



LRV-4 Wet Vacuum System

2020 USER MANUAL/Installation Instructions



TABLE OF CONTENTS

Cover	1
Congratulations	2
Customer support	3
Warranty Policy	4
Safety	5
System Layout	6
Specifications	
-Site requirements	7
-Product Specifications	8
Installation	9
Operation	11
Maintenance	12
Troubleshooting	13
Accessories	15

Congratulations!

On the purchase of your Sierra LRV-4 Vacuum System. This State of the Art wet vacuum is a very powerful, high volume, efficient system. 115/230 volt motor provides plenty of vacuum on demand, while maintaining multiple operatories. The use of high-quality materials, such as stainless steel and ceramics, ensure utmost reliability and constant operating characteristics for years to come.

We are certain you will love your new product!

If you are not satisfied 100% with this products please reach out and let us know, *we are successful because of your FEEDBACK!*

WARRANTY POLICY



Sierra Dental Equipment Limited Warranty

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

Sierra Dental Equipment will examine the product to determine if the parts are defective. Equipment that has been abused, neglected, or damaged by being improperly installed/maintained are not covered by this warranty. We are not responsible for work performed on the unit by any unauthorized service agents.

Warranty Period

Warranty is valid only with the return of the warranty card within 30 days of purchase for a period of **5 years**.

Warranty Service and Return Policy

To obtain warranty service, product must be returned to Sierra Dental Equipment for examination at the purchaser's expense. All returns must be authorized and a return material authorization (RMA#) number must be obtained from Sierra Dental Equipment. Returned units must be properly packaged for shipping. We are not responsible for shipping damages or shipping charges. Sierra Dental Equipment will, at their discretion, repair or replace defective parts. ****PLEASE NOTE**** there is a **25% re-stocking fee** on all returns.



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

WARNING

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

ATTENTION USERS



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

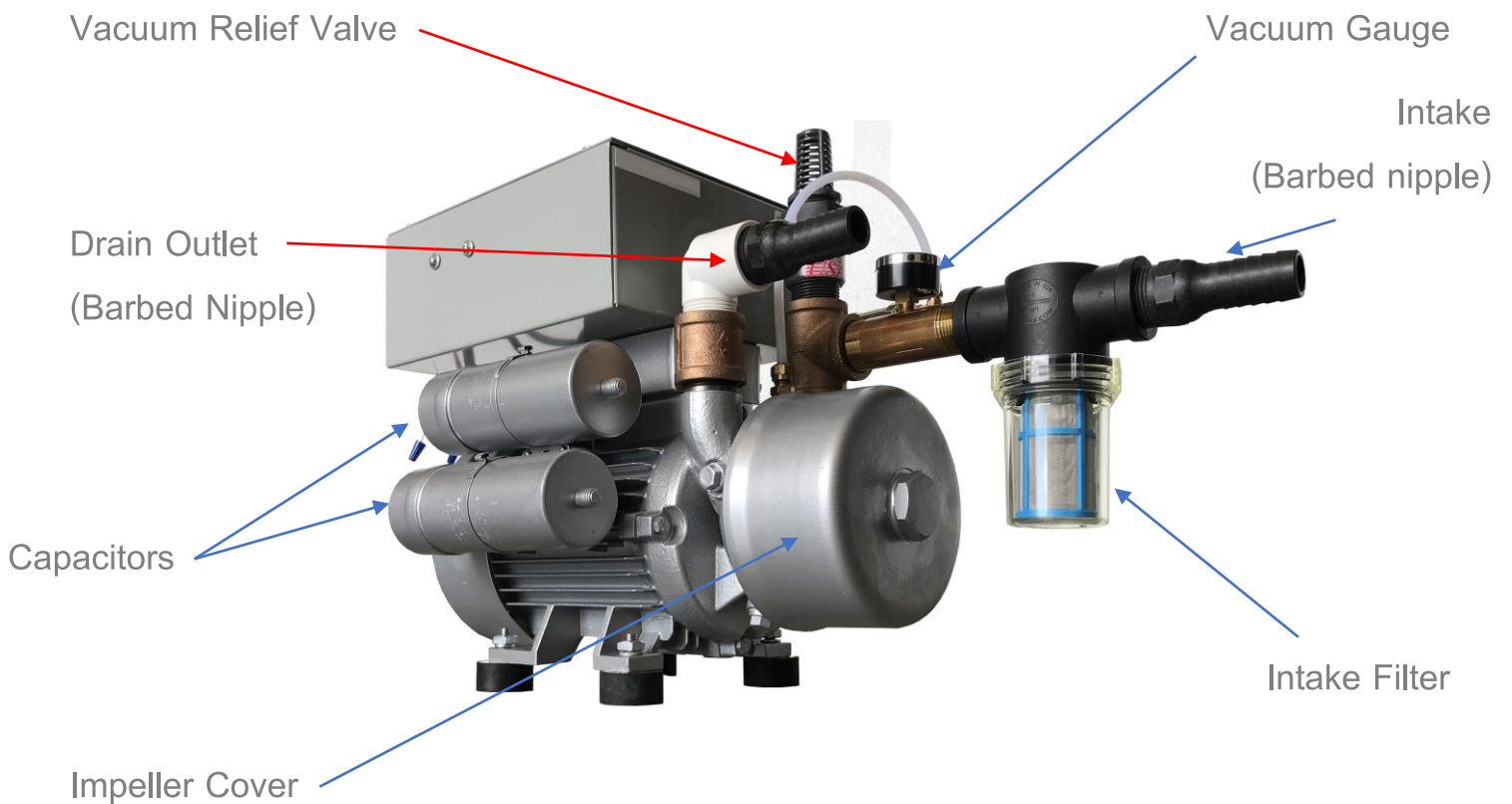
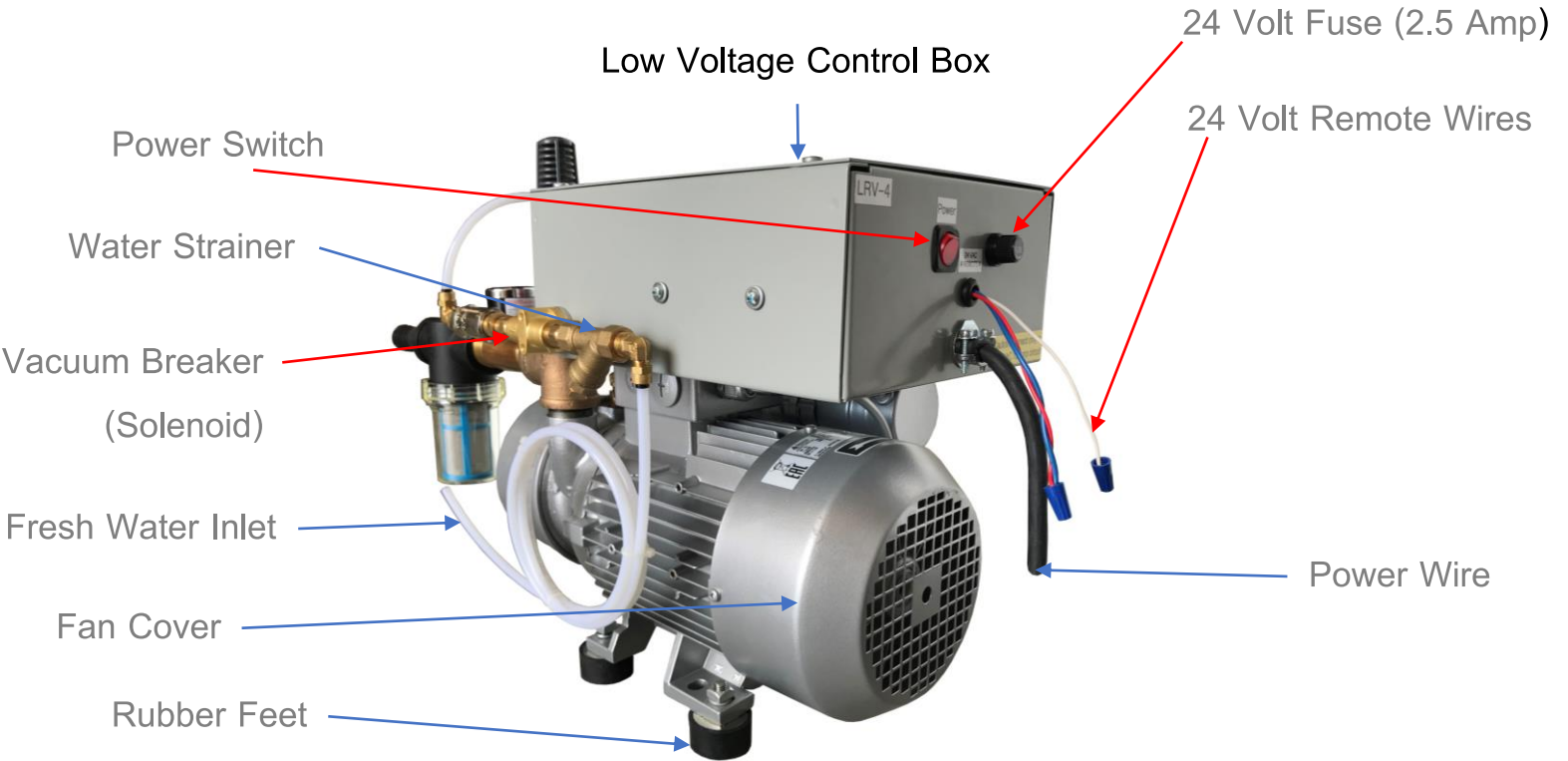


Warns users of a potentially hot surface, and a danger of burns



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

SYSTEM LAYOUT



SPECIFICATIONS



FOOTPRINT

	WEIGHT	LENGTH	WIDTH	HEIGHT
LRV-4	65 lbs.	12	17.5	14"

SITE REQUIREMENTS

ELECTRICAL	LRV-4
Max circuit breaker rating	20 Amp
Minimum wire gauge	14 Gauge
PLUMBING	LRV-4
Minimum intake vacuum lines	$\frac{3}{4}$ " Trunk Lines
Minimum drain line	1" Flex
Fresh water inlet (F.W.I.)	$\frac{1}{4}$ " OD Flex (mini)

SPECIFICATIONS



PRODUCT SPECIFICATIONS

ELECTRICAL	LRV-4
Voltage	230 VAC (115 Optional)
Operating load	10 Amps
Start-up load	15 Amps
Frequency	50-60 Hz
Phase	Single
Poles	2
TEMPERATURES	LRV-4
Ambient temperature	41°-104° F
Operating liquid temp	41°-90° F
Vacuum & Pressure	LRV-4
Inlet Hg"	0-28 Hg"
Cubic feet/minute	31.2 CFM
Max. discharge pressure (operating)	16 psi
Max. permissible pressure in pump	116 psi

INSTALLATION



1. Find a location that fits the required site specifications (A licensed plumber is recommended for Steps 3, 4 & 5)
2. Place LRV-4 in its pre-determined configuration
3. Drain instructions: Using a section of the 1" flex hose provided, route a drain line from the barbed nipple (Fig. 1) to a proper drain. This drain, is an exhaust. Ensure drain line is sealed tightly and secured with a hose clamp to prevent gas or fluid leaks.
4. Operatory Intake: Use 1" Adapter provided to convert the pre-existing line coming from the operatories for use with 1" ID flex hose. Route this flex hose to the nipple on the intake (Fig. 2) Be sure to use a hose clamp to ensure a sealed connection.

Figure 1

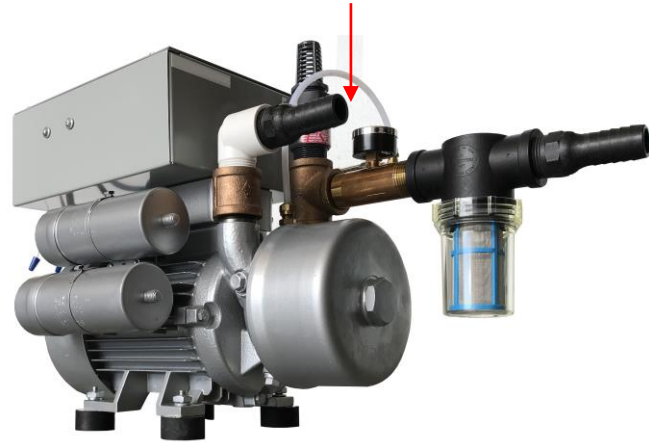
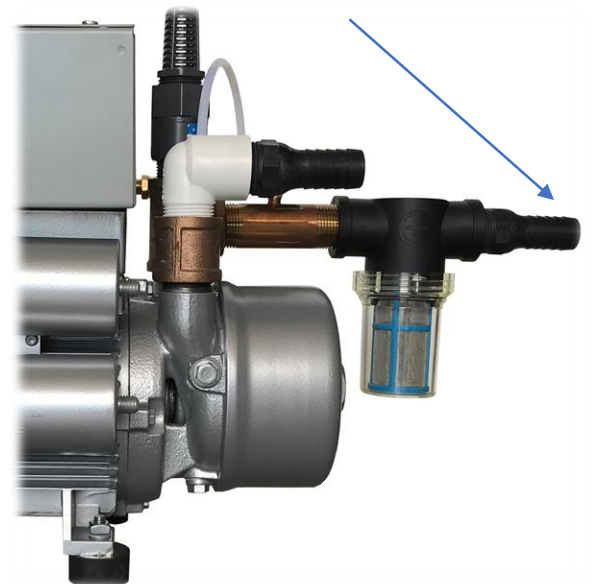


Figure 2



INSTALLATION

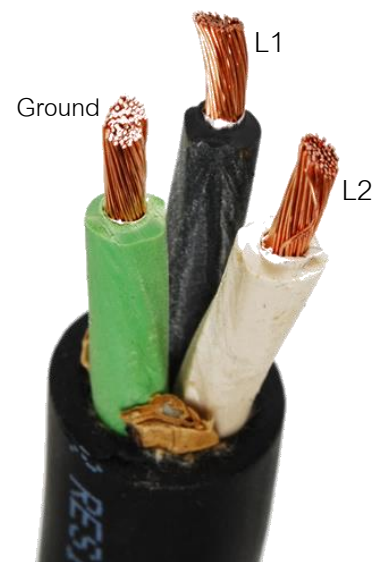


5. **Fresh Water Supply:** Use adapters to convert the pre-existing water line for use with 1/4" OD P.E.X type flex hose (Fig. 3) Ensure that your water line is secured and completely sealed. Sierra Dental Equipment highly recommends adding a manual valve on this incoming water supply. This can be useful for troubleshooting, as well as, flow rate adjustment.
6. **A dedicated 20-amp circuit breaker** and electrical outlet, located near your LRV-4 is suggested. A licensed electrician is highly recommended.
7. **Power Cord Configuration:** Power cord has 3 wires (Fig. 4) The black wire is L1, the white wire is L2 & the green wire is ground.

Figure 3



Figure 4



INSTALLATION / OPERATION



8. If you have an outlet, provided by an electrician, you will need to have the power cord equipped with the corresponding plug end.
9. Plug the unit in: Ensure that the power switch (Fig. 5) is not illuminated.
10. Turn the fresh water supply ON check for any leaks in the connections.
11. NOW YOU ARE READY TO POWER UP THE LRV-4.

Figure 5



12. **OPTIONAL REMOTE OPERATION:**
The red (a) and blue (b) wires are to be connected to a switch, the white (c) wire is used for 24 VAC illumination. (Fig 6)
13. Always leave the power switch (Fig. 5) in the "On" position when using remote control (Fig. 7)

Figure 6

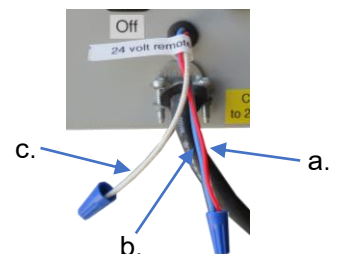
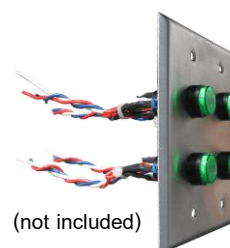


Figure 7



MAINTENANCE



***ALWAYS** make sure your filter (Fig. 8) is CLEAN. A weekly check is highly recommended. These micron filters are cleanable. Warm water and soap can be used to break down any debris clogging the screen. Filters need to be replaced every 3-6 months. **New filters can be purchased thru Sierra Dental Equipment (Contact us via phone, email, or visit us on the web)**

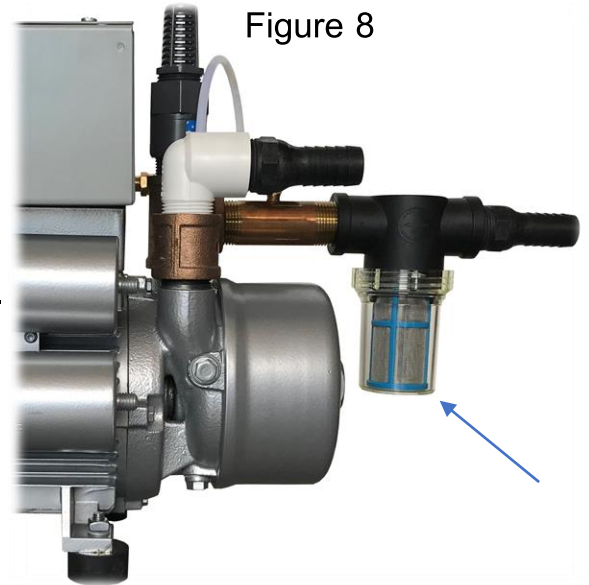


Figure 8

The inline strainer (Fig. 9) prevents debris from entering the solenoid and motor. If this strainer gets clogged, it could prevent water from entering the motor and potentially cause harm to the liquid ring vacuum. Inspect and clean this strainer quarterly. It can be cleaned by removing the internal screen with a 10mm open-end wrench. Rinse the strainer with tap water to remove any debris. Re-thread the strainer back into the hole it was removed from.



Figure 9

TROUBLESHOOTING



ISSUE	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
<p style="text-align: center;">No suction (NONE)</p>	<ul style="list-style-type: none"> a. Pump not turned on b. Pump not running c. Clogged Intake d. Kinked or collapsed suction hose e. Water supply is off f. Clogged inline strainer g. Kinked water supply line h. Clogged vacuum filter i. Leaking pump head j. Faulty motor/pump k. Clogged Check Valve (intake) l. Clogged Check Valve (water supply) 	<ul style="list-style-type: none"> a. Turn pump on b. Check fuse, breaker, cables & terminals for open circuit. If none of the above, contact Sierra Dental Equipment c. Contact Sierra Dental Equipment d. Contact certified plumber to access/repair e. Turn water on f. Remove filter element, clean, re-install g. Contact certified plumber to access/repair h. Remove filter element, clean/replace, re-install i. Contact Sierra Dental Equipment j. Repair or replace motor/pump. Contact Sierra Dental Equipment k. Contact certified tech. Contact Sierra Dental Equipment l. Contact certified tech. Contact Sierra Dental Equipment
<p style="text-align: center;">Low suction</p>	<ul style="list-style-type: none"> a. Clogged vacuum filter b. Relief valve c. Low water pressure d. Clogged inline strainer e. Clogged intake f. Kinked or collapsed suction hose g. Faulty seals/lids on chairside traps h. Vacuum leaks in plumbing/HVE lines/Saliva lines etc. i. Under-rated vacuum system j. Clogged chairside traps k. Kinked water supply line 	<ul style="list-style-type: none"> a. Remove filter element, clean/replace, re-install b. Contact Sierra Dental Equipment c. Contact certified plumber to access/repair d. Remove filter element, clean, re-install e. Contact Sierra Dental Equipment f. Contact certified plumber to access/repair g. Replace lids/seals/traps accordingly h. Repair/replace lines, tips, etc. i. Contact Sierra Dental Equipment for upgrade or replacement j. Clean traps k. Contact certified plumber to access/repair

TROUBLESHOOTING



ISSUE	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
Motor won't turn on (no noise)	<ul style="list-style-type: none">a. No powerb. Faulty Capacitor	<ul style="list-style-type: none">a. Check power source, ensure it is plugged into a power sourceb. Call Sierra Dental Equipment,
Motor Won't Turn On (Humming Noise)	<ul style="list-style-type: none">a. Partial power supply lead interruptedb. Impeller is jammedc. Impeller is defectived. Motor bearings defective	<ul style="list-style-type: none">a. Check fuse, cables, & terminals for open circuit, connect open circuit, contact Sierra Dental Equipmentb. Contact Certified service tech. Contact Sierra Dental Equipment for servicingc. Replace pump/motord. Replace Bearings. Contact Sierra Dental Equipment for servicing

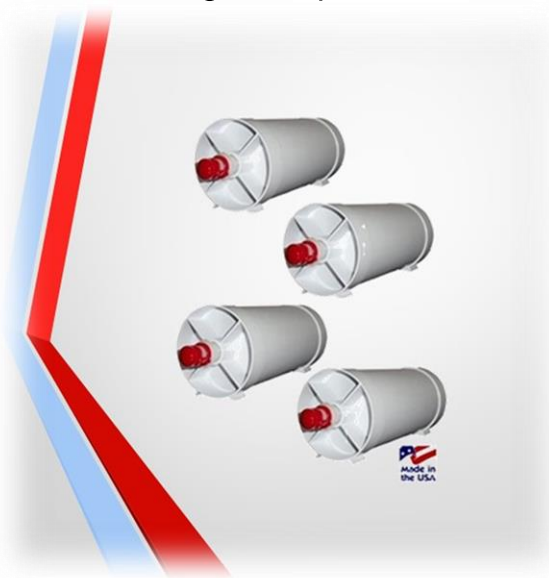
ACCESSORIES

Line cleaner



Bio-Pure is an environmentally friendly, non-corrosive evacuation system cleaner that restores and maintains evacuation system flow and function by actively breaking down and digesting organic waste. Eliminate years of sludge build up in as little as 6 weeks and prevent new sludge from sticking around, even in between applications!

Amalgam separator



We've helped doctors everywhere find their solution to amalgam in the waste water! Want to become amalgam compliant and reduce your environmental impact? Call us to find out how we can help you with our simple and easy options. From becoming compliant all the way through the recycling process, Sierra has your back every step of the way!

Replacement filters



REPLACEMENT FILTERS – available in packs of 3. (Filters are a very important factor with your TRU-VAC.)
A dirty filter will cause loss of vacuum suction and motor damage. Inspecting and replacing these filters regularly ensures proper maintenance procedures and avoids down time and/or costly repairs.