

# Operating Instruction & Parts Manual

Model : AHSC-12

*Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.*

- ▶ Thank you for purchasing AIRREX Heat Pump. Before operation please read this user's manual carefully.
- ▶ Keep this manual readily available.
- ▶ It is ESSENTIAL that you read it carefully before use, and follow it at all times.
- ▶ The Heat Pump is specified for use on a 115V~ 60Hz 1ph for models AHSC-12.  
You must check that the local electricity supply is the same and have the appropriate plug fitted by a qualified electrician.
- ▶ Please complete the warranty form now and keep in a safe place.
- ▶ We have a policy of continual improving to our products. The contents (features and specifications) in this manual are therefore subject to change without notice.

## Description

Heat Pump operate in air temperatures from 72°F to 113°F in cool mode and 50°F to 81°F in heat mode. These Heat Pump utilize eco-friendly R-410A refrigerant.

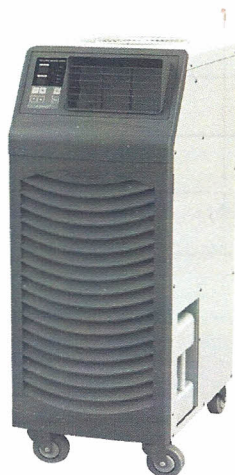
Heat Pump may require a fresh air supply for proper operation.

Includes removable, washable air filters for easy maintenance. Thermostatically protected compressor includes high and low pressure warnings. Moves easily on (4) swivel casters (2 locking).

AHSC-12(10") diameter top air discharge. Optional condensate pump that plugs directly into the Heat Pump.

## Unpacking

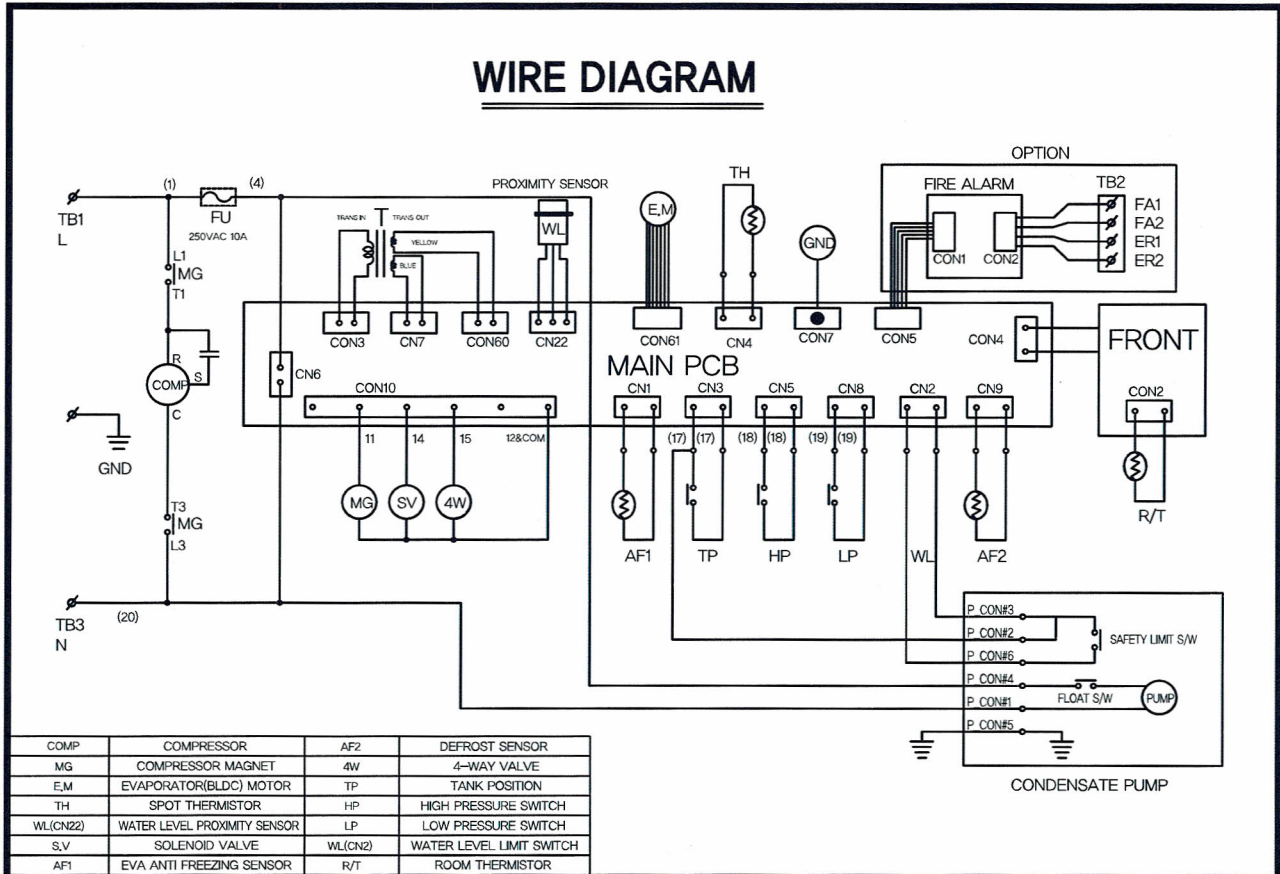
After unpacking the unit, carefully inspect the unit for any damage that may have occurred during transit, such as any loose, missing, or damaged parts. If damaged, immediately file a claim with the carrier.



# SPECIFICATIONS

AHSC-12			
Cooling Capacity	Btu/h (kW)	12,000 (3.5)	
Heating Capacity		13,200 (3.85)	
Power Supply		115V~ 60Hz 1Ph	
Dimensions (WxDxH)	Inch	16.5 X 24.4 X 42.2	
Weight	lb	148	
Evaporator Air Flow	CFM	272	
Power Consumption	Cooling (95°F 40%)	kW	1.21
	Heating (68°F 60%)		1.14
Current Consumption	Cooling (95°F 40%)	A	11
	Heating (68°F 60%)		10.4
Nema Plug		5-15	
Refrigerant(R-410A)	lb	1.87	
Air Filter	Aluminium Mesh Cartridge		
Safety Devices	<ul style="list-style-type: none"> <li>▶ High Pressure Switch</li> <li>▶ Low Pressure Switch</li> <li>▶ Auto 'Full Tank' shut off.</li> <li>▶ Thermostat and relief valve for compressor</li> <li>▶ Fan motor protection</li> <li>▶ Tank position indicator.</li> <li>▶ 3 min. delay timer.</li> </ul>		
Power Cable	DEVICE	LCDI Plug	
	Length	9.8 ft.	
Operating Range	Cooling	72°F DB 60% RH ~ 113°F DB 40% RH	
	Heating	50°F DB 70% RH ~ 81°F DB 50% RH	
High Pressure	psi (kgf/cm <sup>2</sup> )	441 (31)	
Low Pressure	psi (kgf/cm <sup>2</sup> )	185 (13)	
Max. Duct Length	Duct	40 ft.	
Fuse in power box in Machine body		250V~, 10A	

# WIRING DIAGRAM



## **GENERAL SAFETY INFORMATION**

- \* Ensure the safety of the location in which Heat Pump is to be used.
- \* Ensure you allow at least 20inch air space all around the Heat Pump.
- \* Never use the Heat Pump at more than 2°incline.
- \* Ensure the floor or ground is smooth and round.
- \* When in position LOCK the casters to prevent rolling.

### **FOR MAXIMUM EFFICIENCY**

- \* In airtight areas use vertical exhaust into ceiling.
- \* If possible locate exhaust outlet through a window or door to outside.
- \* Ensure correct electricity supply.

The following instructions are for ensuring the user's safety and to prevent any physical injury or material damage. Please read carefully and follow all instructions. There are two sections to these instructions: **WARNING** and **CAUTION**.



### **WARNING**

- \* Use a 115V~ 60Hz 1 Phase power supply only. (Wrong supply may cause a fire and / or shock hazard)
- \* Securely plug into a grounded outlet. (Unless earthed, may cause electric shock)
- \* Do not use a damaged power cable, plug or socket. (Short, fire or shock hazard)
- \* Do not remove plug by pulling cable or with wet hands. (Risk of fire and electric shock)
- \* Before cleaning, remove plug from socket. (Otherwise risk of electric shock)
- \* Do not place anything on top of the machine. (This could cause electric shock, malfunction or injury)
- \* Do not use an extension cord. (Risk of fire and / or electric shock)
- \* Do not 'kink' or sharply bend the power cable nor put any weight on it. (The insulation may be damaged causing fire and/ or electric shock)
- \* Do not turn off by removing power plug. Always turn off at control panel first. (Risk of electric shock and / or malfunction)
- \* Do not use this Heat Pump on unstable or inclined surfaces. Always use on solid flat floor. (Risk of falling causing injury, fire or malfunction)
- \* A damaged power supply cable must be replaced with a new power supply cord obtained from the product manufacturer and not repaired.

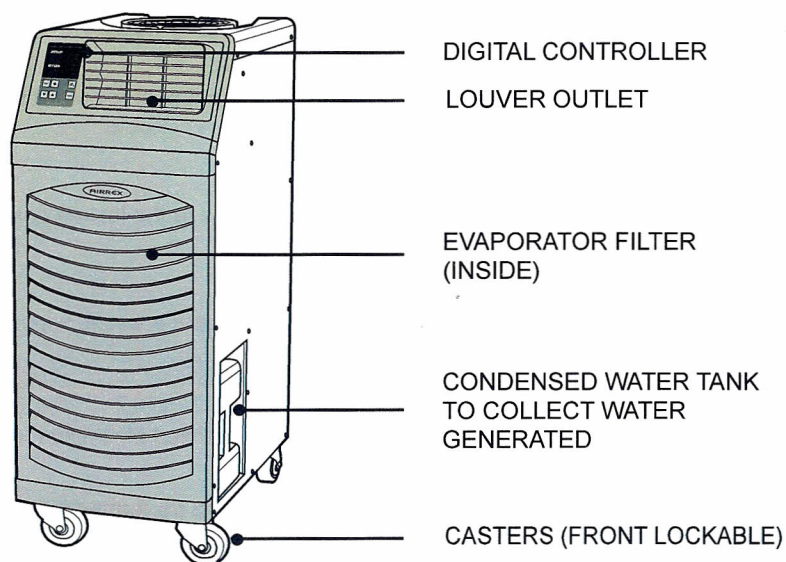


### **CAUTION**

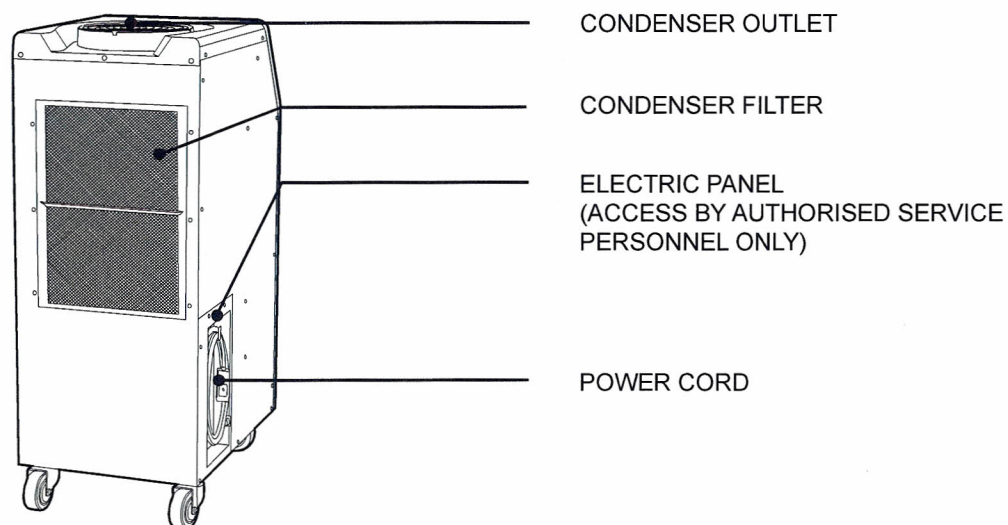
- \* Do not place Heat Pump on uneven, unstable or inclined surface. (This could cause malfunction)
- \* When storing the Heat Pump, ensure that it is kept in a dry, cool place. (To prevent corrosion and malfunction)
- \* If not being used for some time or if lightening is present, always unplug from power. (To prevent risk of electric shock, short circuit or fire)
- \* Do not spray water on to the Heat Pump nor use solvents such as benzene, thinner or alcohol for cleaning. (There is a risk of electric shock and / or short circuit)
- \* Designed for indoor usage.

# ASSEMBLY

## FRONT and RIGHT SIDE VIEW



## BACK and LEFT SIDE VIEW



# INSTALLATION

## WARNINGS REGARDING PROPER LOCATION FOR INSTALLATION



- Do not use the unit in explosive environments or in areas where flammable gas leakage may occur.
- Do not use the unit in areas where it will be exposed to rain or water.
- Do not use the unit in a corrosive atmosphere.
- Do not install the unit on uneven or sloping surface. The unit may roll or topple over even if the casters are set to the locked position.

## MOVING THE UNIT

Unlock the casters and push the unit to a flat, level surface and set the caster brakes to the locked position.

## PLUGGING IN THE UNIT

Check the prongs and surface of the power cord plug for dust/dirt. If dust and/or dirt are present, wipe off with a clean, dry cloth.

Check the power cord, plug and prongs for damage or excess play.

If any damage or excess play is found, contact a qualified repair technician or a qualified electrician to perform replacement or repair of the power cord, plug or prongs.

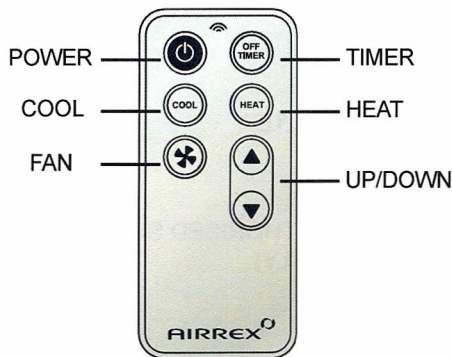


If the power cord or plug is damaged, repair should only be performed by qualified electrical personnel.

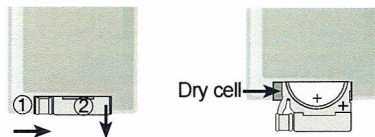


Do not connect/disconnect the power cord or attempt to operate buttons with wet hands. This could result in electrical shock.

# REMOTE CONTROL



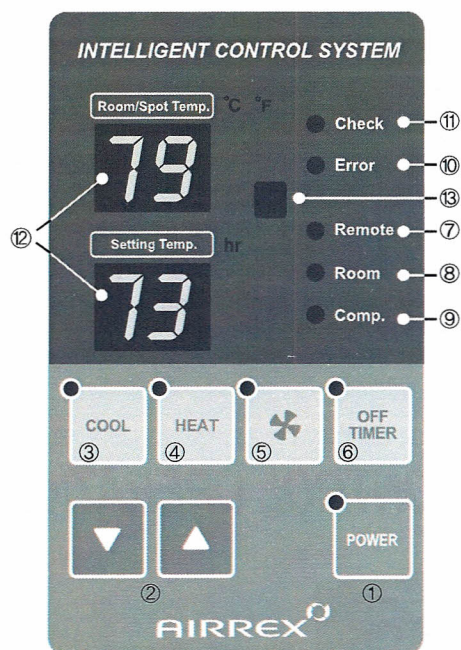
- Point remote control at machine receiver.
- Remote control will not function where strong lights such as 3 florescent, neon or strong sunlight interferes. In this case use the remote control directly in front of the receiver on the unit.
- when the remote operates a "beep" sound will confirm that the remote signal has been sent.
- Remove batteries when you do not use the remote control for long periods, as leakage can occur.
- Ensure water and other liquids do not enter the remote control.



- Open battery cover.
  - Press ① part way in, in the direction shown by the arrow, then pull the number ② part towards the direction shown by the arrow.
- Exchange Battery.
  - Place as indicated +, -
- Close cover
  - push until cover "click".

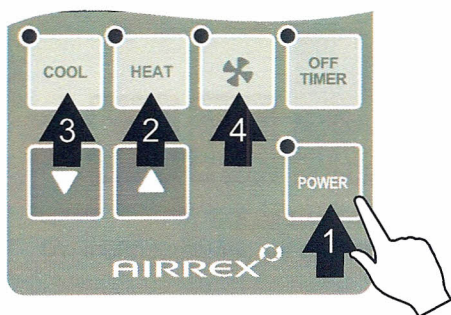
# OPERATION

## CONTROL PANEL



- ① **Power** : Use to power on / off.
- ② **▼▲** : Raises or lowers setting temperature and/ or sleep (off) time.
- ③ **Cool** : Use to select cooling mode.
- ④ **Heat** : Use to select heating mode.
- ⑤ **Fan Speed** : Controls fan low/high speed.
- ⑥ **Off Timer** : To set the length of operating time, once turned on, that you wish the cooler to run for. You can set 0~24 hours. Time intervals are 30mins. up to 10 hours and then 1 hour between 10 and 24 hours.
- ⑦ **Remote** : From the long distance(10m~200m), you can control the machine by wired remote control.
- ⑧ **Room** : If the LED is on, the displayed temperature is for room temp. If the LED is off, the displayed temperature is for spot temp.
- ⑨ **Comp.** : When the compressor is operating, the LED is on.
- ⑩ **Error** : Error signal  
( E1 : High Pressure, E2 : Low Pressure, E3 : Sensor, E5 : BLDC Motor AF: Eva Freezing)
- ⑪ **Check** : If Water full or Align Drain Tank is checking. The LED is on.
- ⑫ **Display** : Display Room/Spot temperature, the setting temp and off time in case of setting them. When the user set the off timer, 'hr' will be turned on.  
(Display of 'LO' : under the 32°F, Display of 'HI' : over the 99°F)
- ⑬ **IR Remote Signal Receiver Window** : Remote control signal is received by wireless remoon.

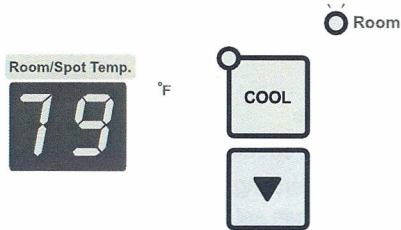
## RUNNING & STOP



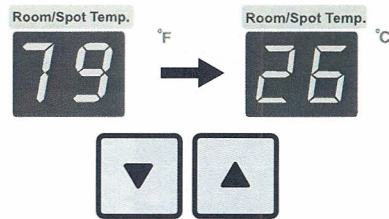
1. **Start by pressing the 'POWER' button.**
  - Heat Pump will start up automatically.
  - To stop the unit, press the 'POWER' button once again.
2. **If you wish to operate on heating, press 'HEAT' button.**
3. **If you wish to operate on fan only, press the 'COOL' button. To resume cooling, press the 'COOL' button again.**  
(Note : There is a 3 minute delay when switching functions to protect the compressor)
4. **To change fan speed. press the "FAN" button.**

## SELECTION of AREA/ROOM or SPOT COOLING / HEATING

To change the temperature of the entire room select 'Area/Room'. For 'targeted' cooling of machinery, servers, or people etc. select 'Spot Cooling or Heating'.



1. If you want to display room temperature, when Heat Pump is operated, push cool and ▼ button simultaneously for three seconds. If you want to display spot cooling and heating temperature, do the same to put it back.



2. If you want to change temperature unit °F → °C, when Heat Pump is stopped, push ▼ and ▲ button simultaneously for three seconds.

## COOLING or HEATING TEMPERATURE CONTROL OPERATION



### COOLING MODE

1. When power is ON, the setting temperature is displayed.
  - Default of setting temperature is as below.
  - 50°F in Spot Mode. · 60°F in Room Mode.

### HEATING MODE

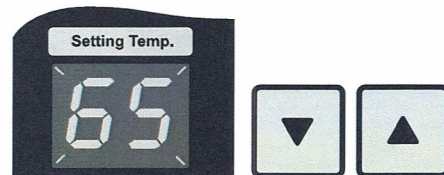
1. When power is ON, the setting temperature is displayed.
  - Default of setting temperature is as below.
  - 68°F in Room Mode.

### COOLING MODE

Mode	Display range	Setting range
Room Temp	32°F~99°F	60°F~86°F
Spot Temp	32°F~99°F	50°F~86°F

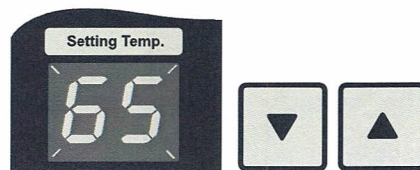
Cooling operates when Room/Spot temperature is *higher than* set temperature.

Cooling stops when Room/Spot temperature is *lower than* set temperature.



### COOLING or HEATING MODE

2. When you push either ▼ or ▲ button, the setting temperature is changed.



### COOLING or HEATING MODE

3. The display showing the set temperature will blink 3 times.

### HEATING MODE

Mode	Display range	Setting range
Room Temp	32°F~99°F	68°F~99°F

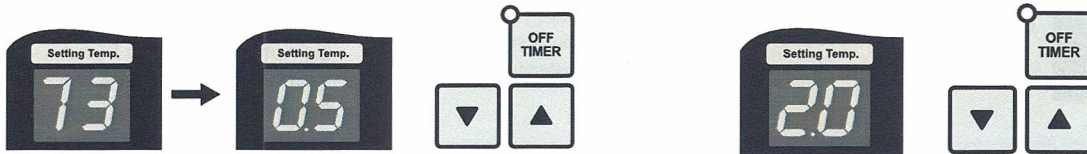
Heating operates when Room/Spot temperature is *lower than* set temperature.

Heating stops when Room/Spot temperature is *higher than* set temperature.



## HOW TO SET THE 'OFF TIMER'

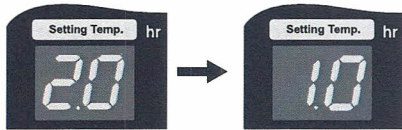
This function enables you to set the length of time you want the Heat Pump to operate. You can set the time period from 30min. to 24 hours in 30min. and 1 hour increments.



OFF TIMER LAMP IS ON

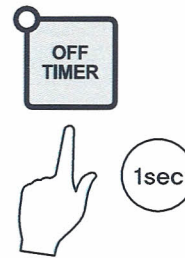
1. When Heat Pump is operating, press the 'Off Timer' button and set the length of time you want by pressing ▲ or ▼. Each time you press the button you will increase the 'time to off' period by 30mins. up to 10 hours, and 1 hour thereafter up to 24 hours. The display will show .5 for 30min and 1 for an hour. e.g. One and a half hours will show 1.5.

2. When you have finished setting the time period, the 'Off Timer' lamp will be on which indicates the Heat Pump is in sleep (Off Timer) mode.



AFTER 1hr

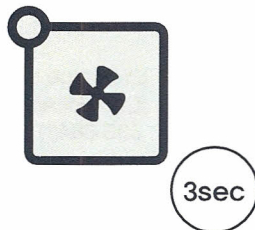
3. If you press the 'Off Timer' button during its operation, the remaining time will be shown.



4. To CANCEL timing, press and hold 'Off Timer' button for ONE second. It will then switch the timer off automatically.

## ECONOMIC MODE

When the compressor stops longer than 3 minutes in "Room Temp Mode", the Fan is shut off automatically. This function is applied in "Room Temp Mode" only.



1. In "Room Temp" mode, when Heat Pump is stopped, push either the "FAN" button and hold for 3 seconds.






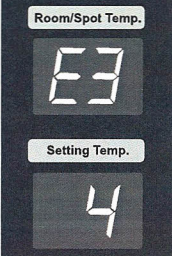


2. The Economic Mode is on when the Room Mode LED blinks.

## Operating Instruction & Parts Manual





# SELF DIAGNOSTIC CODES

The alarm light is activated if abnormal operation occurs, and an error code is displayed on the control panel. In this case, the compressor will stop operating.

Error Code	Problem	Cause	Corrective Action
 <p>Room/Spot Temp. <b>E1</b></p>	High pressure	Blocked air filter Blocked / kinked exhaust duct Ambient temperature is too high	Ensure exhaust duct is not blocked / kinked Do not use the Heat Pump if ambient temperature is higher than 113°F
 <p>Room/Spot Temp. <b>E2</b></p>	Low pressure	Refrigerant may be low	Clean Filters and Coils Check Filters Evaporator/Condenser Check Evaporator/Condenser Coils Check refrigerant level and/or refrigerant leak.
 <p>Room/Spot Temp. <b>E3</b> Setting Temp. <b>1</b></p>	AF sensor	If the AF sensor is short circuited or cut 'E3&1' displayed and the 'Error' LED will be on.	Exchange temperature sensor (Contact Airrex U.S.A. at 1-888-535-8841)
 <p>Room/Spot Temp. <b>E3</b> Setting Temp. <b>2</b></p>	RT sensor	If the RT sensor is short circuited or cut 'E3&2' displayed and the 'Error' LED will be on.	Exchange temperature sensor (Contact Airrex U.S.A. at 1-888-535-8841)
 <p>Room/Spot Temp. <b>E3</b> Setting Temp. <b>3</b></p>	OT sensor	If the OT sensor is short circuited or cut 'E3&3' displayed and the 'Error' LED will be on.	Exchange temperature sensor (Contact Airrex U.S.A. at 1-888-535-8841)
 <p>Room/Spot Temp. <b>E3</b> Setting Temp. <b>4</b></p>	DF sensor	If the DF sensor is short circuited or cut 'E3&4' displayed and the 'Error' LED will be on.	Exchange temperature sensor (Contact Airrex U.S.A. at 1-888-535-8841)

## SELF DIAGNOSTIC CODES

The alarm light is activated if abnormal operation occurs, and an error code is displayed on the control panel. In this case, the compressor will stop operating.

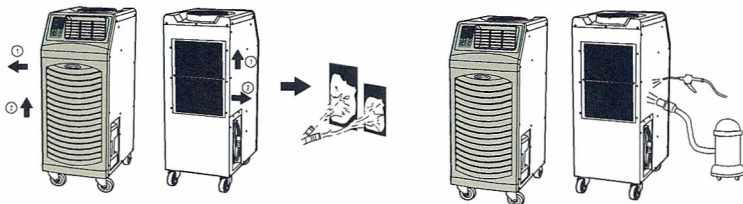
Error Code	Problem	Cause	Corrective Action
	Water full	Water tank is full	Empty the water tank
	Anti-Freezing alarm	Evaporator is below 25 °F due to being used in a low ambient temperature area.	Do not use the unit in an ambient temperature less than 72°F in cooling mode. Check refrigerant level.
	Align water tank	Water tank is not positioned correctly	Place the water tank in right position
	BLDC MOTOR	If BLDC MOTOR is not operated, 'E5' displayed and the 'Error' led will be on.	Check BLDC MOTOR

## TROUBLESHOOTING CHART

TROUBLE	CHECK	REMEDY
NOT WORKING	<ul style="list-style-type: none"> <li>● Power plug incorrectly connected</li> <li>● POWER button "OFF"</li> <li>● Fuse (supply) blown</li> <li>● Breaker on switch board tripped</li> <li>● Ambient temp. too high (Cooling : over 113°F, Heating : over 81°F)</li> </ul>	<ul style="list-style-type: none"> <li>● Connect plug correctly</li> <li>● Press POWER button to "ON"</li> <li>● Replace fuse</li> <li>● Check load capacity and reset</li> <li>● Use only below Cooling 113°F &amp; Heating 81°F</li> </ul>
POOR COOLING	<ul style="list-style-type: none"> <li>● Filter blocked with dust</li> <li>● Dust in heat exchanger</li> <li>● Obstacle against inlet side</li> <li>● Ambient temp. too high (Cooling : over 113°F, Heating : over 81°F)</li> </ul>	<ul style="list-style-type: none"> <li>● Clean Filter</li> <li>● Clean heat exchanger</li> <li>● Remove and allow 20" (50 cm) clearance</li> <li>● Use only below Cooling 113°F &amp; Heating 81°F</li> </ul>

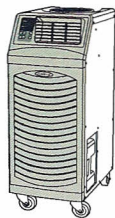
## MAINTENANCE

### CLEANING THE AIR FILTERS

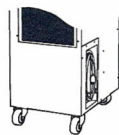


### MAINTENANCE

1. To remove EVA filters, open the front grille ① and pull the filter inside ②.
2. To remove COND filters, slide up a little ① and pull towards you ②.
3. Clean the filters with water or compressed air.
4. Clean evaporator and condenser units with a vacuum cleaner or compressed air.



1. After cleaning, completely dry the inside of the unit by operating on 'Fan Mode' for 3 to 4 hours.



2. Turn "OFF" at control panel, remove plug from socket. Coil and store cable neatly.

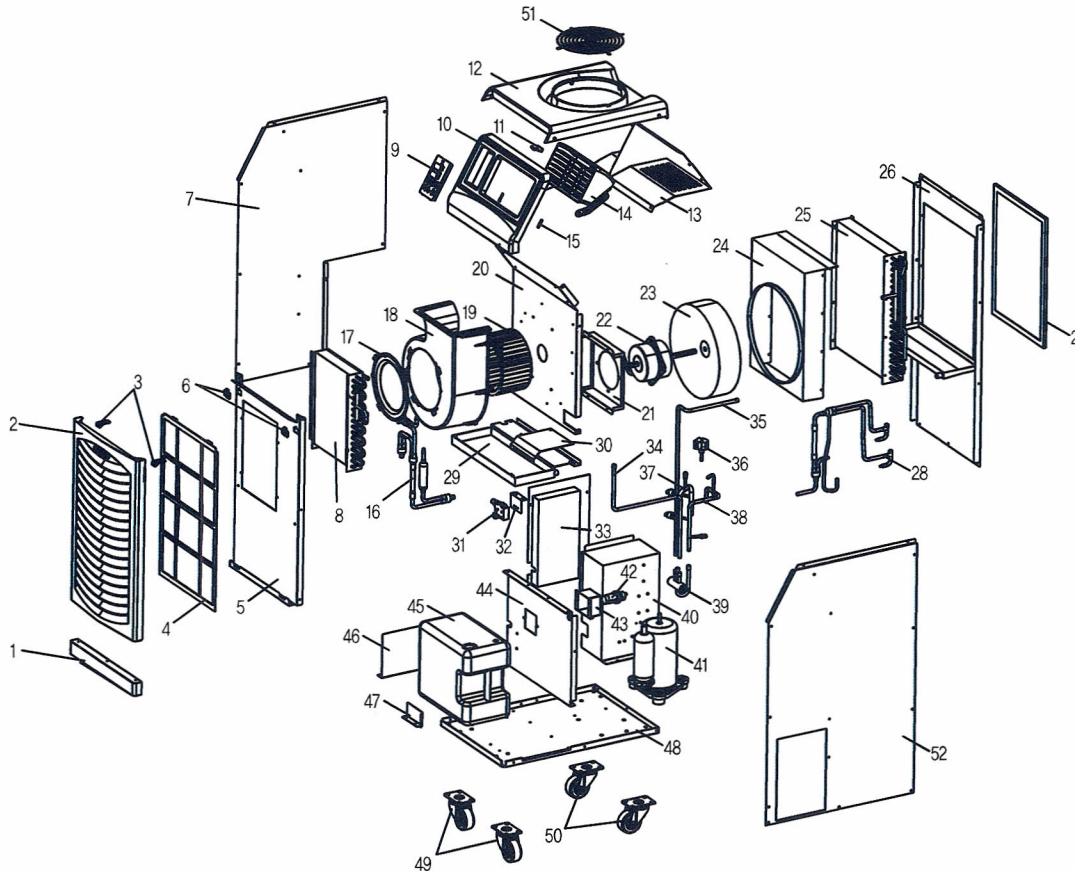


3. Keep machine suitably covered to prevent damage by damp, humidity and dust.

# Operating Instruction & Parts Manual

\* For repair parts or service, contact Airrex U.S.A. at 1-888-535-8841

## ASSEMBLY DRAWING & PART LIST AHSC-12



NO.	CODE NO	SPECIFICATION	NO	CODE NO	SPECIFICATION
1	A251244	CABI FRONT BRACKET LOWER	27	A300044	FILTER COND
2	A900121	PLASTIC FRONT GRILLE	28	A350348	TUBE COND CURRENT ASS'Y
3	A900050	PLASTIC LOCK CLIP	29	A251495	CABI DRAIN PANEL
4	A900061	PLASTIC AIR FILTER	30	A251414	CABI DRAIN COVER
5	A251491	CABI FRONT BRACKET UPPER	31	A430027	LIMIT S/W
6	A900076	PLASTIC CLIP SOCKET	32	A251238	CABI TP BRACKET
7	A251259	CABI SIDE COVER LF	33	A251254	CABI PCB COVER
8	A150069	HEAT EXCHANGE EVAP ASS'Y	34	A350345	TUBE SUCTION-C
9	ESF8050730	FRONT PCB	35	A350344	TUBE SUCTION-B
10	A900104	PLASTIC FRONT BEZEL	36	A560193	SOLENOID VALVE
11	A251256	CABI PLATE SPRING SUS	37	A350343	TUBE SUCTION-A
12	A900103	PLASTIC TOP CASE	38	A350342	TUBE DISCHARGE
13	A251493	CABI PARTITON U	39	A560373	4-WAY VALVE
14	A900106	PLASTIC TILT GRILL	40	A251497	CABI PCB
15	A251230	CABI TILT BRACKET	41	A100096	COMPRESSOR
16	A350346	TUBE EVA CURRENT ASS'Y	42	A430037	PROXIMITY SENSOR
17	A900016	PLASTIC BELL MOUTH	43	A251236	CABI PROXIMITY
18	A900011	PLASTIC DUCT COVER	44	A251250	CABI PANEL PARTITON L
19	A400008	FAN SIROCCO	45	A900116	PLASTIC WATER BOX
20	A251248	CABI PANEL PARTITON	46	A251232	CABI WATER TANK STOP BKT
21	A251234	CABI INDOOR MOTOR BRACKET	47	A251240	CABI WATERBOX GUARD
22	A200086	MOTOR BLDC	48	A251288	CABI BASE ASS'Y
23	A400043	FAN PROPELLER	49	A500020	CASTER 3-INCH SWIVEL LOCK
24	A251489	CABI FAN GUIDE	50	A500019	CASTER 3-INCH SWIVEL
25	A150070	HEAT EXCHANGE COND ASS'Y	51	A251263	GRILL
26	A251257	CABI REAR BRACKET	52	A251261	CABI SIDE COVER RH

## ***Operating Instruction & Parts Manual***

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## ***Operating Instruction & Parts Manual***

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# WARRANTY

(Applicable to first retail purchaser only)

AIRREX Heat Pump give more reliable performance, comfort and durability the more they are used. They are built under a strict quality assurance regime which includes inspection both during and after production and exhaustive reliability testing.

In the unlikely event you have any problems, please contact Airrex U.S.A at 1-888-535-8841 or distributor. If the problem is as a result of a production fault or failure, repairs will be undertaken free of charge during the period of warranty subject to the following warranty conditions:

1. The warranty period is 12 months from the date of first purchase.
2. If the problem has been caused by customer error or misuse, abuse or damage, then all repairs will be charged for.
3. This warranty applies to your country.
4. Proof and date of purchase must be supplied.
5. Please complete the details below and keep this warranty in a safe place.
6. All transport charges back to the dealer are at the customers cost. Keep all original packaging to facilitate return. Return to customer will be at dealers cost (if genuine warranty claim).

DESCRIPTION	AIRREX HEAT PUMP		
MODEL	AHSC-12		
DATE OF PURCHASE		PRODUCT SERIAL NO:	
Warranty Period	(    ) Months		
DISTRIBUTOR	Name of Company		
	Telephone No.		
CUSTOMER DETAILS	Name :		
	Address :		
	Telephone :		

**Manufactured by :**

(Juan-dong) 86, Gilpa-ro  
71beon-gil, Nam-gu,  
Incheon, Korea  
TEL : +82-32-509-5834  
FAX : +82-32-502-5519  
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