GREE
Change for life

FLEXX ECO HEAT PUMP_R32

# Service Manual

| INDOOR UNIT | OUTDOOR UNIT |
| --- | --- |
| FXE24HP230V1R32AH | |
| FXE30HP230V1R32AH | FXE30HP230V1R32AO |
| FXE36HP230V1R32AH | FXE36HP230V1R32AO |
| FXE48HP230V1R32AH | FXE60HP230V1R32AO |
| FXE60HP230V1R32AH | |


GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

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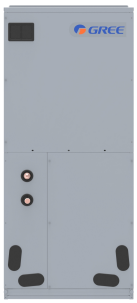
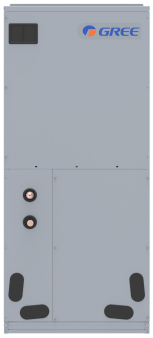
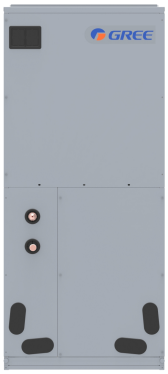
# 1 MODELS LIST

## 1.1 Outdoor Unit

| Model | Power Supply V/Ph/Hz | Finished Product Code | Appearance |
|---|---|---|---|
| FXE24HP230V1R32AO | 208/230V-1Ph-60Hz | CF090W3400 |  |
| FXE30HP230V1R32AO | 208/230V-1Ph-60Hz | CF090W3410 | |
| FXE36HP230V1R32AO | 208/230V-1Ph-60Hz | CF090W3370 | |
| FXE48HP230V1R32AO | 208/230V-1Ph-60Hz | CF090W3390 |  |
| FXE60HP230V1R32AO | 208/230V-1Ph-60Hz | CF090W3380 | |

## 1.2 Indoor Unit

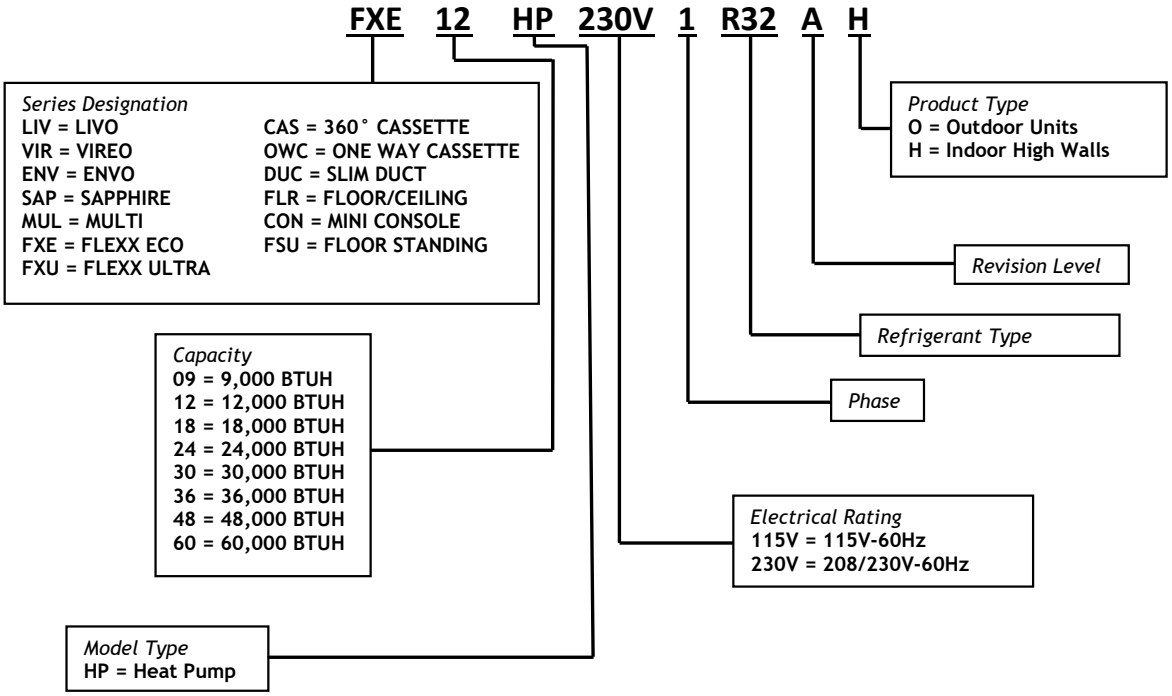
| Model | | Cooling/Heating Capacity (Btu/h) | Power Supply V/Ph/Hz | Finished Product Code | Appearance |
|---|---|---|---|---|---|
| Airhandler | FXE24HP230V1R32AH | 24000/24000 | 208/230V-1Ph-60Hz | EH010N0290 |  |
| Airhandler | FXE30HP230V1R32AH | 28000/28000 | 208/230V-1Ph-60Hz | EH010N0300 | |
| Airhandler | FXE36HP230V1R32AH | 34000/34000 | 208/230V-1Ph-60Hz | EH010N0310 |  |

| Model | | Cooling/Heating Capacity (Btu/h) | Power Supply V/Ph/Hz | Finished Product Code | Appearance |
|---|---|---|---|---|---|
| Airhandler | FXE48HP230V1R32AH | 48000/48000 | 208/230V-1Ph-60Hz | EH010N0280 |  |
| Airhandler | FXE60HP230V1R32AH | 54000/54000 | 208/230V-1Ph-60Hz | EH010N0270 | |

Note:1 Ton =12000Btu/h = 3.517kW

# 2 NOMENCLATURE

**EXAMPLE: FXE24HP230V1R32AH**




# 3 FUNCTION

## 3.1 Description

This product is a non-communicating variable residential air conditioner developed for the North American market with low temperature heating function. The unit adopts multiple technologies such as two-stage EVI, DC inverter, non-communication control, etc. It has the characteristics of low temperature heating, energy-saving comfort, strong engineering adaptability, and can be widely used in homes, villas, and other places.

## 3.2 Features-Outdoor Units

- Two-stage EVI technology has good low temperature heating effect.
- Communication free control technology, self-learning and adjustment according to the usage environment. The unit has strong engineering adaptability and adopts 24V communication free control.
- Through technologies such as two-stage EVI and full DC inverter, operating range is wide, and it can also meet the refrigeration heat needs of users in high and low temperature environments. The operating range is wide, and it can also meet the refrigeration heat needs of users in extreme high and low temperature environments.
- The outdoor unit is designed with a dual electric heating belt, which preheats the compressor through the compressor crankcase electric heating belt, which effectively ensures the oil temperature superheat of the unit at low temperature start and avoids starting with liquid; the chassis is defrosted by the electric heating belt Ice, to prevent the abnormal rotation of the fan caused by snow and ice, and ensure the reliable operation of the unit during heating.
- The outdoor unit condenser adopts gold corrosion-resistant fins and adopts side discharge design, occupying a smaller area. The compressor has an independent sealed chamber, providing sound insulation.

## 3.3 Indoor Units


Airflow Patterns for Extra Comfort:

It can connect many supply-air outlets to the duct, so that it can make the temperature and humidity of the whole room even. All units are provided with filters that they are easily accessible from the rear of the unit.

Flexible Installation:

Air-supply or air-return type, condensation water exit direction etc can be selected flexibly.

Easy Maintenance:

Evaporator coils are constructed of quality inner groove copper tube and hydrophilic aluminum sheet. It adopts easy and reliable configuration design, so Maintenance is very convenient and easy.


Versatile Functions:

- Time display function
- Timer function
- Memory function
- ℉/℃ switch function
- Temperature display function
- E-heater function
- 4-way valve energizing function

◆ Temperature compensation function

# 4 PRODUCT DATA

## 4.1 Product Data at Rated Condition

Air Handler

| Model | Indoor Unit | | FXE24HP230V1R32AH | FXE30HP230V1R32AH | FXE36HP230V1R32AH | FXE48HP230V1R32AH | FXE60HP230V1R32AH |
|---|---|---|---|---|---|---|---|
| | Product Code | | EH010N0290 | EH010N0300 | EH010N0310 | EH010N0280 | EH010N0270 |
| | Outdoor Unit | | FXE24HP230V1R32AO | FXE30HP230V1R32AO | FXE36HP230V1R32AO | FXE48HP230V1R32AO | FXE60HP230V1R32AO |
| | Product Code | | CF090W3400 | CF090W3410 | CF090W3370 | CF090W3390 | CF090W3380 |
| Capacity | Cooling Capacity | Btu/h | 24000 | 28000 | 34000 | 48000 | 54000 |
| | Heating Capacity | Btu/h | 24000 | 28000 | 34000 | 48000 | 54000 |
| Power Input | Cooling | kW | 2.02 | 2.4 | 2.9 | 4.1 | 4.62 |
| | Heating | kW | 2.02 | 2.4 | 2.85 | 4.14 | 4.66 |
| SEER 2/ HSPF2 | | — | 18.50/8.50 | 18.50/8.50 | 19.0/8.50 | 17.0/9.5 | 16.5/9.0 |
| Indoor Unit | | | FXE24HP230V1R32AH | FXE30HP230V1R32AH | FXE36HP230V1R32AH | FXE48HP230V1R32AH | FXE60HP230V1R32AH |
| Fan | Drive | — | Direct | Direct | Direct | Direct | Direct |
| | Motor Output | kW | 0.37×1 | 0.37×1 | 0.37×1 | 0.75×1 | 0.75×1 |
| | Air Flow | m3/h (CFM) | 1360 (800) | 1530 (900) | 1785 (1050) | 2380 (1400) | 2550 (1500) |
| | Rated Ext. Static Pressur | Pa (In Wg) | 125 (0.50) | 125 (0.50) | 125 (0.50) | 125 (0.50) | 125 (0.50) |
| | Ext. Static Pressur | Pa (In Wg) | 0~250 (0-1.0) | 0~250 (0-1.0) | 0~250 (0-1.0) | 0~250 (0-1.0) | 0~250 (0-1.0) |
| Sound Pressure Level(H/M/L) | | dB(A) | 47 | 51 | 51 | 53 | 54 |
| Air Filter | | — | Metal | Metal | Metal | Metal | Metal |
| Drain Piping | | mm (inc | Φ25.4×1.2 (Φ1×0.05) | Φ25.4×1.2 (Φ1×0.05) | Φ25.4×1.2 (Φ1×0.05) | Φ25.4×1.2 (Φ1×0.05) | Φ25.4×1.2 (Φ1×0.05) |
| Outline Dimensions (W×D×H) | | mm (inch) | 460×540×1105 (18-1/8×21-1/4×43-1/2) | 460×540×1105 (18-1/8×21-1/4×43-1/2) | 540×540×1224 (21-1/4×21-1/4×48-3/16) | 630×540×1320 (24-13/16×21-1/4×51.968) | 630×540×1320 (24-13/16×21-1/4×51.968) |
| Net Weight | | kg (lb) | 57.0 (125.7) | 57.0 (125.7) | 70.0 (154.3) | 86.0 (189.6) | 86.0 (189.6) |
| Outdoor Unit | | | FXE24HP230V1R32AO | FXE30HP230V1R32AO | FXE36HP230V1R32AO | FXE48HP230V1R32AO | FXE60HP230V1R32AO |
| Compressor | Type | — | Rotary | Rotary | Rotary | Rotary | Rotary |
| | Power Input | W | 2092 | 2092 | 2092 | 3297 | 3297 |
| Refrigerant | Control | — | Electronic Expansion Valve | Electronic Expansion Valve | Electronic Expansion Valve | Electronic Expansion Valve | Electronic Expansion Valve |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Charge | kg (oz) | 1.9 (67.0) | 1.9 (67.0) | 2.8 (98.8) | 4.2 (148.2) | 4.2 (148.2) |
| Outline Dimensions (W×H×D) | | mm (inch) | 920×370×746 (36-1/4×14-9/16×29-3/8) | 920×370×746 (36-1/4×14-9/16×29-3/8) | 920×370×746 (36-1/4×14-9/16×29-3/8) | 900×340×1260 (35-7/16×13-3/8×49-5/8) | 900×340×1260 (35-7/16×13-3/8×49-5/8) |
| Net Weight | | kg (lb) | 58 (128) | 58 (128) | 64.5 (142) | 97 (214) | 97 (214) |
| Piping Connections | Liquid | Inch | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 | Φ3/8 |
| | Gas | Inch | Φ3/4 | Φ3/4 | Φ3/4 | Φ3/4 | Φ3/4 |
| | Max. Length | m (ft) | 30 (98.4) | 30 (98.4) | 30 (98.4) | 30 (98.4) | 30 (98.4) |
| | Max. Height | m (ft) | 15 (49.2) | 15 (49.2) | 15 (49.2) | 15 (49.2) | 15 (49.2) |

**Notes:**

a. The design of this unit conforms to the requirements of AHRI 210/240-2023 standard.

b. The air volume is measured at the relevant standard external static pressure.

c. Cooling (heating) capacity stated above is measured under nominal working conditions corresponding to standard external static pressure. The parameters are subject to change with the improvement of products, in which case the values on nameplate shall prevail.

| | | Indoor | Outdoor |
|---|---|---|---|
| Cooling | | DB: 26.7℃(80.0℉)<br>WB: 19.4℃(67.0℉) | DB: 35.0℃(95.0℉)<br>WB: 23.9℃(75.0℉) |
| Heating | | DB: 21.1℃(70.0℉)<br>WB: 15.6℃(60.0℉) | DB: 8.33℃(47.0℉)<br>WB: 6.11℃(43.0℉) |
| Piping Length | 24k~60k units | 7.5m(24.6ft) | |

## 4.2 Operation Range

| Mode | Range of Outdoor Temperature |
|---|---|
| Cooling | -15.0℃(5.0℉)~ 48.0(114.8℉) |
| Heating | -15.0℃(5.0℉)~24.0℃(75.2℉) |

## 4.3 Cooling Performance

**Notes:**

ESP: External Static Pressure

DB: Dry Bulb Temperature; WB: Wet Bulb Temperature

TC: Total Capacity; SHC: Sensible Heat Capacity

**Air Handler**

**FXE24HP230V1R32AH**

| Indoor air temperature ℃ | | Outdoor dry bulb temperature ℃ | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | | | 25 | | | 30 | | | 35 | | | 40 | | |
| | | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| 20 | 14 | 5.80 | 3.92 | 1.24 | 6.24 | 4.22 | 1.65 | 6.31 | 4.26 | 2.01 | 5.97 | 4.04 | 2.12 | 5.73 | 3.87 | 2.21 |
| 23 | 16 | 6.20 | 4.46 | 1.30 | 6.68 | 4.80 | 1.73 | 6.75 | 4.86 | 2.10 | 6.39 | 4.60 | 2.22 | 6.13 | 4.41 | 2.32 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 18 | 6.51 | 4.87 | 1.34 | 7.01 | 5.24 | 1.78 | 7.09 | 5.30 | 2.17 | 6.71 | 5.02 | 2.29 | 6.44 | 4.82 | 2.38 |
| 27 | 19 | 6.54 | 4.94 | 1.34 | 7.05 | 5.31 | 1.79 | 7.12 | 5.37 | 2.18 | 6.74 | 5.08 | 2.30 | 6.47 | 4.88 | 2.40 |
| 30 | 22 | 6.87 | 5.34 | 1.38 | 7.40 | 5.75 | 1.84 | 7.48 | 5.81 | 2.24 | 7.08 | 5.50 | 2.37 | 6.79 | 5.28 | 2.47 |
| 32 | 24 | 7.22 | 5.84 | 1.42 | 7.77 | 6.29 | 1.89 | 7.85 | 6.35 | 2.31 | 7.43 | 6.01 | 2.44 | 7.13 | 5.77 | 2.54 |

## FXE30HP230V1R32AH

| Indoor air temperature ℃ | | Outdoor dry bulb temperature ℃ | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | | | 25 | | | 30 | | | 35 | | | 40 | | |
| | | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| 20 | 14 | 7.21 | 4.39 | 1.54 | 7.76 | 4.72 | 2.05 | 7.84 | 4.77 | 2.49 | 7.42 | 4.52 | 2.64 | 7.13 | 4.34 | 2.74 |
| 23 | 16 | 7.71 | 5.10 | 1.61 | 8.30 | 5.49 | 2.15 | 8.39 | 5.55 | 2.62 | 7.94 | 5.25 | 2.76 | 7.62 | 5.04 | 2.88 |
| 26 | 18 | 8.10 | 5.63 | 1.66 | 8.72 | 6.07 | 2.21 | 8.81 | 6.13 | 2.69 | 8.34 | 5.80 | 2.85 | 8.01 | 5.57 | 2.96 |
| 27 | 19 | 8.14 | 5.72 | 1.67 | 8.76 | 6.16 | 2.22 | 8.85 | 6.23 | 2.71 | 8.38 | 5.89 | 2.86 | 8.05 | 5.66 | 2.98 |
| 30 | 22 | 8.54 | 6.25 | 1.72 | 9.20 | 6.73 | 2.29 | 9.30 | 6.80 | 2.79 | 8.80 | 6.44 | 2.94 | 8.45 | 6.18 | 3.07 |
| 32 | 24 | 8.97 | 6.91 | 1.77 | 9.66 | 7.44 | 2.35 | 9.76 | 7.52 | 2.87 | 9.24 | 7.11 | 3.03 | 8.87 | 6.83 | 3.16 |

## FXE36HP230V1R32AH

| Indoor air temperature ℃ | | Outdoor dry bulb temperature ℃ | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | | | 25 | | | 30 | | | 35 | | | 40 | | |
| | | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| 20 | 14 | 8.57 | 5.44 | 1.65 | 9.22 | 5.86 | 2.20 | 9.32 | 5.92 | 2.68 | 8.82 | 5.60 | 2.83 | 8.47 | 5.38 | 2.95 |
| 23 | 16 | 9.17 | 6.27 | 1.73 | 9.87 | 6.75 | 2.30 | 9.98 | 6.82 | 2.81 | 9.44 | 6.46 | 2.97 | 9.07 | 6.20 | 3.09 |
| 26 | 18 | 9.63 | 6.89 | 1.78 | 10.36 | 7.42 | 2.37 | 10.47 | 7.50 | 2.89 | 9.91 | 7.10 | 3.05 | 9.52 | 6.82 | 3.18 |
| 27 | 19 | 9.68 | 7.00 | 1.79 | 10.42 | 7.53 | 2.38 | 10.53 | 7.61 | 2.91 | 9.96 | 7.20 | 3.07 | 9.57 | 6.92 | 3.20 |
| 30 | 22 | 10.16 | 7.61 | 1.84 | 10.94 | 8.20 | 2.45 | 11.05 | 8.28 | 2.99 | 10.46 | 7.84 | 3.16 | 10.04 | 7.53 | 3.29 |
| 32 | 24 | 10.67 | 8.38 | 1.90 | 11.48 | 9.02 | 2.53 | 11.61 | 9.11 | 3.08 | 10.99 | 8.63 | 3.25 | 10.55 | 8.28 | 3.39 |

## FXE48HP230V1R32AH

| Indoor air temperature ℃ | | Outdoor dry bulb temperature ℃ | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | | | 25 | | | 30 | | | 35 | | | 40 | | |
| | | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| 20 | 14 | 11.59 | 7.25 | 2.91 | 12.48 | 7.80 | 3.87 | 12.61 | 7.88 | 4.72 | 11.94 | 7.46 | 4.98 | 11.46 | 7.16 | 5.19 |
| 23 | 16 | 12.40 | 8.38 | 3.05 | 13.35 | 9.02 | 4.06 | 13.50 | 9.12 | 4.95 | 12.77 | 8.63 | 5.23 | 12.26 | 8.28 | 5.45 |
| 26 | 18 | 13.02 | 9.23 | 3.14 | 14.02 | 9.93 | 4.18 | 14.17 | 10.04 | 5.10 | 13.41 | 9.50 | 5.38 | 12.88 | 9.12 | 5.61 |
| 27 | 19 | 13.09 | 9.37 | 3.16 | 14.09 | 10.08 | 4.20 | 14.24 | 10.19 | 5.12 | 13.48 | 9.65 | 5.41 | 12.94 | 9.26 | 5.64 |
| 30 | 22 | 13.74 | 10.21 | 3.25 | 14.80 | 10.99 | 4.32 | 14.95 | 11.11 | 5.27 | 14.15 | 10.51 | 5.57 | 13.59 | 10.09 | 5.80 |
| 32 | 24 | 14.43 | 11.25 | 3.35 | 15.54 | 12.11 | 4.45 | 15.70 | 12.24 | 5.43 | 14.86 | 11.58 | 5.73 | 14.27 | 11.12 | 5.97 |

FXE60HP230V1R32AH

| Indoor air temperature ℃ | | Outdoor dry bulb temperature ℃ | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | | | 25 | | | 30 | | | 35 | | | 40 | | |
| | | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI | TC | SHC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| 20 | 14 | 13.61 | 8.15 | 2.88 | 14.65 | 8.77 | 3.83 | 14.81 | 8.87 | 4.67 | 14.02 | 8.39 | 4.94 | 13.46 | 8.06 | 5.14 |
| 23 | 16 | 14.56 | 9.51 | 3.02 | 15.68 | 10.23 | 4.02 | 15.84 | 10.34 | 4.90 | 15.00 | 9.79 | 5.18 | 14.40 | 9.40 | 5.40 |
| 26 | 18 | 15.29 | 10.52 | 3.11 | 16.46 | 11.33 | 4.14 | 16.64 | 11.45 | 5.05 | 15.75 | 10.83 | 5.33 | 15.12 | 10.40 | 5.56 |
| 27 | 19 | 15.37 | 10.69 | 3.13 | 16.54 | 11.51 | 4.16 | 16.72 | 11.63 | 5.07 | 15.83 | 11.01 | 5.36 | 15.19 | 10.57 | 5.58 |
| 30 | 22 | 16.14 | 11.69 | 3.22 | 17.37 | 12.59 | 4.28 | 17.56 | 12.72 | 5.22 | 16.62 | 12.04 | 5.52 | 15.95 | 11.56 | 5.75 |
| 32 | 24 | 16.94 | 12.94 | 3.32 | 18.24 | 13.93 | 4.41 | 18.43 | 14.08 | 5.38 | 17.45 | 13.33 | 5.68 | 16.75 | 12.80 | 5.92 |

## 4.4 Heating Performance

**Notes:**

RLA: Rated load amperes (marked in the nameplate of the outdoor unit)

FLA: Full load current

Fuse: On the main board

**Air Handler**

FXE24HP230V1R32AO

| Outdoor air temperature ℃ | | Indoor dry bulb temperature ℃ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 16 | | 18 | | 20 | | 22 | | 24 | |
| | | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| -10 | -11 | 6.42 | 2.58 | 6.08 | 2.65 | 5.81 | 2.75 | 5.57 | 2.84 | 5.31 | 2.93 |
| -5 | -5.6 | 6.35 | 2.30 | 6.02 | 2.37 | 5.75 | 2.45 | 5.51 | 2.53 | 5.26 | 2.62 |
| 0 | -0.7 | 6.53 | 2.27 | 6.19 | 2.33 | 5.91 | 2.42 | 5.67 | 2.50 | 5.40 | 2.58 |
| 7 | 6 | 7.44 | 2.16 | 7.06 | 2.22 | 6.74 | 2.30 | 6.46 | 2.38 | 6.16 | 2.46 |
| 10 | 8 | 7.88 | 2.23 | 7.47 | 2.29 | 7.13 | 2.37 | 6.84 | 2.45 | 6.52 | 2.53 |

FXE30HP230V1R32AO

| Outdoor air temperature ℃ | | Indoor dry bulb temperature ℃ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 16 | | 18 | | 20 | | 22 | | 24 | |
| | | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| -10 | -11 | 7.98 | 3.21 | 7.56 | 3.30 | 7.22 | 3.41 | 6.92 | 3.53 | 6.60 | 3.65 |
| -5 | -5.6 | 7.90 | 2.86 | 7.49 | 2.94 | 7.15 | 3.05 | 6.86 | 3.15 | 6.54 | 3.26 |
| 0 | -0.7 | 8.12 | 2.82 | 7.70 | 2.90 | 7.35 | 3.00 | 7.05 | 3.10 | 6.72 | 3.21 |
| 7 | 6 | 9.26 | 2.69 | 8.77 | 2.76 | 8.38 | 2.86 | 8.03 | 2.96 | 7.66 | 3.05 |
| 10 | 8 | 9.79 | 2.77 | 9.28 | 2.85 | 8.87 | 2.95 | 8.50 | 3.04 | 8.10 | 3.15 |

FXE36HP230V1R32AO

| Outdoor air temperature ℃ | Indoor dry bulb temperature ℃ |
|---|---|

| | | 16 | | 18 | | 20 | | 22 | | 24 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| -10 | -11 | 9.49 | 3.83 | 8.99 | 3.93 | 8.59 | 4.07 | 8.23 | 4.21 | 7.85 | 4.35 |
| -5 | -5.6 | 9.39 | 3.42 | 8.90 | 3.51 | 8.50 | 3.63 | 8.15 | 3.76 | 7.77 | 3.88 |
| 0 | -0.7 | 9.65 | 3.37 | 9.15 | 3.46 | 8.74 | 3.58 | 8.38 | 3.70 | 7.99 | 3.82 |
| 7 | 6 | 11.01 | 3.20 | 10.43 | 3.29 | 9.96 | 3.41 | 9.55 | 3.52 | 9.11 | 3.64 |
| 10 | 8 | 11.64 | 3.30 | 11.04 | 3.39 | 10.54 | 3.51 | 10.11 | 3.63 | 9.64 | 3.75 |

FXE48HP230V1R32AO

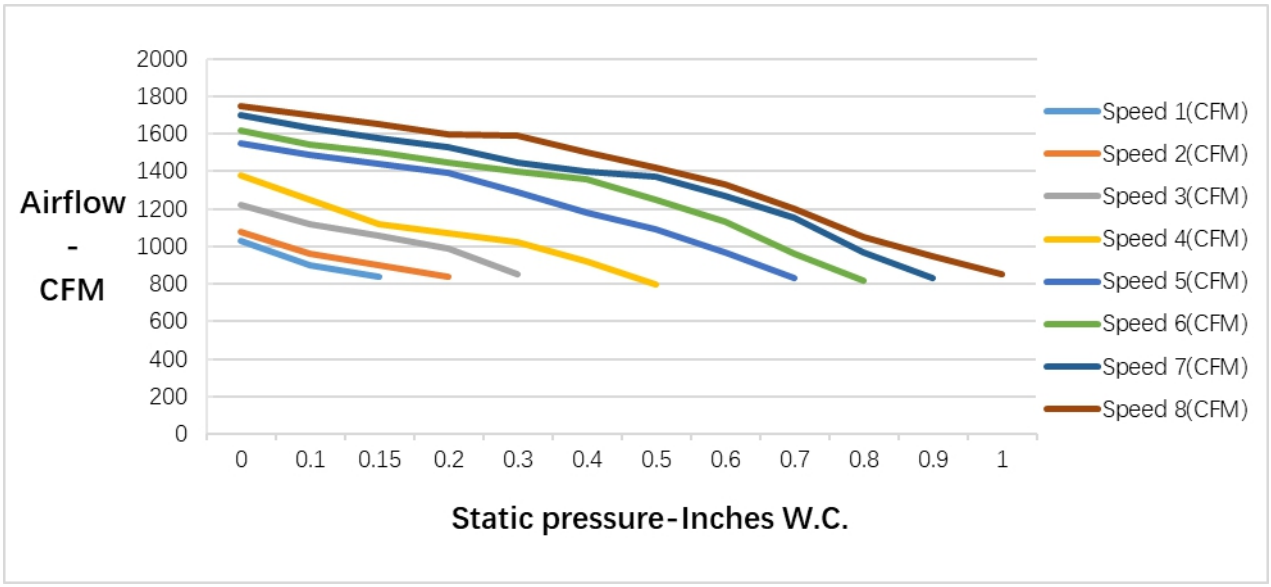
| Outdoor air temperature ℃ | | Indoor dry bulb temperature ℃ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 16 | | 18 | | 20 | | 22 | | 24 | |
| | | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| -10 | -11 | 12.83 | 6.07 | 12.16 | 6.24 | 11.62 | 6.46 | 11.14 | 6.67 | 10.62 | 6.90 |
| -5 | -5.6 | 12.71 | 5.42 | 12.04 | 5.57 | 11.50 | 5.77 | 11.03 | 5.96 | 10.51 | 6.16 |
| 0 | -0.7 | 13.06 | 5.34 | 12.38 | 5.49 | 11.82 | 5.68 | 11.34 | 5.87 | 10.81 | 6.07 |
| 7 | 6 | 14.89 | 5.08 | 14.12 | 5.23 | 13.48 | 5.41 | 12.92 | 5.59 | 12.32 | 5.78 |
| 10 | 8 | 15.75 | 5.24 | 14.93 | 5.38 | 14.26 | 5.57 | 13.67 | 5.76 | 13.04 | 5.95 |

FXE60HP230V1R32AO

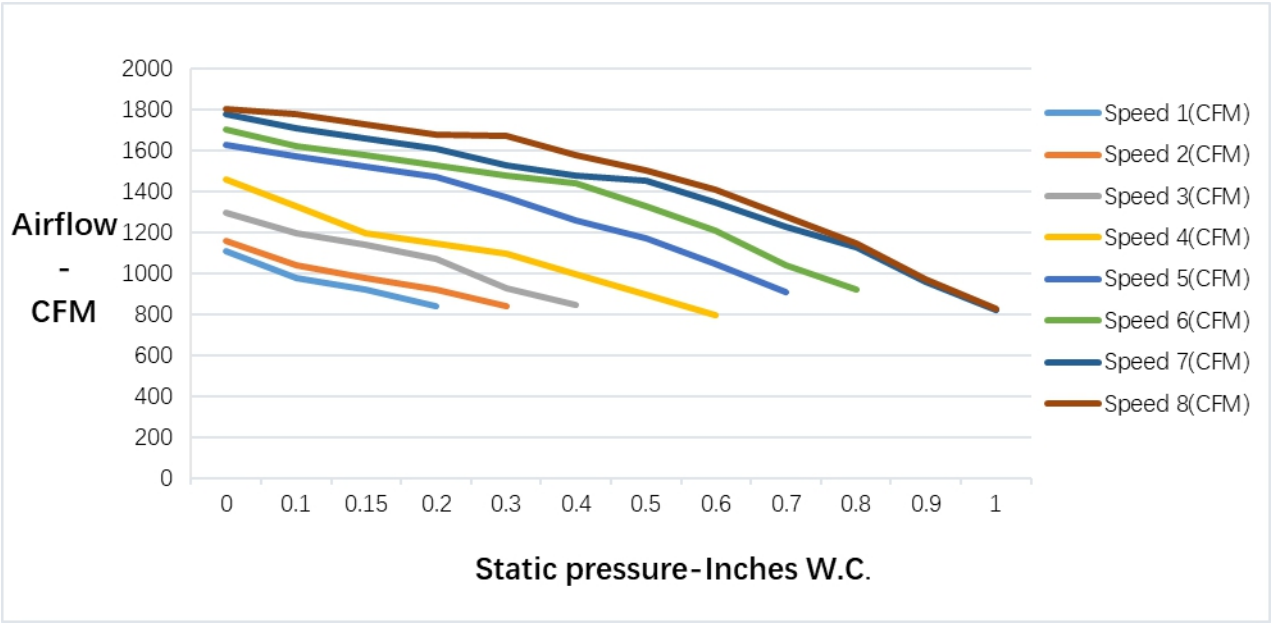
| Outdoor air temperature ℃ | | Indoor dry bulb temperature ℃ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 16 | | 18 | | 20 | | 22 | | 24 | |
| | | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI |
| DB | WB | kw | kw | kw | kw | kw | kw | kw | kw | kw | kw |
| -10 | -11 | 15.07 | 5.78 | 14.29 | 5.94 | 13.64 | 6.15 | 13.08 | 6.35 | 12.47 | 6.57 |
| -5 | -5.6 | 14.92 | 5.16 | 14.14 | 5.30 | 13.51 | 5.49 | 12.95 | 5.67 | 12.35 | 5.86 |
| 0 | -0.7 | 15.34 | 5.08 | 14.54 | 5.22 | 13.89 | 5.41 | 13.31 | 5.59 | 12.69 | 5.78 |
| 7 | 6 | 17.49 | 4.84 | 16.58 | 4.98 | 15.83 | 5.15 | 15.18 | 5.32 | 14.47 | 5.50 |
| 10 | 8 | 18.50 | 4.99 | 17.54 | 5.13 | 16.75 | 5.30 | 16.06 | 5.48 | 15.31 | 5.67 |

# 5 FAN CHARACTERISTICS

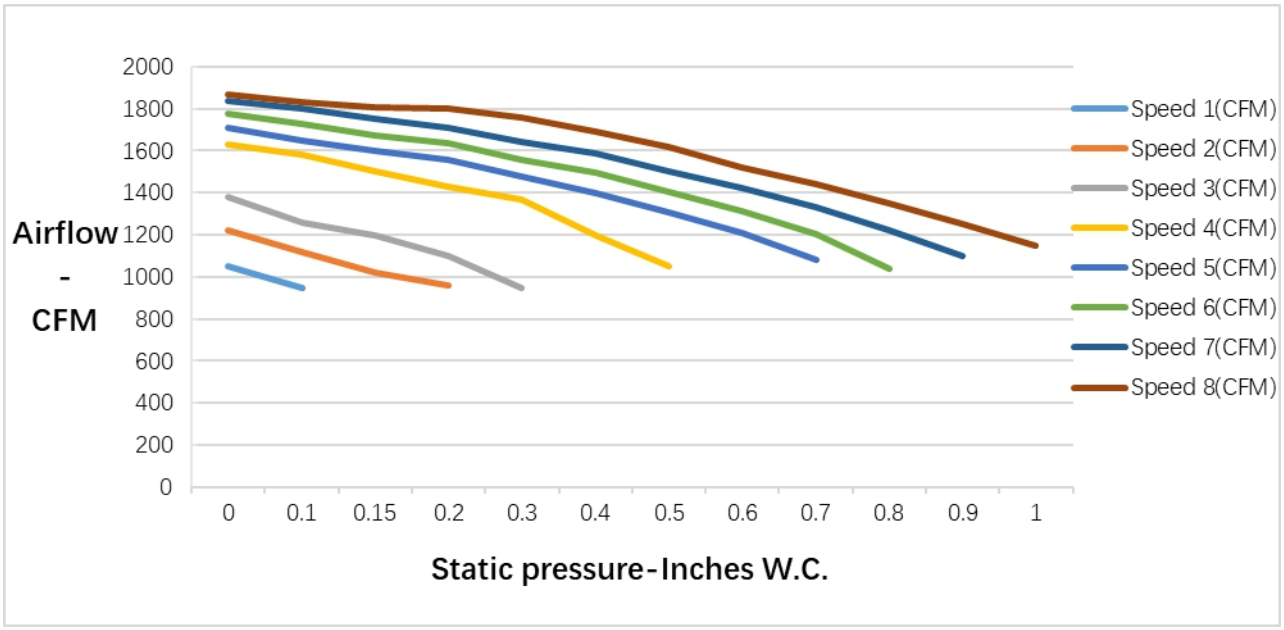
FXE24HP230V1R32AH



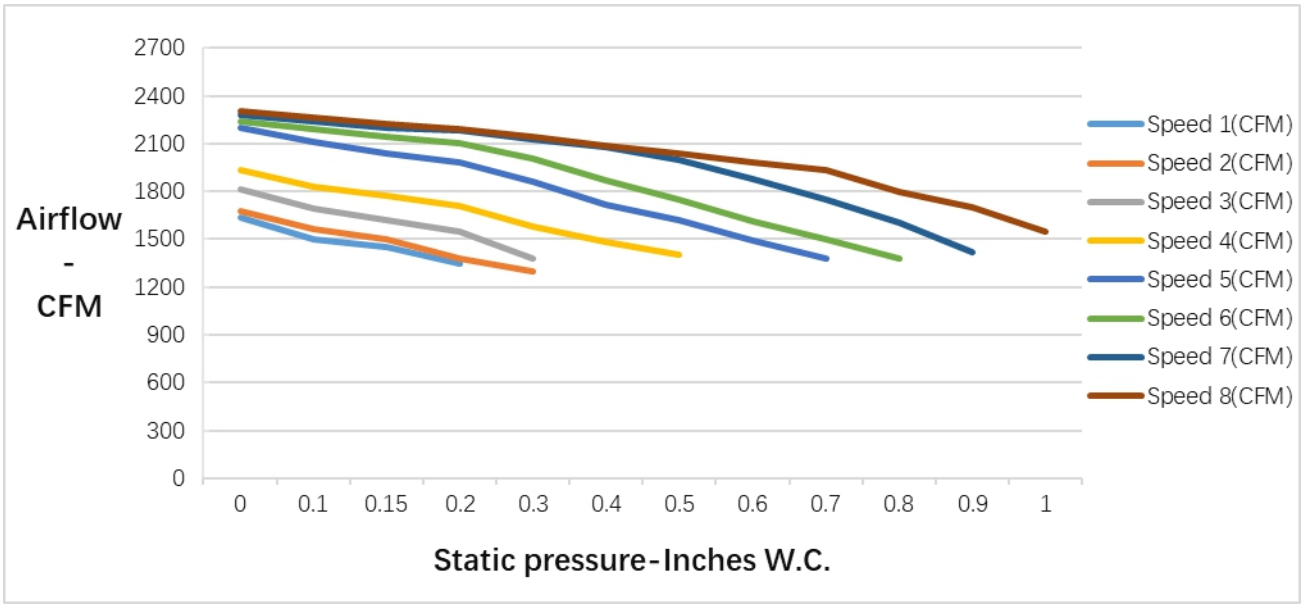

FXE30HP230V1R32AH



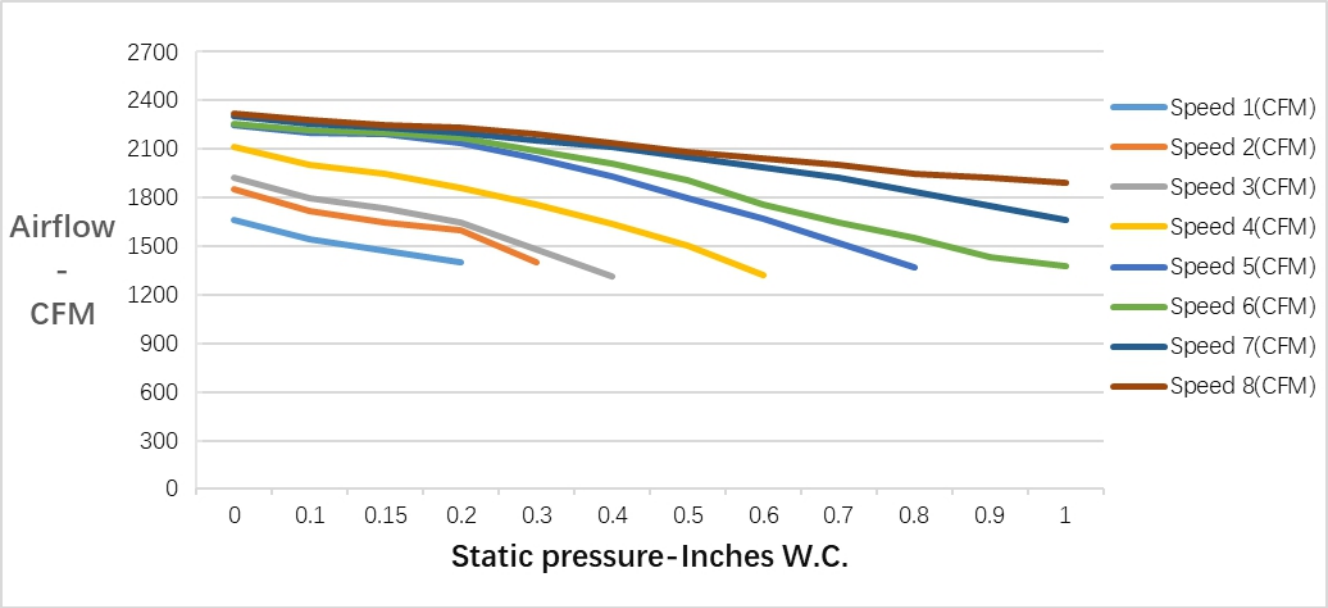

FXE36HP230V1R32AH




FXE48HP230V1R32AH



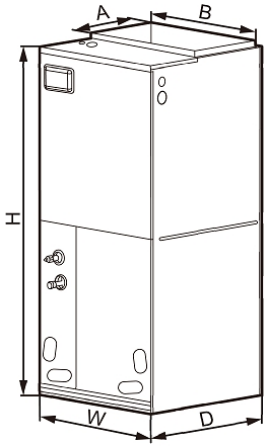

FXE60HP230V1R32AH




# 6 DIMENSION

## 6.1 Indoor Units

Air Handler




Unit: mm (inch)

| Model | Dimension | | | | |
|---|---|---|---|---|---|
| | W | D | H | A | B |
| FXE24HP230V1R32AH<br>FXE30HP230V1R32AH | 18-1/8<br>(460) | 21-1/4<br>(540) | 43-1/2<br>(1105) | 11-5/8<br>(295) | 16-3/4<br>(426) |
| FXE36HP230V1R32AH | 21-1/4<br>(540) | 21-1/4<br>(540) | 48-3/16<br>(1224) | 11-5/8<br>(295) | 20<br>(508) |
| FXE48HP230V1R32AH<br>FXE60HP230V1R32AH | 24-13/16<br>(630) | 21-1/4<br>(540) | 52<br>(1320) | 11-5/8<br>(295) | 20<br>(508) |

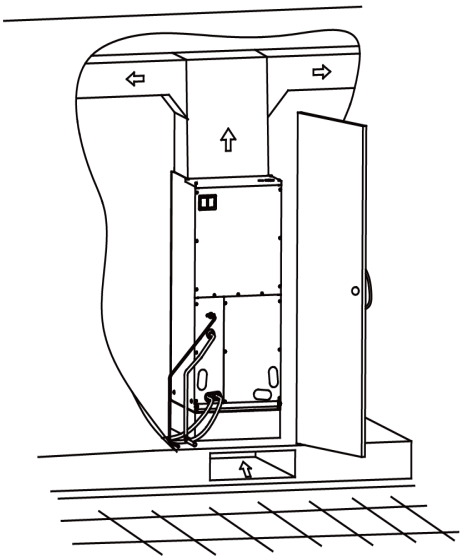
**Note**: When installing the air handler, take consideration to minimize the length of refrigerant tubing as much as possible. Do not install the air handler in a location either above or below the condenser that violates the instructions provided with the condenser. Service clearance is to take precedence. Allow a minimum of 24” in front of the unit for service clearance. When installing in an area

directly over a finished ceiling (such as an attic), an emergency drain pan is required directly under the unit. See local and state codes for requirements. When installing this unit in an area that may become wet, elevate the unit with a sturdy, non-porous material. In installations that may lead to physical damage (i.e. a garage) it is advised to install a protective barrier to prevent such damage.

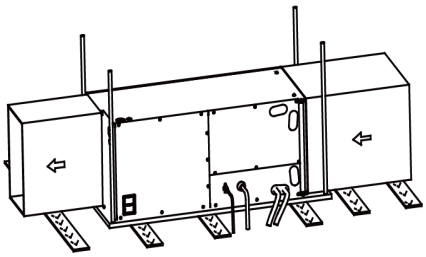
This air handler is designed for a complete supply and return ductwork system. Do not operate this product without all ductwork attached.

Based upon the actual conditions, if air handler is installed as Fig (A), the air handler should be concealed in a specific room or space and make sure the air handler is not accessible to the general public.

Based upon the actual conditions, if air handler is installed as Fig (B), make sure that there is enough space for care and maintenance and the height between the air handler and ground is above 2500mm. And the air handler is not accessible to the general public.



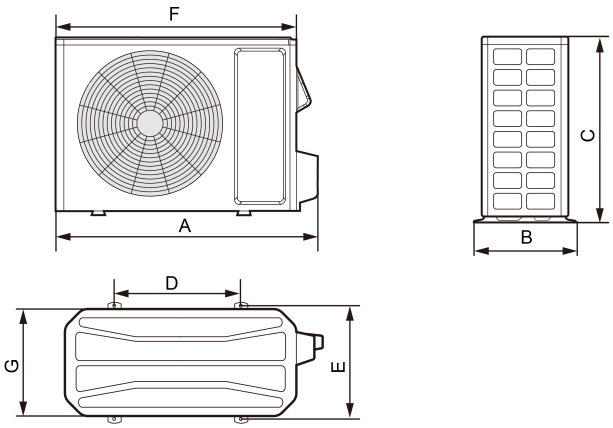
(A)



(B)

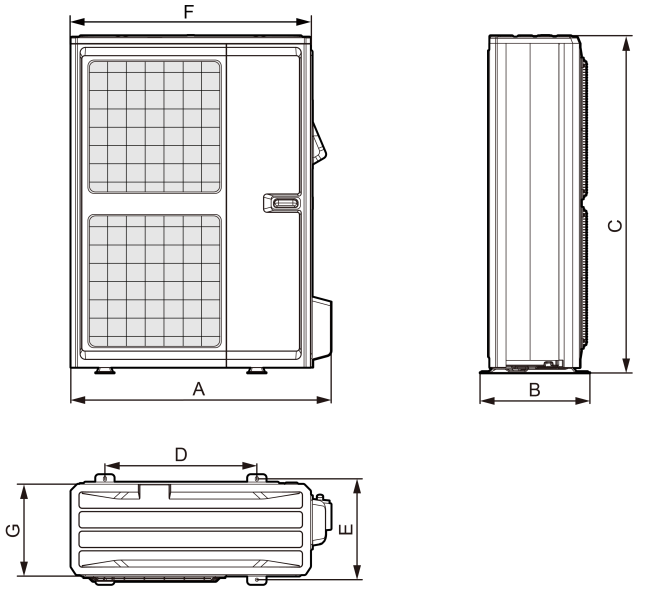
## 6.2 Outdoor Units

Be suit for FXE24HP230V1R32AO, FXE30HP230V1R32AO, FXE36HP230V1R32AO,FXE48HP230V1R32AO, FXE60HP230V1R32AO



Unit: inch (mm)

| Model \ Dimensions | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| FXE24HP230V1R32AO | 39-3/8 (1000) | 16-13/16 (427) | 29-3/8 (746) | 24 (610) | 15-9/16 (396) | 36-1/4 (920) | 14-9/16 (370) |
| FXE30HP230V1R32AO | | | | | | | |
| FXE36HP230V1R32AO | | | | | | | |



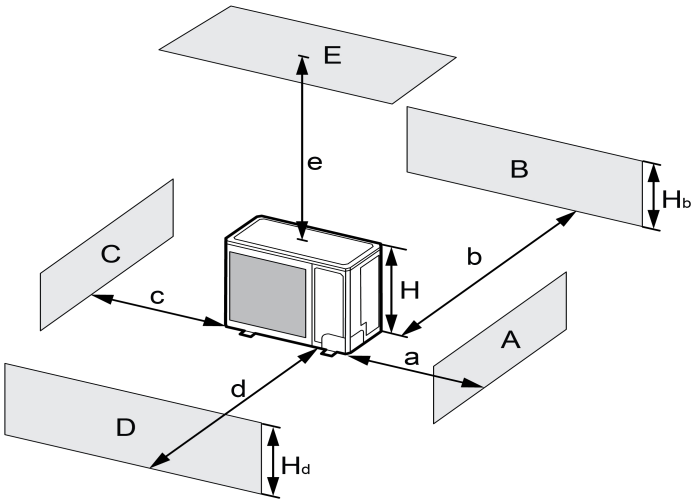

Unit: inch (mm)

| Model \ Dimensions | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| FXE48HP230V1R32AO | 38-1/2 (978) | 16-1/4 (412) | 49-5/8 (1260) | 22-7/16 (570) | 14-7/8 (378) | 35-7/16 (900) | 13-3/8 (340) |
| FXE60HP230V1R32AO | | | | | | | |

Installation Location

1) When one outdoor unit is to be installed

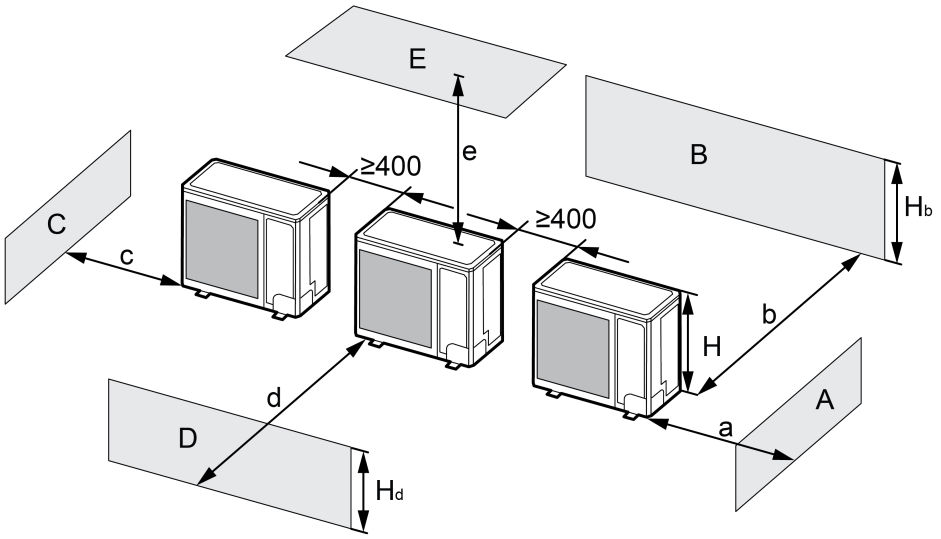
Unit: mm



| A~E | Hb Hd H | | (mm) | | | | |
|---|---|---|---|---|---|---|---|
| | | | a | b | c | d | e |
| B | — | | | ≥100 | | | |
| A,B,C, | — | | ≥300 | ≥100 | ≥100 | | |
| B,E | — | | | ≥100 | | | ≥1000 |
| A,B,C,E | — | | ≥300 | ≥150 | ≥150 | | ≥1000 |
| D | — | | | | | ≥1000 | |
| D,E | — | | | | | ≥1000 | ≥1000 |
| B,D | $H_B$< $H_D$ | $H_D$> H | | ≥100 | | ≥1000 | |
| | $H_B$>$H_D$ | $H_D$< H | | ≥100 | | ≥1000 | |
| B,D,E | $H_B$< $H_D$ | $H_B$≤1/2 H | | ≥250 | | ≥2000 | ≥1000 |
| | | 1/2 H<$H_B$≤H | | ≥250 | | ≥2000 | ≥1000 |
| | | $H_B$>H | Prohibited | | | | |
| | $H_B$> $H_D$ | $H_D$≤1/2 H | | ≥100 | | ≥2000 | ≥1000 |
| | | 1/2 H<$H_D$≤H | | ≥200 | | ≥2000 | ≥1000 |
| | | $H_D$>H | Prohibited | | | | |

2) When two or more outdoor units are to be installed side by side

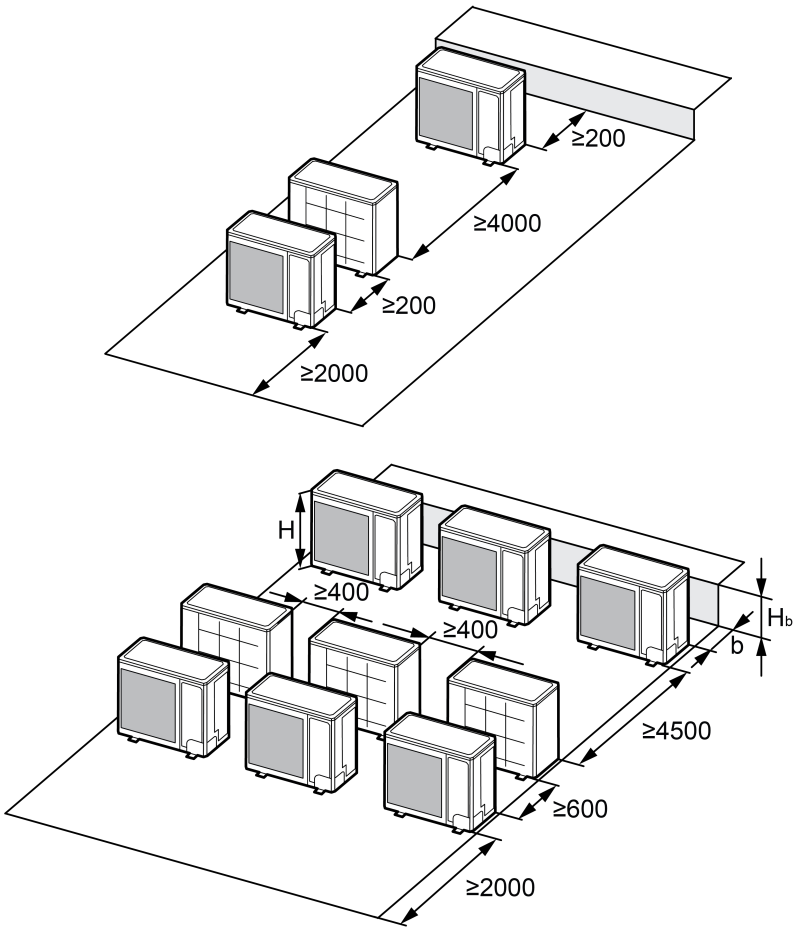
Unit：mm




| A~E | $H_B$ $H_D$ H | | (mm) | | | | |
|---|---|---|---|---|---|---|---|
| | | | a | b | c | d | e |
| A,B,C | — | | ≥300 | ≥300 | ≥1000 | | |
| A,B,C,E | — | | ≥300 | ≥300 | ≥1000 | | ≥1000 |
| D | — | | | | | ≥2000 | |
| D,E | — | | | | | ≥2000 | ≥1000 |
| B,D | HB< HD | $H_D$> H | | ≥300 | | ≥2000 | |
| | HB> HD | $H_D$≤1/2 H | | ≥250 | | ≥2000 | |
| | | 1/2 H<$H_D$≤H | | ≥300 | | ≥2500 | |
| B,D,E | HB< HD | $H_B$≤1/2 H | | ≥300 | | ≥2000 | ≥1000 |
| | | 1/2 H<$H_B$≤H | | ≥300 | | ≥2500 | ≥1000 |
| | | $H_B$>H | Prohibited | | | | |
| | HB> HD | $H_D$≤1/2 H | | ≥250 | | ≥2500 | ≥1000 |
| | | 1/2 H<$H_D$≤H | | ≥300 | | ≥2500 | ≥1000 |
| | | $H_D$>H | Prohibited | | | | |

3) When outdoor units are installed in rows

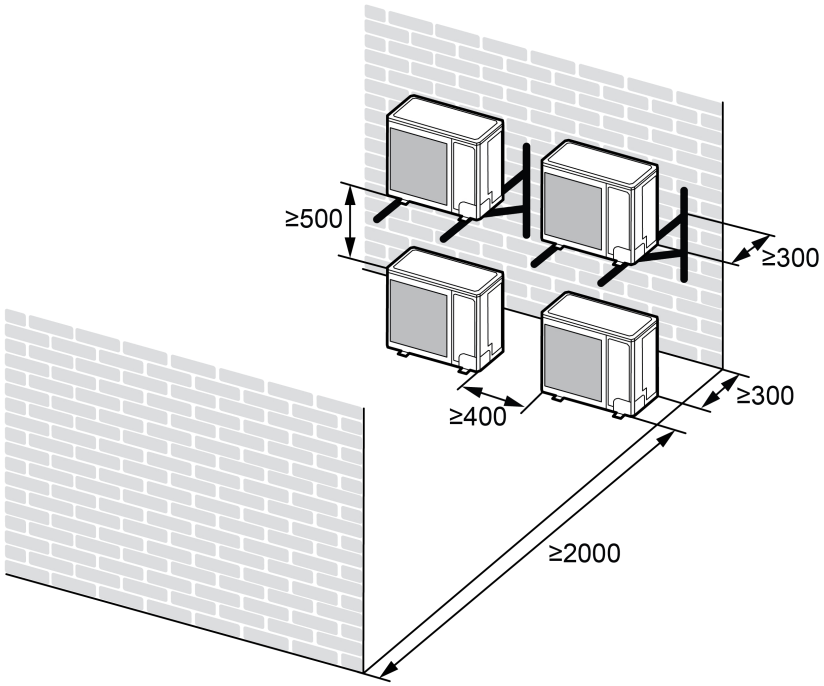
Unit：mm




| $H_B$ H | (mm) |
|---|---|
| $H_B \leq 1/2$ H | b≥250 |
| 1/2 H$< H_B \leq$H | b≥300 |
| $H_B >$H | Prohibited |

4) When outdoor units are installed one above another

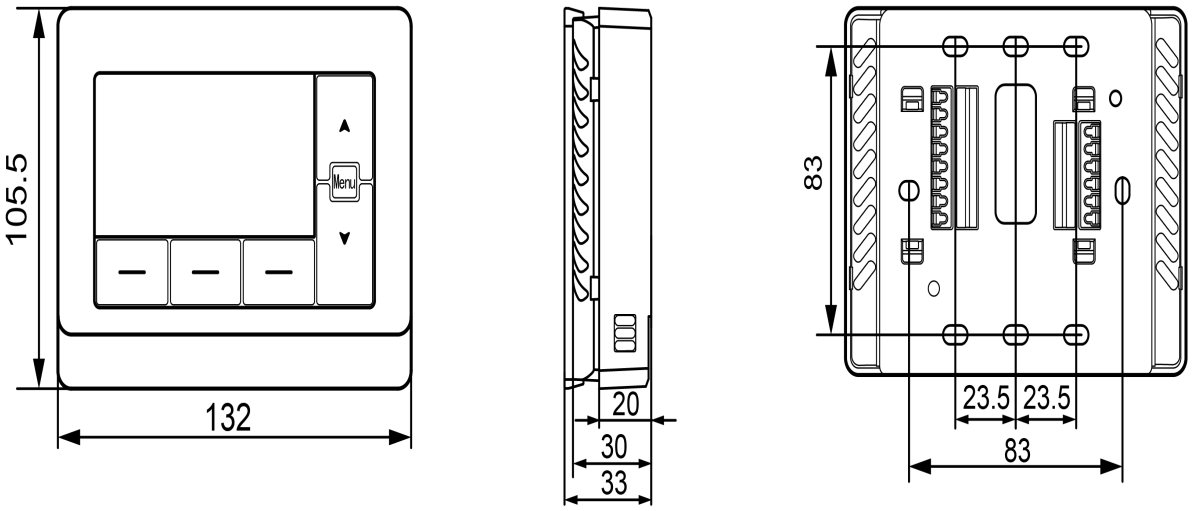
Unit：mm




## 6.3 Dimension – Controller

Thermostat (Optional)

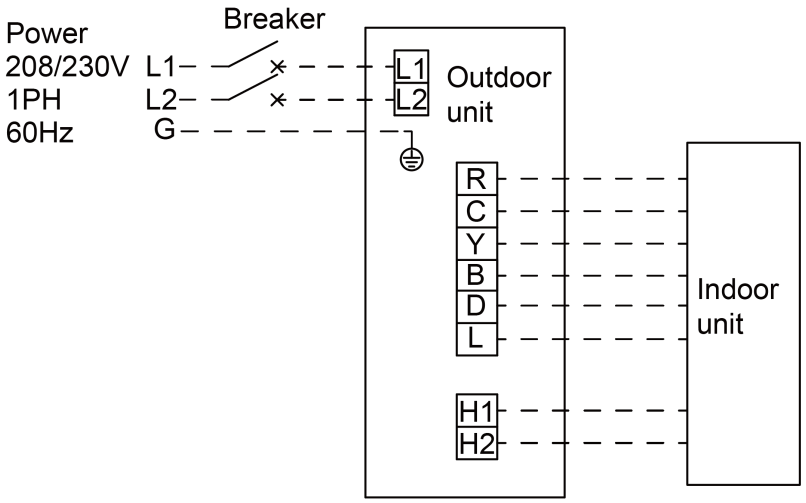
Unit: mm



# 7 WIRING DIAGRAM

## 7.1 Field Wiring Diagrams
## Outdoor Units

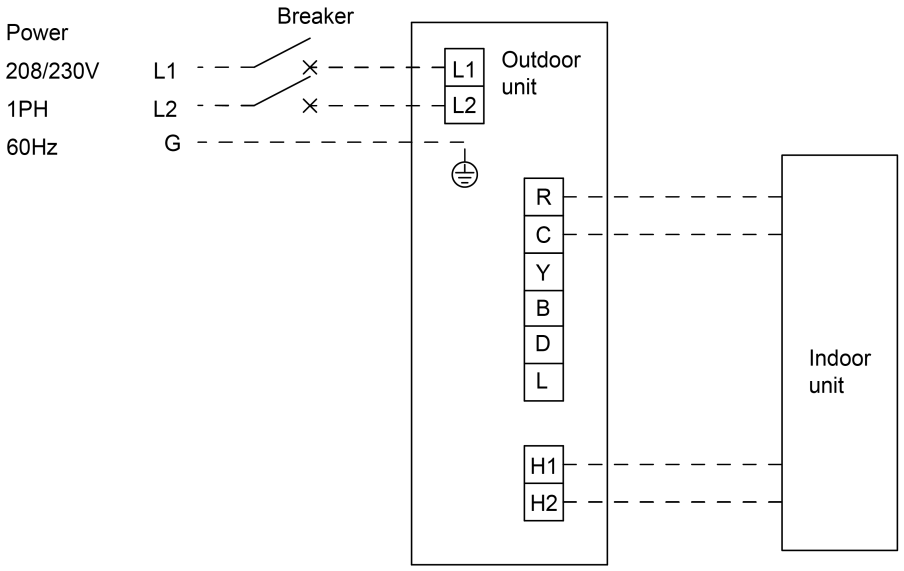
Electrical wiring of outdoor units




FXE24HP230V1R32AO, FXE30HP230V1R32AO

FXE36HP230V1R32AO, FXE48HP230V1R32AO, FXE60HP230V1R32AO

24V mode wiring

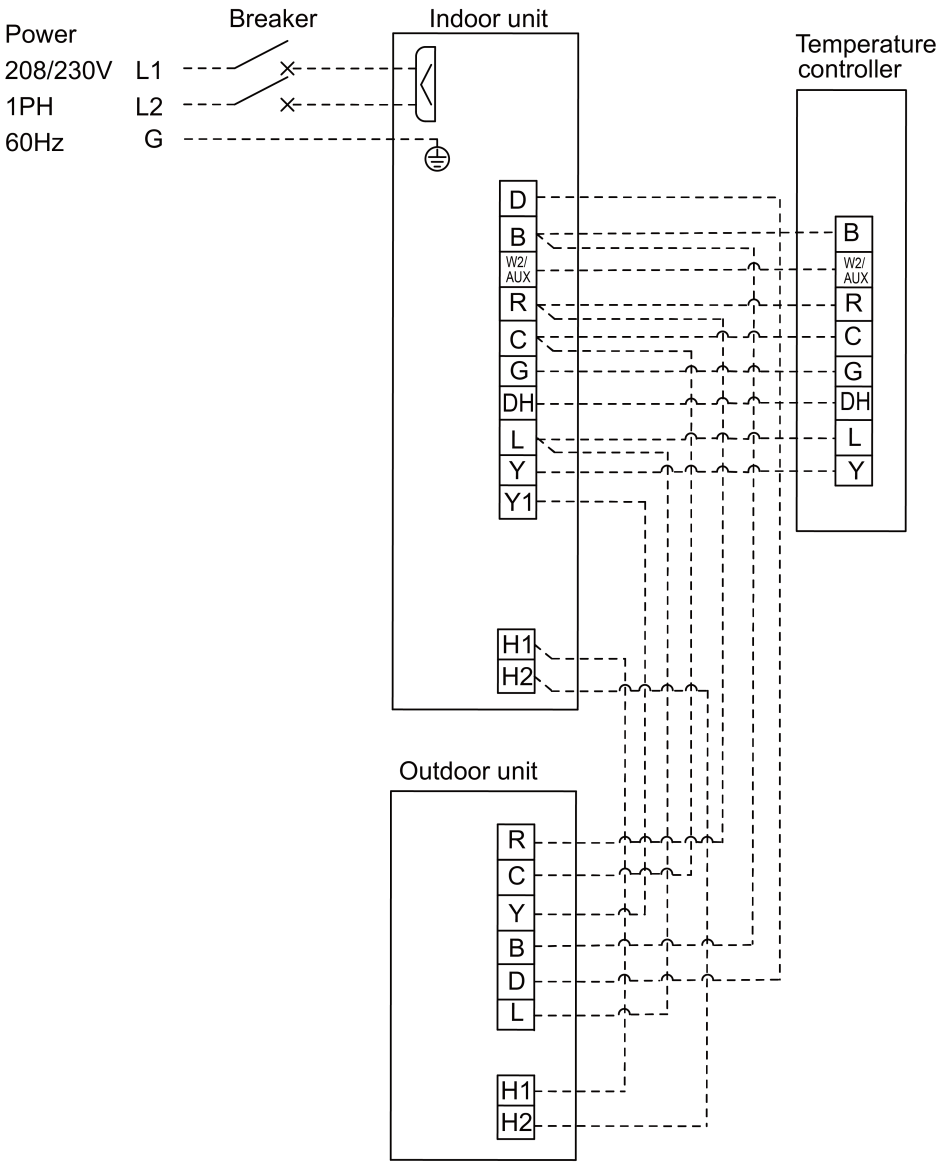



FXE24HP230V1R32AO, FXE30HP230V1R32AO

FXE36HP230V1R32AO, FXE48HP230V1R32AO, FXE60HP230V1R32AO

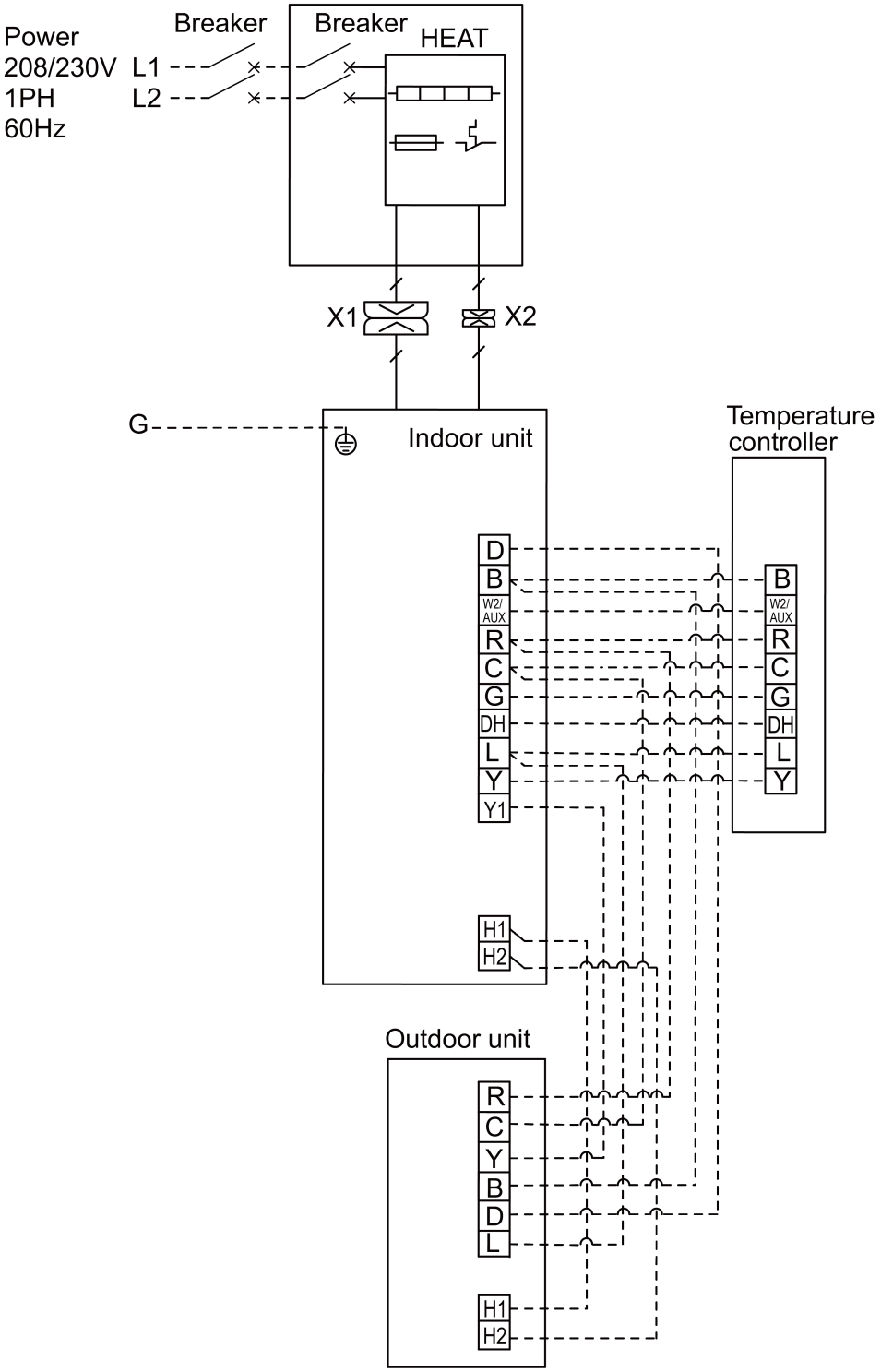
RS485 mode wiring

## Air Handler




FXE24HP230V1R32AH, FXE30HP230V1R32AH, FXE36HP230V1R32AH,

FXE48HP230V1R32AH, FXE60HP230V1R32AH

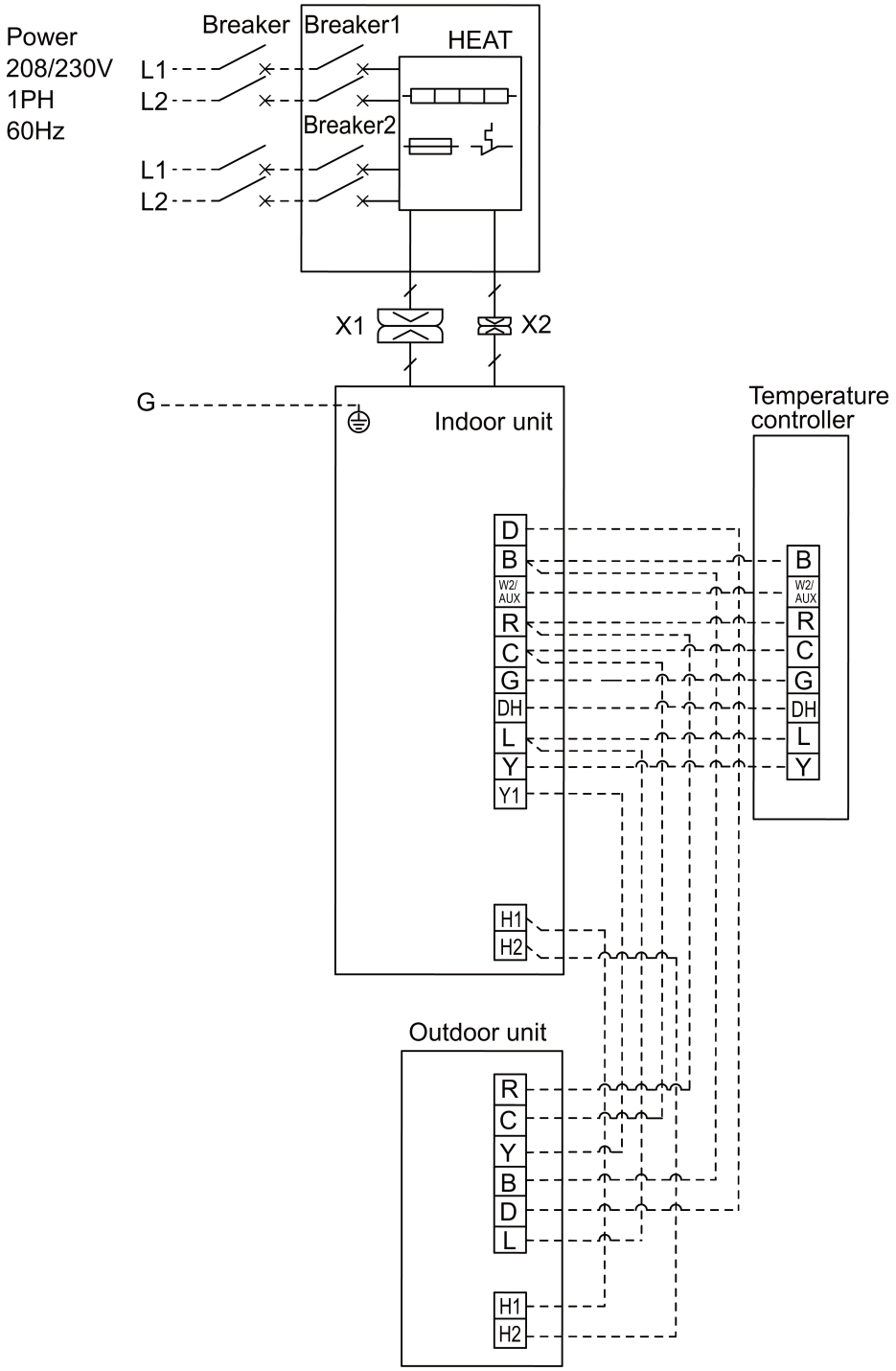



FXE24HP230V1R32AH, FXE30HP230V1R32AH,

FXE36HP230V1R32AH, FXE48HP230V1R32AH,

FXE60HP230V1R32AH(only for air handler with BLR

6000W/240V BLR)




FXE30HP230V1R32AH，FXE36HP230V1R32AH, FXE48HP230V1R32AH,

FXE60HP230V1R32AH(only for air handler with BLR 9000W/240V or 12000W/240V)

**NOTE:**

Y means Compressor control signal for the outdoor unit.

B which is energized under the heating mode means 4-way valve control signal.

D means defrosting signal.

R means 24V AC power supply.

C means 24V common.

G means indoor unit fan signal for the indoor unit.

W2/AUX means heater control signal.

L means refrigerant leakage protection signal.

DH means Initial signal.

Y1 means thermostat and compressor output signals.

H1/H2 means RS485 communication.

**NOTE:** For cooling only unit, there is no need to connect the B and D terminals.

**NOTE:** When outdoor defrosts, D of outdoor unit will send 24V signal to avoid cold winds.

**NOTE:** L must be connected and connected to the outdoor unit.

**NOTE:** Breaker must be incorporated in the fixed wiring in accordance with the wiring rules.

**NOTE:** When installing electric heating, M6 screws are required for grounding screws.

## 7.2 Specification of Power Supply Wire and Air Switch

### 7.2.1 Outdoor Units

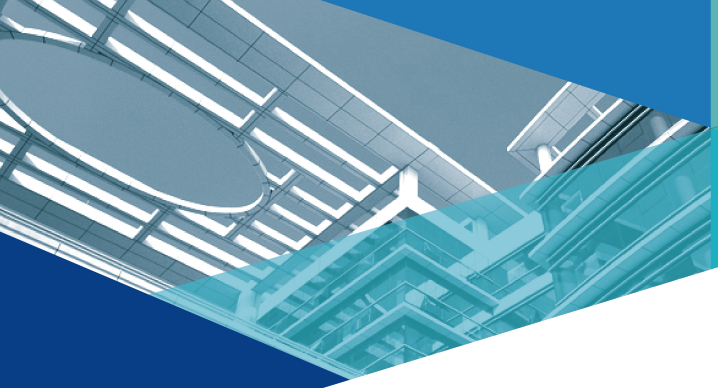
| Model | Power supply | Fuse capacity (A) | Maximum over-current protection (A) | Minimum circuit ampacity (A) |
|---|---|---|---|---|
| FXE24HP230V1R32AO | 208/230V-1Ph-60Hz | 25 | 25 | 21 |
| FXE30HP230V1R32AO | 208/230V-1Ph-60Hz | 30 | 30 | 27.7 |
| FXE36HP230V1R32AO | 208/230V-1Ph-60Hz | 30 | 30 | 27.7 |
| FXE48HP230V1R32AO | 208/230V-1Ph-60Hz | 45 | 45 | 39.9 |
| FXE60HP230V1R32AO | 208/230V-1Ph-60Hz | 45 | 45 | 39.9 |

### 7.2.2 Indoor Units

Air Handler

| Model | Power Supply | Minimum Circuit Ampacity (A) | Maximum Overcurrent Protection (A) | Fuse Capacity (A) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| FXE24HP230V1R32AH | 208/230V-1Ph-60Hz | 4.7 | 15 | 3.15 |
| FXE30HP230V1R32AH | | 5.3 | | |
| FXE36HP230V1R32AH | | 5.3 | | |
| FXE48HP230V1R32AH | | 7.1 | | |
| FXE60HP230V1R32AH | | 7.7 | | |



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