



# Floating Air™ Ultra™ DUCTLESS MINI-SPLIT SYSTEMS

## CEILING CASSETTE HEAT Pumps

|              |              |               |
|--------------|--------------|---------------|
| PURCHASER    | P.O. #       | DATE          |
| PROJECT      | LOCATION     |               |
| ENGINEER     | ARCHITECT    |               |
| SUBMITTED BY | FOR APPROVAL | FOR REFERENCE |

| ITEM | PLAN DESIGNATION | QUANTITY | COOLING BTU/H | VOLTAGE | RUUD MODEL |
|------|------------------|----------|---------------|---------|------------|
|      |                  |          |               |         |            |
|      |                  |          |               |         |            |
|      |                  |          |               |         |            |
|      |                  |          |               |         |            |
|      |                  |          |               |         |            |

### Key Features

- All models ENERGY STAR® and ENERGY STAR® Cold Climate Heat Pump certified
- Precision Inverter®** technology (variable speed compressor)\*
- Soft-Start™ compressor
- BLDC motor

- Built-in Wi-Fi
- Sleep mode
- 3 fan speeds
- Ultra quiet operation
- Precise 4-way air distribution
- Evaporator frost control

- Built-in drain lift
- Flexible installation
- Clean modern look
- Wireless remote control included

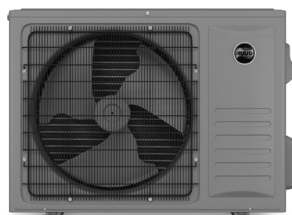
Indicates sustainability feature



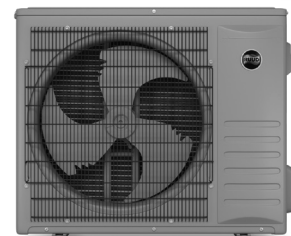
FPHFC09A3D, FPHFC12A3D



FPHFC18A3D, FPHFC24A3D,  
FPHSC36A3D



FPHFR09A3D, FPHFR12A3D



FPHFR18A3D, FPHFR24A3D,  
FPHFR36A3D

### Ceiling Cassette Grilles (Required)



FPCG0912A



FPCG182436A



**HIGH EFFICIENCY**  
HEATING & COOLING

#### DECORATIVE GRILLE

| FPCG0912A                         | FPCG182436A                                      |
|-----------------------------------|--|
| FITS<br>FPHFC09A3D,<br>FPHFC12A3D | FITS<br>FPHFC18A3D,<br>FPHFC24A3D,<br>FPHFC36A3D |

- Low ambient heat pump operation down to -22°F
- Low ambient cooling operation down to 5°F
- Low temperature compressor start-up protection



\*Applies to FSHW091C and FSHW183D model sets.

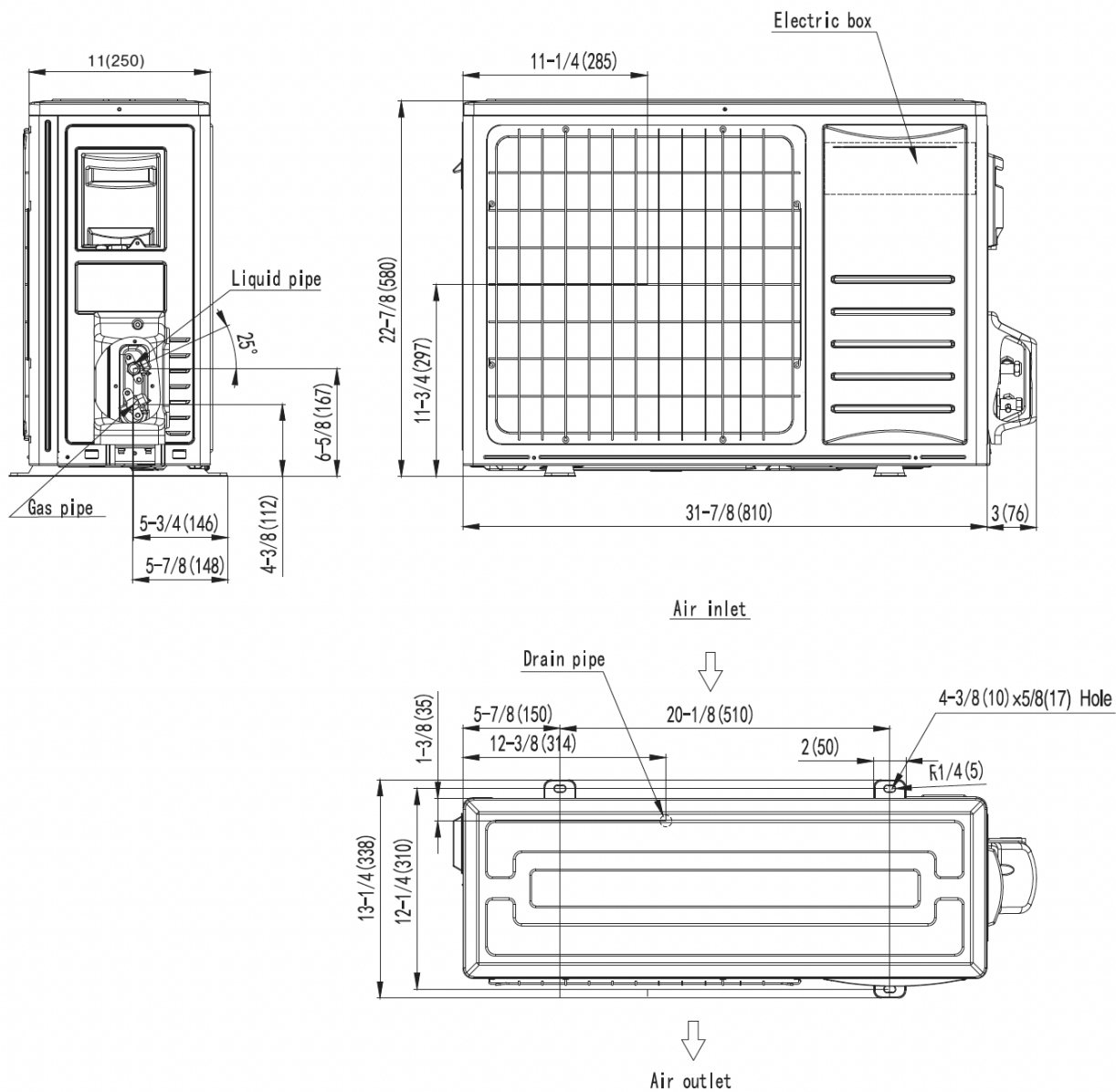
# FLOATING AIR™ ULTRA™ | SINGLE-ZONE | CEILING CASSETTE HEAT PUMPS

| MODEL                             | Model Set  | Unit        | FPHC093D             | FPHC123D             | FPHC183D             | FPHC243D             | FPHC363D             |
|-----------------------------------|--|-------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                                   | Indoor Model   |             | FPHFC09A3D           | FPHFC12A3D           | FPHFC18A3D           | FPHFC24A3D           | FPHSC36A3D           |
|                                   | Outdoor Model  |             | FPHFR09A3D           | FPHFR12A3D           | FPHFR18A3D           | FPHFR24A3D           | FPHFR36A3D           |
|                                   | Power Supply   |             | 208V/230V~, 60Hz, 1P |                      |                      |                      |                      |
| COOLING                           | ENERGY STAR® Standard                                  | Y/N         | Y                    | Y                    | Y                    | Y                    | Y                    |
|                                   | ENERGY STAR – Cold Climate                             | Y/N         | Y                    | Y                    | Y                    | Y                    | Y                    |
|                                   | Rated Capacity @ 95°F                                  | Btu/h       | 9,000                | 12,000               | 18,000               | 24,000               | 36,000               |
|                                   | Cooling Capacity Range (Min.–Max.)                     | Btu/h       | 4,300–14,500         | 4,300–14,500         | 7,800–24,000         | 9,000–30,000         | 12,000–45,000        |
|                                   | EER2 @ 95°F  | Btu/h/W     | 12.00                | 12.00                | 12.00                | 12.00                | 12.00                |
| HEATING                           | SEER2  | Btu/h/W     | 20.00                | 20.00                | 20.00                | 20.00                | 19.50                |
|                                   | Cooling Operating Range (Min.–Max.)                    | °F          | 5–125                | 5–125                | 5–125                | 5–125                | 5–125                |
|                                   | Rated Capacity @ 47°F                                  | Btu/h       | 9,000                | 12,000               | 18,000               | 24,000               | 36,000               |
|                                   | Heating Capacity Range (Min.–Max.)                     | Btu/h       | 5,500–18,000         | 5,500–18,000         | 8,500–24,000         | 7,500–34,000         | 11,000–45,000        |
|                                   | COP @ 47°F   | W/W         | 3.52                 | 3.52                 | 3.38                 | 3.52                 | 3.70                 |
| INDOOR AIRFLOW                    | COP @ 5°F  | W/W         | 1.80                 | 1.80                 | 2.00                 | 2.00                 | 2.00                 |
|                                   | HSPF2  | Btu/h/W     | 9.50                 | 9.50                 | 10.00                | 10.50                | 9.50                 |
|                                   | Rated Capacity Heating @ 17°F (-8.3°C)                 | Btu/h       | 8,900                | 8,900                | 14,100               | 19,100               | 25,500               |
|                                   | Maximum Heating Capacity @ 5°F (-15°C)                 | Btu/h       | 12,000               | 12,000               | 18,000               | 24,000               | 36,000               |
|                                   | Maximum Heating Capacity @ -13°F (-25°C)               | Btu/h       | 8,400                | 8,400                | 12,600               | 16,200               | 25,200               |
| INDOOR FAN MOTOR                  | Heating Operating Range (Min.–Max.)                    | °F          | -22–75               | -22–75               | -22–75               | -22–75               | -22–75               |
|                                   | Air Circulation (Max./H/M/L)                           | ft³ CFM     | 341/341/294/235      | 341/341/294/235      | 643/643/554/465      | 706/706/588/494      | 1,030/1,030/883/736  |
|                                   | Sound Rating – Indoor (High)                           | dB(A)       | 52                   | 52                   | 50                   | 53                   | 60                   |
|                                   | Output   | W           | 57                   | 57                   | 75                   | 75                   | 106                  |
|                                   | Speed (High/Medium/Low)                                | r/min       | 700/600/500          | 700/600/500          | 420/380/320          | 470/400/340          | 660/560/480          |
| OUTDOOR AIRFLOW                   | Air Circulation (High) for Outdoor                     | ft³ CFM     | 1,354                | 1,354                | 1,853                | 2,235                | 3,350                |
|                                   | Sound Rating – Outdoor                                 | dB(A)       | 64.0                 | 64.0                 | 68.0                 | 71.0                 | 74.0                 |
| OUTDOOR FAN MOTOR                 | Output   | W           | 40                   | 40                   | 60                   | 110                  | 250                  |
|                                   | Speed (High)   | r/min       | 880                  | 880                  | 880                  | 870                  | 850                  |
|                                   | Rated Current  | Cooling (A) | 3.00                 | 4.30                 | 6.30                 | 8.50                 | 14.20                |
| ELECTRICAL                        |  | Cooling (W) | 750                  | 1,000                | 1,500                | 2,000                | 3,000                |
|                                   |  | Heating (A) | 3.00                 | 4.25                 | 6.78                 | 8.50                 | 13.50                |
|                                   |  | Heating (W) | 750                  | 1,000                | 1,560                | 2,000                | 2,850                |
|                                   | MOP (Rating of Overcurrent Protective Device)          | A           | 20                   | 20                   | 25                   | 30                   | 50                   |
|                                   | MCA (Minimum Circuit Ampacity)                         | A           | 12                   | 12                   | 16                   | 22                   | 30                   |
| REFRIGERATION (R-454B)            | Communication Wire Size and Type                       |             | 4 × 14AWG            | 4 × 14AWG            | 4 × 14AWG            | 4 × 14AWG            | 4 × 14AWG            |
|                                   | Moisture Removal                                       | pints/hr    | 1.96                 | 3.14                 | 4.22                 | 6.26                 | 9.55                 |
|                                   | Refrigerant Charge Volume                              | oz.         | 38.1                 | 38.1                 | 56.4                 | 74.1                 | 112.8                |
|                                   | Liquid Pipe  | in.         | 1/4                  | 1/4                  | 1/4                  | 3/8                  | 3/8                  |
|                                   | Gas Pipe   | in.         | 3/8                  | 3/8                  | 1/2                  | 5/8                  | 5/8                  |
| INDOOR UNIT DIMENSIONS & WEIGHTS  | Max. Pipe Length (Total)                               | ft.         | 130                  | 130                  | 150                  | 165                  | 164                  |
|                                   | Max. Elevation (Indoor Units Higher Than Outdoor Unit) | ft.         | 50                   | 50                   | 80                   | 100                  | 98                   |
|                                   | Pre-charge Pipe Length                                 | ft.         | 25                   | 25                   | 25                   | 25                   | 25                   |
|                                   | Additional Refrigerant Charge per Foot After 25 ft.    | oz./ft.     | 0.16                 | 0.16                 | 0.16                 | 0.38                 | 0.38                 |
|                                   | Dimension (WxHxD)                                      | in.         | 22-1/2x8-1/2x22-1/2  | 22-1/2x8-1/2x22-1/2  | 33-1/8x9-1/4x33-1/8  | 33-1/8x9-1/4x33-1/8  | 33-1/8x10-3/4x33-1/8 |
| OUTDOOR UNIT DIMENSIONS & WEIGHTS |  | mm          | 570x215x570          | 570x215x570          | 840x236x840          | 840x236x840          | 840x272x840          |
|                                   | Packing (LxWxH)  | in.         | 28-3/4x26-1/4x11-1/2 | 28-3/4x26-1/4x11-1/2 | 37-3/8x12-5/8x37-3/8 | 37-3/8x12-5/8x37-3/8 | 37-3/8x14-1/8x37-3/8 |
|                                   |  | mm          | 730x668x292          | 730x668x292          | 950x320x950          | 950x320x950          | 950x360x950          |
|                                   | Net Weight   | lbs.        | 34.2                 | 34.2                 | 52.9                 | 52.9                 | 57.3                 |
|                                   |  | kg          | 15.5                 | 15.5                 | 24.0                 | 24.0                 | 26.0                 |
| GRILLE DIMENSIONS & WEIGHTS       | Shipping Weight  | lbs.        | 40.8                 | 40.8                 | 63.9                 | 63.9                 | 70.6                 |
|                                   |  | kg          | 18.5                 | 18.5                 | 29.0                 | 29.0                 | 32.0                 |
|                                   | Dimension (WxHxD)                                      | in.         | 31-7/8x22-7/8x11     | 31-7/8x22-7/8x11     | 33-7/8x26-3/8x12-1/4 | 35-3/8x29-1/2x13-3/8 | 43-1/4x34-1/2x17-3/4 |
|                                   |  | mm          | 810x580x280          | 810x580x280          | 860x670x310          | 900x750x340          | 1,100x875x450        |
|                                   | Packing (LxWxH)  | in.         | 37x16-1/2x25-1/4     | 37x16-1/2x25-1/4     | 39x17-3/4x28-3/4     | 41x32-5/8x18-1/8     | 45-7/8x39-1/2x21-1/4 |
| GRILLE DIMENSIONS & WEIGHTS       |  | mm          | 940x420x640          | 940x420x640          | 990x730x450          | 1,040x830x460        | 1,165x1,005x540      |
|                                   | Net Weight   | lbs.        | 79.4                 | 79.4                 | 103.6                | 123.4                | 185.2                |
|                                   |  | kg          | 36.0                 | 36.0                 | 47.0                 | 56.0                 | 84.0                 |
|                                   | Shipping Weight  | lbs.        | 86.0                 | 86.0                 | 111.3                | 132.3                | 209.4                |
|                                   |  | kg          | 39.0                 | 39.0                 | 50.5                 | 60.0                 | 95.0                 |
| GRILLE DIMENSIONS & WEIGHTS       | Dimension (WxHxD)                                      | in.         | 24-3/8x1-5/8x24-3/8  | 24-3/8x1-5/8x24-3/8  | 37-3/8x2x37-3/8      | 37-3/8x2x37-3/8      | 37-3/8x2x37-3/8      |
|                                   |  | mm          | 620x40x620           | 620x40x620           | 950x50x950           | 950x50x950           | 950x50x950           |
|                                   | Packing (LxWxH)  | in.         | 27-1/8x26-3/4x4-1/2  | 27-1/8x26-3/4x4-1/2  | 40-1/8x39-3/8x4-1/8  | 40-1/8x39-3/8x4-1/8  | 40-1/8x39-3/8x4-1/8  |
|                                   |  | mm          | 690x680x115          | 690x680x115          | 1,020x1,000x105      | 1,020x1,000x105      | 1,020x1,000x105      |
|                                   | Net Weight   | lbs.        | 5.7                  | 5.7                  | 14.3                 | 14.3                 | 14.3                 |
| GRILLE DIMENSIONS & WEIGHTS       |  | kg          | 2.6                  | 2.6                  | 6.5                  | 6.5                  | 6.5                  |
|                                   | Shipping Weight  | lbs.        | 9.9                  | 9.9                  | 19.8                 | 19.8                 | 19.8                 |
|                                   |  | kg          | 4.5                  | 4.5                  | 9.0                  | 9.0                  | 9.0                  |



# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMP

OUTDOOR UNITS/ FPHFR09A3D, FPHFR12A3D

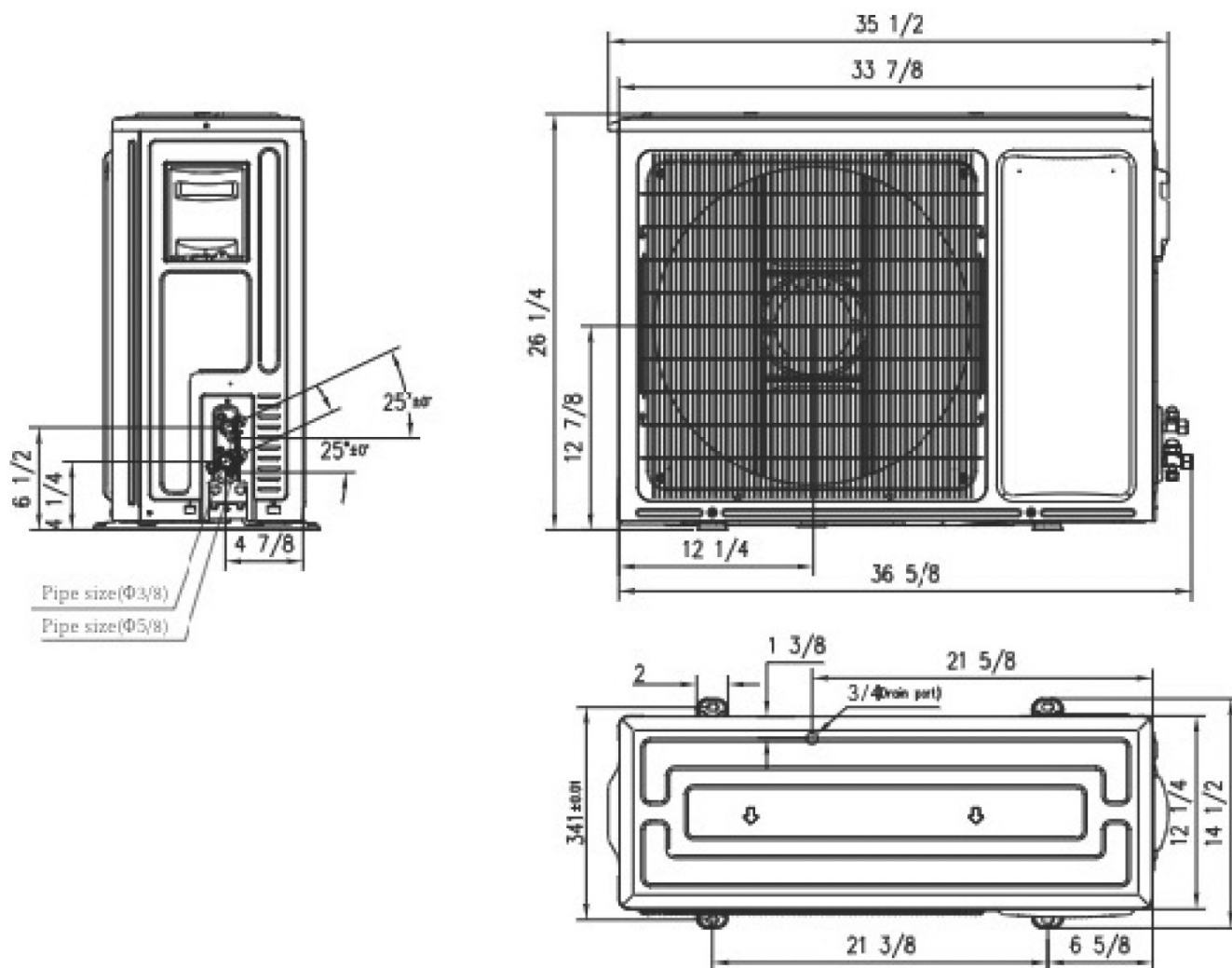


| Model                         | W       | H       | D       |
|-------------------------------|---------|---------|---------|
| <b>FPHFR09A3D, FPHFR12A3D</b> | 31 7/8" | 22 7/8" | 12 2/8" |

UNITS: INCHES

# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMP

## OUTDOOR UNITS/ FPHFR18A3D

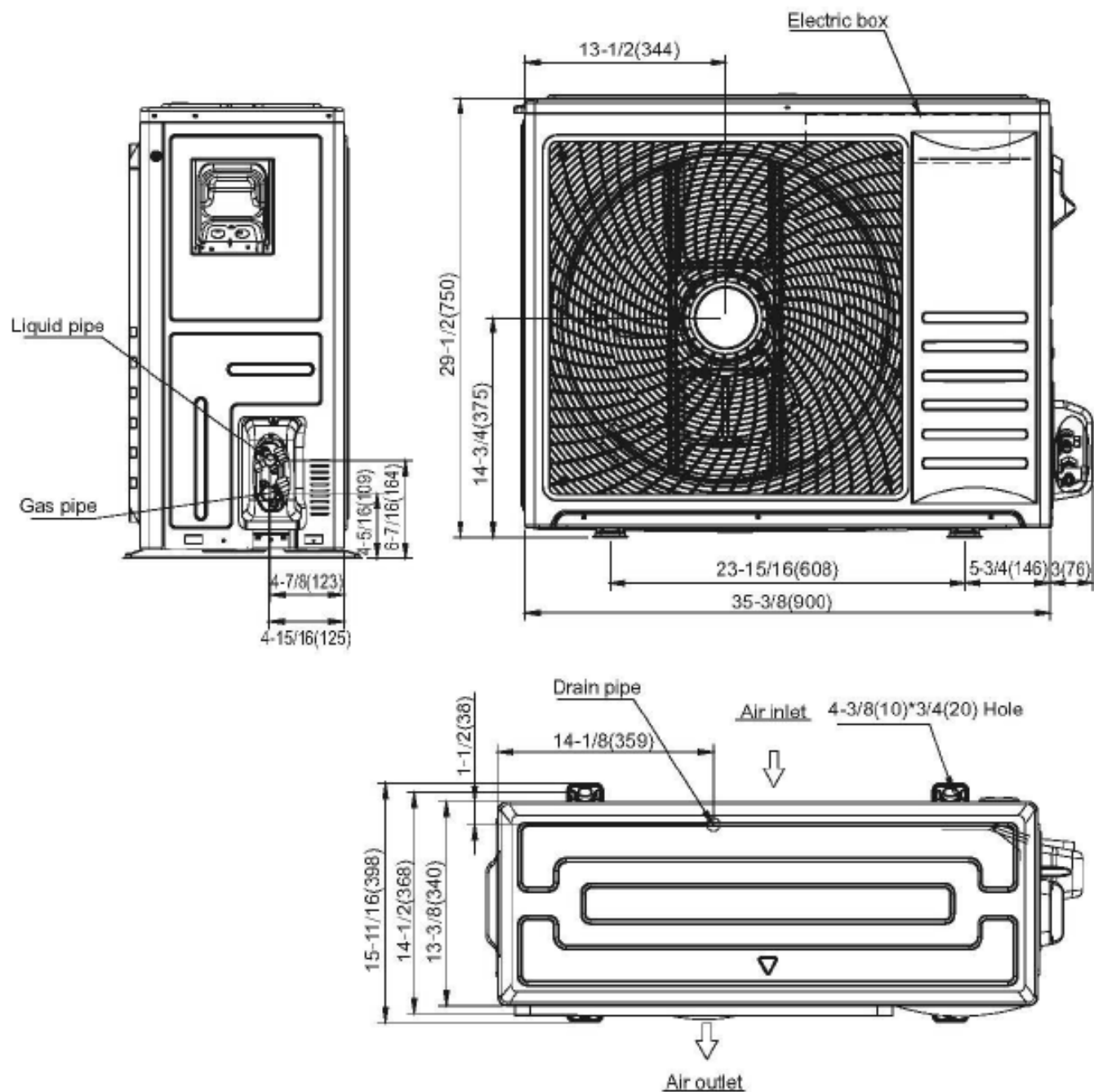


| Model             | W       | H       | D       |
|-------------------|---------|---------|---------|
| <b>FPHFR18A3D</b> | 33 7/8" | 26 2/8" | 12 2/8" |

UNITS: INCHES

# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMP

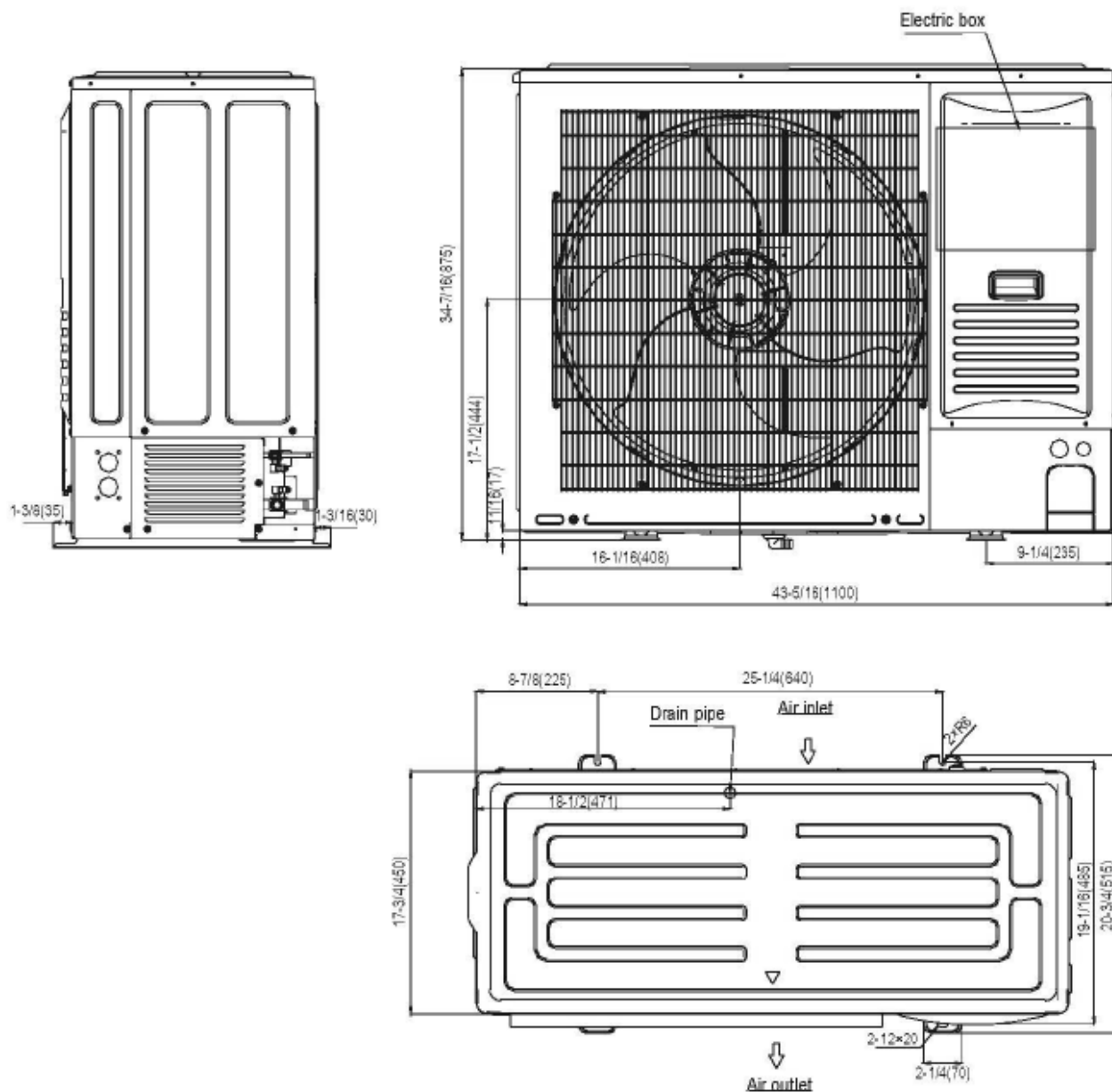
## OUTDOOR UNITS/ FPHFR24A3D



| Model             | W       | H       | D       |
|-------------------|---------|---------|---------|
| <b>FPHFR24A3D</b> | 35 5/8" | 29 1/2" | 13 3/8" |

UNITS: INCHES

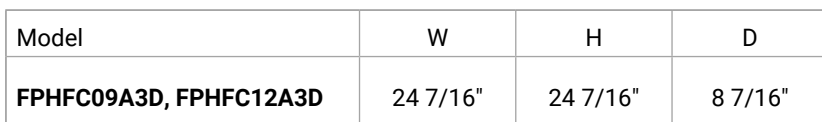
## OUTDOOR UNITS/ FPHFR36A3D



| Model             | W        | H        | D        |
|-------------------|----------|----------|----------|
| <b>FPHFR36A3D</b> | 43 5/16" | 34 7/16" | 19 1/16" |

UNITS: INCHES

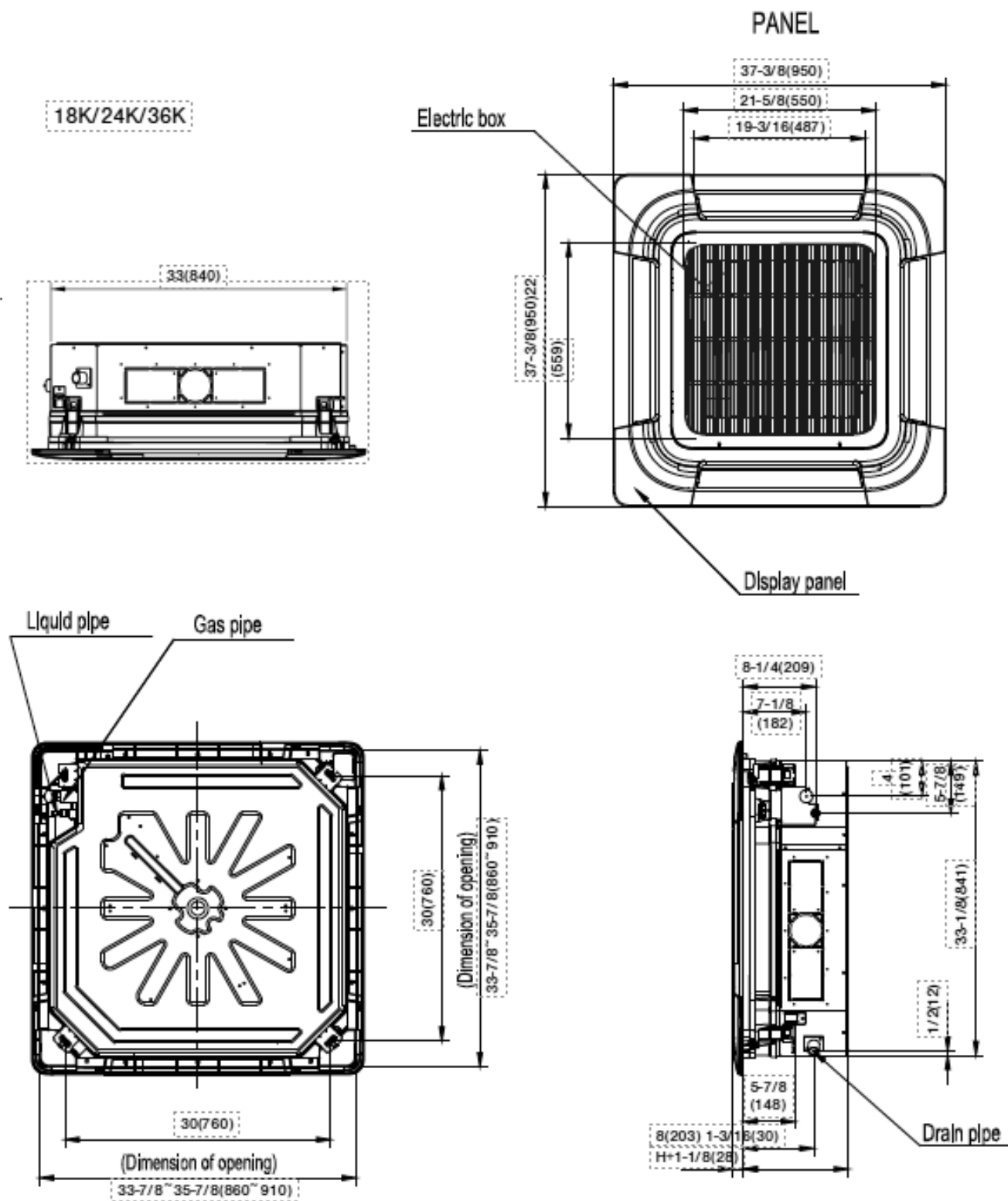
## INDOOR UNITS/ FPHFC09A3D, FPHFC12A3D



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# DIMENSIONAL DRAWINGS: CEILING CASSETTE

INDOOR UNITS/ FPHFC18A3D, FPHFC24A3D, FPHSC36A3D



| Model                              | W        | H        | D       |
|------------------------------------|----------|----------|---------|
| FPHFC18A3D, FPHFC24A3D, FPHSC36A3D | 24 7/16" | 24 7/16" | 8 7/16" |

UNITS: INCHES



## REFRIGERATION LINE SETS\*

| Kit#   | Length (ft.) | Liquid | Suction | System Model       |
|--------|--------------|--------|---------|--------------------|
| T32150 | 15'          | 1/4"   | 3/8"    | FPHC093D, FPHC123D |
| T32350 | 35'          | 1/4"   | 3/8"    |                    |
| T41250 | 15'          | 1/4"   | 1/2"    | FPHC183D           |
| T42250 | 25'          | 1/4"   | 1/2"    |                    |
| T52350 | 25'          | 3/8"   | 5/8"    | FPHC243D           |
| T53350 | 35'          | 3/8"   | 5/8"    |                    |
| T63500 | 50'          | 3/8"   | 3/4"    | FPHC363D           |

\*Insulated line sets are available for all Ruud split systems in 15 ft. and 35 ft. lengths. Each line set is equipped with flare nuts on both ends. Both liquid and suction lines are insulated. Line sets can be joined together with field supplied double male connectors. Each system requires one line set for each indoor unit installed.

## REFRIGERATION LINE SETS MIN./MAX. LENGTHS

| System Model | Min. (ft.) | Max. (ft.) |
|--------------|------------|------------|
| FPHC093D     | 25         | 82         |
| FPHC123D     | 25         | 82         |
| FPHC183D     | 25         | 82         |
| FPHC243D     | 25         | 164        |
| FPHC363D     | 25         | 164        |

## TORQUE WRENCH SETTINGS

| Outside Diameter |      | Torque  |             |
|------------------|------|---------|-------------|
| mm               | inch | ft-lbs. | N-m         |
| 6.35             | 1/4  | 13 -18  | 17.6 - 24.5 |
| 9.52             | 3/8  | 25 - 30 | 33.3 - 41.2 |
| 12.7             | 1/2  | 40 -47  | 53.9 - 64.7 |
| 15.88            | 5/8  | 45 - 59 | 61.7 - 80.4 |

## ACCESSORIES



**FPWC1** – Optional hard-wired controller for Floating Air wall-mounted and cassette indoor models. Included with concealed ducted models. Not compatible with AHU indoor models. See your Ruud representative for options.



**DSSXEMWRTA4** – Optional wireless energy management thermostat with occupancy sensor. For Floating Air Pro, single- and multi-zone models. See your Ruud representative for options.