

# Sierra

**DENTAL PRODUCTS LLC**

## **USER MANUAL/Installation Instructions**

### **TV-12 with 12 gallon VAS-Tank & Low Voltage Controller**



1931 W Gulf to Lake Hwy, Lecanto, FL 34461  
Toll Free: 800-240-5677 FAX 352-513-4801

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## CONGRATULATIONS

On the purchase of your TRU-VAC Dry Vacuum System. This State of the Art dry vacuum is a very powerful, high volume, efficient system. 230 volt motor provides plenty of vacuum on demand while maintaining multiple operatories. Equipped with Vortex Action Separator Tank (VAS), your TRU-VAC dry vacuum system will ensure efficiency and reliability, not to mention savings of up to 200,000 gallons of water usage per year. You must read user manual prior to operation.



## **CUSTOMER SUPPORT**

We will be happy to help you with any questions or concerns you may have about your TRU-VAC SYSTEM.

### **CONTACT US 24 HOURS A DAY 7 DAYS A WEEK**

Sierra Dental Products LLC  
1931 W. Gulf to Lake Hwy  
Lecanto, FL 34461

<b>Call us</b>	1-800-240-5677	TOLL FREE
Karen Bennett	(352)527-1975	ADMINISTRATOR
Chuck Bennett	(603)897-5042	OPERATIONS MANAGER
Dave Rolerad	(603)493-3635	DIRECTOR OF QUALITY
Matthew Ball	(352)208-7317	TECH SUPPORT MANAGER
Hayden Tucker	(916)330-7191	SALES MANAGER

### **Email us**

[Sierradentalproducts@outlook.com](mailto:Sierradentalproducts@outlook.com)

### **Visit us on the web**

[www.dentalvacuums.com](http://www.dentalvacuums.com)

<https://www.facebook.com/sierradentalpumps>



## SIERRA DENTAL PRODUCTS LLC WARRANTY POLICY

The warranty for the TRU VAC Dry Vacuum System is limited to the original purchaser of the unit. Sierra Dental Products is only obligated under this warranty to the repair or replacement of defective parts or materials. The issue(s) must be reported to Sierra Dental Products within the valid warranty period.

Sierra Dental Products will examine the product to determine if the parts are defective. Products that have been abused, neglected, or damaged by being improperly installed are not covered by this warranty. Refer to your User Manual for proper installation, operation, and maintenance. Work performed on the unit by any unauthorized service agents will void this warranty unless otherwise stated by Sierra Dental Products in writing. Sierra Dental Products is not liable for direct or indirect damages or loss of any nature, in connection with this equipment.

### Warranty Period

Warranty is valid only with the return of the warranty card within 30 days of purchase. Warranty period is 10 years from the date of purchase.

### Warranty Service and Return Policy

To obtain warranty service, the product must be returned to Sierra Dental Products for examination at the purchaser's expense. Sierra will require proof of all scheduled maintenance as detailed in the User Manual. All returns must be authorized and a return material authorization number (RMA #) must be obtained from Sierra Dental Products. Returned units must be properly packaged for shipping. We are not responsible for shipping damages, shipping charges, or dealer labor. Sierra Dental Products will, at their discretion, repair or replace defective parts. **Returns are subject to a 25% re-stocking fee at Sierra's discretion.**

# SAFETY

Use of the TRU-VAC not in compliance with the instructions specified in this manual may result in permanent failure of the unit.

## **WARNING:**

To prevent fire or electrical shock, do not expose this unit to rain, moisture, excessive heat or improper ventilation.

## **ATTENTION USERS:**



Alerts users of important operating and maintenance instructions. Read carefully to avoid any problems



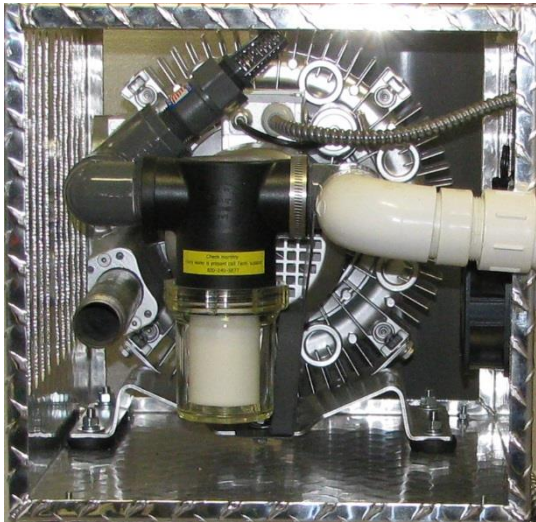
Warns users of a potentially hot surface, and a danger of burns



Warns users that uninsulated voltage is present and can cause electric shock



**Low Voltage  
Control Box**



**Motor Assembly**



**Vortex  
Action  
Separator  
(VAS) Tank**

Motors, tanks and controllers may be ordered separately.

# SPECIFICATIONS



## SITE REQUIREMENTS

<b>ELECTRICAL</b> <b>230 V-AC</b>	<b>SINGLE (-TV-12)</b>
Maximum Circuit Breaker Rating	15 amp
Minimum Wire Size	Refer to Certified Electrician
<b>PLUMBING</b>	<b>SINGLE (-TV-12)</b>
Minimum Exhaust Vent Pipe	Minimum 1 ¼" steel pipe (DO NOT USE ANY 90 DEGREE ELBOWS)
Minimum Drain Line	1 ½" flex pipe or 1 ½" Sched. 40 PVC

1 ½" Schedule 40 PVC is recommended for main feed (SUCTION) lines running to operatories from the TRU-VAC.



# PRODUCT SPECIFICATIONS

<b>Electrical</b>	<b>TV-12</b>
Voltage	230 V-AC
Operating Load	10 Amps
Startup Load	14 Amps
Frequency	50-60 Hz
Poles	2
Phase	Single
Hp/Kw	2.3/1.75
<b>Environmental conditions</b>	<b>TV-12</b>
Max Operating Temp.	214°F (101°C)
*Ambient Room Temp.	40-104°F (5-40°C)
Relative Humidity	90% (No Condensation)

\*Maintaining ambient room temperature is important, failure to do so will void warranty.

Flammable anesthetic mixtures should not be located anywhere around this unit.

Contact Sierra for recommendations regarding ambient temp.



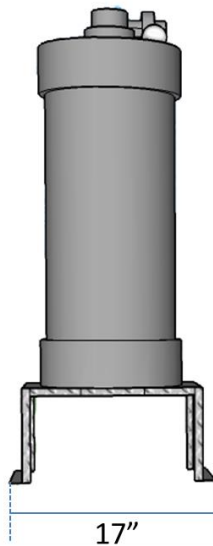


# TANK SPECIFICATIONS

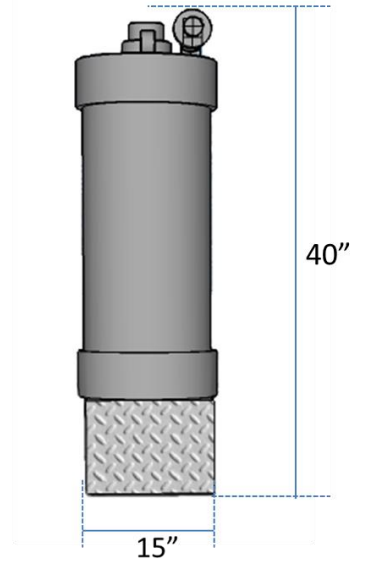
TANK	Weight	Height	Width	Depth	Capacity
V.A.S	43 lbs.	40"	17"	15"	12 Gal.



FRONT



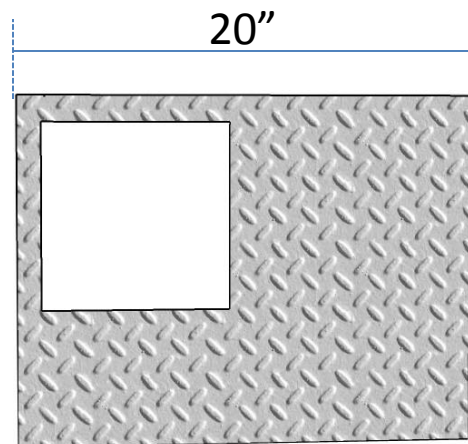
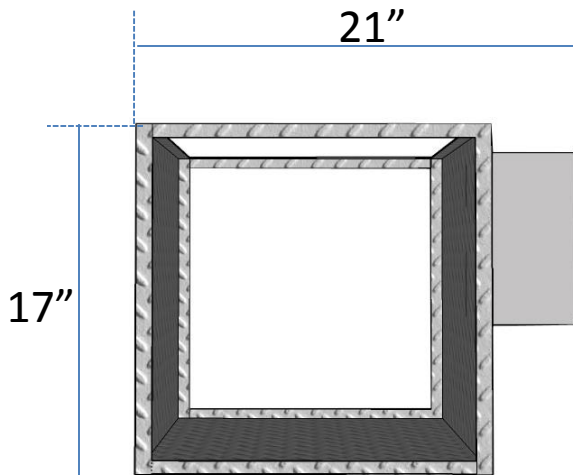
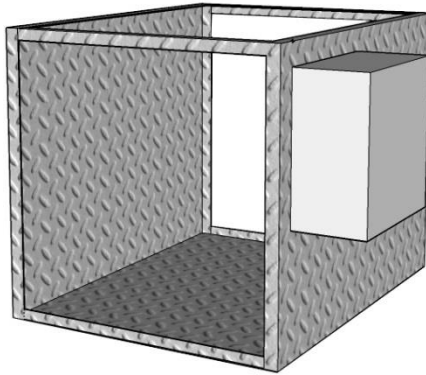
R. SIDE



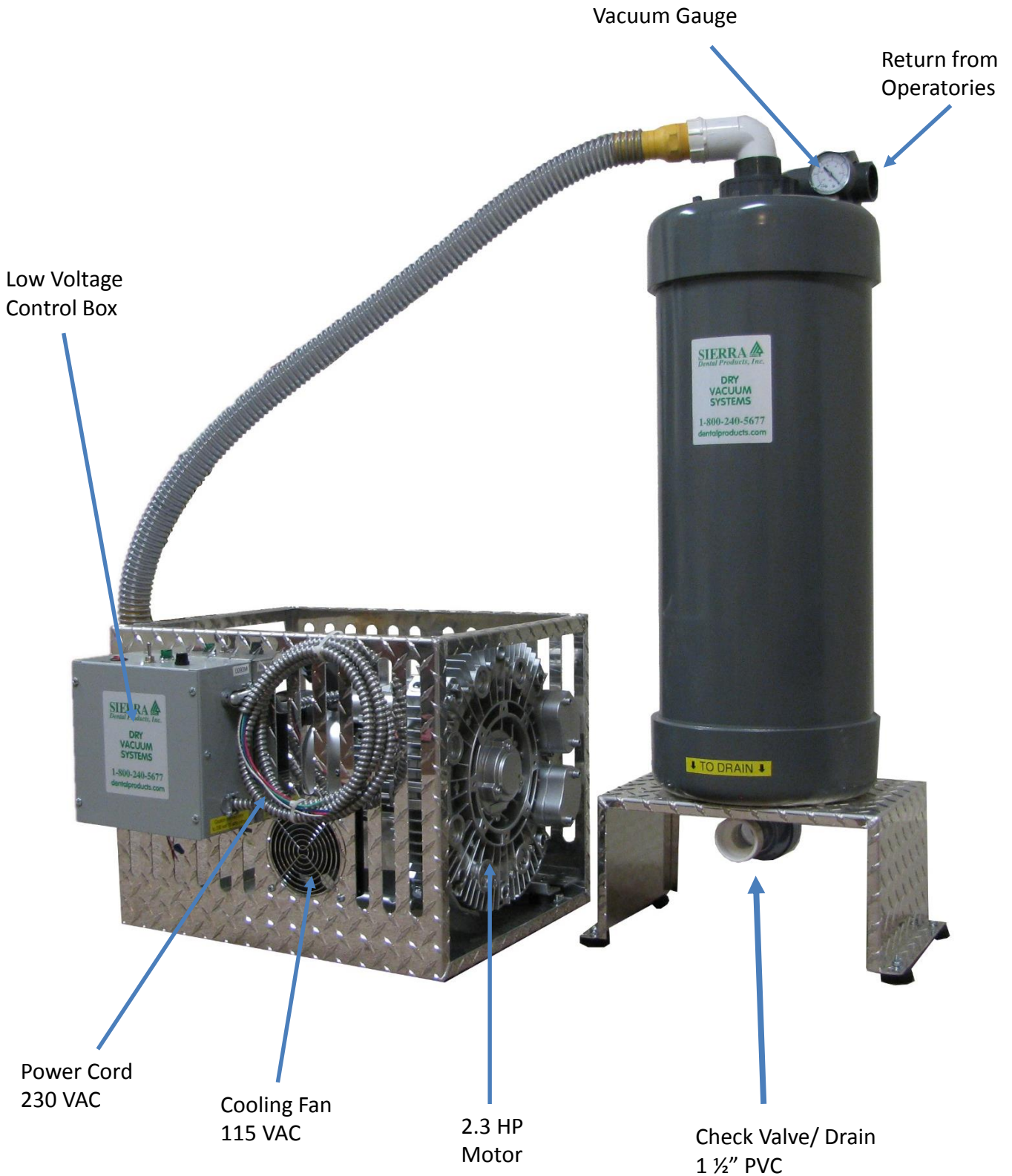
# CHASSIS SPECIFICATIONS



Chassis	Weight	Height	Width	Depth
2015	94lbs	17"	21"	20"



# SYSTEM LAYOUT TV-12



# INSTALLATION

## TV-12

**Your mechanical room is like the heart of your practice,  
Consider these recommendation to maintain a HEALTHY HEART!**

### **Before installing the TV-12**

- Ensure a clean, dust free environment.
- Ensure that your mechanical room has sufficient ventilation. The use of exhaust fans are key in maintaining **ambient temp**. When using exhaust fans, you cannot pull hot air out of a room without providing new air. This “new” air can come from another room or an outside area, although air filters will be necessary to prevent dust & debris from entering your mechanical room.
- Also consider the use of climate control. Any way to reduce/remove heat from the room will ensure correct operating conditions.

***ALL PLUMBING & ELECTRICAL MUST BE UP TO STANDARDS OF LOCAL CODES.***

Mount your (VAS) tank on top of motor assembly or beside it.  
(Optional) Placement is all according to your specific location dimensions.

\* Contact Sierra Dental Products LLC if you have any questions regarding installation.



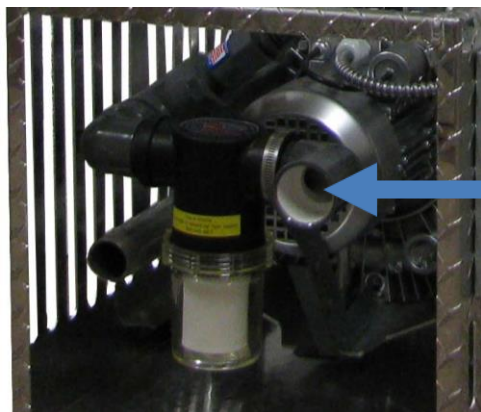
**The VAS tank can be installed in an  
alternate area if necessary**

# INSTALLATION –TV-12

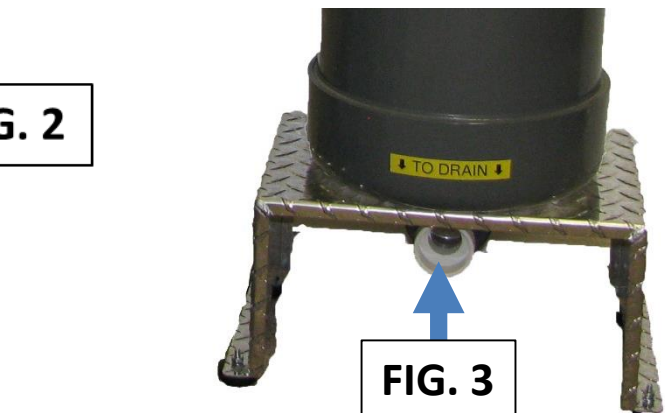


1. Find a location that fits the required site specification.
2. Wherever you plan to mount motor assembly, be sure that the 230 volt power source is readily available.
3. Place your motor assembly on the ground, if the (VAS) tank is going to be mounted on top of the motor chassis do so now. Align the 2 holes on tank base to the 2 holes on motor chassis and secure with included hardware
4. Run PVC/Flex Pipe from the top of the tank (Fig. 1) into the motor inlet. (Fig. 2)

NOTE required  
Hoses, clamps, and  
Adapters provided  
ALTHOUGH  
SCHEDULE 40 PVC  
MAY BE NEEDED.



**FIG. 2**



**FIG. 3**

5. Connect proper drain to the bottom of the tank and route this to the sewer. (Fig. 3) Assure that the tank drain is at a higher elevation than the sewer inlet to allow the tank to drain properly. ( 1 ½” Schedule 40 PVC is recommended)



# INSTALLATION TV-12



6. Connect the preexisting operatory lines to the tank. (Fig. 4)

\* Unless you plan to run all new lines



**FIG. 4**

7. We provide a 1 ¼" steel pipe exhaust. (Fig. 5)  
Route exhaust with this same material or a high Heat flexible pipe to an outside vent.

**DO NOT USE A 90° ANGLE.**

**45° ANGLES ARE RECOMENDED**

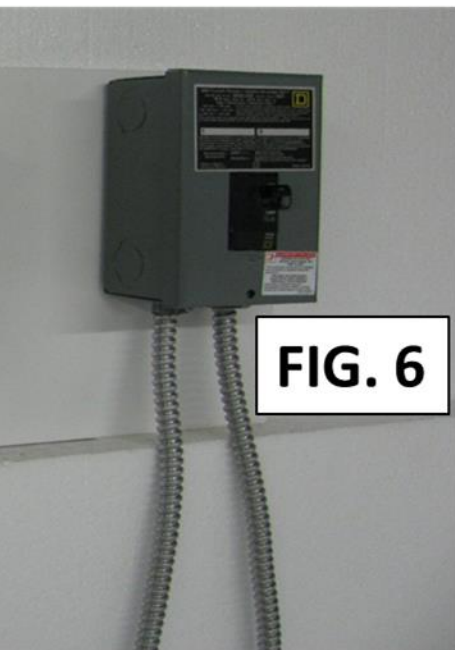
8. Routing the exhaust to an outside vent is very important, this reduces the heat significantly. This will ensure that any odor will leave the building. Wherever the exhaust leaves the building assure that outside elements such as rain/snow or foreign objects cannot make its way

into the exhaust. This could potentially cause harm to the motor. The easier the exhaust can flow out of the motor with minimum restriction, the cooler the system will run. This will prolong the life of the motor. Keep in mind when routing the exhaust, excessive length and multiple turns will create more restriction.

**FIG. 5**



# INSTALLATION TV-12



10. Route and connect the motor assembly power cords to a 230 volt source maximum circuit breaker rating: 15 AMPS per motor.

(Figure 6) \*BOX SUPPLIED BY CUSTOMER

**BLUE WIRE- one leg of 230**

**RED WIRE- one leg of 230**

**GREEN WIRE- ground**

**WHITE WIRE- ground**

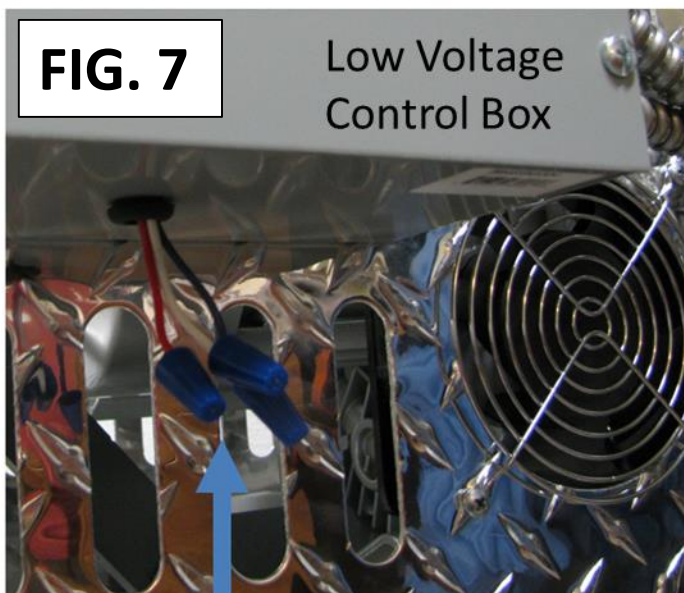
**\* Connections are to be made by a certified electrician**

On the underside of the low voltage controller you will find three remote wires. (Fig. 7) Red, White & Blue. Route these wires to a location where you will be mounting a remote switch to control the system.

**Red- 28 Volt power**

**Blue- Return**

**White- Illumination (Lamp)**



Low Voltage  
Control Box

**REMOTE WIRES**

# OPERATION



Use the red rocker switch to turn the control box on & off.

Turn the toggle switch to the up/on position to turn the pump on. The down/Remote position is used to control the pump on/off with a remote switch



If the system will not turn on, **Always** check this fuse first. Only replace with 2.5 amp fuse.



# CONT. OPERATION

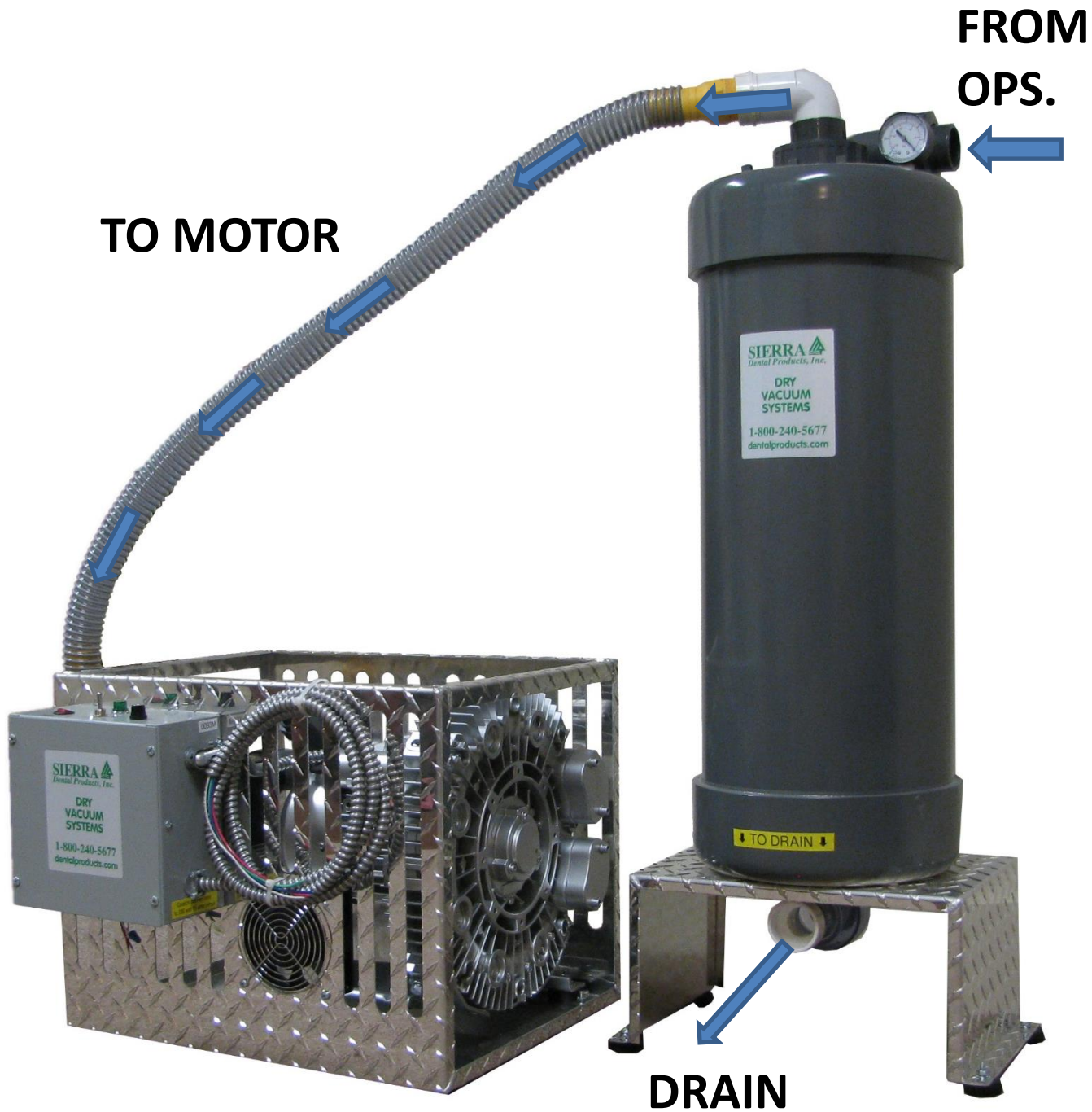


For use with an alternate remote switch, ensure that the red rocker switch is on, and the toggle switch is in the down/remote position. This Feature will allow you to control your system with a remote switch.

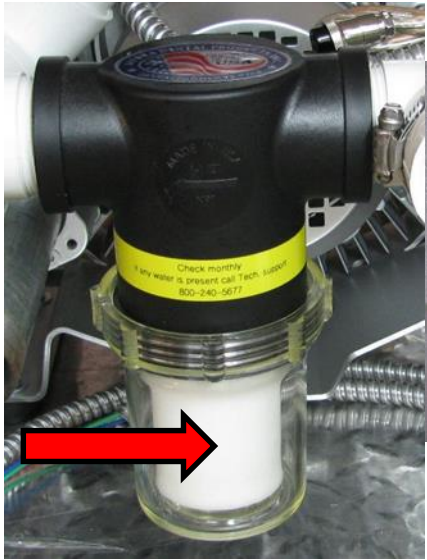




# PLUMBING FLOW DIAGRAM



## FILTER



# MAINTENANCE

\*ALWAYS make sure that your filter is **WHITE & CLEAN**, a monthly check is **NECESSARY**. Once a month check filter bowl for presence of liquids, contact tech support if liquids are present. These micron filters are not reusable, do not attempt to clean or alter the filter in any way. Dirty filters should always be replaced with new ones every 3 months. When checking or replacing the filter be sure not to reinstall the bowl without the O ring properly seated. **Filters can be purchased thru Sierra Dental Products LLC approved dealers. Contact 800-240-5677 for approved dealers in your area.**

Your TRU-VAC should be installed in a clean environment, free of dust & debris.

### DO NOT ATTEMPT TO ADJUST THE VACUUM RELIEF VALVE

The vacuum relief valve is a preset part, Sierra Dental Products LLC has set the standard for this valve according to many variables. Adjusting the vacuum relief valve, will void your warranty.

**Every 3 months** check to ensure that your cooling fan is still running. (If it is not on while the motor is running contact us)

**Every 3 months** check your drain connection on the bottom of the (VAS) tank to ensure that it is dry and not leaking.

**Every 3 months** inspect unit for dust & debris build up around the fans & on the motor. Remove this build up to ensure sufficient airflow for cooling purposes.

**Every 3 months REPLACE** the inlet filter with a **NEW** filter. Unless filter replacement is necessary prior to 3 months. Discoloration is the visual that dictates when a filter needs to be changed.

Every 3 months inspect the exhaust wherever it leaves the building/mechanical room to ensure sufficient airflow. Remove any obstruction that may have occurred.

### **Vacuum line cleaning**

**At a minimum, all of the lines used that day, should be cleaned with a non foaming evacuation system cleaner at the end of everyday.**

Sierra Dental Products highly recommends BIO PURE -Complete evacuation system cleaner.

Perform scheduled maintenance as per Sierra Dental Products LLC recommendation. Failure to do so will result in a voided warranty.

# TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
NO SUCTION	<ul style="list-style-type: none"> <li>a. Pump not turned on.</li> <li>b. Pump not running.</li> <li>c. (VAS) tank is full.</li> <li>d. Drain check valve is clogged</li> <li>e. Clogged drain</li> <li>f. Kinked or collapsed suction hose</li> </ul>	<ul style="list-style-type: none"> <li>a. Turn pump on</li> <li>b. Contact Sierra Dental Products LLC</li> <li>c. Shut unit off for 20 seconds and turn it back on</li> <li>d. Contact Sierra Dental Products LLC</li> <li>e. Call your Local Plumber</li> <li>f. Call Sierra Dental Products LLC</li> </ul>
Poor Or Low Suction	<ul style="list-style-type: none"> <li>a. Restricted air exhaust</li> <li>b. Restricted air suction</li> </ul>	<ul style="list-style-type: none"> <li>a. Ensure that exhaust is ran according to installation procedure, Call Sierra Dental Products LLC</li> <li>b. Dirty Filter, Contact Sierra Dental Products LLC</li> </ul>
Pump Does Not Run	<ul style="list-style-type: none"> <li>a. <u>230 Volt</u> Circuit breaker is OFF</li> <li>b. Remote switch is OFF or not correctly connected</li> <li>c. Electrical Problem</li> </ul>	<ul style="list-style-type: none"> <li>a. Turn the circuit breaker ON</li> <li>b. Make sure your remote is ON, Contact Sierra Dental Products LLC</li> <li>c. Call Sierra Dental Products LLC</li> </ul>

Feel free to contact us for any trouble-shooting issues.

# ACCESSORIES



BIO PURE -Complete evacuation system cleaner. 100% Guaranteed to maintain suction & eliminate trap hand cleaning. This is an all natural proprietary microbial formula designed to eliminate odors & digest organic waste. **HIGHLY RECOMMENDED**



## CHAIRSIDE AMALGAM SEPARATOR

-These filters are designed to collect amalgam before it makes it to the drain. These filters are to be mounted chair side in the operatory on the main line that feeds your HVE lines and saliva lines. Multiple fittings included with the product ensures an easy installation process. These filters are a key in preventing contamination of bio hazardous waste in our water systems. These filters can be easily removed, recycled and replaced.



**REPLACEMENT FILTERS** – available in packs of 3. (Filters are a very important factor with your TRU-VAC.)

A dirty filter can cause loss of vacuum and motor damage. Inspecting and replacing these filters ensures proper maintenance procedures and avoids down time or costly repairs.