

PURPOSE

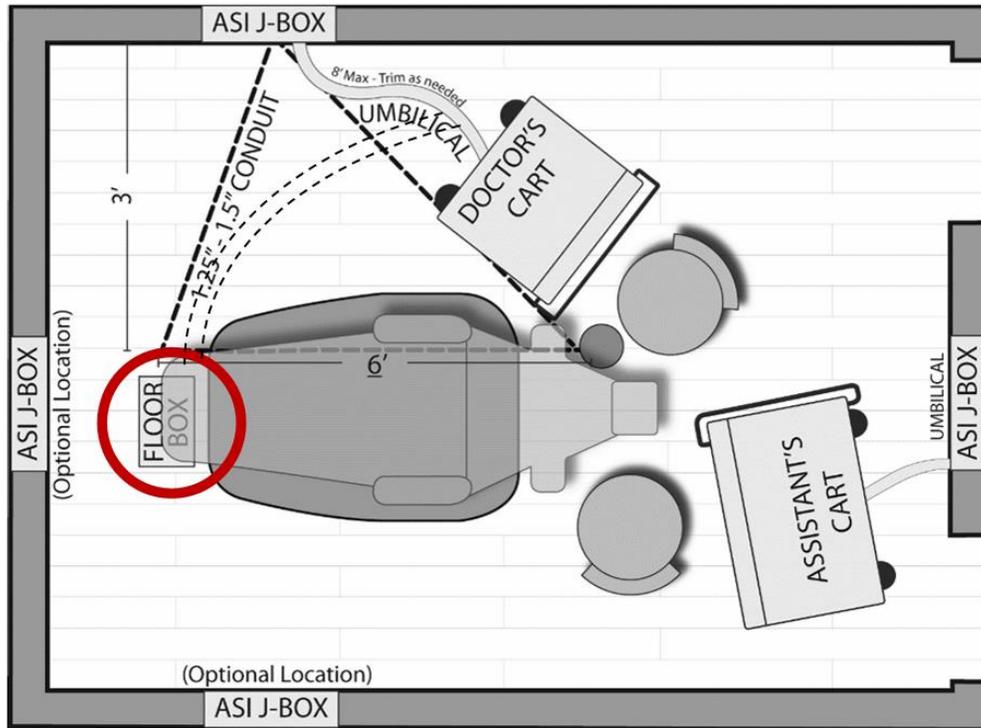
ASI’s Floor Junction Box provides a seamless way to connect the umbilical of a cart system to central plumbing, while neatly concealing the rough-in connections within the wall. The decision to use the ASI Floor Junction Box should be made before construction begins. This way it is known exactly where to install air, suction, dedicated electrical outlet, conduit for foot control tubing and the audio/visual/data connections.

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IMPORTANT!

Before commencing on the following instructions, please read and follow all applicable warnings/cautions listed at the end of this technical guideline.



LOCATING THE FLOOR BOX IN THE OPERATORY

Delivery

The floor junction box for the delivery system should be located at the foot-base of the patient chair. This allows for the largest flexibility in cart placement for ambidextrous and storage uses.

INSTALLATION OF THE IN-FLOOR JUNCTION BOX

The floor junction box can be installed into the floor by either placing in prior to pouring a concrete slab or within a wood/metal floor frame.

Concrete Slab – New Pour-in-Place

The following instructions cover how to place the box for new construction of concrete slab pour on dirt. Determine the location for the utility runs and final placement of the in-floor box. Optional brackets are included with the in-floor box to allow use of wooden grade stakes. Attach the four brackets to the sides of the box. Then adjust the height of the box to the desired height to be flush with the top of slab and secure the box to the grade stakes.

Run the utilities into the box. Various access holes are provided on the back and sides of the unit to accommodate. Optional plastic pipe or metal conduit may be placed and secured into the box to allow future runs of utilities or placement of foot controls behind the rear of the patient chair.

In-Floor Wood Frame

There are four holes on the top of the box that can be used for leveling and to achieve a flush mounting with the surface of the floor. Using a flat piece of wood large enough to overhang on all ends, drill into the four holes on the top of the junction box to attach the flat wood piece (Fig. 1). Seat the ASI floor junction box into the wooden frame using the connected flat wood piece to lay overtop of the frame, ensuring that the box is level. The box can then be secured into the frame by drilling into the 6 frame-mounting holes on either side of the system (Fig. 2).

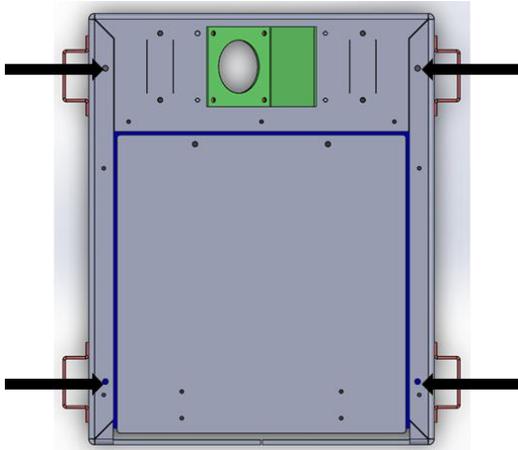


Fig. 1

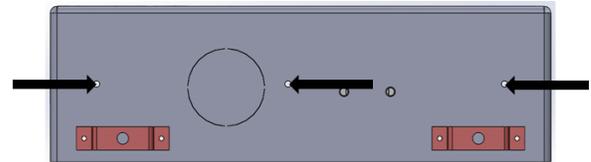


Fig. 2

Electrical

The box is provided with two electrical receptacles in the upper left corner. These hospital grade receptacles should be each connected to dedicated AC power circuit with an isolated ground to provide line noise rejection. This provides dedicated power for the delivery system and a separate outlet for auxiliary devices. The ASI delivery system that will be connected at final installation will have two power cord and hospital grade plugs provided.

Data and Communication Cabling

The box provides a receptacle in the upper right corner that can be used for CAT 5/6 cable connections or other data communication cabling. If necessary, additional types of cables can be run via access holes made through the upper panel. Ensure not to cut holes in the areas indicated on the box as these are reserved to connect to the finish post-drywall connection.

Water Supply

A water supply connection to the municipal water lines is not required as the delivery system is provided with a water bottle system that provides water for treatment use and aids in maintaining water line disinfection in the dental tubing. If connection to municipal supply is still desired, an optional water master valve can be provided with water line tubing run through the dental umbilical. This option must be ordered at the time of placing the order for the delivery system.

Umbilical Installation

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'. Cut it down to fit the operatory without undue excess. All cart systems come with an umbilical adapter plate to securely attach the umbilical to the ASI floor junction box. (Fig. 3)



Fig. 3

Compressed Air Connection

The Regulator assembly requires connection to a 1/2" copper pipe. This should be run through the bottom right corner of the box using an appropriate hole saw and seal for the piping.

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

The air line is 1/4" outside diameter and has a 1/8" inside diameter (ID). The dental unit includes a combination master air supply assembly with regulator and internal air filter (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. (Fig. 4)

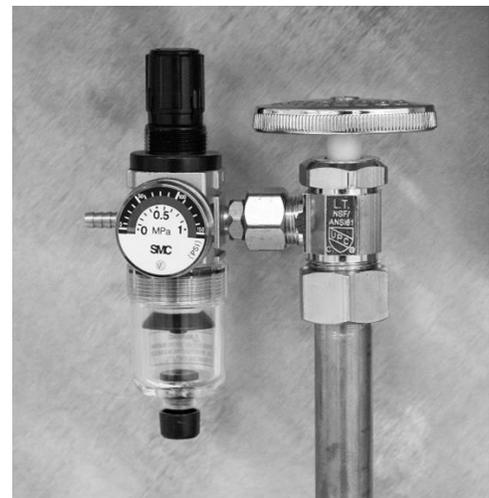
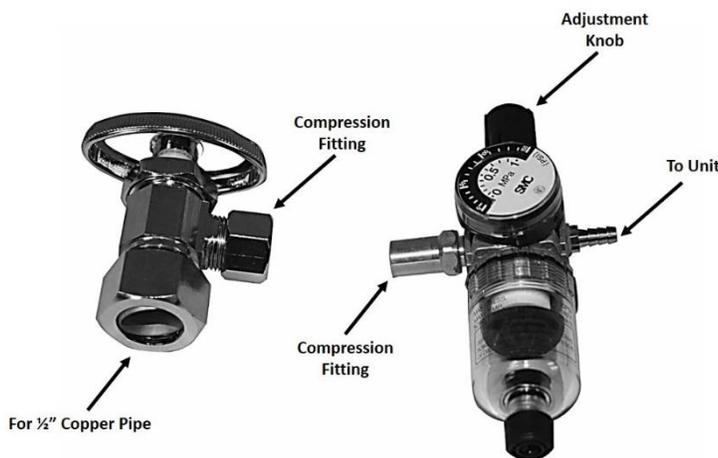


Fig. 4

An optional quick connect (PN 90-2744) can be ordered to allow disconnection of the air supply, making it possible 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. (Fig. 5)

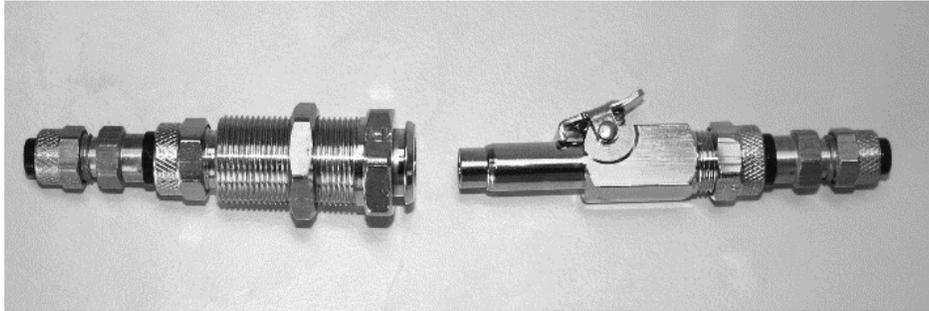


Fig. 5

Optional Suction

If suction is to be connected, it is recommended to use either 1/2" or 3/4" PVC piping. PVC pipe is highly recommended as it is more resistant to caustic chemicals that can be used in certain dental procedures such as bleach. Check with local building codes to determine which type of piping materials may be used for suction lines.

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. 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.

For umbilical suction delivery systems, an optional quick connect (PN 90-2769) 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. (Fig. 6, Fig. 7)



Fig. 6



Fig. 7

Optional Micro Evacuation

For systems with optional Micro Evacuation that are not connected through a Solids Trap, a separate 1/4" suction line will be provided. It may be connected straight to a PVC elbow with the provided adaptor. (Fig. 8)



Fig. 8

Optional Under Floor Foot Control Tubing

A desirable option is to place the tubing for the foot control under the floor and have it exit from behind the patient chair base. This allows the foot control to remain in place without moving between patients and keeps the tubing from interfering with cart movements.

The tubing can be run from the In-Wall Junction box to a floor box in front of the chair. The foot control tubing can then be run through the chair (depending on the model) and out to the rear of the chair base. To avoid handpiece delays, it is very important to keep the length of tubing used for the foot control to a minimum and should not exceed 12' to the junction box.

An alternative would be to run the tubing directly from the wall box to directly behind the chair base to keep the tubing length minimized. A flooring grommet would have to be provided to the contractor to allow this option.

A 1-1/4" to 1-1/2" conduit is recommended to provide ample room inside the conduit for the tubing and any additional wiring included in the delivery system and prevent potential kinking of the tubing.

The tubing can be run through the conduit to a floor box (Fig. 9) and then placed appropriately through the chair to rear base of the chair (Fig. 10) or run directly to the rear of the chair base.



Fig. 9



Fig. 10

- i** *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.*

WARNINGS/CAUTIONS

In addition to observing the normal precautions associated with standard dental practices and procedures, the following additional precautions should be strictly noted and observed during the set-up, operation, and maintenance of this system.



WARNING

QUALIFIED PERSONNEL ONLY

The Junction Box needs to be installed by a licensed contractor per local building codes for the installation location.

The product should only be operated by qualified personnel only. The operator bears responsibility for the correct settings and proper use of the system. ASI Dental (ASI) cannot be held liable for any malfunction of this product, or performance failure and/or its designed or desired utility, nor can ASI be held liable for injuries to persons or animals, in any case when the device is misused or not operated, applied or maintained in strict accordance with user/owner instructions set out in the operation manual. In the event of any doubt or question, the user is to contact ASI for clarification or assistance.

Improperly maintained or operated systems or instruments may void the associated warranties.



WARNING

COMPRESSED AIR

The compressed air system that operates this unit is under pressure. Compressed air can propel dust or loose particles and can cause bodily injury or damage. Always turn the system off and bleed off air pressure before attaching or removing air lines or accessories or servicing this unit. All air lines should be periodically inspected and replaced if worn or damaged.

If an outside compressed air supply is used to power this unit, the air supply must be regulated to 80 psi or below. Excessive air pressure could cause certain components to rupture.



WARNING

ELECTRICAL VOLTAGE

This system is powered by high voltage electricity. Like any other electrically powered device, if it is not used properly, it can cause electrical shock. Always plug the power cord into an electrical outlet with adequate fuse protection and proper grounding. In the event of a short circuit, grounding reduces the risk of shock by providing an escape wire for the electric current. Improper grounding of the unit can result in a risk of electric shock. Always unplug the unit before doing any service or repair to the unit.



WARNING

INFECTIOUS MATERIALS

Infectious disease workplace safety protocols to safeguard against cross contamination of infectious disease should always be observed. When maintaining the suction system or emptying the contents of the suction waste container, safe precautions and practices including the wearing of face mask, eye protection and gloves are to be followed.