



**MANUAL – INSTALLATION**

---

# Commercial Duct Silencer

Rectangular & Elbow Geometry

**Revision #: 01 – Issue Date: 02/10/14**

© 2014 Price Industries Limited. All rights reserved.

**PRICE**<sup>®</sup>

# COMMERCIAL DUCT SILENCER

---

## TABLE OF CONTENTS

### **Installation Instructions**

Connection Methods .....	1
Components & Banks .....	2
Sealing the Silencer Into the Duct System .....	4
Maintenance .....	4
Silencer Flange Installation .....	4
Welding Method.....	5
Fastener Method.....	6
Nested Elbow Silencer .....	7
Summary .....	12

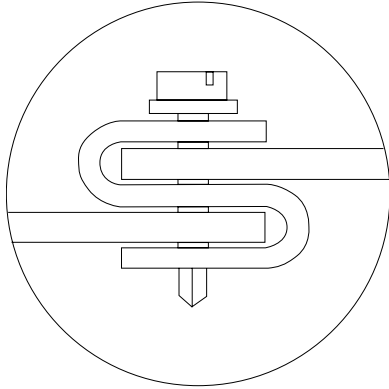
# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

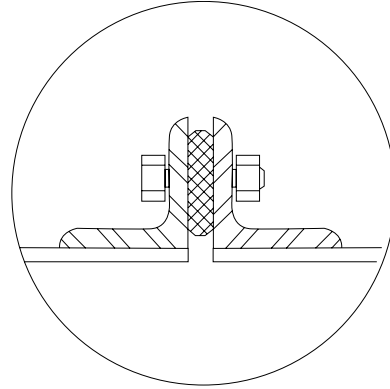
### Connection Methods

Standard Price Rectangular and Elbow silencers are supplied with a 2" slip connection on both ends. To install the silencer into the ducting, one of the following four methods is recommended:

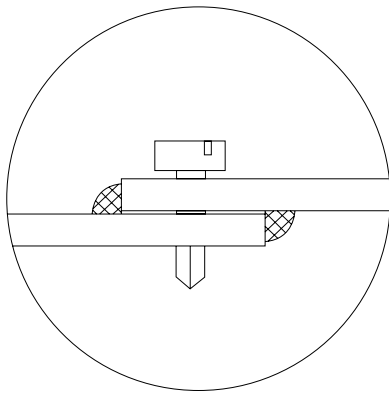
#### S-CLIP WITH SHEET METAL SCREW (BY OTHERS) ▼



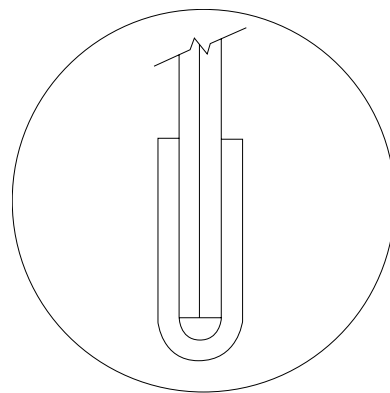
#### BOLTED THROUGH GASKETED FLANGES (BY OTHERS) ▼



#### LAPPED AND SEALED WITH CAULKING (BY OTHERS) ▼



#### U-SHAPED STEEL CLIP (BY OTHERS) ▼

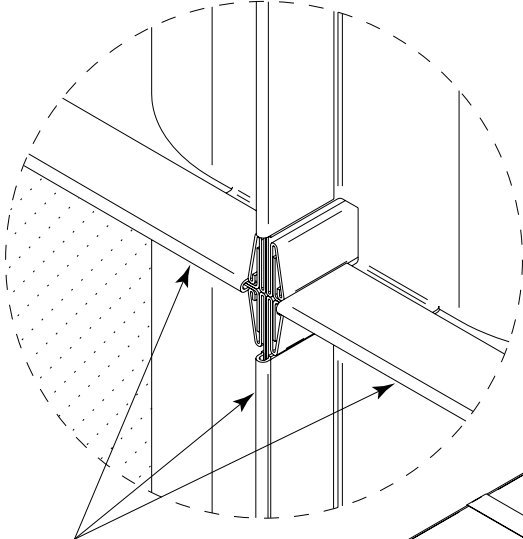


# COMMERCIAL DUCT SILENCER

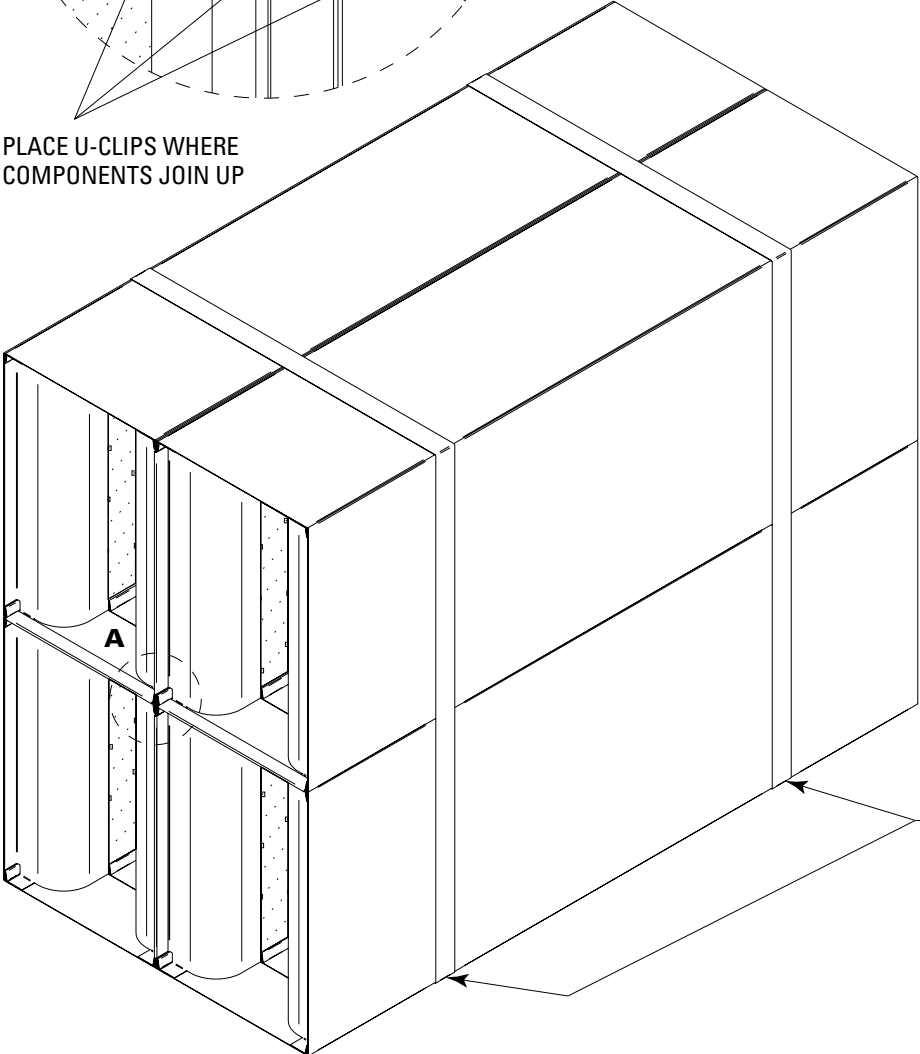
## INSTALLATION INSTRUCTIONS

**BANKED SILENCER ▼**

**Detail A**



PLACE U-CLIPS WHERE  
COMPONENTS JOIN UP



BANDS OPTIONAL

# COMMERCIAL DUCT SILENCER

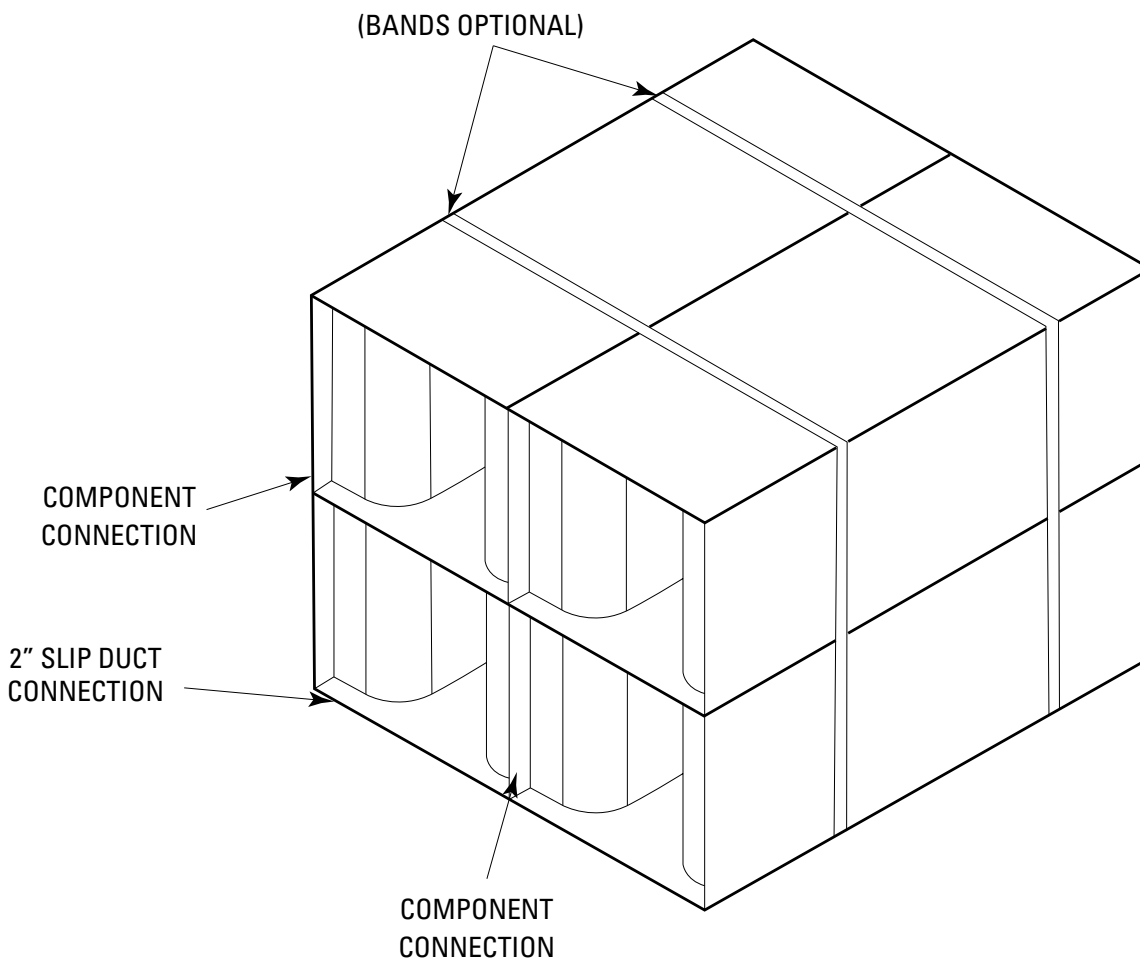
## INSTALLATION INSTRUCTIONS

### Components & Banks

Price silencers larger than 48 inches are typically made up of multiple components. These components are shipped individually and are assembled into banks on site.

- The silencer components need to first be stacked side by side and/or one on top of another, depending on the required silencer configuration.
- To ensure the structural integrity of the silencer bank, it is recommended that a minimum of two steel bands be placed around the complete assembly. This will ensure the components of the silencer bank are held tightly together and can be well sealed.
- Before installing the silencer bank, special care should be taken to seal between the edges of each component to ensure that no air leaks between the individual pieces. A “U” shaped steel clip should be placed over each adjacent surface and both ends of the silencer. The “U” shaped clips will hold the components together and complete the silencer bank.

### BANKED SILENCER DETAILS ▼



# COMMERCIAL DUCT SILENCER

---

## INSTALLATION INSTRUCTIONS

### Sealing the Silencer into the Duct System

The installer must ensure that the silencer installation and duct system are airtight.

All joints and connection areas should be sealed with a mastic sealant approved for use by the duct manufacturer.

All sealants used during the silencer installation should be applied to a clean and dry surface free of any contaminants.

### Maintenance

Price absorptive silencers have no moving parts and therefore very little maintenance is required. Periodic cleaning of the silencers should be performed to remove dust or contaminants that may have built up in the ducts. The acoustic media used in Price absorptive silencers is protected by a perforated metal liner and will not be affected by standard duct cleaning processes.

Please note only minimal amounts of water or other liquids should be used when cleaning absorptive silencers.

The frequency of silencer cleanings will be dependent on the specific application and site conditions, and should be performed with the rest of the duct system cleaning.

Price Packless silencers may be cleaned with chemicals or water as needed, but proper drainage and removal of the liquid is necessary. For silencers that are exposed to harsh environments and require frequent cleaning of the duct system, custom drainage plugs can be added.

# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

### Silencer Flange Installation

When flange connections are supplied loose to be installed by the contractor, the following guidelines shall be used to attach them to commercial silencers.

- Flange connections should first be aligned with the duct connection of the silencer.
- Clamp the flanges in the desired orientation to the end of the silencer.

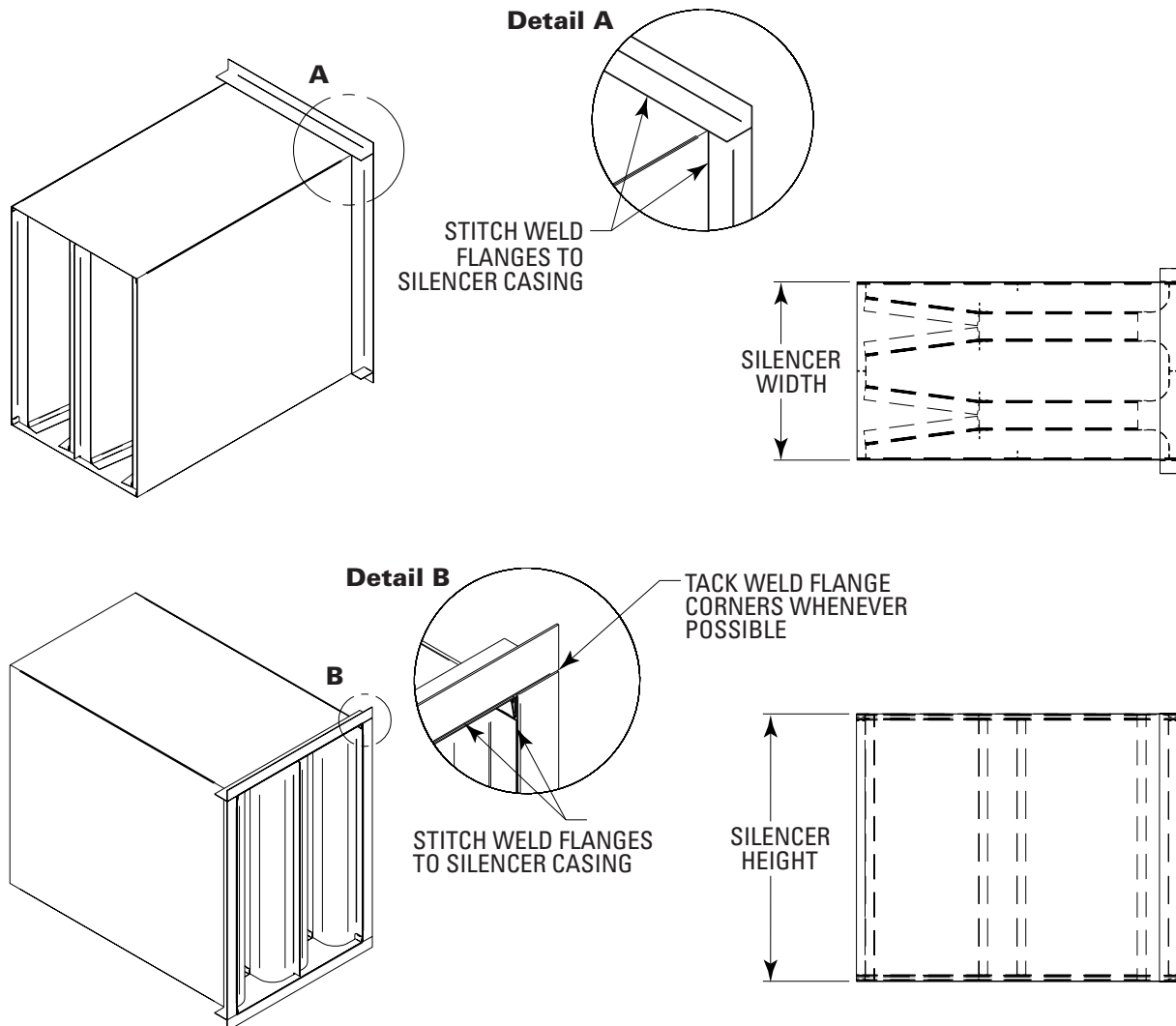
Two methods for flange installation are provided, including the Welding method and Fastener method.

The Welding method is the recommended installation method for silencer flanges.

### Welding Method

- Tack or Stitch welding flanges to silencer components is recommended whenever possible and is the preferred method of installation.
- Size and placement of the welds can vary depending on the overall size of the silencer component or bank.

#### WELDING METHOD ▼



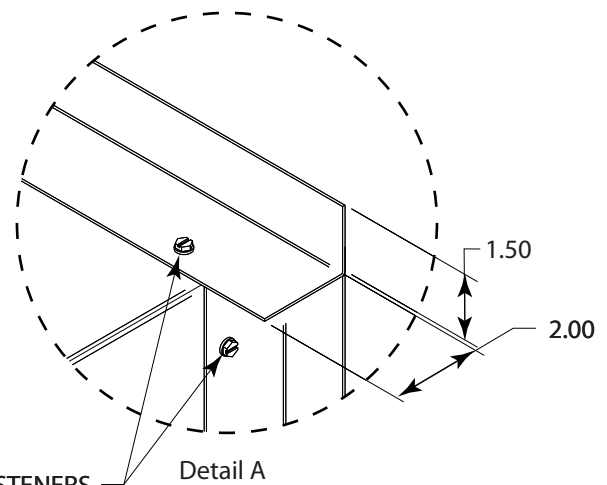
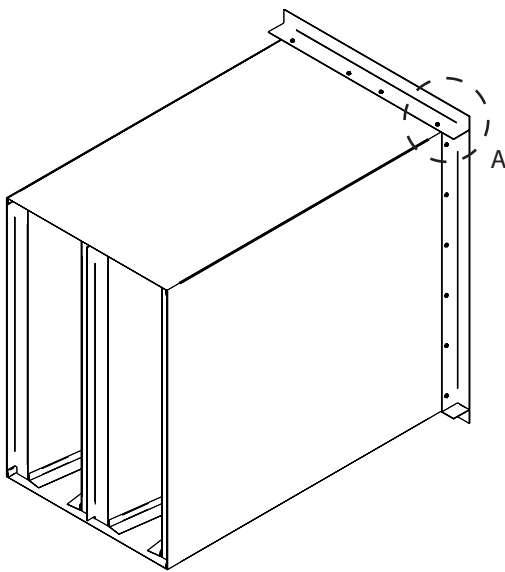
# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

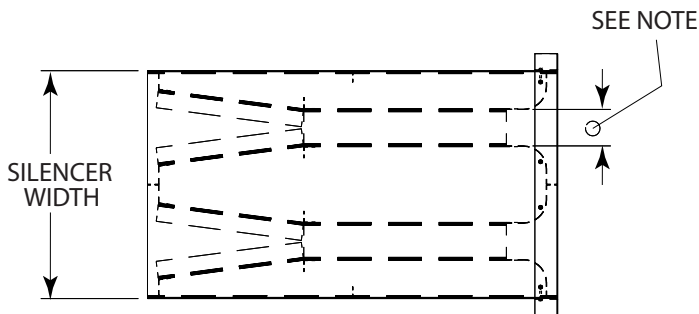
### Fastener Method

- If welding equipment is not available, flanges may be installed using mechanical fasteners.
- Depending on the application and size of the silencer bank, either sheet metal screws or nuts and bolts may be used to fasten the flanges to silencer inlets and outlets.
- Whenever possible minimize the amount of fasteners that enter the airstream. Installation of the fasteners should be done either into the baffle or to ensure the “head” of the fastener is inside the silencer whenever possible
- See the figures below for the recommended fastener location and spacing.

### FASTENER DETAILS ▼



PLACE FASTENERS  
APPROX. 0.5" FROM  
EDGE OF FLANGE



**NOTES:** Whenever possible do not place fasteners into the air gap. If required in this area, install fasteners with “heads” to the inside.

Duct sealant can be used to seal air leaks along the seam of the flange.



# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

### Nested Elbow Silencer

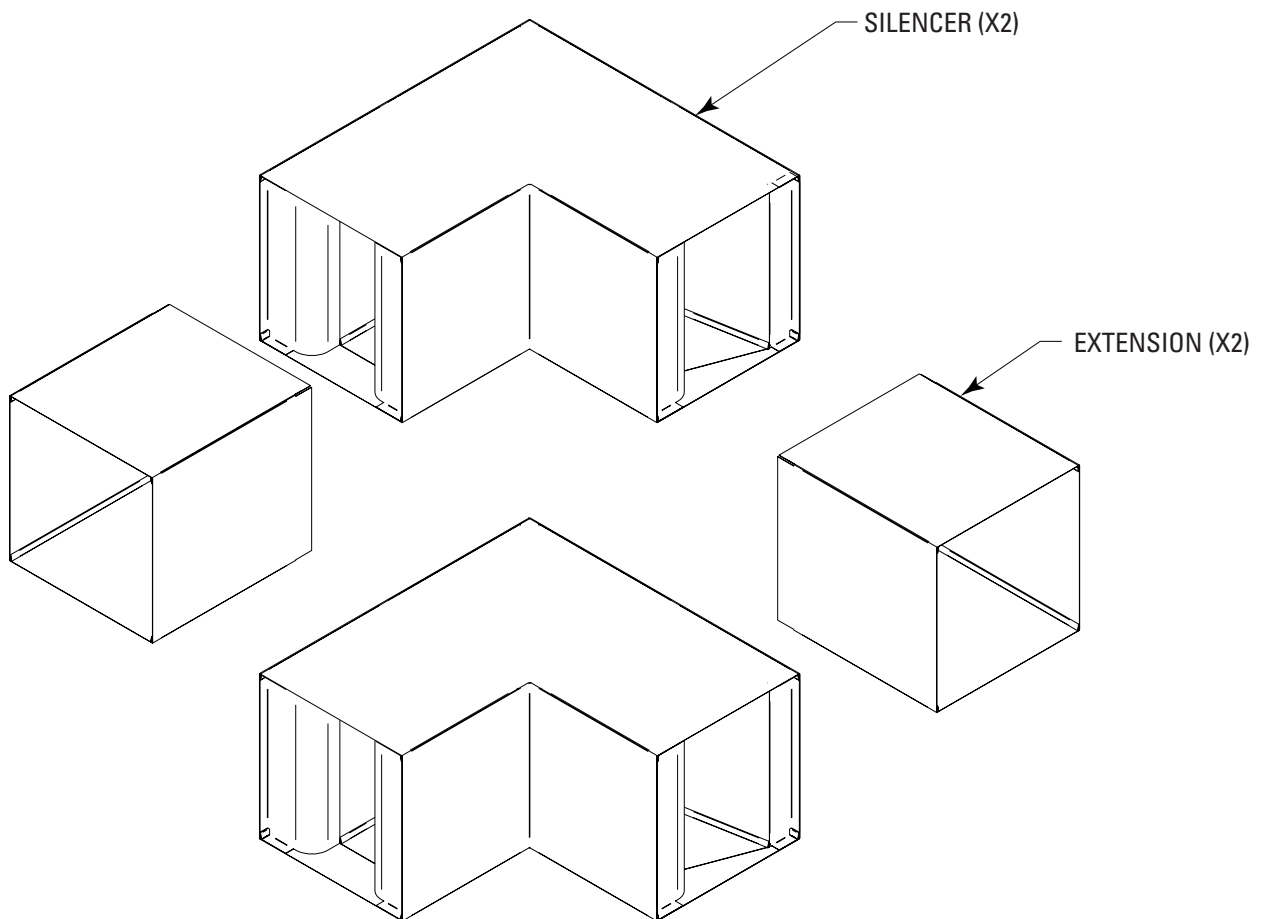
The elbow silencer configuration will be nested when the bank width is made up of multiple components. These silencer components are shipped separately for installation on site by others along with duct extension pieces. Duct extensions are necessary to make an even duct connection at the silencer inlet and outlet.

1. All silencer components that make up a nested elbow bank are constructed identically. To make the duct connection of the silencer components line up, duct extension pieces for the inlet and outlet of the silencer component are provided separately (See Figure 1.1).

- I. Elbow silencer components x 2
- II. Duct extensions x 2

**NOTES:** For silencers that are banked in the height, each level of the silencer receives the same quantity of components and duct extensions.

FIGURE 1.1 ▼

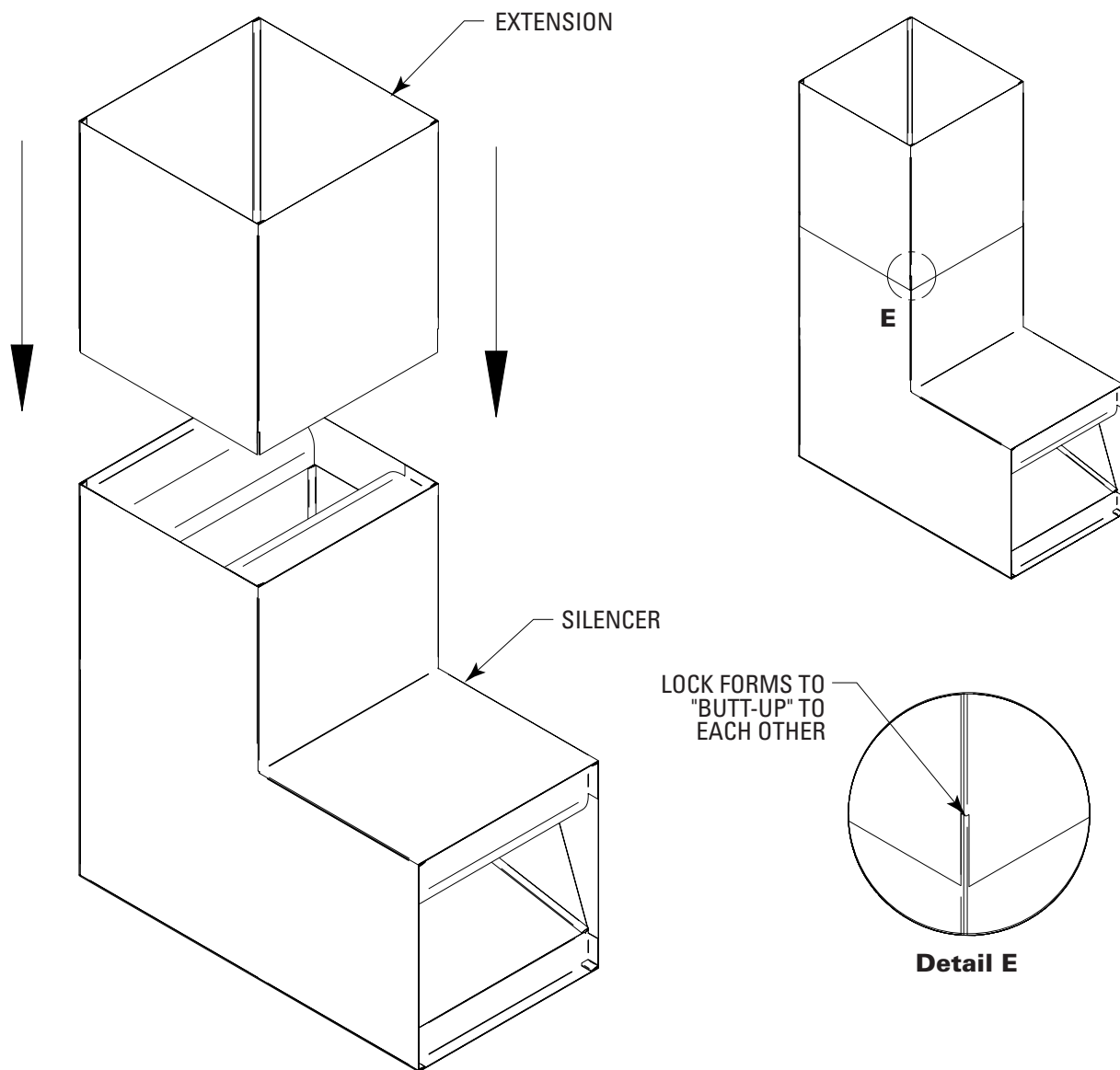


# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

2. Install a duct extension on both the inlet and outlet of one of the silencer components, creating the outer silencer component. When assembling larger silencer components, it may be easier to slip the duct extension on with the inlet or outlet facing upwards. The duct extension should slip onto the silencer component 2", or until the lock forms butt together. Do not use any fasteners at this time, as some movement may be needed to align the components (**See Figure 1.2**).

FIGURE 1.2 ▼

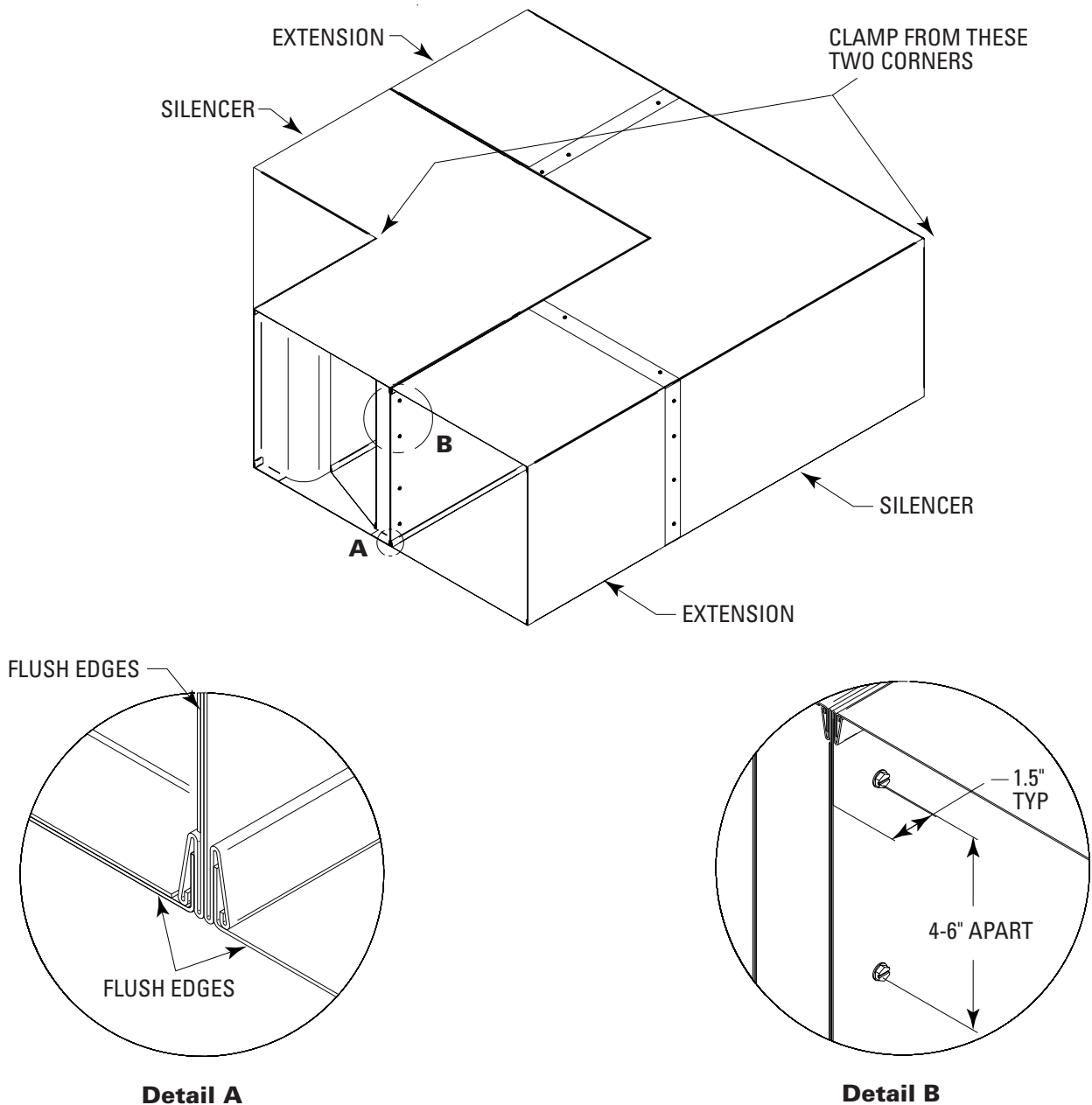


# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

3. Lay silencer component with duct extensions connected flat on the ground. Nest the inner silencer component inside of the outer elbow silencer component. Clamp from the inside corner of the inner component to the outside corner of the outer component. This will ensure the silencer is “nested” as much as possible (See Figure 1.3).
4. Line up edges of duct extensions to the inlet and outlet of the inner silencer component, be sure that the top panels of the duct extension and silencer component are flush (Detail A). Using self tapping sheet metal screws, fasten the inside panel of the extension to the inner silencer component (Detail B). Place sheet metal screws a minimum 1” from back edge (See Figure 1.3).

FIGURE 1.5 ▼

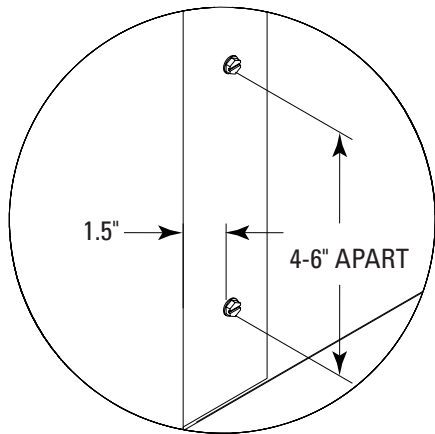
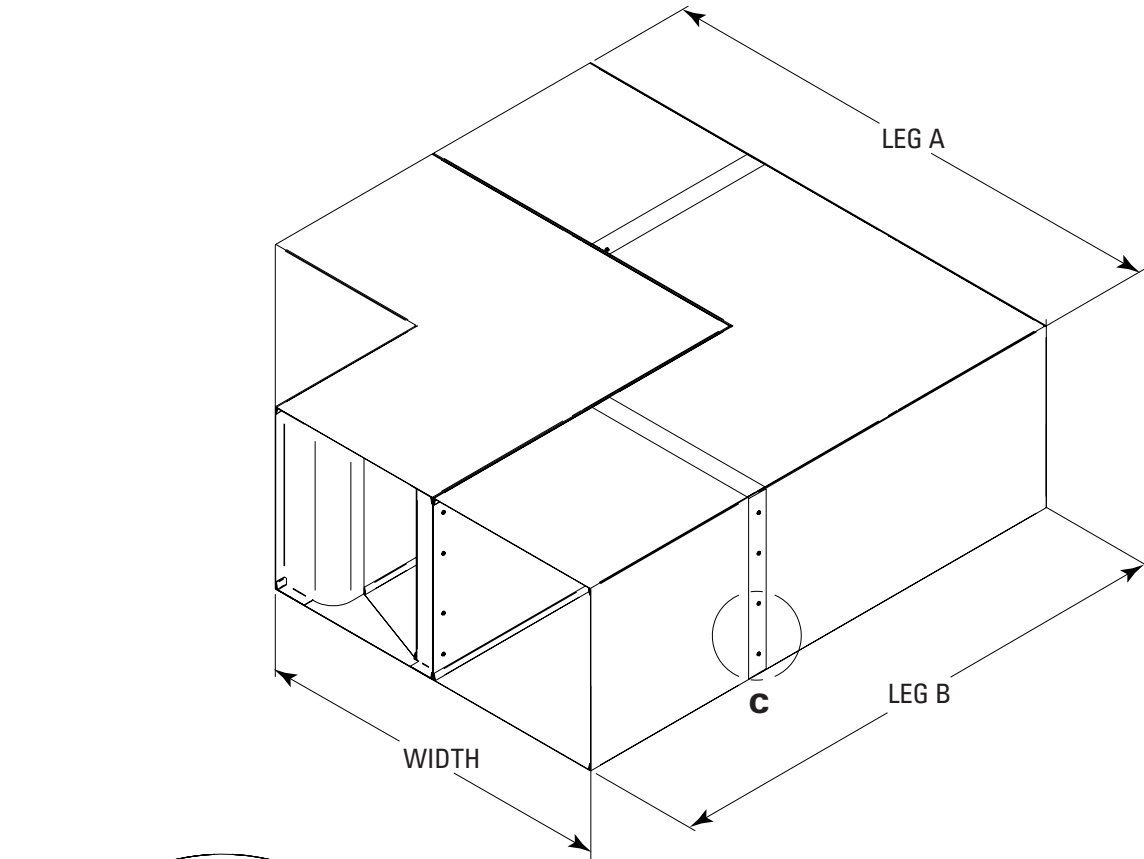


# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

5. Measure the overall length of Leg A and Leg B from the outside corner to the edge of the extension and check that it is within tolerance. Insert sheet metal screws along the slip connection of the outer silencer into the side of the duct extensions (Detail C). Keep screws within 1" of duct extension edge. Repeat the process on the opposite leg (**See Figure 1.4**).

**FIGURE 1.4** ▼



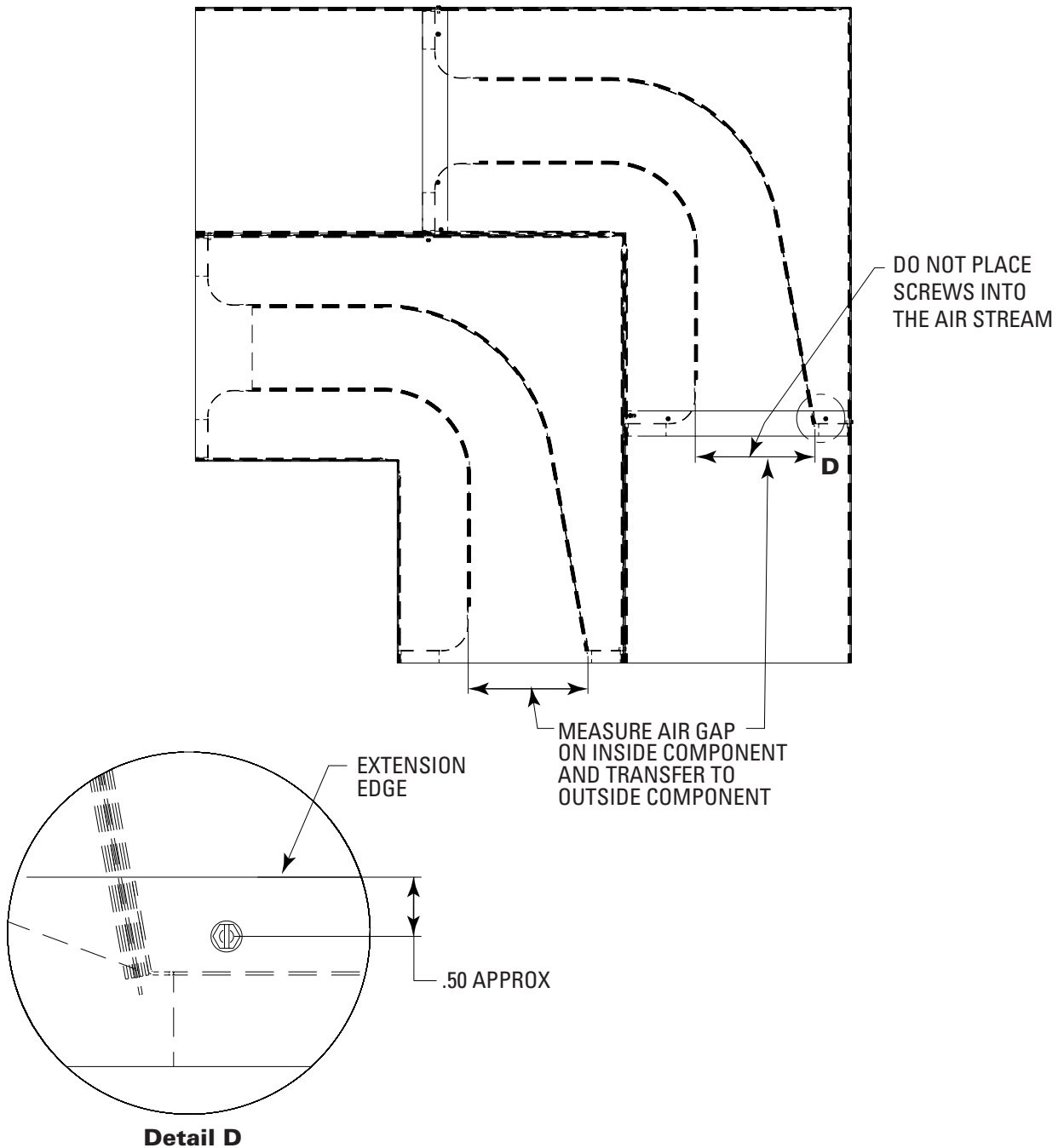
**Detail C**

# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

6. Measure air gaps on the inner elbow silencer component and transfer measurements to outer elbow silencer component. Place screws along the top edge of the duct extension into the top panel of the silencer component, ensuring not to place any screws into the air stream. The screws should be inserted through the top panel of the silencer into the baffle of the silencer. Repeat this process on the opposite leg (See Figure 1.5).

**FIGURE 1.5** ▼

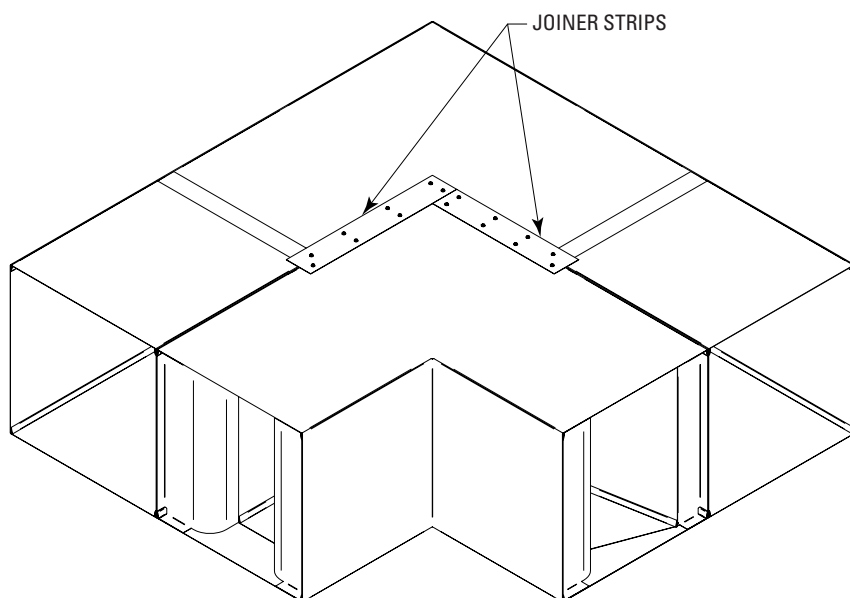


# COMMERCIAL DUCT SILENCER

## INSTALLATION INSTRUCTIONS

- Using joiner strips, fasten the corner of the inner component to the inside corner of the outer component (**See Figure 1.6**).
- Rotate the complete silencer upside down and repeat steps 6 and 7 on the bottom.
- Apply duct sealant around all of the duct extension joints.

**FIGURE 1.6** ▼



### Summary

The quality of a silencer's installation is a critical component in the overall performance of the unit. It is essential to avoid excess generated noise and air leaks to achieve the best possible installed performance and to ensure the silencer is effective.

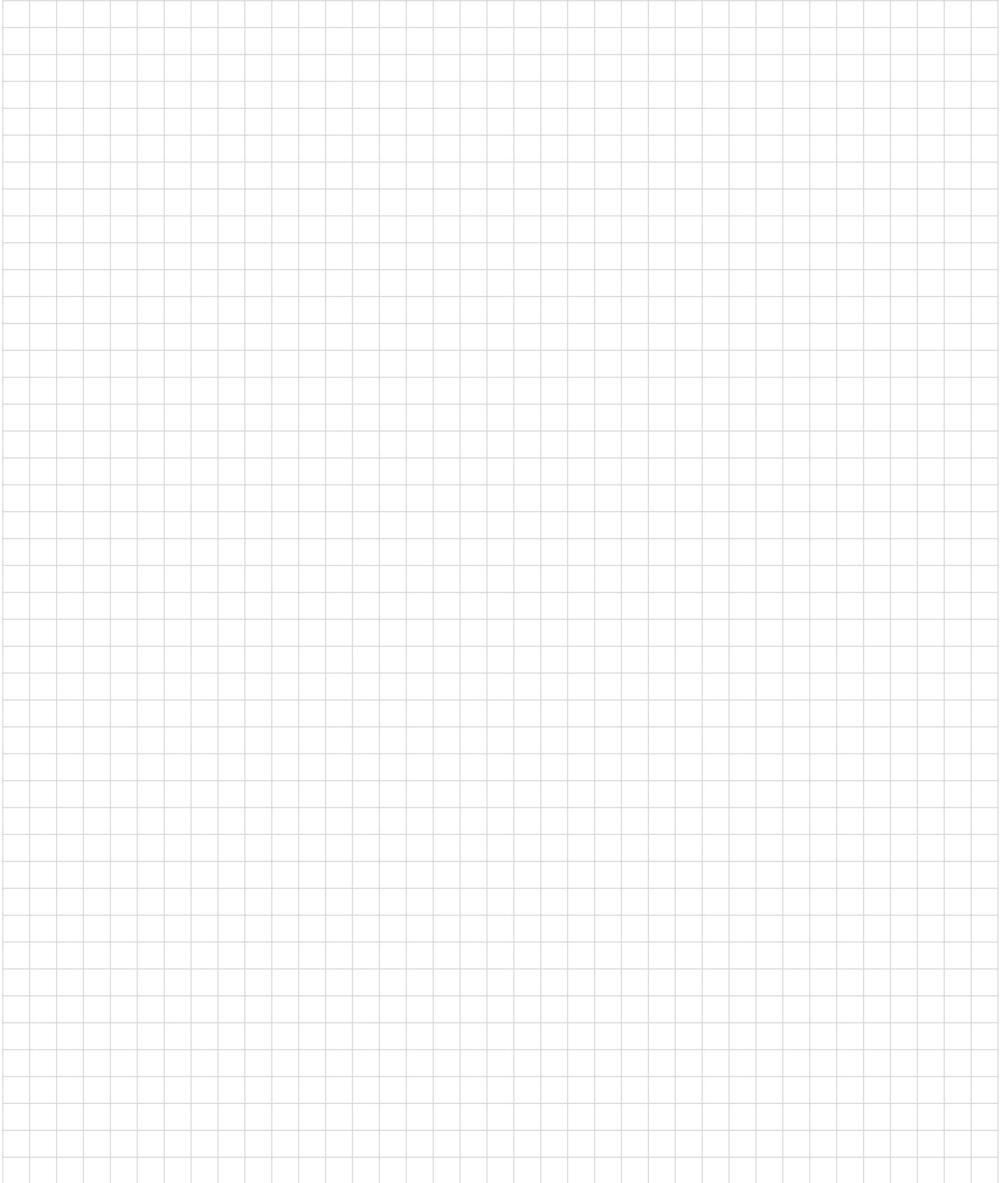
Silencers are often supplied in multiple components for the ease and convenience of manufacturing, shipping and installation. When elbow silencer banks are large, multiple elbow components are shipped separately and assembled into banks at the job site. To ensure optimal performance from the silencer bank, care must be taken to ensure that there are no air leaks coming from the connection joints.

The appropriate installation method for a particular silencer application should be determined by the best judgment of the installing contractor.

# COMMERCIAL DUCT SILENCER

---

## NOTES

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.

---

This document contains the most current product information as of this printing.  
For the most up-to-date product information, please go to [priceindustries.com](http://priceindustries.com)

© 2014 Price Industries Limited. All rights reserved.

**price**<sup>®</sup>