DENTAL VACUUM SYSTEM

Superb Vac

Installation, Operation & User Manual

Wet ring dental vacuum · Models WV3, WV5, WV6 and WV10 · Includes parts lists and troubleshooting



DOCUMENT
Superb Vac Manual
October 2026 · WV-MAN-002

TPC DENTAL
851 S. Lawson St.
City of Industry, CA 91748

CONTACT
Tech support (800) 560-8222
service@tpcdental.com

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How to read this manual

⚠ **WARNING** Risk of injury or damage to the equipment. Follow exactly.

ⓘ **NOTE** Information that makes the job easier or the result more reliable.

Technical support

(800) 560-8222

Monday to Friday, 8:00 AM to 5:00 PM Pacific.

SECTION 01

Steady, safe suction

The Superb Vac delivers maximum airflow at the ideal vacuum level, without suction strong enough to harm a patient's delicate tissue. It is a wet ring pump that keeps airflow high and consistent even with several users working at once.

Built to last

- Balanced, corrosion-free bronze pump body and stainless impeller keep noise low.
- A patented vacuum relief valve holds vacuum pressure constant.
- A start-capacitor motor and a low-voltage transformer start reliably, every time.
- Everything is reached from the front, including the solids collector.

Water recycler and air/water separator

With the recycler (R models) and air/water (A/W) separator, water use drops by up to 75%. The separator splits the discharge from the operatories: air is vented out, liquid and solids go to the drain, and the clean water is returned to the pump and mixed with fresh water.



Fig. 1 WV3 / WV5 single pump



Fig. 2 WV6 / WV10 twin pump

Models covered: WV3, WV5, WV6 and WV10. Models ending in **R** (WV3R, WV5R, WV6R, WV10R) include the water recycler.

GENERAL INFORMATION

Safety instructions

⚠ **WARNING** To prevent fire or electric shock, do not expose this unit to rain or moisture. All user-serviceable items are described in Section 04, Maintenance.

Symbols on the vacuum

Read the operator's instructions
Read this manual before installing, operating or servicing the vacuum.

Warning: shock hazard
Disconnect power before opening the control box or servicing the unit.

Warning: hot parts
The motor gets hot during use. Let it cool before touching.

Warning: moving parts
Keep hands and tools clear of the motor and pump while the unit can run.

Biohazard

The solids collector and drain lines can contain biologically hazardous material. Wear protective gloves and dispose of waste in an approved biohazard container.

Serial number label

The manufacturing date code on the serial number label is shown as month and year.

⚠ **IMPORTANT** Installation and service must be done by a TPC authorized dealer. Work by anyone else voids the warranty.

GENERAL INFORMATION

Sizing guide and specifications

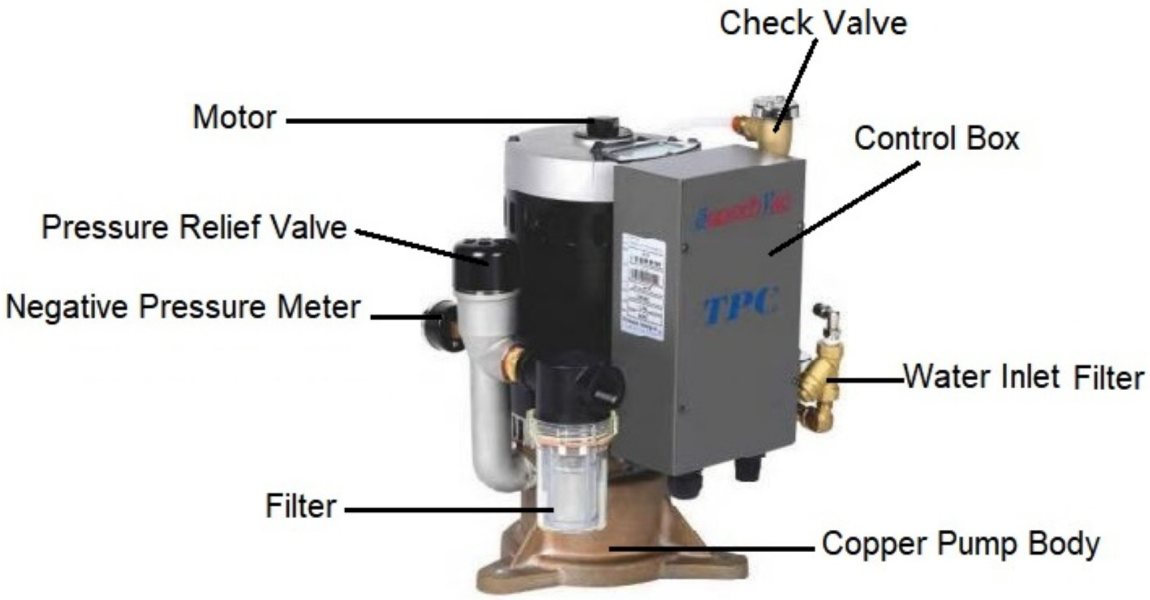
Choose the model by the number of high-volume evacuator (HVE) and saliva ejector (SE) users working at the same time. Demand should not exceed the users shown.

	WV3	WV5	WV6	WV10
Simultaneous users	3	5	6	10
Pumps / motors	1	1	2	2
Motor power	900 W	1,500 W	1,800 W	3,000 W
Suction rate	900 L/min	1,500 L/min	1,800 L/min	3,000 L/min
Maximum vacuum	−40 kPa	−60 kPa	−40 kPa	−60 kPa
Water use	4 L/min	4 L/min	6 L/min	6 L/min
With recycler	0.8 L/min	0.8 L/min	1.0 L/min	1.0 L/min
Noise	58 dB(A)	58 dB(A)	65 dB(A)	65 dB(A)
Voltage	110 / 220 V	220 V	220 V	220 V
Frequency	50 / 60 Hz, all models			
Current	8 A	13 A	16 A	26 A
Circuit breaker	20 A	20 A	40 A	40 A
Vacuum inlet	32 mm	32 mm	50 mm	50 mm
Drain	32 mm, all models			
City water	8 mm, all models; above 10 psi (0.7 bar)			
Air exhaust	50 mm, all models			
Size (L × W × H)	420×360×460	420×360×460	720×430×470	720×430×470
Weight	28 kg	30 kg	70 kg	70 kg

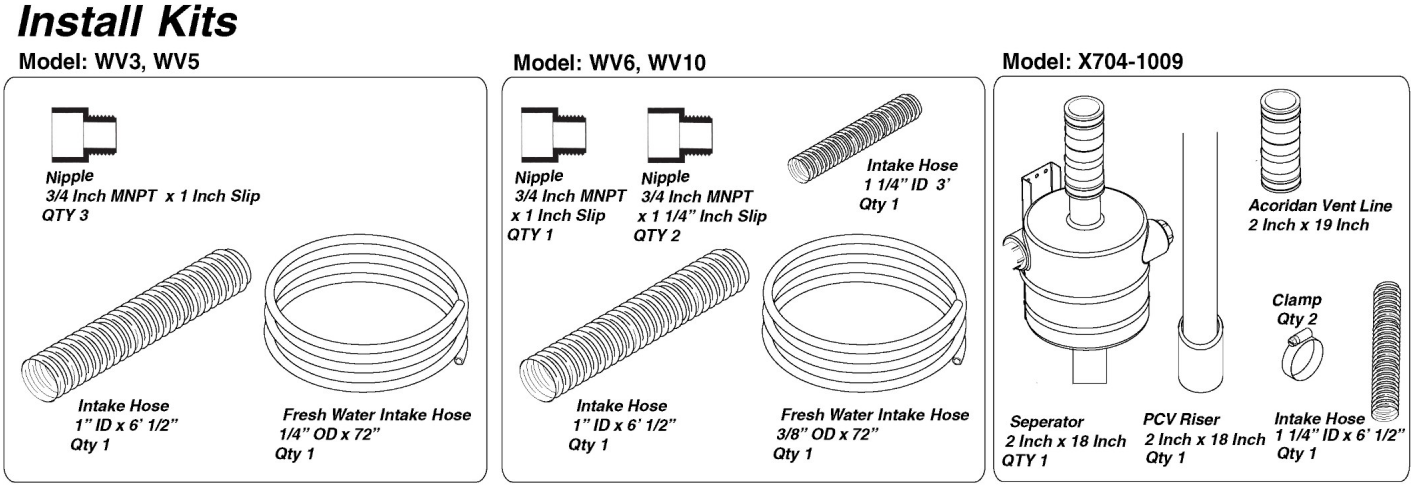
Sizes in millimeters. Vacuum is factory preset to 10 inHg with all HVEs and SEs closed.

GENERAL INFORMATION

Key parts and install kits



Install kits



WV3, WV5	Three ¾" MNPT × 1" slip nipples · 1" ID × 6½ ft intake hose · ¼" OD × 72" fresh water hose
WV6, WV10	One ¾" MNPT × 1" slip nipple · two ¾" MNPT × 1¼" slip nipples · 1¼" ID × 3 ft and 1" ID × 6½ ft intake hoses · ⅜" OD × 72" fresh water hose
Separator kit X704-1009	2" × 18" separator · 2" × 18" PVC riser · 2" × 19" accordion vent line · 1¼" ID × 6½ ft intake hose · 2 clamps

SECTION 02

Site requirements

Installation must be done by a TPC authorized dealer, to local plumbing and electrical codes.

Operating conditions

Location	Indoors, up to 2,000 m altitude
Temperature	5 to 40 °C (41 to 104 °F)
Humidity	80% max up to 31 °C, falling linearly to 50% at 40 °C
Supply voltage	±10% of nominal

Storage and transport

Temperature	−18 to 65 °C (0 to 150 °F)
Humidity	0 to 90% RH

IEC 60601-1 classification

Flammable anesthetics	Not suitable for use with flammable anesthetic mixtures with air, oxygen or nitrous oxide
Installation	Class I
Water ingress	Ordinary equipment, IPX0
Operation	Continuous

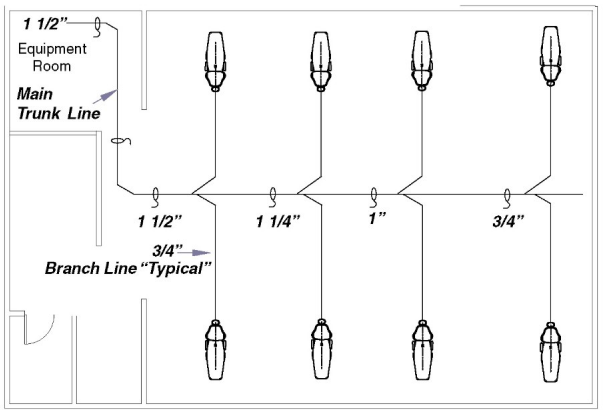
Utilities

Water	City water above 10 psi (0.7 bar), 8 mm connection, with shut-off valve
Drain	1½" P-trap with 1" air gap, or floor sink, within 2 ft; 6"–12" above the floor (by plumber)
Exhaust	Vented outdoors through wall or roof; cap a vertical vent with one or more 90° elbows
Power	Dedicated circuit with disconnect box (by electrician); breaker per page 5

INSTALLATION

Vacuum plumbing layout

Trunk and branch lines

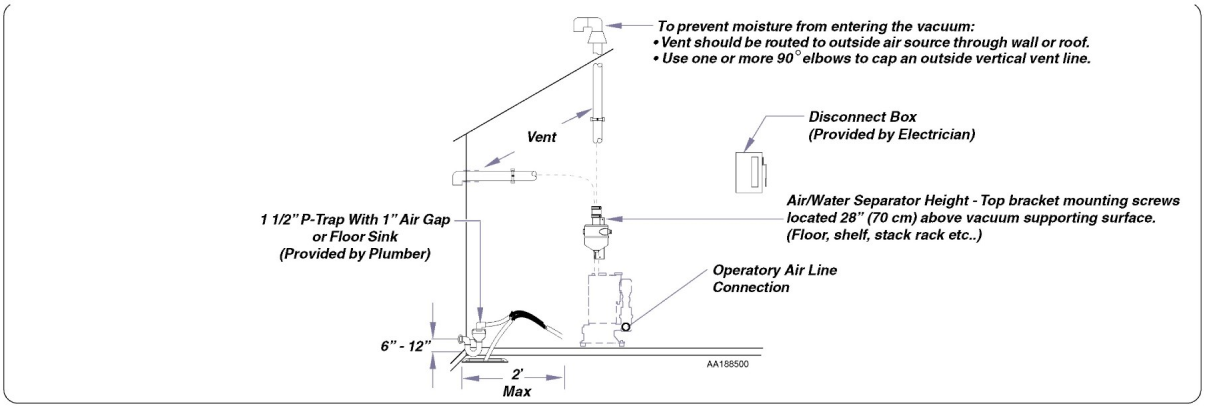


Line sizes

Main trunk at the vacuum	1½"
Trunk, mid run	1¼" then 1"
Branch to each operatory	¾" typical

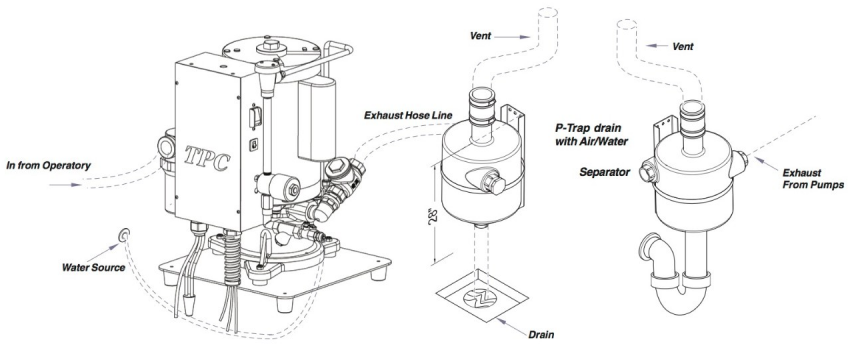
Step the trunk line down as it passes each operatory. Slope lines toward the vacuum and avoid low spots that trap fluid.

Vent, drain and separator



NOTE Mount the air/water separator with its top bracket screws 28" (70 cm) above the surface the vacuum stands on (floor, shelf or rack).

Connections



INSTALLATION

Electrical connections

All wiring must be done by a licensed electrician to local codes.

110 V single pump

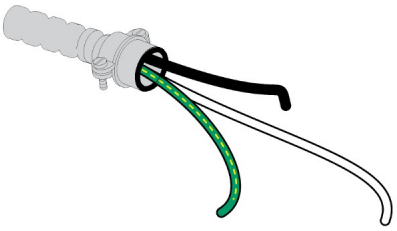


Fig. 3 Black hot · white neutral · green ground

230 V single pump

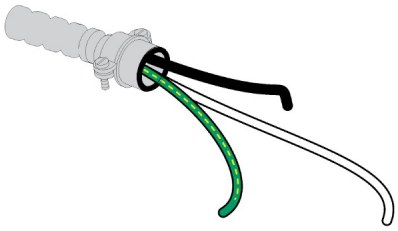


Fig. 4 Black L1 · white L2 · green ground

230 V dual pump

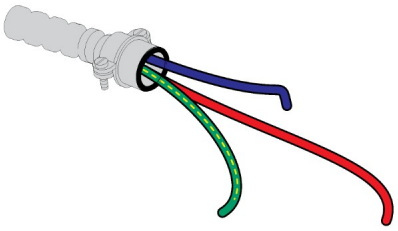


Fig. 5 Black / white pump 1 · red / blue pump 2 · green ground

Dual pump wiring

Pump 1	Black L1, white L2
Pump 2	Red L1, blue L2
Ground	Green to protective earth

Single branch circuit: join black and red to L1, and white and blue to L2. Connect green to ground.

24 V remote control panel

Red	Hot, 24 V
Blue	Return
White	Common / indicator light

With a remote panel, leave the main power switch on and switch the vacuum from the panel.

⚠ **ATTENTION** Do not convert 110 V motor terminals to 230 V while the 110 V water solenoid is installed. The low-voltage taps on the 24 V transformer must also be changed.

SECTION 03

Operation

Every day

1. **Start of day:** always turn the water on first, then the power.
2. Turn the vacuum on from the remote control panel, or with the main power switch.
3. Run the vacuum all day. It can be turned off if suction is not needed for 15 minutes or more.
4. **End of day:** always turn the power off first, then the water.

Good practice

- Vacuum is factory set to 10 inHg, read on the gauge with all HVEs and SEs closed. If that is too strong, have your dealer lower it.
- On twin pump units run one pump at a time, swap pumps every other day so they wear evenly.

Adjust the vacuum relief valve

1. Remove the relief valve cap.
2. Remove the screen.
3. Turn the adjustment knob **clockwise** to increase suction, or **counterclockwise** to decrease it.
4. If the setting does not change, inspect the O-ring for damage.

> **NOTE** Always replace an O-ring that shows visible damage.

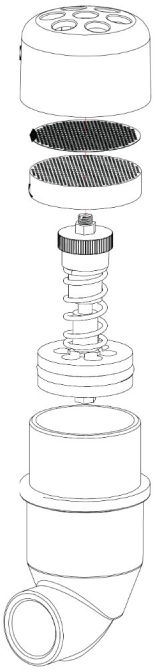


Fig. 6 Relief valve: cap, screen, filter and adjustment knob



Fig. 7 Adjustment knob and O-ring

SECTION 04

Solids collector

Replace the solids collector bowl, screen and gasket monthly. Do the same for any in-line filter.

⚠ **CAUTION** The solids collector can contain biologically hazardous material. Wear protective gloves and dispose of waste in an approved biohazard container.

Replace monthly

1. Turn off the power and the water supply.
2. Unscrew the solids bowl counterclockwise. Remove the screen and gasket and dispose of all three.
3. Assemble the new bowl, screen and gasket from the replacement kit.
4. Screw the new bowl firmly into the collector body.

⚠ **WARNING** Never run the Superb Vac without the screen inside the filter bowl.

A worn or missing gasket, or a bowl not screwed in tightly, causes poor suction from air leaks. When the Superb Vac replaces another vacuum, clean the collector **daily** for the first week.

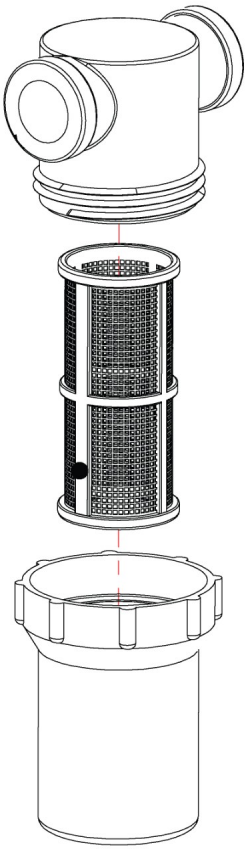


Fig. 8 Solids collector: body, screen, bowl

Disposable replacement parts

Part no.	Disposable canister with mesh screen	Packaging
VC-3001	Small canister, 2 3/4" × 3 5/8" · ¾" filter (WV3, WV5)	12 / box · 6 boxes / case
VC-3002	Large canister, 3 1/2" × 4 3/8" · 1" filter (WV6, WV10)	8 / box · 6 boxes / case

MAINTENANCE

Water filter and recycle mode



Fig. 9 Water inlet filter screen

Water inlet filter

Check the water inlet filter every year, or every 6 months where the water leaves hard deposits. Clean or replace the screen as needed.

Y-strainer	WV-RP-023
Strainer screen	WV-RP-002



Fig. 10 Recycle / bypass valve lever

Recycle and bypass mode

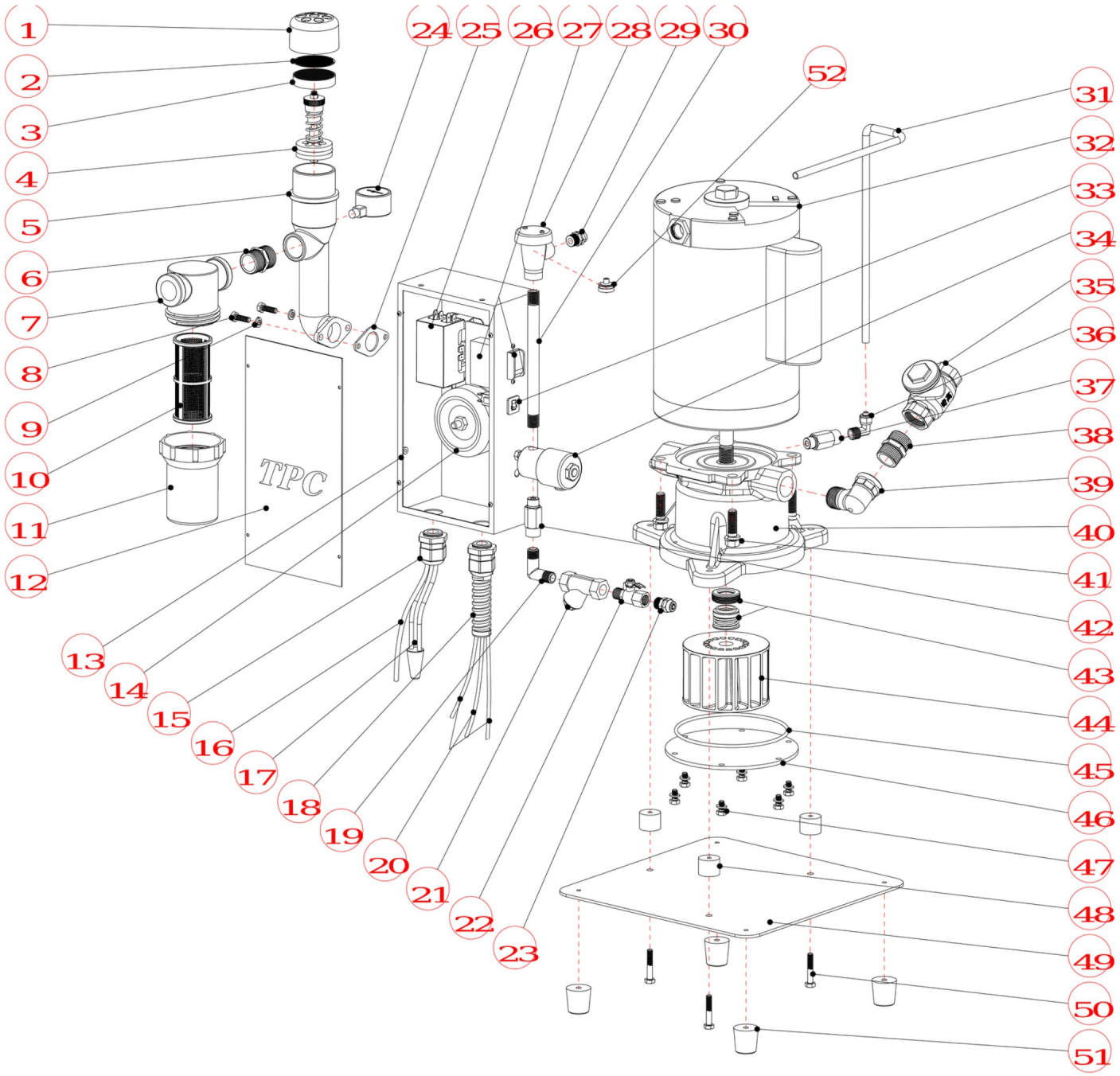
Recycle mode	Lever **parallel** to the valve body. Recycled water from the separator is mixed with fresh water.
Bypass mode	Lever **perpendicular** to the valve body. The pump runs on fresh water only.

If the recycler or separator clogs, switch to bypass so the vacuum keeps running, then call your dealer.

SECTION 05

WV3 replacement parts

WV3, 110 V. Parts list on page 14. The WV5 differs only in the motor, impeller and pump body (page 15).



REPLACEMENT PARTS

WV3 parts list

NO.	DESCRIPTION	QTY	PART NO.
1	Inlet strainer housing	1	WV-RP-001
2	Strainer screen	1	WV-RP-002
3	Honeycomb filter	1	WV-RP-003
4	Relief valve cartridge assembly	1	WV-RP-004
5	Relief valve tee column	1	WV-RP-005
6	Straight fitting	1	WV-RP-006
7	Black top cap	1	WV-RP-007
8	Hex bolt	2	WV-RP-008
9	Spring washer	1	WV-RP-009
10	Filter screen	1	WV-RP-010
11	Clear filter bowl	1	WV-RP-011
	Disposable canister with mesh screen, small (2 3/4" × 3 5/8")	1	VC-3001
12	Control box top cover (long version)	1	WV-RP-012
13	Control box rear cover	1	WV-RP-013
14	Toroidal transformer	1	WV-RP-014
15	Control box cable gland	2	WV-RP-015
16	Signal wire, white	0.6 m	WV-RP-016
17	Signal wire, red	1	WV-RP-017
18	Metal conduit	1	WV-RP-018
19	Brass elbow	1	WV-RP-019
20	Power wires, black + white + green	1	WV-RP-020 WV-RP-021 WV-RP-022
21	Y-strainer	1	WV-RP-023
22	Brass ball valve	1	WV-RP-024
23	Push-in fitting, straight, 1/4"	1	WV-RP-025
24	Vacuum gauge	1	WV-RP-026
25	Tee column silicone gasket	1	WV-RP-027
26	Vacuum motor contactor	1	WV-RP-028

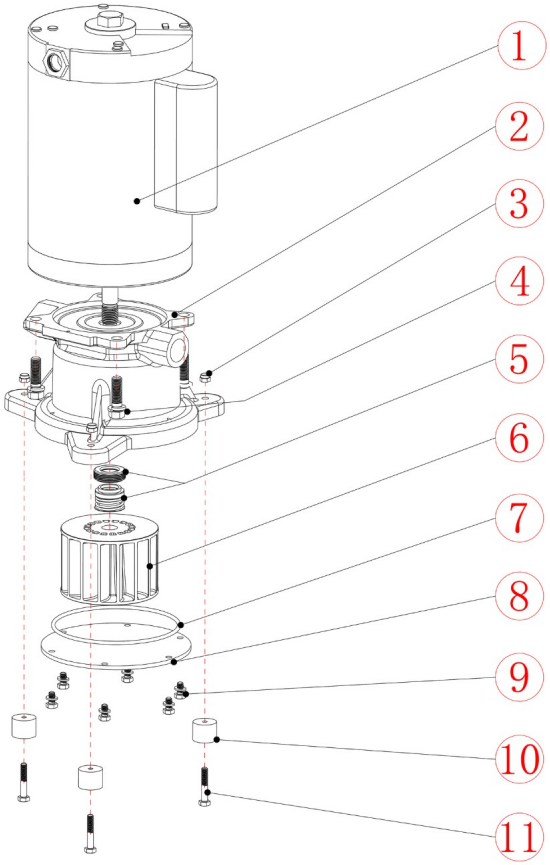
NO.	DESCRIPTION	QTY	PART NO.
27	Equipment circuit breaker	1	WV-RP-029
28	Water inlet check valve (US type)	1	WV-RP-030
29	Push-in fitting, straight, G1/4"	1	WV-RP-031
30	Brass tube	1	WV-RP-032
31	Nylon tube	1	WV-RP-033
32	Vacuum motor, 1 HP (Century)	1	WV-RP-034
33	Vacuum motor fuse	1	WV-RP-035
34	Solenoid valve	1	WV-RP-036
35	Horizontal check valve	1	WV-RP-037
36	Elbow fitting	1	WV-RP-038
37	Check valve	1	WV-RP-039
38	Straight fitting	1	WV-RP-006
39	Elbow, 3/4"	1	WV-RP-040
40	Pump body, bronze, 1 HP	1	WV-RP-041
41	Hex bolt + spring washer	4	WV-RP-042 WV-RP-043
42	Straight adapter, male × female	1	WV-RP-044
43	Mechanical shaft seal, type A	1	WV-RP-045
44	Impeller, 1 HP	1	WV-RP-046
45	Pump O-ring	1	WV-RP-047
46	Pump seal plate	1	WV-RP-048
47	Hex bolt + spring washer	6	WV-RP-049 WV-RP-009
48	Rubber bumper, cylindrical	3	WV-RP-050
49	Base plate, square	1	WV-RP-051
50	Socket head machine screw	3	WV-RP-052
51	Rubber foot	4	WV-RP-053
52	Water inlet check valve seal (US type)	1	WV-RP-054

Order replacement parts by TPC part number. Part numbers are new as of October 2026.

REPLACEMENT PARTS

Motor and pump assembly

Used on the WV3 and WV5, and twice on the WV6 (WV3 assembly) and WV10 (WV5 assembly). Rows marked A to D are the motor options.



NO.	DESCRIPTION	QTY	PART NO.
1A	Vacuum motor, 1 HP, 60 Hz (WV3)	1	WV-RP-034
1B	Vacuum motor, 2 HP, 60 Hz (WV5)	1	WV-RP-055
1C	Vacuum motor, 50 Hz (WV3)	1	WV-RP-056
1D	Vacuum motor, 2 HP, 50 Hz (WV5)	1	WV-RP-057
2A	Pump body, bronze, 1 HP (WV3)	1	WV-RP-041
2B	Pump body, bronze, 2 HP (WV5)	1	WV-RP-058
3	Acorn nut	3	WV-RP-059
4	Hex bolt + spring washer	1	WV-RP-042 WV-RP-043
5	Mechanical shaft seal, type A	1	WV-RP-045
6A	Impeller, 1 HP (WV3)	1	WV-RP-046
6B	Impeller, 2 HP (WV5)	1	WV-RP-060
7	Pump O-ring	1	WV-RP-047
8	Pump seal plate	1	WV-RP-048
9	Hex bolt + spring washer	6	WV-RP-049 WV-RP-009
10	Rubber bumper, cylindrical	3	WV-RP-050
11	Socket head machine screw	3	WV-RP-052

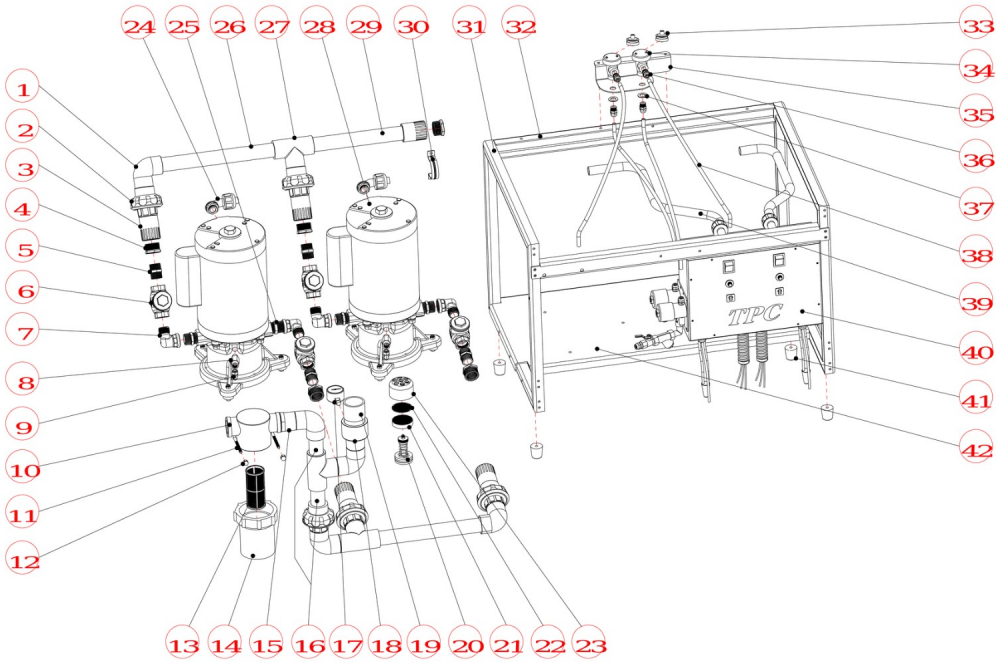
X708-1030	WV3, 115/230 V, 60 Hz
X708-1032	WV5, 230 V, 60 Hz
X708-1033	WV3, 220 V, 50 Hz
X708-1037	WV5, 220 V, 50 Hz

Factory assembly numbers, for reference.

REPLACEMENT PARTS

WV6 and WV10 replacement parts

Twin pump, 230 V. Items 28 and 40 differ by model; the control box is on page 17.

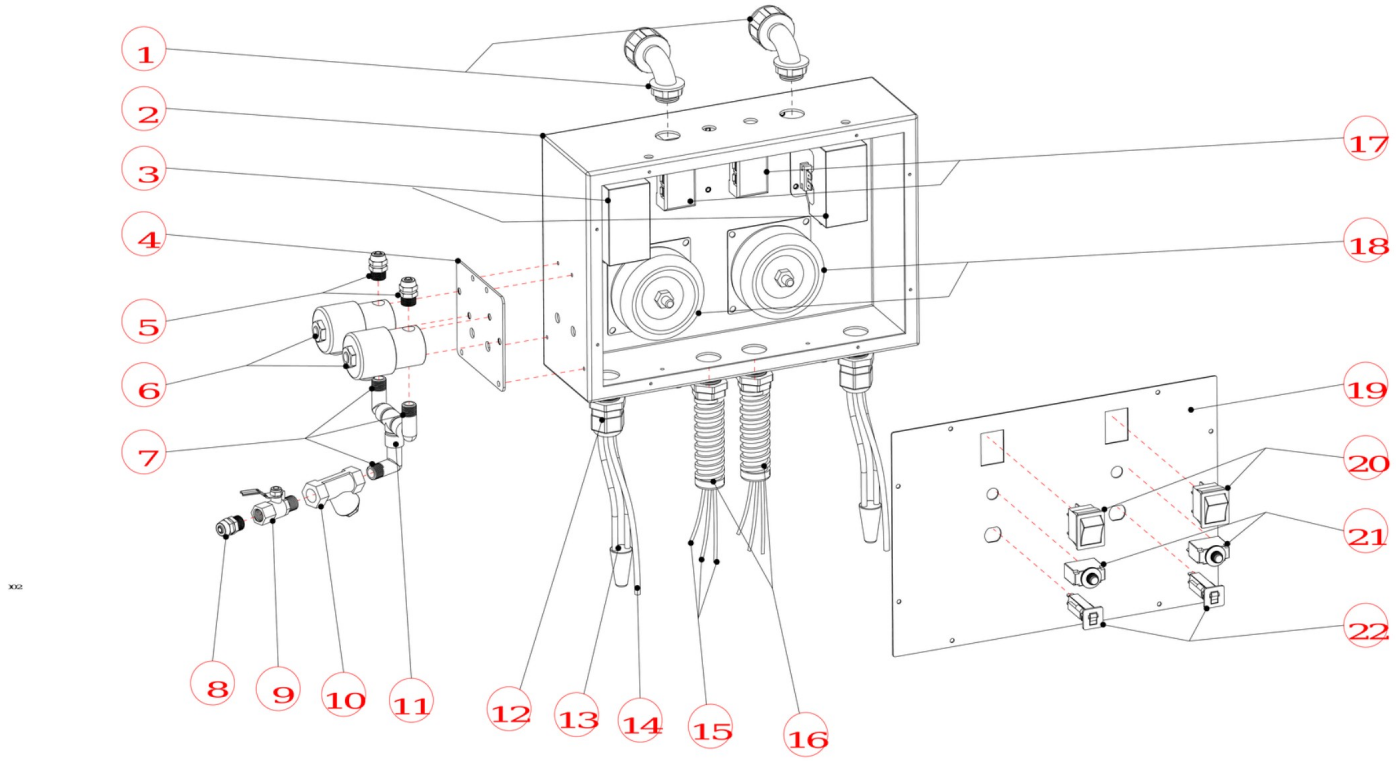


NO.	DESCRIPTION	QTY	PART NO.
1	Elbow, 90°, 1"	5	WV-RP-061
2	Union	5	WV-RP-002
3	Coupling, 1" female	4	WV-RP-062
4	Adapter, ZG1 male × 3/4" female	4	WV-RP-063
5	Straight fitting	7	WV-RP-006
6	Horizontal check valve	4	WV-RP-037
7	Elbow, 3/4"	4	WV-RP-040
8	Check valve	1	WV-RP-039
9	Elbow fitting	1	WV-RP-038
10	Black top cap	1	WV-RP-064
11	U-bolt, M6	1	WV-RP-065
12	Acorn nut	2	WV-RP-059
13	Filter screen	1	WV-RP-066
14	Clear filter bowl	1	WV-RP-067
	Disposable canister with mesh screen, large (3 1/2" × 4 3/8")	1	VC-3002
15	Adapter, 1" × G1 male	1	WV-RP-068
16	PVC pipe, 100 mm	2	WV-RP-069
17	Vacuum gauge	1	WV-RP-026
18	Reducing coupling, 1" × 1-1/2"	1	WV-RP-070
19	Relief valve sleeve	1	WV-RP-071
20	Relief valve cartridge assembly	1	WV-RP-004
21	Honeycomb filter	1	WV-RP-003
22	Strainer screen	1	WV-RP-002
23	Inlet strainer housing	1	WV-RP-001

NO.	DESCRIPTION	QTY	PART NO.
24	Liquid-tight cable connector, 90° (pump)	1	WV-RP-072
25	Straight fitting, long	1	WV-RP-073
26	PVC pipe, 315 mm	1	WV-RP-074
27	Tee, 1"	1	WV-RP-075
28A	Motor and pump assembly, WV3 (WV6)	2	WV-RP-076
28B	Motor and pump assembly, WV5 (WV10)	2	WV-RP-077
29	PVC pipe, 270 mm	1	WV-RP-078
30	Pipe saddle clamp	1	WV-RP-079
31	Frame	1	WV-RP-080
32	Side rail	5	WV-RP-081
33	Water inlet check valve seal (US type)	2	WV-RP-054
34	Water inlet check valve (US type)	2	WV-RP-030
35	Check valve bracket	1	WV-RP-082
36	Push-in fitting, straight, G1/4"	4	WV-RP-031
37	Flat washer	2	WV-RP-083
38	Nylon tube	1	WV-RP-033
39	Corrugated conduit	2	WV-RP-084
40A	Control box assembly, WV6	1	WV-RP-085
40B	Control box assembly, WV10	1	WV-RP-086
41	Rubber foot	4	WV-RP-087
42	Base plate	1	WV-RP-088

REPLACEMENT PARTS

WV6 and WV10 control box



NO.	DESCRIPTION	QTY	PART NO.
1	Liquid-tight cable connector, 90°	2	WV-RP-072
2	Control box rear housing (WV10)	1	WV-RP-089
3	Vacuum motor contactor	2	WV-RP-028
4	Solenoid valve mounting plate	1	WV-RP-090
5	Push-in fitting, straight, G1/4"	2	WV-RP-031
6	Solenoid valve	2	WV-RP-091
7	Brass elbow	3	WV-RP-019
8	Push-in fitting, straight, 1/4"	1	WV-RP-092
9	Brass ball valve	1	WV-RP-024
10	Y-strainer	1	WV-RP-023
11	Tee, 1/4"	1	WV-RP-093
12	Control box cable gland	2	WV-RP-015

NO.	DESCRIPTION	QTY	PART NO.
13	Signal wire, red	2	WV-RP-017
14	Signal wire, white	2	WV-RP-016
15	Power wires, black + white + green	2	WV-RP-020 WV-RP-021 WV-RP-022
16	Metal conduit	2	WV-RP-018
17	Terminal block, 4-position	2	WV-RP-094
18	Toroidal transformer	2	WV-RP-014
19	Control box front cover (WV10)	1	WV-RP-095
20	Power switch	2	WV-RP-096
21A	Circuit protector, 12 A (WV6)	2	WV-RP-097
21B	Circuit protector, 20 A (WV10)	2	WV-RP-098
22	Vacuum motor fuse	2	WV-RP-035

Order replacement parts by TPC part number. Part numbers are new as of October 2026.

SECTION 06

Troubleshooting

	PROBLEM	CAUSE	SOLUTION
01	**Low suction**	Water filter or solids collector clogged	Clean or replace the filter and collector.
		Check valve stuck	Run a system cleaner and switch the vacuum on and off to free it. If still stuck, call your dealer.
		Low water pressure	Raise the water pressure (above 10 psi).
		Recycler or A/W separator clogged	Switch to bypass mode and call your dealer.
		Solenoids not operating	Call your dealer.
		Restricted air exhaust	Check the exhaust pipe size and clear any restriction.
02	**No suction**	Pumps off	Turn the pumps on.
		Pumps not running, or inlet check valves stuck closed	Call your dealer.
		Water filter or solids collector clogged	Clean or replace the filter.
		Suction hose collapsed	Have the hose replaced by your dealer.
		Solenoids not operating	Call your dealer.
		Water off	Turn the water on at the inlet valve.
03	**Excessive suction**	Relief valve stuck closed or its filter clogged	Call your dealer.
		Relief valve set too high	Lower the relief valve setting (page 10).
04	**Pumps do not run**	Main circuit breakers off	Turn the breakers on.
		Electrical problem	Call your dealer.
05	**Noisy pumps**	Inadequate water supply	Have a plumber improve the water supply.
		A/W separator ejector clogged, or solenoids not operating	Call your dealer.
		Drain line collapsed	Have the hose replaced by your dealer.

Technical support

Monday to Friday, 8:00 AM to 5:00 PM Pacific

(800) 560-8222

service@tpcdental.com

TROUBLESHOOTING AND WARRANTY

Warranty and registration

5 year limited warranty

The Superb Vac is warranted free from defects in material and workmanship for 5 years from the date of installation.

Covered

Any item returned to TPC through an authorized dealer will be repaired or replaced, at TPC's option, at no charge if inspection shows it to be defective.

Not covered

- Dealer labor, shipping and handling
- Damage from shipping, misuse or careless handling
- Repairs by anyone other than authorized service personnel
- Indirect or consequential damage or loss

The warranty is void if the equipment is installed or serviced by anyone other than dealer service personnel authorized by TPC. This warranty replaces all other warranties, expressed or implied. No representative or person is authorized to assume any other liability for TPC in connection with the sale of this equipment.

Register online

Have the model and serial numbers ready, go to **tpcdental.com**, open the Forms tab and choose Register Equipment Serial Number. Registration records your warranty period and keeps you informed of product updates.

TPC

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ADDRESS

TPC Dental
851 S. Lawson St.
City of Industry, CA 91748

OFFICE

Phone (626) 810-4337
Fax (626) 810-4245

ONLINE

tpcdental.com