

TOSHIBA

FILE No. A90-9715

SERVICE MANUAL

AIR CONDITIONER SPLIT TYPE

CARCASE TYPE, HEATPUMP

RAV-103NH-PE

RAV-133NH-PE/RAV-132AH-PE

RAV-163NH-PE/RAV-162AH-PE

RAV-263NH-PE/RAV-262AH-PE

RAV-263NH-PE/RAV-262AH8-PE

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SUMMARY

- The units referred to within this manual conform with the protection requirements of Directives 89/336/EEC Electromagnetic Compatibility and 73/23/EEC Low Voltage.
- Operating conditions of units are as follows:

OUTDOOR TEMPERATURE	-2 TO 43°C (COOL) -10 TO 21°C (HEAT)
ROOM TEMPERATURE	18 TO 32°C (COOL) 15 TO 29°C (HEAT)
ROOM HUMIDITY	LESS THAN 80% (COOL)

Note 1 : Cooling Capacity is based on the following temperature conditions:
 Indoor air inlet temperature 27°C DB, 19°C WB.
 Outdoor air inlet temperature 35°C DB.

Note 2: Heating Capacity is based on the following temperature conditions:
 Indoor air inlet temperature 20°C DB.
 Outdoor air inlet temperature 7°C DB, 6°C WB.

Note 3: For details on the Remote Controller and Control Circuits refer to Service Manual A90-9503.

Note 4: Metric / Imperial Pipe Conversion.

Diameter (mm)	6.4	9.5	12.7	15.9	19	22
Nominal Diameter (inch)	1/4	3/8	1/2	5/8	3/4	7/8

1. SPECIFICATION

ITEM	MODEL	RAV-103NH-PE
	Phase	1
Power source	V	220-240
	Hz	50
Power consumption	kW	0.07
Power factor	%	93
Running current	A	0.33
Starting current	A	0.6
Operating noise (SPL)	Indoor unit (High, Med, Low) dB (A)	40/37/34
Refrigerant	Name of refrigerant	R-22
Interconnection pipe	Larger side size mm	ø 12.7
	Coupler style	Flare
	Smaller side size mm	ø 6.4
	Coupler style	Flare
Condensate drain pipe diameter	mm	ø 20 (ID)
Appearance colour		Zinc galvanized steel
Dimensions	Height mm	600 (If top air outlet) 580(If front outlet)
	Width mm	750 (Including drain catch)
	Depth mm	230 (If top air outlet) 250 (If front air outlet)
Net weight	kg	21
Heat exchanger type		Finned tube
Indoor fan type		Multi-blade fan
Air volume	m ³ /h	550
Fan motor output	W	34

Specifications are subject to change without notice.

ITEM		MODEL	RAV-133NH-PE	
Cooling capacity		kW	3.6	
Heating capacity		kW	4.2	
Power source		Phase	1	
		V	220-240	
		Hz	50	
			COOLING	HEATING
Power consumption		kW	2.1	2.2
Power factor		%	89	89
Running current		A	10.3	10.7
Starting current		A	60	
Operating noise (SPL)	Indoor unit (High, Med, Low)	dB(A)	41/38/35	
	Outdoor unit	dB(A)	50	
Refrigerant	Name of refrigerant		R-22	
	Charge volume		kg	
	Add. volume (20-30m)		g/m	
Refrigerant control		Capillary tube & Expansion valve		
Interconnection pipe	Larger side size	mm	ø12.7	
	Coupler style		Flare	
	Smaller side size	mm	ø 6.4	
	Coupler style		Flare	
	Standard length	m	7.5	
	Maximum length (of one way)	*1 m	30	
	Maximum height difference			
	If indoor unit higher	m	15	
	If outdoor unit higher	m	30	
Condensate drain pipe diameter		mm	ø20 (ID)	
INDOOR UNIT Model		RAV-133NH-PE		
Appearance colour		Zinc galvanized steel		
Dimensions	Height	mm	600 (If top air outlet) 580(If front air outlet)	
	Width	mm	1050 (Including drain catch)	
	Depth	mm	230 (If top air outlet) 250 (If front air outlet)	
Net weight		kg	21	
Heat exchanger type			Finned tube	
Indoor fan type			Multi-blade fan	
Air volume		m³/h	625	
Fan motor output		W	34	
Air filter			Washable	
OUTDOOR UNIT Model		RAV-132AH-PE		
Appearance colour		Bronze white (Munsell 6Y7.5/1)		
Dimensions	Height	mm	740	
	Width	mm	880	
	Depth	mm	310	
Net weight		kg	61	
Heat exchanger type			Finned tube	
Outdoor fan type			Propeller fan	
Air flow volume		m³/h	2,700	
Fan motor output		W	39	
Compressor	Model		PH230X3-4LS	
	Output		kW	
Protective device			High pressure switch, Fuse, Crankcase heater, Overload relay, Bimetal thermostat	

Specifications are subject to change without notice.

* Note 1 : These mean actual length.

ITEM		MODEL	RAV-163NH-PE	
Cooling capacity		kW	4.5	
Heating capacity		kW	5.0	
Power source		Phase	1	
		V	220-240	
		Hz	50	
			COOLING	HEATING
Power consumption		kW	2.3	2.2
Power factor		%	90	90
Running current		A	10.8	11.1
Starting current		A	60	
Operating noise (SPL)	Indoor unit	dB (A)	42/39/36	
	Outdoor unit	dB (A)	50	
Refrigerant	Name of refrigerant		R-22	
	Charge volume	kg	1.6	
	Add. volume (20-30m)	g/m	35	
Refrigerant control			Capillary tube & Expansion valve	
Interconnection pipe	Larger side size	mm	ø 12.7	
	Coupler style		Flare	
	Smaller side size	mm	ø 6.4	
	Coupler style		Flare	
	Standard length	m	7.5	
	Maximum length (of one way)	*1 m	30	
	Indoor unit height	m	15	
	Outdoor unit height	m	30	
	Condensate drain pipe diameter	mm	ø 20 (ID)	
INDOOR UNIT Model	Maximum height		RAV-163NH-PE	
Appearance colour	Indoor unit height		Zinc galvanized steel	
Dimensions	Height	mm	600 (If top outlet) 580 (If front outlet)	
	Width	mm	1050 (Including drain catch)	
	Depth	mm	230 (If top air outlet) 250 (If front air outlet)	
Net weight		kg	29	
Heat exchanger type			Finned tube	
Indoor fan type			Multi-blade fan	
Air volume		m ³ /h	640	
Fan motor output		W	34	
Air filter			Washable	
OUTDOOR UNIT Model			RAV-162AH-PE	
Appearance colour			Bronze white (Munsell 6Y7.5/1)	
Dimensions	Height	mm	740	
	Width	mm	880	
	Depth	mm	310	
Net weight		kg	61	
Heat exchanger type			Finned tube	
Outdoor fan type			Propeller fan	
Air flow volume		m ³ /h	2,700	
Fan motor output		W	39	
Compressor	Model		PH250X3-4LS	
	Output	kW	1.5	
Protective device			High pressure switch, Fuse, Bimetal thermostat, Crankcase heater, Inner overload relay	

Specifications are subject to change without notice.

* Note 1 : These mean actual length.

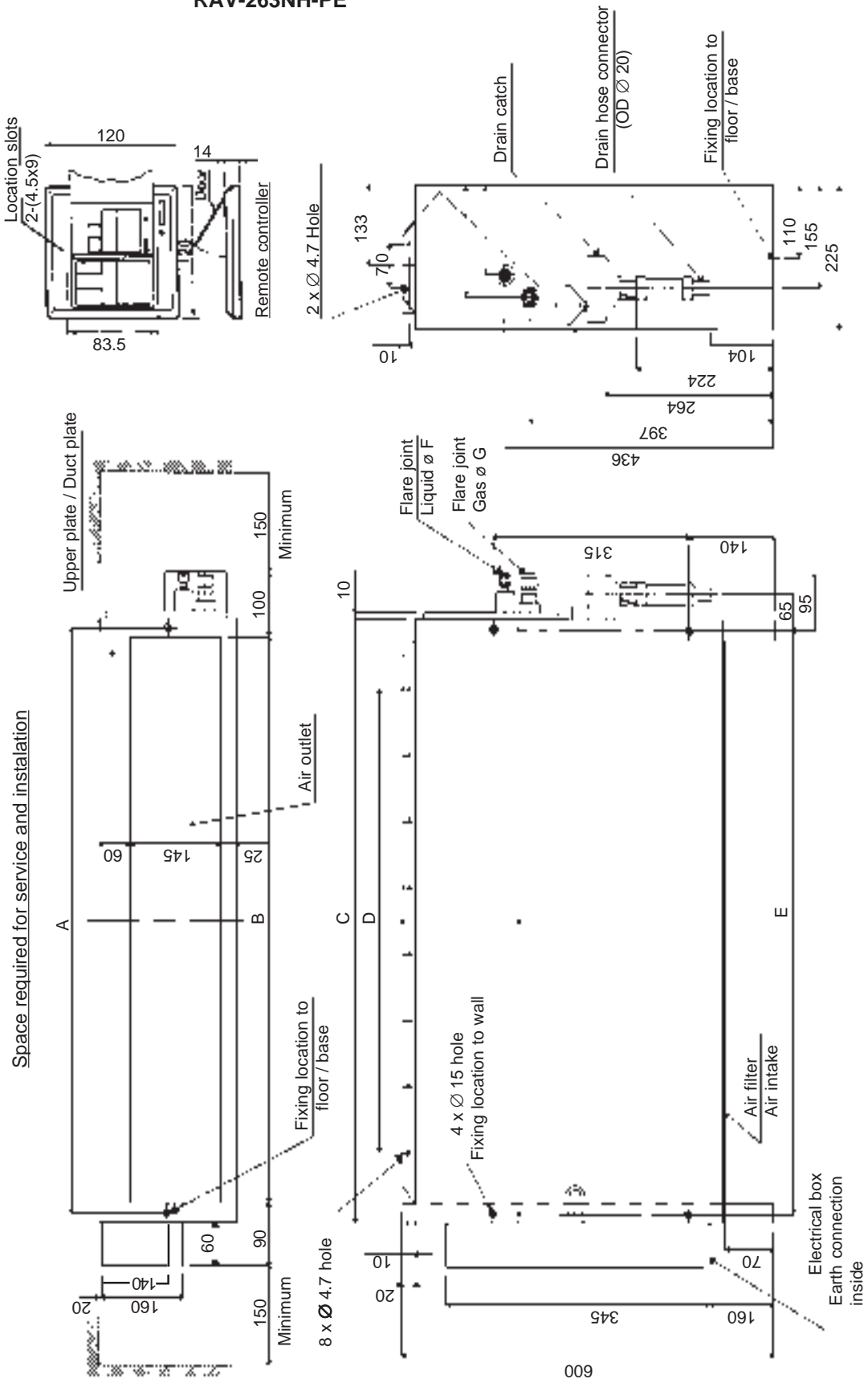
ITEM		MODEL	RAV-263NH-PE/RAV-262AH-PE		RAV-263NH-PE/RAV-262AH8-PE	
Cooling capacity		kW	7.1			
Heating capacity		kW	7.9			
Power source		Phase	1		3	
		V	220-240		380-415	
		Hz	50			
			COOLING	HEATING	COOLING	HEATING
Power consumption		kW	3.0	2.75	2.8	2.7
Power factor		%	88	87	86	85
Running current		A	14.8	13.8	4.7	4.6
Starting current		A	80		25	
Operating noise (SPL)	Indoor unit	dB (A)				
	Outdoor unit	dB (A)	53			
Refrigerant		Name of refrigerant	R-22			
		Charge volume	2.35			
		Add. volume (20-30m)	60			
Refrigerant control			Capillary tube & Expansion valve			
Interconnection pipe		Larger side size	mm			
		Coupler style	Flare			
		Smaller side size	mm			
		Coupler style	Flare			
		Standard length	m			
		Maximum length (of one way)	*1 m			
		Maximum height difference If indoor unit higher	m			
		Outdoor unit height	m			
Condensate drain pipe diameter		mm	ø 20 (ID)			
INDOOR UNIT Model			RAV-263NH-PE			
Appearance colour			Zinc Galvanised Steel			
Dimensions		Height	mm		600 (If top air outlet) 580 (If front air outlet)	
		Width	mm			
		Depth	mm			
Net weight		kg	29			
Heat exchanger type			Finned tube			
Indoor fan type			Multi-blade fan			
Air volume		m ³ /h	960			
Fan motor output		W	34			
Air filter			Washable			
OUTDOOR UNIT Model			RAV-262AH-PE		RAV-262AH8-PE	
Appearance colour			Bronze white (Munsell 6Y7.5/1)			
Dimensions		Height	mm			
		Width	mm			
		Depth	mm			
Net weight		kg	80			
Heat exchanger type			Finned tube			
Outdoor fan type			Propeller fan			
Air flow volume		m ³ /h	3,000			
Fan motor output		W	63			
Compressor		Model	PH330X3-4MS		YH330X3-MS	
		Output	kW		2.2	
Safety device			High pressure switch, Fuse, Bimetal thermostat, Crankcase heater, Inner overload relay		High pressure switch, Fuse, Overcurrent relay, Crankcase heater, Thermostat, Return-Lock	

Specifications are subject to change without notice.

* Note 1 : These mean actual length.

2. CONSTRUCTION VIEWS

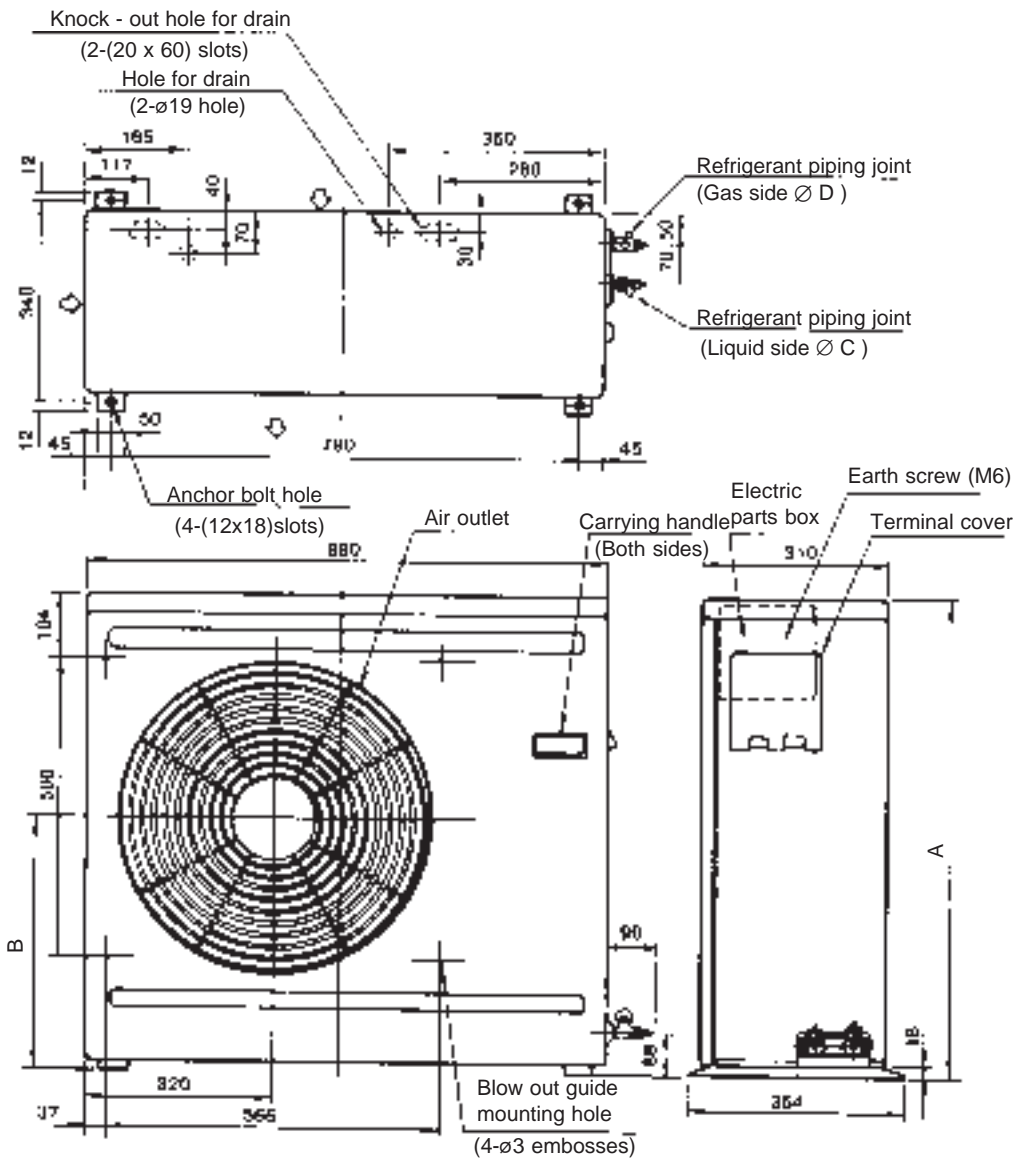
2.1 Indoor Unit RAV-103NH-PE RAV-133NH-PE RAV-163NH-PE RAV-263NH-PE



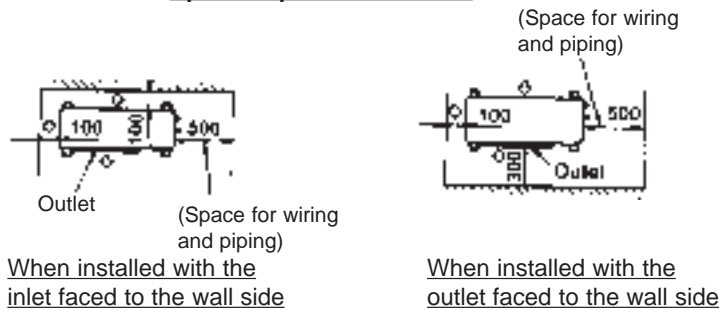
(Units: mm)

MODEL	A	B	C	D	E	ø F	ø G
RAV-103NH-PE	580	550	610	4x100	580	6.4	12.7
RAV-133NH-PE	880	850	910	7x100	880	6.4	12.7
RAV-163NH-PE						9.5	15.9

2.2 Outdoor unit
RAV-132AH-PE
RAV-162AH-PE
RAV-262AH-PE
RAV-262AH8-PE



Space required for service

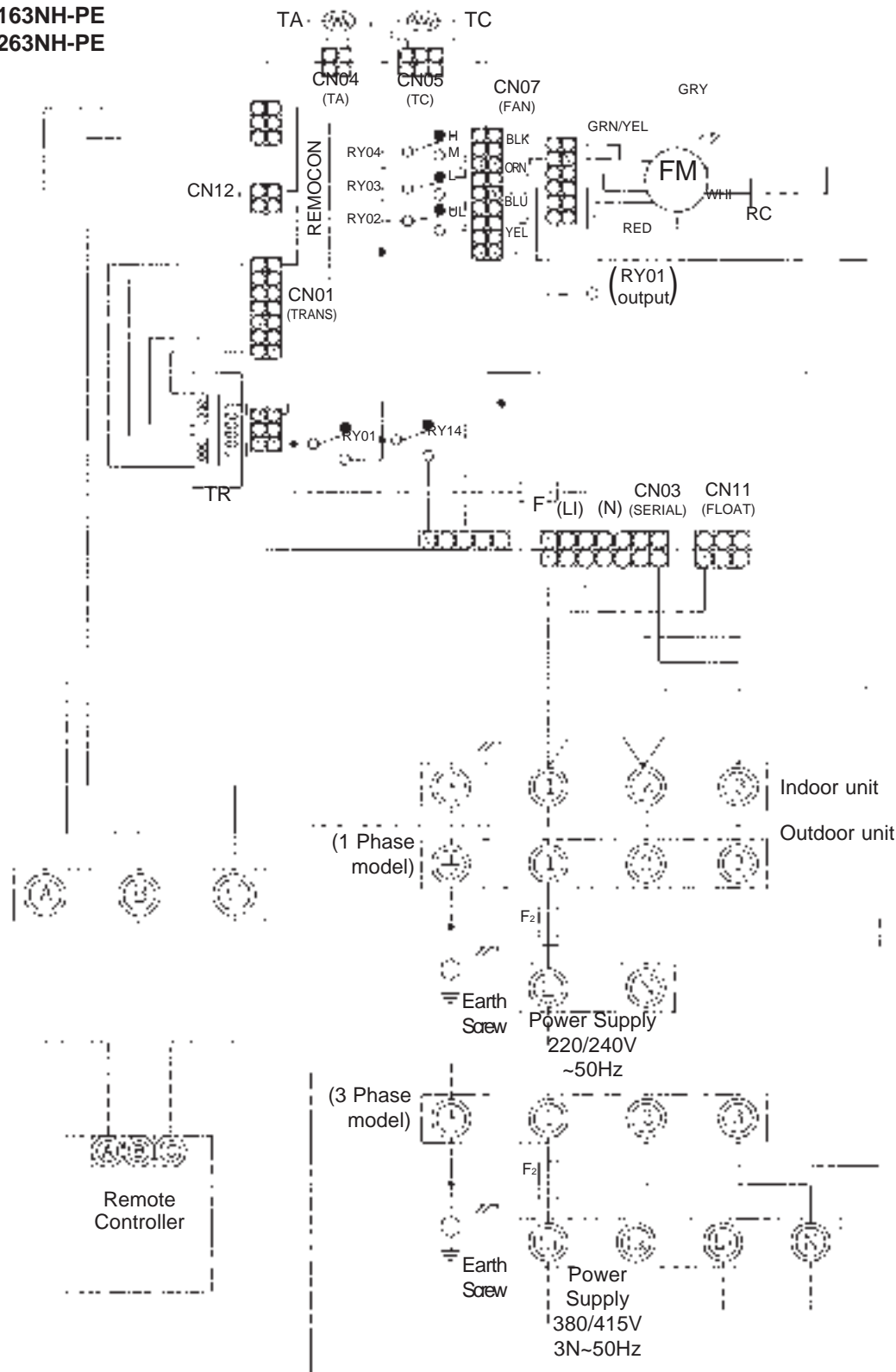


Model	A	B	C	D
RAV-132AH-PE	740	380	6.4	12.7
RAV-162AH-PE	790	430	9.5	15.9
RAV-262AH-PE				
RAV-262AH8-PE				

(Unit: mm)

3. WIRING DIAGRAM

3.1 RAV-103NH-PE
RAV-133NH-PE
RAV-163NH-PE
RAV-263NH-PE



Symbol	Name	Symbol	Name
FM	Fan motor	TA	Sensor
RC	Running capacitor	TC	Sensor
TR	Transformer	RY01~RY14	Relay
F	Fuse (PCB) 3A	F2	Fuse 5A

⊙ Shows terminal block and figures show terminal numbers. Broken lines show wiring at site.

Do not operate the units with magnetic contactor pushed in.

4. SPECIFICATION OF ELECTRICAL PARTS

4.1 RAV-103NH-PE

No	PARTS NAME	TYPE	SPECIFICATIONS						
1	Indoor unit fan motor	SMF-230-34 4F	Output (Rated) 34W, 4 Pole, 1 Phase, 230V, 50Hz.						
2	Running capacitor for Indoor fan motor	EEP2H155HQA107	AC 450V, 1.5 μ F						
3	Transformer	ST-9586	AC187~264V						
4	Sensor for room temperature		Maximum input 38mA	°C	15	20	25	30	40
				K Ω	16.1	12.6	10.0	8.0	5.2
5	Indoor unit sensor for heat-exchanger temperature.	DTN-C103J40	Maximum input 34mA	°C	-12	0	25	50	
				K Ω	62.29	32.82	10.0	3.59	

4.2 RAV-133NH-PE

No	PARTS NAME	TYPE	SPECIFICATIONS						
1	Indoor unit fan motor	SMF-230-34 4F	Output (Rated) 34W, 4 Pole, 1 Phase, 230V, 50Hz.						
2	Running capacitor for Indoor fan motor	EEP2H155HQA107	AC 450V, 1.5 μ F						
3	Transformer	ST-9586	AC187~264V						
4	Sensor for room temperature		Maximum input 38mA	°C	15	20	25	30	40
				K Ω	16.1	12.6	10.0	8.0	5.2
5	Indoor unit sensor for heat-exchanger temperature.	DTN-C103J40	Maximum input 34mA	°C	-12	0	25	50	
				K Ω	62.29	32.82	10.0	3.59	

4.3 RAV-163NH-PE

No	PARTS NAME	TYPE	SPECIFICATIONS						
1	Indoor unit fan motor	SMF-230-34 4E	Output (Rated) 34W, 4 Pole, 1 Phase, 230V, 50Hz.						
2	Running capacitor for Indoor fan motor	EEP2W255HQA113	AC 450V, 2.5 μ F						
3	Transformer	ST-9586	AC187~264V						
4	Sensor for room temperature		Maximum input 38mA	°C	15	20	25	30	40
				K Ω	16.1	12.6	10.0	8.0	5.2
5	Indoor unit sensor for heat-exchanger temperature.	DTN-C103J40	Maximum input 34mA	°C	-12	0	25	50	
				K Ω	62.29	32.82	10.0	3.59	

4.4 RAV-263NH-PE

No	PARTS NAME	TYPE	SPECIFICATIONS						
1	Indoor unit fan motor		Output (Rated) 75W, 4 Pole, 1 Phase, 230V, 50Hz.						
2	Running capacitor for Indoor fan motor	EEP2W255HQA113	AC 450V, 2.5 μ F						
3	Transformer	ST-9586	AC187~264V						
4	Sensor for room temperature		Maximum input 38mA	°C	15	20	25	30	40
				K Ω	16.1	12.6	10.0	8.0	5.2
5	Indoor unit sensor for heat-exchanger temperature.	DTN-C103J40	Maximum input 34mA	°C	-12	0	25	50	
				K Ω	62.29	32.82	10.0	3.59	

4.5 RAV-132AH-PE

No	PARTS NAME	TYPE	SPECIFICATIONS			
1	Compressor	PH230X3-4LS	Output (Rated) 1.5kW, 2 pole, 220/240V, 1 phase, 50Hz			
2	Outdoor unit fan motor	SMF-230-39N-2	Output (Rated) 39W, 6 pole, 230V, 1 phase, 50Hz			
3	Running capacitor for outdoor fan motor	EEP2G405HQA114	AC 400V, 4 μ F			
4	Magnetic contactor	FMca-1S	AC 220-240V, 50Hz			
5	High pressure switch	ACB-2TB04W	Tripping pressure 30kg/cm ² G Resetting pressure 23kg/cm ² G			
6	Solenoid coil for four-way valve	CHV-AC240V	AC 220-240V			
7	Crankcase heater		AC 240V, 28W			
8	Sensor for defrosting (TE)		Maximum input 15.5mA	°C	-12	10
				K Ω	67.5	21.3
9	Fuse		T5A			
10	Sensor for cooling operation in low ambient temperature (TL)		Maximum input 15.5mA	°C	-12	10
				K Ω	67.5	21.3
11	Solenoid coil for two-way valve	NEV AC 240V	AC 220-240V, 50Hz			
12	Running capacitor for compressor	MT-44MP456W	AC 440V 45 μ F			
13	Transformer (Outdoor unit)	FT-67	AC 187-264V			
14	Overload relay	OL-177GM15	AC 240V, Tripping temperature: 165°C, Resetting temperature: 80°C			
15	Bimetal thermostat	CS-7	Tripping temperature: 110°C Resetting temperature 90°C			

4.6 RAV-162AH-PE

No	PARTS NAME	TYPE	SPECIFICATIONS			
1	Compressor	PH250X3-4LS	Output (Rated) 1.5kW, 2 pole, 220/240V, 1 phase, 50Hz			
2	Outdoor unit fan motor	SMF-230-39N-2	Output (Rated) 39W, 6 pole, 230V, 1 phase, 50Hz			
3	Running capacitor for outdoor fan motor	EEP2G405HQA114	AC 400V, 4 μ F			
4	Magnetic contactor	FMca-1S	AC 220-240V, 50Hz			
5	High pressure switch	ACB-2TB04W	Tripping pressure 30kg/cm ² G Resetting pressure 23kg/cm ² G			
6	Solenoid coil for four-way valve	CHV-AC240V	AC 220-240V			
7	Crankcase heater		AC 240V, 28W			
8	Sensor for defrosting (TE)		Maximum input 15.5mA	°C	-12	10
				K Ω	67.5	21.3
9	Fuse		T5A			
10	Sensor for cooling operation in low ambient temperature (TL)		Maximum input 15.5mA	°C	-12	10
				K Ω	67.5	21.3
11	Solenoid coil for two-way valve	NEV AC 240V	AC 220-240V, 50Hz			
12	Running capacitor for compressor	MT-44MP456W	AC 440V 45 μ F			
13	Transformer (Outdoor unit)	FT-67	AC 187-264V			
14	Overload relay	OL-177GM15	AC 240V, Tripping temperature: 165°C, Resetting temperature: 80°C			
15	Bimetal thermostat	CS-7	Tripping temperature: 110°C Resetting temperature 90°C			

4.7 RAV-262AH-PE

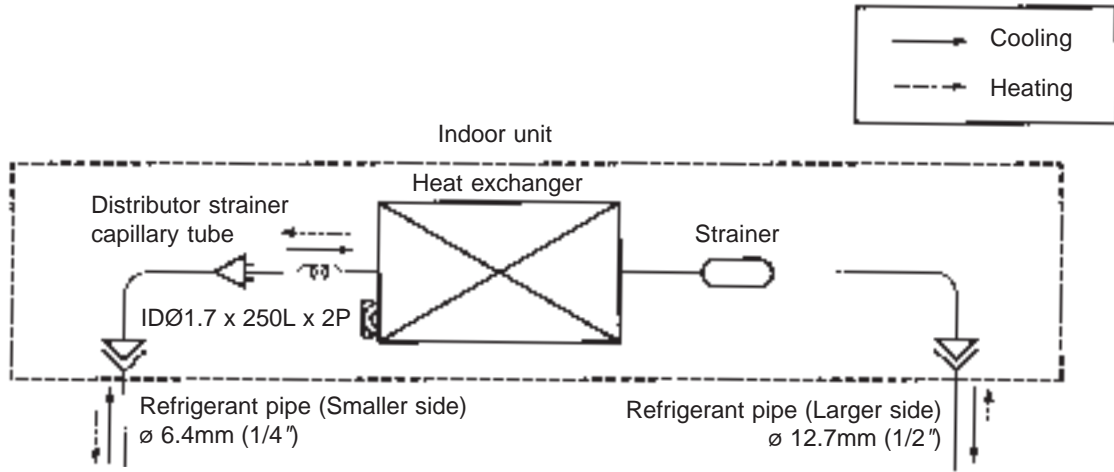
No	PARTS NAME	TYPE	SPECIFICATIONS			
1	Compressor	PH330X3-4MS	Output (Rated) 2.2kW, 2 pole, 220/240V, 3 phase, 50Hz			
2	Outdoor unit fan motor	SMF-230-63N-2	Output (Rated) 63W, 6 pole, 230V, 1 phase, 50Hz			
3	Running capacitor for outdoor fan motor	EEP2G405HQA114	AC 400V, 4 μ F			
4	Magnetic contactor	FMca-1S	AC 220-240V, 50Hz			
5	High pressure switch	ACB-2TB04W	Tripping pressure 30kg/cm ² G Resetting pressure 23kg/cm ² G			
6	Soleniod coil for four-way valve	CHV-AC240V	AC 220-240V			
7	Crankcase heater		AC 240V, 28W			
8	Sensor for defrosting (TE)		Maximum input	°C	-12	10
			15.5mA	K Ω	67.5	21.3
9	Fuse		T5A			
10	Sensor for cooling operation in low ambient temperature (TL)		Maximum input	°C	-12	10
			15.5mA	K Ω	67.5	21.3
11	Solenoid coil for two-way valve	NEV202DXF	AC 220-240V, 50Hz			
12	Running capacitor for compressor	EAR42M606UF	AC 440V 45 μ F			
13	Transformer (Outdoor unit)	FT-67	AC 187-264V			
14	Bimetal thermostat	CS-7	Tripping temperature: 110°C Resetting temperature 90°C			

4.8 RAV-262AH8-PE

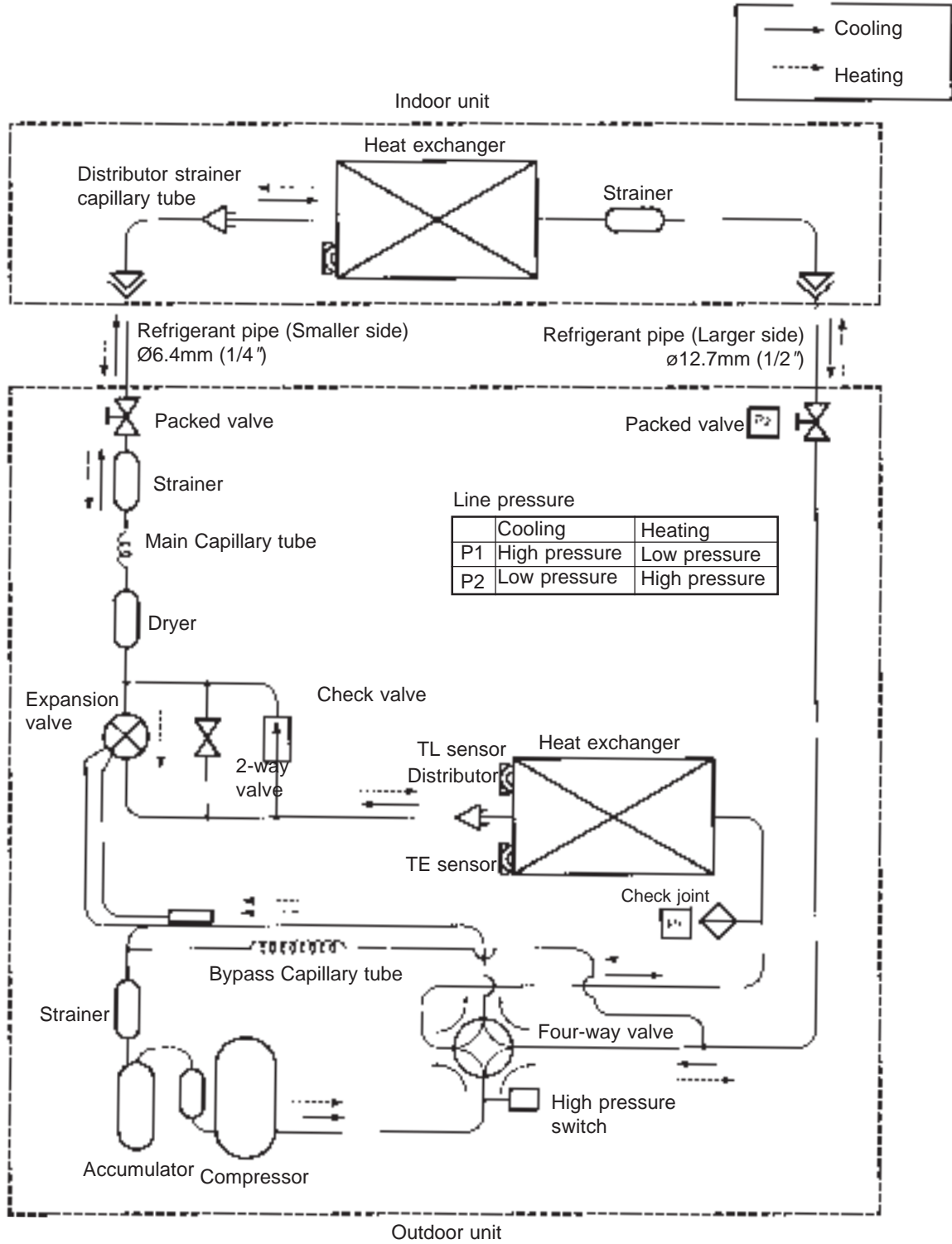
No	PARTS NAME	TYPE	SPECIFICATIONS			
1	Compressor	YH330X3-MS	Output (Rated) 2.2kW, 2 pole, 380~415V, 3 phase, 50Hz			
2	Outdoor unit fan motor	SMF-230-63N-2	Output (Rated) 39W, 6 pole, 230V, 1 phase, 50Hz			
3	Running capacitor for outdoor fan motor	EEP2G405HQA114	AC 400V, 4 μ F			
4	Magnetic contactor	FMca-1S	AC 220-240V, 50Hz			
5	High pressure switch	ACB-2TB04W	Tripping pressure 30kg/cm ² G Resetting pressure 23kg/cm ² G			
6	Soleniod coil for four-way valve	CHV-AC240V	AC 220-240V			
7	Crankcase heater		AC 240V, 28W			
8	Sensor for defrosting (TE)		Maximum input	°C	-12	10
			15.5mA	K Ω	67.5	21.3
9	Fuse		T5A			
10	Sensor for cooling operation in low ambient temperature (TL)		Maximum input	°C	-12	10
			15.5mA	K Ω	67.5	21.3
11	Return lock	STR-4AB	AC 400/440V			
12	Transformer (Outdoor unit)	FT-67	AC 187-264V			
13	Bimetal thermostat	CS-7	Tripping temperature: 120°C Resetting temperature 90°C			

5. REFRIGERANT PIPING DIAGRAM

5.1 Indoor unit RAV-103NH-PE



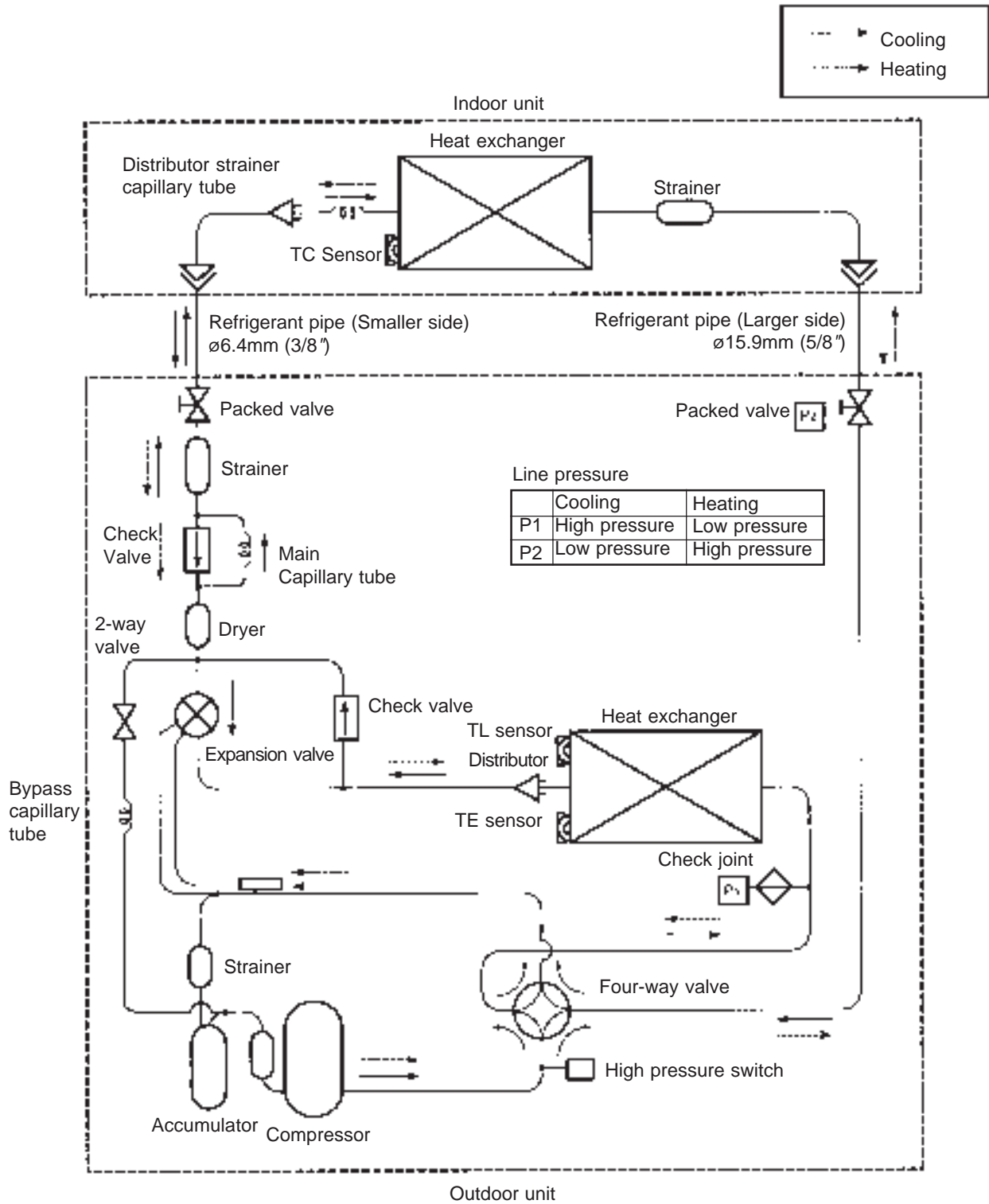
5.2 Indoor unit Outdoor unit
 RAV-133NH-PE RAV-132AH-PE
 RAV-163NH-PE RAV-162AH-PE



Indoor Unit		Outdoor Unit		
Model	Capillary	Model	Main Capillary	Bypass Capillary
RAV-133NH-PE	IDØ 1.7x150 L x2P	RAV-132AH-PE	IDØ 2.4x500 L x1P	IDØ 0.8x1000 L x1P
RAV-163NH-PE	IDØ 1.5x600 L x3P	RAV-162AH-PE		

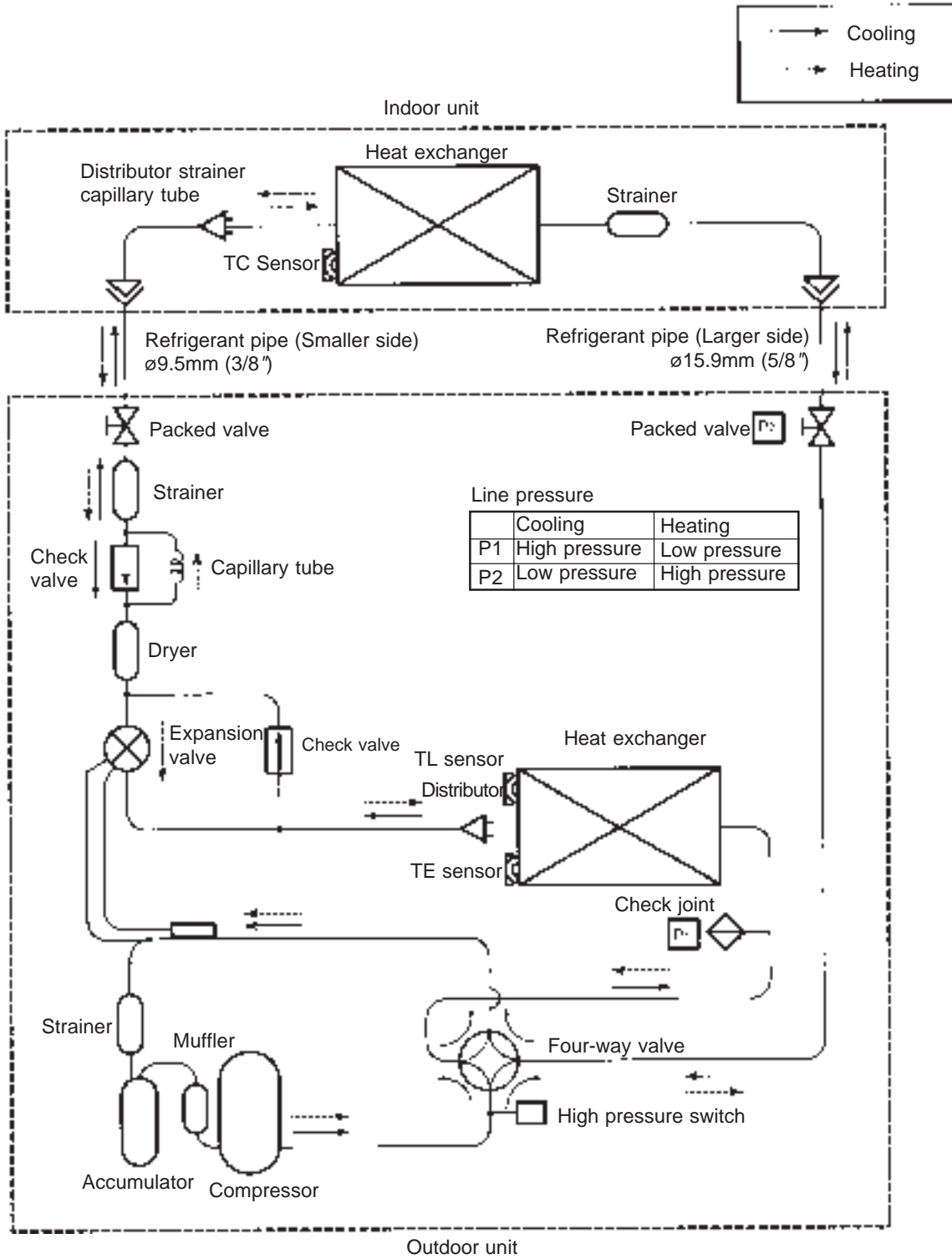
**5.3 Indoor unit
RAV-263NH-PE**

**Outdoor unit
RAV-262AH-PE**



Indoor Unit		Outdoor Unit		
Model	Capillary	Model	Main Capillary	Bypass Capillary
RAV-263NH-PE	IDØ 1.7x150 L x 2P	RAV-262AH-PE	IDØ	IDØ

5.4 Indoor unit Outdoor unit
 RAV-263NH-PE RAV-262AH8-PE

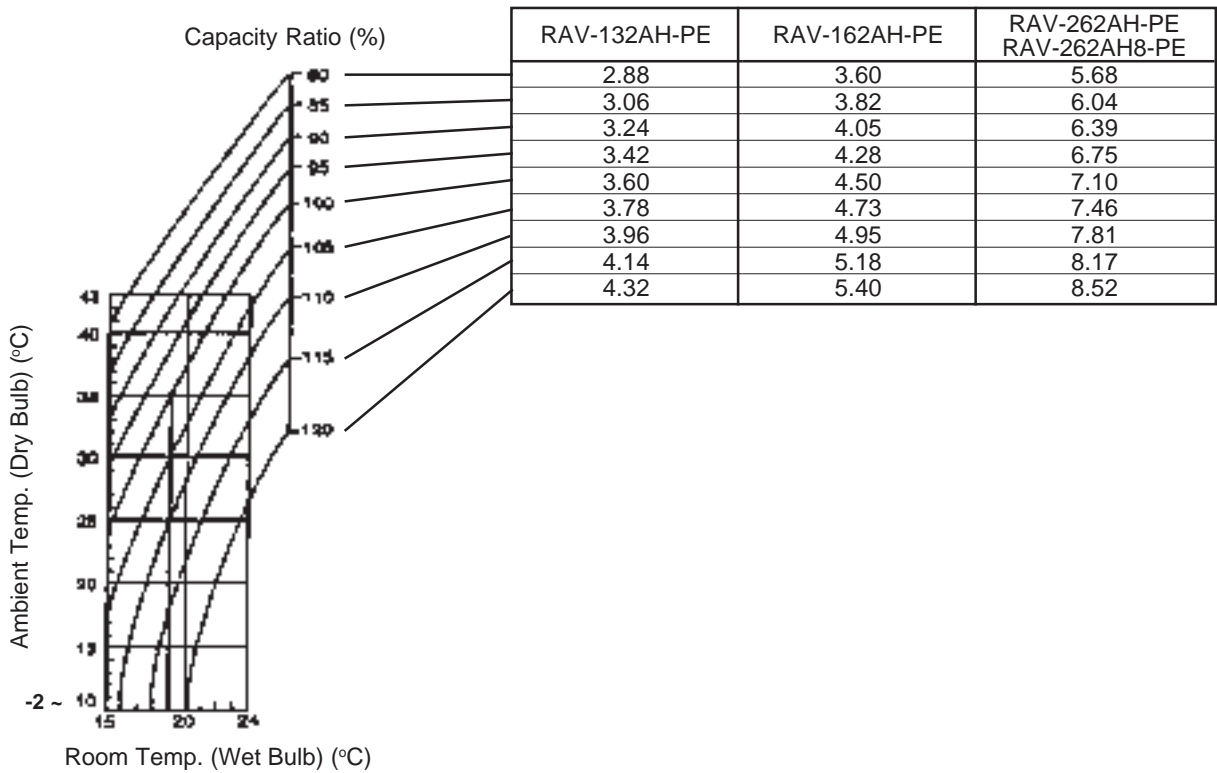


Indoor Unit		Outdoor Unit		
Model	Capillary	Model	Main Capillary	Bypass Capillary
RAV-263NH-PE	IDφ	RAV-262AH8-PE	IDφ	IDφ

6. PERFORMANCE CHARACTER

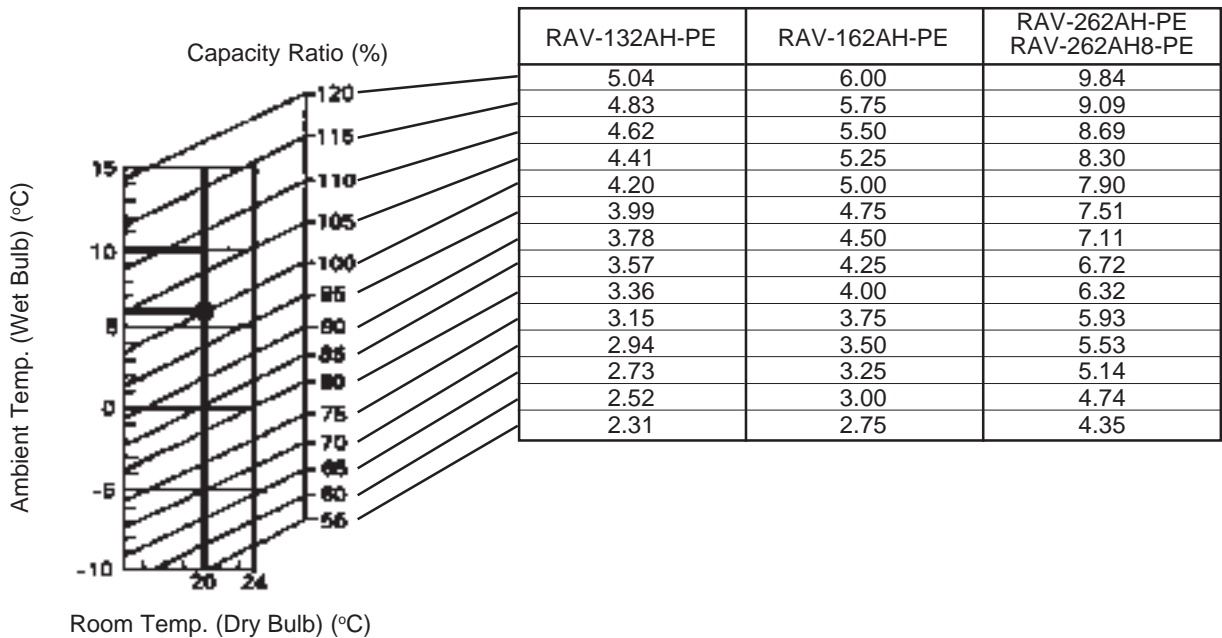
6.1 Cooling capacity

(KW)

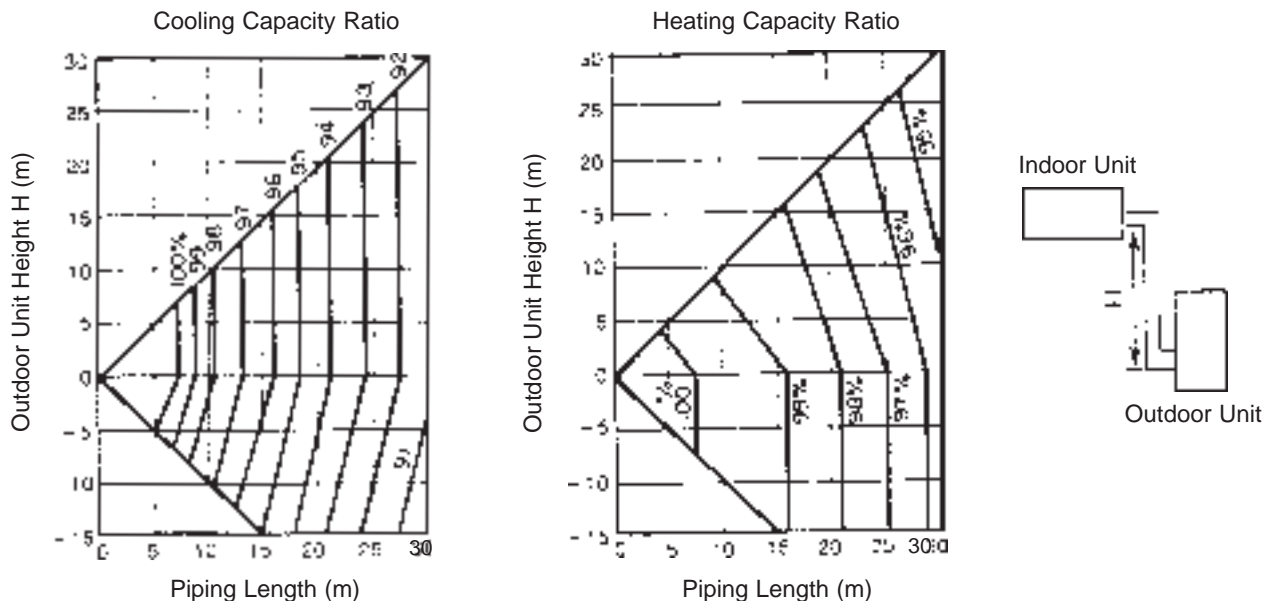


6.2 Heating capacity

(KW)



6.3 Cooling/ Heating Capacity Ratio
RAV-132AH-PE
RAV-162AH-PE
RAV-262AH-PE
RAV-262AH8-PE



6.4 Piping length/additional refrigerant volume

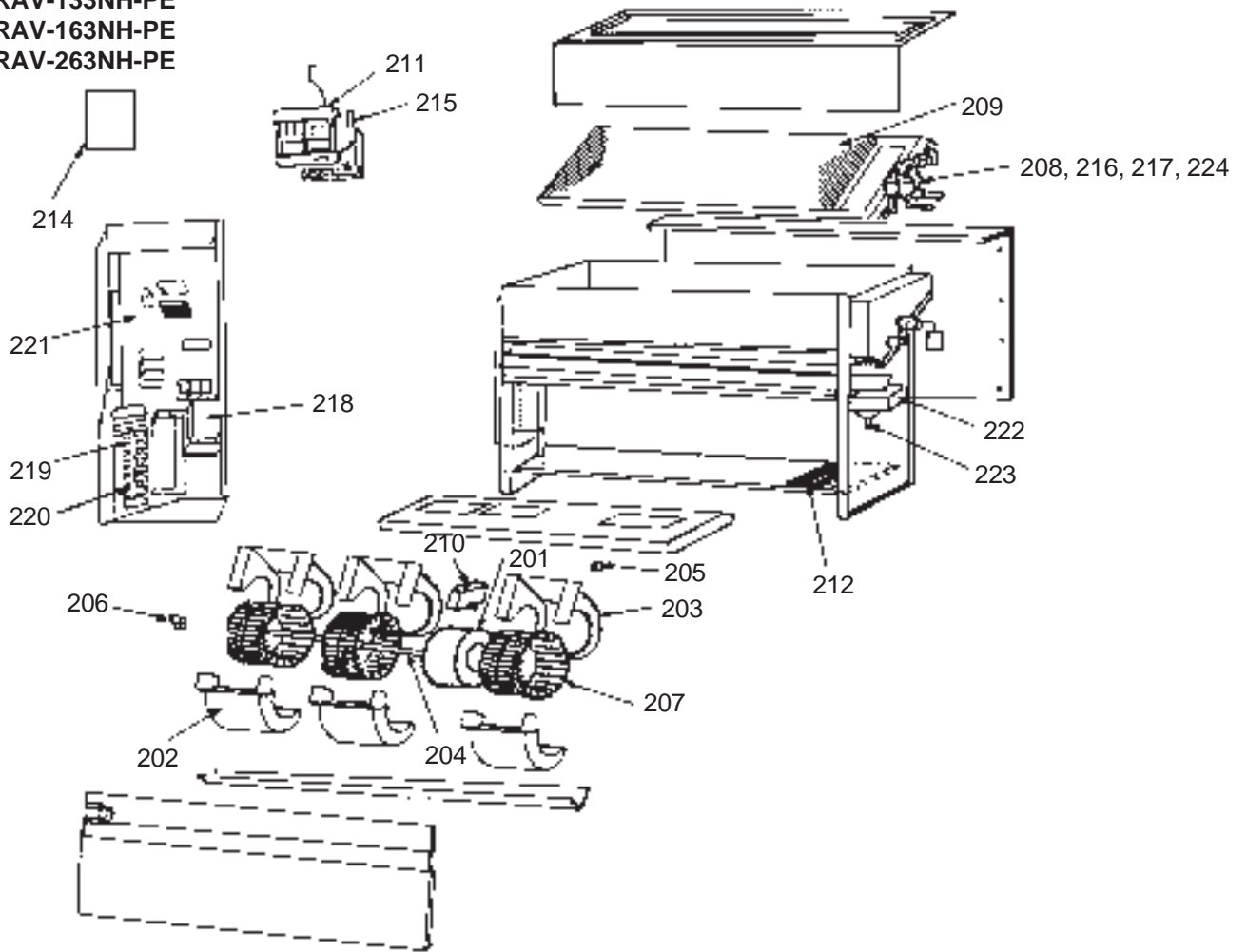
Model	Piping length less than (m) Up to 20m	Additional amount of refrigerant at installation site (kg)						Recharge quantity (kg)					
		25	30	35	40	45	50	5	10	15	20	25	30
RAV-132AH-PE	Filled at factory	0.15	0.35	-	-	-	-	0.95	1.05	1.10	1.20	1.35	1.55
RAV-162AH-PE	Filled at factory	0.15	0.35	-	-	-	-	1.35	1.45	1.50	1.60	1.75	1.95
RAV-262AH-PE RAV-262AH8-PE	Filled at factory	0.3	0.6	-	-	-	-	2.2	2.25	2.3	2.35	2.65	2.95

- The amount of refrigerant put into the outdoor unit at the factory is equivalent to that which fills up 20m length of refrigerant pipe.
- If the length of refrigerant pipe is 20m or less, addition of refrigerant at the installation site is unnecessary. If the length of the pipe exceeds 20m, add the refrigerant R-22.
- Overcharge or undercharge of refrigerant in the outdoor unit will cause malfunction of the compressor. The prescribed amount of the replenishment of the refrigerant is shown in the table above. The permissible amount of refrigerant is the prescribed amount $\pm 50g$.

7. EXPLODED VIEWS AND PARTS LISTS

7.1 Indoor unit

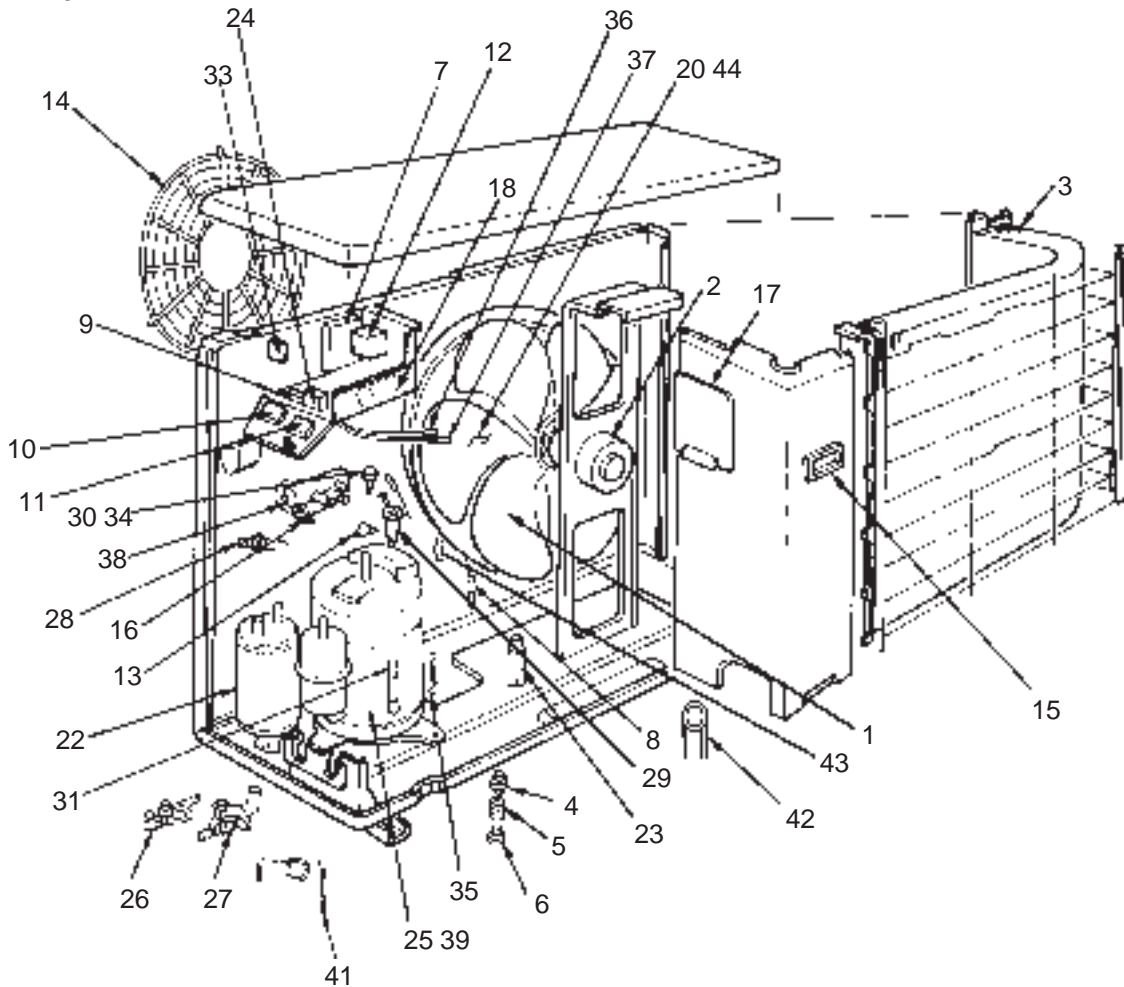
RAV-103NH-PE
RAV-133NH-PE
RAV-163NH-PE
RAV-263NH-PE



Location No	Part No	Description
201	43A21013	Fan motor (RAV-103/133NH-PE)
201	43A21004	Fan motor (RAV-163NH-PE)
201	43A21006	Fan motor (RAV-263NH-PE)
202	43126127	Fan case lower (RAV-63/133/163NH-PE)
202	43126129	Fan case lower (RAV-263NH-PE)
203	43126128	Fan case upper(RAV-103/133/163NH-PE)
203	43126130	Fan case upper (RAV-263NH-PE)
204	43125143	SS shaft (RAV-163NH-PE)
205	43125142	Coupling (RAV-163NH-PE)
206	43125131	Bearing (RAV-163NH-PE)
207	43120172	Fan, Sirocco (RAV-163NH-PE)
208	43107214	Sensor fix plate
209	43A44016	ASM Evaporator (RAV-103/133NH-PE)
209	43A44016	ASM Evaporator (RAV-163NH-PE)
209	-	ASM Evaporator (RAV-263NH-PE)
210	43155101	MF Capacitor (RAV-103/133NH-PE)
210	43155138	MF Capacitor (RAV-163/263NH-PE)

Location No	Part No	Description
211	43A69004	Remote control
212	A3A80006	Filter (RAV-103NH-PE)
212	A3A80007	Filter (RAV-133/163/263NH-PE)
215	43A21008	Cover, Remocon
216	43150148	TA sensor
217	43A50002	TC sensor
218	43A58002	Transformer
219	43A60002	Terminal 3P
220	43A60001	Terminal 4P
221	43A69002	PC board
222	A3AT0004	ASM Drain Catch
223	43170197	Drain hose
224	43A47014	ASM distributor(RAV-103/133NH-PE)
224	43A47015	ASM distributor(RAV-163NH-PE)
224		ASM distributor(RAV-263NH-PE)

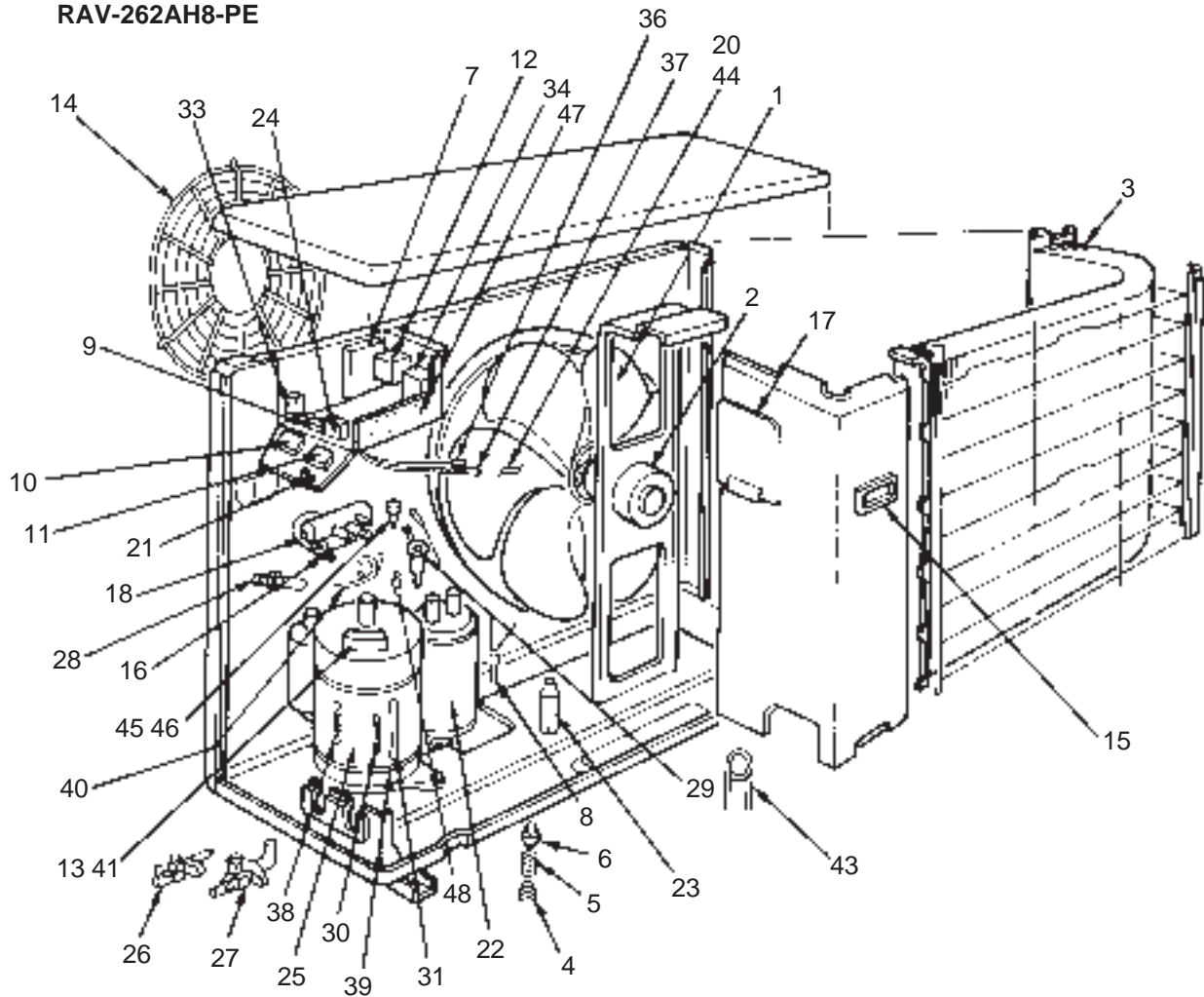
7.2 Outdoor unit
RAV-132AH-PE
RAV-162AH-PE



Location No	Part No	Description
1	43120156	Fan, propeller
2	43A21003	Motor, fan, AC230V, 50Hz
3	43A43001	Condenser
4	43149212	Base, spring, A
5	43149198	Spring, buffer
6	43049132	Base, spring, B
7	43A69003	PC board
8	43A49001	Switch, high pressure
9	43060479	Terminal, 4P
10	43A60003	Terminal, 2P
11	43A60001	Terminal, 4P
12	43152334	Magnetic contactor
13	43054286	Relay, overload
14	43A19001	Guard, fan
15	43119368	Hanger
16	43A46004	Solenoid coil
17	43162027	Cover, electric parts
18	43155115	Capacitor, plastic film, 45MFD, 440V
20	43107215	Holder, sensor (TE)
22	43148105	Accumulator
23	43145082	Dryer
24	43155080	Capacitor, electrolytic

Location No	Part No	Description
25	43041837	Compressor, AC220/240V, 50Hz, PH230X3-4LS (RAV-132AH-PE)
25	43041845	Compressor, AC220/240V, 50Hz, PH230X3-4LS (RAV-162AH-PE)
26	43146454	Packed valve (1/4")
27	43146406	Packed vave (1/2")
28	43147321	Check joint
29	43146424	Expansion valve
30	43046198	Coil, 2-way valve
31	43146283	1-way valve
33	43A58003	Transformer, power
34	43046151	Valve, 2-way
35	43193043	Spring
36	43A50001	Sensor, cond. Out (TL)
37	43150196	Sensor, heat-exch (TE)
38	43146418	Valve 4-way
39	43157167	Heater, crankcase
41	43146459	Capillary tube
42	44246235	Capillary tube
43	43150122	Thermostat, bimetal
44	43107215	Holder, sensor (TL)

7.3 Outdoor unit
RAV-262AH-PE
RAV-262AH8-PE



Location No	Part No	Description
1	43120156	Fan, propeller
2	43A21002	Motor, fan, AC230V, 50Hz
3	43A43002	Condenser
4	43149132	Base, spring, B
5	43149198	Spring, buffer
6	43049212	Base, spring, A
7	43A69003	PC board
8	43A49001	Switch, high pressure
9	43060479	Terminal, 4P
10	43A60004	Terminal, 2P (RAV-262AH-PE)
10	43A60005	Terminal 4P (RAV-262AH8-PE)
11	43A60001	Terminal, 4P
12	43152334	Magnetic contactor (RAV-262AH-PE)
12	43152345	Magnetic contactor (RAV-262AH8-PE)
13	43050277	Thermostat Bimetal(RAV-262AH8-PE)
14	43A19001	Guard, fan
15	43119368	Hanger
16	43A46004	Solenoid coil
17	43162027	Cover, electric parts
18	43146418	Valve 4-way
20	43107215	Holder, sensor (TE)
21	43169600	Holder
22	43148114	Accumilator
23	43145082	Dryer
24	43155080	Capacitor, plastic film

Location No	Part No	Description
25	43140318	Compressor, PH330X3-4MS (RAV-262AH-PE)
25	43141302	Compressor, YH330X3-MS (RAV-262AH8-PE)
26	43146451	Packed valve (3/8")
27	43146417	Packed vave (5/8")
28	43147321	Check joint
29	43146433	Expansion valve
30	43046156	Checked valve
31	43146283	Checked valve
33	43A58003	Transformer, power
34	43154148	Return lock STR-4AB (RAV-262AH8-PE)
36	43A50001	Sensor, Cont. Out (TL)
37	43150196	Sensor, Heat Exch. (TE)
38	43193043	Spring
39	43157167	Heater, crankcase
40	44246236	Capillary tube (RAV-262AH-PE)
41	43063195	Holder Thermostat, Bimetal (RAV-262AH-PE)
43	43146459	Capillary tube
44	43107215	Holder, Sensor (TL)
45	43046151	Valve, 2 way (RAV-262AH-PE)
46	43046198	Coil, 2 way valve (RAV-262AH-PE)
47	43055379	Capacitor, Electrolyic (RAV-262AH-PE)
48	43150122	Thermostat, Bimetal (RAV-262AH-PE)

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