

SAMSUNG

ROOM AIR CONDITIONER

INDOOR UNIT

AQ12SGGE

SH12ZSG

AQ09S8GE

SH09ZS8

AQ07S8GE

SH07ZS8

OUTDOOR UNIT

UQ12SGGE

SH12ZSGX

UQ09S8GE

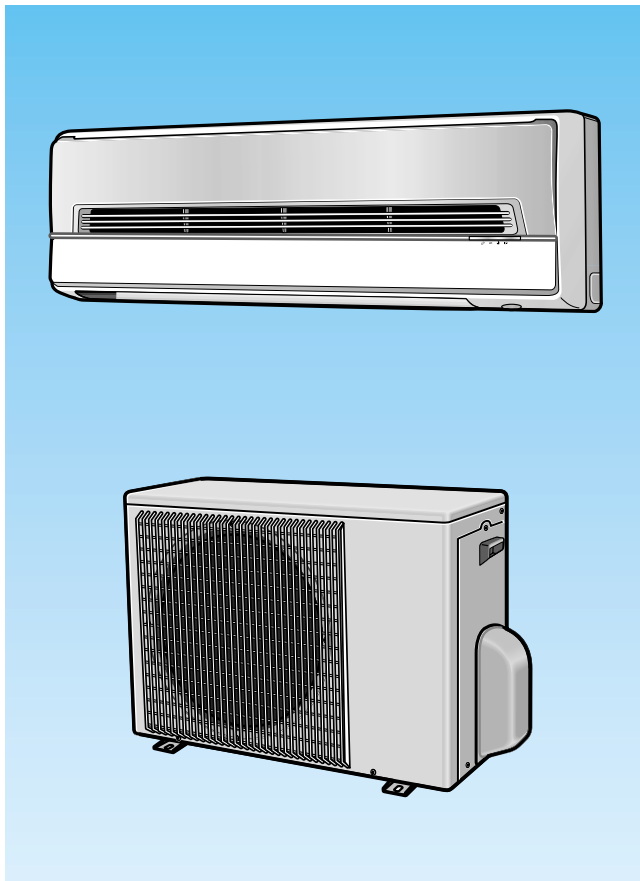
SH09ZS8X

UQ07S8GE

SH07ZS8X

SERVICE *Manual*

AIR CONDITIONER



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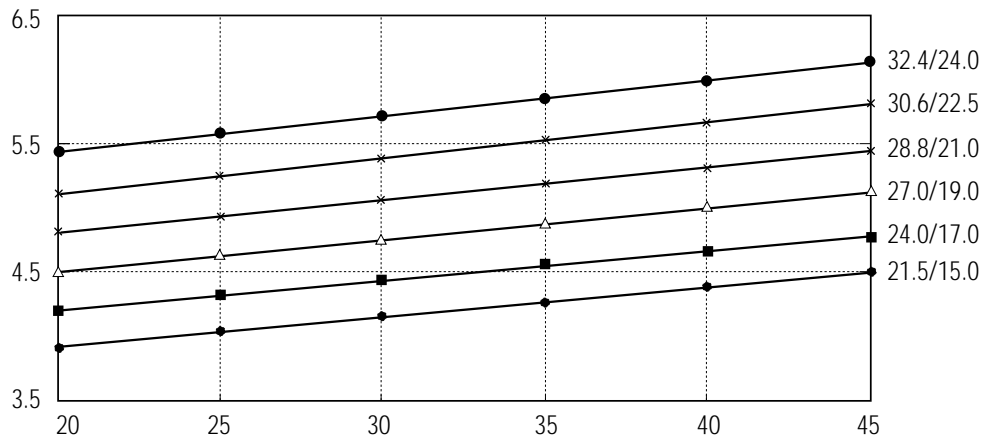
1. Product Specifications

1-1 Table

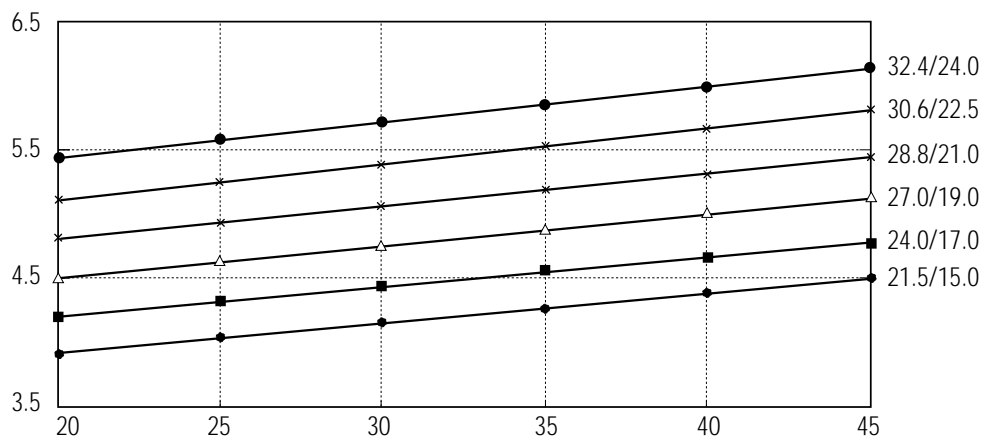
Item			Model	SH12ZSG AQ12SGGE		SH09ZS8 AQ09S8GE		SH07ZS8 AQ07S8GE		
				Indoor unit	Outdoor unit	Indoor unit	Outdoor unit	Indoor unit	Outdoor unit	
Type			Wall-mounting		Wall-mounting		Wall-mounting			
Performance	Cooling		kW	3.5		2.7		2.2		
	Heating		kW	3.8		2.9		2.3		
	Dehumidifying		l/h	1.9		1.4		0.9		
	Air volume	Cooling	m ³ /min	7.9	24	6.4	19	5.8	19	
		Heating		8.6	24	7.0	19	6.2	19	
	Noise	Cooling	dB	40	50	38	48	36	47	
		Heating		40	50	38	48	36	47	
	Energy efficiency ratio	Cooling	W/W	2.97		2.81		2.86		
Heating		3.25		3.22		3.29				
Power		V-Hz	1-220 / 240-50		1-220 / 240-50		1-220 / 240-50			
Power	Power Consumption	Cooling	W	1180		960		770		
		Heating		1170		900		700		
	Operating Current	Cooling	A	5.3		4.4		3.3		
		Heating		5.1		4.0		3.1		
	Power factor	Cooling	%	96.8		94.9		99.9		
		Heating		99.7		97.8		98.2		
	Starting current		A	32.0		21.0		18.0		
	Power cord	Length		m	-		-		-	
Number of core wire			-		-		-			
Capacity		A	250V-10 / 16A		250V-10 / 16A		250V-10 / 16A			
Size	Outer Dimension	Width x Height		mm	890x285x179	695x530x280	795x258x179	660x475x242	795x258x179	660x475x242
		x Depth		inch	35.0x11.2x7.0	27.4x20.9x11.0	31.3x10.2x7.0	26.0x18.7x9.5	31.3x10.2x7.0	26.0x18.7x9.5
	Weight		kg	8.5	33.0	7.5	26.3	7.5	25.6	
	Refrigerant pipe	Liquid		mm x L(MT)	ø6.35 x 5		ø6.35 x 5		ø6.35 x 5	
		GAS		mm x L(MT)	ø12.7 x 5		ø9.52 x 5		ø9.52 x 5	
	Drain hose		D x L(mm)		ø18 x 2000		ø18 x 2000		ø18 x 2000	
	Compressor	Type			Rotary		Rotary		Rotary	
		Motor	Type		-	-	-	-	-	-
			Rated output		-	-	-	-	-	-
	Blower	Type			Cross-flow	Propeller	Cross-flow	Propeller	Cross-flow	Propeller
Motor		Type		steel	steel	steel	steel	steel	steel	
		Rated output	W	15	25	11	20	11	20	
Heat exchanger				2ROW 12STEP	1ROW 20STEP	2ROW 10STEP	1ROW 18STEP	2ROW 10STEP	1ROW 18STEP	
Refrigerant control unit				CAPILLARY TUBE		CAPILLARY TUBE		CAPILLARY TUBE		
Freezer oil capacity			cc	600		360		360		
Refrigerant to change(R-22)			g	820		660		620		
Protection device				RAC 12074-9622		RAC 12054-9622		RAC 12144-9622		
Cooling test Condition				INDOOR UNIT : DB27°C WB19°C			OUTDOOR UNIT : DB35°C WB24°C			
Maximum operation Condition				INDOOR UNIT : DB32°C WB23°C			OUTDOOR UNIT : DB43°C WB26°C			

1-2 Pressure Graph

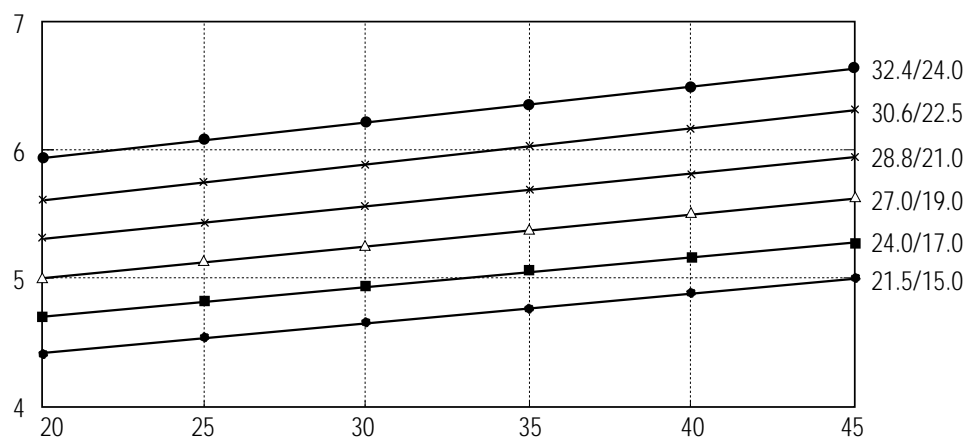
■ 12K BTU



■ 9K BTU



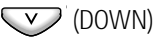

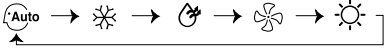










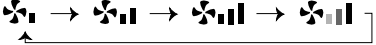








■ 7K BTU



2. Operating Instructions

2-1 The Feature of Key in remote control

NO	NAMED OF KEY	FUNCTION OF KEY
1		Power On/Off button to start and stop air conditioner or timer set up.
2	 (UP)	Temp. up button. To increase the temperature by the pressing the temperature button.
	 (DOWN)	Temp. down button. To decrease the temperature by the pressing the temperature button.
3		Each time you press this button Mode is changed in the following order   : Auto Mode  : Fan Only  : Cool Mode  : Heat Mode  : Dry Mode
4		Press the  button one or more times until TURBO appears. The air conditioner cools or heats the room as quickly as possible. After 30minutes, the air conditioner is reset automatically to the previous mode.
		Press the  button one or more times until  appears. The sleep timer can be used when you are cooling or heating your room to switch the air conditioner off automatically after a period of six hours.
5		Each time you press this button, FAN SPEED is changed in the following order. 
6		Adjust air flow vertically.
7		The ON Timer enables you to switch on the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To cancel, press the  (Set/Cancel) button.
8		The Off Timer enables you to switch off the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To cancel, press the  (Set/Cancel) button.
9	Energy Saving 	If you wish to save energy when using your air conditioner, select the Energy saving mode with the Energy saving button.

2-1-1 Name & Function of Key in remote control

1. **AUTO MODE** : In this mode, operation mode(COOL, HEAT) is selected automatically by the room temperature of initial operation.

Room Temp	Operation Type
$Tr \geq 21^{\circ}\text{C} + \Delta T$	Cool Operation (Set Temp: $24^{\circ}\text{C} + \Delta T$)
$21^{\circ}\text{C} + \Delta T > Tr$	Heat Operation (Set Temp: $22^{\circ}\text{C} + \Delta T$)

$$\Delta T = -1^{\circ}\text{C}, -2^{\circ}\text{C}, 0^{\circ}\text{C} + 1^{\circ}\text{C} + 2^{\circ}\text{C}$$

ΔT is controlled by setting temperature up/down key of remote control

2. **COOL MODE** : The unit operates according to the difference between the setting and room temperature. ($18^{\circ}\text{C} \sim 30^{\circ}\text{C}$)
3. **HEAT MODE** : The unit operates according to the difference between the setting and room temperature. ($16^{\circ}\text{C} \sim 30^{\circ}\text{C}$)
 - *Prevention against cold wind : In order to prevent the cool air from flowing out at the heat mode, the indoor fan does not operate or operates very slowly in the following cases. At this time, the indoor heat exchanger will be preheating.
 - For 3~5 minutes after the initial operation
 - For deicing operation
 - The operation of an indoor fan in accordance with the temperature of an indoor heat exchanger

The temperature of indoor heat exchanger	Indoor fan speed
below 28°C	off
28°C ~below 34°C	LL Speed
34°C ~below 40°C	L Speed
above 40°C	Setting Speed

*High temperature release function : It is a function to detect an outdoor overload by the sensor of an indoor heat exchanger and to turn the outdoor fan or the compressor ON/OFF for safety.

*Deice : Deicing operation is controlled by indoor unit's heat exchanger temperature and accumulating time of compressor's operation.




Deice ends by sensing of the processing time by deice condition.

4. **DRY MODE** : Has 3 states, each determined by room temperature. The unit operates in DRY mode.
 - *Compressor ON/OFF Time is controlled compulsorily (can not set up the fan speed, always breeze).
 - *Protective function : Low temperature release. (Prevention against freeze)
5. **TURBO MODE** : This mode is available in AUTO, COOL, HEAT, DRY, FAN MODE. When this button is pressed at first, the air conditioner is operated "powerful" state for 30 minutes regardless of the set temperature, room temperature. When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
 - *But, if you press the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.
6. **SLEEP MODE** : Sleep mode is available only in COOL or HEAT mode. The operation will stop after 6 hours.
 - *In COOL mode : The setting temperature is automatically raised by 1°C each 1hour. When the temperature has been raised by total of 2°C , that temperature is maintained.
 - *In HEAT mode : The setting temperature is automatically dropped by 1°C each 1hour. When the temperature has been dropped by total of 2°C , that temperature is maintained.

7. FAN SPEED : Manual (3 step), Auto (4 step)
 Fan speed automatically varies depending on both the difference between setting and the room temperature.





8. COMPULSORY OPERATION :
 For operating the air conditioner without the remote control.
 *The air conditioner starts up in the most suitable mode for the room temperature:

Room Temperature	Operating Mode	Temperature Setting
Less than 21°C	Heat	22°C approx.
21°C or above	Cool	24°C approx.

9. SWING : BLADE-H is rotated vertically by the stepping motor.
 *Swing Set : Press the  button under the remote control is displayed on LCD the  and the blades move up and down. If the one more time press the  button, blades location is stop.

10. SETTING THE ON/OFF TIMER. :
 *ON TIMER : The On Timer enables you to switch on the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.
 *OFF TIMER : The Off Timer enables you to switch off the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.

11. SELF DIAGNOSIS

Description	LAMP of DISPLAY Monitor			
	TURBO	OPERATION	TIMER	ENERGY SAVING
				
Indoor unit room temperature sensor error(open or short)	○	○	◐	○
Indoor unit heat exchanger temperature sensor error(open or short)	○	◐	◐	○
Indoor fan motor malfunction	○	○	○	◐
EEPROM error	○	◐	◐	◐
Option error(option wasn't set up or option data error)	◐	◐	◐	◐

○ : Lamp off ◐ : Lamp flickering

12. BUZZER SOUND : Whenever the ON/OFF button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

MEMO