

*Operations & Maintenance Manual*

**CSA 600 Series**  
**General Manual**

Applicable For Models CSA-625, 626, 6B5, 6B6

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***We Make Clean Air***

## **1.0 INTRODUCTION**

You are now the owner of a **Quatro CSA System**, an advanced effective indoor air purification system designed specifically for the removal of particulate matter and gas phase contaminants.. You can expect a noticeable improvement in air quality as the **CSA** begins the process of reducing microscopic airborne particulate as well as harmful and odorous gases.

## **2.0 SAFETY PRECAUTIONS**

Read all of the instructions contained in this manual before operating this unit. Keep this 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. **Disconnect power prior to accessing unit, when checking or replacing filters, or replacing motor brushes.** All filters must be in place whenever this machine is in operation.

Use only on a grounded electrical circuit; do not use any two-wire electrical prong adapters to defeat the grounded 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. Do not substitute any other filters (particulate or chemical) for those supplied, as this will alter the design characteristics and may void warranty.

**DO NOT ACCESS UNIT UNLESS UNIT IS UNPLUGGED FROM RECEPTACLE (ITS POWER SUPPLY)!**

### **Warning:**

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

## **3.0 PRINCIPLE OF OPERATION**

The **CSA** features a progressive filtration sequence method of operation;

- 1) Captures general particulate;
- 2- Captures fine particulate matter;
- 3- HEPA filter removes microscopic particulate matter;
- 4- Chemically adsorbs, reacts or scrubs toxic or nuisance gases;

## **4.0 SYSTEM COMPONENTS**

**CABINET:** Attractive air-brushed finish. The **CSA** is mounted on casters to ease portability.

**Example of FILTER SEQUENCE:**

Filter #1 Multi layer bag filter (Quatro PN: 5-pack AG-128)

Filter #2 6" pleated cardboard filter (Quatro PN: F073)

Filter #3 99.97% 2" HEPA Filter (Quatro PN: F074)

Filter #4: Custom blend chemical filter module for Rubber stamp applications (Quatro PN AG094)

Application specific filter sequences available (Contact us for more information)

**BLOWER ASSEMBLY:** The blowers are tested to ensure quiet, vibration-free operation. The blower(s) in the **CSA-600 series system** features a mounting system designed to reduce vibration.

**CONTROLS:** Externally visible: ON/OFF switch, externally reset circuit breaker, a potentiometer to adjust airflow as required. Optional Vacuum switch for auto shutoff when pressure becomes too high  
Optional remote on/off capabilities are accomplished through pins #3 & #4 on a Sub D 9 pin connector for 12VDC or 24VDC signals or through pins #1 & #2 for dry contact(Only 1 type of remote control input is supplied) **DO NOT SUBSTITUTE ONE TYPE OF REMOTE FOR ANOTHER. THERE ARE 3 DISTINCT TYPES. IF YOU ARE NOT SURE WHAT TYPE YOUR SYSTEM IS EQUIPPED WITH PLEASE CONTACT FACTORY BEFORE USING THE REMOTE OPTION.**

Optional Unit Status external signal through pins 5 & 6 of standard Sub D9 connector(This option closes the circuit across pins #3 & #4 and cannot send out a voltage)

**AIR SUPPLY:** 1.5", 2.5", 3" or 4" diameter collar, mounted on the side of the unit with heavy duty flexible hose.

**POWER CORD:** 8' long electrical power cord

## **4.1 UNIT SPECIFICATIONS**

<b>Model</b>	<b>CSA-600 series</b>		
Dimensions:	Height: 47"(1194mm)	Length: 25"(635mm)	Width: 16"(406mm)
	(add 2" for bend on power cord)		
Voltage / Current:	Max. 120/1/60 North American 15 Amps, 230/1/50 European 8 Amps		
Approximate Weight:	100 lbs.(46kg) (w/o filters) 160 lbs(73kgs) (with filters)		

## 5.0 UNIT RECEIVING INSTRUCTIONS

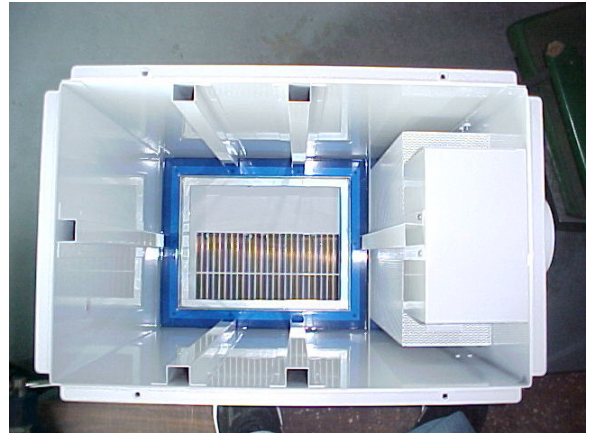
### 5.1 UNIT INSPECTION

Upon receipt, inspect unit for either visible or concealed damage. Damage should be immediately reported to transport company. The **CSA-600** series unit is delivered w/o any filters installed in the system. Remove unit from its box. Shipped inside the box you will find the heavy duty flexible hose.

#### PRE START-UP Filter Installation



Filter access screws



Filter section with Gel

- 1) Ensure that you have received all necessary filters
- 2) Upon removing the unit from its box, ensure the unit is standing on its wheels;
- 3) Ensure that blue gel has remained in track during transport ( If not please contact factory)
- 4) Remove plastic wrapping chemical filter (individually packaged). Use the handles on the chemical filters to lower carefully into the unit.
- 5) Lower the filters into the unit in the following order:
  - a. Chemical Module (AG094/AG099/AG111/AG097)
  - b. HEPA Filter (F074 Or F075) **Gasket Side Face Down**
  - c. Pleated Cardboard Filter (F073)



c) F073 Pleated Filter

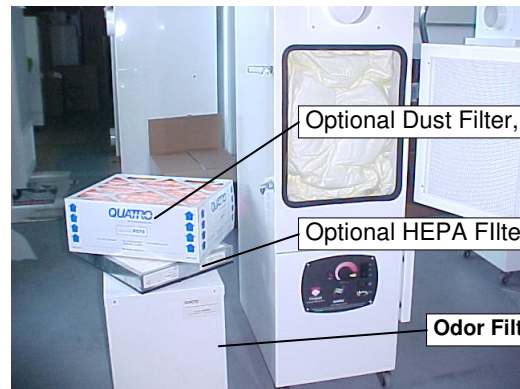
b) F074 Or F075 HEPA Filter

A )AG099/AG094/AG111/AG097  
Chemical Module

- 1) Replace the Top Plate and screw down 4 knobs:
- 2) Plug unit into an appropriate grounded receptacle and turn unit ON
- 3) If unit has an interlock ensure that the switch is in the auto position and that the 12VDC or 24 VDC interlock power is connected across pins #3 & #4 or that a dry contact is connected across pins #1 & #2.



CSA-300 standard control panel



Typical Filter sequence for rubber stamp laser applications

## 6.0 START-UP

- 4) Connect hose from CSA to Laser system
- 5) If using a remote interlock connect appropriate remote signal.
- 6) Ensure that all filters are inside the unit prior to turning it on
- 7) Plug appropriate power into control panel
- 8) Turn on/off/auto switch to the on position or to the auto position when supplying remote signal

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

**SERVICE NOTE:** It is important to change the filters when required to avoid the excess build up of pressure within the unit that will result in diminished airflow and ultimately poorer filtration performance. The pre-filters should be changed on a routine interval. Note that the pre-filter bag is not designed to be completely filled as this is a high pressure system. If bag is filled then the pressure of the fan could rupture and rip apart the bag releasing all the dust that has been captured.

## 7.0 BLOWER MAINTENANCE PROCEDURES

**DISREGARD THIS SECTION IF YOUR SYSTEM IS EQUIPPED WITH A BRUSHLESS BLOWER.**

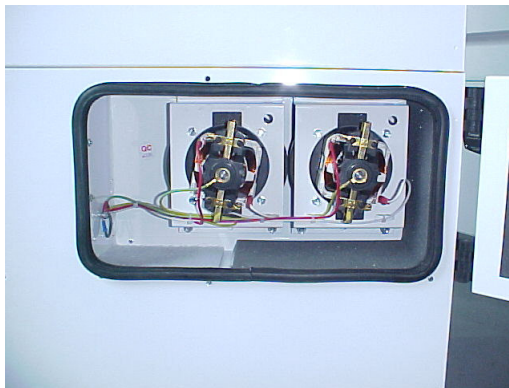
**DISCONNECT POWER PRIOR TO ACCESSING TOP LID OR MOTOR SECTION BELOW**

To access blower section, do the following:

- 1) Switch unit off and unplug power cord before servicing the blower;
- 2) With a Philips screwdriver remove the motor service door access screws.
- 3) You should now see the 2 blowers



Blower access



View of blowers once control panel removed

## **YOU DO NOT HAVE TO REMOVE TURBINE FROM UNIT TO CHANGE BRUSHES! BRUSH REPLACEMENT**

**SERVICE NOTE:** Please note that your system is equipped with carbon brushes and they need to be replaced at a maximum of 500 hours of operation. Periodic Inspection of motor brushes is essential. Brushes should be changed at no less than 1/2" of brush material remaining. Failure to do so may result in damaged motors that will not be covered under warranty.

**The brushes on the CSA system can be changed in less than 5 minutes with the use of a screwdriver**



The replacement brush and pad kit is conveniently placed in a pocket built into the motor access door.

### **BLOWER MAINTENANCE, CHANGING BRUSHES**

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

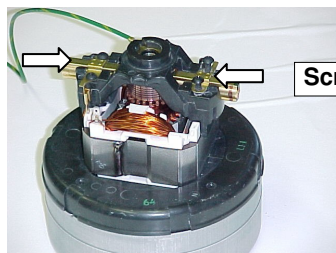


Figure 1

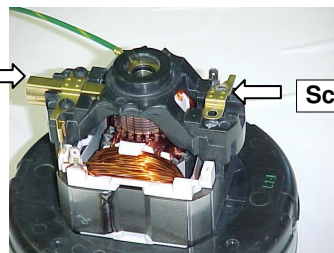


Figure 2

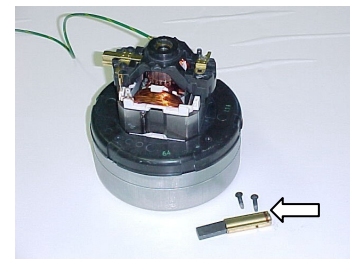
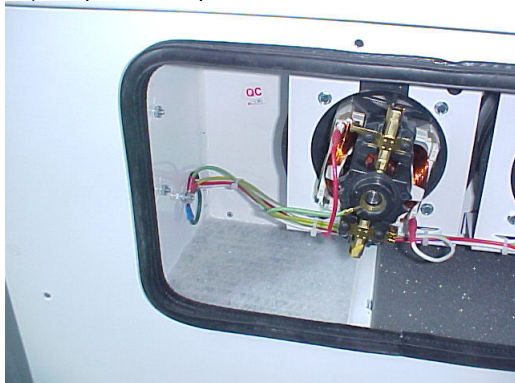


Figure 3

- 1) Using a phillips screwdriver,loosen the 2 screws holding down each of 2 gold colored brush casings (see Figure 1)
- 9) Lift gold colored tab and lift/pull out each brush (**Figure 3 shows right brush removed**)
- 10) Replace each brush onto turbine motor, screwing down the phillips screws over tab.
- 11) Replace dust pad located to the left of the motors (this should be done every time the brushes are changed)



## 7.2 INDIVIDUAL MOTOR REPLACEMENT

CONTACT FACTORY FOR BRUSHLESS BLOWER REPLACEMENT PROCEDURE.

- 1) **Switch unit off and unplug power cord before servicing the blower**
- 2) Follow instructions 7.0 to access blowers.
- 3) Remove wire tie downs.
- 4) Disconnect all wires in the motor section taking note where they went.
- 5) Remove the 4 nuts holding the motor assembly in.
- 6) Remove the 4 screws holding the motor to the bracket
- 7) Installation is the reverse of removal.

## 8.0 FILTER REPLACEMENT PROCEDURE

- 1) **DISCONNECT POWER BEFORE ACCESSING TOP PLATE.**



Bag Filter AG128 is accessed and changed from the side door

All other filters are accessed and changed by removing the top lid



- 1) Remove top plate and pull filters out of the unit;
- 2) Disposal of both odor and particulate filters is the responsibility of the enduser. Please contact local authorities for proper and legal disposal of spent filters.
- 3) Filters are placed into the unit in the sequence that follows:

This Filter is accessed through side door

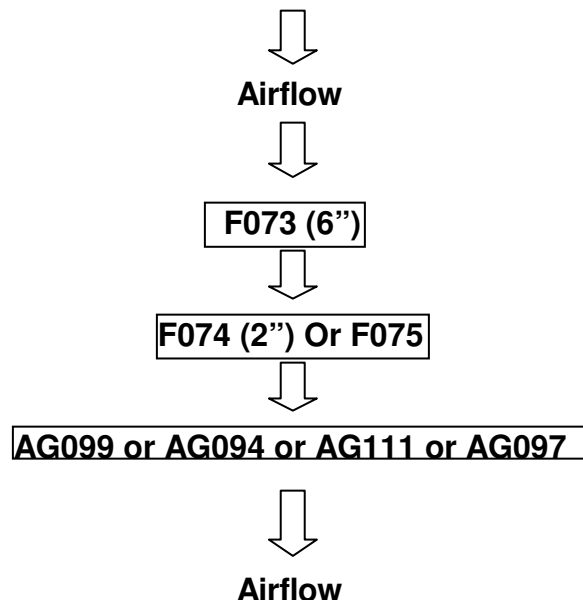
**Filter #1: Pre-Filter BAG (Quatro #AG128)**

These Filters are accessed through top lid

**Filter #2: Pleated filter**

**Filter #3: 99.97% HEPA**

**Filter #4: Chemical Filter**



See Section 13 For Replacement Filter Part Numbers.

## **10.0 ANNUAL GENERAL INSPECTION**

The sealing integrity of the **CSA-600** series is essential for proper operation. Every 12 months ( and/or during a filter change-out), verify proper installation of the following:

- 1) Verify sealing integrity of the chemical module filter at bottom of filter section (Gasket PN: H296 or Blue Gel)
- 2) Verify that the blue gel is in tact and providing a good filter seal
- 3) gasket under top cover plate (Gasket PN: H431).
- 4) Verify and/or change the blower carbon brushes if applicable.

## **11.0 OPERATION**

The air is drawn into the unit through the intake hose located at the side of the unit. The air then passes through the various stages of particulate and odor/gas filtration. Powered by a motor/blower assembly, the clean air is then released through the bottom discharge grille into the floor of the room.

### **11.1 POSITIONING OF UNIT**

**CSA-600** series should be placed as close as possible to debris generating machine with the heavy duty flexible hose.

### **11.2 REDUCTION IN AIRFLOW**

As the unit cleans the air, the filters are removing the particles of dust and debris in the air stream. As the filters accumulate debris (both visible and microscopic), a restriction on the blower/motor is created. As the restriction becomes greater, the air capacity delivered by the blower decreases rendering the unit less effective.

**SERVICE NOTE:** IT IS VERY IMPORTANT TO CHANGE FILTERS ON A REGULAR BASIS TO PREVENT DAMAGE TO THE BLOWERS

### **11.3 TROUBLESHOOTING GUIDE**

Symptoms	Possible Cause	Suggested Solution
Unit will not start	<ul style="list-style-type: none"> <li>o Faulty Power supply</li> <li>o Carbon brushes are consumed</li> <li>o Faulty Remote Signal</li> <li>o Tripped Circuit Breaker (On Control Panel)</li> <li>o Unit not plugged into receptacle</li> </ul>	<ul style="list-style-type: none"> <li>o Check power supply</li> <li>o Change carbon brushes</li> <li>o Check Remote Signal</li> <li>o Find Cause Of Excessive Amperage And Reset Breaker</li> <li>o Plug unit in</li> </ul>
Excessive noise	<ul style="list-style-type: none"> <li>o Blower wheel out of alignment</li> </ul>	<ul style="list-style-type: none"> <li>o Replace blower</li> </ul>
High Amp Draw	<ul style="list-style-type: none"> <li>o Lack of restriction</li> </ul>	<ul style="list-style-type: none"> <li>o Ensure hose is attached from CSA equipment</li> <li>o Ensure filters are installed properly</li> <li>o Supply only Quatro replacement filters</li> </ul>
Insufficient airflow	<ul style="list-style-type: none"> <li>o Obstruction in system</li> <li>o Clogged filters</li> </ul>	<ul style="list-style-type: none"> <li>o Remove obstruction</li> <li>o Replace filters</li> </ul>
Excessive airflow	<ul style="list-style-type: none"> <li>o Filters not in place</li> </ul>	<ul style="list-style-type: none"> <li>o Install filters</li> </ul>
Odor breaking through system	<ul style="list-style-type: none"> <li>o Chemical filter not sitting in blue gel</li> <li>o Chemical filters are consumed</li> </ul>	<ul style="list-style-type: none"> <li>o Realign module so that the bottom is sealed in the gel</li> <li>o Replace chemical media Filters not in place</li> </ul>
Blue Gel is damaged	<ul style="list-style-type: none"> <li>o Removing/Installing the chemical module excessively</li> </ul>	<ul style="list-style-type: none"> <li>o Scrape gel out of track and replace with new gel</li> </ul>

## **12.0 WARRANTY**

QUATRO Air Technologies warrants its equipment to be free from defect in material and workmanship under normal use and service for a period of two years from date of shipment. QUATRO's obligation under this warranty shall be limited to replacing any parts, thereof, which shall be demonstrated to have been defective. This is expressly in lieu of all other warranties, express or implied, including the warranties of merchantability and fitness.

QUATRO claims no warranty as to merchantability or as to the fitness of the merchandise for any particular use and shall not be liable for any loss or damage. No person, firm or corporation is authorized to assume for QUATRO any other liability in connection with the sale of these goods. Equipment, parts and material manufactured by others and incorporated in QUATRO's equipment are warranted by QUATRO only to the extent of the original manufacturer's liability to QUATRO Air Technologies Inc.

Conditions and Limitations:

**This warranty does not cover** abuse, misuse, maintenance negligence, improper assembly, acts of vandalism, acts of God, fear wear, modifications of the equipment or installation of a part not recommended by QUATRO Air Technologies, as well as operation of the equipment at voltages other than those specified by QUATRO Air Technologies Inc.

**CSA-600 Series-----** *We Make Clean Air*

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ALWAYS CONTACT QUATRO BEFORE ARRANGING ANY RETURN OR REPAIR OF YOUR EQUIPMENT THROUGH YOUR SUPPLIER. OUR TECNICIANS ARE VERY WELL VERSED IN OUR EQUIPMENTS OPERATION AND ARE WELL QUALIFIED TO DEAL WITH ANY SITUATION THAT MAY ARISE.

### 13.0 SPARE PARTS

#### Replacement Filters :

Qty/box	Description	Quatro P/N:
5	Filter #1 high capacity pre-filter bags	AG128
2	Filter #2 – 6" pleated disposable Filter	F073
1	Filter #3 –2" HEPA Filter	F074
1	Filter #3 – 6" HEPA Filter (Alternate)	F075
1	Filter #4 – General purpose Chemical Filter	AG111
1	Filter #4 – CTP Chemical Filter	AG099
1	Filter #4 – Rubber Stamp Chemical Filter	AG094
1	Filter #4 – General purpose Chemical Filter (Alternate)	AG097
1	Gel Repair/Replacement Kit For Repair Use 1 kit and for replacement use 2	AR020

#### Minor Components

Qty/unit	Description	Quatro P/N:
1	Toggle Switch On/Off	E110
1	Toggle Switch On/Off/Auto	E035
4	Blower plate Isolators	H307
1	Brush & Pad Replacement Kit	AB024
1 roll	Filter Gasket	H296/37ft
1 roll	Filter Access Plate Gasket	H006/50ft

#### Major Components

Qty/unit	Description	Quatro P/N:
2	Brush Type Motor 120V	AB001
2	Brush Type Motor 230V	AB002
1	Brushless Blower 120V	AB040-16
1	Brushless Blower 230V	AB040-25
1	Control Panel	Contact Quatro

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

Please ensure that you have your **equipment serial number** available when calling (located along bottom edge of unit).