



# 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

Indicates sustainability feature

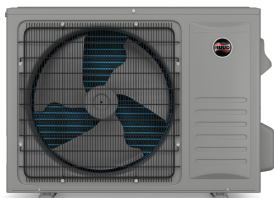
- Precision Inverter® technology (variable speed compressor)
- Soft-Start™ compressor
- BLDC motor
- Built-in Wi-Fi
- Sleep mode
- All ENERGY STAR® certified models
- All ENERGY STAR® Cold-Climate Heat Pump certified models
- Wireless remote
- Independent vane control
- 3 fan speeds
- Ultra-quiet turbo fan
- Evaporator frost control
- Clean, modern look



FPHFC09A3D, FPHFC12A3D



FPHFC18A3D, FPHFC24A3D,  
FPHSC36A3D



FPHFR09A3D, FPHFR12A3D



FPHFR18A3D, FPHFR24A3D,  
FPHFR36A3D



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

## Ceiling Cassette Grilles (Required)



FPCG0912A



FPCG182436A

DECORATIVE GRILLE	
FPCG0912A	FPCG182436A
FITS FPHFC09A3D, FPHFC12A3D	FITS FPHFC18A3D, FPHFC24A3D, FPHFC36A3D



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

MODEL	Model Set	Unit	FPHC093D	FPHC123D	FPHC183D	FPHC243D	FPHC363D	
	Indoor Model		FPHFC09A3D	FPHFC12A3D	FPHFC18A3D	FPHFC24A3D	FPHFC36A3D	
	Outdoor Model		FPHFR09A3D	FPHFR12A3D	FPHFR18A3D	FPHFR24A3D	FPHFR36A3D	
	Power Supply		208V/230V~,60Hz,1P					
	ENERGY STAR® Standard		Y	Y	Y	Y	Y	
ENERGY STAR® - Cold Climate	Y/N	Y	Y	Y	Y			
COOLING	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	
	EEER2 @ 95°F	Btu/h/W	12.00	12.00	12.00	12.00	12.00	
	SEER2	Btu/h/W	20.00	20.00	20.00	20.00	19.50	
	Cooling Operating Range	°F	5°F-125°F	5°F-125°F	5°F-125°F	5°F-125°F	5°F-125°F	
HEATING	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	
	COP2 @ 47°F	W/W	3.52	3.52	3.38 2.00	3.52 2.00	3.70 2.00 9.50	
	COP @ 5°F	W/W	1.80	1.80	10.00 14,100	10.50 19,100	25,500 36,000	
	HSPF2	Btu/h/W	9.50	9.50	18,000	24,000	25,200	
	Rated Capacity Heating @ 17°F (-8.3°C)	Btu/h	8,900	8,900	12,600	16,200	-22°F-75°F	
	Maximum Heating Capacity @ 5°F (-15°C)	Btu/h	12,000	12,000				
	Maximum Heating Capacity @ -13°F (-25°C)	Btu/h	8,400	8,400				
	Heating Operating Range	°F	-22°F-75°F	-22°F-75°F	-22°F-75°F	-22°F-75°F		
	INDOOR AIRFLOW	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 (Max/H/M/L/Quiet)		dB (A)	52	52	50	53	60	
INDOOR FAN MOTOR	Output	W	57	57	75	75	106	
	Speed (Hi/Med/Lo)	r/min	700/600/500	700/600/500	420/381/320	470/400/340	660/560/480	
OUTDOOR AIRFLOW	Air Circulation (Hi) for Outdoor	ft3 CFM	1,354	1,354	1,853	2,235	3,350	
	Sound Rating - Outdoor (Hi)	dB (A)	64.0	64.0	68.0	71.0	74.0	
FAN MOTOR	Output	W	40	40	60	110	250	
	Speed (Hi)	r/min	880	880	880	870	850	
ELECTRICAL	Rated Current	Cooling (A)	3.00	4.30	6.30	8.50	14.20	
		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	
	Communication Wire Size and Type		4 x 16AWG	4 x 16AWG	4 x 16AWG	4 x 16AWG	4 x 16AWG	
REFRIGERATION (R454B)	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	
	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	
INDOOR UNIT	Dimension (W×H×D)	in.	22-1/2×8-1/2×22-1/2	22-1/2×8-1/2×22-1/2	33-1/8×9-1/4×33-1/8	33-1/8×9-1/4×33-1/8	33-1/8×10-3/4×33-1/8	
		mm	570×215×570	570×215×570	840×236×840	840×236×840	840×272×840	
	Packing (L×W×H)	in.	28-3/4×26-1/4×11-1/2	28-3/4×26-1/4×11-1/2	37-3/8×12-5/8×37-3/8	37-3/8×12-5/8×37-3/8	37-3/8×14-1/8×37-3/8	
		mm	730×668×292	730×668×292	950×320×950	950×320×950	950×360×950	
	Net Weight	lbs.	34.2	34.2	52.9	52.9	57.3	
		kg	15.5	15.5	24.0	24.0	26.0	
Shipping Weight	lbs.	40.8	40.8	63.9	63.9	70.6		
	kg	18.5	18.5	29.0	29.0	32.0		
OUTDOOR UNIT	Dimension (W×H×D)	in.	31-7/8×22-7/8×11	31-7/8×22-7/8×11	33-7/8×26-3/8×12-1/4	35-3/8×29-1/2×13-3/8	43-1/4×34-1/2×17-3/4	
		mm	810×580×280	810×580×280	860×670×310	900×750×340	1,100×875×450	
	Packing (L×W×H)	in.	37×16-1/2×25-1/4	37×16-1/2×25-1/4	39×17-3/4×28-3/4	41×32-5/8×18-1/8	45-7/8×39-1/2×21-1/4	
		mm	940×420×640	940×420×640	990×730×450	1,040×830×460	1,165×1,005×540	
	Net Weight	lbs.	79.4	79.4	103.6 47.0	123.4	185.2 84.0 209.4 95.0	
		kg	36.0	36.0	111.3 50.5	56.0		
Shipping Weight	lbs.	86.0	86.0		132.3			
	kg	39.0	39.0		60.0			
GRILLE	Dimension (W×H×D)	in.	24-3/8×1-5/8×24-3/8	24-3/8×1-5/8×24-3/8	37-3/8×2×37-3/8	37-3/8×2×37-3/8	37-3/8×2×37-3/8	
		mm	620×40×620	620×40×620	950×50×950	950×50×950	950×50×950	
	Packing (L×W×H)	in.	27-1/8×26-3/4×4-1/2	27-1/8×26-3/4×4-1/2	40-1/8×39-3/8×4-1/8	40-1/8×39-3/8×4-1/8	40-1/8×39-3/8×4-1/8	
		mm	690×680×115	690×680×115	1,020×1,000×105	1,020×1,000×105	1,020×1,000×105	
	Net Weight	lbs.	5.7	5.7	14.3	14.3	14.3	
		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		

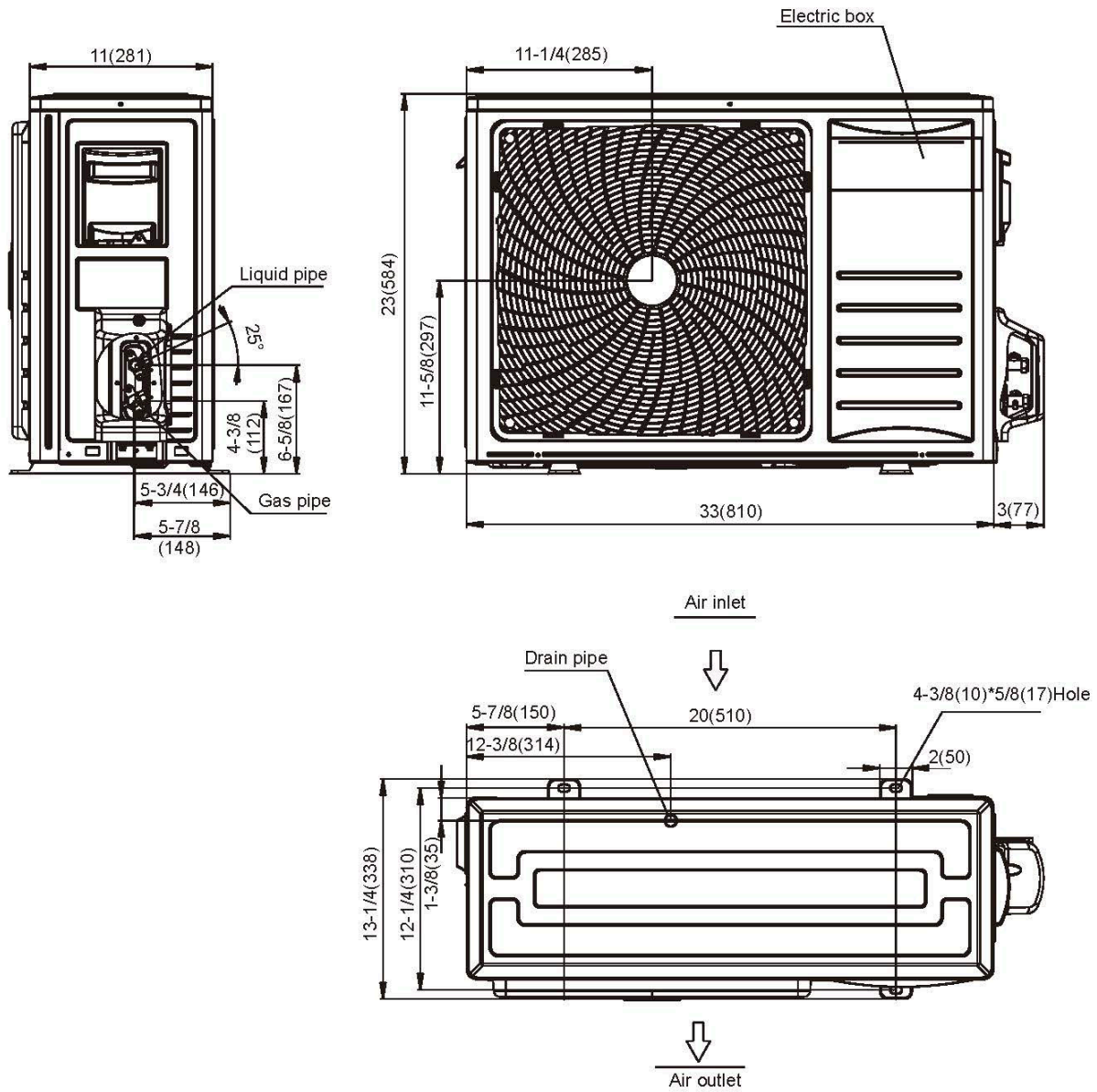
Due to continuing research in new energy-saving technology, specifications are subject to change without notice.



# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMPS

SINGLE ZONE OUTDOOR UNITS / FPHFR09A3D, FPHFR12A3D

UNITS: INCHES (MM)

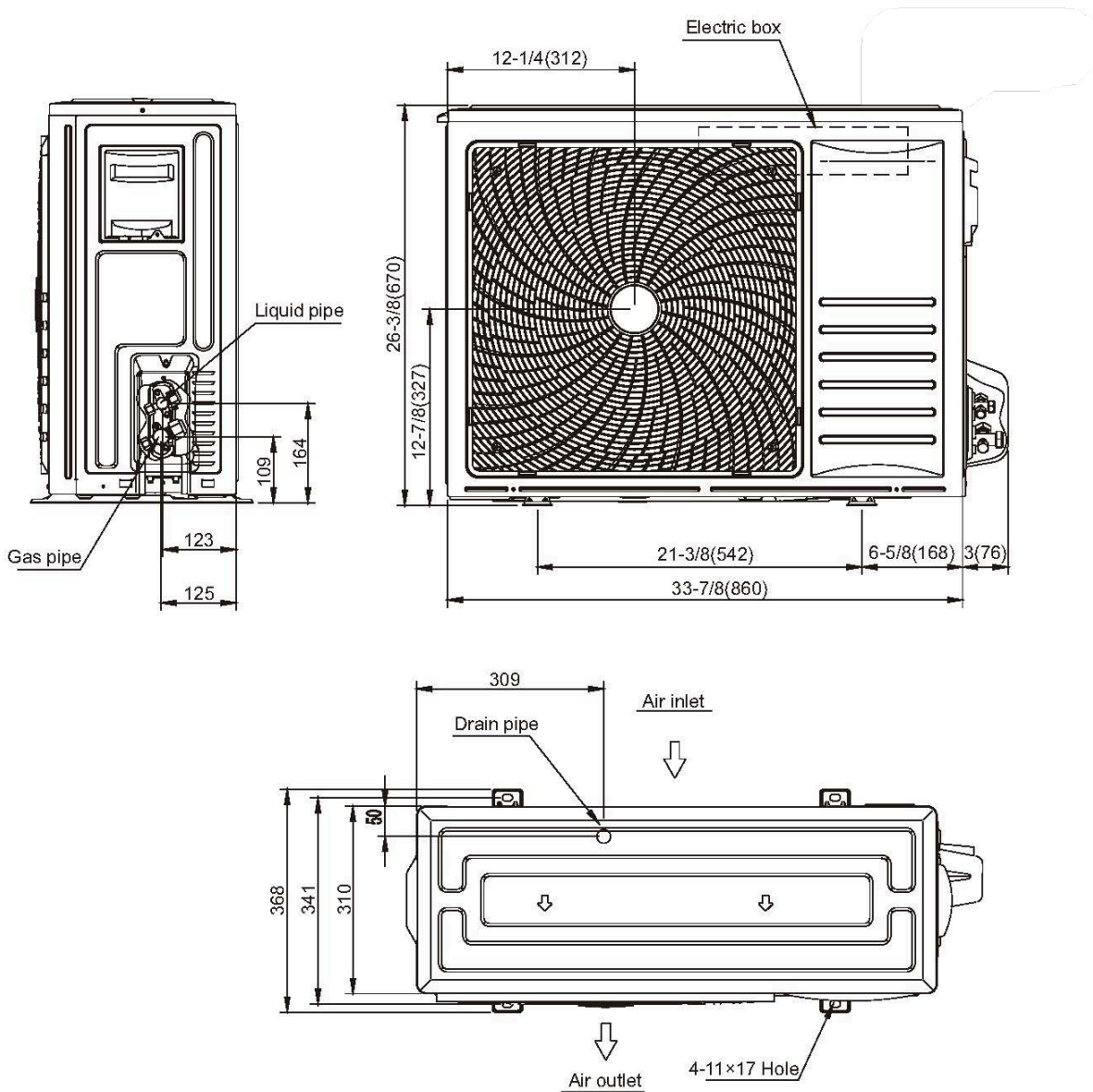


# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMPS

SINGLE ZONE OUTDOOR UNITS / FPHFR18A3D,

UNITS: INCHES (MM)

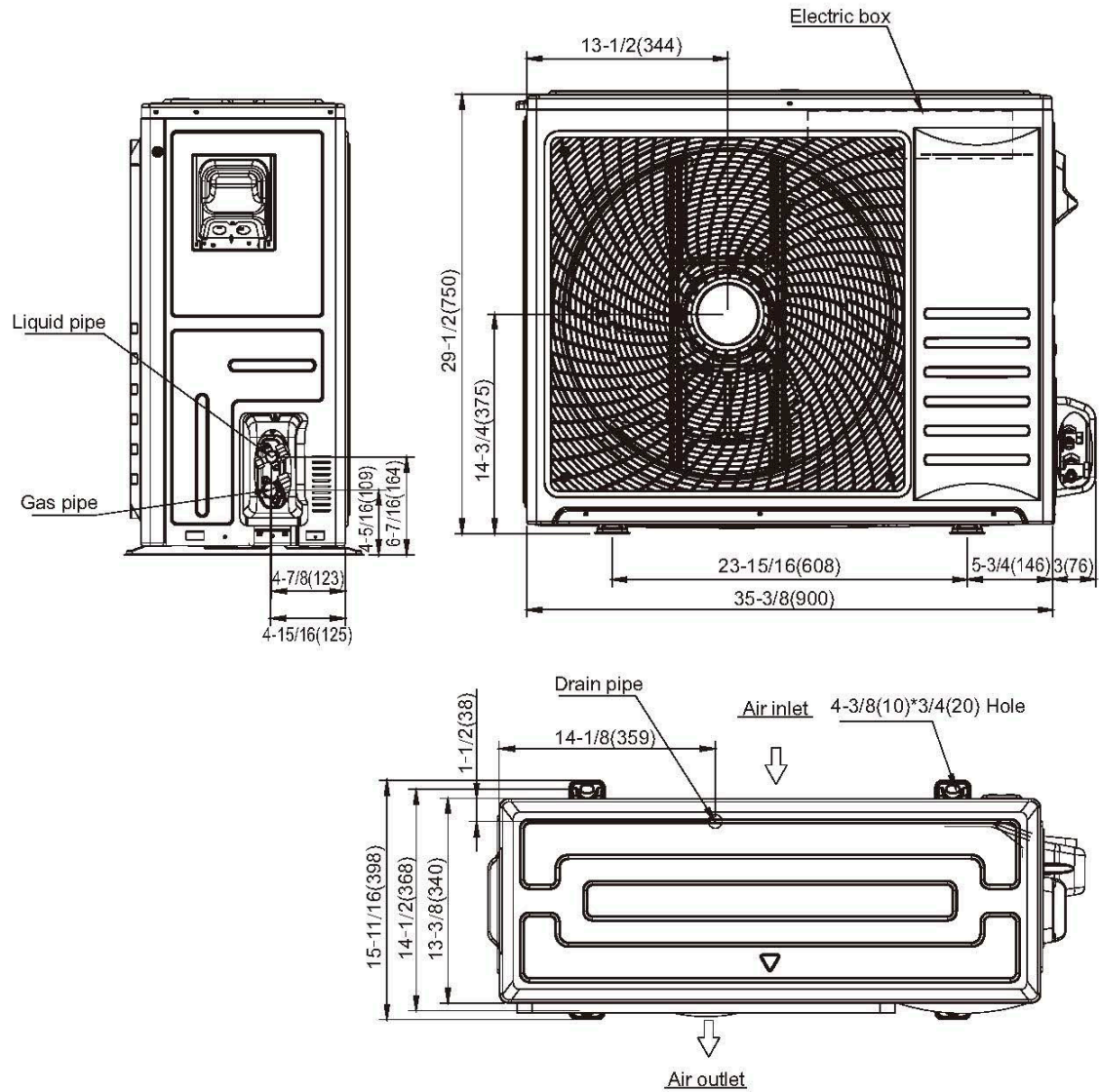
18K



# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMPS

SINGLE ZONE OUTDOOR UNITS / FPHFR24A3D,

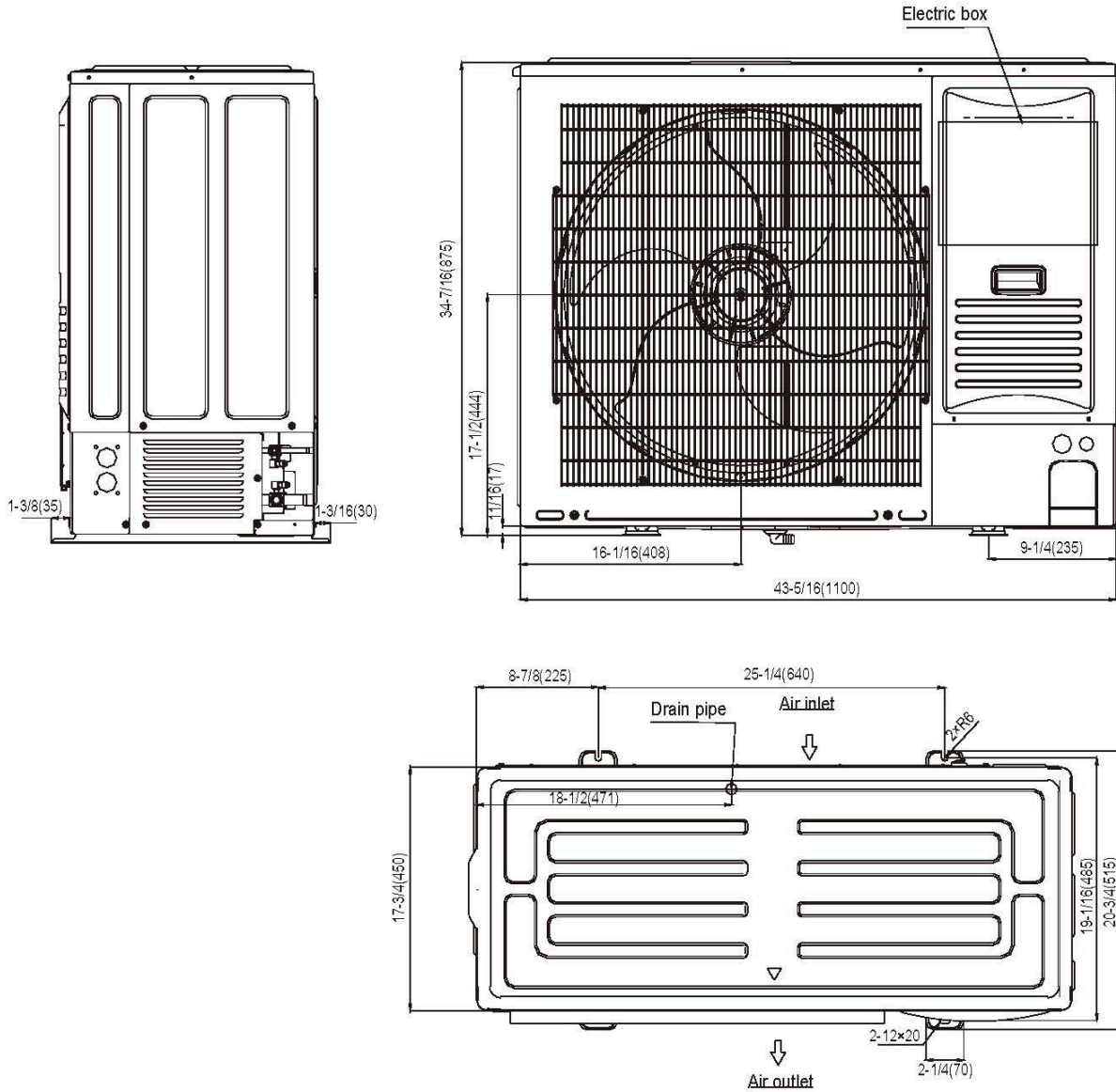
UNITS: INCHES (MM)



# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMPS

## SINGLE ZONE OUTDOOR UNITS / FPHFR36A3D

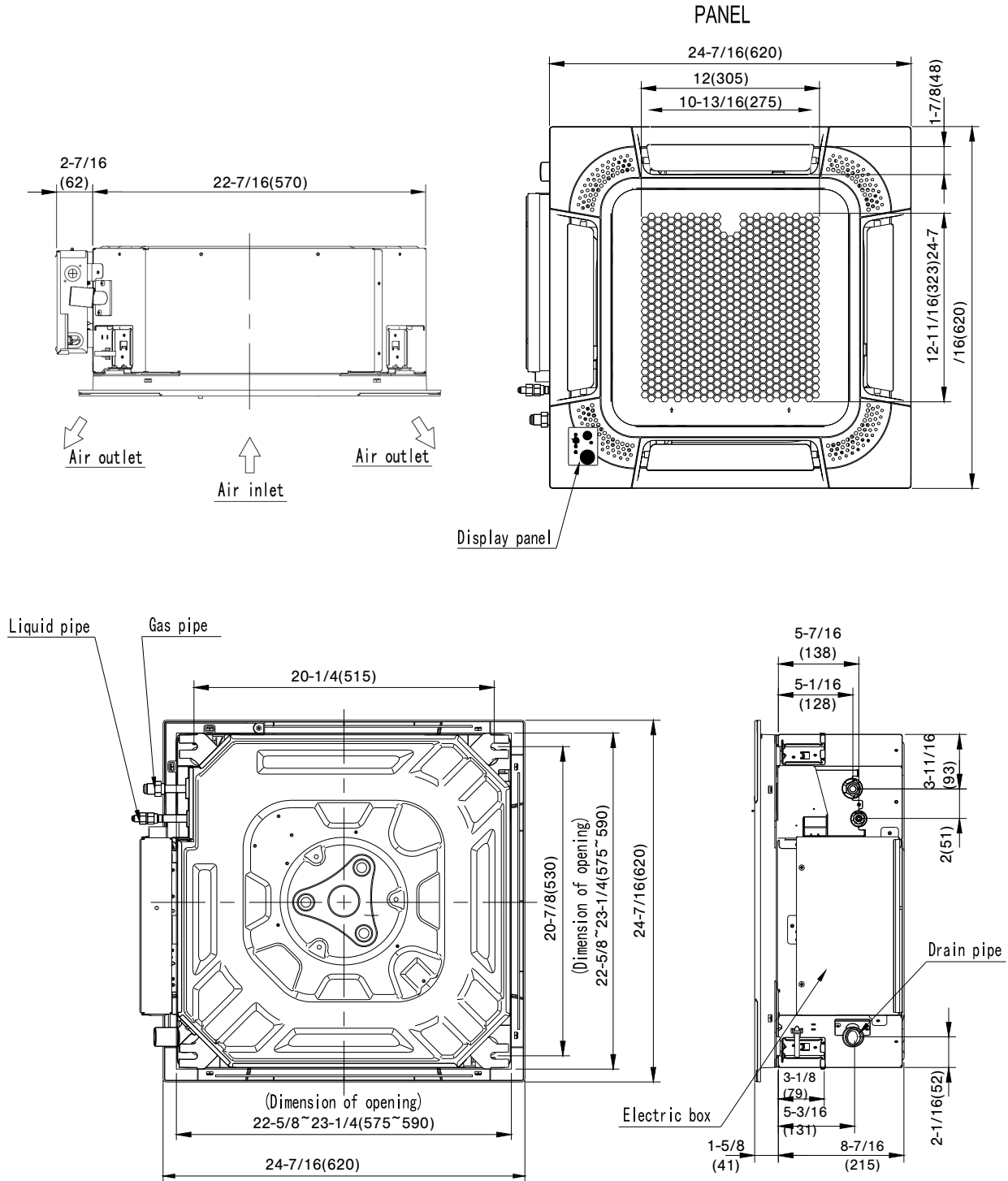
UNITS: INCHES (MM)



# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMPS

SINGLE ZONE OUTDOOR UNITS / FPHFC09A3D, FPHFC09A3D

UNITS: INCHES (MM)





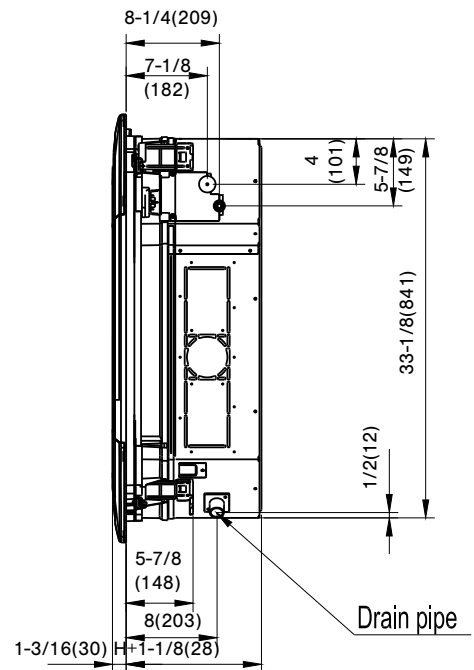
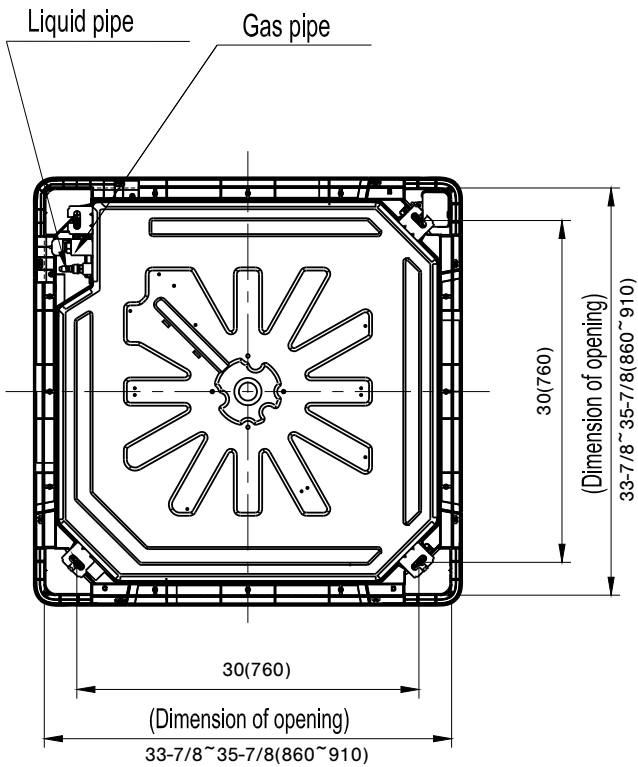
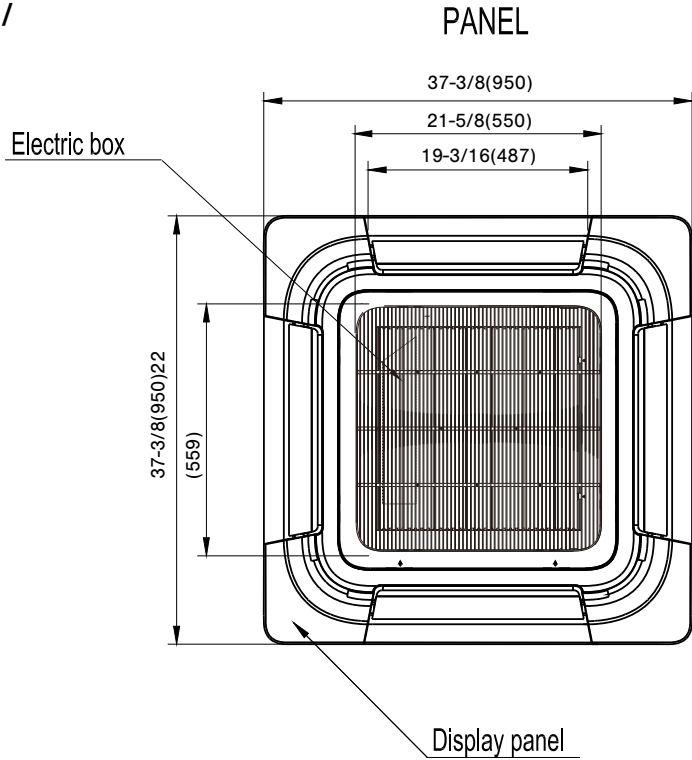
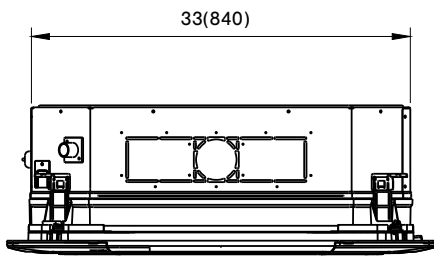
# DIMENSIONAL DRAWINGS: OUTDOOR HEAT PUMPS

SINGLE ZONE OUTDOOR UNITS / FPHFR18A3D, FPHFR24A3D, FPHFR36A3D

UNITS: INCHES (MM)

## DIMENSIONAL DRAWINGS INDOOR UNIT /

FPHFR18A3D, FPHFR24A3D,  
FPHFR36A3D



Model	H
<b>18K/24K</b>	236
<b>36K</b>	272



# REFRIGERATION LINE SETS\*

## SINGLE-ZONE

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

SINGLE-ZONE		
System Model	Min. (ft.)	Max. Each/ Total(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 Achiever Plus® Series, single- and multi-zone models.