

# QUATRO

Air Technologies Inc.

Engineers of Clean Air



## PowerStation 3 Dust Collectors

With *i Series* Controls

## Operation and Maintenance Manual

# Contents

Introduction . . . . .	4
Key Features . . . . .	4
Contacting Quatro Air . . . . .	5
Phone . . . . .	5
Fax . . . . .	5
email . . . . .	5
Address (Head Office) . . . . .	
System Contents . . . . .	6
Important Precautions and Instructions . . . . .	7
Ensuring Proper Grounding for a Dust Collection System . . . . .	8
System Preparation . . . . .	9
Pre-Startup Checklist . . . . .	9
Startup . . . . .	9
Operation . . . . .	11
Important Notes for Proper Function of Controls . . . . .	11
<i>i Series</i> Controls and Alarms/Status Conditions . . . . .	11
Alarm Mute Feature . . . . .	12
Variable Digital Speed Control and AUTOFLOW . . . . .	13
Remote Operation . . . . .	13
Remote (Automatic) Operation and Remote Status . . . . .	14
DB9 Pin Out Information . . . . .	14
Remote Operation . . . . .	15
Remote Status . . . . .	15

# Contents

<b>Filter Service and Replacement</b> .....	<b>16</b>
Resetting Service Filters Alert .....	17
Replacement Filter Part Numbers .....	17
<b>Motor Service and Replacement</b> .....	<b>18</b>
Motor Access .....	18
Motor Replacement .....	19
<b>Troubleshooting</b> .....	<b>21</b>
LED Diagnostics Table, R18 .....	21
Light Diagnostics Table G16.13 or G17.13 and higher .....	23
<b>Specifications</b> .....	<b>24</b>
<b>Replacement Parts</b> .....	<b>25</b>
Remote On-Off Options .....	25
<b>Warranty</b> .....	<b>26</b>
Disclaimer .....	26

# Introduction

Congratulation on your purchase of a Quatro Air Technologies PowerStation 3 Series System—an advanced effective indoor dust and fume collection system designed specifically to remove particulate matter contaminants at the source. You can expect a noticeable improvement in air quality as the system begins the process of reducing microscopic airborne particulate.




## Key Features

- Counter-Stand and Free-Standing Models
- HIGH EFFICIENCY PREMIUM BRUSHLESS motor technology delivers more airflow
- Newly designed heavy-duty main filter for larger particle removal
- Improved, more efficient self-cleaning system
- HEPA Filter, 99.97% efficiency on sub-micron particles like fine zirconia dust in CAD/CAM milling
- Operate the mill overnight while the filters clean themselves
- Easy access to the motors and filters
- AUTOFLOW: Set to lowest acceptable speed, motors will maintain airflow despite pressure increase
- Temporary ON: Clean your mill while unit is in standby mode
- Separate access doors: remove debris without having to access filter section
- "OnLine Filter Cleaning" (Worry-free feature automatically cleans the main filter without operator assistance. Milling machine runs uninterrupted)
- Alerts you when filters need replacement
- Debris storage capacity of 5.0 US Gallons (19.0 litres)
- Also included: Mill specific Auto Start-Stop cable & 6 ft suction hose
- Optional: Foot-pedal/Hand-switch for 6 ft manual Start-Stop #AA175/#AA375, Signal Splitter (#AA686) to operate unit with Auto-Signal AND Foot-Pedal (for quick and easy mill cleaning)



This document contains important safety, Installation, operation, and maintenance instructions.

### SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

**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.

## Contacting Quatro Air

If you require assistance with this or any other Quatro Air product, please call or email technical support (tech@quatroair.com). We value your comments.

- To help us assist you more effectively with problem reports, the following information may be required when contacting Quatro Air Support:
- Equipment model (e.g., iVac, AF400, BioScan).
- The serial number of any component you believe to be defective.
- Actions performed immediately before the problem occurred, if applicable.
- Any additional comments.

### Phone

- 1-877-978-2876 (US and Canada)
- 1-514-630-4444 (local calling)

### Fax

1-514-630-4454

### email

- General inquiries: info@quatroair.com

## System Contents

MODEL	SHIPS WITH
Free-standing model (shipped on casters)	<ul style="list-style-type: none"> <li>• Suction hose—loose in the box</li> <li>• Filters are in place, inside the unit,</li> <li>• Inside filter section, in plastic bag:               <ul style="list-style-type: none"> <li>• Power Cord,</li> <li>• Operation and Maintenance Manual,</li> <li>• appropriate milling cable,</li> <li>• (4) rubber feet to replace casters if mobility not required or unit too high (w/casters)</li> </ul> </li> </ul>
Counter-stand model	<ul style="list-style-type: none"> <li>• Suction hose—loose in the box</li> <li>• Filters are in place, inside the unit,</li> <li>• Inside filter section, in plastic bag:               <ul style="list-style-type: none"> <li>• Power Cord,</li> <li>• Operation and Maintenance Manual,</li> <li>• appropriate milling cable,</li> <li>• (4) casters (2 locking, 2 non-locking)</li> </ul> </li> </ul>

## Important Precautions and Instructions

**⚠** This manual contains critical operating information which if not followed may result in undesired operation and cause damage to the system not covered by warranty. To reduce the risk of severe injury and equipment damage, read and follow all instructions.

- Read and understand this manual before operating the system.
- Store the manual in a safe place for future reference.
- **⚠** ALWAYS turn system off and disconnect power prior to accessing unit, replacing filters, or servicing motor(s).
- **⚠** To reduce the risk of electric shock, do not expose to excessive moisture, water or rain. Do not operate the system in areas with excessive moisture
- **⚠** Ensure to use proper voltage as indicated on the system.
- **⚠** Use only on a grounded electrical circuit. Do not use any two-prong electrical adapters (ground lift) to defeat the purpose of three-pronged plug on the end of the cord.
- **⚠** When servicing the motors, 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. With modern motors, this condition is normal when operated at rated load and voltage, as they are built to operate at higher temperatures.



**Allow the unit to cool for 45 minutes before performing any service.**

- Do not install or operate the system in an enclosed space or against a wall. Unit may overheat and shut down. Keep all objects at least 6” away from the casing, especially the discharge grill. **NEVER** place the system up against a wall.
- Do not kink hose or restrict airflow in any way.
- All filters must be in place whenever this machine is in operation.

**IMPORTANT:** THE SYSTEM IS DESIGNED TO BE CONSTANTLY POWERED (PLUGGED IN). USE THE ON/OFF ONLY SWITCH TO TURN THE SYSTEM ON and OFF.

ALWAYS SWITCH THE POWER OFF BEFORE UNPLUGGING THE SYSTEM FROM THE MAIN POWER SOURCE OR BEFORE CUTTING POWER TO THE RECEPTACLE. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE SYSTEM THAT IS NOT COVERED UNDER WARRANTY.

QUATRO IS NOT LIABLE FOR MISAPPLIED EQUIPMENT. ALWAYS CHECK SYSTEM VOLTAGE BEFORE PLUGGING INTO POWER SOURCE.



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

## Ensuring Proper Grounding for a Dust Collection System

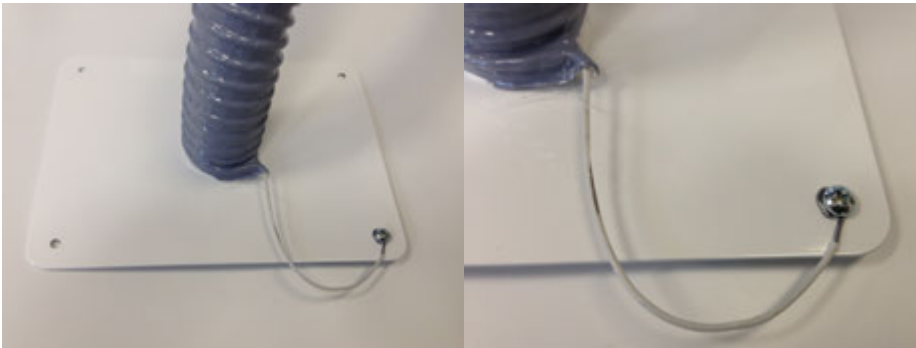
For dust collection systems, galvanized metal pipe and fittings are best, but for most typical applications, fittings and dust collection tubing made of plastic (ABS or PVC) are sufficient, provided they are properly grounded to dissipate static electrical charges. Dust and air in the right proportions can be an explosive mixture, and a buildup of static electricity can provide the spark to ignite it.

To safely collect and bleed off the static charge, bare copper wire (not insulated) should be run along the inside of the duct-work and be attached to grounding screws or a bare metal surface on both the dust collector and the unit that it is connected to (if it is connected to a unit). The power cords of both machines must be terminated in a grounded three-prong plug to complete the connection to the ground. Wires over the irregularities of fittings, especially at “Y”s or “T”s could form traps for particles. Therefore, bypass the fittings by running the wires to the outside through small holes. Seal the holes with silicone caulking compound and join the wires by twisting them together and securing them with a wire nut.

As charges can also collect on the outside surface, we recommend wrapping bare copper wire in a spiral around the outside of the tubing, securing it with electrical tape and connecting it to the ground system by means of wire nuts. If you have any difficulty securing the hose clamp to the hose and fittings, try wrapping the joints with duct tape first to provide a good gripping surface. If you are still having difficulty in obtaining a safe electrical ground, we recommend the services of a good electrician.

You may need to ground the flexible hose which connects the unit to a machine. In this case:

1. Peel off some of the “support” wire that is embedded inside the hose—peel off enough so that it reaches one of the inlet plate screws.
2. Tighten the screw to ground the wire (as shown below on the right) to ground to the unit.






## System Preparation

Upon receipt, inspect unit for either visible or concealed damage. Damage should be immediately reported to the transport company. If you suspect concealed damages inside the box indicate so on the transport companies' shipping documents.

A single box comes with all components required either on or inside the unit

1. Position the unit in the chosen location.
2. Open the filter access panel and remove the plastic wrap from the HEPA filter.

**WARNING:**  All filters must be in place before operating the system.

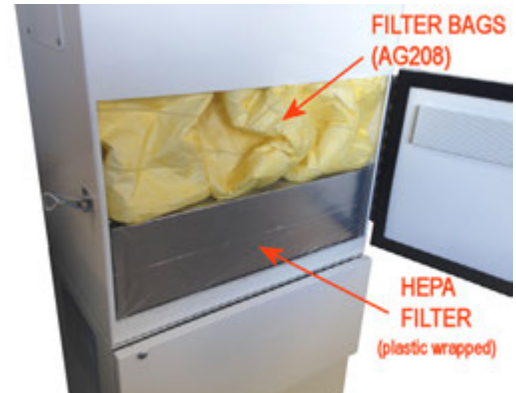
3. Install caster set, if applicable.
4. Install dirty air inlet collars on the BACK panel of the unit.

**REMINDER:** Ensure to use proper voltage and sufficient amperage as indicated on the system before powering up the unit.

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.

5. Connect the unit to your work station or milling machine using the supplied hose.



### Pre-Startup Checklist

1. Check that all internal components are present and are adequately supported.
2. Check that labels and serial numbers are present for future identification.
3. Verify power supply compatibility with equipment (120-volt/1 phase/60hz). Check that the unit is plugged into a grounded receptacle.
4. Ensure that rubber grommets are tight and secure prior to placing unit on the floor (as applicable).

## Startup

1. Press the **POWER** button to turn the system ON.  
The system does not need to be on all the time, nor does it need a warm-up period. It can be turned on and off as needed.

Your system should now be functioning and operational; the **System On** LED illuminates.

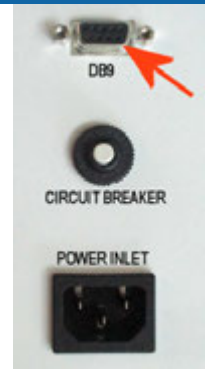
2. Press **POWER** button again to switch unit OFF.



3. Connect remote hand-switch (P/N AA375) or foot-pedal (P/N AA175) to the DB9 remote port on the control panel to start unit remotely.
  - If: System ON LED is OFF (indicates unit NOT operating)
  - If: Remote/Standby LED flashes (indicating unit is in WAITING MODE)
  - If: Remote/Standby LED ON (indicating unit is OPERATING)

☞ **NOTE:** The filters in this system are not cleanable. They need to be removed and disposed of periodically.

See "[Specifications](#)" on page 17 and "[Filter Service and Replacement](#)" on page 12.



# Operation

The Quatro System employs a four-step method of operation:

1. Filter bags capture all heavy/larger particles.
2. HEPA Filter captures and holds fine, lighter dust particles.
3. Odor filters (model-dependant) capture applicable odors.
4. Heavy duty blower section overcomes static pressure across the hose and filter.  
UP/DOWN Arrows on control panel allow you increase and decrease speed in 9 increments.



## Important Notes for Proper Function of Controls

- Do not connect the 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 control the unit remotely.
- Quatro Air has many power switching adapters available for SAFE and reliable control.

## i Series Controls and Alarms/Status Conditions

The iSeries controls feature soft touch Power (On/Off), Speed Up and 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.



1. System On LED (L1)
2. Service Motors LED (L2)
3. Service Filters LED (L3)
4. Menu LED: This LED is visible only when the unit is illuminated in Programming mode. It is a menu selection indicator.
5. Remote/Standby LED (L5)
6. Power Button
7. Speed UP button
8. Speed UP button
9. DB9 connector
10. Circuit breaker
11. Power inlet



### 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 and the muted alarms stay SOLID. The level of the alert will not be displayed until the 8 hour mute period is over.

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### To mute:

- Press **SPD UP** and **DN**   quickly at the same time. When the buttons are released the alarm(s) will mute and 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.

### Normal (Manual) Operation

Manual operation of the unit is accomplished by using the (Red) **POWER** button. 

## Variable Digital Speed Control and AUTOFLOW

Speed control is available in all modes of operation (manual and automatic) and is adjusted with the **UP and DOWN** arrows.  

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 Operation


Remote Operation Mode simply means that the ON/OFF button on the control panel will be temporarily disabled if the system is receiving a signal from a remote source to operate.

To enable the remote system startup simply supply a remote signal after the power supply and remote cable are connected to the system. The Quatro System will respond by illuminating LED 1 (System On) and LED 5 (Remote/Standby).

Whenever the remote signal is supplied the unit will instantly start, when the remote signal is stopped the unit will stop after a 30 second delay.

Set the shut off delay in your control software to the shortest possible interval. The Quatro System has a 30-second delay that cannot be turned off.

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 **NOTE:** When operating by remote control the use of the On/Off (Power) button on the panel is disabled while the Remote/Standby light is ON Solid Or Fading In And Out.

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If you wish to use the On/Off button on the panel after Remote Operation has been enabled the function is only available when the Remote/Standby light is flashing slowly. While in operation via the ON/Off (Power) button, remote operation is temporarily disabled. Turn the unit off with the ON/Off (Power) button to go back into Remote Operation.

## Remote (Automatic) Operation and 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 information on available applications and part numbers. The Quatro System supports Closed Contact and 1-30V AC or DC remote operation as well as Remote Status signals.

**NOTE: Switching power to control the QUATRO System system remotely WILL NOT WORK and can damage the unit.**

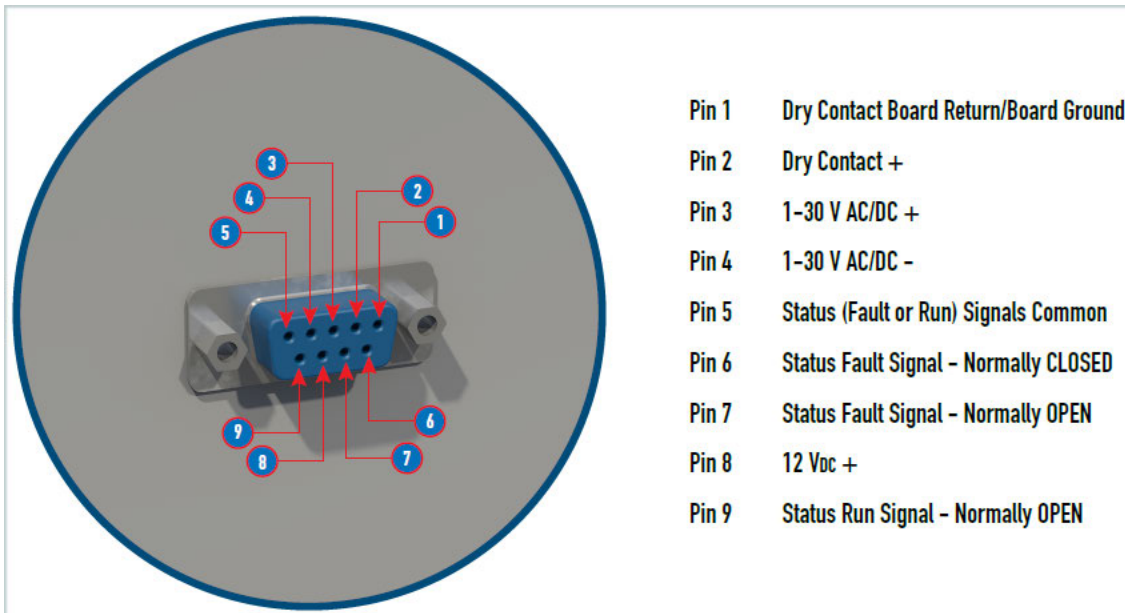
Temporary ON Mode allows you to temporarily override your automatic remote control of the system to perform a quick cleaning of work surface. Temporary ON Mode is only available when the Remote/Standby (L5) light is flashing slowly. Use of this mode will temporarily BLOCK OR DISENGAGE all other functions.

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 unblocked.

## DB9 Pin Out Information

Quatro Systems support remote operation. Connect the AE427 remote cable in between the Quatro System and the other piece of equipment using only the wires required as per the diagram below.




Your “signal” will be managed as indicated on the table below. The combination of the Run and 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

Run Signal Contact	Fault Signal Contact	Condition
Closed	NC: Open NO: Closed	Unit Is Operating Normally Motors or Filters Will Require Service Soon See " <a href="#">Light Diagnostics Table (Rev 17.0 and Higher)</a> " on page 13 For More Info
Open	NC: Open NO: Closed	Unit Has Shut Down Motors or Filters Require Service Immediately See " <a href="#">Light Diagnostics Table (Rev 17.0 and Higher)</a> " on page 13 For More Info

## 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 and the green wires to the remote signal.

**WARNING:**  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 and Remote ON Lights will be FULLY Illuminated
- If the unit is WAITING FOR a remote signal: System ON will be OFF and 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 your 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 and if the unit shuts down due to a problem.

## Filter Service and Replacement

Proper maintenance is critical to extend the life of the filtration system. The information presented below outlines basic maintenance procedures ensuring the unit will provide trouble-free operation for years to come. Quatro systems are designed to allow quick access to the filters.

### LED Diagnostic Table - "Service Filter(s)" Alerts (iSeries Controls)

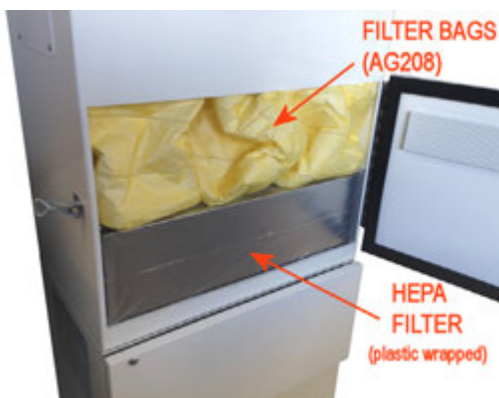
- If "Service Filter(s)" alert is FLASHING SLOWLY most likely the bag filter needs to be replaced.
- If "Service Filter(s)" alert is ON SOLID replace the HEPA filter.

Filter replacement is ALSO required if you notice the following:

- a. If you are losing suction capacity, after filter has been used, FILTER IS CLOGGED.
- b. If dust is coming through the filter and dust is present in the motor section even though filter is seated properly, FILTER IS PUNCTURED.
- c. Gasket on BASE of HEPA Filter is even slightly worn, GASKET NEEDS TO BE IN GOOD CONDITION TO ENSURE DUST DOES NOT GET THROUGH









Sealing integrity is essential. Every 12 months, verify all gaskets are in proper condition. Should the door gaskets adhere slightly to the unit when opening a door, lubricate its surface with a transparent grease or petroleum jelly. Should unit be moved on occasion, ensure that rubber grommets are tightly fastened.

Access to all filters is through the filter door on the front of the unit.





## Resetting Service Filters Alert

WHILE "Service Filters" LED is SOLID	WHILE "Service Filters" LED is OFF
<ol style="list-style-type: none"> <li>1. Ensure filter access door is closed.</li> <li>2. Plug power back to the unit.</li> <li>3. When you Press "POWER", MOTOR WILL START, "Service FILTER(s)" Led stays SOLID</li> <li>4. While motor is operating, press and hold SPEED UP  and DN  simultaneously until unit beeps. Hold for 10+ seconds; when panel is beeping continuously, release buttons.  In this condition, "System ON" Led is FLASHING, "Service Filters" LED is SOLID</li> <li>5. Press SPEED DN  until "Service Filters" LED is FLASHING and system is BEEPING continuously</li> <li>6. Press and HOLD POWER button  while <i>Service Filter(s)</i> LED is FLASHING and unit is BEEPING continuously. Release, when it stops BEEPING</li> <li>7. LED will be OFF and unit will be ready to operate again</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure filter access door is closed.</li> <li>2. Plug power back to the unit.</li> <li>3. When you Press "POWER", MOTOR WILL START.</li> <li>4. While motor is operating, press and hold SPEED UP  and DN  simultaneously until unit beeps. Hold for 10+ seconds; when panel is beeping continuously, release buttons.  In this condition, "System ON" Led is FLASHING</li> <li>5. Press SPEED DN  until "Service Filters" LED is FLASHING</li> <li>6. Press and HOLD POWER button  while <i>Service Filter(s)</i> LED is FLASHING. Release, when it stops BEEPING</li> <li>7. LED will be OFF and unit will be ready to operate again</li> </ol>

## Replacement Filter Part Numbers

See "[Replacement Parts](#)" on page 25 for part numbers.

**NOTE:** Verify the filter(s) in your Quatro System for the correct part numbers before ordering.

## Motor Service and Replacement

This unit is equipped with an Automatic Motor Optimization System. The system will prompt you when it is time to change the motor brushes by illuminating LED 2 and beeping. (See "[Light Diagnostics Table \(Rev 17.0 and Higher\)](#)" on page 11 for details). To avoid downtime, "Service Motor(s) LED will illuminate when motor is approximately 90% worn.

If you ignore the warning, the unit eventually will shut down to prevent damage. This will occur even if your Quatro system is in mid operation. It is advised to effect replacement when prompted or ASAP to avoid a shutdown.

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.
- Infinity motors must be replaced at the end of their service life.

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☞ **NOTE:** Infinity Motors Are Considered Consumables And Will Not Be Changed Under Warranty Unless Found To Be DEFECTIVE Within The Warranty Period.

Consumed Brushes On Infinity Motors Are Not Covered under Warranty.

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To optimize and ensure longest motor life, after replacement, start motor right away and reset the LED as per the instructions provided later in this section. Speed will automatically default to LOW. Operating the motor at Low speed for 15 minutes will "break-in" the new motor, optimizing and prolonging its life.

### Motor Access

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**WARNING:** ⚠ Switch unit off and unplug power cord from wall before servicing the motor(s).

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The motor(s) are accessed through the front panel behind the lower door (below the filter compartment).

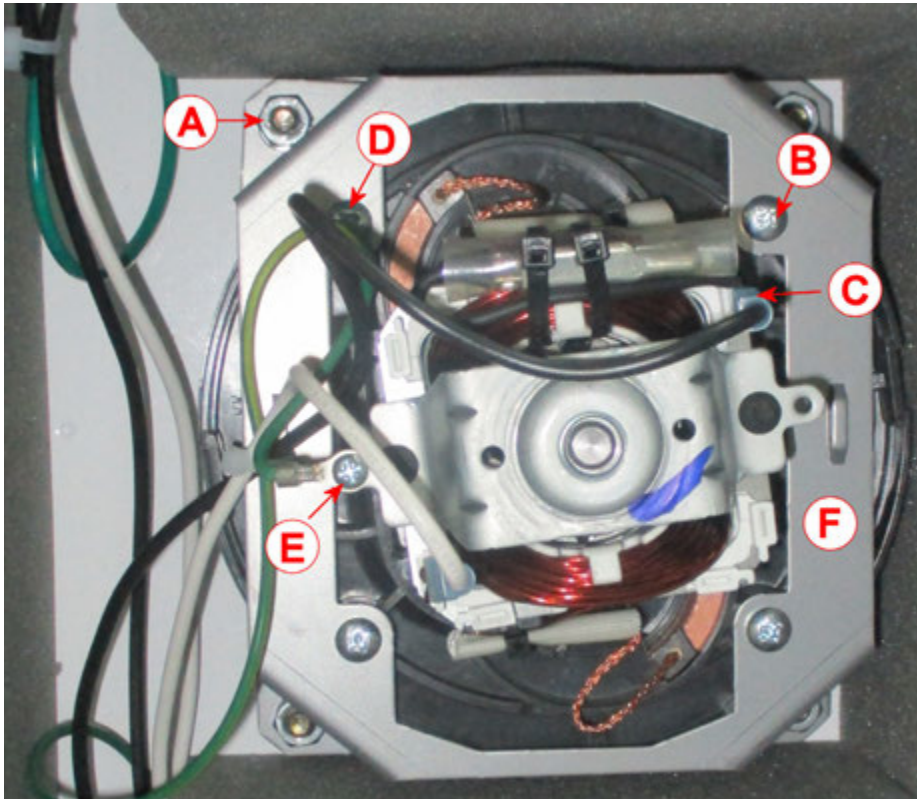
- Using a Phillips screwdriver, remove the (2x) screws on the left side of the door and swing open door to expose the motor compartment.



**NOTE: 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. Motors are designed to operate 2000-3000 hours and then be 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.

## Motor Replacement

Refer to following figure when performing this procedure.




- A. Retaining nuts (4X)
- B. Motor-to-bracket mounting screws (4x)
- C. Black wire terminal
- D. Green wire terminal
- E. White wire terminal
- F. Motor retaining bracket

**CAUTION:**  ALLOW MOTOR(S) TO COOL FOR 45 MINUTES BEFORE SERVICING.

1. Unplug power cord and open motor access panel.
2. Disconnect wires (C,D,E), cut zip ties.
3. Remove the retaining nuts (A) and lock washers holding the motor assemblies.
4. Separate the motor retaining bracket (F) from the old motor by removing the 4 mounting screws (B).

**NOTE:** Note the orientation of the bracket.

5. Install the bracket on the new motor.

**WARNING:**  THIS STEP 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 shown in photo above.

6. Install the assembly back into the unit, connect the wires, and 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.

Resetting Microprocessor After Motor Replacement WHILE "Service Motor(s)" Led is SOLID	Resetting Microprocessor After Motor Replacement, WHILE "Service Motor(s) Led is OFF
<ul style="list-style-type: none"> <li>• Ensure motor access door is closed</li> <li>• Plug power back to the unit</li> <li>• When you Press "POWER", MOTOR WILL START, "Service Motor(s)" Led stays SOLID</li> <li>• While motor is operating, press and hold SPEED UP and DN simultaneously until unit BEEPS (hold for 10+ seconds, when beeping continuously, release)</li> <li>• In this condition, "System ON" Led is FLASHING, "Service Motor(s)" led is SOLID</li> <li>• Press SPEED DN (once) until "Service Motor(s)" Led is FLASHING and system is BEEPING continuously</li> <li>• Press and HOLD POWER button while "Service Motor(s)" is FLASHING and BEEPING continuously</li> <li>• Release, when it stops BEEPING, and motor operates in LOW speed</li> <li>• Operate unit at LOW SPEED for 10-15 minutes to break-in new brushes (to prolong brush life)</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure motor access door is closed</li> <li>• Plug power back to the unit</li> <li>• When you Press "POWER", MOTOR WILL START</li> <li>• While motor is operating, press and hold SPEED UP and DN simultaneously until unit BEEPS (hold for 10+ seconds, when beeping continuously, release)</li> <li>• In this condition, "System ON" Led is FLASHING</li> <li>• Press SPEED DN (once) until "Service Motor(s)" Led is FLASHING</li> <li>• Press and HOLD POWER button while "Service Motor(s)" is FLASHING</li> <li>• Release, when it stops BEEPING, and motor operates in LOW speed</li> <li>• Operate unit at LOW SPEED for 10-15 minutes to break-in new brushes (to prolong brush life)</li> </ul>

# Troubleshooting

Symptoms	Possible Cause	Suggested Solution
Unit will not start	<ul style="list-style-type: none"> <li>Faulty power supply</li> <li>Circuit breaker popped</li> <li>Motor burnt</li> <li>Brushes worn</li> </ul>	<ul style="list-style-type: none"> <li>Check breaker box</li> <li>RESET circuit breaker on unit panel</li> <li>Replace motor (PN: AB001)</li> <li>Replace Brushes (PN: AB112)</li> </ul>
Excessive noise	<ul style="list-style-type: none"> <li>Turbine impeller contacting housing</li> </ul>	<ul style="list-style-type: none"> <li>Replace motor (PN: AB001)</li> </ul>
Insufficient airflow	<ul style="list-style-type: none"> <li>Obstruction in system</li> <li>Clogged filter</li> </ul>	<ul style="list-style-type: none"> <li>Remove obstruction</li> <li>Replace filter(s)</li> </ul>
Motor shuts off	<ul style="list-style-type: none"> <li>Input amperage too high</li> <li>Graphite crystal rods are consumed</li> <li>Motor is burnt</li> </ul>	<ul style="list-style-type: none"> <li>Ensure filter is in place, reset circuit breaker</li> <li>Replace rods (PN: AG112, 2/pkg)</li> <li>Replace motor (PN: AB001)</li> </ul>
Excessive airflow	<ul style="list-style-type: none"> <li>Filter not in place</li> </ul>	<ul style="list-style-type: none"> <li>Install filter</li> </ul>
Suction varies from workstation to workstation	<ul style="list-style-type: none"> <li>Hose lengths between stations vary</li> </ul>	<ul style="list-style-type: none"> <li>Adjust damper or blast gate at each station equalizing suction</li> </ul>

## LED Diagnostics Table, R18

Light (LED)	Status	Audible Alert	Condition	Description/Action
System LED 1 (L1)	SOLID		Unit is ON	
	Flashing Slowly		AUDIBLE ALERT MUTED	Alarm Condition MUTED, See L2, L3 Or L4 for specific alarm condition
Service Motors LED 2 (L2)	SOLID	Beep Every 4 Hrs	Motor(s) Will Soon Need Service	<p>"Quick Change" Brush Motors WILL SOON Require Brush Replacement INFINITY motor Brush WILL SOON Require Complete Replacement Brushless Motors Are Almost At The End Of The Predicted Service Life</p> <p><b>RESET ALERT After Service!!</b></p> <p>See <a href="#">"Motor Service and Replacement"</a> on page 18</p>
	SOLID	Beep Every 15 Min	Motor(s) Service Becoming Urgent	<p>"Quick Change" Brush Motors ONLY: Replace Brushes ASAP And <b>RESET ALERT</b>, See <a href="#">"Motor Service and Replacement"</a> on page 18</p>
	SOLID	Beep Every 5 Min	Motor(s) Service Required IMMEDIATELY	<p>"Quick Change" Brush Motors ONLY: Replace Brushes IMMEDIATELY And <b>RESET ALERT</b></p> <p>See <a href="#">"Motor Service and Replacement"</a> on page 18</p>
	SOLID		Motor Alarm Muted L1 Flashing Slowly	<p>Replace Brushes OR Motor(s) ASAP And RESET ALERT</p> <p><b>Alarm Mute Details On Previous Page</b></p> <p>See <a href="#">"Motor Service and Replacement"</a> on page 18</p>

Light (LED)	Status	Audible Alert	Condition	Description/Action
Service Filter(s) LED 3 (L3)	Flashing Slowly		*Filter Pressure High	Prepare To Replace/Service Filters See " <a href="#">Filter Service and Replacement</a> " on page 16
	Flashing Slowly	Beep Every Hour	*Filter Pressure Near Critical, Service Becoming Urgent	Replace Filters. See " <a href="#">Filter Service and Replacement</a> " on page 16 <b>Continued Operation May Result In Unit Shutdown. High Pressure Causes Excess Motor Heat &amp; Accelerates Brush Wear.</b>
	Flashing Slowly	Beep Every Second	*Critical Pressure	<b>Unit Has Shutdown</b> To Prevent Damage From Excess Pressure Verify Blockage – Remove Blockage Verify All Filters – Clean/Replace Filters Accordingly See " <a href="#">Filter Service and Replacement</a> " on page 16
	SOLID	Beep Every Hour	Filter(s) Service Life Expired	Replace Filter(s) ASAP And RESET ALERT See " <a href="#">Filter Service and Replacement</a> " on page 16
	SOLID		Filter Alarm Muted <b>L1 Flashing Slowly</b>	Replace Filter(s) ASAP And RESET ALERT <b>Alarm Mute Details On Previous Page</b> See " <a href="#">Filter Service and Replacement</a> " on page 16
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 A Short Period 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 & <b>Shutdown In 5 Seconds</b> Unit Will Continue To Shutdown Unit Until The Issue Is Addressed -Motor(s) Not Operating Due To Service Required Or Failure Service (Change Brushes) Or Replace Motor(s) & RESET ALERT Alert See " <a href="#">Motor Service and Replacement</a> " on page 18 -Motors Not Operating Due To Excess Heat. Check For Line Blockage, Service/Replace Filters. Let Motor(s) Cool For 30Min. See " <a href="#">Filter Service and Replacement</a> " on page 16 -Access Door(s) Open. Close All Access Doors -Filters Not Or Improperly Installed. Verify Filters

**Light Diagnostics Table G16.13 or G17.13 and higher**

Light	Led1 System ON	Led2 Service Motor	Led3 Service Filter	Led4 Filter Clean	Led5 Remote/ Standby	Audible Alert	Condition	Action
System Operation	SOLID					None	Unit is operating using POWER button on panel, no remote signal	Remote or mc2 has a shutdown delay of approximately 5-10 seconds
	Fading						Temporary ON mode	Pressing the POWER button while Led5 is Flashing will temporarily disable any active remote standby. ONLY main motor is operational, to do temporary cleaning using dust collector. To Re-Establish STANDBY turn the unit off using the POWER button.
	SOLID				SOLID	None	Unit is operating using remote signal	
	SOLID				Fading IN-OUT	None	Shutdown delay (Remote signal has been removed)	Remote has a shutdown delay of approximately 5-10 seconds
					Flashing	None	Unit is in Standby mode, waiting for remote signal (or mc2 signal if provided) to start unit	
Low System Pressure	Flashing	Flashing	Flashing		Flashing	Beep Every Second	Abnormally Low Pressure, Unit will BEEP until addressed	Check motor(s), Check motor brushes, verify if filters are installed, close all filter access points, (available only on JS-5222, not on JS-5200)
Service Motors		SOLID				Beep Every 4 Hours	50 hrs of life left in brushes	Replace motors. Reset Motor Life Alert 120v-PN: AR175 or 230v-PN: AR176

Light	Led1 System ON	Led2 Service Motor	Led3 Service Filter	Led4 Filter Clean	Led5 Remote/ Standby	Audible Alert	Condition	Action
Service Filters			Flash- ing			None	Filter Pressure High	Prepare To Replace/Service Filters
			Flash- ing			Beep Every Hour	Filter Pressure Close To Critical	Replace/Ser- vice Filters Now. Continued Oper- ation may Result In Unit Shutdown, (available only on JS-5222, not on JS-5200)
			Flash- ing			Beep Every Second	Critical Pressure, Unit BEEPING CON- STANTLY	Verify Blockage, Verify All Filters (available only on JS-5222, not on JS-5200)
			SOLID			Beep Every Hour	Replace Filter (s) ASAP	Replace Filter (s) ASAP

## Specifications

Electrical	100-120 V, 50/60 Hz, 12 A
Approx. Dimensions (HxWxL)	40x25x14 in (102x64x36 cm)
Shipping Weight	180 lb (82 kg)
Sound Level	50-52 dB(A)



## Replacement Parts

Description	PS316-5331G
HEPA Filter	F057
Filter Bags (6/pak)	AG208-06 *
Blower Turbine Assy 120V	(2) AR175
Blower Turbine Assy 230V	(2) AR176

\* This filter kit is available in packs of 6, 12 and 36 filters per kit, (AG208-06, AG208-12, AG208-36 respectively).

### Remote On-Off Options

Your unit is equipped with a REMOTE PLUG. You have the option of starting-stopping your unit at the panel, or purchase one of the Remote ON-OFF the following accessories:

	<p>Single Station Hand Remote ON-OFF Switch PN: AA375</p>
	<p>Dual- Station Hand Remote ON-OFF Switch PN: AA432</p>
	<p>Single Station, FLAT FOOT-Pedal, ON-OFF Switch PN: AA175</p>

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## 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.

## Disclaimer

**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.**

THE SYSTEM IS DESIGNED TO BE CONSTANTLY POWERED (PLUGGED IN). USE THE ON/OFF ONLY SWITCH TO TURN THE SYSTEM ON and OFF.

ALWAYS SWITCH THE POWER OFF BEFORE UNPLUGGING THE SYSTEM FROM THE MAIN POWER SOURCE OR BEFORE CUTTING POWER TO THE RECEPTACLE. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE SYSTEM THAT IS NOT COVERED UNDER WARRANTY.

QUATRO IS NOT LIABLE FOR MISAPPLIED EQUIPMENT. ALWAYS CHECK SYSTEM VOLTAGE BEFORE PLUGGING INTO POWER SOURCE.

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### WARNINGS:

- 1) 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.
- 2) This filtration system is not intended for use with explosive, highly flammable, or toxic substances or environments. (Example: where the lower flammability limit may be exceeded, see chemicals' specific MSDS for more information on these limits.)
- 3) If you are collecting a flammable material, it is your responsibility to ensure that an ignition source is not introduced into the collected material. This could be in the form of static discharge, flames, sparks, cigarettes, matches, chemicals causing exothermic reactions, or any other source of ignition that could ignite the collected material.
- 4) If you are not sure if your product is explosive or considered highly flammable, you should have it tested before operating your filtration or dust collection system.
- 5) Ensure that the system and the installation comply with all local NFPA and OSHA regulations.
- 6) Always unplug your system when inspecting or performing maintenance.

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### NOTE:

- 1) Any changes to the system will void all warranties.
  - 2) Only original Quatro-approved products should be used for repairs of any kind.
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