

# Ceiling

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# Features & Benefits

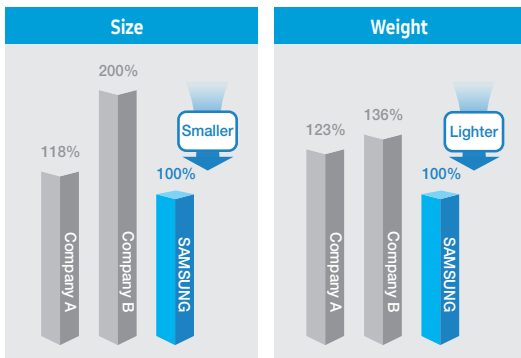
## Ceiling Type - Slim yet functional design

### Distribute refreshing airflow where needed with a compact, flexible design

Samsung's Ceiling Type indoor unit has 2-way installation options for the ceiling and floor, enabling more efficient use of available space. Users can enjoy crisp, powerful air throughout their entire space from the compact unit in the ceiling or floor.

### Small package, big performance

The Samsung Ceiling Type air conditioner boasts a slim, compact design—half the size of conventional products—with cooling power comparable to larger units.



7.1kW Model

### Choice of installation options

Depending on the available space and the purpose of the air conditioner, the indoor unit can be installed behind the ceiling or on the floor.



# 1. Specification

## Ceiling

Model Name	Indoor Unit			AC052RNCDKG/EU	AC071RNCDKG/EU
	Outdoor Unit			AC052RXADKG/EU	AC071RXADKG/EU
Mode				-	HEAT PUMP
Performance	Capacity (Min/Std/Max)	Cooling	kW	1.20 / 5.00 / 6.50	1.50 / 7.10 / 8.70
			Btu/h	4,100 / 17,060 / 22,180	5,120 / 24,230 / 29,690
		Heating	kW	1.70 / 6.00 / 7.70	1.90 / 8.00 / 9.00
			Btu/h	5,800 / 20,470 / 26,270	6,480 / 27,300 / 30,710
Power	Power Input (Min/Std/Max)	Cooling	kW	0.48 / 1.58 / 1.90	0.35 / 2.87 / 3.60
		Heating	kW	0.43 / 1.92 / 3.05	0.35 / 3.05 / 3.95
	Current Input (Min/Std/Max)	Cooling	A	2.8 / 7.2 / 9.0	2.0 / 12.4 / 16.0
		Heating	A	2.4 / 8.5 / 14.5	2.0 / 13.2 / 17.0
	Current	MCA	A	17.5	17.5
		MFA	A	20.6	20.6
Efficiency	EER	Cooling	-	3.16	2.47
	COP	Heating	-	3.13	2.62
	SEER (Cooling Energy Grade)		-	6.4 (A++)	5.6 (A+)
	SCOP (Heating Energy Grade)		-	3.9 (A)	3.9 (A)
	Pdesignh		kW	2.4	3.5
Piping Connections	Liquid Pipe	Type		Flare connection	Flare connection
		Φ, mm (inch)		6.35 (1/4)	6.35 (1/4)
	Gas Pipe	Type		Flare connection	Flare connection
		Φ, mm (inch)		12.7 (1/2)	15.88 (5/8)
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes
	Piping length (ODU-IDU)	Standard	m	5	5
		Max.	m	30	50
Elevation		m	20	30	
Chargeless		m	10	15	
Wiring connections	Communication	Min.	mm <sup>2</sup>	0.75	0.75
		Remark	-	F1, F2	F1, F2
Refrigerant	Type		-	R32	R32
	Factory Charging	kg	1.2	1.7	
		tCO <sub>2</sub> e	0.81	1.15	

# 1. Specification

## Ceiling

Model Name	Indoor Unit			AC052RNCDKG/EU	AC071RNCDKG/EU
	Outdoor Unit			AC052RXADKG/EU	AC071RXADKG/EU
Power Supply				Ø, #, V, Hz	1,2,220-240,50
Heat Exchanger	Type		-	F&T	F&T
	Material	Fin	-	Al	Al
		Tube	-	Cu	Cu
	Fin Treatment		-	Green Hydrophile	Green Hydrophile
Fan	Type		-	Sirroco	Sirroco
	Quantity		EA	2	2
	Air Flow Rate	Cooling (H/M/L)	m <sup>3</sup> /min	12.6 / 11.3 / 10.0	15.2 / 14.1 / 13.1
			l/s	210 / 188.3 / 166.6	253.3 / 235 / 218.3
		Heating (H/M/L)	m <sup>3</sup> /min	12.6 / 11.3 / 10.0	15.2 / 14.1 / 13.1
l/s			210 / 188.3 / 166.6	253.3 / 235 / 218.3	
Fan Motor	Type		-	BLDC	BLDC
	Output		W x n	40	40
Drain	Drain Pipe		Φ, mm	ID18mm Hose	ID18mm Hose
Sound	Sound Pressure Level	High/Mid/Low/(Silent)	dB(A)	41 / 39 / 36	46 / 44 / 42
	Sound Power Level		dB(A)	60	64
External Dimension	Net Weight		kg	20.0	20.0
	Shipping Weight		kg	25.0	25.0
	Net Dimensions (WxHxD)		mm	1,000 x 200 x 650	1,000 x 200 x 650
	Shipping Dimensions (WxHxD)		mm	1,074 x 294 x 726	1,074 x 294 x 726
Casing	Material		-	ABS	ABS
Control System	Infrared remote control		-	AR-EH03E (Included)	AR-EH03E (Included)
	Wired remote control		-	MWR-WE13N MWR-WG00*N	MWR-WE13N MWR-WG00*N
Drain Pump	Drain Pump		-	-	-
	Max. lifting Height / Displacement		mm / Liter / h	-	-
Additional Accessories	Drain Pump	External Model	-	-	-
		Internal Model	-	-	-
	Max. lifting Height / Displacement		mm / Liter / h	-	-
	Air Filter		-	Removable / Washable	Removable / Washable
Virus Doctor		-	-	-	

# 1. Specification

## Ceiling

Outdoor Unit	Model Name		Indoor Unit	AC052RNCDKG/EU	AC071RNCDKG/EU	
			Outdoor Unit	AC052RXADKG/EU	AC071RXADKG/EU	
	Power Supply			Ø, #, V, Hz	1, 2, 220-240, 50	1, 2, 220-240, 50
	Heat Exchanger	Type		-	Fin & Tube	Fin & Tube
		Material	Fin	-	Al	Al
			Tube	-	Cu	Cu
		Fin Treatment		-	Anti-Corrosion	Anti-Corrosion
	Compressor	Model Name		-	UB9TK3150FE4	UB4TN8200FE4
		Type		-	Twin BLDC	Twin BLDC
		Output		kW	1.51	1.89
		Oil	Type	-	POE	POE
	Initial charge		cc	600	650	
	Fan	Type		-	Propeller	Propeller
		Discharge direction		-	Front	Front
		Quantity		EA	1	1
		Air Flow Rate			m <sup>3</sup> /min	40
			l/s	667	850	
	Fan Motor	Type		-	BLDC Motor	BLDC Motor
		Output		W x n	125 x 1	125 x 1
	Sound	Sound Pressure Level	Cooling	dB(A)	48	49
			Heating	dB(A)	48	51
		Sound Power Level		dB(A)	62	65
	External Dimension	Net Weight		kg	43.0	51.0
		Shipping Weight		kg	46.5	55.0
		Net Dimensions (WxHxD)		mm	880 x 638 x 310	880 x 798 x 310
		Shipping Dimensions (WxHxD)		mm	1,023 x 742 x 413	1,023 x 896 x 413
	Casing	Material	Body	-	EGI Steel Plate	EGI Steel Plate
Operating Temp. Range		°C	-15 ~ 50	-15 ~ 50		
			°C	-20 ~ 24	-20 ~ 24	

### NOTE

- Specification may be subject to change without prior notice.
- 1) Performances are based on the following test conditions.
  - Cooling : Indoor temperature 27°C DB, 19°C WB, Outdoor temperature 35°C DB, 24°C WB
  - Heating : Indoor temperature 20°C DB, 15°C WB, Outdoor temperature 7°C DB, 6°C WB
  - Equivalent refrigerant pipe length 5m, Level differences 0m
- 2) Select wire size based on the value of MCA
- 3) 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.
  - dBA = A-weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20uPa
- 4) 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
- 5) These products contain R32(GWP=675) which is fluorinated greenhouse gas.
- 6) 'MWR-WG00\*N' is new wired remote control type(Graphic).  
If you need the latest control system information, please refer to SAC control TDB.

## 2. Summary Table

### Ceiling

#### Performance Characteristics

Model Code	Net Weight (kg)	Capacity			Fan Speed	Airflow (Cooling/Heating) (CMM)	Sound Pressure Level (dBA)	Sound Power Level (dBA)
			Cooling (kW)	Heating (kW)				
AC052RNCDKG/EU	20.0	Max.	6.50	7.70	High	12.6	41	60
		Std.	5.00	6.00	Mid	11.3	39	
		Min.	1.20	1.70	Low	10.0	36	
AC071RNCDKG/EU	20.0	Max.	8.70	9.00	High	15.2	46	64
		Std.	7.10	8.00	Mid	14.1	44	
		Min.	1.50	1.90	Low	13.1	42	

#### NOTE

- Sound data is based on cooling operation.

#### Electric Characteristics

Model		Outdoor Unit				Input Current (Amperes)				Power Supply	
Indoor Unit	Outdoor Unit	Rated Hz	Voltage range			Outdoor Unit		Indoor Unit	Total	MCA(A)	MFA(A)
			Volts	Min.	Max.	Cooling	Heating				
AC052RNCDKG/EU	AC052RXADKG/EU	50	220 to 240	198	264	16.5	16.5	1.0	17.5	17.5	20.6
AC071RNCDKG/EU	AC071RXADKG/EU	50	220 to 240	198	264	16.5	16.5	1.0	17.5	17.5	20.6

#### NOTE

- MCA : Minimum circuit amperes
- MFA : Maximum fuse amperes
- Select wire size based on the value of MCA

# 3. Capacity Table

## Ceiling

### (1) AC052RNCDKG/EU+AC052RXADKG/EU

## Cooling

TC : Total Capacity, SHC : Sensible Heat Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	4.9	3.6	1.13	5.1	3.7	1.15	5.3	3.8	1.18	5.5	4.0	1.20	5.6	3.9	1.21	5.9	3.9	1.22	6.2	3.8	1.25
21	4.6	3.4	1.19	4.9	3.6	1.21	5.1	3.7	1.24	5.3	3.8	1.26	5.4	3.7	1.28	5.6	3.7	1.29	5.9	3.6	1.32
35	4.4	3.3	1.49	4.7	3.4	1.52	4.9	3.5	1.55	5.0	3.6	1.58	5.1	3.6	1.60	5.4	3.5	1.61	5.6	3.5	1.64
46	3.8	3.1	1.34	4.0	3.2	1.37	4.1	3.3	1.39	4.3	3.4	1.42	4.3	3.3	1.44	4.6	3.3	1.45	4.8	3.2	1.48
50	2.9	2.4	1.19	3.0	2.5	1.21	3.2	2.6	1.24	3.3	2.7	1.26	3.3	2.6	1.28	3.5	2.6	1.29	3.7	2.6	1.32

## Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	4.2	2.55	4.2	2.52	4.1	2.50	4.1	2.47	4.1	2.45	4.0	2.42
-15	5.3	2.94	5.3	2.91	5.2	2.88	5.2	2.85	5.1	2.82	5.1	2.79
-5	6.0	2.74	5.9	2.71	5.9	2.69	5.8	2.66	5.8	2.63	5.7	2.61
0	6.2	2.35	6.2	2.33	6.1	2.30	6.1	2.28	6.0	2.26	5.9	2.24
7	6.1	1.96	6.1	1.94	6.0	1.92	5.9	1.90	5.9	1.88	5.8	1.86
24	8.0	2.25	7.9	2.23	7.8	2.21	7.7	2.19	7.6	2.16	7.6	2.14

### NOTE

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

# 3. Capacity Table

## Ceiling

### (2) AC071RNCDKG/EU+AC071RXADKG/EU

#### Cooling

TC : Total Capacity, SHC : Sensible Heat Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	6.9	4.9	2.05	7.3	5.1	2.09	7.6	5.2	2.14	7.8	5.4	2.18	8.0	5.3	2.20	8.4	5.3	2.22	8.8	5.2	2.27
21	6.6	4.7	2.16	6.9	4.8	2.21	7.2	5.0	2.25	7.5	5.1	2.30	7.6	5.1	2.32	8.0	5.0	2.34	8.4	4.9	2.39
35	6.3	4.5	2.70	6.6	4.6	2.76	6.9	4.8	2.81	7.1	4.9	2.87	7.2	4.9	2.90	7.6	4.8	2.93	8.0	4.7	2.99
46	5.3	4.4	2.43	5.6	4.5	2.48	5.9	4.6	2.53	6.0	4.8	2.58	6.2	4.7	2.61	6.5	4.7	2.63	6.8	4.6	2.69
50	4.1	3.5	2.16	4.3	3.6	2.21	4.5	3.7	2.25	4.6	3.8	2.30	4.7	3.8	2.32	4.9	3.8	2.34	5.2	3.7	2.39

#### Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	5.6	4.04	5.6	4.00	5.5	3.97	5.5	3.93	5.4	3.89	5.4	3.85
-15	7.1	4.67	7.0	4.62	7.0	4.58	6.9	4.53	6.8	4.48	6.8	4.44
-5	8.0	4.36	7.9	4.31	7.8	4.27	7.8	4.23	7.7	4.19	7.6	4.14
0	8.3	3.73	8.2	3.70	8.2	3.66	8.1	3.62	8.0	3.59	7.9	3.55
7	8.2	3.11	8.1	3.08	8.0	3.05	7.9	3.02	7.8	2.99	7.8	2.96
24	10.6	3.58	10.5	3.54	10.4	3.51	10.3	3.47	10.2	3.44	10.1	3.40

#### NOTE

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

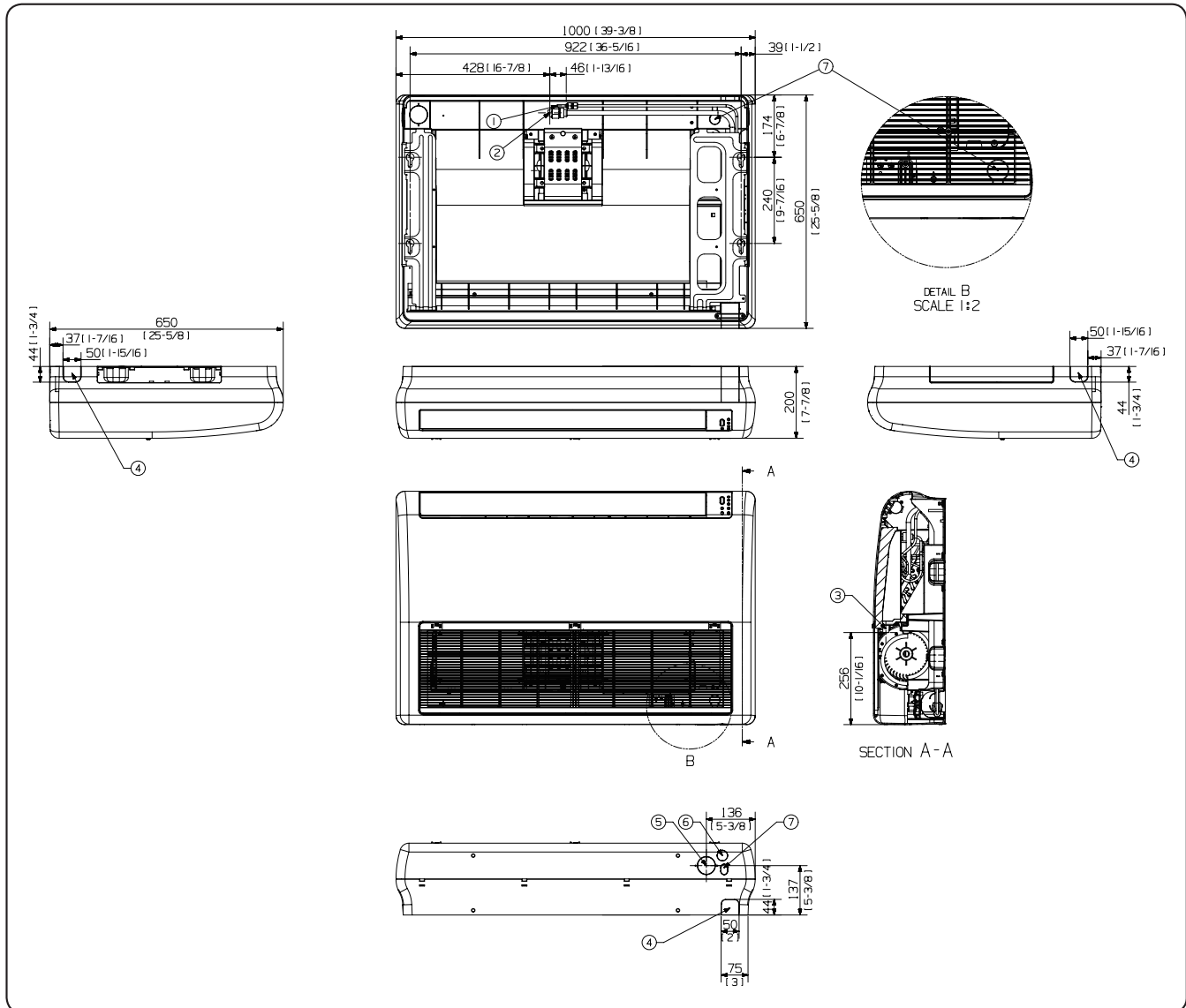


# 4. Dimensional Drawing

## Ceiling

AC052/071RNCDKG/EU

Units : mm [inches]



No.	Name	Description	
		AC052RNCDKG/EU	AC071RNCDKG/EU
1	Liquid pipe connection		Φ6.35(1/4)
2	Gas pipe connection	Φ12.7(1/2)	Φ15.88(5/8)
3	Drain pipe connection	ID18mm [11/16inch] Hose	
4	Knockout hole for piping		
6	Knockout hole for Fresh air intake	Φ50 [2]	
7	Knockout hole for drain hose		
8	Knockout hole for wiring		

### NOTE

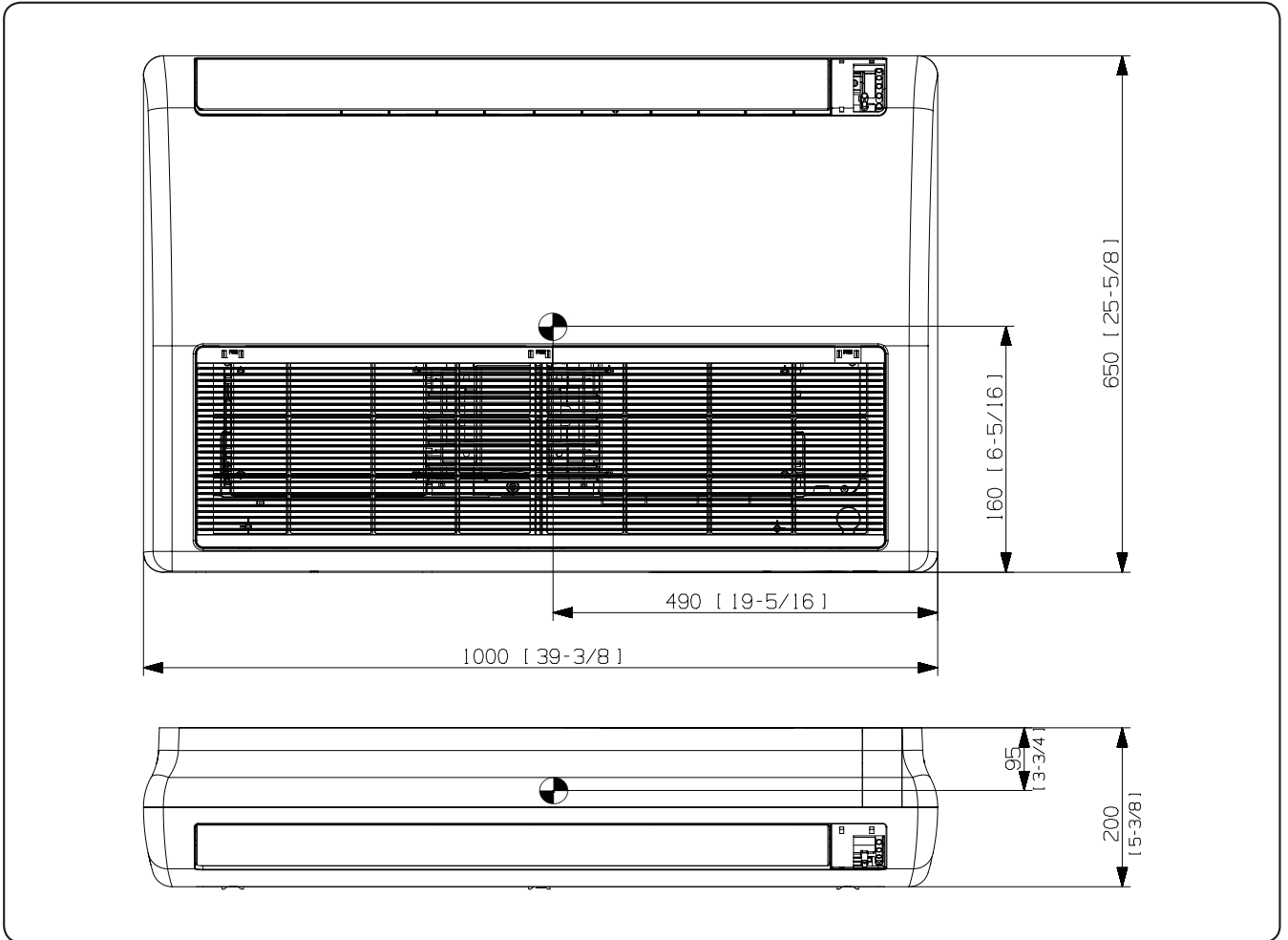
- As for suspension bolt, please use M8 ~ M10.  
(Procured at local site)

# 5. Center of Gravity

## Ceiling

AC052/071RNCDKG/EU

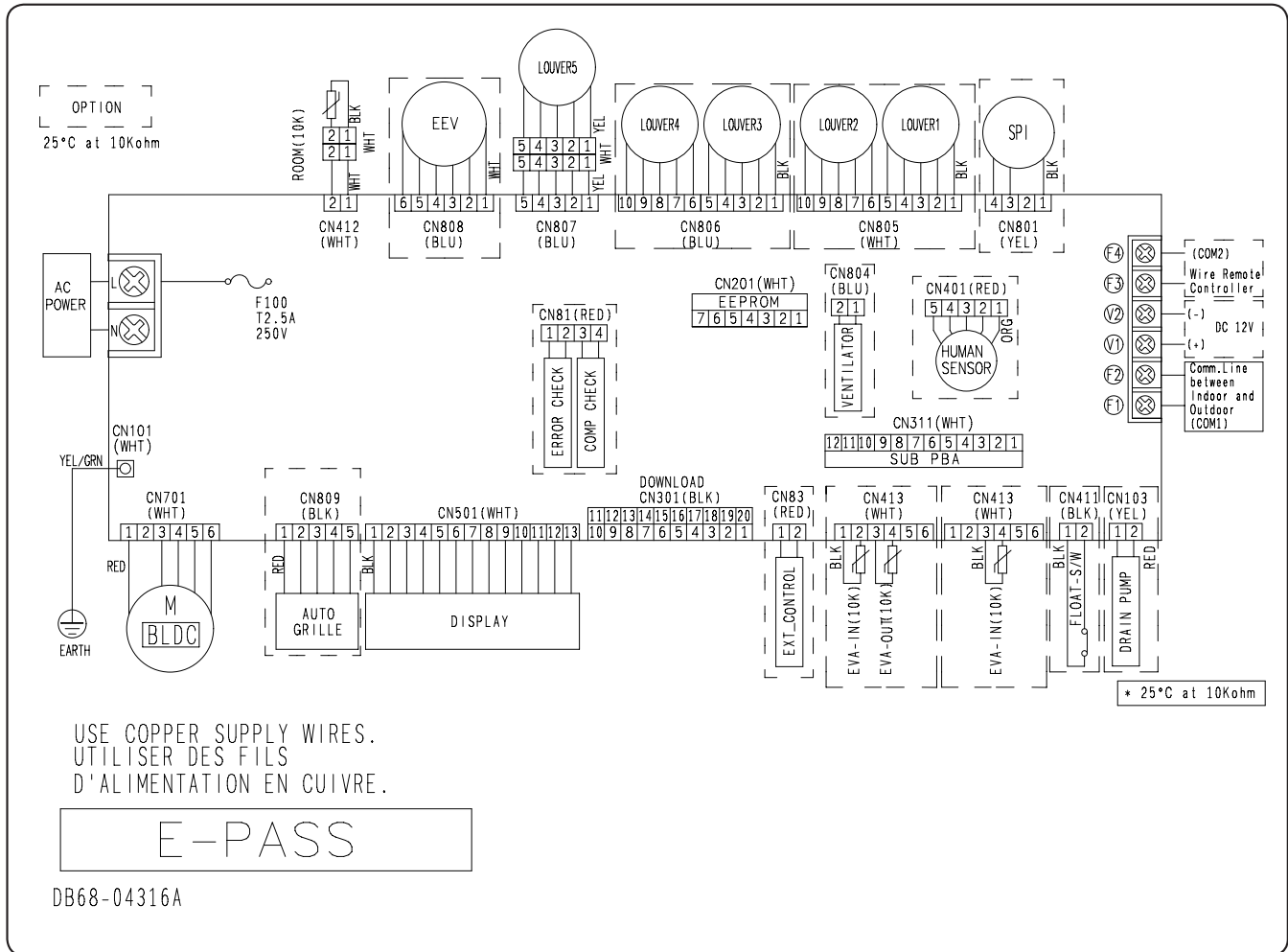
Units : mm [inches]



# 6. Electrical Wiring Diagram

## Ceiling

AC052/071RNCDKG/EU



SPI	S-Plasma ion	EEV	Electronic Expansion Valve	ROOM	Thermistor ROOM in (10K)
FLOAT S/W	Switch of the float of Drain	EVA-IN	Thermistor EVA IN(10K)	EVA-OUT	Thermistor EVA OUT(10K)

### NOTE

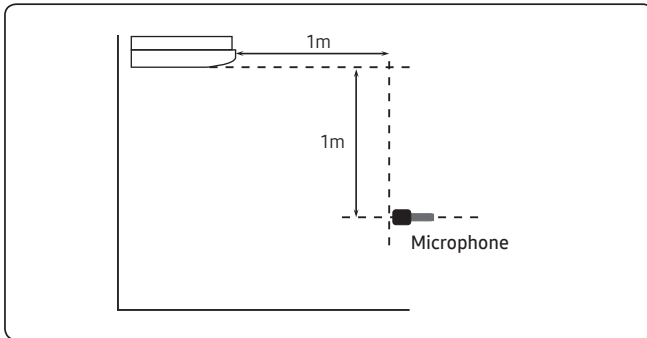
- This wiring diagram applies only to the Indoor unit.
- Symbols show as follow :  
blk: black, red: red, blu: blue, wht: white, yel: yellow, brn: brown, sky: skyblue: grn: green
- For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remote controller transmission F3-F4.
- Protective earth(screw)

# 7. Sound Data

## Ceiling

### Sound Pressure level

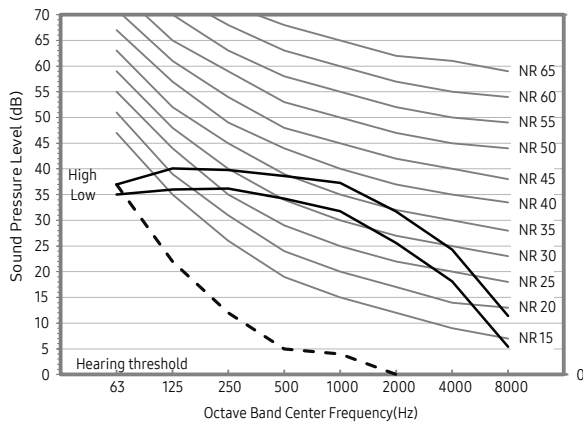
Unit: dB(A)



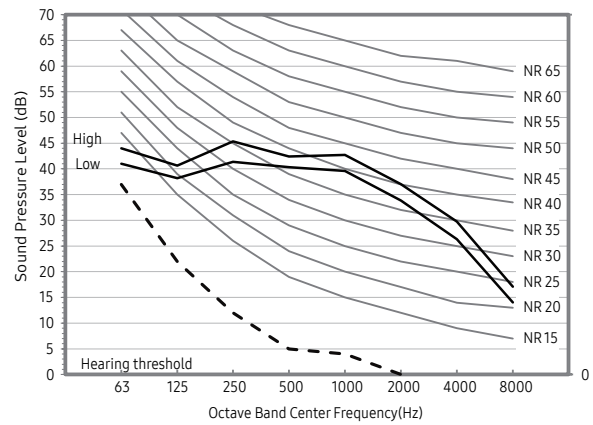
Model	HIGH	MID	LOW
AC052RNCDKG/EU	41	39	36
AC071RNCDKG/EU	46	44	42

- NR Curve

1) AC052RNCDKG/EU



2) AC071RNCDKG/EU



**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

# 7. Sound Data

## Ceiling

### Sound Power level

**NOTE**

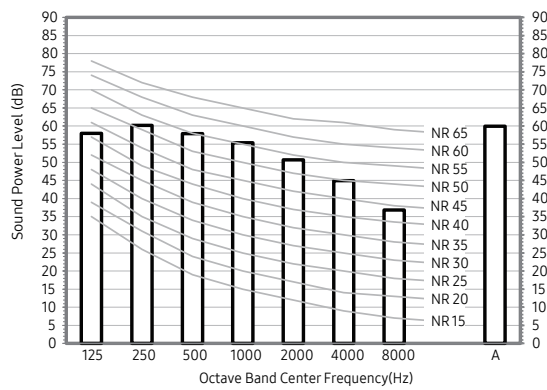
Unit: dB(A)

- 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.

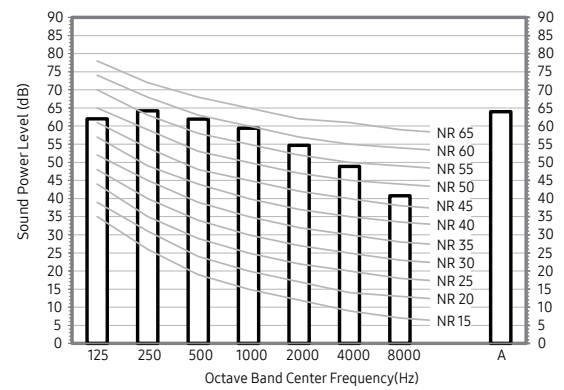
Model	Power
AC052RNCDKG/EU	41
AC071RNCDKG/EU	46

• NR Curve

1) AC052RNCDKG/EU



2) AC071RNCDKG/EU



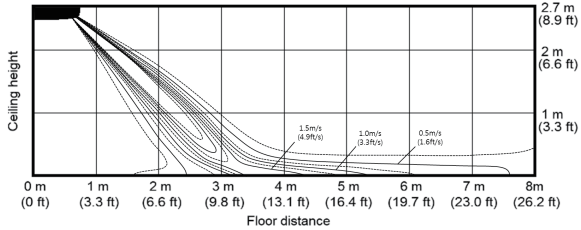
# 8. Temperature and air flow distribution

## Ceiling (Ceiling Installation)

### AC052RNCDKG/EU

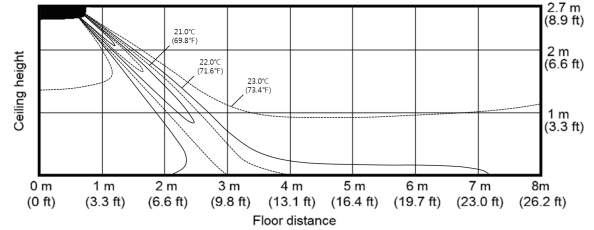
- Cooling Air Velocity distribution

(Discharge angle : 50 degree)



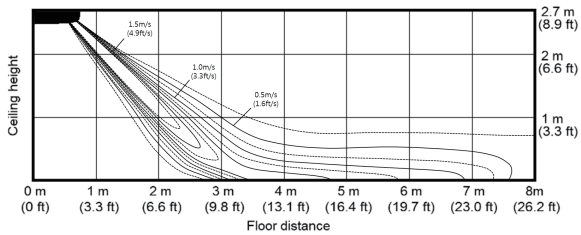
- Cooling temperature distribution

(Discharge angle : 50 degree)



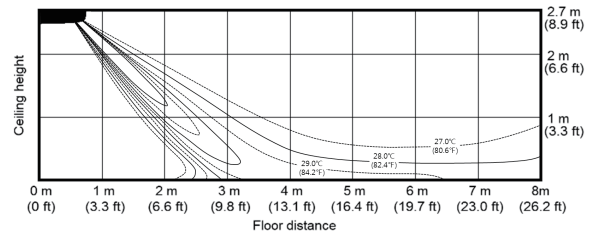
- Heating Air Velocity distribution

(Discharge angle : 40 degree)



- Heating temperature distribution

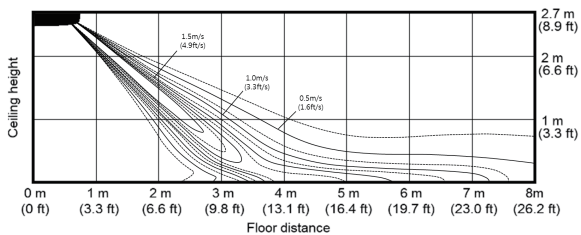
(Discharge angle : 40 degree)



### AC071RNCDKG/EU

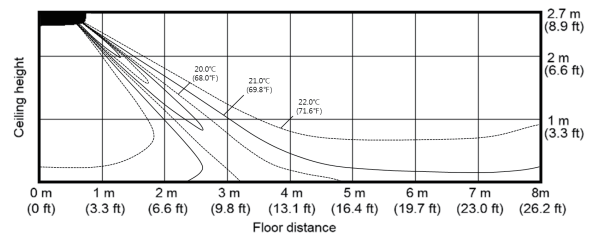
- Cooling Air Velocity distribution

(Discharge angle : 50 degree)



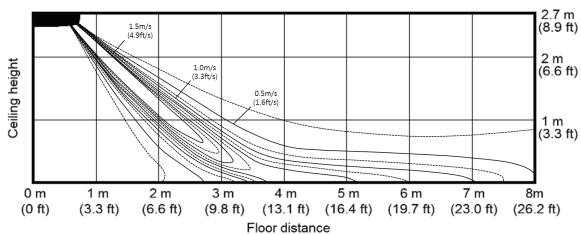
- Cooling temperature distribution

(Discharge angle : 50 degree)



- Heating Air Velocity distribution

(Discharge angle : 40 degree)



- Heating temperature distribution

(Discharge angle : 40 degree)

