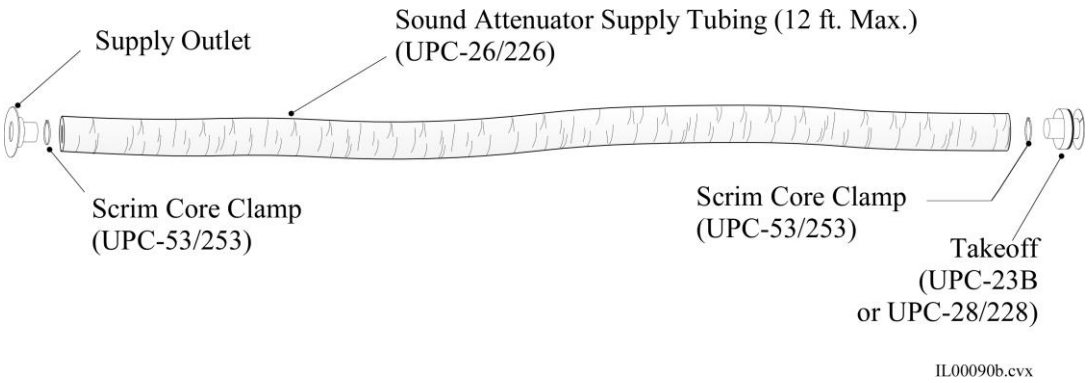
The Unico System®

Outlet Kit Installation Instructions

(UPC-80F-1, UPC-80F-5, UPC-80FR6-1, UPC-80M-1, UPC-80M-5, UPC-80MF-1, UPC-80MR6-1, UPC-80MR8-1, UPC-280M-1, UPC-280MF-1, UPC-280MR6-1, UPC-280MR8-1)



Model No. Key

UPC-80	F	R6	-1
Part No. (size) UPC-80 : 2" UPC-280: 2.5"	**Plenum type** F: fiberglass board, 1" (50 mm) M: sheet metal	**Duct R-factor** (blank): R-3.3 R4: R-4.2 R6: R-6.0 R8: R-8.0	**Qty** -1: 1 -5: 5

Packing List —

Each kit contains the following:

1 or 5: Sound Attenuator, 12 ft. (3.6 m)
1 or 5: Supply Outlet
1 or 5: Take-off, Plenum
2 or 10: Clamp, Scrim core

Not shown above:

1 or 5: Coupling with tape rings (UPC-38/238)
1 or 5: Winter Shutoff plug (UPC-42/242)
1 or 5: Balancing orifice, take-off (UPC-35/235)
2 or 10: Toggles and screws (UPC-51)
2 or 10: Clamp, Alum. Supply Tube (UPC-52/252)

APPLICATION

The Unico System® sound attenuator tubing is supplied in 12-ft (3.6-m) lengths for branch runs between 6ft and 12ft (1.8-m to 3.6-m). The attenuator tubing is sold in kits and includes all the necessary components to complete a duct run from the plenum to the conditioned space.

INSTALLATION

First, determine the location of the outlet. The outlet may be placed in the ceiling, floor, or sidewall. The best place is the corner, 5 inches (127mm) from each wall. If that is not possible or practical, anywhere out of the traffic pattern is acceptable.

For floor outlets, be sure to install an outlet screen (UPC-88/288) to prevent objects from falling into the duct. The wood outlets (separate part number) come with screens built in.

For sidewall outlets, position the outlet well above head height. For optimum air circulation, position them 4 to 5-inches (102-127mm) below the ceiling but not more than 12 feet (4 m) above floor level.

After the location is determined a hole must be cut (if necessary) and the duct routed from the plenum to the outlet location.

For branch runs over 12 ft., use at least a 3-ft (1-m) sound attenuator coupled to the aluminum core supply tubing. The attenuator tubing may be cut to any length but not less than 3 ft. (1 m).

CONFORMS TO UL STD 181
CERTIFIED TO
CAN/ULC STD S110-M86

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Note — Specifications, Ratings, and Dimensions are subject to change without notice.

When installing the supply tubing follow these rules:

1. Use as few bends as possible.
2. If bends are necessary, provide a generous bend radius. The minimum radius is 6 inches (152mm).
3. Support the supply tubing every 4 ft. (1.2 m).
4. Be careful not to tear or puncture the supply tubing outer jacket.

When installing the duct system, use the following steps:

For New Construction Applications:

1. Install a plaster frame kit (UPC-86/286) where the outlet will be located.
2. Route the supply tubing so about 6 inches (152mm) protrudes through the hole in the plaster frame.
3. Remove the excess supply tubing at the plenum and connect to the plenum takeoff.

   Note: If you have access to the plenum after terminator is secured, do this step last.
4. Push the duct up into the hole and install the drywall or paneling, cutting the appropriate 4¼ inches (114mm) hole for the frame.
5. Pull the duct out and attach the duct core to the outlet terminator.
6. Position the terminator in the hole and secure with toggles and screws.

For Existing Structures:

1. Cut a 4 inch (102mm) hole in the plaster or drywall.
2. Then either route the supply duct through the hole to the plenum or from the plenum to the hole. If it is necessary to pull the duct through a floor joist, use either an electrician's "fish tape" or rope.
3. Remove any excess supply tubing at the plenum and connect to the plenum takeoff.
4. Allow about 6 inches (152mm) to protrude through the hole, removing any excess, and connect to the outlet terminator.

PLENUM TAKEOFF INSTALLATION

Position the plenum takeoff so that the least amount of stress is applied to the connection and the duct is as straight as possible. For example, if the branch ducts need to run horizontally, then locate the takeoff between the 2 and 4 O'clock position.

The first step is to attach the plenum takeoff to the plenum. There are two styles of takeoffs. Use the one that is appropriate for the type of plenum used.

For plenum made from 1 inch (2.5 cm) fiberglass duct board or 20 mm rigid phenolic foam board:

1. Use a UPC-55 hole cutter ("cookie" cutter) to make a 2 inch (51mm) hole in the plenum.
2. Cut a ½ inch (12.7mm) slit in the plenum jacket.
3. Bend the starting edge of the spin-in (UPC-23B) takeoff thread flange as shown in Fig. 1.

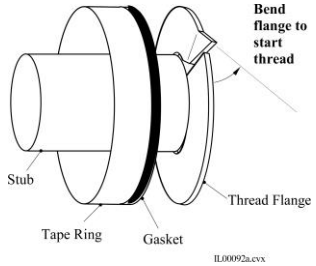

Figure 1. Spin-in Takeoff (for 1" Fiberglass Duct)

4. Then push and twist the spin-in into the hole as if threading a screw. Spin the takeoff a full 360° around. Inspect the inside of the takeoff to be sure no insulation from the plenum is projecting into the air stream. Continue to spin the takeoff until no excess insulation can be seen down inside the stub of the takeoff. Be sure that the bottom flange is fully engaged on the inside of the plenum. Figure 2 shows a spin-in fully threaded in to the duct.

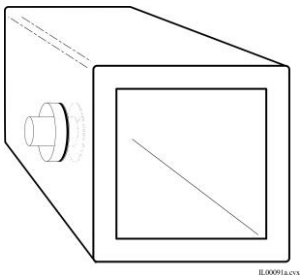

Figure 2. Fiberglass Plenum Takeoff Location

For plenum made of thin wall metal (sheet metal):

1. Install and fully insulate the metal plenum before connecting plenum takeoffs.
2. Apply take-off gasket to underside of take-off.

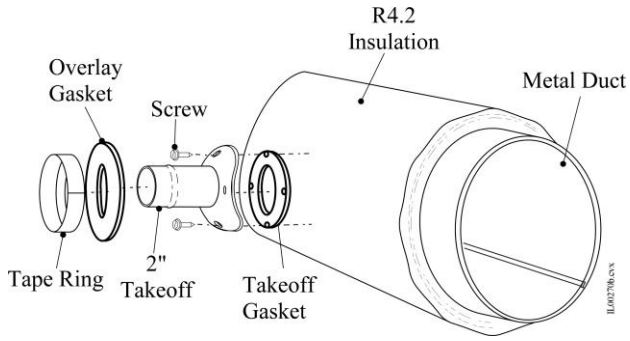

Figure 3. Metal Plenum Takeoff Installation

3. Attach Take-off directly to insulated plenum using four sheet metal screws.
4. Use a hole saw (with extension if necessary) to cut through the insulation and duct.

   For 2" duct use 1-7/8" (47.6mm) diameter hold saw

   For 2.5" duct use 2-1/4" (57 mm) diameter hole saw
5. Visually inspect the hole for any excess metal or insulation.
6. Peel the adhesive backing from the underside of the overlay gasket. Slip it over the take-off and stick it to the vapor barrier. Apply even pressure around to secure.
7. Once the gasket is sealed against the insulation vapor barrier, peel off the backing on the top side to secure the tapering in the next step.
8. Slip the tape ring over the take-off and seal it against the gasket, then connect the branch duct using a clamp and seal the outer vapor seal against the tape ring with UL tape.

More detailed instructions and alternate methods for installing metal plenum takeoffs are available in Bulletin 30-050.

CONNECTING DUCT TO TAKEOFF OR TERMINATOR

1. Pull back the insulation of the supply tubing about 2 inches (50mm) to expose the inner core.
2. Slip the core over the stub of the takeoff or terminator as far as you can. Then secure with clamp using clamp pliers (UPC-54).
3. Pull the insulation and outer jacket back over the core and stub and stuff under the tape ring as best you can. Secure the outer jacket with UL-181A aluminum tape.