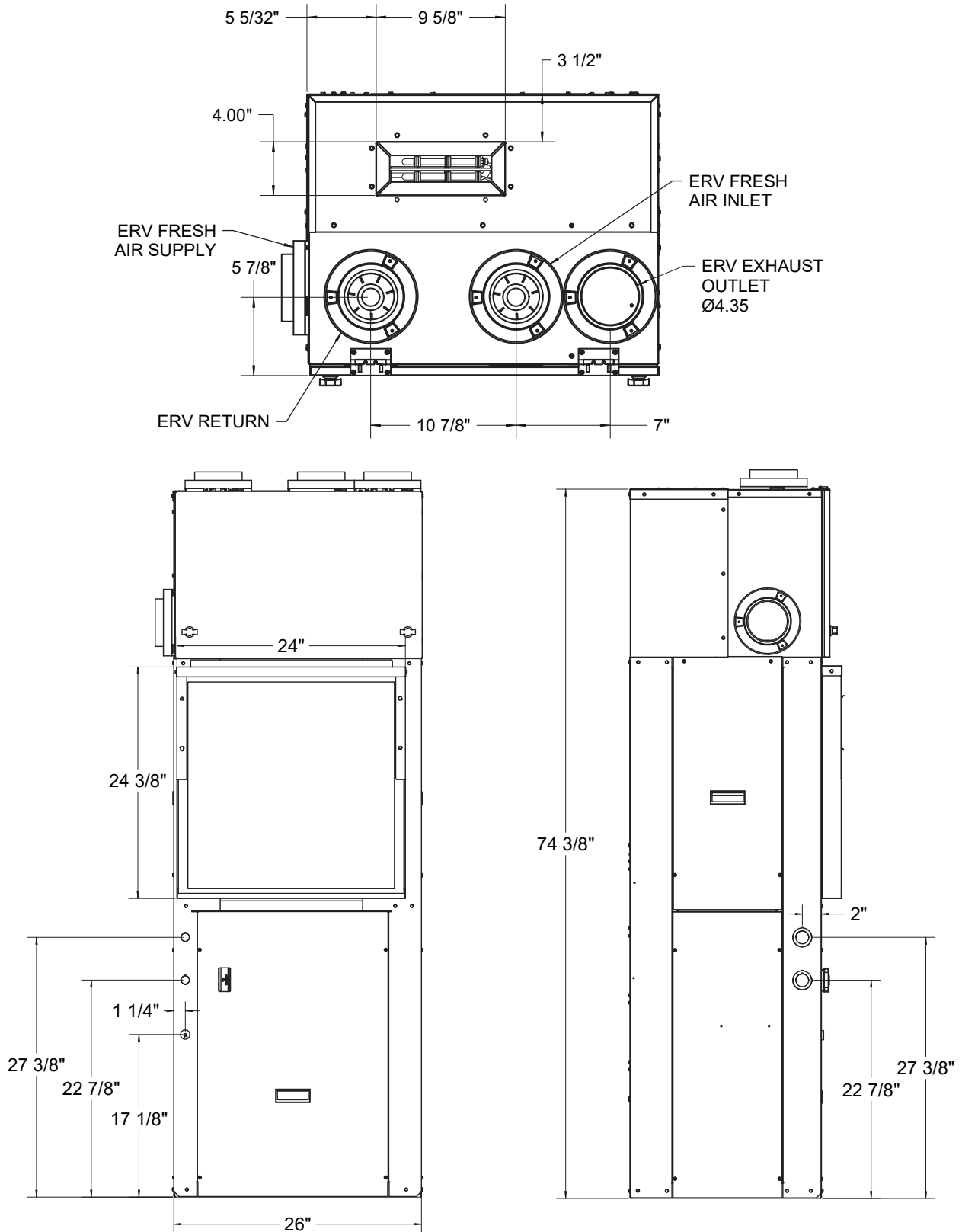
- Analog Egg Timer
- Digital Timer Switch

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### PHYSICAL DATA

#### UNIT DIMENSIONS 12K

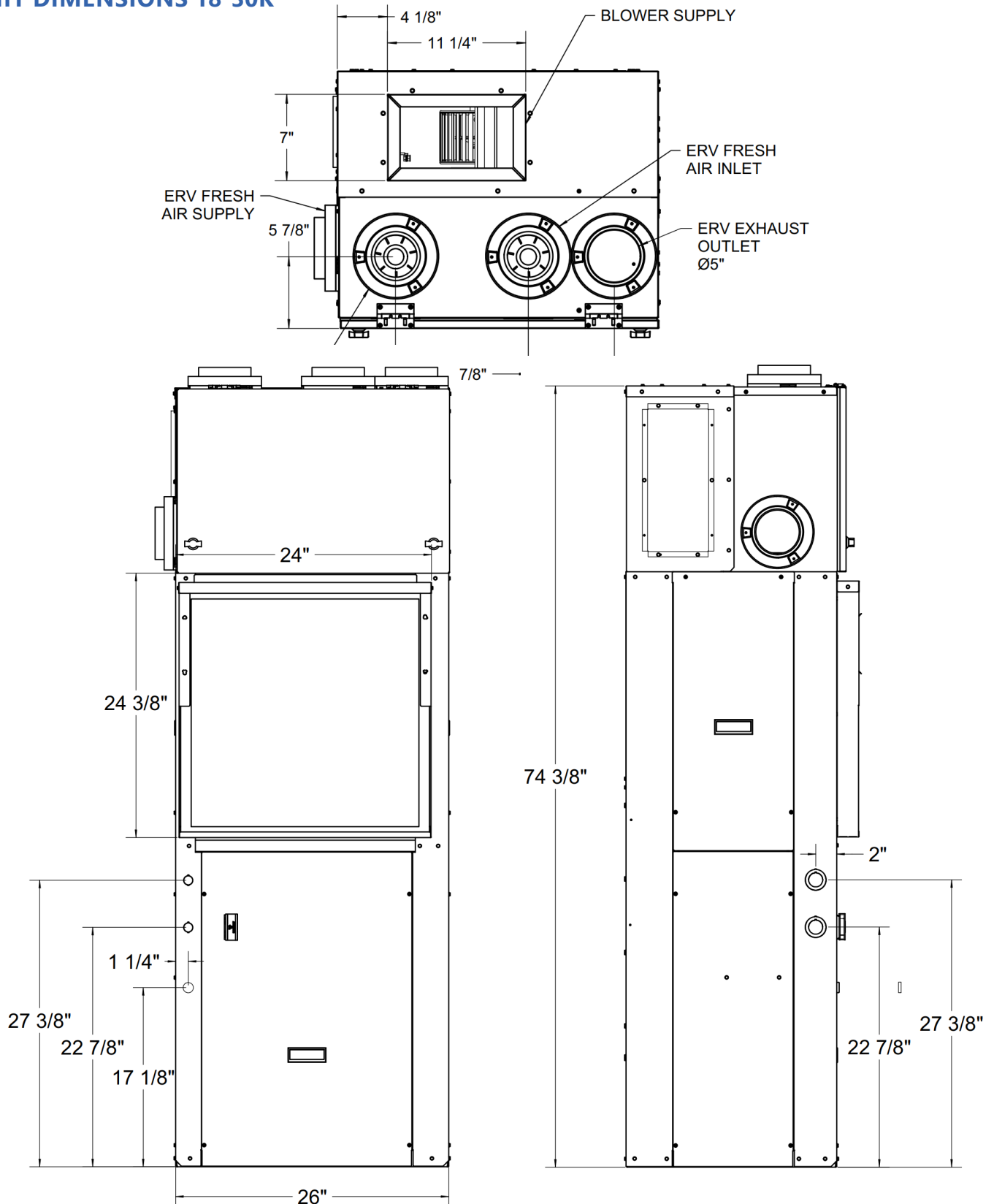


# FRESH-PAK HP

SPACE CONSTRAINED HEAT PUMP

## PHYSICAL DATA

UNIT DIMENSIONS 18-30K





# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### PHYSICAL DATA

| PHYSICAL DATA                               |                 |                 |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| 454B FRESH PAK AC                           |                 | EPE12           | EPE18           | EPE24           | EPE30           |
| Compressor (Quantity)                       |                 | Rotary (1)      | Scroll (1)      | Scroll (1)      | Scroll (1)      |
| Compressor FLA                              |                 | 4.6             | 7.2             | 10.2            | 12.8            |
| Factory Charge (R454B)                      | lb              | 3.375           | 4.5             | 5               | 5.75            |
|   | kg              | 1.53            | 2.04            | 2.26            | 2.6             |
| Minimum Room Area                           | m <sup>2</sup>  | 4.6             | 6.2             | 6.8             | 7.9             |
| Minimum Room Area                           | Ft <sup>2</sup> | 49.7            | 66.3            | 73.5            | 84.5            |
| Minimum Air Flow                            | CFM             | 91              | 122             | 135             | 155             |
|   | M3/hr           | 155             | 207             | 229             | 264             |
| ID MOTOR                                    |                 |                 |                 |                 |                 |
| Motor (Quantity)                            |                 | 1               | 1               | 1               | 1               |
| Fan Motor Type                              |                 | ECM             | ECM             | ECM             | ECM             |
| Motor HP                                    |                 | 1/4             | 1/3             | 1/3             | 1/2             |
| Motor FLA                                   |                 | 2.3             | 2.8             | 2.8             | 4.1             |
| OD MOTOR                                    |                 |                 |                 |                 |                 |
| Motor (Quantity)                            |                 | 1               | 1               | 1               | 1               |
| Fan Motor Type                              |                 | ECM             | ECM             | ECM             | ECM             |
| Motor HP                                    |                 | 1/4             | 1/3             | 1/3             | 1/3             |
| Motor FLA                                   |                 | 2.3             | 2.8             | 2.8             | 2.8             |
| ID BLOWER                                   |                 |                 |                 |                 |                 |
| Blowers (Quantity)                          |                 | 1               | 1               | 1               | 1               |
| Blower Wheel Size (D x W) in. [cm]          |                 | 6 x 8           | 10 x 4          | 10 x 4          | 10 x 4          |
|   |                 | [15.24 x 20.32] | [25.4 x 10.16]  | [25.4 x 10.16]  | [25.4 x 10.16]  |
| EVAPORATOR COIL                             |                 |                 |                 |                 |                 |
| Dimensions (H x W) in. [cm]                 |                 | 24 x 16.25      | 24x22           | 24x22           | 24x22           |
|   |                 | [61 x 41.275]   | [61 x 55.88]    | [61 x 55.88]    | [61 x 55.88]    |
| Face Area ft <sup>2</sup> [m <sup>2</sup> ] |                 | 3.53 [2.70]     | 3.53 [0.33]     | 3.53 [0.33]     | 3.53 [0.33]     |
| Rows  |                 | 3               | 4               | 4               | 4               |
| OD COIL                                     |                 |                 |                 |                 |                 |
| Dimensions (H x W) in. [cm]                 |                 | 26 x 16.5       | 26 x 22.5       | 26 x 22.5       | 26 x 22.5       |
|   |                 | [66 x 42]       | [66 x 57]       | [66 x 57]       | [66 x 57]       |
| Face Area ft <sup>2</sup> [m <sup>2</sup> ] |                 | 3.0 [0.2772]    | 4.1 [0.3762]    | 4.1 [0.3762]    | 4.1 [0.3762]    |
| MISCELLANEOUS                               |                 |                 |                 |                 |                 |
| Throwaway Filter Dim. in. [cm]              |                 | 24 x 24         | 24 x 24         | 24 x 24         | 24 x 24         |
|   |                 | [60.96 x 60.96] | [60.96 x 60.96] | [60.96 x 60.96] | [60.96 x 60.96] |
| Throwaway Filter Quantity                   |                 | 1               | 1               | 1               | 1               |
| A2L MITIGATION                              |                 | NO              | YES             | YES             | YES             |
| Operating Weight lb. [kg]                   |                 | 275 [124.7]     | 290 [131.5]     | 305 [138.3]     | 310 [140.6]     |
| Packaged Weight lb. [kg]                    |                 | 295 [133.8]     | 310 [140.6]     | 325 [147.4]     | 330 [149.7]     |

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### ELECTRICAL DATA

| MODEL NUMBER  | VOLTAGE      | COMPRESSOR |     | OUTDOOR MOTOR |     | INDOOR MOTOR |     | MIN. CIRCUIT AMPACITY (MCA) |      |                   |      | MAX. OVERCURRENT PROTECTION (MOP) |      |                   |      |
|---------------|--------------|------------|-----|---------------|-----|--------------|-----|-----------------------------|------|-------------------|------|-----------------------------------|------|-------------------|------|
|               |              | RLA        | LRA | FLA           | HP  | FLA          | HP  | CIRCUIT 1 (L1-L2)           |      | CIRCUIT 2 (L3-L4) |      | CIRCUIT 1 (L1-L2)                 |      | CIRCUIT 2 (L3-L4) |      |
|               |              |            |     |               |     |              |     | 240V                        | 208V | 240V              | 208V | 240V                              | 208V | 240V              | 208V |
| 85PE12203D0D* | 208/230-1-60 | 4.6        | 25  | 2.3           | 1/4 | 2.3          | 1/4 | 26                          | 24   | 0                 | 0    | 30                                | 25   | 0                 | 0    |
| 85PE12205D0D* | 208/230-1-60 | 4.6        | 25  | 2.3           | 1/4 | 2.3          | 1/4 | 34                          | 31   | 0                 | 0    | 35                                | 35   | 0                 | 0    |
| 85PE18205D0D* | 208/230-1-60 | 7.2        | 47  | 2.8           | 1/3 | 2.8          | 1/3 | 41                          | 37   | 0                 | 0    | 45                                | 40   | 0                 | 0    |
| 85PE18207D0D* | 208/230-1-60 | 7.2        | 47  | 2.8           | 1/3 | 2.8          | 1/3 | 51                          | 46   | 0                 | 0    | 60                                | 50   | 0                 | 0    |
| 85PE18210D0D* | 208/230-1-60 | 7.2        | 47  | 2.8           | 1/3 | 2.8          | 1/3 | 15                          | 15   | 49                | 43   | 15                                | 15   | 50                | 45   |
| 85PE24205D0D* | 208/230-1-60 | 10.2       | 58  | 2.8           | 1/3 | 2.8          | 1/3 | 44                          | 41   | 0                 | 0    | 45                                | 45   | 0                 | 0    |
| 85PE24207D0D* | 208/230-1-60 | 10.2       | 58  | 2.8           | 1/3 | 2.8          | 1/3 | 55                          | 50   | 0                 | 0    | 60                                | 50   | 0                 | 0    |
| 85PE24210D0D* | 208/230-1-60 | 10.2       | 58  | 2.8           | 1/3 | 2.8          | 1/3 | 18                          | 18   | 49                | 43   | 25                                | 25   | 50                | 45   |
| 85PE30205D0D* | 208/230-1-60 | 12.8       | 77  | 2.8           | 1/3 | 4.1          | 1/2 | 49                          | 45   | 0                 | 0    | 60                                | 50   | 0                 | 0    |
| 85PE30207D0D* | 208/230-1-60 | 12.8       | 77  | 2.8           | 1/3 | 4.1          | 1/2 | 59                          | 54   | 0                 | 0    | 60                                | 60   | 0                 | 0    |
| 85PE30210D0D* | 208/230-1-60 | 12.8       | 77  | 2.8           | 1/3 | 4.1          | 1/2 | 23                          | 23   | 49                | 43   | 30                                | 30   | 50                | 45   |

**NOTE:**

Size 12 models require 1 electrical circuit

Size 18, 24 & 30 models require 2 electrical circuits for 10kW electric heat only

\*Circuits 1 and 2 require separate sets of power wires connected to the unit, each backed by an independent circuit breaker.

Size 12 models circuit 1 powers all components

Size 18, 24 & 30 models, circuit 1 powers compressor, condenser fan and evaporator motor. Circuit 2 powers both stages of electric heat

Refer to wiring diagrams In the EPE IOM for additional details

Wire size should be determined in accordance with National Electric Codes

Unit are rated for 208/230V, but MOP, MCA values are calculated at 208/240V

RLA – Rated Load Amps

LRA – Locked Rotor Amps

FLA – Full Load Amps

HP – Horsepower

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### RATED COOLING & HEATING PERFORMANCE

| Model     | Rated Airflow<br>SCFM<br>CFM | Cooling Capacity<br>(AFull)<br>95°F,<br>BTUH | EER2<br>(AFull)<br>95°F<br>EER2 | SEER2 | Heating Capacity<br>(H1Full)<br>47°F<br>BTUH | Heating Capacity<br>(H3Full)<br>17°F,<br>BTUH | HSPF2 | Heating Capacity<br>(H4Full)<br>5°F,<br>BTUH | COP<br>5°F | HSPF2<br>Region 5 |
|-----------|------------------------------|--|---------------------------------|-------|--|---|-------|--|------------|-------------------|
| EPE12***D | 400                          | 11200  | 10.0                            | 11.9  | 10000  | 5500  | 6.3   | 4000   | 1.6        | 5.4               |
| EPE18***D | 650                          | 18000  | 10.0                            | 11.9  | 15800  | 9500  | 6.3   | 6500   | 1.6        | 5.4               |
| EPE24***D | 750                          | 23000  | 9.5                             | 11.9  | 21200  | 13500   | 6.3   | 11500  | 1.8        | 5.4               |
| EPE30***D | 950                          | 28000  | 9.5                             | 11.9  | 26800  | 18000   | 6.3   | 14500  | 1.9        | 5.4               |

(1) Tested at 95°F DB/75°F WB outdoor and 80°F DB/67°F WB indoor

(2) Tested at 47°F DB outdoor

### EXTENDED HEATING PERFORMANCE

#### HEAT PUMP ONLY

| HEAT PUMP EXTENDED DATA, COMPRESSOR HEATING |         |              |             |                 |              |             |                 |              |             |                 |              |             |                 |
|---|---------|--------------|-------------|-----------------|--------------|-------------|-----------------|--------------|-------------|-----------------|--------------|-------------|-----------------|
| Model                                       | Airflow | 47/43        |             |                 | 35/33        |             |                 | 17/15        |             |                 | 5/0          |             |                 |
|   |         | Net Capacity | Power Input | Outlet Dry Bulb | Net Capacity | Power Input | Outlet Dry Bulb | Net Capacity | Power Input | Outlet Dry Bulb | Net Capacity | Power Input | Outlet Dry Bulb |
|   | SCFM    | BTUH         | W           | °F              | BTUH         | W           | °F              | BTUH         | W           | °F              | BTUH         | W           | °F              |
| EPE122**D0DCF0LFA                           | 390     | 10000        | 880         | 93              | 7000         | 850         | 90              | 5500         | 810         | 83              | 4100         | 780         | 79              |
| EPE182**D0DCF0LFA                           | 600     | 15800        | 1400        | 94              | 12800        | 1350        | 90              | 9500         | 1320        | 84              | 6500         | 1300        | 80              |
| EPE242**D0DCF0LFA                           | 800     | 21200        | 1930        | 95              | 16600        | 1900        | 90              | 13500        | 1820        | 85              | 11500        | 1800        | 82              |
| EPE302**D0DCF0LFA                           | 900     | 26800        | 2460        | 97              | 22200        | 2370        | 93              | 18000        | 2300        | 88              | 15010        | 2250        | 84              |

**NOTE:**

Performance data is based on nominal CFM and 70°F indoor dry bulb

\*May experience some loss in capacity.

\*This data is to be used as reference values only and does not constitute a rating or a guarantee that the installed system will perform as indicated.

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### COMBINED EXTENDED HEATING PERFORMANCE

#### HEAT PUMP & ELECTRIC HEAT

| HEAT PUMP EXTENDED DATA WITH ELECTRIC HEAT |                   |              |             |              |             |              |             |              |             |
|--|-------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| Model                                      | Heater Size, 240V | 47/43        |             | 35/33        |             | 17/15        |             | 5/0          |             |
|  |                   | Net Capacity | Power Input | Net Capacity | Power Input | Net Capacity | Power Input | Net Capacity | Power Input |
|  | kW                | BTUH         | W           | BTUH         | W           | BTUH         | W           | BTUH         | W           |
| EPE12203D0DCF0LFA                          | 3                 | 20230        | 3880        | 17230        | 3850        | 15730        | 3810        | 14330        | 3780        |
| EPE12205D0DCF0LFA                          | 5                 | 27060        | 5880        | 24060        | 5850        | 22560        | 5810        | 21160        | 5780        |
| EPE18205D0DCF0LFA                          | 5                 | 32860        | 6400        | 29860        | 6350        | 26560        | 6320        | 23560        | 6300        |
| EPE18207D0DCF0LFA                          | 7                 | 39680        | 8400        | 36680        | 8350        | 33380        | 8320        | 30380        | 8300        |
| EPE18210D0DCF0LFA                          | 10                | 49920        | 11400       | 46920        | 11350       | 43620        | 11320       | 40620        | 11300       |
| EPE24205D0DCF0LFA                          | 5                 | 38260        | 6930        | 33660        | 6900        | 30560        | 6820        | 28560        | 6800        |
| EPE24207D0DCF0LFA                          | 7                 | 45080        | 8930        | 40480        | 8900        | 37380        | 8820        | 35380        | 8800        |
| EPE24210D0DCF0LFA                          | 10                | 55320        | 11930       | 50720        | 11900       | 47620        | 11820       | 45620        | 11800       |
| EPE30205D0DCF0LFA                          | 5                 | 43860        | 7460        | 39260        | 7370        | 35060        | 7300        | 32070        | 7250        |
| EPE30207D0DCF0LFA                          | 7                 | 50680        | 9460        | 46080        | 9370        | 41880        | 9300        | 38890        | 9250        |
| EPE30210D0DCF0LFA                          | 10                | 60920        | 12460       | 56320        | 12370       | 52120        | 12300       | 49130        | 12250       |

**NOTE:**

Values based on nominal airflow at .3" in H<sub>2</sub>O, 70°F Inlet Air

\*May experience some loss in capacity.

\*This data is to be used as reference values only and does not constitute a rating or a guarantee that the installed system will perform as indicated.

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### EXTENDED COOLING PERFORMANCE

| Model | Indoor Temp DB/WB | Outdoor Temperature °F |      |      |       |      |      |       |      |      |
|-------|-------------------|------------------------|------|------|-------|------|------|-------|------|------|
|       |                   | 65.0                   |      |      | 75.0  |      |      | 85.0  |      |      |
|       |                   | BTUH                   | S/T  | W    | BTUH  | S/T  | W    | BTUH  | S/T  | W    |
| EPE12 | 75/57             | 11850                  | 1.00 | 0.76 | 11450 | 1.00 | 0.86 | 10700 | 1.00 | 0.98 |
|       | 75/63             | 12750                  | 0.75 | 0.76 | 12150 | 0.77 | 0.86 | 11500 | 0.79 | 0.98 |
|       | 80/67             | 13650                  | 0.73 | 0.76 | 13000 | 0.74 | 0.86 | 12350 | 0.76 | 0.98 |
|       | 85/72             | 14800                  | 0.66 | 0.76 | 14100 | 0.68 | 0.86 | 13400 | 0.69 | 0.98 |
| EPE18 | 75/57             | 18800                  | 1.00 | 1.24 | 17600 | 1.00 | 1.36 | 16950 | 1.00 | 1.52 |
|       | 75/63             | 20100                  | 0.76 | 1.24 | 19100 | 0.77 | 1.36 | 18200 | 0.79 | 1.52 |
|       | 80/67             | 21400                  | 0.73 | 1.22 | 20400 | 0.74 | 1.36 | 19450 | 0.77 | 1.52 |
|       | 85/72             | 23200                  | 0.66 | 1.22 | 22150 | 0.68 | 1.36 | 21050 | 0.69 | 1.50 |
| EPE24 | 75/57             | 22850                  | 1.00 | 1.78 | 22100 | 1.00 | 1.96 | 21500 | 1.00 | 2.16 |
|       | 75/63             | 25100                  | 0.73 | 1.78 | 24000 | 0.74 | 1.96 | 22900 | 0.77 | 2.18 |
|       | 80/67             | 26750                  | 0.70 | 1.80 | 25600 | 0.72 | 1.98 | 24450 | 0.74 | 2.18 |
|       | 85/72             | 28900                  | 0.64 | 1.80 | 27700 | 0.66 | 1.98 | 26450 | 0.68 | 2.20 |
| EPE30 | 75/57             | 29650                  | 1.00 | 2.30 | 28450 | 1.00 | 2.50 | 27450 | 1.00 | 2.74 |
|       | 75/63             | 32600                  | 0.72 | 2.34 | 31250 | 0.73 | 2.54 | 29800 | 0.74 | 2.78 |
|       | 80/67             | 34750                  | 0.69 | 2.36 | 33250 | 0.70 | 2.58 | 31700 | 0.71 | 2.80 |
|       | 85/72             | 37450                  | 0.63 | 2.40 | 35850 | 0.63 | 2.62 | 34200 | 0.65 | 2.86 |

| Model | Indoor Temp DB/WB | Outdoor Temperature °F |      |      |       |      |      |       |      |      |
|-------|-------------------|------------------------|------|------|-------|------|------|-------|------|------|
|       |                   | 95.0                   |      |      | 105.0 |      |      | 115.0 |      |      |
|       |                   | BTUH                   | S/T  | W    | BTUH  | S/T  | W    | BTUH  | S/T  | W    |
| EPE12 | 75/57             | 10000                  | 1.00 | 1.06 | 9500  | 1.00 | 1.2  | 9000  | 1.00 | 1.38 |
|       | 75/63             | 10600                  | 0.81 | 1.06 | 10050 | 0.83 | 1.2  | 9400  | 0.87 | 1.38 |
|       | 80/67             | 11400                  | 0.79 | 1.06 | 10700 | 0.81 | 1.2  | 10050 | 0.84 | 1.38 |
|       | 85/72             | 12300                  | 0.71 | 1.04 | 11600 | 0.73 | 1.2  | 10900 | 0.76 | 1.36 |
| EPE18 | 75/57             | 16050                  | 1.00 | 1.64 | 15300 | 1.00 | 1.84 | 14500 | 1.00 | 2.08 |
|       | 75/63             | 17000                  | 0.82 | 1.64 | 16100 | 0.85 | 1.84 | 15100 | 0.87 | 2.08 |
|       | 80/67             | 18200                  | 0.79 | 1.64 | 17150 | 0.82 | 1.84 | 16150 | 0.84 | 2.08 |
|       | 85/72             | 19700                  | 0.72 | 1.64 | 18600 | 0.74 | 1.84 | 17500 | 0.77 | 2.08 |
| EPE24 | 75/57             | 19900                  | 1.00 | 2.40 | 19050 | 1.00 | 2.66 | 18100 | 1.00 | 2.96 |
|       | 75/63             | 21650                  | 0.79 | 2.40 | 20400 | 0.80 | 2.68 | 19150 | 0.82 | 2.96 |
|       | 80/67             | 22950                  | 0.75 | 2.42 | 21750 | 0.78 | 2.68 | 20500 | 0.80 | 2.98 |
|       | 85/72             | 24800                  | 0.69 | 2.42 | 23500 | 0.70 | 2.7  | 22150 | 0.72 | 2.98 |
| EPE30 | 75/57             | 26350                  | 1.00 | 3.02 | 24550 | 1.00 | 3.32 | 23500 | 1.00 | 3.66 |
|       | 75/63             | 28000                  | 0.76 | 3.06 | 26450 | 0.77 | 3.36 | 25100 | 0.80 | 3.70 |
|       | 80/67             | 29750                  | 0.73 | 3.10 | 28500 | 0.77 | 3.4  | 26800 | 0.77 | 3.72 |
|       | 85/72             | 32300                  | 0.68 | 3.14 | 30400 | 0.68 | 3.46 | 28850 | 0.70 | 3.78 |

**NOTE:**

\* Total power input of the unit

Performance data is simulated based on the rated value of each model and is calculated based on nominal CFM and .3 external static pressure

This data is to be used as reference values only and does not constitute a rating or a guarantee that the installed system will perform as indicated

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### BLOWER PERFORMANCE

| MODEL     | Motor Tap | Motor Speed | IWC STATIC PRESSURE |     |      |     |      |     |      |     |      |     |
|-----------|-----------|-------------|---------------------|-----|------|-----|------|-----|------|-----|------|-----|
|           |           |             | 0.10                |     | 0.20 |     | 0.30 |     | 0.40 |     | 0.50 |     |
|           |           |             | SCFM                | W   | SCFM | W   | SCFM | W   | SCFM | W   | SCFM | W   |
| EPE12203  | 1         | T1          | 284                 | 22  | 271  | 30  | 255  | 36  | 237  | 41  | 219  | 45  |
|           | 2         | T2H         | 446                 | 73  | 433  | 81  | 417  | 87  | 399  | 41  | 381  | 95  |
|           | 3         | T3          | 505                 | 98  | 492  | 106 | 476  | 112 | 458  | 41  | 440  | 121 |
|           | 4         | T4C         | 477                 | 86  | 464  | 93  | 448  | 100 | 430  | 41  | 412  | 108 |
| EPE12205  | 1         | T1          | 284                 | 22  | 271  | 30  | 255  | 36  | 237  | 41  | 219  | 45  |
|           | 2         | T2H         | 477                 | 86  | 464  | 93  | 448  | 100 | 430  | 41  | 412  | 108 |
|           | 3         | T3          | 505                 | 98  | 492  | 106 | 476  | 112 | 458  | 41  | 440  | 121 |
|           | 4         | T4C         | 477                 | 86  | 464  | 93  | 448  | 100 | 430  | 41  | 412  | 108 |
| EPE182205 | 1         | T1          | 540                 | 74  | 500  | 75  | 474  | 77  | 441  | 77  | 407  | 74  |
|           | 2         | T2H         | 703                 | 126 | 663  | 126 | 637  | 129 | 604  | 129 | 570  | 126 |
|           | 3         | T3          | 832                 | 189 | 792  | 189 | 766  | 191 | 734  | 191 | 700  | 189 |
|           | 4         | T4C         | 749                 | 146 | 709  | 146 | 683  | 149 | 651  | 149 | 617  | 146 |
|           | 5         | T5          | 901                 | 233 | 861  | 234 | 835  | 236 | 803  | 236 | 769  | 233 |
| EPE182207 | 1         | T1          | 540                 | 74  | 500  | 75  | 474  | 77  | 441  | 77  | 407  | 74  |
|           | 2         | T2H         | 749                 | 146 | 709  | 146 | 683  | 149 | 651  | 149 | 617  | 146 |
|           | 3         | T3          | 792                 | 167 | 752  | 167 | 726  | 170 | 694  | 170 | 660  | 167 |
|           | 4         | T4C         | 832                 | 189 | 792  | 189 | 766  | 191 | 734  | 191 | 700  | 189 |
|           | 5         | T5          | 901                 | 233 | 861  | 234 | 835  | 236 | 803  | 236 | 769  | 233 |
| EPE182210 | 1         | T1          | 407                 | 46  | 367  | 46  | 341  | 48  | 308  | 48  | 274  | 46  |
|           | 2         | T2H         | 792                 | 167 | 752  | 167 | 726  | 170 | 694  | 170 | 660  | 167 |
|           | 3         | T3          | 956                 | 274 | 916  | 275 | 890  | 277 | 857  | 277 | 823  | 275 |
|           | 4         | T4C         | 832                 | 189 | 792  | 189 | 766  | 191 | 734  | 191 | 700  | 189 |
|           | 5         | T5          | 901                 | 233 | 861  | 234 | 835  | 236 | 803  | 236 | 769  | 233 |

C – Factory Default Cooling and Heat Pump Airflow

H – Factory Default Electric Heat Airflow

T2 & T3 are reserved for Electric Heat operation only

T4 & T5 are reserved for Cooling and Heat pump operation only

Blower performance data based on a dry coil at 70°F DB EAT with a standard 1" clean air filter

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### BLOWER PERFORMANCE (CONT'D)

| MODEL    | Motor Tap | Motor Speed | IWC STATIC PRESSURE |     |      |     |      |     |      |     |      |     |
|----------|-----------|-------------|---------------------|-----|------|-----|------|-----|------|-----|------|-----|
|          |           |             | 0.10                |     | 0.20 |     | 0.30 |     | 0.40 |     | 0.50 |     |
|          |           |             | SCFM                | W   | SCFM | W   | SCFM | W   | SCFM | W   | SCFM | W   |
| EPE24205 | 1         | T1          | 749                 | 146 | 709  | 146 | 683  | 149 | 651  | 149 | 617  | 146 |
|          | 2         | T2H         | 832                 | 189 | 792  | 189 | 766  | 191 | 734  | 191 | 700  | 189 |
|          | 3         | T3          | 956                 | 274 | 916  | 275 | 890  | 277 | 857  | 277 | 823  | 275 |
|          | 4         | T4CL        | 663                 | 111 | 623  | 111 | 597  | 114 | 564  | 114 | 530  | 111 |
|          | 5         | T5CH        | 907                 | 237 | 867  | 238 | 841  | 240 | 809  | 240 | 775  | 238 |
| EPE24207 | 1         | T1          | 749                 | 146 | 709  | 146 | 683  | 149 | 651  | 149 | 617  | 146 |
|          | 2         | T2H         | 868                 | 211 | 828  | 211 | 802  | 214 | 770  | 214 | 736  | 211 |
|          | 3         | T3          | 832                 | 189 | 792  | 189 | 766  | 191 | 734  | 191 | 700  | 189 |
|          | 4         | T4CL        | 663                 | 111 | 623  | 111 | 597  | 114 | 564  | 114 | 530  | 111 |
|          | 5         | T5CH        | 907                 | 237 | 867  | 238 | 841  | 240 | 809  | 240 | 775  | 238 |
| EPE24210 | 1         | T1          | 749                 | 146 | 709  | 146 | 683  | 149 | 651  | 149 | 617  | 146 |
|          | 2         | T2H         | 907                 | 237 | 867  | 238 | 841  | 240 | 809  | 240 | 775  | 238 |
|          | 3         | T3          | 832                 | 189 | 792  | 189 | 766  | 191 | 734  | 191 | 700  | 189 |
|          | 4         | T4CL        | 663                 | 111 | 623  | 111 | 597  | 114 | 564  | 114 | 530  | 111 |
|          | 5         | T5CH        | 931                 | 255 | 891  | 255 | 865  | 257 | 832  | 257 | 798  | 255 |
| EPE30205 | 1         | T1          | 729                 | 117 | 656  | 117 | 615  | 111 | 584  | 106 | 541  | 96  |
|          | 2         | T2H         | 873                 | 215 | 843  | 215 | 802  | 209 | 771  | 204 | 728  | 194 |
|          | 3         | T3          | 961                 | 274 | 931  | 273 | 891  | 267 | 860  | 262 | 816  | 252 |
|          | 4         | T4CL        | 981                 | 287 | 950  | 287 | 910  | 281 | 879  | 276 | 836  | 266 |
|          | 5         | T5CH        | 1014                | 310 | 984  | 310 | 943  | 304 | 912  | 299 | 869  | 289 |
| EPE30207 | 1         | T1          | 729                 | 117 | 656  | 117 | 615  | 111 | 584  | 106 | 541  | 96  |
|          | 2         | T2H         | 922                 | 247 | 891  | 246 | 851  | 240 | 820  | 235 | 776  | 226 |
|          | 3         | T3          | 961                 | 274 | 931  | 273 | 891  | 267 | 860  | 262 | 816  | 252 |
|          | 4         | T4CL        | 981                 | 287 | 950  | 287 | 910  | 281 | 879  | 276 | 836  | 266 |
|          | 5         | T5CH        | 1014                | 310 | 984  | 310 | 943  | 304 | 912  | 299 | 869  | 289 |
| EPE30210 | 1         | T1          | 791                 | 141 | 710  | 141 | 670  | 135 | 639  | 130 | 595  | 120 |
|          | 2         | T2H         | 992                 | 295 | 962  | 295 | 921  | 289 | 890  | 284 | 847  | 274 |
|          | 3         | T3          | 961                 | 274 | 931  | 273 | 891  | 267 | 860  | 262 | 816  | 252 |
|          | 4         | T4CL        | 981                 | 287 | 950  | 287 | 910  | 281 | 879  | 276 | 836  | 266 |
|          | 5         | T5CH        | 1014                | 310 | 984  | 310 | 943  | 304 | 912  | 299 | 869  | 289 |

C – Factory Default Cooling and Heat Pump Airflow

H – Factory Default Electric Heat Airflow

T2 & T3 are reserved for Electric Heat operation only

T4 & T5 are reserved for Cooling and Heat pump operation only

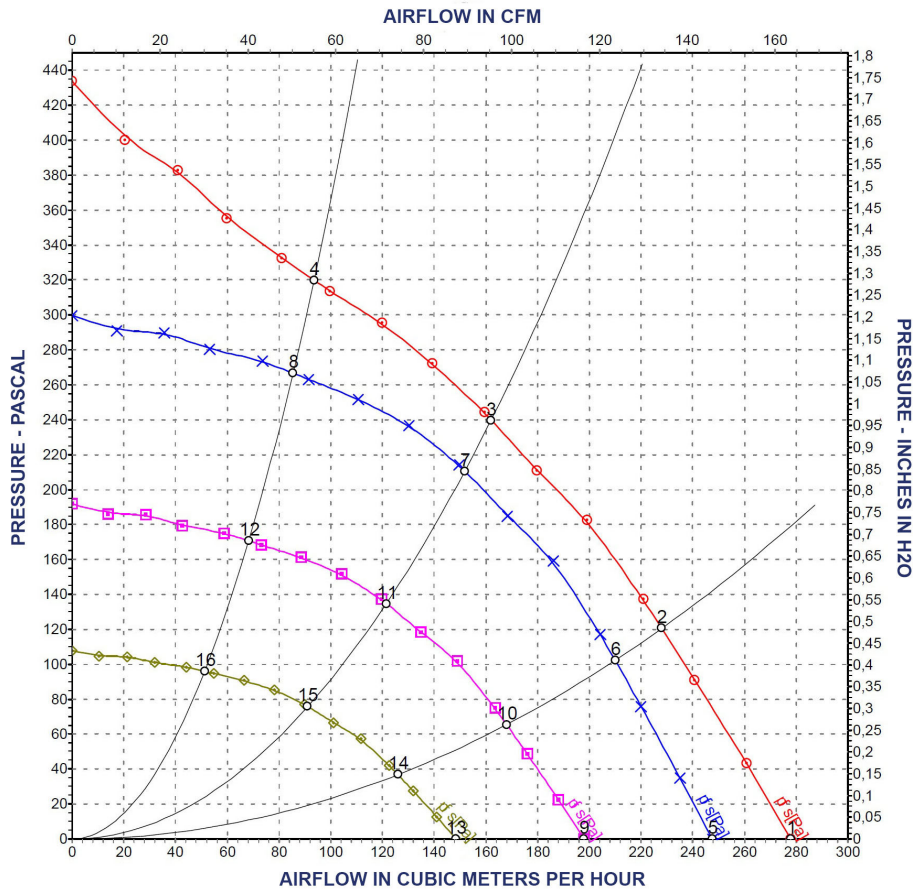
Blower performance data based on a dry coil at 70°F DB EAT with a standard 1" clean air filter

# FRESH-PAK HP

SPACE CONSTRAINED HEAT PUMP

## ERV FAN PERFORMANCE

ERV FAN CURVE – AIR FLOW AT 60HZ



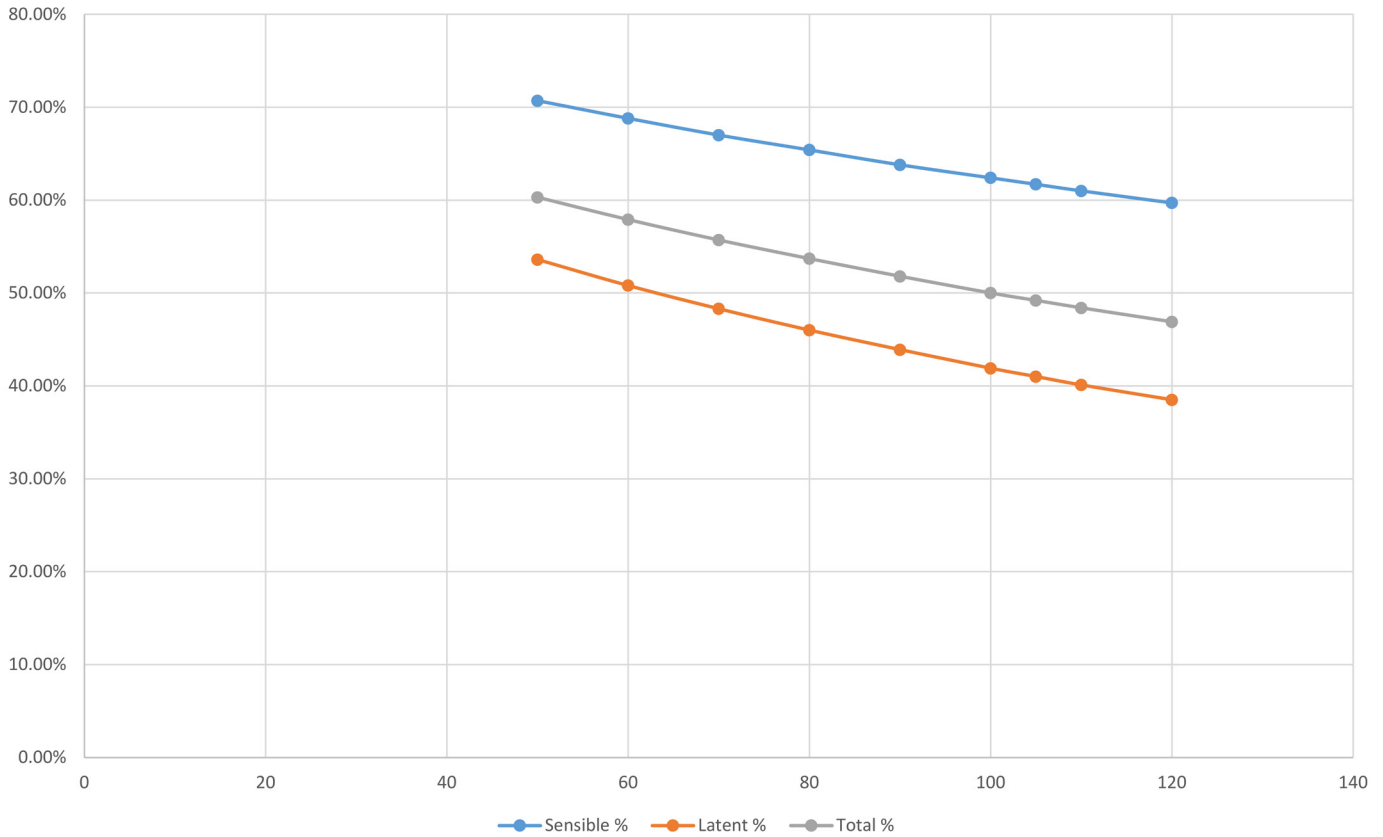
|    | Voltage | Frequency Hz | Speed (Rev/min) | Power (Watts) | Current (Amps) | Airflow (m <sup>3</sup> /h) | Pressure (Pa) | Airflow (CFM) | Pressure (IN H <sub>2</sub> O) |
|----|---------|--------------|-----------------|---------------|----------------|-----------------------------|---------------|---------------|--------------------------------|
| 1  | 230     | 60           | 3930            | 24            | 0.23           | 280                         | 0             | 165           | 0.00                           |
| 2  | 230     | 60           | 3800            | 26            | 0.26           | 230                         | 120           | 136           | 0.48                           |
| 3  | 230     | 60           | 3770            | 27            | 0.27           | 160                         | 240           | 95            | 0.96                           |
| 4  | 230     | 60           | 3835            | 26            | 0.25           | 95                          | 320           | 56            | 1.28                           |
| 5  | 230     | 60           | 3500            | 17            | 0.16           | 250                         | 0             | 148           | 0.00                           |
| 6  | 230     | 60           | 3500            | 20            | 0.2            | 210                         | 102           | 124           | 0.41                           |
| 7  | 230     | 60           | 3500            | 22            | 0.22           | 150                         | 211           | 89            | 0.85                           |
| 8  | 230     | 60           | 3500            | 19            | 0.19           | 85                          | 267           | 51            | 1.07                           |
| 9  | 230     | 60           | 2800            | 8.5           | 0.08           | 200                         | 0             | 118           | 0.00                           |
| 10 | 230     | 60           | 2800            | 10            | 0.1            | 170                         | 66            | 101           | 0.26                           |
| 11 | 230     | 60           | 2800            | 11            | 0.11           | 120                         | 135           | 71            | 0.54                           |
| 12 | 230     | 60           | 2800            | 9.9           | 0.1            | 70                          | 171           | 42            | 0.69                           |
| 13 | 230     | 60           | 2100            | 3.6           | 0.04           | 150                         | 0             | 89            | 0.00                           |
| 14 | 230     | 60           | 2100            | 4.4           | 0.04           | 125                         | 37            | 74            | 0.15                           |
| 15 | 230     | 60           | 2100            | 4.8           | 0.05           | 90                          | 76            | 53            | 0.31                           |
| 16 | 230     | 60           | 2100            | 4.2           | 0.04           | 50                          | 96            | 30            | 0.39                           |



# FRESH-PAK HP

SPACE CONSTRAINED HEAT PUMP

## ERV FAN PERFORMANCE SUMMER



| OUTDOOR |       | RETURN |        |
|---------|-------|--------|--------|
| db      | rh    | db     | rh     |
| 95      | 46.5% | 75     | 51.17% |

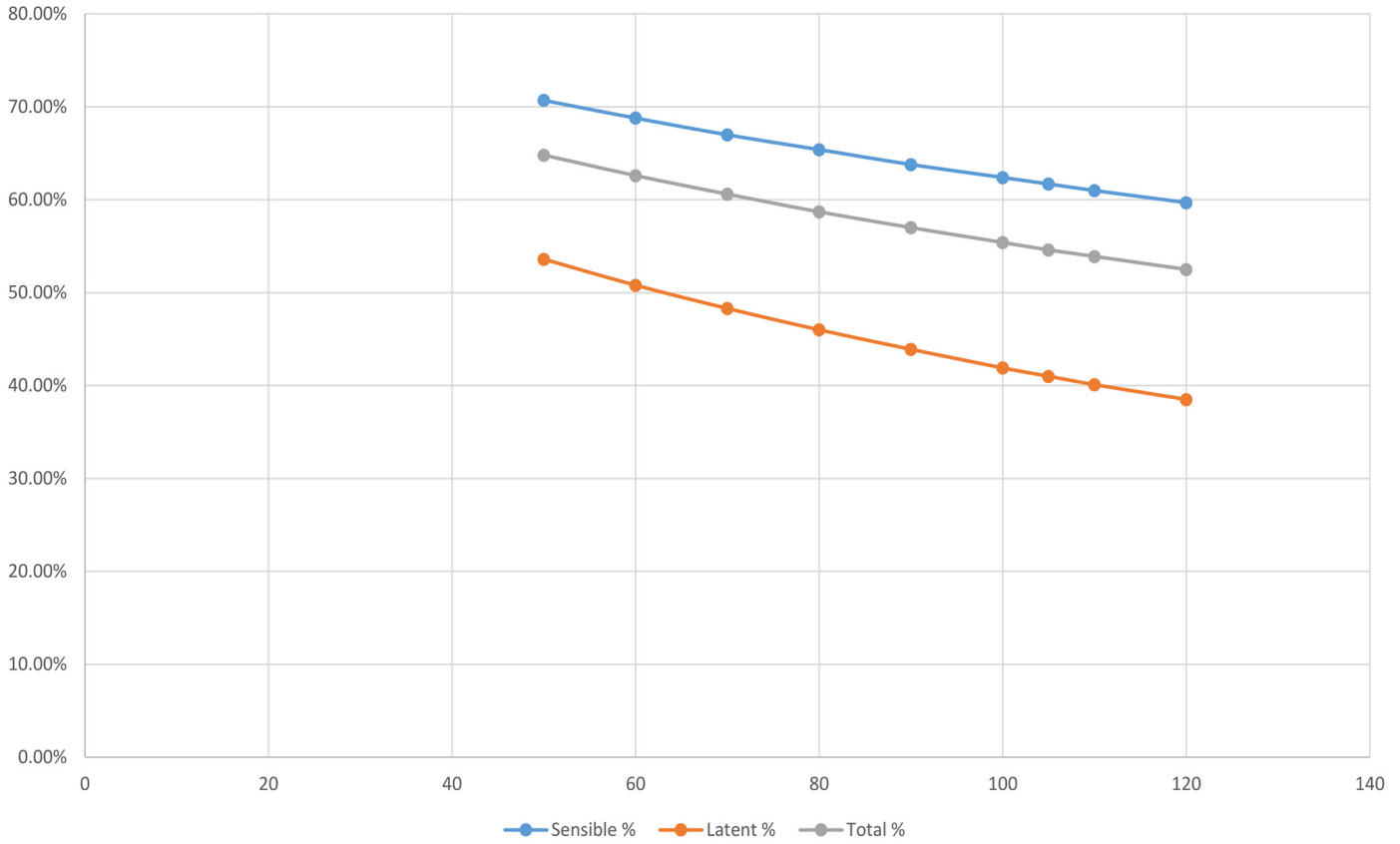


| CFM | SENSIBLE % | LATENT % | TOTAL % |
|-----|------------|----------|---------|
| 50  | 70.70%     | 53.60%   | 60.30%  |
| 60  | 68.80%     | 50.80%   | 57.90%  |
| 70  | 67.00%     | 48.30%   | 55.70%  |
| 80  | 65.40%     | 46.00%   | 53.70%  |
| 90  | 63.80%     | 43.90%   | 51.80%  |
| 100 | 62.40%     | 41.90%   | 50.00%  |
| 105 | 61.70%     | 41.00%   | 49.20%  |
| 110 | 61.00%     | 40.10%   | 48.40%  |
| 120 | 59.70%     | 38.50%   | 46.90%  |

# FRESH-PAK HP

## SPACE CONSTRAINED HEAT PUMP

### ERV FAN PERFORMANCE WINTER



| OUTDOOR |        | RETURN |        |
|---------|--------|--------|--------|
| db      | rh     | db     | rh     |
| 35      | 81.69% | 70     | 47.88% |



| CFM | SENSIBLE % | LATENT % | TOTAL % |
|-----|------------|----------|---------|
| 50  | 70.70%     | 53.60%   | 64.80%  |
| 60  | 68.80%     | 50.80%   | 62.60%  |
| 70  | 67.00%     | 48.30%   | 60.60%  |
| 80  | 65.40%     | 46.00%   | 58.70%  |
| 90  | 63.80%     | 43.90%   | 57.00%  |
| 100 | 62.40%     | 41.90%   | 55.40%  |
| 105 | 61.70%     | 41.00%   | 54.60%  |
| 110 | 61.00%     | 40.10%   | 53.90%  |
| 120 | 59.70%     | 38.50%   | 52.50%  |



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