

Operations & Maintenance Manual

CollectALL MedEVAC MultiPure PowerStation PS2



SHIPPED WITH THE UNIT (LOOSE):

Model	Ships with:
CollectALL	Open Filter Door: PowerCord, air inlet plate, clamps, Remote Hand-Switch
	Outside the unit 12-ft long, 3" diameter hose
MedEVAC Multipure	Open Filter Door: PowerCord, air inlet plate, Remote Hand-Switch, (3) Rubber
	hose cuffs (2 for 1.5" accessory, 1 for 2.5" accessory)
	Outside the unit: 18-ft hose
PowerStation (PS2)	Open Filter Door: PowerCord, air inlet plate, milling Auto-Start Cable
	Outside the unit: 6-ft long hose

INSTALLATION

- 1) Open filter door, remove plastic around HEPA filter (and Odor Filter if applicable)
- 2) Ensure filter bags are properly installed, fit into 2 tubes beneath the top of filter section
- 3) INSTALL CASTERS (WHEELS) IF THIS OPTION WAS PURCHASED (#AA037)
- 4) Plug Power Cordset to a grounded 120-volt wall outlet
- 4) Connect to applicable work-station/milling machine

START-UP

- 1) Press red POWER button on control panel to ensure unit STARTS "System ON" LED illuminates, indicates unit is operating
- 2) Press POWER button again to switch unit OFF
- 3) You are now ready to operate
- 4) Connect remote hand-switch (PN AA375 or foot-pedal (PN AA175) to the remote socket 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)



SAFETY PRECAUTIONS

Carefully read instructions in this manual before operation (keep manual as it contains information for proper operation and maintenance). Keep all fastening hardware tight to ensure that the unit is in safe working condition. Familiarise yourself with the way in which the special filter is removed, installed, and serviced. Filter must be in place whenever this machine is in operation. Use only on grounded electrical circuit; do not use two-wire electrical prong adapters to defeat the three-pronged plug on the end of the cord. When servicing motor, be careful when touching exterior of motor when it is turned off; it may be hot enough to be painful or cause injury. Do not substitute any other filter for the one supplied, as it will alter the design characteristics. UNPLUG UNIT FROM ITS POWER SUPPLY PRIOR TO SERVICING UNIT!

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 build up 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 ductwork, 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.

UNIT INSPECTION

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. Single box, c/w all components required either on or inside the unit:

PRE START-UP CHECKLIST

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

WARNING: DO NOT OPERATE UNIT UNLESS FILTER IS IN PLACE, AS MOTOR MAY BURN-OUT.

Dirty Air Inlet collars are to be installed on the BACK side of unit.

PRINCIPLE OF OPERATION

A four step AUTOMATIC method of operation:

a) Filter bags capture all heavy / larger particles; b) HEPA Filter captures and holds fine, lighter dust particles; c) odor filters (Model dependant) capture applicable odors d) heavy duty blower section to overcome static pressure across the hose and filter. UP/DOWN Arrows on control panel allow you increase and decrease speed in 9 increments.

AUTOMATIC (Remote) OPERATION

When power cord is plugged in and POWER button is pressed, unit will BEEP once, ALL lights will illuminate (unit is operational), unit will start TEMP MODE FEATURE: While unit is in STANDBY MODE (Remote/Standby Led is flashing), Press POWER button to start motor, and press again to shut motor OFF (this overrides the Remote Signal you are receiving from your hand-switch or foot-pedal) Unplugging the power cord will automatically deactivate Remote Sensing Feature.

SYSTEM COMPONENTS

Nominal Airflow	220	Voltage, current	120/1/60, 15 amps
Approximate Dimensions:	26"h x 13"w x 16"d	Approx. Weight:	80lbs

EQUIPMENT MAINTENANCE PROCEDURES

Proper maintenance is critical to extend the life of the filtration system. The information presented below outlines basic maintenance procedures to ensure the unit will provide trouble-free operation for years to come. The unit is designed to allow quick access to the Filter section for easy filter replacement.

FILTER REPLACEMENT

Filter requires replacement if appropriate LED on control panel illuminates (and beeper sounds for 2 seconds every 4 hours). Filter replacement is ALSO required if you notice the following:

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

ANNUAL GENERAL INSPECTION

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. Disconnect the unit by unplugging the power cord from the wall, and access the fan section. Verify that the acoustic insulation is well fastened to the walls. In the event of a problem, call your authorised distributor for spare parts and replace immediately.





Filter Bags (AG259 or AG149 depending on your application) located behind front access door.

Separation grille

Must be placed right below FILTER BAGS, so the filter below the Filter Bags does not clog

Odor Filter (Not Pictured) located below Filter Bags (above HEPA Filter). Part number varies by application. Not required for all applications. (ALWAYS PLACE SEPARATION GRILLE ABOVE ODOR FILTER)

HEPA Filter (F074) located at bottom below the filters, behind front access door.

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

RESETTING MICROPROCESSOR AFTER FILTER(S) HAVE BEEN REPLACED

Resetting Microprocessor After FILTER Replacement , WHILE "Service Filters" Led is SOLID

- 1- Ensure motor access door is closed
- 2- Plug power back to the unit
- 3- When you Press "POWER", MOTOR WILL START, "Service FILTER(s)" Led stays SOLID
- 4- While motor is operating, press & hold SPEED UP & DN simultaneously until unit BEEPS (hold for 10+ seconds, when beeping continuously, release)
- 5- In this condition, "System ON" Led is FLASHING, "Service Filters" led is SOLID
- 6- Press SPEED DN until "Service Filters" Led is FLASHING and system is BEEPING continuously
- 7- Press & HOLD POWER button while "Service Filters" is FLASHING & BEEPING continuously Release, when it stops BEEPING
- 8- Led will be OFF and unit will be ready to operate again

Resetting Microprocessor After Filter Replacement,

WHILE "Service Filters" Led is OFF

- 1- Ensure motor access door is closed
- 2- Plug power back to the unit
- 3- When you Press "POWER", MOTOR WILL START
- 4- While motor is operating, press & hold SPEED UP & DN simultaneously until unit BEEPS (hold for 10+ seconds, when beeping continuously, release)
- 5- In this condition, "System ON" Led is FLASHING
- 6- Press SPEED DN until "Service Filters" Led is FLASHING
- 7- Press & HOLD POWER button while "Service Filters" is FLASHING, Release, when it stops BEEPING
- 8- Led will be OFF and unit will be ready to operate again

BLOWER MAINTENANCE - INFINITY MOTORS, NO BRUSH CHANGE REQUIRED

This unit is equipped with an Automatic Motor Optimization System. Motor is equipped with EXTENDED LENGTH MOTOR BRUSHES. Estimated duration can be up to 2000-4000 hours and is dependent on many factors such as continuous use and motor speed. To avoid downtime "Service Motor(s) Led will illuminate when motor is approximately 90% worn. This allows you the time to purchase new motors, and have them available for when the motors expire. When <u>Automatic Motor and Brush Optimization System</u> estimates motor(s) have been worn to dangerous level, appropriate LED will illuminate.

To optimize and ensure longest motor life, AFTER REPLACEMENT, START motor right away reset the LED as per instructions below, **speed will automatically default to LOW**. Operating the motor at Low speed for 15 minutes will "break-in" the new motor, optimizing and prolonging their life.

WARNING: Switch unit off and unplug power cord from wall before servicing the blower. TURN UNIT UPSIDE DOWN, Access to the motors is through the bottom plate as pictured below.



Motor section from outside



Motor section from inside



Motors close-up, with support





- 1- Using a 1/4" socket, unscrew the 4 bolts holding down the motor.
- 2- Remove the motor WITH motor support bracket from the unit
- 3- Separate motor from motor support bracket by unscrewing 4 screws
- 4- Replace motor with new motor, and re-install as above (see Detailed Replacement instructions below)

Motor support brackets

- (4) screws holding motor to each bracket
- (8) Bolts holding down the 2 motors

ALWAYS REPLACE BOTH MOTORS AT THE SAME TIME OR THE WEAR RATES OF THE BRUSHES WILL NEVER BE IN SYNC.

Detailed Replacement

- 1- Disconnect wires, cut zip ties.
- 2- Remove the retaining nuts & lock washer holding the motor assemblies.
- 3- Remove the motor retaining bracket from the old motor. Note the orientation on the bracket.
- 4- Verify the gasket design (See the beginning of the Motor Service & Replacement Section)
- 5- Install the bracket on the new motor. 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 below 6- Install the assembly back into the unit & connect the wires. Install new zip ties.

On units equipped with iSeries controls reset the Service Motors(s) Alarm by following the instruction below.

BLOWER MAINTENANCE

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

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: The motor access panel is located below the unit..



Motor is accessed from below the unit

Motors installed in this device are rated for approximately 20000 operating hours.



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. 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 above.

- 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

Motor contains double shielded ball bearings with a special lubricant, assuring long life and quiet operation. <u>No extra motor maintenance is required</u>.

RESETTING MICROPROCESSOR CONTROLLER AFTER REPLACING MOTORS

Resetting Microprocessor After Motor Replacement WHILE "Service Motor(s)" Led is SOLID

- 1- Ensure motor access door is closed 2- Plug power back to the unit
- 3- When you Press "POWER", MOTOR WILL START, "Service Motor(s)" Led stays SOLID
- 4- While motor is operating, press & hold SPEED UP & DN simultaneously until unit BEEPS (hold for 10+ seconds, when beeping continuously, release)
- 5- In this condition, "System ON" Led is FLASHING, "Service Motor(s)" led is SOLID
- 6- Press SPEED DN (once) until "Service Motor(s)" Led is FLASHING and system is BEEPING continuously
- 7- Press & HOLD POWER button while "Service Motor(s)" is FLASHING & BEEPING continuously Release, when it stops BEEPING, and motor operates in LOW speed
- 3- Operate unit at LOW SPEED for 10-15 minutes to break-in new brushes (to prolong brush life)

Resetting Microprocessor After Motor Replacement, WHILE "Service Motor(s) Led is OFF

- 1- Ensure motor access door is closed 2- Plug power back to the unit
- 3- When you Press "POWER", MOTOR WILL START
- 4- While motor is operating, press & hold SPEED UP & DN simultaneously until unit BEEPS (hold for 10+ seconds, when beeping continuously, release)
- 5- In this condition, "System ON" Led is FLASHING
- 6- Press SPEED DN (once) until "Service Motor(s)" Led is FLASHING
- 7- Press & HOLD POWER button while "Service Motor(s)" is FLASHING Release, when it stops BEEPING, and motor operates in LOW speed
- 8- Operate unit at LOW SPEED for 10-15 minutes to break-in new brushes (to prolong brush life)

Unplug POWER cord from unit, Replace motor(s) as per instructions above, close motor access door.

MOTOR WILL DEFAULT TO LOWEST SPEED AFTER A RESET. YOU WILL PROLONG MOTOR BRUSH LIFE IF YOU BREAK THEM IN, SO IT IS ADVISED TO LET MOTOR OPERATE AT LOWEST SPEED FOR 15 MINUTES

TROUBLESHOOTING, MECHANICAL GUIDE

Symptoms	Possible Cause	Suggested Solution	
	Faulty power supply	Check breaker box	
Unit will not start	 Circuit breaker popped 	RESET circuit breaker on unit panel	
Unit will not start	Motor burnt	Replace motor (PN: AB001)	
	Brushes worn	Replace Brushes (PN: AB112)	
Excessive noise	Turbine impeller contacting housing	Replace motor (PN: AB001)	
Insufficient airflow	Obstruction in system	Remove obstruction	
insunicient airnow	Clogged filter	Replace filter	
	Input amperage too high	Ensure filter is in place, reset circuit breaker	
Motor shuts off	 Graphite crystal rods are consumed 	Replace rods (PN: AG112, 2/pkg)	
	Motor is burnt	Replace motor (PN: AB001)	
Excessive airflow	Filter not in place	Install filter	



Suction varies from workstation to workstation workstation

• Hose lengths between stations vary

• Adjust damper or blast gate at each station equalizing suction

WARRANTY

QUATRO Air Technologies (QUATRO) 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. 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, as well as operation of the equipment at voltages other than those specified by QUATRO.

REPLACEMENT PARTS LIST

	CollectALL	MedEVAC MultiPure	PowerStation2
Description	CA-	MMP-	PS216-
HEPA Filter	F074	F074	F074
Filter Bags (2/pak)	-	AG259-02	AG259-02
Filter Bags (6/pak)	AG149	AG259-06	AG259-06
Filter Bags (12/pak)	-	AG259-12	AG259-12
Odor Container Refill		NC-GPC	-
Rhodium Odor Refill	NC-BPC	-	-
Solder Fume Odor Refill	NC-GPC		
Rhodium & Solder Fume Odor Refill	F109	-	-
Blower Turbine Assy 120V	(2) AR175	(2) AR175	(2) AR175
Blower Turbine Assy 230V	(2) AR176	(2) AR176	(2) AR176
Brushless Turbine Assy (120v)	(1)AB045-16	(1)AB045-16	(1)AB045-16
Brushless Turbine Assy (230v)	(1)AB045-25	(1)AB045-25	(1)AB045-25



LED Diagnostics Table R18

LED D	มagno	Stics i	able, R18	
Light (LED)	Status	Audible Alert	Condition	Description/Action
System	SOLID		Unit is ON	
LED 1 (L1)	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 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 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	Flashing Slowly		*Filter Pressure High	Prepare To Replace/Service Filters See "Filter Service & Replacement" Section For More Info & Filter Service/Replacement Instructions
(L3)	Flashing Slowly	Beep Every Hour	*Filter Pressure Near Critical, Service Becoming Urgent	Replace Filters. See Filter Service/Replacement For More Info. Continued Operation May Result In Unit Shutdown. High Pressure Causes Excess Motor Heat & Accelerates Brush Wear.
	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	SOLID		Receiving Remote Signal	Remote Switch Closed (On) OR Receiving Remote Signal From Another Piece Of Equipment
LED 5 (L5)	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 & 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 Service (Change Brushes) Or Replace Motor(s) & RESET ALERT Alert See "Motor Service & Replacement" Section For More Motor Info & Reset Alert Instructions -Motors Not Operating Due To Excess Heat. Check For Line Blockage, Service/Replace Filters. Let Motor(s) Cool For 30Min. See "Filter Service & Replacement" Section For More Info & Reset Alert
				Check For Line Blockage, Service/Replace Filters. Let Motor(s) 30Min.



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

			able G16.	13 Of G	7.13 and	nigner		
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
Service Filters			Flashing			None	Filter Pressure High	Prepare To Replace/Service Filters (available only on JS-5222, not on JS-5200)
			Flashing			Beep Every Hour	Filter Pressure Close To Critical	Replace/Service Filters Now. Continued Operation may Result In Unit Shutdown, (available only on JS-5222, not on JS-5200)
			Flashing			Beep Every Second	Critical Pressure, Unit BEEPING CONSTANTLY	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