

# AIRREX Heat Pump

## USER'S MANUAL

AHSC-18

- ▶ Thank you for purchasing an AIRREX Heat Pump. BEFORE operation please read this user's manual carefully.
- ▶ Keep this manual readily available.
- ▶ It is ESSENTIAL that you read the 'NOTES ON SAFETY' carefully before use and follow them at all times.
- ▶ The Heat Pump is specified for use on a 115V~, 60Hz,1Ph single phase power supply. You must check that the local electricity supply is the same and have the appropriate plug fitted by a qualified electrician.
- ▶ The Warranty form is on Page 15. Please complete it 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.



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## SAFETY INSTRUCTIONS

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.

The following symbols are for your guidance:

= You must NOT.

= You MUST.

### WARNING

- Use a 115V~,60Hz, 1 Phase power supply only.  
(Wrong supply may cause a fire and / or shock hazard)
- Securely plug into an 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)
- Ensure mains plug is clean and securely plugged in.  
(Otherwise it may short causing smoke and fire)
- 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.



Keep this manual in a visible location near the Heat Pump for easy reference.

## SAFETY NOTICE

### 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.

## GENERAL ADVICE BEFORE USE

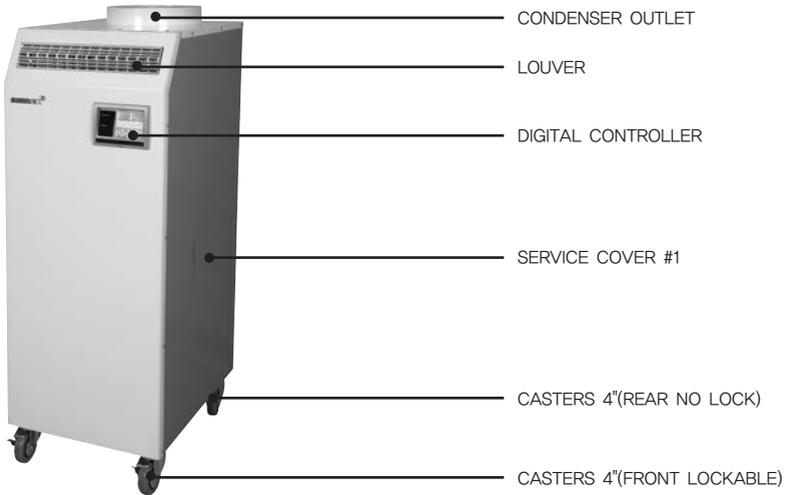
- Ensure the safety of the location in which Heat Pump is to be used,
- Ensure the floor or ground is smooth and sound,
- Ensure you allow at least 20inch air space all around the Heat Pump,
- When in position LOCK the casters to prevent rolling,
- Never use the Heat Pump at more than 2° incline,
- If you use condensate pump, connect with housing in the power box.(Electric panel)

### FOR MAXIMUM EFFICIENCY

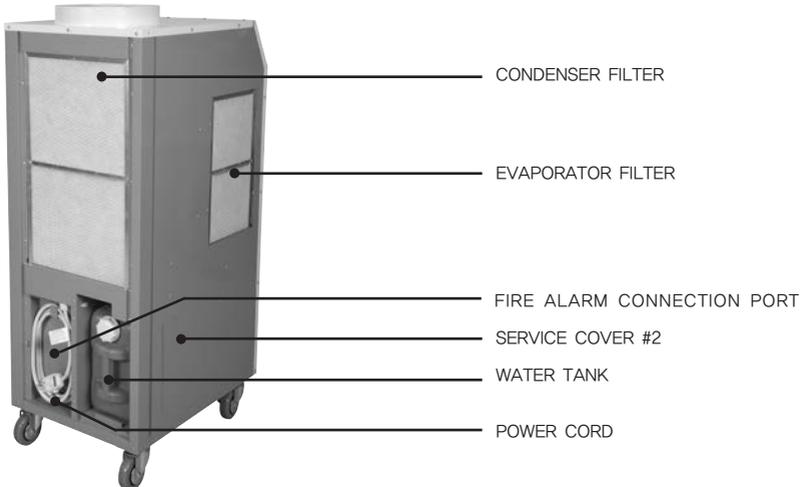
- In airtight areas use vertical exhaust into ceiling,
- If possible locate exhaust outlet through a window or door to outside,
- Exhaust ducting should be no longer than 6,6 ft, for maximum efficiency,
- Ensure correct electricity supply,

## EXTERIOR DESCRIPTION

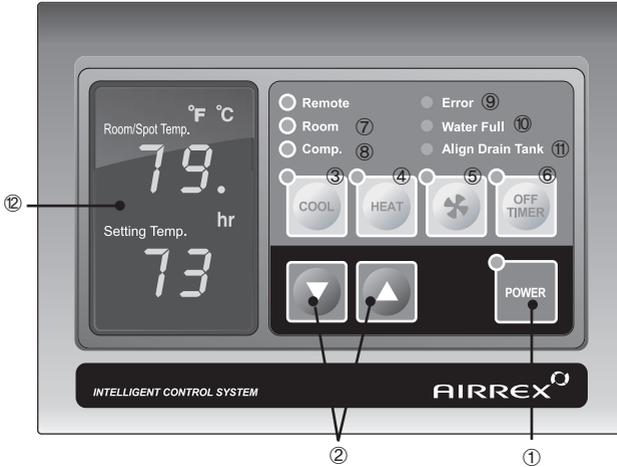
### FRONT VIEW



### BACK VIEW



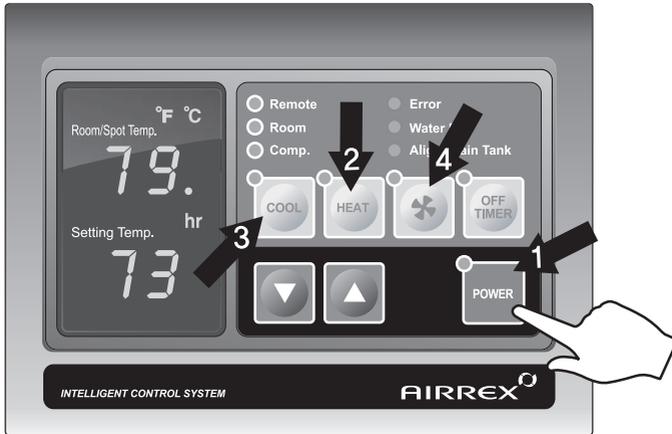
## CONTROL PANEL FUNCTIONS



- ① Power : Use to power On / Off.
- ② ▼▲ : Raises or lowers temperature and/ or sleep (off) time.
- ③ Cool : Use to select cooling mode.
- ④ HEAT Mode : Use to select Heating mode.
- ⑤ FAN Speed : Controls fan high or low speed.
- ⑥ Off Timer : To set the length of time, once turned on, that you wish the Heat Pump 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 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.
- ⑧ Comp. : When the compressor is operating, the LED is On.
- ⑨ Error : Error signal (E1 : High Pressure, E2 : Low Pressure, E3 : Sensor, AF : ANTI Freezing, AL : FIRE ALARM)
- ⑩ Water Full: Red light indicates "Tank Full". The compressor will shut off automatically. Empty tank and replace in position to resume operation.
- ⑪ Align Drain Tank : The red light indicates the water tank is not in the correct position.
- ⑫ Display : Display Room/Spot temperature, the setting temp and sleep time in case of setting them. When the user set the sleep timer, 'hr' will be turned on. (Display of 'LO' : under the 32°F, Display of 'HI' : over the 99°F)

## OPERATION

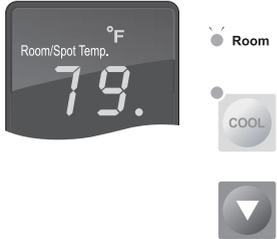
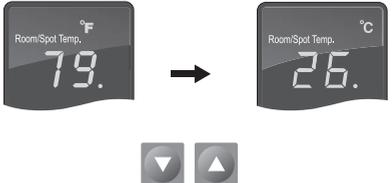
### RUNNING & STOP



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 high or low button.

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

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

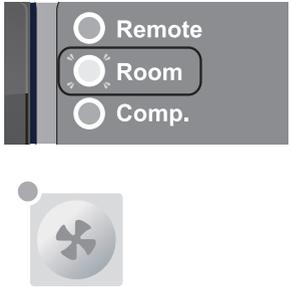
 <p>1. If you want to display room temperature, push cool and ▼ button simultaneously for three seconds.</p>	 <p>2. If you want to change temperature unit °F ↔ °C, push ▼ and ▲ button simultaneously for three seconds.</p>
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## ECONOMIC MODE

If the compressor operation is stop in "Room Temp Mode", the Fan motor operation also is stop in 3min. later.

In Room Temp Mode, If you want to go "Economic Mode", Push Low fan (or High fan) button continuously for 3 seconds.

1.



2. If the Economic mode is effective, Room Mode LED is blink.

## COOLING or HEATING TEMPERATURE CONTROL OPERATION

(a)



### COOLING MODE

- 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

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

(b)



### COOLING or HEATING MODE

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

(c)



### COOLING or HEATING MODE

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

Cooling operates when Room/Spot temperature is *more than* set temperature.  
Cooling stops when Room/Spot temperature is *less than* set temperature.

Heating operates when Room/Spot temperature is *less than* set temperature.  
Heating stops when Room/Spot temperature is *more than* set temperature.

### COOLING MODE

- Display range & Setting range.

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

### HEATING MODE

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

## 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.



1. When the 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 30min, up to 10 hours, and 1 hour thereafter up to 24 hours. The display will show 0,5 for 30min and 1,0 for an hour, e.g. One and half hours will show 1,5.



OFF TIMER LAMP IS ON

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 'Off Timer' button for ONE second. It will then switch the timer off automatically.

## 'ERROR' and WARNING INDICATORS

The machine's safety devices will automatically signal any problems via the display window on the control panel. The information below shows how to read these signals.



### 1. WATER FULL– Display shows "FU"

When the water container is full, "FU" is displayed and the LED "Water Full" light will be on.



### 2. ALIGN WATER TANK

If the water tank is not positioned correctly, the LED "Align Drain Tank" light will be on.



### 3. HIGH PRESSURE

'E1' is displayed and the 'Error' LED will be on when the pressure of the compressor is too high and the high pressure switch is open.



### 4. LOW PRESSURE

'E2' is displayed and the 'Error' LED will be on when the pressure of the compressor is too low.



### 5. SENSOR PROBLEM

If the thermistor is short circuited or cut, 'E3' is displayed and the 'Error' LED will be on.



### 6. ANTI FREEZING

When the temperature of the evaporator is below 25°F, 'AF' is displayed and the 'Error' LED will be on.

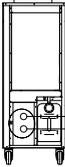


### 7. FIRE ALARM SIGNAL

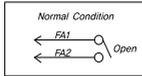
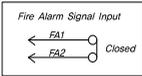
When Fire alarm signal is received from Fire alarm system, 'AL' is displayed and the 'Error' LED will be on.

## FIRE ALARM SIGNAL CONNECTION

AIRREX Heat Pump



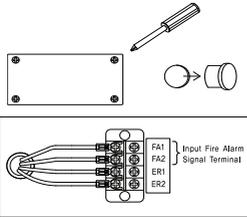
FIRE ALARM SYSTEM



### Input Terminal FA1 and FA2

When the signal from the fire alarm system is received, the air conditioner turns off and does not operate until the unit has been RESET.

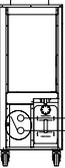
#### \* Connecting the fire alarm wire from fire alarm system



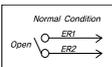
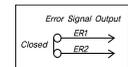
1. Remove 'Cap' and the 'Fire Alarm cover'.
2. Use recommended fire alarm wire size from 16 AWG to 26 AWG for a solid wire, or 16 AWG to 22 AWG for a stranded wire with ring terminal for #5 stud size.
3. Connect fire alarm to terminal FA1 and FA2.

## ERROR SIGNAL CONNECTION

AIRREX Heat Pump



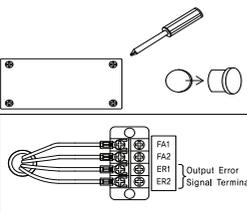
WARNING DEVICE



### Output Terminal ER1 and ER2

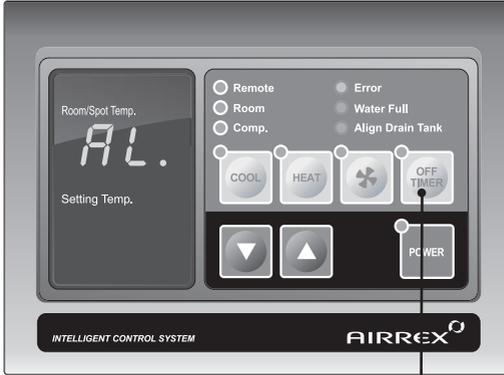
The air conditioner will output an Error signal (normal open dry contact) when an "Error" has occurred, to show what the failure is on the air conditioner.

#### \* Connecting Error Signal with warning device



1. Remove 'Cap' and the 'Fire Alarm cover'.
2. Use recommended error signal wire size from 16 AWG to 26 AWG for a solid wire, or 16 AWG to 22 AWG for a stranded wire with ring terminal for #5 stud size.
3. Connect the end of the error signal wire to ER1 and ER2, and the other end to the compatible with various warning devices such as alarm speaker, light indicators, and etc.

## FIRE ALARM SIGNAL RESET



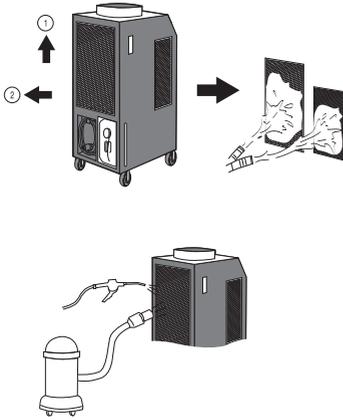
To reset the fire alarm, push "OFF TIMER" key for 5 seconds.

### ※ ERROR DISPLAY CONDITIONS

NO	Error Display	Error condition	Error LAMP	Error Signal Output
1	E1	High pressure	Error	ON
2	E2	Low pressure	Error	ON
3	E3	Sensor Problem	Error	ON
4	FU	Water Full	Water Full	ON
5	AF	Anti Freezing	Error	ON
6	TP	Align Water Tank	Align Drain Tank	ON
7	AL	Fire Alarm	Error	ON

## CLEANING AND MAINTENANCE

### CLEANING THE AIR FILTERS



1. To remove filters, slide up a little ① and pull towards you ②.
2. Clean the filters with water or compressed air.
3. Clean evaporator and condenser units with a vacuum cleaner or compressed air.

### MAINTENANCE

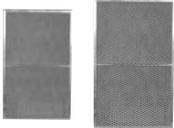


1. After cleaning, completely dry the inside of the unit by operating on 'Fan Mode' only for 3 to 4 hours.
2. Turn "OFF" at control panel, remove plug from socket, Coil and store cable neatly.
3. Keep machine suitably covered to prevent damage by damp, humidity and dust.

## TROUBLE SHOOTING

TROUBLE	CHECK	REMEDY
NOT WORKING	● Power plug correctly connected	● Connect plug correctly
	● POWER button "OFF"	● Press POWER button to "ON"
	● Blown fuse in electric panel	● Replace fuse
	● Fuse (supply) blown	● Exchange fuse in board
	● Breaker on switch board tripped	● Check load capacity and reset
	● Ambient temp. too high (Cooling : over 113°F, Heating : over 81°F)	● Use only below Cooling 113°F & Heating 81°F
POOR COOLING	● Filter blocked with dust	● Clean Filter
	● Dust in heat exchanger	● Clean heat exchanger
	● Obstacle against inlet side	● Remove and allow 20inch,clearance
	● Ambient temp. too high (Cooling : over 113°F, Heating : over 81°F)	● Use only below Cooling 113°F & Heating 81°F

## ACCESSORIES

ITEM		MODEL	DRAWING
		AHSC-18	
COLD AIR & HOT AIR EXHAUST	ALUMINIUM FILTER CASSETTE for Eva	<input checked="" type="checkbox"/>	
	ALUMINIUM FILTER CASSETTE for COND	<input checked="" type="checkbox"/>	

## SPECIFICATIONS

		AHSC-18
Cooling Capacity	BTU/h	16,800 (4,92)
Heating Capacity	kW	18,500 (5,42)
Power Supply		115V~, 60Hz, 1Ph.
Dimensions (WxDxH)	inch.	19,5 X 26,6 X 52,2
Weight	lb	210
Evaporator Air Flow	ft <sup>3</sup> /m	423,6
Cooling current & Power consumption	kW/Amp.	1,83/15,9 (95°F 40%)
Heating current & Power consumption	kW/Amp.	1,84/16,0 (68°F 60%)
Nema Plug		5-20
Refrigerant	lb	R-410A, 2,43
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	Plug
	Length	9,8 ft.
Operating Range	Cooling	77°F DB 60% RH ~ 113°F DB 40%
	Heating	50°F DB 70% RH ~ 80,6°F DB 50%
High Pressure	kgf/cm <sup>2</sup> /psig	31/440
Low Pressure	kgf/cm <sup>2</sup> /psig	13/185
Max. Duct Length	Exhaust Duct	32,8 ft.
Fuse in power box in Machine body		250Va.c. 10amp.

## WARRANTY

(Applicable to first retail purchaser only)

AIRREX Heat Pump gives 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 your dealer 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-18		
DATE OF PURCHASE		PRODUCT SERIAL NO:	

Warranty Period	( 12 ) Months		
DISTRIBUTOR	Name of Company		
	Telephone No.		

CUSTOMER DETAILS	Name :		
	Address :		
	Telephone :		

MEMO.

MEMO.

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