

Ramvac

SINGLE WET VACUUM



USER MANUAL

MODELS:

CV-101FS & CV101FSW

CV-102FS & CV-102FSW



DENTALEZ

SECTION I - INTRODUCTION

Product Overview..... 1
 Product Features..... 2
 Specifications..... 3
 Recommended Environmental Conditions..... 3
 Classifications..... 4
 Explanation of Symbols & Signs..... 4
 Safety Precautions..... 5

SECTION II - PREINSTALLATION

Site Requirements 6
 Suggested Pump Sites 8
 Typical Utility Locations & Measurements 8

SECTION III - INSTALLATION

Installation Kit 9
 Cabinet 10
 Drip Plate 11
 Water Supply Line..... 12
 Vacuum Line..... 13
 Waste Line 14
 Water Recirculator (Optional)..... 15
 Electrical Connection..... 17

SECTION IV - OPERATION

How the System Works..... 18

SECTION V - CARE & MAINTENANCE

Overview..... 19
 Key Points for Trouble-free Operation 19
 Cleaning Instructions (Vacuum Unit) 19
 Preventive Maintenance Schedule..... 20
 Daily Maintenance 21
 Weekly Maintenance..... 22
 Monthly Maintenance..... 23

SECTION VI - USER SERVICE INFO

Troubleshooting - Vacuum Pump 25
 Troubleshooting - Electrical System..... 26
 Relay Box..... 27
 Fuse Replacement..... 27
 Wiring Schematic..... 28
 Air/Water Flow Circulation Diagram..... 28
 Vacuum Pump System Repair Procedures 29
 Service Instruction..... 36
 Disposal of Equipment..... 36

SECTION VII - PARTS

Replacement Parts List..... 37

EMC INFORMATION..... 43

LIMITED WARRANTY..... 47


PRIVACY POLICY..... 49

TERMS OF USE..... 54

PRODUCT OVERVIEW


This manual contains site preparation, installation, operation, care and user service information for the Ramvac® Barracuda™ Single Wet Vacuum Pump. To view the latest manual, go to DENTALEZ.COM to download a digital (PDF) copy.

The Barracuda Single Wet Vacuum Pump is designed to provide trouble-free service when installed, operated and cared for according to the procedures set forth in this manual.

 To ensure proper installation, carefully read all the instructions contained in this manual prior to installing, operating and servicing. For safety, pay close attention to all warnings, cautions, notices and notes.

Before starting installation procedures, review the illustration to become familiar with the components of the vacuum pump (*FIGURE 1*).

 **WARNING**

 Do not modify this equipment without permission from Ramvac. Unauthorized modification will void the warranty and could result in serious injury. If this equipment is modified, appropriate inspection and testing must be conducted to ensure continued safe use of equipment.

After the vacuum pump is installed, review the features, operation procedures and care guidelines with the doctor's staff.

LEAVE THIS MANUAL IN THE DOCTOR'S OFFICE.

NOTICE

- Installation by an authorized Ramvac dealer service technician is recommended.
- For any questions about an order, please contact a Ramvac customer service representative at 866-DTE-INFO.

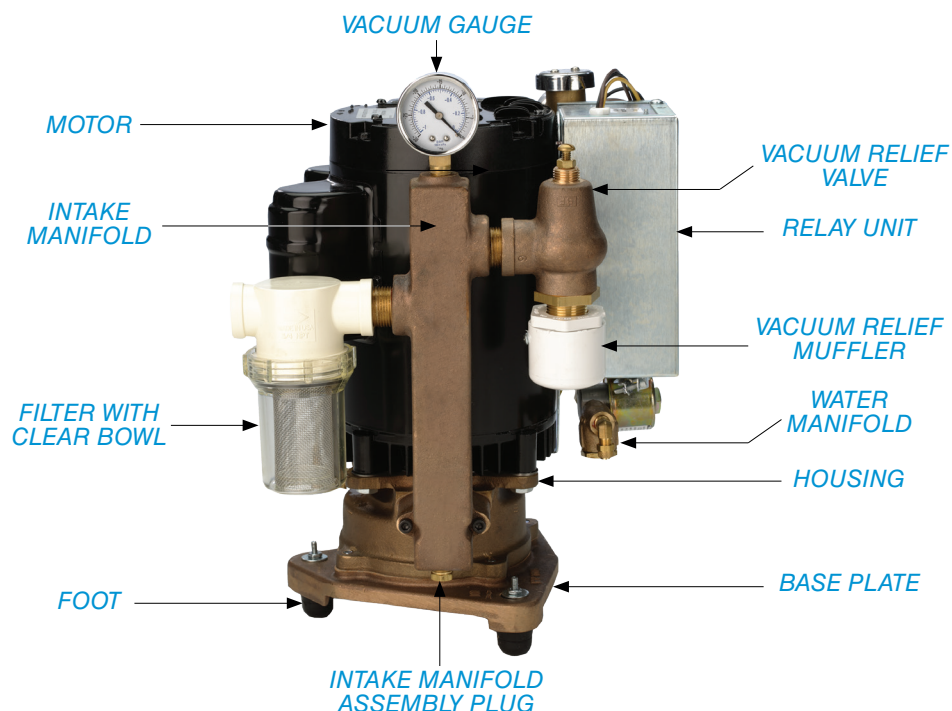


FIGURE 1. MAIN COMPONENTS OF THE BARRACUDA SINGLE WET VACUUM PUMP

PRODUCT FEATURES

Quiet and compact, the Ramvac® Barracuda™ Single Wet Vacuum Pump features durable construction and thoughtful design to seamlessly fit into your practice. The Barracuda single water ring pump is time-tested and reliable. Barracuda provides easy four-step installation and carries a five-year limited warranty from date of installation.

STANDARD FEATURES

- Quiet and compact.
- Chemical resistant brass impeller and housing provides lasting performance.
- Sealed bearings in motor.
- 1 HP and 2 HP water injected pump models available to meet a practice's specific requirements.
- Smaller and less expensive.
- Five-year warranty (see [LIMITED WARRANTY](#) section of this manual).

OPTIONAL FEATURES

- Optional air/water and nitrous oxide separator.
- Optional water recirculator reduces water consumption by approximately 75% without sacrificing high vacuum power.



Ramvac
SINGLE WET VACUUM PUMP



SPECIFICATIONS

	CV-101FS / CV-101FSW	CV-102FS / CV-102FSW
Max Users	2	3
Recirculator	N/A	Included
Phase	1	1
Horsepower (kW)	1	2
Voltage Rating (Min/Max)	115 (208-230)	230 (208-230)
Cycle (Hz)	60	60
Breaker Size (Amps)	20	20
Unit Power Consumption (Amps)(ea. Motor)	13.2 / 7.2-6.6	11.9-10.7
Running Speed (RPM)	3,450	3,450
Max Sealed Vacuum (Hg)	Approximately 20-25" Adjustable	Approximately 20-25" Adjustable
Ambient Temperature Range	10°-40°C / 50°-104°F	10°-40°C / 50°-104°F
THHN Wire Size (Gauge)	12	12
Gauge Accuracy	ASME/ANSI B40.1 Grade B (+/-3/2/3%)	ASME/ANSI B40.1 Grade B (+/-3/2/3%)
Weight (Shipping)(lbs)	68	78
Dimensions W x D x H (in)	12 x 9 x 16	14 x 11 x 20
Usable CFM	15	30
Use Factor (No. of high-volume hoses open simultaneously)	1.5	3
Water Requirements (gpm)	1/2	1

RECOMMENDED ENVIRONMENTAL CONDITIONS



TRANSPORTATION AND STORAGE

- Temperature range: -40°F to 158°F (-40°C to 70°C)
- Relative humidity range: 10% to 100%
- Atmospheric pressure range: 50 kPa to 105 kPa

OPERATION

- Temperature range: 50°F to 104°F (10°C to 40°C)
- Relative humidity range: 0% to 95%; no condensing moisture
- Atmospheric pressure range: 63 kPa to 105 kPa



CLASSIFICATIONS

ETL CLASSIFIED Conforms to:
 ANSI/AAMI STD ES60601-1:2005 (R2012)
 Certified to:
 CAN/CSA STD C22.2 No. 60601-1:08
 Complies with NFPA 99C level 3 piped gas and vacuum requirements.
 Manufactured in a FDA registered ISO 13485:2016 certified facility.

Ramvac vacuum units meet the most current and highest safety standards.


- Type of Protection Against Electric Shock: Class 1 Equipment.
- Degree of Protection Against Ingress of Water: IPXO.
- Flammable Gases: Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.
- Not intended for use in an oxygen rich environment.
- Mode of Operation: Continuous.

EXPLANATION OF SYMBOLS & SIGNS

-  = Caution
-  = Warning
-  = Biohazard
-  = Warning - Dangerous Voltage
-  = Hot Surface
-  = General Mandatory Action
-  = Consult Instructions for Use
-  = Alternating Current
-  = Direct Current
-  = Protective Earth (Ground)
-  = Serial Number
-  = Manufacture Date
-  = Manufacturer
-  = Hazardous Moving Parts
-  = Box Must Remain Upright
-  = Do Not Place Box on Uneven Surface
-  = Do Not Stack Box
-  = Box Contents Safe Temperature Range
-  = Box Contents Safe Humidity Range

SAFETY PRECAUTIONS

To ensure that the safety potential of this equipment is achieved, make sure equipment is installed according to written instructions.

 Electrical shock could occur as a result of improper grounding. This product must be grounded according to NEC regulations and local codes.

- The vacuum unit should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the vacuum should be observed to verify normal operation in the configuration in which it will be used.
- Never use the vacuum to scavenge flammable anesthetic gases. Even small concentrations may cause a fire in the vacuum unit.
- Property damage and/or personal injury may result if directions are not followed or OEM parts are not used.
- Always turn off vacuum and remove power from unit when servicing. (Turn off power at disconnect or service breaker.)
- Danger of fire or explosion when using flammable substances.
- Never leave children unattended when vacuum is in use.

CAUTION

- The vacuum has several guards designed to protect against accidental contact with dangerous components. Do not remove these guards until power has been disconnected/turned off from the equipment. If service is required with the guard removed and the power on, it should only be performed by a qualified service technician. Always replace any guards that have been removed for service or that may have been damaged.
- During installation, always ensure all electrical, plumbing or other utilities are properly located to avoid possible tripping or falling hazards. Always follow all local, state and national building codes, as well as any applicable workplace safety regulations.
- Use of a plug for electrical service is not recommended. Incorrect connections will cause a drop in line voltage and/or loss of power. Overheating could result.
- The EMISSIONS characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required) this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.

NOTICE

- Medical electrical equipment needs special precautions regarding electromagnetic (EMC) compatibility and needs to be installed according to EMC information. (See [EMC INFORMATION](#) provided in this manual.)
- The use of accessories, transducers, and cables other than those specified, with the exception of transducers and cables sold by the manufacturer of this device as replacement parts for internal components, may result in increased emissions or decreased immunity of the vacuum.
- Portable and mobile radio frequency (RF) communications equipment can affect medical electrical equipment.


SITE REQUIREMENTS

The following preinstallation information will assist in making a quick, easy and quality installation; however, if there are any questions, contact a Ramvac technical service representative at 1-866-DTE-INFO.

Before the single wet vacuum pump can be properly installed, the following utilities must be supplied: electrical, water, waste, and vacuum lines. Low-voltage control lines are optional.

WARNING

- Not for use in an oxygen rich environment. Large concentrations may cause a fire in the vacuum unit and may cause an exhaust hazard.

 To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

- Electrician must provide a means to isolate the circuit electrically from the supply mains on all poles simultaneously.

ELECTRICAL

All electrical supply lines and control wiring should be supplied and installed by a licensed electrician according to local building codes.

Low-voltage Control Lines (Optional)

If remote low-voltage is desired, a licensed electrician should install 18-2 thermostat wire from the pump location to the operatory switches. (Use 18-3 thermostate wire for lighted switch.)

ELECTRICAL REQUIREMENTS

VOLTS	MODEL CV-101FS*	MODEL CV-102FS
115	Wired direct by electrician as per local codes Separate circuit with 20-Amp breaker, single-phase.	Cannot be connected to 115V line.
208/230	Wired direct by electrician as per local codes Separate circuit with 20-Amp breaker, single-phase.	Wired by electrician. Separate circuit with 20-Amp breaker, single-phase.

*Model CV-101FS is manufactured and shipped for 115 V operation. This model may be converted to 230 V operation by qualified installation technicians only following connection diagrams inside the pump control box.

SITE REQUIREMENTS (CONTINUED)

WATER LINES

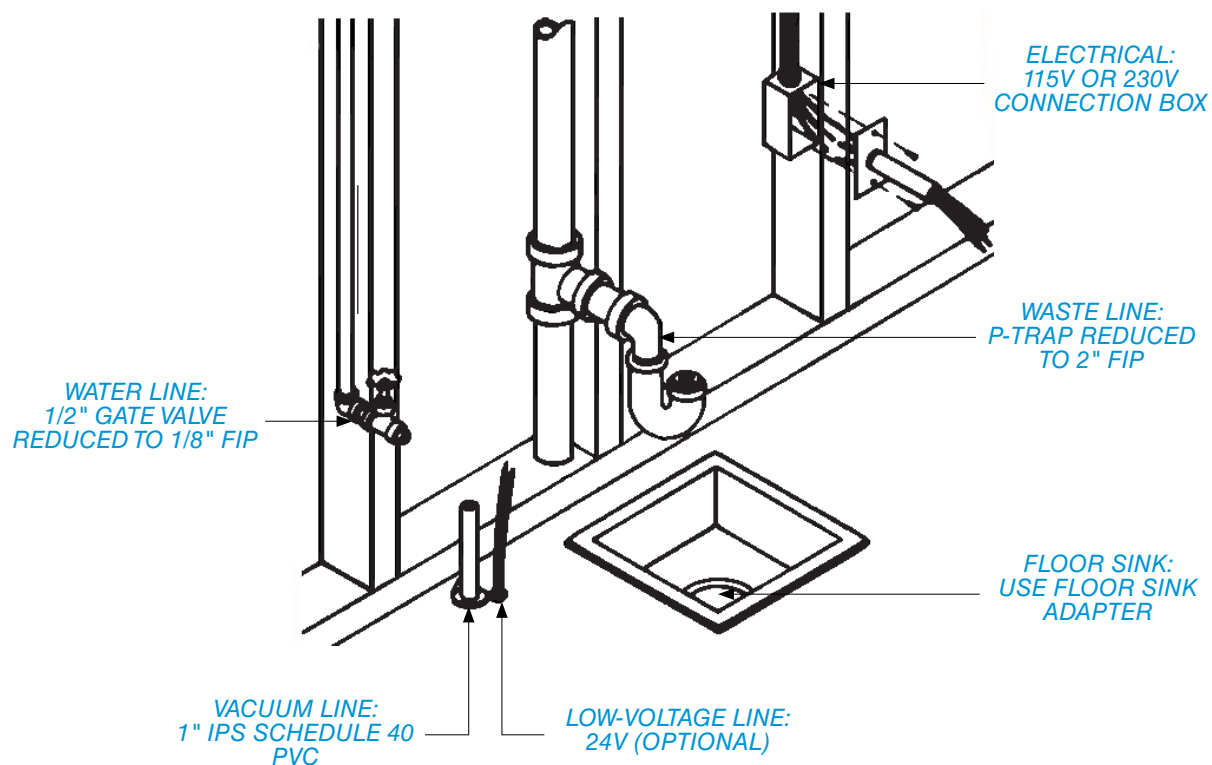
- Water lines must be installed by a licensed plumber according to all local building codes.
- Requirements: 1/2" gate valve reduced to 1/8" FIP.

WASTE LINES

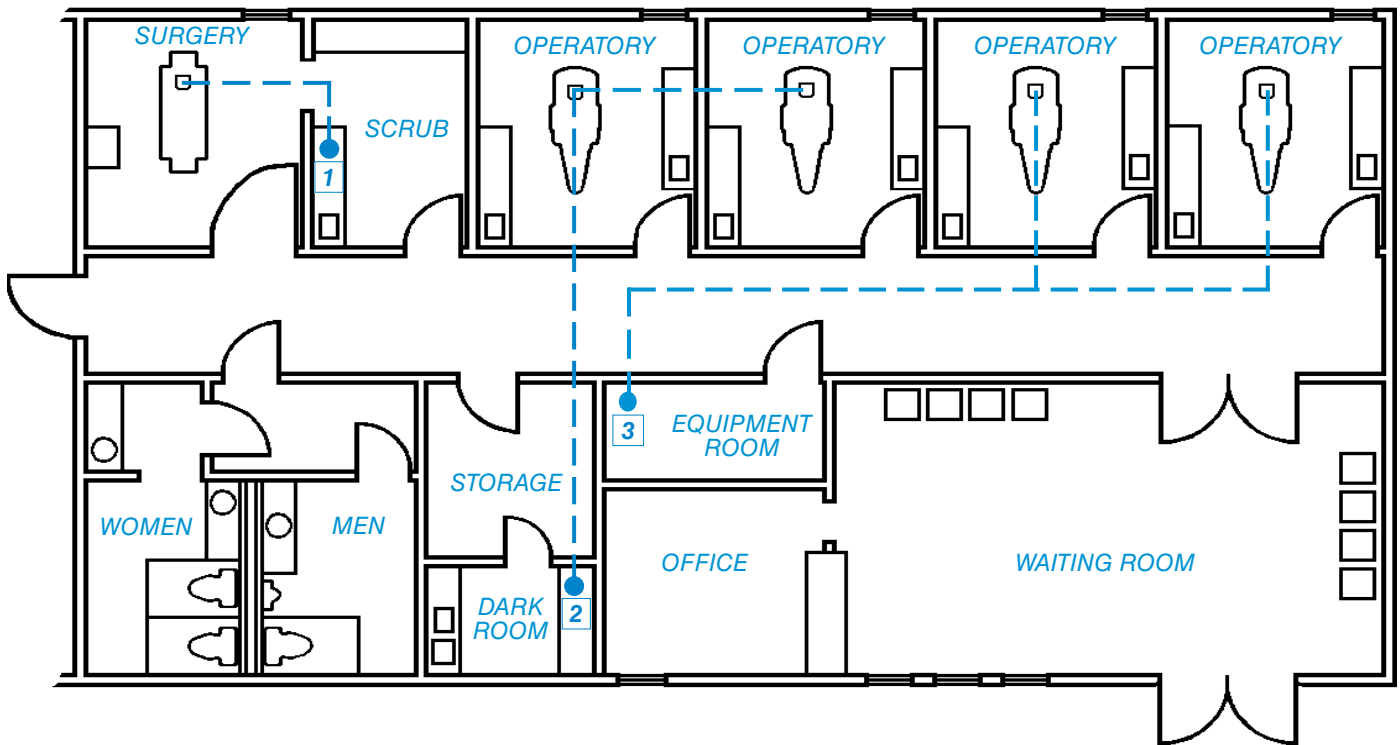
- Waste lines must be installed by a licensed plumber according to local building and health codes.
- Requirements: Reduce connection to 1" FIP or floor sink. When using floor sink, order a floor sink adaptor.

VACUUM LINES

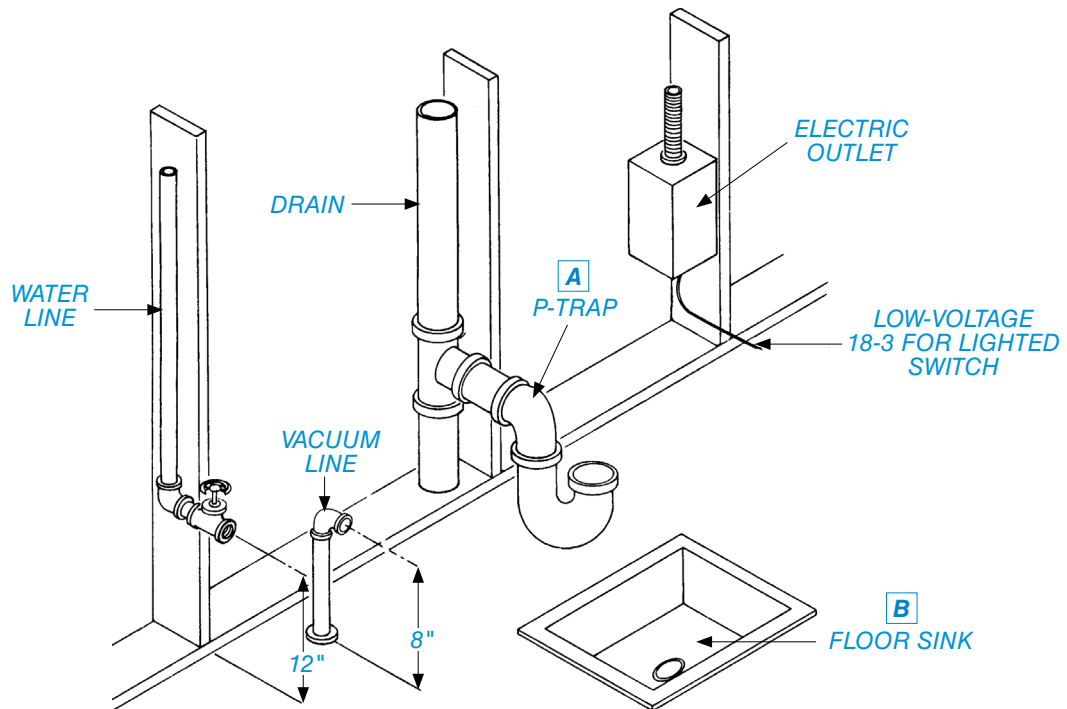
- Vacuum lines must be installed by a licensed plumber according to local building and electrical codes.
- Requirements: 1" IPS schedule 40 PVC.



SUGGESTED PUMP SITES



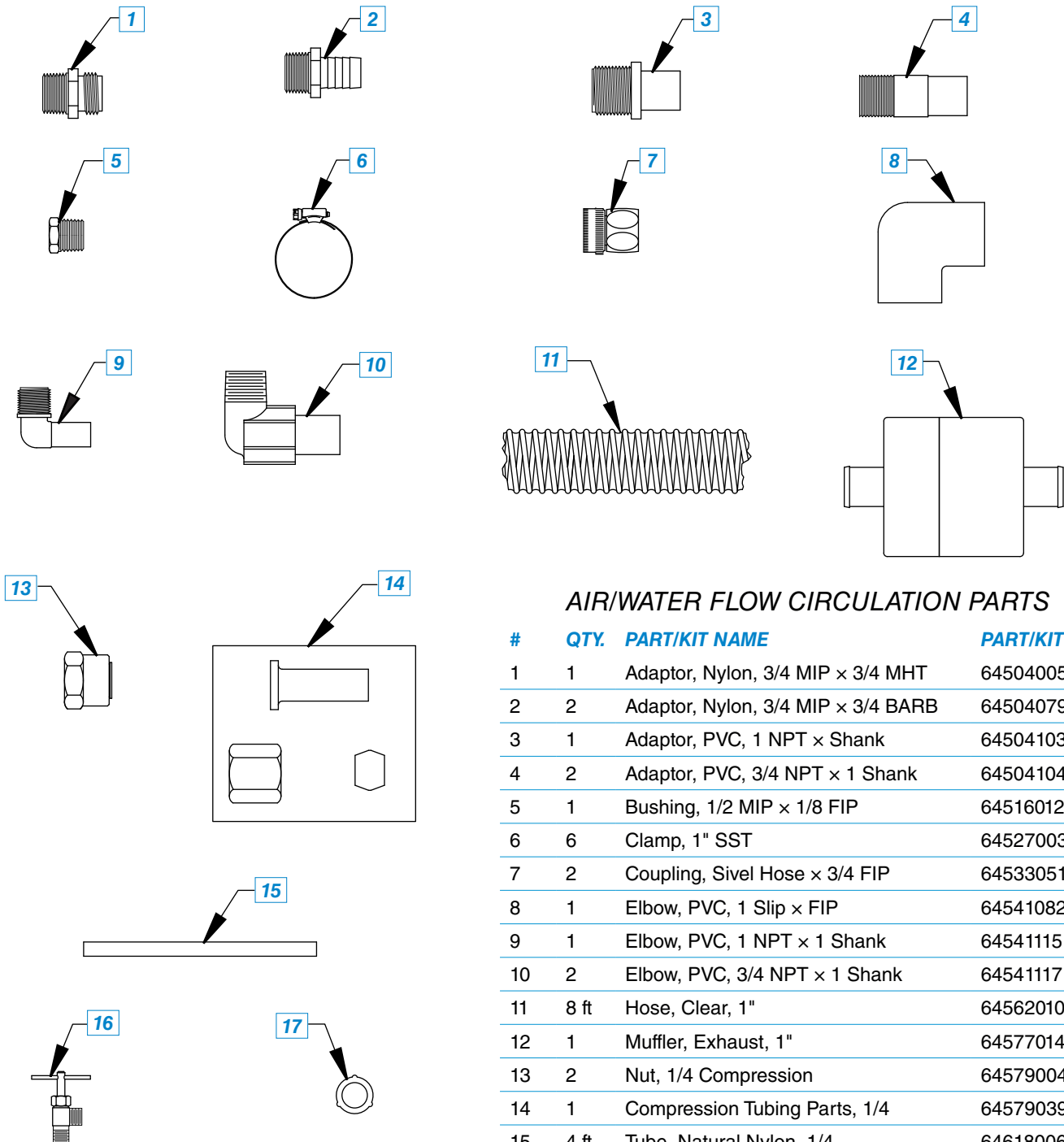
TYPICAL UTILITY LOCATIONS & MEASUREMENTS



NOTE: Locations and measurements are approximate. A and B are alternate waste line connection methods.

INSTALLATION KIT

Each vacuum pump is supplied with an installation kit (PN: 64568036).



AIR/WATER FLOW CIRCULATION PARTS

#	QTY.	PART/KIT NAME	PART/KIT NO.
1	1	Adaptor, Nylon, 3/4 MIP × 3/4 MHT	64504005
2	2	Adaptor, Nylon, 3/4 MIP × 3/4 BARB	64504079
3	1	Adaptor, PVC, 1 NPT × Shank	64504103
4	2	Adaptor, PVC, 3/4 NPT × 1 Shank	64504104
5	1	Bushing, 1/2 MIP × 1/8 FIP	64516012
6	6	Clamp, 1" SST	64527003
7	2	Coupling, Sivel Hose × 3/4 FIP	64533051
8	1	Elbow, PVC, 1 Slip × FIP	64541082
9	1	Elbow, PVC, 1 NPT × 1 Shank	64541115
10	2	Elbow, PVC, 3/4 NPT × 1 Shank	64541117
11	8 ft	Hose, Clear, 1"	64562010
12	1	Muffler, Exhaust, 1"	64577014
13	2	Nut, 1/4 Compression	64579004
14	1	Compression Tubing Parts, 1/4	64579039
15	4 ft	Tube, Natural Nylon, 1/4	64618006
16	1	Valve, Angle, 1/8 × 1/4, Needle	64622012
17	4	Washer, Hose, Black Rubber	64624002

CABINET

If a mechanical area is not available, the vacuum pump can be installed in a darkroom or laboratory, usually in the sink cabinet. In this type of installation, it is important to make sure the pump motor is properly ventilated. In most cases, venting in the door and toe board of the cabinet will supply enough cooling air to the motor. It is also necessary to cut a hole in the cabinet's flooring to allow the rubber pump pads to stand directly on the building's flooring (*FIGURE 2*).

DO NOT bolt the pump to the floor. Quiet and vibration-free operation is assured when the pump is installed free-standing on the supplied rubber insulators.

CABINET ILLUSTRATION

#	DESCRIPTION
1	Air vent for proper motor ventilation; upper and lower openings promote circulation.
2	Opening cut into the cabinet bottom, allowing pump to rest directly on the building floor.
3	Intake hose to vacuum line.
4	Low-voltage wire to operatory control switch (24V).
5	1/4" nylon water line.
6	Power cord or direct wiring.
7	Water hose to P-trap or floor sink.
8	Waste muffler.

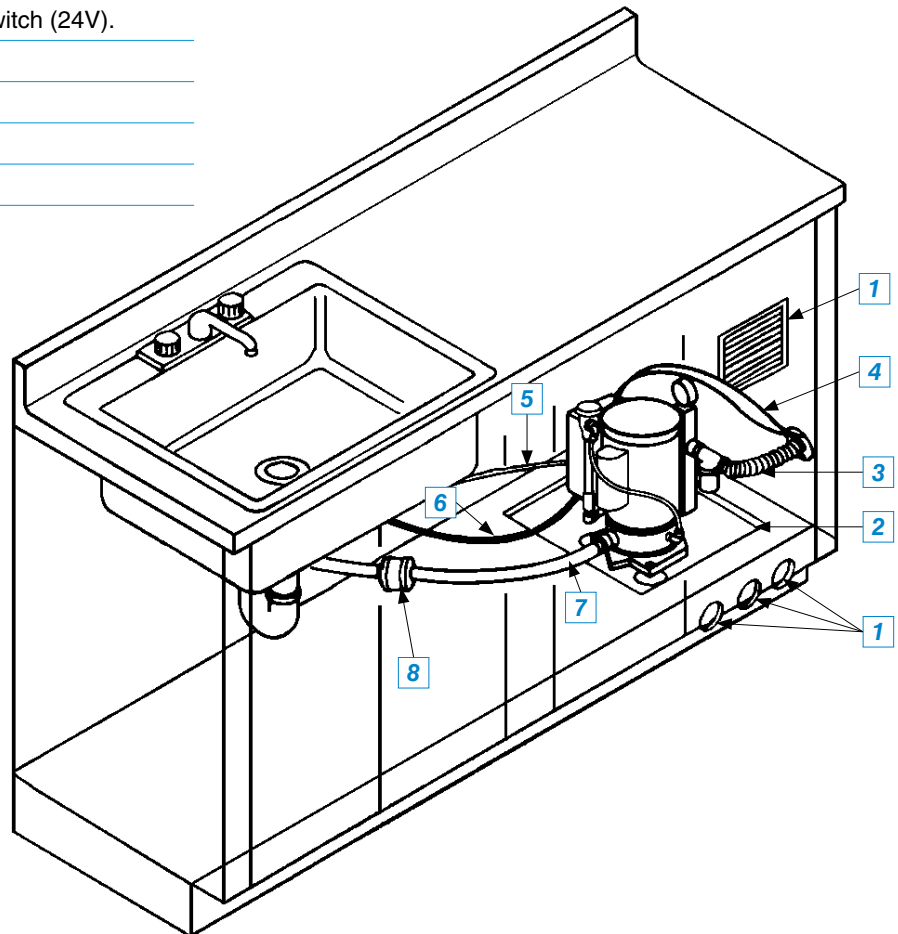


FIGURE 2. SINK CABINET ASSEMBLY FOR SINGLE WET VACUUM

DRIP PLATE

INSTALLATION INSTRUCTIONS

1. Locate two holes on top of the pump motor.
2. Place parts in order as shown; insert screws and tighten (*FIGURE 3*).

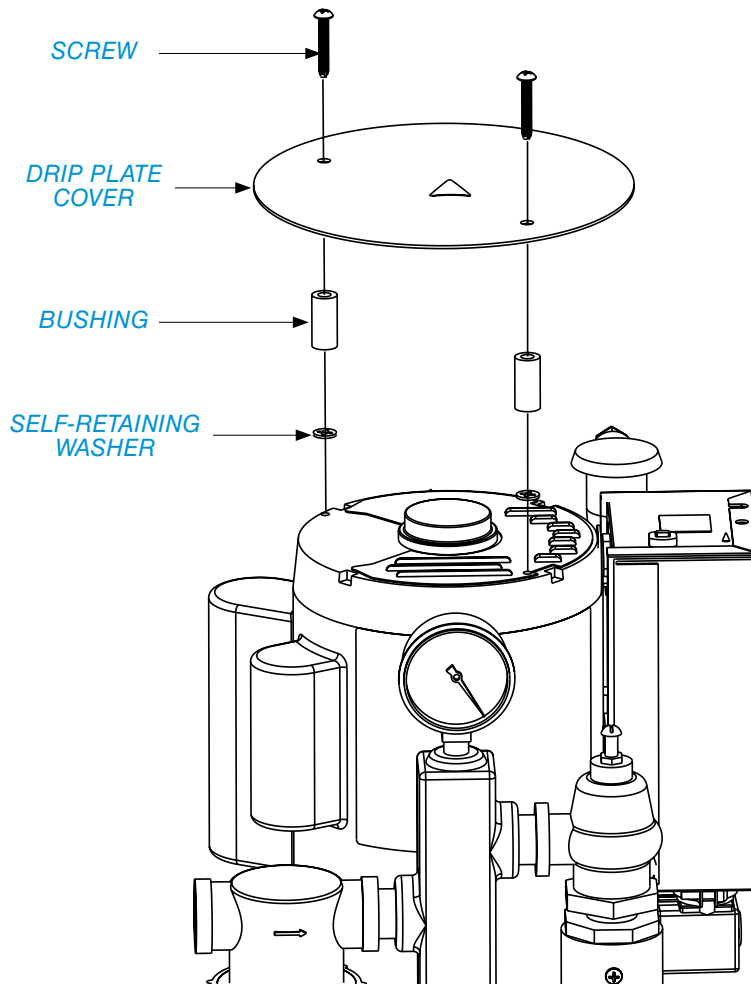


FIGURE 3. DRIP PLATE ASSEMBLY INSTALLATION

WATER SUPPLY LINE

The water going to the unit acts as a pump sealant and cooling agent. When the vacuum pump is in operation, the water supply must be on at all times. There are two methods of installation: angle valve and saddle valve.

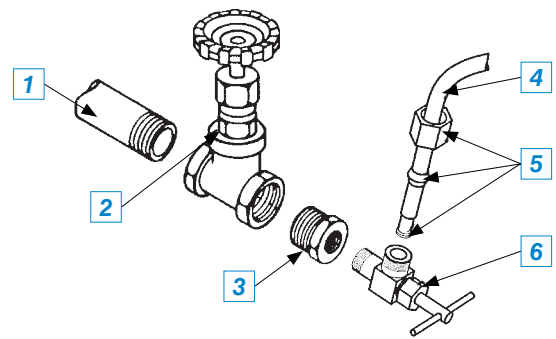
1/8" MIP ANGLE VALVE INSTALLATION

The plumber supplies the water line and installs a 1/2" brass gate valve on the water supply line. Connect the 1/4" nylon tubing and slide the nut and brass ferrule over the tubing. Push the tubing in the valve as far as possible. Make sure the tapered end of the ferrule is facing the end of the tubing and tighten the nut.

ANGLE VALVE INSTALLATION

#	QTY.	PART/KIT NAME	PART/KIT NO.
1		Water Line	*
2	1	Valve, Gate, Brass, 1/2"	*
3	1	Bushing, Brass, 1/2" MIP x 1/8" FIP	64516012
4	4 ft	Tubing, Nylon, 1/4"	64618006
5	1	Compressions Tubing Parts, 1/4"	64579039
6	1	Valve, Angle, 1/8" x 1/4", Needle	64622012

*Supplied by plumber



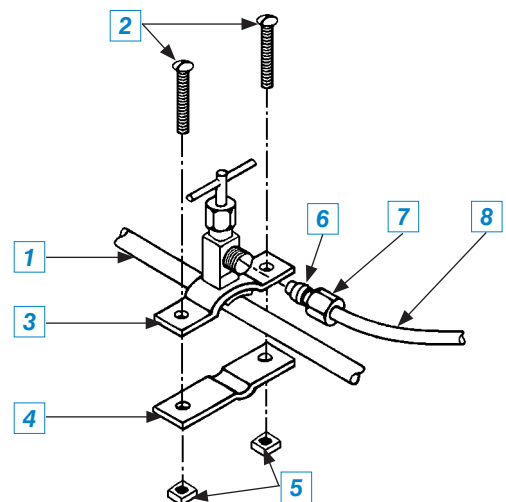
SADDLE VALVE INSTALLATION

A saddle valve may be tapped into an existing cold water line. Follow the instructions on the saddle valve package.

SADDLE VALVE INSTALLATION

#	QTY.	PART/KIT NAME	PART/KIT NO.
1		Water Line	*
2-7	1	Saddle Valve, 1/4", Complete Kit	*
8	4 ft	Tube, Nylon, 1/4"	64618006

*Supplied by plumber



VACUUM LINE

NOTICE

- All vacuum systems must be installed according to local building and electrical codes.

All vacuum lines and risers are recommended to be IPS, PVC, schedule 40. Type "M" copper should be used if local code does not allow the use of PVC.

Care should be taken to slope the lines 1" for every 20' of run toward the vacuum pump(s). This allows waste and liquids to flow with gravity, contributing to the efficiency of the vacuum system.

Make all connections using long radius sweep fittings. To promote unrestricted flow of air and waste liquids through the vacuum lines, directional flow connections should be used.

Using 45° elbows for turns or avoiding obstructions is best; however, do not make a trap in the line, doing so will decrease the efficiency of the system.

All elbows and tees should be sized for the main line and sized down with bushing reducers to accommodate smaller lines.

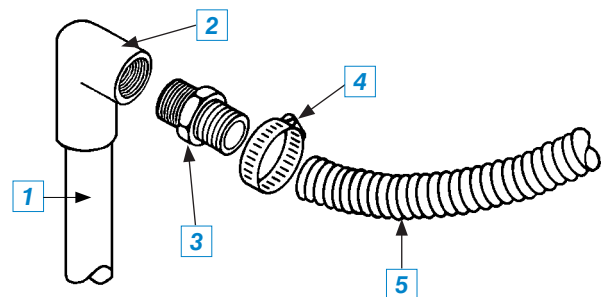
Avoid sagging lines, which cause the formation of traps in the system and prevent good air and waste liquid flow.

Connect the evacuation system to the vacuum line using the hose and fittings supplied in the installation kit.

VACUUM LINE INSTALLATION

#	QTY.	PART/KIT NAME	PART/KIT NO.
1		Vacuum Line, IPS, PVC SCH. 40	*
2	1	Elbow, 1" x 1"	64541115
3	1	Adaptor, PVC, 1" x 1"	64504103
4	1	Clamp, Stainless Steel, 1"	64527003
5	4 ft	Hose, Intake, 1"	64562010

*Supplied by plumber



WASTE LINE

NOTICE

- **IMPORTANT:** No part of the waste line should be more than three (3) feet above the level of the waster connection on the vacuum pump.

The waste line carries water from the pumps and liquid waste from the operatory to the building's sewer system. The waste line should follow the most direct path to the sewer connection with a minimum of bends and elevations, and must be installed according to local building and plumbing codes.

The exhaust connection should be made by either of two methods, floor sink connection or direct connection to P-trap, depending on local code and building facilities.

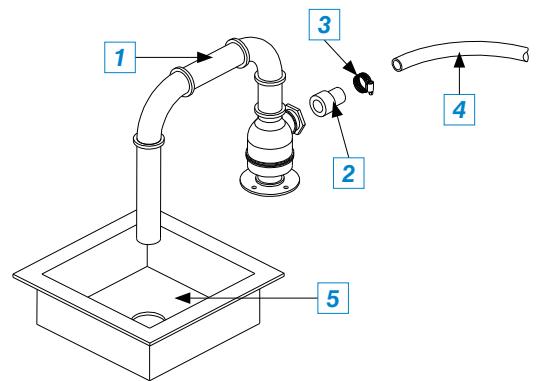
FLOOR SINK CONNECTION

Use floor sink adaptor SA-100. Install as illustrated.

FLOOR SINK CONNECTION

#	QTY.	PART/KIT NAME	PART/KIT NO.
1*	1	Adaptor, PVC, Floor Sink, 1"	**
2*	1	Adaptor, PVC, 1" MIP x 1½" Shank	64504102
3	1	Clamp, Stainless Steel, 1"	64527003
4	3 ft	Hose, Exhaust, 1"	64562010
5	1	Floor Sink	Plumber Supplies

*Floor sink adaptor parts
 *Supplied by plumber



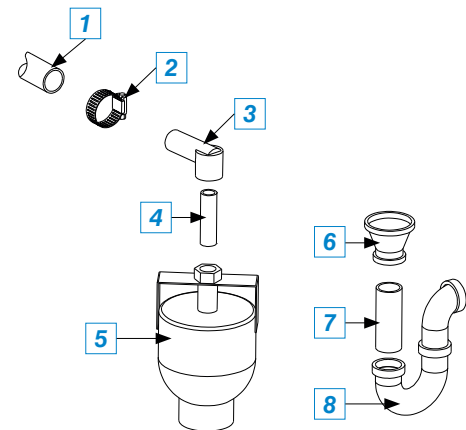
DIRECT CONNECTION TO "P" TRAP

Use "P" trap-air gap, if required by local code. Install as illustrated.

P-TRAP DIRECT CONNECTION

#	QTY.	PART/KIT NAME	PART/KIT NO.
1	As Req.	Hose, Exhaust, 1"	64562010
2	1	Clamp, Stainless Steel, 1"	64527003
3	1	Elbow, Brass, 1" x Nut	*
4	1	Bushing, PVC, 1" MIP x 1" FIP	*
5	1	Adapter, Air Gap, 2"	*
6	1	Reducer, Bell, 2" x 1½", Galv.	*
7	1	Nipple, 1½" x Close, Galv.	*
8	1	Trap, "P", 1½"	*

*Supplied by plumber



WATER RECIRCULATOR (OPTIONAL)(CONTINUED)

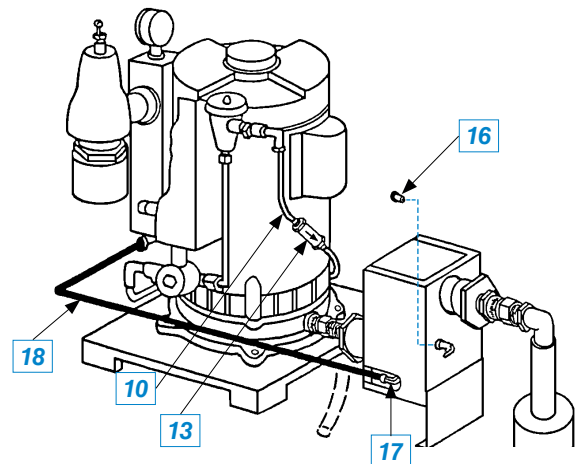
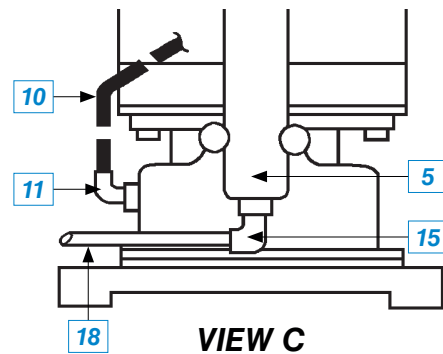
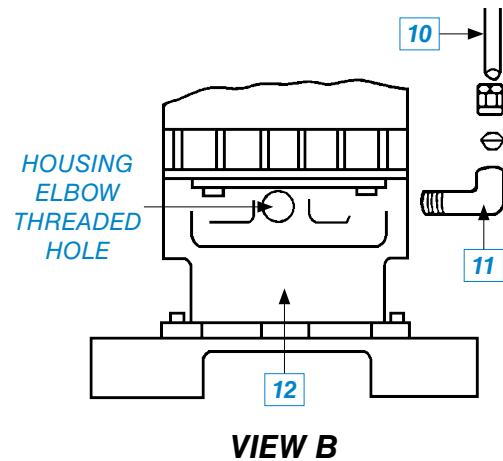
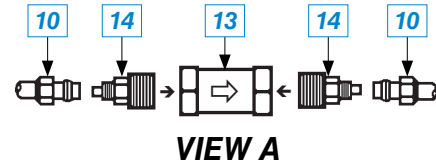
WATER SUPPLY

NOTE: For convenience, refer to the illustrations on this page for water supply installation.

- Assemble two (2) poly tube connection adapters [14] to the correct rate flow restrictor valve [13] as follows (VIEW A):
 - For a 1 HP pump, use a .12 GPM valve.
 - For a 2 HP pump, use a .25 GPM valve.
- Cut the 1/4" poly tubing [10] at its midpoint and slip a brass nut and brass sleeve over each cut end of the poly tubing (VIEW A).
- With the flow direction arrow on the flow restrictor valve [13] pointing down toward the pump base, secure the cut ends of the 1/4" poly tubing [10] to the connection adapters on the flow restrictor valve.
- Assemble and orient elbow [11] to the motor [12]. Reconnect the remaining end of the 1/4" poly tubing [10] to the elbow [11] (VIEW B).
- Remove the pipe plug from the manifold [5] and replace with poly tubing connection elbow [15] (VIEW C).
- Connect the recirculator outlet [17] to the manifold elbow [15] using 1/4" poly tubing [18] (VIEW C).
- Fully insert the plug [16] into the unused recirculator outlet [17] on the opposite side of the recirculator assembly.

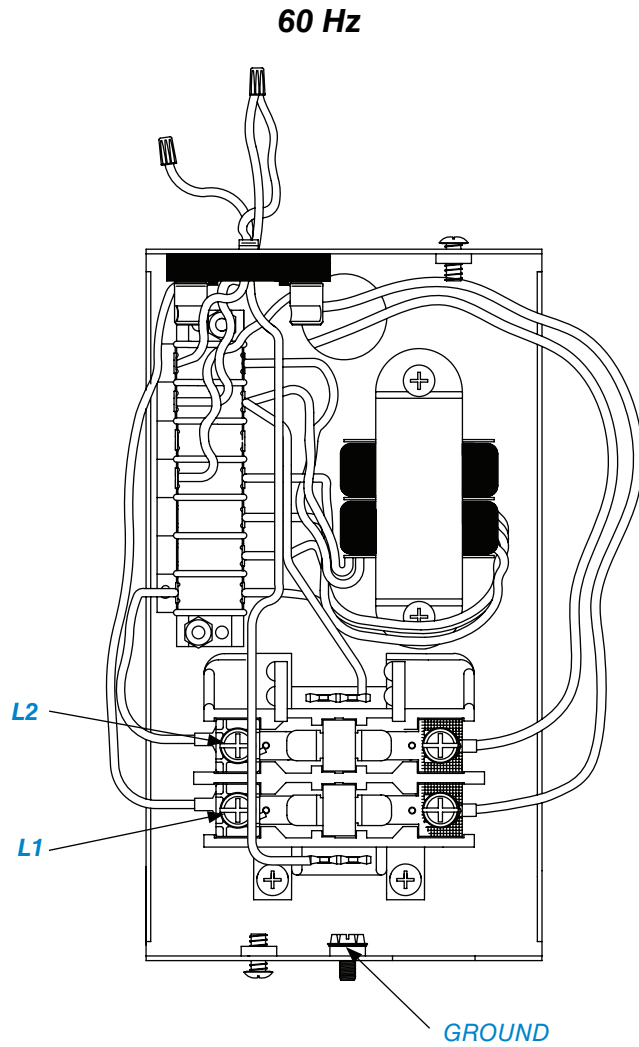
OPERATION CHECK

- After installation is complete, operate the system and check all connections for leaks.
- Correct leaks as required.



ELECTRICAL CONNECTION

Complete the electrical hook-up per the electrical code to L1/L2 and ground as shown.



HOW THE SYSTEM WORKS

The Ramvac® Barracuda™ Single Wet Vacuum Pump is designed to provide a vacuum source for use by dental professionals in the dental operator. The main purpose of the vacuum is to evacuate the oral cavity.


The vacuum pump can be operated from the operator using an optional low-voltage conversion kit and low-voltage switches. This provides a convenient way to turn the pumps on or off as needed, while saving water and electricity.

In some installations, where two or more doctors are using the vacuum system, it may be necessary to leave the evacuator on throughout the working day. The pumps are designed to handle heavy workloads and are rated for continuous operation. If the evacuator operates for extended periods of time, proper ventilation is important. Installations in small, confined areas should be supplied with a ventilation system capable of keeping the air temperature around the pump at 40°C/104°F or less.

OVERVIEW

WARNING

Before starting cleaning procedures, make certain to put on eye protection, a mask, and puncture-resistant nitrile gloves.

 Prior to performing any maintenance, proper precautions should be taken to reduce the possibility of contact with infectious substances.

Single wet vacuum pump preventive maintenance is simple, clean and inexpensive. It can help ensure your system provides years of predictable performance. While most maintenance tasks can be performed by the user, Ramvac® recommends having all service and maintenance conducted by a dealer service technician.


NOTE: When servicing the vacuum, only use Ramvac approved service parts. Utilizing non-approved components could lead to system damage and possible termination of product warranty. Circuit diagrams, parts lists and other required documents are available to service personnel by contacting Ramvac.

KEY POINTS FOR TROUBLE-FREE OPERATION

- Keep area surrounding vacuum pump free of debris.
- Keep vacuum pump clean and free of dirt.
- Follow the recommended [PREVENTIVE MAINTENANCE SCHEDULE](#) in this section of the manual .
- Rinse vacuum lines daily with the recommended quantity of liquid (see [FLUSH VACUUM PLUMBING SYSTEM](#) in this section of the manual).
- Clean in-line filter weekly (see [CLEAN IN-LINE FILTER](#) in this section of the manual).
- Maintain a controlled ambient temperature between recommended levels of 50°F to 104°F (10°C to 40°C). High temperatures will shorten the life of the vacuum pump (see [SECTION I - INTRODUCTION - SPECIFICATIONS](#)).

CLEANING INSTRUCTIONS (VACUUM UNIT)

CAUTION

 Some parts/components on the vacuum unit get hot during operation. Provide the equipment ample time to cool prior to cleaning.

- A free-flowing discharge system is required for proper operation of the vacuum system. The pump systems may leak at the anti-siphon valve if the discharge system is restricted. Ensure the vacuum system is installed and cleaned in accordance to the instructions in this manual.
1. ALWAYS DISCONNECT THE POWER FROM THE EQUIPMENT PRIOR TO CLEANING.
 2. All components can be safely wiped down with a damp cloth, wet with water. Using any cleaners or harsh chemicals to clean this equipment is NOT recommended; potentially harmful effects have not been evaluated.
 3. Do not heavily wet electrical components.
 4. Allow equipment to air dry or dry with clean, soft cloth.

PREVENTIVE MAINTENANCE SCHEDULE

A minimum amount of maintenance is required to keep the wet vacuum in top running condition. The motor and pump assemblies require no lubrication. This is a recommended schedule for a vacuum in a clean, dry environment.

Flush Vacuum Plumbing System	Daily
Clean In-line Filter	Weekly
Inspect Operatory Filters	Weekly
Inspect Vacuum System	Weekly
Clean Water Recirculator	1-2 Times Per Month (Depending on Workload)
Check Vacuum Level	Monthly

DAILY SHUTDOWN PROCEDURE FOR THE WET VACUUM

To terminate operation of the vacuum pump, press the designated switch on the low-voltage panel. For maintenance or any physical interaction with the vacuum pump or associated circuitry, disable the unit using the local disconnect or wall panel breaker for electrical isolation. Utilization of a lock-out/tag-out procedure is recommended for safety.

NOTICE

- **IMPORTANT:** At the end of each working day, turn off the water supply to the unit by closing the gate valve on the water supply line. Or, if an optional remote control panel is installed, push the water button to the OFF position. Then close the gate valve on the water supply line.

NOTE: Although the water supply to the vacuum system is normally turned off electrically when the system is turned off, it is possible that a solenoid valve may malfunction, allowing water to flow through the valves and into the vacuum system.

DAILY MAINTENANCE

FLUSH VACUUM PLUMBING SYSTEM

Before the system is turned off at the end of the day, it is recommended that the hoses in the operatory be flushed with fresh water and vacuum system cleaner. Just before turning off the vacuum, rinse lines first with hot water—approximately one (1) quart through each high-volume line and a few ounces through each saliva ejector line. Then aspirate a few ounces of dental vacuum line cleaner through each vacuum line. SlugBuster™ vacuum line cleaner is highly recommended. Cleaner should have these qualities: non-foaming, deodorizing, sanitizing and pH between 6 and 10.

⚠ CAUTION

- **IMPORTANT:** Use of detergent-based, foaming-type line cleaners outside of the pH range will greatly restrict vacuum performance and void the warranty.
- Foam may cause a damage to the pump. Avoid interruptions by ensuring your cleaner is truly non-foaming. Test by shaking the mixed solution. True non-foamers will be bubble-free.

Cleaning requirements will vary according to activity. After surgical procedures, aspirate a few ounces of vacuum line cleaner through the lines. For overhead plumbing, be sure to allow air to follow liquids before closing vacuum valves. Check the treatment room solids separator routinely, and clean when dirty.

SLUGBUSTER ORDERING INFORMATION

NOTE: Use of SlugBuster™ vacuum line cleaner is highly recommended.

SlugBuster is a non-foaming, non-chlorinated dental vacuum line cleaner that is compatible with ALL dental vacuum systems and amalgam separators (8 pH). SlugBuster is available in powder and liquid forms, and can be ordered through any authorized Ramvac dealer.

RAMVAC PART NO.	CONTENTS
900143	Powder Starter Pack: Mixing jug, two 40-ounce containers of SlugBuster
900146	Powder Six Pack: Six 40-ounce containers of SlugBuster (makes 480 gallons of solution)
900241	Liquid Single Gallon: One gallon of SlugBuster concentrate and hand pump dispenser
900243	Liquid Starter Pack: Mixing jug, one gallon of SlugBuster concentrate and hand pump dispenser
900246	Liquid Four Pack: Four single gallons of SlugBuster concentrate and four hand pump dispensers



WEEKLY MAINTENANCE

CLEAN IN-LINE FILTER

Check and clean the in-line filter weekly.

1. Turn **OFF** the pump motors.
2. Carefully unscrew the lower bowl from the filter top and lift out the screen.
3. Using water, flush the bowl assembly and any contaminated sediment.
4. Submerge the screen/bowl assembly into a high-level chemical disinfectant solution. Follow the disinfectant manufacturer's recommendation for time interval required to achieve disinfection.
5. Remove the screen/bowl assembly from the disinfectant solution and rinse using tap water.
6. Properly dispose of the contaminated sediment and disinfectant solution waste.
7. Replace the screen and make sure the gasket is in place before replacing the bowl.
8. Check all connecting vacuum, waste and water lines for tightness.

INSPECT OPERATORY FILTERS

Check and clean all operatory and secondary filters weekly. Follow the equipment manufacturer's recommendations.

INSPECT VACUUM SYSTEM

Check the vacuum system for water leaks and loose or broken connections weekly.

MONTHLY MAINTENANCE

CLEAN WATER RECIRCULATOR

Clean the water recirculator one (1) or two (2) times per month, depending on workload.

! NOTICE

Failure to use the water recirculator cleaner as directed (sample included with recirculator) will **VOID** the manufacturer's warranty!

To clean water recirculator:

1. Turn the vacuum pump **OFF**.
2. Remove the lower bowl of the filter at the pump location (FIG 4).
3. Separate and clean the filter screen, gasket and bowl.
4. Re-insert the gasket and screen into the bowl, then add one (1) scoop (1 oz) of water recirculator cleaner to the bottom of the bowl.
5. Carefully replace the bowl assembly back into the filter head at the pump location.
6. Turn the vacuum pump **ON** and operate normally.

Reorder Water Recirculator Cleaner Kit Part Number: 64568129.

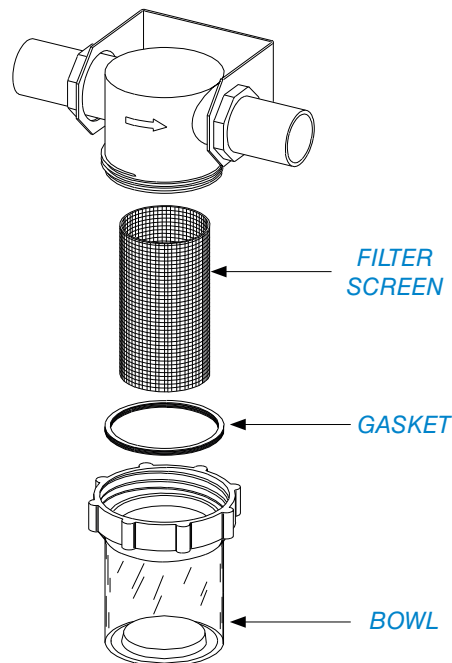


FIGURE 4. WATER RECIRCULATOR

MONTHLY MAINTENANCE (CONTINUED)

CHECK VACUUM LEVEL

Check the vacuum level monthly. The vacuum level of the wet vacuum pump is preset at the factory.

Recommended operatory vacuum levels are 10" Hg. (general dentistry) or 19" Hg. (surgery).

The vacuum pressure gauge will indicate the vacuum level provided by the pump (FIG 5).

If it becomes necessary to adjust this setting, the following steps can be taken.

NOTE: The evacuator should be left **ON** when setting the vacuum level. Also, make sure all hoses in the operatory are **CLOSED**.

1. Turn the lock nut counter-clockwise to loosen (FIG 5).
 - For greater vacuum level, turn the screw clockwise.
 - For less vacuum level, turn the screw counter-clockwise.
2. Set to desired volume level and tighten lock nut.



FIGURE 5. VACUUM PRESSURE GAUGE, SCREW AND LOCKNUT

TROUBLESHOOTING - VACUUM PUMP

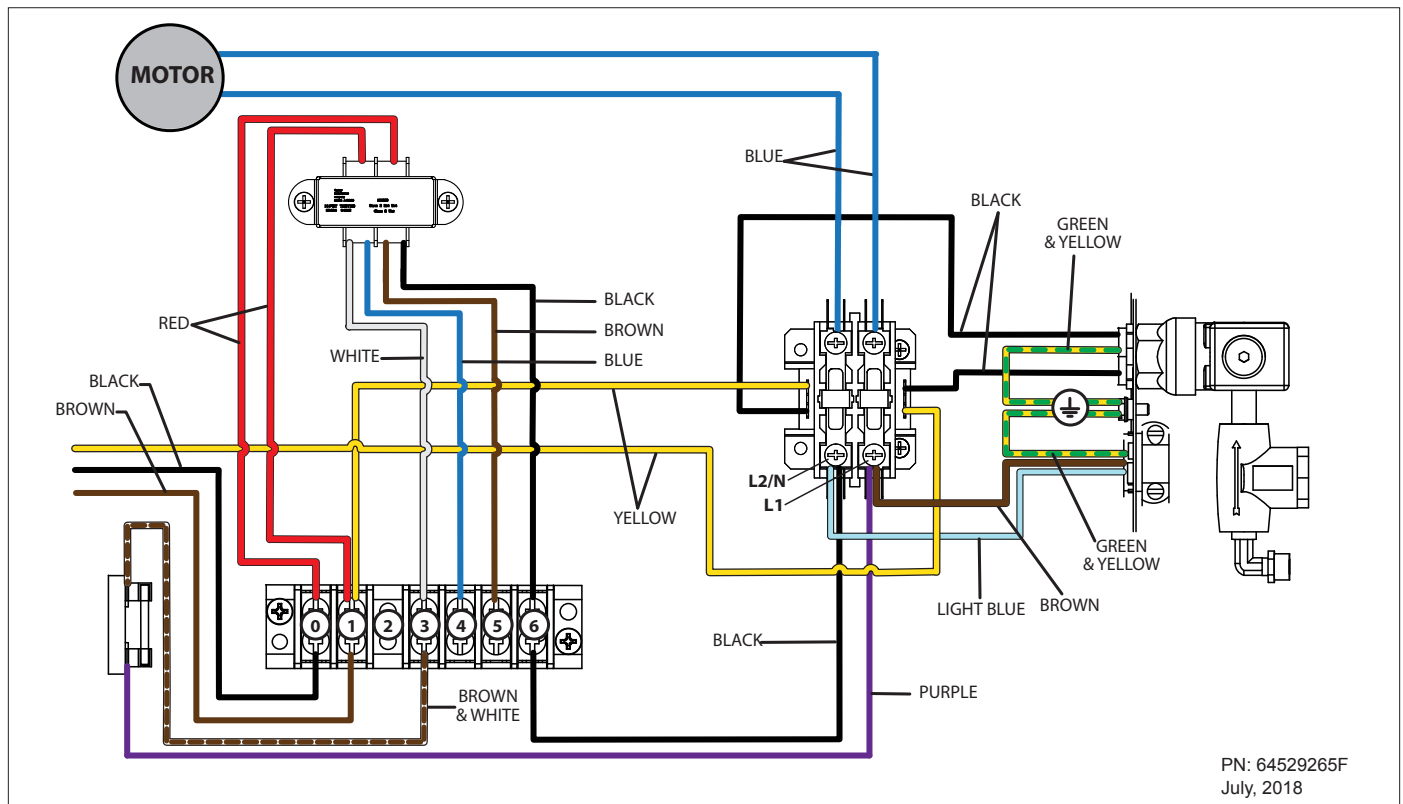
PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Pump Will Not Run	Check all wires for loose or broken connection. Check fuse. Check low-voltage leads (yellow and black wires) for 24 volts.	If voltage is not present, replace the transformer or fuse. (Also see ELECTRICAL SYSTEM chart, p. 26.)
	Turn power ON and OFF , watching to see if relay breaker bar operates properly.	If relay is not operating properly, and assuming all other parts are good, replace the relay. (Also see ELECTRICAL SYSTEM chart, p. 26.)
	Test solenoid valve by loosening brass nut on right side. If water flows out with power ON , turn power OFF . Water flow should stop. CAUTION: DO NOT operate the pump for an extended time because running the pump without water could cause internal damage.	If water flow does not stop with power OFF , replace the solenoid valve.
Motor Stops or Will Not Start	Circuit breaker, main cut-off and low-voltage operatory switches are in the OFF position.	Place switches in ON position.
	Unit is not plugged in.	Plug in unit.
	Loose or broken wires.	Tighten, repair or replace wires.
	Motor hums, indicating bad capacitor.	Replace capacitor.
	Tight or noisy motor.	Check bearings. Make sure pump is properly shimmed to the motor or remove any debris in the pump.
Motor is overheating.	Make sure the vacuum relief valve is adjusted properly and the motor has sufficient ventilation and water supply. Check for low line voltage.	
Low or No Vacuum	Dirty filter.	Clean operatory and secondary filters if necessary.
	Water control assembly clogged, not allowing water to go through pump.	Turn pump OFF immediately to prevent internal damage. Then unclog water control assembly.
	Loose or broken vacuum line connections.	Tighten, repair or replace vacuum line connections.
	Swing check valves clogged, allowing pump to suction through the other pump.	Take off the top of the valve and, if possible, remove debris. Otherwise, the valve should be replaced.
	Pump is worn out.	Refer to VACUUM PUMP SYSTEM REPAIR PROCEDURES in this section.
Insufficient water supply.	Check supply where it connects to the cabinet. Then check the water control valve. The water control solenoid valve opens when the pump is turned on. Check this function by disconnecting the water line that enters the vacuum housing and by holding a container under the valve. Then turn on the pump. There should be a steady stream of water. CAUTION: DO NOT LEAVE THE PUMP RUNNING WITHOUT WATER! If there is no water flow, replace the water control solenoid valve.	

TROUBLESHOOTING - ELECTRICAL SYSTEM

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Pump Not Running Because of Suspect Electrical Problem	Main power supply has blown fuse or circuit breaker.	Replace blown fuse or reset circuit breaker.
	Power not reaching pump or incorrect voltage.	Check connection box on the side of the dual cabinet to verify power is reaching the pump and main power supply is the correct voltage.
	Blown fuse in the control box.	Replace the fuse with the same rated capacity as the one from the factory.
	Loose connections inside the control box.	Remove the control box cover and visually inspect for loose connections. (<i>Refer to the schematic inside the control box cover for the components and wiring scheme for that particular box.</i>)
Motor Does Not Start by Switch	Defective transformer or coil in the relay.	Using a non-conductive device, push in the tabs on the relay to determine if the motor will start. Then using electrical test equipment, verify the voltage coming out of the secondary side of the transformer. If it is less than 21V, replace the transformer. If it is more than 21V, replace the relay.

If the problem is not addressed by using these actions, contact Ramvac technical service at 866-DTE-INFO.

RELAY BOX



FUSE REPLACEMENT

WARNING

For continued protection against fire hazard, correct fuse must be used.

115 VOLT PUMP

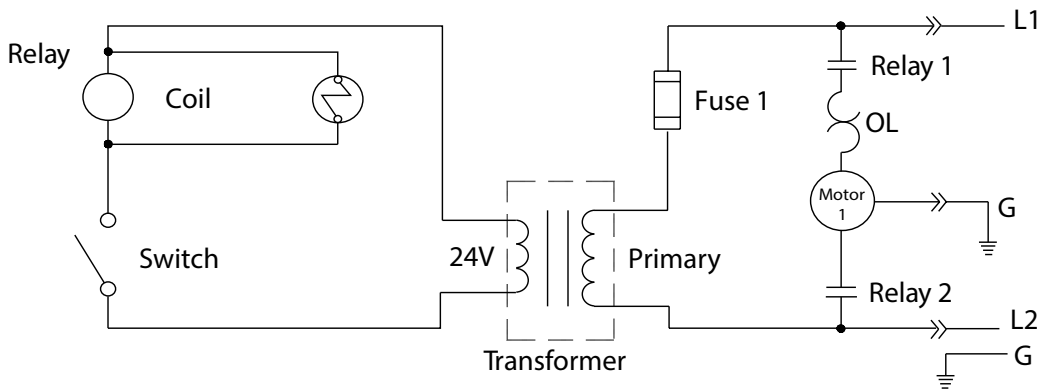
Fuse replacement: Use BUSS MDL or MDQ 3/10 A, Littlefuse 313 3/10 A Slo-blo.

230 VOLT PUMP

Fuse replacement: Use BUSS MDL or MDQ 15/100 A, Littlefuse 313 15/100 A Slo-blo.

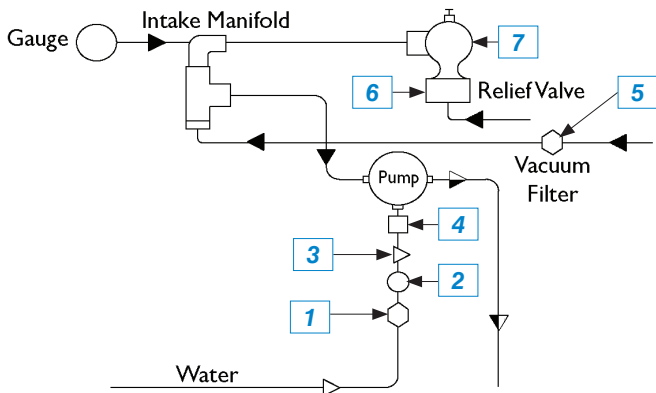
WIRING SCHEMATIC

The Barracuda single wet vacuum electrical control system is a low-voltage (24V) circuit. This system also provides automatic control of the water supply system. The wiring schematic shows for electrical rough-in (refer to [SECTION II - PREINSTALLATION](#) and [SECTION III - INSTALLATION](#) of this manual.)(See pp. 7-8 for further information on rough-in and final hook-up locations.)



AIR/WATER FLOW CIRCULATION DIAGRAM

The circulation diagram shows the relationship of all the major assemblies to the total system. All connecting lines are marked with a symbol to indicate their function: vacuum line, water line or waste line. The assemblies are individually broken down and further explained in other sections of this manual.



AIR/WATER FLOW CIRCULATION PARTS

#	QTY	PART/KIT NAME	PART/KIT NO
1	2	Filter, Water	64568135
2	2	Valve, Solenoid (Only)	64568156
3	2	Valve, Anti-Siphon	64622011
4A	2	Valve, Flow Regulator - 1 HP	64568192
4B	2	Valve, Flow Regulator - 2 HP	64622010
5	1	Filter, Vacuum	64545040
6	1	Muffler, Vacuum Relief	64568159
7	1	Valve, Vacuum Relief	64622001

VACUUM PUMP SYSTEM REPAIR PROCEDURES

WARNING

- To prevent any chance of electrical shock, always disconnect power when indicated.
- Do not attempt these repairs in the dental office.

If the motor does not start after checking through the **TROUBLESHOOTING** section of this manual, the motor may be defective. If the pump must be removed for factory repair or replacement, perform the following vacuum pump system repair procedure.

TOOLS NEEDED

- | | | | |
|---|------------------------------|-------------------------------|--------------------------|
| • 1¾" Socket & Torque Wrench | • 15/16" Socket with Ratchet | • Needle-nose Pliers | • Pop Riveter |
| • 1/4", 5/16", 11/32" & 3/8" Nut Driver | • Hammer | • Channel-lock Pliers | • Bench Vise |
| • 7/16", 1/2", 9/16" & 15/16" Open-end Wrench | • Flathead Screwdriver | • Paint Scraper | • Bearing Seal Lubricant |
| • Wire Stripper/Crimper | • Wire Cutter | • Loctite® 571 Thread Sealant | |

DIAGNOSTIC TEST PROCEDURE

Determine if the required repair procedure is electrical or mechanical.

1. Unplug the electrical supply cord.
2. Using the manual valve, turn **OFF** the water supply.
3. Remove the dust cover located at the top center of the motor (**FIG 6**).
4. Using a flathead screwdriver, engage the slot in the drive shaft and rotate the shaft to check for free movement.
 - If the shaft moves smoothly, proceed to **ELECTRICAL BOX REMOVAL** instructions.
 - If the shaft is difficult to turn or is jammed, proceed to **PUMP REMOVAL/DISASSEMBLY** instructions.

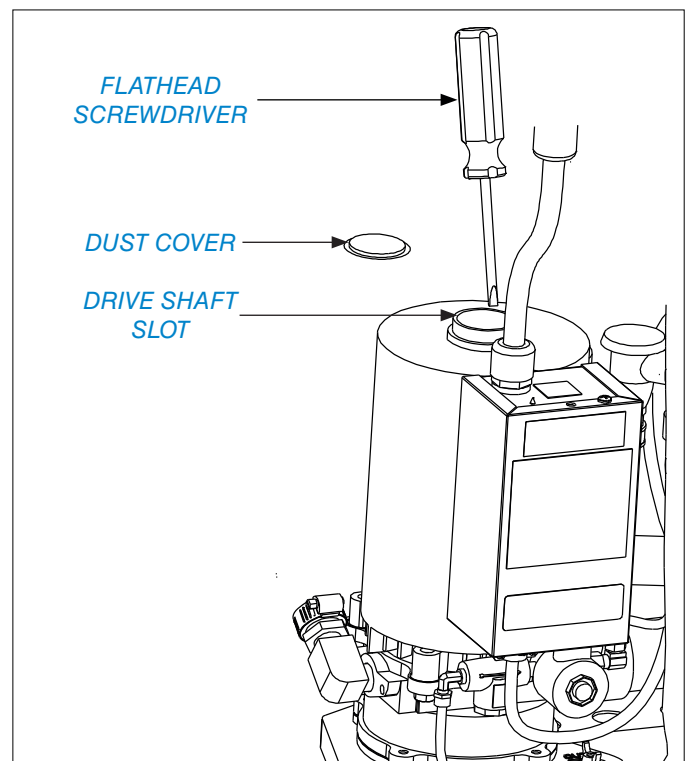


FIGURE 6. REMOVE DUST COVER AND ROTATE SHAFT

VACUUM PUMP SYSTEM REPAIR PROCEDURES (CONTINUED)

ELECTRICAL BOX REMOVAL

1. Remove the electrical box cover plate (FIG 7).
2. Check the wire leads to the motor for breaks or bad connections.
3. Check the fuse and check for loose or broken wires in the electrical box.
4. Disconnect the wires from the top of the motor and pull through the box.
5. Remove the water line from the pump housing (FIG 8).
6. Remove the bolt from the bottom of the electrical box where the bracket is attached.
7. Remove the two screws and nuts from the terminal board located at the top of the electrical box (old style).
8. Remove the chase nipple from inside the box where it screws to the motor.

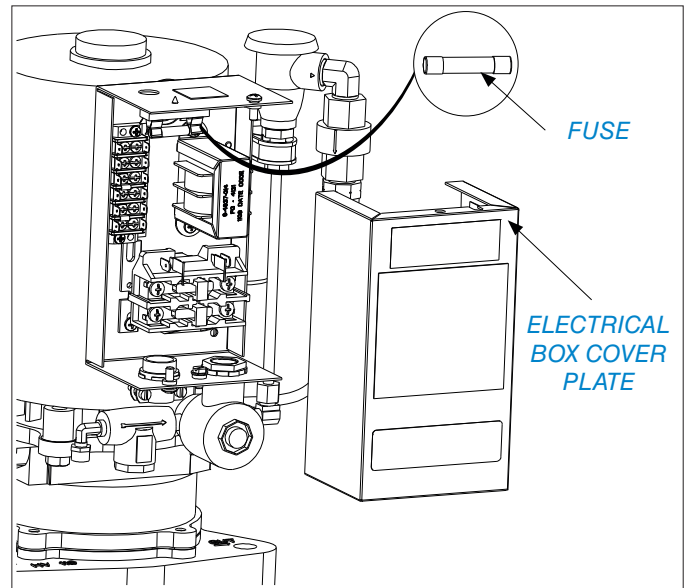


FIGURE 7. REMOVE ELECTRICAL BOX COVER PLATE

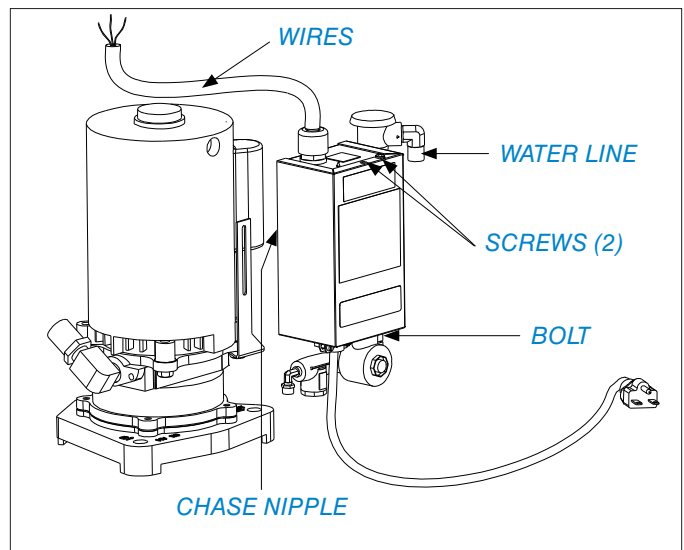


FIGURE 8. REMOVE WATER LINE FROM PUMP HOUSING

VACUUM PUMP SYSTEM REPAIR PROCEDURES (CONTINUED)

MOTOR PUMP REMOVAL/DISASSEMBLY

1. Remove the motor cover plate (top of motor).
2. Shut **OFF** the valve supplying water to the pump.
3. Disconnect the vacuum and exhaust lines at the pump and install line closure plugs.
4. Disconnect the two motor wire leads from the electrical terminal.
5. Disconnect the waste and input lines from the pump and cap off the lines using the closure plugs provided.
6. Disconnect the vacuum intake manifold.
7. Disconnect the water line at the pump (*FIG 9*).
8. Disconnect the low-voltage wires from the remote switch circuit.
9. Take off the base by removing the bolts that secure it to the housing. Then inspect the base for excessive scoring or side wear (*FIG 10*).

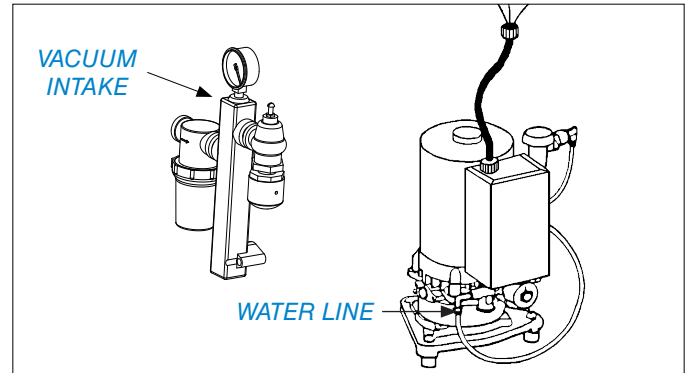


FIGURE 9. DISCONNECT VACUUM INTAKE AND WATER LINE

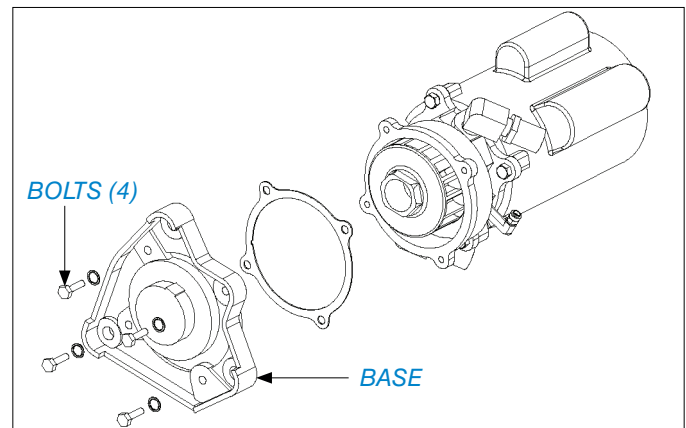


FIGURE 10. TAKE OFF BASE

VACUUM PUMP SYSTEM REPAIR PROCEDURES (CONTINUED)**MOTOR PUMP REMOVAL/DISASSEMBLY**

10. Remove the impeller by unscrewing counter-clockwise. Then inspect the impeller for any pitting or scoring (*FIG 11*).
11. Remove the housing bolts and take off the housing by pulling it off the shaft (*FIG 12*).
12. Remove the water seal spring assembly then inspect the housing for pitting or scoring.

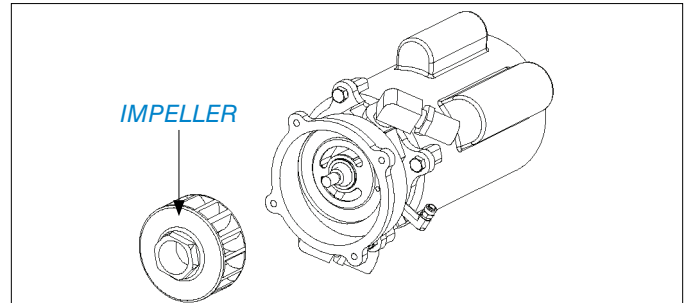


FIGURE 11. REMOVE IMPELLER

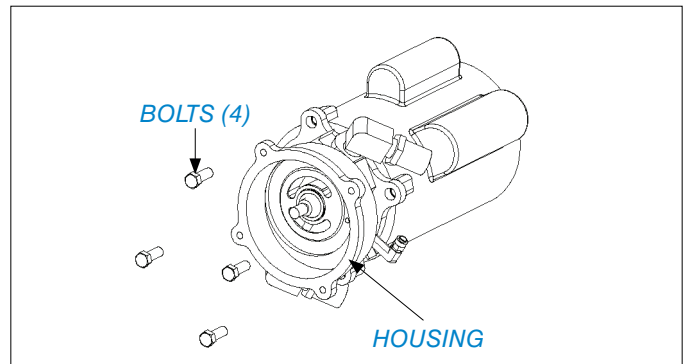


FIGURE 12. TAKE OFF HOUSING

VACUUM PUMP SYSTEM REPAIR PROCEDURES (CONTINUED)

PUMP TO MOTOR ASSEMBLY

1. Apply lubricating oil to the motor shaft, seal and motor housing (*FIGURE 13*).
2. Press the seal into the pump housing with the ceramic side facing outward (*FIGURE 14*).
3. Carefully install the pump housing onto the motor shaft.
4. Install the black spring seal with the nylon side in contact with the ceramic washer.

NOTE: Lubrication of shaft will ease installation.

5. Apply Loctite[®] to the threads of motor shaft.
6. Screw the impeller onto the shaft with the flat side facing the motor.
7. Torque the impeller to 27 in. lbs.
8. Align the housing so that the electrical box mounting hole is opposite of the small elbow in back of the pump housing.

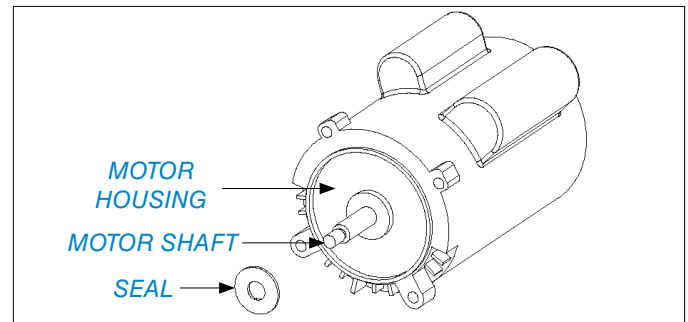


FIGURE 13. APPLY LUBRICATING OIL TO MOTOR SHAFT, SEAL & PUMP HOUSING

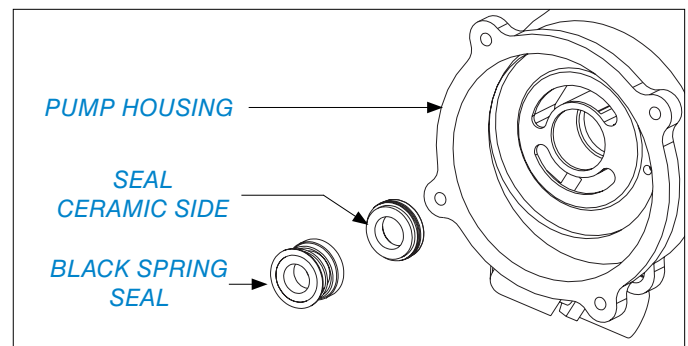


FIGURE 14. PRESS SEAL INTO PUMP HOUSING

VACUUM PUMP SYSTEM REPAIR PROCEDURES (CONTINUED)

HOUSING/IMPELLER SPACING

1. To properly space the impeller to the housing, slide two or three .031" shims between the housing and the motor at one corner.
2. Slide other shims of various sizes diagonally across from the corner in Step 1 until the impeller is snug with the housing (FIGURE 15).
3. Remove and add up all the sizes of the shims used. EXAMPLE: A total of .100" is used, divide that by 2 to obtain .050". Use this amount minus an additional .005" for 1 HP pumps and .010" for 2 HP pumps for each corner.

NOTE: For further explanation, see [SHIMMING PROCEDURE](#) chart on the next page.

4. Install the bolts and required shims (FIGURE 16).
5. Tighten and check for free spin of the impeller by removing the motor from the fixture and rotating the impeller.

NOTE: For proper fit, shims may need to be added or removed.

6. Install the base with the gasket by aligning the intake and discharge ports, then tighten the bolts. **DO NOT** overtighten (FIGURE 17).
7. Set the pump upright and insert a screwdriver into the slot on top of the motor to check for free spin and smooth operation of the pump.

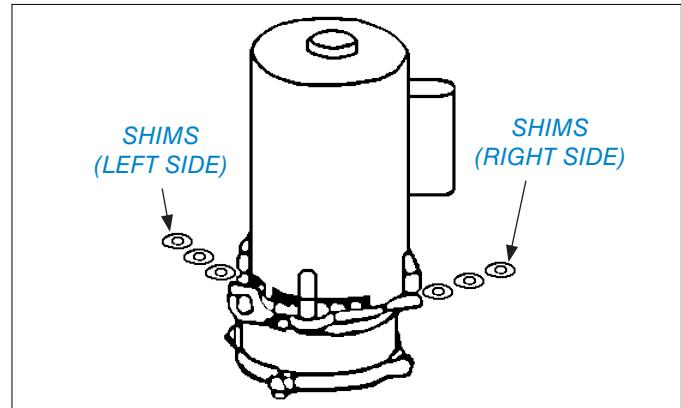


FIGURE 15. SLIDE SHIMS BETWEEN HOUSING AND MOTOR

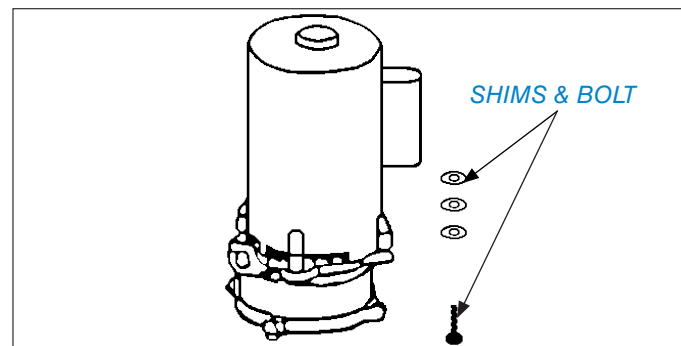


FIGURE 16. INSTALL BOLTS AND REQUIRED SHIMS

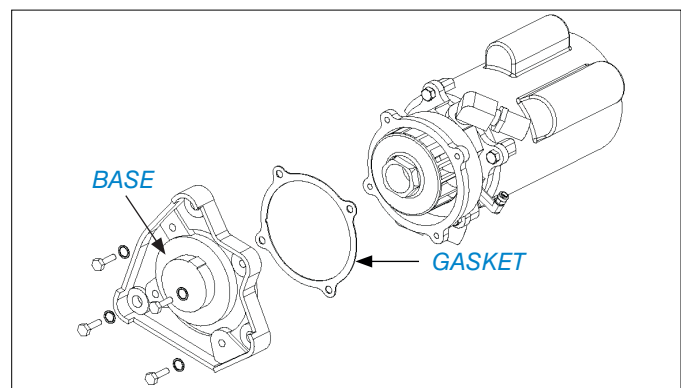


FIGURE 17. REINSTALL BASE AND GASKET

VACUUM PUMP SYSTEM REPAIR PROCEDURES (CONTINUED)

HOUSING/IMPELLER SPACING

VACUUM PUMP OPERATION TESTING

SHIMMING PROCEDURE

A. Insert shims between the motor and the housing at two opposite mounting legs until snug.

B. Remove and add up the total thickness of the shims from both sides.

EXAMPLE:	Left Side Shims	Right Side Shims
	.031	.031
	+.015	+.031
	<u>+.015</u>	<u>+.005</u>
	.061	.067
$.016 + .067 =$	$.128$	

C. Divide the total by 2 and subtract:

- .005** for 1 HP motor
- .010** for 2 HP motor

D. Use the best combination of shims for the required shim dimension.

EXAMPLE:	Required Shim Dimension	Combine Shims
	.059	.031
		+.015
		+.010
		<u>+.002</u>
		.058

E. Install a bolt and equal shim combinations at all four locations.

1. To check for proper operation of the vacuum pump, connect to an electrical source, water and waste line.
2. Start the pump, then block the suction side of the pump and the vacuum relief valve. The vacuum level should read between 20" to 25" Hg. Shims may need to be added or removed for proper vacuum reading. (Refer to [HOUSING/IMPELLER SPACING](#) section.)
3. Set the vacuum level by unblocking the vacuum relief valve and adjusting the valve to 10" to 12" Hg.
4. Operate the pump for approximately one hour continuously.
5. Check for any water leaks, electrical problems and consistent vacuum level.

SERVICE INSTRUCTION

If the area of concern is not addressed in this manual, contact DENTALEZ customer service at 866-DTE-INFO. (See [LIMITED WARRANTY](#).)

Please have the following product information available. Information may be found on the product model/serial number label on the vacuum ([FIGURE 18](#)):

Model Name:
Model Number:
Serial Number:
Date of Installation:
Dealer:

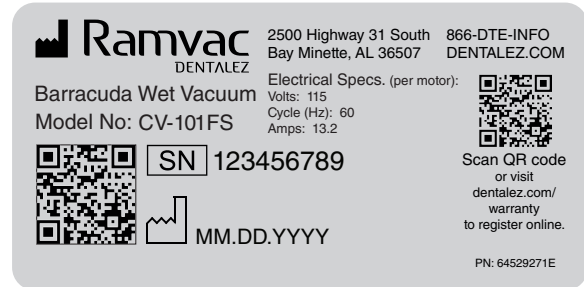


FIGURE 18. MODEL/SERIAL NUMBER LABEL ON THE VACUUM UNIT

DISPOSAL OF EQUIPMENT

DISPOSAL AND DECOMMISSIONING OF DENTALEZ PRODUCTS

! **NOTE:** All local regulatory requirements for disposal and decommissioning of equipment apply.

- **ELECTRICAL SALVAGE:** Remove all circuit board and electrical cabling for recycle as electrical salvage.
- **METAL SALVAGE:** Remove all aluminum and steel components for recycle as metal salvage.
- **PLASTIC SALVAGE:** Remove all plastic components for recycle as plastic salvage.
- **BIOLOGICALLY CONTAMINATED SALVAGE:** Cuspidor, waste lines from the cuspidor, and the oral extraction lines should be handled with precaution and disposed of appropriately.
- **NON-SALVAGE COMPONENTS:** All other material unsuitable for recycling should be disposed of properly.

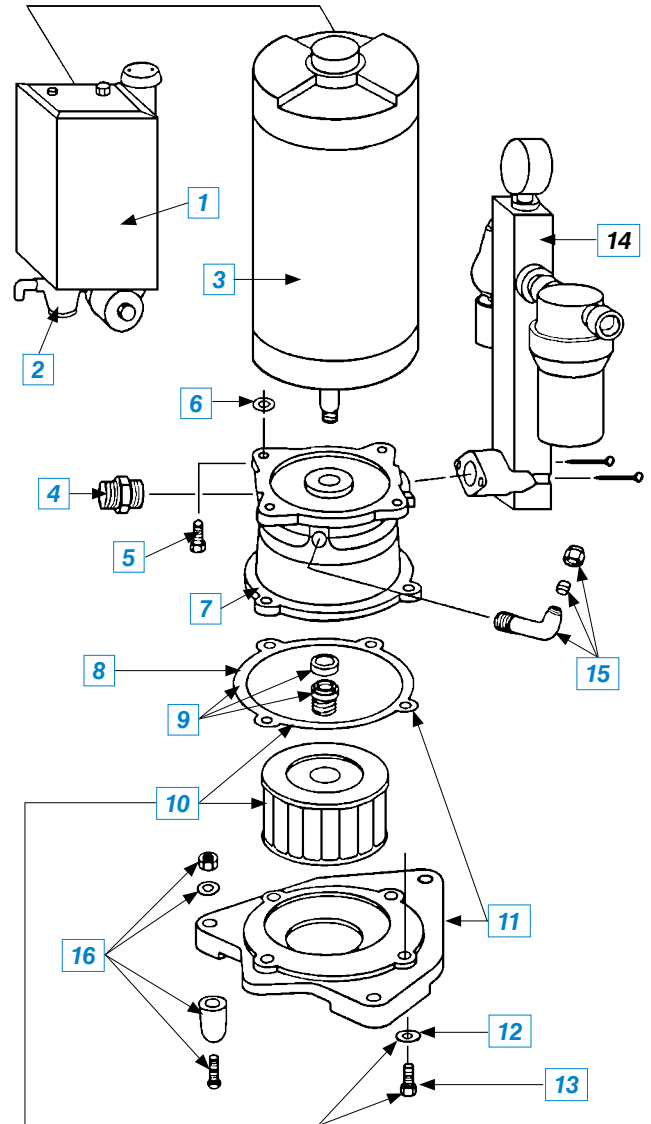
For specific questions regarding material type, contact DENTALEZ customer service. For decommissioning information on associated equipment from other manufacturers, refer to the documentation from the manufacturer.

REPLACEMENT PARTS LIST

1 HP SINGLE PUMP ASSEMBLY

#	QTY.	PART/KIT NAME	PART/KIT NO.
1	1	Relay Unit, 115V, 230V	64501150
2	1	Water Manifold, 1/2 Gallon	64568196
3	1	Motor, 1 HP, FS	64568165
4	1	Adaptor, Brass, 3/4" x 1/2"	64568146
5	4	Cap Screw, 3/8"-16 x 1"	1615-028
6*	As Req.	Shim, Steel .005 Thick	64604001
		Shim, Steel .031 Thick	64604002
		Shim, Steel .015 Thick	64604003
		Shim, Steel .002 Thick	64604004
		Shim, Steel .010 Thick	64604005
7*	1	Housing, Brass, 1 HP	64568199
8*	1	Housing Gasket, Fiber	64568127
9*	1	Housing Seal, Rotary	64568123
10*	1	Impeller, Brass, 1 HP	64568198
11*	1	Base, Brass, 1 HP	64568167
12*	4	Washer, Internal Star, 5/16"	64624016
13*	4	Screw, Cap, 5/16-18 x 1 1/4"	1615-041
6-13*	1	Lower Rebuild Kit, 1 HP	64568125
14	1	Manifold, Intake, w/Gauge & Valve	64568164
15	1	Elbow, 1/4" x 1/4"	64568155
16	1	Mounting Feet Kit, 1 HP	64568150
	1	Bracket, Electrical Box to Motor, Stabilizer	64514054

***NOTE:** See [OPERATION](#) and [CARE & MAINTENANCE](#) sections of this manual for detailed information on hookup and care of the Barracuda single wet vacuum pump.

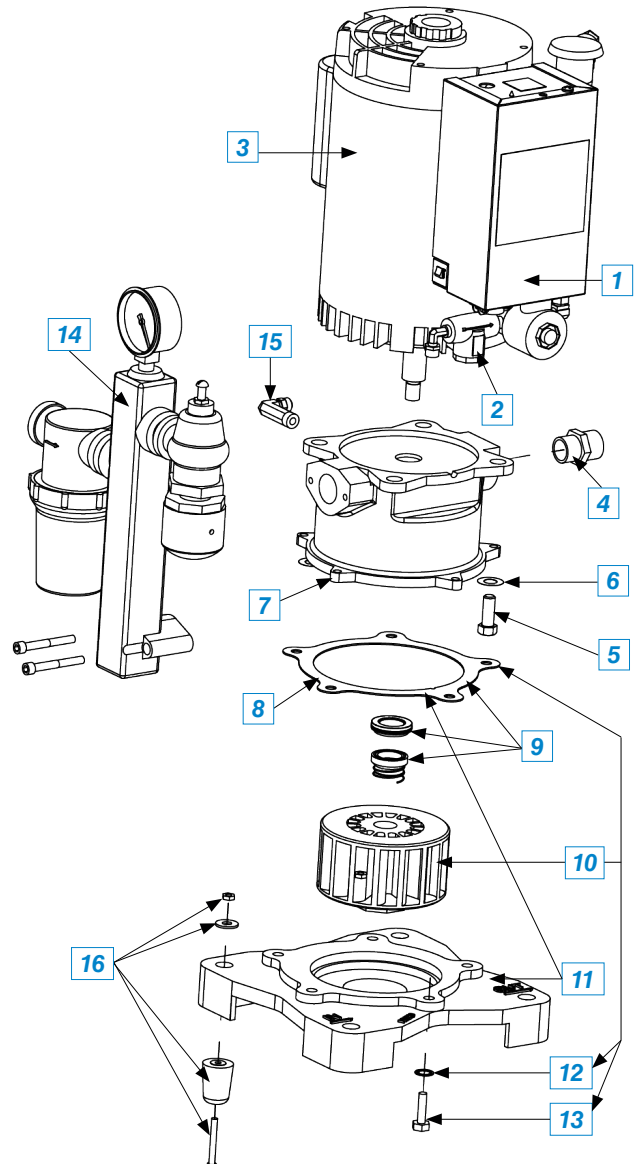


REPLACEMENT PARTS LIST (CONTINUED)

2 HP SINGLE PUMP ASSEMBLY

#	QTY.	PART/KIT NAME	PART/KIT NO.
1	1	Relay Unit, 230V	64501150R
2	1	Water Manifold, 1 Gallon	64568197
3	1	Motor, 2 HP, FS	64568166
4	1	Adaptor, Brass, 3/4" x 3/4"	64568147
5	4	Cap Screw, 3/8"-16 x 1"	1615-028
6*	As Req.	Shim, Steel .005 Thick	64604001
		Shim, Steel .031 Thick	64604002
		Shim, Steel .015 Thick	64604003
		Shim, Steel .002 Thick	64604004
		Shim, Steel .010 Thick	64604005
7*	1	Housing, Brass, 2 HP	64568200
8*	1	Housing Gasket, Fiber	64568128
9*	1	Housing Seal, Rotary	64568124
10*	1	Impeller, Brass, Balanced, 2 HP	64568189
11*	1	Base, Brass, 2 HP	64568168
12*	5	Washer, Internal Star, 5/16"	64624016
13*	5	Screw, Cap, 5/16-18 x 1 1/4"	1615-041
6-13*	1	Lower Rebuild Kit, 2 HP	64568126
14	1	Manifold, Intake, w/Gauge & Valve	64568164
15	1	Elbow, 1/4" x 1/4"	64568155
16	1	Mounting Feet Kit, 2 HP	64568151
	1	Bracket, Electrical Box to Motor, Stabilizer	64514054

***NOTE:** See *OPERATION* and *CARE & MAINTENANCE* sections of this manual for detailed information on hookup and care of the Barracuda single wet vacuum pump.

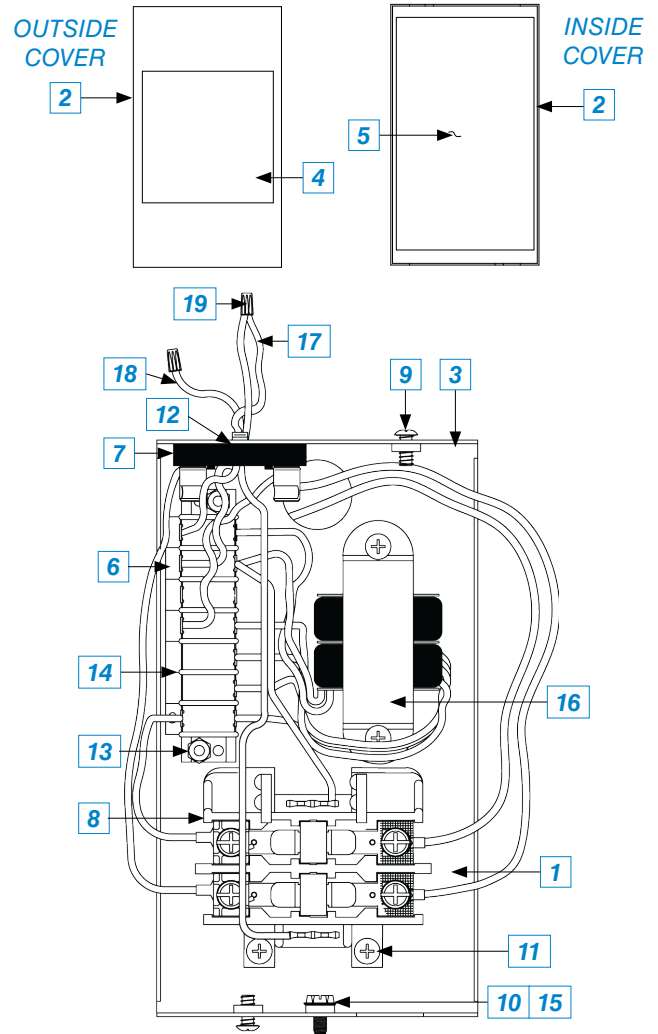


REPLACEMENT PARTS LIST (CONTINUED)

ELECTRICAL BOX

#	QTY.	PART/KIT NAME	PART/KIT NO.
	1	Electrical Box Assembly, 115V or 230V	64501150
1	1	Control Box Chassis	64513011
2	1	Control Box Cover	64513011B
3	1	Decal, Low, 24V	64529027
4	1	Decal, Fire/Shock Warning	64529174
5	1	Decal, D V Elec. Diagram	64529265
6	1	Decal, D V Terminal Block	64529185
7	1	Fuse Clip Holder	64561004
8	1	Relay, 30 Amp Capacity	64568133
9	2	Screw, 10-32 x 1/2"	1623-054
10	1	Screw, 10-32 Green, Ground	64611060
11	4	Screw, 8-32 x 3/4" Phillips	64611085
12	1	Screw, 6-32 x 5/16", Fuse Holder	64611119
13	2	Screw, 6-32 x 1/2", Terminal Board	64611120
14	1	Terminal Board, 7 Quick Connect	64619006
15	1	Lock Washer, #10 International Star	1636-026
16	1	Primary Trans., 115/230V	64568195
17	1	Tag, Caution Low Volts	64529025
18	1	Tag, Wire Usage Warning	64529203
19	2	Wire Nut, Ideal, 71-B Gray	64626003
	1	Conduit, Black	64618068
	1	Washer, 3/4"	64624058
	2	Nipple, Chase, 1/2"	64578001
	1	Wire, 18 Gauge, Purple, 6"	64625073
*	1	Electrical Box Assembly Kit, 115/230V (1 HP)	64501151
*	1	Electrical Box Assembly Kit, 230V (2 HP)	64501157

***NOTE:** Electrical Box Assembly Kits: Part Nos. 64501151, 115/230 V (1 HP) and 64501157, 230 V (2 HP) are complete with water manifold attached.



#	QTY	PART/KIT NAME	PART/KIT NO
1	1	Cord, 230V	64532008
1	1	Decal, Fuse Replacement 3/10A, 115V or Decal, Fuse Replacement 15/100A, 230V	64529186 64529187
1	1	Decal, 230V, 7.5A, 60 Hz (1 HP Dual) or Decal, 230V, 15A, 60 Hz (2 HP)	64529125 64529126
1	1	Decal, Ground	2679-497
1	1	Connector, Snap-in, Black	64531025
1	1	Nut, Locking, 1/2"	64579001
1	1	Fuse, 3/10A, Slo-Blo, 115V (pkg. of 4) or Fuse, 15/100A, Slo-Blo, 230V (pkg. of 4)	64568131 64568130

REPLACEMENT PARTS LIST (CONTINUED)

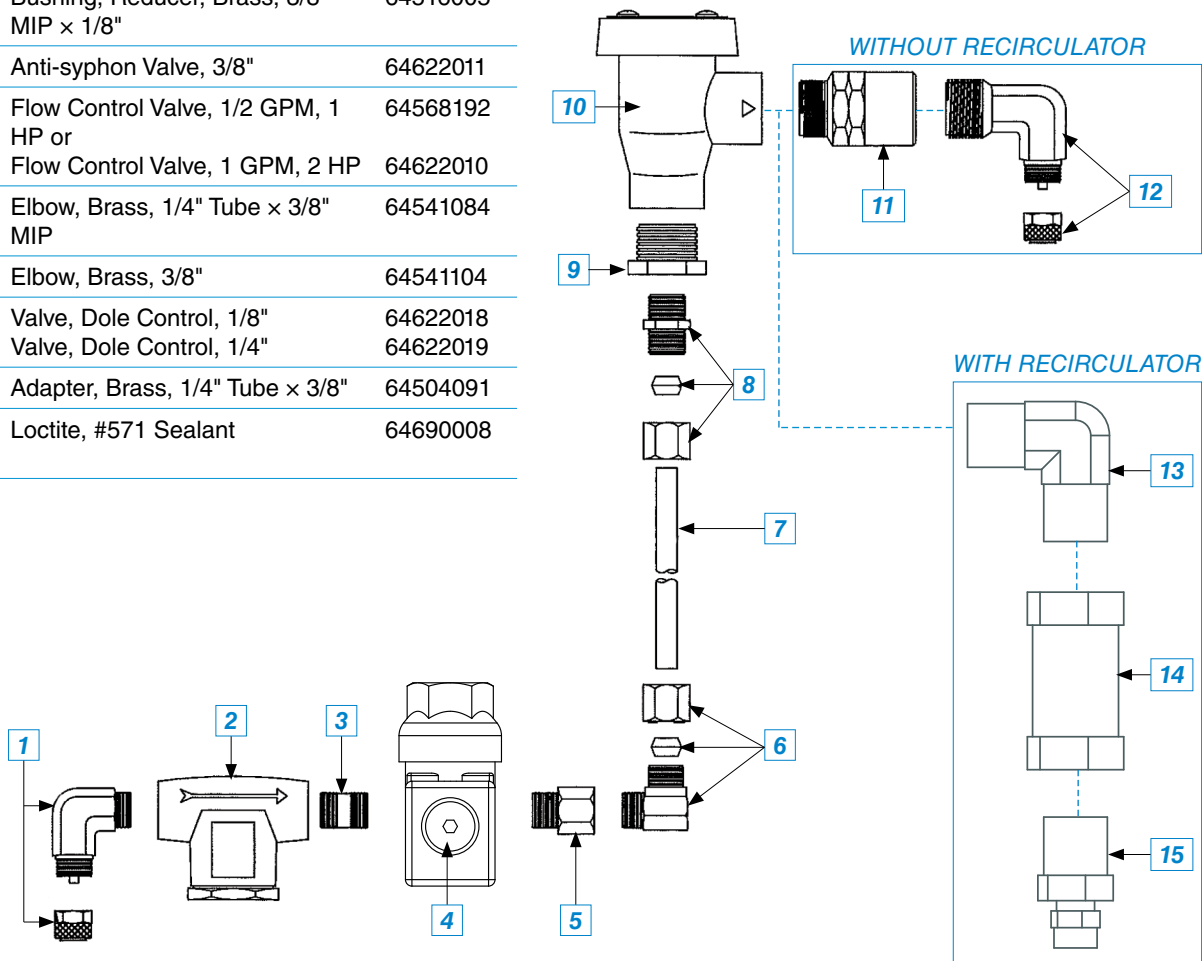
WATER CONTROL ASSEMBLY

#	QTY.	PART/KIT NAME	PART/KIT NO.
	1	Water Control Assembly, 1 HP Water Control Assembly, 2 HP	64568196 64568197
1	1	Elbow, Brass, 1/4", Tube x 1/8" MIP	64541004
2	1	Water Filter, 1/8"	64568135
3	1	Nipple, Brass, 1/8" MIP	64578002
4	1	Solenoid Valve, 24V, 60 Hz	64568156
5	1	Adapter, Brass, 1/8" MIP x 1/8"	64504072
6	1	Elbow, Brass, 1/4" Compression x 1/8" MIP	64541106
7*	1	Water Tube, 6" Straight	64568154
8	1	Connector, 1/4" Tube x 1/8" MIP	64531013
9	1	Bushing, Reducer, Brass, 3/8" MIP x 1/8"	64516005
10	1	Anti-syphon Valve, 3/8"	64622011
11	1	Flow Control Valve, 1/2 GPM, 1 HP or Flow Control Valve, 1 GPM, 2 HP	64568192 64622010
12	1	Elbow, Brass, 1/4" Tube x 3/8" MIP	64541084
13	1	Elbow, Brass, 3/8"	64541104
14	1	Valve, Dole Control, 1/8" Valve, Dole Control, 1/4"	64622018 64622019
15	1	Adapter, Brass, 1/4" Tube x 3/8"	64504091
16**	As Req.	Loctite, #571 Sealant	64690008

The water control system of the Barracuda Single Wet Vacuum Pump provides the pump with the water flow required for proper suction and supplemental cooling. Automatic and independent water control is provided for the pump. Filters protect the system from damage from solid materials in the water supply. Flow valves control the amount of water supplied to the pump.

***NOTE:** When ordering replacement part #7, parts #5, #6, #8, and #9 must be ordered as well.

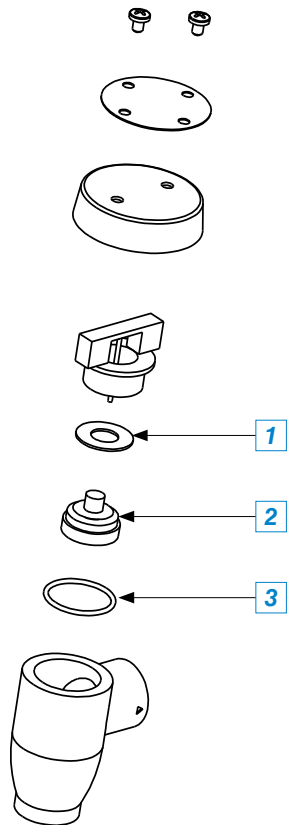
****NOTE:** All fittings to be sealed with liquid sealant unless fitting is pretreated with sealant by the manufacturer.



REPLACEMENT PARTS LIST (CONTINUED)

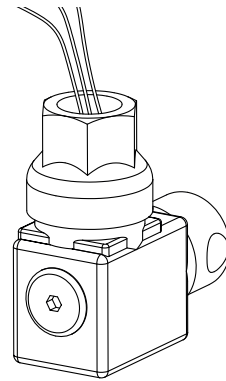
ANTI-SIPHON VALVE ASSEMBLY

#	QTY.	PART/KIT NAME	PART/KIT NO.
	1	Anti-siphon Valve Assembly	64622011
1,2,3	1	Anti-siphon Repair Kit	64568016A



WATER SOLENOID VALVE ASSEMBLY

#	QTY.	PART/KIT NAME	PART/KIT NO.
	1	Water Solenoid Valve Assembly, 24V	64568156



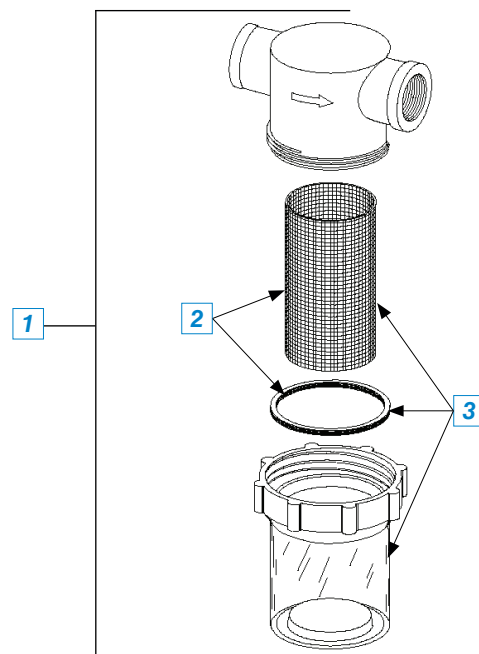
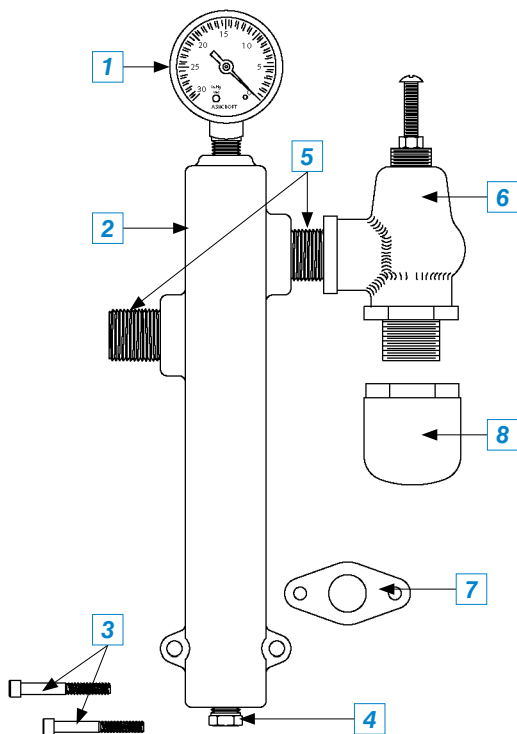
REPLACEMENT PARTS LIST (CONTINUED)

INTAKE MANIFOLD ASSEMBLY

#	QTY.	PART/KIT NAME	PART/KIT NO.
1	1	Intake Manifold Assembly, HiVac	64568164
1	1	Vacuum Gauge, HiVac	64568188
2	1	Intake Manifold, Brass	64572001
3	2	Socket Head Cap Screw, 1/4"-20 x 2	64611059
4	1	Plug, 1/4" MIP, Brass	64584009
5	2	Nipple, 3/4" x Close, Brass	64578003
6	1	Vacuum Relief Valve, Brass	64622001
7	1	Manifold Gasket, Fiber	64568137
8	1	Vacuum Relief Muffler	64568159

PRIMARY/SECONDARY FILTER

#	QTY.	PART/KIT NAME	PART/KIT NO.
1	1	Filter, Primary, 3/4" with Clear Bowl	64545040
2	1	Screen & Gasket	64568119
3	1	Bowl, Screen & Gasket	64568120



The Barracuda Wet Vacuum Unit is suitable for use in the specified electromagnetic environment. The customer and/or user of the vacuum should ensure that it is used in an electromagnetic environment as described in this manual.

Medical electrical equipment needs special precautions regarding electromagnetic compatibility (EMC) and needs to be installed and put into service according to the EMC information provided in the accompanying documents.

Portable and mobile RF communications equipment can affect medical electrical equipment.

Include a list of all cables and maximum lengths of cables (if applicable), transducers and other accessories with which the manufacturer of the equipment or system claims compliance with the requirements of 5.2.2.1 a) and 5.2.2.1 b). Accessories that do not affect compliance with the requirements of these subclauses need not be listed. Accessories, transducers and cables may be specified either generically (e.g. shielded serial cable, load impedance) or specifically (e.g. by manufacturer and model or part number).

Use of accessories, sensors, and cables other than those specified may result in increased emission and/or decreased immunity of the vacuum.

The vacuum should not be used adjacent to, or stacked with other equipment. If adjacent or stacked use is necessary, the vacuum should be observed to verify normal operation in the configuration in which it is used.

There are minimum amplitudes for the vacuum to measure physiological signals. Operation of the equipment below the minimum amplitudes may cause inaccurate results.


Portable and mobile RF communications equipment can affect medical electrical equipment.

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC EMISSIONS

The vacuum is intended for use in the electromagnetic environment specified below. The customer or the user of the vacuum should assure that it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment - Guidance
RF Emissions CISPR 11	Group 1	The vacuum uses RF energy only for its internal function; therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class A	The vacuum is suitable for use in all establishments, other than domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic Emissions IEC 61000-3-2	Class A	
Voltage Fluctuations/ Flicker Emissions IEC 61000-3-3	Complies	

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY ALL ME EQUIPMENT AND ME SYSTEMS			
The vacuum is intended for use in the electromagnetic environment specified below. The customer or the end user of the vacuum should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Electrostatic Discharge (ESD) IEC 61000-4-2	±6 kV Contact ±8 kV Air	Not Applicable Not Applicable	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical Fast Transient/Burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	Not Applicable Not Applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	Not Applicable Not Applicable	Mains power quality should be that of a typical commercial or hospital environment.
Voltage Dips, Short Interruptions and Voltage Variations on Power Supply Input Lines IEC 61000-4-11	<5% Ut; (>95% dip in Ut) for 0.5 cycle	Not Applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of the equipment or system requires continued operation during power mains interruptions, it is recommended that the equipment or system be powered from an uninterruptible power supply or a battery.
	40% Ut; (60% dip in Ut) for 5 cycles	Not Applicable	
	70% Ut; (30% dip in Ut) for 25 cycles	Not Applicable	
	<5% Ut; (>95% dip in Ut) for 5 seconds	Not Applicable	
Power Frequency (50/60 Hz) Magnetic Field IEC 61000-4-8	3 A/m	Not Applicable	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: Ut is the AC mains voltage prior to application of the test level.			

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY ME EQUIPMENT AND ME SYSTEMS			
The vacuum is intended for use in the electromagnetic environment specified below. The customer or the user of the vacuum should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF IEC 61000-4-6	3 Vrms 150kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the vacuum, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance: $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2.3 \sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitter, as determined by an electromagnetic site survey ^a , should be less than the compliance level in each frequency range ^b . Interference may occur in the vicinity of equipment marked with the following symbol: 
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 Vrms	
<p>NOTE 1: At 80 MHz and 800 MHz, higher frequency range applies.</p> <p>NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p> <p>a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the equipment or system is used exceeds the applicable RF compliance level above, the equipment or system should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the equipment or system.</p> <p>b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

**RECOMMENDED SEPARATION DISTANCE BETWEEN PORTABLE AND MOBILE
RF COMMUNICATIONS EQUIPMENT AND THE VACUUM UNIT**

The vacuum unit is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the vacuum can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the vacuum as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = 1.2 \sqrt{P}$	$d = 1.2 \sqrt{P}$	$d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.79	3.79	7.27
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

BARRACUDA™ SINGLE WET VACUUM PUMP FROM RAMVAC®

DENTALEZ® and its employees are proud of the products we provide to the dental community. We stand behind these products with a warranty against defects in material and workmanship as provided below and have our own in-house repair facility to service our products. In the event that you experience difficulty with the application or operation of any of our products, please contact our technical service department at our expense at (866) DTE-INFO.

If we cannot resolve the issue by telephone, we will arrange for a representative to contact you or suggest that the product be returned to our factory for inspection.

If product return or repair is required, we will provide you with a **Return Authorization** number and shipping instructions to return the product to the proper facility. If the product is under warranty, we will ask you to provide proof of purchase such as a copy of your invoice. Please be sure to include the **Return Authorization** number on the package you are returning. **Products returned without a return authorization number cannot be repaired.**

Freight costs for product returns are the responsibility of the customer. Products under warranty will be repaired or replaced, at our sole discretion, and returned at our expense. Products outside the warranty limits will be repaired and returned with costs invoiced to the customer. We are not responsible for shipping damages. We will, however, help you file a claim with the freight carrier. Written repair estimates are available.

DENTALEZ warrants all equipment and parts to be free of defects in material and workmanship, under normal usage under the following terms:

Ramvac	Limited Warranty Period*
Barracuda Single Wet Vacuum Pump	5 Years from date of installation

Please note the following additional terms of our warranty and return policy:

- This warranty covers manufacturing defects only and does not cover defects resulting from abuse, accidents, misuse, improper handling, cleaning, care or maintenance. Damage resulting from the use of chemicals, cleaners, disinfectants or sterilization is not covered under this warranty nor is normal wear and tear. Failure to follow or observe our operating/use, maintenance and/or installation instructions voids this warranty as does the use of non-authorized parts and repairs made by an unauthorized repair facility.
- Liability is limited to repair or replacement of the defective part(s) or products at our sole discretion. All other liabilities, in particular liability for damages, including, without limitation, special, exemplary, consequential or incidental damages are excluded.
- THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE, REPRESENTATIVE OR DEALER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY.

WARRANTY REPAIRS

Parts repaired or replaced on a product that is in warranty will be warranted for the duration of that product's original warranty.

PRODUCT RETURNS

Opened products or product returns more than a year old cannot be returned for credit. There will be a 15% (\$25.00 minimum) restocking charge on all items authorized for return.

NOTES:

*See individual Product Manuals for complete warranty details. Provided conditions defined in instruction manual are met.

© 2024 DENTALEZ Alabama, Inc. DENTALEZ is a registered trademark of DENTALEZ, Inc. Ramvac is a registered trademark of Ramvac Dental Products, Inc.

NOTES:

DENTALEZ EQUIPMENT PRIVACY POLICY

Effective Date: November 1, 2023.

- 1. Introduction and Overview.** This Privacy Policy describes how DentalEZ, Inc. its subsidiaries and affiliates (collectively “DentalEZ,” “we,” “our,” or “us”) collects, uses, and shares information about you as well as your rights and choices.

This Privacy Policy applies to your use of the DentalEZ equipment containing the Aeras platform, or similar “smart technology” in such dental or medical equipment and any online service location that posts a link to this Privacy Policy, and all features, content, and other services that we own, control, and make available through such online service location (collectively, the “Service”). By using the Service or our DentalEZ smart equipment, you agree to our Terms of Use (“Terms”) and consent to our collection, use and disclosure practices, and other activities as described in this Privacy Policy and the Terms. If you do not agree and consent, discontinue use of the Service and our equipment. If you have any questions or wish to exercise your rights and choices, please contact us as set out in the “Contact Us” section below.

2. Information Collection.

A. Information You Provide.

We collect information when you use the Service and our DentalEZ smart technology in your dental or medical equipment, including information you provide when you register an account for the Service, update your profile, access our content, test or use equipment, participate in a DentalEZ sweepstakes, contest, survey, special or promotion (“Promotion”), contact DentalEZ customer support or apply for a job with DentalEZ. We may use Service Providers (defined below) to collect information.

You represent and warrant that you will only provide information and use the Service acting as an employee, owner, director, officer, or contractor of a company, partnership, sole proprietorship, nonprofit or other legal entity (a “Customer”), and that your communications and transactions with DentalEZ occur solely within the context of DentalEZ providing the Service or equipment to the Customer that you represent.

Information we and our Service Providers on our behalf collect includes the following:

- **Contact Data**, including your first and last name, email address, office address, phone number, organization name, dental profession and role.
- **Account Credentials**, including your username, password, and information for authentication and account access.

You may choose to voluntarily submit other information to us through the Service that we do not request, and, in such instances, you are solely responsible for such information, and we may immediately delete such information, without liability to you.

B. Information Collected Automatically.

In addition, we automatically collect information when you use the Service. Information we automatically collect includes the following:

- **Service Use Data**, including data about the features you use, the pages you visit, the emails and advertisements you view, the products you purchase, the time of day you browse, and your referring and exiting pages.
- **Device Connectivity and Configuration Data**, including data about the type of device or browser you use, your device’s operating software, your internet service provider, your device’s regional and language settings, and device identifiers such as IP address, MAC address, and Ad Id (e.g., IDFA or AAID).
- **Location Data**, including imprecise location data (such as location derived from an IP address, equipment sensor or data that indicates a city or postal code level) and, with your consent, precise location data (such as latitude/longitude data).

- **Equipment Usage and Performance Data**, including performance data collected from sensors connected to the DentalEZ smart technology in your dental or medical equipment, including but not limited to when the equipment is used and for how long, what equipment functions are being used, how the equipment is running, power surges, tank pressure, voltage, oil or water level, maintenance alert, service history, pump intake, runtime and vacuum efficiency, and other kinds of equipment performance data.

We use various tracking technologies to automatically collect information and other data, including the following:

- **Log Files**, which are files that record events that occur in connection with your use of the Service.
- **Cookies**, which are small data files stored on your device that act as a unique tag to identify your browser. We use two types of cookies: session cookies and persistent cookies. Session cookies make it easier for you to navigate our website and expire when you close your browser. Persistent cookies help with personalizing your experience, remembering your preferences, and supporting security features. Additionally, persistent cookies allow us to bring you advertising both on and off the Service. Persistent cookies may remain on your device for extended periods of time, and generally may be controlled through your browser settings.
- **Pixels** (also known as web beacons), which is code embedded in a website, video, email, or advertisement that sends information about your use to a server. There are various types of pixels, including image pixels (which are small graphic images) and JavaScript pixels (which contains JavaScript code). When you access a website, video, email, or advertisement that contains a pixel, the pixel may permit us or a third party to drop or read cookies on your browser. Pixels are used in combination with cookies to track activity by a particular browser on a particular device. We may incorporate pixels from other parties that allow us to track our conversions, bring you advertising both on and off the Service, and provide you with additional functionality, such as the ability to connect our Service with your social media account.
- **Location-Identifying Technologies**, which are technologies used to collect your location. For example, GPS, WiFi, and Bluetooth may be used to collect precise location data. Location data may be used for purposes such as verifying your device's location.

Some information about your use of the Service and other parties' services may be collected using tracking technologies across time and services and used by us and other parties for purposes such as to associate different devices you use, and deliver relevant ads and/or other content to you on the Service and other services.

For further information on tracking technologies and your rights and choices regarding them, see the "Your Rights and Choices" section below.

C. Information from Other Sources.

We also collect information from other sources. To the extent we combine third party sourced information with information we have collected through the Service, we will treat the combined information in accordance with the practices described in this Privacy Policy, plus any additional restrictions imposed by the source of the data. These sources vary over time, but have included:

- **Dealers and/or Service Providers** that sell or provide our equipment to dental offices and you on behalf of your employer.
- **Publicly available sources**, including data in the public domain.

3. Use of Information.

We use information we collect for legitimate business purposes in accordance with the practices described in this Privacy Policy, including to:

- Manage our Service, including registration of your account, provision of access to product literature, and provision of dental equipment with smart technology to manage and monitor the equipment.
- Perform services requested by you, such as scheduling equipment testing and repairs.
- Respond to your comments, questions, requests, and provide customer service.

- Send you technical notices, updates, security alerts, information regarding changes to our policies, and administrative messages.
- Prevent and address fraud, breach of policies or terms, and threats or harm.
- Monitor and analyze trends, usage, activities and failure analysis.
- For research and analysis purposes, including to improve the Service and other DentalEZ websites, marketing efforts, products, equipment and services, and to develop and create new products, equipment and services.
- Develop and send you direct marketing, including advertisements and communications about our and other party's such as our dealers' products, offers, promotions, events, and services.
- Fulfill any other purpose disclosed to you or with your consent.

We may use information we collect to create data and data sets that are not identifiable to you or any individual by aggregating data and/or de-identifying data ("Aggregated Data"). We may use Aggregated Data for any purpose except as prohibited by applicable law. For more information on your rights and choices regarding how we use information about you, please see the "Your Rights and Choices" section below.

1. Sharing of Information.

We share information we collect, including as follows:

- **Service Providers.** We share information with our agents, vendors, dealers, and various other service providers (collectively "Service Providers") in connection with their work on our behalf. Service Providers assist us with services such as payment processing, data analytics, marketing and advertising, website hosting, and technical support to DentalEZ and to you. Service Providers are prohibited from using information about you for any purpose other than to provide this assistance, although we may permit them to use information that does not identify you (including information that has been aggregated or de-identified and equipment performance data) for any purpose except as prohibited by applicable law.
- **Dealers.** We share information with dealers who sell dental or medical equipment and our products, including to enable Dealers to manage and honor Customer equipment warranties, provide repair services to our Customers, and to advertise their services to you.
- **Affiliates.** We may share information with our related entities including our affiliates and related companies. Our Affiliates may use this information to help us provide our Services and equipment and for their own business purposes. For example, we share information with our affiliates who help us manufacture and distribute the DentalEZ smart technology in dental or medical equipment. Our affiliates may also use the information to develop or enhance their own products and services and to promote their own products and services to you.
- **Business Partners.** We may enter into relationships with third party business partners where we license or otherwise disclose data to them to use for their own business purposes. For example, we may license data regarding equipment performance, wear and maintenance to third party equipment manufacturers.
- **Merger or Acquisition.** We may share information in connection with, or during negotiations of, any proposed or actual merger, purchase, sale or any other type of acquisition or business combination of all or any portion of our assets, or transfer of all or a portion of our business to another business.
- **Security and Compelled Disclosure.** We may share information to comply with the law or other legal process, and where required, in response to lawful requests by public authorities, including to meet national security or law enforcement requirements. We also share information in accordance with the applicable laws in order to protect the rights, property, life, health, security and safety of DentalEZ, DentalEZ personnel, the Service or any third party.
- **Consent.** We may share information to fulfill any other purpose disclosed to you or with your consent.

Notwithstanding the above, we may share information that does not identify you (including information that has been aggregated or de-identified and equipment performance data) with third parties except as prohibited by applicable law. For information on your rights and choices regarding how we share information about you, please see the "Your Rights and Choices" section below.

2. Your Rights and Choices.

A. Account Information.

You may access or update certain information that you have provided to us through your account by visiting your account settings or sending an email to the email address set out in the “Contact Us” section below or by contacting your dealer directly. We may require additional information from you to allow us to confirm your identity. Please note that we will retain and use information about you as necessary to provide the Service, comply with our legal obligations, resolve disputes, and enforce our agreements.

B. Tracking Technology Choices.

- **Cookies and Pixels.** Most browsers accept cookies by default. You can instruct your browser, by changing its settings, to decline or delete cookies. If you use multiple browsers on your device, you will need to instruct each browser separately. Your ability to limit cookies is subject to your browser settings and limitations.
- **Do Not Track.** Your browser settings may allow you to automatically transmit a “Do Not Track” signal to online services you visit. Note, however, there is no industry consensus as to what site operators should do with regard to these signals. Accordingly, unless and until the law is interpreted to require us to do so, we do not monitor or take action with respect to “Do Not Track” signals or other mechanisms. For more information on “Do Not Track,” visit <http://www.allaboutdnt.com>.

Please be aware that if you disable or remove tracking technologies some parts of the Service may not function correctly.

C. Analytics.

Our Service contains tracking technologies owned and operated by other parties. For example, we use tracking technologies from analytics providers to help us analyze your use of the Service, compile statistic reports on the Service’s activity, and provide us with other services relating to Service activity and internet usage.

D. Communications.

- **E-mails.** By registering for an account to use the Service, it is implied that you consent to us sending emails to you about the Service, the status of your account and information about your equipment. As such, we may send emails to the email address you provide for transactional and promotional purposes in regard to the Service, the status of your account and your equipment. You can opt-out of receiving certain promotional emails from us at any time by following the instructions as provided in emails to click on the unsubscribe link or emailing us at the email address set out in the “Contact Us” section below with the word UNSUBSCRIBE in the subject field of the email. Please note that you cannot optout of non-promotional emails, such as those about your account, transactions, servicing, or DentalEZ’s ongoing business relations.
- **Text Messages.** You can opt-out of receiving text messages to your phone number at any time by (i) for text messages, texting “STOP” in response to any text message you receive from us or contacting us as set out in the “Contact Us” section below and specifying you want to opt-out of text messages; and (ii) for calls, requesting opt-out during any call you receive from us or contacting us as set out in the “Contact Us” section below and specifying you want to opt-out of calls.

Please note that your opt-out is limited to the email address, phone number and device used and will not affect subsequent subscriptions.

3. Your California Privacy Rights.

Under California Civil Code Section 1798.83, also known as California’s “Shine the Light” law, California residents with whom we have an established business relationship are entitled to request and receive, free of charge, once per calendar year, information about certain personal information we shared, if any, with other businesses for their own direct marketing uses in the previous calendar year. To request a copy, please contact us as set out in the “Contact Us” section below. Requests must include “California Privacy Rights Request” in the first line of the description and include your name, street address, city, state, and ZIP code. Please be aware that not all information sharing is covered by the “Shine the Light” law requirements and only information on covered sharing will be included in our response.

1. Your Canadian Privacy Rights.

If you are a resident of Canada, you may be entitled to additional rights regarding your personal information, including: (i) the right to withdraw consent to processing of your personal information where consent is the basis of processing; (ii) the right to access your personal information and certain other supplementary information, under certain conditions; (iii) the right to challenge improper processing of your personal information, under certain conditions; (iv) the right to demand that we restrict the use or disclosure of your personal information, under certain conditions, if you believe we have exceeded the legitimate basis for such use or disclosure, use or disclosure is no longer necessary, or believe your personal information is inaccurate; and (v) the right to lodge a complaint with applicable Canadian data protection authorities. If you want to learn more about your rights under Canadian law or our privacy practices, you may contact our Privacy Officer (see the “Contact Us” section below).

2. Children.

The Service is intended for a general audience and not directed to children under eighteen (18) years of age. DentalEZ does not knowingly collect personal information of children under the age of thirteen (13). If you are a parent or guardian and believe DentalEZ has collected such information in a manner not permitted by law, please contact us as set out in the “Contact Us” section below, and we will remove such data to the extent required by law.

3. Data Security.

We implement and maintain reasonable administrative, physical, and technical security safeguards to help protect information about you from loss, theft, misuse and unauthorized access, disclosure, alteration and destruction. Nevertheless, transmission via the internet is not completely secure and we cannot guarantee the security of information about you that is transmitted over the internet.

4. International Transfer.

We are based in the U.S. and the information we collect is stored and processed in the U.S. and is therefore subject to U.S. law. If you are accessing the Service from outside of the U.S., please be aware that information collected through the Service may be transferred to, processed, stored, and used in the U.S. Data protection laws in the U.S. and other jurisdictions may be different from those of your country of residence. Your use of the Service or provision of any information therefore constitutes your consent to the transfer to and from, processing, usage, sharing, and storage of information about you in the U.S. and other jurisdictions as set out in this Privacy Policy

5. Changes to this Privacy Policy.

We reserve the right to revise and reissue this Privacy Policy at any time. Any changes will be effective immediately upon posting of the revised Privacy Policy. Your continued use of our Service indicates your consent to the Privacy Policy then posted. If the changes are material, we may provide you additional notice to your email address.

6. Contact Us.

If you have any questions or comments about this Privacy Policy, our data practices, or our compliance with applicable law, please contact us:

By email:

DentalEZIOT@DentalEZ.com

By mail:

Attention: Privacy Officer
310 Lindenwood Drive, Suite 100
Malvern, PA 19355

DENTALEZ TERMS OF USE FOR EQUIPMENT WITH SMART TECHNOLOGY

Effective Date: November 1, 2023.

1. Introduction and Overview.

These Terms of Use (“Online Terms”) set forth a legally binding agreement between DENTALEZ, Inc., DentalEZ Alabama, Inc., DTE Oregon, Inc., their subsidiaries and affiliates (collectively “DentalEZ”; “we,” “our,” or “us”) and the person or entity identified on the order form or other Service (as defined below) subscription purchase document (“Customer”). These Online Terms govern your access to and use of the DentalEZ “smart technology” contained in certain DentalEZ dental equipment as well as any service that posts a link to these Terms or integrates with certain DentalEZ smart technology contained in certain DentalEZ dental equipment that Customer may have purchased from us or through your local dealer, and all features, content, and other services that we own, control and make available through such online service (collectively, the “Service”).

You hereby represent and warrant that you will access and use the Service acting in your capacity as an employee, owner, director, officer, or contractor of a Customer, and that your communications and transactions with DentalEZ occur solely within the context of DentalEZ providing the Service to the Customer that you represent. As such, you hereby represent and warrant that you have the authority to bind such Customer to these Online Terms (in which case “you” or “your” will refer to you and such Customer). By initiating the first use of the Service, you the User acknowledge and agree upon the entire contents of these Online Terms.

In some instances, both these Online Terms and separate terms that we make available to you through the Service or through your local dealer will apply to your use of the Service (the “Additional Terms” and collectively, with the Online Terms, the “Terms”). To the extent there is a conflict between these Online Terms and any applicable Additional Terms, the Additional Terms will control unless they expressly state otherwise.

By accessing or using the Service, you agree to these Terms, and agree to our collection, use and disclosure practices, and other activities as described in our Privacy Policy, as amended from time to time (the “Privacy Policy”). If you do not agree to these Terms and our posted Privacy Policy, you must discontinue your use of the Service (and this is your sole remedy).

2. Service Use.

A. About the Service.

Subject to these Terms, the Service may enable you to register and create an Account (defined below), view certain data collected by the sensors in your DentalEZ smart technology enabled equipment, use the configuration manager software to manage your DentalEZ smart technology equipment settings, install software updates on your DentalEZ smart technology enabled equipment, manage access to the Service and communicate with DentalEZ regarding the use and operation of your DentalEZ smart technology enabled equipment.

B. Content.

The Service contains: (i) materials and other items relating to DentalEZ and its products and services, and similar items from our licensors and other third parties, including all layout, information, databases, articles, posts, text, data, files, images, scripts, designs, graphics, instructions, illustrations, photographs, sounds, pictures, videos, advertising copy, URLs, technology, software, software documentation, interactive features, the “look and feel” of the Service, and the compilation, assembly, and arrangement of the materials of the Service and any and all copyrightable material; (ii) trademarks, logos, trade names, trade dress, service marks, and trade identities of various parties, including those of Aeras; and (iii) other forms of intellectual property (all of the foregoing, collectively “Content”). All right, title, and interest in and to the Service and the Content, as well as all derivative works thereof, are owned by us or our licensors or service providers, and are protected by U.S., Canadian and international copyright, trademark, trade dress, patent and/or other intellectual property and unfair competition rights and laws to the fullest extent possible.

C. Limited License.

Subject to your strict compliance with the Terms, DentalEZ grants you a limited, non-exclusive, revocable, non-assignable, personal, and non-transferable license to download, display, view, use, and play the Content on a personal computer, browser, laptop, tablet, mobile phone, or other internet enabled device (each, a “Device”), in each case for your personal, non-commercial use only. The foregoing limited license (i) does not give you any ownership of, or any other intellectual property interest in, any Content, and (ii) may be suspended or terminated

for any reason, in DentalEZ' sole discretion, and without advance notice or liability. Your unauthorized use of the Content may violate copyright, trademark, privacy, publicity, communications, and other laws, and any such use may result in your personal liability, including potential criminal liability.

D. Accounts.

Certain features of the Service may require you to register an account, including access to equipment performance data associated with your DentalEZ smart technology enabled equipment purchased directly from DentalEZ, a third-party equipment manufacturer or through your local dealer ("Account"). When registering an Account or using DentalEZ smart technology enabled equipment, you agree to: (i) provide true, accurate, current, and complete information; (ii) maintain and update this information to keep it true, accurate, current, and complete; (iii) protect your Account log-in credentials so as to prevent unauthorized access to your Account or equipment; (iv) not share your Account or log-in credentials with any third party or transfer your Account to any third party; and (v) immediately notify us of any suspected or actual unauthorized use of your Account, equipment or breach of security. Your right to access and use the Service is not transferable by you to any other third party. You are solely responsible for all activities that occur under your Account, whether or not you authorized the activity, and we are not liable for any loss or damage to you or any third party arising from your failure to comply with any of the foregoing obligations.

E. Restrictions.

You may not use the Service unless you are at least eighteen (18) years old and are fully able and competent to agree to and comply with the Terms (in their entirety). If you accept the Terms, you represent that you have the capacity to be bound by them.

You may not: (i) use the Service or Content for any political purpose; (ii) engage in any activity in connection with the Service or Content that is unlawful, harmful, offensive, sexually explicit, obscene, violent, threatening, harassing, abusive, falsely representative of your persona, invasive of someone else's privacy, or otherwise objectionable to DentalEZ; (iii) harvest or scrape any information from the Service or Content; (iv) reverse engineer or modify the Service or Content; (v) interfere with the proper operation of or any security measure used by the Service or Content; (vi) infringe any intellectual property or other right of any third party; (vii) use the Service or Content in a manner that suggests an unauthorized association or is beyond the scope of the limited license granted to you; or (viii) otherwise violate the Terms including these Online Terms and any applicable Additional Terms.

You agree to comply with all local, state, federal, national, foreign, supranational, and international laws, statutes, ordinances, regulations, treaties, directives, and agreements that apply to your use of the Service and Content.

F. Availability.

DentalEZ may suspend or terminate the availability of the Service and Content, in whole or in part, to any Account, individual user or all users, for any reason (including, a failure to pay Service subscription fees when due), in DentalEZ' sole discretion, and without advance notice or liability. Upon suspension or termination of your access to the Service, or upon notice from DentalEZ, all rights granted to you under the Terms will cease immediately, and you agree that you will immediately discontinue use of the Service and Content.

G. Reservation of Rights.

All rights not expressly granted to you are reserved by DentalEZ and its licensors and other third parties. No right or license may be construed, under any legal theory, by implication, estoppel, industry custom, or otherwise. Any unauthorized use of the Content or Service for any purpose is prohibited.

H. Data

The Service may enable the collection of data relating to Customer's use of the Service and Equipment through sensors, the Service features described in Section 7 and information that is transmitted, uploaded and/or submitted to the Service by Customer and its employees, owners, directors, officers, and contractors, including usage information such as logins, button-presses, and maintenance history and records ("Customer Data"). As between DentalEZ and Customer, Customer is the owner of the Customer Data. Customer hereby grants DentalEZ a worldwide, nonexclusive, transferable, sublicensable, perpetual, irrevocable, fully paid up and royalty free right and license to use, reproduce, prepare derivative works of, distribute, perform, display, arrange, de-identify, create Aggregated Data (as defined below) from, and otherwise exploit for DentalEZ' business purposes, any Customer Data, and to use the know-how and analytical results resulting therefrom in connection with the

enhancement, improvement, and provision of Service and derivatives thereof, provided that DentalEZ shall disclose Customer Data that is identifiable to Customer or any individual only as permitted in our Privacy Policy.

You understand that you will not receive any fees, sums, consideration, or remuneration for any of the rights granted in this Section. You waive any and all rights and claims in connection with our use of, or development of any product, content, or other materials using in whole or in part, Customer Data. You represent and warrant that you own or have the necessary rights, licenses, consents, and permissions to grant us the rights granted in this Section.

I. Aggregated Data.

For the purposes of these Online Terms and the Privacy Policy: "Aggregated Data" means data, including data derived from Customer Data, that does not identify you (including information that has been manipulated, de-identified or combined to provide generalized or anonymous information).

As between the you and DentalEZ, DentalEZ owns all right, title and interest in and to Aggregated Data. DentalEZ may use or share Aggregated Data for any purpose including developing, providing, enhancing, and improving the Service, DentalEZ equipment and DentalEZ' other current and future online and offline products and services.

1. Submissions.

When you submit any unsolicited ideas, feedback, opinions, techniques, images, sounds, videos, or other content to us through or relating to the Service ("Submissions"), you grant us a non-exclusive, unrestricted, unconditional, unlimited, worldwide, irrevocable, perpetual, transferable and cost-free right and license to host, store, use, display, reproduce, modify, adapt, edit, combine with other materials, publish, distribute, create derivative works from, promote, exhibit, broadcast, syndicate, sublicense (including, without limitation, to third party media channels, platforms, and distributors), publicly perform, publicly display, and otherwise use and exploit in any manner whatsoever, or grant third parties the right to do any of the foregoing, all or any portion of your Submissions, for any purpose whatsoever in all formats, on or through any means or medium now known or hereafter developed, and with any technology or devices now known or hereafter developed, and to advertise, market, and promote the same. You further irrevocably grant us the right, but not the obligation, to use your name in connection with your Submissions. You also agree to waive any right of approval for our use of the rights granted herein and agree to waive any moral rights that you may have in any Submissions, even if it is altered or changed in a manner not agreeable to you. To the extent not waivable, you irrevocably agree not to exercise such rights in a manner that interferes with any exercise of the granted rights.

You understand that you will not receive any fees, sums, consideration, or remuneration for any of the rights granted in this Section. Our receipt of your Submissions is not an admission of their novelty, priority, or originality, and it does not impair our right to existing or future intellectual property rights relating to your Submissions. You waive any and all rights and claims in connection with our consideration, use, or development of any product, content, or other materials similar or identical to your Submission now or in the future.

You represent and warrant that you own or have the necessary rights, licenses, consents, and permissions to grant us the rights granted in this Section. You alone, though, retain whatever legally cognizable right, title, and interest that you have in your Submission and remain responsible for them.

2. Products.

We do our best to describe every product or service offered on our Service as accurately as possible. However, we are human, and therefore we do not warrant that product specifications, pricing, or other content on the Service is complete, accurate, reliable, current, or error-free. In the event of any errors relating to the pricing or specifications, DentalEZ shall have the right to refuse or cancel any orders in its sole discretion. If we charged your credit card or other Account prior to our cancellation, we will issue a credit to your Account in the amount of the charge. Additional Terms may apply. If a product or service you purchased from DentalEZ is not as described, your sole remedy is to cancel the purchase and receive a credit for the purchase price.

For any purchases made through dealers or resellers, please contact their customer support. Their terms, conditions and policies, and not ours, apply and we do not handle returns or refund requests for purchases through those third-party platform providers.

1. Customer Support; Notice.

If you have any questions or comments, please send an e-mail to us at DentalEZIOT@DentalEZ.com. You acknowledge that the provision of support is at DentalEZ' sole discretion and that we have no obligation to provide you with customer support of any kind. All legal notices to us must be mailed to: 301 Lindenwood Drive, Suite 100, Malvern Pennsylvania 19355. When you communicate with us electronically, you consent to receive communications from us electronically. You agree that all agreements, notices, disclosures, and other communications that we provide to you electronically satisfy any legal requirement that such communications be in writing.

2. Other Services.

Our Service contains content from and hyperlinks to websites, locations, platforms, and services operated and owned by other parties ("Other Services"). We may also integrate Other Services technologies into our Service and host our content on Other Services. These Other Services are not owned, controlled, or operated by us, and you acknowledge and agree that we are not responsible or liable for the information, content, products, technologies, or services on or available from such Other Services, or for the results to be obtained from using them. These Other Services are made available as a convenience only and are not part of the "Service" or subject to any of the warranties (whether express or implied) or other obligations with respect to Service hereunder. DentalEZ has no obligation to monitor or maintain Other Services and may disable or restrict access to any Other Services at any time without notice.

If you choose to access, transact with, or otherwise interact with any such Other Services, you do so at your own risk. Your access to and use of any Other Services is solely determined by the relevant third-party provider and may be subject to such additional terms and conditions applicable to such Other Services. You are solely responsible for maintaining appropriate accounts in good standing with the Other Services providers. Aeras will have no liability or other obligation to you for such Other Services or your content or data exported to Other Services, including but not limited to any unavailability of any Other Services, or any third-party provider's decision to discontinue, suspend or terminate any Other Services.

In addition, by using or enabling any Other Services, you are expressly permitting DentalEZ to disclose your content, data or other information to the extent necessary for the Service to interoperate with, or for you to utilize, the Other Services. We are not responsible for any disclosure, modification or deletion of your content, data or other information resulting from access by, or transmission to, any Other Service. For more information on Other Services, see our Privacy Policy.

3. Service Features.

A. *Wireless Features.*

The Service may offer features that are available to you via your wireless Device including the ability to access the Service's features and upload content to the Service (collectively, "Wireless Features"). By using the Service, you agree that DentalEZ may collect information related to your use of the Wireless Features as described in our Privacy Policy, and may change, alter, or modify the settings or configurations on your Device in order to allow for or optimize your use of the Service. Data rates and other carrier fees may apply.

B. *Location-Based Features.*

If you have location-based features on your wireless Device, you acknowledge that your Device location will be tracked and shared consistent with the Privacy Policy. You can terminate location tracking by us by adjusting the permissions in your Device. Location-based features are used at your own risk and location data may not be accurate.

C. *Communications.*

- (i) E-mails: By registering for an Account, it is implied that you consent to us sending you emails about the Service and the status of your Account. As such, we may send emails to the email address you provide for transactional and promotional purposes in regard to the Service and the status of your Account. You have the right to opt-out of receiving certain promotional e-mails about the Service or your Account from us at any time by following the instructions as provided in e-mails to click on the unsubscribe link or contacting us at

DentalEZIOT@DentalEZ.com with the word UNSUBSCRIBE in the subject field of the e-mail. We will unsubscribe your email from promotional e-mails sent by us within 10 business days of our receipt of your opt-out request. Your opt-out of promotional emails will not affect nonpromotional e-mails, such as those about your Account, transactions, servicing, or DentalEZ' ongoing business relations with you.

- (ii) Text Messages: We may send you reoccurring text messages to the phone number you provide for transactional and promotional purposes in regard to the Service, your Account or DentalEZ products and services. You understand that your consent is not required as a condition of purchase, and that you can opt-out of receiving certain promotional text messages from us at any time by:
- for text messages, texting "STOP" in response to any text message you receive from us or contacting us at DentalEZIOT@DentalEZ.com and specifying you want to opt-out of text messages; and
 - for calls, requesting opt-out during any call you receive from us or contacting us at DentalEZIOT@DentalEZ.com and specifying you want to opt-out of calls. For text messages, you can also text "HELP" at any time for more information. We will unsubscribe your phone number from reoccurring texts messages from us within 10 business days of our receipt of your opt-out request. You understand that you may receive a text message confirming any opt-out by you. Standard message, data, and other fees may be charged by your carrier, and carriers may deduct charges from pre-paid amounts or data allowances, for which you are responsible. Not all phone and/or carriers are supported. Contact your carrier for further details.

Please note that any opt-out by you is limited to the e-mail address, phone number and device used and will not affect subsequent subscriptions.

4. Agreement to Arbitrate and Choice of Law.

PLEASE READ THIS SECTION CAREFULLY – IT MAY SIGNIFICANTLY AFFECT YOUR LEGAL RIGHTS, INCLUDING YOUR RIGHT TO FILE A LAWSUIT IN COURT AND TO HAVE A JURY HEAR YOUR CLAIMS. IT CONTAINS PROCEDURES FOR MANDATORY BINDING ARBITRATION AND A CLASS ACTION WAIVER.

A. We Both Agree to Arbitrate.

You and DentalEZ agree to resolve any claims relating to these Terms through final and binding arbitration, except to the extent you have in any manner violated or threatened to violate DentalEZ' intellectual property rights (for example, trademark, trade secret, copyright, or patent rights). Under such circumstances DentalEZ may bring a lawsuit solely for injunctive relief to stop unauthorized use or abuse of the Service, or intellectual property infringement (for example, trademark, trade secret, copyright, or patent rights) without first engaging in arbitration or the informal dispute-resolution process described herein.

B. What is Arbitration.

Arbitration is more informal than a lawsuit in court and seeks to resolve disputes more quickly. Instead of a judge or a jury, the case will be decided by a neutral arbitrator who has the power to award the same damages and relief that a court can. If any provision of this arbitration agreement is found unenforceable, the unenforceable provision shall be severed, and the remaining arbitration terms shall be enforced.

C. Arbitration Procedures.

The Federal Arbitration Act governs the interpretation and enforcement of this dispute resolution provision. Arbitration shall be initiated through JAMS. Any dispute, controversy, or claim arising out of or relating to these Terms shall be referred to and finally determined by arbitration in accordance with the JAMS Streamlined Arbitration Rules and Procedures in front of one arbitrator. If there is a conflict between JAMS Rules and the rules set forth in these Terms, the rules set forth in this Terms will govern. The JAMS Rules and instructions for how to initiate an arbitration are available from JAMS at <http://www.jamsadr.com> or 1-800-352-5267. To initiate arbitration, you or DentalEZ must do the following things:

- (1) Write a demand for Arbitration. The demand must include a description of the Claim and the amount of damages sought to be recovered. You can find a copy of a demand for Arbitration at www.jamsadr.com.
- (2) Send three copies of the demand for Arbitration, plus the appropriate filing fee to: JAMS to your local JAMS office or to JAMS, Two Embarcadero Center, Suite 1500, San Francisco, CA 94111.
- (3) Send one copy of the demand for Arbitration to the other party.

Payment of all filing, administration and arbitrator fees will be governed by the JAMS Rules. Arbitration under this agreement shall be held in the United States in Pennsylvania, under Pennsylvania law without regard to its conflict of laws provisions. If traveling to Pennsylvania is a burden, you may participate in the arbitration by phone or via document submission to the fullest extent allowable by the arbitrator. Each party will bear their own costs of arbitration unless the arbitrator directs that bearing such costs would be an undue burden and, in that case, we will pay for your portion of the arbitration administrative costs (but not your attorneys' fees). The arbitration may award on an individual basis the same damages and relief as a court (including injunctive relief). Any judgment on the award rendered by the arbitrator may be entered in any court of competent jurisdiction.

D. Authority of Arbitrator.

The arbitrator will decide the rights and liabilities, if any, of you and DentalEZ, and the dispute will not be consolidated with any other matters or joined with any other cases or parties. The arbitrator shall have the authority to grant motions dispositive of all or part of any claim. The arbitrator shall have the authority to award monetary damages and to grant any non-monetary remedy or relief available to an individual under applicable law, the Arbitration Rules, and the Terms. The arbitrator shall issue a written award and statement of decision describing the essential findings and conclusions on which the award is based, including the calculation of any damages awarded. The arbitrator has the same authority to award relief on an individual basis that a judge in a court of law would have. The award of the arbitrator is final and binding upon you and Aeras.

E. Waiver of Class Actions.

You waive any right to pursue an action on a class-wide basis against us and may only resolve disputes with us on an individual basis and may not bring a claim against us as a plaintiff or a class member in a class, consolidated, or representative action. Class arbitrations, class actions, private attorney general actions, and consolidation with other arbitrations are not allowed.

F. Waiver of Jury Trial.

EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY THAT MAY ARISE UNDER THE TERMS IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES AND THEREFORE THE PARTIES HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVE ANY RIGHT THEY MAY HAVE (INCLUDING ANY CONSTITUTIONAL AND STATUTORY RIGHTS) TO GO TO COURT AND HAVE A TRIAL IN FRONT OF A JUDGE OR A JURY, instead electing that all claims and disputes arising in connection with these Terms shall be resolved by arbitration. Arbitration procedures are typically more limited, more efficient and less costly than rules applicable in court. In the event any litigation should arise between you and DentalEZ in any state or federal court in a suit to vacate or enforce an arbitration award or otherwise, YOU AND DENTALEZ WAIVE ALL RIGHTS TO A JURY TRIAL, instead electing that the dispute be resolved by a judge alone.

YOU ACKNOWLEDGE THAT YOU HAVE BEEN ADVISED THAT YOU MAY CONSULT WITH AN ATTORNEY IN DECIDING TO ACCEPT THIS AGREEMENT TO ARBITRATE.

G. Choice of Law/Forum Selection.

In any circumstances where the Agreement to Arbitrate Disputes permits the parties to litigate in court, these Terms shall be governed by and construed in accordance with the laws of the State of Pennsylvania, excluding its conflict of law rules. You further expressly consent and agree to submit to the exclusive jurisdiction and venue of a court of competent jurisdiction located in Pennsylvania.

1. Disclaimer of Representations and Warranties.

YOUR USE OF THE SERVICE AND ALL CONTENT FORMING PART OF OR RELATED TO THE SERVICE INCLUDING ANY OTHER SERVICES, ARE AT YOUR SOLE RESPONSIBILITY AND RISK. THE SERVICE IS PROVIDED TO YOU ON AN "AS IS," "AS AVAILABLE," AND "WITH ALL FAULTS" BASIS. TO THE MAXIMUM EXTENT PERMITTED BY LAW, NEITHER DENTALEZ NOR ANY OF ITS OFFICERS, DIRECTORS, MANAGERS, EMPLOYEES OR AGENTS (COLLECTIVELY, THE "DENTALEZ PARTIES") MAKE, AND THE DENTALEZ PARTIES EXPRESSLY DISCLAIM, ANY REPRESENTATIONS, WARRANTIES, CONDITIONS OR ENDORSEMENTS OF ANY KIND WHATSOEVER WITH RESPECT TO THE SERVICE, THE CONTENT OR OTHER SERVICES, WHETHER EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, OR ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE OR USAGE OF TRADE, INCLUDING THE

IMPLIED WARRANTIES OR CONDITIONS OF TITLE, NONINFRINGEMENT, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY, COMPLETENESS, QUIET ENJOYMENT, FREEDOM FROM COMPUTER VIRUS AND THE RESULTS YOU MAY OBTAIN BY USING THE SERVICE. BY ACCESSING OR USING THE SERVICE YOU REPRESENT AND WARRANT THAT YOUR ACTIVITIES ARE LAWFUL IN EVERY JURISDICTION WHERE YOU ACCESS OR USE THE SERVICE.

2. Limitations of Our Liability.

TO THE MAXIMUM EXTENT PERMITTED BY LAW, IN NO EVENT SHALL THE DENTALEZ PARTIES BE LIABLE TO YOU OR ANY THIRD PARTY ACTING ON YOUR BEHALF FOR ANY LOSS, DAMAGE OR INJURY OF ANY KIND INCLUDING ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, CONSEQUENTIAL OR PUNITIVE LOSSES OR DAMAGES, OR DAMAGES FOR SYSTEM FAILURE OR MALFUNCTION OR LOSS OF PROFITS, DATA, USE, BUSINESS OR GOOD-WILL, OR THE COST OF ANY SUBSTITUTE EQUIPMENT, FACILITIES OR SERVICES (EVEN IF DENTALEZ PARTIES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES), ARISING OUT OF OR IN CONNECTION WITH (A) THE SERVICE, (B) THESE TERMS OR (C) YOUR MISUSE OF THE SERVICE OR ANY CONTENT AVAILABLE ON OR THROUGH THE SERVICE. THE LIMITATIONS SET FORTH IN THIS SECTION SHALL APPLY REGARDLESS OF THE FORM OF ACTION, WHETHER THE ASSERTED LIABILITY OR DAMAGES ARE BASED ON CONTRACT, INDEMNIFICATION, TORT, STRICT LIABILITY, STATUTE OR ANY OTHER LEGAL OR EQUITABLE THEORY. IF UNDER ANY CIRCUMSTANCES THE AERAS PARTIES ARE FOUND LIABLE TO YOU OR ANY EMPLOYEE, OWNER, DIRECTOR, OFFICER, CONTRACTOR OR THIRD PARTY ACTING ON YOUR BEHALF AND IF THE DISCLAIMER OF DAMAGES HEREUNDER IS NOT ENFORCED FOR ANY REASON, THE DENTALEZ PARTIES' MAXIMUM AGGREGATE LIABILITY FROM ALL CLAIMS UNDER OR RELATED TO THESE TERMS IS LIMITED TO ONE HUNDRED DOLLARS (\$100). TO THE EXTENT ANY APPLICABLE LAW DOES NOT ALLOW THE EXCLUSION OR THE LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE DENTALEZ PARTIES' LIABILITY WILL BE LIMITED TO THE FURTHEST EXTENT PERMITTED BY LAW.

NOTWITHSTANDING THE FOREGOING, THESE DISCLAIMERS HEREIN DO NOT EXCLUDE ANY PRODUCT LIABILITY CLAIMS, STATUTORY CONSUMER RIGHTS, DAMAGES ASSOCIATED WITH PERSONAL INJURY OR RESULTING FROM AERAS INTENTIONAL MISCONDUCT, RECKLESSNESS, FRAUD, OR GROSS NEGLIGENCE.

3. Indemnification.

You agree to defend, indemnify and hold harmless the DentalEZ Parties from and against any and all claims, liabilities, damages, losses, costs and expenses (including, reasonable attorneys' fees and costs) arising out of or in connection with any of the following:

- (i) your breach or alleged breach of these Terms;
- (ii) your Submissions;
- (iii) your misuse of the Service;
- (iv) your violation of any laws, rules, regulations, codes, statutes, ordinances or orders of any governmental or quasi-governmental authorities;
- (v) your violation of the rights of any third party, including any intellectual property right, publicity, confidentiality, property or privacy right;
- (vi) your use of Other Services; or
- (vii) any misrepresentation made by you. DentalEZ reserves the right to assume, at your expense, the exclusive defense and control of any matter subject to indemnification by you. You agree to cooperate with DentalEZ' defense of any claim. You will not in any event settle any claim without the prior written consent of DentalEZ.

This provision does not require you to indemnify us for any unconscionable commercial practice by us or for our fraud, deception, false promise, misrepresentation or concealment, suppression or omission of any material fact in connection with the Service.

4. Waiver of Injunctive or other Equitable Relief.

TO THE MAXIMUM EXTENT PERMITTED BY LAW, YOU AGREE THAT YOU WILL NOT BE PERMITTED TO OBTAIN AN INJUNCTION OR OTHER EQUITABLE RELIEF OF ANY KIND, SUCH AS ANY COURT OR OTHER

ACTION THAT MAY INTERFERE WITH OR PREVENT THE DEVELOPMENT OR EXPLOITATION OF ANY WEBSITE, APPLICATION, CONTENT, SUBMISSIONS, PRODUCT, SERVICE, OR INTELLECTUAL PROPERTY OWNED, LICENSED, USED OR CONTROLLED BY DENTALEZ OR A LICENSOR OF DENTALEZ.

1. Updates to Terms.

We reserve the right, at any time in our sole discretion, to modify or replace any part of the Terms or Privacy Policy, without prior notice. You agree that we may notify you of any updated Terms or Privacy Policy by posting them on the Service so that they are accessible via a link from the home page, and/or to send you an e-mail to the last e-mail address you provided to us. All such changes are effective immediately when we post them, or such later date as may be specified in the notice of updated Terms or Privacy Policy. If you object to any such changes, your sole recourse is to cease using the Service. Your continued use of the Service will be deemed irrevocable acceptance of any such revisions. Before you continue, you should print and/or save a local copy of the Terms and our Privacy Policy for your records.

2. General Provisions.

A. *You May Cancel Your Account.*

You may cancel your Account at any time through the Service or by emailing DentalEZIOT@DentalEZ.com or by contacting your dealer directly. These are the only ways to cancel your Account. Phone requests to cancel your Account will not be accepted. You acknowledge that cancelling your Account will not prevent your equipment from collecting or sending certain equipment performance data to us or dealers sharing information with us in accordance with our Privacy Policy.

B. *Data Deletion at Cancellation or Termination.*

DentalEZ is under no obligation to store any data or information you submit, upload, or make available to us through the Service and DentalEZ reserves the right to delete your Account and information immediately upon cancellation or termination.

C. *Consent or Approval.*

No DentalEZ consent or approval may be deemed to have been granted by DentalEZ without being in writing and signed by an officer of DentalEZ.

D. *Survival.*

The provisions of the Terms, which by their nature should survive termination of your use of the Service, including sections on Service Use (except for the limited license), Unsolicited Submissions, Copyright Infringement, Subscriptions and Products, Customer Support, Other Services, Service Features, Agreement to Arbitrate Disputes and Choice of Law, Disclaimer of Representations and Warranties, Limitations of Our Liability, Indemnification, Waiver of Injunctive or Other Equitable Relief, Updates to Terms, and General Provisions, will survive.

E. *Severability; Interpretation; Assignment.*

If any provision of the Terms, including these Online Terms or any applicable Additional Terms, is for any reason deemed invalid, unlawful, void, or unenforceable, then that provision will be deemed severable from the Terms, and the invalidity of the provision will not affect the validity or enforceability of the remainder of the Terms. You hereby waive any applicable statutory and common law that may permit a contract to be construed against its drafter. The summaries of provisions and section headings are provided for convenience only and shall not limit the full Terms. DentalEZ may assign its rights and obligations under the Terms, in whole or in part, to any party at any time without any notice. The Terms may not be assigned by you, and you may not delegate your duties under them, without the prior written consent of an officer of DentalEZ.

F. Complete Agreement; No Waiver.

The Terms and the Privacy Policy reflect our complete agreement regarding the Service and supersede any prior agreements, representations, warranties, assurances or discussion related to the Service. Except as expressly set forth in the Terms, (i) no failure or delay by you or DentalEZ in exercising any of rights, powers, or remedies under will operate as a waiver of that or any other right, power, or remedy, and (ii) no waiver or modification of any term of the will be effective unless in writing and signed by the party against whom the waiver or modification is sought to be enforced.

G. International Issues.

DentalEZ controls and operates the Service from the U.S., and DentalEZ makes no representation that the Service is appropriate or available for use beyond the U.S. You agree that the United Nations Convention on Contracts for the International Sale of Goods does not apply to the Terms or to any sale of goods carried out as a result of your use of the Service. Software related to or made available by the Service may be subject to export controls of the U.S., and, except as authorized by law, you agree and warrant not to export or re-export the software to any county, or to any person, entity, or end-user subject to U.S. export controls or sanctions.

H. Investigations; Cooperation with Law Enforcement.

DentalEZ reserves the right to investigate and prosecute any suspected breaches of the Terms or the Service. DentalEZ may disclose any information as necessary to satisfy any law, regulation, legal process, or governmental request.

I. California Consumer Rights and Notices.

Residents of California are entitled to the following specific consumer rights information: you may contact the Complaint Assistance Unit of the Division of Consumer Services of the Department of Consumer Affairs by mail at: 1625 North Market Blvd., Suite N 112, Sacramento, California 95834, or by telephone at (916) 445-1254. Their website is located at: <http://www.dca.ca.gov>.

3. Contact Us.

If you have any questions or comments about the Terms, please contact us:

By email:

DentalEZIOT@DentalEZ.com

By mail:

Attention: Privacy Officer
310 Lindenwood Drive, Suite 100
Malvern, PA 19355

DENTALEZ



DENTALEZ Alabama, Inc.

2500 Highway 31 South
Bay Minette, AL 36507

T: 866-DTE-INFO

DENTALEZ.COM

© 2024 DENTALEZ, Inc. DENTALEZ is a registered trademark of DENTALEZ, Inc.
Ramvac is a registered trademark of Ramvac Dental Products, Inc.

PN: 64710084J
February, 2024
Printed in USA