

COOLANT-CAT™



VCC-1500
COOLANT-CAT™
Mist and Smoke Collector
Owner's Manual

KNOW YOUR EQUIPMENT

READ THIS MANUAL FIRST

Your Coolant-Cat system should provide many years of trouble-free service. This manual will help you understand the operation of your Coolant-Cat unit. It will also help you know how to maintain your Coolant-Cat to achieve top performance. For quick future reference, fill in the system and filter information in the spaces below. Should you need assistance, call the Coolant-Cat factory service number shown below. Make sure you have the information below before calling.

UAS ORDER #: _____

UNIT MODEL #: _____

UNIT SERIAL #: _____

FILTER PART #: _____

SYSTEM ACCESSORIES: _____

INSTALLATION DATE: _____

COOLANT-CAT CUSTOMER SERVICE

1-800-992-4422

TABLE OF CONTENTS

	PAGE
1. INTRODUCTION	1
1.1 Important Notice.....	1
2. DESCRIPTION AND OPERATION OF COOLANT-CAT™	1
2.1 Filter Options.....	3
3. SPECIFICATIONS.....	4
3.1 Standard.....	4
3.2 Optional Equipment/Accessories	4
4. INSTALLATION	4
4.1 Inspection.....	4
4.2 Unit Mounting.....	4
4.3 Electrical.....	4
5. UNIT OPERATION.....	6
5.1 Start-up	6
6. MAINTENANCE	7
6.1 Monthly Maintenance.....	7
6.2 Filter Maintenance.....	7
7. TROUBLESHOOTING GUIDE	8
8. PARTS/SERVICE	8
9. ILLUSTRATED PARTS	9
WIRING DIAGRAM.....	11

This manual is compiled for general information and does not necessarily represent all options or accessories. If you have a model which is not illustrated, contact UAS or your local representative for service or parts.

1. INTRODUCTION

Thank you for selecting Coolant-Cat to assist you in your commitment to a clean and safe environment. Your new mist collector is the most advanced product of its type on the market today. As you begin its operation, we would like to remind you of a few important facts.

First, because we appreciate your business, we have manufactured an air cleaner engineered to rigid specifications, incorporating the latest technological advances. It is built using the best materials available and is subjected to rigorous quality control checks. A warranty backs every air cleaner that leaves our factory.

Second, like any piece of equipment, your air cleaner needs periodic maintenance. Properly cared for, it will operate at peak efficiency for many years.

Finally, while we hope you never have any problems, United Air Specialists, Inc. (UAS) is always ready to lend assistance through our factory-trained representatives. Should you need additional information or service, contact your local representative or UAS customer service at 1-800-992-4422.

1.1 IMPORTANT NOTICE

This manual contains important safety information and precautionary measures. It is impossible to list all potential hazards associated with every mist collection system in each application. Proper use of the equipment must be discussed with United Air Specialists, Inc. or your local representative. Operating personnel must be aware of, and adhere to, the most stringent safety procedures.

2. DESCRIPTION AND OPERATION OF COOLANT-CAT

The Coolant-Cat Model VCC-1500 vertical oil mist and smoke collector is designed for capturing pollutants directly at the source. Oil or coolant mist and smoke-laden air is drawn through the inlet plenum, making a 90° turn prior to entering the first filtration stage, allowing for drop-out of large particles. Any collected oil is then released through the oil drain at the bottom of the inlet plenum. The first filtration stage removes droplets and large particles through an oil impingement baffled prefilter where a "torturous airflow path" is created to stop these particles from moving further through the filtration cycle. The second stage is an aluminum mesh prefilter that collects fine droplets and smaller particles. Both filters in the first and second stage can easily be removed and cleaned for reuse. At the third stage, a 29" deep extended surface oil bag filter rated at 95% efficiency collects the smaller and sub-micron particles. Clean air is then discharged back into the workspace through the top outlet of the Coolant-Cat unit.

Your mist collector is supplied with prefilter and primary filter sections selected to suit your application. Tables 1 and 2 (page 3) describe the filter options available with the Coolant-Cat unit.

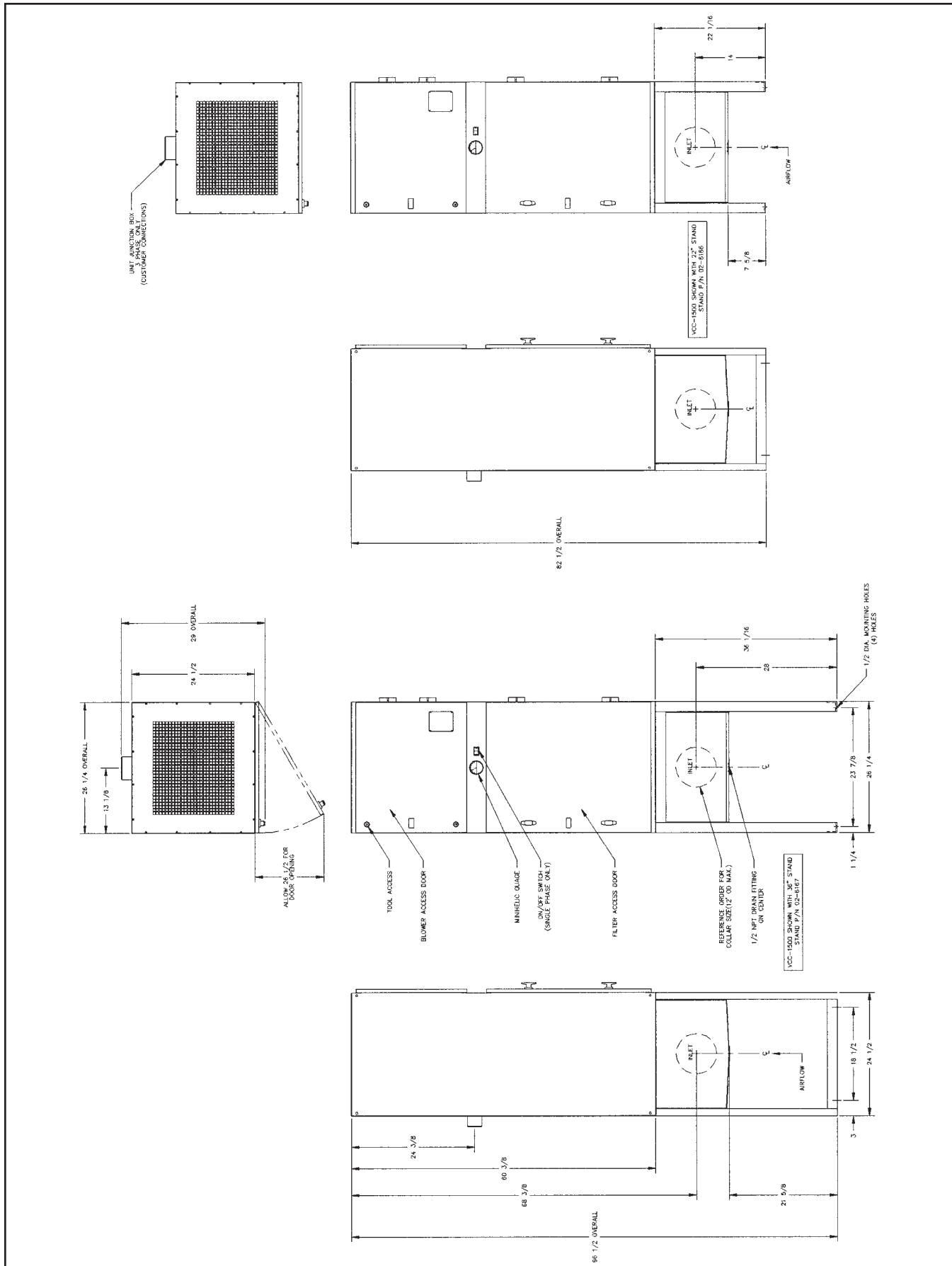


Figure 1. Coolant-Cat Dimensional Drawing

2.1 FILTER OPTIONS

FILTER TYPE	DESCRIPTION	NOMINAL SIZE (INCHES)	PART NO.	EFFICIENCY	WEIGHT (LBS./KG.)
Oil impingement	- Washable baffle filter - Interlocking channel design	24 x 24 x 2	33-0140	not applicable	8/3.6
Aluminum mesh	- Four layers of aluminum mesh	24 x 24 x 2	33-1206	92% (dust arrestance)	4/1.8

Table 1. Prefilters

FILTER TYPE	DESCRIPTION	NOMINAL SIZE (INCHES)	PART NO.	EFFICIENCY	WEIGHT (LBS./KG.)
Extended surface bag	- Ultra-fine fiberglass media - Galvanized steel header frame	24 x 24 x 29	33-1209	95%	8/3.6
		24 x 24 x 22	33-1212*	95%	7/3.2
HEPA cell	- Waterproof glass media - Particle board frame	24 x 24 x 6	33-1218	95%**	49/22
Carbon cell	- (12) - 1" trays of carbon (36# total) - Metal frame - Refillable - Replacement trays (12)	24 x 24 x 6	33-1219	not applicable	55/25
		23 x 9 x 5½ x 1	33-1258	not applicable	3/1.4

* For use with HEPA/carbon cell option

** Thermal DOP - Federal Standard 209A

Table 2. Primary Filters

3. SPECIFICATIONS

3.1 STANDARD (see Figure 1)

Cabinet Dimensions: 60 $\frac{3}{8}$ " H x 26 $\frac{1}{4}$ " W x 24 $\frac{1}{2}$ " D
Weight: 275 lbs. mounting; 425 lbs. shipping
Construction: 16-gauge polyurethane painted steel cabinet
Airflow: 1,000-1,500 CFM
Prefilter: 24" x 24" x 2" oil impingement baffle filter and 24" x 24" x 2" aluminum mesh prefilter
Primary Filter: 24" x 24" x 29", 8-pocket, 95% average efficiency special oil mist bag filter, 90 sq. ft. of media. Bag filter includes special oil resistant inner liner for handling oil collection and drainage.
Motor: 1HP, 115/1/60
Controls: On/off switch on cabinet, 10' power cord
Oil Drain: $\frac{1}{2}$ " NPT on bottom of inlet plenum
Filter Access: Side load, liquid-tight, hinged door
Filter Monitor: 0-5" Minihelic[®] Gage
Outlet Grille: Four-way adjustable

3.2 OPTIONAL EQUIPMENT/ACCESSORIES

Electrical: 1HP, three-phase motor
 2HP, three-phase motor

Filters: 95% HEPA final filter
 activated carbon final filter (36#)

Accessories:

- 22" H - machine mounting stand
- 36" H - floor stand
- ceiling mounting brackets
- drain loop trap assembly

4. INSTALLATION

4.1 INSPECTION

As soon as the shipment is received, it should be carefully inspected to make certain the equipment and all items identified on the packing list are included and received in good condition. Even though care is taken in packing, it is possible for the unit to be damaged in shipment. All damages or shortages should be noted on the Bill of Lading and PURCHASER should take immediate steps to file reports and damage claims with the carrier. Any damage incurred to a unit in transit is the responsibility of the carrier since it is UAS policy

to make shipments F.O.B. its factory (i.e. ownership passes to the purchaser when the unit is loaded and accepted by the trucking firm). Any claims for transit damage or shortage must be brought against the carrier by the purchaser. United Air Specialists, Inc. will provide assistance to the purchaser if necessary.

4.2 UNIT MOUNTING

The Coolant-Cat Model VCC-1500 is a high efficiency, liquid mist and smoke collector designed to eliminate airborne particulate as it is generated. Contaminant is captured at its source via ductwork (not supplied by UAS) which transports the contaminant to the Coolant-Cat unit. The Coolant-Cat unit should be located close to the contaminant source to minimize the ductwork length.

The Coolant-Cat Model VCC-1500 is designed to be floor mounted (see Figure 2) or ceiling/wall suspended (see Figure 3).

If the unit is to be floor mounted, the optional 22" or 36" floor stands should be utilized. The floor stand should be securely fastened to floor support structure to prevent tip-over of the unit.

The weight of the Model VCC-1500 is 275 lbs. without components. See Tables 1 and 2 for filter component weights. Installer should confirm structural integrity of support foundation.

The ductwork for either floor or machine mount units should be firmly connected to the optional inlet plenum opening to prevent leakage.

4.3 ELECTRICAL

The Coolant-Cat Model VCC-1500 is available in single-phase (115-230/1/60 HZ) or three-phase (208-573/3/60 HZ) electrical input.

A 10' power cord is provided with single-phase input units. Verify voltage of unit by referring to unit nameplate.

NOTE: Unit may need to be fitted with the appropriate male plug for your standard power outlets.

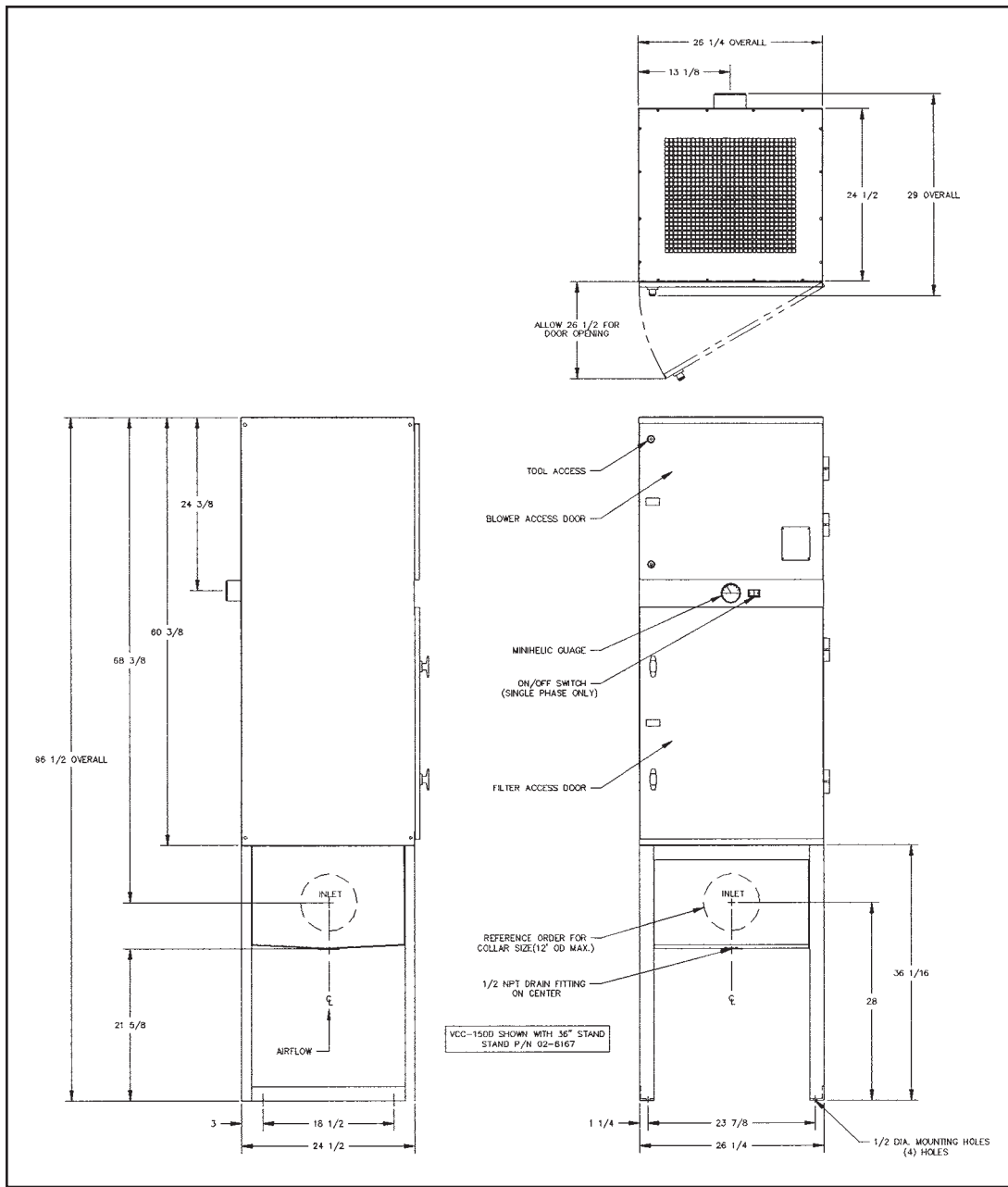


Figure 2. Floor Mounted

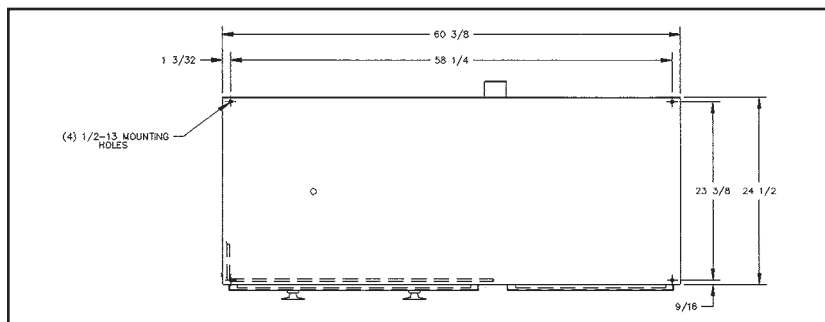


Figure 3. Ceiling/Wall Mounted

An electrical connection box is provided with three-phase input units. The only electrical connection required is a power source to motor leads located in this connection enclosure. The electrical enclosure box has standard knockouts for incoming power leads. Make connections as indicated by the "Electrical Wiring Diagram" label inside the electrical box.

For three-phase units, power switch for operating the unit and any fused disconnect, overload relays or other controls required by the National Electrical Code or local codes must be supplied by the customer (not supplied by UAS). The unit has been factory wired for the voltage requirement as indicated on unit nameplate (see Wiring Diagram, page 11).

5. UNIT OPERATION

5.1 START-UP

After the unit has been completely installed in accordance with Section 4, the following steps should be taken to ensure proper operation.

1. Check unit for proper current draw.

After ductwork is installed, and with the unit operating, measure the motor current draw using an amp probe. The ampere reading should not exceed the FLA rating stamped on the motor nameplate. If current is excessive, reduce blower speed by adjustment of the variable pitch sheave on the motor. (In order to avoid motor failure, a starter with overload protection by others should be provided.)

2. Check blower rotation (three-phase units only).

Check actual direction of the blower wheel rotation versus arrow on blower housing. If the blower wheel is not rotating in the proper direction, reverse the motor rotation by interchanging any two of the three AC input leads at the terminal block.

NOTE: Even when running backward, some air motion is noticeable. When the blower is rotating correctly, the access door will be snapped shut by the strong negative pressure within the cabinet.

3. Check Drive Set.

Check the motor/blower drive belt for proper tension. About $\frac{1}{2}$ " deflection with finger pressure at midpoint between pulleys indicates normal belt tension. Drive pulleys and belts have been selected to provide proper airflow at the design static pressure specified. To access the blower compartment:

1. Disconnect power to blower.
2. Rotate two (2) bolts until blower compartment door is released.
3. Reverse above operation for closure.

4. Adjust unit airflow.

To adjust airflow, see Figure 4.

1. Disconnect power to blower.
2. To change the blower RPM (which results in a change in CFM), adjust variable pitch pulley on the motor by loosening set screw "A" and rotating the "A" part of the pulley while holding the "B" part in place.
 - (a) Figure 4A shows part "A" backed off two (2) turns with set screw "A" in flat section which is the factory setting.
 - (b) To increase the CFM, set variable-pitch pulley as shown in Figure 4B. To decrease the CFM, set fully as shown in Figure 4C.

NOTE: Always check belt tension after changing pulley setting and adjust for $\frac{1}{2}$ " of movement at midpoint. The ampere reading should not exceed the FLA rating (stamped on the unit nameplate) after ductwork is installed and the unit is operating.

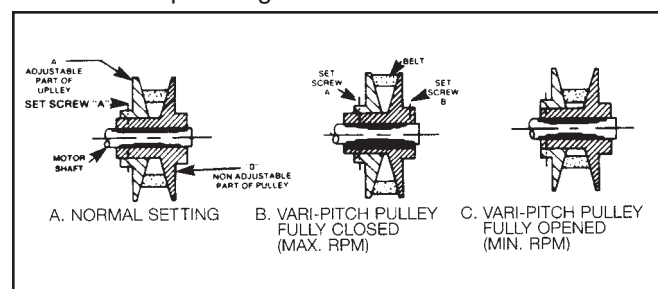


Figure 4. Vari-Pitch Pulley

5. **Open filter access door and ensure filters are properly installed (see Section 9, Illustrated Parts).**
 1. Check the filter monitor gauge at start-up. The filter gauge should read between $\frac{1}{2}$ "- $\frac{3}{4}$ " with clean filters.
 2. During normal operations, the filter gauge will show increased pressure readings.

For filter maintenance, see Section 6.

6. MAINTENANCE

Each Coolant-Cat is a self-contained air handling system. Standard units have no intermittent electrical contacts and the only mechanical parts subject to wear are motor and blower bearings, pulleys and belts. Properly aligned and adjusted, these components should provide years of trouble-free service.

6.1 MONTHLY MAINTENANCE

CHECK THE FOLLOWING MONTHLY:

1. **Belt Tension:** $\frac{1}{2}$ " deflection at midpoint between pulleys indicates correct tension. Adjust as necessary.
2. **Belt Wear:** Frayed edges and stress cracks in belt side walls signal belt wear.
3. **Unit Noise:** Higher than normal noise indicates abnormal belt or bearing wear. Where motor bearings are greasable, lubricate every 1,000 hours of operation. Where motor bearings are not greasable and for all blower bearings, excessive noise may indicate bearings need to be replaced.

NOTE: Periodically clean the cabinet interior and blower compartment. Wipe off

exhaust grille when changing filters.

6.2 FILTER MAINTENANCE

When the unit pressure gauge exceeds $1\frac{1}{2}$ ", the internal filters may require replacement.

Use the following procedure for filter replacement:

1. Disconnect power to unit.
2. Unlatch filter access door and inspect prefilter. Discard the prefilter if it is a disposable type. Replace the filter with the recommended UAS part number selected from Table 1. If the prefilter is a reusable metallic type, clean and reinstall. Close the door, connect power and restart the unit.
3. Check pressure gauge reading. If over $1\frac{1}{2}$ " w.g., continue to step 4.
4. Disconnect power and unlatch door.
5. If primary filter is a 29" long fiberglass bag, remove filter support rod and discard the filter. Replace the filter with the recommended UAS part number selected from Table 2. Secure the access door and latch. If primary filter is a 22" long fiber glass bag in combination with a HEPA or carbon cell, remove the 22" bag filter and discard. Replace the filter with the recommended UAS part number selected from Table 2. Latch the door and restart the unit. If pressure gauge reading is over $1\frac{1}{2}$ " w.g., go to step 6 (HEPA cell) or step 7 (carbon cell).
6. Remove the new 22" bag and set aside. Slide the HEPA cell forward until it clears the door opening. Remove and discard the HEPA cell. Replace the HEPA cell with UAS part #33-1218. Reinstall the 22" bag filter. Latch door, connect power and start the unit.
7. Remove the new 22" bag and set aside. Reach through the compartment and remove the screws and frame on the front of the carbon cell. Set screws and frame aside. Remove 12 carbon trays by a lift and slide motion. Replace with 12 carbon trays (UAS part #33-1258) or refill trays from bulk supply. Reinsert trays and attach frame. Reinstall 22" bag filter. Latch door, connect power and

start the unit.

PROBLEM	POSSIBLE CAUSE(S)	SOLUTION
Blower/motor won't start or won't continue running.	Improper electrical supply.	Refer to Wiring Diagram, page 11.
	Starter overloads tripped.	Reset overloads.
Mist/smoke emissions from clean air discharge.	Filter(s) installed incorrectly.	Inspect and reinstall filters (see Section 6).
	Filter(s) damaged.	Replace damaged filter(s).
Insufficient airflow.	Fan rotation is backward.	Check fan rotation to ensure clockwise rotation (see Section 5).
	Air inlet restricted.	Check ductwork.
Excessive pressure drop (over 3" on filter monitor gauge).	Filters at end of useful life.	Replace filters. Call 1-800-992-4422.
	Plugged filter(s).	Filter elements have reached end of useful life. Replace with new filters. Call 1-800-992-4422.

8. PARTS/SERVICE

An exploded view drawing of the unit components parts and itemized bill of materials are shown on pages 9-10. Reference this information for part numbers when ordering replacement parts.

To order parts, contact your local representative or UAS directly:

United Air Specialists, Inc.
4440 Creek Road
Cincinnati, Ohio 45242
Attn: Customer Service Department
1-800-992-4422

When ordering replacement parts please have the following information available to ensure prompt delivery.

Data Required

1. Unit model number
2. Unit serial number
3. Part number and description

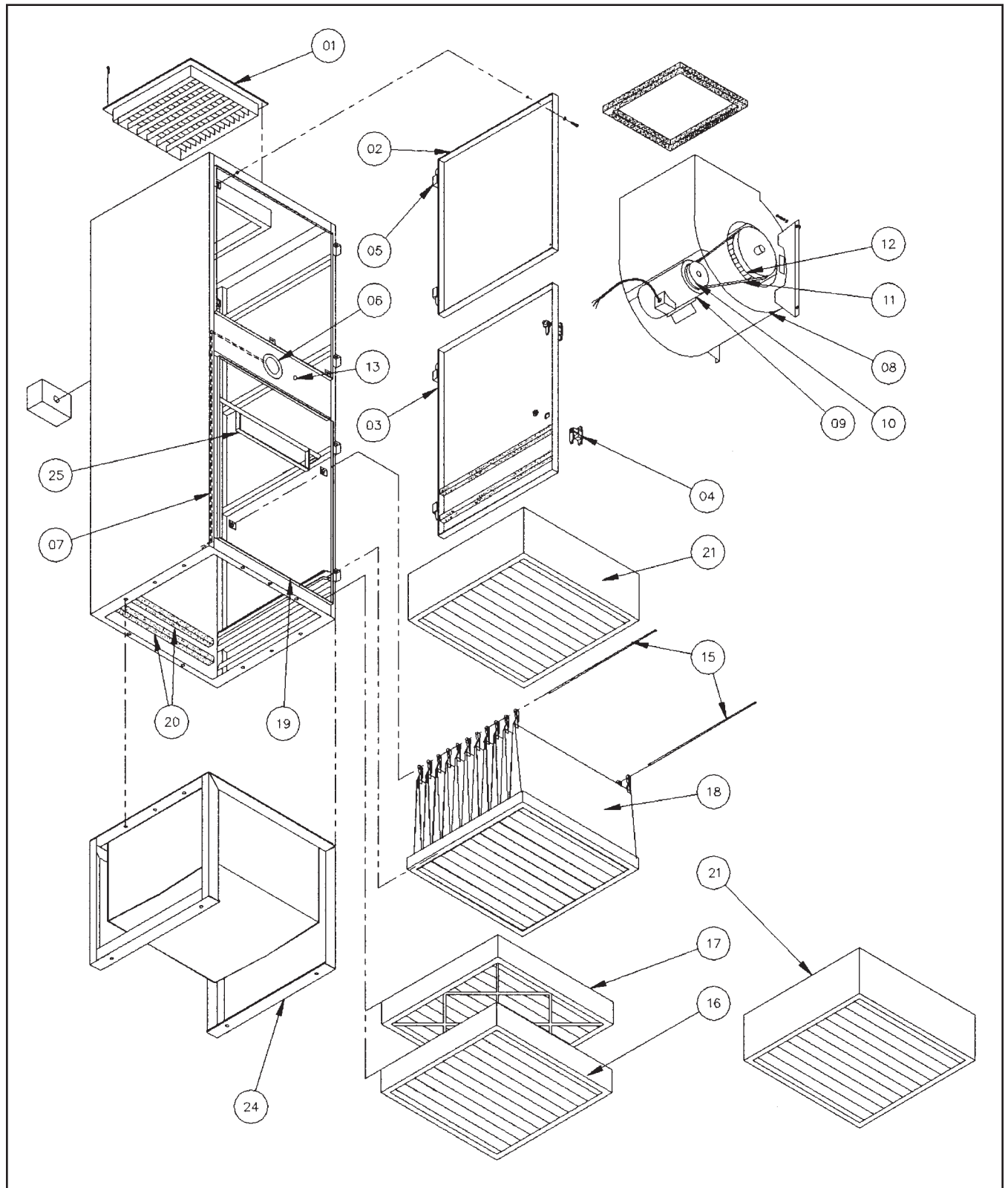
Location of Data

- Side of unit
- Side of unit
- Exploded view

When returning a defective part under warranty, a UAS return authorization number is required. Call your local representative or UAS customer service to obtain a return authorization number. This number should appear on the package being returned to ensure prompt service.

Minihelic® is a registered trademark of Dwyer Instruments, Inc.

9. ILLUSTRATED PARTS



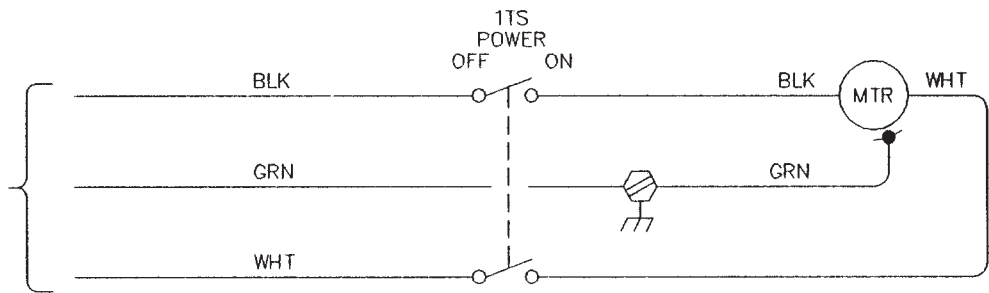
Coolant-Cat VCC-1500

MODEL VCC-1500 PARTS LIST

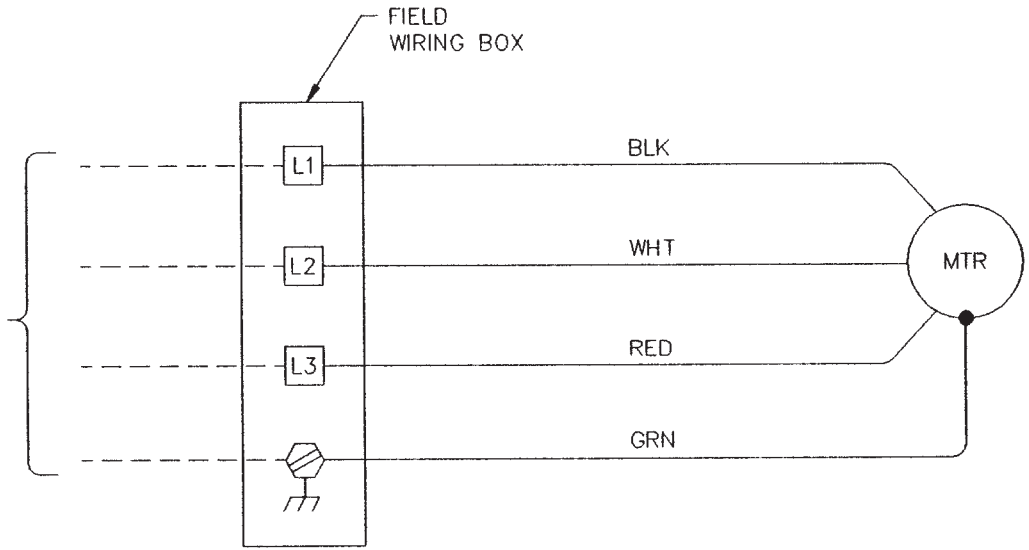
Item No.	Part No.	Description	Quantity
1	33-0026	Discharge Grille	1
2	18-2121	Motor/Blower Access Door	1
3	18-2120	Filter Access Door	1
4	39-0245	Door Latch (Filter Door)	2
5	30-0536	Door Fastener (Blower Door)	2
6	07-0081	Filter Gauge	1
7	20-1280	Tubing, (Filter Gauge)	4 ft.
8	32-0297	Blower Assembly	1
9	22-0041	Motor 115-230/1/60 1HP	1 (Select)
	22-0012	208-460/3/60 1HP	
	22-0047	575/3/60 1HP	
	22-0039	208-460/3/60 2HP	
	22-0055	575/3/60 2HP	
10	Call factory	Motor Pulley	1
11	Call factory	Drive Belt	1
12	Call factory	Blower Pulley	1
13	20-0333	On/Off Toggle Switch (Single-Phase Units)	1
14*	20-2813	Power Cord Set (Single-Phase Units)	1
15	10-8791	Filter Support Rod	2
16	33-0140	Pre-Filter (Impingement Baffle 2")	1
17	33-1206	Pre-Filter (Aluminum Mesh 2")	1
18	33-1209	Primary Filter - 95% 29" long`	1 (Select)
	33-1212	Primary Filter - 95% 22" long	
19	42-0168	Door Gasket	18 ft.
20	42-0206	Strip Gasket (At Filters)	2 ft./ea.
Optional Equipment			
21*	33-1218	Filter-HEPA 95%	1 (Select)
	33-1219	Filter-Carbon Vee-Bank	
	33-1258	Replacement Tray (for 33-1219 filter)	12 per filter
22*	13-0408	Inlet Plenum	1
23*	03-1338	Ceiling/Wall Brackets	1 set
24*	02-6166	22" Support Stand w/Plenum	1 (Select)
	02-6167	36" Support Stand w/Plenum	
25	03-1483	Kit, Filter	

* Not shown on drawing

CUSTOMER SUPPLIED
ELECTRICAL SERVICE
115-230V/1PH/60HZ
(15 AMPS MAX.)



CUSTOMER SUPPLIED
ELECTRICAL SERVICE
208/230/460V
3PH/50HZ
(15 AMPS MAX.)



WIRING DIAGRAM

**UNITED AIR SPECIALISTS, INC.
LIMITED WARRANTY**

UAS warrants to the original purchaser that all equipment will be free from defects in materials and workmanship for one year from the date of shipment from UAS (three years for Smokeeter® and VisionAir™ models other than CC and DC series) and that major structural components on SFC and MCB series will be free from defects in materials and workmanship for ten years from the date of shipment from UAS. This warranty applies only if equipment is properly installed, maintained, and operated under normal conditions and does not apply to damage caused by corrosion, abrasion, abnormal use or misuse, misapplication, or normal wear and tear. This warranty will be void with respect to equipment that is subject to unauthorized repairs or modifications. UAS makes no warranty as to goods manufactured or supplied by others. This warranty is subject to any limitations in UAS' quotation and may not be modified except by a written instrument signed by the President or Vice President of Sales of UAS.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT.

As Purchaser's exclusive remedy for any defects in the equipment, UAS will exchange or repair any defective parts during the warranty period, provided such parts are returned, prepaid, to UAS' factory. The obligation of UAS is limited to furnishing replacement parts F.O.B. UAS' factory or making repairs at UAS' factory of any parts that are determined, upon inspection by UAS, to be defective. In no event will UAS be responsible for labor or transportation charges for the removal, reshipment or reinstallation of the parts.

IN NO EVENT WILL UAS BE RESPONSIBLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES.



4440 Creek Rd • Cincinnati, Ohio 45242 USA
National Phone: 1-800-252-4647
Telephone: (513) 891-0400 • Fax: (513) 891-4882
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