

Operations & Maintenance Manual

Fresh Air Purifiers

AF-2000

AF-1000

AF-600

1.0 INTRODUCTION

You are now the owner of an advanced effective indoor air purifier. You may now expect a noticeable improvement in your air quality as the **AF Purifier** begins the process of reducing microscopic airborne particulate as well as harmful gases, smoke, dust and pollen.

2.0 SAFETY PRECAUTION

Read all of the instructions contained within this manual before operating this unit. Keep this manual, as it contains information for proper operation and maintenance. Keep all fastening hardware tight to ensure that the unit is in safe working condition. Familiarise yourself with the way in which filters are removed, installed, and serviced. All filters must be in place whenever this machine is in operation. Use only on a grounded electrical circuit; do not use any two-wire electrical prong adapters to defeat the three-pronged plug on the end of the cord. When servicing the motor, be careful when touching the exterior of the motor as soon as it has been turned off; it may be hot enough to be painful or cause injury. They are built to operate at higher temperatures. **Do not substitute any other filters (particulate or chemical) for those supplied, as this will alter the unit efficiency. DO NOT SERVICE MOTOR OR CONTROL PANEL UNLESS UNIT IS UNPLUGGED FROM RECEPTACLE (ITS POWER SUPPLY)!**

3.0 PRINCIPLE OF OPERATION

The air is drawn in through an intake grille located at the bottom of unit. The air then passes through the particulate and odor filtraters. The clean air is then released through the top discharge grille into the controlled space. The **AF Unit** features a threefold method of operation; a) captures general particulate; b) HEPA filter removes microscopic particulate matter; c) Chemically adsorbs, reacts or scrubs toxic or nuisance gases (optional);

4.0 MAIN SYSTEM COMPONENTS

BLOWER ASSEMBLY: The blower is factory balanced and tested to ensure quiet, vibration-free operation.

CONTROL PANEL: Designed for easy monitoring, features include two position on/off switch, visual system pressure indicator, motor operation indicator light and 120 volt fuse (AF600 is designed for single speed, pressure indicator is optional).

5.0 SYSTEM COMPONENTS

Description	AF2000	AF1000	AF600
Nominal Airflow (CFM/m3/hr)	1000 / 1700	500 / 850	250 / 450
Dimensions, Height:	71" (1803mm)	52" (1321mm)	37" (940mm)
Dimensions, Width: *	24" (610mm)	22" (559mm)	22" (559mm)
Dimensions Length:	26" (660mm)	16" (406mm)	16" (406mm)
Voltage	120/1/60 or 230/1/50	120/1/60 or 230/1/50	120/1/60 or 230/1/50
Current:	5.4 or 2.3 amps	1.6 or 0.8 amps	1.6 or 0.8 amps
Approx. Weight:	350lbs (159kgs)	200lbs (91kgs)	135lbs (61kgs)

* - add 2" for bend on power cord if req'd for width dimension

6.0 UNIT RECEIVING INSTRUCTIONS

6.1 INSPECTION

Upon receipt, inspect unit for either visible or concealed damage. Damage should be immediately reported to the transport company. Ensure:

- All internal components are present and are adequately supported and installed;
- Labels and serial numbers are present for future identification;
- Verify that power supply is compatible with equipment. Also check that the unit is plugged into a grounded receptacle;
- Ensure that unit-mounted casters are tight and secure before manoeuvring the system.

7.0 START-UP

- Place unit on a flat surface, ensure filters are installed (see **Equipment Installation and Filter Maintenance Guide** on face of unit);
- Ensure that supply and return air grilles are not obstructed in any way (air circulation patterns will be inhibited if airflow is obstructed);
- Insert male end of cord into 15-amp circuit. Unit should be connected to an independent circuit;
- Turn power toggle switch to "HIGH" position and verify that system operating light is illuminated. Do same in "LOW" position;
- Pressure gauge should read between 0.9 and 1.1 with filters in place;

WARNING: DO NOT OPERATE UNIT UNLESS ALL FILTERS ARE IN PLACE.

8.0 EQUIPMENT MAINTENANCE PROCEDURES

Proper maintenance is critical to extend the life of the system. The information presented below outlines basic maintenance procedures ensuring the unit will provide trouble-free operation. The purifier is designed to allow quick access to the filters, blower/motor and control panel assembly.

8.1 GENERAL FILTER MAINTENANCE

It is very difficult to predetermine specific maintenance schedule as rate of dust loading and chemical filter consumption will vary on each application. Periodic inspection of filters and pressure gauge during the first few months of operation should help establish an appropriate replacement schedule.

QUATRO, through its years of experience has established the following recommendations for a "typical" replacement filter schedule:

<u>Filter Type:</u>	<u>Suggested Replacement:</u>	<u>Filter Type:</u>	<u>Suggested Replacement:</u>
Dust Filters	every 3-6 months	Hi-Efficiency Filter	every 6-18 months
Odor Filters	every 12-24 months (depending on application)	HEPA Filter	every 12-24 months

Note: These recommendations may vary based on room size or work volume.

8.2 PARTICULATE FILTER REPLACEMENT

- Open with appropriate tool (Phillips screw driver) to avoid stripping of screws;
- Carefully slide out filters along their support channels, Slide clean filters gently into place;
- Ensure Dust Filters are replaced as per airflow indications;
- If encountering difficulties, confirm that there are no obstructions in the filter track;
- Hi-Efficiency/HEPA filters must be replaced as per airflow arrow on the filter casing;
- HEPA filters should be replaced if the filter gauge (optional on AF600) on the control panel exceeds 1.6";
- HEPA filters should be installed with gaskets facing down on the filter tracking;
- Utmost care must be taken not to damage the exposed portions of HEPA filter. DO NOT bend aluminium separators as it will obstruct airflow.

8.3 CHEMICAL FILTER TRAY (F003) MAINTENANCE

It is essential that the chemical filter be replaced approximately once every twelve months **OR** immediately following any detection of odor. After an operating period of twelve months (or when the filters are consumed), call your authorised distributor to purchase a new set of chemical filtration assemblies (Part No: F003-_) prior to removal of existing one. To replace Odor Filter (Part No: F003 or F033):

- Ensure that the unit is unplugged, open door with appropriate tool to avoid stripping of screws;
- Slide out the existing F003 or F033, remove new F003 or F033 from the box that it was shipped in;
- Reinsert new filter back into the system (ensure airflow arrows are pointing up);
- Return door to the closed position and verify that an airtight seal is maintained;

To refill existing F003 or F033 filter cell with new odor filters:

- Slide out existing F003 filter (see diagram on last page of manual);
- Unscrew the two (2) top panel covers (4 screws each) and lift off cover;
- Pour out used odor filter (**this procedure may be dusty, therefore a dust mask is recommended**);
- Refill F003 container with fresh odor filters and replace the 2 panel covers and re-insert into unit as per diagram on last page of manual;

Filter disposal is the responsibility of the end-user. Please contact local authorities for proper and legal disposal.

8.4 BLOWER MAINTENANCE

WARNING: Switch unit off and unplug power cord from wall before servicing the blower.

The motor is equipped with electric motor grade double shielded ball bearings and a special lubricant, assuring long life and quiet operation. No extra motor maintenance is required.

8.5 ANNUAL GENERAL INSPECTION

The sealing integrity of the **AF Purifier** is essential. Every 12 months, verify that all gaskets are in proper condition. Should the door gaskets adhere to the unit when opening a door, lubricate its surface with a transparent grease or petroleum jelly. Should the unit be relocated continuously for optimum efficiency, ensure all casters are tightly fastened.

9.0 OPERATION

For your convenience, the **AF Purifier** is equipped with a pressure gauge recessed within the control panel to allow for a visual indication of filter pressure (optional on the AF600 model). IN THE EVENT OF HIGH FILTER PRESSURE (1.5 to 1.6"wc), CALL YOUR DEALER IMMEDIATELY TO REPLACE YOUR FILTERS.

9.1 POSITIONING OF UNIT

Mounted on four casters, the unit can be wheeled virtually anywhere in the room for optimal convenience. The unit is designed in an up-flow configuration allowing the air to create a "sweeping" effect across the room. The clean air is released from top of unit, moving across the room in a downward motion. The clean air pushes particulate and gaseous matter towards the floor level and draws it in the intake grille located at bottom of unit. This configuration allows the particles which have already accumulated towards the ground to be pulled towards the return air grille. This results in a very effective means of space cleaning. The **Fresh-Air Purifier** is more efficient the closer it is placed to its intended source. Conversely, the unit's efficiency is diminished as it is placed further from the source of pollutants.

9.3 REDUCTION IN AIRFLOW

The **AF Purifier** is designed to operate at a clean filter pressure of between 0.9 and 1.1". This reading can be observed on the pressure gauge located in the control panel (while operating at HIGH speed). As the unit cleans the air, the filters are removing the particles of dust and dirt in the air stream. As the filters accumulate dirt (both visible and microscopic), a restriction on the blower/motor is created. As the restriction becomes greater, the air capacity delivered by the blower decreases rendering the unit less effective. IT IS VERY IMPORTANT TO CHANGE FILTERS ON A REGULAR BASIS. The following is a chart showing the reduction in airflow as the filter restriction increases.

Pressure	% Decrease	Pressure	% Decrease
0.9 - 1.1"	0%	1.1 - 1.3"	20%
1.3 - 1.5"	38%	1.5 - 1.7"	54%

9.4 TROUBLESHOOTING GUIDE

Symptoms	Possible Cause	Suggested Solution
Unit will not start	<ul style="list-style-type: none"> o Faulty Power supply o Return or supply grille blocked o HEPA filter improperly installed o Blown fuse o Unit not plugged into receptacle 	<ul style="list-style-type: none"> o Check breaker box o Remove obstruction o See Section 7.2 o Replace fuse o Plug unit in
Excessive noise	<ul style="list-style-type: none"> o Blower wheel contacting cone o Fan isolators loose or off 	<ul style="list-style-type: none"> o Realign/replace wheel o Replace isolator
Insufficient airflow	<ul style="list-style-type: none"> o Obstruction in system o Clogged filters 	<ul style="list-style-type: none"> o Remove obstruction o Replace filters
Excessive airflow	<ul style="list-style-type: none"> o Filters not in place 	<ul style="list-style-type: none"> o Install filters

9.0 WARRANTY

QUATRO Air Technologies warrants its equipment to be free from defect in material and workmanship under normal use and service for a period of one year from date of shipment. QUATRO's obligation under this warranty shall be limited to replacing any parts, thereof, which shall be demonstrated to have been defective. This is expressly in lieu of all other warranties, express or implied, including the warranties of merchantability and fitness.

QUATRO claims no warranty as to merchantability or as to the fitness of the merchandise for any particular use and shall not be liable for any loss or damage. No person, firm or corporation is authorized to assume for QUATRO any other liability in connection with the sale of these goods. Equipment, parts and material manufactured by others and incorporated in QUATRO's equipment are warranted by QUATRO only to the extent of the original manufacturer's liability to QUATRO Air Technologies Inc.

Conditions and Limitations:

This warranty does not cover abuse, misuse, maintenance negligence, improper assembly, acts of vandalism, acts of God, fear wear, modifications of the equipment or installation of a part not recommended by QUATRO Air Technologies, as well as operation of the equipment at voltages other than those specified by QUATRO Air Technologies Inc.

10.0 COMMON SPARE PARTS, To ALL FreshAir Purifier MODELS

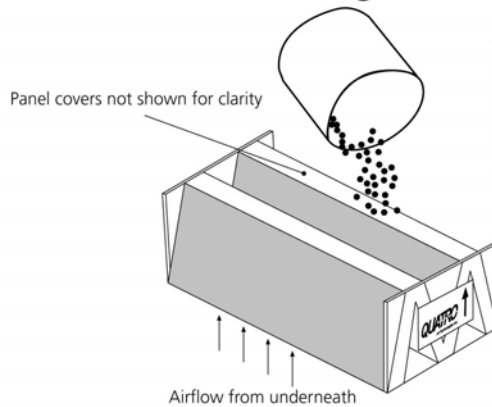
Qty	Description	Part	Qty	Description	Part	Qty	Description	Part
1	Door Fastener Assembly	A006	4	Rubber Fan Isolators	B022	1	Pressure Gauge	E010
1	1/8" Gasket Roll (40')	H006	1	1/16" Gasket Roll (40')	H007			

11.0 INDIVIDUAL PARTS

AF2000			AF1000			AF600		
Qty	Description	Part	Qty	Description	Part	Qty	Description	Part
1	Dust Filter	F001	1	Dust Filter	F007	1	Dust Filter	F007
1	HiCap Filter	F014	1	HiCap Filter	F015	1	HiCap Filter	F016
1	HEPA Filter	F002	1	HEPA Filter	F006	1	HEPA Filter	F017
1	HEPA Filter-HighEff.	F052	1	HEPA Filter-HighEff.	F056	1	HEPA Filter-HighEff.	F057
2	Empty Odor Filt. Case	F003	1	Empty Odor Filter Casing	F003	1	Empty Odor Filter Casing	F033
*	Repl. Gen. Odor Filter	nc-GPC	*	Repl. General Odor Filter	nc-GPC	*	Repl. General Odor Filter	nc-GPC
1	Fuse	E084	1	Fuse	E085	1	Fuse	E086
1	Toggle Switch	E035	1	Toggle Switch	E035	1	Toggle Switch	E011
1	Control Panel Assy	A046	1	Control Panel Assembly	A043	1	Control Panel Assembly	A040
1	Blower Motor Assy	A012	1	Blower Motor Assy	A002		Blower Motor Assy	A010
1	Blower Motor Only	A011	1	Blower Motor Only	A001		Blower Motor Only	A009
4	Casters	H002	4	Casters	H042	4	Casters	H042
1	Discharge Grille	H063	1	Discharge Grille	H044	1	Discharge Grille	E011
1	Intake Grille	H001	1	Intake Grille	N/a	1	Intake Grille	N/a

* consult your dealer in regards to your specific odor filter application

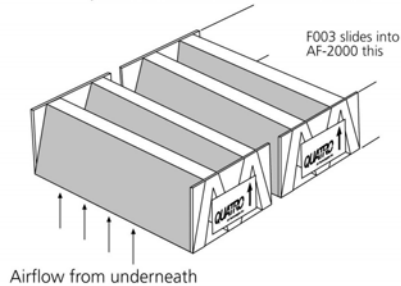
Filter Holding Module (F003)



The F003 is a perforated metal container, engineered to provide maximum air contact with the chemical filters. An added feature of the F003 is the removable panel cover running the full depth of the unit for ease of filter

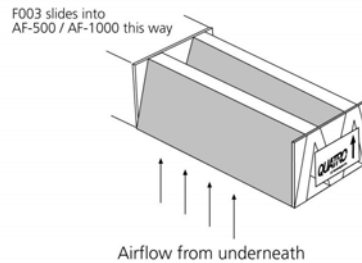
AF-2000

- (2) F003 Filter Holding Modules, per stage
- slide into unit as per drawing below
- please ensure airflow direction arrows



AF-1000

- (1) F003 Filter Holding Module, per stage
- slide into unit as per drawing above
- please ensure airflow direction arrows



Room Airflow Patterns

