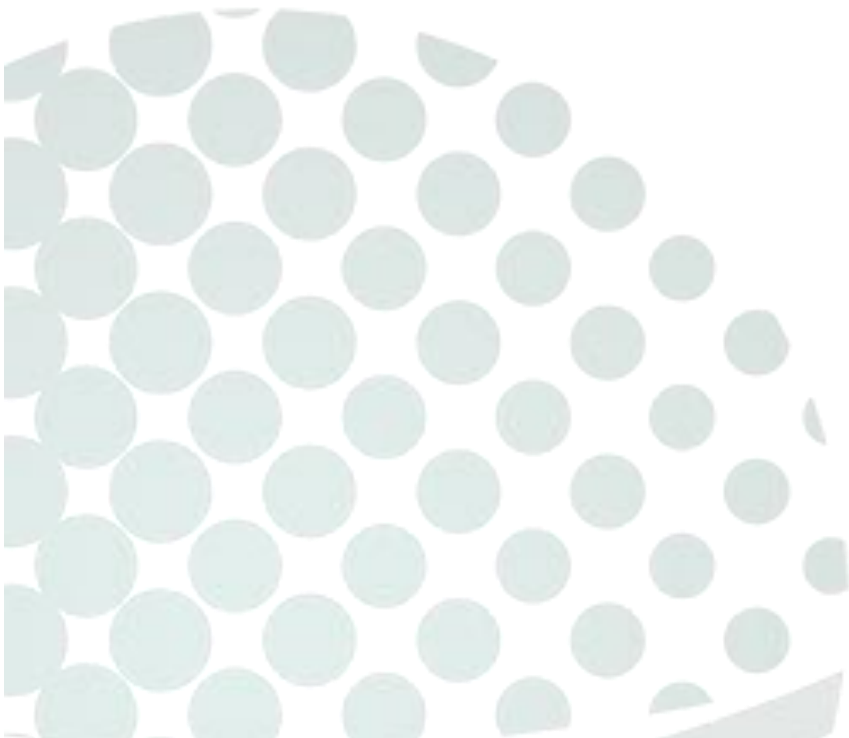


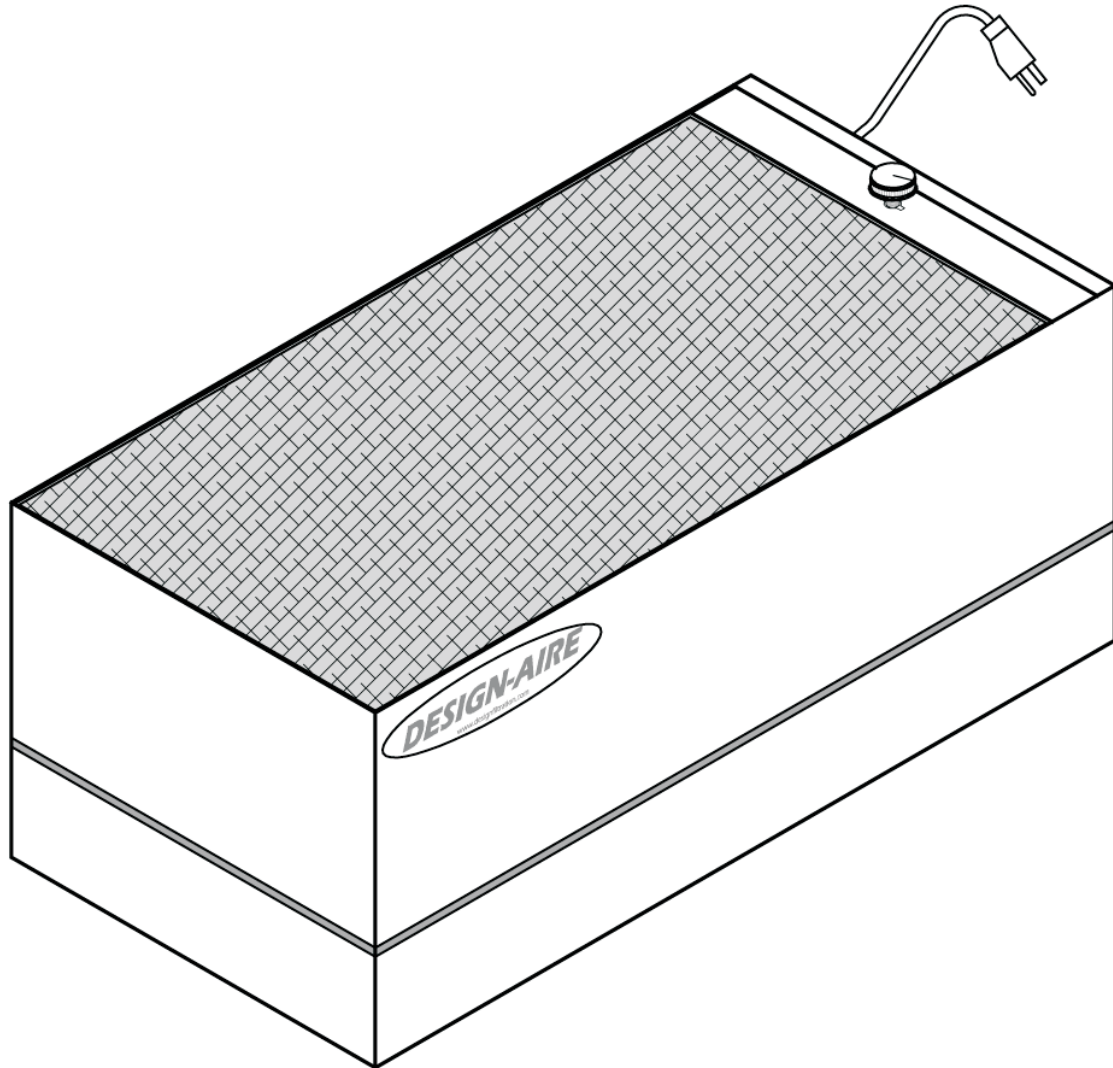


DESIGN-AIRE LP

Operations Manual



DFMZ
DESIGN FILTRATION MICROZONE



MODELS COVERED

DA1-1x1

DA1-1x2

TABLE OF CONTENTS

MODELS COVERED	3
1. SHIPPING AND UN-CRATING	4
2. VARIABLE SPEED CONTROL.....	5
3. PRE-FILTER	5
4. PRE-FILTER MAINTENANCE.....	5
5. HEPA FILTER	6
6. ULPA FILTER.....	6
7. MOTOR/ELECTRICAL	7
8. WIRING DIAGRAM.....	7
9. DIMENSIONS.....	8
10. AIRFLOW	8
11. REPLACEMENT PARTS	9
12. SOLUTIONS TO COMMON PROBLEMS	9
13. WARRANTY	10

Thank you for purchasing our Design-Aire Low Profile (LP), with proper care and maintenance your unit will provide you with many years of trouble free performance. Please read instructions carefully before installing and operating your Design-Aire LP.

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

- Do not expose your Design-Aire LP to rain or moisture.
- Always disconnect the Design-Aire LP from power supply when servicing, moving parts may cause serious injury.
- Always disconnect while grasping the plug, not the cord.
- Do not expose Design-Aire LP 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
- Do not modify the plug of your unit 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.

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 Design-Aire LP. You should inspect your unit for damage that may have been caused and report it immediately to your transportation company.

Carefully remove your Design-Aire LP unit from the shipping carton and remove from plastic bag. Use extreme caution when handling HEPA filters; do not touch the filter media as damage can easily occur.

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 Design-Aire LP 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. VARIABLE SPEED CONTROL

The Design-Aire LP comes equipped with a standard variable speed control, which 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. See Figure 2.1

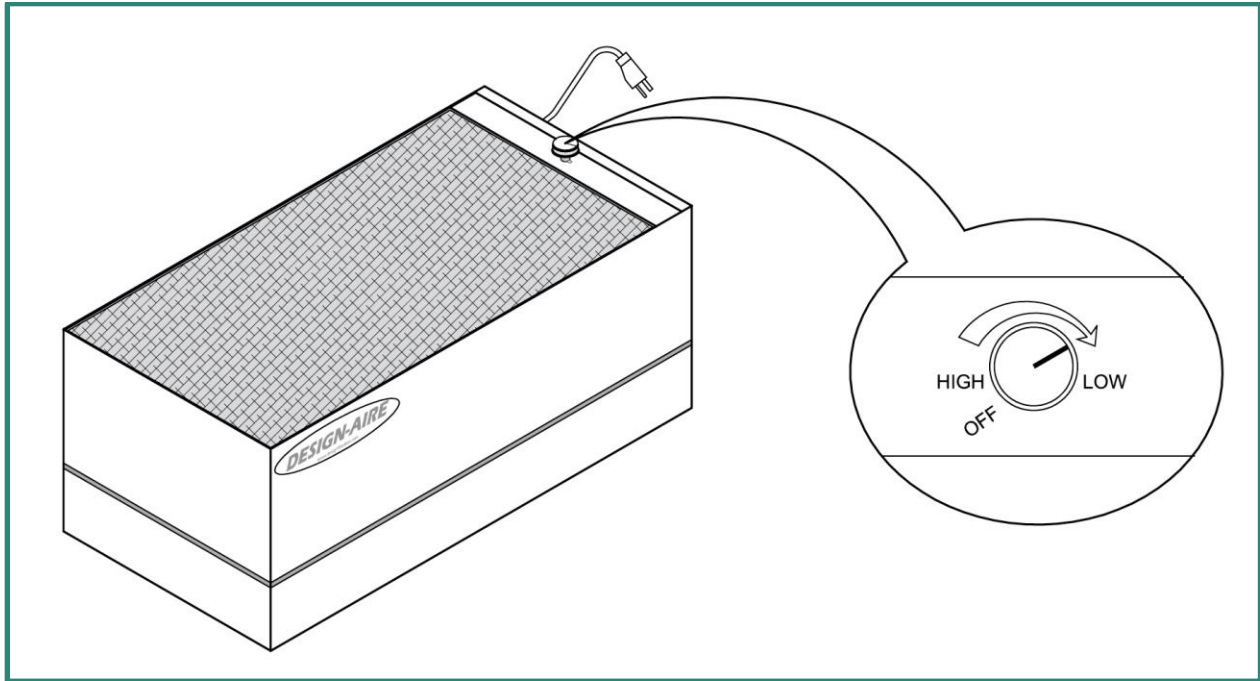


Figure 2.1

3. PRE-FILTER

Your Design-Aire LP is equipped with washable/disposable pre-filter, which is manufactured from a bonded synthetic media set into a moisture resistant beverage board. Pleated pre-filters carry an efficiency rating of MERV 7 (Minimum Efficiency Reporting Value). The filters also provide an Average Atmospheric Dust Spot Efficiency of 25-30% to ASHRAE Test Standard 52.1.

4. PRE-FILTER MAINTENANCE

The disposable pleated pre-filter should be inspected on a monthly basis or as room conditions dictate and wash/replace when necessary.

5. HEPA FILTER

The Design-Aire LP HEPA filter features a 5.88" deep anodized aluminum frame with a protective painted screen located on the filter face. The 2.50" 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.

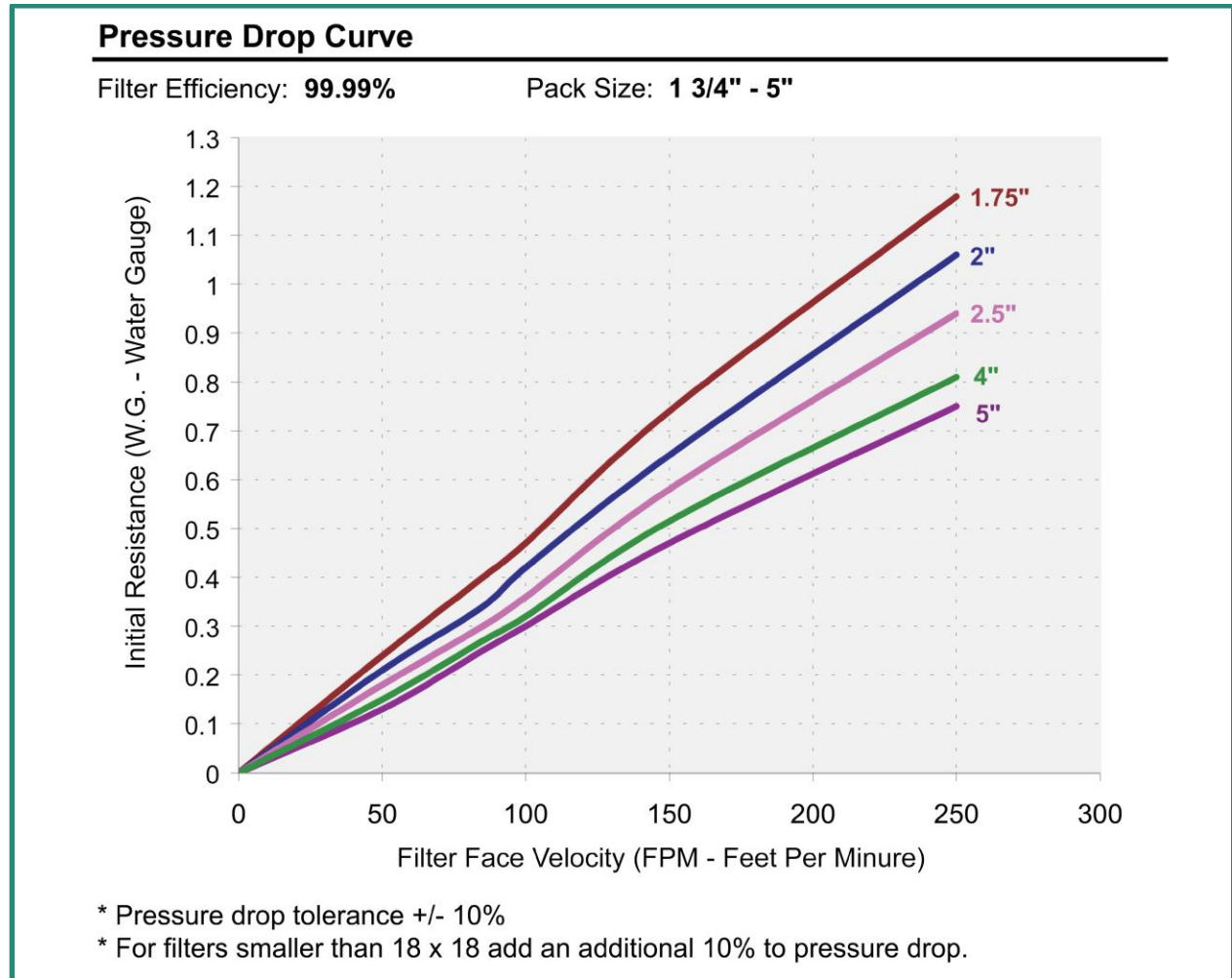


Figure 5.1

6. ULPA FILTER

The Design-Aire LP 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.

7. MOTOR/ELECTRICAL

The Design-Aire LP uses a 115-volt, energy efficient backward curved impeller to provide excellent airflow distribution, quieter noise levels and low heat loads, only 341 BTU/hour.

Our standard Design-Aire LP comes with a variable speed control, complete with on/off switch to help increase filter life. Standard on your Design-Aire LP is a FT2 type, 3-prong electrical cord. Always check local electrical codes prior to installation in plenum ceilings.

Options include: 220-volt operation, EC systems to help further reduce energy costs and room-side-replacement motor systems.

Your Design-Aire LP Fan Filter unit motor requires no maintenance, although a periodic inspection for dirt build up is recommended. Dirt on your motor can cause vibrations, and shorten the life of the motor.

8. WIRING DIAGRAM

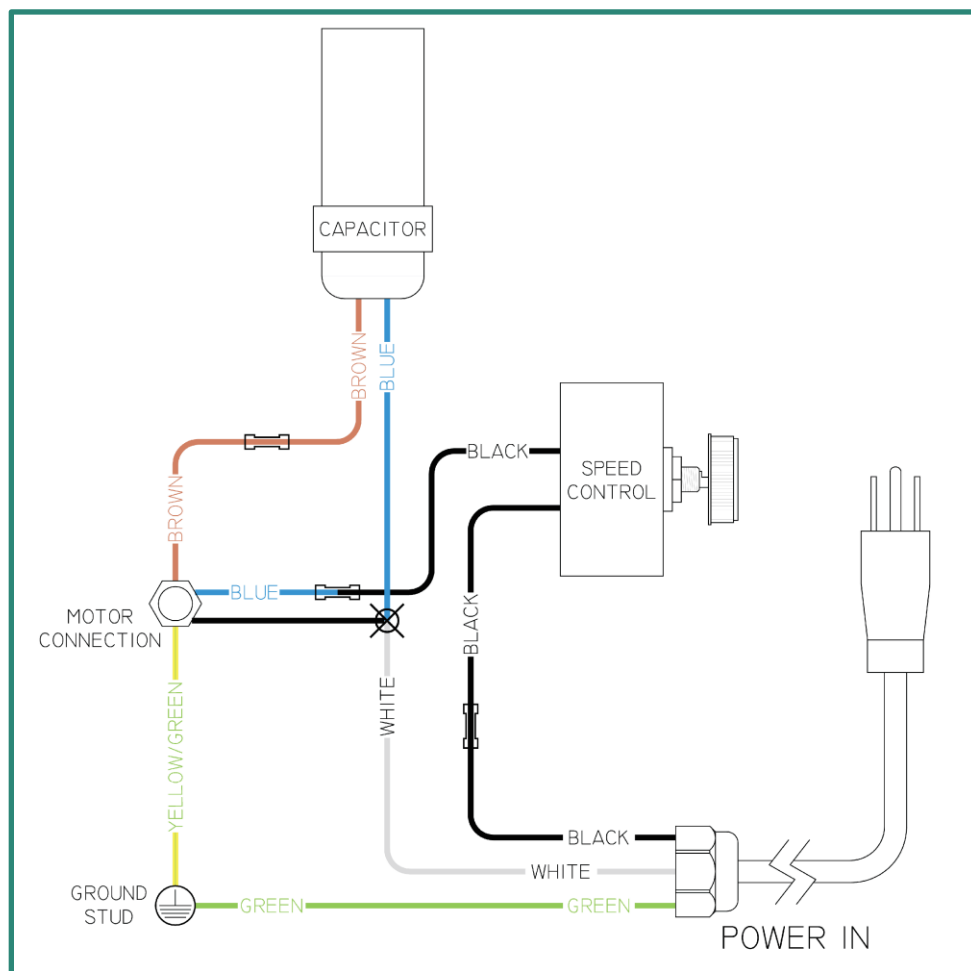


Figure 8.1

9. DIMENSIONS

Model	Dimensions	Electrical	Weight	Shipping Weight	Shipping Dimensions
DA1-1x1	11.62" x 11.62" x 12" (295 x 295 x 304mm)	115V, 0.87A, 60Hz	15 lbs 6.80 kg	18 lbs 8.16 kg	15" x 13" x 15" (381x330x381mm)
DA1-1x2	11.62" x 23.62" x 12" (295 x 600 x 304mm)	115V, 0.87A, 60Hz	23 lbs 10.43 kg	28 lbs 12.70 kg	15" x 24" x 15" (381x610x381mm)

10. AIRFLOW

Airflows were measured using a Shortridge Direct Flow instrument. Figure 10.1 illustrates the direction of airflow through the different Design-Aire LP units.

Model	Speed control full No pre-filter	Speed control full 1" pre-filter	Speed control low 2" pre-filter	Speed control low No pre-filter
DA1-1x1	145 cfm	130 cfm	75 cfm	85 cfm
DA1-1x2	275 cfm	240 cfm	100 cfm	110 cfm

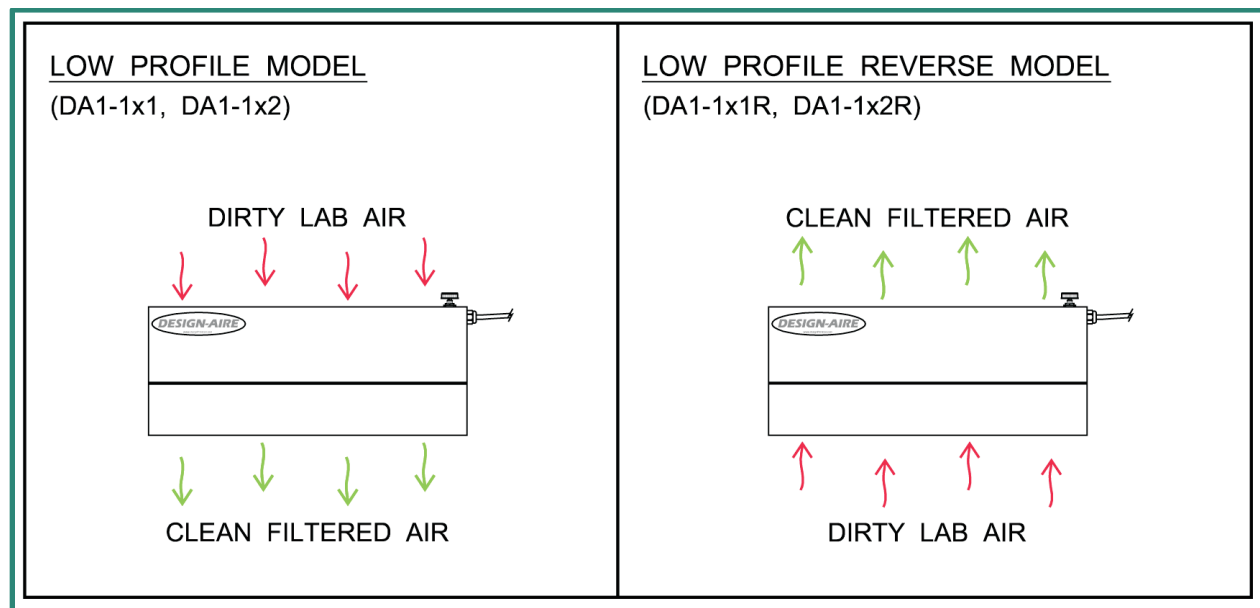


Figure 10.1

11. REPLACEMENT PARTS

Parts	Order Number
Replacement HEPA filter for DA1-1x1 (nominal 1 x 1)	10HE0500
Replacement HEPA filter for DA1-1x2 (nominal 1 x 2)	10HE0506
Washable/disposable, wire frame pre-filter (1 x 1)	10FW0100
Washable/disposable, wire frame pre-filter (1 x 2)	10FW0102
115-volt motorized impeller	17MI0006
Speed controller	17SW0052
Capacitor for motor – 8mf	17MC0006

12. SOLUTIONS TO COMMON PROBLEMS

Fan filter unit does not start	Electrical power cord may not be plugged in or connection may be loose	Make sure plug fits tightly into duplex outlet
	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. FFY motor will stop if overheated	Motor will automatically restart after cool down period
	Variable speed control is in off position	See page 5 for operation of variable speed control
Low airflow from downstream side of HEPA	Pre-filters are dirty	Change pre-filters and re-test airflows. See page 5
	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
	Power supply is not at 115-volt. Low voltage will affect operation of fan filter unit	Have qualified electrician determine proper voltage input at source
High airflow from downstream side of HEPA	One of the motors on the twin fan units has stopped working (DA3 and DA4 models)	Have qualified technician replace motor and re-test airflows
	Variable speed control is too high	Adjust variable speed control to decrease airflow output. Re-test airflow

13. WARRANTY

Design Filtration Microzone warrants the equipment to be free of defects in materials and workmanship from the date of invoice. The Design-Aire LP 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. 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 Design-Aire LP must be provided to verify invoice date. Failure to provide will void warranty.

FOR FURTHER INFORMATION, PLEASE CONTACT US DIRECTLY.

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