

```
E series

ASW-(H) 18B4/E(J, T, U, V, W, Y)

ASW-(H) 24B4/E(J, T, U, V, W, Y)

ASW-(H) 18B4/E(J, T, U, V, W, Y) R

ASW-(H) 24B4/E(J, T, U, V, W, Y) R

ASW-(H) 18B4/E(J, T, U, V, W, Y) R1

ASW-(H) 24B4/E(J, T, U, V, W, Y) R1
```

# Service Manual

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# **IMPORTANT NOTICE**

This service manual is intended for use by individuals possessing adequate backgrounds of electrical, electronic and mechanical experience. Any attempt to repair the appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

The information, specifications and parameter are subject to change due to technical modification or improvement without any prior notice. The accurate specifications are presented on the nameplate label.

# How to order spare parts

To have your order filled promptly and correctly, please furnish the following information:

- 1. Model No. with Indoor or Outdoor
- 2. No. in the Explosion View
- 3. Part Name
- 4. The quantity you ordered

# 2-1 Appearance



EJ



EU







EV



EW



ΕY





OUTDOOR UNIT

### 2-2 Nomenclature

R1 for R410a

<u>A</u> <u>S</u> <u>W</u> - <u>H</u> <u>18</u> <u>B</u> <u>4</u> / <u>EJ</u> <u>R1</u> 123456789 1—AUX 2—Split-type 3-Wall mounted 4—Heat pump(only for heat pump) 5-Rated cooling capacity 6-The lever code of same cooling capacity 7—Power supply 1 for 220V~/50Hz 2 for 208V-230V~/60Hz 3 for 110V~/50Hz 4 for 220V-240V~/50Hz 5 for 380V-415V-3~/50Hz 6 for 380V-3~/60Hz 7 for 208V-230V~/50Hz 8-Type(For more details refer to 1-1) 9-Refrigerant **Default for R22** R for R407c

# 2-3 Product Technical Specification Diagram

	Model		lodel	ASW-18E	34/E*	ASW-H18	B4/E*	ASW-24B4/E*		ASW-H24B4/E*	
	Iten	n	<u> </u>	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
	Т	ype		Wallm	ounted	Wallm	nounted	Wallm	ounted	Wallmounted	
	C	Cooling	KW	5.	3	5.	3	7.0		7.0	
	Dehu	midifying	Kg/h	1.	9	1.	9	2.	9	2.	9
	Н	Ieating	KW	_		5.	8	_		7. 7	7
Ince	Air Flow	Cooling	m3/min	14.6	_	14.6	_	16.7	-	16.7	_
rma	Volume	Heating	m3/min	-	-	14.6	_	-	-	16.7	-
erfo	NT .	Cooling	dB	46	55	46	55	49	57	49	57
Pe	Noise	Heating	d B	-	_	46	55	_	_	49	57
	Powe	er supply	∲-V-Hz	1/220-	240~/50	1/220-	240~/50	1/220-	240~/50	1/220-2	240~/50
	Rated	Cooling	W	20	2080		80	270	0	270	0
	input	Heating	W	_		20	50	-		270	00
	Rated	Cooling	A	9.	5	9.	5	12	. 5	12	. 5
	current	Heating	A			9.	4	-	-	12	. 5
put	Input	Cooling	%	98	3%	98	3%	98	8%	98	3%
[]	factor	Heating	%			98	3%			98	3%
	Startii	tarting current A		49.0		49.0		60.0		60.0	
	Power supply	Length	m	-	_	_	_	_	-	_	_
	cord	Туре		250V	16A	250V	16A	250V	16A	250V	16A
	Fuse	capacity	A	3.15	-	3.15	_	3.15	_	3.15	
	dimen-	D*W*H	mm	320×1095×205	320×818×540	320×1095×205	320×818×540	320×1095×205	300×800×690	320×1095×205	300×800×690
	sion		Inch	_		_	_	_	_		_
	Net w	veight	Kg	15	40	15	43	15	51	15	51
	Connection	Liquid	OD (mm) *L (mm)	$\Phi 6.35 \times 3600$		$\Phi 0. 35 \times 3600$		$\Psi$ 9.52×3600		$\Phi$ 9.52×3600	
ion	Due	Gas	UD (mm) *L (mm)	$\Phi 12.7 \times 3600$		$\Phi 12.7 \times 3600$		$\Phi 15.88 \times 3600$		$015.88 \times 3600$ $014 \times 790$	
lens	Dra	In pipe	10 (mm) *L (mm)	Ψ14/	× /80	Ψ14.	× /80	ΨΙ4/	× 780	Ψ14/	\ /8U
Din	ress	Турс			Kotary		Kotary	_	Rotary		Kotary
	omp 1otc	I ype	W		1075	_	1075	_	-	_	-
	<u>v C</u>	Tvne	VV	Through-flow	Axial-flow	Through-flow	Axial-flow	Through-flow	Axial-flow	Through-flow	Axial-flow
	not or	Type		fan leaves	fan leaves	fan leaves	fan leaves	fan leaves	fan leaves	fan leaves	fan leaves
	an 1 Iote	Pated input	w	20	40	20	40	30	68	30	68
F	leat ex	changer(r	ow*line)	2×13	1×24	2×13	2×22	3×16	2×26	3×16	2×26
	Refrio	verant cont	troller	Can	illarv	Can	illarv	Capil	larv	Car	illary
$\vdash$	Freeze	ed oil capa	icity	<u>- cup</u>	-	Cup		- Cupin			
-	Refrig	gerant/Cha	rge(g)	R22/	1180	R22/	1350	R22/1	630	R22/2	2000
	Protec	tion equip	oment	-	Inner	_	Inner	_	Inner	_	Inner
	Coolii	ng test con	dition	Indoor u	nit: DB27°C	℃ ₩b19℃	I	Outdoor u	nit: DB35°C	₩ <b>b24</b> ℃	
	Heat ing test condition			Indoor u	nit: DB20°C	0 Wb		Outdoor ur	nit: DB7°C	Wb6°C	
M	ax.Co	oling test o	condition	Indoor u	nit: DB32°C	C ₩b23°C		Outdoor u	nit: DB43°C	₩ <b>b26</b> ℃	
M	ax.Hea	at ing test	condition	Indoor u	nit: DB27°C	Wb		Outdoor ur	nit: DB24°C	Wb18℃	

# 2-3 Product Technical Specification Diagram(continue)

/		M	lodel	ASW-18E	34/E*R	ASW-H18	B4/E*R	ASW-24B	4/E*R	ASW-H24	B4/E*R
	Iten	n 🔨	<u> </u>	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
	Т	уре		Wallm	ounted	Wallm	ounted	Wallm	nounted	Wallm	ounted
	C	Cooling	KW	5.	2	5.	2	7.	0	7.	0
	Dehu	midifying	Kg/h	1.	8	1.	8	2.	8	2.	8
0	H	Ieating	KW	_		5.	7			7.	7
ance	Air Flow	Cooling	m3/min	14.6	_	14.6	_	16.7	_	16.7	-
rm	Volume	Heating	m3/min	-	-	14.6	-	-	-	16.7	-
erfo	Naira	Cooling	dB	49	57	49	57	49	59	49	59
P	Noise	Heating	d B	-	_	49	57	_	_	49	59
	Powe	er supply	∲-V-Hz	1/220-	240~/50	1/220-	240~/50	1/220-	240~/50	1/220-2	240~/50
	Rated	ted Cooling W		20	90	20	90	270	0	270	0
	input	Heating	W		-	22	00			280	00
	Rated	Cooling	A	9.	5	9.	5	13	. 5	13	. 5
	current	nput Cooling %			-	10	). 0	-	-	14	. 0
put	Input			98	3%	98	3%	98	8%	98	3%
Ir	factor	Heating	%			98	3%	_		98	8%
	Starti	ng current	A	52	. 0	52	. 0	63	. 0	63	. 0
	Power	Length	m	-	_	_	_	_		_	_
	cord	Туре		250V	16A	250V	16A	250V	16A	250V	16A
	Fuse	capacity	A	3.15	-	3.15	_	3.15	-	3.15	_
	dimen-	D*W*H	mm	320×1095×205	300×800×690	320×1095×205	300×800×690	320×1095×205	300×800×690	320×1095×205	300×800×690
	NL	• 1.	Inch	-	-	-	_	-	-	-	_
	Net w	veight	ng	15	53	15	54	15	54	15	55
	Connection nine	Liquid	UD (mm) *L (mm)	Ψ6.35	×3600	Ψ0.35	×3600	Φ9.52	×3600	Φ9.52	×3600
sion	Dra	Gas in nine	UD (mm) *L (mm)	Φ12.7×3600		$012.7 \times 3600$ $014 \times 780$		$015.88 \times 3600$ $014 \times 780$		$\frac{\Psi 15.88 \times 3600}{\Phi 14 \times 780}$	
len	5	Tvne	U (mm) *L (mm)	Ψ <b>Ι</b> 4/	Potary	Ψ <b>14</b> .	A / OU Rotary	Ψ14/	Potary	Ψ14/ _	Potary
Din	or	Type			Kotary		Kotary		Kotary		Kotary
.	lomp Aote	Rated input	W	_	1030	_	1030	_	2700	_	2700
	Or C	Tvpe		Through-flow	Axial-flow	Through-flow	Axial-flow	Through-flow	Axial-flow	Through-flow	Axial-flow
	m ot	Type		fan leaves Plastic-sealed	Iron-shell	Plastic-sealed	Iron-shell	Plastic-sealed	Iron-shell	fan leaves Plastic-sealed	Iron-shell
	an	Rated input	w	20	68	20	68	30	68	30	68
F	leat ex	changer(r	ow*line)	2×13	2×30	2×13	2×30	3×16	2×26	3×16	2×26
	Refrig	erant cont	troller	Cap	illarv	Cap	illarv	Capil	larv	Car	oillary
	Freeze	ed oil capa	icity	-		1	_	-	_	-	
	Refrig	gerant/Cha	rge(g)	R407c	:/1500	R407c	c/1500	R407c	/1850	R407c	/1850
	Protec	ction equip	oment	-	Inner	-	Inner	_	Inner	-	Inner
$\square$	Cooli	ng test con	dition	Indoor u	nit: DB27°C		1	Outdoor u	nit: DB35°C	Wb24°C	
	Heat i	ng test cor	ndition	Indoor u	nit: DB20°C	C Wb		Outdoor ui	nit: DB7℃	Wb6℃	
M	ax.Co	oling test o	condition	Indoor u	nit: DB32°C	C ₩b23°C		Outdoor u	nit: DB43°C	₩ <b>b26</b> °C	
М	ax.Hea	at ing test	condition	Indoor u	nit: DB27°C	C Wb		Outdoor ui	nit: DB24℃	Wb18℃	

# 2-3 Product Technical Specification Diagram(continue)

/		M	lodel	ASW-18E	34/E*R1	ASW-H18	B4/E*R1	ASW-24	B4/E*R1	ASW-H24	B4/E*R1
	Iten	n 🔨	·	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
	Т	ype		Wallm	ounted	Wallm	ounted	Walln	nounted	Wallm	ounted
	C	Cooling	KW	5.	3	5.	3	7.0	0	7.	0
	Dehu	midifying	Kg/h	1.	9	1.	9	2.9	9	2.	9
0	H	Ieating	KW	_		5. 5	5	-		7.	3
ance	Air Flow	Cooling	m3/min	14.6	_	14.6	_	16.7	-	16.7	-
rm	Volume	Heating	m3/min	-	-	14.6	-	-	-	16.7	-
erfo	Naira	Cooling	dB	48	57	48	57	49	59	49	59
P	Noise	Heating	d B	-	_	48	57	-	-	49	59
	Powe	er supply	∲-V-Hz	1/220-	240~/50	1/220-	240~/50	1/220-2	240~/50	1/220-2	240~/50
	Rated	ted Cooling W		18	60	180	60	260	0	260	0
	input	Heating	W	_		20	00	-		265	50
	Rated	Cooling	A	8.	8.2		2	12	. 0	12	. 0
	current	current         Heating         A           Input         Cooling         %           factor         Heating         %				8.	6	-		12	2.2
put	Input			98	3%	98	3%	98	%	98	3%
In	factor			-		98	3%	-		98%	
	Starti	ng current	A	40	. 0	40	. 0	61.	0	61	. 0
	Power supply	Length	m	_	-	_	_	-	-		_
	cord	Туре		250V	16A	250V	16A	250V	16A	250V	16A
	Fuse	capacity	A	3.15	-	3.15	_	3.15	-	3.15	-
	dimen-	D*W*H	mm	320×1095×205	300×800×690	320×1095×205	300×800×690	320×1095×205	300×800×690	320×1095×205	300×800×690
	51011		Inch	_	_	_		_	_	_	_
	Net w	ve1ght	Kg	15	48	15	48	15	54	15	55
	Connection	Liquid	OD (mm) *L (mm)	Φ6.35	×3600	Φ6.35	×3600	Φ6.35	×3600	Φ9.52	×3600
ion	Due	Gas	UD (mm) *L (mm)	Φ12.7×3600		$\Phi 12.7 \times 3600$		$\Phi 12.7 \times 3600$		$\Phi$ 15.88×3600 $\Phi$ 14×790	
lens	Dra 5	In pipe	1D (mm) *L (mm)	Ψ14>	× /80	Ψ14,	× /80	ΨΙ42	× /80	ΨΙ4>	V 780
Din	ress	Турс			Kotary	_	Kotary	_	Kotary	_	Kotary
	omp	I ype Potod input	W	_	-	-	- 1705	-	2500	_	-
	V C	Tvne	W	Through-flow	Axial-flow	Through-flow	Axial-flow	Through-flow	Axial-flow	Through-flow	Z 3 0 0 Axial-flow
	not	Type		fan leaves	fan leaves	fan leaves	fan leaves	fan leaves	fan leaves	fan leaves	fan leaves
	an 1 Aote	Rated input	W	20	68	20	68	30	68	30	68
F	leat ex	changer(r	ow*line)	2×13	2×32	2×13	2×32	$3 \times 16$	2×30	3×16	2×30
-	Refrig	verant cont	roller	Can	illary	Can	illary	Canil	larv	Car	villary
$\vdash$	Freeze	ed oil cana	city	- Cup		Cup					
-	Refrig	gerant/Cha	rge(g)	R410a	/1580	R410a	1580	R410a	/1850	R410a	/1850
	Protec	tion equir	ment	_	Innor		Innor	_	Inner	_	Inner
	C		1.4.	T 1			Inner			WE 0.4 °C	IIIICI
-	Coolii	ng test con	1:4:	Indoor u				Outdoor u			
1.5	Heat i	ng test cor	idition	Indoor u				Outdoor ui			
M	ax.Co	oiing test o	condition	Indoor u	nit: DB32(			Outdoor u	nit: DB43C		
Μ	ax.Hea	at ing test	condition	Indoor u	n1t: DB27°C	) Wb		Outdoor u	nıt: DB24℃	Wb18℃	

# 3. Operation Details

### 3-1 Remote Controller



Note: Each mode and relevant function will be further specified in following pages.

#### **(1)**Sleeping button

This button enables you to start the automatic operation in sleeping mode.

#### **2**Wind direction adjusting button

Press the button, the horizontal airflow direction plate can adjust automatically. When you have the desired wind direction, please press it again, the airflow direction plate will stop at the situation.

#### ③ Fan speed selection button

You can select fan speed from "Auto", "High", "Med", "Low" in a sequence.



#### **4** Temp reducing button

Press the button once, the setting temperature drops  $1^{\circ}$ C. Press the button continuously for more than 1 second, the setting temperature drops at the speed of  $4^{\circ}$ C/s.the lowest setting temperature is  $16^{\circ}$ C.

#### **5** Temp increasing button

Press the button once, the setting temperature increases  $1^{\circ}$ . Press the button continuously for more than 1 second, the setting temperature increases at the speed of  $4^{\circ}$ C/s.the highest setting temperature is  $32^{\circ}$ C.

#### © Selection button for operation mode Which enables you to select different operation modes, after each pressing, the operation mode will be changed. It shows in the following display.

Remark:Cold wind type has no heating function.

#### **CANCEL** button

This button have the function of cancelling the timer time.

#### **8 SET button**

Press the SET button to affirm the timer time setting. You also can adjust the clock time via pressing it for 3 seconds.

#### **9** Time setting button

These two buttons can adjust clock time and timer time. Press it for 1 to 5 seconds, time display will change at the speed of three times per second (Unit :10 minute). After 5 seconds, it will change at the speed of ten times per second (Unit :10 minute).

#### 10 Timer ON/OFF button

Set the Timing mode. After each pressing, the mode will be changed. It shows in the following display.



#### **(1) ON/OFF button**

You can start the air-conditioner by pressing this button and stop its operation by pressing it again.

# **3. Operation Details**

### **3-2 Operation Method**

### ★ Automatic Operation Mode

- 1. Press the "MODE" button, then choose "AUTO".
- 2. Press the "  $\stackrel{\circ}{\leftarrow}$  " "  $\stackrel{\circ}{\leftarrow}$  " button, then choose the temperature you want, which range from 16°C to 32°C (1°C as a single unit).
- 3. Press the " S" button, then choose " AUTO " "HIGH" "MED" "LOW" as you like.
- 4. Press the "()" button, the indicator on the indoor unit is lighted, then the unit begin running under "AUTO" mode.

**Stop**: repress the "(<sup>1</sup>)" button, the unit will stop running.

### **★** Cooling/Heating(cool wind type has no heating function) Operation Mode

- Press the "MODE" button, then choose "COOL" or "HEAT".
   Press the "♀" "♀" button, then choose the temperature you want, which range from  $16^{\circ}$ C to  $32^{\circ}$ C (1°C as a single unit).
- 3. Press the " 🚱 " button, then choose " AUTO " "HIGH" "MED" "LOW" as you like.
- 4. Press the "()" button, the indicator on the indoor unit is lighted, then the unit begin running under "COOL" or "HEAT" mode.

**Stop**: repress the "(<sup>1</sup>)" button, the unit will stop running.

### ★ Fan Operation Mode

- 1. Press the "MODE" button, then choose "FAN".
- 2. Press the "S" button, then choose "HIGH" "MED" "LOW" as you like.
- 3. Press the "()" button, the indicator on the indoor unit is lighted, then the unit begin running under "FAN" mode(no display).

**Stop**: repress the "(')" button, the unit will stop running.

**Remark**: Set the temperature is noneffective in fan operation mode.

### ★ Dry Operation Mode

- 1. Press the "MODE" button, then choose "DRY".
- 2. Press the "  $\stackrel{\circ}{\leftarrow}$  " "  $\stackrel{\circ}{\circ}$  " button, then choose the temperature you want, which range from  $16^{\circ}$ C to  $32^{\circ}$ C (1°C as a single unit).
- 3. Press the "()" button, the indicator on the indoor unit is lighted, then the unit begin running under "DRY" mode.

**Stop**: repress the " $(^{|})$ " button, the unit will stop running.

### **★** Clock Setting

- 1. Press the "SET" button for three seconds, then the (hour and minute) figure begin glitter
- 2. Press the "+" or "-" button to adjust the time, range from 1 to 24 hours.

3. Press the "SET" button, the figure stop glittering at the same time the setting finished **Stop**: repress the button, the unit will stop running

**Remark**: when the TIMER was set, the time can't be adjusted, after quiting it you can adjust the time.

# **3. Operation Details**

### **3-2 Operation Method(continue)**

### **★** Timer Setting

#### ☆ Setting the "ON" timer time

- 1. First setting the running mode, press the " $\mathring{\underline{c}}$ " button or " $\mathring{\underline{c}}$ " button, after the indoor unit ring you may set the "ON" timer time by yourself. 2. Press TIMER button, the remote control will show "⊘" symbol, at the same time the
- "ON" will begin glittering. 3. Press "+" or "-" button, adjusting the time(24 hours), 10minutes as a unit.
- 4. Press SET button, the OPEN stop glittering, the time setting finished.

### $\stackrel{\scriptstyle \wedge}{\asymp}$ Setting the "OFF" timer time

- 1. Press the TIMER button, the remote control will show "">" symbol, at the same time the "OFF" will glitter.
- 2. Press "+" or "-" button, adjusting the time(24 hours), 10minutes as a unit.
- 3. Press "SET" button, th "OFF" stop glittering, the time setting finished.

### ☆ Cancelling of TIMER

1. Press the "CANCEL" button, cancel all the timer.

**Remark**: repress the " $\bigcirc$ " button the timer function will be cancelled.

### ★ Sleeping function

- 1. Press the "**C**" button, enlighten the indicator on the indoor unit.
- 2. Press the SLEEP button under the cooling running mode, one hour later the temperature will rise for 1°C, another hour later will rise for another 1°C.
- 3. Press the SLEEP button under the heating running mode, one hour later the temperature will fall for 2°C, another hour later it will fall for 2°C.
- 4. When the sleeping function mode running for 7 hours, the unit will stop running.

**Remark**: 1. The blowing speed will shift to lower sleep under sleeping mode.

2. Repress the MODE or ON/OFF button, the sleeping mode will be canceled.

### Attention

- \* When operating please aim the remote control at the receiver of indoor unit.
- \* The farthest signal receiving distance is 8m.
- \* There shouldn't be any blocker between the remote control and the receiver
- \* Don't drop the remote control or throw it.
- \* Remote control should avoid sun shining and other hot spot.
- \* Please use the normal 7# battery, do not use the rechargable one.
- \* Take out batteries in the remote control when out of use for long time.
- \* When you can't here the signal ring from the indoor unit, or the emission symbol doesn't glitter you should change the batteries.
- \*When pressing the remote control there is replacement phenomenon, it show that the power of batteries is not enough, please change the batteries.

### 4-1 ASW- (H) 24B4/E\*Indoor Unit



### 4-2 ASW- (H) 18B4/E\* Indoor Unit



### 4-3 ASW- (H) 24B4/E\*Outdoor Unit(single pole AC.contractor wiring diagram)



### 4-4 ASW- (H) 24B4/E\*Outdoor Unit(double pole AC.contractor wiring diagram)



### <u>4-5 ASW- ( H ) 18B4/E\*Outdoor Unit</u>



### 5-1The Foremost Inspecting Items

- 1. The input voltage must be within  $\pm 10\%$  tolerance of the rated Voltage. If it is not the case, the air-conditioner will probably not work normally.
- 2.Check the connecting cord between indoor unit and outdoor unit to see if it is properly connected. The connecting must be done according to the wiring diagram, please also notice that even different models may have the connecting cord of the same specification. Please check if the marks at the connecting terminal and the marks on the cord can match, otherwise, the air-conditioner will not work normally.
- 3. If the following phenomena are found, the problem is not from the air-conditioner itself.

NO	Problems	Causes
1	The motor is heard operating but the air-conditioner dose not work when the indoor unit is powered on	Since the air-conditioner is powered on, it will come to working condition as long asyou press the ON/OFF button of the remote control and the signal is well received.
2	The compressor stops running but the indoor fan motor keeps working when it is atcooling mode with the indoor temperature higher than set temperature.	If you turn off the air-conditioner and restart it immediately, it will return to normal in 3 minutes, after that, the air-conditioner will automatically adjust the indoor fan speed to what you set.
3	The compressor works discontinuously at dehumidifying mode.	The air-conditioner will automatically control the working of the compressor according to the inside temperature
4	The air-conditioner dose not work while the LED display is on.	The TIMER is set with the air-conditioner, it will be in hold on condition. If the TIMER setting is cancelled, the air-conditioner will return to normal working condition.
5	The compressor works discontinuously at cooling and dehumidifying mode, and the indoor fan motor slows down.	The compressor stops internally or the fan motor slows down to prevent the indoor heat exchanger from being frozen.

### 5-2 No Power Display

### 1.Items

- 1) Check if the input voltage is correct?
- 2) Check if the AC power supply connecting is correct?
- 3) Check if the output voltage of the manostat L7805(IC2) is correct?



### 5-3 The Indoor Fan Motor Does Not Work

### 1.Items

- 1) Check if the indoor fan motor is connected correctly to the connector(CN8)?
- 2) Check if the AC input voltage is correct?
- 3) Check if the IC of indoor fan motor is connected correctly to the connector(CN2)?
- 4) Check if the capacity of indoor fan motor is connected correctly to the connector(CN8)?



### 5-4 The Outdoor Unit Does Not Work

### 1.Items

1)Check if the input voltage is correct?

2)Check if the wire connection of the outdoor connecting terminal is correct?

![](_page_18_Figure_7.jpeg)

### 5-5 The Step Motor Does Not Work

### 1.Items

1)Check if the input voltage is correct?

2)Check if the step motor controlling the up-down movement firmly connected to Cn2?

![](_page_19_Figure_7.jpeg)

### 5-6 Heating Mode Can Work, But No Hot Air Blow

1)Check if the set temperature is lower than the indoor temperature?

2)Check if the indoor PCB is connected to the terminal correctly?

![](_page_20_Figure_5.jpeg)

### 5-7 Remote Control Can Not Work

![](_page_21_Figure_4.jpeg)

# 5-8 The Failure Analysis Of The Main Parts

Part		Analysis								
	Measure r	esi	stance							
Transformer Heat exchanger	Normal		Enviror temper Resistand transform	nment ature ce of ner(K <b>(</b>	15℃ 2) 7.45	20℃ 6.08	2 25℃ 3 5	30℃ 4.13	35℃ 3.43	40℃ 2.86
	Abnormal	~	∞: Turn-off ; 0Ω: Short-cut							
Step motor	Normal		Environmo Betwee Blue、yellow - Input	ent tem en - -	aperature 1 24BYJ4 Above30 - 1.5W	(10°C) 	~30℃) 2 35BYJ4 Aroun -	412B d120Ω		- - -
	Abnormal	0	∘: Turn-o	off;	Ω: Sho	rt-cu	t			
The outdoor fan motor	Detecting the Normal	he 1 W	esistance hen the te	betw emper	een the r ature is2	ed with $20^{\circ} C \sim$	re and e 30℃ ,ar	very c	onnect 300Ωar	ing end nd 120Ω

# 6-1 Explosion View Of Indoor Unit

![](_page_23_Picture_3.jpeg)

![](_page_23_Figure_4.jpeg)

23

### 6-2 Parts List Of Indoor Unit

			<b>C1</b>	Quantity			
No	Code	Name	Character	ASW-(H)18B4/E*	ASW-H18B4/E*R	ASW-H18B4/E*R1	Remarks
1	Fig.1-01	Air filter	PP	2	2	2	
2	Fig.1-02	Bolt cover		3	3	3	
3	Fig.1-03	Face frame	PS	1	1	1	
4	Fig.1-04	Vane A	ABS	1	1	1	
5	Fig.1-05	Vane B	ABS	1	1	1	
6	Fig.1-06	Louver	PP	2	2	2	
7	Fig.1-07	Vane shelf foam	·	3	3	3	
8	Fig.1-08	Vane shelf		1	1	1	
9	Fig.1-09	Evaporator shelf	PS	1	1	1	
10	Fig.1-10	Evaporator		1	1	1	
11	Fig.1-11	Rubber bearing mount		1	1	1	
12	Fig.1-12	Through-flow fan leaves	AS	1	1	1	
13	Fig.1-13	Base	PS	1	1	1	
14	Fig.1-14	Base foam		1	1	1	
15	Fig.1-15	Installation plate		1	1	1	
16	Fig.1-16	Clamping board for pipe	РР	1	1	1	
17	Fig.1-17	Plastic-sealed motor		1	1	1	
18	Fig.1-18	Pipe		1	1	1	
19	Fig.1-19	Electrical control box	ABS	1	1	1	
20	Fig.1-20	Transformer		1	1	1	
21	Fig.1-21	Terminal board		1	1	1	
22	Fig.1-22	Clamping board		1	1	1	
23	Fig.1-23	Receiver of remote control		1	1	1	
24	Fig.1-24	Auxillary PCB		1	1	1	
25	Fig.1-25	Main PCB		1	1	1	
26	Fig.1-26	Step motor		1	1	1	
27	Fig.1-27	Anion generator		1	1	1	
28	Fig.1-28	Receiver window of remote control		1	1	1	
29	Fig.1-29	Cover for electrical control box	ABS	1	1	1	
30	Fig.1-30	Light holder for indicator	ABS	1	1	1	
31	Fig.1-31	Indicator box	ABS	1	1	1	
32	Fig.1-32	Indicator board	ABS	1	1	1	
33	Fig.1-33	Front panel	ABS	1	1	1	

### MODE: ASW-(H)18B4/E\*、ASW-(H)18B4/E\*R、ASW-(H)18B4/E\*R1

# 6-2 Parts List Of Indoor Unit(continue)

			(1)	Quantity			
No	Code	CodeNamec 1 01Air filter		ASW-(H)24B4/E*	ASW-H24B4/E*R	ASW-H24B4/E*R1	Remarks
1	Fig.1-01	Air filter	PP	2	2	2	
2	Fig.1-02	Bolt cover	·	3	3	3	
3	Fig.1-03	Face frame	PS	1	1	1	
4	Fig.1-04	Vane A	ABS	1	1	1	
5	Fig.1-05	Vane B	ABS	1	1	1	
6	Fig.1-06	Louver	PP	2	2	2	
7	Fig.1-07	Vane shelf foam	·	3	3	3	
8	Fig.1-08	Vane shelf		1	1	1	
9	Fig.1-09	Evaporator shelf	PS	1	1	1	
10	Fig.1-10	Evaporator		1	1	1	
11	Fig.1-11	Rubber bearing mount	·	1	1	1	
12	Fig.1-12	Through-flow fan leaves	AS	1	1	1	
13	Fig.1-13	Base	PS	1	1	1	
14	Fig.1-14	Base foam		1	1	1	
15	Fig.1-15	Installation plate		1	1	1	
16	Fig.1-16	Clamping board for pipe	РР	1	1	1	
17	Fig.1-17	Plastic-sealed motor		1	1	1	
18	Fig.1-18	Pipe		1	1	1	
19	Fig.1-19	Electrical control box	ABS	1	1	1	
20	Fig.1-20	Transformer		1	1	1	
21	Fig.1-21	Terminal board		1	1	1	
22	Fig.1-22	Clamping board		1	1	1	
23	Fig.1-23	Receiver of remote control		1	1	1	
24	Fig.1-24	Auxillary PCB		1	1	1	
25	Fig.1-25	Main PCB		1	1	1	
26	Fig.1-26	Step motor		1	1	1	
27	Fig.1-27	Anion generator		1	1	1	
28	Fig.1-28	Receiver window of remote control		1	1	1	
29	Fig.1-29	Cover for electrical control box	ABS	1	1	1	
30	Fig.1-30	Light holder for indicator	ABS	1	1	1	
31	Fig.1-31	Indicator box	ABS	1	1	1	
32	Fig.1-32	Indicator board	ABS	1	1	1	
33	Fig.1-33	Front panel	ABS	1	1	1	

### MODE: ASW-(H)24B4/E\*、ASW-(H)24B4/E\*R、ASW-(H)24B4/E\*R1

# 6-3 Explosion View Of Outdoor Unit

![](_page_26_Figure_3.jpeg)

Fig.2

### 6-4 Parts List Of Outdoor Unit

### **MODE:** AS-(H)18B4/E\*

				Qua	ntity	
No	Code	Name	Character	AS-H18B4/E*	AS-18B4/E*	Remarks
1	Fig.2-01	Topcover	Cold-work steel $\delta 0.8$	1	1	
2	Fig.2-02	Axial-flow fan leaves	GABS	1	1	
3	Fig.2-03	Outdoor motor		1	1	
4	Fig.2-04	Motor supporter	Galvanized steel $\delta 1.5$	1	1	
5	Fig.2-05	Condenser		1	1	
6	Fig.2-06	Steel wire fan guard		1	1	
7	Fig.2-07	Cover for electric unit	ABS	1	1	
8	Fig.2-08	Right-hand board	Cold-work steel $\delta 0.8$	1	1	
9	Fig.2-09	Capillary assembly		1	1	
				1	1	
10	Fig.2-10	Capacitor strip		1	1	
11	Fig.2-11	Terminal board		1	1	
12	Fig.2-12	Capacitor for compressor		1	1	
13	Fig.2-13	Clamping plate for	PP	1	1	
		interconnection cord				
14	Fig.2-14	Holder for wire		1	1	
15	Fi <b>g</b> .2-15	4-way assembly		1		
16	Fig.2-16	Discharge pipe for compressor	Φ9.52		1	
17	Fig.2-17	Suction pipe for compressor	Φ9.52		1	
18	Fig.2-18	Valve board	Cold-work steel $\delta$ 1.0	1	1	
19	Fig.2-19	Two-way valve(Dg10-I)		1	1	
20	Fig.2-20	There -way valve(Dg4)		1	1	
21	Fig.2-21	Base	Cold-work steel $\delta$ 1.2	1	1	
22	Fig.2-22	Panel		1	1	
23	Fig.2-23	Fan guard	Steel wire	1	1	
24	Fig.2-24	Damping gasket	Rubber	1	1	
25	Fig.2-25	Compressor		1	1	
26	Fig.2-26	Wind-fending standing board	Galvanized steel 80.75	1	1	

![](_page_28_Figure_2.jpeg)

![](_page_28_Figure_3.jpeg)

### 6-6 Parts List Of Outdoor Unit

				Qua	Intity	
No	Code	Name	Character	AS-H24B4/E*	AS-24B4/E*	Remarks
1	Fig.3-01	Bolt		80	80	
2	Fig.3-02	Top cover	Cold-work steel $\delta 0.8$	1	1	
3	Fig.3-03	Condenser		1	1	
4	Fig.3-03	Right-hand board	Cold-work steel $\delta 0.8$	1	1	
5	Fig.3-05	Handle		1	1	
6	Fig.3-06	Capacitor strip		1	1	
7	Fig.3-07	Capacitor for compressor		1	1	
8	Fig.3-08	AC. Contractor		1	1	
9	Fig.3-09	Capacitor for fan motor		1	1	
10	Fig.3-10	Holder for wire	Galvanized steel 80.75	1	1	
11	Fig.3-11	Terminal board		1	1	
12	Fig.3-12	Cover for electric unit	ABS	1	1	
13	Fig.3-13	Wind-fending standing board	Galvanized steel 80.75	1	1	
14	Fig.3-14	Compressor		1	1	
15	Fig.3-15	4-way assembly		1		
		Pipe assembly			1	
16	Fig.3-16	Capillary assembly		1		
					1	
17	Fig.3-17	There -way valve(Dg8)		1	1	
		There -way valve(Dg13)		1	1	
18	Fig.3-18	Base	Cold-work steel $\delta 1.2$	1	1	
19	Fig.3-19	Valveboard	Cold-work steel $\delta 1.0$	1	1	
20	Fig.3-20	Motor supporter	Galvanized steel 80.75	1	1	
21	Fig.3-21	Axial-flow fan leaves	GABS	1	1	
22	Fig.3-22	Outdoor motor		1	1	
23	Fig.3-23	Fan guard	Steel wire	1	1	
24	Fig.3-24	Panel	Cold-work steel 80.8	1	1	
25	Fig.3-25	Left-hand board		1	1	

#### MODE: AS-H24B4/E\*, AS-24B4/E\*

### 6-7 Parts List Of Outdoor Unit

<b>.</b>	~ .			Qua	ntity	
No	Code	Name	Character	AS-H18B4/E*R	AS-18B4/E*R	Remarks
1	Fig.3-01	Bolt		80	80	
2	Fig.3-02	Top cover	Cold-work steel $\delta 0.8$	1	1	
3	Fig.3-03	Condenser		1	1	
4	Fig.3-03	Right-hand board	Cold-work steel $\delta 0.8$	1	1	
5	Fig.3-05	Handle		1	1	
6	Fig.3-06	Capacitor strip		1	1	
7	Fig.3-07	Capacitor for compressor		1	1	
8	Fig.3-08	AC. Contractor	<u> </u>	/	/	
9	Fig.3-09	Capacitor for fan motor		1	1	
10	Fig.3-10	Holder for wire	Galvanized steel 80.75	1	1	
11	Fig.3-11	Terminal board		1	1	
12	Fig.3-12	Cover for electric unit	ABS	1	1	
13	Fig.3-13	Wind-fending standing board	Galvanized steel 80.75	1	1	
14	Fig.3-14	Compressor		1	1	
15	Fig.3-15	4-way assembly		1		
		Pipe assembly			1	
16	Fig.3-16	Capillary assembly		1		
					1	
17	Fig.3-17	There -way valve(Dg8)		1	1	
		There -way valve(Dg13)		1	1	
18	Fig.3-18	Base	Cold-work steel $\delta 1.2$	1	1	
19	Fig.3-19	Valve board	Cold-work steel $\delta 1.0$	1	1	
20	Fig.3-20	Motor supporter	Galvanized steel 80.75	1	1	
21	Fig.3-21	Axial-flow fan leaves	GABS	1	1	
22	Fig.3-22	Outdoor motor		1	1	
23	Fig.3-23	Fan guard	Steel wire	1	1	
24	Fig.3-24	Panel	Cold-work steel 80.8	1	1	
25	Fig.3-25	Left-hand board		1	1	

### MODE: AS-H18B4/E\*R, AS-18B4/E\*R

### 6-8 Parts List Of Outdoor Unit

	~ .			Qua	Intity	
No	Code	Name	Character	AS-H18B4/E*R1	AS-18B4/E*R1	Remarks
1	Fig.3-01	Bolt		80	80	
2	Fig.3-02	Top cover	Cold-work steel $\delta 0.8$	1	1	
3	Fig.3-03	Condenser		1	1	
4	Fig.3-03	Right-hand board	Cold-work steel $\delta 0.8$	1	1	
5	Fig.3-05	Handle		1	1	
6	Fig.3-06	Capacitor strip		1	1	
7	Fig.3-07	Capacitor for compressor		1	1	
8	Fig.3-08	AC. Contractor		/	/	
9	Fig.3-09	Capacitor for fan motor		1	1	
10	Fig.3-10	Holder for wire	Galvanized steel 80.75	1	1	
11	Fig.3-11	Terminal board		1	1	
12	Fig.3-12	Cover for electric unit	ABS	1	1	
13	Fig.3-13	Wind-fending standing board	Galvanized steel 80.75	1	1	
14	Fig.3-14	Compressor		1	1	
15	Fig.3-15	4-way assembly		1		
		Pipe assembly			1	
16	Fig.3-16	Capillary assembly		1		
					1	ļ
17	Fig.3-17	There -way valve(Dg8)		1	1	
		There -way valve(Dg13)		1	1	
18	Fig.3-18	Base	Cold-work steel $\delta 1.2$	1	1	
19	Fig.3-19	Valve board	Cold-work steel $\delta 1.0$	1	1	
20	Fig.3-20	Motor supporter	Galvanized steel 80.75	1	1	
21	Fig.3-21	Axial-flow fan leaves	GABS	1	1	
22	Fig.3-22	Outdoor motor		1	1	
23	Fig.3-23	Fan guard	Steel wire	1	1	
24	Fig.3-24	Panel	Cold-work steel $\delta 0.8$	1	1	
25	Fig.3-25	Left-hand board		1	1	

### MODE: AS-H18B4/E\*R1、AS-18B4/E\*R1

### 6-9 Parts List Of Outdoor Unit

### MODE: AS-H24B4/E\*R, AS-24B4/E\*R

	~ .	<b>N</b> T		Quantity		
NO	Code	Name	Character	AS-H <b>24</b> B4/E*R	AS <b>_24</b> B4/E*R	Remarks
1	Fig.3-01	Bolt		80	80	
2	Fig.3-02	Top cover	Cold-work steel 80.8	1	1	
3	Fig.3-03	Condenser		1	1	
4	Fig.3-03	Right-hand board	Cold-work steel $\delta 0.8$	1	1	
5	Fig.3-05	Handle		1	1	
6	Fig.3-06	Capacitor strip		1	1	
7	Fig.3-07	Capacitor for compressor		1	1	
8	Fig.3-08	AC. Contractor		/	/	
9	Fig.3-09	Capacitor for fan motor		1	1	
10	Fig.3-10	Holder for wire	Galvanized steel 80.75	1	1	
11	Fig.3-11	Terminal board		1	1	
12	Fig.3-12	Cover for electric unit	ABS	1	1	
13	Fig.3-13	Wind-fending standing board	Galvanized steel 80.75	1	1	
14	Fig.3-14	Compressor		1	1	
15	Fig.3-15	4-way assembly		1		
		Pipe assembly			1	
16	Fig.3-16	Capillary assembly		1		
					1	
17	Fig.3-17	There -way valve(Dg8)		1	1	
		There -way valve(Dg13)		1	1	
18	Fig.3-18	Base	Cold-work steel $\delta 1.2$	1	1	
19	Fig.3-19	Valve board	Cold-work steel $\delta 1.0$	1	1	
20	Fig.3-20	Motor supporter	Galvanized steel 80.75	1	1	
21	Fig.3-21	Axial-flow fan leaves	GABS	1	1	
22	Fig.3-22	Outdoor motor		1	1	
23	Fig.3-23	Fan guard	Steel wire	1	1	
24	Fig.3-24	Panel	Cold-work steel 80.8	1	1	
25	Fig.3-25	Left-hand board		1	1	

### 6-10 Parts List Of Outdoor Unit

### MODE: AS-H24B4/E\*R1, AS-24B4/E\*R1

	~ .	<b>N</b> T		Quantity		
No	Code	Name	Character	AS-H <b>24</b> B4/E*R1	AS_24B4/E*R1	Remarks
1	Fig.3-01	Bolt		80	80	
2	Fig.3-02	Top cover	Cold-work steel 80.8	1	1	
3	Fig.3-03	Condenser		1	1	
4	Fig.3-03	Right-hand board	Cold-work steel $\delta 0.8$	1	1	
5	Fig.3-05	Handle		1	1	
6	Fig.3-06	Capacitor strip		1	1	
7	Fig.3-07	Capacitor for compressor		1	1	
8	Fig.3-08	AC. Contractor		/	/	
9	Fig.3-09	Capacitor for fan motor		1	1	
10	Fig.3-10	Holder for wire	Galvanized steel 80.75	1	1	
11	Fig.3-11	Terminal board		1	1	
12	Fig.3-12	Cover for electric unit	ABS	1	1	
13	Fig.3-13	Wind-fending standing board	Galvanized steel 80.75	1	1	
14	Fig.3-14	Compressor		1	1	
15	Fig.3-15	4-way assembly		1		
		Pipe assembly			1	
16	Fig.3-16	Capillary assembly		1		
					1	
17	Fig.3-17	There -way valve(Dg8)		1	1	
		There -way valve(Dg13)		1	1	
18	Fig.3-18	Base	Cold-work steel $\delta 1.2$	1	1	
19	Fig.3-19	Valve board	Cold-work steel 81.0	1	1	
20	Fig.3-20	Motor supporter	Galvanized steel 80.75	1	1	
21	Fig.3-21	Axial-flow fan leaves	GABS	1	1	
22	Fig.3-22	Outdoor motor		1	1	
23	Fig.3-23	Fan guard	Steel wire	1	1	
24	Fig.3-24	Panel	Cold-work steel 80.8	1	1	
25	Fig.3-25	Left-hand board		1	1	

### 6-11 Explosion View Of Controller(Indoor Unit)

![](_page_34_Figure_3.jpeg)

![](_page_34_Figure_4.jpeg)

# 6-12 Parts List Of Controller(Indoor Unit)

21		Display board	1		
20		Receiver of remote control	1		
19		sensor	1		
18		Bolt ST3.9X24	1		
17		Main control board	1		
16		Signal wire of compressor	2	0.75mm <sup>2</sup> × 320mm <b>Black</b>	
15		transformer	1	TDB-8-B	
14		Gasket	1		
13		Nut M4	1		
12		Spring gasket 4	1		
11		Bolt M4X10	1		
10		Interconnection wire	1	Connection wire of the live wire	
9		Interconnection wire	1	Connection wire of the live wire	
8		Grounding wire	1	AWG14×350mmYellow/green	
7		Terminal board	1		
6		Electrical control box	1		
5		<b>Bolt</b> \$73.9X13	4		
4		Clamping board	1		
3		<b>Bolt</b> ST 3.9X 9.5	2		
2		Receiver board	1		
1		Power supply cord	1	$RVVWire3 \times 2.5mm^2$	
NO	Code	Name	Quantity	Material	Remark

# 7. Refrigeration Cycle Diagram

![](_page_36_Figure_2.jpeg)

Fig.5

#### 8-1 Terminologies and their denotation

- TA: Indoor environment temperature
- TE: Indoor evaporator temperature
- TS: Set temperature
- TW: Outdoor condensor temperature

### 8-2 Forced operation button

- a) When the air-conditioner is on, press this button you will turn it off; when the air-conditioner is off, press this button you will turn it on and it will run at automatic mode afterwards, then the indicator light will glint for 20 seconds until it runs at your selected mode. The air-conditioner will automatically select cooling, dehumidifying or heating mode in phase with the room temperature.
- 1.When TA≥27°C, it will be in cooling mode with the set temperature of 24°C and power fan speed.
- 2. When 20°C< TA<27°C, it will be in dehumidifying mode with set temperature of 24°C and power fan speed.
- 3. When TA≤20°C, it will be in heating mode(cooling only type will be at fan mode) with the set temperature at 24°C and power fan speed.
- 4. At this mode, functions like timer, sleep, memory, negative ion, feeling function are available.

Once the system mode is set, it wont change with the room temperature, and the air-let won't run at default mode. It can be changed by remote control signals.

- b).Press the button for 5 seconds until the buzzer rings for two intervals, then the controller will be at running-in mode for 30 minutes.
- 1. While at running-in mode, the air-in temperature sensor will be off duty, and the compressor will be on after 3-minute protection time. The indoor fan motor will run at high speed and cooling mode with the air-let position at the opening limit.
- 2. The anti-freeze protection and high temperature protection function will not be available.

### 8-3 Automatic mode

When the remote control selects automatic mode to turn on the air-conditioner, The running indicator will be glinting for 20 seconds until the air-conditioner runs at set running mode, including cooling, dehumidifying, heating automatically selected in phase with room temperature.

- 1.When TA≥27°C, it will be at cooling mode with the set temperature of 24°C and fan motor speed under the control of remote control.
- 2. When 20°C< TA<27°C, it will be at dehumidifying mode with the set temperature of 24°C and fan motor speed under the control of remote control.
- 3. When TA $\leq 20^{\circ}$ C, it will be at heating mode(cooling only type at fan mode) with the set temperature of 24°C and fan motor speed under the control of remote control.
- 4. These functions like timer, sleep, memory, negative ion, I feel are available at this mode.
- 5. The selected mode will not change with the room temperature. It will be changed after restarting the air-conditioner or any mode switch.

#### 8-4 Cooling mode

The temperature is controlled by pressing the + or -button on the remote control between 16°C and 32°C. You can select fan speed from Low, Med, High, Auto. The 4-way valve will keep closed at this mode, and other status are demonstrated as follows:

- 1.When TA-TS≥1°C and it is operated after the compressor protection duration ,the compressor and outdoor fan motor will be running;
- 2. When TA equals TS, the status will be the same as item 1;
- 3.When TA-TS≤-1°C and it is operated after the compressor protection duration, the compressor and outdoor fan motor will be running;
- 4. At this mode, the fan speed can be set with remote control while the indoor fan motor will keep running;
- 5.When the state of TE≤0°C lasts for 10s and the compressor keeps running for over 5 minutes, the indoor fan motor will run at set speed ,if the compressor and outdoor fan motor are power off; when TE≥7°C, it will quit this protection function;
- 6.At this mode, timer, sleep, memory, negative ion, I feel functions are available;
- 7.Once cooling mode is set, the movement of louver can be controlled by remote control; 8.Automatic fan speed control:

When TA-TS $\geq 3^{\circ}$ C, the fan motor works at high speed;

When  $TS+1^{\circ}C < TA < TS+3^{\circ}C$ , the fan motor works at medium speed;

When TA-TS<1°C, the fan motor works at low speed;

If the fan speed is to be shifted from low to high, the 3-minute protection will be off, and it will be on when fan speed is to be shifted from high to low.

- 9.When first powered, the 3-minute compressor protection will be off and the outdoor fan motor will be running after the compressor is on for 2s; if TS is set higher than TA, the compressor will be off immediately without the protection function;
- 10.When TE≥64°C for 10s, the compressor and outdoor fan motor are off and the compressor can be well started after TE<62°C, then the indoor fan motor will run at set speed if it is set manually when over-heat protection is on. The indoor fan will run at low speed if it is set automatic fan speed.

### 8-5 Drying Mode

- 1. The 4-way valve will keep closed at this mode with the controllable temperature between 16  $\degree$  to 32  $\degree$ ;
- 2. After the duration of 3-minute protection, the compressor and outdoor fan motor will work as follows:
- (1). When  $TA \ge TS + 2^{\circ}C$ , the compressor and outdoor fan motor will run continuously at set speed;
- (2).When TS < TA < TS + 2°C and the compressor and outdoor fan motor are on for 10 minutes and off for 6 minutes, then the indoor fan will be off when the compressor is off in the duration of 3-minute protection. The indoor fan will run at low speed at under other conditions;
- (3).When TA<TS, the compressor and outdoor fan motor stops running, and the indoor fan motor will run at low speed after being off for 3 minutes.

Automatic fan speed control:

When TA-TS $\geq$ 5°C, the fan motor runs at high speed;

When  $TS+3^{\circ}C \leq TA \leq TS+5^{\circ}C$ , the fan motor runs at medium speed;

When  $TS+2^{\circ}C \leq TA \leq TS+3^{\circ}C$ , the fan motor runs at low speed;

When  $TS \leq TA \leq TS+2^{\circ}C$ , the fan motor runs at low speed;

When TA<TS, the indoor fan motor will stop in the duration of 3-minute protection and run at slight speed after the duration.

- 3. When first powered, the 3-minute protection will be off ,and the outdoor fan motor will run after the compressor keeps running for 2s;
- 4. When the indoor fan motor is running, the vane can be set move freely as the that of the cooling mode;
- 5. When  $TE \le 0^{\circ}C$  for 10s and the compressor keeps running for more than 5 minutes, turn off the compressor and outdoor fan motor, the indoor fan will run at the set speed; if  $TE \ge 7^{\circ}C$ , it will quit the protection;
- 6. When  $TE \ge 64^{\circ}C$  and lasts for 10s, turn off the compressor and outdoor fan motor, and the compressor can work well when  $TE \le 62^{\circ}C$ , then the indoor fan motor will run at set speed if it is set manually; it will run at low speed if it is set automatically;
- 7. Timer, sleep, memory, negative ion and I feel functions are available at this mode.

### 8-6 Fan Mode

At this mode, the outdoor fan motor will keep off while the indoor fan motor runs at set speed. You can select high, medium, low fan speed with the remote control; the movement of vane is the same as that of cooling mode; Timer, memory, negative ion functions are available at this mode.

### 8-7 Heating Mode

The temperature can be adjusted between  $16^{\circ}$ C to  $32^{\circ}$ C by pressing the + or — button on the remote control. You can select automatic, high, medium, and low speed by pressing the fan speed button. Other details are as follows:

- 1.When TA-3-TS≤-1°C and the compressor and outdoor fan motor are turned on after the 3minute protection duration, the indoor fan motor will run at the cold air prevention mode, and the TA displayed on the LED includes 3°C temperature compensation;
- 2.When TA-3-TS≥-1°C and the compressor and outdoor fan motor are turned on after the 3minute protection duration, the indoor fan motor will run at cold air prevention mode, and the TA displayed on the LED includes 3°C temperature compensation;
- 3. When TA-3 equals TS, the status will remain unchanged;
- 4. Automatic fan speed control:

when TA<TS, the fan motor runs at high speed;

when  $TS \leq TA \leq TS + 2^{\circ}C$ , the fan motor runs at medium speed;

when  $TA \ge TS + 2^{\circ}C$ , the fan motor runs at low speed;

When the fan speed is shifted from low to high, the 3-minute protection will be off; it will be on when the fan speed is shifted from high to low.

5.At heating mode, the movement of the vane is controlled by pressing the SWING button;

- 6. When first powered, the 3-minute protection function will be off and the compressor will be on after the 4-way valve keeps running for 10s, the outdoor fan motor will run after the compressor keeps running for 2s; turn TS down to TS<TA-3, then the compressor will be off immediately without the limitation of the 3-minute protection;
- 7.TIMER, SLEEP, MEMORY, ANION, I FEEL functions are available at this mode;
- 8. When first powered, the 4-way valve will be on immediately, the compressor 10s later; when the compressor is off, the 4-way valve will be off in 2 minutes and 50s after the air conditioner is off or mode is shifted; when the compressor is off, the 4-way will be off immediately once the air-conditioner is powered off.

9. the cold air prevention and remaining-heat expelling function

The indoor fan speed is controlled by TE, the retails are as following:

The cold air prevention function when the compressor is running:

a)When TE is going up:

when TE<30°C, the indoor fan motor will be off;

when  $30^{\circ}C \leq TE < 38^{\circ}C$ , the indoor fan motor will run at low speed; When  $TE \geq 38^{\circ}C$ , the indoor fan motor run at set speed;

b)When TE is going down:

when TE>34 $^{\circ}$ C, the indoor fan motor will run at set speed;

when  $28^{\circ}C < TE < 34^{\circ}C$ , the indoor fan motor will blow low air-flow; when  $TE < 28^{\circ}C$ , the indoor fan motor will be off.

![](_page_40_Figure_11.jpeg)

Fig.6

The cold air prevention function when the compressor is off:

a) when TE is going down

when TE>30°C, the indoor fan motor runs at low speed; when TE $\leq$ 30°C, the indoor fan motor will be off; b)when TE is going up when TE>35°C, the indoor fan motor runs at low speed;

when TE $\geq$ 35°C, the indoor fan motor runs at low speed; when TE<35°C, the indoor fan motor will be off.

![](_page_40_Figure_17.jpeg)

![](_page_40_Figure_18.jpeg)

The remaining-heat expelling function when the air-condition is powered off

when TE $\geq$ 35°C, the indoor fan motor will run at low speed;

when TE $\leq$ 35°C, the indoor fan motor will be off, and it will keep expelling the remaining heat for no more than 10 seconds, during which the indoor fan motor will stop running immediately if TE $\leq$ 35°C.

- 10. Over-heat Protection
- a).heating mode

when  $TE \ge 57$  °C for 10s, the outdoor fan motor will be off;

when TE $\geq$ 64°C for 10s, the compressor will be off;

when TE $\leq$ 52°C and after the duration of 3-minute protection, it will return to normal.

- b).the temperature protection is only available when the TE sensor works well.
- 11.Deforst function at heating mode

a)when TW is in good condition, This function can be available if all the following conditions are satisfied. The defrost indicator will begin glittering.

- (1) TW $\leqslant$ -6°C, and last 2 minutes;
- (2)the compressor keeps running totally over 50 minutes; the interval of defrosting is totally over 50 minutes, (if it is power off, counting over again) the compressor keeps running continuously for at least 5 minutes;

when beginning to defrost, compressor, indoor fan motor, outdoor fan motor are off, the 4-way valve will be offafter 30s, then compressor will be on to defrosting in 15s.

b)The function will be quitted if one of the following conditions is satisfied:

1).if TW≥12℃;

2).deforsting keeps running totally over 12 minutes;

3).shifting the mode or turning off the air-conditioner, it will quit this function;

after defrosting, compressor will be off,4-way valve will be on after 55s, then

compressor will be on after 5s, the air-conditioner begin to running heat mode,

the indoor fan motor begin to cold air prevention.

### 8-8 The accessorial electric heater function

- a). At heating mode, this function can only available if the following conditions are satisfied: (1)TE <48  $^\circ C$ 
  - (2)TA<22°C

(3)TS-TA≥3°C

4. The compressor keeps running at heating mode foe 4 minutes.

b).It will quit the function if one of the following conditions is satisfied:

(1)TA>22°C

(2)S-TA $\leq 2$ °C

(3)TE>52°C

- c). If one of compressor, 4-way valve and indoor fan motor does not work, it will quit the function automatically.
- d).It will quit the function when shifting modes or cutting off the power.
- e).If the function is quitted while the compressor is running, it can only be restarted after 1 minute.

### 8-9 Sleeping function

This function is available at automatic, cooling, dehumidifying, and heating modes. Once the function is on, the indoor fan will runs at low speed, and the sleep indicator will b lighten.

For cooling mode, the set temperature will go up automatically for  $1^{\circ}C$  after 1 hour; for heating mode, it will go down for  $2^{\circ}C$  after 1 hour. The air-conditioner will be powered off automatically after 7 hours.

Once in the sleep function, modes can be shifted, and every shift will conceal the function. If you press the + button, the air-conditioner will run at the temperature of "newly-set temperature+amended temperature".

On the sleeping mode, the sleep function will be concealed if the SLEEP button, MODE button are pressed or the air-conditioner is powered off.

### Sleeping function at cooling mode

![](_page_42_Figure_8.jpeg)

### Sleeping function at cooling mode

![](_page_42_Figure_10.jpeg)

### 8–10 Timer Function

The longest timing interval is 24 hours( 1minute as the unit), and once the timer is set, it will not be changed even modes are shifted and the indicator will be lighten.

1.TIMER off

This can only be set when the air-conditioner is running, and the timing scope is 1min-24 hours, it will automatically powered off once set.

2.TIMER on

This can only be set when the air-conditioner is off, and the timing scope is 1min-24 hours, it will automatically run once set.

The original timer and sleep function will be automatically cancelled if the air-conditioner is powered on or off again.

#### 8-11 Self-inspection

Press the forced switch to power the air-conditioner on, the buzzer rings two times, signalling the inspection process:

The electric heater is on, the indoor fan runs at high speed, the louver reach to opening limit position  $\rightarrow$  the LED and there indicators are lighten for 1s  $\rightarrow$  The LED will display

"11" "22" "33" "44" in turn for  $1s \rightarrow$  therunning indicator for  $1s \rightarrow$  TIMER indicator for  $1s \rightarrow$  SLEEP indicator for  $1s \rightarrow$  the each phase of the step motor electrified for  $1s \rightarrow$  the indoor fan motor runs at both low and medium speed for  $1s \rightarrow$  the compressor moves for  $1s \rightarrow$  the 4-way valve for  $1s \rightarrow$  the outdoor fan motor for  $1s \rightarrow$  the negative ion for 1s $\rightarrow$  the buzzer rings  $\rightarrow$  the electric heater runs for  $30s \rightarrow$  stops. Then the air-conditioner comes to the hold-on mode, the self-inspection is completed.

### 8-12 Failure Indicating

When the air-conditioner fails, the TIMER indicator or LED on the display plate will display the relevant failure code. The details are as follows:

the TIMER indicator display:

Causes	Display	Failures	Failures
TAabnormal	Glitter 1/8s	2	Stop running
TE abnormal	Glitter 1/4s	3	Stop running
TW abnormal	Glitter 1/1s	4	Running

LED display

Causes	Display	Failures	Failures
TAabnormal	E1	2	Stop running
TE abnormal	E3	3	Stop running
TW abnormal	E2	4	Running

### 8-13 Definition of louver waving angle

(Fig. 8) means the waving angle of E series(ASW-H18A4/E#,ASW-H18B4/E#,ASW-H24A4/E# ASW-H24B4/E#)wall mounted type air conditioner

- 1. When filled with power, the louver will completely closed;
- 2. After the unit was turn on, the louver will unwind, and it will swing to the original position when heating, it will stop at the 5th position (pic 8); While cooling it will swing to the 2nd position (pic 8).
- 3. The louver button on the remote control can be setting as free waving and manual waving;
- 4. Free waving, when heating the waving scope is 40°, from 3 to 5 (as pic 8), when cooling the waving scope is 40°, from 2 to 4 (as pic 8);
- 5. After the unit was turn on, if the louver was setting as unwave by remote control, the waving angle will positioning to a proper height according to different mode, e.g. cooling mode was showed as 2nd position (pic 8), while heating mode was showed as 5th position (pic 8), after the fan motor was opened it will resume waving automatically; if the remote control set it as manual waving the waving angle won't change;
- 6. After the fan motor stop running the louver will close automatically;
- 7. When the force button was pressed the unit will run into automatic mode, The louver Initialize at cooling mode, adjusting it at setting mode.

![](_page_44_Figure_11.jpeg)

![](_page_44_Figure_12.jpeg)

#### 8-14 Fan speed option

ASW-H18A4/E#,ASW-H18B4/E#,ASW-H24A4/E#,ASW-H24B4/E# all use tap motor, it's rotate speed is not relevant to controller.

#### 8-15. Pre-leave function

The functions hereunder existing in the chip, if there is correspond hardware the function will be available, e.g.: The power break off memory function need the E2 chip, I feel function need corresponding remote control, negative ion need corresponding relay.

- 1. The power break off memory function
- 1) setting: After the controller was filled with power, please press the sleeping button 10 consecutive times in 5s, if its successfully setting, the buzzer will ring 4 consecutive times, if you want to quit such function doing the same thing. The buzzer will ring 2 consecutive times to show it's cancel;
- 2) The power break off memory can remember: running mode, blowing speed setting, TS, negative ion, waving state and turn on/off situation.
- 3) Once the power break off memory function was setting, if the units was turn off naturally, there will no time-elapse protection, while it was turned off abnormally the compressor will have 3min time-elapse protection when restart.
- 2. The I feel function
- 1). Setting: press the corresponding button on the remote control, the controller will consider the temperature receiving from the sensor in the remote control as TA.
- 2) Quit the function
- a) press the corresponding button on the remote control one more time;
- b) Aim at the receiver of the controller, the remote control will send signal to the controller per 3s, if the controller can t receive signal from remote control, this function will quit automatically, TA will control temperature according to the TA sensor in the controller.

P.S.: When the I feel function start the main control board will stop detect the TA sensor.

When the indoor fan motor running, press the negative ion button on the remote control, the relay will open up and there is negative ion output, while the button was pressed, this function will be quit. 3. The negative ion function

维修日志					
维修日期	页码	部位	原因(解决方法)	报告	