SPH & AF800 Series

Premium Turbine Dust Collectors

Instruction & Maintenance Manual

READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THE SYSTEM
STORE THE MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE
THIS MANUAL CONTAINS CRITICAL OPERATING INFORMATION
WHICH IF NOT FOLLOWED
COULD CAUSE DAMAGE TO THE SYSTYEM NOT COVERED BY WARRANTY.

1- INTRODUCTION

You are now the owner of a *QUATRO* **SPH Or AF System**, an advanced effective indoor dust and fume collection system designed specifically to remove particulate matter and odor causing gas phase contaminants at the source. You can expect a noticeable improvement in air quality as the **SPH Or AF System** begins the process of reducing microscopic airborne particulate.

The **SPH or AF System** normally features 3 Or 4 stages of filtration:

1) An OPTIONAL Pre Filter Pad OR Knock Out Pad. This captures large debris.
2) A Pre Filter for larger particles.
3) A HEPA filter captures & holds fine particles protecting the motor and ensuring a clean output.
4) A Chemical Filter to absorb & contain odor causing gas phase contaminants.
The filter sequence can be customized to your application. Contact Quatro Air for more info.

WARNING – To reduce the risk of damage to your system read and follow all instructions. Failure to follow these guidelines may result in undesired operation or damage that will not be covered under warranty.

2- WHAT'S IN THE BOX

The SPH model comes with the "Laser Blue" Gel filter seal. The AF model comes with a gasket seal.

Models	Name	Accessories
835	SPH Or AF800 230V c/w "Quick Change" Motors	(1) O&M Manual
		(1) Power Cord
835L	SPH Or AF800 230V c/w "Long Life" Motors	(2) Clamps Per Inlet (No Clamps For 1.5")
		(1) Piece Of The Appropriate Size Hose (Per Inlet)
82B5	SPH Or AF400 230V c/w "Brushless" Motors	*(1) Remote Cable (AE427) Only For Units Equipped With DB9 Remote Connector*
		(2) Locking HD Casters
		(2) HD Casters

3- IMPORTANT SAFETY & INSTALLATION PRECAUTIONS

- Ensure to use proper voltage as indicated on the system.
- To reduce the risk of electric shock, do not expose to excessive moisture, water or rain.
- Use only on a grounded electrical circuit.
- Do not install or operate the system in an enclosed space or against a wall. Unit may overheat & shut down.
- Keep all objects at least 6" away from the casing, especially the discharge grill.
- All filters must be in place whenever this machine is in operation.
- ALWAYS turn system on/off switch to off and disconnect power prior to accessing unit, replacing filters, or servicing motor(s).
- Allow the unit to cool for 45 minutes before performing any service to the motor(s).
- Do not kink hose or restrict airflow in any way.

SAVE THESE INSTRUCTION FOR FUTURE REFERENCE
Failure to follow these guidelines may result in undesired operation or damage, not covered under this warranty.

4- INSTALLATION

1) Install the Casters on the bottom, following the instructions included with them, and then Install the unit in the chosen location for it.
2) Open the filter access door & lid and install the filters in the correct order. See the "Filter Service & Replacement" section for more info.
3) Connect the supplied hose from the Quatro System to the Laser/Printer.
4) Connect the power cord to the unit and then to the power source. **VERIFY VOLTAGE BEFORE CONNECTING.**
   - ONLY USE THE POWER CORD SUPPLIED WITH THE EQUIPMENT.
   - Always plug the unit directly into the wall outlet. Do not use extension cords or power bars.
   - Ideally the unit should be plugged into it's own dedicated circuit.
   - The system is designed to be constantly powered (plugged in). The system will not function correctly and may get damaged if power source is used to control the operation. See "Controls" for more info.
5) Turn unit on & adjust the desired airflow using the arrow up and down keys. Set airflow to lowest acceptable level to properly evacuate your equipment.

For information about remote operation see the "Controls" section.

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

Important Notes:
NONE of the filters in the system are cleanable. They will all need to be removed and disposed of periodically.
See the "Filter Service & Replacement" Section for more info.

5- CONTROLS

Type 1 – Basic Controls
The "Basic" controls feature a Power (On/Off) switch, and a rotary speed control knob. The power cord connection and the safety circuit breaker (reset) are also on the face of the panel.
Adjust the speed of the motor(s) to the lowest acceptable level to properly evacuate your equipment.

Type 2 – iSeries Controls
IMPORTANT NOTES FOR PROPER FUNCTION OF THE CONTROLS:
Do not connect the main power cord to an outlet that is controlled by a switch.
Never use any form of remote control that switches the power source on and off. In doing so, serious damage to the controls and motors may occur. Contact *QUATRO* if power switching is the only way you have to remotely control the unit. We have many power switching adaptors available for SAFE and reliable control.

"iSeries" Controls & Alarms/Status Conditions
The iSeries controls feature soft touch Power (On/Off), Speed Up & Speed Down Buttons. It also features a series of LEDs that indicate the status of the filter(s) and motor(s) and inform you of any alarms. These alarms are accompanied by an audible alert. See the table on the following page to understand the meanings of the LEDs and the alarms.

Labels on the diagram:
- Circuit Breaker
- Power Inlet
- DB9 Remote
- System ON LED 1 (L1)
- Service Motor(s) LED 2 (L2)
- Service Filters LED 3 (L3)
- LED 4 (L4) Settings Menu Only
- Remote/Standby LED 5 (L5)
- RESET
- POWER CORD
- Remote Control
- POWER
- SPEED
- *i Series*
- QUATRO *We Make Clean Air* www.quatro-air.com
- Warning : Disconnect power cord from wall outlet prior to opening doors and/or servicing unit.

Alarms & Status Conditions

Alarm Mute Feature

All alarms can be muted for a period of 8 hours OPERATING TIME. After 8 hours the alarm will return and can be muted again.

When mute is enabled, L1 Flashes & the muted alarms stay SOLID. The level of the alert will not be displayed until the 8 hour mute period is over.

To mute: Press SPD UP & DN quickly at the same time. When the buttons are released the alarm(s) will mute & L1 will start flashing. Alarm LED will go SOLID.

If there are any additional alarms when MUTED, mute will disable itself until muted again, then BOTH alarms will be muted.

Muted alarms will only be displayed while the unit is in operation.

If the unit is turned off and then on during the 8 hour mute, the balance of the 8 hour mute will continue after the unit is turned on again.

LED Diagnostics Table R17.0 And Higher

Light (LED)	Status	Audible Alert	Condition	Description/Action
System ON LED 1 (L1)	SOLID		Unit is ON	
	Fading IN-OUT		Temporary ON Mode	POWER Button Had Been Used To Temporarily Turn Unit On While In Remote Mode See "Temporary ON Mode" On Next Page
	Flashing Slowly		AUDIBLE ALERT MUTED	Alarm Condition MUTED, See L2 OR L3 For Specific Alarm Condition
Service Motors LED 2 (L2)	SOLID	Beep Every 4 Hrs	Motor(s) Will Soon Need Service	"Quick Change" Brush Motor(s) WILL SOON Require Brush Replacement Infinity Brush Motor(s) WILL SOON Require Complete Replacement Brushless Motor Is Almost At The End Of The Predicted Service Life **RESET ALERT After Service** See "Motor Service & Replacement" Section For More Motor Info & Reset Alert Instructions
	SOLID	Beep Every 15 Min	Motor(s) Service Becoming Urgent	"Quick Change" Brush Motors ONLY: Replace Brushes ASAP And **RESET ALERT** See "Motor Service & Replacement" Section For More Info & Reset Alert Instructions
	SOLID	Beep Every 5 Min	Motor(s) Service Required IMMEDIATELY	"Quick Change" Brush Motors ONLY: Replace Brushes IMMEDIATELY And **RESET ALERT** See "Motor Service & Replacement" Section For More Info & Reset Alert Instructions
	SOLID		Motor Alarm Muted **L1 Flashing Slowly**	Replace Brushes OR Motor(s) ASAP And RESET ALERT **Alarm Mute Details On Previous Page** See "Motor Service & Replacement" Section For More Motor Info & Reset Alert Instructions
Service Filter(s) LED 3 (L3)	Flashing Slowly		Filter Pressure High	Prepare To Service/Replace Filters See "Filter Service & Replacement" Section For More Info On "On Demand" Filter Cleaning & Filter Service/Replacement Instructions
	Flashing Slowly	Beep Every Hour	Filter Pressure Near Critical. Service Becoming Urgent	Replace Filters. **Continued Operation May Result In Unit Shutdown.** **High Pressure Causes Excess Motor Heat & Accelerates Brush Wear.** See "Filter Service & Replacement" Section For More Info & Filter Service/Replacement Instructions
	Flashing Slowly	Beep Every Second	Critical Pressure	**Unit Has Shutdown** To Prevent Damage From Excess Pressure Verify Blockage – Remove Blockage Verify All Filters – Clean/Replace Filters Accordingly See "Filter Service & Replacement" Section For More Info
	SOLID	Beep Every Hour	Filter(s) Service Life Expired	Replace Filter(s) ASAP And RESET ALERT See "Filter Service & Replacement" Section For More Info & Reset Alert Instructions
	SOLID		Filter Alarm Muted **L1 Flashing Slowly**	Replace Filter(s) ASAP And RESET ALERT **Alarm Mute Details On Previous Page** See "Filter Service & Replacement" Section For More Info & Reset Alert Instructions
Remote Standby LED 5 (L5)	SOLID		Receiving Remote Signal	Remote Switch Closed (On) OR Receiving Remote Signal From Another Piece Of Equipment
	Fading IN-OUT		Shutdown Delay	Quatro System Continues To Run For 30-45 Seconds To Remove All Debris From Work Area
	Flashing Slowly		Unit Is In Standby	Waiting For Remote Switch To Close (Turn On) OR To Receiving Remote Signal From Another Piece Of Equipment
ALL LEDS	Flashing Slowly	Beep Every Second	Low System Pressure	Abnormally Low Pressure, Unit will BEEP & **Shutdown In 5 Seconds** Unit Will Continue To Shutdown Unit Until The Issue Is Addressed -Motor(s) Not Operating Due To Service Required Or Failure See "Motor Service & Replacement" Section For More Motor Info & Reset Alert Instructions -Motors Not Operating Due To Excess Heat. See "Filter Service & Replacement" Section For More Info & Reset Alert Instructions -Access Door(s) Open. Close All Access Doors -Filters Not Or Improperly Installed. Verify Filters

Normal (Manual) Operation
Manual operation of the unit is accomplished by using the (Red) ON/OFF POWER button.

Variable Digital Speed Control & "AUTOFLOW"
Speed control is available in all modes of operation (manual & automatic) and is adjusted with the UP & DOWN arrows located just under the POWER button.

 "AUTOFLOW" is an automatic system pressure compensation system. After setting the minimum speed required to properly evacuate your equipment, the controls will automatically increase the motor speed to compensate for the increased pressure as a result of filters getting dirty or a system blockage until maximum speed is reached. After a filter change, system will automatically decrease the speed to the original set point. Please verify that you are achieving adequate ventilation after a filter change. If not adjust blower speed.

Remote (Automatic) Operation & Remote Status
The Quatro System is designed to be used with other pieces of equipment that can support remote operation and/or remote status monitoring. The connection is made using the AE427 QUATRO Universal Remote Cable. QUATRO has some custom remote cables for specific applications. Contact us for more info on available applications and part numbers. The Quatro System supports "Closed Contact" & "1-30V AC or DC" remote operation as well as "Remote Status" signals. **Switching power to control the QUATRO System system remotely WILL NOT WORK and can damage the unit.**

Temporary ON Mode
Allows you to temporarily override your automatic remote control of the system to perform a "quick cleaning" of work surface. Temporary ON Mode is only available when the Remote/Standby (L5) light is flashing slowly. Use of this mode will temporarily BLOCK OR DIESNGAGE all other functions.

To initiate:
- Press POWER (On/Off) button to start unit, "System ON" LED will FADE In-Out, unit will start.
- When you finish using this feature, press POWER (On/Off) again. All other functions will be un-blocked.

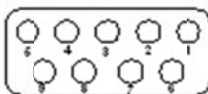**Operation, Connection & Enabling**
Connect the AE427 remote cable in between the Quatro System & the other piece of equipment using only the wires required as per the diagram below.

September 24, 2012

Quatro DB9
Pin-Out & Wiring Instructions

Quatro Air Technologies Inc.

QUATRO 9 Pin Female Connector
(Control Panel Front View)

PIN 1 — Dry Contact Board Return/Board Ground (BLACK)

PIN 2 — Dry Contact + (RED)

PIN 3 — 1 - 30 V ac/dc + (WHITE)

PIN 4 — 1 - 30 V ac/dc - (GREEN)

PIN 5 — Status (Fault or Run) Signals Common (BROWN)

PIN 6 — Status Fault Signal - Normally CLOSED (BLUE)

PIN 7 — Status Fault Signal - Normally OPEN (ORANGE)

PIN 8 — 12 Vdc + (YELLOW)

PIN 9 — Status Run Signal - Normally OPEN (PURPLE)

NOTE
Grey line represents the white connector wire (Pin 3)

NOTE
Wire colours correspond to AE427 Universal Remote Cable

Remote Operation

If choosing the Dry Contact (closed contact) remote option, connect the black and red wires to anything that can close a contact and short these 2 wires together.

If choosing the 1-30V AC/DC remote option, connect the white & the green wires to the remote signal. RESPECT THE INDICATED POLARITY WHEN MAKING THIS CONNECTION. **DO NOT EXCEED 30V AC/DC.**

To enable the remote system startup for either remote option, first plug the system into power and then connect remote cable. Then simply have the other piece of equipment close (short) the dry contact or supply a remote control voltage. When the unit is stopped the Quatro System will shut down after a short delay.

After Remote Sensing Has Been Activated
If the unit is RECEIVING a remote signal: "System ON" & "Remote ON" Lights will be FULLY Illuminated
If the unit is WAITING FOR a remote signal: "System ON" will be OFF & "Remote ON" Lights will be FLASHING
Unplugging the power cord will automatically deactivate Remote Sensing Feature.

Remote Status
The System can output status signals to you equipment.

The Run Signal contact is CLOSED whenever the system is turned on (motor(s) are functioning).
The contact is OPEN when the unit is turned off (motor(s) are not functioning). This includes when the unit goes into Remote/Standby & if the unit shuts down due to a problem.
Run signal will NOT open when the motor(s) shut off for a filter cleaning when operating in "Online" filter cleaning mode.
Critical Filter Pressure Alarms (high & low pressure) will OPEN the Run Signal and shut the motor(s) off.

The Fault Signal can be used either with a Normally Open (NO) or Normally Closed (NC) contact depending on which wire you choose to use (see diagram on previous page).
When there ARE NO alarm conditions present the NO contact will remain open and the NC contact will remain closed.
When there ARE alarm conditions the NO contact will CLOSE and the NC contact will OPEN.
ALL LEVELS of Filter & Motor(s) service alarms will trip the Fault Signal.

The Quatro Run Signal can only shut down the piece of equipment controlling it remotely if the piece of equipment supports that function. The piece of equipment must be set or programmed to shut itself off when the Quatro Run signal is OPENED. Contact your equipment manufacturer to verify if your equipment supports that function.

The status signals can either return a "signal" provided by your equipment or output a 12VDC+ or 12VDC- depending on how the AE427 remote cable is wired. The Quatro System uses a single "common" for both the Run & Fault Signals.

To return a "signal" connect your signal to the Brown wire (Pin 5).
The "returned" Run signal is available on the Violet wire (Pin 9).
The "returned" Fault NC (Normally Closed) is available on the Blue wire (Pin 6).
The "returned" Fault NO (Normally Open) is available on the Orange wire (Pin 7).

To be supplied with a 12vdc signal where the + is being switched connect the Yellow Wire (Pin 8) to the Brown wire (Pin 5).
The 12VDC+ Run signal is available across the Violet wire (Pin 9+) & the Black Wire (Pin 1-).
The 12VDC+ Fault NC (Normally Closed) is available across the Blue wire (Pin 6+) & the Black Wire (Pin 1-).
The 12VDC+ Fault NO (Normally Open) is available across the Orange wire (Pin 7+) & the Black Wire (Pin 1-).
Any combination of the Dry Contact, Run Signal & Fault Signal being used means the Black Wire (Pin 1) must be shared.

To be supplied with a 12vdc signal where the - is being switched connect the Black Wire (Pin 1) to the Brown wire (Pin 5).
The 12VDC- Run signal is available across the Violet wire (Pin 9-) & the Yellow Wire (Pin 8+).
The 12VDC+ Fault NC (Normally Closed) is available across the Blue wire (Pin 6-) & the Yellow Wire (Pin 8+)
The 12VDC+ Fault NO (Normally Open) is available across the Orange wire (Pin 7-) & the Yellow Wire (Pin 8+).
Any combination of the Dry Contact, Run Signal & Fault Signal being used means the Black Wire (Pin 1) must be shared.

Your "signal" will be managed as indicated on the table below. The combination of the Run & Fault Signals can tell you if the unit is still running but has an alarm condition or if there is an alarm condition and the unit has shut down completely.

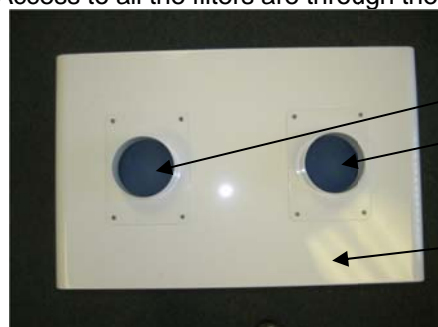| Run Signal Contact	Fault Signal Contact	Condition
Closed	NC: Closed NO: Open	Unit Is Operating Normally
Closed	NC: Open NO: Closed	Unit Is Operating Normally Motors or Filters Will Require Service Soon See QUATRO System Control Panel & LED Diagnostic Table For More Info
Open	NC: Open NO: Closed	Unit Has Shut Down Motors or Filters Require Service Immediately See QUATRO System Control Panel & LED Diagnostic Table For More Info

6- FILTER SERVICE & REPLACEMENT

LED Diagnostic Table - "Service Filter(s)" Alerts (iSeries Controls)
If "Service Filter(s)" alert is FLASHING SLOWLY some of the particulate filters are getting clogged and need to replaced.
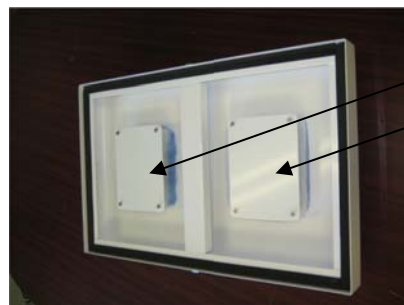If "Service Filter(s)" alert is ON SOLID replace the odor filter.

Filter Access
Access to all the filters are through the top cover.

Optional Pre-Filter
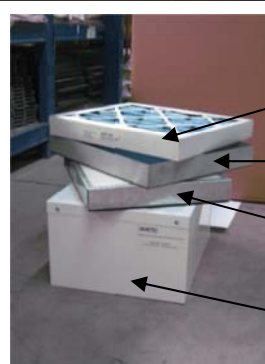Knock Out Pad
PN: F166-125
STAGE 1

Filter Top
Access Cover

Optional Pre-Filter
Knock Out Pad
PN: F166-125
STAGE 1

Laser Blue
Gel

Dust Filter
PN: F071
STAGE 2

Dust Filter
Support Frame

HEPA Filter
PN: F074
STAGE 3

Odor Filter
PN: AG097
STAGE 4

SPH & AF800 systems have 2 identical banks of filters installed beside each other. The instructions below are for the installation of ONE bank of filters and must be repeated for the second bank. ALWAYS make sure all of the filters are installed before running the system.

Install filters in the following sequence:
1st filter to be lowered into the LASER BLUE GEL (or onto gasket) is the chemical filter. Part #: AG097.
2nd filter to be lowered into place is the HEPA filter. Part #: F074
Place the Dust Filter Support Frame with the gasket facing down. Failure to install the frame will result in the dust filter being crushed by the cover and poor system performance.
3rd filter to be lowered into place is the Dust Filter Part # : F071
OPTIONAL filters: Your filter sequence may include a Dust Pad PN: F069-220 (Not Pictured) or a Knock Out Pad PN: F166-125. The Dust Pad gets placed on top of the dust filter just before installing the cover. The Knock Out Pad gets installed on the cover as pictured above.
The above instructions are for the most popular filter sequence. For all other filter sequences follow the filter order on the inside of the access door. This filter sequence can be customized for your application.

Disposal of both odor and particulate filters is the responsibility of the end user. Please contact local authorities for proper and legal disposal of spent filters.

Odor Filter Refilling
The odor filter does not have to be replaced. It can be refilled with new filtration media.

FOR SYSTEMS WITH iSERIES CONTROLS:
If the "Service Filters" LED does not go out on its own after changing the filters follow the reset procedure below.
Resetting "Service Filter(s)" Alert
1- Ensure filter access door is closed
2- Plug power back to the unit
3- Press & hold SPEED UP & DN simultaneously until unit BEEPS
4- Hold for 10+ seconds, when panel is beeping continuously, release buttons
5- You are now in RESET MENU, in this condition, "System ON" Led is FLASHING QUICKLY
6- Press SPEED DN (2 Times) until **"Service Filter(s)"** LED is FLASHING
7- Press & HOLD POWER button while **"Service Filter(s)"** LED is FLASHING & unit is BEEPING continuously
8- Release, when LED stops FLASHING & stops BEEPING

Replacement Filter Part Numbers

Qty	Description	Part No.	Filter Stage
1	Optional Pre Filter Pad Kit (6 Pack)	F069-220	Stage 1
1	Optional Pre Filter Pad Kit (12 Pack)	F069-71	Stage 1
1	Optional Knock Out Pad Kit (12 Pack)	AG168	Stage 1
1	Optional Knock Out Pad Kit (25 Pack)	AG169	Stage 1
1	Dust Filter (6 Pack)	F071-BX	Stage 2
1	HEPA Filter (2 Required)	F074	Stage 3
1	Odor Filter (Most Applications) (2 Required)	AG097	Stage 4
1	Odor Filter Refill Kit (2 Required)	AG119	Stage 4
1	Gel Repair/Replacement Kit	AR020	N/A
1	Filter Gasket (40' Roll)	H296	N/A

The Quatro System can be equipped with many filter sequences. The filters shown on the above table are the most popular general filter sequence that work in most applications. Verify the filter(s) in your Quatro System for the correct part numbers before ordering.

General Filter Maintainence Guide:

Stage	Filter	Reccomended Filter Change Interval	iSeries Control Panel
1	Dust Or KO Pad	Every 3 Months	None
2	Dust	Every 6 Months	None
3	HEPA	Every 6-18 Months	"Service Filters" Flashing
4	Odor	Every 6-18 Months	"Service Filters" ON

7- MOTOR SERVICE & REPLACEMENT

LED Diagnostic Table - "Service Motor(s)" Alerts
If "Service Filter(s)" alert is ON SOLID the motor(s) need to be serviced or replaced.

MOTOR ACCESS
WARNING: Switch unit off and unplug power cord from wall before servicing the motor(s).
The motor(s) are accessed through the bottom access pane.
REMOVE ALL FILTERS BEFORE TURNING THE UNIT OVER TO ACCESS THE MOTORS.

Motor Access Panel

"Quick Change" Brush Motor

Quick Change Brush

"Infinity" Brush Motor

Infinity Curved Motor Brush

Brushless Motor

Determine which type of motor your system has installed and follow the service or replacement instructions.
ONLY the "Quick Change" Motor Brushes can be replaced in the field (motor brushes can be replaced).

IMPORTANT NOTE FOR UNITS EQUIPPED WITH "INFINITY" MOTORS: In cases of heavy production (continuous hours of daily operation), the brushes on the INFINITY Motors may wear before the warranty is over.
Please note this is NOT considered a warranty issue. Motor life is a function of hours used and filter maintenance.
They are designed to operate 2000-3000 hours and then replaced.
In some extreme cases motor life can even be less than 2000 hours and this is usually due to the system being run at a high pressure (dirty filters) for extended periods of time.

 "Infinity" & Brushless Motors Are Considered Consumables And Will Not Be Changed Under Warranty Unless Found To Be DEFECTIVE Within The Warranty Period.

Service- Motors With "Quick Change" Brushes

Even with replaceable motor brushes the "Quick Change" motors do have a service life. When the motor(s) are sparking excessively or consuming brushes too quickly they should be replaced.

The brushes on the SPH Or AF system can be changed in less than 5 minutes with the use of a screwdriver.

The following images are for illustration purposes only.
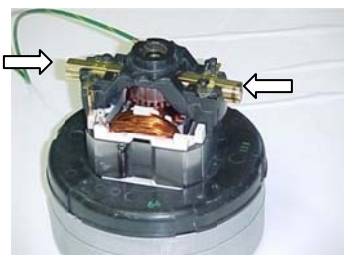**YOU DO NOT HAVE TO REMOVE TURBINE FROM UNIT TO CHANGE BRUSHES!**

Fig 1: Motor Brushes   Fig 2: 1 Motor Brush Removed   Fig 3: New Motor Brush

Replacement Instructions

ALLOW MOTOR(S) TO COOL FOR 45 MINS BEFORE SERVICING

1- Unplug power cord and remove motor access panel.

2- Using a phillips screwdriver, unscrew the 2 screws holding down each of the 2 gold colored brush casings (Fig 1).

3- Lift the gold colored tab and lift/pull out each brush (Fig 2)

4- Replace both motor brushes making sure the locking tab on the brush is facing the motor and re-install the retaining screws.

5- Close motor access panel.

6- **For units with 'Basic" Controls**, plug in power cord and run the unit with the hose disconnected for 20 minutes at minimum speed. This is a break in period for the brushes and is required to properly seat the brushes and to promote longer motor life.

   For units with iSeries Controls, Reset "Service Motor(s) Alert.

   This MUST be done EVEN IF L2 IS NOT ILLUMINATED or the motor(s) replacement alert will not function correctly.

   1- Ensure filter access door is closed
   2- Plug power back to the unit
   3- Press & hold SPEED UP & DN simultaneously until unit BEEPS
   4- Hold for 10+ seconds, when panel is beeping continuously, release buttons
   5- You are now in RESET MENU, in this condition, "System ON" Led is FLASHING QUICKLY
   6- Press SPEED DN (1 Time) until **"Service Motor(s)"** LED is FLASHING
   7- Press & HOLD POWER button while **"Service Motor(s)"** LED is FLASHING & unit is BEEPING continuously
   8- Release, when LED stops FLASHING & stops BEEPING

   After resetting the "Service Motor(s)" Alert, the motor(s) will default to low speed. It is recommended to operate the motor(s) at low speed for 20 minutes to properly break the new brushes in.

Brushes Per Package	MotorSafe Brush Part #
6-Pack	AB117

For units equipped with 2 OR 3 motors: It is highly recommended to replace all motors or all sets of brushes at the same time so the brush wear rates stay in sync.

Replacement Instructions
ALLOW MOTOR(S) TO COOL FOR 45 MINS BEFORE SERVICING
1- Unplug power cord and open motor access panel.
2- Disconnect wires, cut zip ties.
3- Remove the retaining nuts & lock washer holding the motor assemblies.
4- Remove the motor retaining bracket from the old motor. Note the orientation on the bracket.
5- Install the bracket on the new motor. See the installations pictures below.
    THIS IS PARTICULARLY IMPORTANT FOR "INFINITY" MOTORS. If the bracket is installed incorrectly it may result in a short to ground for the brush contacting the bracket. The curved brush must be visible in the large cutout as per Figure 2.
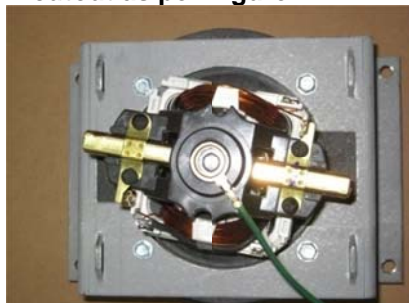

Infinity Curved Motor Brush

Figure1: "Quick Change" Motor   Figure 2" "Infinity" Motor   Figure 3: Brushless

6- Install the assembly back into the unit & connect the wires. Install new zip ties.
7- Plug in power cord and **Reset "Service Motor(s) Alert.** This MUST be done EVEN IF L2 IS NOT ILLUMINATED or the motor(s) replacement alert will not function correctly. Follow the instructions below.
    1- Ensure filter access door is closed
    2- Plug power back to the unit
    3- Press & hold SPEED UP & DN simultaneously until unit BEEPS
    4- Hold for 10+ seconds, when panel is beeping continuously, release buttons
    5- You are now in RESET MENU, in this condition, "System ON" Led is FLASHING QUICKLY
    6- Press SPEED DN (1 Time) until **"Service Motor(s)"** LED is FLASHING
    7- Press & HOLD POWER button while **"Service Motor(s)** LED is FLASHING & unit is BEEPING continuously
    8- Release, when LED stops FLASHING & stops BEEPING

Replacement Motors	Part #
230V "Quick Change" (SPH & AF835)	AB002
230V "Infinity" (SPH & AF835L)	AR176
230V Brushless (SPH & AF82B5 "iSeries" Controls)	AB045-25
230V Brushless (SPH & AF82B5 "Basic" Controls)	AB040-25

ALWAYS replace all motors at the same time in a system equipped with more than 1 brush motor to keep brush wear in sync.

8- TROUBLESHOOTING GUIDE

Symptoms	Possible Cause	Suggested Solution
Unit will not start	• Faulty power supply • Circuit breaker tripped • Motor/motor brushes past service life	• Check breaker box/power connection • RESET circuit breaker on unit panel • Replace motor/motor brushes
Motor shuts off	• Motor overheated, tripped on thermal cutout • Motor/motor brushes past service life	• Switch power off, unplug, wait till motor cools, replace filters/verify blockage. • Replace motor/motor brushes
Insufficient airflow	• Obstruction in system • Clogged filter (s)	• Remove obstruction • Replace filter (s)
Excessive airflow	• Filter(s) not in place	• Install filter(s)
Excessive noise	• Motor impeller contacting housing • Motor bearing failure	• Replace motor • Replace motor

For units equipped with iSeries Controls see the 'Light Diagnostics Table" for additional troubleshooting.

9- SPECIFICATIONS

Nominal Airflow (Triple Motor)	330 CFM
Nominal Airflow (Double Brushless Motor)	560 CFM
Approximate Dimensions:	30.5" (775mm) High x 15.75" (400mm) Wide x 25" (635mm) Deep
Voltage/Phase/Frequency, Current, Power	Triple Brush Type 230/1/50, 12 amps, 2760 Watts (Operating at 60Hz) Double Brushless 230/1/50: 12 amps 2300 Watts (Operating at 60Hz)
Approx. Weight:	140lbs (54kg) w/o filters 200lbs (91kg) with filters

10- GENERAL REPLACMENT PARTS

Qty	Description	Part
1	Power Cord 230v	E519
1	Power Cord (Euro 230V)	E130
1	Remote Cable	AE427
1	Cover Gasket Roll (40')	H006

11- 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 authorised 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.

IMPORTANT NOTE FOR UNITS EQUIPPED WITH "INFINITY" MOTORS: In cases of heavy production (continuous hours of daily operation), the brushes on the INFINITY Motors may wear before the warranty is over.

Please note this is NOT considered a warranty issue. Motor life is a function of hours used and filter maintenance. They are designed to operate 2000-3000 hours and then replaced.

In some extreme cases motor life can even be less than 2000 hours and this is usually due to the system being run at a high pressure (dirty filters) for extended periods of time.

Warning:

This is a class A product. In domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

For Technical Assistance, call QUATRO Air Technologies inc. at
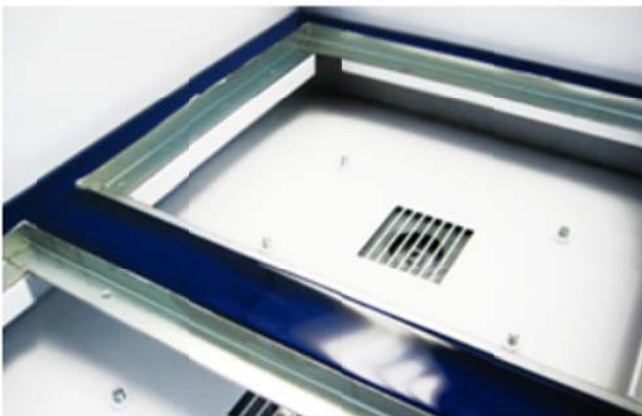(514) 630-4444 (in Montreal, Canada).

Please ensure that you have your **equipment serial number** available when calling.

-- *We Make Clean Air* --

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Air Technologies Inc.

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WWW.QUATRO-AIR.COM

INTRODUCING LASER BLUE GEL

We are proud to introduce our new breakethrough technology. We call it the LASER BLUE GEL. This sleek blue design is nothing like the regular gasket you may find in other filtration units on the market. Due to it's elasticity, it allows zero bypass to any fumes, odors and VOCs. It's NON toxic and NON porous as well. For more details, you can visit our website at

www.quatro-air.com

LASER - LASER MARKING | PF400S

- Multiple high density layered antimicrobial filter bags
- Easy to change
- Large holding capacity
- Self contained pre-filter section can be combined with any existing system that requires additional particulate filtration
- Can also snap onto existing SPH400 system

PRE-FILTER SECTION
PF400S

WHAT IS IT?

We call it a Pre filter section. It is designed specifically for the laser or engraver end user. It is essentially a motor less or passive series of filters that can enhance the performance of an SPH 400 by giving it significant extra dust and particle capture. It can be used as a self contained system beside the fume extractor or attached directly on top of the SPH-400, doubling the height and the total filter capacity.

WHAT'S INSIDE

The SPH-400 ships with a simple pleated PRE filter to protect both the HEPA and the carbon filter from being plugged with large dust and particulate matter. With the addition of the pre-filter section you now have two huge 12" x 6" x 24" antimicrobial dust filter bags that can capture a significant amount of dust and particulate matter.

INSTALLATION

Can I install this myself if I have an SPH400 or SPH800?
If height is not an issue, the installation is quite simple and straight forward. Remove the inlet cover of the SPH-400/800 system. The pre-filter section clamps directly onto the unit. Replace the cover and clamp onto the pre-filter section . You are now ready to go For more information on installation or use, please reffer to our Operation & Maintenance Manual. You can also visit us at www.quatro-air.com

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How easy is to change the filters?

How easy is it to change the filters? Whether you have a standalone section or a direct mount section the filter bags are accessed in the same manner. Remove inlet cover, quarter turn 4 locking mechanisms and remove the section to replace bags. Designed to be clean simple and effective. Dust is contained in the bags to minimize the mess and exposure of personnel to potentially harmful dust.

PRE-FILTER SECTION
PF400S

How can I use it?

On the left is the pre-filter unit on it's own and on the right it is mounted on top of an SPH-400. The stand alone section is versatile enough to be used with any existing filter system. The inlet and discharge collars can accommodate many different arrangements to suit the application. Single or dual 1", 1.5", 2", 2.5", 3" or 4" diameter collars are available as standard options. Custom diameters are available upon request

QUATRO
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