



### **Barrier Technique**

The first choice in the protection of dental equipment should be the use of disposable barrier products. The repeated use of disinfectants on equipment surfaces without the constant removal of the solution residue will eventually cause some damage to equipment surfaces.

### **Chemical Disinfection**

The manufacturer of the disinfectant to be used should be contacted for them to state that the disinfectant will not damage equipment surfaces including upholstery.

### **Unacceptable Disinfectants**

The following chemicals may damage equipment and upholstery:

- \* Alcohol based solutions
- \* Bleach
- \* Phenol/Alcohol combinations
- \* Foam spray products

### **Use with Caution**

- \* Water based phenolic disinfectants following exactly the instructions for use.

**The Belmont Warranty does not cover damage to equipment and upholstery caused by disinfectant solutions.**

## **WARRANTY**

Belmont Equipment is warranted by the manufacturer to be free from defective material and workmanship under normal use and service, for a period of two (2) years' 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. Belmont 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 Belmont 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 BELMONT. IN NO EVENT SHALL BELMONT 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 Belmont or an authorized Belmont dealer.

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

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Automatic Control, Belmont BDS-2561	
Belmont Left/Right Duo Unit, Arm System	
Single Water Bottle System	

# PRODUCT DESCRIPTION

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The Belmont Model BDS-2561 Left/Right cabinet mounted Duo Delivery System features an automatic panel mount control for three handpieces, expandable to four with doctor's 3-way air/water syringe, master on/off with indicator, individual handpiece adjustment, non-retraction water coolant with on/off, individual water coolant adjustment, 4-hole Midwest oblate handpiece tubing, and a wet/dry type foot control.

Assistants instrumentation features a control vacuum package including HVE, SE Valves and 3-way air/water syringe.

## **PRE-INSTALLATION CHECK**

Unpack the shipping carton and check to see that all parts are included and undamaged.

## **CONTENTS**

Panel Mount Handpiece Control  
Doctors & Assistants Left/Right Delivery System  
Utility Center  
Installation/Operation Manual  
Panel Cut-out Template

## **TOOLS NEEDED**

Set of Hex Wrenches  
Phillips Head Screwdriver  
Electric Drill  
Jig Saw

# INSTALLATION AND ASSEMBLY

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## PRE-INSTALLATION

Location for all the incoming utilities should be in accordance with the cabinet installation instructions.

## UTILITY CENTER

### INSTALL UTILITY CENTER

1. Mount the utility center to the floor as shown by the Cabinet Installation Guide and Template.
2. Connect the master valves and tubings to their appropriate connections.

### IMPORTANT

Before you connect the air and water lines to the unit, blow out these lines to insure that all debris is removed. This will prevent the valves and instruments from becoming clogged.

## PANEL TEMPLATE

### CUT OUT FOR UNIT

1. Fold the template in half. Cut out the shaded section and discard.
2. Place the template on the cabinet surface and level with a small 6" hand level.
3. While still holding the template in place, trace the outline of the cabinet area to be removed, then drill two pilot holes for the faceplate screws using the screw locations marked on the template. Remove the template.
4. Drill two starter holes within the outlined area and, following your lines, cut out an opening for the unit using a jig saw.

## DOCTOR'S & ASSISTANT'S DELIVERY SYSTEM

### INSTALL ARM AND HOLDER SYSTEM

1. Locate mounting plate hole pattern under the sliding countertop and fasten the arm assembly to the underside using the 10-32 screws provided. Position the 90° handpiece tubing manifold towards back of the cabinet. *See Figure 1.*
2. Connect the delivery system umbilical tubing to the appropriate barbs on the panel mount unit.
3. Connect the panel mount umbilical tubings to the appropriate barbs on the floor utility.
4. Connect the foot control tubing to the appropriate barbs in the utility center.
5. Slide the panel mount unit into the opening in the cabinet. The tubing will act as a weight giving you time to check for any air or water leak.
6. Align the screw holes on the faceplate with the two pilot holes on the cabinet surface and secure the unit with two of the four #6 white head phillips wood screws provided.
7. Drill pilot holes for the other two screws. Insert them into the cabinet surface and tighten.

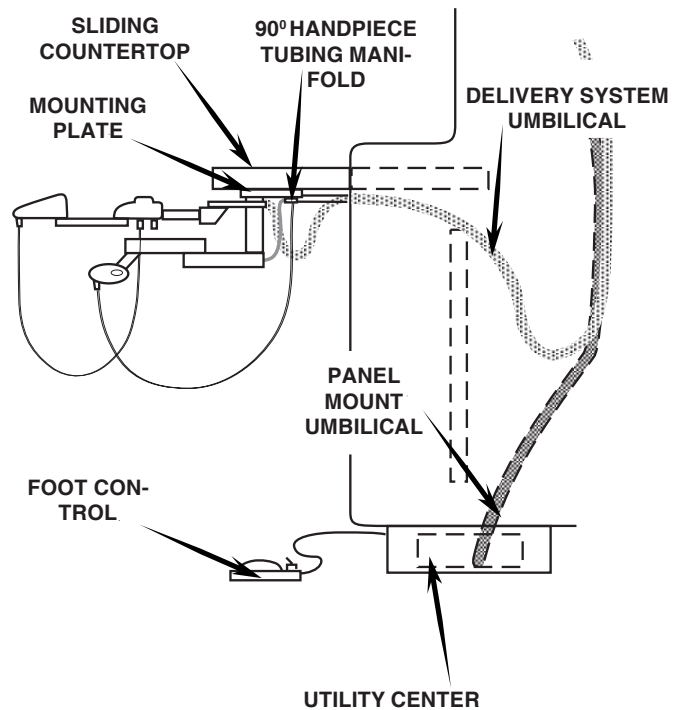


Figure 1. Doctors & Assistants delivery system.

# CONTROL FUNCTIONS

## BDS-2561 AUTOMATIC CONTROL

All controls for the Automatic Handpiece Control are located on the front panel. Figure 2 shows the location and identifies the function of these controls.

### MASTER ON/OFF

Turns on air and water for the complete system. *Flip the toggle forward to activate the system. Always turn the toggle OFF when ever unit is not in use.*

### MASTER ON/OFF INDICATOR

Provides visual proof that the system is pressurized the MASTER ON/OFF is in the ON position.

### DRIVE AIR PRESSURE CONTROL

Allows handpiece to be adjusted to its manufacturer's recommended operating pressure. *Turn the adjusting screw counter clockwise to increase the pressure, clockwise to decrease the pressure.*

### DRIVE AIR PRESSURE GAUGE

Indicates drive air pressure to the handpiece.

### HANDPIECE FLUSH CONTROL

Activates handpiece high volume water flow through handpiece water coolant lines. *Flip the toggle up to activate the system.*

### WATER COOLANT FLOW CONTROL

Allows adjustment to be made to the handpieces. *Turn the knob counter clockwise to increase the flow, clockwise to decrease the flow.*

Figure 2 shows the automatic handpiece holder and syringe holder assembly.

### AUTOMATIC HANDPIECE HOLDER

Signals the automatic control system to supply drive air and air/water coolants to handpiece as it is lifted from its holder. When the handpiece is placed back into its holder, a signal to the automatic control system stops the drive air and air/water coolant supply.

### FOOT CONTROL

Is used to regulate the drive air to the active handpiece. *To operate, apply pressure to the foot control cover.*

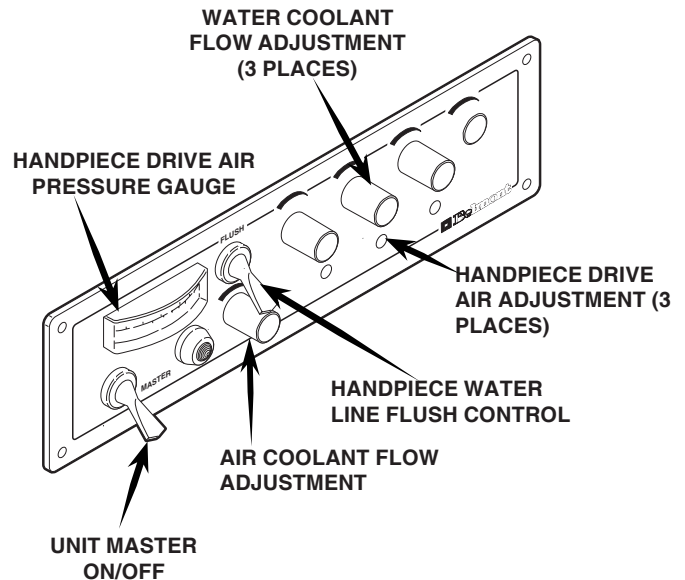


Figure 2. Handpiece control functions.

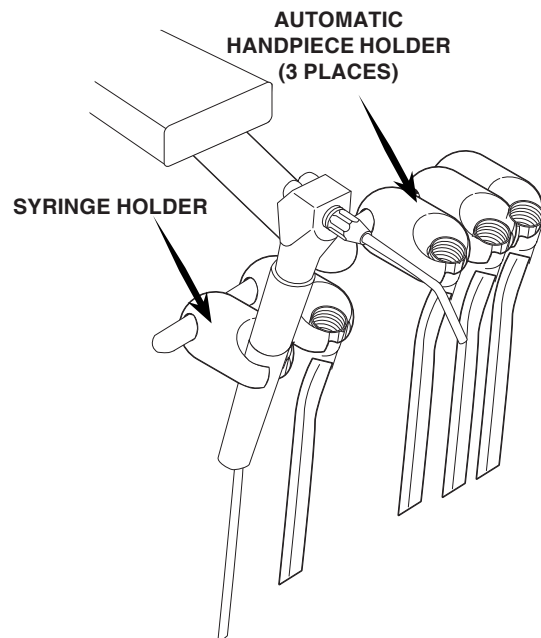


Figure 3. Automatic handpiece holder assembly.

## FINAL ADJUSTMENTS

Adjust the air and water regulated pressure.

Adjust the handpiece pressure.

Check for any leaks.

# SERVICE AND MAINTENANCE

## SYRINGE

### TIP STERILIZATION

1. To remove Syringe Tip, firmly grasp tip and pull away from Syringe head.
2. Replace the tip by inserting a new one into the tip socket, and firmly pushing into place until you feel it softly "pop" into place. To ensure it has been fully inserted, the uppermost small groove on the tip shank must be just visible over the end of the socket. See Figure 4.

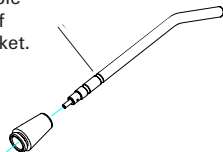
### NOTE

Be sure to rinse all cleaning agents from the tip prior to sterilization. You may sterilize Syringe Tips by any of the following methods; Chemical Vapor, Ethylene Oxide or Steam Autoclave. Temperatures should never exceed 280 degrees Fahrenheit, ( 138 degrees Celsius ).

### INSTALLATION

1. Turn off Air and Water supplies.
2. Unscrew Syringe handle and determine which fitting leads to the air button.
3. Slide the Syringe handle down over the syringe tubing. Select the air side of the syringe tubing and connect to the air fitting on the syringe.
4. Repeat with the water tubing to the water fitting. Ensure that the unit end of the Syringe tubing is properly connected to the air and water supply fittings on the dental unit. Recommended operating pressures : Air 80 psi, Water 40 psi.

This groove must be just visible above tip of conical socket.



### TROUBLE SHOOTING

**Problem:** Water leakage around buttons.

**Solution:** Replace the button assembly # C-1701 (See figure 4). Turn water and air supply off. Depress air and water buttons on Syringe to relieve residual pressure. Hold both buttons down and use a paperclip to push cross pin out of syringe head. Gently remove button from head, being careful not to lose conical spring beneath. To install new button, ensure that conical spring is seated with the small end pointing up. Gently push into place and hold both buttons down firmly while re-inserting cross-pin.

**Problem:** Water spray when air button is pressed.

**Solution:** Ensure tip is properly and fully inserted. If so, replace O-ring #R-C16004 (See Figure 4). Twist conical tip socket assembly (R-C21600-3) off of syringe head to access this O-ring. When re-installing tip socket assembly, hand tighten only. If tip cannot be fully inserted, then socket is too tight.

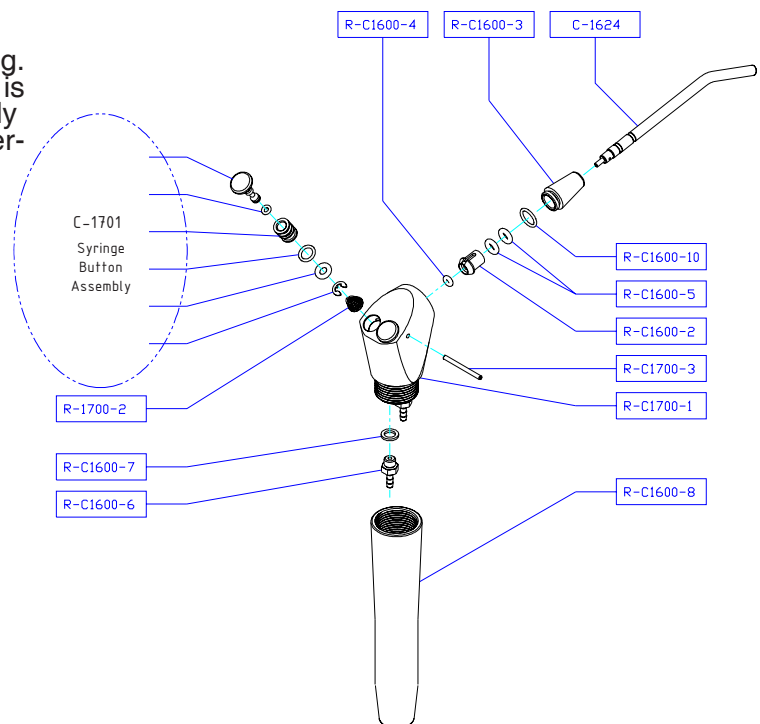


Figure 4. Syringe.

## VACUUM VALVE

### PRIOR TO STERILIZATION

Minimize the potential accumulation of debris that could interfere with the operation of the instrument by flushing clean water through it while working the valve lever open and closed several times.

1. Using mild cleaner and water, wipe all surfaces of the valve and dry with a clean, soft cloth.
2. Use a stiff HVE or SE cleaning brush of an appropriate size to dislodge internal buildup.

### NOTE

Do not Ultrasonically clean, as instrument surface finishes may be damaged.

### PERIODIC MAINTENANCE

If the operation of the valve becomes sticky or stiff, it may be necessary to remove the valve spool for a thorough cleaning and lubrication. Refer to the appropriate exploded view shown in Figure 5.

1. Gently lift one end of the plastic on/off lever (V-1103/V-1203) out from the indentation on the end of the spool.
2. Push the spool out of the valve toward that side and completely disengage the lever from the other end.
3. Clean the spool and inspect O-rings and replace those that have nicks, cuts, flat spots or show signs of wear. Lubricate O-rings with O-ring lube then reassemble the valve.

### SURFACE DISINFECTION

Bleach or Sodium Hypochlorite solutions may permanently damage the valve. Some surface disinfectants that will not harm the valve are Birex SE, Sporidicin, Coldspor, Procide Spray, Sterall Spray, Asepti-IDC, Biocide, Promedyne, Iodo-Five, Wescodyne, and Cavicide.

### METHODS OF STERILIZATION

You may sterilize Belmont Autoclavable Valves by any of the following methods: Chemical Vapor Method, Ethylene Oxide, Steam Autoclave or Dry Heat.

### NOTE

Temperature should never exceed 280 degrees Fahrenheit, or 138 degrees Celsius. Do not place the instrument in close proximity to the sterilizer heating element. Avoid contact with the sterilizer walls.

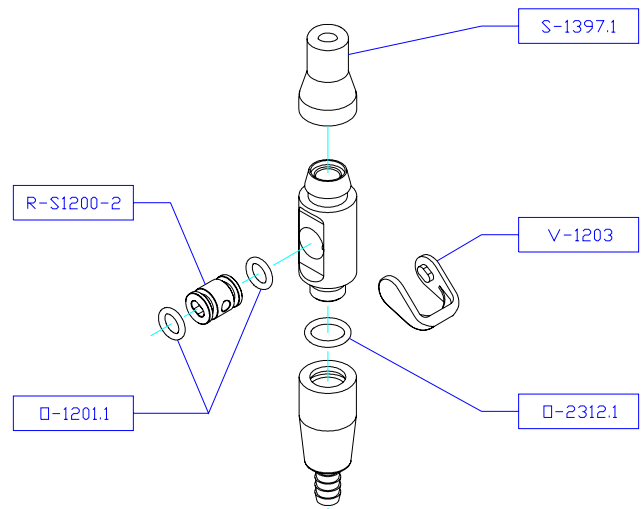
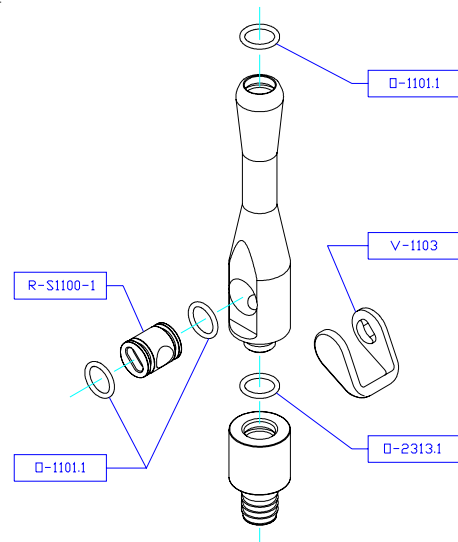
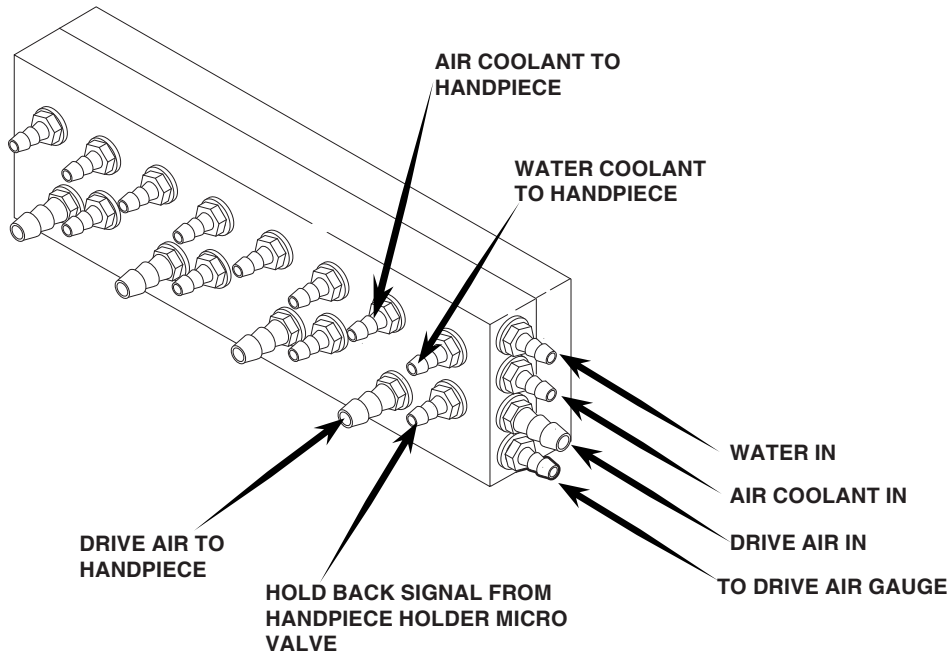


Figure 5. Vacuum Valves.

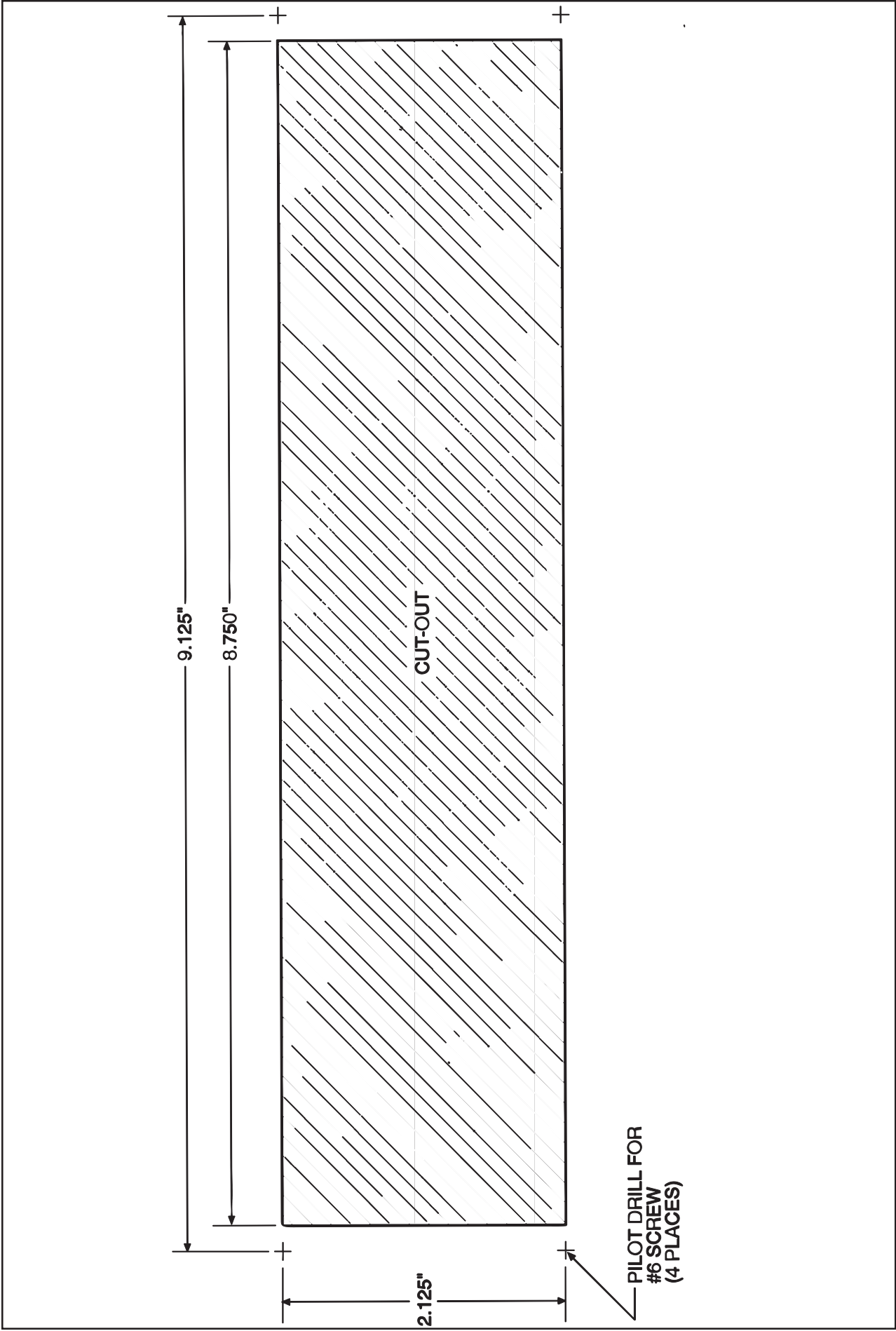
# TUBING CONNECTIONS

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## BDS-2561 AUTOMATIC CONTROL



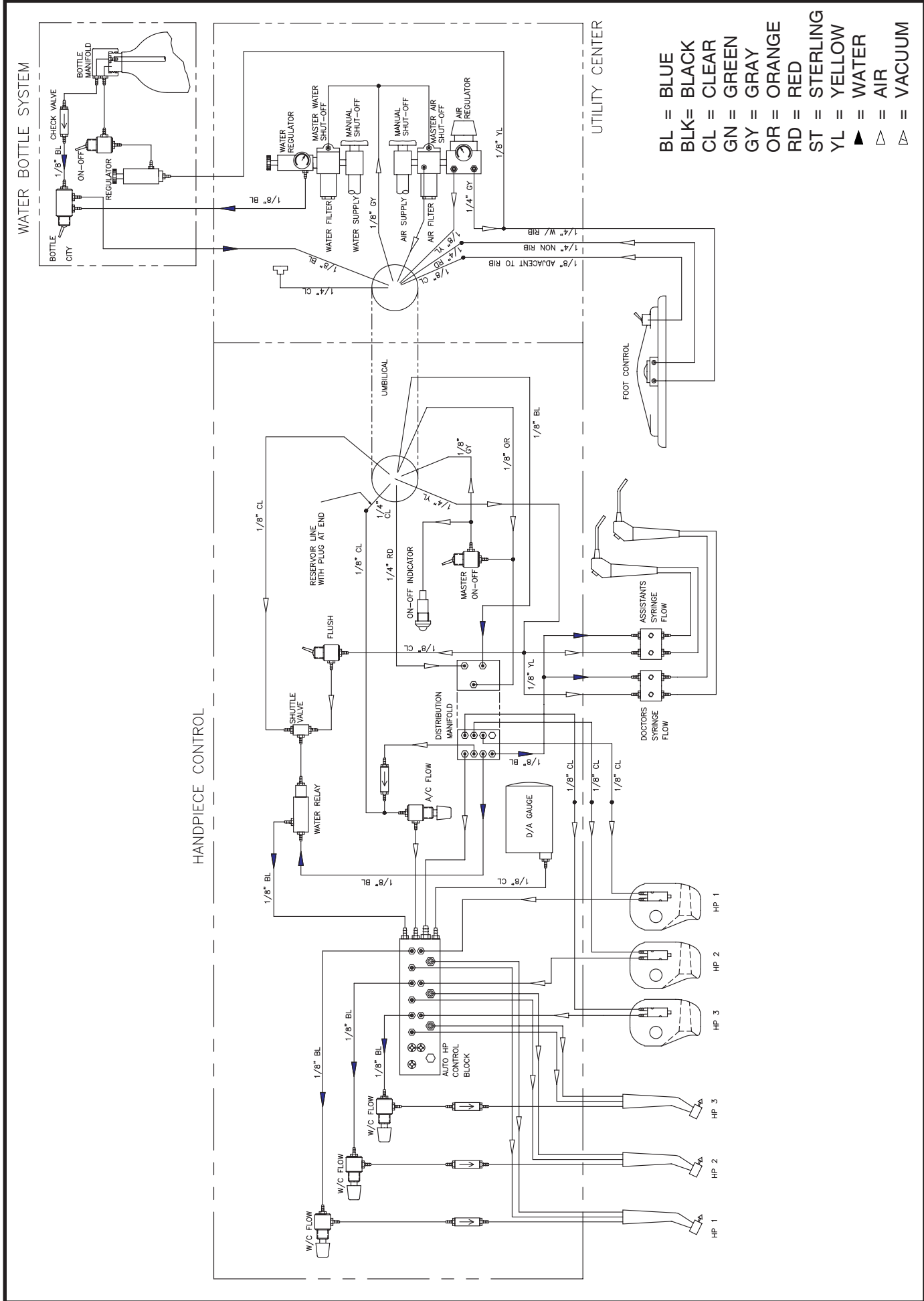




**3-4 HP AUTOMATIC PANEL MOUNT CUTOUT TEMPLATE**

MODEL BDS-2561

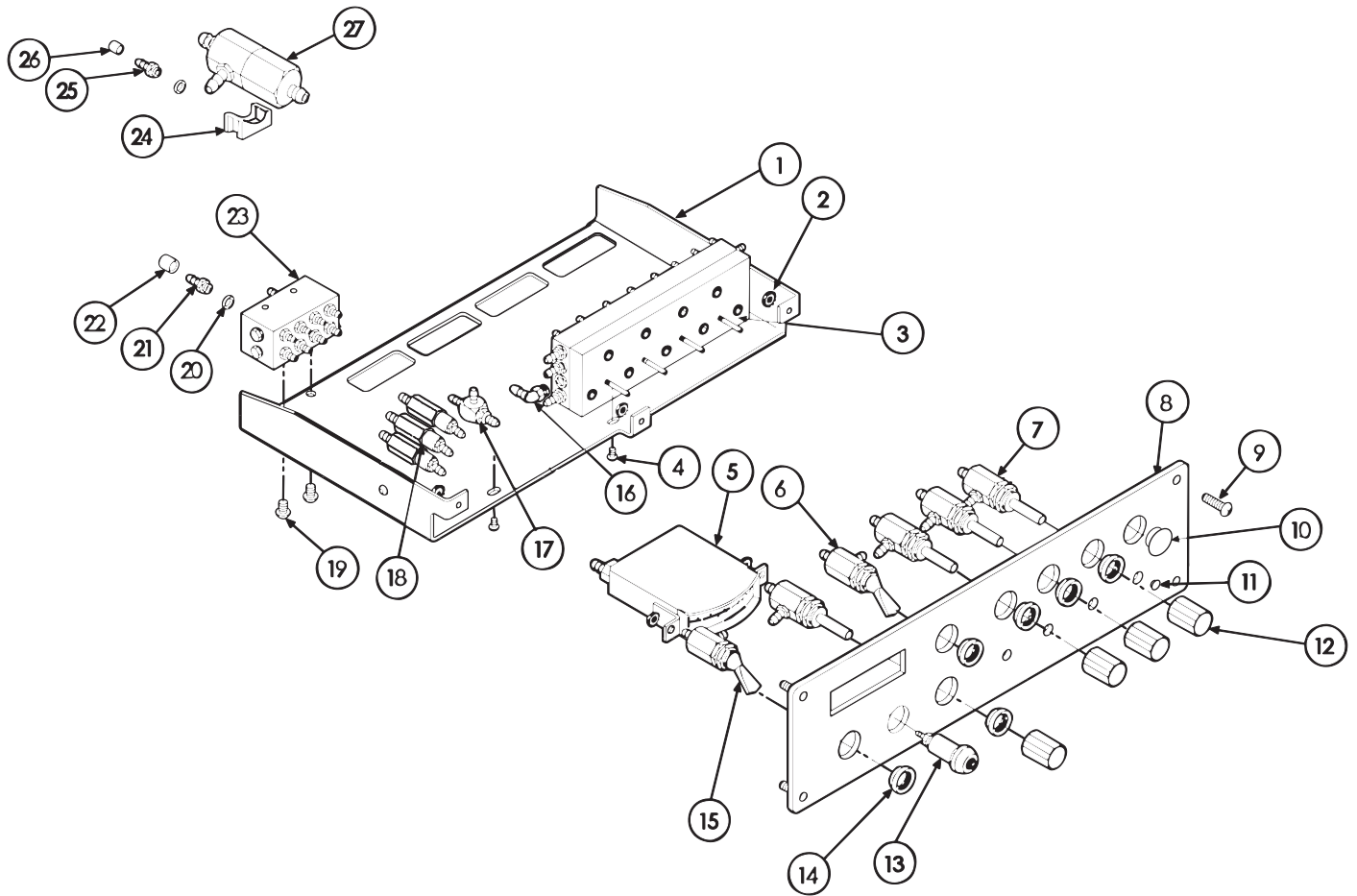




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**AUTOMATIC CONTROL SYSTEM SCHEMATIC  
MODEL BDS-2561 3-4 HANDPIECE**

Rev. A



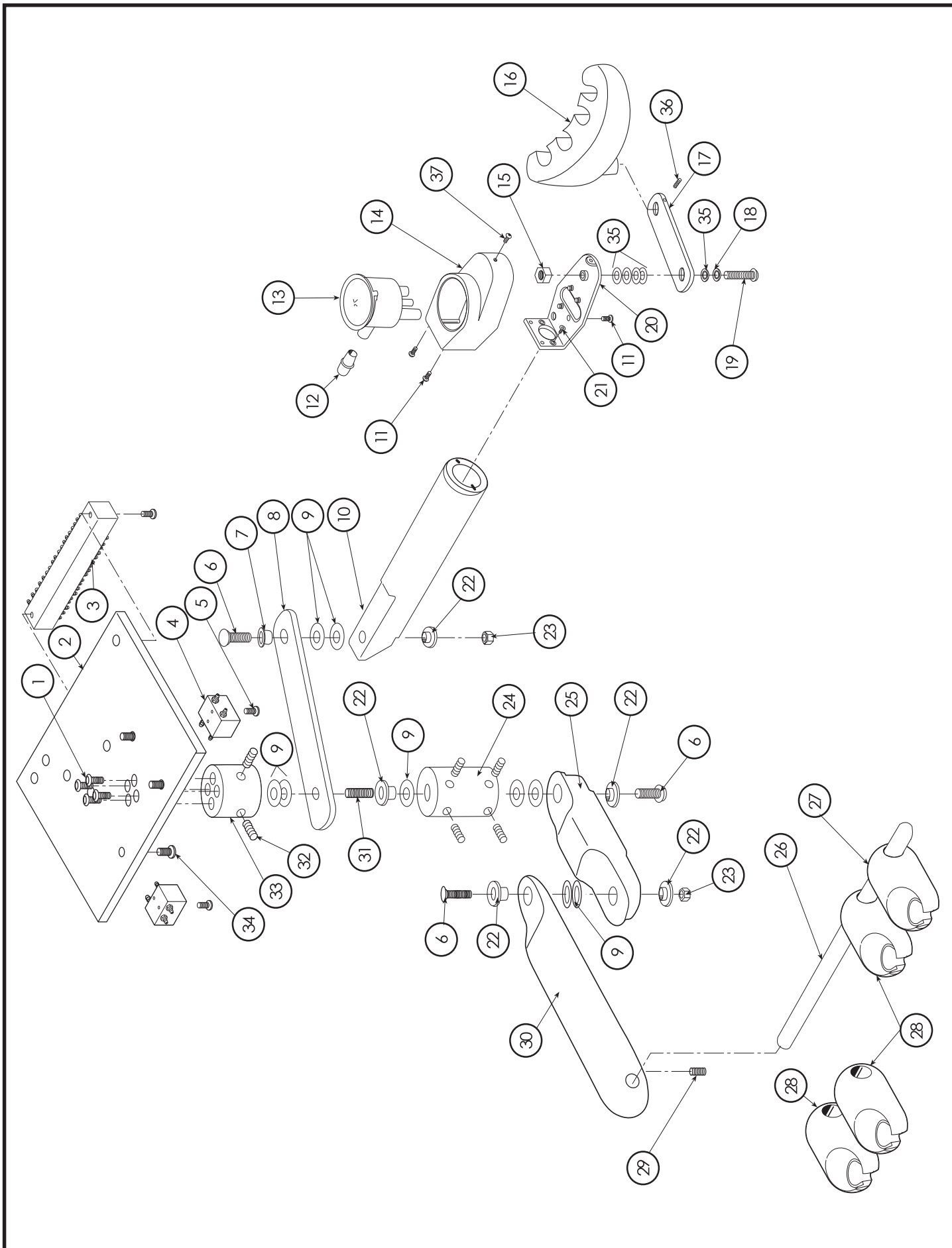
REF. NO.	DESCRIPTION	PART NO.	QTY.
1	CHASSIS .....	2001-134	1
2	LOCKNUT .....	0013-007	5
3	QUAD BLOCK .....	1100-270	1
4	SCREW, 4-40 x 1/4 .....	0012-410	2
5	GAUGE .....	0020-023	1
6	TOGGLE VALVE .....	1100-464-X	1
7	NEEDLE VALVE .....	1100-100-X	4
8	FACEPLATE .....	2001-135	1
9	SCREW, 6 x 3/4 .....	0012-633	4
10	HOLE PLUG, 1/2" .....	0010-159	1
11	HOLE PLUG, .187 .....	0010-188	1
12	KNOB .....	0010-202	4
13	PNEUMATIC INDICATOR .....	0020-079	1
14	TRIM NUT .....	0013-016	6

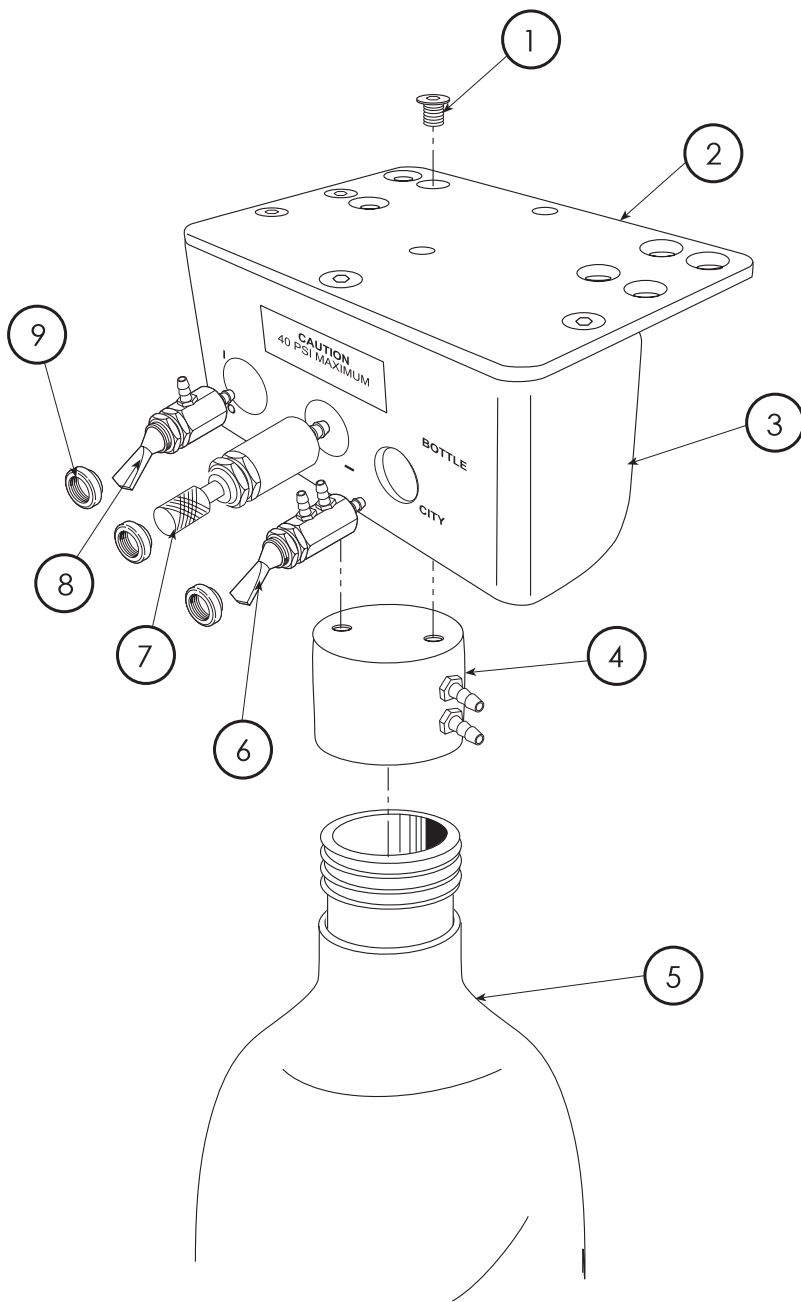
REF. NO.	DESCRIPTION	PART NO.	QTY.
15	TOGGLE VALVE .....	1100-400-X	1
16	PLASTIC ELBOW, 1/8 .....	0016-052	1
17	SHUTTLE VALVE .....	1100-140	1
18	CHECK VALVE .....	1100-105	3
19	SCREW, 6-32 x 1/4 .....	0012-012	3
20	PLASTIC WASHER .....	0016-066	
21	BARB FITTING, 1/8 .....	0016-001	
22	BARB FERRULE, LARGE .....	0016-004	
23	DISTRIBUTION MANIFOLD .....	0016-220	1
24	TIE MOUNT .....	0019-041	1
25	BARB FITTING, 1/16 .....	0016-002	
26	BARB FERRULE, SMALL .....	0016-003	
27	WATER RELAY VALVE .....	1100-145	1

**AUTOMATIC CONTROL  
BELMONT BDS-2561**

REF. NO.	DESCRIPTION	PART NO.	QTY.
1	SCREW, 10-32 x 3/4 .....	6012-112	4
2	SWING PLATE .....	0023-607	1
3	MANIFOLD, 4-HDPC, 1-SYRINGE .....	0016-450	1
4	FLOW ADJUSTMENT BLOCK .....	0016-092	2
5	SCREW, 6-32 x 3/4 .....	0012-612	4
6	SCREW, 3/8-16 x 1.5 BTTN HD .....	0012-357	3
7	PIVOT BUSHING .....	0006-037	1
8	LINK PIVOT .....	0023-606	1
9	PLASTIC WASHER .....	0011-013	8
10	VACUUM ARM PIVOT .....	0023-666	1
11	SCREW, 6-32 x 3/8 .....	0012-615	4
12	CONNECTOR .....	0016-253	1
13	LOCKING CV CANISTER .....	1400-133	1
14	VACUUM ARM COVER .....	0023-255	1
15	NYLOCK NUT .....	6013-010	1
16	ASSISTANCE HOLDER, BELMONT .....	FASA85A0	1
17	ARM .....	1110-793	1
18	PLASTIC WASHER .....	0011-027	1
19	SCREW, 1/4-20 x 1-1/2 .....	0012-263	1
20	VACUUM PLATE .....	0023-256	1
21	SCREW, 6-32 x 3/8 .....	0012-013	2
22	PIVOT BUSHING .....	0006-020	5
23	NYLON NUT, 3/8-16 .....	6013-012	2
24	HUB .....	0023-604	1
25	PIVOT ARM, DOCTORS .....	0023-667	1
26	HOLDER BAR .....	0024-098	1

REF. NO.	DESCRIPTION	PART NO.	QTY.
27	SYRINGE HOLDER .....	0010-786	1
28	AUTO HOLDER .....	0010-736	3
29	SCREW, 1/4-20 x 3/4 .....	0012-273	1
30	EXTENSION, PIVOT HOLDEER BAR .....	0023-668	1
31	SET SCREW, 3/8-16 x 1 1/4 .....	0012-383	1
32	SET SCREW, 10-32 x 1/2 .....	0012-151	6
33	HUB .....	0023-669	1
34	SCREW, 10-32 x 3/4 .....	0012-101	4
35	WASHER, PLASTIC 1" DIA. ....	0011-016	5
36	SET SCREW, 6-32 x 1/4 .....	0012-605	1
37	SCREW, 6-32 x 3/8 .....	0012-615	1





REF. NO.	DESCRIPTION	PART NO.	QTY.
1	SCREW, 10-32 x 3/8 FLAT HEAD .....	0012-137	5
2	BRACKET .....	0023-244	1
3	ADAPTER PLATE .....	0023-247	1
4	PRESSURE HEAD ASSEMBLY .....	1100-281	1
5	BOTTLE, 1 LITER .....	0010-364	1
6	ROUTING VALVE .....	1100-404-F	1
7	REGULATOR. ....	0020-029	1
8	ON/OFF TOGGLE SWITCH .....	1100-403-F	1
9	TRIM NUT .....	0013-016	3

**SINGLE WATER BOTTLE SYSTEM**  
1700-116