

Please read this manual carefully before installation and keep it for future reference.

# User Manual



**MRCOOL®**

**COMFORT MADE SIMPLE**

## Olympus Series Mid-Static Duct Air Handlers

Please keep this manual where the operator can easily find it. Inside, you will find helpful hints on how to use and maintain your unit properly.

For more info visit [www.mrcool.com](http://www.mrcool.com)

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# Safety Precautions



## Read Before Using

**Incorrect usage may cause serious damage or injury.**

The seriousness of potential damage or injuries is classified as either a **WARNING** or **CAUTION**.



**WARNING**

This symbol indicates that ignoring instructions may cause death or serious injury.



**CAUTION**

This symbol indicates that ignoring instructions may cause moderate injury to your person, damage to your unit, or other property.



This symbol indicates that you should **NEVER** perform the indicated action.



## **WARNING**

- ⊘ **DO NOT** modify the length of the power supply cord or use an extension cord to power the unit.
  - ⊘ **DO NOT** share the electrical circuit with other appliances. Improper or insufficient power supply can cause fire or electrical shock.
  - ⊘ **DO NOT** expose your body directly to the cool air for prolonged periods of time.
  - ⊘ **DO NOT** insert fingers or foreign objects into air inlet / outlet vents.
  - ⊘ **DO NOT** attempt to repair, relocate, or modify the unit yourself. Always contact your qualified service professional if any of this is required.
  - ⊘ **DO NOT** allow combustible materials within 3 feet (1 meter ) of unit; or store combustible gas / vapor emitting materials (e.g. gas cans, rags used with solvents) within the same enclosed area as operating unit.
  - ⊘ **DO NOT** allow children to play with the air conditioner. Children should be supervised around the unit at all times.
1. Installation must be performed by an authorized technician according to installation instructions. Improper installation may cause water leakage, electrical shock, or fire.
  2. In North America, installation must be performed in accordance with the requirement of NEC and CEC (by authorized personnel only.) Contact an authorized service technician for repair or maintenance of the unit.
  3. This appliance is not intended for use by children under the age of 8, or persons with reduced physical, sensory or mental capabilities, unless they are supervised or have been given instruction concerning safe usage and understand the hazards involved by a person responsible for their safety.
  4. In the event of any abnormalities, such as the smell of burning, immediately turn off power to the unit and contact an authorized service technician.

# Safety Precautions

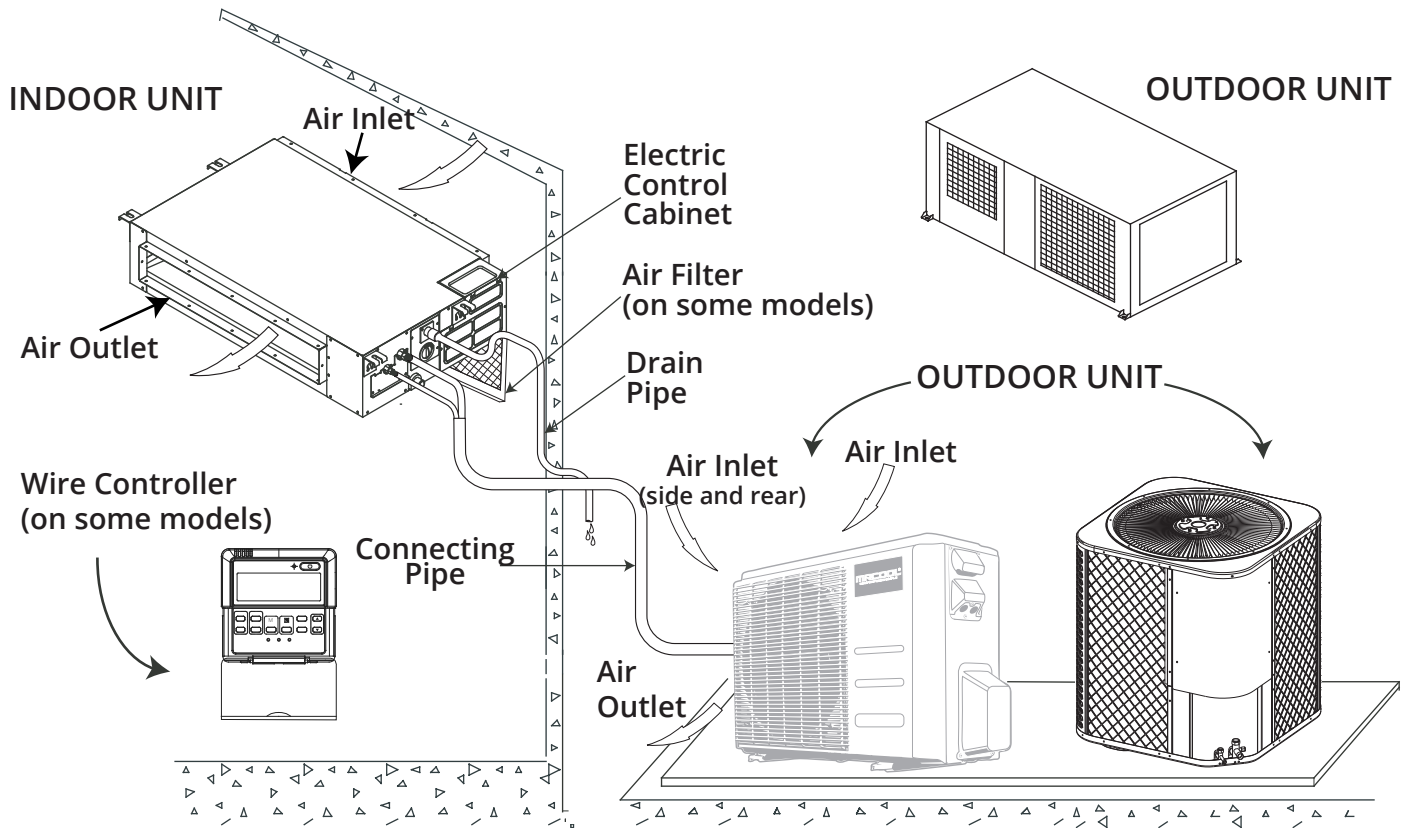
## CAUTION

- ⊘ **DO NOT** touch switches with a wet hand. It may cause electric shock.
  - ⊘ **DO NOT** use the device for any other purpose than the intended use.
  - ⊘ **DO NOT** expose plants or animals directly to the airflow.
  - ⊘ **DO NOT** place food, precision instruments, plants, animals, paint, etc. on the unit.
  - ⊘ **DO NOT** clean the interior unit with water.
  - ⊘ **DO NOT** use combustible cleaning agents as this could cause fire or deformation.
  - ⊘ **DO NOT** place burning objects near the unit or directly in the path of its airflow.
  - ⊘ **DO NOT** step on or place objects on exterior unit.
  - ⊘ **DO NOT** allow unit to run for extended periods with doors and/or windows open or in extreme humidity.
1. If the unit is to be used in conjunction with other heaters, the air should be refreshed periodically, otherwise there is a risk of reduced oxygen.
  2. Switch unit off during storms to avoid electrical damage.
  3. On the interior unit, check that the drainage line is correctly connected to avoid leakage.
  4. On the exterior unit, check that condensation water can run off unhindered to avoid damage.
  5. The unit must be earthed (grounded) in accordance with local codes.
  6. For electrical safety, we recommend that you install an earth leakage circuit-breaker.
  7. If the power cable is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

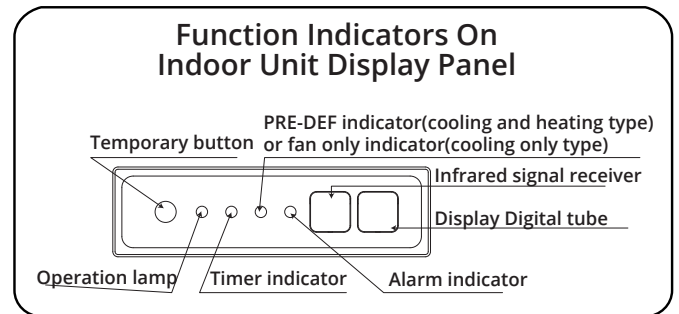
## Note about Flourinated Gasses:

1. This air-conditioning unit contains flourinated gases.
2. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself.
3. Installation, service, maintenance and repair of this unit must be performed by a certified technician.
4. Product recycling must be performed by a certified technician.
5. If the system has a leak-detection system installed, it should be checked for leaks at least every 12 months.
6. Keep a record of all leak checks for the lifetime of the unit.

The air conditioner consists of the indoor unit, the outdoor unit, the connecting pipe and the remote control.



- For inverter type, this switch is used for after-sales service purpose only, the user should not push it.
- For fixed-frequency type, this function is used to operate the unit temporarily in case you misplace the remote control or its batteries are exhausted. Two modes including **FORCED AUTO** and **FORCED COOL** can be selected through the **TEMPORARY BUTTON** on the air-in grill control box of the indoor unit. Once you push this button, the air conditioner will run in such order: **FORCED AUTO, FORCED COOL, OFF, and back to FORCED AUTO.**



### **FORCED AUTO**

The **OPERATION** lamp is lit, and the air conditioner will run under **FORCED AUTO** mode. The remote control operation is enabled to operate according to the received signal. (See the Remote Control Manual packaged with the unit for details.)

### **FORCED COOL**

The **OPERATION** lamp flashes, the air conditioner will turn to **FORCED AUTO** after it is enforced to cool with a wind speed of **HIGH** for 30 minutes. The remote control operation is disabled.

### **OFF**

The **OPERATION** lamp goes off. The air conditioner is **OFF** while the remote control operation is enabled.

### **NOTE**

All the pictures in this manual are for explanation purposes only. They may be slightly different from the unit you purchased (depending on model). The actual shape may vary.

Operate the unit within the temperature ranges listed in the table below for safe and efficient operation.

MODE	OUTDOOR TEMPERATURE	ROOM TEMPERATURE
Cooling Operation	32 °F~122°F / 0°C ~ 50°C	62°F ~90°F (17°C~32°C)
	5 °F~122°F / -15°C ~ 50°C (for the models with low temperature cooling system)	
Heating Operation (cooling only type without)	5°F~76°F / -15°C ~ 24°C	32°F~86°F (0°C~30°C)
Dry Operation	32 °F~122°F / 0°C ~ 50°C	62°F ~90°F (17°C~32°C)

## NOTE

- If air conditioner is used outside the above conditions, it may cause the unit to function abnormally.
- The air conditioner may produce condensation when the humidity is elevated in the room. To reduce this issue, keep the door and windows closed.

## Three-Minute Protection Feature

A protection feature prevents the air conditioner from being activated for approximately 3 minutes when it restarts immediately after operation.

## Power Failure

Power failure during operation will stop the unit completely.

- The **OPERATION** lamp on the indoor unit will start flashing when power is restored.
- To restart operation, push the **ON/OFF** button on the remote controller.
- Lightning or a car wireless telephone operating nearby may cause the unit to malfunction.

Disconnect the unit with the power and then connect the unit with the power again. Push the **ON/OFF** button on the remote control to restart operation.

## Refrigerant Leakage Detection (Optional)

With this new technology, the display area will appear "**EC**" (if applicable) and the **LED** indication lamps continue flashing when the outdoor unit detects refrigerant leakage.

## HINTS FOR ECONOMICAL OPERATION

The following should be noticed to ensure an economical operation. (Refer to corresponding chapter for details)

- Adjust the air flow direction properly to avoid winding toward your body.
- Adjust the room temperature properly to get a comfortable situation and to avoid supercooling and superheating.
- In cooling, close the curtains to avoid direct sunlight.
- To keep cool or warm air in the room, never open doors or windows more often than necessary.
- Set the timer for the desired operating time.
- Never put obstructions near the air outlet or the air inlet; it will cause lower efficiency, even a sudden stop.
- If you don't plan to use the unit for a long time, please disconnect power and remove the batteries from the remote control. When the power switch is connected, some energy will be consumed, even if the air conditioner isn't in operation. So please disconnect the power to save energy. And please switch the power on 12 hours before you restart the unit to ensure a smooth operation.
- A clogged air filter will reduce cooling or heating efficiency, please clean it once two weeks.

## CAUTION

- Before you clean the air conditioner, be sure the power supply is off.
- Check if the wiring is not broken off or disconnected.
- Use a dry cloth to wipe the indoor unit and remote control.
- A wet cloth may be used to clean the indoor unit if it is very dirty.
- Never use a damp cloth on the remote control.
- Do not use a chemically-treated duster for wiping or leave such material on the unit for long. It could damage or fade the surface of the unit.
- Do not use benzine, thinner, polishing powder, or similar solvents for cleaning. These may cause the plastic surface to crack or deform.

## Maintenance After A Long Stop Period

(eg. at the beginning of the season)

- Check and remove anything that might be blocking inlet and outlet vents of indoor units and outdoor units.
- Clean air filters and casings of indoor units. Refer to "Cleaning the air filter" for details on how to proceed and make sure to install clean air filters back in the same position.
- Turn on the power at least 12 hours before operating the unit in order to ensure smoother operation. As soon as the power is turned on, the remote control displays appear.

## Maintenance Before A Long Stop Period

(eg. at the end of the season)

- Let the indoor units run in fan only operation for about half a day in order to dry the interior of the units.
- Clean air filters and casings of indoor units. Refer to "Cleaning the air filter" for details on how to proceed and make sure to install clean air filters back in the same position.

## Cleaning The Air Filter

(on some models)

- The air filter can prevent dust or other particulate from going inside the unit. When the filter gets dirty, the air conditioner efficiency decreases.
- Therefore, the filter must be cleaned once every two weeks during long time usage.
- If the air conditioner is installed in a dusty place, increase the frequency of air filter cleaning.
- If the accumulated dust is too heavy to be cleaned, please replace the filter with a new one (replaceable air filter is optional).
- The filter cleaning should be performed by a suitable service provider.

*If your Air Handler is a rear ventilated unit, please remove the filter fixed screws (2) and take down the filter away from the unit.*

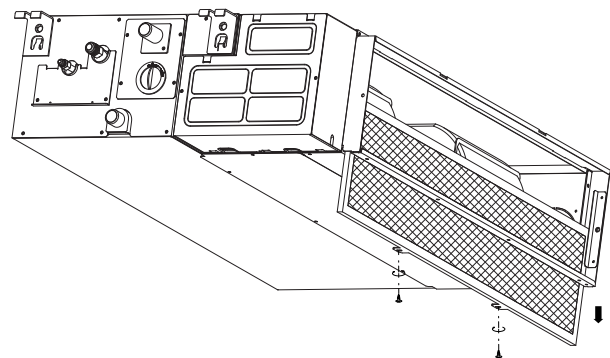


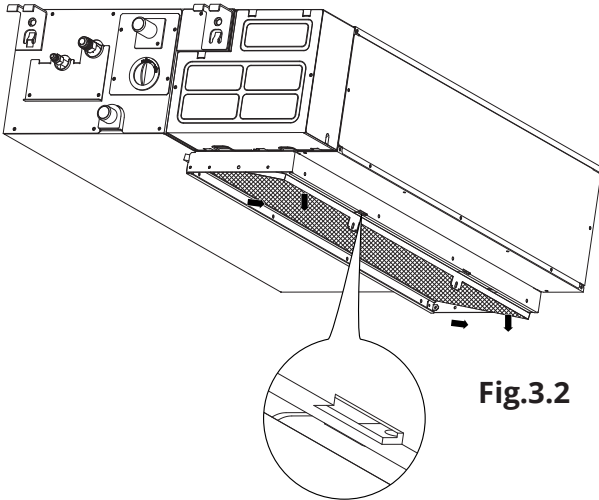
Fig.3.1



## Cleaning The Air Filter

*Continued.*

If your Air Handler is a descensional ventilated unit, please push the filter up slightly to let the position retainer escape away from the flange fixed holes, and take off the filter according to the arrow direction shows in the following fig.



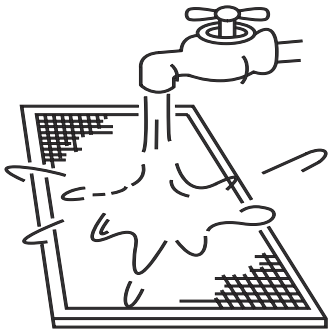
**Fig.3.2**

Clean the air filter (a vacuum cleaner or pure water may be used to clean the air filter. If the dust accumulation is too heavy, use a soft brush and mild detergent to clean it and dry out in cool place) .

### CAUTION

**Do not dry out the air filter under direct sunshine or with fire.**

After cleaning the air filter, re-install it into the unit. Reinstall and close the air-in grill in the reverse order depending on your specific air handler. Reconnect the control box cables to the corresponding terminators of the main body .

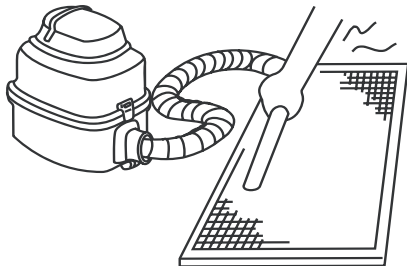


**The air-in side should face down when using water.**

**Fig.3.3**

**The air-in side should face up when using vacuum cleaner.**

**Fig.3.4**



Procedure	Problem
<p>If one of the following malfunctions occur, stop operation, shut off the power, and contact MRCOOL or your installation dealer.</p>	The operation lamp is flashing rapidly (5Hz). This lamp is still flashing rapidly after turning off the power for 3 minutes and turning it on again.
	A safety device such as a fuse or a breaker frequently actuates.
	Obstacles and water enter the unit.
	Water leaks from indoor unit.
	Other malfunctions not covered in the following troubleshooting tables.



## CAUTION

**Incorrect installation or incorrect voltage could cause above mentioned malfunctions.**

Symptoms	Causes	Solution
Unit does not start	<ul style="list-style-type: none"> <li>Power failure.</li> <li>Power switch is off.</li> <li>Fuse of power switch may have burned.</li> <li>Batteries of remote control may be dead or the remote may be malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Wait for the comeback of power.</li> <li>Switch on the power.</li> <li>Replace the fuse.</li> <li>Replace the batteries or check the controller.</li> </ul>
Air flowing normally but can't complete cooling	<ul style="list-style-type: none"> <li>Temperature is not set correctly.</li> <li>The 3 minute delay protection feature has been activated..</li> </ul>	<ul style="list-style-type: none"> <li>Set the temperature properly.</li> <li>Wait.</li> </ul>
Units starts or stops frequently	<ul style="list-style-type: none"> <li>Refrigerant is too little or too much.</li> <li>Air or no concreting gas in the refrigerating circuit.</li> <li>Compressor is malfunctioning.</li> <li>Voltage is too high or too low.</li> <li>System circuit is blocked.</li> </ul>	<ul style="list-style-type: none"> <li>Check leakage, and rightly recharge refrigerant.</li> <li>Vacuum and recharge refrigerant.</li> <li>Maintenance or change compressor.</li> <li>Install manostat.</li> <li>Find reasons and solution.</li> </ul>
Low cooling effect	<ul style="list-style-type: none"> <li>Outdoor unit and indoor unit heat exchanger is dirty.</li> <li>The air filter is dirty.</li> <li>Inlet/outlet of indoor/outdoor units is blocked.</li> <li>Doors and windows are open</li> <li>Sunlight is directly shining into area.</li> <li>Too much heat resource.</li> <li>Outdoor temp. is too high.</li> <li>Leakage of refrigerant or lack of refrigerant.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the heat exchanger.</li> <li>Clean the air filter.</li> <li>Eliminate all accumulated dust.</li> <li>Close doors and windows.</li> <li>Make curtains in order to shelter from sunshine.</li> <li>Reduce heat source.</li> <li>AC cooling capacity reduces (normal).</li> <li>Check leakage and rightly recharge refrigerant.</li> </ul>
Low heating effect	<ul style="list-style-type: none"> <li>Outdoor temperature is lower than 44°F</li> <li>Doors and Windows not completely closed.</li> <li>Leakage of refrigerant or lack of refrigerant.</li> </ul>	<ul style="list-style-type: none"> <li>Use heating device.</li> <li>Close doors and windows.</li> <li>Check leakage and rightly recharge refrigerant.</li> </ul>

## Wire Controller Troubleshooting

Symptoms	Solution	Causes
The fan speed can not be changed.	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is "AUTO"</li> </ul>	When the automatic mode is selected, the air conditioner will automatically change the fan speed.
	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is "DRY"</li> </ul>	When dry operation is selected, the air conditioner will automatically change the fan speed. The fan speed can be selected during "COOL" , "FAN ONLY", and "HEAT"
The wire controller signal is not transmitted even when the ON/OFF button is pushed.	<ul style="list-style-type: none"> <li>● Check whether the signal transmitter of the wire controller is properly directed to the infrared signal receiver of the indoor unit.</li> </ul>	The power supply is off.
The TEMP. indicator does not come on.	<ul style="list-style-type: none"> <li>● Check whether the MODE indicated on the display is FAN ONLY</li> </ul>	The temperature cannot be set during FAN mode.
The indication on the display disappears after a lapse of time.	<ul style="list-style-type: none"> <li>● Check whether the timer operation has come to an end when the TIMER OFF is indicated on the display.</li> </ul>	The air conditioner operation will stop up to the set time
The TIMER ON indicator goes off after a lapse of certain time.	<ul style="list-style-type: none"> <li>● Check whether the timer operation is started when the TIMER ON is indicated on the display.</li> </ul>	Up to the set time, the air conditioner will automatically start and the appropriate indicator will go off.
No receiving tone sounds from the indoor unit even when the ON/OFF button is pressed.	<ul style="list-style-type: none"> <li>● Check whether the signal transmitter of the wire controller is properly directed to the infrared signal receiver of the indoor unit when the ON/OFF button is pressed.</li> </ul>	Directly transmit the signal transmitter of the wire controller to the infrared signal receiver of the indoor unit, and then repeatedly Push the ON/OFF button twice.

## Indoor Unit Error Display

NO.	Malfunction	display (nixie tube)	timer lamp	running lamp (flashes per second)
1	Indoor EEPROM error	E0	OFF	1
2	Communication malfunction between indoor and outdoor units	E1	OFF	2
3	Indoor fan speed malfunction	E3	OFF	4
4	Indoor room temperature sensor open circuit or short circuit	E4	OFF	5
5	Evaporator coil temperature sensor open circuit or short circuit	E5	OFF	6
6	Refrigerant leakage detection malfunction	EC	OFF	7
7	Water-level alarm malfunction	EE	OFF	8
8	Communication malfunction between two indoor units (for twins model)	E8	OFF	9
9	Other malfunction of twins model	E9	OFF	10
10	Current overload protection	F0	ON	1
11	Outdoor room temperature sensor open circuit or short circuit	F1	ON	2
12	Outdoor condenser pipe temperature sensor error	F2	ON	3
13	Discharging air temperature sensor error	F3	ON	4
14	Outdoor EEPROM error	F4	ON	5
15	Outdoor fan speed malfunction (Only for DC fan motor)	F5	ON	6
16	T2b sensor error	F6	ON	7
17	Inverter module IPM protection	P0	Flash	1
18	High/Low voltage protection	P1	Flash	2
19	High temperature protection of compressor top	P2	Flash	3
20	Outdoor low temp. protection	P3	Flash	4
21	Compressor drive error	P4	Flash	5
22	Mode conflict	P5	Flash	6

# Troubleshooting

(2) The following situations are not operation failures.

Problem	Time of Occurrence	Cause
Unit doesn't run.	When unit is started immediately after it is just turned off.	Overload protection switch causes a 3 minute delay.
	When power is turned on.	Start up could be delayed up to 1 minute.
Mist comes from the unit.	During operation.	If the unit is running under high humidity, the wet air in the room will be quickly cooled down.
The unit generates noise.	Slight cracking sound is heard when unit is turned on.	Electronic expansion valve initialization can cause this noise temporarily.
	There is a continuous sound when cooling.	Gas refrigerant flow can cause a slight noise.
	The unit makes a sound when unit starts or stops.	Gas refrigerant flow can cause a slight noise.
	There is slight and continuous sound when unit is running or after running.	The drainage system can cause this noise during operation.
Dust comes from the unit.	When unit runs after no operation for a long period of time.	Dust has settled inside the indoor unit.
The unit emits odor.	During operation.	Smells from the operating environment may be pulled through the air handler.
The outdoor unit fan does not spin.	During operation.	The speed of the fan is controlled in order to optimize product operation.
The unit automatically changes to fan mode.	During cooling mode or heating mode.	This prevents indoor evaporator frosting or overheating and will start back up when the temperature changes.

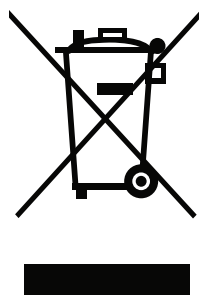
This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance, the law requires special collection and treatment. DO NOT dispose of this product as household waste or unsorted municipal waste.

When disposing of this appliance, you have the following options:

- Dispose of the appliance at a designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will receive the old appliance free of charge.
- The manufacturer will receive the old appliance free of charge.
- Sell the appliance to certified scrap metal dealers.

## Special notice

Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.





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Olympus Series  
Mid-Static Duct Air Handlers

The design and specifications of this product and/or manual are subject to change without prior notice. Consult with the sales agency or manufacturer for details.