

®
Dayton



Sleeved Fire Dampers

Models 20CK13 thru 20CK20

®
Dayton

**PLEASE READ AND SAVE
THESE INSTRUCTIONS.**

**READ CAREFULLY
BEFORE ATTEMPTING
TO ASSEMBLE, INSTALL,
OPERATE OR MAINTAIN THE
PRODUCT DESCRIBED.**

**PROTECT YOURSELF AND
OTHERS BY OBSERVING ALL
SAFETY INFORMATION. FAILURE
TO COMPLY WITH INSTRUCTIONS
COULD RESULT IN PERSONAL
INJURY AND/OR PROPERTY
DAMAGE! RETAIN INSTRUCTIONS
FOR FUTURE REFERENCE.**

**PLEASE REFER TO BACK COVER
FOR INFORMATION REGARDING
DAYTON'S WARRANTY AND OTHER
IMPORTANT INFORMATION.**

Model #: _____

Serial #: _____

Purch. Date: _____

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BEFORE YOU BEGIN

Models are intended for installation in accordance with fire damper requirements established by:

NFPA - National Fire Protection Association

BOCA - National Building Codes

ICBO - Uniform Building Codes

SBCCI - Standard Building Codes

CSFM - California State Fire Marshal



Tools Needed:

- Drill
- Level
- Tape Measure
- Screwdriver
- Wrench
- Pop Rivet Gun (Optional)

UNPACKING



Contents:

- Dayton® Sleeved Fire Damper (1)
- Operating Instructions Manual (1)



Inspect:

- After unpacking unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing or damaged parts. Shipping damage claim must be filed with carrier.



- See General Safety Instructions on page 2, and Cautions and Warnings as shown.

GENERAL SAFETY INSTRUCTIONS

⚠ WARNING *Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.*

Read and follow all instructions and cautionary markings.

These instructions apply to 1-1/2 hour rated fire dampers mounted in masonry, block or stud walls and concrete floors. Specific requirements in these instructions are mandatory. These instructions meet the requirements of UL 555. Installation shall comply with the requirements of NFPA 90A Standard for the Installation of Air Conditioning and Ventilating Systems.

The basic intent of a proper installation is to secure the fire damper in, not to, the opening in such a manner as to prevent distortion and disruption of damper operation. This is accomplished by allowing the fire damper in rated separation openings to expand and for the connecting duct to separate in the event of the collapse of the hanging system. The following items will aid in completing the damper installation in a timely and effective manner.

1. Check the schedules for proper damper locations within the building. Visually inspect the damper for damage and verify that the fusible link is in place or has not separated. If fusible link is not present or has separated, replace link. Never install a fire damper without the proper UL approved fusible link in place. (Fusible link is standard control option. An electric link may have been provided.)
2. Lift or handle damper using sleeve or frame.
3. Install damper accordingly to comply with manufacturer's appropriate UL procedure file number.
4. Damper must be installed into duct or opening square and free of twist or other misalignment. Damper must not be squeezed or stretched into duct or opening.
5. Damper must be kept clean and protected from dirt, dust and other foreign materials prior to and after installation. Examples of such foreign materials include, but are not limited to:
 - Mortar dust
 - Drywall dust
 - Firesafing materials
 - Wall texture
 - Paint overspray
6. Damper should be sufficiently covered as to prevent overspray of spray-on insulating, wall texturing, or spray painting when performed within 5 feet of the damper. Excessive dirt or foreign material deposits can cause damper to bind and not operate properly.
7. Caulking is not necessary, nor is it allowed, between the damper sleeve and the wall or floor opening (annular space). However, caulking may be applied to the retaining angles.

8. ACCESS: Suitable access (such that fusible links can be changed) must be provided for damper inspection and servicing. Where it is not possible to achieve sufficient size access, it will be necessary to install a removable section of duct. (Refer to NFPA 90A).
9. The Code Authority Having Jurisdiction (AHJ) must evaluate and provide approval of final installation where variations to these instructions are necessary.

SPECIFICATIONS

Dimensions (inches)

	Static				Dynamic			
	20CK13	20CK14	20CK15	20CK16	20CK17	20CK18	20CK19	20CK20
Fire Rating	UL Standard 555, 1-1/2 Hours							
Free Area (Sq. Ft.)	0.110	0.241	0.422	0.643	0.110	0.241	0.422	0.643
Nominal Duct Size (WxH)	6x6	8x8	10x10	12x12	6x6	8x8	10x10	12x12
Damper Depth	3-11/16							
Sleeve Depth	12							
Mounting Type	Vertical, Horizontal							
Recommended Retaining Angle	2TGG4	2TGG5	2TGG7	2TGH2	2TGG4	2TGG5	2TGG7	2TGH2
Replacement Fusible Link	2TGJ2 (165°F)							

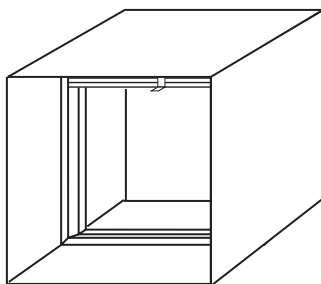


Figure 1



INSTALLATION INSTRUCTIONS

NOTE: No additional sleeves are required.

1. Cut wall/floor opening according to the size of your damper allowing the appropriate clearance.

NOTE: Minimum clearance required between the outside of fire damper sleeve assembly and wall/floor opening is 1/8 inch per linear foot of damper width and height with a minimum clearance of 1/4 inch and a maximum of 1-1/2 inches. Equal space around the damper is not required.

2. Prepare your opening between wood/metal studs and sleeve assembly.
 - a. Frame opening as shown in Figure 2.

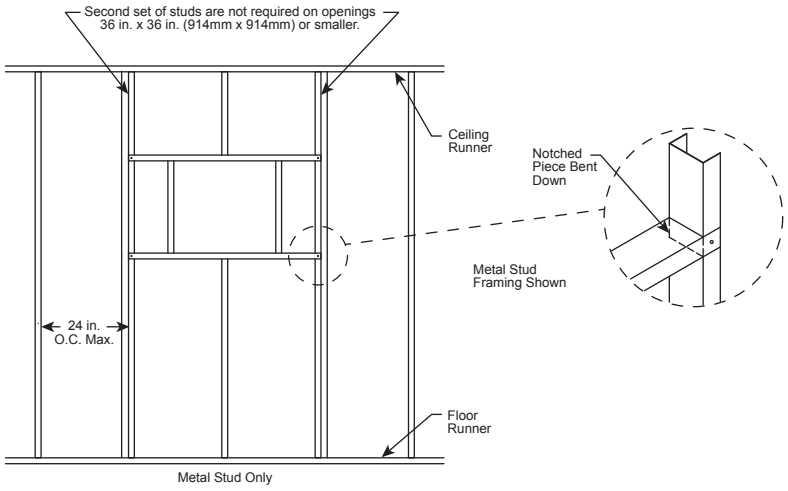
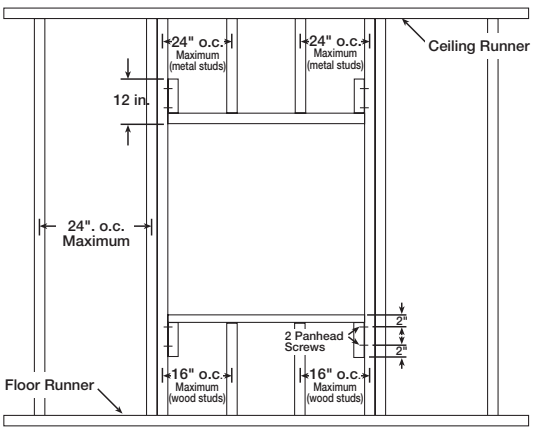


Figure 2

IMPORTANT: All construction and fasteners must meet the requirements of the appropriate wall design (see UL Fire Resistance Directory).

- b. Fasten gypsum wall board 12 inches on center to all stud and runner flanges surrounding opening. Refer to Figure 3.

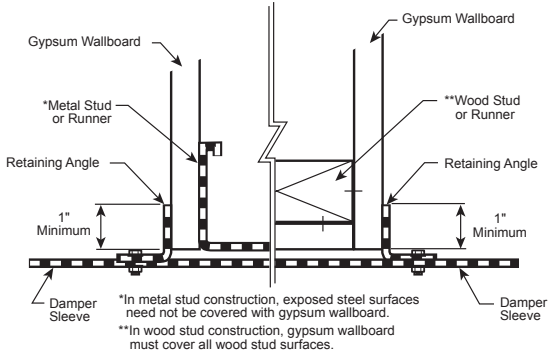


Figure 3

- 3. Fire damper assembly must be installed in wall/floor opening using retaining angles on each side of the wall/floor.

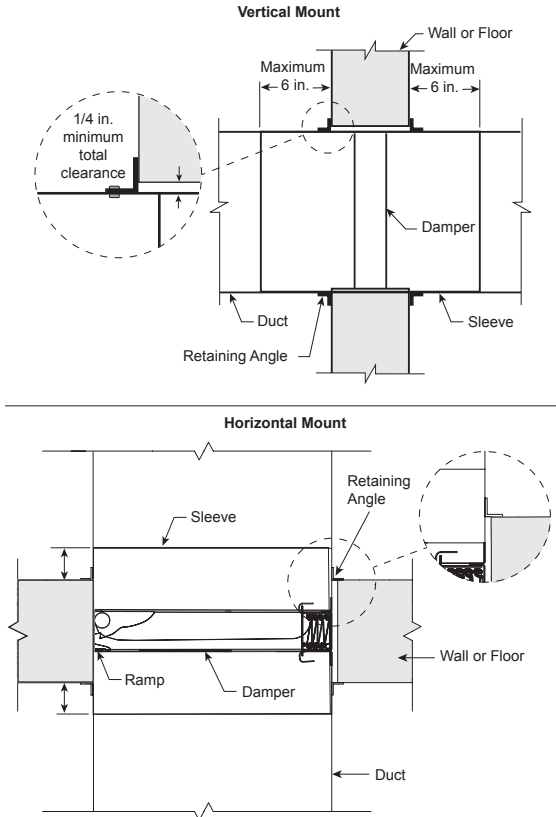
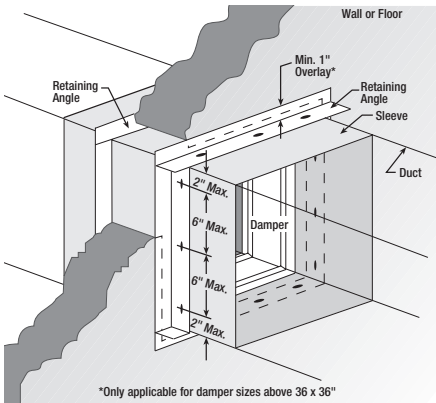


Figure 4

NOTE: When damper is installed horizontally, the ramp must be positioned up as shown in Figure 4.

- a. Retaining angles for 1-1/2 hour rated dampers with a width and height 48 inches or less must be a minimum of 20 ga. The leg of the retaining angle on the damper sleeve shall be a minimum of 1-1/4 inch. The leg of the retaining angle on the wall/floor shall be long enough to cover the annular space and overlap the wall/floor by a minimum of 1 inch.
- b. Retaining angles must be attached to the damper using one or more of the following methods of attachment:



- Tack or spot weld
- #10 sheet metal screw
- 1/4 inch bolt and nut
- 3/16 inch steel pop rivet

Attachments must be spaced a maximum of 6 inches on center and a maximum of 2 inches from corners. The angles must be attached to all 4 sides of the sleeve with butt joints at each corner. A minimum of (2) attachments are required on each side, top and bottom. The angles need not be attached to each other at the corners.

Figure 5

IMPORTANT: Retaining angles should not be fastened to the wall/floor material. Angles should only sandwich the wall/floor and allow for damper expansion during periods of intense heat.

4. Connect duct to fire damper sleeve using one of the following SMACNA approved connection types.

Traditional Breakaway Style Transverse Joint

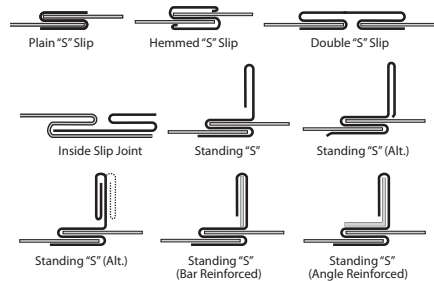


Figure 6

NOTE: The following variations to the above transverse joints are approved methods of duct connection.



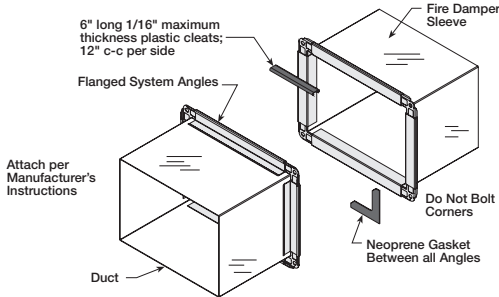
Drive Slip Joint

Figure 7

- a. Apply a maximum of (2) #10 sheet metal screws on each side and on the bottom located in the center of the slip pocket, penetrating both sides of the slip pocket.
- b. Apply transverse joints as top and bottom joints with Drive Slip - side joints in duct heights up to 20 inches. See Figure 7.

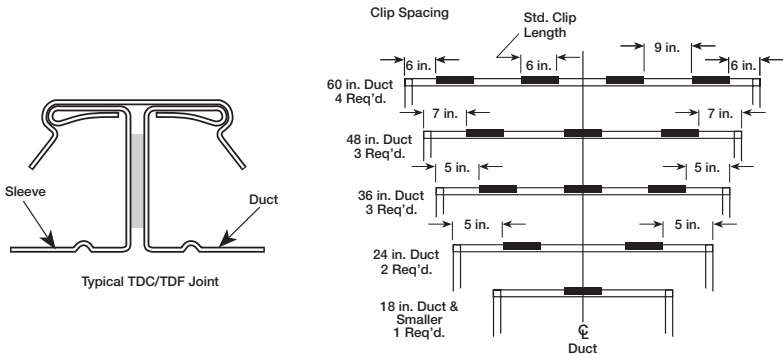
Manufactured Flanged System Breakaway Connections

1. Install connection system manufactured by Ductmate, Ward or Nexus as illustrated in Figure 8.


Figure 8

Proprietary Flange System Breakaway Connections

1. Install TDC (by Lockformer) or TDF (by Engle) system as described in the SMACNA Duct Construction Standards.
2. Standard 6 inch metal clip may be used with spacing. See Figure 9.


Figure 9

3. If desired, fasten together corner pieces using 3/8 inch metal bolts and nuts.

NOTE: All breakaway connections described may have duct sealant applied, PA2084T duct sealant adhesive manufactured by Precision or DP1010 water base duct sealant by Design Polymetrics, in accordance with SMACNA recommendations.

TROUBLESHOOTING GUIDE

Symptom	Possible Cause(s)	Corrective Action
Damper does not fully open/close	<ol style="list-style-type: none"> 1. Frame is “racked”, causing blades to bind or jamb 2. Screws in damper linkage 3. Contaminants on damper 	<ol style="list-style-type: none"> 1. Adjust frame such that it is square and plumb 2. Locate screws and remove 3. Clean with non-oil based solvent
Link separated	<ol style="list-style-type: none"> 1. Heat 	<ol style="list-style-type: none"> 1. Replace link

MAINTENANCE

1. Dampers shall be maintained, cycled and tested in intervals as stated in the latest editions of NFPA 90A, 92A and UL 864 unless local codes require more frequent inspections.
2. Dampers do not typically require maintenance as long as they are kept dry and clean. If cleaning is necessary, use mild detergents or solvents. If lubrication is desired, do not use oil-based lubricants or any other lubricants that attract contaminants such as dust.

DAYTON ONE-YEAR LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. All Dayton® product models covered in this manual are warranted by Dayton Electric Mfg. Co. ("Dayton") to the original user against defects in workmanship or materials under normal use for one year after date of purchase. If the Dayton product is part of a set, only the portion that is defective is subject to this warranty. Any product or part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton or Dayton's designee designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced with a new or reconditioned product or part of equal utility or a full refund given, at Dayton's or Dayton's designee's option, at no charge. For limited warranty claim procedures, see "Warranty Service" below. This warranty is void if there is evidence of misuse, mis-repair, mis-installation, abuse or alteration. This warranty does not cover normal wear and tear of Dayton products or portions of them, or products or portions of them which are consumable in normal use. This limited warranty gives purchasers specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

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