

Part Numbers: P103-R4000G, P103-4000GB, P103-R1700G

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions such as changing lamps. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit or accessory, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves.

▲ WARNING

Before installing the P103-R4000G, P103-R4000GB or P103-R1700G air purifier, or performing maintenance or service on the air purifier, turn off main power switch to unit. Electrical shock can cause injury or death. There may be more than one disconnect switch.

▲ CAUTION

Never expose eyes or skin to ultraviolet light from any source. Air purifier must be off before performing maintenance or service. Personal injury may result.

▲ CAUTION

Use only specified replacement lamps with this accessory. Use of an incorrect lamp can result in damage to accessory or lamp.

▲ CAUTION

Do not touch lamp glass without gloves. Reduced performance of lamp may result. Clean lamp after handling.

▲ CAUTION

Lamp contains a small quantity of mercury. If a lamp breaks, clean and dispose of with care.

GENERAL

The Totaline P103-R4000G, P103-R4000GB, and P103-R1700G residential ultraviolet air purifiers are designed to kill bacteria, viruses, odor causing mold and fungus that may be transmitted through the air ducts of the HVAC (heating, ventilation, and air conditioning) equipment. The purifiers are installed in the return (preferred) or supply air plenum of the HVAC equipment. The ultraviolet band light inhibits and kills mold, fungus, bacteria, viruses and microbial growth in the air flowing through the 6 in. square aluminum tube. See Fig. 1 for typical air purifier components.

Location — The preferred installation location for the purifier is in the return duct, as the air will be treated before the filter and HVAC coil. If it is not possible to install the purifier in the return duct, it may be installed in the supply duct. The painted steel power supply control panel section of the purifier is installed on the outside of the duct.

Make sure site can be supplied with the necessary power requirements. The P103-R4000G air purifier and the P103-R4000GB air purifier have a power consumption of 35 watts, the P103-R1700G air purifier 26 watts, and all require a 110/220 v, 50-60 Hz power source. Ensure that there is adequate clearance for service. If a humidifier is present, the air purifier should be installed in the airstream before the humidifier and any plastic parts of the humidifier located inside the duct must be protected from UV (ultraviolet) rays.

IMPORTANT: The ballast for all models has been factory set at 110 volts. If the power source is 220 volt, the switch on the ballast must be changed to the 220-volt position, and the plug at the end of the wire set (P103-R4000G) fit with a 110/220-volt adapter, or cut off and wired into the 220-volt circuit.

The operating temperature range of the purifier is 40 to 150 F. Operating the P103-R4000G, P103-R4000GB and P103-R1700G air purifier outside this range will result in decreased performance.

NOTE: The purifiers are NOT waterproof. If installing outdoors, the purifiers must be installed in a watertight enclosure.

**P103-R4000G AND P103-R4000GB
AIR PURIFIER INSTALLATION**

IMPORTANT: The P103-R4000GB and P103-R1700G air purifiers must be hardwired into the HVAC system. Refer to the Return or Supply Air Plenum Installation section for P103-R1700G and P103-4000GB air purifier electrical connections.

The P103-R4000G air purifier is energized from a pressure differential caused by airflow through the duct. On variable speed fan applications, airflow at a LOW setting may not be sufficient to energize the air purifier. The pressure switch is factory set to a differential of 0.04 in. Ensure that there is a sufficient differential to activate the switch. Take into account that the differential will decrease as the air filter loads.

The P103-R4000G control panel must be installed in a vertical upright position for the air sensor to function properly. If the P103-R4000G control panel is to be installed in a horizontal position, or the differential is not sufficient, the air sensor must be bypassed by disconnecting the two leads on the pressure switch and joining them together with a wire nut and wiring the P103-R4000G air purifier into the fan circuit.

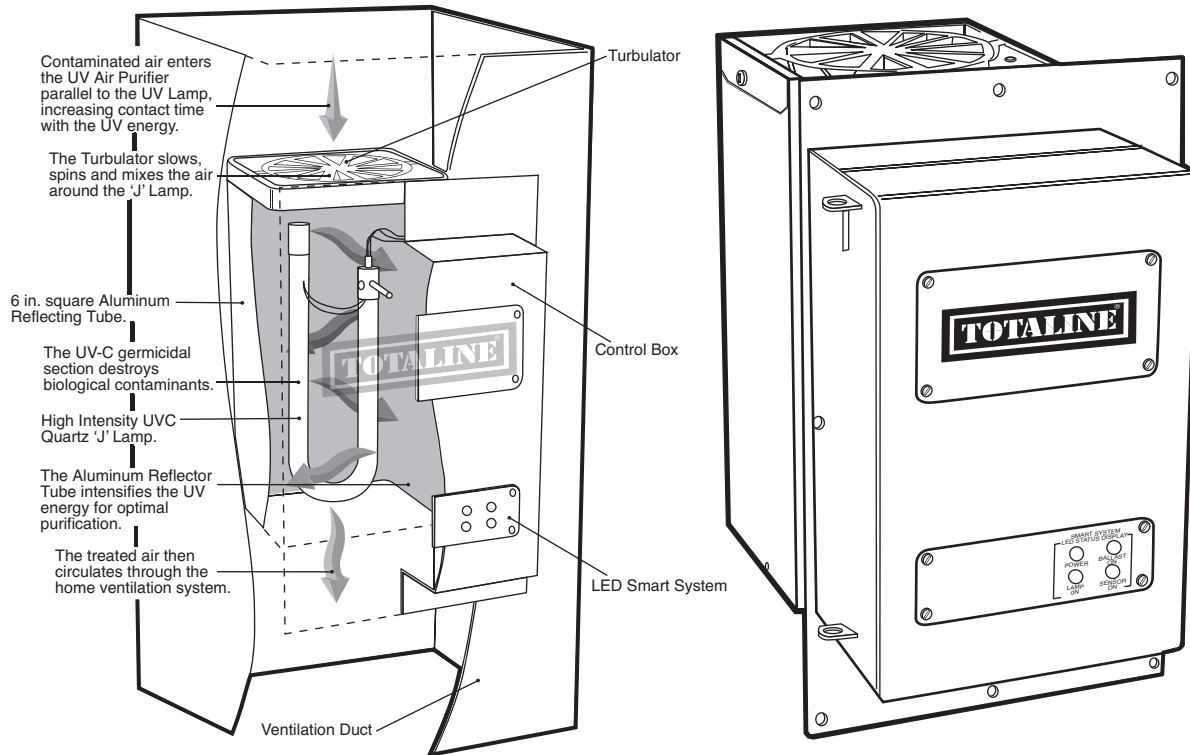


Fig. 1 — Typical Air Purifier Components

⚠ CAUTION

Use only specified lamps with this accessory. Use of an incorrect lamp can result in damage to the accessory or the lamp.

Preparation

1. Turn off all power to HVAC equipment.
2. Remove the air purifier from its packaging.
3. Remove the UV lamp from the packaging material. The lamp is fragile. Use extreme care. Do not touch the glass of the lamp with bare hands. Use the enclosed gloves when handling the lamp. Handle the lamp from the ceramic ends.
4. Position the lamp inside the aluminum tube. Route the 4-pronged end of lamp through the clamp. The clamp is tightened by moving lever perpendicular to the clamp.
5. Connect the female plug to the lamp. The plug fits in one direction only. If the plug will not connect to the lamp, turn the plug 90 degrees.
6. The 6 in. square aluminum tube can be rotated in 90-degree increments in order for the back plate and control panel front cover to face upward. To rotate the aluminum tube, open the front cover of the purifier. Loosen the hex head nut. Grasp the aluminum tube and rotate it in 90-degree segments. The tube will lock at each 90-degree segment. When the correct rotation is found, tighten the hex nut.
7. Install the turbulator (square aluminum cap) on the end of the aluminum tube facing the airflow. Fasten with screws provided.
8. Ultraviolet light may damage certain plastics and exposed non-UVC (germicidal ultraviolet radiation) protected wires. If any plastic or wires are within the light exposure area, wrap exposed plastic and wiring with aluminum tape or use a metal conduit.

9. P103-4000G only: The vacuum sensor tube is located on the back plate of the P103-R4000G air purifier inside a 90-degree chrome elbow. The end of the tube must face away from the airflow. If an adjustment is necessary, loosen the nut inside the control panel that holds the elbow. Rotate elbow so that it will face away from the airflow. Tighten the nut.

Return or Supply Air Plenum Installation —
Perform the following to install the P103-R4000G or P103-R4000GB air purifier:

1. Cut a 6.5 in. by 10 in. rectangular hole in the ductwork at the installation location.
2. Place the air purifier in ductwork in the correct position. Mark the 8 mounting holes on the ductwork. Remove the air purifier.
3. Drill 8 mounting holes marked in Step 2 (sized for no. 8 sheet metal screws).
4. Place the air purifier inside the hole in the ductwork. Mount to the ductwork with the provided eight no. 8 sheet metal screws.
5. P103-R400G:
Plug in the power cord. If the outlet is connected to a light switch, make sure the switch is on.
- P103-4000GB:
Connect the 110 or 220-v line as per code to the HVAC EAC (electronic accessory contacts) terminals or to the blower control. A current sensing relay or pressure switch may be necessary. Check with the equipment manufacturer.
6. Open cover of the purifier. Secure the line conduit through the purifier knockout provided next to the power switch with the appropriate cable connector.

NOTE: The ballast for all of the models has been factory set at 110 volts. If the power source is 220-volt, the switch on the ballast must be changed to the 220-volt position.

P103-R1700G AIR PURIFIER INSTALLATION

Preparation

1. Turn off all power to HVAC equipment.
2. Remove the air purifier from its packaging.
3. Remove the lamp from the packaging material. The lamp is fragile. Use extreme care. Do not touch the glass of the lamp. Use the enclosed gloves when handling the lamp. Handle the lamp from the ceramic ends.
4. Position the lamp inside the aluminum tube. Route the 4-pronged end of lamp through the clamp. The clamp is tightened by moving lever perpendicular to the clamp.
5. Connect the female plug to the lamp. The plug fits in one direction only. If the plug will not connect to the lamp, turn the plug 90 degrees.
6. The aluminum tube can be rotated in 90-degree increments in order for the back plate and control panel front cover to face upward. To rotate the aluminum tube, open the front cover of the air purifier. Loosen the hex head nut. Grasp the aluminum tube and rotate it in 90-degree segments. The tube will lock at each 90-degree segment. When the correct rotation is found, tighten the hex nut.
7. Install the turbulator (square aluminum cap) on the end of the aluminum tube. The air must pass through the turbulator first. Fasten with screws provided.
8. Ultraviolet light may damage certain plastics and exposed non-UVC (germicidal ultraviolet radiation) protected wires. If any plastic or wires are within the light exposure area, wrap exposed plastic and wiring with aluminum tape or use a metal conduit.

Return or Supply Air Plenum Installation —

Perform the following to install the P103-R1700G air purifier:

1. Cut a 6.5 in. by 8 in. rectangular hole in the ductwork at the installation location.
2. Place the purifier in the ductwork in the correct position. Mark the 6 mounting holes on the ductwork. Remove the air purifier.
3. Drill the mounting holes marked in Step 2 (sized for no. 8 sheet metal screws).
4. Place the purifier inside the hole in the ductwork. Mount to ductwork with sheet metal screws provided.

NOTE: The ballast for all of the models has been factory set at 110 volts. If the power source is 220-volt, the switch on the ballast must be changed to the 220-volt position.

5. Connect the 110 or 220-v line as per code to the HVAC EAC (electronic accessory contacts) terminals or to the

blower control. A current sensing relay or pressure switch may be necessary. Check with the equipment manufacturer.

6. Open cover of the purifier. Secure the line conduit through the purifier knockout provided next to the power switch with the appropriate cable connector.

P103-R400G AIR PURIFIER OPERATION

The P103-R4000G air purifier has an on-off switch and a circuit breaker located at the bottom of the front cover. To operate, move the switch to the “On” position. The switch has a light to indicate that there is power. If there is no indicator light on, check the outlet for power, and check the P103-R4000G air purifier circuit breaker. Start the HVAC fan. The P103-R4000G air purifier detects airflow with the pressure sensor. The P103-R4000G air purifier will only operate when the fan is on (airflow through the plenum) and there is a pressure differential of at least 0.04 in.

LED Indicators — There are 4 LED (light-emitting diode) indicators on the front panel. When the P103-R4000G air purifier is plugged in and the ON/OFF switch is “On,” the Power LED will be lit. If the “Sensor On” light does not come on when the fan is energized, either the pressure switch is defective, or there is not enough of a pressure differential in the duct to pull in the diaphragm. When the pressure switch energizes, the “Sensor On” LED will be lit. There are two LEDs for the UV lamp. The blue LED indicates that the UV lamp is on; the green LED indicates that the ballast is functioning. If the Ballast (green) LED is on, and the Lamp (blue) LED is off, the UV lamp is defective. If both LED lights are off, the ballast is not functioning.

P103-R4000GB, P103-R1700G AIR PURIFIER OPERATION

The air purifier has an ON/OFF switch and a circuit breaker located at the bottom of the front cover. To operate, move the switch to the “On” position. The switch has a light to indicate that there is power. If there is no indicator light on, check the outlet for power, and check the air purifier circuit breaker. Start the HVAC fan. The 2 LEDs will come on.

LED Indicators — There are two LED (light-emitting diode) lights for UV lamps. The blue LED indicates that the UV lamp is on; the green LED indicates that the ballast is functioning. If the Ballast (green) LED is on, and the Lamp (blue) LED is off, the UV lamp is defective. If both LED lights are off, the ballast is not functioning.

**P103-R4000G, P103-R4000GB, P103-R1700G AIR PURIFIER
LIMITED PARTS AND LAMP WARRANTY**

FIVE-YEAR WARRANTY — Except for the Ultraviolet Lamps and Ballasts, this Carrier Corporation product is warranted to be free from defects in material and workmanship under normal use and maintenance for a period of five years from the date of original installation. A new or remanufactured part to replace the defective part will be provided without charge for the part itself, through a qualified servicing Carrier Corporation dealer or distributor, PROVIDED the defective part is returned to the distributor. The replacement part assumes the unused portion of the warranty.

THREE-YEAR RESIDENTIAL LAMP WARRANTY — The Carrier Corporation Ultraviolet Lamps are warranted to be free from defects and operate for Three (3) years after installation, under normal use and maintenance in a residential application. A new lamp to replace the defective lamp will be provided without charge for the part itself, through a qualified servicing Carrier Corporation dealer or distributor, PROVIDED the defective part is returned to the distributor. The replacement part assumes the unused portion of the warranty.

THREE-YEAR BALLAST WARRANTY — The Carrier Corporation Electronic Ballasts are warranted to be free from defects and operate for Three (3) years after installation, under normal use and maintenance in a residential application. A new ballast to replace the defective ballast will be provided without charge for the part itself, through a qualified servicing Carrier Corporation dealer or distributor, PROVIDED the defective part is returned to the distributor. The replacement part assumes the unused portion of the warranty.

THIS WARRANTY DOES NOT INCLUDE ANY ADDITIONAL LABOR ALLOWANCE OR OTHER COSTS incurred for diagnosis, repairing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts. SUCH COSTS MAY BE COVERED BY a separate warranty provided by the installer.

LIMITATIONS OF WARRANTIES — ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED WARRANTY IS GIVEN. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

CARRIER CORPORATION WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owner's manual.
2. Damage or repairs required as a consequence of faulty installation or application by others.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage or repairs needed as a consequence of any misapplication, abuse, improper servicing, unauthorized alteration, or improper operations.
5. Damage as a result of floods, winds, fires, lightning, accidents, corrosive atmosphere, or other conditions beyond the control of Carrier Corporation.
6. Parts not supplied or designated by Carrier Corporation.
7. Carrier Corporation products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.
8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply.

Model No.:	Unit Serial No. (from inside of cover):
Date of Installation:	Installed by:
Name of Owner:	Address of Installation: