

# *Belmont Dental Delivery Systems*

*Installation Instructions:  
Swing Mounted Units*

## ***BDS2575***

X-Calibur Units

*Installation Instructions  
for BDS2575  
X-Calibur Dental Units*

**BDS Swing Mounted Units**

Installation Time: Approximately 2 hours

Shipping Packages:

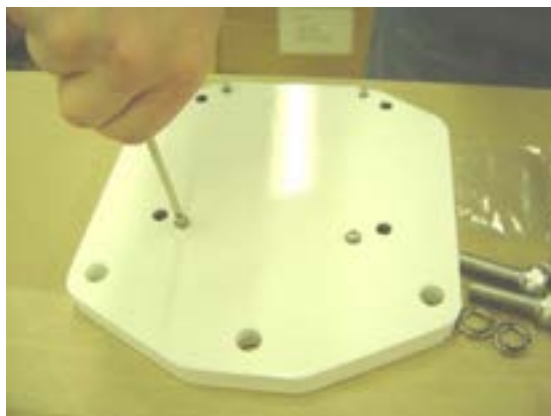
3 Boxes:

- 1- Doctor Table/Arm Assembly
- 1- Swing Arm Assembly/Chair Mount
- 1- Umbilical & J-Box Components

Tools Needed:

- Hex key wrench set or socket drive set
- Adjustable wrench
- Flat screwdriver
- Phillips head screwdriver
- Bubble Level
- Wire cutter
- Masking Tape
- (Silicone Spray Lube)

- 1.) Open large shipping package that contains the Swing Arm Assembly. This package contains a smaller Accessory carton where the Chair Mounting Plate and hardware are located. Remove Chair Mounting Plate and bag of hardware.
- 2.) Locate and install (4) 4mm x10 mm screws into the bottom side of the Chair Mounting Plate using a Phillips screwdriver, as shown below.



X-Calibur Series Chair Mounting Plate  
(8-Sided Plate)

3.) Attach the Chair Mounting Plate to X-Calibur Series chair using hardware provided.

Chair Mounting Plate is attached on the top of the gray chair casting extension as shown below (left photo).

Attach Plate to chair using a 10 mm hex key wrench to tighten the (3) 12mm x 55 mm socket bolts with 12mm spring washers.



Chair Mounting Plate is attached on top of the gray extension casting on X-Calibur Series chairs



Attached mounting plate, shown from below.  
Note (4) 4mm x 10mm Phillips screw heads face down. (These are used for mounting sensor/switch box, if light swing arm is added at a later date)

4) Attaching the Swing Arm Assembly

**IMPORTANT! :**

**Reset lower chair limit position after attaching the Swing Arm Assembly to the chair.**

**Damage to J-Box, chair base & lift arm covers and swing arm can result from improperly set lower limit position.**

**Please refer to chair manufacturer's instructions for setting lower limit of travel.**

Remove Swing Arm Assembly from shipping package and place Rotation Plate on the top side of the Chair Mounting Plate.

Use an 8 mm hex key wrench to partially tighten Swing Arm Assembly to Swing Mounting Plate as follows:

Add (2) 10mm x 40mm socket bolts with spring washers to front recessed holes on Swing Arm Rotation Plate and partially tighten to support Swing Arm Assembly.

Place the Bracket for umbilical hose on top of the Swing Arm Rotation Plate and align the back/inside hole with threaded hole of Chair Mounting Plate underneath the slotted end of the Rotation Plate. Add 10mm x 40mm socket bolt with 10mm spring washer and 10 mm flat washer. Add remaining bolt/split ring washer/ flat washer to secure other slotted end of rotation plate. Use an 8 mm wrench to partially tighten assembly.



Bracket for Umbilical Hose is secured using socket bolt with spring washer and flat washer. Note: M10 x 20 leveling set screws & M10 x 35 leveling set screw with nut shown.



Insert long (35mm) leveling set screw with locking nut through hole in Umbilical Mounting Bracket, as shown above. Nut should be tightened after final leveling of swing arms & unit.

#### 5.) Swing Arm Leveling

- a) Using an 8mm hex key wrench, add (1) M10 x 35 through hole in Umbilical Mounting Bracket (as shown above, at right) and (3) M10 x 20 Leveling Set Screws to the top of Rotation Plate.
- b) Place a bubble level on top of the flat surface of the Rotation Plate and check Swing Arm Assembly leveling. Adjust the Leveling Set Screws for rough leveling, as indicated by bubble level.
- c) Gradually tighten (4) M10 x 40 Socket Bolts to secure Rotation Adapter to Swing Mounting Plate, making adjustments to Leveling Set Screws, as necessary.

#### **NOTE:**

**Final leveling of Swing Arm Assembly should be repeated and adjusted after Doctor Table/ Balance Arm Assembly has been attached to the Swing Arm Assembly in step 7.**



Adjusting (4) set screws for leveling of Swing Arm Assembly

6). Attaching the Swing Arm Bottled Water System Assembly

- a) Using a Phillips screwdriver, remove M6 x 20 mounting screw for water bottle bracket from unit Swing Arm.



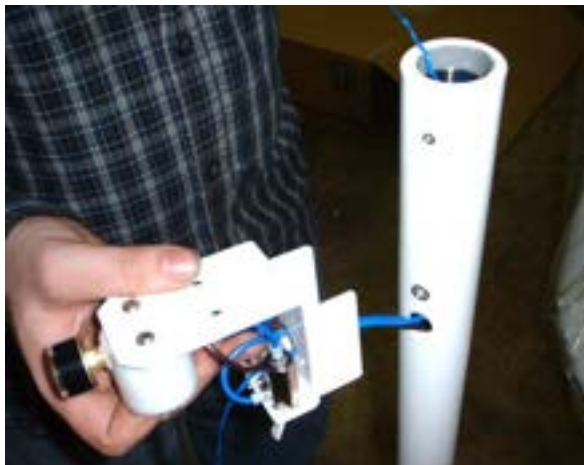
Use Phillips screw driver to remove 6mm x 20mm water bracket mounting screw

- b) Remove Bottled Water System assembly and Cover from box containing J-Box Accessories. Insert 1/8" blue and 1/8" brown tubing (with gray outer sleeve) from water system into hole on the side of the swing arm and route downward through swing arm.



Insert 1/8" blue & brown tubing into the hole on the side of the swing arm and feed tubing down through bottom end of the Swing Arm

- c) Feed lower end of the blue flexible ribbon wire through center hole in the Water Bottle Mounting Bracket.



- d) Use a slotted screwdriver to remove one 10-32 x 1/2" screw from top of the Water Bottle Mounting Bracket and loosen the second screw. Rotate Water Bottle Manifold to get better access for tightening the Water Bottle Mounting Bracket to the Swing Arm.



- e) Replace 6mm x 20 mm Phillips mounting screw and tighten Water Bottle Mounting Bracket to Swing Arm.



#### 7.) Installing Doctor Table/Balance Arm Assembly onto Swing Arm

- Open Doctor Table/ Balance Arm Assembly shipping carton.
- Remove plastic fitting bag tied to the end of the unit umbilical.
- Attach flexible ribbon wire from Balance Arm Assembly umbilical to blue flexible ribbon at top of Swing Arm. Pull flexible ribbon through Water Bottle Mounting Bracket.



Pull flexible ribbon wire with blue & brown tubing from unit umbilical down & out through the routing hole of the Water Bottle Mounting Bracket.

- d) Insert end of Touchpad Wire Harness (gray insulation) into the top of the Swing Arm and feed downward.



Feed Touch Pad Wire Harness down through Swing Arm.

(Note: A light application of Silicone Spray to the outside of main umbilical tubing and wire harnesses will ease passage through the Swing Arm)

- e) Lift Doctor Table/ Balance Arm Assembly out of the shipping carton and support on shoulder. Feed main umbilical down into Swing Arm.



Mount Doctor Table/ Balance Arm Assembly to Swing Arm.

Feed umbilical and touchpad wire harness downward and gradually pull green flexible ribbon attached to ends of 1/8" brown & 1/8" blue tubing through hole in Water Bottle Mounting Bracket.



Mount Balance Arm onto Swing Arm.

Note: plated Balance Arm joint must be fully seated onto Swing Arm.

Push Umbilical and Touch Pad wire Harness downward, while gradually pulling ribbon wire attached to 1/8" brown and 1/8" blue tubing through Water Bottle Mounting Bracket.

- f) Remove M6 x 5 set screw and 4mm hex key wrench from the small bag attached to water bottle (shipped inside J-Box carton).  
Insert the set screw into the threaded hole at the top of the Swing arm.  
Tighten set screw to minimize drift of Doctor Table/Balance arm Assembly.  
(Units shipped prior to spring of Y2009 require installation of a brass friction disc prior to addition of setscrew. Failure to add brass disc to these units will result in permanent damage to unit balance arm pivot).

**IMPORTANT !:**  
**Do Not Over Tighten Set Screw.**  
**Over tightening will strip the thread inside the Swing Arm.**



Set Screw and Hex Key Wrench are shipped in a bag attached to the water bottle inside of the J-Box. Insert the 6mm x 5mm set screw into threaded hole on the Swing Arm and tighten to minimize drifting of Balance Arm



**DO NOT OVERTIGHTEN SET SCREW**

## 8. Connecting Bottled Water System to Doctor Table Section

- a) Trim 1/8" brown tubing from Dr. Table/ Balance Arm Assembly to desired length for connection to the open barb on the Tee fitting on the Water Bottle System Bracket.  
Note: Allow enough tubing length to prevent kinking.  
Slip 1/8" tubing collar onto tubing and connect and secure tubing to Tee Fitting.



Slip tubing collar over trimmed end of 1/8" brown tubing and insert tubing onto Tee. Secure tubing collar down over barbed tubing connection.

- b) Trim 1/8" blue tubing from Dr. Table/ Balance Arm Assembly to desired length for connection to the open barbed fitting on the Water Selector Valve attached to the Water Bottle System Bracket. Allow a little extra length of tubing to prevent kinking. Slip 1/8" tubing collar onto tubing and connect and secure tubing to barbed fitting on the Water Selector Valve.



Slip tubing collar over trimmed end of 1/8" blue tubing and insert tubing onto Water Selector Valve. Secure tubing collar down over barbed tubing connection.

- c) Replace 10-32 slotted screw from step 6, d) and re-tighten both screws.

- d) Attach Water Bottle System Assembly Housing Cover to Bracket using (2) 4mm x 16mm self-tapping Philips screws, as shown below.



- e) Secure Unit umbilical to Swing Arm Pivot using Nylon C-clamp and M4 x 10 Philips screw provided.



## 9. Umbilical

**Note: Consult Floor Template supplied with each delivery system. Plumbing for the delivery system must be in accordance with all state and local codes.**

Separate the touchpad wire harness from main umbilical bundle.

- a) Apply a light coating of silicone spray to the outside of umbilical tubing. Feed umbilical through the grey corrugated duct hose, then snap Umbilical Duct Hose Connector into the Umbilical Bracket up on the unit Rotation Plate.



Apply a light coating of silicone spray to outside of the tubing.



Umbilical from Delivery System is shown installed into Umbilical Duct Hose and routed to J-box.  
Note: Vac Pac umbilical is also shown routed into Duct Hose in photograph at left.

- b) Secure J-Box frame to the floor using mounting holes provided, at desired location.
- c) Connect lower end of Umbilical Duct Hose to J-Box Frame.
- d) Attach the manual shut-off valves to the J-Box air and water supply pipes. Purge lines prior to attaching air/ water assemblies and umbilical tubing to shut-off valves.  
Attach Air & Water regulator assemblies to umbilical tubing.
- e) Test the Delivery System to verify that there is no air or water leakage and that the unit is fully functional.  
Place J-Box Cover over Frame and secure with **(4)** 10-32 x 1/2" slotted screws provided.

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