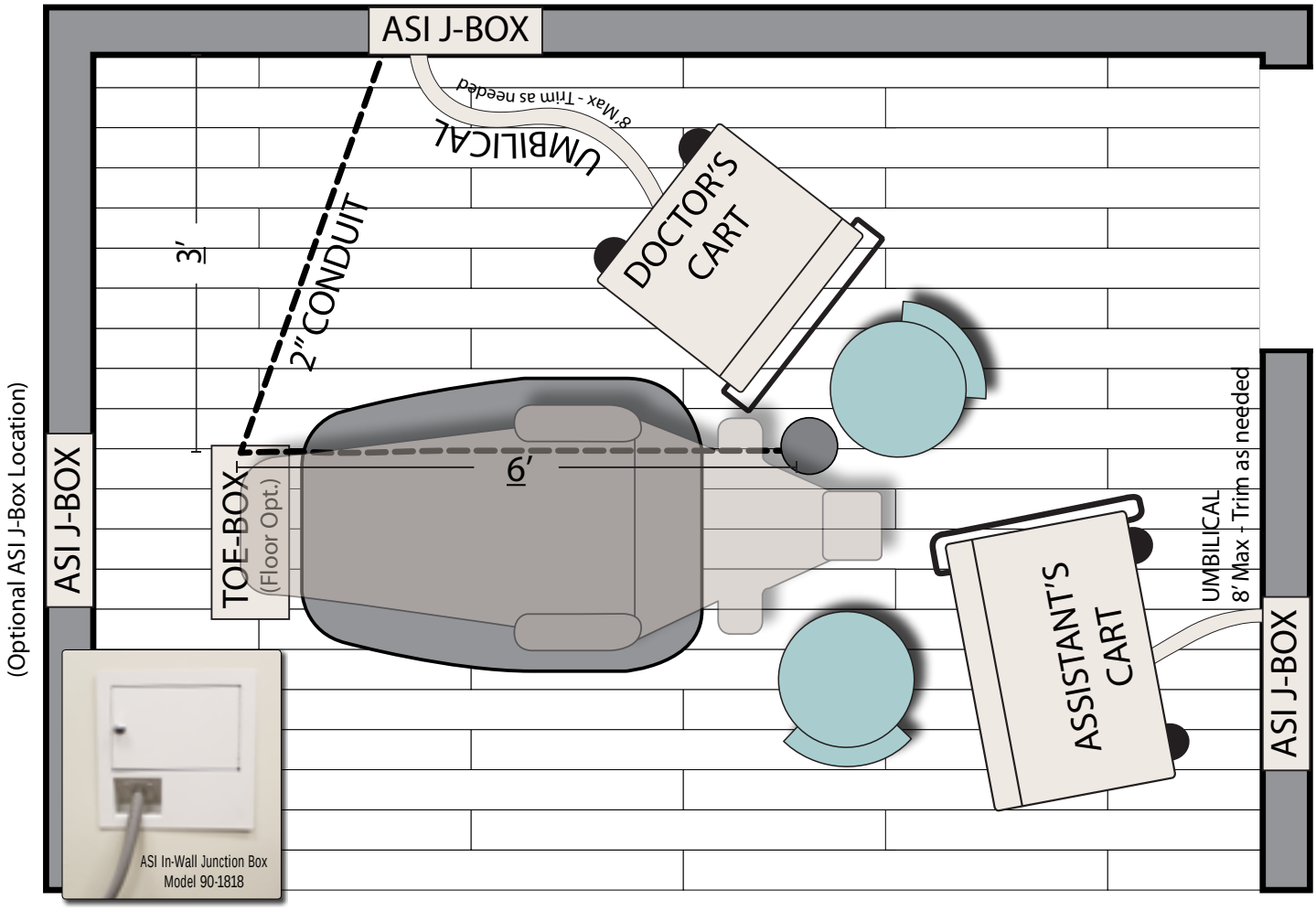
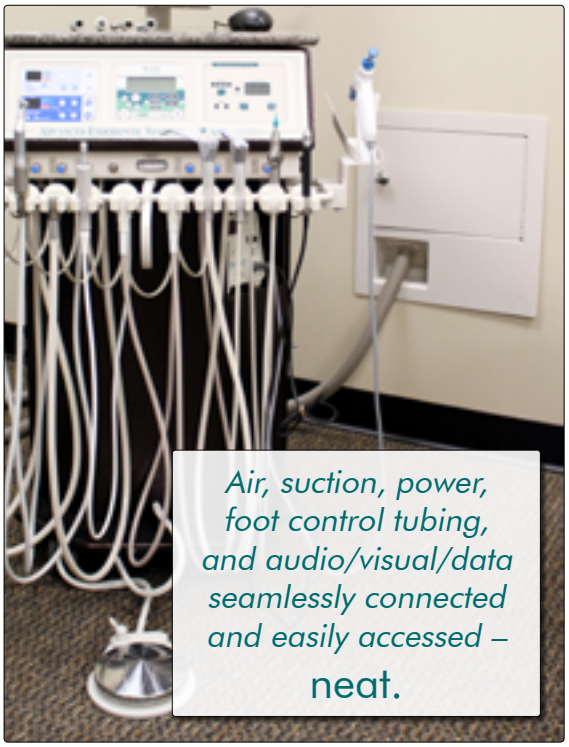
ASI's In-Wall Junction Box

Seamless connectivity – neat.



ASI's In-Wall Junction Box provides a seamless way to connect the umbilical of a cart system to central plumbing, while neatly concealing the rough-in connections within the wall.

The decision to use the ASI In-Wall Junction Box should be made *before* construction begins. This way it is known exactly where to install air, suction, dedicated electrical outlet, conduit for foot control tubing and the audio/visual/data connections.

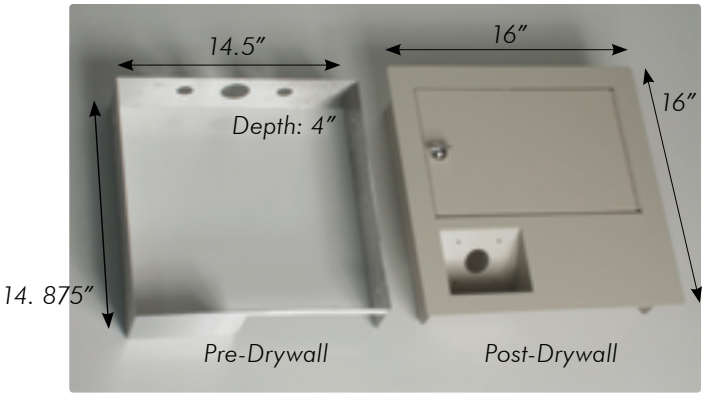


Location

The ideal location of the ASI In-Wall Junction Box is discreetly behind the cart across from the arm rest of the patient chair. The bottom edge of the ASI In-Wall Junction Box should be approximately 12 inches above the floor to allow room for the base board and most importantly to prevent a kink in the umbilical. The standard length of an umbilical is 8 feet and should be cut down to the desired length.

In-Wall Junction Box, Pre-Drywall and Post-Drywall

The ASI In-Wall Junction comes in two parts for installation: pre-drywall and post-drywall. Install the unfinished pre-drywall box first. Use it as a template for pipe stubs and connections run inside the wall. The pre-drywall portion fits between two 16″ centered studs (similar to a recessed washing machine connection box in households). Once drywall is in place, cut out the inside perimeter of the pre-drywall box; then insert post-drywall box and fasten.



In-Wall Junction Box

Foot Control Tubing

A popular option for minimizing moving the foot control is to run the foot control tubing under the floor. The end result creates easy access to the foot control without tubing running across the floor, and eliminates manually pulling the foot control out while pulling your cart system toward you.

A conduit with a 2″ diameter (minimum) must be installed under the floor from the In-Wall Junction Box to either directly behind the chair base or to an optional floor junction box located at the toe of the patient chair. ASI leaves 12 feet of foot control tubing at the end of the umbilical for routing under the floor during final installation.

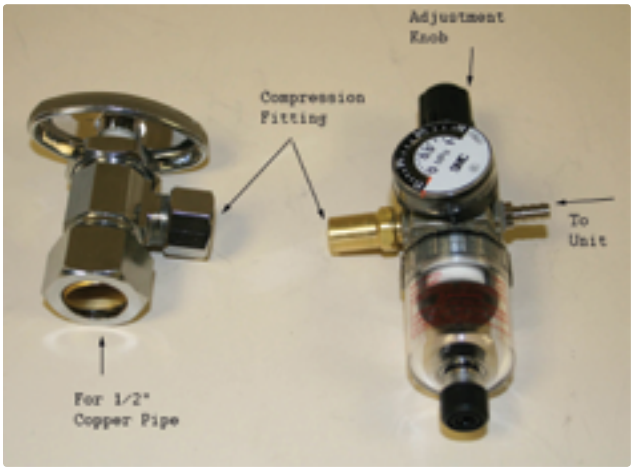
NOTE: Make sure to trim any extra foot control tubing. Excessive runs of tubing greater than 12′ should be avoided to prevent a response lag when the foot pedal is released by the operator.

Optional J-Box shown with foot control tubing

Compressed Air (see fig. 1, #1)

The dental unit is provided with a standard dental air line for the compressed air supply.

The air line is 1/4″ outside diameter (OD) and has a 1/8″ inside diameter (ID). The dental unit includes a combination master air supply assembly with regulator and internal air filter, and a standard angle stop with a manual shut-off valve (85-0035). The angle stop has a 5/8″ compression fitting inlet to connect onto 1/2″ copper pipe. The outlet of the angle stop has a 3/8″ compression fitting to accept the connector from the master air supply. Air supplied to the system should be oil-free and must be regulated to a standard dental unit pressure of 75 to 80 psi. The 1/4″ air line is connected directly to the master air supply assembly.



Angle Stop and Air Supply (85-0035)

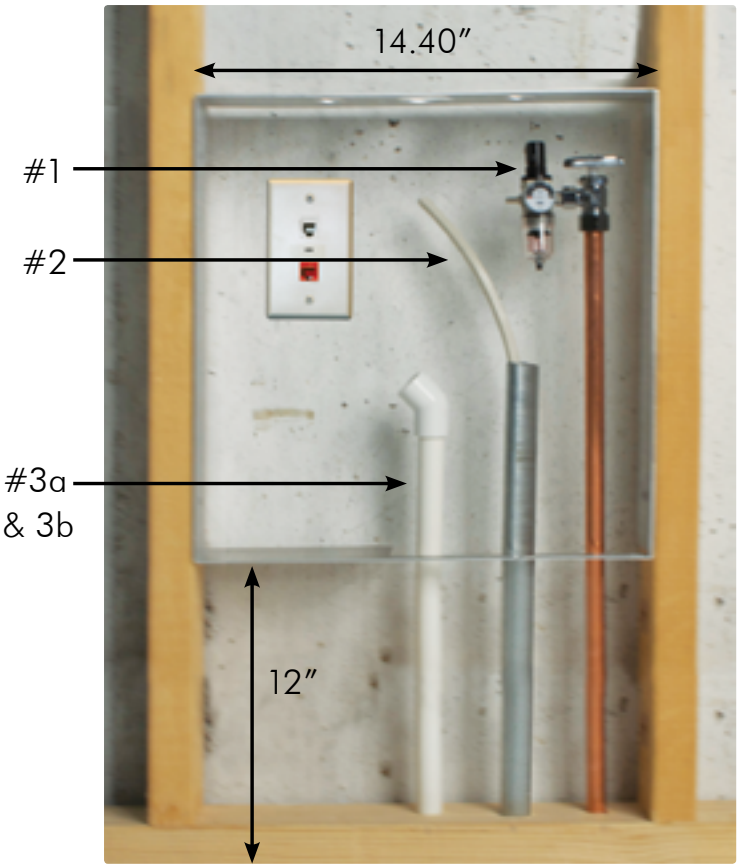


Figure 1

Optional Quick Connect – Model 2744

An optional quick connect (Model 2744) can be ordered to allow disconnection of the air supply, making it simple and efficient to use the cart in different operatories. The 3/8" male quick connect is placed on the air line to the cart and the 3/8" female quick connect is placed on the line to the air supply. The back end of the quick connect has reducers to adapt to the 1/4" tubing.

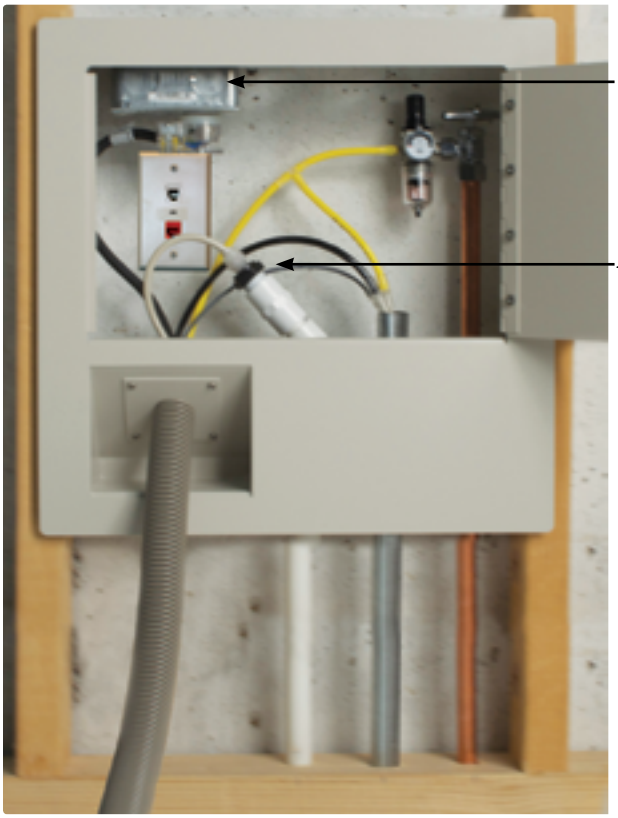


Figure 2

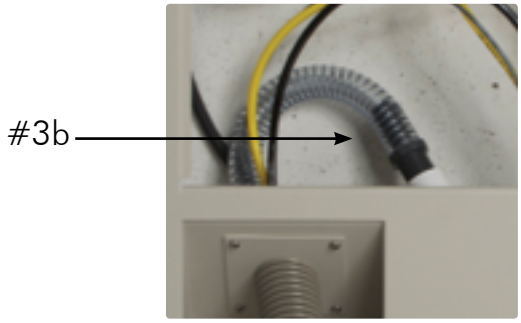


Figure 3

Model 2769

Water Supply

A water connection in the wall junction is not required. This is because all our systems include a Dual Closed Clean Water System standard. There is no need to connect to municipal water lines. To optimize infection control, connecting to municipal water is not recommended. If this option is still desired, connection to city water can be achieved by requesting a selector switch and an air/water master valve assembly. *This must be requested at the time of order.*

Micro Evacuation (see fig.2, #3a)

Micro Suction Tee (80-0139)

For systems with optional Micro Evacuation that are not connected through a Solids Trap, a separate 1/4" beige suction line will be provided. Depending on the configuration, there are two different ways to connect this tubing. It may be connected straight to a PVC elbow with the provided adaptor (80-0193), or you may need to tee off the main suction line. The tee is available for a 5/8" ID tubing (80-0139).

High Volume Suction (see fig.3, #3b)

ASI supplies suction line tubing made from a special grade of material that is inert to common caustic irrigants and disinfectants used in dentistry. The suction tubing has a 5/8" ID, see figure 3. Included with suction packages are PVC adapters to connect the 5/8" tubing to either 1/2" or 3/4" PVC pipe. If using 1/2" copper pipe for suction, the tubing can simply be slipped over the pipe and clamped into place.

RECOMMENDATION: PVC pipe is recommended for suction plumbing lines, as copper can corrode from some of the caustic irrigating and disinfectant solutions used in dentistry. Check your local building codes to see which piping materials may be used for suction lines.

For cart systems, an optional quick connect (Model 2769) is available to allow the suction hose to the cart to be disconnected. It comes with a 5/8" barb that plugs into the receptacle half and a blank plug to seal the outlet if the hose is disconnected.

Electrical Requirements (see fig. 2, #4)

The system is equipped with a high rated SJT power cord and hospital grade plug. By design, the plug is to be placed into a standard 115 volt 60 Hz outlet. Contractors should provide a duplex that can be mounted to the junction box. For systems shipped outside of North America with 230 volt 50 Hz service, you will need to supply the correct plug per your country's electrical code.

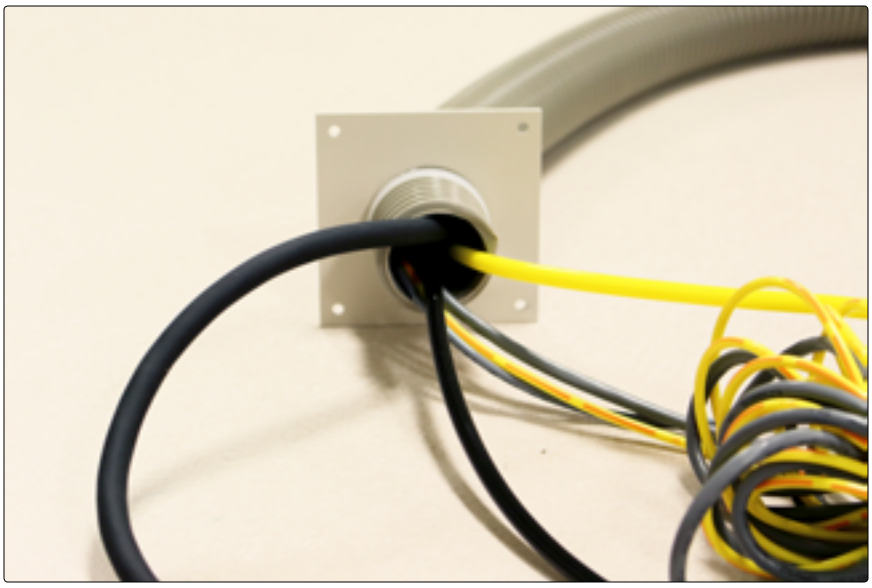
RECOMMENDATION: Due to the sensitive nature of the electrical components installed in the system, the electrical supply should be made to a dedicated AC circuit with an isolated ground to provide line noise rejection and computer-grade power.

ASI
The Leader In Advanced Systems Integration

Umbilical Tubing & Junction Box Connections

Audio, Visual & Data Cables

ASI's unique In-Wall Junction Box creates seamless connectivity of not only your standard utilities, but also your office technology. Computer connections such as video, USB, HDMI CAT-6, and network connections are organized within the In-Wall Junction Box to keep all wiring hidden from view.



The Umbilical

Your system arrives with either of two sizes of umbilical: a standard 1 3/8" cart umbilical, or a 1 5/8" umbilical with suction hose and/or computer cables. The length is preset at 8', so simply cut it down to fit your operatory with no excess. All cart systems come with an umbilical adapter plate to securely attach the umbilical to the ASI In-Wall Junction Box.