This manual is provided to acquaint you with the air scrubber so that installation, operation and maintenance can proceed successfully. Ultimate satisfaction depends on the quality of installation and a thorough understanding of this equipment. The air scrubber is built around tested engineering principles and has passed a thorough inspection for quality of workmanship and function.

**Quest PowerHEPA 1400 Pro:**

- 2-Speed operation (1400-900 CFM)
- Multiple ducting options
- Built-in manometer
- Only 12 amps
- Stainless steel cabinet
- Optional fourth stage carbon filter
- Wheeled cart design

The HEPA filtration system removes virtually all removable airborne particles.
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Safety Precautions

Read the installation, operation and maintenance instructions carefully before installing and operating this device. Proper adherence to these instructions is essential to obtain maximum benefit from your Quest PowerHEPA 1400 Pro.

READ AND SAVE THESE INSTRUCTIONS

• The device is designed to be installed INDOORS IN A SPACE THAT IS PROTECTED FROM RAIN AND FLOODING.
• Install the unit with space to access the back or side panels for maintenance and service. DO NOT INSTALL UNIT WITH THE SERVICE PANELS INACCESSIBLE.
• Avoid directing the discharge air at people, or over the water in pool areas.
• If used near a pool or spa; be certain there is NO chance the unit could fall into the water, be splashed and that it is plugged into a GFI GROUND FAULT INTERRUPT OUTLET.
• DO NOT use the device as a bench or table.
• DO NOT place the device directly on structural members. Provide vibration isolation in order to minimize operational vibration and/or noise.
1. Specifications

Part No. 4028220
Power 12 amps, 110-120 VAC, Grounded
Blower 2-Speed
   High: 1400 CFM* w/o external duct
   Low: 900 CFM* w/o external duct
Filters: 24” x 24”
   1-stage 1” Spun Polyester
   2-stage 2” Pleated Media
   3-stage 12” V-bank HEPA
   (optional)  4-stage 2” Carbon and Potassium Permanganate
Duct Inlet: 18” diameter GRILL:
   18” flex duct
   12” dia. adapter
   Outlet: 10.5” square:
   (3) Rectangular wire-form collars
   14” layflat duct
   10” layflat duct
   12” flex duct
Warranty Five years;
   1st year 100% of Parts and Labor
Dimensions Width 25”, Depth 25”, Height 39”
Weight 121 lbs.

2. Operation

2.1 Transporting
The Quest PowerHEPA 1400 Pro should be upright when transported by vehicle. It may be tipped on to its back for loading and moving by hand.

2.2 Location
Note the following precautions when locating the Quest PowerHEPA 1400 Pro:

- It is designed to be used **INDOORS ONLY**.
- If used in a damp area, plug it into a **GROUND FAULT INTERRUPTER**.
- **DO NOT** use the Quest PowerHEPA 1400 Pro HEPA System as a bench or table.
- It must always be used in the upright position.
- The air inlet on top & the front outlet should be at least 1 foot from walls and other obstructions to airflow.
2.3 Electrical Requirements

The Quest PowerHEPA 1400 Pro can be plugged into a grounded 15 Amp circuit. It draws 12 Amps or less with clean filters and no ducting (if less amperage is available, see Section 2.4).

Due to the high percentage of a 15 Amp circuit's capacity that the unit uses, the circuit should be dedicated to running the Quest PowerHEPA 1400 Pro HEPA System only. Amp draw decreases as filters get dirty and ducting is added.

⚠️ CAUTION ⚠️

CAUTION: The unit must always be operated with all three filters and the top in place. Operating it with one or more filters missing, the top off, and/or inferior filters will cause the amperage to increase and the motor to overload.

If an extension cord is required, it must have a minimum of 12 gauge conductors if 25 feet long or less and 10 gauge conductors if greater than 25 feet long up to 50ft.

2.4 Limiting Amp Draw

In certain conditions, allowing the unit to draw its normal 10 to 12 Amps may be undesirable. Limited supply amperage available may be needed to run other equipment. In such conditions, amp draw can be reduced by restricting the airflow at the inlet with the unit running on either speed.

The 18” diameter inlet grid can be restricted by partially covering it with anything convenient and stiff enough to maintain its shape (cardboard, sheet metal, plywood). The negative air pressure at the inlet will help hold the restrictor in place.
2.5 Air Ducting

2.5A Inlet Ducting

Occasionally the area to be filtered is difficult to access and/or the unit cannot be located in the area. In such cases, the air can be ducted to the unit’s inlet.

A round 18” diameter flex duct can be attached to the unit inlet on top. It connects by hooking the spiral wire of the flex duct under the four tabs inside the perimeter of the inlet opening; see figures 1, 2 and 3.

Flexible 18” ducting is available from Therma-Stor.

An adapter is included that allows 12” flexible ducting to be connected to the inlet. It is stored on the unit’s side. Flex duct is pushed through the adapter center with the adapter hooking tabs facing away from duct; (see figure 4).

The spiral wire passes from one side of the adapter to the other via the notch on the hole edge; (see figure 5).

The adapter and duct are positioned on the unit top with the four tabs placed into the slots. The adapter is then twisted counterclockwise to lock it in place; see figures 6 and 7.
2.5B Outlet Ducting

Three rectangular wire-form collars are supplied that will allow round lay-flat plastic ducts to be attached to the Quest PowerHEPA 1400 Pro outlet. The two small collars are made for 10” lay-flat duct; the large one is for 14”. Lay-flat plastic ducting is available from Therma-Stor.

To attach ducting to a collar, remove the collar from the unit by loosening the two wing knobs above the collars and sliding the collar out. Put the plastic duct end through the collar center from the front. Fold the duct end outward so that it overlaps the outside of the collar by several inches.

The same adapter that allows 12” flexible ducting to be connected to the inlet can be used to connect 12” flexible duct to the outlet. It is stored on the unit’s side. Flex duct is pushed through the adapter center with the adapter hooking tabs facing toward the duct, (see figure 8 and 5).

The four thumb screws that hold the two outlet collar guides must be removed; set the guides aside and reinstall the thumb screws, (see figures 9 and 10).

The adapter and duct are positioned on the unit front so the four slots in the adapter fit over the thumb screws. Rotate the adapter so the thumb screws are at the end of the slots and tighten the screws; see figure 11.

2.6 Negative Air Ducting

The Quest PowerHEPA 1400 Pro can be used to filter and exhaust air from a space. By exhausting to outside the space, the space will be under a slight negative pressure. This will help prevent airborne particles from leaving the space, since the negative pressure will draw air in through openings in the space’s exterior.

The quantity of air exhausted depends on how the unit is ducted and which speed is used. One or two ducts can be directed outside. If all the filtered air is ducted outside, this would result in up to 1300 CFM being exhausted on high speed and an equal amount of fresh air being drawn in.

⚠️ CAUTION

CAUTION: Exhausting too much air from a space with open combustion devices (e.g. furnace, fireplace or water heater) can cause those devices to backdraft. This can contaminate the space with potentially fatal gases. In such cases, the Quest PowerHEPA 1400 Pro must be used in one of the following three ways: (A) as a filtering unit only. Exhausting no air from the space and thus causing no negative pressure or backdrafting. (B) Exhausting a very limited amount of air which does not cause backdrafting. In case B, the open combustion devices must be thoroughly checked to guarantee that they do not backdraft while the Quest PowerHEPA 1400 Pro is running. (C) Direct one or more outlet ducts from the PowerHEPA 1400 Pro to the room with the open combustion device(s). This will positively pressurize the room, thus preventing backdrafting. As in case B, those combustion devices must be checked after the PowerHEPA 1400 Pro is running to guarantee that they are not backdrafting.
One duct can be directed outside, exhausting a portion of the filtered air. The rest of the filtered air can be recirculated inside the space with or without outlet ducting. Varying the collars’ position in the guides at the outlet can control the quantity of air exhausted. To determine precisely the amount exhausted, an airflow meter is required.

2.7 Power/Speed Switch
The power/speed switch is located on the unit side. When turned on to high or low speed, it powers the blower and hour meter.

Occasionally the blower may not start on low speed. If this occurs, start the unit on high speed, then switch it to low speed.

⚠️ CAUTION
CAUTION: Do not remove the top to access the filters with the unit on. Removing the top and filters while running can: (A) damage the blower motor by causing it to overload, (B) expose potentially fatal high voltage electrical parts, (C) expose the dangerous rotating blower impeller.

2.8 Hour Meter
A digital hour meter is located near the power switch on the unit side. It measures the cumulative time that the unit is turned on to tenths of an hour. It stores its total when the unit is unplugged. The previous total will be displayed when the unit is on or off. It resets to zero after 99,999.9 hours of operation.

3. Maintenance
⚠️ WARNING
WARNING: Use extreme caution when changing the HEPA filter as hazardous material could be trapped in the media. Always make sure to dispose of filters in the appropriate way. If you are unsure of how to safely dispose of any filter - consult an industrial hygienist to ensure that all hazardous materials are contained and disposed of properly.

3.1 Air Filters
The standard Quest PowerHEPA 1400 Pro is equipped with three filters that progressively filter out smaller particles. An optional activated carbon/potassium permanganate filter can be used, giving a fourth stage of filter media (see section 3.1a). These filters must be checked regularly. Operating the unit with dirty filters will reduce the airflow and current draw, but will do no harm to the unit. The unit can be run indefinitely with dirty filters.

⚠️ CAUTION
CAUTION: The unit must always be operated with all three filters and the top in place. Operating it with one or more filters missing, the top off, and/or inferior filters will cause amperage to increase and may cause the motor to overload. Permanent damage could result.

The three standard filters used are listed below (as installed in the unit from top to bottom):

A. Polyester media pad pre-filter. Actual size is 23-3/8” x 23-3/8” x 1” thick. The white side faces up. This filter should be replaced when the airflow is reduced, it is visibly dirty or when it is contaminated by a previous job.
B. 25 to 30% efficient (per ASHRAE 52.1-1992), MERV-7, pleated fabric filter. Actual size is 23-3/8” x 23-3/8” x 1-3/4”. This filter should be changed when airflow is reduced or it is contaminated by a previous job.

C. 99.97% DOP efficient HEPA filter. Actual size is 23-3/8” x 23-3/8” x 12-1/2. It contains at least 175 sq. ft. of media. This filter should be changed when airflow is reduced or it is contaminated by a previous job.

3.1A Activated Carbon/Potassium Permanganate Filters
Two optional gas phase filters are available from Therma-Stor: a disposable and a refillable. Each uses a blend of activated carbon and potassium permanganate. This blend removes the vast majority of contaminants encountered in most filtering applications. The activated carbon removes the heavier volatile organics while the potassium permanganate removes lower molecular weight contaminants. This is well suited to the smoke odors present after fire damage.

The life of the media blend depends upon both the hours used and the contamination level. Another advantage of the blended media versus activated carbon only is that part of the blend changes color as it loads up with contaminants. It starts out black, then turns pink, then brown, and finally white. It is best changed when it passes the brown stage and begins to turn white. It has lost most of its effectiveness at that point. When these filters are installed, the pad filter does not need to be installed above them. This allows the operator to check the media color through the top grill of the unit without removing the top.

These filters are the same size as the pleated fabric filter. They are installed above that pleated fabric filter. The pleated fabric filter catches carbon dust that comes off these filters before it reaches the HEPA filter.

The refillable carbon filter is metal-framed and can be refilled with carbon blend media purchased in 5-gallon buckets. The amount of carbon blend media loaded into the filter can be adjusted to the particular amount gas/odor removal required.

The disposable filter contains 7½ pounds of active media.

3.2 Checking Airflow
An inclined tube manometer is attached to the unit to determine if the filters need replacing. It measures negative static pressure between the blower inlet and the HEPA filter outlet.

To check airflow:

- Remove any inlet or outlet ducting, but leave the top and all filters in place. Make sure the unit is sitting level.
- Turn the unit on high speed for at least 15 minutes. Read the number values for the fluid levels in the upper and lower tubes. The fluid levels are slanted. Read the level at the center of both tubes.
- Subtract the lower tube number from the upper tube number. Match this difference to the chart on the manometer label to establish the percentage of clean air flow.
Airflow on high speed with all filters clean and no ducting is about 1400 CFM. The unit can be run with very dirty filters and virtually no flow without harming the unit. The operator's decision to change filters should be based on filter cost versus the unit's filtering effectiveness. If airflow is 700 CFM versus 1400 CFM, the unit will filter particles from a space at half the rate. The operator must judge if that is acceptable.

If the operator determines the filters should be changed due to low airflow, it is most economical to change them in the following order:

- Change the pad pre-filter (top) first. This is the least expensive filter. Recheck the airflow. If the airflow is acceptable, no other filters need to be changed.
- Change the pleated fabric filter (middle) second. It is the second least expensive filter. Recheck the airflow. If acceptable, the HEPA filter does not need changing.
- If the airflow is still too low, the HEPA filter must be changed.

### 4. Service

**CAUTION**

CAUTION: Servicing the Quest PowerHEPA 1400 Pro with its high voltage circuitry presents a health hazard that could result in death, serious bodily injury, and/or property damage. Only qualified service people should service this unit.

#### 4.1 Warranty

A warranty certificate has been enclosed with this unit. Read it before any repair is initiated. If a warranty repair is required, call the factory first at 1-800-533-7533 for warranty claim authorization and technical assistance.
4.2 Blower Motor Replacement

Occasionally the blower may not start on low speed. If this occurs, start the unit on high speed, then switch it to low speed.

The centrifugal blower has a PSC motor and internal thermal overload protection. Follow the steps below to change the motor:

1. Unplug the power cord.
2. Remove the top and all air filters.
3. Remove the wire nut that connects the blower’s white lead to the wire harness. Disconnect the motor’s green ground wire from the unit. Remove the black and red wires from the switch.
4. Remove the four nuts that fasten the blower mounting flanges to the base of the unit.
5. Lift the blower out of the unit.
6. Loosen the set screw that holds the impeller hub to the motor shaft.
7. Lay the blower on its side, motor up.
8. Remove the 3 screws that fasten the motor support brackets to the blower housing.
9. Lift out the motor with support brackets.
10. Remove the two screws (one at each motor end) that hold the support brackets to the motor end mounting rings.
11. Remove the six screws that hold the support bracket halves together. Note which holes and slots they were located in.
12. Reassembling with the new motor is the above procedure reversed.

Figure 13: Electrical Schematic
## 5. Replacement Parts

<table>
<thead>
<tr>
<th>Item</th>
<th>Part No.</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1</td>
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<td>1</td>
<td>Air Filter, Pleated, 2” x 24” x 24”</td>
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<td>3</td>
<td>4023244</td>
<td>1</td>
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<td>1282556</td>
<td>2</td>
<td>Axle Washer</td>
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<td>4023121</td>
<td>1</td>
<td>Blower (Lau DD10-8A)</td>
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<td>5</td>
<td>4032315</td>
<td>1</td>
<td>Cord</td>
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<td>Wire Harness</td>
</tr>
<tr>
<td>6</td>
<td>4024073</td>
<td>2</td>
<td>Foot</td>
</tr>
<tr>
<td>7</td>
<td>4024076</td>
<td>1</td>
<td>Duct Adapter, 12” Flex Duct, Inlet/Outlet</td>
</tr>
<tr>
<td>8</td>
<td>4024080</td>
<td>2</td>
<td>Duct Guide, Outlet Duct Collar</td>
</tr>
</tbody>
</table>
|      | 4024078  | 2   | Duct Outlet Collar 12” X 5.75”  
For 10” Lay-Flat Duct (Not Shown) |
|      | 4024079  | 1   | Duct Outlet Collar 12” X 10.5”  
For 14” Lay-Flat Duct (Not Shown) |
| 9    | 4026095  | 1   | Handle |
| 10   | 4028795  | 1   | Hour Meter |
| 11   | 4024867  | 1   | Manometer Label |
| 12   | 8505032  | 1   | Manometer Tubing |
| 13   | 4023114  | 1   | Motor, 115V,.75Hp, 1625/1180RPM (Fasco P/N 7124-2020) |
|      | 4023362  | *   | Nut, Plastic, ¼-20 (Not Shown) |
| 15   | 4024871  | 1   | Switch, DPDT, On-Off-On |
| 16   | 4024827  | 6   | Thumb Screw, ¼-20 X ½” Long |
| 17   | 4024868  | 4   | Thumb Screw, ¼-20 X 1½” Long |
| 18   | 4029057  | 1   | Top |
| 19   | 4026304  | 2   | Wheel, 12” |
| 20   | 403487   |      | Air Filter, Disposable Carbon Blend 2” X 24” X 24” |
| 21   | 4024764  |      | Air Filter, Refillable Carbon Blend 2” X 24” X 24” |
| 22   | 4024528  |      | Carbon Blend, 5 Gal Pail |
| 23   | 4024750  |      | Duct, Flex, 12” X 25’ |
| 24   | 4023643  |      | Duct, Flex, 18” X 25’ |
| 25   | 4024935  |      | Duct, Lay Flat, 10” X 250’ |
| 26   | 4024936  |      | Duct, Lay Flat, 14” X 250’ |

### Optional Accessories

- 4023487: Air Filter, Disposable Carbon Blend 2” X 24” X 24”
- 4024764: Air Filter, Refillable Carbon Blend 2” X 24” X 24”
- 4024528: Carbon Blend, 5 Gal Pail
- 4024750: Duct, Flex, 12” X 25’
- 4023643: Duct, Flex, 18” X 25’
- 4024935: Duct, Lay Flat, 10” X 250’
- 4024936: Duct, Lay Flat, 14” X 250’
Quest PowerHEPA 1400 Pro Limited Warranty

Warrantor:
Therma-Stor LLC
4201 Lien Rd
Madison, WI 53704
Telephone: 1-866-933-7486

Who Is Covered: This warranty extends only to the original end-user of the Quest PowerHEPA 1400 Pro HEPA System, and may not be assigned or transferred.

First Year Warranty: Therma-Stor Products warrants that, for one (1) year the Quest PowerHEPA 1400 Pro HEPA System will operate free from any defects in materials and workmanship, or Therma-Stor Products will, at its option, repair or replace the defective part(s), free of any charge.

End-User Responsibilities: Warranty service must be performed by a Servicer authorized by Therma-Stor Products. If the end-user is unable to locate or obtain warranty service from an authorized Servicer, he should call Therma-Stor Products at the above number and ask for the Therma-Stor Products Service Department, which will then arrange for covered warranty service. Warranty service will be performed during normal working hours.

The end-user must present proof of purchase (lease) upon request, by use of the warranty card or other reasonable and reliable means. The end-user is responsible for normal care. This warranty does not cover any defect, malfunction, etc. resulting from misuse, abuse, lack of normal care, corrosion, freezing, tampering, modification, unauthorized or improper repair or installation, accident, acts of nature or any other cause beyond Therma-Stor Products’ reasonable control.

Limitations and Exclusions: If any Quest PowerHEPA 1400 Pro HEPA System part is repaired or replaced, the new part shall be warranted for only the remainder of the original warranty period applicable thereto (but all warranty periods will be extended by the period of time, if any, that the Phoenix Guardian HEPA System is out of service while awaiting covered warranty service).

UPON THE EXPIRATION OF THE WRITTEN WARRANTY APPLICABLE TO THE Quest PowerHEPA 1400 Pro HEPA SYSTEM OR ANY PART THEREOF, ALL OTHER WARRANTIES IMPLIED BY LAW, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL ALSO EXPIRE. ALL WARRANTIES MADE BY THERMA-STOR PRODUCTS ARE SET FORTH HEREIN, AND NO CLAIM MAY BE MADE AGAINST THERMA-STOR PRODUCTS BASED ON ANY ORAL WARRANTY. IN NO EVENT SHALL THERMA-STOR PRODUCTS, IN CONNECTION WITH THE SALE, INSTALLATION, USE, REPAIR OR REPLACEMENT OF ANY GUARDIAN HEPA SYSTEM OR PART THEREOF BE LIABLE UNDER ANY LEGAL THEORY FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES INCLUDING WITHOUT LIMITATION WATER DAMAGE (THE END-USER SHOULD TAKE PRECAUTIONS AGAINST SAME), LOST PROFITS, DELAY, OR LOSS OF USE OR DAMAGE TO ANY REAL OR PERSONAL PROPERTY.

Some states do not allow limitations on how long an implied warranty lasts, and some do not allow the exclusion or limitation of incidental or consequential damages, so one or both of these limitations may not apply to you.

Legal Rights: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.