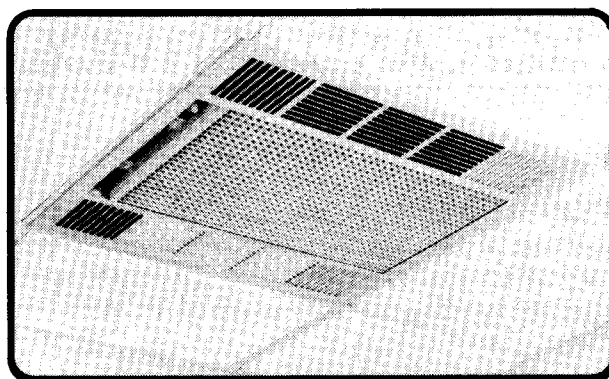


SMOKEMASTER[®]

OWNER AND SERVICE MANUAL



**SMOKEMASTER[®]
MODEL X-400
SELF-CONTAINED
ELECTRONIC
AIR CLEANER**

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MADE WITH PRIDE IN THE U.S.A.

OWNER MANUAL SMOKEMASTER PART 1

Your Smokemaster X-400 is an advanced self-contained electronic air cleaner. The model X-400 is an efficient indoor pollution fighter while reducing costly energy consumption. It is designed to be installed in the space of a 2 x 2 drop ceiling panel.

CLEAN AIR

A clean fresh atmosphere is a plus to any business. With your new Smokemaster Electronic Air Cleaner, your customers and employees can now breathe air that is relatively free of smoke, dust or pollen. This is especially important with regard to today's concern with the effects of smokers upon non-smokers and also for a more comfortable environment for allergy sufferers.

LOWER ENERGY CONSUMPTION

A common solution to the problem of dense concentrations of smoke is to exhaust. Excessive exhausting is wasteful and very expensive. One is exhausting expensively heated or cooled air and needing to heat or cool the outdoor air coming in. A Smokemaster X-400 drastically reduces the need for outside air. This means you can save as much as 40 percent on heating and cooling bills.

REDECORATING

Smoke particles also have a tendency to settle out as a dulling film on mirrors, windows, trophies, bottles and glassware. In fact, most of the particles which product soiling and staining are just too small to be removed by average dusting. Electronic air cleaning gets rid of these particles before they have a chance to start the soiling process. Less soiling means longer periods between redecorating. If the appearance of your business is important to you, electronic air cleaning is certainly a plus.

EXTRA COMFORT AND SAVINGS

The effective air pattern of the Model X-400 creates a more comfortable atmosphere by constant slight air movement. This slight movement also helps to eliminate existing drafts. Another side benefit of the air recirculation pattern is that it distributes the heated or cooled air more evenly. This even distribution helps to reduce the amount of heated or cooled air needed for the same degree of warmth or cool.

LOW OPERATING COST

In addition to reduced heating/cooling bills and redecorating bills, the relatively low cost of maintaining an X-400 electronic air cleaner is another financial boost to your business, this air cleaner has no throwaway filter or other parts that must be periodically replaced. The durable electronic cells and prefilter screens are washed and used over and over again. No replacement parts means reduced maintenance cost.

COMPONENTS

COMPONENTS OF THE X-400 ELECTRONIC AIR CLEANER

Cabinet

The sturdy corrosion resistant steel cabinet requires only 13-9/16" space above drop ceiling for installation.

Mounting System

Specially designed support bars simplify installation - makes mounting of air cleaner safe and secure even during installation.

Power Supply

Solid state power supply assures trouble-free, highly reliable service.

Grille

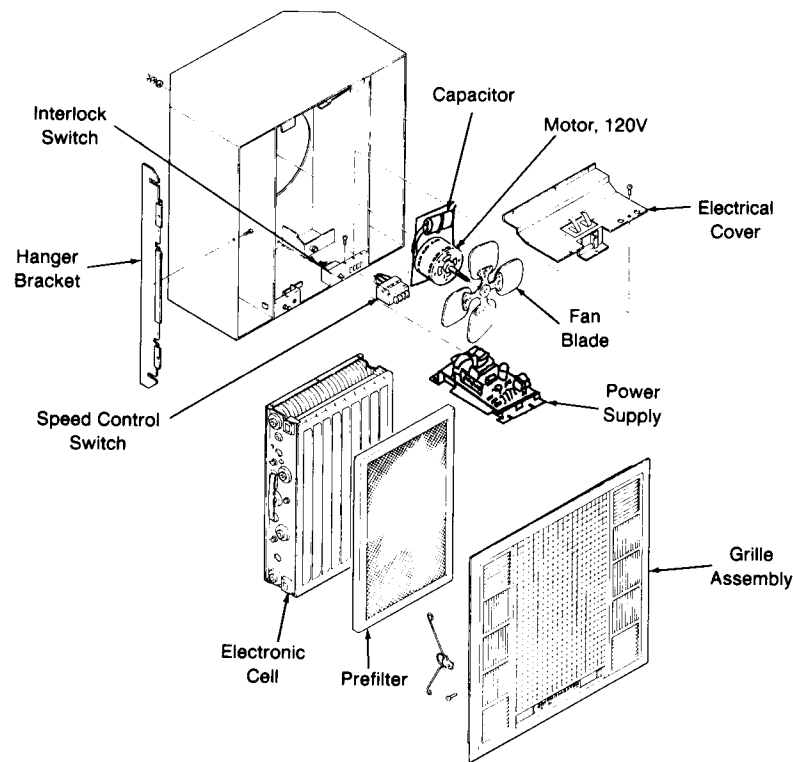
Attractive one-piece grille conveniently drops down. All serviceable components are accessible through the grille opening.

Electronic Cells

One electronic cell charges and collects airborne particles. The compact design allows easy removal for cleaning and service.

Fan Motor

Motor driven fan operates at 3 speeds providing the choice of circulation level. Elastomeric suspension system eliminates vibration noise.

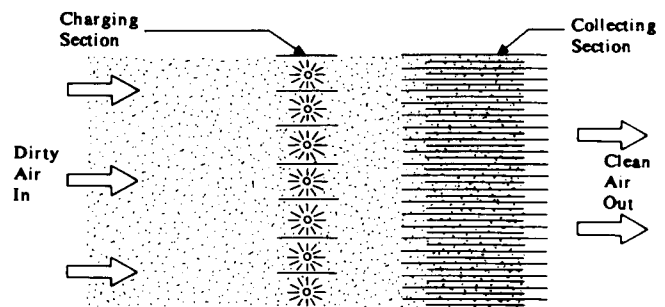


PRINCIPLES OF OPERATION

HOW YOUR ELECTRONIC AIR CLEANER WORKS

Airborne contaminants are trapped by a process called "Electrostatic Precipitation." The fan draws particulate laden air successively through the prefilter, the cell ionizing section and cell collector section. The ionizing section imparts an electrical charge to the individual particles which are then drawn by electrostatic forces to the oppositely charged collector plates. Cleaned air is then discharged back into the room.

Electronic cells must be washed periodically to maintain efficient performance.



OPERATING INSTRUCTIONS

SAFETY INTERLOCK SYSTEM

In order for all air cleaner functions to receive operating power the grille must be securely in position. This actuates the safety inter-lock switch. Air cleaner will not function without grille in place.

FAN SWITCH

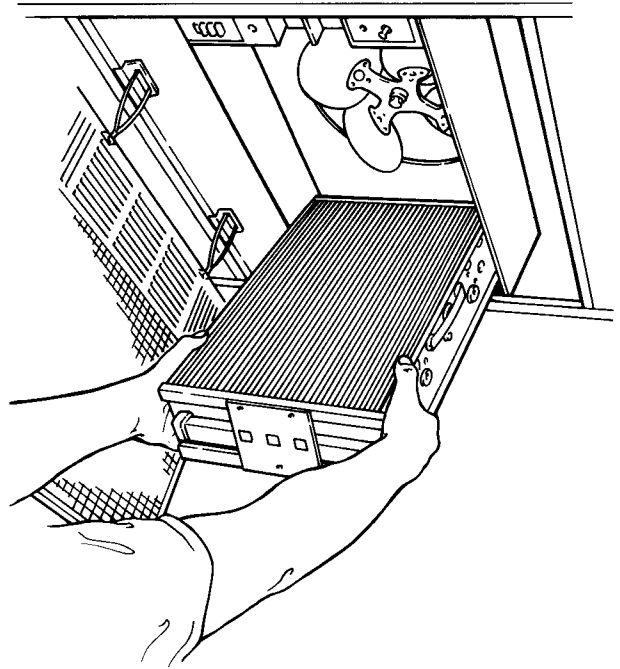
Your electronic air cleaner has an Off-Low-Med-Hi switch. The electronic collection system and built-in fan are designed to run simultaneously. Turn off the air cleaner before dropping the grille to remove the electronic cells for cleaning.

SYSTEM LIGHT

Your electronic air cleaner is equipped to tell you simply and quickly that it is working properly. The amber system light tells you at a glance the status of the power supply. The system light should be on when the unit is on.

TEST BUTTON

Pushing the white button labeled "push to test" generates a snapping noise which indicates proper function of collector system.



MAINTENANCE

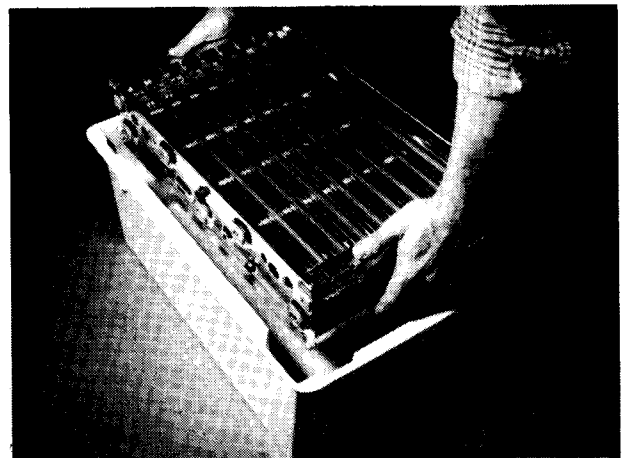
WASHING THE ELECTRONIC CELL AND PREFILTER

To maintain peak efficiency, the electronic cells and prefilter in your electronic air cleaner must be washed regularly. The washing is necessary to remove dirt particles collected from the air. Check with your Air Quality Engineering representative to determine how often your cells need to be washed for your particular application. Grille may be removed from machine for periodic washing.

CAUTION

1. Be extremely careful when working with X400 cell and filter. The edges of the cells and filter, and the collection plates and ionizing wires of the cell may be sharp.
2. When cleaning the cells and filters, be sure to wear appropriate protective gear, especially goggles and gloves. Skin contact with either alkaline or acid detergent solution should be avoided.
3. Use a stable platform to stand on when working with the electronic air cleaner.
4. Electronic air cleaners and their components are susceptible to damage. Take care when working with them to avoid equipment damage.

1. Fill wash tub with cell cleaning detergent and hot water per detergent manufacturer's instructions.
2. Immerse cells in CLEANER and remove immediately.
3. Remove cells and set aside for five minutes to allow CLEANER to penetrate.
4. Rinse cells well with hot water. Make certain no residue remains on cells. Residue will adversely affect cell performance by causing frequent arcing and low efficiency.
5. Inspect cells for broken wires or bent plates. Repair or replace as necessary. (See Service Section for ionizer wire replacement procedure.)
6. Remove lint from prefilter with vacuum cleaner or wash with mild detergent solution.



SERVICE

In the event of air cleaner malfunction there are some simple checks you can perform to determine if a serviceman must be called.

1. Check circuit fuse or breaker. Correct if fuse is blown or breaker is tripped.
2. Be sure electronic cell is in place, intake grille is closed and unit is turned on.

If the problem persists, call serviceman. The following information will be useful to him.

1. Whether or not amber system light is on.
2. If pushing white test button results in a snapping sound.

ARCING

From time to time you may hear a snapping noise coming from the electronic air cleaner. This arcing occurs when the air cleaner collects an unusually large particle, when cell is wet, extraordinarily dirty or damaged.

If an unusual amount of arcing persists, check first to determine if the electronic cell needs washing. Look also for any sign of bent collector plates or broken ionizer wires.

If arcing still occurs when cell is clean and dry, consult your serviceman or dealer for repair.

INSTALLATION AND SERVICE SMOKEMASTER PART 2

SPECIFICATIONS

Model X-400 includes one electronic cell and a 3-speed fan. Discharges air in up to four directions parallel to ceiling upon which it is mounted.

CAPACITY:

FAN SPEED	60 Hz / 50 Hz		
	CFM	M ³ /h	EFF
High	400	680	94%
Medium	275	460	96%
Low	175	300	97%

ELECTRICAL RATINGS:

Voltage and Frequency - 120 Vac, 60 Hz;
220/240 Vac, 50 Hz

CURRENT AND POWER CONSUMPTION:

FAN SPEED	120 Vac, 60 Hz		220/240 Vac, 50 Hz	
	Watts	Amps	Watts	Amps
High	80	.8	150	.7
Medium	65	.6	110	.5
Low	50	.4	99	.45

DIMENSIONS: 24" x 24" x 13 5/8"

EFFICIENCY: Up to 97 percent efficiency is delivered as measured according to the NBS Dust Spot Method using atmospheric dust as outlined in the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Standard 52-76.

WEIGHT: 54 lbs. (25 kg) shipping, 44 lbs. (20 kg) installed, including electronic cells. Each cell weighs 9 1/2 lbs. (4.3 kg).

AMBIENT TEMPERATURE RATING:

Shipping and Storage: -40 to +150 degrees F.
Operating: +40 to +125 degrees F.

UNDERWRITERS LABORATORIES INC., LISTED:

File No. E55711, Guide No. AGGZ
(60 Hz models only)

CANADIAN STANDARDS LISTED:

File No. LR89416-1