

**Part Number P102-RAM200**

**IMPORTANT:** Read entire instructions before installing the air cleaner.

**SAFETY CONSIDERATIONS**

Read and follow manufacturer instructions carefully. Recognize safety information. This is the safety alert symbol  $\triangle$ . When the safety alert symbol is present on equipment or in the instruction manual, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety alert symbol. DANGER identifies the most serious hazards which will result in severe personal injury or death. WARNING signifies a hazard which could result in personal injury or death. CAUTION is used to identify unsafe practices which would result in minor personal injury or property damage.

**⚠ WARNING**

Before beginning any installation or modification, be certain that the main line electrical disconnect switch is in the OFF position. Electric shock could result. Tag disconnect switch with suitable warning labels.

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.

Home owner can perform the basic maintenance functions of replacing filters. 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, and other safety precautions that may apply.

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

**GENERAL**

The air cleaner is designed to remove atmospheric and household dust, pollen, mold spores, bacteria, insecticide dust, animal dander, coal dust, cooking smoke and grease, and tobacco smoke particles down to 0.3 micron (1/84,000 of an inch). See Fig. 1.

The air cleaner helps provide relief from allergy and asthma suffering. The air cleaner also helps prevent damaging black dust from staining walls, upholstery, and window coverings, which reduces the amount of time and money spent on cleaning and redecorating. The air cleaner protects costly heating/cooling equipment and prolongs operating efficiency.

Millions of airborne pollutants are carried through the return air ducts of the heating/cooling system to the media air cleaner where the particles are captured in the filter. The media filter is constructed of continuous hydrophobic polyolefin fibers that will not shred or absorb moisture. The unique design features a

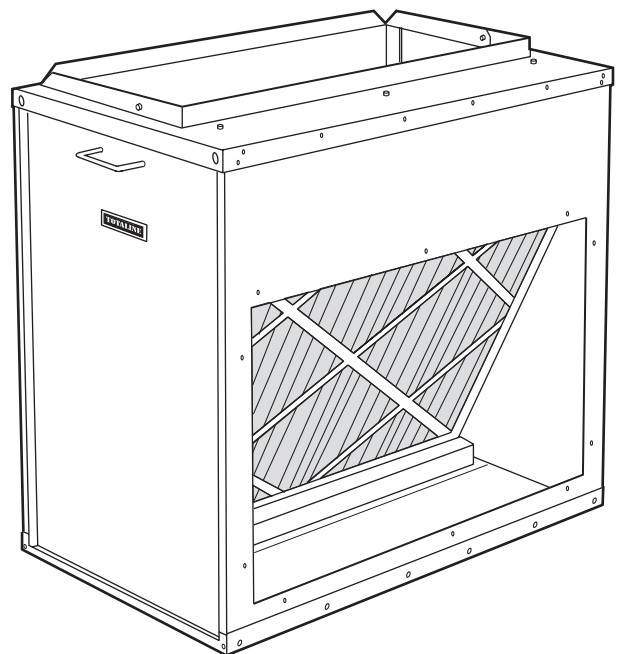
structured density gradient with an electret charge for higher initial and sustained efficiency. The media is supported by an open steel mesh and enclosed by a high wet-strength beverage board. The filter has an UL Class 2 rating. Regular maintenance (replacement of filters) is required by the home owner.

The efficiency of the filter is MERV 10 (minimum efficiency reporting value), based on the ASHRAE Standard 52.2P.

COMPOSITE AVERAGE EFFICIENCY VALUE	COMPOSITE MINIMUM RANGE (microns)	AVERAGE COMPOSITE MINIMUM VALUES
E1	0.3 - 1.0	26.3%
E2	1.0 - 3.0	59.3%
E3	3.0 - 10.0	85.4%

**INSTALLATION**

**IMPORTANT:** The right angle media filter will decrease the airflow through the system. Because of its increased efficiency, the pressure drop of the filter is greater than a standard equipment filter. Do not use the right angle media air cleaner in applications where pressure drop is critical. The pressure drop of a clean filter at 50% of rated airflow is 0.067 in. wg. The same filter at 100% rated airflow is 0.22 in. wg. As the filter collects contaminants during its usage time, the pressure drop will increase.



**Fig. 1 — Right Angle Media Air Cleaner**

**Location** — The air cleaner must be installed in the return air duct, as close to the blower compartment as possible. This location provides the most even airflow across the filter and allows the air cleaner to keep the system motor and blower clean. See Fig. 2. When choosing location, there must be adequate clearance for installation and service. See Fig. 3 for air cleaner dimensions.

**INSTALLATION LOCATION WITH HUMIDIFIER** — If a separate humidifier is purchased, it should be installed in the furnace warm air duct. However, a humidifier may be installed in the return air duct without causing problems to the air cleaner. Care must be taken to ensure that the humidifier does not leak, as this may damage the media filter or cause mineral deposits to build up on the filter.

**INSTALLATION LOCATION WITH AIR CONDITIONER** — Whenever possible, the electronic air cleaner should be installed upstream of the cooling coil. This location will clean the air before it reaches the evaporator coil.

**Right Angle Air Cleaner Installation** — Perform the following to install the right angle air cleaner:

1. Remove the existing furnace filter. Thoroughly clean the blower compartment and ductwork where the air cleaner is to be installed.
2. Provide at least 30-in. of clearance in front of the air cleaner installation location for removal and replacement of the filter.

**NOTE:** After installation, do not allow the installation of a hot water heater, water softener, gas pipe, or electrical cable that would block the front of the air cleaner. For proper operation, the filter must be changed once or twice a year.

3. The RAM2000 air cleaner is designed to install next to a high-boy furnace. Place the air cleaner next to the furnace. The discharge opening of the air cleaner measures 23.25-in. by 14.25-in. Secure the air cleaner to the furnace with screws or rivets. See Fig. 2 and 3.
4. Sealing gasket (provided) is required if installing the RAM2000 onto a furnace or air handler that has exposed screw heads on the surface of the installation area. If there are screw heads on the surface where the flat side of the RAM2000 intake sits against the equipment, then install the gasket around the perimeter of the intake on the RAM2000 to create an air seal.
5. The inlet opening has an installation flange for ducts measuring 24 by 8-in. The flange is adjustable and can be set for 8, 10, or 11-in. by removing the sheet metal screws on the air cleaner, adjusting the inlet opening to the correct dimension, and the replacing the screws.

If a different dimension other than 8, 10, or 11-in. is required, remove the screws, adjust the flange to the desired dimension and then drill holes. Replace the screws after drilling.

**⚠ CAUTION**  
If drilling new holes, be sure screws do not protrude into the filter. Damage to the filter could result.

When the air duct does not fit the air cleaner opening, a gradual transition is recommended. There should be no more than 20 degrees of expansion used on each side of the transition fitting (approximately 4-in. per running foot).

6. Connect the return air duct to the flanges on the air cleaner using screws or rivets.
7. Because of the configuration of the cabinet, turning vanes are not required.

8. Seal the joints in the return air system. All joints between the air cleaner and the heating/cooling equipment should be sealed to prevent dust from entering the clean air stream.
9. The air cleaner filter can be accessed from either side of the air cleaner. Attach the handle (provided) to the front access panel for easy access to the filter.

## OPERATION

The air cleaner will filter the air as long as there is airflow through the ducts. The air cleaner will not filter air if the blower fan is off.

To improve operation of the air cleaner, these steps should be followed:

- run your heating/cooling system fan continuously and on low speed if available
- remove furniture or carpets which block return air grilles throughout your house, so that air moves freely to the furnace
- check for proper operation of the blower fan and fan belt on the furnace

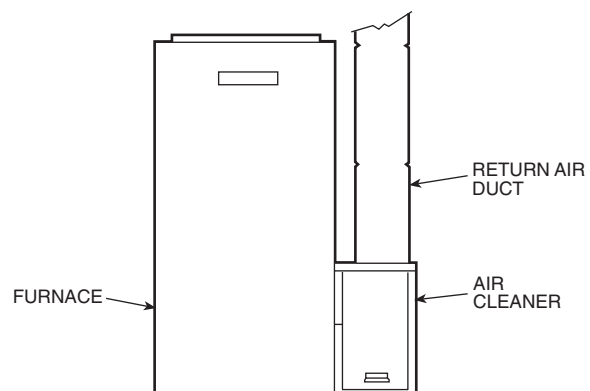
## MAINTENANCE

It is very important that the scheduled maintenance be done by the home owner. If filters are not changed on a regular basis, the air cleaner will not operate effectively.

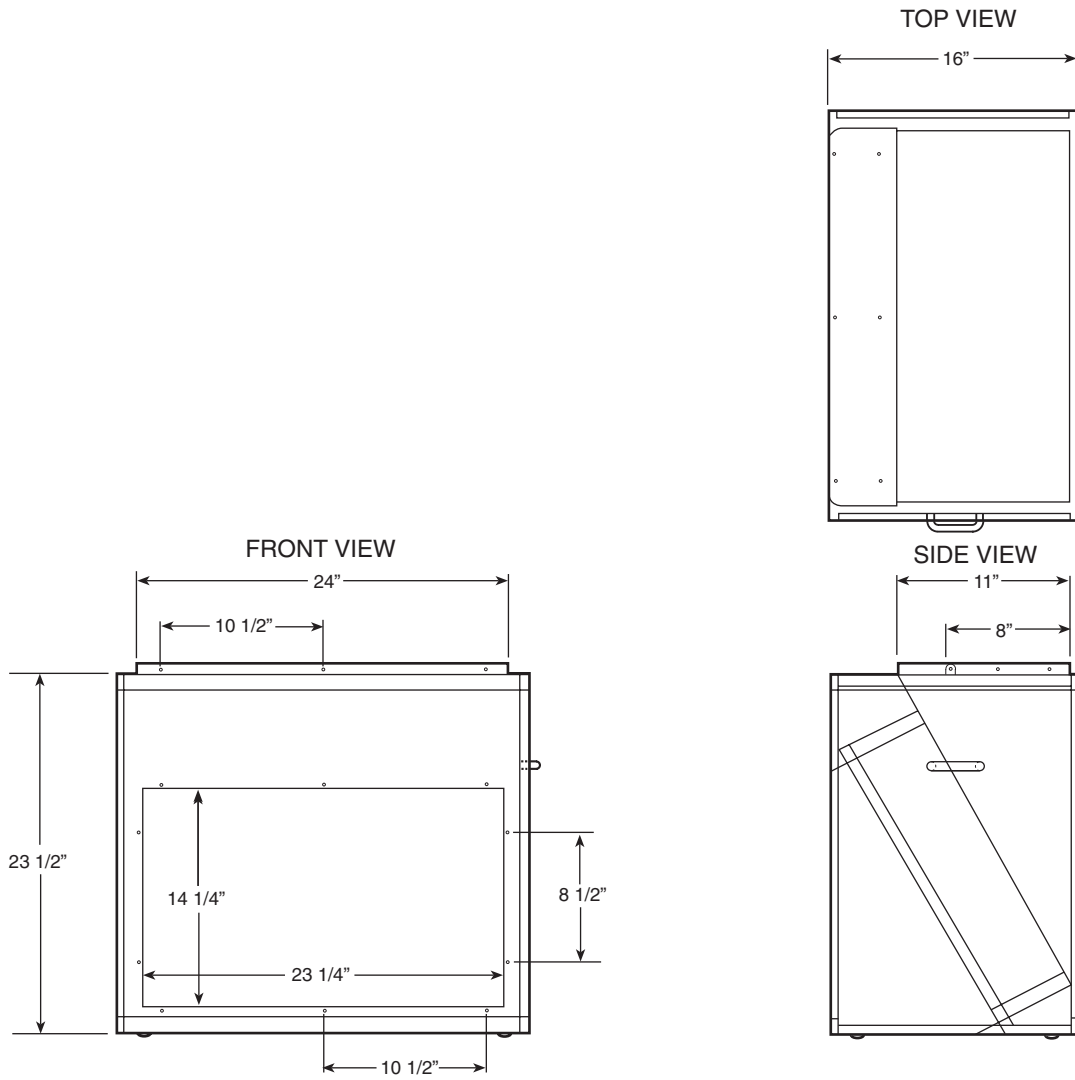
**⚠ CAUTION**  
Make sure to turn off the heating/cooling system before performing any maintenance or removing any components.

**Filter Replacement** — The air cleaner media filter should be replaced once or twice a year depending on the amount of contaminants in the air. If the filter is allowed to become clogged, it may cause a restriction to the airflow in the system. This may cause damage to the heating/cooling system and poor circulation of conditioned air. Filters are NOT washable. To replace filters, perform the following:

1. Turn off furnace fan.
2. Open air cleaner access door by lifting up on the handle and tilting the bottom of the door out.
3. Remove the used filter. Place in a bag and discard.
4. Install new filter in air cleaner. Arrow must point toward the system fan.
5. Close access door.
6. Turn on power to furnace fan.



**Fig. 2 — Typical Air Cleaner Installation**



**Fig. 3 — Right Angle Media Air Cleaner Dimensions**

**RIGHT ANGLE AIR CLEANER  
LIMITED LIFETIME WARRANTY**

**LIFETIME WARRANTY** — This CARRIER CORPORATION product is warranted to be free from defects in material and workmanship under normal use and maintenance for the lifetime of the product. This warranty does not apply to the disposable media filter which will need to be replaced once or twice a year, depending on use. 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 service, PROVIDED the defective part is returned to our 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 WILL NOT BE RESPONSIBLE FOR:**

1. Normal maintenance as outlined in the installation and servicing instructions or owners manual including replacement of filters.
2. Damage or repairs required as a consequence of faulty installation or application by others.
3. Damage or repairs needed as a consequence of any misapplication, abuse, improper servicing, unauthorized alteration, or improper operations.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive atmosphere, or other conditions beyond the control of CARRIER CORPORATION.
5. Parts not supplied or designated by CARRIER CORPORATION.
6. CARRIER CORPORATION products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.
7. 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 to you.

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Model No.	Unit Serial No.
Date of Installation	Installed by
Name of Owner	Address of Installation

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**Your Assurance of Quality**

**ALL Totaline products are backed by Carrier Corporation, the world's largest manufacturer of air conditioning, heating, and refrigeration products.**