

QUATRO

Air Technologies Inc.

Engineers of Clean Air



iVAC

Premium Series Turbine Dust Collectors

iVAC Compact 2.0

iVAC Infinity 2.0, iVAC TWIN 2.0

Operation and Maintenance Manual

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Introduction

Congratulations on your purchase of a QUATRO iVac System, an advanced effective indoor dust collection system designed specifically to remove particulate matter at the source. You can expect a noticeable improvement in air quality as the iVac System begins the process of reducing microscopic airborne particulate.

The iVAC features a FIVE-step AUTOMATIC method of operation:

1. Rear entry knockout chamber forces heavier particles to the tray. The tray beneath the filter can be easily removed and cleaned, without manipulating the filter. This provides a neat and clean debris removal method
2. Main filter captures and holds lighter dust particles
3. AUTOMATIC CLEANING SYSTEM loosens and releases lighter particles captured in the filter to fall down into tray
4. HEPA filter captures and holds fine particles protecting the motor and ensuring a clean output
5. High-pressure blower section overcomes pressure across the hose and filter. UP/DOWN Arrows on control panel allow you to increase and decrease speed in 8-10 increments



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.

Contact Information



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

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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.
- In cases of heavy production (i.e., continuous hours of daily operation), the brushes on the Infinity motors may wear before the one-year warranty is over. Note that is NOT considered a warranty issue. Motor life is a function of hours used and filter maintenance. They are designed to operate 2000-2500 hours and then the motor is to be replaced.
- In some extreme cases, motor life can even be less than 2000 hours; this is usually due to the system being run at high pressure (due to dirty filters) for extended periods of time, which increases operating temperature and decreases brush life.
- **⚠** 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 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.



WARNING: **⚠** 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.

System Contents

All iVAC systems include:

- Operation and Maintenance Manual
- Power Cord
- Appropriate Size Inlet Plate

**2.B Bench Series** units include:

- 6, 12 or 25 ft of 1.5" diameter hose
- 6ft. remote hand-switch

2.C CadCam Series units include:

- 6ft. of appropriate hose
- Auto-Start cable to match milling machine



Installation

1. Open the lower access door at the front of the unit.



2. Remove all accessories from the drawer.
3. Verify that the main filter did not shift in shipping. **DO NOT OPERATE UNIT UNLESS ALL FILTERS ARE IN PLACE.**
4. Install the inlet plate on the inlet opening in back (opening without the grill) using the 4 Phillips head screws, supplied.



5. Connect the hose(s) to the workstations. If using plastic pipe (ABS/PVC), see the proper grounding instructions below. Tees connect directly to the inlets on the iVAC. The hoses slide into the tees.
6.  **VERIFY VOLTAGE BEFORE CONNECTING** and then connect the power cord to the unit and then to the power source.
 -  **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 its 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](#)" on page 10 for more info.

For information about remote operation see "[Controls](#)" on page 10.

Important Notes

- The HEPA filter in this system is **NOT** cleanable. It will need to be removed and disposed of and replaced periodically.
- The Main filter should be replaced after approx 24 months of use.
- See "[Filter Service and Replacement](#)" on page 15 for more info.

Ensuring Proper Grounding of ABS/PVC Fittings and Tubing for a Dust Collection System

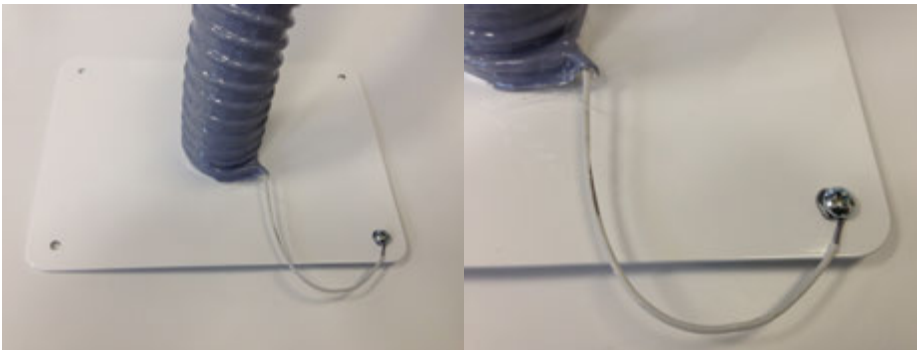
For dust collection systems, galvanized metal pipe and fittings are best, but for most typical applications, fittings and dust collection tubing made of plastic (ABS or PVC) are sufficient, provided they are properly grounded to dissipate static electrical charges. Dust and air in the right proportions 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 iVAC/SmartVAC 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.



Controls

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 remotely control the unit.
- Quatro Air has many power switching adapters available for SAFE and reliable control.

iSeries 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
2. Service Motor(s) LED
3. Service Filters LED
4. Automatic Filter Cleaning LED
5. Remote/Standby LED (L5)

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.

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.


LED Diagnostics Table R17.0 And Higher - iVac

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, L3 Or L4 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 " Filter Service and Replacement " on page 15
	SOLID	Beep Every 15 Min	Motor(s) Service Becoming Urgent	Quick Change Brush Motors ONLY: Replace Brushes ASAP And RESET ALERT See " Motor Service and Replacement " on page 23
	SOLID	Beep Every 5 Min	Motor(s) Service Required IMMEDIATELY	Quick Change Brush Motors ONLY: Replace Brushes IMMEDIATELY And RESET ALERT See " Motor Service and Replacement " on page 23
	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 and Replacement " on page 23
Service Filter (s) LED 3 (L3)	Flashing Slowly		*Filter Pressure High	Try On Demand Filter Cleaning, Prepare To Service/Replace Filters See " Filter Service and Replacement " on page 15
	Flashing Slowly	Beep Every Hour	*Filter Pressure Near Critical. Service Becoming Urgent	Remove & Clean Main (Round) Filter. If Alarm Continues Either The Main (Round) Filter Or The HEPA Filter Need To Be Replaced Continued Operation May Result In Unit Shutdown. High Pressure Causes Excess Motor Heat & Accelerates Brush Wear. See " Filter Service and Replacement " on page 15
	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 and Replacement " on page 15 For More Info
	SOLID	Beep Every Hour	Filter(s) Service Life Expired	Replace Filter(s) ASAP And RESET ALERT See " Filter Service and Replacement " on page 15
	SOLID		Filter Alarm Muted L1 Flashing Slowly	Replace Filter(s) ASAP And RESET ALERT Alarm Mute Details On Previous Page See " Filter Service and Replacement " on page 15



Light (LED)	Status	Audible Alert	Condition	Description/Action
Filter Cleaning System LED 4 (L4)	Flashing Slowly		Online Cleaning Mode	During Operation Unit Will Stop For 15 Seconds To Clean Filter And Then Resume Operation See " Filter Service and Replacement " on page 15
	Flashing Quickly		Filter Being Cleaned	See " Filter Service and Replacement " on page 15
	SOLID		FCS Motor Service Life Expired	See "Filter Service and Replacement" on page 15
	SOLID		FCS Alarm Muted L1 Flashing Slowly	Replace FCS Motor ASAP And RESET ALERT Alarm Mute Details On Previous Page See " Filter Service and Replacement " on page 15
Remote Standby LED 5 (L5)	SOLID		Receiving Remote Signal	Remote Switch Closed (On) OR Receiving Remote Signal From Another Piece Of Equipment OR Mc2 Remote Function (If Equipped)
	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 OR Mc2 Remote Function (If Equipped)
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 and Replacement " on page 23 -Motors Not Operating Due To Excess Heat. See " Filter Service and Replacement " on page 15 -Access Door(s) Open. Close All Access Doors -Filters Not Or Improperly Installed. Verify Filters

** If SYSTEM ON LED is SOLID, but unit NOT operating, Motor Not Operating Due To Service Required Or Failure, See "Motor Service and Replacement" on page 23 For More Motor Info & Reset Alert Instructions .

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 (Automatic) Operation and Remote Status

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.

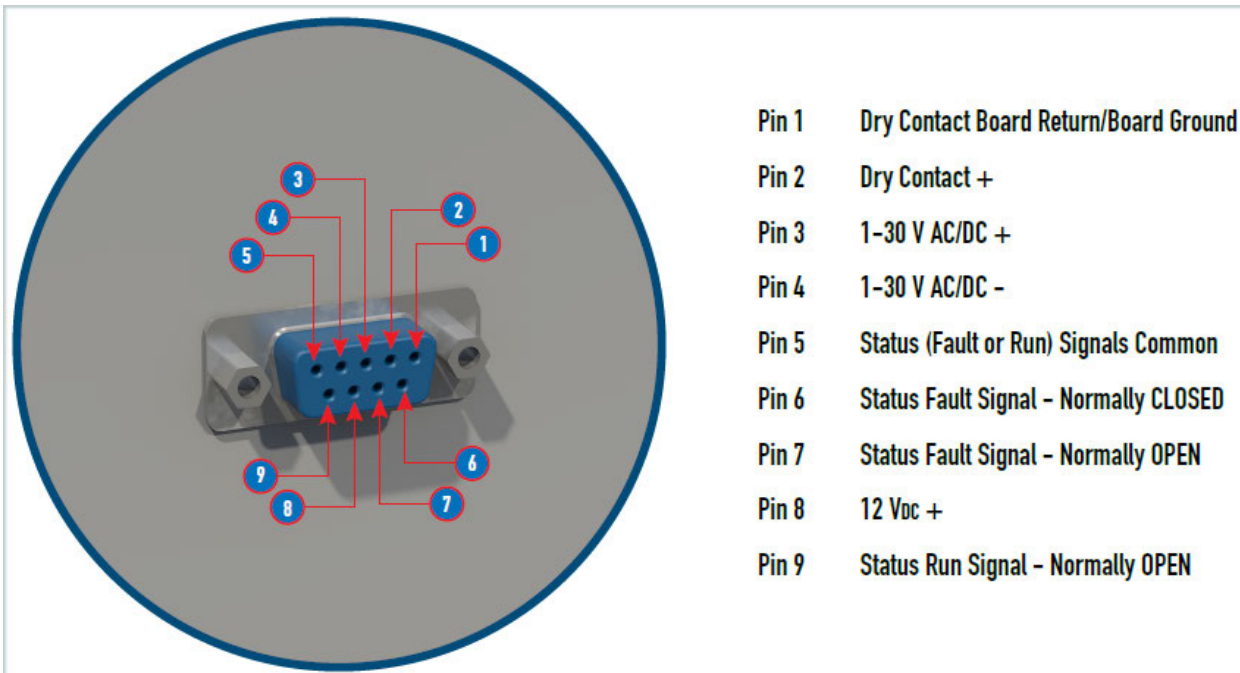
 **Switching power to control the iVac system remotely WILL NOT WORK and can damage the unit.**

Remote Operation, Connection and Enabling

iVACs support remote operation using the DB9 port—the connection is made using the AA375 hand-switch or AA175 Remote Foot-pedal or specific Auto-Start cable connection to milling or dust-producing machine.



DB9 Pin-Out Information



Remote Operation

Foot-pedal and Hand-switch:

- 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.
- 1-30V AC/DC remote option, connect the white and 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 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.

Filter Service and Replacement

Automatic Filter Cleaning System (FCS)

QUATRO has developed the Filter Cleaning System (FCS) which is an automatic filter cleaning system that continuously maintains the main filter to facilitate maintenance. It functions by using a vibration motor to clean the filter, shaking the accumulated debris down into the dust collection tray beneath it. The Filter Cleaning System operates in 1 of 2 automatic modes, OffLine and OnLine Cleaning. Each mode performs cleaning cycles as described below.

One cleaning cycle is a 7-second cleaning followed by a 5-second pause and is indicated by L4 is flashing quickly.

OFFLine Filter Cleaning

If Auto-Cleaning Filter Led is OFF while operating, you are working in OFFLine cleaning mode.

The Filter Cleaning System will automatically perform one cleaning cycle after 45 minutes of accumulated operation time up to a maximum of 2 cleanings ONLY AFTER THE UNIT HAS BEEN SHUT-OFF for a few seconds. The 45 minute frequency is the default setting and can be changed to 15, 30, 60 minutes. See ["Filter Cleaning System \(FCS\) Setting Menu" on page 16](#).

If operating more than 120 minutes at a time or in a heavy dust environment, Quatro recommends using the OnLine cleaning mode.

OnLine Filter Cleaning (Default Setting)

NOTE: Recommended setting for milling or any continuous dust-generating process.

If Auto-Cleaning Filter LED is flashing SLOWLY while operating, you are working in OnLine Filter cleaning mode.

This is an automatic cleaning system, specifically designed for users operating the unit for longer periods of time or for automated process (Ex. Connected to a CAD/CAM Milling Machine). The Filter Cleaning System will automatically stop to clean the filter once every **45 minutes** of operation time. This short pause to clean the filter does not normally cause debris accumulation in the work area. The **45 minute frequency** is the default setting and can be changed to 15, 30, 60 minutes. See ["Filter Cleaning System \(FCS\) Setting Menu" on page 16](#).

On Demand Filter Cleaning

If additional cleaning is required, an On Demand EXTRA CLEANING FEATURE is included.

To initiate, do the following:

1. Unit must be ON Or Operating By Remote Control Or In Remote/Standby.
On Demand Filter Cleaning is not accessible when the unit is OFF or in Temporary ON.
2. PRESS and HOLD POWER button until then unit beeps constantly THEN release POWER button.
(There will be a short pause, followed by a cleaning cycle)
3. Once cleaning cycle is completed, unit will then go back to previous operating mode.

Filter Cleaning System (FCS) Setting Menu

This menu can be accessed to select:

- Frequency of filter cleaning (can set unit to clean filters every 15, 30, 45 or 60 minutes)
- Switching from OnLine Cleaning to OffLine cleaning (or reverse)

To access the FCS Settings menu:

1. Unplug unit's power, then PRESS and HOLD Speed UP arrow, while pressing, plug power back to the unit. (The system will beep once, Service Motor(s) Led will FLASH Quickly), release Speed UP arrow.
2. Press the Speed Down arrow twice, until Auto-Cleaning Filter Led FLASHES Quickly.
3. Press and Hold POWER until it beeps, unit is now in FCS settings menu.
If LEDs are ON SOLID, they indicate the following:
 - L1) System ON LED indicates OnLine Cleaning Mode (OFF indicates OffLine Cleaning).
 - L2) Service Motor(s) LED indicates filter cleaning frequency is set to 15 minutes.
 - L3) Service Filters LED indicates filter cleaning mode is set to 30 minutes.
 - L4) Auto-Cleaning Filter LED indicates filter cleaning mode is set to 45 minutes.
 - L5) Remote/Standby LED indicates filter cleaning mode is set to 60 minutes.
4. You can select any of the above Leds: press UP or DOWN arrow until desired LED is flashing).
5. Press and Hold POWER until it Beeps, your new settings will appear.
6. To select or deselect again, just use UP or DOWN ARROW until desired LED is flashing again.
7. Once again, press and hold POWER until it Beeps, your new settings will appear
8. Do not touch any buttons for 30 seconds, all settings will be saved and unit will then go back to previous condition

LED Diagnostic Table - Service Filter(s) Alerts

If Service Filter(s) alert is flashing SLOWLY the Main filter should be removed and cleaned manually first. If this does not cure the problem then the Main filter and/or the HEPA will need to be replaced.

If Service Filter(s) alert is ON SOLID both the Main filter and the HEPA should be replaced.

Filter and Dust Tray Access

Access to all filters are through the front access door(s) of the **iVac Series**.



Filter & Dust
Tray Access
Door



Filter Access
Door

Debris/Dust Tray
Access Door

iVAC Compact

iVAC 1 and iVAC 2

MAIN FILTER



HEPA Filter

FCS Quick Connect Motor

Main Filter

Dust/Debris Tray



Removing Filters

1. Remove the dust/debris tray.
2. Loosen the plastic wingnuts located below the filter, accessible from dust/debris tray section.



iVAC Compact and iVAC 1:

- Loosen/remove 2 wingnuts
- Remove Main filter from above

iVAC 2:

- Loosen/remove 6 wingnuts
- Remove Main filter from above



REMOVING HEPA FILTER

Filter is located directly above the Main filter
 Unscrew support

iVAC Compact and iVAC 1:

Loosen/remove 2 thumbscrew
 Filter drops out, replace

iVAC 2:

Filter is supported by metal bracket
 Loosen/remove 2 screws using Phillips screwdriver
 Filter drops out, replace

Replacement Filter Part Numbers

Qty	Description	iVAC Compact	iVAC 1	iVAC 2
1	Main (SQUARE) Filter	F311	F301	F315
1	Replacement HEPA Filter	F191S	F191S	F074
1	Rubber Grommets for Min Filter Support (4 Pack)	AR054	AR054	AR054

Dust Tray Removal and Emptying

On all models, after the access door(s) are opened the dust tray can be removed and emptied. On the iV, iVL, iVT and iVTL models the dust tray slides on v tracks and on the iVS and iVSL models the dust tray rest on the floor of the unit.

Main Filter Cleaning and Replacement

The Main filter should be replaced after 24 months of use OR immediately if any tear is found on the pleats or the gasket.

1. Unplug power cord and open filter access door(s).



2. Unplug FCS electrical quick disconnect.



3. Remove the dust tray to expose the wingnuts that secure the Main Filter Hold Down bracket.

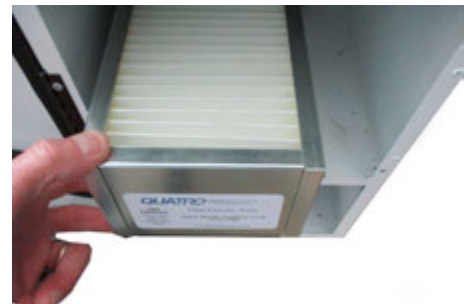


4. Remove the main filter support bracket by removing the wingnuts.



5. Remove and replace the main filter (the main filter can also be removed, cleaned and reinstalled).

On iV and iVT units have ensure the Main filter is up against the filter guides and not sitting on top of them.



6. Re-install the main filter bracket.
7. Re-connect FCS electrical quick disconnect and close motor access door(s).
8. Plug power cord and verify if the Service Filter(s) Alert returns.
 - If the Service Filter(s) Alert is gone after a filter has been CLEANED then no further action is necessary.
 - If the Service Filter(s) Alert is gone after a filter has been REPLACED the Service Filter(s) Alert needs to be reset to maintain proper function of the Service Filter(s) Alert
 - If the Service Filter(s) Alert is flashing SLOWLY go to the ["HEPA Filter Replacement" on page 20](#) instructions.
 - If the Service Filter(s) Alert is ON SOLID the Service Filter(s) Alert needs to be reset.

See ["Resetting Service Filter\(s\) Alert" on page 20](#) for reset instructions.

HEPA Filter Replacement



(For steps 1 through 4, refer to photos in ["Main Filter Cleaning and Replacement" on page 18.](#))



The HEPA filter IS NOT washable. It must be replaced when the Service Filter(s) LED indicates to do so.

1. Unplug power cord and open filter access door(s).
2. Unplug FCS electrical quick disconnect.
3. Remove the dust tray expose the wingnuts that secure the Main Filter Hold Down bracket.
4. Remove the main filter support bracket by removing the wingnuts.
5. Remove the main filter. The HEPA filter will now be accessible.
6. Remove the 2 plastic knobs retaining the HEPA filter in place.
7. Clean off any dust buildup in the area that the gasket of the HEPA will sit.
8. Re-install the HEPA with the 2 plastic knobs.
9. Remove and replace the main filter (the main filter can also be removed, cleaned and reinstalled). On iV and iVT units you must ensure the Main filter is up against the filter guides and not sitting on top of them.
10. Re-install the main filter bracket.
11. Re-connect FCS electrical quick disconnect and close motor access door(s).
12. Plug in power cord and **Reset Service Filter(s)** Alert. The Service Filter(s) Alert needs to be reset EVEN IF L3 IS NO LONGER ON OR flashing maintain proper function of the Service Filter(s) Alert

See ["Resetting Service Filter\(s\) Alert" on page 20](#) for reset instructions.

Resetting Service Filter(s) Alert

1. Ensure filter access door is closed
2. Plug power back to the unit
3. Press and hold SPEED UP and   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 and HOLD POWER button  while **Service Filter(s)** LED is flashing and unit is beeping continuously.
8. Release when LED stops flashing and stops beeping.



Filter Cleaning System (FCS) Motor Replacement

The FCS motor is considered a wear item and has a service life. The FCS motor should be replaced when L4 is ON SOLID. L4 illuminates at the end of the FCS motor predicted service life. The FCS motor may continue to run after L4 has illuminated but it is best to have a replacement on hand.

(For steps 1 through 4, refer to photos in ["Main Filter Cleaning and Replacement" on page 18.](#))

1. Unplug power cord and open filter access door(s).
2. Unplug FCS electrical quick disconnect.
3. Remove the dust tray expose the wingnuts that secure the Main Filter Hold Down bracket.
4. Remove the main filter support bracket by removing the wingnuts.
5. Remove the 7/16 locking nuts holding the FCS motor to the main filter support bracket.
6. Install the new FCS motor to the main filter support bracket using the 7/16 locking nuts.
7. Re-install the main filter bracket using the 2 **NEW** plastic wingnuts provided with the replacement FCS motor.
8. Re-connect FCS electrical quick disconnect and close motor access door(s).
9. Plug in power cord and **Reset FCS Alert**. This MUST be done EVEN IF L4 IS NOT ILLUMINATED or the FCS replacement alert will not function correctly. Follow the instructions below.
 - Ensure filter access door is closed.
 - Plug power back to the unit.
 - Press and hold SPEED UP and DN simultaneously until unit beeps.
 - Hold for 10+ seconds, when panel is beeping continuously, release buttons.
 - You are now in RESET MENU, in this condition, System ON Led is flashing QUICKLY.
 - Press SPEED DN (3 Times) until **Auto-Cleaning Filter** LED is flashing.
 - Press and HOLD POWER button while **Auto-Cleaning Filter** LED is flashing and unit is beeping continuously.
 - Release, when LED stops flashing and stops beeping.

Replacement FCS Part Numbers

Qty	Description	Part	
1	Replacement FCS Motor 120V	AR123-16	
1	Replacement FCS Motor 230V	AR123-26	

Motor Service and 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. See "[LED Diagnostics Table R17.0 And Higher - iVac](#)" on page 11.

Motor Access

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

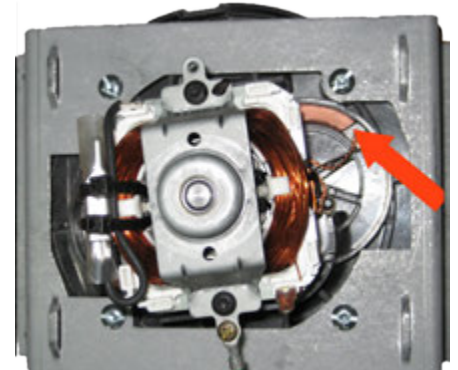
The motor access panel is located on the top of the unit.



Infinity Motors



Brushless Motor

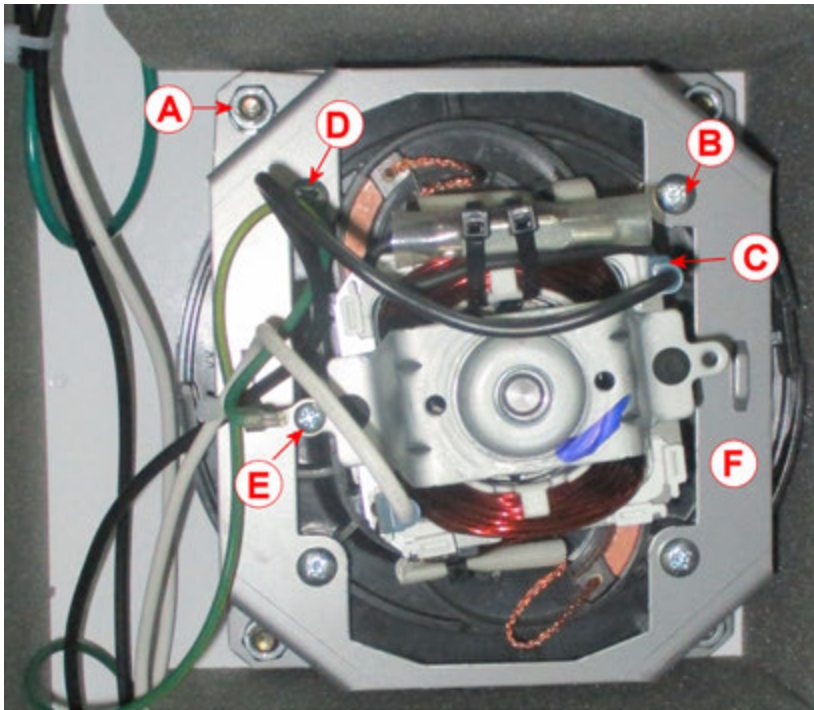


Curved Brushes on Infinity Motors

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

Replacement Instructions

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 MINS 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 washer holding the motor assemblies.
4. Remove the motor retaining bracket (F) from the old motor by removing the 4 mounting screws (B).
⚠️ Note the orientation of the bracket.
5. Install the bracket on the new motor. See the installations pictures below.

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 per Figure 2 in "[Motor Access](#)" on page 23.

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.
 - Ensure filter access door is closed.
 - Plug power back to the unit.
 - Press and hold SPEED UP and   simultaneously until unit BEEPS.

- Hold for 10+ seconds, when panel is beeping continuously, release buttons.
- You are now in RESET MENU, in this condition, “System ON” Led is FLASHING QUICKLY.
- Press SPEED DN  (1 Time) until “**Service Motor(s)**” LED is FLASHING.
- Press and HOLD POWER button  while “**Service Motor(s)**” LED is FLASHING and unit is BEEPING continuously.
- Release, when LED stops FLASHING and stops BEEPING.

Replacement Motors	Part #	Quantity Required iVac Compact & iVac1	Quantity Required iVac 2
120V “Infinity” (iVCL, iV1L, iV2L)*	AR175	1	*2
230V “Infinity” (iVCL, iV1L, iV2L)*	AR176	1	*2
120v Brushless Motor	AB045-16	--	1
230v Brushless Motor	AB045-26	--	1

*ALWAYS Replace Both Motors At The Same Time In An iV2 so the brush wear rates stay in sync.

* In cases of heavy production: (continuous hours of daily operation), the brushes on the INFINITY motors may wear before the 1 year of 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 2000-2500 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.

Troubleshooting

Symptoms	Possible Cause	Suggested Solution
Unit will not start	<ul style="list-style-type: none"> Faulty power supply Circuit breaker tripped Motor/motor brushes past service life 	<ul style="list-style-type: none"> Check breaker box/power connection RESET circuit breaker on unit panel Replace motor
Motor shuts off	<ul style="list-style-type: none"> Motor overheated, tripped on thermal cutout Motor/motor brushes past service life 	<ul style="list-style-type: none"> Switch power off, unplug, wait till motor cools, replace filters/verify blockage. Replace motor
Insufficient airflow	<ul style="list-style-type: none"> Obstruction in system Clogged filter (s) 	<ul style="list-style-type: none"> Remove obstruction Replace filter (s)
Excessive airflow	<ul style="list-style-type: none"> Filter(s) not in place 	<ul style="list-style-type: none"> Install filter(s)
Excessive noise	<ul style="list-style-type: none"> Motor impeller contacting housing Motor bearing failure 	<ul style="list-style-type: none"> Replace motor Replace motor

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

Specifications

Description	iVAC Compact	iVAC 1	iVAC 2
Nominal Airflow	120-130cfm / 204-22m3/hr	120-130cfm / 204-22m3/hr	240-260cfm / 204-22m3/hr
Unit Dimensions (HxWxD)	21.75x9.8x17 (553x248x432)	25x14.4x16.2 (633x366x412)	26x15.9x19.8 (661x404x503)
Voltage/Phase/Frequency, Current	115/1/60, 7 Amps	115/1/60, 7 Amps	115/1/60, 12 Amps
	230/1/50, 4 amps	230/1/50, 4 amps	230/1/50, 8 amps
Approx. Shipping Weight:	41lbs / 19 kg	70lbs / 32 kg	97lbs / 44 kg

* add approximately 4" (108mm) to depth dimension for standard hose and cable

General Replacement Parts

Description	Part	iVAC Compact	iVAC 1	iVAC 2
Power Cord 120v	E500	1	1	1
Power Cord (Euro 230V)	E130	1	1	1
Replacement Black Door Knob Kit (2 pcs)	AR097	1	1	1
Replacement HEPA Filter Support Knob (2/set)	AR034	1	1	n/a
Rubber Grommets for Main Filter Support (4 Pack)	AR045	1	1	2
Rubber Grommets for INFINITY Motor Support (4 Pack) *	AR045	1	1	2
Rubber Grommets for Brushless Motor Support (4 Pack) *	AR045	n/a	n/a	1
External Rubber Feet Under Unit (4/kit)	AR116	1	1	1

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.

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.

NOTES:

- 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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