

TPC

Mirage Dental Delivery Unit Model 2000 / 2015 Installation Instructions



TPC

851 S. Lawson St.

City Of Industry, CA 91748

P626-810-4337 Fax 626-810-4245

1

www.tpcdental.com

REV. 1-1-13



Table on Contents:	Page
--------------------	------

GENERAL INFORMATION

Unpacking and Inventory	3
Installation and coordination	4
Optional Cuspidor Installation	10
Cuspidor Plumbing Connections	11
Junction Box Connections	12
Post Mount Utility Center Adjustments	13
Pressure Adjustments / Tension Screws	13
Delivery Head / Tilt Adjustments	14
Tubing / Connections	15



Unpacking and Inventory

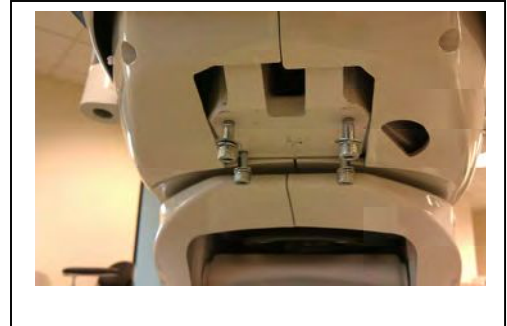
Each Mirage delivery unit will contain the following items in each box.

1. Flex arm box. This is the largest box that you will receive with the delivery unit.
 - Delivery unit flex arm
 - Assistance arm
 - Light post
 - Foot control
 - Stainless steel tray
 - Cosmetic beauty ring
 2. Post mount utility center
 - Utility center
 - Junction box (frame & cover)
 - Master controls attached to the umbilical
 - Misc beauty rings and quick connects
 - HEV/SE valves with tubing
 - Water Bottle (750 ml)
 3. Optional 2000-C Cuspidor
 - Cuspidor
 - Cup fill spout
 - Bowl rinse spout
 - Cuspidor bowl strainer
 - 2 fastening screws
-
- If at any time you have questions regarding your installation please don't hesitate to contact TPC toll free @ 800-560-8222 or via E-mail @ service@tpcdental.com

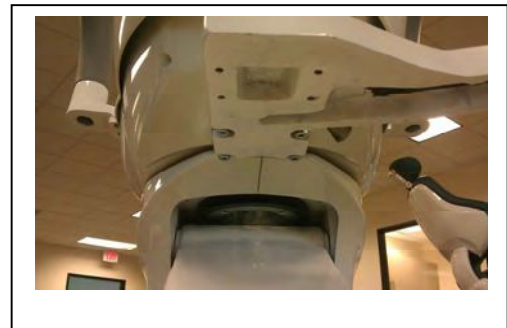


Installation Instructions.

1. Locate the four mounting bolts that were included with your dental chair. These bolts are attached to all model 4000 dental chairs. See image below for the location.

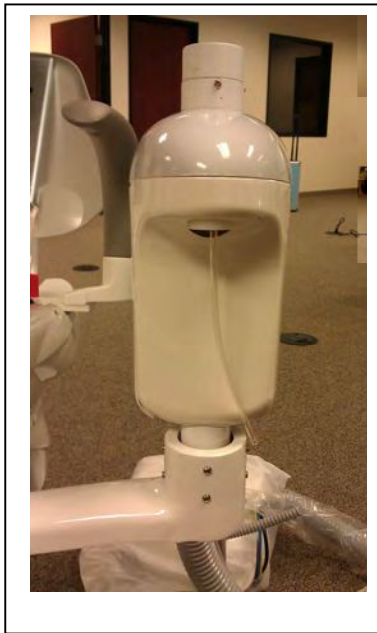


2. Remove the mounting bolts and mount the bracket as shown in the image below.



3. Leveling Chair bracket.
 - The chair bracket has a total of 8 set screws.
 - Use the lower set screws to adjust the PMU left, right, front and back. This will make large adjustments to the tilt of the post that is inserted into the bracket cup.
 - Use the upper set screws to make fine adjustments and lock the post in place.
 - Once the post is level you may fasten the set screws tightly to ensure the post stays level. If your post is not level your unit will not be level and the flex arm will drift.

4. Loosen the 8 leveling set screws, and then place the PMU (Post mount utility center) in the cup of the chair bracket. Figure1 Shown in the image below. Center the mounting post in the cup. Also verify if the PMU is aligned straight with dental chair armrest. Then proceed to tighten the set screws.



5. Verify the PMU is level before tightening the set screws on chair bracket. There are 8 set screws that will be used for leveling. If the PMU is not level the unit arms may drift. Small adjustments to the set screws will level the PMU. Level the PMU in the following directions. (left to right and front to back).



6. Place the assistant's suction arm on the PMU as shown in the image below. If the arm is not level use the leveling screw shown below (right) to adjust its angle.



Turning this screw clockwise will raise the angle of the arm. Turning counter clockwise will lower the angle of the arm.

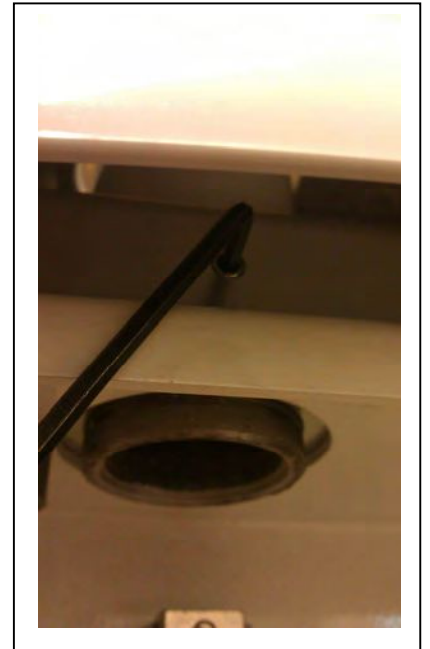


7. Remove the PMU side cover. To remove it, pull on the lower lip to detach its magnetic connection. Place it out of the way to ensure it does not get damaged. This side cover will remain detached until the end of the installation.

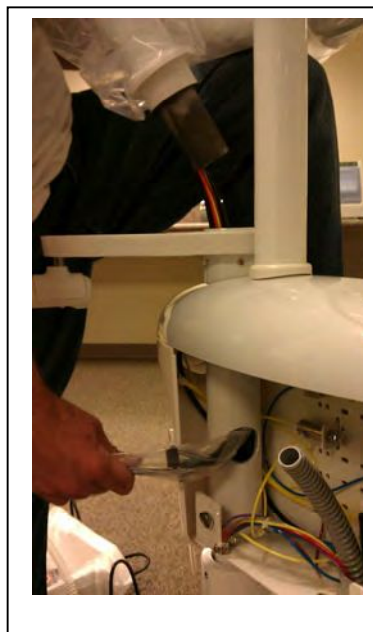


TPC

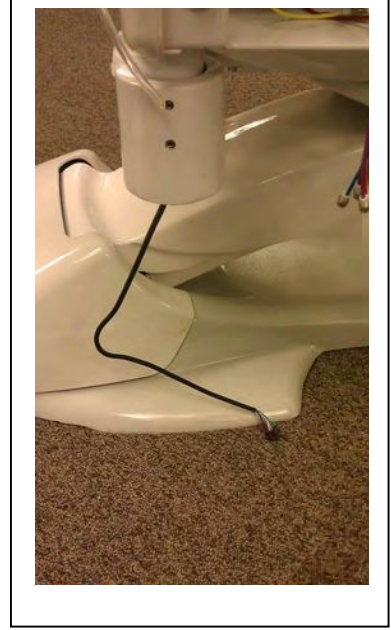
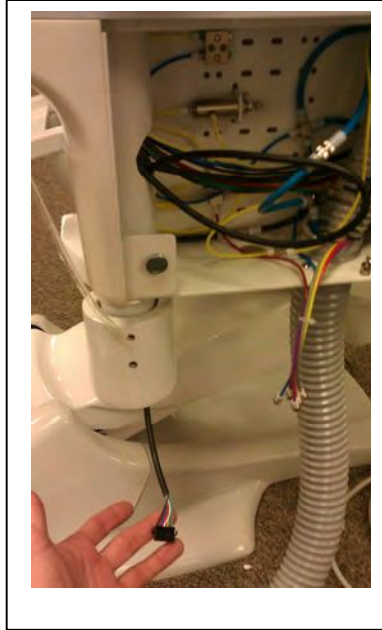
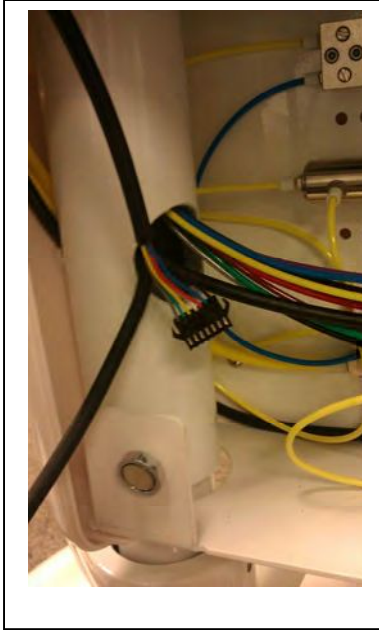
8. If you are installing a post mounted light insert it as shown in the images below. Make sure you place the cosmetic ring over the light post before inserting. Tighten the set screw to secure the light post in place.



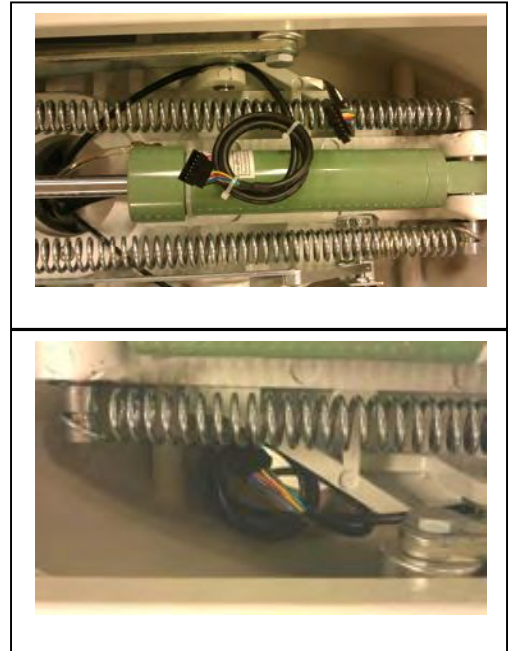
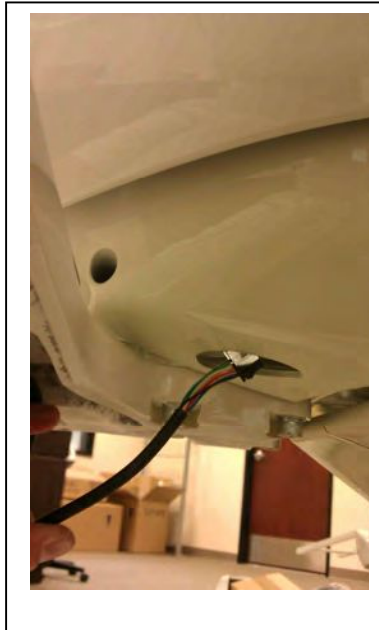
9. Take the delivery unit flex arm out, and place the additional cosmetic ring on it as shown below. Once in place, take all lines and feed it through the bushing assembly as shown. Verify that the arm seats completely down in the bushing assembly. Lower the cosmetic ring to cover the seam between the assistant's arm and the delivery unit flex arm.



10. You may now remove the plastic from the bundle of tubing that you fed through in the previous step. Take the touch pad wire shown below and feed it through the chair bracket as shown.

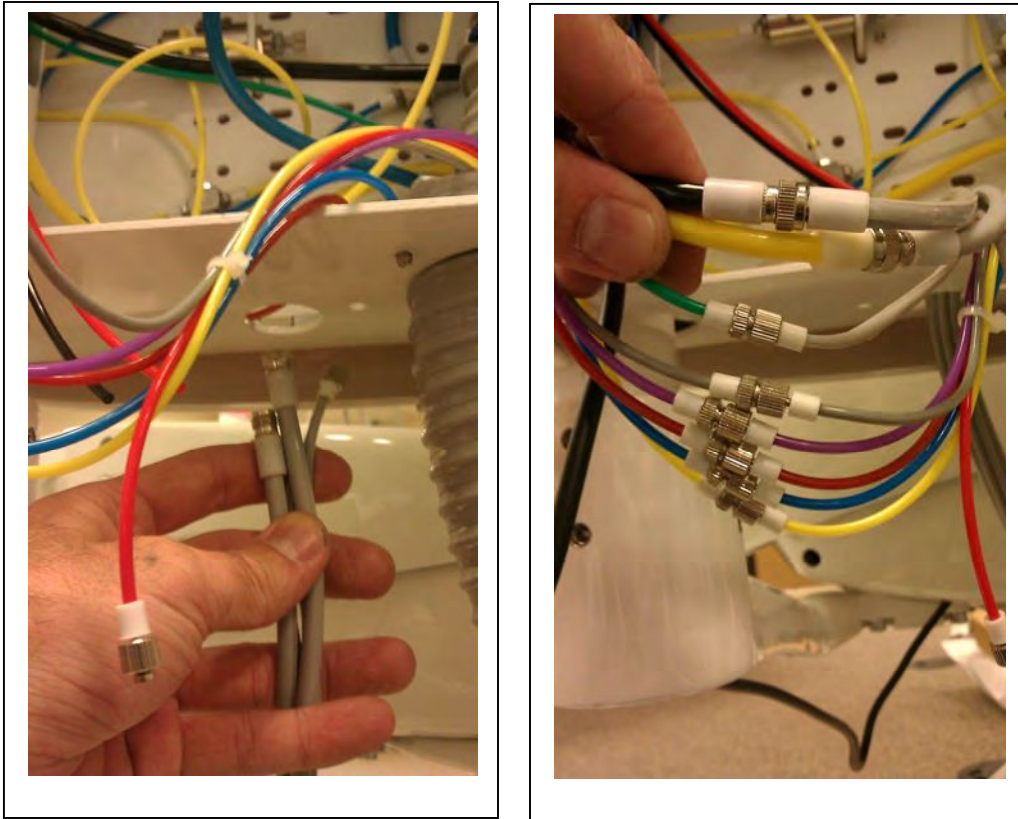


11. Route the touch pad cable along the chair bracket channel. Then feed it through the "cut out" in the plastic shroud. Connect the touchpad wire and place it aside as shown.



TPC

12. Take the delivery systems foot control and feed it through the bottom of the PMU. Make the following connections from your foot control to the tubing within the PMU side box.



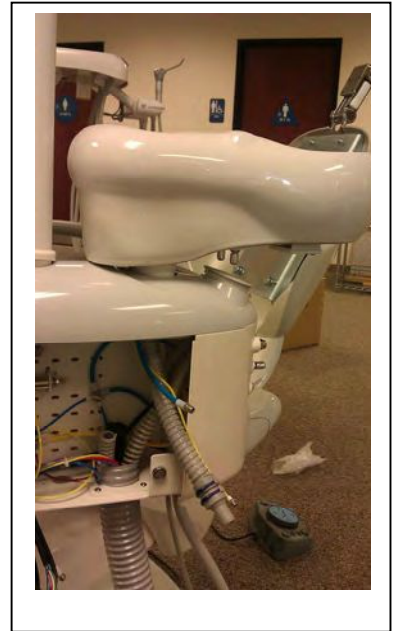
13. Tubing connections

- Grey female from foot control to Black supply to the flex arm.
 - Grey male from foot control to Yellow supply from Umbilical.
 - Green female from foot control to Green male from the flex arm.
 - Grey female from umbilical to Grey male from the flex arm.
 - Purple female from umbilical to Purple male from the flex arm.
 - Dark Red female from umbilical to Dark Red male from the flex arm.
 - Blue female from umbilical to Blue male from the flex arm.
 - Yellow female from umbilical to Yellow male from the flex arm.
 - You will have two spare lines available the event of a tubing failure.
14. There is also two additional lines that will be left unused if you are not installing the optional 2000-C cuspidor. One large water supply line and a small yellow air supply line that has a cap on it.

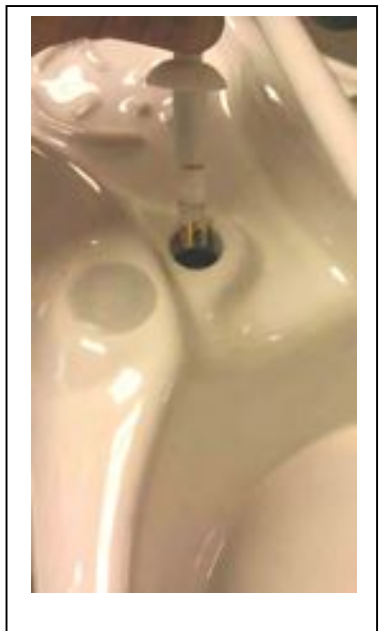


Optional Cuspidor Installation

If you are installing the optional 2000-C cuspidor, remove the Cuspidor housing cover as shown. To install the cuspidor, slide the cuspidor into the cuspidor bushing housing. Make sure the cuspidor is completely seated in the bushing.



15. Take the cup fill and bowl rinse spout and insert them into the corresponding sockets. When inserting the spouts into the sockets make note of the notches in the cuspidor socket and the spouts that are being inserted into them. They will only seat properly one way. Do not remove the Teflon tape that is wrapped around the spouts. See images below. Place the cuspidor strainer in the bowl.

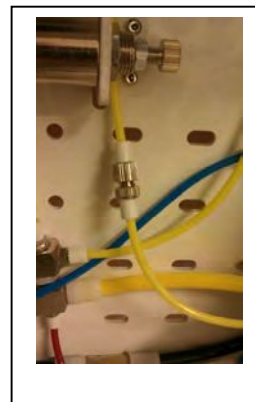
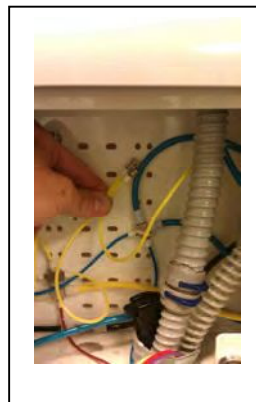
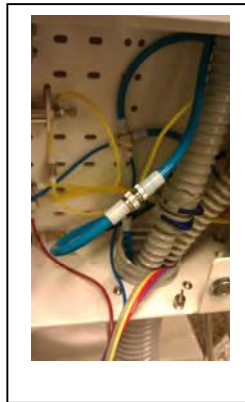
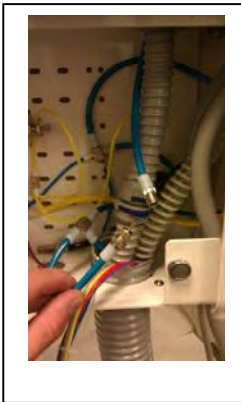


Cuspidor Plumbing Connections

16. Connect the drain line. Remove the blue locking tab to separate the quick connect from the junction. Insert the removed end into the drain line tubing. Connect the two ends together and replace the locking clip.



17. Remove the cap from the large water supply line, Connect the water supply line to the cuspidor. Remove the cap from the signal air line, then connect it to the cuspidor.

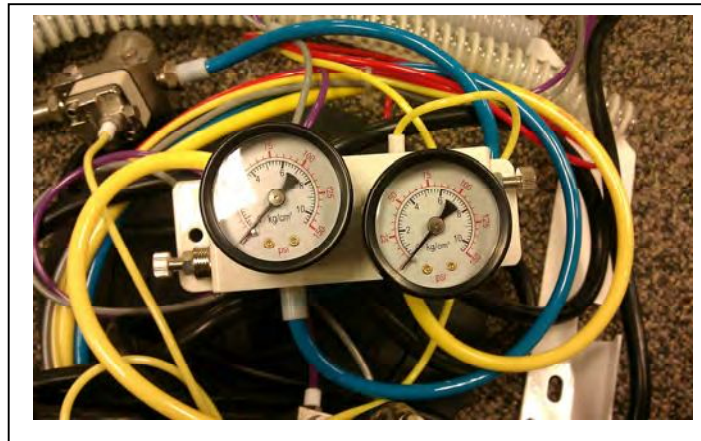


18. The 2000C cuspidor possesses timing adjustments. In the event that you need to make adjustments, the timing pressure release valves are located on the bottom of the cuspidor. These adjustments will shut off the water flow so that you may fill a specified cup size, or bowl rinse cycle time.

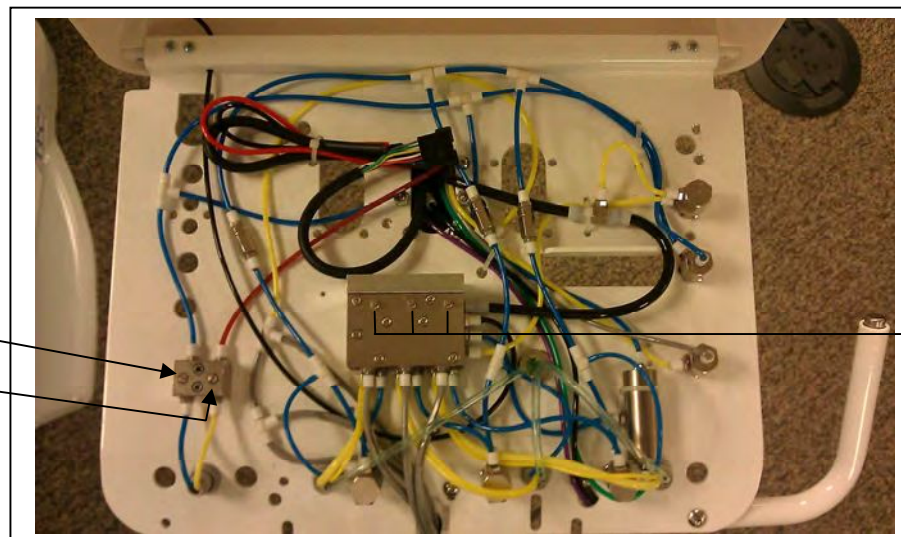


Junction Box Connections

19. Before making any connections in the junction box, be sure to clear the supply lines. If there is any debris in the air line it will collect on the micron filter. Verify the line is clear.
20. Once the lines are verified and cleared, you may connect the master controls. The master controls are similar looking. One is for the Air which is identified by the large yellow tubing that exits the back end of the master control valve. The master control for the water line is identified by the large blue line that exits the back of the master control valve.
21. Once the connections are made you may open the angle stops or equivalent shut off valve. Once the valve is open you may check the master control gauges and verify that the pressures are set accordingly. Air pressure should read approximately 80 PSI. Water pressure should read 40 PSI.



22. Once air and water pressure are set, you may now make adjustments to the syringe blocks if necessary. Also check your handpiece pressure and adjust accordingly.



Syringe Block:

Water Adjustment

Air Adjustment

Handpiece

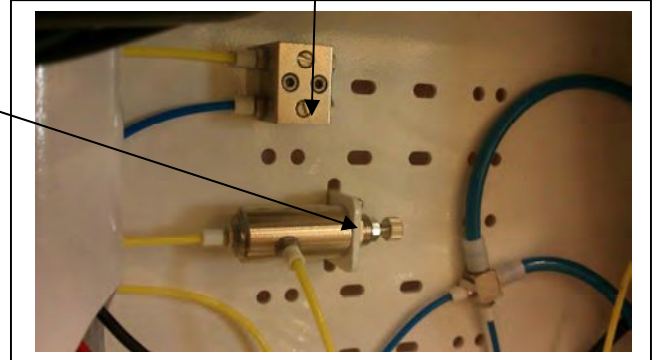
Pressure Adjustment

Use a flat head screw driver to make adjustments. Turning clockwise will decrease the pressure. Turning counter clockwise will increase the air pressure.



Post mount utility center adjustments (PMU)

1. There are two main adjustments that can be made in the PMU.
 - Assistant's side syringe block adjustments
Turning the screw counter clockwise will increase the air / water pressure.
Turning the screw clockwise will decrease the air / water pressure.
 - Water bottle pressure adjustments
Loosen the lock nut, then turn the knob counter clockwise to decrease the air pressure. Turn the knob clockwise to increase pressure.
DONT allow more then 40PSI of air pressure to supply the bottle.



Tension Adjustments

2. In a situation that you need to add tension to the delivery unit flex arms please see the following locations. NOTE: tension adjustments are only a temporary fix for drifting arms. If your arms are drifting first verify the PMU is level. Check the light post to verify its plum. If light post is not level make the proper adjustments by re-leveling the unit.



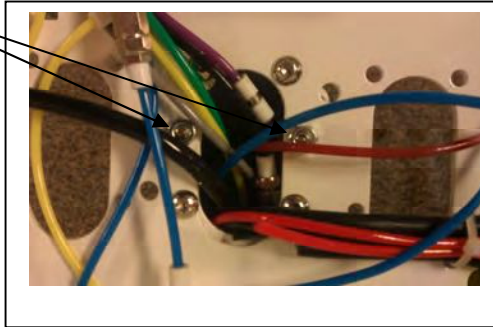
Tension spring adjustment

3. If you need to make adjustments to the tension spring in the flex arm follow the procedure below.
 - Remove the flex arm cap cover.
 - Use a 3/8" ratchet with 2" extension
 - Turn clockwise to increase the tension
 - Turn counter clockwise to decrease tension.
 - Only make adjustments in half turn increments.



delivery head leveling and tilt adjustments

4. If you need to level the unit head or adjust the tilt use the following adjustments.
- Loosen the 4 Allen screws that attach the unit head to the short control arm. See image. Once the screws are loose, use the two adjustment screws in the center on each side to level the head.



- To adjust the unit head tilt, remove the flex arm end cap closest to the delivery unit head. Loosen the stop nut, and using an Allen wrench turn the adjustment screw clockwise to increase the tilt of the delivery unit head. Turn the adjustment screw counter clockwise decrease the tilt.

*Stop Nut

*Adjustment Screw





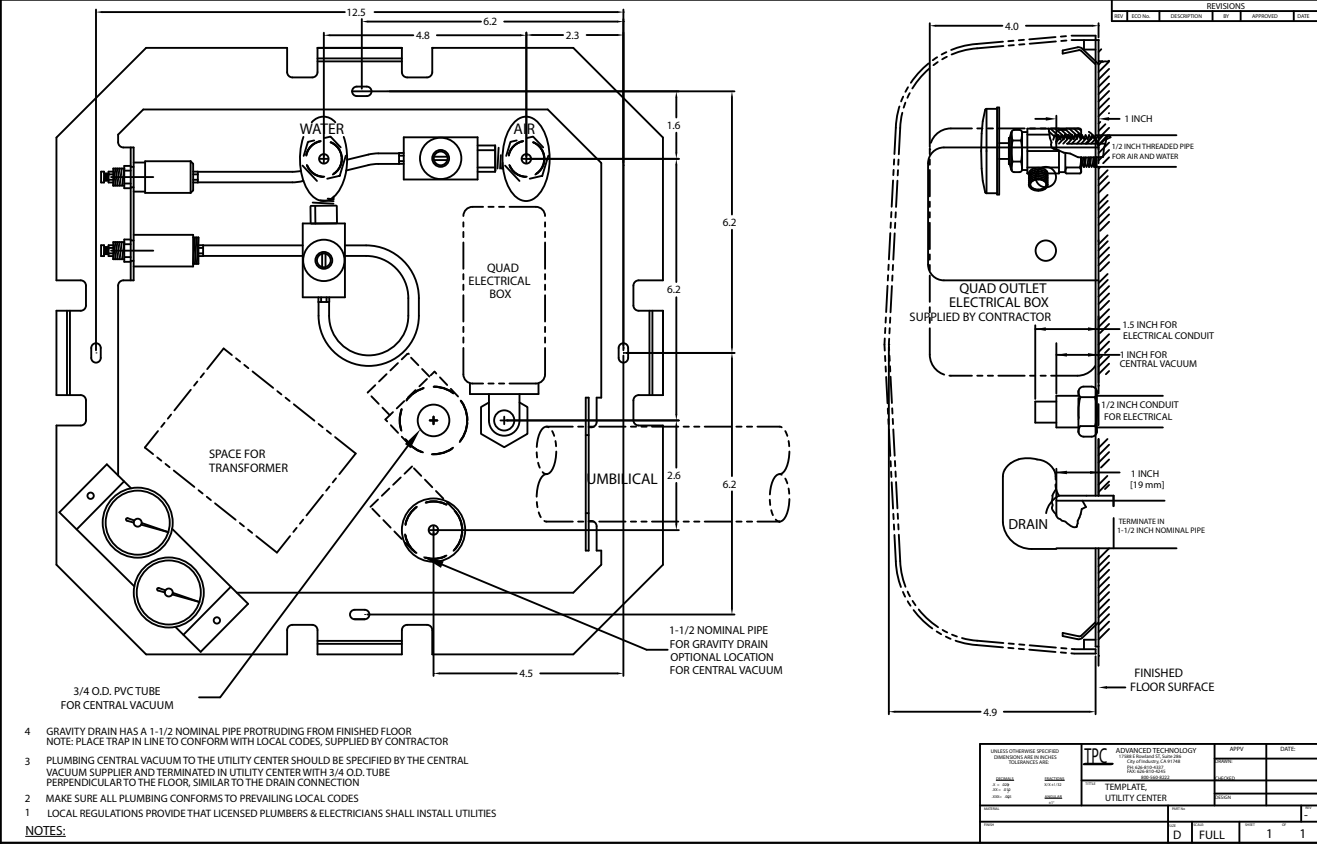
Tubing and connections

Junction Box

1. Yellow 6 X 4 Air Supply line
2. Blue 6 X 4 Water Supply line
3. Grey Master Switch Supply
4. Yellow Master switch return
5. Purple Air brake supply
6. Red Spare

Post mount utility center (from umbilical to delivery unit arm)

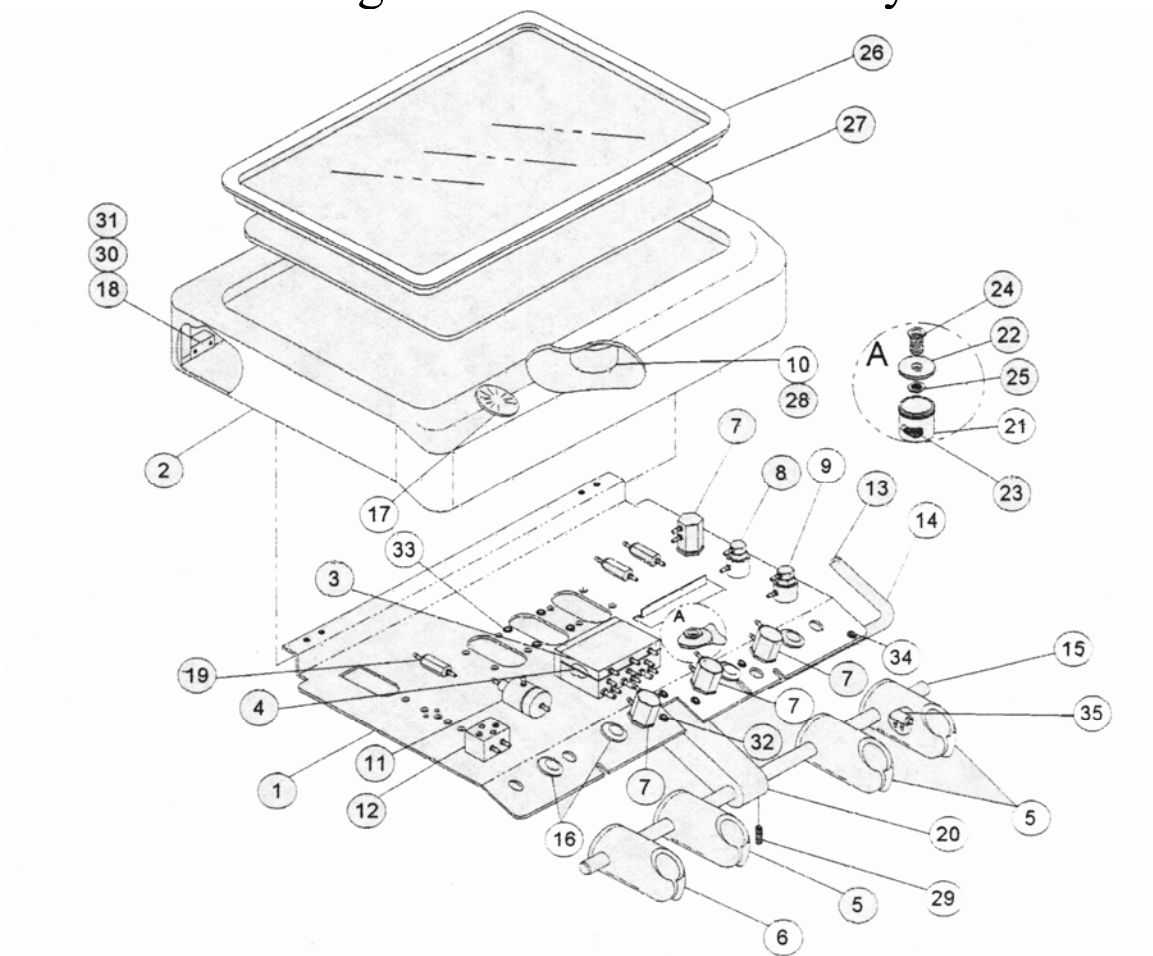
1. Yellow 6 X 4 Supply line T to unit head.
2. Black 6 X 4 from output from foot control
3. Small Yellow / Small Yellow Master Switch return
4. Small Gray / Small Gray supply line to master switch
5. Small Purple / Small purple Supply to break
6. Small Blue / Small blue water supply line
7. Small burgundy Spare line
8. Small Green / Gray (wet dry toggle from F.C)
9. Small Black Spare (to flex arm)
10. Small Red Spare (to flex arm)



Mirage Delivery System Diagrams and part numbers

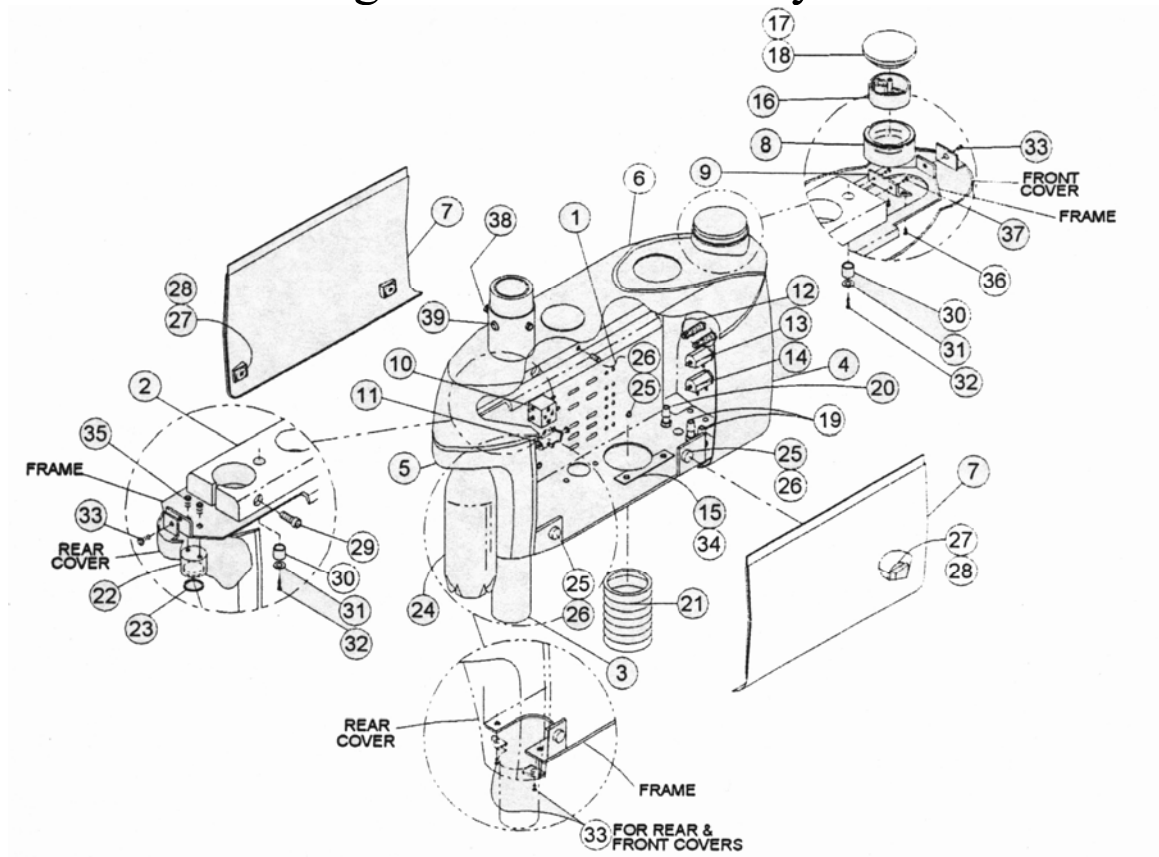


Mirage Sector Head Assembly



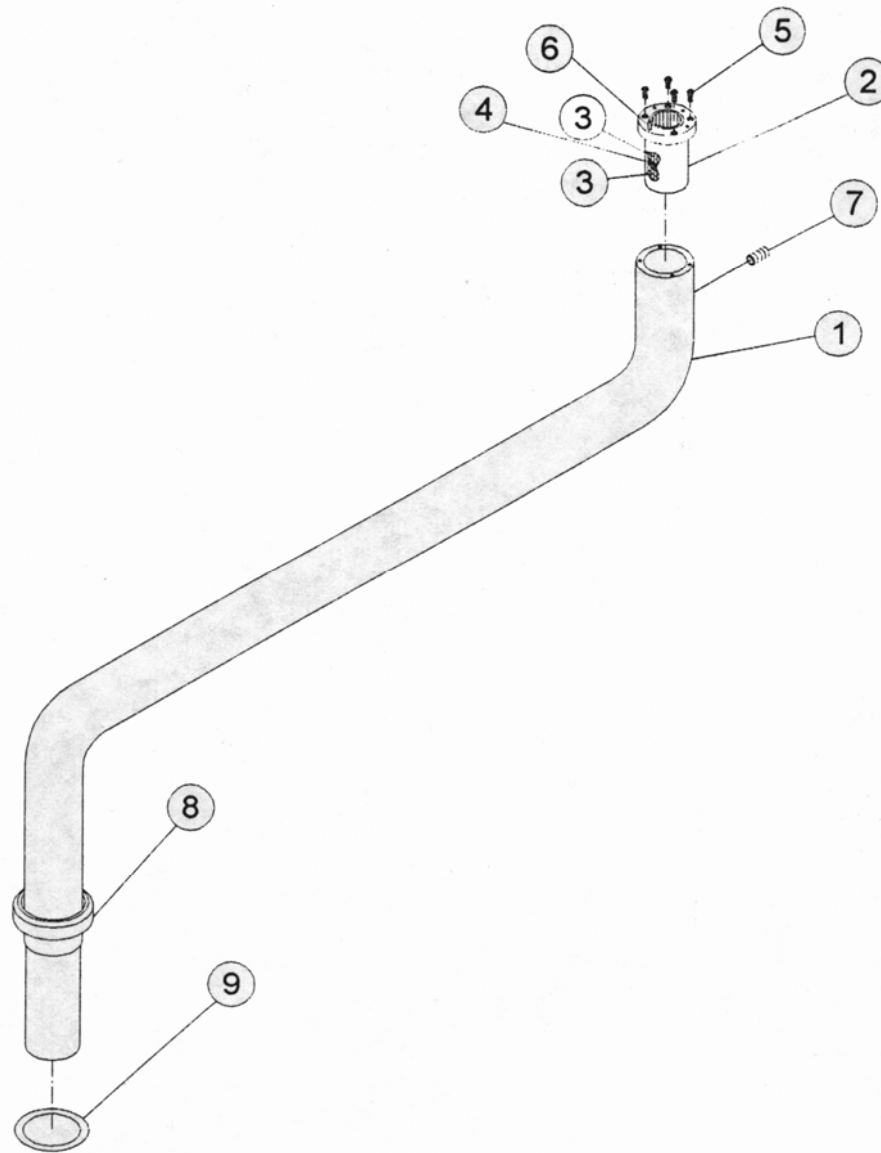
Item	Part Number	Description
1	52001	Plate Base
2	52002	Cover- Control Head
3	52003	Hand piece Control Block
4	52004	Tri-Block Diaphragm
5	52005	Holder Asepsis (Cover)
	52005-C	Asepsis Holder Complete
6	52006	Holder Syringe (Cover)
	52006-C	Syringe Holder Complete
7	52007	Valve-Flow Control Needle
8	52008	Push Button Momentary
9	52009	On/Off Toggle 3-Way
10	52010	Weight, Cover
11	52011	Water Relay
12	52012	Syringe Block Assembly
13	52013	Break Push Button
14	52014	Handle, Right
15	52015	Bar Holder
16	52016	Grommet
17	52017	Gauge-Pressure
18	52018	Hinge
19	52019	Check Valve
20	52020	Rod Holder Support
21	52021	Oil Jar
22	52022	Cap-Oil Jar
23	52023	Oil Pad
24	52024	Hex Screw-Oil Jar
25	52025	Hex Nut Oil Jar
26	52026	Stainless Steel Tray
27	52027	Non Slip Pad
28	52028	Screw, Button Head
29	52029	Screw, Set Socket
30	52030	Screw, Button Head
31	52031	Screw, Button Head
32	52032	Screw, Button Head
33	52033	Screw, Button Head
34	52034	Screw, Button Head
35	52035	N.C. Valve
36	52036	Hand Piece Tubing W/ Coupler
37	52038	Syringe Tubing

Mirage Post Mount Utility Box



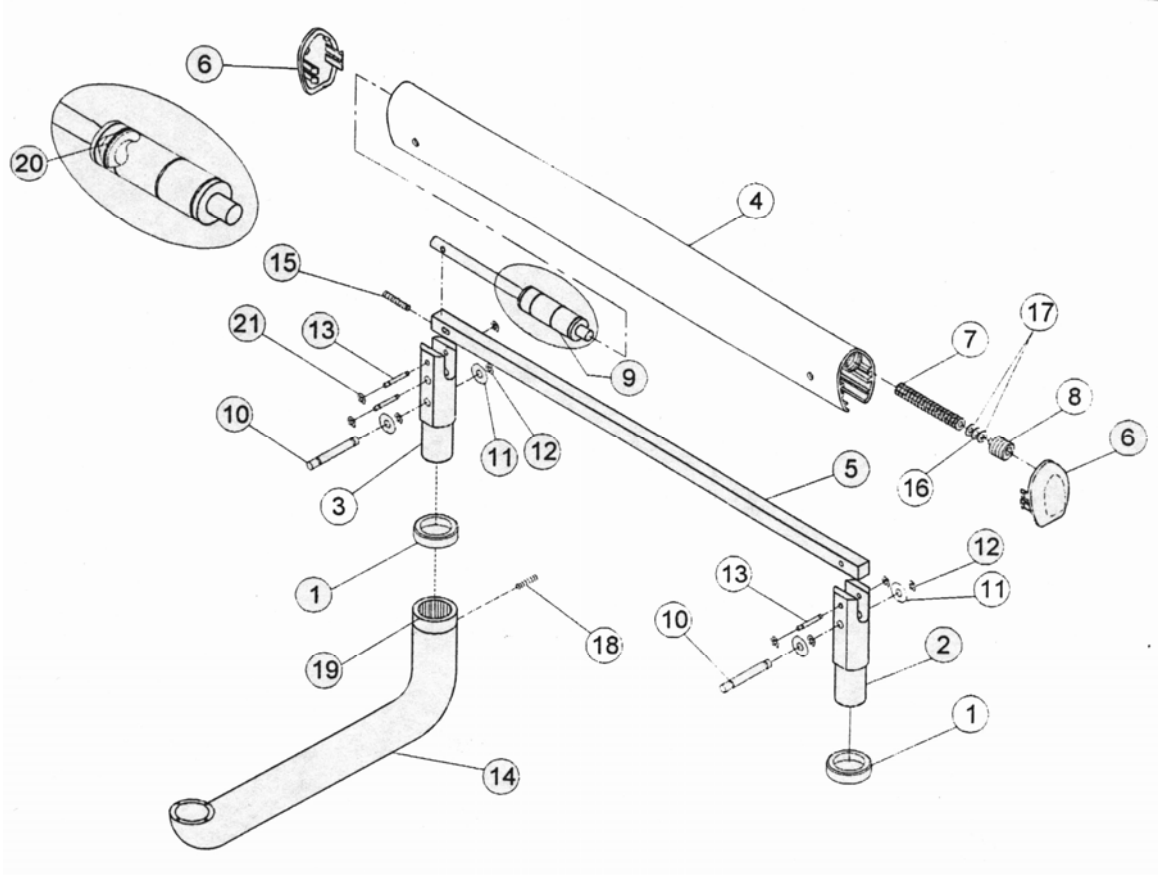
Item	Part Number	Description
1	53001	Frame, PMU
2	53002	Support Plate –Clamp
3	53003	Support Post
4	53004	Front Cover
5	53005	Rear Cover
6	53006	Top Cover
7	53007	Side Cover
8	53008	Solids Collector body
9	53009	Bracket, Solids Collector
10	53010	Syringe Block Assembly
11	53011	Water Bottle Air Regulator
12	53012	Q.D. Outlet W/Shutoff
13	52007	Flow Control Needle Valve
14	53014	Toggle, Selector Valve
15	53015	Umbilical Retainer Bracket
16	53016	Trap Solids Collector
17	53017	Cap, Solids Collector
18	53018	O-Ring Solids Collector
19	53019	HVE Connector
20	53020	SE Connector
21	53021	Umbilical (Per Foot
22	53022	Bottle Cap Assembly
23	53023	Gasket Water Bottle
24	53024	Water Bottle
25	53025	Magnet
26	53026	Screw Magnet
27	53027	Plate Magnet
28	53028	Screw Plate Magnet
29	53029	Screw, Clamp Mount Allen
30	53030	Spacer, Top Cover
31	53031	Washer, Top Cover
32	53032	Screw, Top Cover
33	53033	Screw, Rear/Front Cover
34	53034	Screw, Bracket – Umbilical
35	53035	Screw, Bottle Cap Assembly
36	53036	Screw, Solids Collector
37	53037	Screw, Bracket-Solids Collector
38	53038	Screw, Set Socket, Post
39	53039	Screw, Pan Head, Post
40	53040	Light Post Not Shown
41	53041	4 Position Suction Holder
42	53041-arm	Tele Arm Only
43	53041-C	Complete Tele Arm W/ 4 pos Holder

Mirage Ridge Arm Assembly



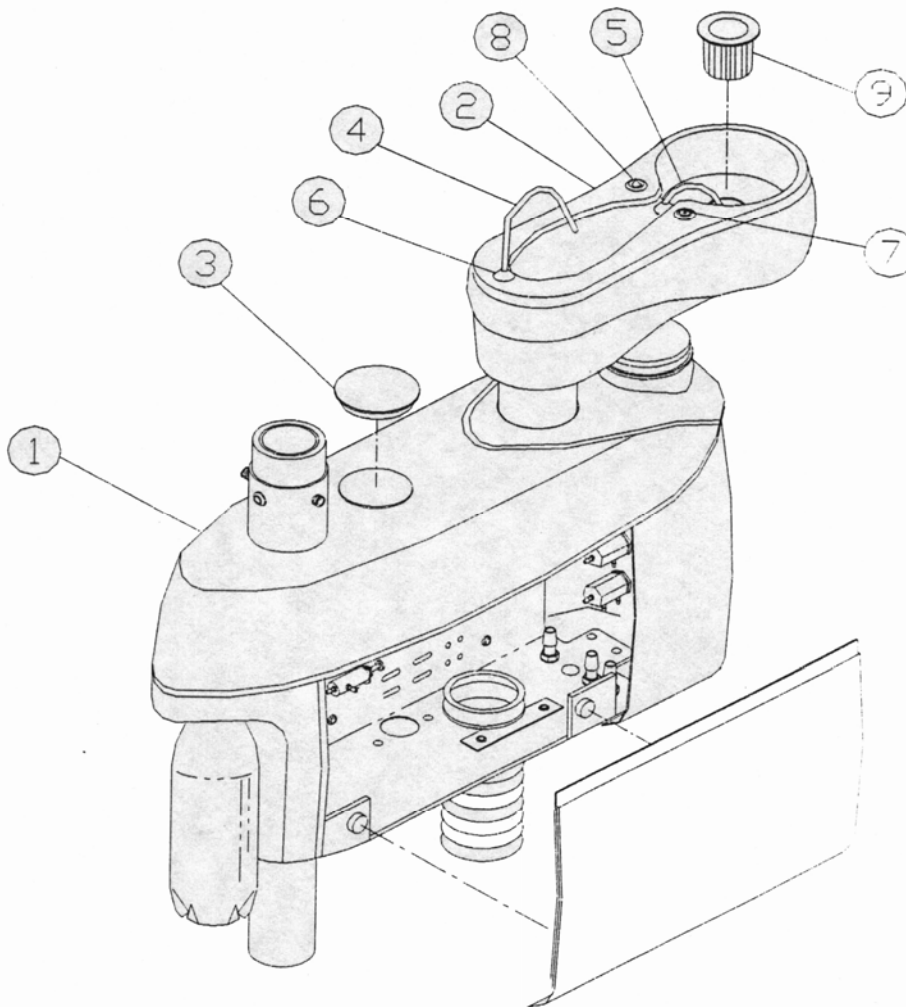
Item	Part Number	Description	Price\$
1	54051	Ridge Arm	
2	54052	Bushing	
3	54053	Bearing	
4	54054	Friction Spacer	
5	54055	Cap Head Screw	
6	54056	Pin, Rotation Stop	
7	54057	Friction Set Screw	
8	54058	Bezel	
9	54059	Washer	

Mirage Flex Arm Assembly



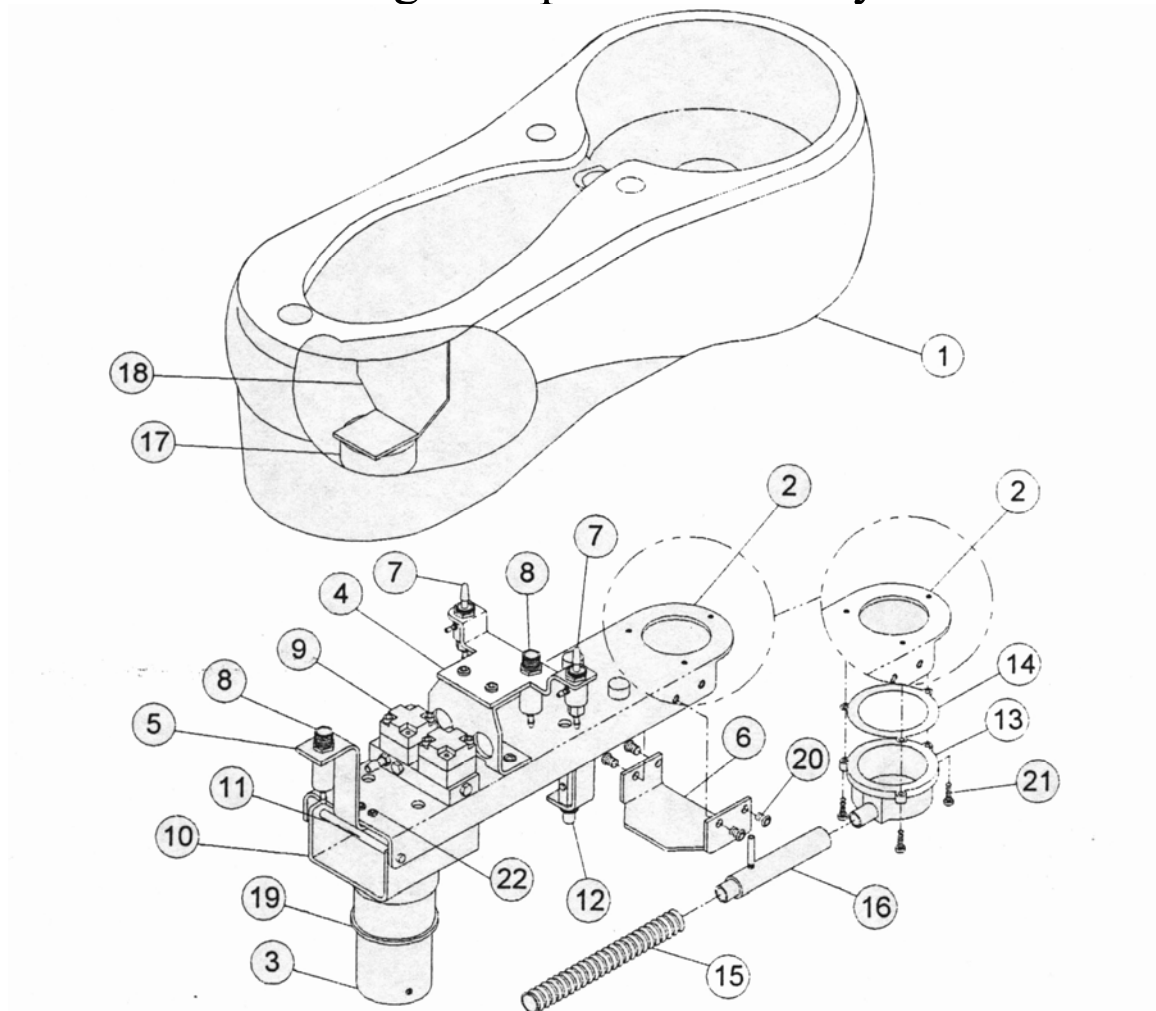
Item	Part Number	Description
1	54001	Bezel
2	54002	Elevation Knuckle
3	54003	Control Knuckle
4	54004	Cover Flex Arm
5	54005	Stabilizer Bar
6	54006	End Cap, Flex Arm
7	54007	Spring Compression
8	54008	Tensioning Screw Cap
9	54009	Air Break
10	54010	Long Pin, Stabilizer
11	54011	Washer (PKG 10)
12	54012	Retainer (PKG 10)
13	54013	Short Pin
14	54014	Control Arm
15	54015	Leveling Screw
16	54016	Washer (PKG 10)
17	54017	Washer (PGK 10)
18	54018	Set Screw
19	54019	Bearing
20	54020	O-Ring Air Break
21	54021	Retainer, Small (PKG 10)

Mirage Cuspidor – Post Assembly



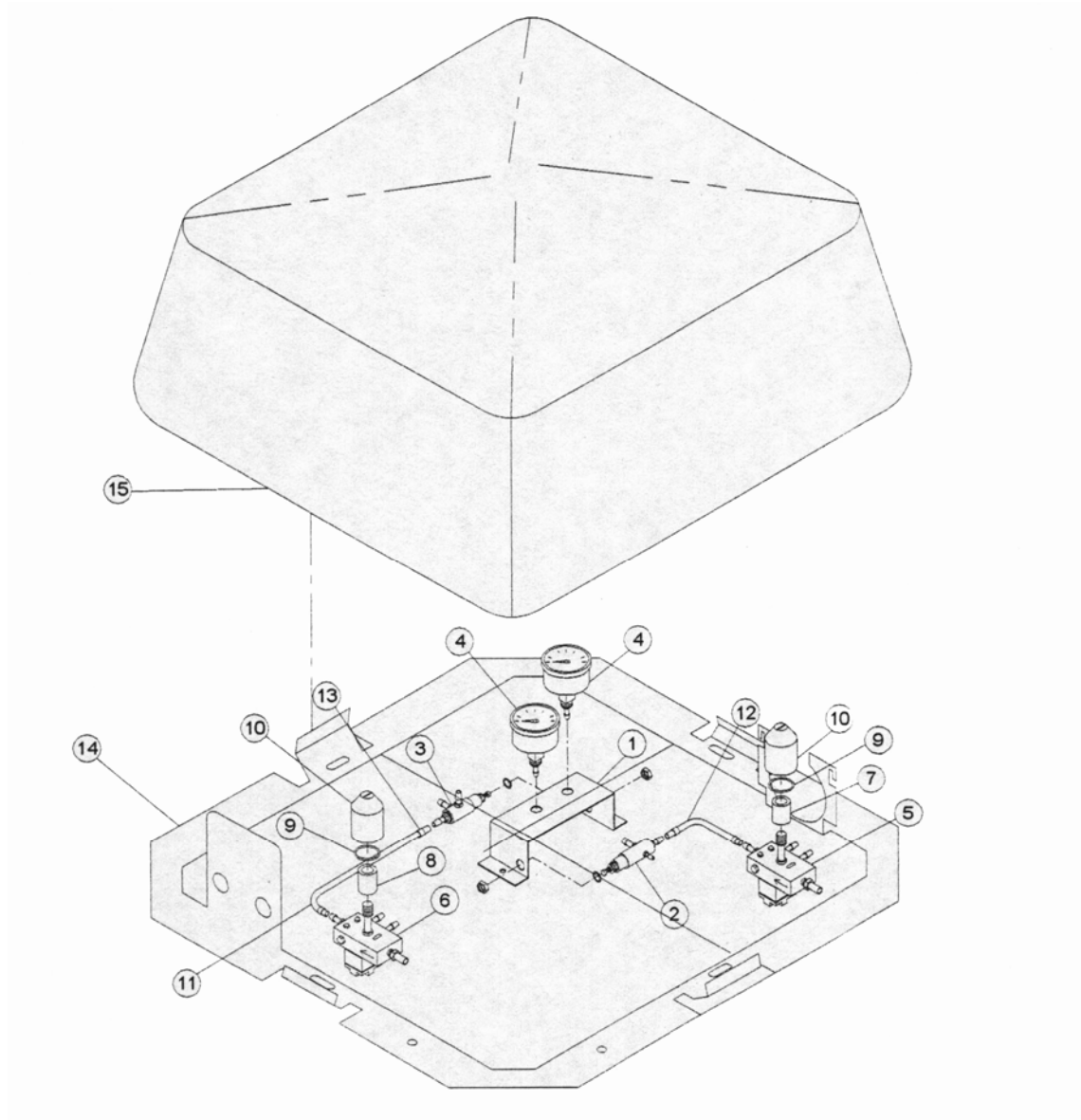
Item	Part Number	Description
1	53000	Post Mount Box Sub-Assembly
2	53050	Cuspidor Sub-Assembly
3	53051	Cap, Top Cover
4	53052	Cup Fill Spout
5	53053	Bowl Rinse Spout
6	53054	Bezel, Spout
7	53055	Cup Fill Boot
8	53056	Bowl Rinse Boot
9	53057	Bowl Strainer
10	53058	Cuspidor Cove Cap
11	53059	Cuspidor Locking Screws X2

Mirage Cuspidor Assembly



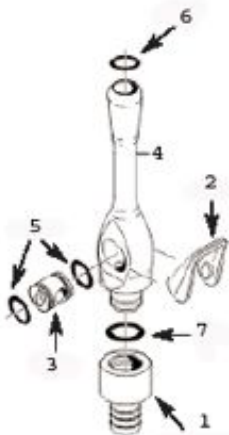
Item	Part Number	Description
1	53071	Cuspidor
2	53072	Chassis
3	53073	Pivot Tube
4	53074	Valve Bracket
5	53075	Bracket, Socket Cup Fill
6	53076	Bracket, Bowl- Socket
7	53077	Control Valve
8	53078	Socket Spout
9	53079	Block
10	53080	Bracket Pivot Mount
11	53081	Pin
12	52007	Needle Valve
13	53083	Socket Bowl
14	53084	Gasket
15	53085	Drain Line
16	53086	Vent Tube Assembly
17	53087	Magnet
18	53088	Bracket Magnet
19	53089	Washer
20	53090	Screw, Bracket Mount Allen
21	53091	Screw, Socket Mount Philips
22	53092	Screw, Bracket Cup Fill Allen

Mirage Utility Box Assembly



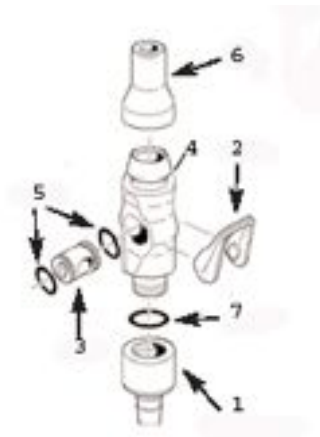
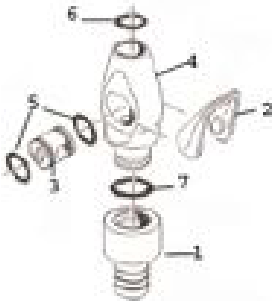
Item	Part Number	Description
1	53101	Bracket
2	53102	Air Regulator
3	53103	Water Regulator
4	53104	Pressure Gauge
5	53105	Air Pilot Valve
6	53106	Water Pilot Valve
7	53107	Air Filter
8	53108	Water Filter
9	53109	O-ring
10	53110	Dome Nut
11	53111	¼" Water Line
12	53112	¼" Air line
13	53113	Sleeve Clamp (PKG 10)
14	53114	Frame, Utility Box
15	53115	Cover, Utility Box
16	53116	Foot Control W/SW
17	53117	Foot Control W/O SW
18	53118	F.C. Wet/Dry Toggle SW
19	53119	J-Box Master Controls Complete

Suction Components

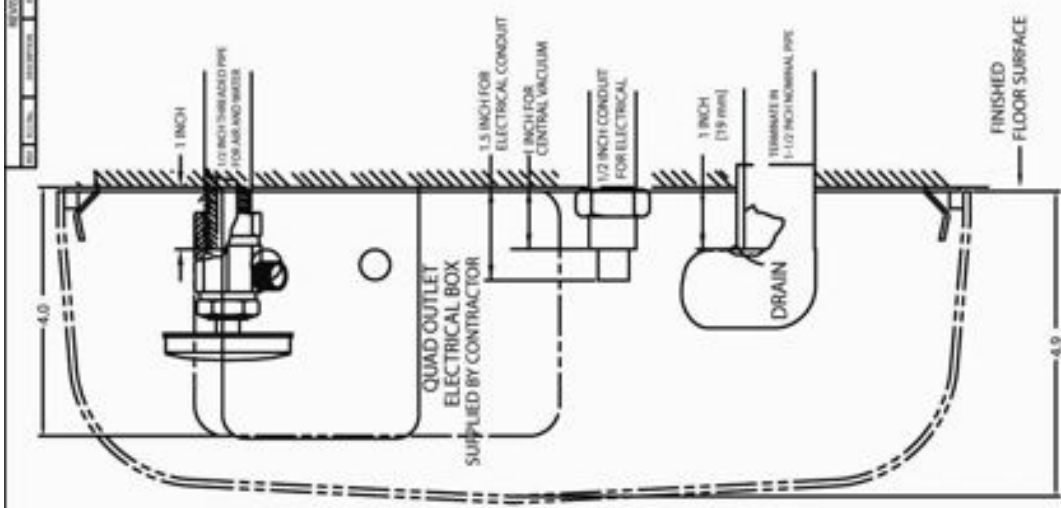


Model 2000HVE		
No.	Part Number	Description
1	HVEBC	Base Connector
2	HVELV	Lever
3	HVEVS	Valve Spool
4	2000HVE	HVE Complete
5	57392	O-ring
6	67392	O-ring
7	77392	O-ring

Model 2000HVE Short			
No.	Part Number	Description	Price
1	HVEBC	Base Connector	
2	HVELV	Lever	
3	HVEVS	Valve Spool	
4	2000HVE	HVE Complete	
5	57392	O-ring	
6	67392	O-ring	
7	77392	O-ring	



Model 2000HVE		
No.	Part Number	Description
1	SEBC	Base Connector
2	SELV	Lever
3	SEVS	Valve Spool
4	2000SE	Saliva Ejector
5	57392	O-ring
6	SE672-5	O-ring 5PK
7	77392	O-ring



- | | | | |
|--|---|------------------------|------|
| TPC
ADVANCED TECHNOLOGY
1000 PLYMOUTH, 10TH FLOOR
NEW YORK, NY 10019-1099
(212) 512-2000
FAX (212) 512-2001
WWW.TPC-USA.COM | NAME
TITLE
COMPANY
ADDRESS
CITY
STATE
ZIP | PHONE
FAX
E-MAIL | DATE |
|--|---|------------------------|------|



Operation and Maintenance Instructions

Dental Delivery System

Table of Contents

Introduction and Overview	3
Unit Controls Description	
Dental Delivery System Control Head	4
Dental Delivery System Cuspidor	5
Dental Delivery System Wet / Dry Foot Control	5
Dental Delivery System Post Mounted Utility Center	5
Dental Delivery System Vacuum Utilities	6
Dental Delivery System Clean Water System	6
General Operation Adjustments	
Handpiece Air Coolant	8
Handpiece Water Coolant	8
Drive Air Pressure	9
Syringe Air / Water Flow	9
Unit Flex Arm Tension Adjustment	9
Delivery Unit Care	
Control Head and Flex Arm	11
Handpiece Flush (Waterline Asepsis)	11
Disinfectant	12
Sterilization	13
Assistant's Package Care	
Cuspidor Assembly	14
Vacuum Utilities	14
Cleaning of Solids Collector	14
Warranty	16

Dental Delivery System Introduction

The TPC Dental Delivery System is a modern highly efficient dental delivery system designed for efficiency and convenience in the dental operator. The unit is shipped pre-assembled and tested, ready for immediate installation.

This manual contains detailed information about the operation and maintenance of your delivery system. Carefully following these instructions will assure that your system will give you years of reliable service as well as being covered under the manufacturers' warranty.

The Dental Delivery System features a three handpiece automatic control system. The system is a post mounted unit that may be installed with or without cuspidor.

The control head is mounted on a movable arm system that allows a full range of vertical and horizontal movement. The air operated brake mechanism locks the arm against vertical movement once it is set into position.



Unit Controls Description

All operating controls are located on the underside of the unit control head. This location was chosen to reduce contamination via air-borne contaminants.

Dental Delivery System Control Head

Master On/Off Toggle

This toggle turns the unit on. It activates the air and water shut-off valves which control the air and water supplies to the delivery unit. The location of the toggle is on the right underside of the unit head near the center.



Always turn the Master On/Off Toggle to the "OFF" position when the operatory is unoccupied. This will ensure protection against damage resulting from water leakage from the delivery unit.

Air Coolant Control Valve

Control of coolant air to the handpiece is adjusted by turning the valve counterclockwise to increase air flow, clockwise to decrease. The location of this valve is on the left underside of the unit head near the center.

Water Coolant Flow Control Valve

Each water control valve adjusts the amount of water supplied to its handpiece. The control valves are positioned to correspond with the handpiece layout. The location of this valve is on the front underside of the unit head next to each corresponding handpiece holder.

Handpiece Flush Control Toggle

This is a momentary toggle that flushes out the handpieces with coolant water when activated. Hold the handpieces over cuspidor or other suitable container and activate and hold the toggle for at least 20 seconds to flush out the handpieces. The location of this valve is on the right underside of the unit head near the front.

Air Brake Button

The button is located on the end of the control head handle. The momentary valve activates and releases the air brake in the control arm when adjusting the height of the control head. Once it is placed in the desired position release the button to lock the delivery system arm against vertical movement.

Handpiece Autoholders

Handpiece selection is automatic. The holders contain actuator valves that allow the operation of the specific handpiece that is lifted from its holder, without the need for a manual selector.

Dental Delivery System Cuspidor (Optional)

The Dental Delivery System cuspidors are equipped with timed bowl rinse and manually actuated cup filler. Both functions are controlled by buttons on the top of the cuspidor housing.

Bowl Rinse Toggle

This momentary push button valve activates the bowl rinse function. The bowl will rinse for 30 seconds before automatically shutting off. This membrane switch is located on the top left surface of cuspidor near the center.



Cup Filler Toggle

This momentary push button valve activates the cup filler, set to fill a 5 ounce cup full. This membrane switch is located on the top right surface of cuspidor near the center.

Wet / Dry Foot Control

Each dental unit is equipped with a variable speed, disc type foot control. Foot pressure on any part of the disc controls the flow of air to the active handpiece. A signal relay within the foot control simultaneously activates the air and water coolant.

Water Coolant On/Off Toggle

Or wet/dry toggle, interrupts the flow of water coolant to the handpieces when performing a procedure that requires dry cutting.

Dental Delivery System Post-Mounted Utility Center

Water Flow Control Valve

This control valve adjusts the flow from the water outlet. This control valve is located at the front of the utility center above the city water switch and below the air and water quick disconnects. Turn the knob counterclockwise to open (increase) and clockwise to close (decrease).



Water Outlet

The water outlet accepts a 1/4" male quick disconnect fitting. This fitting is located at the front of the utility center above the Water Flow Control Valve on the left side next to the Air Outlet.

Air Outlet:

The air outlet accepts a 3/8" male quick disconnect fitting. This fitting is located at the front of the utility center above the Water Flow Control Valve on the right side next to the Water Outlet.

City / Bottle Selector Switch

This toggle allows user to switch between city water supply and bottle water supply. The toggle switch is located below the Water Flow Control Valve on the front of the utility center.

Dental Delivery System Vacuum Utilities

The Dental Delivery System features the assistant's instrument holder on a pull-out arm mounted to the post. The instrument holder accommodates a saliva ejector valve, (2) HVE, valve and three way syringe.

Solids Collector

The solids collector screens particulates introduced to the system through the saliva ejector and high vacuum ejector. The solids collector is located at the top of the utility center in the center. The strainer screen must be cleaned and disinfected or replaced at least once a week.

Dental Delivery System Clean Water System

Each delivery unit comes equipped with a self contained bottle system. This is an excellent way to ensure a clean and safe environment for your patients. By using the water bottle you can control the quality of water that enters the lines and reduce the risk of contamination. Each system is equipped with a city / bottle selector switch allowing the user to choose the source of water to the syringe and handpiece.

The water bottle uses 40 psi pressurized air to supply water to the syringe and handpieces. The cup filler and cuspidor bowl rinse remains on a separate line and receives its water supply from the office plumbing.



To Use the Water Bottle

- Make sure the unit master switch is in the “OFF” position while the water bottle is removed.
- Fill the water bottle, then attach to the threaded pressure cap. Be careful not to overtighten the bottle.
- Turn the unit back on again and check for any leaks in the bottle connection. If any air or water leaks occur, turn the unit off and allow it to depressurize before retightening the bottle.
- When changing or refilling the bottle, remember to turn off the system and allow several seconds for the unit to depressurize.

WARNING

Do not use any bottle other than the pressurized bottle provided.

Never use standard soft drink bottles, which may fail under pressure.

Do not attempt to adjust the water pressure, which is pre-set at the factory. Pressurizing the bottle over 40 psi may cause it to rupture.

Other Uses:

The water bottle is also an effective tool in reducing the growth of biofilm and maintaining waterline asepsis. It may be filled with waterline treatment products as well as air to purge remaining water.

General Operation Adjustments

ALERT

Always be aware of the following items when making handpiece adjustments:

Never operate any handpiece without a bur in the chuck. When there is no bur in place, parts of the chuck are loose, causing the turbine to be out of balance, potentially damaging the handpiece. Also, avoid running the handpiece at full speed or for more than a few seconds at a time when not actually cutting teeth.

Handpiece Air Coolant Adjustment

The air coolant flow control will affect all of the handpiece positions in unison. Since the air coolant characteristics of most handpieces are similar, one setting is normally acceptable for all of your handpieces.

Note that some handpieces draw their air coolant from the drive air. These include any handpiece that uses a 2-hole handpiece tubing, as well as some that have a coaxial connector. These handpieces will not be affected by the air coolant adjustment.

1. On the foot control, flip the wet/ dry toggle OFF. Install a bur in the handpiece that you are going to run while making this adjustment.
2. Step on the foot control to run the handpiece at half speed. While the handpiece is running, turn the air coolant flow control to achieve the desired flow.

Handpiece Water Coolant Adjustment

The water coolant characteristics vary significantly from one handpiece to another, so individual flow controls are provided.

1. After adjusting the air coolant as described above, flip the wet/ dry toggle on the foot control to ON. Install a bur in the handpiece for which you are making this adjustment.
2. Turn the water coolant flow control knob clockwise to its stop. Step on the foot control to run the handpiece at medium speed. Gradually open the flow control (counter- clockwise) until a fine mist appears around the bur.
3. This setting achieves optimum cooling, while minimizing the creation of potentially hazardous aerosols.

Drive Air Pressure Adjustment

Maximum handpiece speed is controlled by adjusting the drive air pressure. The adjusting screws and pressure gauge are located inside the control head. There is a separate adjusting screw for each handpiece.

1. Lift the unit head cover from the front. Pull unit cover up until internal component are exposed.
2. Identify the drive air gauge and the drive air adjusting screws on the control block.
3. Install a bur in the handpiece you are going to adjust. The adjusting screws should correspond in sequence with the positions of the handpieces on the hanger bar. Use a small straight slot screwdriver to make the adjustment.
4. Run the handpiece, while turning the adjusting screw (clockwise to decrease pressure, counter-clockwise to increase) to achieve the manufacturer's recommended maximum pressure with the foot control fully depressed.

IMPORTANT

The drive air gauge in the control head reads pressure at the control block. Because of the normal restrictions in tubings and connectors, the pressure delivered to the handpiece will be approximately 15 psi less than shown on this gauge. Take this into account when using the built-in gauge.

Syringe Flow Adjustment

Adjusting screws allow you to control the flow of air and water from the syringe to prevent splashing and to achieve a desirable mist pattern.

1. Use a 3/32 inch hex key to make the syringe flow adjustment. Identify which adjusting screw is for air and which is for water by the color of the tubing connected to the block. Blue is water, yellow is air.

Flex Arm Balance Adjustment

The flex arm balance should be adjusted to accommodate the amount of weight that you normally have on the handpiece control, so that the control head does not drift up or down when the arm brake toggle is released.

1. Remove end Arm Caps from each end of the straight horizontal flex arm. Locate the spring adjusting nut.

Continued on next page...

- Insert a straight slot screw driver or automotive brake adjusting tool into the hole to engage the notches on the adjusting nut. Use a prying motion against the sides of the slot to turn the nut and adjust the spring tension.
- Turn the nut clockwise to increase the spring tension and load-carrying capacity of the arm. Counter-clockwise will decrease the spring tension.
- Release the arm brake to test the setting, and make further adjustments as needed to achieve the desired balance.
- Re-install the plastic end caps when the adjustment is complete.

Delivery Unit Care

Infection control in the dental office continues to be a high priority for our customers and end users. OSHA, the ADA and the CDC are also involved in this complex issue.

Barrier Technique

The Manufacturer strongly advocates that the barrier technique be used whenever possible to preserve the finish and appearance of the equipment. Wherever possible, disposable barriers should be used and changed between patients. The barrier technique will ensure maximum long term durability of the surfaces and finishes of the equipment.

Chemical Disinfection

Regardless of the chemical disinfectant used, it is imperative that the equipment be thoroughly washed with mild soap and warm water at least once per day. This wash down will minimize the harmful effects of chemical disinfectant residues being allowed to accumulate on the equipment.

When using chemical disinfectants, always pay strict attention to the manufacturer's disinfectant directions. When using concentrated disinfectants, measure the concentrate carefully and mix according to package directions. Disinfectants solutions that are relatively harmless to surfaces at their recommended strengths can be corrosive at higher than recommended dilution ratios.

Control Head and Flex Arm

The control head, arm and post mounted utility housing can be cleaned with a solution of mild detergent and warm water. A variety of surface disinfectants are available for use in dental treatment rooms. Some of these can cause discoloration of painted, plated or anodized surfaces with repeated use. This can be minimized by careful adherence to the disinfectant manufacturer's instructions and by frequent washing with soap and water.

Waterline Asepsis

At the end of every day, the lines should be purged with air to reduce the growth of biofilm. The Dental Delivery System control unit is equipped with a handpiece flush system that allows you to periodically flush fresh water through the handpiece tubings. The need for this is that the low flow of water through the tubings during normal use can lead to stagnation and the potential growth of biofilm contamination.

Continued on next page...

The weekly cleaning procedure should be performed at least once a week, preferably at the start of the week before treating patients. If the unit is to be stored for any length of time, perform the weekly maintenance routine immediately before and after storage.

1. Purge the unit with air.
2. Flush the system with disinfectant solution
3. Allow the disinfectant to remain in the unit for 10 to 20 minutes, then flush the system again until all the solution is used up.
4. Purge the unit with air.
5. Fill the unit with clean water.

Disinfecting and Sterilization

The use of chemical disinfecting agents is not necessary if the instrument is going to be sterilized. While their use may be easy and quick, it is important to know the effectiveness of any chemical disinfectant against the various agents of infection that may be encountered.

Table 1

Unacceptable Disinfectants

These disinfectants **will harm** the surface finishes of dental equipment and are not recommended. **Use of these products will void your warranty.**

<u>Chemical Composition</u>	<u>Trade Names</u>
Strong Phenols/ Phenol-Alcohol combinations	Lysol, Lysol 2, Lysol Professional, Coe Foam, Coe Spray Pump, Vitaphene, Omni II
Sodium Hypochlorite/ Household Bleach	Clorox, Ajax, Purex
Alcohol	
Household Cleaners	

Conditionally Acceptable Disinfectants

These disinfectants have been found to be the **least harmful** to the equipment surfaces by our test methods.

<u>Chemical Composition</u>	<u>Trade Names</u>
Iodophors**	Biocide, Aseptic-IDC, Wescodyne, SD5, Promedyn, Iodo-Five
Mild Phenols	Procide ES, Asepti-Steryl Aerosol
Glutaraldehyde/ Phenol Sprays	Sterall Spray, Coldspor
Synergized Super Quat	Dis-cide, Cavicide, Kleenaseptic
Phenol/Water Sprays	Top-Cide, Sporidicin Pump Spray Birex se

**The Manufacturer makes no representation as to the disinfectant efficacy of these products. We make no warranty expressed or implied that these disinfectants will not damage the surface finishes. Damage and discoloration of the surface finishes are not covered under the warranty.*

***Iodophor-based disinfectants will cause yellow staining on many surfaces. Regular washing with soap and water will minimize this staining. Iodophor neutralizers such as Promedyn are also available.*

While none of the products listed in Table 1 will adversely affect the performance of your instruments, most chemical disinfectants can be expected to cause some degree of discoloration. This can be minimized by frequent cleaning with soap and water, and in the case of Iodophors, regular use of Iodophor Neutralizers.

Sterilization

Any of the following sterilization methods may be safely used on your vacuum instruments:

- Steam Autoclave
- Ethylene Oxide Gas
- Chemical Vapor Process

Do not allow the instruments to come into contact with the walls of the sterilizer. Avoid placing the instruments in close proximity to the sterilizer heating element.

Dry heating sterilization is not recommended because of the difficulty in maintaining the precise temperature control necessary to prevent damage to the instruments.

Do not microwave vacuum instruments or syringes as this may cause internal damage to your microwave oven.

Assistant's Package Care

Cuspidor

Daily care of the cuspidor bowl and components should be a regular part of the equipment cleaning schedule.

After Each Patient

Rinse the cuspidor bowl thoroughly by pouring a few cups of water down the drain. This will flush out the drain lines and prevent material from accumulating.

Vacuum Utilities

Daily care of the vacuum utilities and components should be a regular part of the equipment cleaning schedule.

After Each Patient

Draw clear water through each valve while opening and closing it several times. Leave the valve open for several seconds to allow all of the water to clear the hoses. The HVE and SE tips should always be replaced with sterile ones before each patient.

At the End of Each Day

It is recommended that a vacuum system sanitizing solution be drawn through each valve while opening and closing it.

Cleaning the Solids Collector

At least once a day, the solids collector screen should be removed for cleaning. Turn off the vacuum pump. Remove the solids collector cap and lift out the screen. If there is an excessive amount of material in the screen, more frequent cleaning is necessary.

Cleaning

Clean the external surfaces of the vacuum instruments using a solution of mild detergent and warm water. Thoroughly rinse the syringe with clear water, then dry with a soft, lint-free cloth.

Ultrasonic cleaning is not recommended, as the chemicals used may damage the surface finishes of the instrument.

Sterilization

Remove each valve from its tubing for sterilization. A vacuum plug may be inserted into the quick disconnect while there is no valve in place. In any situation involving high risk patients, it is recommended that the instruments be removed for sterilization after every patient.

As Needed

Disassemble the valve and lubricate the internal parts when operation becomes stiff or sticky. Clean the inner surfaces and apply a small amount of O-ring lubricant to the moving parts and O-rings.

Warranty

TPC Advanced Technology equipment is warranted by the manufacturer to be free from defective material and workmanship under normal use and service, for a period of one (1) year* from date of shipment to the Buyer, except that any part or parts that are replaced under this Warranty within ninety (90) days of the completion of the two year period shall be warranted to be free from defective material and workmanship for a period of ninety (90) days from date of shipment of said parts to Buyer. TPC Advanced Technology will repair or replace any defective part under this Warranty, provided the part is returned to our factory with prepaid postage, delivery or freight charges. In the event Warranty service must be performed to correct any defect, only TPC Advanced Technology and / or one of its authorized dealers shall provide same upon mutually agreeable arrangements made in advance.

Except as otherwise provided herein, there is NO WARRANTY, representation or condition of ANY KIND, express or implied (including NO WARRANTY OF MERCHANTABILITY OR FITNESS) and none shall be implied by law. THE EXPRESS WARRANTY AND THE REMEDIES CONTAINED HEREIN (1) ARE MADE SOLELY TO THE FIRST PURCHASER FOR BENEFICIAL USE (THE BUYER), (2) ARE THE SOLE WARRANTIES AND REMEDIES, (3) ARE IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, AGREEMENTS OR OTHER LIABILITIES, WHETHER EXPRESS OR IMPLIED, AND ALL OTHER REMEDIES FOR BREACH OF WARRANTY OR ANY OTHER LIABILITY OF TPC ADVANCED TECHNOLOGY. IN NO EVENT SHALL TPC ADVANCED TECHNOLOGY BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES.

No person, agent, distributor or dealer is authorized to change, modify or extend the terms of the Warranty in any manner, whatsoever.

This Warranty is void when failure or defect is caused by conditions beyond the manufacturer's control, such as damage resulting from mishandling, neglect, misuse, improper maintenance, accident or alteration or repair by anyone other than TPC Advanced Technology or an authorized TPC Advanced Technology dealer.

Labor is required to repair, replace or retrofit is not included during the warranty period by the manufacturer.

TPC Advanced Technology Dental Units have a 1 year warranty from the date of shipment to the Buyer.

TPC Advanced Technology

(626) 810-4337 • (800) 560-8222 • Fax (626) 810-4245

www.tpcdental.com

Service@tpcdental.com