MOBILE DELIVERY CART

MC3600 CV / CV-SL

Installation, Operation & User Manual

Self-contained Mirage mobile cart with built-in air compressor and suction · Includes operation, the built-in scaler and curing light (SL), maintenance, wiring and replacement parts



DOCUMENT

MC3600 Mobile Cart Manual · Version 3.0
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TPC DENTAL

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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

Models and specifications

A self-contained mobile delivery cart: a built-in oil-free compressor and suction pump, clean and waste water bottles, and three handpiece positions on one cart. No plumbing is needed; plug it in.



Included

MC3600CV

- 3-way syringe
- 3 handpiece positions
- Wet/dry disc foot control
- Self-contained air compressor
- HVE and saliva ejector valves
- Waste bottle
- Clean water bottle system

MC3600CV-SL adds

- Built-in piezo scaler (A800N)
- Built-in LED 39 curing light

Specifications

Motors	Oil-free air compressor and suction pump, 550 W each, 115 V
Noise	68 dB
Maximum tank pressure	115 PSI
Vacuum	80 in. of water (6 in. Hg)
Clean water bottle	750 mL
Case	Metal
Dimensions	35" H × 26" W × 20" D
Shipping	On a pallet, 125 lb

GETTING STARTED

Set points and safety

Air regulator	80 PSI
Water bottle regulator	35–40 PSI
High-speed handpiece	30–35 PSI (most high-speed handpieces)
Low-speed handpiece	40–45 PSI (most low-speed handpieces)
Rear power receptacle	5 A maximum load
Power inlet fuse	15 A, 5 × 20 mm

⚠ **CAUTION** Do not over-tighten the handpiece pressure adjustment knobs. This can damage the handpiece control block.

⚠ **UNPACKING** Unpack the cart and its accessories carefully. Damage from mishandling during unpacking or installation is not covered by the warranty.

⚠ **EXTENSION CORDS** Extension cords are not recommended for this equipment. The supplied power cord is 18 AWG. If an extension cord must be used, it must have a smaller AWG number (heavier gauge wire) than the supplied cord. Using an extension cord with the same or a larger AWG number (lighter gauge wire) may damage the equipment and void the warranty.

Safety

⚠ **Use only the supplied power cord**
A smaller gauge cord may damage the equipment.

⚠ **Use a grounded outlet**
Plug the cart into a grounded outlet and keep liquids away from electrical parts.

⚠ **Turn the cart off before maintenance**
Switch off and unplug before changing a fuse.

⚠ **Dispose of waste properly**
Empty the waste bottle according to local regulations.

SECTION 02

Control panel



Fig. 1 Main power switch

Main power switch

The switch lights when the power is on.



Fig. 2 Handpiece pressure gauge

Handpiece pressure gauge

Do not exceed the handpiece maker's pressure: 30–35 PSI for most high-speed and 40–45 PSI for most low-speed handpieces.



Fig. 3 A · Gauge



Fig. 4 B · Scaler (SL)



Fig. 5 C · HP pressure



Fig. 6 D · HP water



Fig. 7 E · Bottle on/off



Fig. 8 F · Chip air

A **Handpiece pressure gauge**
Shows the air pressure to the handpiece positions.

B **Scaler intensity (MC3600CV-SL only)**
Turn counterclockwise to increase, clockwise to decrease the scaler intensity.

C **Handpiece pressure**
Turn counterclockwise to increase, clockwise to decrease. Check the pressure on gauge A.

D **Handpiece water**
Turn clockwise to decrease water flow, counterclockwise to increase it.

E **Water bottle pressure switch**
Turns the pressure to the water bottle system on and off.

F **Chip air**
Sets the amount of spray from the handpiece.

OPERATION

Water and waste bottles

Clean water bottle

The clear bottle on the right side of the cart supplies water to the handpieces and syringe. Distilled water is recommended.



Fig. 9 Clean water bottle



Fig. 10 Water bottle switch (E)

1. **Fill the bottle** and screw it onto the cap.
2. **Turn switch E on** to pressurize the system.
3. **Turn switch E off** before you remove the bottle, so the pressure escapes.

Waste bottle

The blue bottle on the left side is the waste bottle. When it is full, the sensor probe turns the suction off automatically.



Fig. 11 Empty: ready for use

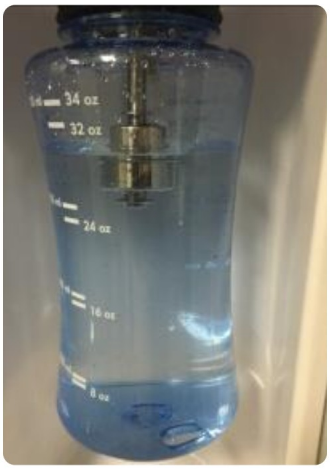


Fig. 12 Full: suction shuts off

Empty the waste bottle

- Dispose of the waste according to local regulations.
- Rinse the bottle with warm water.
- Wipe any debris off the metal sensor probe.

OPERATION

Suction and tank drain

HVE and saliva ejector



Fig. 13 Valves in their holders



Fig. 14 Valve lever closed



Fig. 15 Valve lever open

1. **Lift a valve** out of its holder. The suction pump starts.
2. **Open the valve lever.** Use one valve at a time, with only one lever open.
3. **Return the valve** to its holder. The pump stops.

Change the solids collector trap



Fig. 16 Turn the cap counterclockwise



Fig. 17 Check the cap O-ring



Fig. 18 Trap in the canister

1. **Turn the suction off.**
2. **Turn the cap counterclockwise** and lift it off.
3. **Check the O-ring** on the cap.
4. **Replace the trap** with a clean one and refit the cap.



Fig. 19 Tank drain button

Air tank drain

Press and hold the red momentary button to drain air and moisture from the tank and lines. Drain the tank daily.

OPERATION

Rear panel and power



Fig. 20 Rear power receptacles

Rear power receptacle

Use the receptacle on the back of the cart to power a third-party device. Do not connect devices that draw more than 5 A.

Power inlet fuse

The power inlet port holds a 15 A, 5 × 20 mm fuse. Turn the cart off and unplug it, gently pry the fuse holder tab to remove the holder, and replace the fuse if needed.



Fig. 21 Power inlet, 110 V 60 Hz



Fig. 22 Pry the fuse holder tab



Fig. 23 Fuse holder removed

Power cord

Use only the power cord supplied with the cart. A smaller gauge cord can damage the equipment.

⚠ **EXTENSION CORDS** Extension cords are not recommended for this equipment. The supplied power cord is 18 AWG. If an extension cord must be used, it must have a smaller AWG number (heavier gauge wire) than the supplied cord. Using an extension cord with the same or a larger AWG number (lighter gauge wire) may damage the equipment and void the warranty.

SECTION 03 · MC3600CV-SL

Built-in piezo scaler (A800N)

Activation	From the cart foot control; no extra foot control needed
Output	Up to 10 W, 24–28 kHz, automatic tuning
Water consumption	10–50 cc/min
Electronics box	2⅜" L × 1½" W × 1¼" H
Tips	Easy-change tip system. Specify EMS or Satelec tips when ordering.
Warranty	1 year (tips excluded)

Attach the tip

Screw the tip on and tighten it moderately with the tip wrench. A loose tip vibrates less.

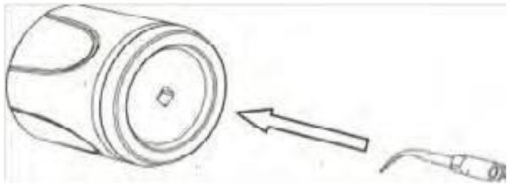


Fig. 24 Fit the tip with the wrench

Remove the handpiece

Pull the scaler handpiece straight off the tubing. Do not twist it, or the tubing pins will be damaged.

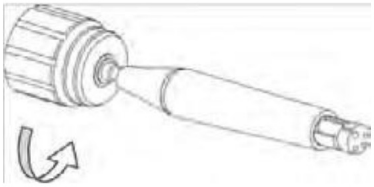


Fig. 25 Pull straight off

Water

Turn the scaler water knob clockwise to decrease water, counterclockwise to increase it.

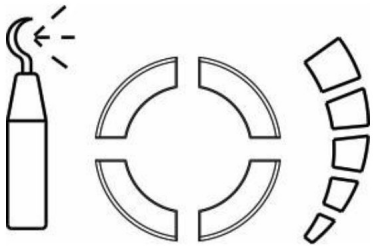


Fig. 26 Scaler water knob

Intensity

Use knob B on the control panel (page 5) to set the scaler intensity.

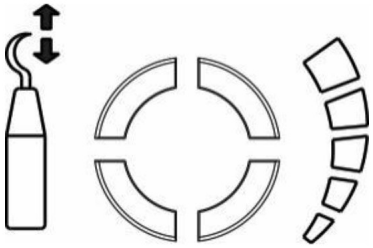


Fig. 27 Scaler intensity knob

MC3600CV-SL

LED 39 curing light

Set up

1. **Insert the light guide** into the light.
2. **Fit the blue light shield** over the light guide.
3. **Secure it** over the metal chuck.

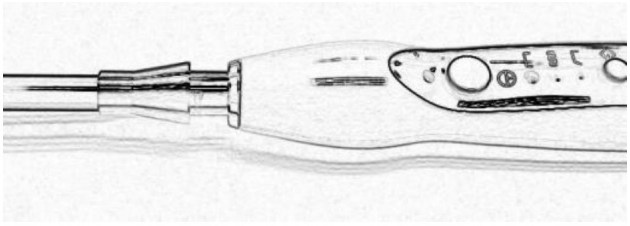


Fig. 28 Light guide and shield

Use

4. **Press ON** to wake the light from sleep mode.
5. **Press again** to start curing.

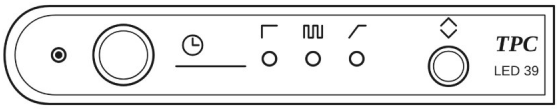
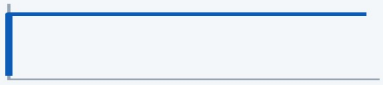


Fig. 29 Curing switch (left), program indicators (center), function button (right)

Curing programs

F FAST



Full power for the whole cure.

P PULSE



Full power in 0.5 s pulses.

R RAMP



Soft start, then full power.

Each cure runs 20 seconds. Press the function button to change programs.

Specifications

Power supply	AC 110–220 V, 50/60 Hz
Light source	Blue light, 420–480 nm
Operating conditions	5–40 °C, relative humidity 80% or less
Dimensions	26 × 25 × 260 mm
Net weight	211 g
Power consumption	8 W or less
Electrical protection	Class I, type B equipment
Flammable anesthetics	Not suitable for use with flammable anesthetic mixtures with air, oxygen or nitrous oxide

SECTION 04

Daily maintenance

Purge the lines with air

At the end of each day, purge the water lines with air to prevent biofilm.

1. **Remove the handpieces** from the tubing.
2. **Empty the water bottle**, then reinstall it.
3. **Turn the cart on.**
4. **Press the syringe and the foot control** until the water is purged from the lines.
5. **Turn the cart off.**

Drain the air tank

Press and hold the red tank drain button to release moisture from the tank (page 7).

Disinfect the waste bottle

1. **Fill the bottle** with 100 mL of disinfectant solution.
2. **Shake well** and let it stand for 10 minutes.
3. **Shake again**, then rinse twice with water.

SOLUTION Disinfectant solution: 100 mL made from 9 parts tap water and 1 part 5.25% sodium hypochlorite (household bleach). Mix fresh each week.

CARE

Weekly maintenance

Do this at least once a week, preferably at the start of the week before treating patients. If the cart is stored, do it right before and right after storage.

1 · Purge with air

Follow the daily purge procedure on page 11.

3 · Purge with air

- Turn the cart on and wait a few moments.
- Press the tank drain button until all the solution is purged.
- Turn the cart off.

2 · Flush with disinfectant

1. **Turn the cart off.**
2. **Empty the water bottle** and fill it with disinfectant solution.
3. **Remove the handpieces** and hold the tubing and syringe over a pail.
4. **Turn the cart on**, wait a few moments, then run the syringe and foot control until solution flows steadily.
5. **Leave the solution** in the lines for 10 to 20 minutes.
6. **Flush again** until all the solution is used.

4 · Refill with clean water

1. **Turn the water bottle switch (E) off.**
2. **Remove the empty disinfectant bottle.**
3. **Fit a clean bottle** filled with water.
4. **Remove the handpieces** and hold the tubing and syringe over a pail.
5. **Turn the cart on**, then run the syringe and foot control until clean water flows steadily.

DISINFECTANT 100 mL per week: 9 parts tap water and 1 part 5.25% sodium hypochlorite (household bleach). Always mix a fresh batch.

SECTION 05

Troubleshooting

	PROBLEM	PROBABLE CAUSES
01	**Handpiece lacks power**	• Regulator not at 80 PSI • Handpiece pressure (C) set too low • Plugged air filter • Kinked or pinched supply tubing • Bad handpiece gasket at the tubing • Faulty handpiece • Damaged tri block diaphragm
02	**Water coolant does not stop when the foot control is released**	• Master air not at 80 PSI or water not at 40 PSI • Foot control not exhausting • Faulty water relay • Pinched water relay signal air line
03	**More than one handpiece runs**	• Handpiece not fully in its holder • Holder pilot valve out of adjustment • Kinked or pinched pilot valve signal line • Damaged tri block diaphragm
04	**Water runs from a handpiece in its holder**	• Purge switch on (where fitted) • Water pressure too high • Holder out of adjustment • Water relay out of adjustment
05	**Not enough water coolant**	• Coolant flow (D) set too low • Plugged water filter • Plugged handpiece • Kinked or pinched tubing • Water relay out of adjustment
06	**Water coolant runs all the time**	• Water pressure too high • Air pressure too low • Holder out of adjustment
07	**Syringe air or water pressure low**	• Air or water pressure set too low: check the regulators • Damaged syringe cartridges • Pinched syringe tubing

TPC technical support

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

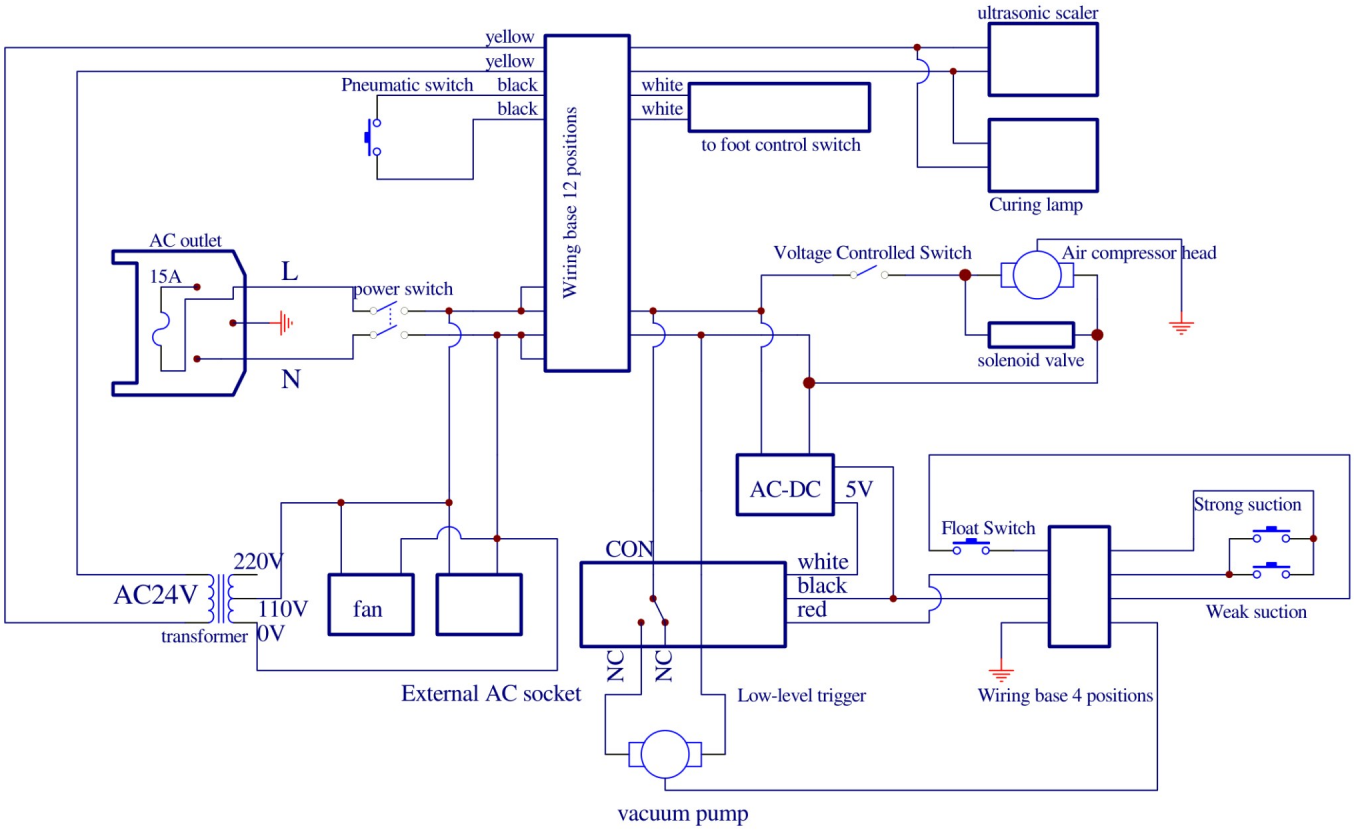
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REFERENCE

Wiring diagram

For qualified service technicians. Turn the cart off and unplug it before opening the case.



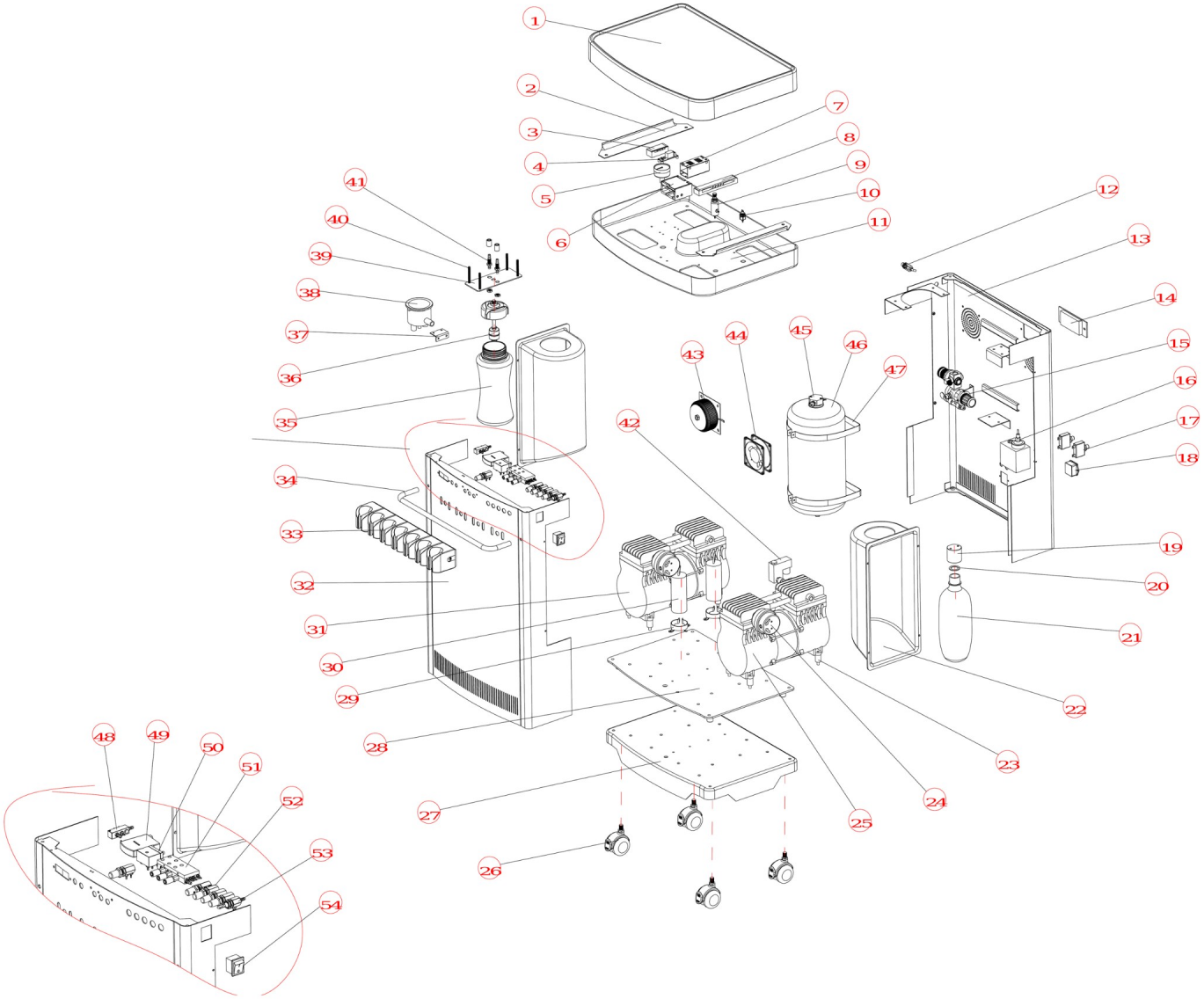
Main circuits

AC inlet	15 A fused inlet and lighted power switch feed the 12-position terminal block.
Compressor	Air compressor head through the pressure-controlled switch; the solenoid valve releases head pressure.
Suction	Vacuum pump switched by the low-level trigger board (5 V AC-DC supply), the holder switches (strong and weak suction) and the waste bottle float switch.
Low voltage	24 V AC transformer powers the ultrasonic scaler and curing lamp (SL), switched from the foot control.
Accessories	Cooling fan and rear external AC socket.

REPLACEMENT PARTS

MC3600 exploded view

Callouts 48 to 54 are in the enlarged view of the control panel, bottom left. Numbers match the parts table on the next page.



How to order

Order by TPC part number: (800) 560-8222 or service@tpcdental.com, with the part number, model and serial number. Parts marked Call TPC do not have a stock number yet.

Also available

Power cord	**3600-RP-54**
Instrument label sticker, MC3600CV	**3600-RP-STK1**
Instrument label sticker, MC3600CV-SL	**3600-RP-STK2**
Monitor bracket with post	**OMC-2260**

REPLACEMENT PARTS

MC3600 parts

NO.	DESCRIPTION	QTY	PART NO.
1	Instrument tray (top cover), ABS	1	3600-RP-1
2	Top cover support brace, L / R	2	3600-RP-2
3	Power terminal block, 4-position, 15 A	1	3600-RP-3
4	Suction relay PCB, 5 V trigger	1	3600-RP-4
5	Pressure gauge, round, 0–10 bar	1	3600-RP-5
6	Piezo scaler PCB (ADV800 main board)	1	3600-RP-6
7	Power supply PCB, 5 V DC / 2 A	1	3600-RP-7
8	Power terminal block, 12-position, 15 A, with cover	1	3600-RP-8
9	Mini regulator, nickel-plated brass	1	3600-RP-9
10	Piezo scaler activation switch	1	3600-RP-10
11	Top frame (middle cover), ABS	1	3600-RP-11
12	Momentary push button, red cap	1	3600-RP-12
13	Rear casing	1	3600-RP-13
14	Receptacle, 110 V, 2-outlet	1	3600-RP-14
15	Master regulator, 0.05–0.85 MPa	1	3600-RP-15
16	Electric pressure switch, 4–7 bar	1	3600-RP-16
17	Resettable fuse (overload protector), 8 A	1	3600-RP-17
18	Power inlet port, 3-pin, with fuse holder	1	3600-RP-18
19	Water bottle cap assembly	1	3600-RP-19
20	Water bottle gasket, silicone	1	3600-RP-20
21	Clean water bottle, 750 mL	1	3600-RP-21
22	Side enclosure, ABS	2	3600-RP-22
23	Motor rubber foot (vibration mount), M6	1	3600-RP-23
24	Motor air filter (intake muffler)	1	3600-RP-24
25	Suction motor, oil-free, 110 V / 60 Hz, 550 W, with 55 µF capacitor	1	3600-RP-30-S
26	Locking caster, 2", silent swivel, with brake	4	3600-RP-25L
27	Bottom case base, ABS	1	3600-RP-26-27
28	Motor mounting plate (sold with item 27)	1	3600-RP-26-27
29	Start capacitor bracket (clamp ring, Ø40 mm)	2	3600-RP-28
30	Motor retaining bracket	2	Call TPC
31	Compressor motor, oil-free, 110 V / 60 Hz, 550 W, with 50 µF capacitor	1	3600-RP-30
	Compressor motor, 220 V / 50 Hz, 550 W		3600-RP-30-2
	Start capacitor		3600-RP-29
32	Front casing	1	3600-RP-31
33	Handpiece holder, square, with switch	7	3600-RP-32
	Electric switch for HVE and SE holder		3600-RP-32-ES
	Handpiece hanger valve		3600-RP-32-V
	Set screw for square holder		3600-RP-32-SS
34	Handpiece holder bar, stainless steel	1	3600-RP-33
35	Waste bottle, 1 L, clear blue	1	Call TPC
	Waste bottle cap, 3-hole		3600-RP-34
36	Waste water sensor probe (float switch)	1	3600-RP-35
37	Solids collector bracket, stainless steel	1	3600-RP-36
38	Solids collector canister, 2⅛", side port, complete kit	1	3600-RP-37
39	Waste bottle bracket	1	3600-RP-38
40	Waste bottle bracket screw, M5 × 50 mm	4	3600-RP-39
41	Adaptor fitting, M10, 8 mm barb	1	3600-RP-40
42	Pressure relief solenoid valve, 110 V	1	3600-RP-41
43	24 V transformer, toroidal, 50 W	1	3600-RP-42
44	Cooling fan, 92 mm, 110–115 V, with fan guard	1	PCN-P5032
45	Tank check valve, G½	2	3600-RP-44
46	Air tank, 7 L	1	3600-RP-45
47	Tank strap	2	3600-RP-46
48	Air manifold, 6-port, brass	1	3600-RP-47
49	Handpiece pressure gauge, square	1	3600-RP-48
50	Water relay	1	3600-RP-49
51	Tri block (triple diaphragm valve)	1	3600-RP-50
52	Needle valve, handpiece water	5	3600-RP-51
53	On/off 3-way valve	1	3600-RP-52
54	Main power switch, lighted, 25 A	1	3600-RP-53

REFERENCE

Warranty

All TPC products are warranted to be free from defects in materials and workmanship for one year from the date of purchase, unless otherwise specified. During this period TPC will, at its discretion, repair or replace any defective part at no charge. The MC3600CV and MC3600CV-SL are covered by this one-year limited warranty.

Not covered

- Labor charges, and shipping to or from TPC
- Damage from improper installation, misuse, accidents or mishandling in shipping
- Normal wear, cosmetic imperfections and surface stains
- Scaler tips

SHIPPING DAMAGE Claims for shipping damage must be filed with the freight carrier by the customer when the goods are received.

TPC improves its products continuously and may change designs or specifications without notice.

Contact

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

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