

# TOSHIBA

Leading Innovation >>>

*Super Daiseikai*

*PKVP-E/PAVP-E*

*Engineering  
Data Book*

## Contents

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1. SPECIFICATIONS
2. DIMENSION
3. WIRING DIAGRAM
4. SENSIBLE CAPACITY TABLE
5. PART LOAD PERFORMANCE
6. AIR SPEED DISTRIBUTION
7. SOUND CHARACTERISTICS (NC CURVE)

# Specifications

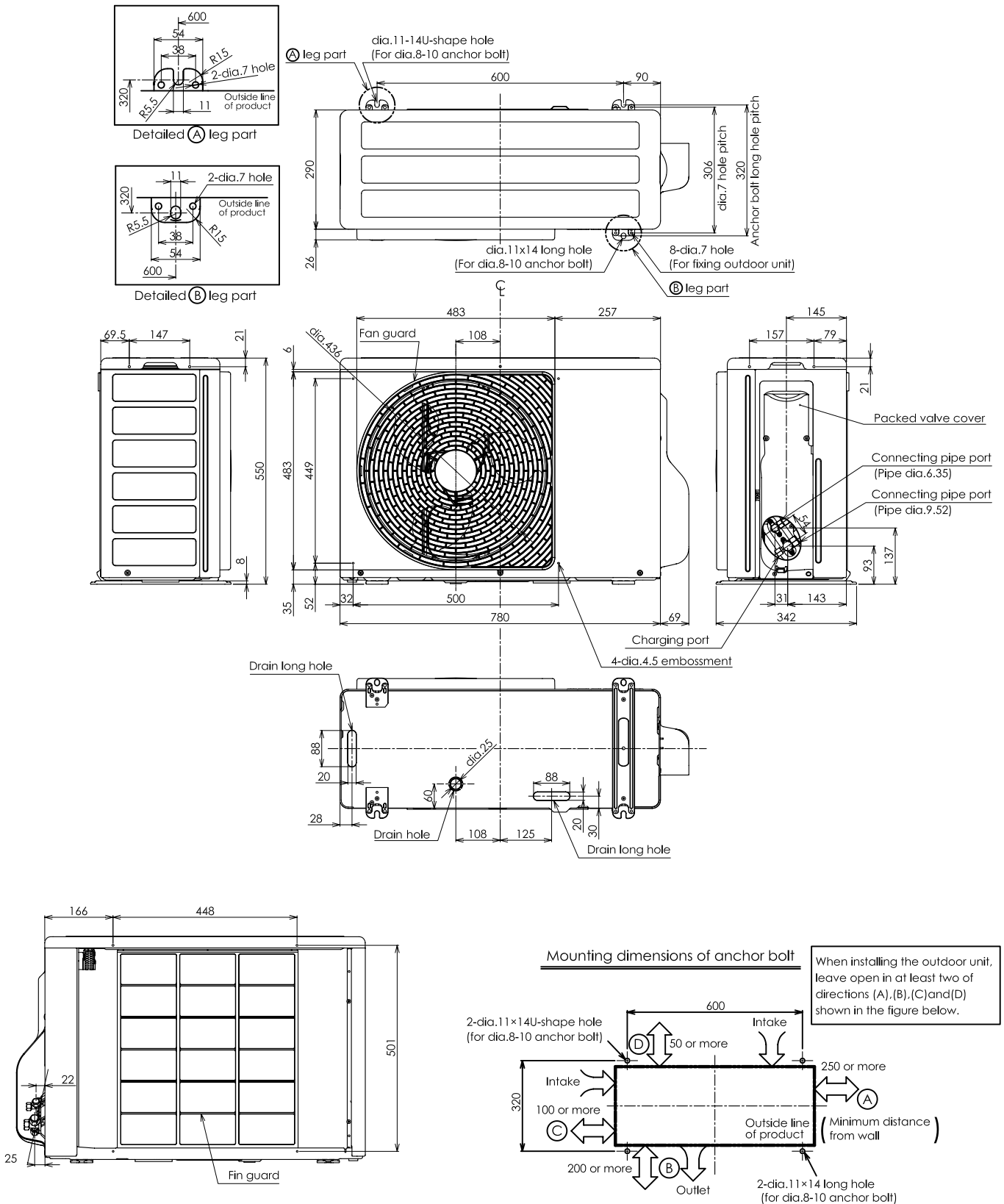
Standard type		Technical specifications Heat Pump				
Model (Indoor Unit)		RAS-07PKVP-E	RAS-10PKVP-E	RAS-13PKVP-E	RAS-16PKVP-E	RAS-18PKVP-E
(Outdoor Unit)		RAS-07PAVP-E	RAS-10PAVP-E	RAS-13PAVP-E	RAS-16PAVP-E	RAS-18PAVP-E
Power Supply (V/ph/Hz)		220-240/1/50, 220-230/1/60	220-240/1/50, 220-230/1/60	220-240/1/50, 220-230/1/60	220-240/1/50, 220-230/1/60	220-240/1/50, 220-230/1/60
Electrical characteristics		Cooling	Cooling	Cooling	Cooling	Cooling
Capacity (kW)		2.0	2.5	3.5	4.5	5.0
Capacity range (min. - max.) (kW)		0.3 - 3.0	0.3 - 3.5	0.3 - 4.5	0.3 - 5.0	0.3 - 5.5
Rated current (220V / 230 V / 240V) (A)		2.07 / 1.98 / 1.89	2.40 / 2.30 / 2.20	3.68 / 3.52 / 3.37	5.81 / 5.56 / 5.33	6.98 / 6.68 / 6.40
Power input (kW)		0.355	0.475	0.77	1.22	1.49
Power input (min. - max.) (kW)		0.07 - 0.68	0.07 - 0.88	0.07 - 1.25	0.07 - 1.49	0.07 - 1.75
Power factor (%)		78	90	95	96	97
EER		5.63	5.26	4.55	3.69	3.36
Energy efficiency class		A	A	A	A	A
		Heating	Heating	Heating	Heating	Heating
Capacity (kW)		2.5	3.0	4.0	5.5	6.0
Capacity range (kW)		0.3 - 5.0	0.3 - 5.8	0.3 - 6.1	0.3 - 6.5	0.3 - 6.7
Rated current (220V / 230 V / 240V) (A)		2.56 / 2.45 / 2.34	2.77 / 2.65 / 2.54	4.01 / 3.84 / 3.68	6.24 / 5.97 / 5.72	7.16 / 6.85 / 6.57
Power input (kW)		0.44	0.56	0.84	1.34	1.54
Power input (min. - max.) (kW)		0.07 - 1.30	0.07 - 1.60	0.07 - 1.60	0.07 - 1.70	0.07 - 1.75
Power factor (%)		78	92	95	98	98
COP		5.68	5.36	4.76	4.10	3.90
Energy efficiency class		A	A	A	A	A
Maximum current (A)		9.5	9.5	9.5	9.5	9.5
Indoor Unit		RAS-07PKVP-E	RAS-10PKVP-E	RAS-13PKVP-E	RAS-16PKVP-E	RAS-18PKVP-E
Dimension (HxWxD) (mm)		295 x 790 x 242	295 x 790 x 242	295 x 790 x 242	295 x 790 x 242	295 x 790 x 242
Net weight (kg)		12	12	12	12	12
Air Flow (Cooling; H/L) (m3/h)		612 / 288	624 / 306	696 / 318	744 / 372	804 / 408
Air Flow (Cooling; H/L) (l/s)		170 / 80	173 / 85	193 / 88	207 / 103	223 / 113
Air Flow (Heating; H/L) (m3/h)		648 / 348	666 / 348	696 / 348	744 / 384	804 / 420
Air Flow (Heating; H/L) (l/s)		180 / 97	185 / 97	193 / 97	207 / 107	223 / 117
Fan Motor Output (W)		30	30	30	30	30
Sound pressure level (Cooling; H/L) (dB(A))		42 / 26	43 / 27	45 / 27	47 / 30	49 / 31
Sound pressure level (Heating; H/L) (dB(A))		42 / 26	43 / 27	45 / 27	47 / 30	49 / 31
Sound power level (Cooling; H/L) (dB(A))		57 / 41	58 / 42	60 / 42	62 / 45	64 / 46
Sound power level (Heating; H/L) (dB(A))		57 / 41	58 / 42	60 / 42	62 / 45	64 / 46
Outdoor Unit		RAS-07PAVP-E	RAS-10PAVP-E	RAS-13PAVP-E	RAS-16PAVP-E	RAS-18PAVP-E
Dimension (HxWxD) (mm)		550 x 780 x 290	550 x 780 x 290	550 x 780 x 290	550 x 780 x 290	550 x 780 x 290
Net weight (kg)		39	39	40	40	40
Fan Motor Output (W)		43	43	43	43	43
Compressor Output (W)		750	750	750	750	750
Compressor type		Twin rotary	Twin rotary	Twin rotary	Twin rotary	Twin rotary
Sound pressure level (Cooling;H) (dB(A))		46	48	50	50	52
Sound pressure level (Heating; H) (dB(A))		46	48	50	50	52
Sound power level (Cooling;H) (dB(A))		61	63	65	65	67
Sound power level (Heating; H) (dB(A))		61	63	65	65	67
Piping connection						
Pipe size (Liquid - Gas) (mm)		6.35 - 9.52	6.35 - 9.52	6.35 - 9.52	6.35 - 12.7	6.35 - 12.7
Pipe size (Liquid - Gas) (inch)		1/4" - 3/8"	1/4" - 3/8"	1/4" - 3/8"	1/4" - 1/2"	1/4" - 1/2"
Coupler Style		Flare	Flare	Flare	Flare	Flare
Max. Piping Length (m)		20	20	20	20	20
Min. Piping Length (m)		2	2	2	2	2
Chargeless Length (m)		15	15	15	15	15
Max. Piping Height Difference (m)		10	10	10	10	10
Accessories						
Remote control model		WH-H06JE	WH-H06JE	WH-H06JE	WH-H06JE	WH-H06JE
Attached components		Remote control holder	Remote control holder	Remote control holder	Remote control holder	Remote control holder
		Drain nipple	Drain nipple	Drain nipple	Drain nipple	Drain nipple
		Water-proof rubber cap (2 pieces)	Water-proof rubber cap (2 pieces)	Water-proof rubber cap (2 pieces)	Water-proof rubber cap (2 pieces)	Water-proof rubber cap (2 pieces)
Usable temperature range						
Indoor (cooling / Heating)		21 to 32 deg C / 0 to 28 deg C	21 to 32 deg C / 0 to 28 deg C	21 to 32 deg C / 0 to 28 deg C	21 to 32 deg C / 0 to 28 deg C	21 to 32 deg C / 0 to 28 deg C
Outdoor (cooling / heating)		-10 to 46 deg C / -15 to 24 deg C	-10 to 46 deg C / -15 to 24 deg C	-10 to 46 deg C / -15 to 24 deg C	-10 to 46 deg C / -15 to 24 deg C	-10 to 46 deg C / -15 to 24 deg C

This specification refer to JIS C9612

Measured condition: Cooling capacity test condition Inside: 27°C (Db) / 19°C (Wb) Outside: 35°C (Db) / 24°C (Wb)  
 Heating capacity test condition Inside: 20°C (Db) Outside: 7°C (Db) / 6°C (Wb)  
 Piping length: 5m

## Dimension

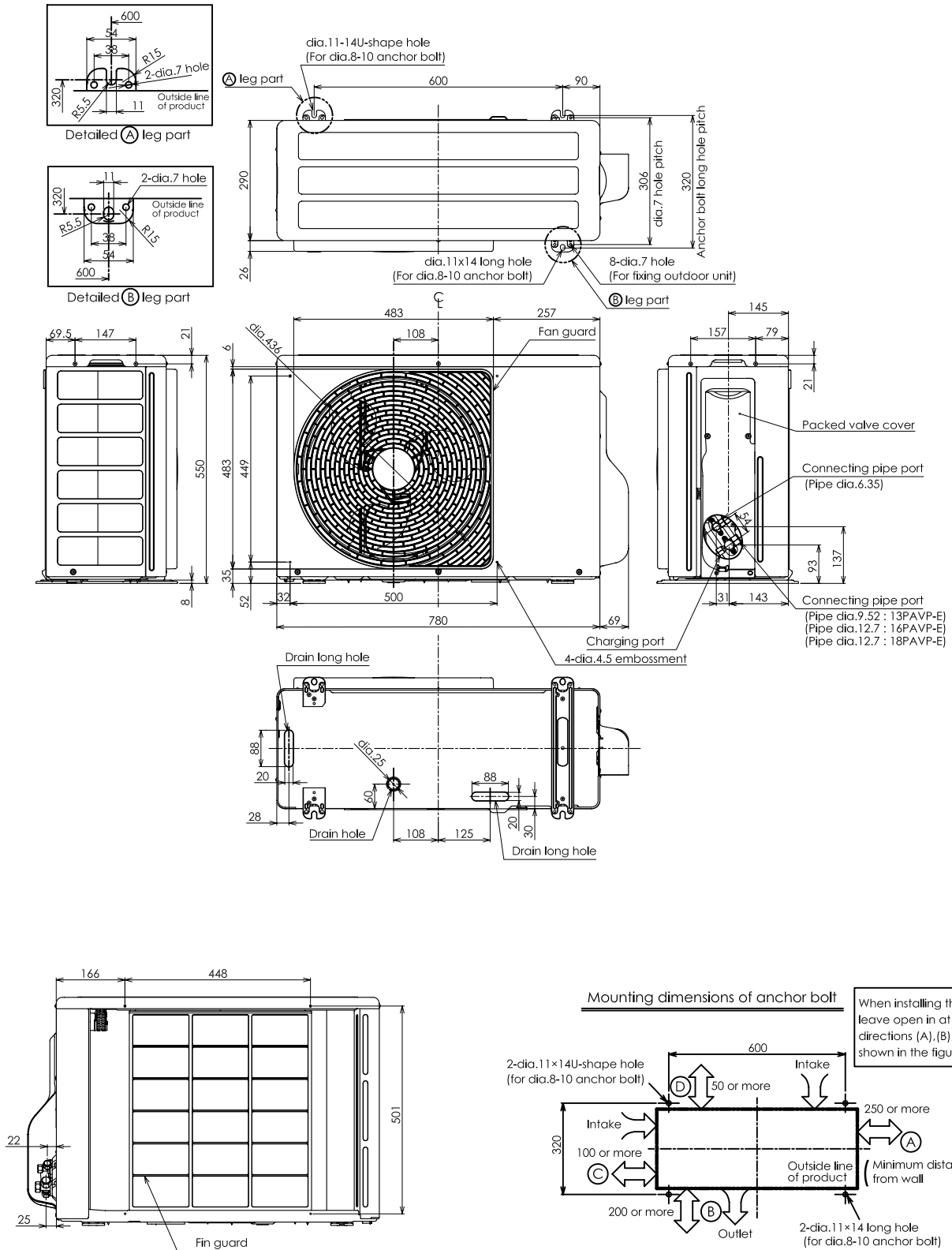
RAS-07PAVP-E, RAS-10PAVP-E



When installing the outdoor unit, leave open in at least two of directions (A),(B),(C)and(D) shown in the figure below.

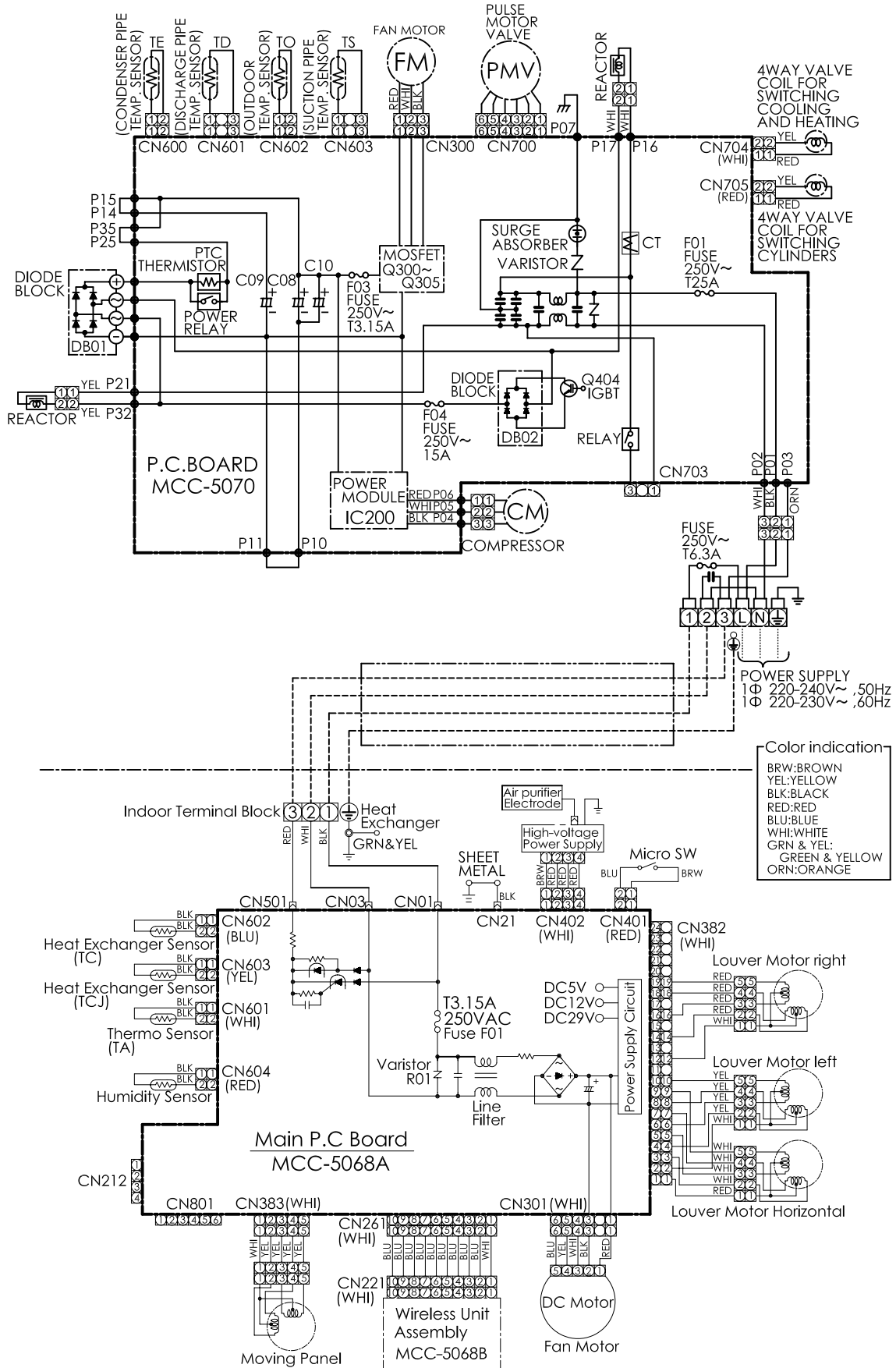
## Dimension

RAS-13PAVP-E, RAS-16PAVP-E, RAS-18PAVP-E



## Wirering diagram

RAS-07PKVP-E/RAS-07PAVP-E, RAS-10PKVP-E/RAS-10PAVP-E,  
RAS-13PKVP-E/RAS-13PAVP-E, RAS-16PKVP-E/RAS-16PAVP-E, RAS-18PKVP-E/RAS-18PAVP-E



## Sensible capacity table

Indoor Unit : RAS-07PKVP-E  
Outdoor Unit : RAS-07PAVP-E

TC : Total cooling capacity  
SHC : Sensible heat capacity

Outdoor temperature (°CDB)	Indoor temperature											
	14.0°CWB 20.0°CDB		16.0°CWB 23.0°CDB		18.0°CWB 26.0°CDB		20.0°CWB 28.0°CDB		22.0°CWB 30.0°CDB		24.0°CWB 32.0°CDB	
	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)
10.0	2.4	2.1	2.5	2.2	2.6	2.3	2.7	2.4	2.9	2.4	3.1	2.4
12.0	2.3	2.1	2.4	2.2	2.5	2.3	2.7	2.4	2.9	2.4	3.1	2.4
14.0	2.3	2.1	2.4	2.2	2.5	2.3	2.6	2.3	2.8	2.4	3.0	2.4
16.0	2.2	2.0	2.3	2.2	2.4	2.3	2.6	2.3	2.8	2.3	2.9	2.4
18.0	2.2	2.0	2.3	2.1	2.4	2.3	2.5	2.3	2.7	2.3	2.9	2.3
20.0	2.1	2.0	2.2	2.1	2.3	2.2	2.5	2.3	2.6	2.3	2.8	2.3
21.0	2.1	2.0	2.2	2.1	2.3	2.2	2.4	2.3	2.6	2.2	2.7	2.2
23.0	2.1	2.0	2.2	2.1	2.3	2.2	2.4	2.2	2.6	2.3	2.7	2.3
25.0	2.0	1.9	2.1	2.0	2.2	2.1	2.3	2.2	2.5	2.2	2.7	2.3
27.0	2.0	1.9	2.1	2.0	2.2	2.2	2.3	2.2	2.4	2.2	2.6	2.2
29.0	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.4	2.2	2.5	2.2
31.0	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.1	2.3	2.1	2.5	2.2
33.0	1.9	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.3	2.1	2.4	2.1
35.0	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.0	2.2	2.1	2.4	2.1
37.0	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.2	2.0	2.3	2.1
39.0	1.7	1.7	1.8	1.8	1.9	1.9	2.0	1.9	2.1	2.0	2.2	2.1

Indoor Unit : RAS-10PKVP-E  
Outdoor Unit : RAS-10PAVP-E

TC : Total cooling capacity  
SHC : Sensible heat capacity

Outdoor temperature (°CDB)	Indoor temperature											
	14.0°CWB 20.0°CDB		16.0°CWB 23.0°CDB		18.0°CWB 26.0°CDB		20.0°CWB 28.0°CDB		22.0°CWB 30.0°CDB		24.0°CWB 32.0°CDB	
	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)
10.0	2.9	2.4	3.1	2.5	3.2	2.6	3.4	2.7	3.6	2.8	3.9	2.8
12.0	2.8	2.4	3.0	2.5	3.1	2.6	3.3	2.7	3.5	2.7	3.8	2.8
14.0	2.8	2.3	2.9	2.5	3.1	2.6	3.3	2.7	3.5	2.7	3.7	2.7
16.0	2.7	2.3	2.9	2.4	3.0	2.6	3.2	2.6	3.4	2.7	3.6	2.7
18.0	2.7	2.3	2.8	2.4	3.0	2.5	3.1	2.6	3.3	2.6	3.6	2.7
20.0	2.6	2.3	2.8	2.4	2.9	2.5	3.1	2.6	3.3	2.6	3.5	2.6
21.0	2.6	2.2	2.7	2.4	2.9	2.5	3.0	2.6	3.2	2.6	3.5	2.6
23.0	2.6	2.2	2.7	2.3	2.8	2.5	3.0	2.5	3.2	2.6	3.4	2.6
25.0	2.5	2.2	2.6	2.3	2.8	2.4	2.9	2.5	3.1	2.5	3.3	2.6
27.0	2.5	2.2	2.6	2.3	2.7	2.4	2.8	2.5	3.0	2.5	3.3	2.5
29.0	2.4	2.1	2.5	2.3	2.6	2.4	2.8	2.4	3.0	2.5	3.2	2.5
31.0	2.4	2.1	2.5	2.2	2.6	2.4	2.7	2.4	2.9	2.4	3.1	2.5
33.0	2.3	2.1	2.4	2.2	2.5	2.3	2.7	2.4	2.8	2.4	3.0	2.4
35.0	2.3	2.1	2.4	2.2	2.5	2.3	2.6	2.4	2.8	2.4	3.0	2.4
37.0	2.2	2.0	2.3	2.2	2.4	2.3	2.5	2.3	2.7	2.4	2.9	2.4
39.0	2.1	2.0	2.2	2.1	2.3	2.2	2.4	2.3	2.6	2.3	2.7	2.3

Indoor Unit : RAS-13PKVP-E  
Outdoor Unit : RAS-13PAVP-E

TC : Total cooling capacity  
SHC : Sensible heat capacity

Outdoor temperature (°CDB)	Indoor temperature											
	14.0°CWB 20.0°CDB		16.0°CWB 23.0°CDB		18.0°CWB 26.0°CDB		20.0°CWB 28.0°CDB		22.0°CWB 30.0°CDB		24.0°CWB 32.0°CDB	
	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)
10.0	4.1	3.1	4.3	3.3	4.5	3.4	4.8	3.5	5.1	3.6	5.4	3.7
12.0	4.0	3.1	4.2	3.2	4.4	3.4	4.7	3.5	5.0	3.5	5.3	3.6
14.0	3.9	3.0	4.1	3.2	4.4	3.3	4.6	3.4	4.9	3.5	5.2	3.6
16.0	3.8	3.0	4.1	3.1	4.3	3.3	4.5	3.4	4.8	3.4	5.1	3.5
18.0	3.8	3.0	4.0	3.1	4.2	3.2	4.4	3.3	4.7	3.4	5.0	3.5
20.0	3.7	2.9	3.9	3.1	4.1	3.2	4.3	3.3	4.6	3.3	4.9	3.4
21.0	3.7	2.9	3.9	3.0	4.1	3.2	4.3	3.3	4.6	3.3	4.9	3.4
23.0	3.6	2.9	3.8	3.0	4.0	3.1	4.2	3.2	4.5	3.3	4.8	3.3
25.0	3.5	2.8	3.7	3.0	3.9	3.1	4.1	3.2	4.4	3.2	4.7	3.3
27.0	3.4	2.8	3.6	2.9	3.8	3.1	4.0	3.1	4.3	3.2	4.6	3.3
29.0	3.4	2.7	3.5	2.9	3.7	3.0	3.9	3.1	4.2	3.1	4.5	3.2
31.0	3.3	2.7	3.5	2.8	3.6	3.0	3.8	3.1	4.1	3.1	4.4	3.2
33.0	3.2	2.7	3.4	2.8	3.5	2.9	3.7	3.0	4.0	3.1	4.3	3.1
35.0	3.1	2.6	3.3	2.8	3.5	2.9	3.6	3.0	3.9	3.0	4.2	3.1
37.0	3.1	2.6	3.2	2.7	3.4	2.9	3.6	2.9	3.8	3.0	4.1	3.0
39.0	3.0	2.5	3.1	2.7	3.3	2.8	3.5	2.9	3.7	2.9	4.0	3.0

## Sensible capacity table

Indoor Unit : RAS-16PKVP-E

Outdoor Unit : RAS-16PAVP-E

TC : Total cooling capacity

SHC : Sensible heat capacity

Outdoor temperature (°CDB)	Indoor temperature											
	14.0°CWB 20.0°CDB		16.0°CWB 23.0°CDB		18.0°CWB 26.0°CDB		20.0°CWB 28.0°CDB		22.0°CWB 30.0°CDB		24.0°CWB 32.0°CDB	
	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)
10.0	5.2	3.8	5.5	4.0	5.8	4.1	6.1	4.2	6.5	4.4	7.0	4.5
12.0	5.1	3.8	5.4	3.9	5.7	4.1	6.0	4.2	6.4	4.3	6.8	4.4
14.0	5.0	3.7	5.3	3.9	5.6	4.0	5.9	4.1	6.3	4.2	6.7	4.3
16.0	4.9	3.7	5.2	3.8	5.5	4.0	5.8	4.1	6.2	4.2	6.6	4.3
18.0	4.8	3.6	5.1	3.8	5.4	3.9	5.7	4.0	6.1	4.1	6.5	4.2
20.0	4.7	3.6	5.0	3.7	5.3	3.9	5.6	4.0	5.9	4.1	6.3	4.2
21.0	4.7	3.6	4.9	3.7	5.2	3.8	5.5	3.9	5.9	4.0	6.3	4.1
23.0	4.6	3.5	4.8	3.6	5.1	3.8	5.4	3.9	5.8	4.0	6.1	4.1
25.0	4.5	3.4	4.7	3.6	5.0	3.7	5.3	3.8	5.6	3.9	6.0	4.0
27.0	4.4	3.4	4.6	3.5	4.9	3.7	5.2	3.8	5.5	3.9	5.9	3.9
29.0	4.3	3.3	4.5	3.5	4.8	3.6	5.0	3.7	5.4	3.8	5.7	3.9
31.0	4.2	3.3	4.4	3.4	4.7	3.6	4.9	3.7	5.3	3.7	5.6	3.8
33.0	4.1	3.2	4.3	3.4	4.6	3.5	4.8	3.6	5.1	3.7	5.5	3.8
35.0	4.0	3.2	4.2	3.3	4.4	3.5	4.7	3.5	5.0	3.6	5.3	3.7
37.0	3.9	3.1	4.1	3.2	4.3	3.4	4.6	3.5	4.9	3.6	5.2	3.6
39.0	3.8	3.0	4.0	3.2	4.2	3.3	4.4	3.4	4.8	3.5	5.1	3.6

Indoor Unit : RAS-18PKVP-E

Outdoor Unit : RAS-18PAVP-E

TC : Total cooling capacity

SHC : Sensible heat capacity

Outdoor temperature (°CDB)	Indoor temperature											
	14.0°CWB 20.0°CDB		16.0°CWB 23.0°CDB		18.0°CWB 26.0°CDB		20.0°CWB 28.0°CDB		22.0°CWB 30.0°CDB		24.0°CWB 32.0°CDB	
	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)	TC (kW)	SHC (kW)
10.0	5.7	4.2	6.1	4.4	6.4	4.5	6.7	4.6	7.2	4.8	7.7	4.9
12.0	5.6	4.1	5.9	4.3	6.3	4.4	6.6	4.6	7.1	4.7	7.5	4.8
14.0	5.5	4.1	5.8	4.2	6.2	4.4	6.5	4.5	6.9	4.6	7.4	4.8
16.0	5.4	4.0	5.7	4.2	6.0	4.4	6.4	4.5	6.8	4.6	7.3	4.7
18.0	5.3	4.0	5.6	4.1	5.9	4.3	6.2	4.4	6.7	4.5	7.1	4.6
20.0	5.2	3.9	5.5	4.1	5.8	4.2	6.1	4.3	6.6	4.5	7.0	4.6
21.0	5.2	3.9	5.5	4.0	5.8	4.2	6.1	4.3	6.5	4.4	6.9	4.5
23.0	5.1	3.8	5.3	4.0	5.6	4.1	5.9	4.3	6.4	4.4	6.8	4.5
25.0	5.0	3.8	5.2	3.9	5.5	4.1	5.8	4.2	6.2	4.3	6.6	4.4
27.0	4.9	3.7	5.1	3.9	5.4	4.0	5.7	4.1	6.1	4.2	6.5	4.3
29.0	4.7	3.6	5.0	3.8	5.3	4.0	5.6	4.1	6.0	4.2	6.3	4.3
31.0	4.6	3.6	4.9	3.7	5.2	3.9	5.4	4.0	5.8	4.1	6.2	4.2
33.0	4.5	3.5	4.8	3.7	5.0	3.8	5.3	3.9	5.7	4.0	6.6	4.1
35.0	4.4	3.5	4.7	3.6	4.9	3.8	5.2	3.9	5.5	4.0	5.9	4.0
37.0	4.3	3.4	4.6	3.6	4.8	3.7	5.1	3.8	5.4	3.9	5.8	4.0
39.0	4.2	3.3	4.4	3.5	4.7	3.7	4.9	3.8	5.3	3.8	5.6	3.9







## Part load performance

Indoor unit : RAS-13PKVP-E

Outdoor unit : RAS-13PAVP-E

	Cooling		Heating	
	Capacity Q(W)	Power consumption W(W)	Capacity Q(W)	Power consumption W(W)
MINIMUM	300	70	300	70
RATING	3500	770	4000	840
MAXIMUM	4500	1250	6100	1600

### Cooling

Outdoor temperature (°C)		Load(%)									
		100	90	80	70	60	50	40	30	20	10
40	Q	3280	2950	2620	2290	1970	1640	1310	980	660	330
	W	830	690	570	470	390	310	250	180	130	90
35	Q	3500	3150	2800	2450	2100	1750	1400	1050	700	350
	W	770	640	530	440	360	290	230	170	120	80
30	Q	3720	3350	2980	2610	2230	1860	1490	1120	740	370
	W	710	590	490	410	330	270	210	160	110	70
25	Q	3950	3550	3160	2760	2370	1970	1580	1180	790	390
	W	660	550	450	380	310	250	200	150	100	70
20	Q	4170	3760	3340	2920	2500	2090	1670	1250	830	420
	W	600	500	420	350	280	230	180	130	90	60

### Heating

Outdoor temperature (°C)		Load(%)									
		100	90	80	70	60	50	40	30	20	10
20	Q	5340	4810	4270	3740	3210	2670	2140	1600	1070	530
	W	1010	860	730	610	490	400	300	230	160	100
15	Q	4830	4340	3860	3380	2900	2410	1930	1450	970	480
	W	940	810	690	570	460	370	280	210	150	90
10	Q	4310	3880	3450	3020	2590	2150	1720	1290	860	430
	W	880	750	640	530	430	350	260	200	140	80
7	Q	4000	3600	3200	2800	2400	2000	1600	1200	800	400
	W	840	720	610	510	410	330	250	190	130	80
5	Q	3730	3360	2990	2610	2240	1870	1490	1120	750	370
	W	810	700	590	490	400	320	240	180	130	80
2	Q	2900	2610	2320	2030	1740	1450	1160	930	930	930
	W	740	640	540	450	360	290	220	180	180	180
0	Q	2800	2520	2240	1960	1680	1400	1120	900	900	900
	W	720	620	530	440	350	280	220	170	170	170
-5	Q	2570	2310	2050	1800	1540	1280	1260	1250	1250	1250
	W	670	580	490	410	330	260	260	260	260	260
-7	Q	2470	2220	1980	1730	1480	1240	1210	1200	1200	1200
	W	650	560	470	400	320	260	250	250	250	250
-10	Q	2250	2020	1800	1570	1350	1120	1100	1090	1090	1090
	W	620	530	450	380	300	240	240	240	240	240
-15	Q	1730	1560	1380	1210	1040	860	850	840	840	840
	W	550	470	400	340	270	220	210	210	210	210

## Part load performance

Indoor unit : RAS-16PKVP-E

Outdoor unit : RAS-16PAVP-E

	Cooling		Heating	
	Capacity Q(W)	Power consumption W(W)	Capacity Q(W)	Power consumption W(W)
<b>MINIMUM</b>	300	70	300	70
<b>RATING</b>	4500	1220	5500	1340
<b>MAXIMUM</b>	5000	1490	6500	1700

### Cooling

Outdoor temperature (°C)		Load(%)									
		100	90	80	70	60	50	40	30	20	10
40	Q	4210	3790	3370	2950	2530	2110	1680	1260	840	420
	W	1310	1080	880	720	570	440	330	250	160	100
35	Q	4500	4050	3600	3150	2700	2250	1800	1350	900	450
	W	1220	1010	820	670	530	410	310	230	150	90
30	Q	4790	4310	3830	3350	2870	2390	1920	1440	960	480
	W	1130	940	760	620	490	380	290	210	140	80
25	Q	5080	4570	4060	3550	3050	2540	2030	1520	1020	510
	W	1050	870	700	570	450	350	270	200	130	80
20	Q	5370	4830	4290	3760	3220	2680	2150	1610	1070	540
	W	960	790	640	530	420	320	240	180	120	70

### Heating

Outdoor temperature (°C)		Load(%)									
		100	90	80	70	60	50	40	30	20	10
20	Q	7350	6610	5880	5140	4410	3670	2940	2200	1470	730
	W	1610	1380	1150	950	760	580	420	290	180	110
15	Q	6640	5970	5310	4640	3980	3320	2650	1990	1330	660
	W	1510	1290	1080	890	710	540	390	270	170	100
10	Q	5930	5330	4740	4150	3560	2960	2370	1780	1190	590
	W	1400	1200	1000	830	660	500	370	250	160	90
7	Q	5500	4950	4400	3850	3300	2750	2200	1650	1100	550
	W	1340	1150	960	790	630	480	350	240	150	90
5	Q	5130	4620	4110	3590	3080	2570	2050	1540	1030	510
	W	1300	1110	930	770	610	470	340	230	150	90
2	Q	3990	3590	3190	2790	2390	1990	1590	1200	1000	1000
	W	1190	1020	850	700	560	420	310	210	180	180
0	Q	3850	3470	3080	2700	2310	1930	1540	1160	960	960
	W	1150	990	830	680	540	410	300	210	170	170
-5	Q	3530	3180	2820	2470	2120	1760	1410	1310	1310	1310
	W	1070	920	770	630	510	380	280	260	260	260
-7	Q	3400	3060	2720	2380	2040	1700	1360	1260	1260	1260
	W	1040	890	750	610	490	370	270	250	250	250
-10	Q	3090	2780	2470	2160	1850	1540	1230	1140	1140	1140
	W	990	850	710	580	460	350	260	240	240	240
-15	Q	2380	2140	1900	1660	1430	1190	950	880	880	880
	W	880	760	630	520	420	320	230	210	210	210

## Part load performance

Indoor unit : RAS-18PKVP-E

Outdoor unit : RAS-18PAVP-E

	Cooling		Heating	
	Capacity	Power consumption	Capacity	Power consumption
	Q(W)	W(W)	Q(W)	W(W)
MINIMUM	300	70	300	70
RATING	5000	1490	6000	1540
MAXIMUM	5500	1750	6700	1750

### Cooling

Outdoor temperature (°C)		Load(%)									
		100	90	80	70	60	50	40	30	20	10
40	Q	4680	4210	3740	3280	2810	2340	1870	1400	940	470
	W	1600	1340	1100	890	700	530	380	260	160	100
35	Q	5000	4500	4000	3500	3000	2500	2000	1500	1000	500
	W	1490	1250	1030	830	650	490	350	240	150	90
30	Q	5320	4790	4260	3720	3190	2660	2130	1600	1060	530
	W	1380	1160	960	770	600	450	320	220	140	80
25	Q	5640	5080	4510	3950	3380	2820	2260	1690	1130	560
	W	1280	1070	880	710	560	420	300	210	130	80
20	Q	5960	5370	4770	4170	3580	2980	2390	1790	1190	600
	W	1170	980	810	650	510	380	270	190	120	70

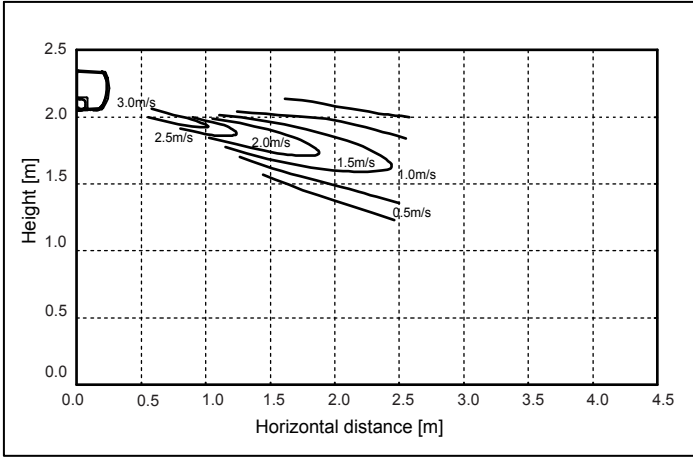
### Heating

Outdoor temperature (°C)		Load(%)									
		100	90	80	70	60	50	40	30	20	10
20	Q	8010	7210	6410	5610	4810	4010	3210	2400	1600	800
	W	1850	1530	1270	1050	840	660	490	350	230	120
15	Q	7240	6510	5790	5070	4340	3620	2900	2170	1450	720
	W	1730	1430	1190	980	790	620	460	330	210	110
10	Q	6460	5820	5170	4530	3880	3230	2590	1940	1290	650
	W	1610	1330	1110	910	730	580	430	300	200	100
7	Q	6000	5400	4800	4200	3600	3000	2400	1800	1200	600
	W	1540	1270	1060	870	700	550	410	290	190	100
5	Q	5600	5040	4480	3920	3360	2800	2240	1680	1120	560
	W	1490	1230	1030	840	680	530	400	280	180	100
2	Q	4350	3910	3480	3040	2610	2170	1740	1300	960	960
	W	1360	1120	940	770	620	490	360	260	180	180
0	Q	4210	3780	3360	2940	2520	2100	1680	1260	930	930
	W	1330	1090	910	750	600	470	350	250	170	170
-5	Q	3850	3460	3080	2690	2310	1920	1540	1270	1150	1150
	W	1230	1020	850	700	560	440	330	260	260	260
-7	Q	3710	3340	2970	2590	2220	1850	1480	1220	1110	1110
	W	1200	990	820	680	540	430	320	250	250	250
-10	Q	3370	3030	2690	2360	2020	1680	1350	1110	1010	1010
	W	1130	940	780	640	520	410	300	240	240	240
-15	Q	2590	2330	2070	1820	1560	1300	1040	860	780	780
	W	1020	840	700	570	460	360	270	210	210	210

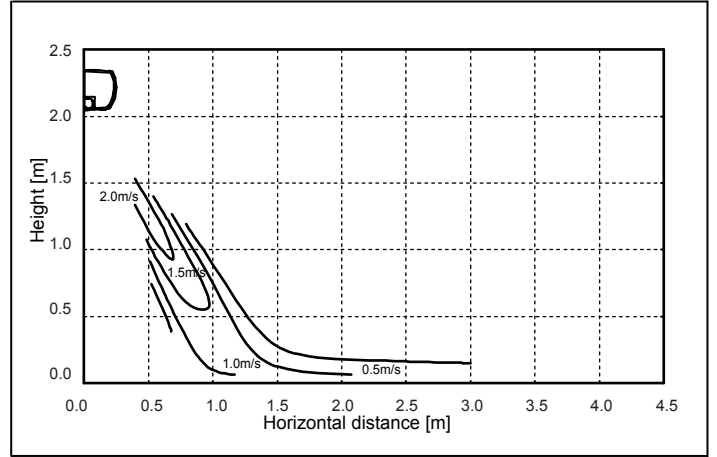
## Air Speed Distribution

### RAS-07PKVP-E

Cooling

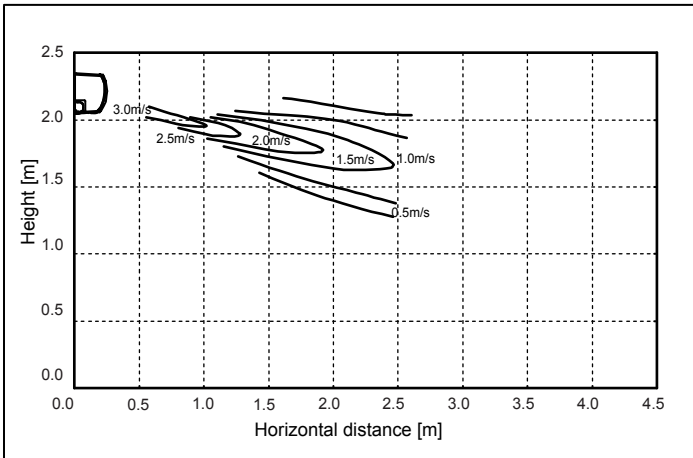


Heating

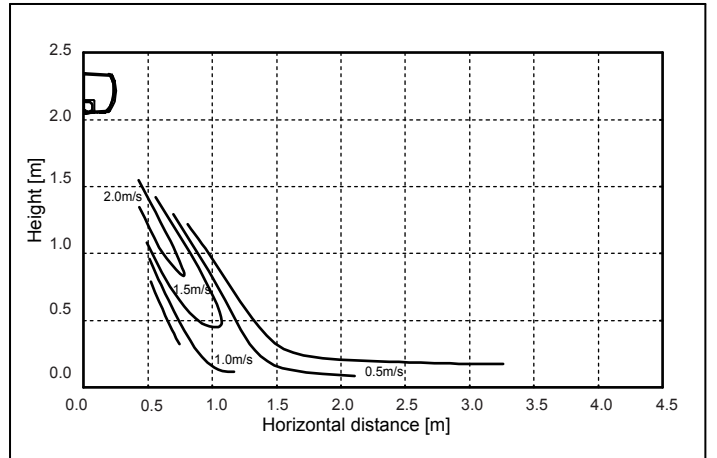


### RAS-10PKVP-E

Cooling

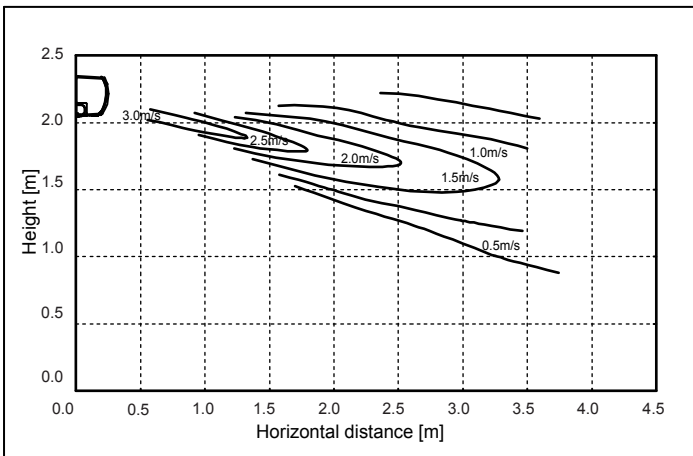


Heating

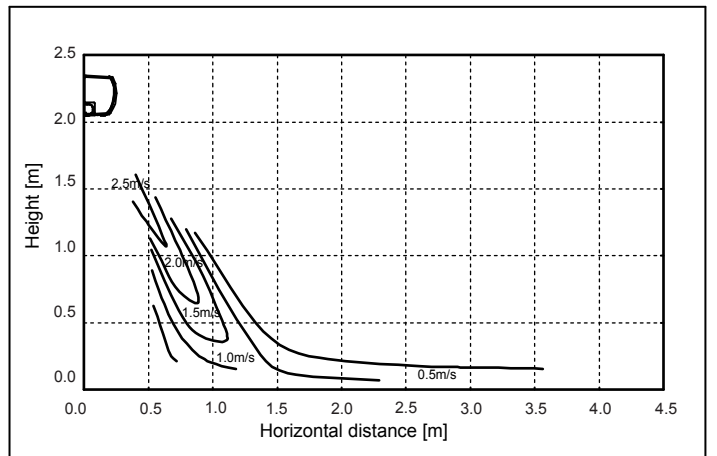


### RAS-13PKVP-E

Cooling



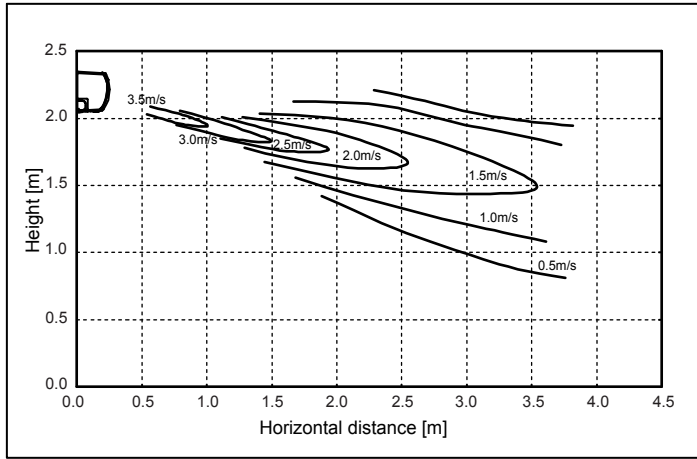
Heating



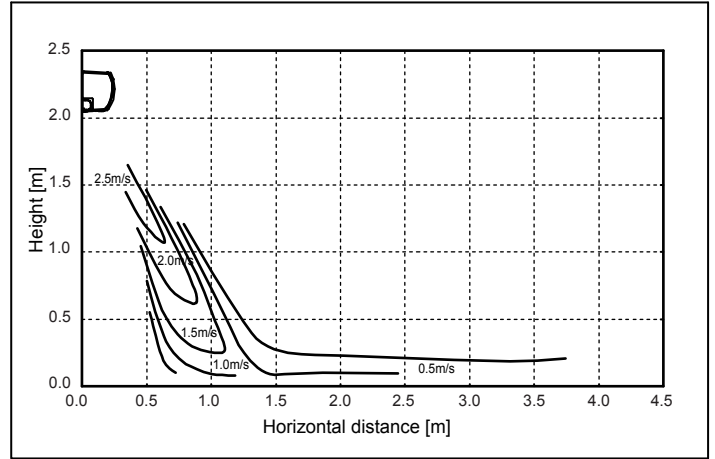
## Air Speed Distribution

### RAS-16PKVP-ND

Cooling

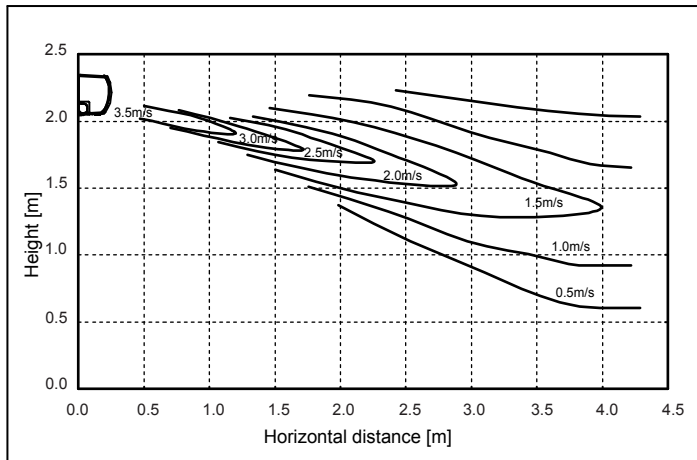


Heating

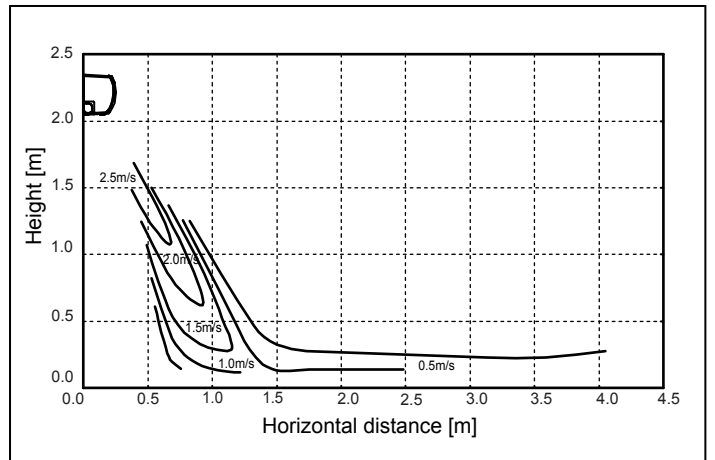


### RAS-18PKVP-ND

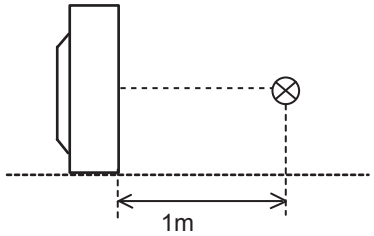
Cooling



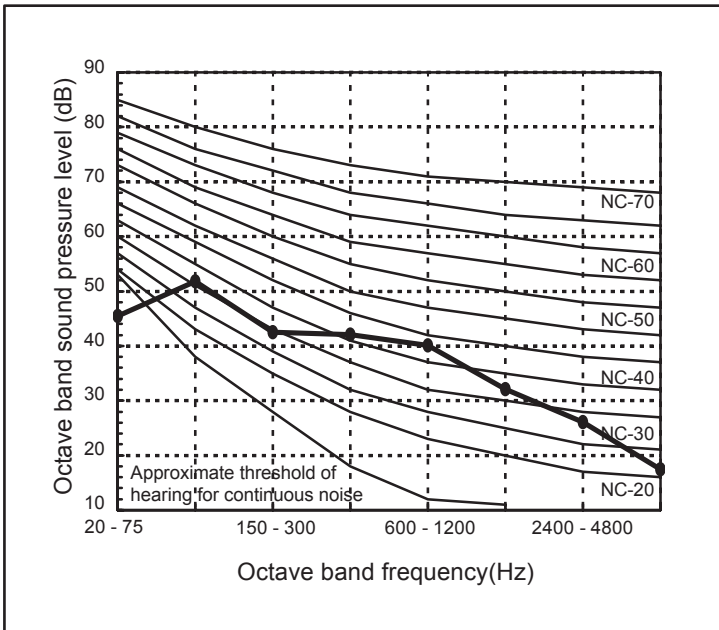
Heating



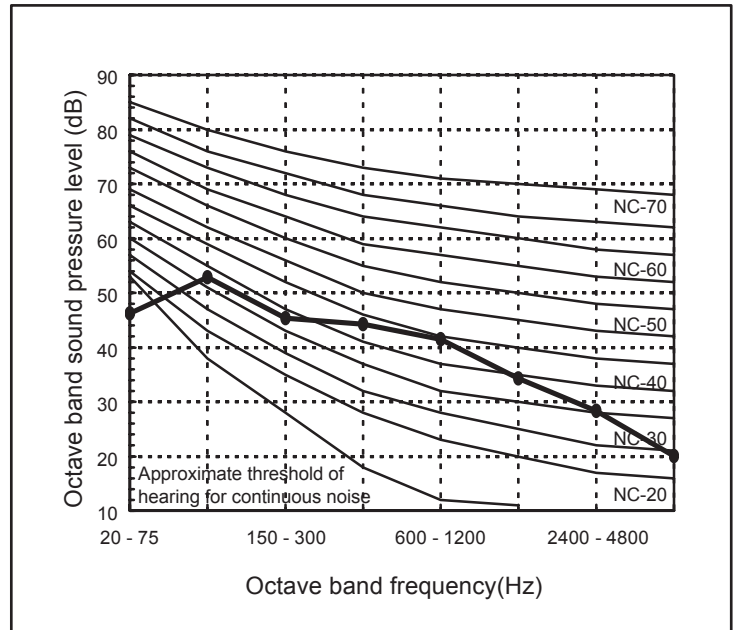
## Sound characteristics (NC Curve)

Measuring location 	Model name	Sound pressure level (dB)	
	Outdoor unit	Cooling	Heating
	RAS-07PAVP-E	46	46
	RAS-10PAVP-E	48	48

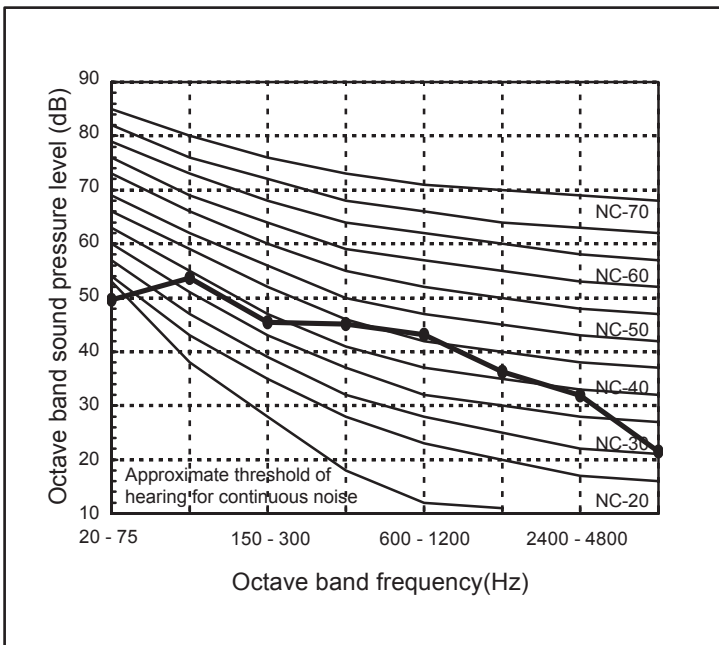
RAS-07PAVP-E (Cooling)



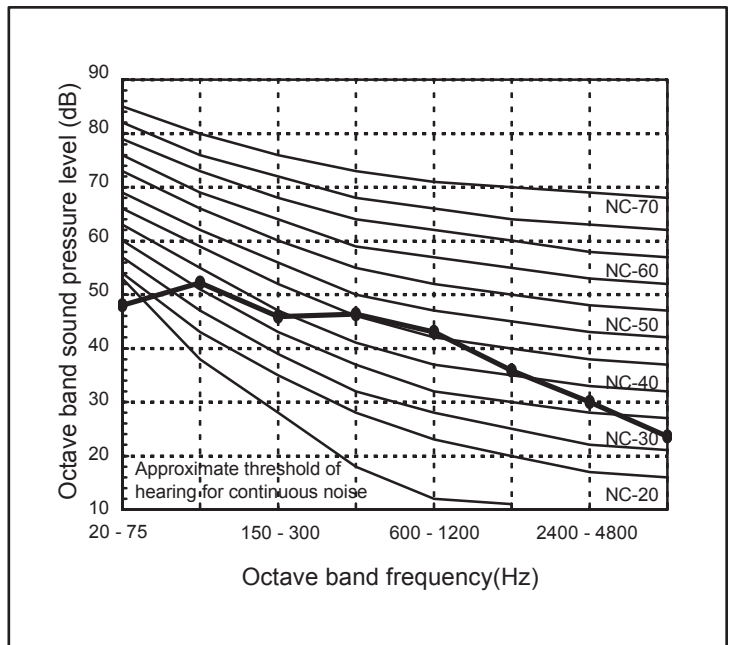
RAS-07PAVP-E (Heating)



RAS-10PAVP-E (Cooling)

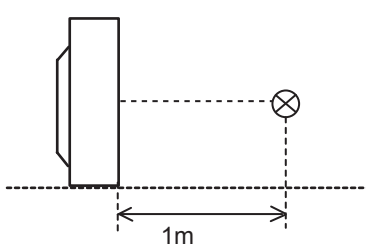


RAS-10PAVP-E (Heating)

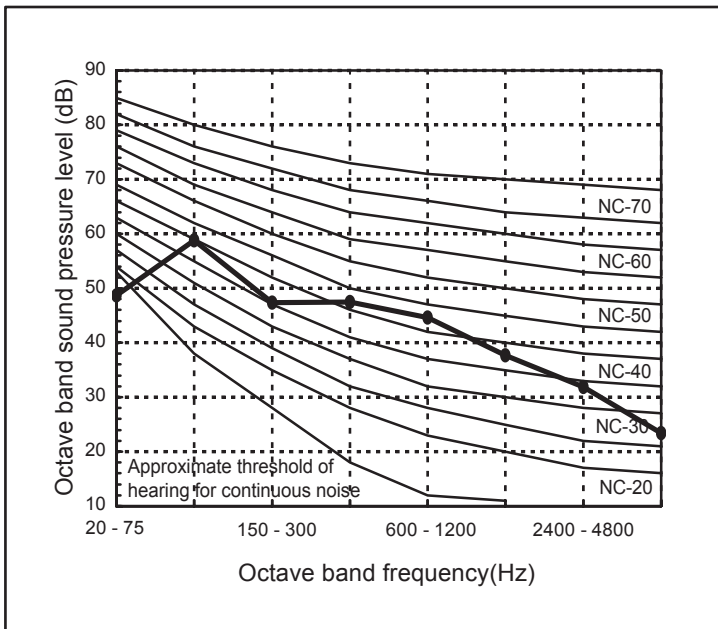




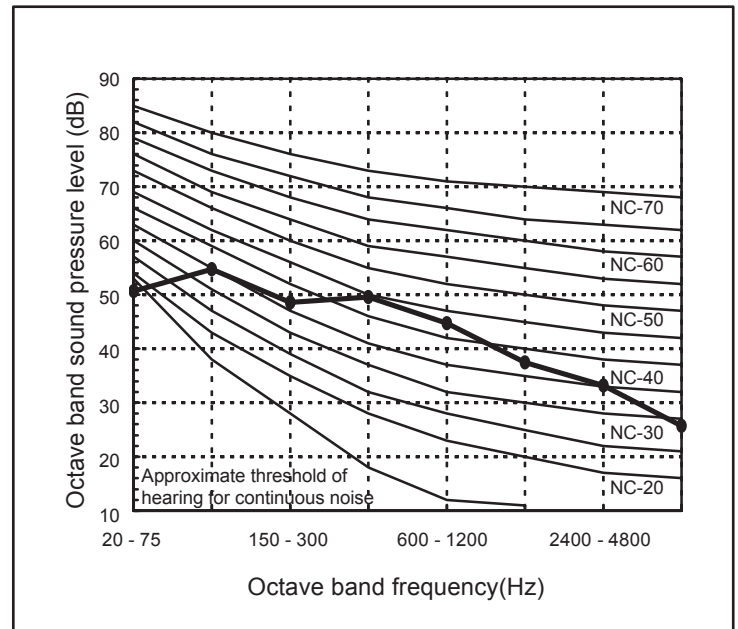
## Sound characteristics (NC Curve)

Measuring location 	Model name	Sound pressure level (dB)	
	Outdoor unit	Cooling	Heating
	RAS-13PAVP-E	50	50
	RAS-16PAVP-E	50	50

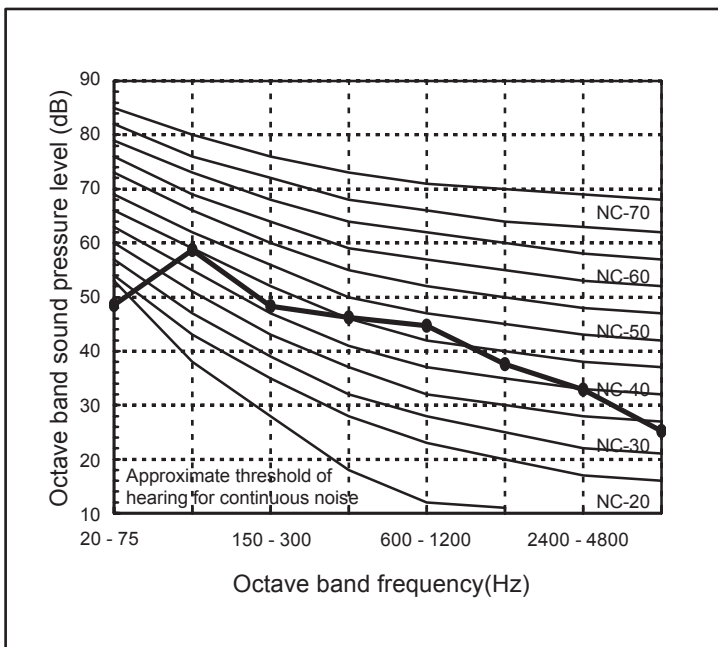
RAS-13PAVP-E (Cooling)



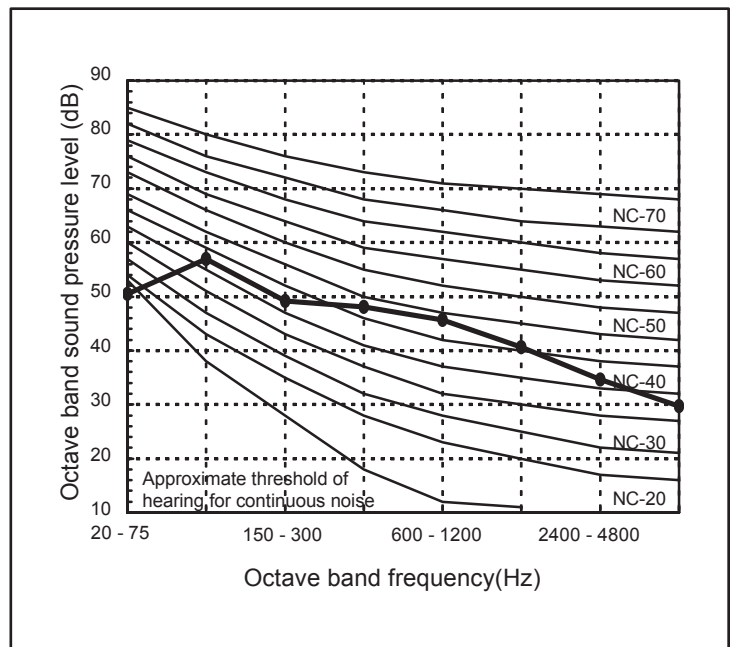
RAS-13PAVP-E (Heating)



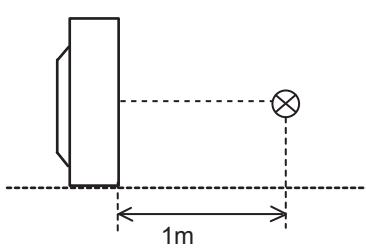
RAS-16PAVP-E (Cooling)



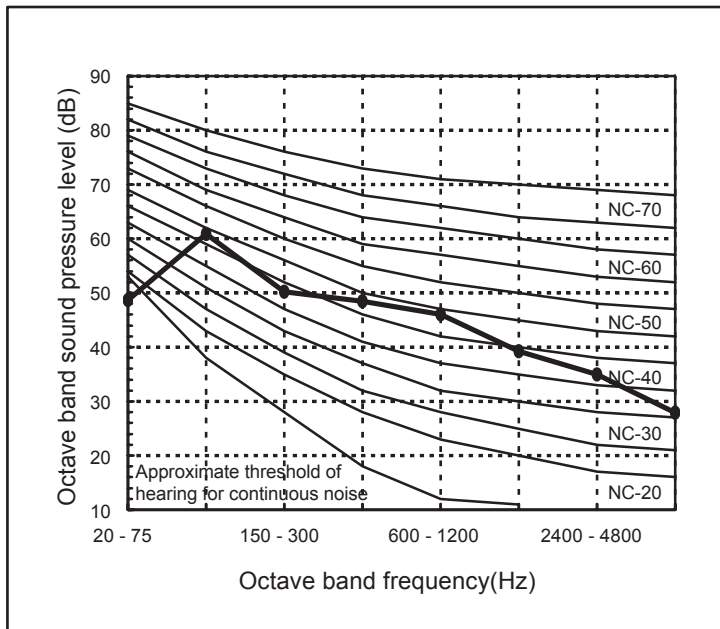
RAS-16PAVP-E (Heating)



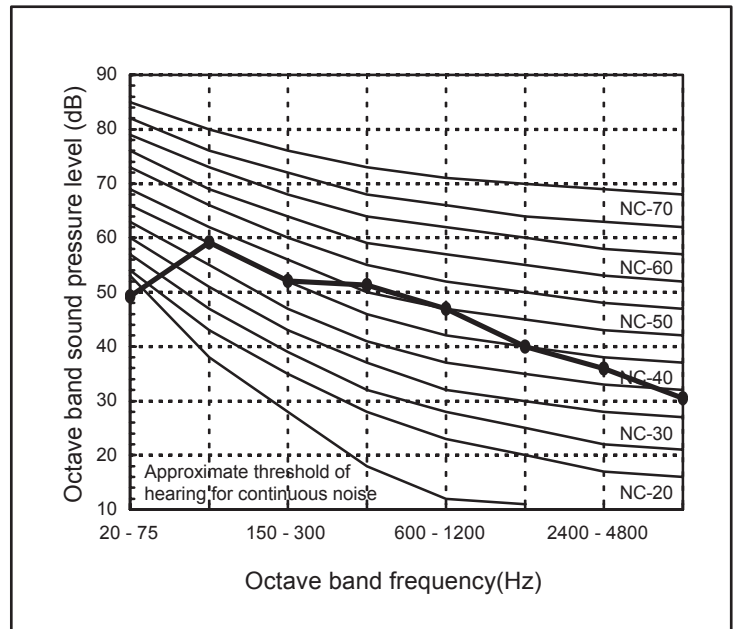
## Sound characteristics (NC Curve)

Measuring location	Model name	Sound pressure level (dB)	
		Outdoor unit	Cooling
RAS-18PAVP-E		52	52

RAS-18PAVP-E (Cooling)



RAS-18PAVP-E (Heating)



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