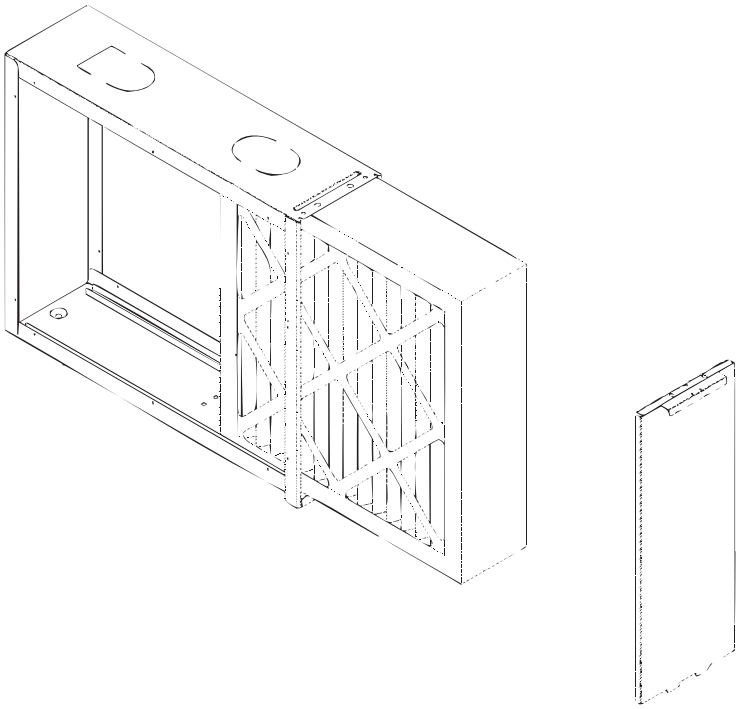
MAIC

High Efficiency Air Cleaner



Manual for:
Installation • Operation • Maintenance

MAIC0014A & MAIC0020A

Literature # 616 01 1004 02

1.07

NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Installation and service of heating and air conditioning equipment can be hazardous due to system pressure and gas and electrical components. Only trained and qualified personnel should repair, or service heating and air conditioning equipment. Untrained personnel can perform basic maintenance functions such as cleaning and replacing air filters. All other operations must be performed by trained service personnel. When working on heating and air conditioning equipment, observe precautions in the literature, tags, and labels attached to or shipped with the unit and other safety precautions that may apply. Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warning or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements. It is important to recognize safety information.

DANGER, WARNING, CAUTION and NOTE

The signal words DANGER, WARNING, CAUTION, and NOTE are used to identify levels of hazard seriousness. The signal word DANGER is only used on product labels to signify an immediate hazard. The signal word WARNING, CAUTION and NOTE will be used on product labels and throughout this manual and other manuals that may apply to the product.

DANGER – Immediate hazards which will result in severe personal injury or death.
WARNING – Hazards or unsafe practice which could result in severe personal injury or death.
CAUTION – Hazards or unsafe practices which may result in minor personal injury or product or property damage.
NOTE – Used to highlight suggestions which will result in enhanced installation, reliability, or operation.

Signal Words in Manuals

The signal word WARNING is used throughout this manual in the following manner:

⚠ WARNING

The signal word CAUTION is used throughout this manual in the following manner:

⚠ CAUTION

Signal Words on Product Labeling

Signal words are used in combination with colors and/or pictures on product labels

INTRODUCTION

The Model MAIC High Efficiency Air Cleaner is designed for installation in the return-air duct in any forced-air heating and/or cooling system. The model MAIC High Efficiency Air Cleaners are available in two sizes, 0014 and 0020.

The FLIC media filter is a mechanical air cleaner incorporating special pleated filter media designed to remove dirt, dust, pollen, and other microscopic particles from the air passing through it. The pleats provide an exceptionally filtering face area in a very compact space which allows maximum dirt holding capacities.

When applying the MAIC, attention must be given to duct and system design because these components affect system static pressure. To maintain the proper efficiency and reliable operation of the MAIC Mechanical Air Cleaner and your HVAC equipment, this filter should only be applied to properly designed duct systems and properly sized HVAC equipment. The MAIC has a higher static pressure drop than the typical factory supplied furnace and/or fan coil filter (See Typical Pressure Drop Table).

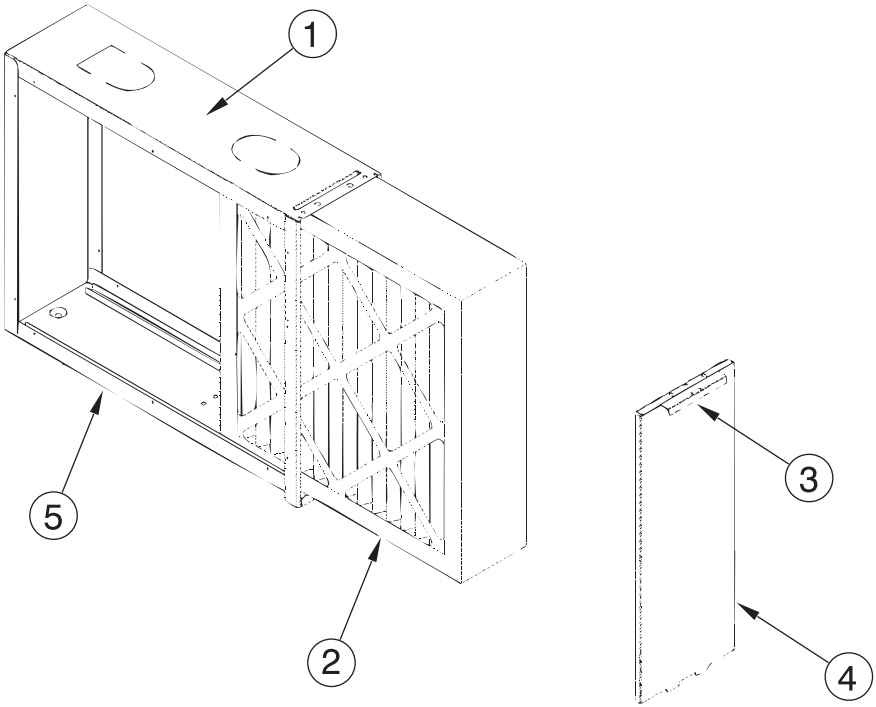
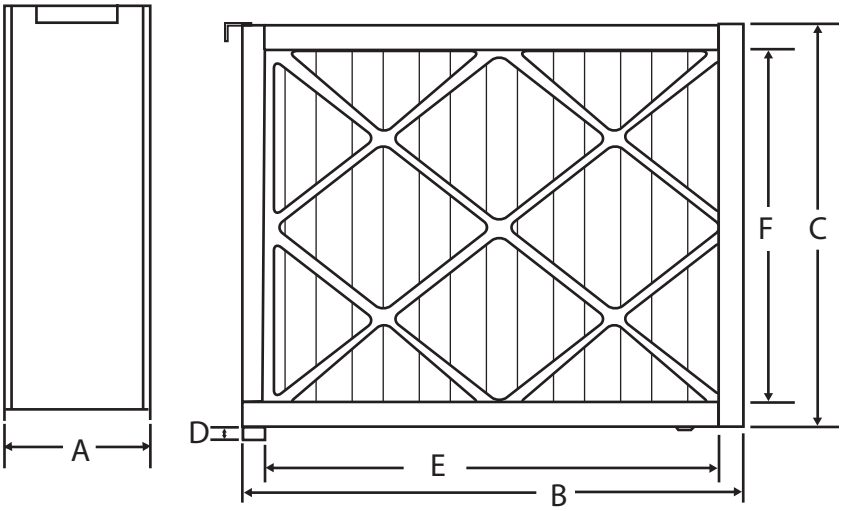


Figure 1

1. Cabinet Top
2. Filter Media
3. Access Handle
4. Access Door
5. Cabinet

SPECIFICATIONS

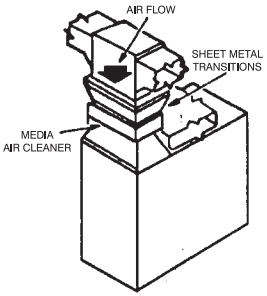


Model Number	MAIC0014A	MAIC0020A
Air Flow (CFM) Range	600-1600	600-2000
Dimensions		
A	7 1/8" (181mm)	7 1/8" (181mm)
B	24 7/8" (632mm)	24 7/8" (632mm)
C	16 3/8" (413mm)	20 3/8" (514mm)
D	9/16" (14mm)	9/16" (14mm)
Duct Opening		
E	22 1/2" (572mm)	22 1/2" (572mm)
F	13 7/8" (352mm)	17 7/8" (454mm)
Filter Cartridge Replacement	6-12 months between changes UL class 2	

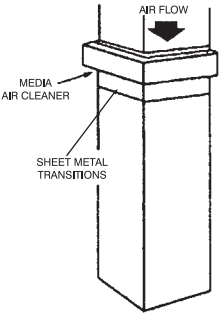
AIR FLOW RESISTANCE

Typical Pressure Drop		
	Model Number	
Air Flow (CFM)	**MAIC0014A**	**MAIC0020A**
	Resistance (In. w.c.)	
600	.04	.03
800	.07	.04
1000	.10	.06
1200	.14	.08
1400	.18	.11
1600	.23	.13
1800	--	.17
2000	--	.18

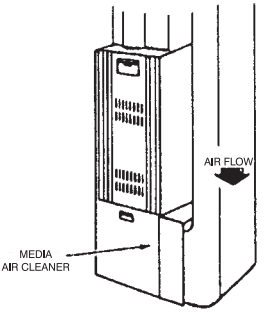
TYPICAL MOUNTING POSITIONS



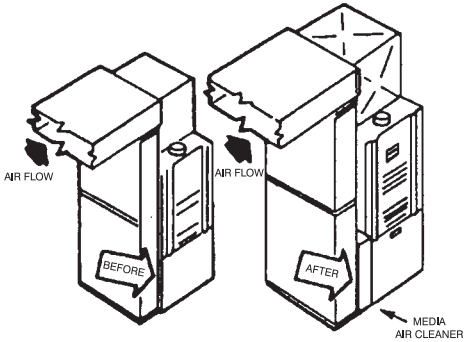
BASEMENT FURNACE
(LOWBOY)
Mounted horizontally in return plenum - just above the furnace



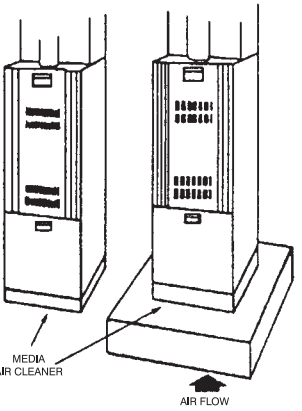
COUNTERFLOW FURNACE
Mounted horizontally in return duct - just above the furnace



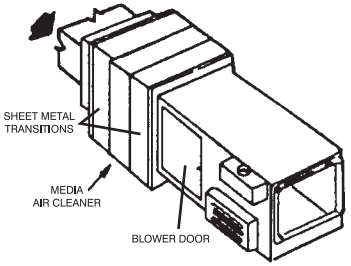
SPACE SAVER FURNACE
(HIGHBOY)
Side installation. Cleaner is mounted vertically, where return air enters side inlet of furnace.



OFFSET INSTALLATION
If there is less than 7-in. for mounting the air cleaner between the duct and the furnace, move the return air drop.



SPACE SAVER (HIGHBOY)
Installation beneath furnace. Cleaner mounts horizontally, where return air enters from below. Raise furnace by installing a suitable wood structure and install air cleaner.



HORIZONTAL FURNACE
Mounted vertically in return duct as close to the furnace as possible

APPLICATION

The air cleaners are used in forced air heating, cooling and ventilating systems. The air cleaner should be installed in the system so that all the system air is circulated through the air cleaner. The air cleaner will only remove the airborne contaminants delivered to it. Maximum performance is obtained when the system blower is set for continuous operation.

Installation Requirements

The best location for the air cleaner is in the return air duct next to the blower compartment. In this location, the blower motor and cooling coils will be kept clean. Do not install the air cleaner in the discharge air duct. Before installing the air cleaner, consider the application. If a transition is required, refer to section entitled **Transitions**. The unit must be readily accessible for periodic inspection and replacement of media cartridge to maintain maximum efficiency and trouble-free operation.

Air Conditioning

The air cleaner should be installed upstream of the cooling coil. This will keep the coil clean and reduce air conditioning coil maintenance. Improved cooling efficiency is the result which directly affects energy costs. A clean coil will reduce utility costs. Failure to replace media can cause damage to cooling system.

Transitions

If the air duct does not fit the air cleaner cabinet opening, gradual transitions are recommended to reduce air turbulence through the air cleaner and maximize efficiency. Not more than 20° (about 4" per running foot) of expansion should be used on each side of the transition fitting (Figure 2).

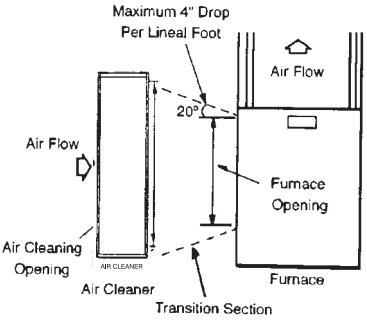


Figure 2 - Transitions

Turning Vanes

If the air cleaner is installed adjacent to a 90° duct elbow, add turning vanes inside the duct to improve the air distribution across the face of the air cleaner (Figure 3).

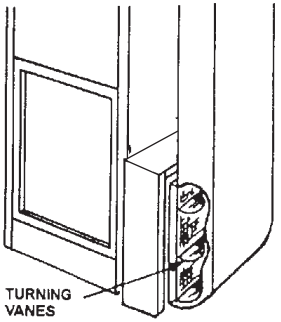


Figure 3 - Turning Vanes

Humidifiers

Location of the system humidifier is important to the operation of the air cleaner. When an evaporative type humidifier is used, it may be installed between the furnace warm air duct and the return air duct without effecting the air cleaner. Atomizing and spray humidifiers should be installed downstream of the air cleaner. If the humidifier must be installed upstream, allow at least 6 feet between the air cleaner and humidifier.

SELECT LOCATION FOR THE AIR CLEANER

Select a location that is readily accessible for periodic inspection and cleaning. Allow a minimum of 26" in front of the access panel for filter removal. For complete dimensions required, refer to the section entitled **SPECIFICATIONS.**

DIRECTION OF AIR FLOW THROUGH THE AIR CLEANER

The air cleaner is set up for left to right air flow, when facing the access door. For right to left air flow remove filter cartridge, turn it around and replace in cabinet. The directional arrows on the filter cartridge must point in the direction of air flow.

PHYSICAL INSTALLATION

The air cleaner can be in any position, except with the access door facing down. The section entitled **TYPICAL MOUNTING POSITIONS** (page 5) shows proper air cleaner mounting with a variety of furnace installations.

⚠ CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury.
Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate clothing, safety glasses and gloves when handling parts and servicing equipment.

⚠ WARNING

ELECTRIC SHOCK HAZARD

Failure to follow this caution may result in personal injury or death.
Before installing, modifying or servicing system, turn OFF the main (remote electrical disconnect device. There may be more than one disconnect device.

Prior to installing this product...

1. Check the ratings given on the product to make sure it is suitable for your application.
2. Remove the old furnace filter and discard.
3. The air cleaner cannot remove existing dirt from the blower and ducts.

NOTE:

The following is a typical installation of the air cleaner on a high boy furnace. You may have to alter the installation to fit your specific application.

5. Locate the cabinet in the cold air return duct so that all of the return air flows through the unit. If the furnace and air cleaner openings are different, use a transition (see Figure 2).

6. Mounting holes are provided for simple connection to duct work. The .140" holes are sized for #8 sheet metal screws, or 1/8" rivets. If the adjoining duct work is flanged, install the screws so that the screw heads are inside the cabinet. This will prevent damage to the filter cartridge during removal and installation (Figure 4).

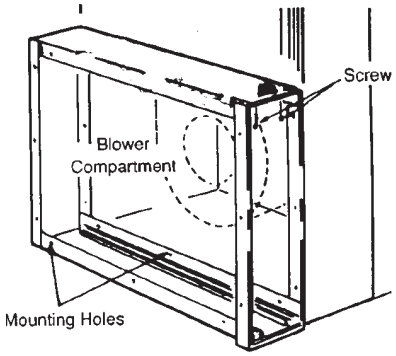


Figure 4

7. Remove media filter cartridge from plastic bag and replace media filter in cabinet.

8. After the unit has been secured, seal seams air tight with duct tape or caulking. Reinstall access door to ensure a tight seal.

HOW TO MAINTAIN YOUR AIR CLEANER

The filter in your air cleaner must be replaced periodically. The frequency of filter replacement is best determined by visual examination. On average, media filters should be replaced every 6-12 months under normal usage.

STEPS FOR REPLACING FILTER

1. Open access door by pulling the handle. Remove door completely.

2. Pull used filter straight out of cabinet and disassemble and discard

3. Remove new filter cartridge from box and assemble..

4. Slide new filter cartridge into cabinet with "AIR-FLOW" arrow pointing in the direction of air flow.

5. Replace door.

Replacement Cartridge Filters For Your Media Air Cleaner

Remember, periodic inspection and annual replacement of your filter will insure high efficiency air cleaning. Contact your HVAC dealer for replacement filter cartridges.

Replacement Filters			
Order Number		*FLIC0014A*	*FLIC0020A*
Quantity per Carton		*2*	*2*

Warranty

Five-Year Limited Cabinet Warranty -

This product is warranted to be free from defects in material and workmanship for a period of five years from the date of original installation, whether actual use begins then or later. If the product fails during the warranty period, a new or remanufactured part, at the manufacturer's sole option, will be provided to replace any defective part without charge for the part itself; PROVIDED the defective part is returned to the distributor through a qualified servicing dealer.

This warranty does not include or cover labor or other costs- incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts.

THIS WARRANTY APPLIES ONLY TO PRODUCTS IN THEIR ORIGINAL INSTALLATION LOCATION AND BECOMES VOID UPON REINSTALLATION.

LIMITATIONS OF WARRANTIES - ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED TO THE FULLEST EXTENT ALLOWED BY LAW. IF APPLICABLE LAW PROHIBITS DISCLAIMING SUCH WARRANTIES, THEN THEY ARE LIMITED TO THE SHORTEST PERIOD ALLOWED BY LAW. SOME STATES DO NOT ALLOW DISCLAIMING OR LIMITING IMPLIED WARRANTIES SO THESE LIMITATIONS MAY NOT APPLY TO YOU. THE EXPRESS WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ENLARGED OR CHANGED BY ANY PERSON.

All work under the terms of this warranty shall be performed during normal working hours. All replacement parts, whether new or remanufactured, assume as their warranty period only the remaining time period of this warranty.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owners manual including filter cleaning and/or replacement and lubrication.
2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.
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 as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of the Manufacturer.
5. Parts not supplied or designated by the Manufacturer, or damages resulting from their use.
6. Manufacturer products installed outside the continental U.S. A., Alaska, Hawaii, and Canada
7. Electricity or fuel costs or increases in electricity or fuel costs or increases in the electricity or fuel costs from any reason whatsoever including additional or unusual use of supplemental electric heat.
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 may not apply to you.

   This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

International Comfort Products, LLC

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