

# QUATRO

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*Operations & Maintenance Manual*  
**DFH-1000**  
**DUCTLESS FUME HOOD**

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## **1.0 SAFETY PRECAUTIONS**

- Read instructions contained in this manual before operating unit. Keep manual, as it contains information for proper operation and maintenance. Keep all fastening hardware tight to ensure unit is in safe working condition.
- Familiarize 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 for those supplied as this will alter the design characteristics.

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

## **2.0 UNIT RECEIVING INSTRUCTIONS**

### **2.1 UNIT INSPECTION**

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

- main filter/blower section
- exhaust hood (shipped loose)
- wall support plate (shipped loose).

### **2.2 INSTALLATION**

PRIOR TO INSTALLATION, OPEN THE DOOR TO THE PURIFIER AND REMOVE ALL FILTERS. This will make it easier to lift the unit into position.

- a) **INSTALL FUME HOOD MINIMUM 10" ABOVE THE BURNOUT OVEN (see Note 4 on page 4) (distance from top of DFH to ceiling: 3" minimum).**
- b) **INSTALL BURNOUT OVEN UNDER CENTER OF HOOD.**
- c) **DFH-1000 IS DESIGNED TO OPERATE WITH ONE BURNOUT OVEN.**

**EXHAUSTING TO THE OUTSIDE:** DFH can be connected to existing ductwork for venting to outdoors. To do this, purchase AA088-Exhaust kit, & replace top grille with with 6" dia. Collar Plate supplied in the kit (using same 4 screws). Connect collar plate to exhaust ductwork. (AA088 comes with discharge plate, 6ft of 6" dia. Hose & clamps)

#### **Unit to wall installation:**

- a) **WALL SUPPORT PLATE** is c/w top and bottom wall flange each having (11) holes, 2" center to center;
- b) **center to center distance from top hole to bottom hole is 20"**;
- c) **WALL SUPPORT PLATE** can be mounted onto the wall using the following:
  - Wood stud wall:** use (6) wood screws (minimum 3" long number #8);
  - Concrete or block wall:** use (4) concrete screws (3/16x2.5");
  - Drywall:** use (6) appropriate screws with proper anchors;
- d) locate the **WALL SUPPORT PLATE** on the wall;
- e) drill 2 level pilot holes for top flange, and (2) for the bottom flange;
- f) line-up the **PLATE** such that 2 of the (11) holes line up over the 2 pilot holes;
- g) screw the top flange of the **PLATE** into the wall;
- h) line up bottom and screw in the bottom **PLATE**;
- i) **INSTALL DFH FILTER/BLOWER section ONTO WALL SUPPORT PLATE using (4) bolts supplied, through the inside of filter section and (4) nuts/bolts supplied with the unit on the outer side of the filter section;**
- j) **Ensure that BAFFLE PLATE underneath the filters is properly placed within its frame**  
**This BAFFLE PLATE ensures that fumes from burn-out oven spread out evenly through-out filter section;**
- k) Re-install all the filters;
- l) Secure the exhaust hood to the main filter/blower section using nuts/bolts provided.
- m) Replace filters back into the unit:
  - DFH-1000-B: (F007, F033-GPB,F033-APC, F022 from bottom to top)
  - DFH-1000-M: (F007, F033-GPB,F033-BPC, F007 from bottom to top)
  - DFH-1000-D: (F007, F022 from bottom to top)

### **2.3 PRE START-UP CHECKLIST**

- a) All internal components are present and are adequately supported;
- b) Labels and serial numbers are present for future identification;
- c) Verify that the power supply is compatible with the equipment (120-volt/1 phase/60 hz). Also check that the unit is plugged into a grounded receptacle;
- d) **Ensure all wrapping has been removed from filters prior to installing filters into DFH.**

### **3.0 START-UP**

#### **a) Remove ALL PLASTIC WRAPPING AROUND FILTERS PRIOR TO USE.**

- b) Ensure that supply and return air grilles are not obstructed in any way (air circulation patterns will be inhibited if airflow is obstructed);
- c) Insert male end of cord into 15-amp circuit. Unit should be connected to an independent circuit;
- d) Turn power toggle switch to "ON" position;
- e) Plug in remote **OPTIONAL** ON/OFF switch and switch toggle to Remote, for remote operation.

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

**NOTE: In certain cases**

### **4.0 PRINCIPLE OF OPERATION**

The **DUCTLESS FUME HOOD, DFH-1000** features twofold method of operation;

- a) captures general particulate;
- b) chemically adsorbs, reacts or scrubs nuisance gases or odors;

### **5.0 SYSTEM COMPONENTS**

**FILTERS:** a) Dust Filters; b) Specially selected chemical filters; c) Dust Filters;

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

**CONTROLS:** Features an on/off switch, to control motor operation, a speed control and a remote for **OPTIONAL** remote control.

**PLUG:** Six-foot grounded extension cord

#### **5.1 UNIT SPECIFICATIONS**

	<b>DFH-1000-B*</b>	<b>DFH-1000-M*</b>	<b>DFH-1000-R*</b>	<b>DFH-1000-D*</b>
Airflow	350 cfm	350 cfm	350 cfm	450 cfm
Stage 1 Filters:	(1) F007	(1) F007	(1) F007	(1) F007
Stage 2 Filters:	(1) F033-GPC	(1) F033-GPC	(1) F033-GPC	(1) F022
Stage 3 Filters:	(1) F033-APC	(1) F033-GPC	(1) F033-BPC	
Stage 4 Filters	(1) F022		(1) F022	
Amperage:	1.6 (200watts)	1.6 (200watts)	1.6 (200watts)	1.6 (200watts)

\* **All of the above filter sequences are installed in the airflow direction (bottom to top).**

Dimensions: Ht: 19.5" (plus 6" hood), Length: 23" Width: 13.5" Voltage: 120/1/60 Approximate Weight: 50 lbs.

### **6.0 EQUIPMENT MAINTENANCE PROCEDURES**

Proper maintenance is critical to extend the life of the filtration system. The information presented below outlines basic maintenance procedures ensuring the **DUCTLESS FUME HOOD, DFH-1000** unit will provide trouble-free operation for years to come. The **DUCTLESS FUME HOOD, DFH-1000** is designed to allow quick access to the particulate filters, chemical filters, blower/motor and control panel assembly.

#### **6.1 GENERAL FILTER MAINTENANCE**

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

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

<u>Filter Type:</u>	<u>Part No.:</u>	<u>Qty:</u>	<u>Suggested Replacement:</u>
Dust Filters	F007	1	every two-three months
Chemical Filters	F033-GPC	1	every twelve months (depending on application)
Chemical Filters	F033-APC/BPC	1	every twelve months (depending on application)
Hepa Filter	F022	1	<b>Used on DFH-1000-B &amp; D &amp; R, replace every 24 months</b>

Note: These recommendations are for average room conditions.

#### **6.2 PARTICULATE FILTER REPLACEMENT**

- a) Open with appropriate tool (Phillips screw driver) to avoid stripping of screws;
- b) Carefully slide out filters along their support channels, slide clean filters gently into place;
- c) If encountering difficulties, confirm that there are no obstructions in the filter track.

#### **6.3 CHEMICAL FILTER TRAY (F033) MAINTENANCE**

It is essential that the chemical filter be replaced approximately once every twelve months **OR** immediately following any detection of odor on the discharge of the system.

After an operating period of twelve months (or when the filters are consumed), call your distributor to purchase a new set of chemical filtration assemblies (Part No: F033-GPC & F033-APC) prior to removal of existing one.

**Continued On Next page.....**

## 6.4 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.

## 6.5 ANNUAL GENERAL INSPECTION

- a) The sealing integrity of the **DUCTLESS FUME HOOD, DFH-500/1000** 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;
- b) Should the unit be relocated continuously for optimum efficiency, ensure all casters are tightly fastened;

## 7.0 TROUBLESHOOTING GUIDE

Symptoms	Possible Cause	Suggested Solution
Unit will not start	<ul style="list-style-type: none"> <li>o Faulty Power supply</li> <li>o Return or supply grille blocked</li> <li>o F033 still has its plastic around it</li> <li>o Blown fuse</li> <li>o Unit not plugged into receptacle</li> </ul>	<ul style="list-style-type: none"> <li>o Check breaker box</li> <li>o Remove obstruction</li> <li>o Remove plastic</li> <li>o Replace fuse</li> <li>o Plug unit in</li> </ul>
Excessive noise	<ul style="list-style-type: none"> <li>o Blower wheel contacting cone</li> <li>o Fan isolators loose or off</li> </ul>	<ul style="list-style-type: none"> <li>o Realign/replace wheel</li> <li>o Replace isolator</li> </ul>
Insufficient airflow	<ul style="list-style-type: none"> <li>o Obstruction in system</li> <li>o Clogged filters</li> </ul>	<ul style="list-style-type: none"> <li>o Remove obstruction</li> <li>o Replace filters</li> </ul>
Excessive airflow	<ul style="list-style-type: none"> <li>o Filters not in place</li> </ul>	<ul style="list-style-type: none"> <li>o Install filters</li> </ul>

## 8.0 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.

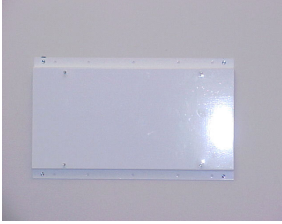
## 9.0 SPARE PARTS

Qty	Description	Part	Qty	Description	Part	Qty	Description	Part
2	Dust Filters	F007	1	Hepa Filter	F022	1	Chemical Filter	F033-APC
1	Toggle Switch	E035	4	Door Knobs	H352	1	Chemical Filter	F033-GPC
4	Rubber Isolators	H454	1	Motor Assy-120v	A001	1	Control Panel Assy-120v	AE008-126
1	6" Exhaust Kit	AA088	1	Motor Assy-230v	A008	1	Control Panel Assy-230v	AE008-235

## DFH Installation Instructions

1- Prior to mounting remove filter section cover and remove all filters. Note the order the filters were installed.

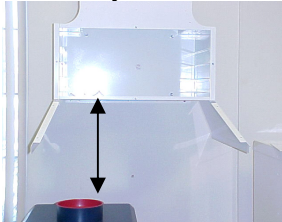
2- Install Wall Plate. Refer to section 2.2 of manual for mounting restrictions.



3- Attach DFH Main Casing to Wall Plate



4- Loosely attach 2 Hood side sections to lower portion of Main Casing using screws already installed in Main casing

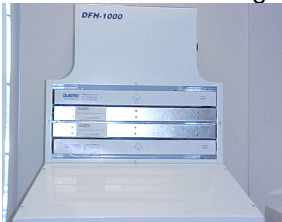


Distance between underside of Fume Hood and Top of oven is to be 10" minimum.

5- Install Larger Front Section of hood to 2 side sections using screws provided in this piece, then tighten all 8 screws



6- Install filters making sure that the plastic protective wrapping is removed from the carbon trays (F033).



7- Install filter section cover and plug the unit in.

