

VUCD

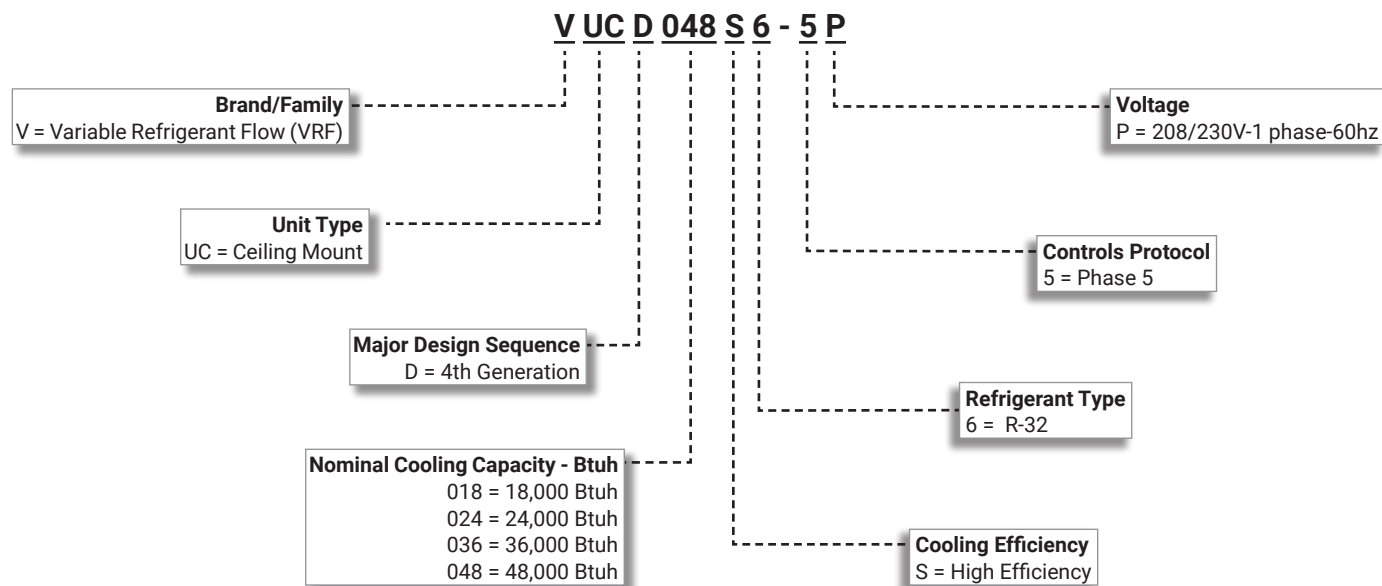
Ceiling Mount | **R-32** | 60Hz

18,000 to 48,000 Btuh

COMMERCIAL PRODUCT SPECIFICATIONS (EHB)



MODEL NUMBER IDENTIFICATION



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Specification

VUCD Ceiling Mount

Model Name				VUCD018S6-5P	VUCD024S6-5P
Power Supply			Φ, #, V, Hz	1,2,208-230,60	1,2,208-230,60
Mode			-	HEAT PUMP	HEAT PUMP
Performance	Capacity	Cooling	Btu/h	18,000	24,000
			US RT	1.50	2.00
		Heating	Btu/h	20,000	27,000
			US RT	1.67	2.25
Power	Power Input	Cooling	W	50	51
		Heating	W	50	51
	Current Input	Cooling	A	0.43	0.47
		Heating	A	0.43	0.47
	Current	MCA	A	0.64	0.65
		MOP	A	15	15
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al
		Tube	-	Cu	Cu
	Fin Treatment		-	Green Hydrophile	Green Hydrophile
Fan	Type		-	Sirocco Fan	Sirocco Fan
	Quantity		EA	2	3
	Air Flow Rate	High / Med / Low	CMM	12.6 / 11.3 / 10.0	18.4 / 16.4 / 14.3
			CFM	445 / 399 / 353	649 / 579 / 505
			l/s	210 / 188 / 167	307 / 273 / 238
Fan Motor	Type		-	BLDC	BLDC
	Output		W × n	40 × 1	153 × 1
Piping Connections	Liquid Pipe		Type	Flare connection	Flare connection
			Φ, mm (inch)	6.35 (1/4)	9.52 (3/8)
	Gas Pipe		Type	Flare connection	Flare connection
			Φ, mm (inch)	12.70 (1/2)	15.88 (5/8)
	Heat insulation		-	Both liquid & gas pipes	Both liquid & gas pipes
	Drain Pipe		Φ,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Wiring Connections	Communication	Min.	mm²	0.75	0.75
			AWG	18	18
	Remark		-	F1, F2	F1, F2
Refrigerant	Type		-	R32	R32
	Control Method		-	EEV INCLUDED	EEV INCLUDED
Sound Level	Sound Pressure Level	High / Med / Low	dB(A)	41 / 39 / 36	37 / 35 / 33
	Sound Power Level	Cooling	dB(A)	60	56
	Dimensions	Net Weight		kg	20.8
lbs				45.9	75.0
Shipping Weight		kg	26.2	39.4	
		lbs	57.8	86.9	
Net Dimensions (W×H×D)		mm	1,000 x 650 x 200	1,350 x 235 x 675	
		inch	39.4 x 25.6 x 7.9	53.15 x 9.25 x 26.57	
Shipping Dimensions (W×H×D)		mm	1,080 x 730 x 300	1,439 x 758 x 321	
		inch	42.5 x 28.7 x 11.8	56.65 x 29.84 x 12.64	
Casing	Material		-	HIPS	HIPS
Additional Accessories	Drain pump		-	Not Included	Not Included
	Air Filter	Max. lifting Height / Displacement	in / gal/h	-	-
				-	-

• Specification may be subject to change without prior notice.

1) Performances are based on the following test conditions.

- Cooling : Indoor temperature : 80°F(26.7°C) DB, 67°F(19.4°C) WB, Outdoor temperature : 95°F(35°C) DB, 75°F(23.9°C) WB
- Heating : Indoor temperature : 70°F(21.1°C) DB, 60°F(15.6°C) WB, Outdoor temperature : 47°F(8.3°C) DB, 43°F(6.1°C) WB
- Equivalent refrigerant piping length 7.5m(24.6ft), Level differences : 0m(0ft)

2) Sound level was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.

3) These products contain R32 (GWP=675) which is fluorinated greenhouse gas.

4) Select wire size based on the value of MCA

Specification

VUCD Ceiling Mount

Model Name				VUCD036S6-5P	VUCD048S6-5P
Power Supply			Φ, #, V, Hz	1,2,208-230,60	1,2,208-230,60
Mode			-	HEAT PUMP	HEAT PUMP
Performance	Capacity	Cooling	Btu/h	36,000	48,000
			US RT	3.00	4.00
	Heating	Btu/h	40,000	54,000	
		US RT	3.33	4.50	
Power	Power Input	Cooling	W	92	160
		Heating	W	80	160
	Current Input	Cooling	A	0.94	1.45
		Heating	A	0.83	1.45
	Current	MCA	A	3.00	3.30
		MOP	A	15	15
Heat Exchanger	Type		-	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al
		Tube	-	Cu	Cu
	Fin Treatment		-	Green Hydrophile	Green Hydrophile
Fan	Type		-	Sirocco Fan	Sirocco Fan
	Quantity		EA	3	3
	Air Flow Rate	High / Med / Low	CMM	29.3 / 23.9 / 18.5	36.4 / 30.8 / 26.0
			CFM	1,035 / 844 / 653	1,286 / 1,088 / 918
			l/s	488 / 398 / 308	607 / 513 / 433
Fan Motor	Type		-	BLDC	BLDC
	Output		W × n	153 × 1	244 × 1
Piping Connections	Liquid Pipe		Type	Flare connection	Flare connection
			Φ, mm (inch)	9.52 (3/8)	9.52 (3/8)
	Gas Pipe		Type	Flare connection	Flare connection
			Φ, mm (inch)	15.88 (5/8)	15.88 (5/8)
	Heat insulation		-	Both liquid & gas pipes	Both liquid & gas pipes
	Drain Pipe		Φ,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Wiring Connections	Communication	Min.	mm²	0.75	0.75
			AWG	18	18
		Remark	-	F1, F2	F1, F2
Refrigerant	Type		-	R32	R32
	Control Method		-	EEV INCLUDED	EEV INCLUDED
Sound Level	Sound Pressure Level	High / Med / Low	dB(A)	45 / 41 / 37	46 / 43 / 38
	Sound Power Level	Cooling	dB(A)	61	63
	Dimensions	Net Weight		kg	34.0
lbs				75.0	92.6
Shipping Weight		kg	39.4	48.5	
		lbs	86.9	106.9	
Net Dimensions (W×H×D)		mm	1,350 x 235 x 675	1,650 x 235 x 675	
		inch	53.15 x 9.25 x 26.57	64.96 x 9.25 x 26.57	
Shipping Dimensions (W×H×D)		mm	1,439 x 758 x 321	1,739 x 758 x 321	
		inch	56.65 x 29.84 x 12.64	68.46 x 29.84 x 12.64	
Casing	Material		-	HIPS	HIPS
Additional Accessories	Drain pump		-	Not Included	Not Included
		Max. lifting Height / Displacement	in / gal/h	-	-
		Air Filter	-	-	-

- Specification may be subject to change without prior notice.

1) Performances are based on the following test conditions.

- Cooling : Indoor temperature : 80°F(26.7°C) DB, 67°F(19.4°C) WB, Outdoor temperature : 95°F(35°C) DB, 75°F(23.9°C) WB
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- Equivalent refrigerant piping length 7.5m(24.6ft), Level differences : 0m(0ft)

2) Sound level was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.

3) These products contain R32 (GWP=675) which is fluorinated greenhouse gas.

4) Select wire size based on the value of MCA

Summary Table

VUCD Ceiling Mount

Performance Characteristics

Model Code	Net Weight (lbs)	Fan Speed	Nominal Capacity (Btu/h)			Airflow (CFM)	Sound Pressure (dBA)	Sound Power (dBA)
			Cooling	Sensible	Heating			
VUCD018S6-5P	19.8	High	18,000	12,500	20000	445	41	60
		Mid	16,100	11,000	17,900	399	39	-
		Low	14,200	9,900	15,800	353	36	-
VUCD024S6-5P	19.8	High	24,000	16,900	27,000	649	37	56
		Mid	21,300	15,000	24,000	579	35	-
		Low	18,600	13,100	20,900	505	33	-
VUCD036S6-5P	20.9	High	36,000	25,400	40,000	1035	45	61
		Mid	30,100	21,200	36,100	844	41	-
		Low	23,400	16,500	31,800	653	37	-
VUCD048S6-5P	20.9	High	48,000	32,900	54,000	1286	46	63
		Mid	41,500	28,400	49,700	1088	43	-
		Low	35,300	24,200	45,600	918	38	-

NOTE

- Sound data is based on cooling operation.

Electric Characteristics

Model Code	Power Supply (Φ, #, V, Hz)	Power Input (W)	Current Input (A)	MCA (A)	MOP (A)	FLA (A)
VUCD018S6-5P	1,2,208-230,60	50	0.43	0.64	15	0.51
VUCD024S6-5P	1,2,208-230,60	51	0.47	0.65	15	0.52
VUCD036S6-5P	1,2,208-230,60	92	0.94	3.00	15	2.40
VUCD048S6-5P	1,2,208-230,60	160	1.45	3.30	15	2.64

NOTE

- MCA : Minimum circuit amperes
- MOP: Maximum Overcurrent Protective Device
- FLA: Full load amperes
- Select wire size based on the value of MCA

Capacity Table

VUCD Ceiling Mount

Cooling

TC : Total Capacity, SHC : Sensible Heat Capacity

Model	Outdoor temperature (°F, DB)	Indoor temperature (°F, DB / WB)													
		57		61		64		67		70		72		75	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
		Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h
VUCD018S6-5P	95	12,400	10,000	14,600	11,100	16,900	12,300	18,000	12,500	18,700	12,500	19,900	12,500	21,200	12,200
VUCD024S6-5P	95	16,500	13,500	19,500	15,000	22,500	16,700	24,000	16,900	24,900	16,900	26,600	16,900	28,300	16,500
VUCD036S6-5P	95	24,120	20,130	29,040	22,650	32,730	25,010	36,000	25,400	38,110	25,400	39,520	25,330	41,630	24,790
VUCD048S6-5P	95	32,420	26,240	38,790	29,300	43,540	32,060	48,000	32,900	50,810	32,710	52,690	32,520	55,500	32,230

Heating

TC : Total Capacity

Model	Outdoor temperature (°F, DB)		Indoor temperature (°F, DB)				
			61	65	70	72	75
			TC	TC	TC	TC	TC
	DB	WB	Btu/h	Btu/h	Btu/h	Btu/h	Btu/h
VUCD018S6-5P	47	43	21,500	21,200	20,000	19,200	17,500
VUCD024S6-5P	47	43	27,700	27,300	27,000	25,000	23,000
VUCD036S6-5P	47	43	43,200	42,500	40,000	38,200	35,700
VUCD048S6-5P	47	43	58,150	56,990	54,000	51,610	47,800

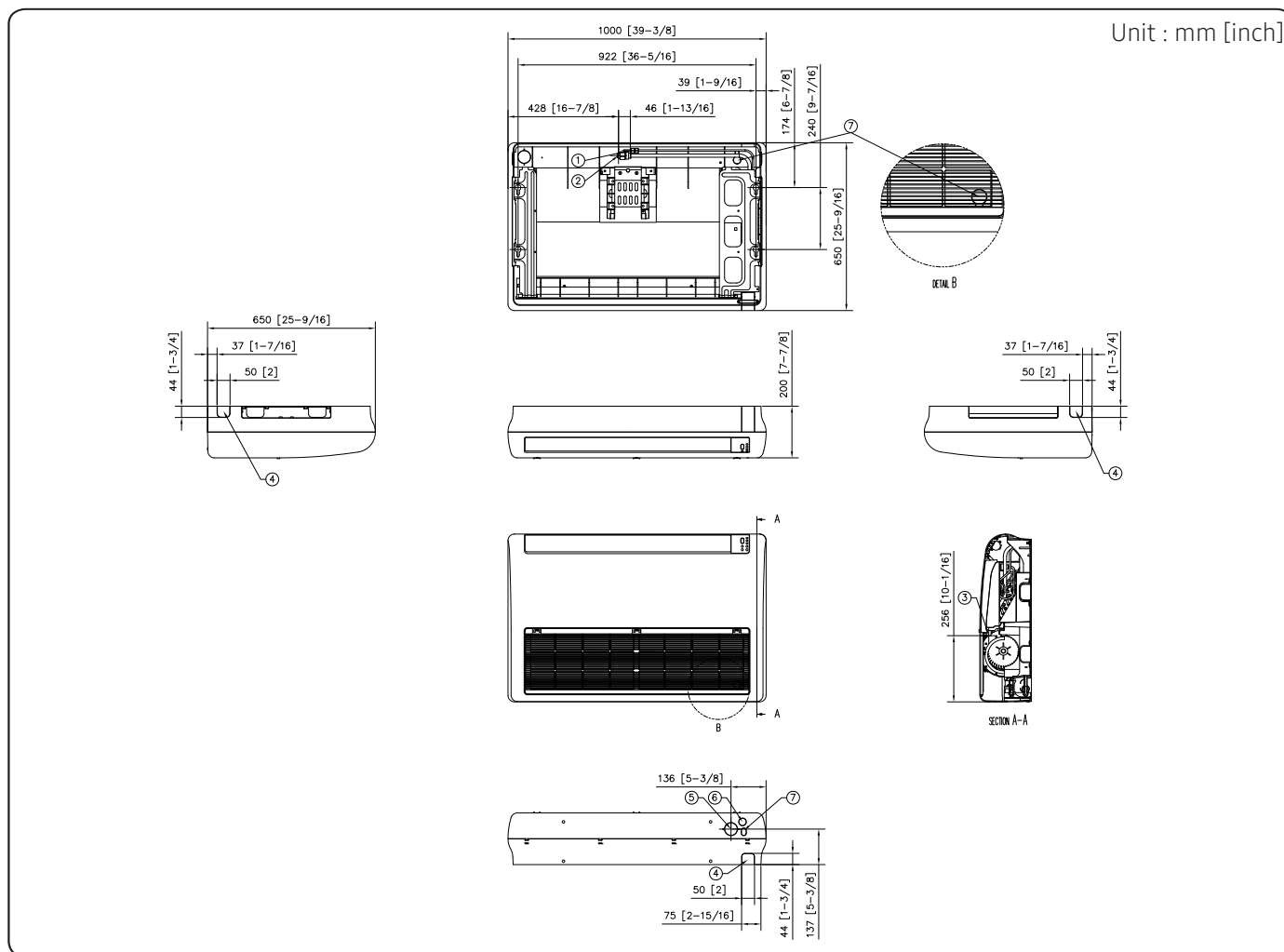
NOTE

- The performance table shows the average value of each conditions.

Dimensional Drawing

VUCD Ceiling Mount

VUCD018S6-5P



No.	Name	Description
1	Refrigerant liquid pipe	Φ6.35(1/4)
2	Refrigerant gas pipe	Φ12.7(1/2)
3	Condensate drain	VP25 (OD 32,ID 25)
4	Knockout hole for piping	
5	Knockout hole for air intake	Φ50 [2]
6	Knockout hole for drain pipe	
7	Knockout hole for wiring	

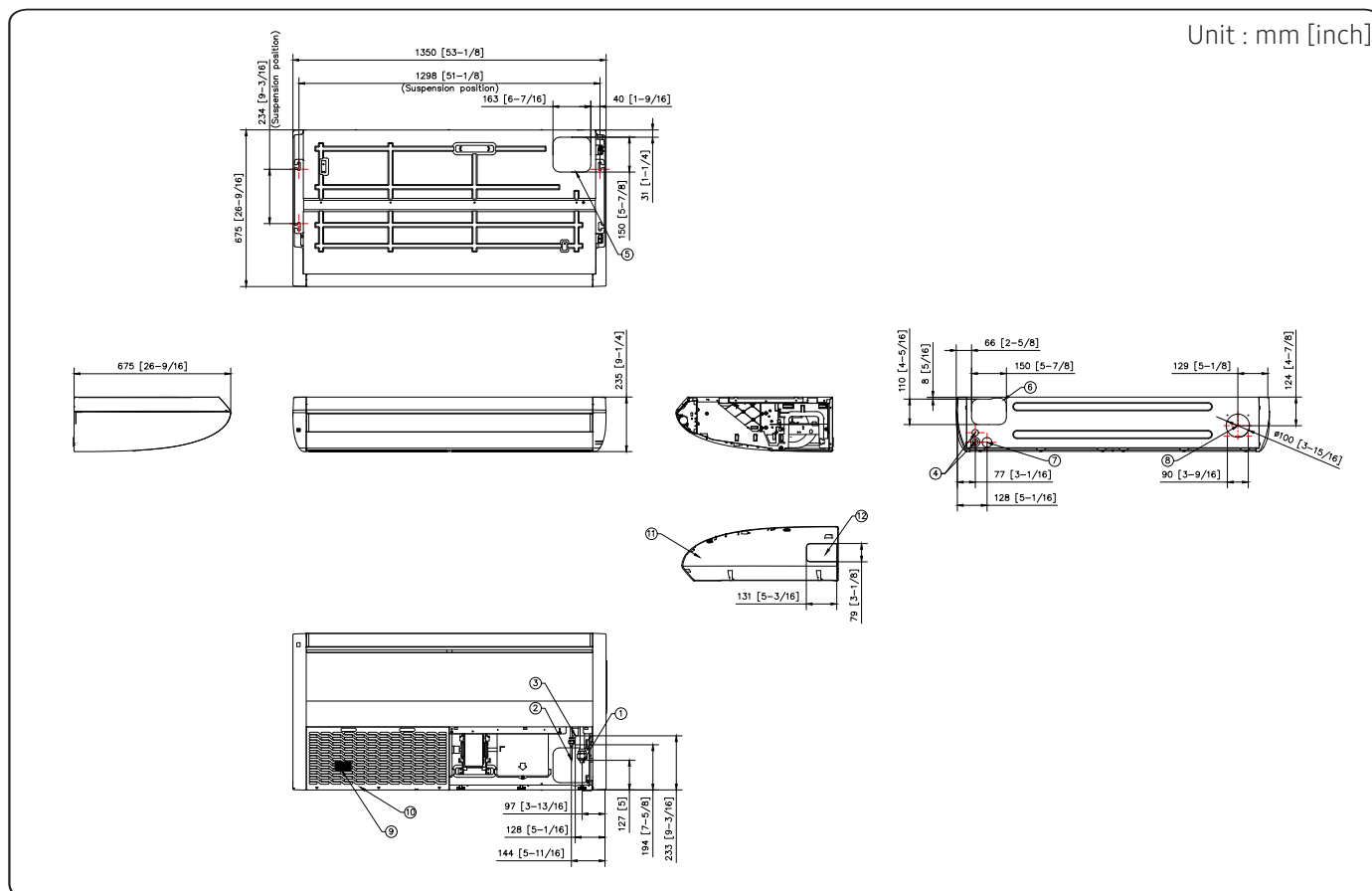
NOTE

- As for suspension bolt, please use M8 ~ M10.
(Procured at local site)

Dimensional Drawing

VUCD Ceiling Mount

VUCD024S6-5P, VUCD036S6-5P



No.	Name	Description
1	Refrigerant gas pipe	Φ15.88 (5/8)
2	Refrigerant liquid pipe	Φ9.52 (3/8)
3	Condensate drain	VP25 (OD 25, ID 20)
4	Conduit hole	Φ28(1-1/8)
5	Knockout hole for upper piping arrangement	
6	Knockout hole for rear piping arrangement	
7	Knockout hole for drain pipe arrangement	
8	Knockout hole for fresh air intake	Φ42(Φ1-5/16)
9	Air filter	
10	Air suction grille	
11	Cover side	
12	Knockout hole for side piping arrangement	

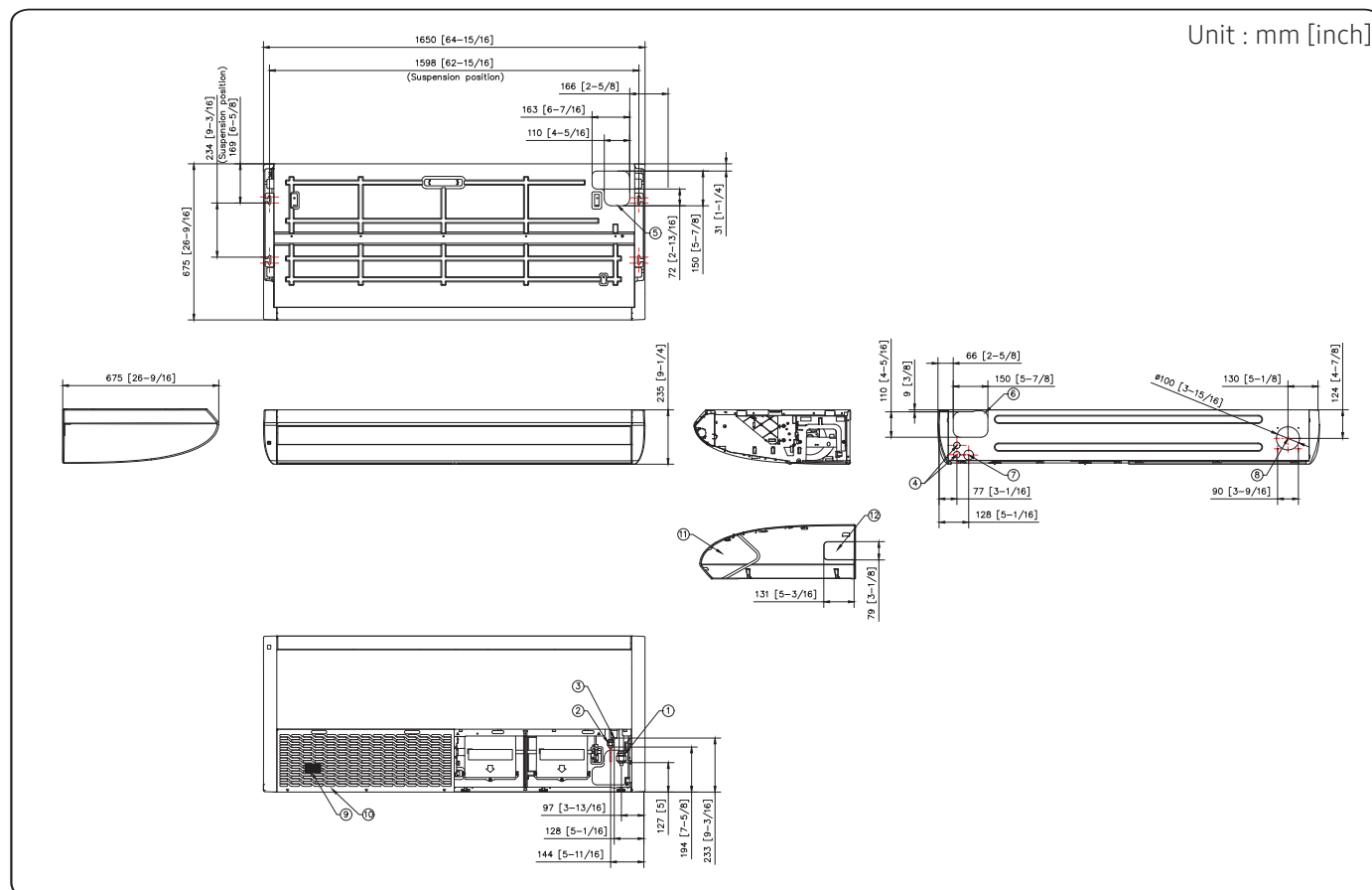
NOTE

- As for suspension bolt, please use M8 ~ M10.
(Procured at local site)

Dimensional Drawing

VUCD Ceiling Mount

VUCD048S6-5P



No.	Name	Description
1	Refrigerant gas pipe	Φ15.88 (5/8)
2	Refrigerant liquid pipe	Φ9.52 (3/8)
3	Condensate drain	VP25 (OD 25, ID 20)
4	Conduit hole	Φ28(1-1/8)
5	Knockout hole for upper piping arrangement	
6	Knockout hole for rear piping arrangement	
7	Knockout hole for drain pipe arrangement	
8	Knockout hole for fresh air intake	Φ42(Φ1-5/16)
9	Air filter	
10	Air suction grille	
11	Cover side	
12	Knockout hole for side piping arrangement	

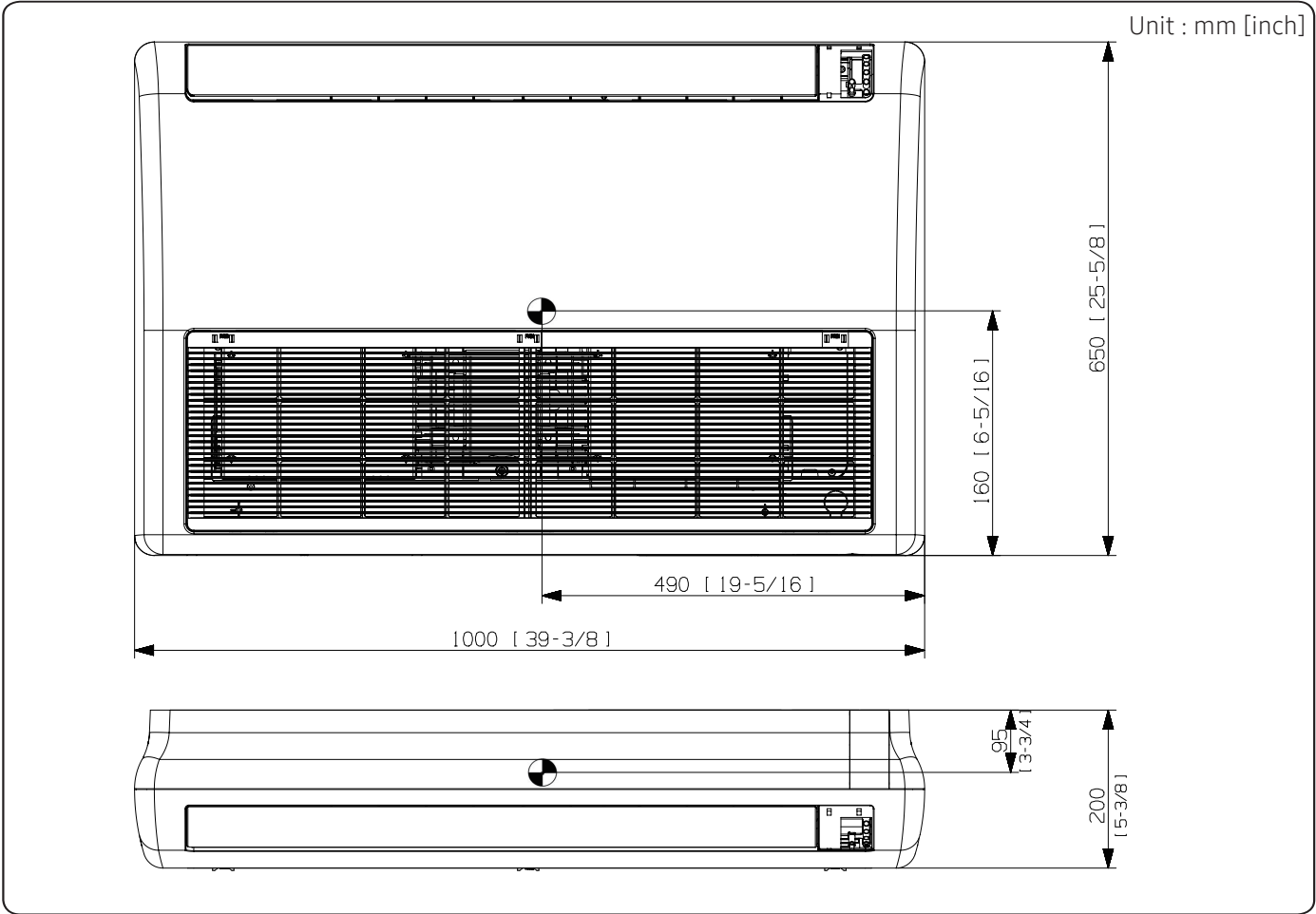
NOTE

- As for suspension bolt, please use M8 ~ M10.
(Procured at local site)

Center of Gravity

VUCD Ceiling Mount

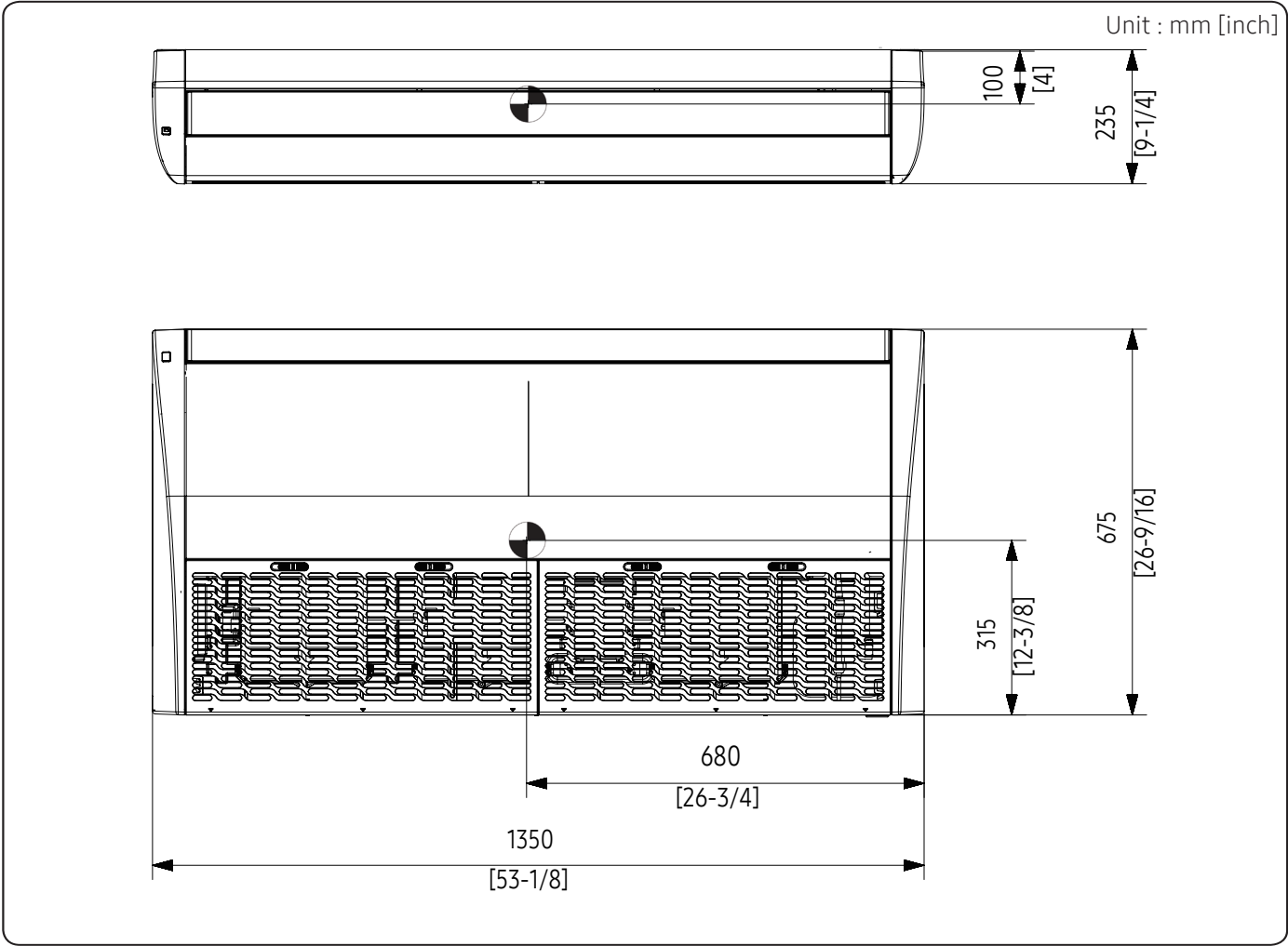
VUCD018S6-5P



Center of Gravity

VUCD Ceiling Mount

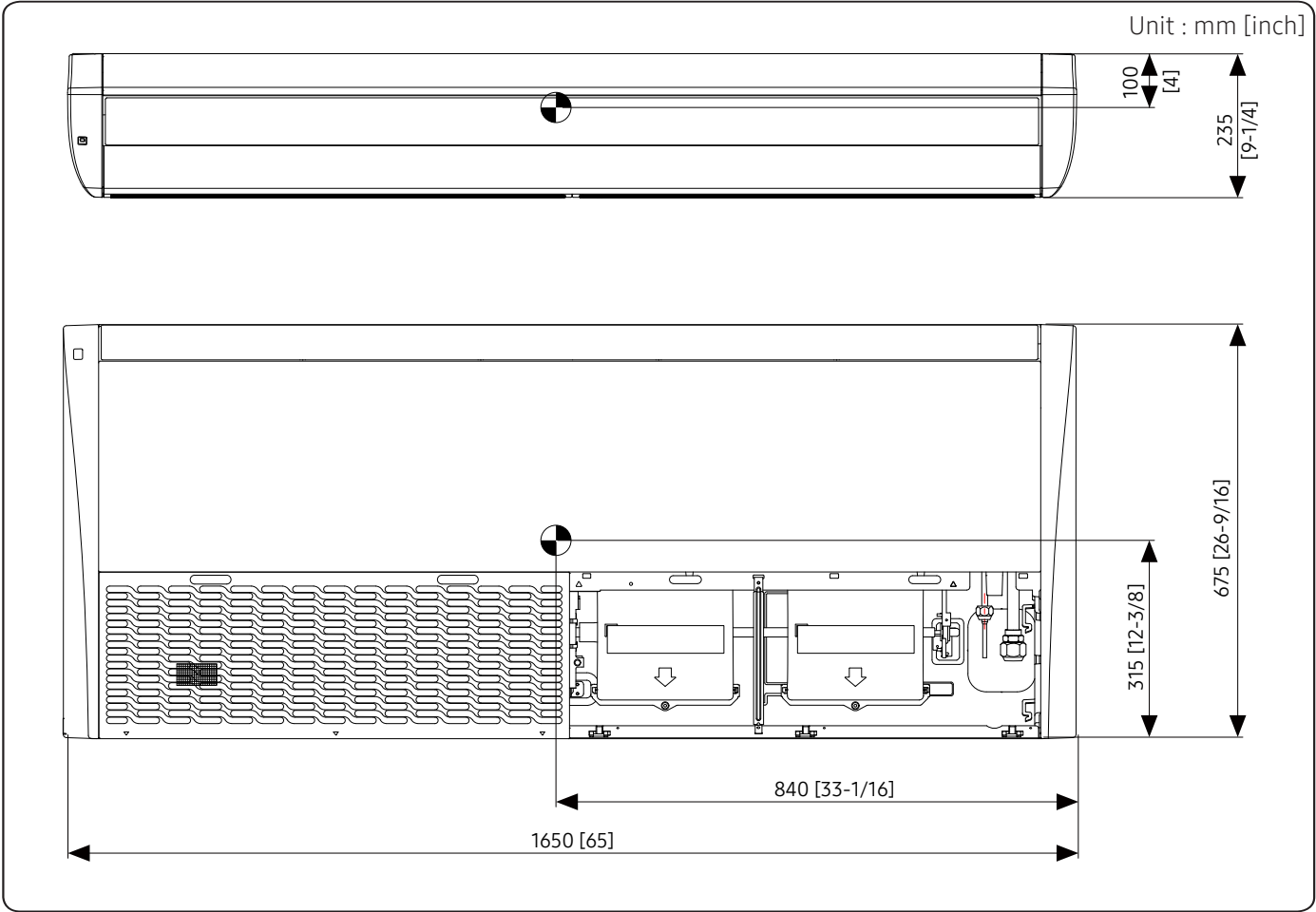
VUCD024S6-5P, VUCD036S6-5P



Center of Gravity

VUCD Ceiling Mount

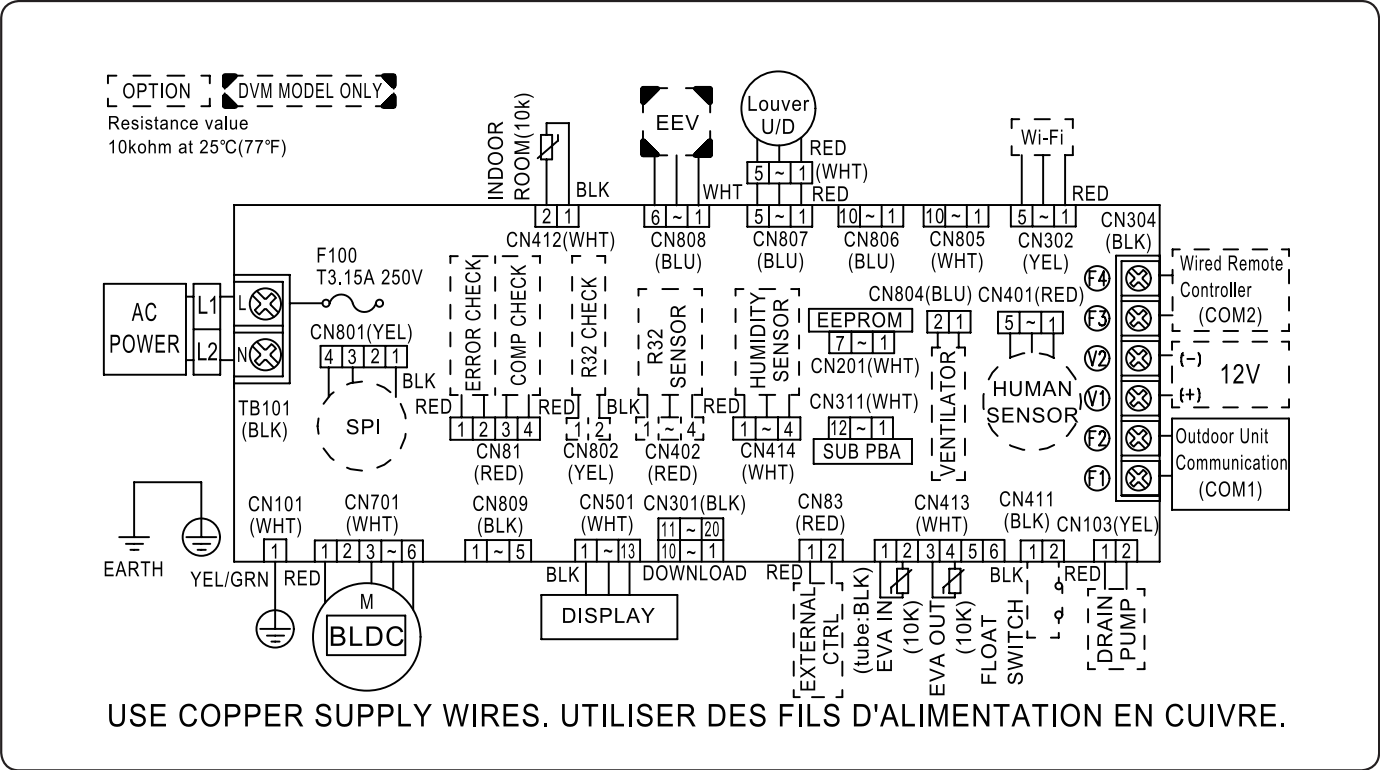
VUCD048S6-5P



Electrical Wiring Diagram

VUCD Ceiling Mount

VUCD018S6-5P



F100	FUSE	EEV	Electronic Expansion Valve	ROOM(10K)	Thermistor ROOM OUT(10K)
M-BLDC	BLDC Motor	EXT_CONTROL	EXTERNAL_CONTROL	EVA-IN(10K)	Thermistor EVA IN(10K)
				EVA-OUT(10K)	Thermistor EVA OUT(10K)

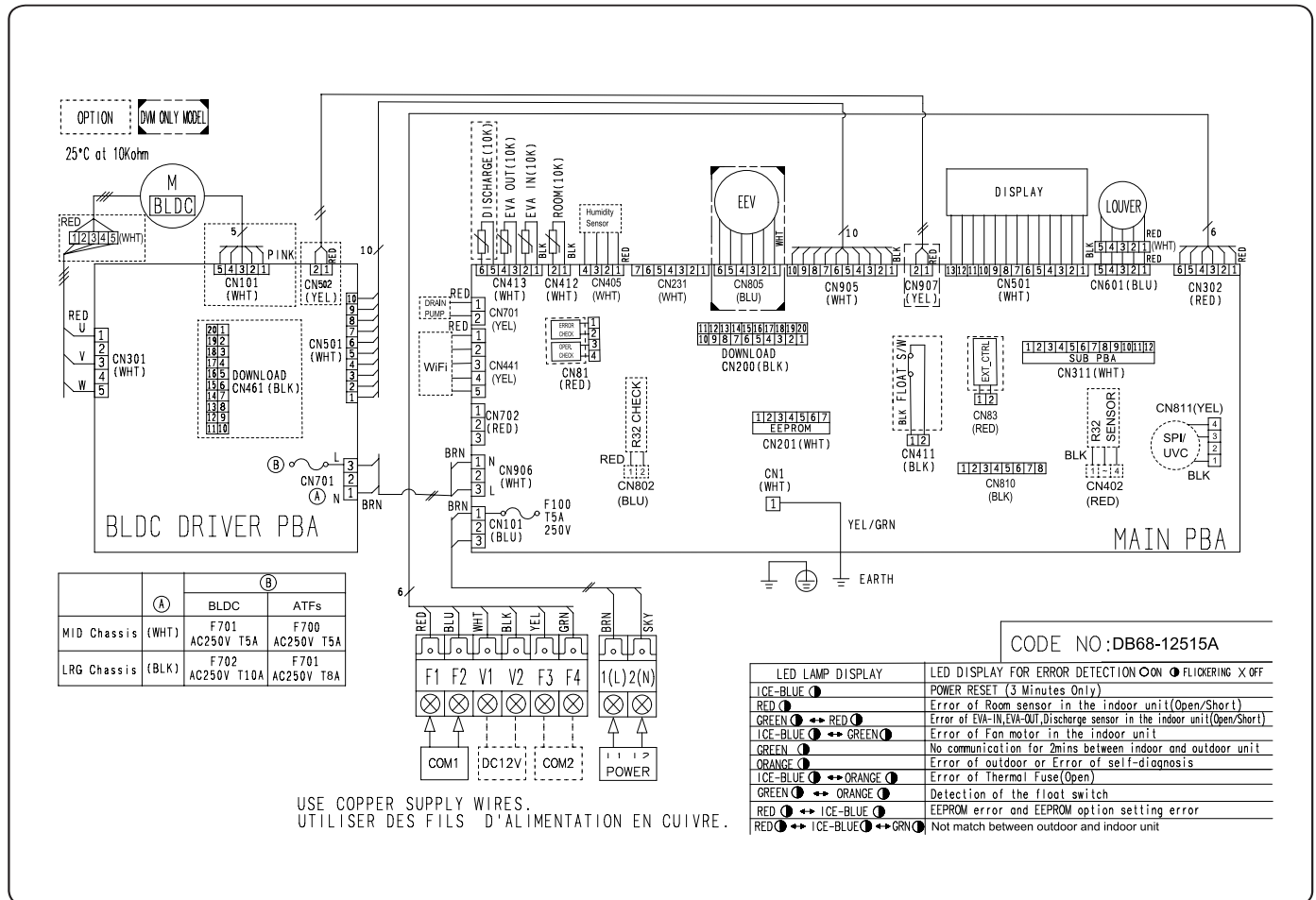
NOTE

- This wiring diagram applies only to the Indoor unit.
- Symbols show as follow :
BLK: black, RED: red, BLU: blue, WHT: white, YEL: yellow, BRN: brown, SKY: sky blue, GRN: green
- For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remote controller transmission F3-F4.
- Protective earth(screw), : connector, : The wire quantity

Electrical Wiring Diagram

VUCD Ceiling Mount

VUCD024S6-5P, VUCD036S6-5P, VUCD048S6-5P



F100	FUSE	EEV	Electronic Expansion Valve	ROOM(10K)	Thermistor ROOM OUT(10K)
M-BLDC	BLDC Motor	EXT_CONTROL	EXTERNAL_CONTROL	EVA-IN(10K)	Thermistor EVA IN(10K)
				EVA-OUT(10K)	Thermistor EVA OUT(10K)

NOTE

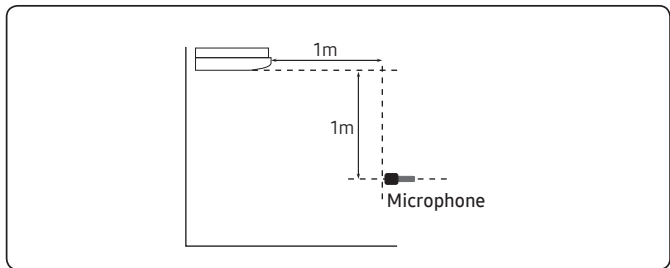
- This wiring diagram applies only to the Indoor unit.
- Symbols show as follow :
BLK: black, RED: red, BLU: blue, WHT: white, YEL: yellow, BRN: brown, SKY: sky blue, GRN: green
- For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remote controller transmission F3-F4.
- Protective earth(screw), : connector, $\frac{N}{\text{wire}}$: The wire quantity

Sound Data

VUCD Ceiling Mount

Sound Pressure level

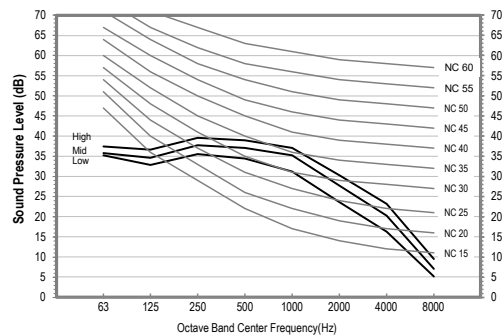
Unit: dB(A)



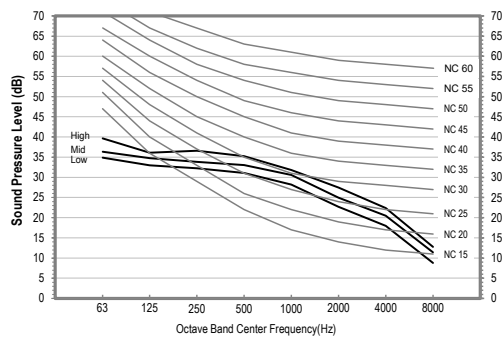
Model	High	MID	LOW
VUCD018S6-5P	41	39	36
VUCD024S6-5P	37	35	33
VUCD036S6-5P	45	41	37
VUCD048S6-5P	46	43	38

- NC Curve

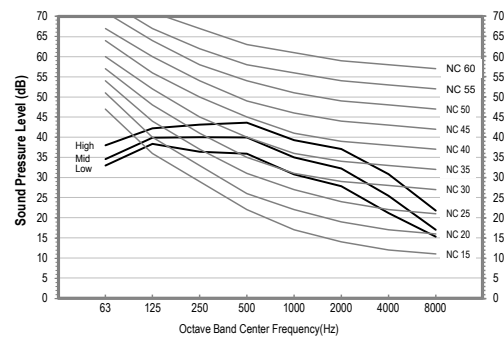
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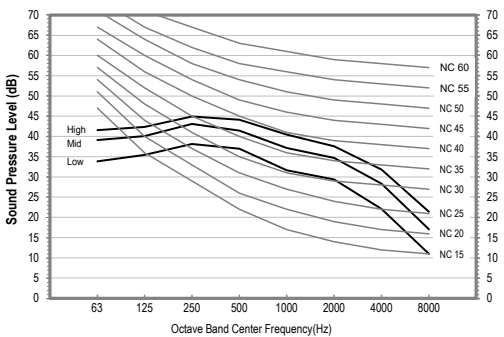
2) VUCD024S6-5P



3) VUCD036S6-5P



4) VUCD048S6-5P



NOTE

- Specifications may be subject to change without prior notice.
 - Sound pressure level is obtained in an anechoic room.
 - Sound pressure level is a relative value, depending on the distance and acoustic environment.
 - Sound pressure level may differ depending on operation condition.
 - dB(A) = A weighted sound pressure level
 - Reference acoustic pressure 0 dB = 20μPa

Sound Data

VUCD Ceiling Mount Sound

Power level

NOTE

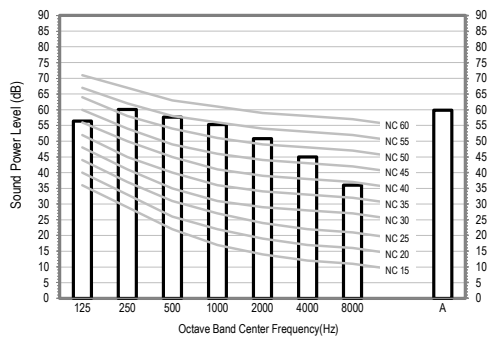
- Specifications may be subject to change without prior notice
 - Sound power level is an absolute value that a sound source generates.
 - dBA = A-weighted sound power level.
 - Reference power : 1pW.
 - Measured according to ISO 3741.

Unit: dB(A)

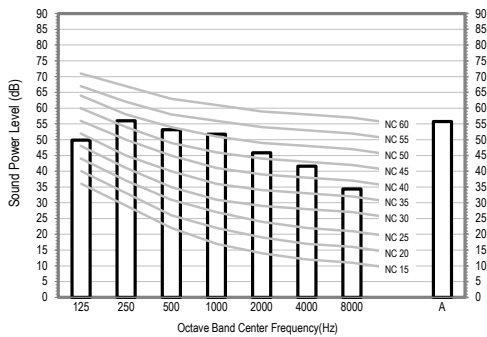
Model	Power
VUCD018S6-5P	60
VUCD024S6-5P	56
VUCD036S6-5P	61
VUCD048S6-5P	63

- NC Curve

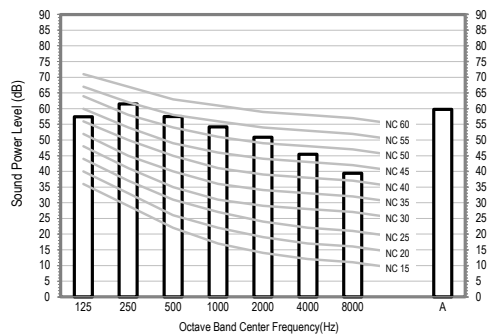
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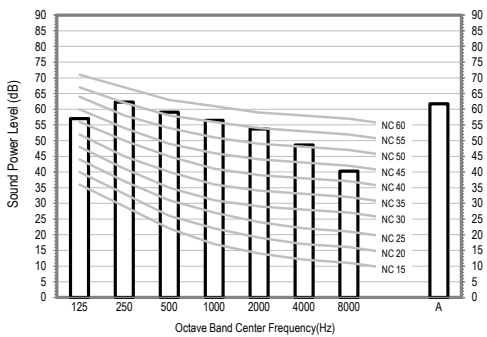
2) VUCD024S6-5P



3) VUCD036S6-5P



4) VUCD048S6-5P

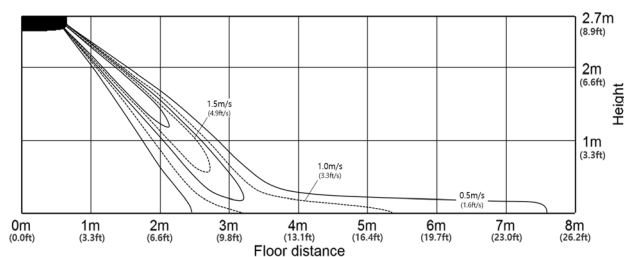


Temperature and air flow distribution

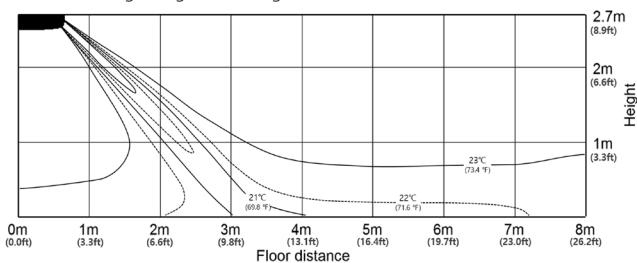
VUCD Ceiling Mount

VUCD018S6-5P

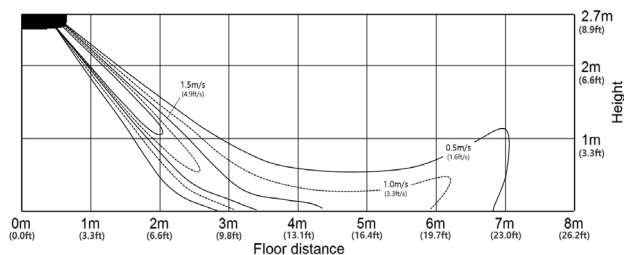
- Cooling Air Velocity distribution
(Discharge angle : 50 degree)



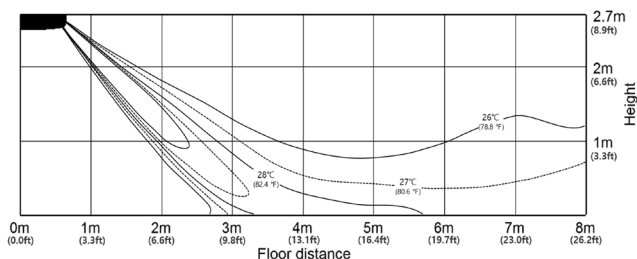
- Cooling temperature distribution
(Discharge angle : 50 degree)



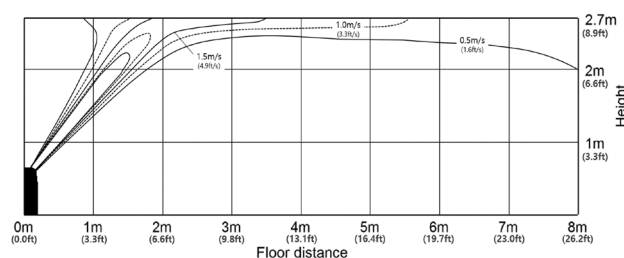
- Heating Air Velocity distribution
(Discharge angle : 40 degree)



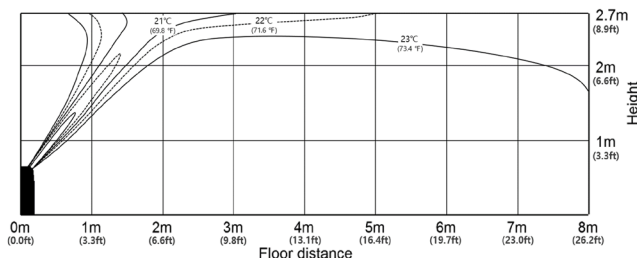
- Heating temperature distribution
(Discharge angle : 40 degree)



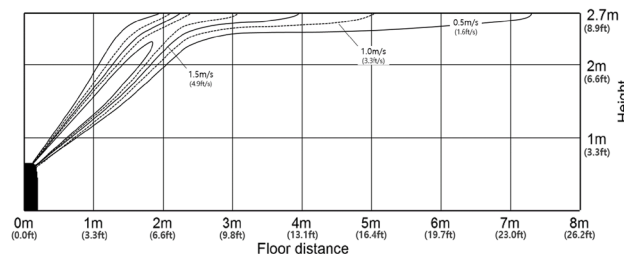
- Cooling Air Velocity distribution
(Discharge angle : 50 degree)



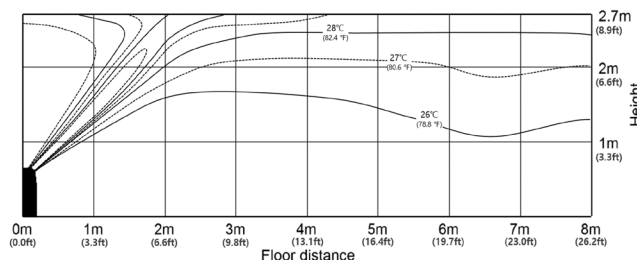
- Cooling temperature distribution
(Discharge angle : 50 degree)



- Heating Air Velocity distribution
(Discharge angle : 40 degree)



- Heating temperature distribution
(Discharge angle : 40 degree)

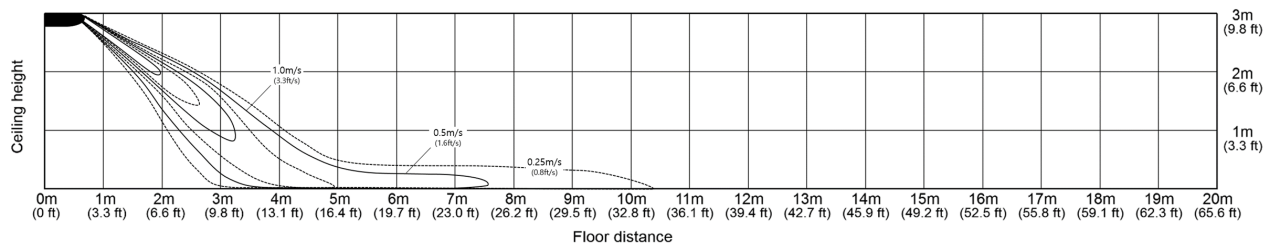


Temperature and air flow distribution

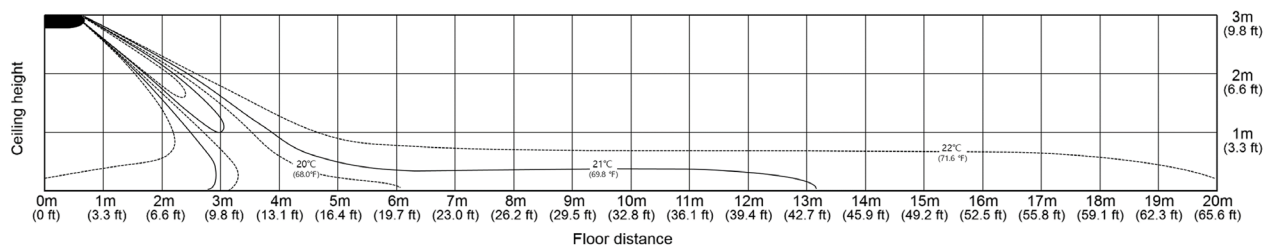
VUCD Ceiling Mount

VUCD024S6-5P

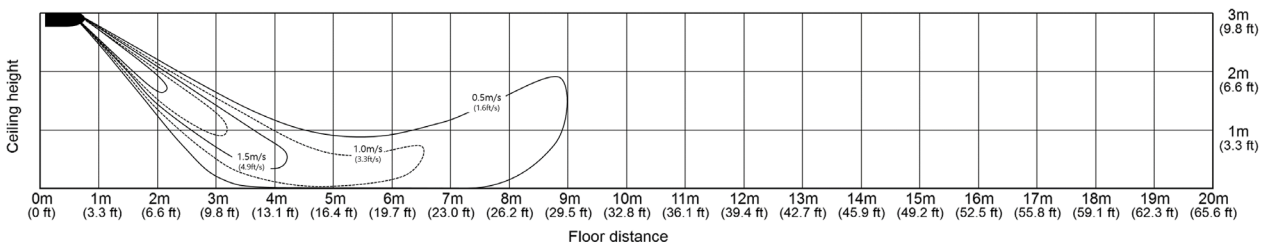
- Cooling Air Velocity distribution
(Discharge angle : 32 degree)



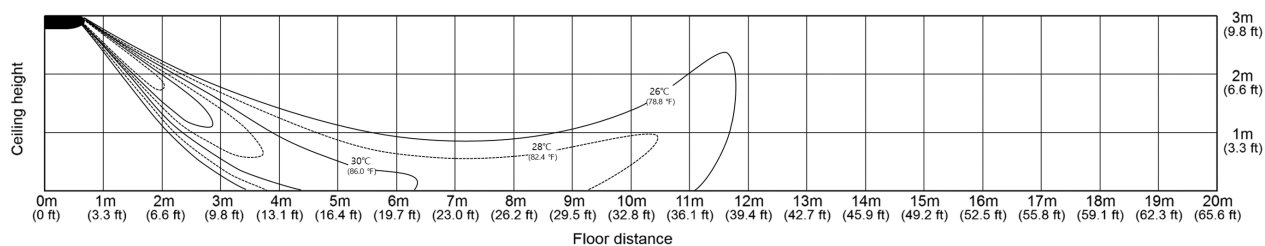
- Cooling temperature distribution
(Discharge angle : 32 degree)



- Heating Air Velocity distribution
(Discharge angle : 43 degree)



- Heating temperature distribution
(Discharge angle : 43 degree)

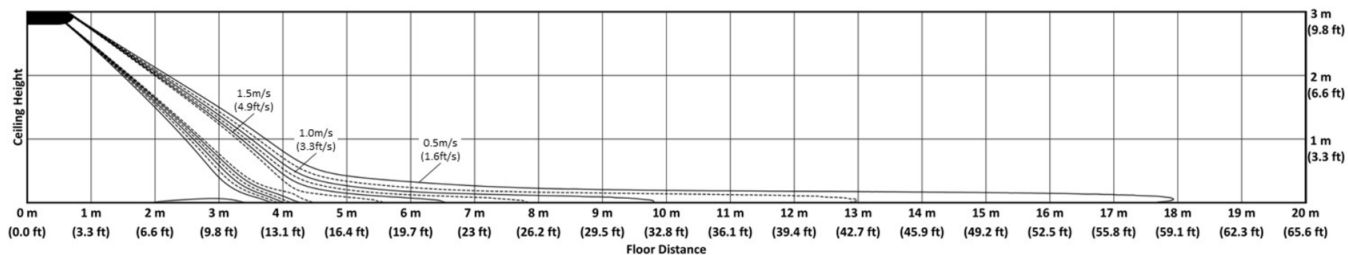


Temperature and air flow distribution

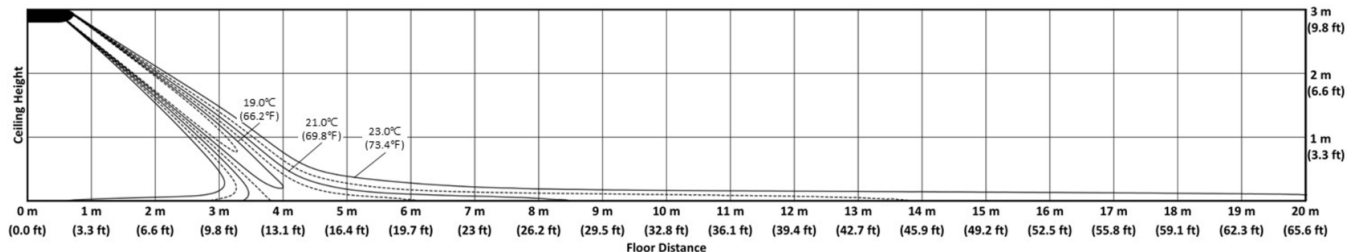
VUCD Ceiling Mount

VUCD036S6-5P

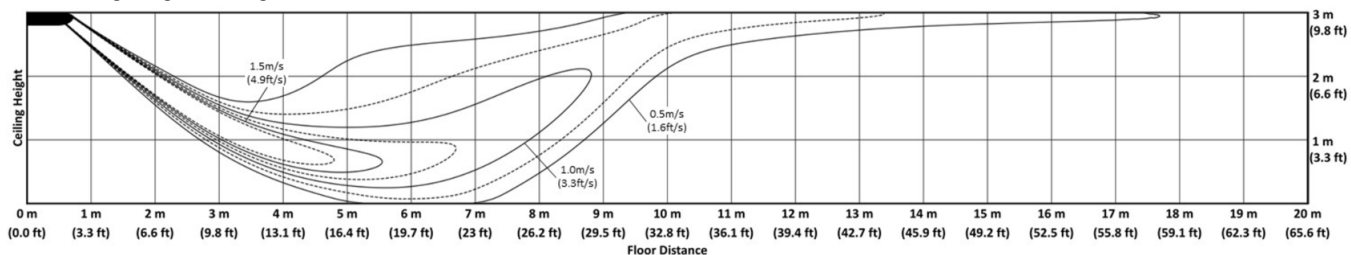
- Cooling Air Velocity distribution
(Discharge angle : 32 degree)



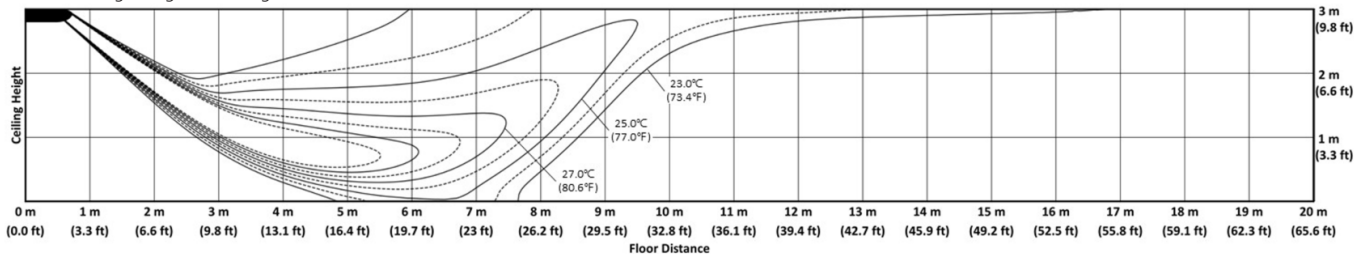
- Cooling temperature distribution
(Discharge angle : 32 degree)



- Heating Air Velocity distribution
(Discharge angle : 43 degree)



- Heating temperature distribution
(Discharge angle : 43 degree)

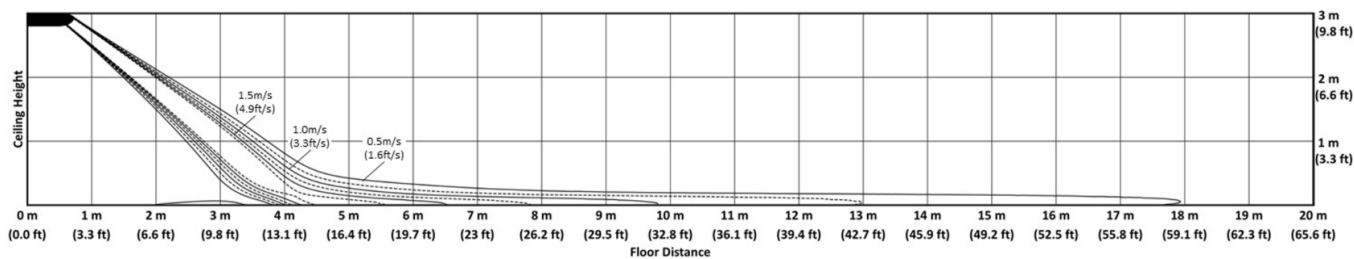


Temperature and air flow distribution

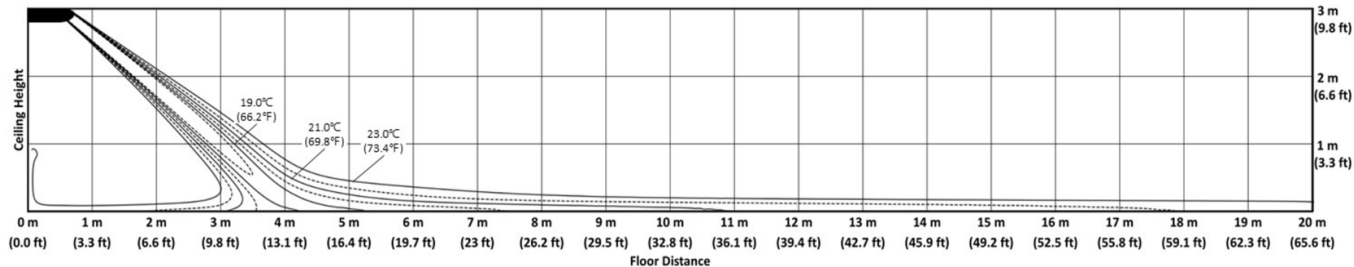
VUCD Ceiling Mount

VUCD048S6-5P

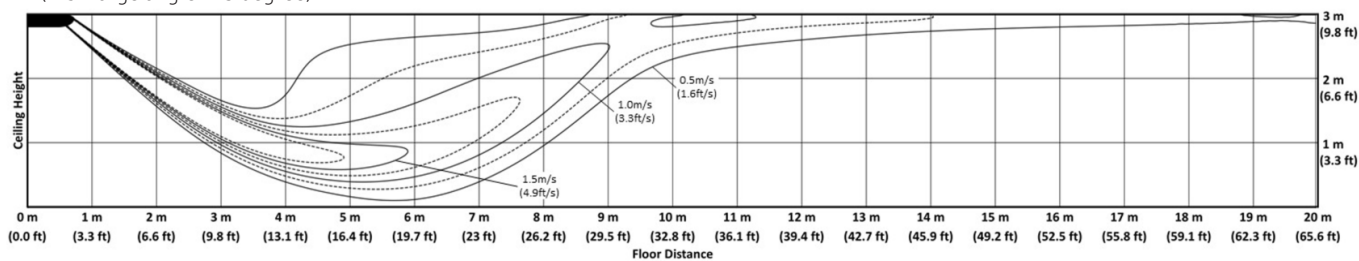
- Cooling Air Velocity distribution
(Discharge angle : 32 degree)



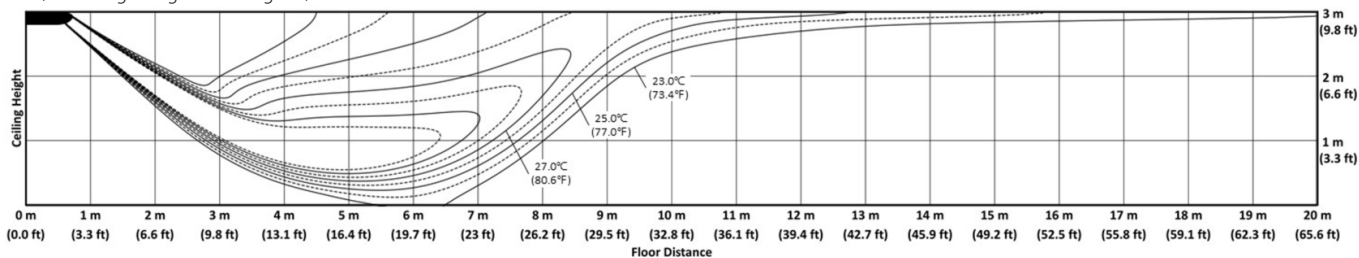
- Cooling temperature distribution
(Discharge angle : 32 degree)



- Heating Air Velocity distribution
(Discharge angle : 43 degree)

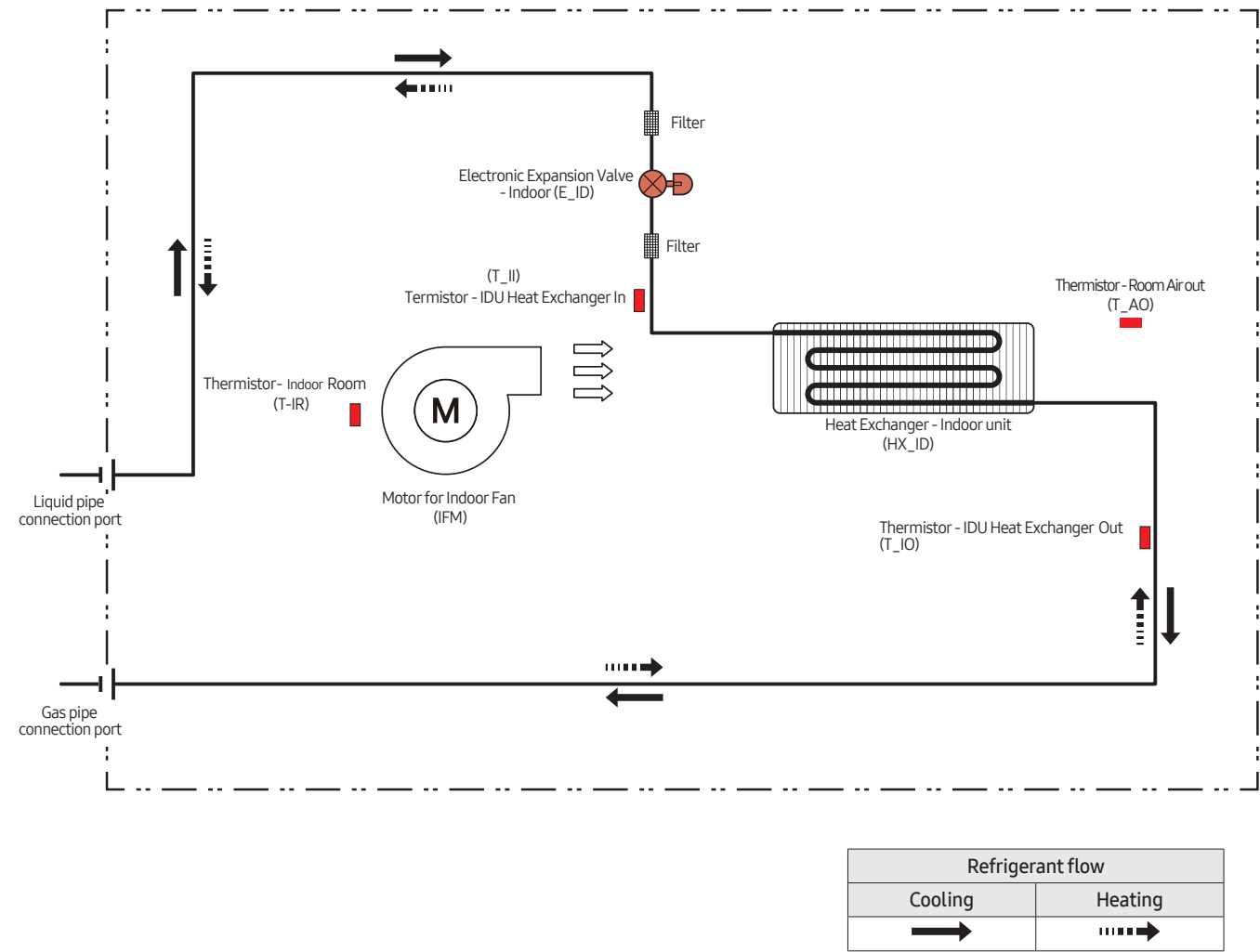


- Heating temperature distribution
(Discharge angle : 43 degree)



Piping Diagram

VUCD Ceiling Mount

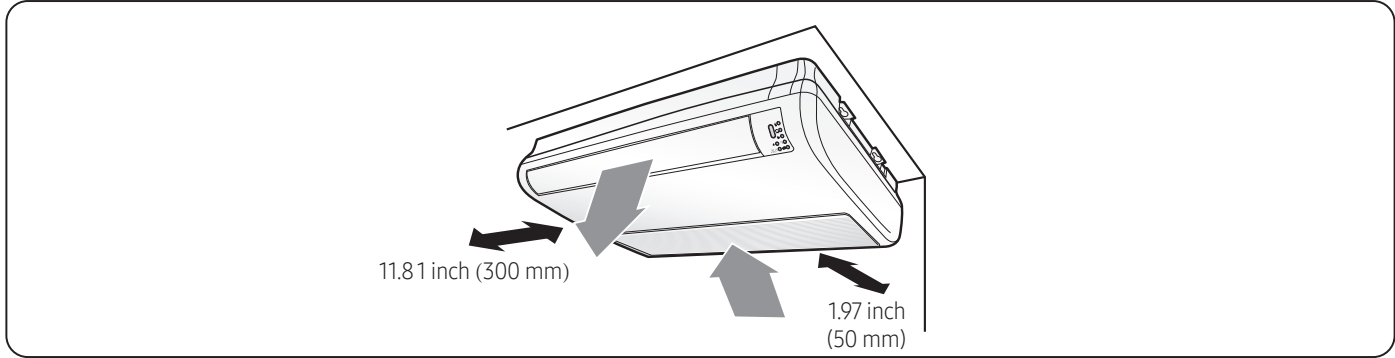


Installation Clearances

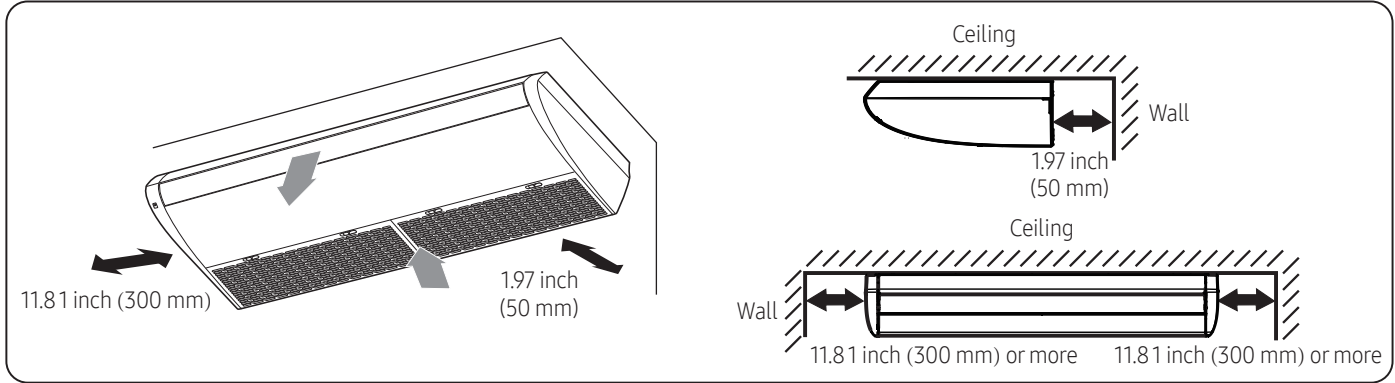
VUCD Ceiling Mount

Ceiling Mount installation

Ceiling type (VUCD018S6-5P)



Big Ceiling type (VUCD024/036/048S6-5P)



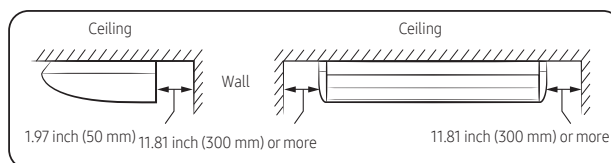
※ Floor Installation Not Available

Installation Clearances

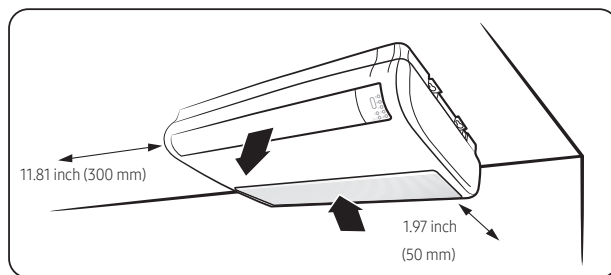
VUCD Ceiling Mount

Spacing requirements

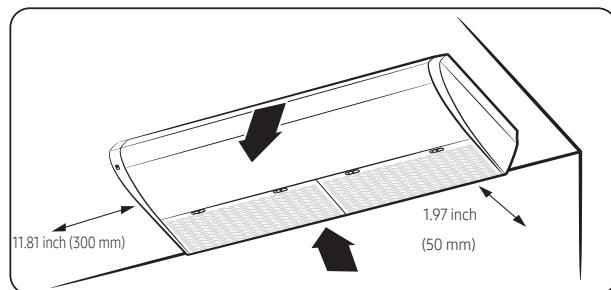
It is recommended to install the Y-joint before installing the indoor unit.



Ceiling type (VUCD018S6-5P)



Big Ceiling type (VUCD024/036/048S6-5P)



Installing the indoor unit

Ceiling installation

Ceiling type (VUCD018S6-5P)

- 1 Select pipe directions. Select pipe directions. When the directions are selected, drill 3-1/8"-[3.94 inch (100mm), for pipe and cables) and 1-3/4"-[1.54 inch (40mm), for drain hose] diameter holes on the wall so that it slants slightly downwards toward the outdoor for smooth water flow.

NOTE

- Use the pattern sheet to select pipe directions.



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