

# Superb Vac

## DENTAL VACUUM SYSTEM

Model Numbers: WV3, WV3R, WV5, WV5R, WV6, WV10



# USER'S MANUAL

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# CONGRATULATIONS

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Congratulations on the purchase of your new Superb Vac Dental Vacuum System hereafter referred to as Superb Vac in this manual.

Your Superb Vac has been engineered to deliver maximum airflow at the ideal vacuum level without creating traumatic suction pressure that could harm patients' delicate tissue. The Superb Vac is a wet ring pump that produces consistent high-volume airflow, even with multiple users online. The balanced, corrosion-free bronze impeller minimizes noise, and a patented vacuum relief valve maintains constant uniform vacuum pressure. A capacitor-start type motor, with a highly reliable electrical contractor and powerful transformer can be depended on to start every time. The Superb Vac is designed with everything accessible from the front, including the ease of cleaning the solids collector.

If you purchased the optional Water Recycle Device & Air/Water Separator, water consumption will be reduced by up to 75%. If not, A/W Separator can be integrated into your Superb Vac at any time. The A/W Separator separates the liquid and gas discharge from the operatories. The gasses are vented out while the liquid and its particulates are directed down the drain. The clean water extracted during this separation process is directed back toward the Superb Vac where it is mixed with fresh water and then directed into the pump chamber to create a vacuum. This efficient reuse of water reduces Superb Vac's freshwater consumption.

Now that your practice has a Superb Vac or a Superb Vac with the water-saving A/W Separator, you too can depend on constant, uniform delivery of vacuum to your operatories and proven trouble-free operation.

## PURPOSE OF THIS MANUAL

This manual provides installation, operation, and maintenance instructions for the support of the six available Superb Vac systems listed below. Review and follow the guidelines included in this User Manual to ensure that the system provides the highest level of service.

### Superb Vac Models



WV3/ WV5  
w/o Air Water Separator



WV6 / WV10



WV3/ WV5 with cabinet

## WARRANTY

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The Superb Vac is warranted to be free from defects in material and workmanship from the date of installation for 24 months.

Any item returned to our factory through a TPC Authorized Dealer, will be repaired or replaced at our option at no charge provided that our inspection shall indicate it to have been defective. Dealer labor, shipping, and handling charges are not covered by this warranty.

This warranty does not apply to damage due to shipping, misuse, careless handling, or repairs by other than authorized service personnel. Warranty is void if the equipment is installed or serviced by other than dealer service personnel authorized by TPC and is not liable for indirect or consequential damages or loss of any nature in connection with this equipment.

This warranty is in place of all other warranties expressed or implied. No representative or person is authorized to assume for us any liability in connection with the sale of our equipment.

## ON-LINE WARRANTY REGISTRATION

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Quickly and easily register your new Superb Vac online. Just have your product model and serial numbers available. Then go to the TPC website, [www.tpcdental.com](http://www.tpcdental.com), click the register a product link and complete the registration form. This online registration ensures a record for the warranty period and helps TPC keep you informed of product updates and other valuable information.

## SAFETY INSTRUCTIONS

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Use of the Superb Vac not in conformance with the instructions specified in this manual may result in permanent failure of the unit.

**WARNING:** To prevent fire or electrical shock, do not expose this appliance to rain or moisture. All user-serviceable items are described in the maintenance section.

The manufacturing date code on the serial number label is in the format Month YYYY.

### **Personal Safety**



Read the operator's instructions.



Warning Shock Hazard



Warning High-temperature parts



Warning The compressor is automatic and can start unexpectedly

## SIZING GUIDE

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Choosing the correct size Superb Vac for your practice depends on the number of HVE (High Volume Evacuator) and SE (Saliva Ejector) users anticipated. To assure optimum vacuum, the vacuum demands should not exceed the number of HVE and SE users shown in the chart below:

Recommended Number of Simultaneous Users

<b>Model</b>	<b>Recommended Number of Users</b>	<b>Number of Heads</b>	<b>Number of Motors</b>
<b>WV3</b>	<b>3</b>	<b>1</b>	<b>1</b>
<b>WV5</b>	<b>5</b>	<b>1</b>	<b>1</b>
<b>WV6</b>	<b>6</b>	<b>2</b>	<b>2</b>
<b>WV10</b>	<b>10</b>	<b>2</b>	<b>2</b>

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## OPERATING INFORMATION

q **AT THE START OF THE DAY**

Always TURN ON THE WATER before TURNING ON THE POWER

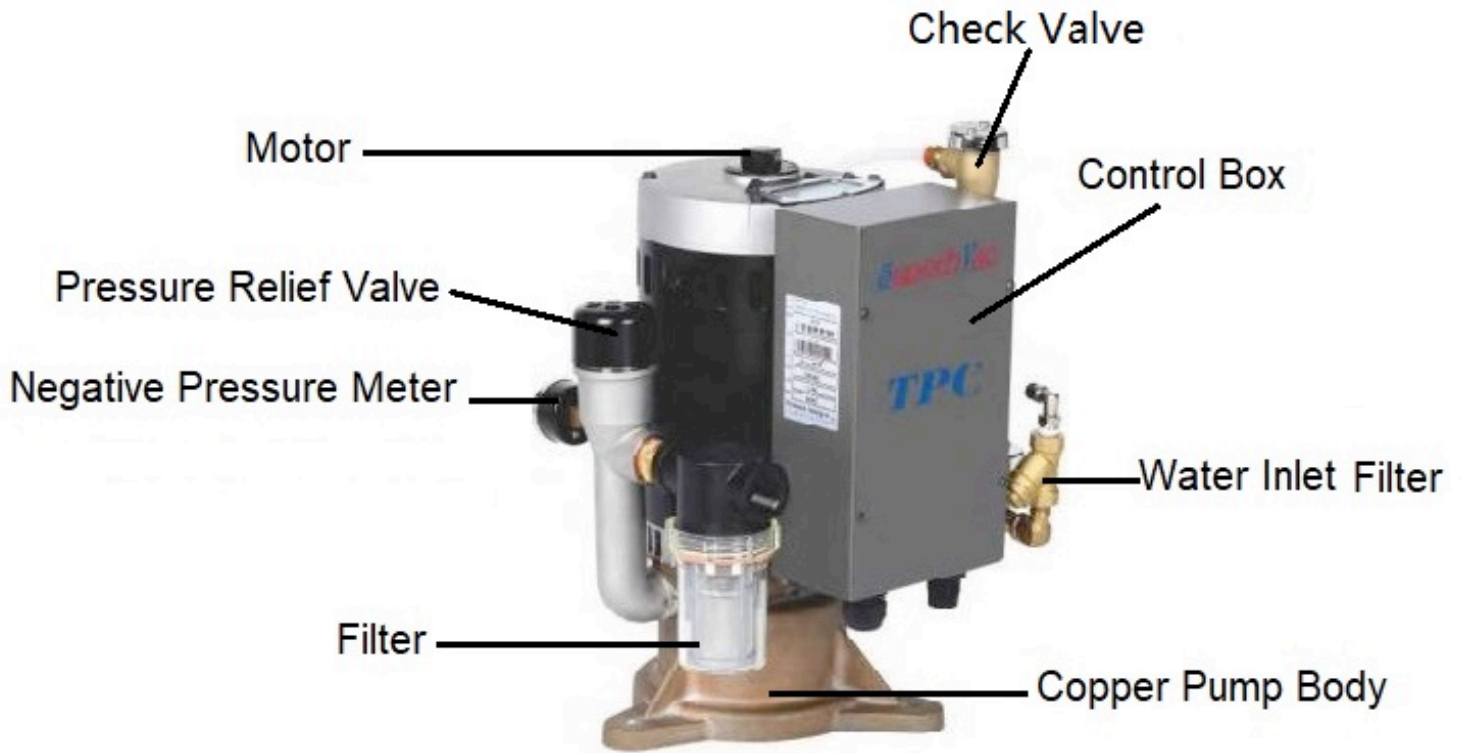
- q The Superb Vac may be turned on/off from a single, convenient location within the dental suite using a Remote Control Panel.
- q The vacuum level is factory preset at 10 In Hg (inches of mercury). This is the reading on the gauge when all HVEs (High Volume Evacuator) and SEs (Saliva Ejectors) are CLOSED. Should this setting be too high for your needs, contact your dealer to readjust the setting
- q It is recommended that the system run continuously during the day. However, the Superb Vac can be turned off if suction is not required for 15 minutes or longer.
- q If one pump is being operated at a time, it is important to alternate pumps on an every-other-day schedule so that the pumps are used evenly.

q **AT THE END OF THE DAY**

Always TURN THE POWER OFF, then TURN THE WATER OFF.

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## KEY PARTS IDENTIFICATION



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## INSTALLATION INFORMATION

### q Plumbing (water) lines

- To assure that the Superb Vac provides optimum vacuum, incoming water pressure must be maintained between 20 and 100 psi
- If heavy combinations of particulates exist in the incoming water, an in-line filter should be installed. This will prevent the Superb Vac's water inlet filter from clogging too frequently
- Incoming water temperature should be between 40° and 75°F
- Water connection location is shown in KEY PARTS IDENTIFICATION

### q Suction

- The suction hose is connected at the suction intake

### q Drain lines

- 
- For Superb Vacs with an A/W Separator, gases should be vented out according to code. The wastewater (with particulates) from the operatories can be discharged via an open drain or a closed vented drain.



## INSTALLATION INFORMATION

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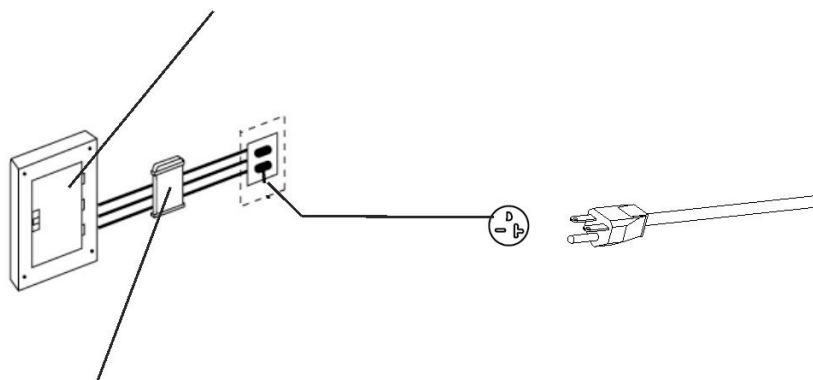
### q Electric

- To help prevent fire, electric shock, injury, or death, the wiring and grounding must conform to the latest edition of the National Electrical Code, ANSI/NFPA 70, and all applicable local regulations. Please contact a qualified electrician to check your wiring and breakers/fuses to ensure that there is adequate electrical power to operate the vacuum pump.
- All Superb Vac units must be connected to a grounded metal, permanent wiring system, or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment- Grounding/Protective Earth lead on the Superb Vac pump's flexible metal conduit power supply. Failure to do so can result in fire, electric shock, injury, or death.
- All Superb Vac are wired with a supplied hospital-grade NEMA 6-15P line cord and requires a hospital-grade 6-15R receptacle. The Superb Vac is wired with a supplied hospital-grade NEMA 6-15P line cord and requires a grounded hospital-grade 6-15R receptacle located near the unit. Outlet must meet all local codes and ordinances.
- All Superb Vac units must be connected to a grounded metal, permanent wiring system, or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding lead in the Superb Vac's flexible metal conduit power supply. Failure to do so can result in fire, electric shock, injury, or death.

ALL INSTALLATIONS MUST CONFORM TO LOCAL CODES

### 220V Connections

Building Power Supply Panel  
(Should be located in equipment room )



6-15 R NEMA outlet to connect via the  
supplied line cord for VS40 units

**IMPORTANT:** Add service  
disconnect if Power Supply Panel  
is not located in the equipment  
room

Buck/Boost Transformer

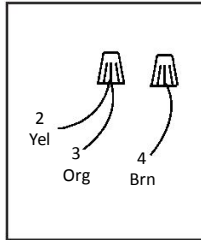
(Optional)

Figure 9 Superb Vac Electrical Connection Line Cord

# INSTALLATION INFORMATION

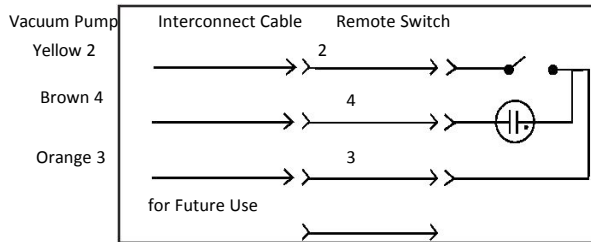
## 24V Connections

Connection without 24V Switch



Interior Electrical Box Connections

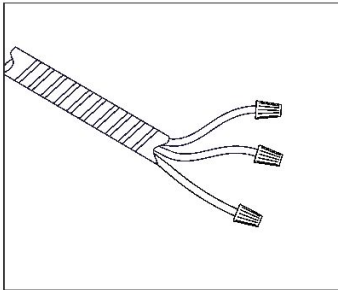
Connection to 24V Switch Only



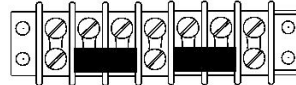
Use 18 Gauge, 4 Conductor, Interconnect Cable Between Superb Vac Pump and Remote Switch

## 120 or 220V Connections

Handy Box Connection  
(Box not supplied)

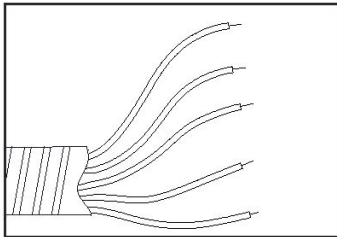


Green (GND)  
Black  
White



## Superb Vac 220V Power Connection

Handy Box Connection  
(Box not supplied)



GREEN (GND)  
BLACK  
WHITE  
BLUE  
RED

### Dual Circuit

Pumps	Power Leads
RIGHT	(L1) BLACK (L2) WHITE
LEFT	(L1) RED (L2) BLUE
Ground	(GND) GREEN

Note: For Single Circuit, connect Black, Red, and (L1) wires from the branch circuit together. Connect White, Blue, and (L2) wires from the branch circuit together. Connect Green to Ground/Protective Earth wires from branch circuit together (GND).

Superb Vac Electrical Connections

## PRODUCT SPECIFICATIONS/DIMENSIONS

Specification	Model	WV3	WV5	WV6	WV10	WV3/cabinet	WV5/cabinet
Consumption w/o recycling		4L/min	4L/min	6L/min	6L/min	4L/min	4L/min
With TPC Water Recycling		0.8L/min	0.8L/min	1.0L/min	1.0L/min	0.8L/min	0.8L/min
Suction Rate		900L/min	1500L/min	1800L/min	3000L/min	900L/min	1500L/min
Max. Vacuum Level		-40Kpa	-60Kpa	-40Kpa	-60Kpa	-40Kpa	-60Kpa
Noise Level dB(A)		58	58	65	65	58	58
Horsepower		900W	1500W	1800W	3000W	900W	1500W
Voltage		110v / 220v	220v	220v	220v	220v	220v
Frequency		50 / 60Hz	50 / 60Hz	50 / 60Hz	50 / 60Hz	50 / 60Hz	50 / 60Hz
Support Users:		3	5	6	10	3	5
Current (A)		8A	13A	16A	26A	8A	13A
Circuit Breaker (A)		20A	20A	40A	40A	20A	20A
Inlet Connection Size		32mm	32mm	50mm	50mm	32mm	32mm
Drain Connection Size		32mm	32mm	32mm	32mm	32mm	32mm
City Water Connection Size		8mm	8mm	8mm	8mm	8mm	8mm
Air Exhaust Connection Size		50mm	50mm	50mm	50mm	50mm	50mm
Inlet Water Pressure (PSI)	Above 10PSI or 0.7bar						
Production Size:(L*W*H)mm		420x360x460	420x360x460	720x430x470	720x430x470	480x520x700	480x520x700
Product Weight (kg)		28	30	70	70	41	43

## SITE REQUIREMENTS

Environment Conditions:

Operating Conditions: Indoor use at altitudes up to 2000m

Temperature 5 to 40° C (41 to 104° F)

Maximum relative humidity 80% for temperatures up to 31° C, decreasing linearly to 50% relative humidity at 40° C

Supply voltage fluctuation of +/- 10% of nominal

Voltage Storage and Transport: Temperature, -18 to 65°C (0 to 150°F).

Relative Humidity, 0 to 90%

IEC 60601-1 Classification

Not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide  
 Class I Installation Category  
 Ordinary equipment (IPX0) Does not protect against ingress of water  
 The unit is suitable for continuous operation

# TROUBLESHOOTING

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PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
1. Low suction. clogged.	<ul style="list-style-type: none"><li>a. Water filter or solids collector</li><li>b. Check valves are stuck.</li><li>c. Low water pressure.</li><li>d. The A/W Separator water recycler is clogged.</li><li>e. A/W Separator clogged.</li><li>f. Solenoids not operating.</li><li>g. Restricted air exhaust.</li></ul>	<ul style="list-style-type: none"><li>a. Clean/replace the filter and/or collector.</li><li>b. Use a system cleaner like CleanStream; turn the vacuum on and off to free the check valve. If the valve remains stuck, call your authorized TPC dealer for repair service.</li><li>c. Raise water pressure.</li><li>d. Open the bypass valve to run SuperbVac. Call your authorized TPC dealer for repair service.</li><li>e. Call your authorized TPC dealer for repair service.</li><li>f. Open the bypass valve to run SuperbVac. Call your authorized TPC dealer for repair service.</li><li>g. Check air exhaust pipe size to make sure it conforms to specification; check for and clear possible restrictions in the air exhaust system.</li></ul>
2 No suction.	<ul style="list-style-type: none"><li>a. Pumps off.</li><li>b. Pumps not running.</li><li>c. Inlet check valves stuck closed.</li><li>d. Water inlet filter and/or solids collector clogged.</li><li>e. Suction hose collapsed.</li><li>f. Solenoids not operating.</li><li>g. Water off.</li></ul>	<ul style="list-style-type: none"><li>a. Turn pumps on.</li><li>b. Call your authorized TPC dealer for repair service.</li><li>c. Call your authorized TPC dealer for repair service.</li><li>d. Clean/replace the filter.</li><li>e. Hose needs to be replaced, call your authorized TPC dealer for repair service.</li><li>f. Call your authorized TPC dealer for repair service.</li><li>g. Turn the water on via the water inlet valve.</li></ul>
3. Excessive suction.	<ul style="list-style-type: none"><li>a. Relief valve stuck closed.</li><li>b. Relief valve filter clogged.</li><li>c. Relief valve set too high.</li></ul>	<ul style="list-style-type: none"><li>a. Call your authorized TPC dealer for repair service.</li><li>b. Call your authorized TPC dealer for repair service.</li><li>c. Lower Relief valve setting.</li></ul>
4 Pumps do not run	<ul style="list-style-type: none"><li>a. Main circuit breakers off.</li><li>b. Electrical problem.</li></ul>	<ul style="list-style-type: none"><li>a. Turn main circuit breakers on.</li><li>b. Call your authorized TPC dealer for repair service.</li></ul>
5 Noisy pumps.	<ul style="list-style-type: none"><li>a. Inadequate water supply.</li><li>b. A/W Separator eductor clogged.</li><li>c. Drain line collapsed.</li><li>d. Solenoids not operating.</li></ul>	<ul style="list-style-type: none"><li>a. Call a plumber to improve the water supply system.</li><li>b. Call your authorized TPC dealer for repair service.</li><li>c. Hose needs to be replaced. Call your authorized TPC dealer for repair service.</li><li>d. Call your authorized TPC dealer for repair service.</li></ul>

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## MAINTENANCE

Like all precision products, your Superb Vac requires a certain amount of care on a regularly scheduled basis. A well-organized maintenance program aids dependable equipment operation and reduces problems to a minimum. Routine checks help to detect general overall wear, and replacement of parts can often be made before a problem occurs. Consequently, we have established minimum maintenance requirements listed below that include routine inspections and the replacement of filters. Adherence to this recommended maintenance schedule will ensure that the equipment will continue performing at its best with uninterrupted service.

- q Daily Maintenance - Clean vacuum lines
  - Flush all vacuum lines and tubing in the dental system with Monarch CleanStream Evacuation System Cleaner
  
- q Routine Inspection - Monthly
  - 1 . Check tubing for kinks or cracks
  - 2 . Check for abnormal noises and leaks
  - 3 . Dual Units: Make sure both motors are running
  - 4 . Check exterior surfaces for dirt and debris, clean if necessary
  5. Make sure that no flammable, corrosive, or combustible materials are stored in the equipment room (especially in the area around the equipment)
  6. Check the vacuum relief valve filter, and clean it if necessary.

## MAINTENANCE

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**Caution:** Solids collector may contain biologically hazardous material. Wear protective gloves. Dispose of waste in an approved bio-hazard container.

**Important:** When a Superb Vac is replacing another vacuum pump, clean the collector DAILY during the first week of operation since larger quantities of particulates may initially occur. A worn or missing gasket and/or failure to tightly screw the bowl to the solids collector body will cause poor suction due to air leakage.

**DO NOT OPERATE THE Superb Vac WITHOUT THE SCREEN INSIDE THE FILTER BOWL.**

### q Intake Solids Collector Replacement - Monthly

Refer to the below picture and use the replacement kit listed below for the specific SuperbVac models, replace the solids bowl, screen and gasket. Do the same replacement if using an in-line filter.

#### Replacement Procedure

- 1 . Turn off the power and water supply
- 2 . Unscrew the solids bowl (counter clock-wise) and remove the screen and gasket  
Dispose of all three items
- 3 . Assemble a new bowl, screen, and gasket included in the Solids Collector Replacement Kit
- 4 . Install the new solids collector by screwing the bowl into the solids collector body



## WARRANTY

Each Superb Vac is warranted to be free from defects in material and workmanship from the date

of installation for 5 year limited warranty- 5 year warranty on motor, 3 year warranty on all other components All part and component returns and replacement equipment require a Return Materials Authorization (RMA) Returns must be received within three months of the RMA issue date and in appropriate packaging to prevent shipping damage in case of the advanced replacement, products shall be returned in the original packaging Items returned without an RMA, or included with other products for which an RMA has been issued, will be returned to the customer at the discretion of TPC; the return shipping is the customer's responsibility.

Any item returned under warranty, will be repaired or replaced at our option at no charge provided that our inspection confirms it to be defective. TPC is not liable for

indirect or consequential damages or loss of any nature in connection with this equipment

Dealer labor, shipping, and handling charges are not covered by this warranty

Warranty credit will not be applied to product returns that exhibit damage due to shipping,

misuse, careless handling, and improper installation by dealers, or repairs by unauthorized

personnel Credit, or partial credit, will not be issued until products/parts have been received

and assessed If, after the evaluation, it is determined that there is no fault found and the

unit is working properly, a credit will not be issued. Warranty is void if the product is installed

incorrectly or installed or serviced by anyone other than an authorized TPC' dealer or service personnel

This warranty is instead of all other warranties expressed or implied. No representative or person

is authorized to assume for us any liability in connection with the sale of our equipment.



