

technical data



RN-DAV3B

Outdoor Units

air conditioning systems

Split Sky Air

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RN-DAV3B

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1 Features

- Outdoor units for pair application
- Daikin outdoor units are neat and sturdy and can be mounted easily on a roof or terrace or simply placed against an outside wall.
- Outdoor units are fitted with a swing compressor, renowned for its low noise and high energy efficiency



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				RN25DV3B	RN35DV3B
For combination indoor units + outdoor units	Indoor Units			FTN25DV3B	FTN35DV3B
Nominal Capacity	Cooling	Standard	kW	2.5	3.15
Nominal input	Cooling	Standard	kW	0.83	1.200
For combination indoor units + outdoor units	EER	Cooling		3.01	2.63
	Energy Labeling Directive	Cooling		B	D
	Annual energy consumption		kWh	415	600

2-2 TECHNICAL SPECIFICATIONS				RN25DV3B		RN35DV3B	
Casing	Colour			Ivory White			
Dimensions	Unit	Height	mm	560		560	
		Width	mm	695		695	
		Depth	mm	265		265	
	Packing	Height	mm	607		607	
		Width	mm	824		824	
		Depth	mm	337		337	
Weight	Unit		kg	31		36	
	Packed Unit		kg	35		40	
Heat Exchanger	Dimensions	Length	mm	608		608	
		Nr of Rows		2		2	
		Fin Pitch	mm	1.41		1.41	
		Nr of Stages		24		24	
	Fin	Type		Colgate fin			
Fan	Type		Propeller				
	Air Flow Rate (nominal at 230V)	Cooling	m³/min	28.0		28.0	
	Motor	Model		WF-220-23-6-1			
Motor	Speed (nominal)	Cooling	rpm	695		680	
Fan	Motor	Output	W	23		23	
Compressor	Motor	Model		5PS112DAH21		5KS150DBK21	
		Type		Hermetically sealed rotary compressor			
		Motor Output	W	750		1100	
Operation Range	Cooling	Min	° CDB	15.0		15.0	
		Max	° CDB	46.0		46.0	
Sound Level (nominal)	Cooling	Sound Power	dBA	62.0		63.0	
		Sound Pressure	dBA	47.0		48.0	
Refrigerant	Type		R-410A				
	Charge		kg	0.9		1.00	
Refrigerant Oil	Type		FV50S				
	Charged Volume		l	0.4		0.43	
Piping connections	Liquid (OD)	Diameter (OD)	mm	6.35		6.35	
	Gas	Diameter (OD)	mm	9.5		9.5	
	Drain	Diameter (OD)	mm	18		18	
	Piping Length	Maximum	m	15		15	
	Max. internunit level difference		m	10.0		10.0	
	Heat Insulation			Both liquid and gas pipes			

2 Specifications

2-2 TECHNICAL SPECIFICATIONS			RN25DV3B	RN35DV3B
Notes			Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.	
			Sound levels are measured in an anechoic room	
			Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to sound level drawings of this chapter.	
			The sound power level is an absolute value indicating the power which a sound source generates.	

2-3 ELECTRICAL SPECIFICATIONS				RN25DV3B		RN35DV3B	
Power Supply	Name			V3			
	Phase			1		1	
	Frequency		Hz	50		50	
	Voltage		V	230		230	
	Voltage range	Minimum	V	-10%			
		Maximum	V	+10%			
Current	Nominal running current (RLA)	Cooling (A)	A	3.81		5.21	
	Starting current (cooling/ heating)		A	18.6		23.1	
Wiring connections	For Power Supply	Quantity		3		3	
	For connection with indoor	Quantity		5		5	
		Remark		incuded earth wiring + 1 thermistor		included earth wiring + 1 thermistor	
Power Supply Intake				Outdoor unit only			

3 Electrical data

RN-D

Representative unit combination		Power supply				Compressor		OFM		IFM	
Indoor unit	Outdoor unit	Hz-Volts	Voltage range	MCA	MFA	RHz	RLA	W	FLA	W	FLA
ATY20DV2	ARY20DV2	50 – 220	Max. 50Hz 242V Min. 50Hz 198V	4.4	16	14	3.16	23	0.27	18	0.21
ATY25DV2	ARY25DV2			4.9	16	16	3.56	23	0.27	18	0.21
ATY35DV2	ARY35DV2			6.9	16	23	5.10	23	0.27	18	0.21
FTYN25DV3B	RYN25DV3B	50 – 230	Max. 50Hz 253V Min. 50Hz 207V	4.9	16	19	3.56	23	0.27	18	0.21
FTYN25DAV3B	RYN25DAV3B										
FTN25DV3B	RN25DV3B			6.9	16	23	5.10	23	0.27	18	0.21
FTN25DAV3B	RN25DAV3B										
FTYN35DV3B	RYN35DV3B										
FTYN35DAV3B	RYN35DAV3B										
FTN35DV3B	RN35DV3B										
FTN35DAV3B	RN35DAV3B										

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SYMBOLS

MCA : Min. Circuit Amps (A)
 MFA : Max. Fuse Amps (A)
 LRA : Locked Rotor Amps (A)
 RLA : Rated Load Amps (A)
 OFM : Outdoor Fan Motor
 IFM : Indoor Fan Motor
 FLA : Full Load Amps (A)
 W : Rated motor output (W)

NOTES

1. RLA is based on the following conditions:
Indoor temp.: 27°CDB/19.0°CWB
Outdoor temp. : 35°CDB
2. Voltage range
Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed operation range limits
3. Maximum allowable voltage variation between phases is 2%
4. Instead of fuse, use circuit breaker.
5. MCA/MFA
 $MCA = 1.25 \times RLA + ea.$ FLA
 $MFA \leq 2.25 \times RLA + ea.$ FLA
6. For more details concerning conditional connections, see <http://extranet.daikin-europe.com>, select "E-Data Books". Finally, click on the document title of your choice.

4 Capacity tables

4 - 1 Cooling capacity tables

RN25D

AFR	7.5
BF	0.30

Cooling capacity

230V [50Hz]

Indoor		Outdoor temperature (°C)																							
EWB	EDB	20			25			30			32			35			40			46					
(°C)	(°C)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI			
14	20	2.56	1.76	0.48	2.41	1.69	0.58	2.26	1.62	0.67	2.20	1.60	0.71	2.11	1.55	0.77	1.96	1.43	0.86	1.78	1.40	0.97			
16	22	2.72	1.80	0.51	2.57	1.73	0.60	2.42	1.66	0.70	2.36	1.63	0.73	2.27	1.59	0.79	2.12	1.52	0.89	1.94	1.43	1.00			
18	25	2.87	1.83	0.53	2.72	1.76	0.63	2.57	1.69	0.72	2.51	1.66	0.76	2.42	1.62	0.82	2.27	1.55	0.91	2.09	1.47	1.03			
19	27	2.95	1.85	0.55	2.80	1.78	0.64	2.65	1.71	0.74	2.59	1.68	0.77	2.50	1.64	0.83	2.35	1.57	0.93	2.17	1.48	1.04			
22	30	3.18	1.90	0.58	3.03	1.83	0.68	2.88	1.76	0.77	2.82	1.73	0.81	2.73	1.69	0.87	2.58	1.62	0.96	2.40	1.54	1.08			
24	32	3.34	1.93	0.61	3.19	1.86	0.71	3.04	1.79	0.80	2.98	1.77	0.84	2.89	1.72	0.90	2.74	1.65	0.99	2.56	1.57	1.10			

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SYMBOLS

AFR:	Air flow rate	(m ³ /min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°C)
EDB:	Entering dry bulb temp.	(°C)
TC:	Total capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input	(kW)

NOTES

- Ratings shown are net capacities which include a deduction for indoor fan motor heat
- shows nominal (rated) capacities and power input.
- TC, PI and SHC must be calculated by interpolation using the figures in the above tables.
(Figures out of the tables should not be used for calculation.)
- SHC is based on each EWB and EDB
SHC* = SHC correction for other dry bulb
SHC* = 0.02 * AFR (m³/min) * (1-BF) * (DB*-EDB)
Add SHC* to SHC.
- Capacities are based on following conditions:
Corresponding refrigerant piping length: 7.5 m
Level difference: 0 m
- Air flow rate (AFR) and Bypass factor (BF) are tabulated above.

4 Capacity tables

4 - 1 Cooling capacity tables

RN35D																						
Cooling capacity																						
230V [50Hz]																						
Indoor		Outdoor temperature (°C)																				
EWB	EDB	20			25			30			32			35			40			46		
(°C)	(°C)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	3.21	2.11	0.85	3.06	2.04	0.95	2.91	1.97	1.04	2.85	1.94	1.08	2.76	1.90	1.14	2.61	1.83	1.23	2.43	1.75	1.34
16	22	3.37	2.14	0.89	3.22	2.07	0.97	3.07	2.00	1.07	3.01	1.98	1.10	2.92	1.93	1.16	2.77	1.86	1.26	2.59	1.78	1.37
18	25	3.52	2.18	0.90	3.37	2.11	1.00	3.22	2.04	1.09	3.16	2.01	1.13	3.07	1.97	1.19	2.92	1.90	1.28	2.74	1.81	1.40
19	27	3.60	2.19	0.92	3.45	2.12	1.01	3.30	2.05	1.11	3.24	2.03	1.14	3.15	1.98	1.20	3.00	1.91	1.30	2.82	1.83	1.41
22	30	3.83	2.25	0.95	3.68	2.18	1.05	3.53	2.11	1.14	3.47	2.08	1.18	3.38	2.04	1.24	3.23	1.97	1.33	3.05	1.88	1.45
24	32	3.99	2.28	0.98	3.84	2.21	1.08	3.69	2.14	1.17	3.63	2.11	1.21	3.54	2.07	1.27	3.39	2.00	1.36	3.21	1.92	1.47

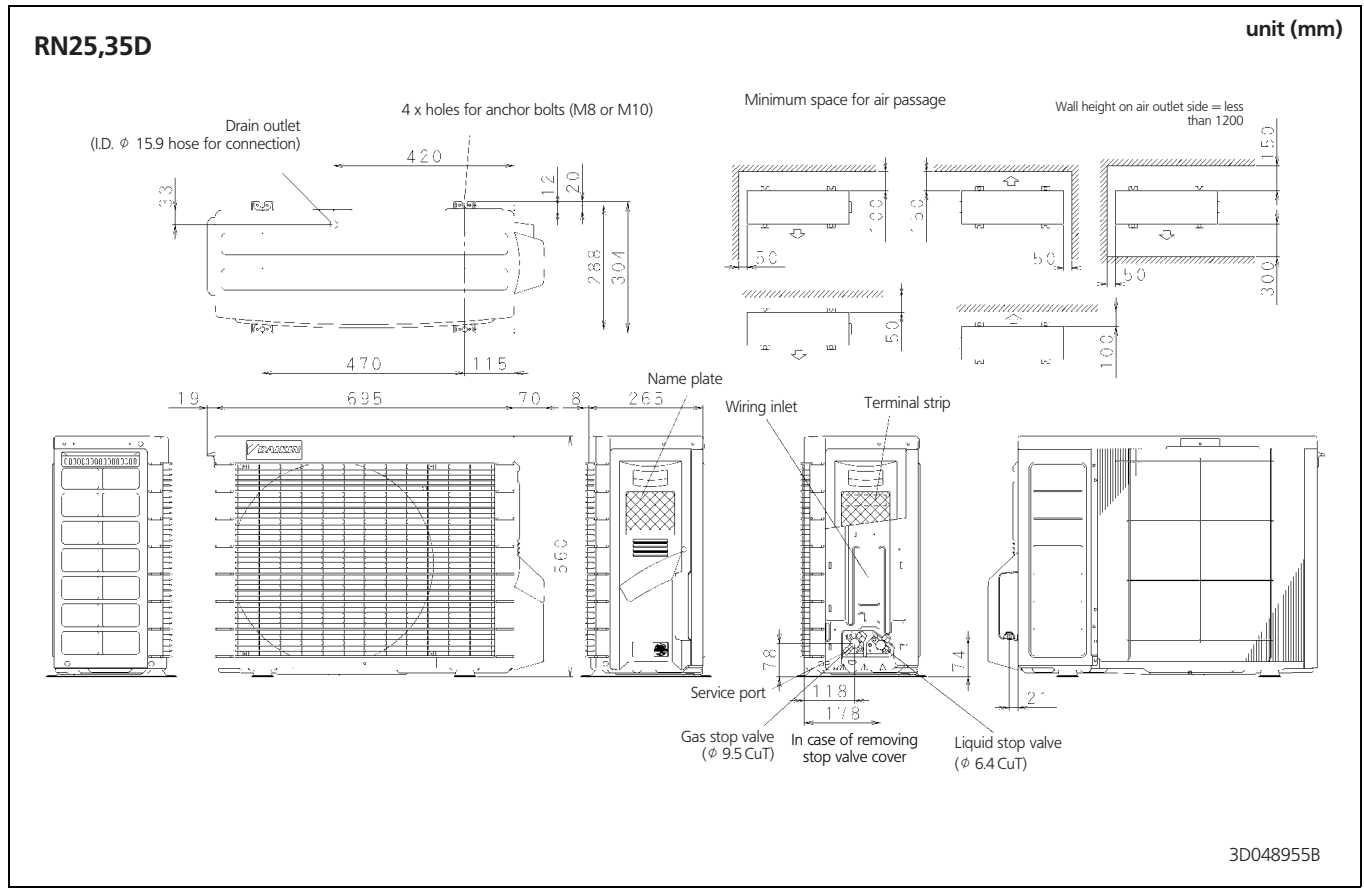
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SYMBOLS		
AFR:	Air flow rate	(m ³ /min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°C)
EDB:	Entering dry bulb temp.	(°C)
TC:	Total capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input	(kW)

NOTES	
1.	Ratings shown are net capacities which include a deduction for indoor fan motor heat
2.	shows nominal (rated) capacities and power input.
3.	TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures out of the tables should not be used for calculation.)
4.	SHC is based on each EWB and EDB SHC* = SHC correction for other dry bulb SHC* = 0.02 * AFR (m ³ /min) * (1-BF) * (DB*-EDB) Add SHC* to SHC.
5.	Capacities are based on following conditions: Corresponding refrigerant piping length: 7.5 m Level difference: 0 m
6.	Air flow rate (AFR) and Bypass factor (BF) are tabulated above.

5 Dimensional drawing & centre of gravity

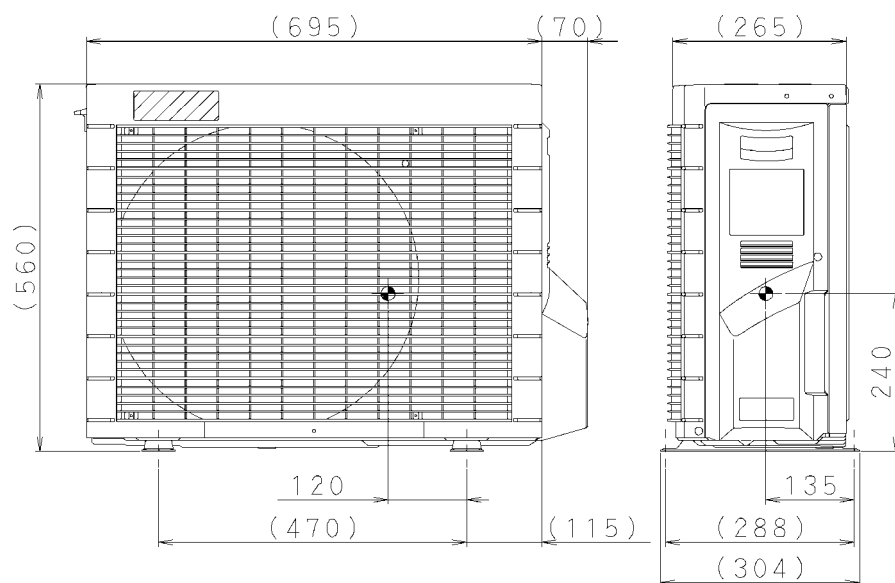
5 - 1 Dimensional drawing



5 Dimensional drawing & centre of gravity

5 - 2 Centre of gravity

RN25,35D

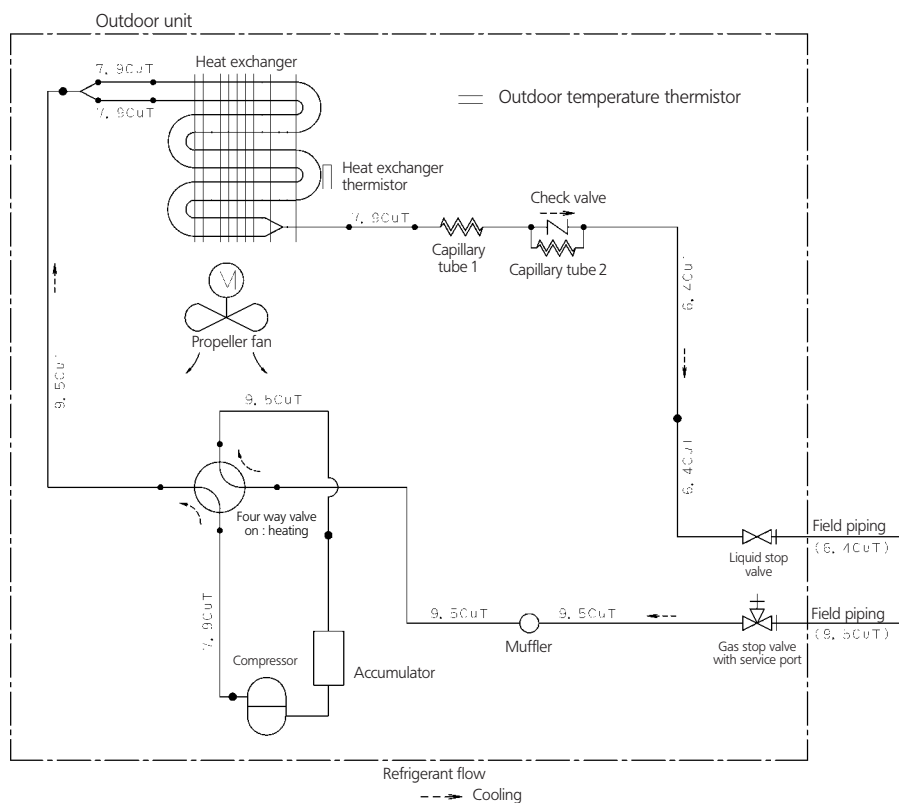


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6 Piping diagram

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RN25,35D

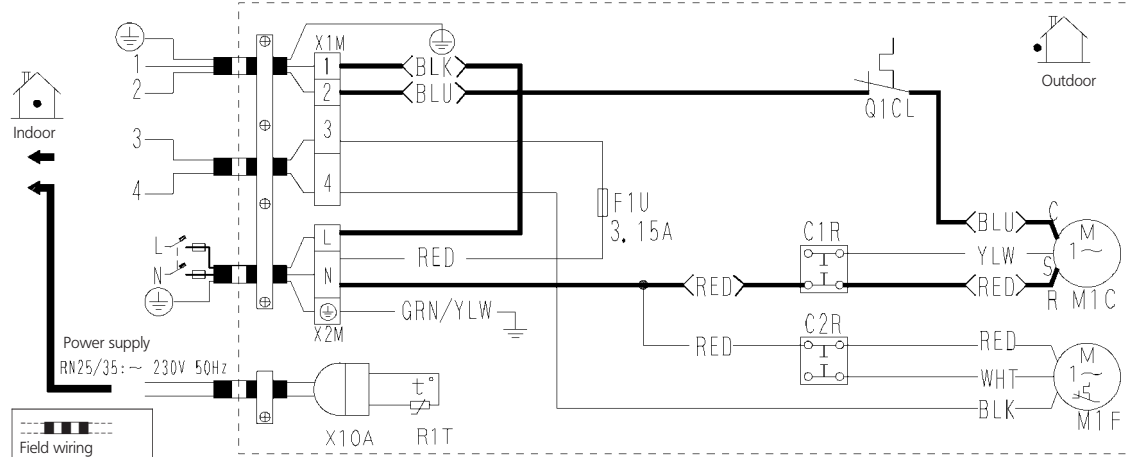


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7 Wiring diagram

7 - 1 Wiring diagram

RN25,35D



NOTE

1. Refer to the name plate for the power requirements.

- ⊕ : Protective earth
- X1M, X2M : Terminal strip
- C1R, C2R : Running capacitor
- FU1 : Fuse
- M1C : Compressor motor
- M1F : Fan motor
- Q1CL : Overload protector
- R1T : Thermistor
- X10A : Connector

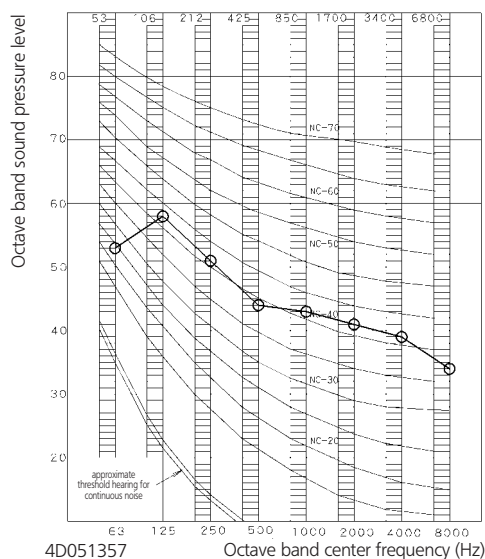
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8 Sound data

8 - 1 Sound pressure spectrum

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RN25D (Cooling)



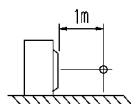
NOTES

- 1 Measure in anechoic room
- 2 Operation noise differs with operation and ambient conditions.
- 3 The operation noise measuring method is in accordance with JISC9612

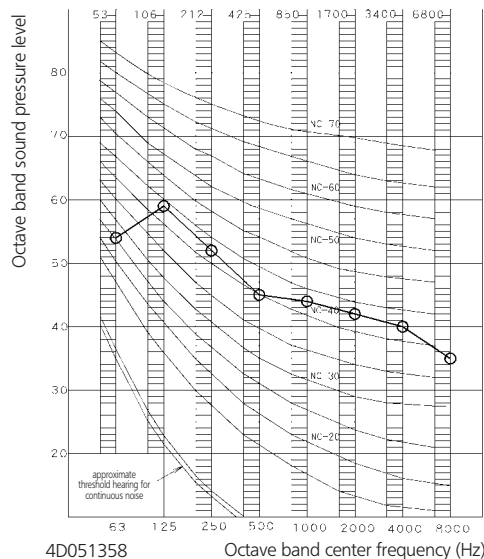
Legend

○—○ 50Hz, 230V (H)

Location of microphone



RN35D (Cooling)



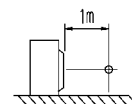
NOTES

- 1 Measure in anechoic room
- 2 Operation noise differs with operation and ambient conditions.
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Legend

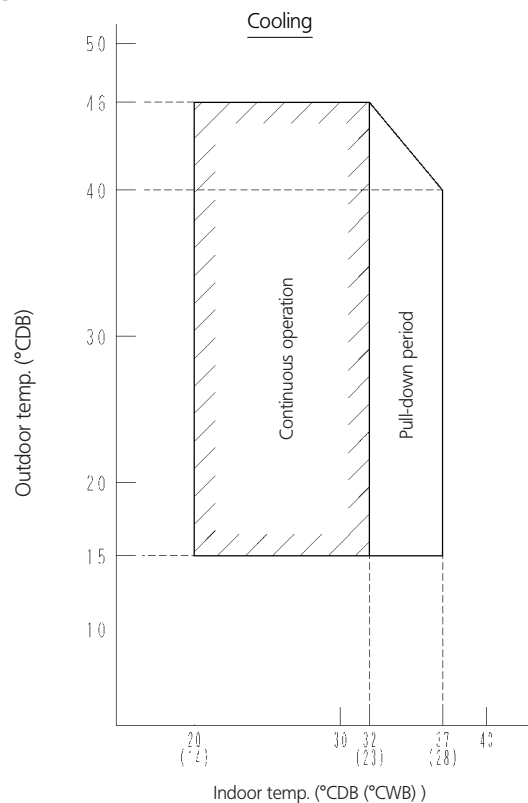
○—○ 50Hz, 230V (H)

Location of microphone



9 Operation range

RN25,35D



Notes:

The graph is based on the following conditions:

- | | |
|-----------------------------|-------|
| 1. Equivalent piping length | 7.5 m |
| 2. Level difference | 0 m |
| 3. Air flow rate | high |

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Split - Sky Air

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