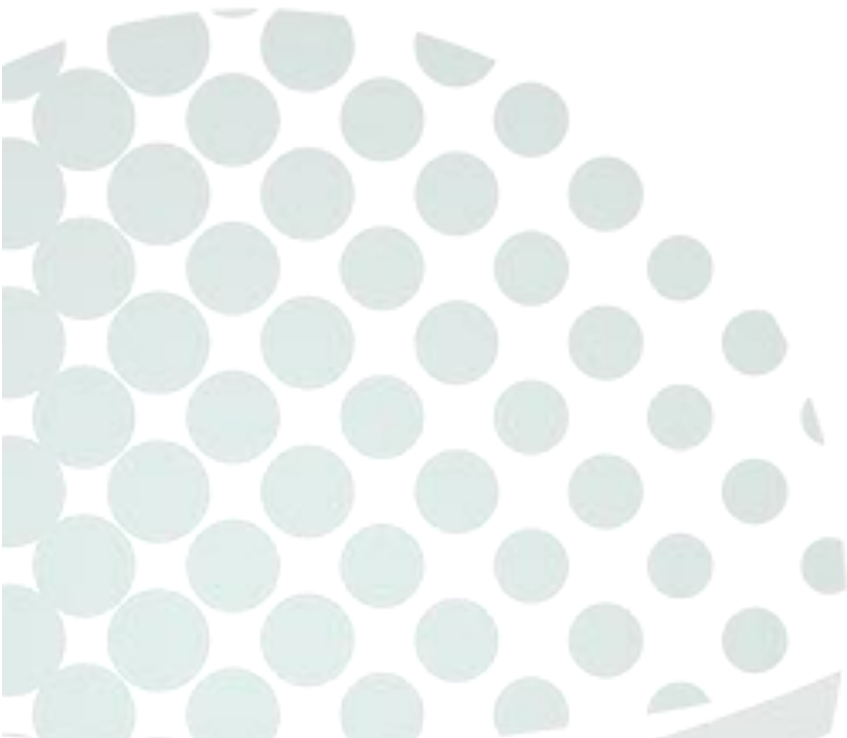


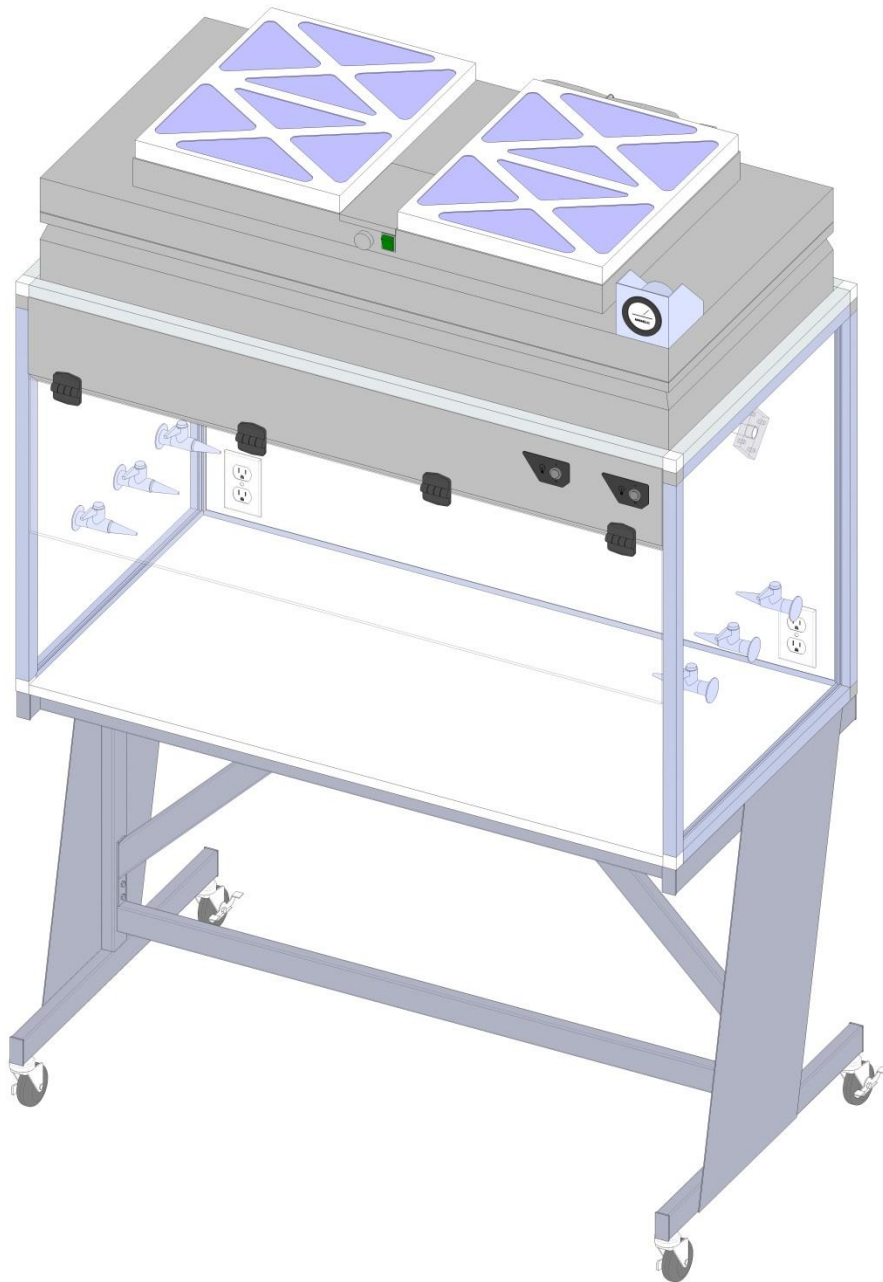


# CLEAN AIR WORKSTATION – REVERSE FLOW

Installation and Operations Manual



**DFMZ**  
DESIGN FILTRATION MICROZONE



## MODELS COVERED

|       |       |
|-------|-------|
| CAW2R | CAW5R |
| CAW3R | CAW6R |
| CAW4R | CAW8R |

## TABLE OF CONTENTS

|                                       |    |
|---------------------------------------|----|
| MODELS COVERED .....                  | 2  |
| 1. SHIPPING AND UN-CRATING .....      | 3  |
| 2. HOW CAWs WORK .....                | 4  |
| 3. ASSEMBLY .....                     | 5  |
| 4. SPEED CONTROL .....                | 6  |
| 5. DUPLEX OUTLET .....                | 6  |
| 6. HEPA FILTER .....                  | 7  |
| 7. ULPA FILTER.....                   | 7  |
| 8. CHANGING HEPA / ULPA FILTERS ..... | 8  |
| 9. CLEANABLE PRE-FILTERS .....        | 8  |
| 10. MOTOR / ELECTRICAL.....           | 8  |
| 11. MAINTENANCE.....                  | 9  |
| 12. ELECTRICAL REQUIREMENTS.....      | 9  |
| 13. DIMENSIONS .....                  | 9  |
| 14. REPLACEMENT PARTS .....           | 10 |
| 15. TROUBLESHOOTING.....              | 10 |
| 16. WARRANTY .....                    | 11 |

Thank you for purchasing our Clean Air Workstation (CAW), with proper care and maintenance your CAW will provide you with many years of trouble free performance. Please read instructions carefully before installing and operating your Clean Air Workstation.

**WARNING: TO REDUCE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS PLEASE REVIEW THE FOLLOWING PRECAUTIONS.**

- Do not expose your Clean Air Workstation to rain or moisture.
- Always disconnect the Clean Air Workstation from power supply when servicing, moving parts may cause serious injury.
- Always disconnect while grasping the plug, not the cord.
- Do not expose Clean Air Workstation to gaseous or explosive vapors. Motors normally spark and may ignite fumes.
- Do not block airflow to top or back of unit, allow at least 4" above unit (4" behind unit for Horizontal flow workstations).
- Do not modify the plug of your hood if it will not fit in your duplex outlet. Have a proper outlet installed by a qualified electrician.
- Use only specified replacement parts recommended by Design Filtration Microzone.
- Use this equipment only in the manner intended by Design Filtration Microzone.

**WARNING:** CAW-R workstation provides an inward flow of room air and offers excellent protection from your samples or processes. CAW-R provides protection to the operator and not your processes located within the workstation.

---

## 1. SHIPPING AND UN-CRATING

Design Filtration Microzone assembles and factory tests each unit prior to shipping. On occasion, damage can occur during the transportation of your new Clean Air Workstation. You should inspect your unit for damage that may have been caused and report it immediately to your transportation company.

The Clean Air Workstation is shipped to your facility strapped onto a skid. Remove the protective plastic and/or cardboard from the exterior of the unit, and carefully cut the nylon strapping with a sharp knife or scissors. Remove all pieces from the skid and place near installation area.

All shipments are F.O.B. Design Filtration Microzone. All claims for damage due to shipping should be filed with the carrier. Design Filtration Microzone and its dealers are not responsible for shipping damages.

Your Clean Air Workstation has been factory tested and set for appropriate airflows, however all HEPA filtered equipment should be certified by a qualified technician prior to use.

## 2. HOW CAWs WORK

The CAW-R workstation draws ambient air in through the pre-filter, which captures the larger dust and dirt. The motorized impeller then directs the air through a HEPA filter providing the exhaust with ultra clean air. See Figure 2.1. All CAW-R workstations feature the Design-Aire Fan Filter Unit to provide HEPA filtered exhaust conditions.

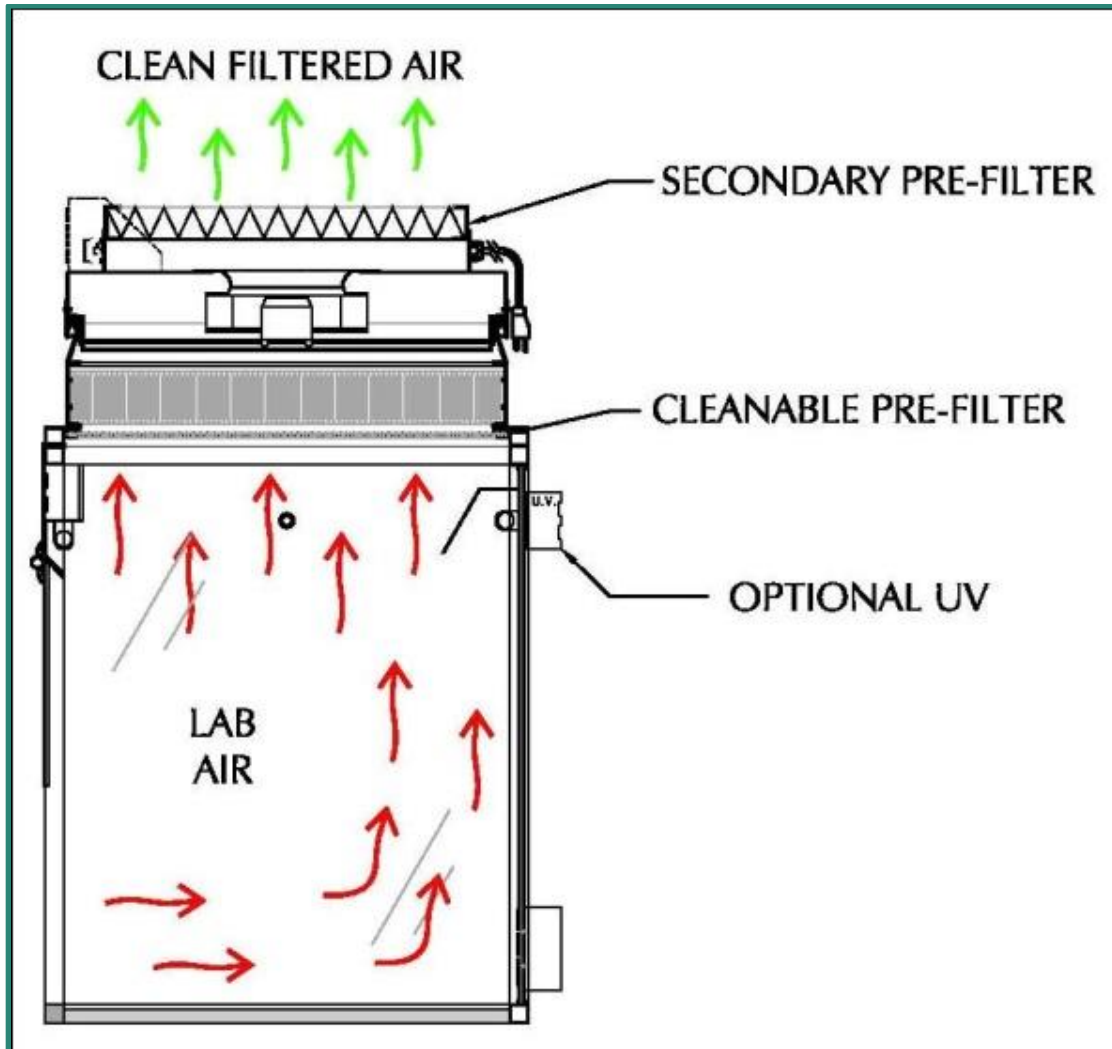


Figure 2.1

### 3. ASSEMBLY

CAW-R units are available with many optional accessories; the following assembly instructions are general and may not necessarily apply to your workstation. See Figure 3.1.

- After removing CAW-R from its shipping material, place work zone onto the painted steel base frame. Using supplied 5/8" screws join the base to the work zone.
- Carefully place the Design-Aire unit onto the top of the work zone setting it into the aluminum frame under the cleanable pre-filter.
- Your CAW-R is equipped with a fluorescent light fixture, it should be plugged into the duplex located on the housing of the Design-Aire unit see Figure 5.1.
- Carefully move your workstation to its desired location and plug the Design-Aire unit into a standard 115 volt receptacle.
- Your Design-Aire located on the CAW-R unit has been factory set to provide you with the appropriate airflow, however, all workstations should be certified by a qualified technician prior to use.

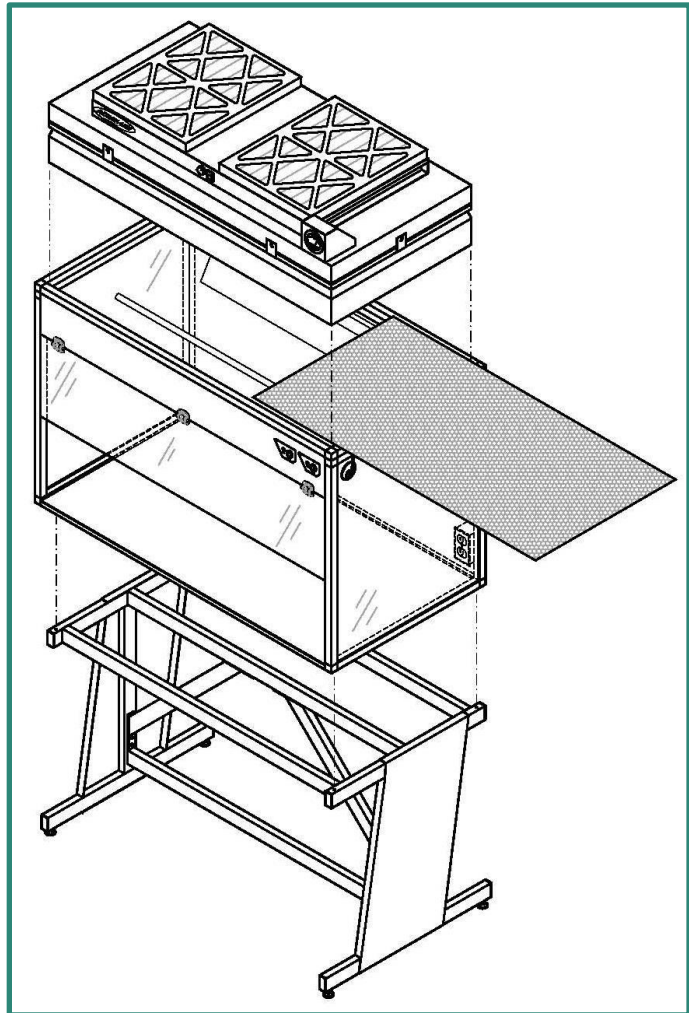


Figure 3.1

#### 4. SPEED CONTROL

Clean air is provided by Design-Aire which comes equipped with a standard variable speed control that enables airflow adjustments within the recommended airflow range. The variable speed control knob is located on the side of the pre-filter housing, next to the duplex outlet. Adjustment of the speed control should only be completed by a certified technician. See Figure 4.1.

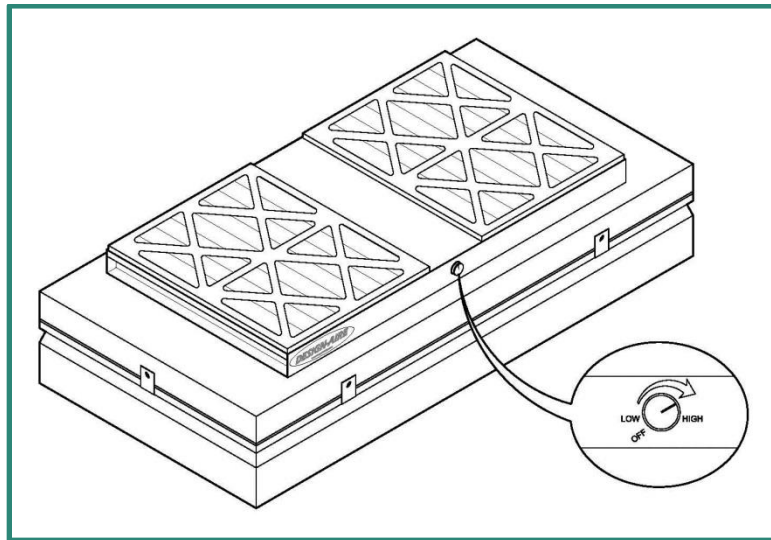


Figure 4.1

#### 5. DUPLEX OUTLET

Your CAW-R unit comes complete with a duplex outlet located on the pre-filter housing. See Figure 5.1. The duplex can be used for additional power requirements that do not exceed 10-amps.

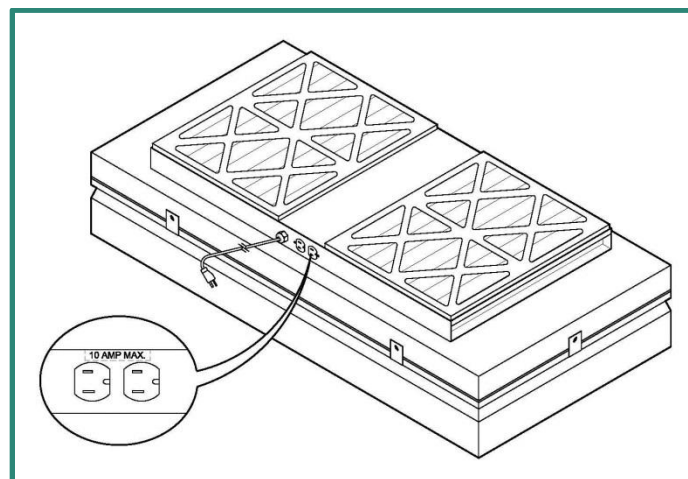
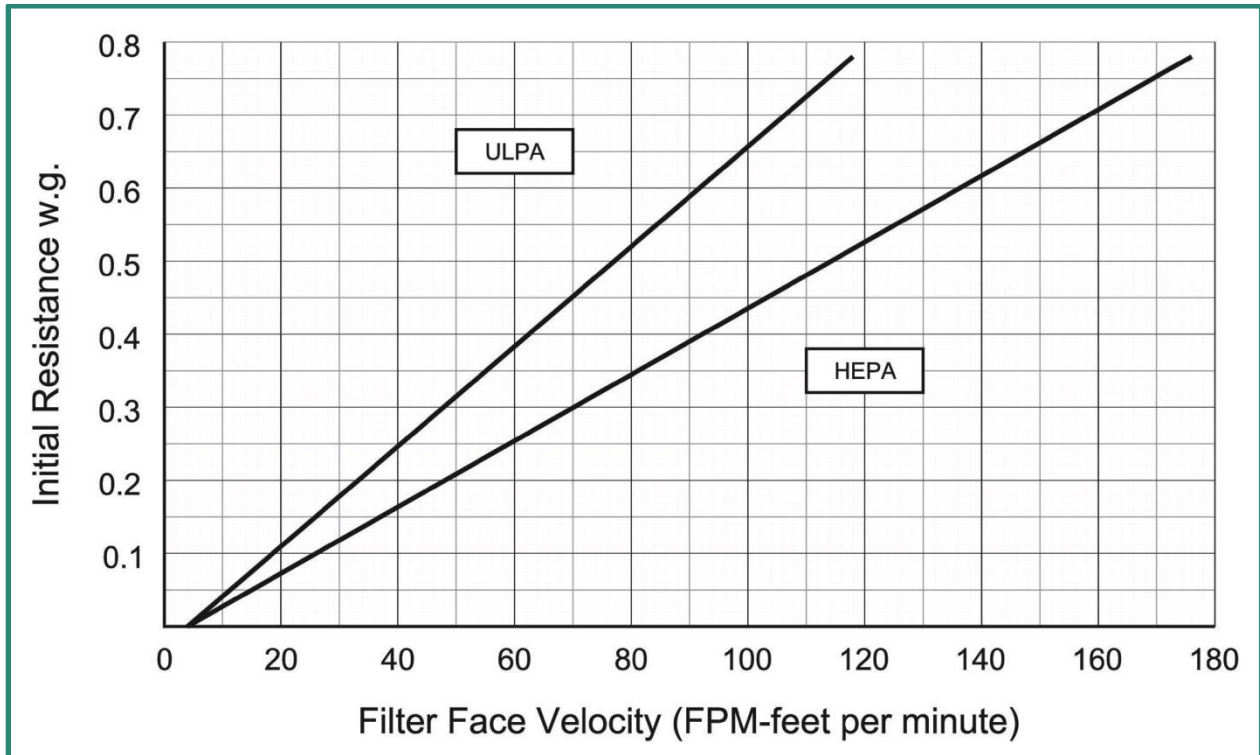


Figure 5.1



## 6. HEPA FILTER

The HEPA filter features a 5.88” deep anodized aluminum frame with a protective painted screen located on the filter face. The mini-pleat wet laid glass media is set into the frame with a urethane seal. Efficiency is 99.99% at 0.3-micron particle size and larger. HEPA filters cannot be cleaned and must be replaced when necessary.



## 7. ULPA FILTER

The optional ULPA filter is rated 99.9995% at 0.12-micron particle size and larger. Other features as per HEPA filter. ULPA filters cannot be cleaned and must be replaced when necessary.

All HEPA/ULPA filters are factory tested prior to shipping. It is recommended that your workstation be tested for leaks by a certified technician prior to use, and at least once per year thereafter.



## 8. CHANGING HEPA / ULPA FILTERS

Disconnect Design-Aire from power source prior to servicing your unit. Remove your Design-Aire form the CAW-R workstation. Remove the #8-32 Philips tooth lock screws from the catches holding the plenum to the HEPA filter. These screws are located on the lower edge of the plenum housing and catch along the upper edge of the HEPA filter. Once the screws and catches are removed, simply lift the plenum housing from the HEPA filter.

Remove your new filter from the container and visually inspect it for signs of damage. Carefully line up the plenum housing with the new HEPA filter and re-attach the catches and screws. See Figure 7.1.

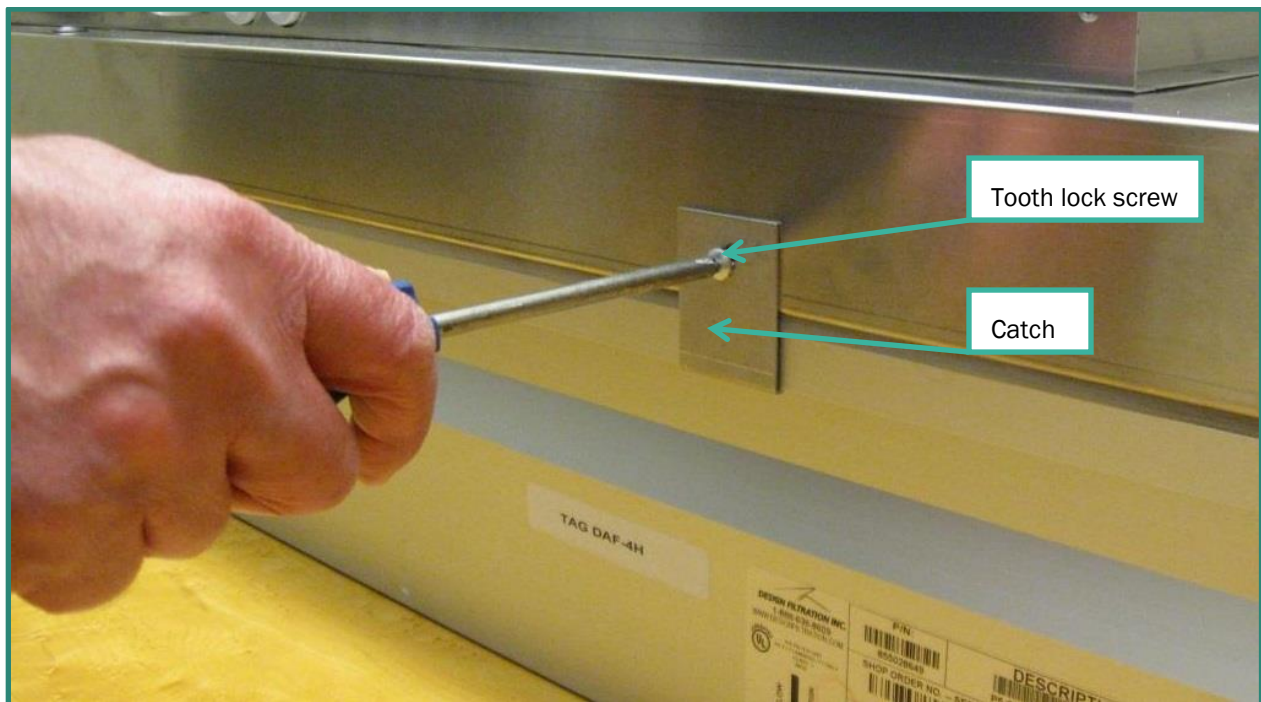


Figure 8.1

## 9. CLEANABLE PRE-FILTERS

Your CAW-R comes complete with a cleanable pre-filter located prior to the HEPA filter. This should be monitored to determine an appropriate cleaning schedule based on your room conditions. The cleanable pre-filter can be vacuumed to remove particulates from the surface.

## 10. MOTOR / ELECTRICAL

CAW-R uses an energy efficient backward curved impeller to provide excellent airflow distribution, quieter noise levels and low heat loads.

## 11. MAINTENANCE

Your new CAW-R workstation comes complete with a cleanable pre-filter. The pre-filter should be inspected once a month, or as room conditions dictate. The pre-filter should be cleaned as necessary.

The HEPA filter should be checked yearly, or as necessary by a local testing agency to ensure proper performance. For replacement of the HEPA filter please see Figure 7.1.

## 12. ELECTRICAL REQUIREMENTS

| Model | Motor / Blower              | Light Fixture              |
|-------|-----------------------------|----------------------------|
| CAW2R | 115-volts, 1.08 amps, 60 Hz | 115-volts, 0.23 amps, 60Hz |
| CAW3R | 115-volts, 2.16 amps, 60 Hz | 115-volts, 0.27 amps, 60Hz |
| CAW4R | 115-volts, 2.16 amps, 60 Hz | 115-volts, 0.27 amps, 60Hz |
| CAW5R | 115-volts, 3.24 amps, 60 Hz | 115-volts, 0.27 amps, 60Hz |
| CAW6R | 115-volts, 4.32 amps, 60 Hz | 115-volts, 0.27 amps, 60Hz |
| CAW8R | 115-volts, 4.32 amps, 60 Hz | 115-volts, 0.54 amps, 60Hz |

## 13. DIMENSIONS

| Model | External Dimensions – W x D x H        | Work Zone – W x D x H                 |
|-------|--|---------------------------------------|
| CAW2R | 26" x 28" x 47¼" (660 x 712 x 1067mm)  | 24" x 25" x 30¼" (610 x 635 x 768mm)  |
| CAW3R | 38" x 28" x 47¼" (965 x 712 x 1067mm)  | 36" x 25" x 30¼" (914 x 635 x 768mm)  |
| CAW4R | 50" x 28" x 47¼" (1270 x 712 x 1067mm) | 48" x 25" x 30¼" (1219 x 635 x 768mm) |
| CAW5R | 62" x 28" x 47¼" (1575 x 712 x 1067mm) | 60" x 25" x 30¼" (1524 x 635 x 768mm) |
| CAW6R | 75" x 28" x 47¼" (1905 x 712 x 1067mm) | 73" x 25" x 30¼" (1854 x 635 x 768mm) |
| CAW8R | 99" x 28" x 47¼" (2515 x 712 x 1067mm) | 97" x 25" x 30¼" (2464 x 635 x 768mm) |

\* External depth will increase 2" with the addition of a duplex electrical outlet at the back panel.

## 14. REPLACEMENT PARTS

| Part  | Order Number |
|---|--------------|
| 24" x 24" x 5.88" HEPA filter – 99.99% at 0.3 microns       | 10HE0520     |
| 24" x 36" x 5.88" HEPA filter – 99.99% at 0.3 microns       | 10HE0522     |
| 24" x 48" x 5.88" HEPA filter – 99.99% at 0.3 microns       | 10HE0524     |
| 24" x 24" x 5.88" ULPA filter – 99.9995% at 0.12 microns    | 10HE0521     |
| 24" x 36" x 5.88" ULPA filter – 99.9995% at 0.12 microns    | 10HE0523     |
| 24" x 48" x 5.88" ULPA filter – 99.9995% at 0.12 microns    | 10HE0525     |
| Disposable pleated pre-filter nominal 15.5" x 19.5" x 1.75" | 10PR0110     |
| 115-volt motorized impeller                                 | 17MI0006     |
| Speed controller – 115-volt                                 | 17SW0052     |
| 8mf capacitor for 115-volt motor                            | 17MI0006     |
| Blue switch for fluorescent light fixture – 120-volt        | 17SW0058     |
| Green switch for motor/blower – 120-volt                    | 17SW0059     |
| 24" x 24" washable pre-filter                               | 10FW0103     |
| 24" x 36" washable pre-filter                               | 10FW0105     |
| 24" x 48" washable pre-filter                               | 10FW0106     |

## 15. TROUBLESHOOTING

|  |   |  |
|--|---|--|
| <b>CAW-R unit does not start</b>                 | <b>Electrical power cord may not be plugged in or connection may be loose</b>               | <b>Make sure plug fits tightly into Power entry module or duplex outlet</b>  |
|  | Fuse blown, circuit breaker tripped, power outage has occurred                              | Reset breaker or replace fuse. Do not increase fuse capacity. If circuit is overloaded contact qualified electrician. Call local electric company for power outage |
|  | Motor is overheated. motor will stop if overheated  | Motor will automatically restart after cool down period  |
|  | Variable speed control is in low position   | See page 5 for operation of variable speed control   |
| <b>Low airflow from upstream side of HEPA</b>    | On/Off switch is in off position  | Turn on/off switch to on position  |
|  | Pre-filters are dirty   | Clean pre-filters and re-test airflows.  |
|  | HEPA filter is loaded.  | Have qualified technician change HEPA filter and re-test airflows. See page 6  |
|  | Variable speed control is turned down   | Adjust variable speed control to increase airflow output. Re-test airflow  |
| <b>High airflow from downstream side of HEPA</b> | Power supply is not at proper voltage. Low voltage will affect operation of Fan Filter Unit | Have qualified electrician determine proper voltage input at source.   |
|  | Variable speed control is too high  | Adjust variable speed control to decrease airflow output. Re-test airflow  |

## 16. WARRANTY

Design Filtration Microzone warrants the equipment to be free of defects in materials and workmanship from the date of invoice. The Clean Air Workstation (CAW) shall be warranted against defects for a period of two years. Any units or parts found to be defective during this period will be replaced or repaired at our discretion. The buyer agrees to assume all transportation charges prepaid for return of unit to factory for repair. Design Filtration Microzone will not accept charges for removal or re-installation.

Design Filtration Microzone will not accept any returned items without prior written consent. Design Filtration Microzone is not responsible for repair or replacement by misuse or abuse by incorrect operating procedures of its equipment. Pre-filters and carbon filters carry no warranty against loading. UV and Fluorescent lights carry no warranty. Any modifications or changes made to equipment by customer without written consent of Design Filtration Microzone will void the warranty.

Model number and serial number located on your CAW must be provided to verify invoice date. Failure to provide will void warranty.

**FOR FURTHER INFORMATION, PLEASE CONTACT US DIRECTLY.**

Design Filtration Microzone Inc., 86 Harry Douglas Drive, Ottawa, ON. K2S 2C7  
T: 1-888-636-8609 (Canada & USA), T: 1-613-831-8318, F: 1-613-831-8321  
info@dfmzgroup.com