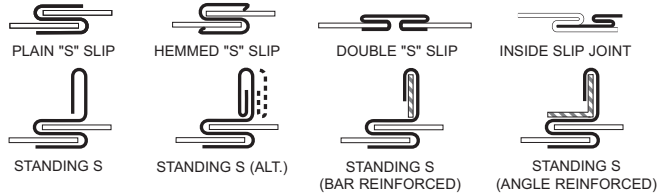


Application - UL Approved Breakaway Connections

All of these connections may be used to terminate the damper sleeve in place of slip joints, for C&S multiple blade or single blade fire dampers, curtain type fire dampers, and combination fire-smoke dampers.

- 1) Duct-sleeve connections listed in UL 555, "Standard For Fire Dampers".



- 2) Additional duct-sleeve connections which were tested and witnessed by UL. The connections performed within the requirements of the UL test criteria.

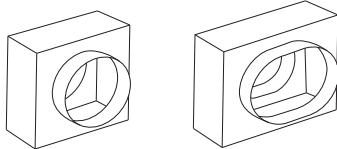
(a) Rectangular Duct - Breakaway Connections

Joints using connections shown in 1) above with a maximum of two No. 10 (M5) sheet metal screws on each side and on the bottom located in the center of the slip pocket and penetrating both sides of the slip pocket. Note: UL tested duct sealant may be used.

(b) Round Duct - Breakaway Connections

Joints where round or oval spiral ducts attach to round or oval collars which are part of the damper sleeve as shown below. No. 10 (M5) sheet metal screws are spaced equally around the circumference of the duct per the following:

- Duct diameters 22" (560) and smaller—3 screws.
- Duct diameters over 22" (560) to and including 36" (920)—5 screws.



DAMPER/SLEEVE ASSEMBLIES WITH COLLARS FOR ROUND AND FLAT OVAL DUCTS

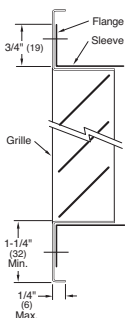
Notes:

- (1) For flat oval ducts, the diameter shall be considered the largest (major) dimension of the duct.
- (2) UL tested duct sealant may be used.

(c) Flat Drive Slips - Breakaway Connections



Joints using connectors of the types shown in 1) above on the top and the bottom and using flat drive slips not exceeding 20" (508) duct height on the sides (see sketch above). Note: If optional sealing of these joints is required, the following sealants may be applied in accordance with the instructions supplied by the manufacturer of the sealant: Design Polymeric - DP 1010 or Precision - PA2084T.



FLANGE TERMINATION AT A GRILLE

Grille (by others).

Grille is to be screwed to minimum 3/4" x 20 gauge (19 x 1) flange.

Grille flange must be minimum 1-1/4" (32) and overlap the opening a minimum of 1/2" (13).

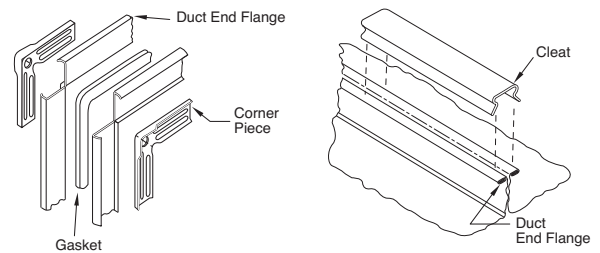
Select the damper with sleeve of sufficient length to permit attachment, with perimeter mouting angles, to duct work on one side of the wall, floor or ceiling opening. Detail shown is for vertical application.

General Installation for Flanged Duct Breakaway Connections

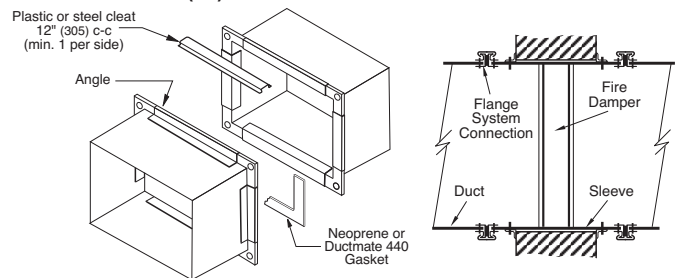
Flange corner pieces insert into the hollow web of the angles and slip over the duct and sleeve. Closed cell neoprene gasket or Ductmate 440 gasket tape is then applied to one face of the flange. To complete installation, butt the flange faces together, aligning edges, and install cleats over the flange. Cleats shall be 6" (153) long, **plastic or steel**. Install minimum one per side, spaced 12" (305) center to center.

Note: Cleats may be replaced by #10 x 3/4" (19) Tek Screws.
• See Table below.

FLANGED DUCT CONNECTIONS



- (d) TDC and TDF roll-formed 4-bolt flanged connections assembled per the manufacturer's instructions using gaskets and metal or plastic cleats. **Flanges may be joined with or without four 3/8" (10) steel bolts and nuts.**



- (e) Ductmate, Ward, Nexus and MEZ slip on 4-bolt flanged connections assembled per the manufacturer's instructions using gaskets and metal or plastic cleats as shown above. As an option, a 3/8" (9) bolt may be used in the corners to help with the alignment. [Min. 20 ga (1.0) thick sleeve].

Note: Cleats may be replaced by #10 x 3/4" (19) Tek Screws.
• See Table below.

Tek Screw Table

Sleeve Width (w) or Height (h)	No. of Tek Screws
w or h < 24"	1 per side
24" ≤ w or h < 36"	2 per side
36" ≤ w or h < 54"	3 per side
54" ≤ w or h < 72"	4 per side
w or h ≥ 72"	5 per side

Note:

It is not necessary to have the same connections on the damper sleeve and on the duct being connected/attached to the damper sleeve. The TDC, TDF, Ductmate, Ward, Nexus and MEZ can be installed and mixed on the sleeve/duct. i.e. the damper sleeve can have a Ductmate connection and can be attached to duct with a TDC, TDF, etc. type connection, or vice versa. Any of the previously mentioned connections can be mixed/matched on the damper sleeve and duct.

