

TOSHIBA

FILE NO. A90-0027

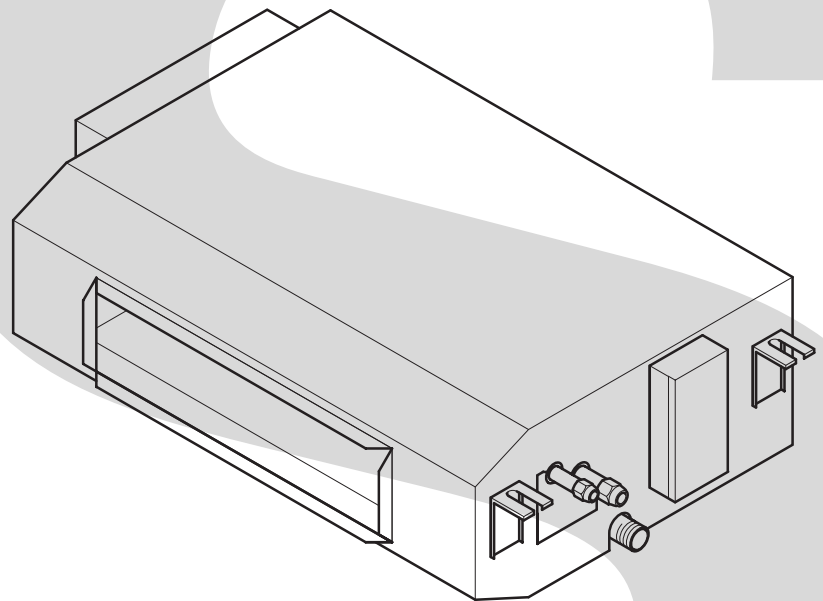
SERVICE MANUAL

AIR-CONDITIONER

SPLIT TYPE, HEAT PUMP



SLIM DUCT TYPE
RAV-104SBH-PE



HFC

R407C

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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 Control Circuits, refer to Service Manual A90-9925.

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

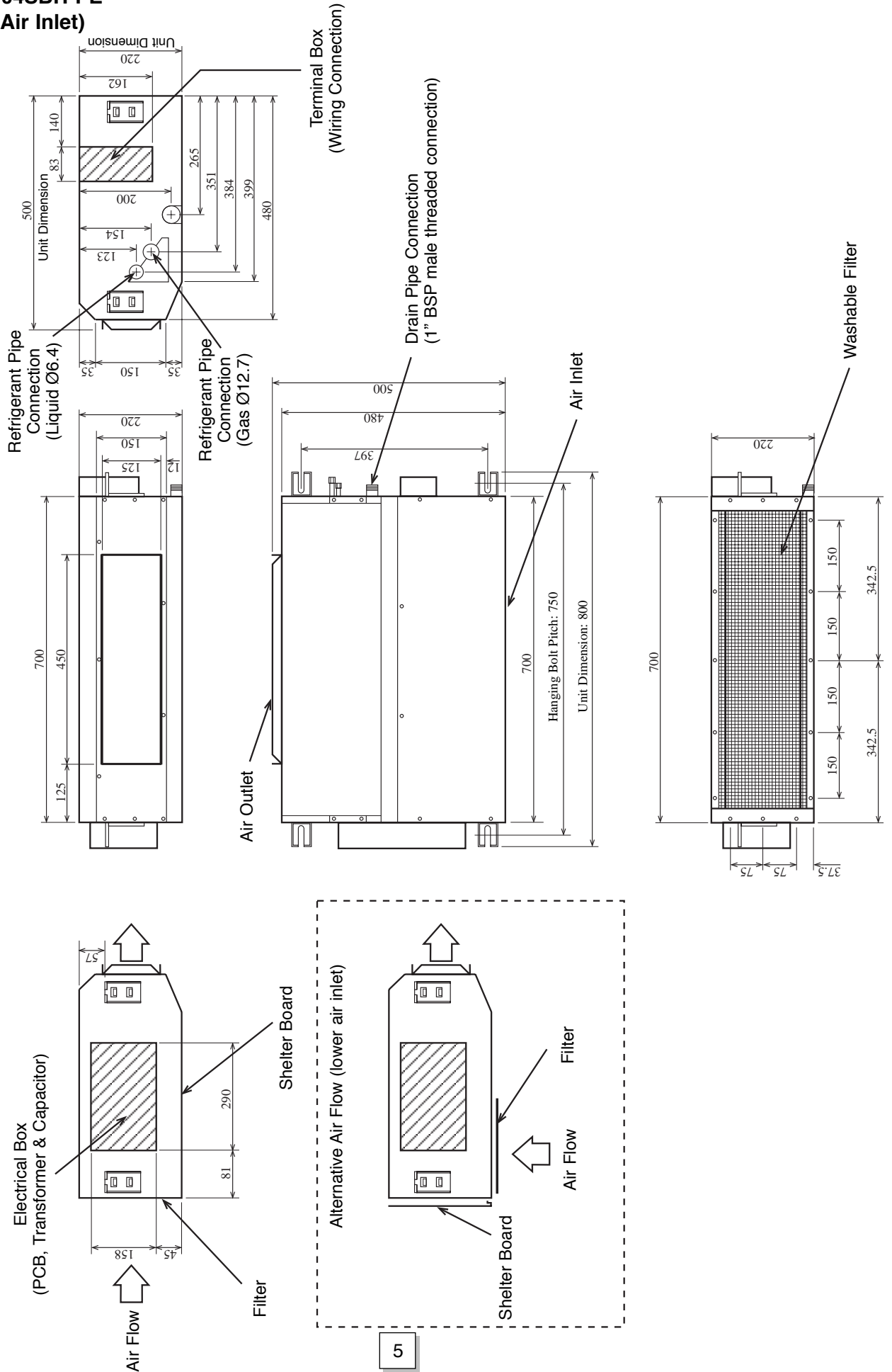
1. SPECIFICATIONS

Item	Model	RAV-104SBH-PE	
Cooling capacity	kW	2.5	
Heating capacity	kW	2.8	
Power source	Phase	1	
	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	Sound Pressure (High/Med/Low) dB(A)	35/32/29	
	Indoor Unit Sound Power (High/Med/Low) dB(A)	47/45/44	
Refrigerant	Name of Refrigerant	R407C	
Interconnection pipe	Larger side size	mm	ø12.7
	Coupler style		Flare
	Smaller side size	mm	ø6.4
	Coupler style		Flare
Condensate drain pipe diameter	mm	1" BSP (male threaded connection)	
Appearance colour		Zinc, galvanized steel & thermal insulation	
Dimensions	Height	mm	220
	Width	mm	800
	Depth	mm	500
Net weight	kg	22	
Heat exchanger type		Finned tube	
Indoor fan type		Multi-blade fan	
Air volume	m ³ /hr	450	
Fan motor output	W	34	
External static pressure	Std/Max	mmAq	1.5/3.0
Air filter		Washable Reversible (rear or lower air inlet)	

Specifications are subject to change without notice

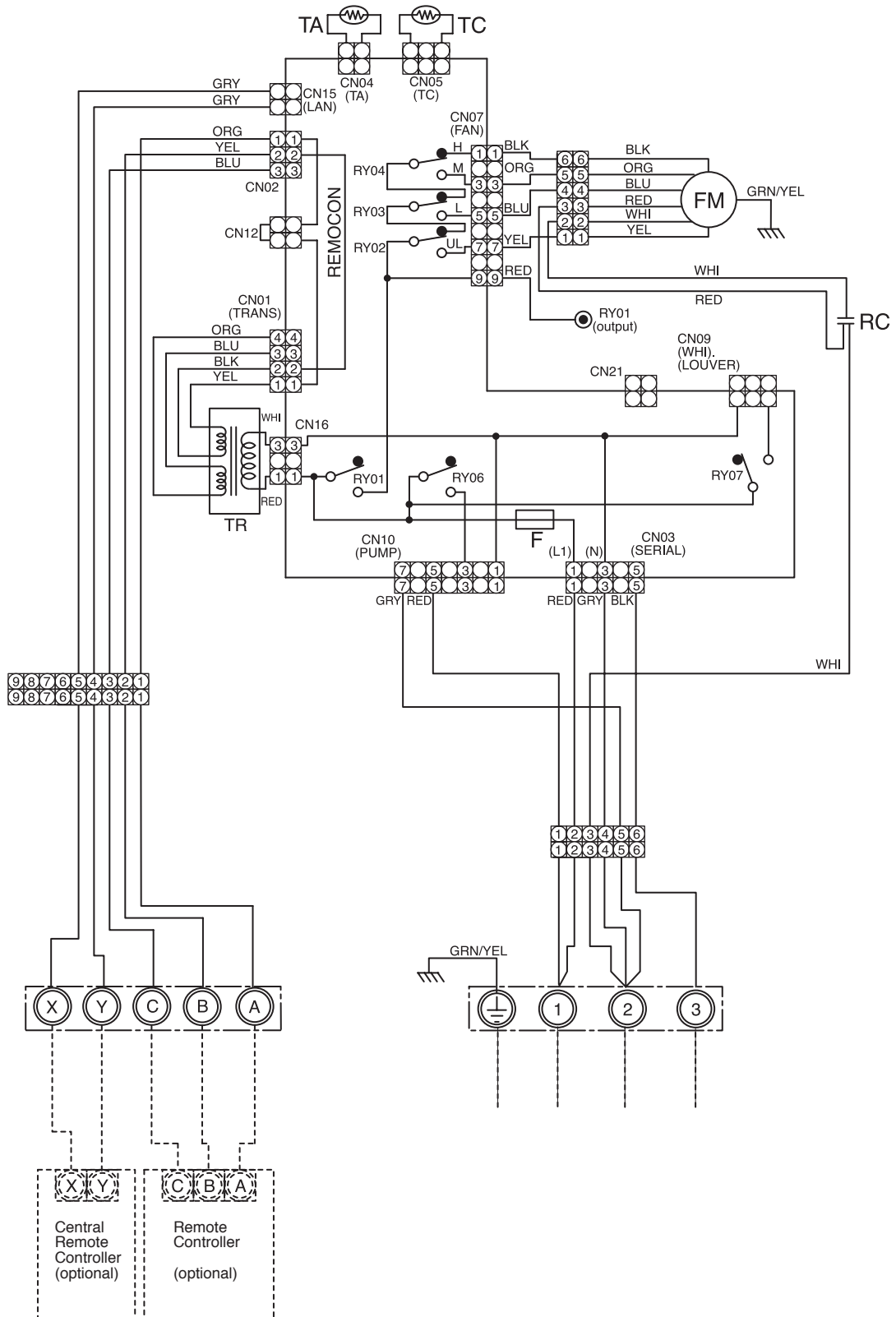
2. CONSTRUCTION VIEW

2.1 Indoor Unit RAV-104SBH-PE (Rear Air Inlet)



3. WIRING DIAGRAM

3.1 RAV-104SBH-PE



○ shows terminal block and figures show terminal numbers.

Broken lines show wiring at site.

Do not operate the units with the magnetic contactor pushed in.

Symbol	Name	Symbol	Name
FM	Fan Motor	TA	Sensor – Room Temperature
RC	Running Capacitor	TC	Sensor – Heat Exchanger
TR	Transformer	RY01~RY07	Relay
F	Fuse (PCB)		

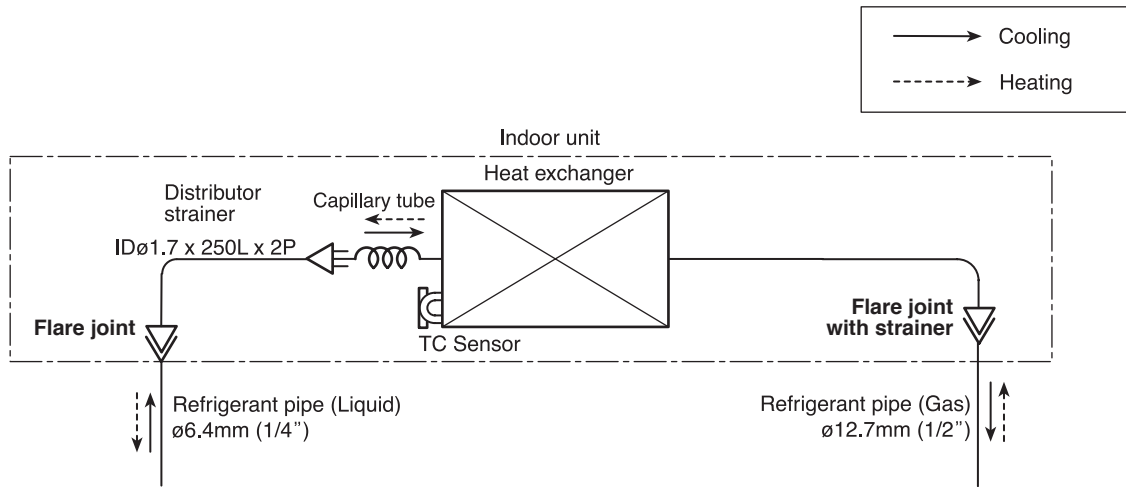
4. SPECIFICATION OF ELECTRICAL PARTS

4.1 RAV-104SBH-PE

No	PARTS NAME	TYPE	SPECIFICATIONS						
1	Indoor Unit fan motor	SMF-230-34-4J	Output (rated) 34W, 4 pole, 230V, 1 Phase, 50Hz						
2	Running capacitor for indoor fan motor	EEP2H105HQA105	AC 500V, 1.0 μ F						
3	Transformer (Indoor Unit)	ST-10568	AC 187-264V						
4	Sensor for room temperature (TA)		Maximum input 38mA	°C	15	20	25	30	40
				k Ω	16.1	12.6	10.0	8.0	5.2
5	Sensor for heat exchanger temperature (TC)		Maximum input 15.5mA	°C	-12	10			
				k Ω	67.5	21.3			

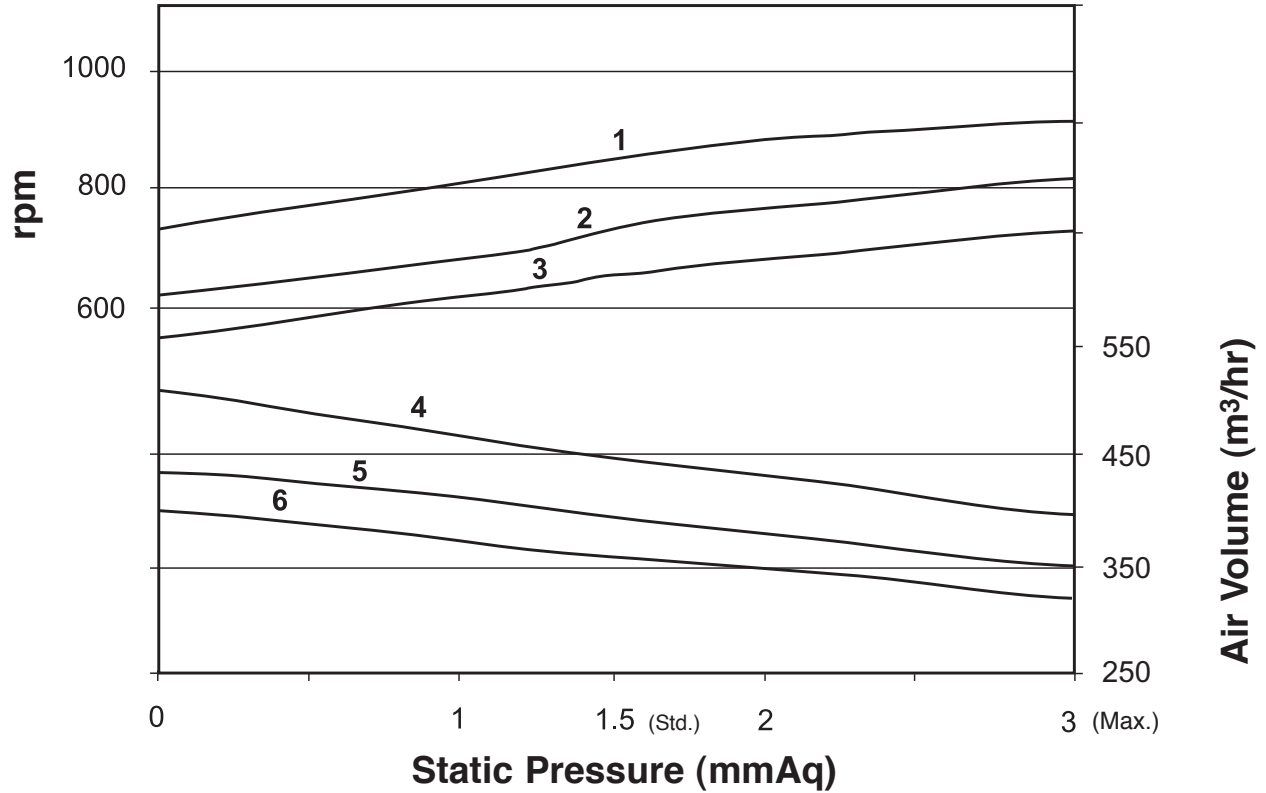
5. REFRIGERANT PIPING DIAGRAM

5.1 Indoor Unit RAV-104SBH-PE



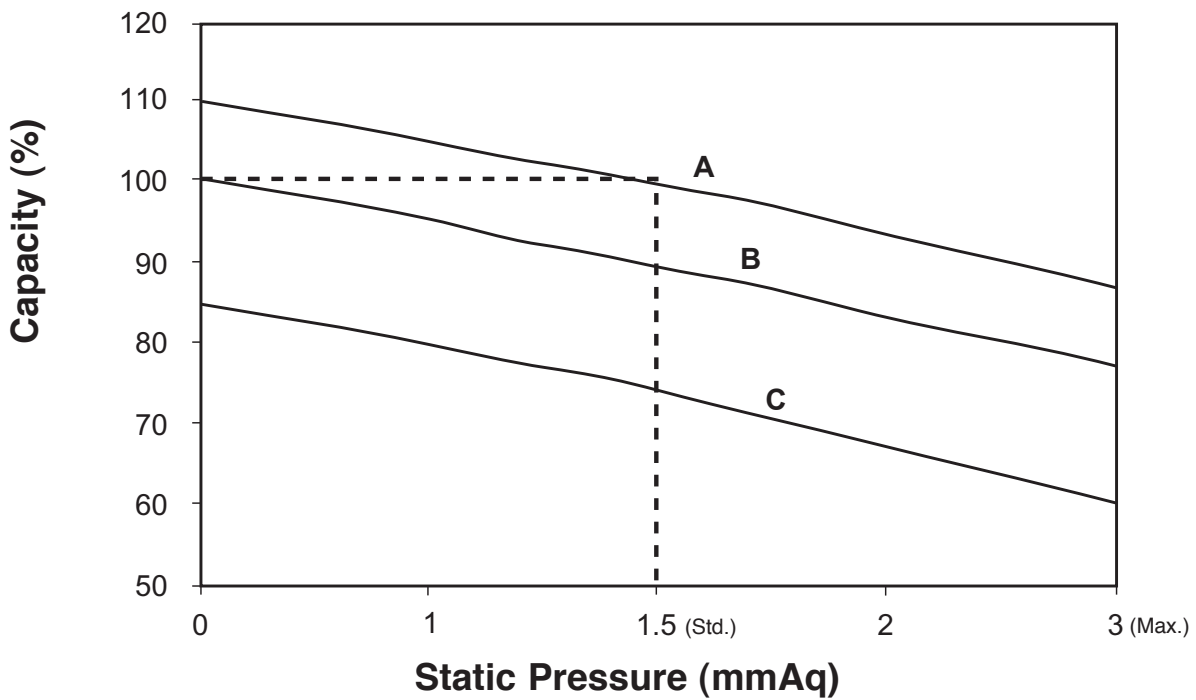
6. PERFORMANCE CHARACTERISTICS

6.1 Air Flow Characteristics



- | | |
|-------------------|--------------------------|
| 1 rpm, High Fan | 4 Air Volume, High Fan |
| 2 rpm, Medium Fan | 5 Air Volume, Medium Fan |
| 3 rpm, Low Fan | 6 Air Volume, Low Fan |

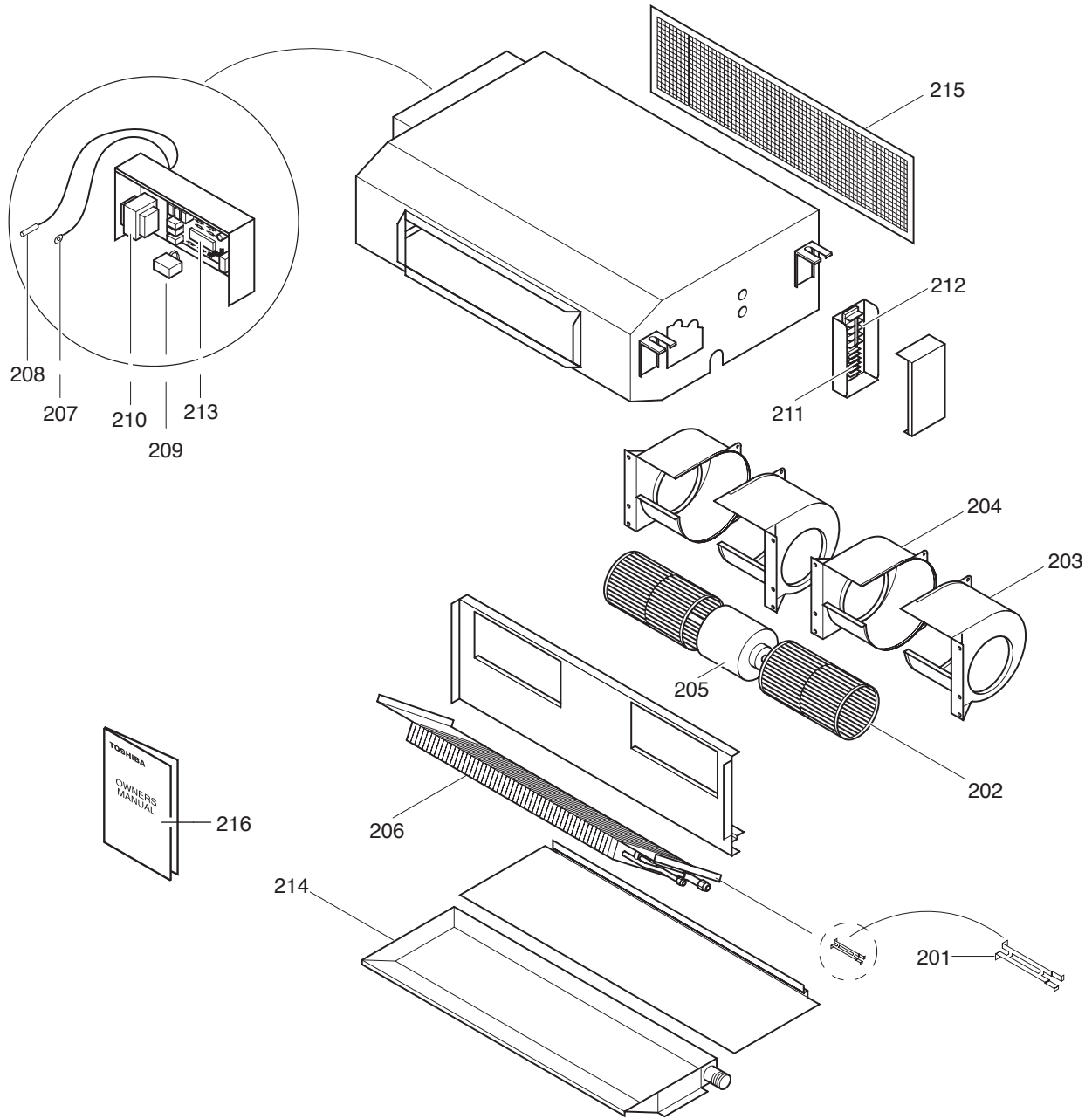
6.2 Cooling/Heating Capacity Ratio



- A High Fan
- B Medium Fan
- C Low Fan

7. EXPLODED VIEW

7.1 RAV-104SBH-PE



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
201	43107215	SENSOR HOLDER	209	43155100	MF CAPACITOR
202	43A20003	FAN – MULTI BLADE	210	43A58004	TRANSFORMER
203	43A22005	FAN CASE	211	43A60010	TERMINAL – ABCXY
204	43A22006	FAN CASE	212	43A60001	TERMINAL BLOCK ≒ 123
205	43A21020	FAN MOTOR	213	43A69010	PC BOARD
206	43A44059	REFRIGERATION ASSEMBLY	214	43A72009	DRAIN PAN
207	43A50005	TA SENSOR – ROOM TEMP	215	43A80009	FILTER
208	43A50004	TC SENSOR – HEAT EXCHANGER	216	43A88011	OWNER'S MANUAL

TOSHIBA

AIR CONDITIONING

PORSHAM CLOSE, BELLIVER INDUSTRIAL ESTATE, PLYMOUTH PL6 7DB UK

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