UL 555 FIRE DAMPER &
UL 555S FIRE/SMOKE DAMPER

FIRE DAMPER

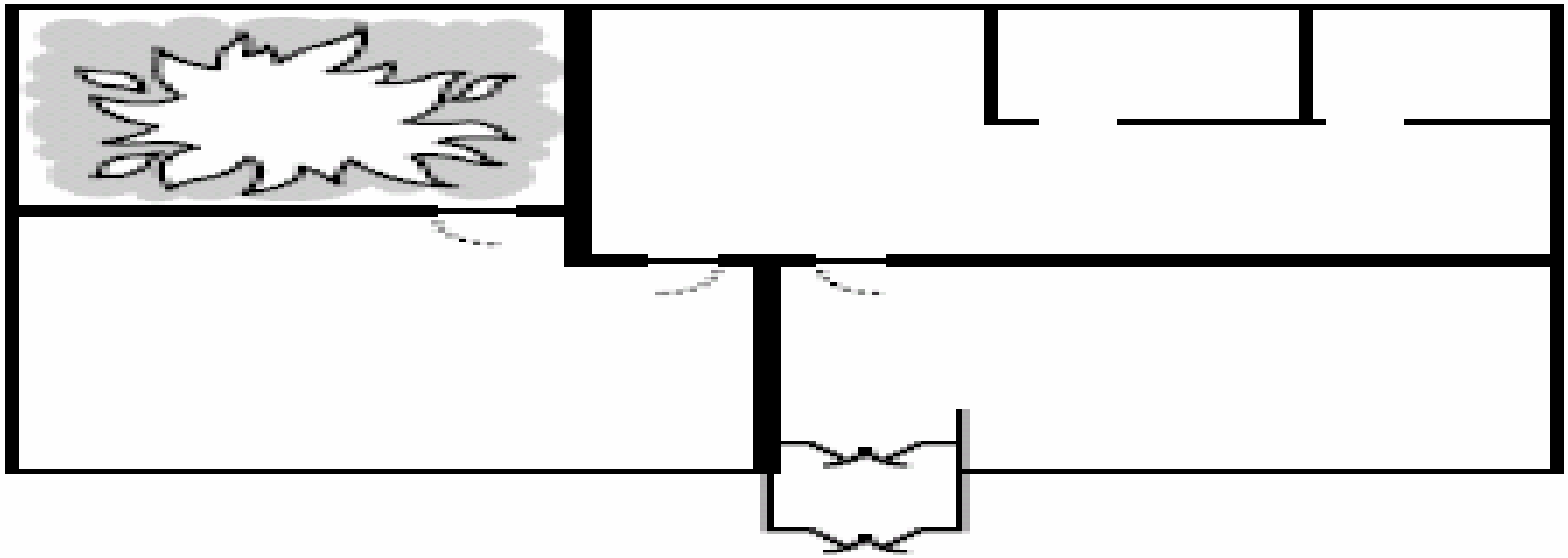
FIRE/SMOKE DAMPER

AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

• FIRE DAMPER

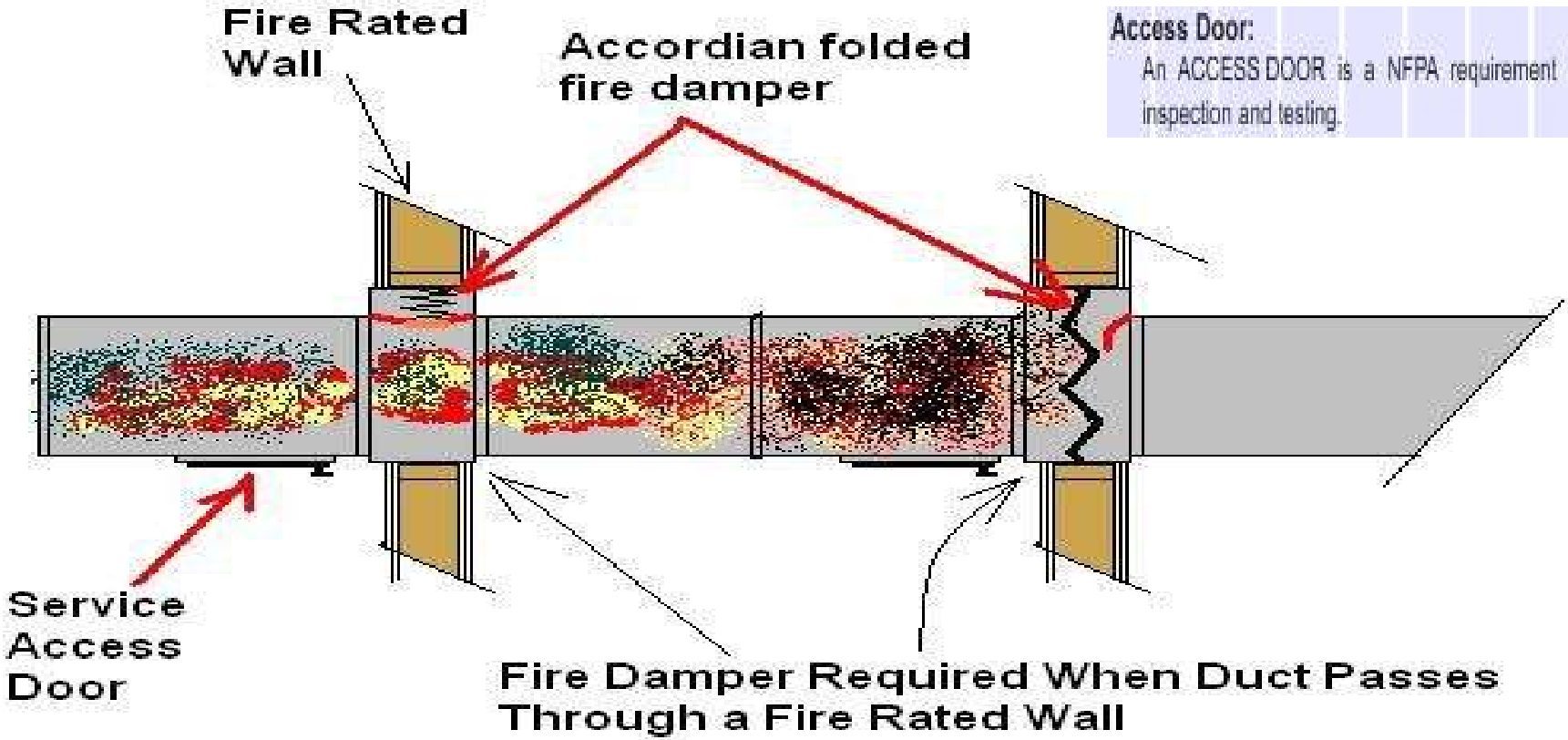
A Device used to restrict the passage of flame through the duct work of an air system. A fire damper is installed in fire rated wall or floor & closes automatically to maintain the integrity of that partition.



Fire rated partitions contain fire damage to the compartment of fire origin.

AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955



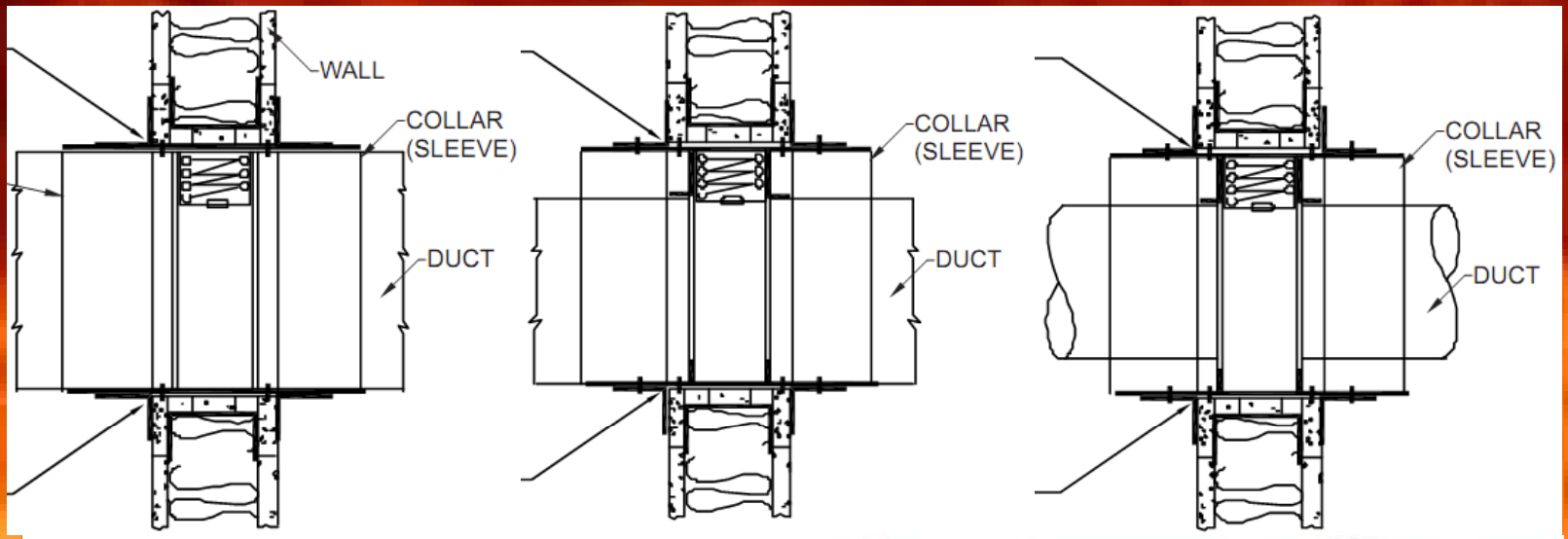
Access Door:
An ACCESS DOOR is a NFPA requirement for damper inspection and testing.

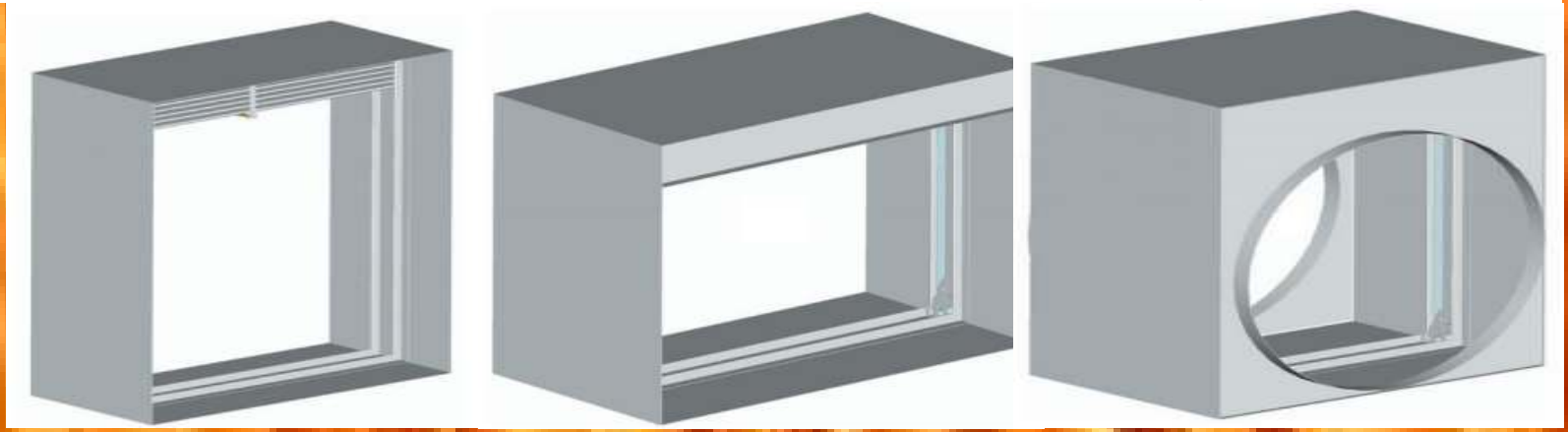
If a fire occurs and is passing through the duct a fusible link melts and drops the accordian folded door to block the fire.

HVAC DUCTING THROUGH A FIREWALL

TYPES OF FIRE DAMPERS

A B C

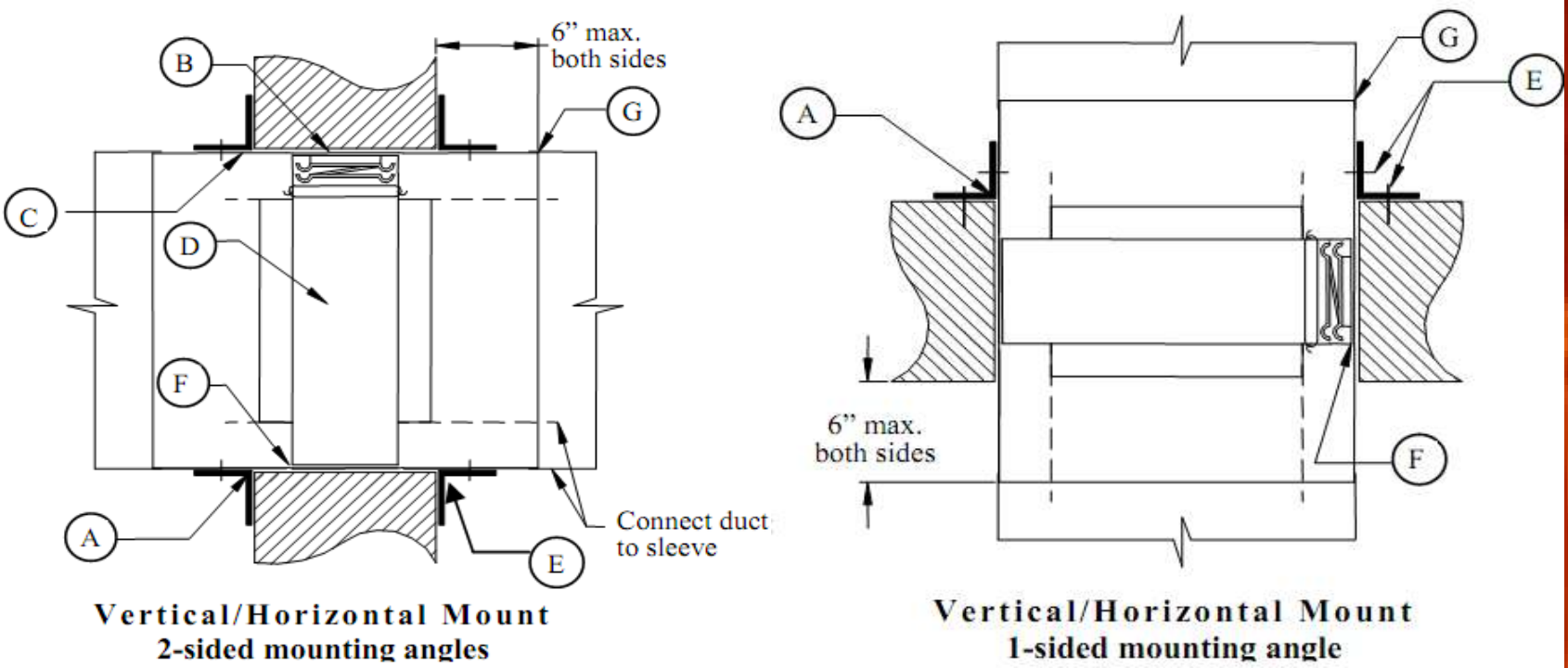




AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

INSTALLATION OF FIRE DAMPERS

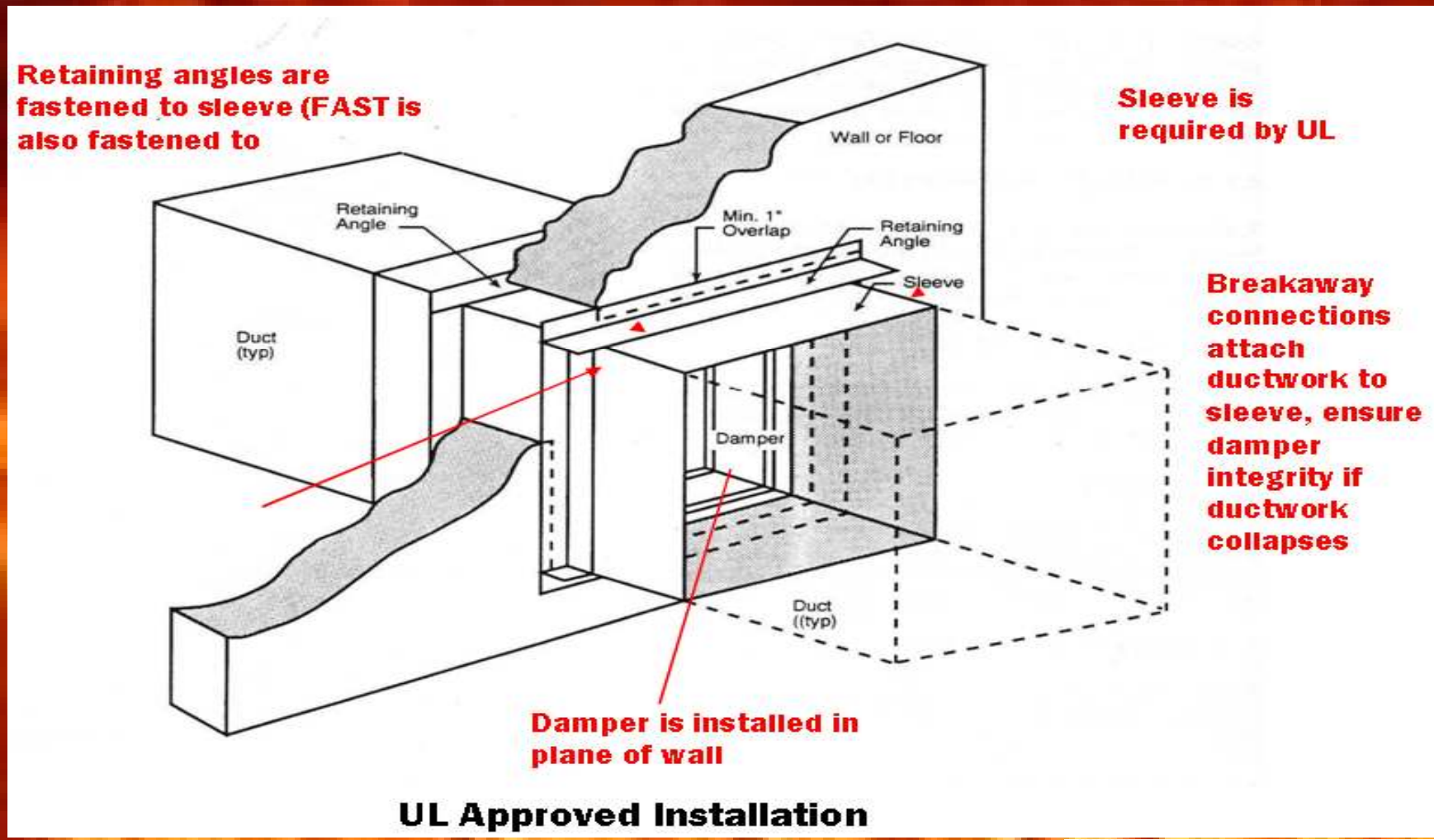


- **A- Retaining angles**
- **B-Clearance: 1/8" per foot**
- **C- Steel sleeve**
- **D- Fire damper**
- **E- Secure angle**
- **F- Secure damper**
- **G- Connect duct to sleeve**

AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

Points to remember..
1. Fire Damper Installation.



AEROVAC

SAFE-AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

- **Combination Fire & Smoke**

  Dampers combines the smoke sealing capabilities of a standard smoke damper with the high temperature capability of a fire damper. These dampers are tested in accordance to UL555 and UL555S

AEROVAC

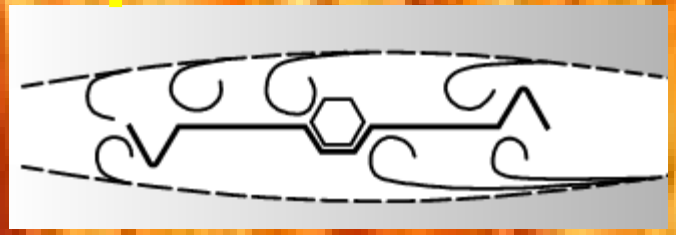
safe·AIR DOWCO

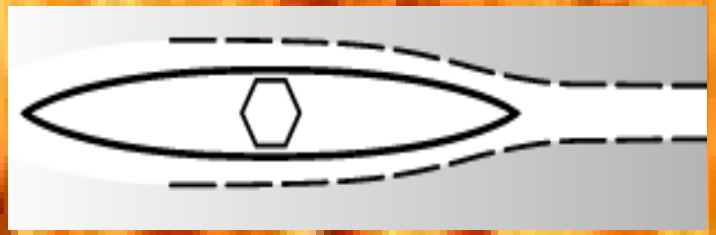
DEPENDABLE PRODUCTS SINCE 1955

- Electronic reset able Heat Sensors for automatic Fire/Smoke Dampers
- 1.5 hr and 3 hr UL rated
- Optional Dual heat sensors (165F , 350F)
- Rated to 2,000 fpm and 4" w.g.
- UL Standard 555S identifies 2 leakage classes as follow:

	Maximum Leakage in CFM/Sq. Ft.		
Leakage Class	@1" w.g.	@4" w.g.	@8" w.g.
Class 1	4	8	11
Class 2	10	20	28

- Triple "V" and Airfoil blades





AEROVAC

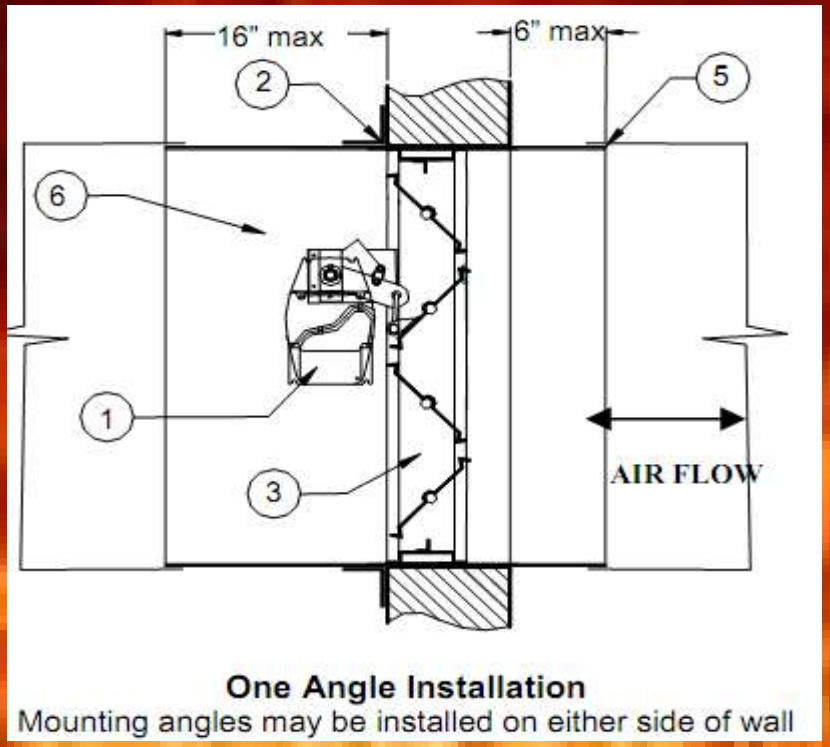
safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

- Heat sensor
- Motor
- Jackshaft
- Knee Lock
- Damper
- Sleeve

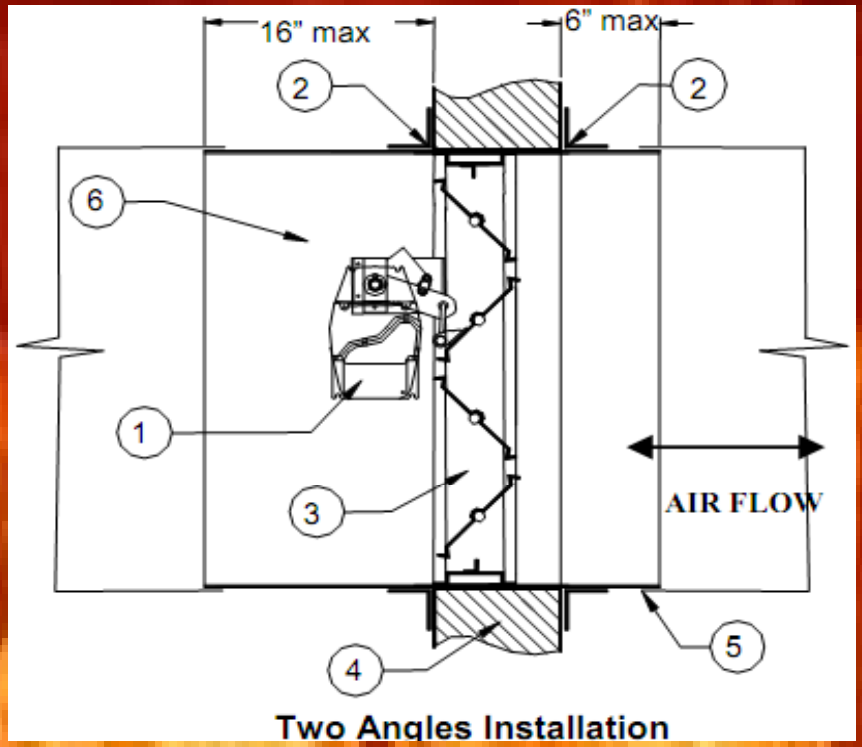
AEROVAC

safe-AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

INSTALLATION OF FIRE/SMOKE DAMPERS



One Angle Installation
Mounting angles may be installed on either side of wall



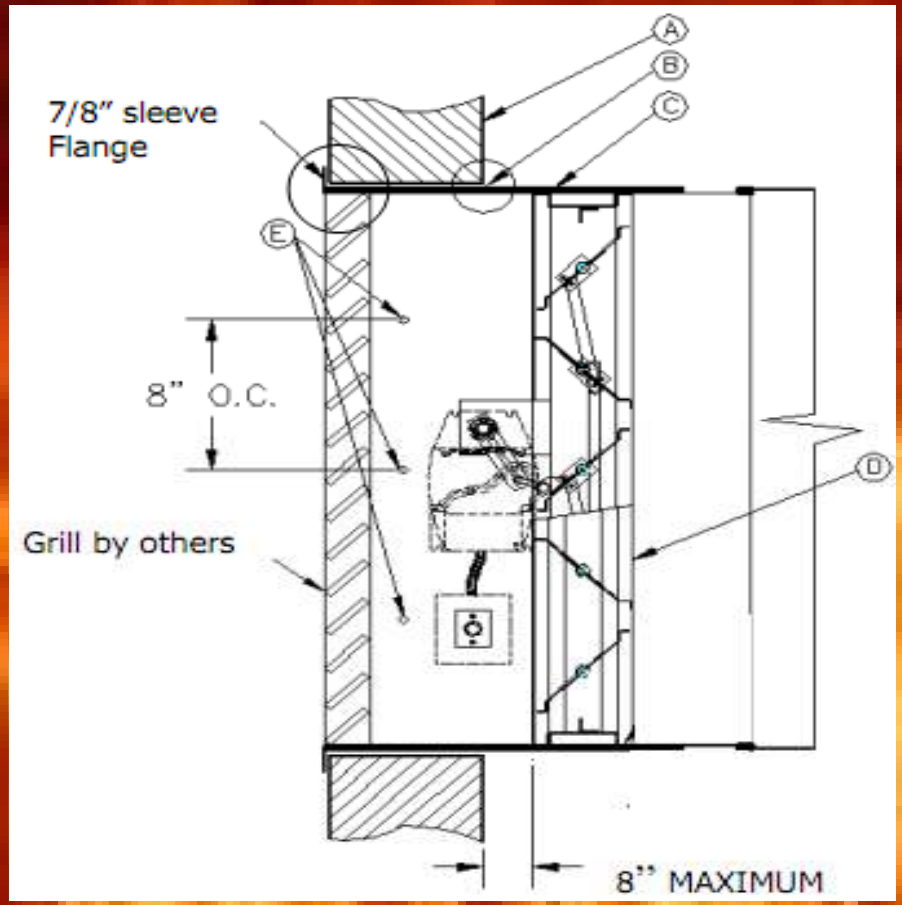
Two Angles Installation

- **1- Motor (internal or external)**
- **2- Retaining Angles**
- **3- Damper Unit**
- **4- Wall/Floor Opening**
- **5- Duct/Sleeve break-away**
- **6- Sleeve**
- **Air flow (bi-directional)**

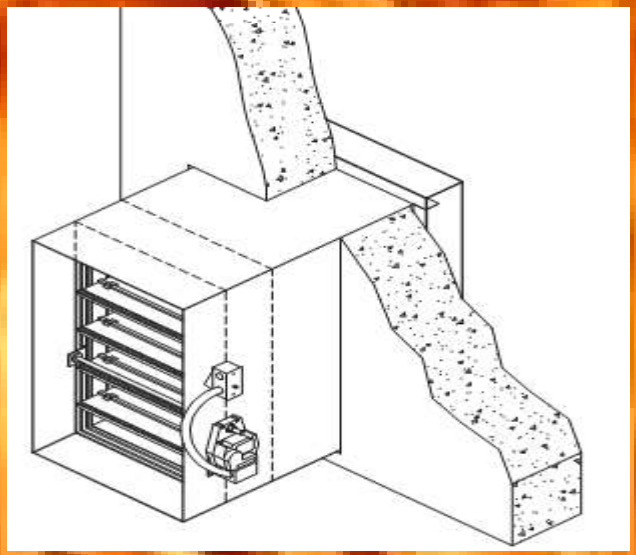
AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

INSTALLATION OF FIRE/SMOKE DAMPERS for out of the wall



- A - Wall Opening
- B - Clearance: 1/8" per foot
- C - Sleeve
- D - Damper unit
- E - Secure damper



AEROVAC

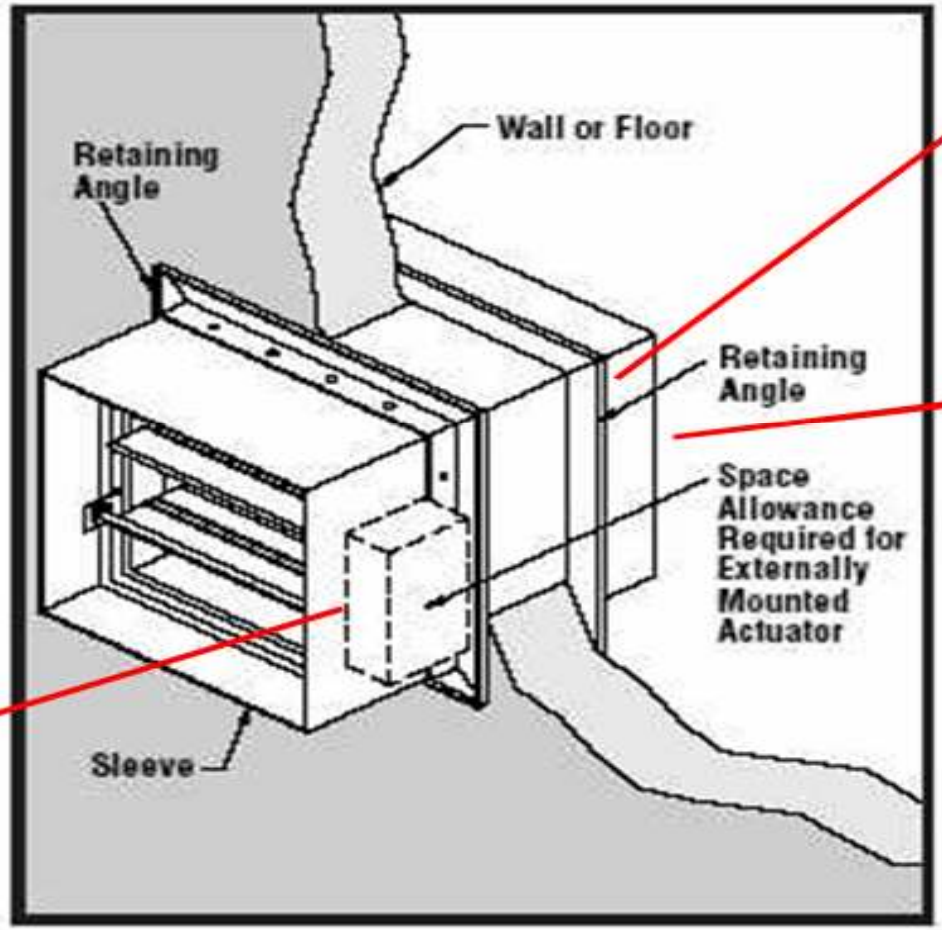
safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

Installation Of Fire/Smoke Damper

Leading edge of blade must be installed within the plane of the wall or floor

Sleeve is required by UL

Access to the actuator must be provided for testing & maintenanc



Retaining angle is fastened to sleeve.

Duct to sleeve connections can be rigid or breakaway type

AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

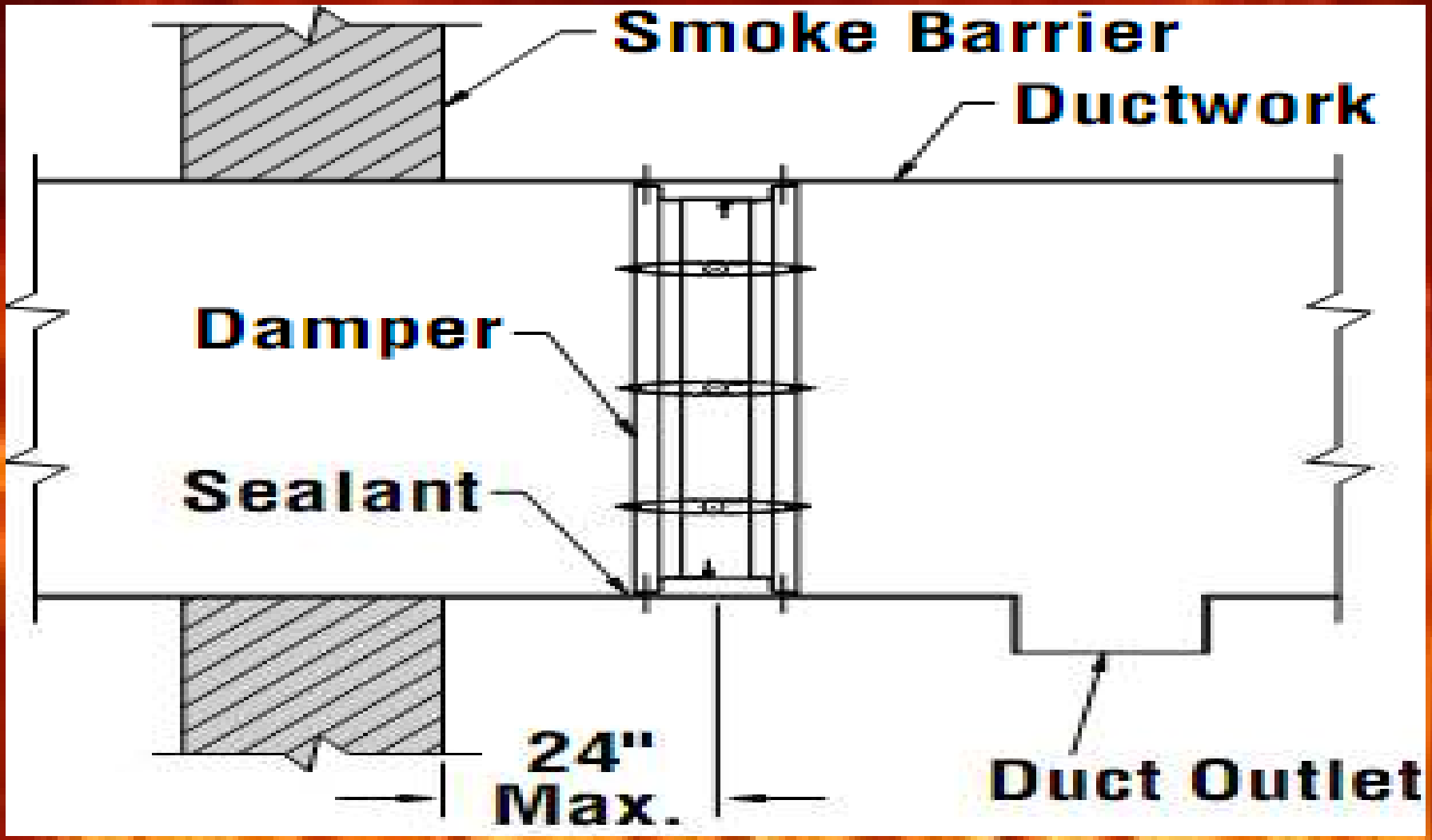
SMOKE DAMPERS

- Smoke dampers are motorized with either an electric or pneumatic actuator. They are controlled by smoke or heat detector signal, fire alarm or some other building control system.

AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

INSTALLATION OF SMOKE DAMPERS

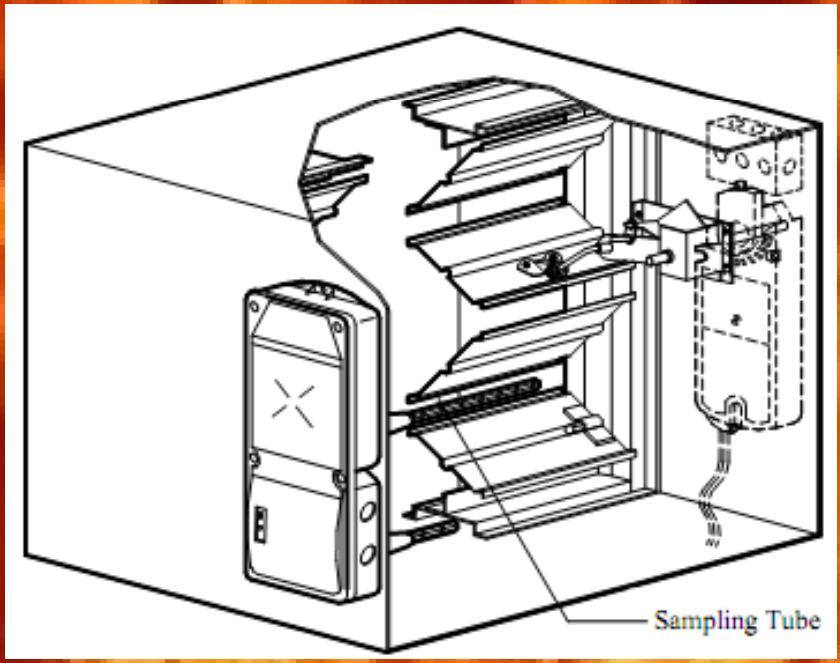


AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

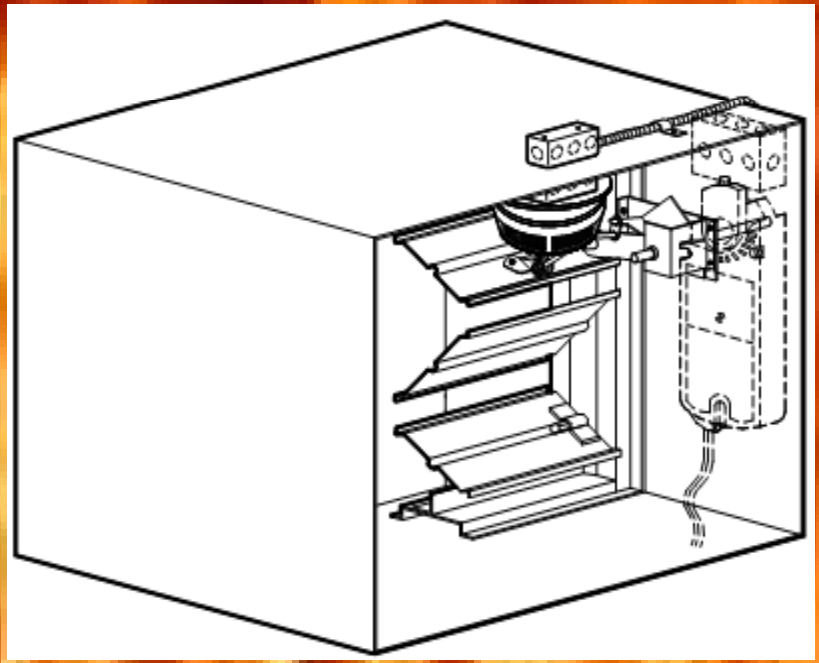
TYPES OF SMOKE DETECTORS

Photoelectric low-flow



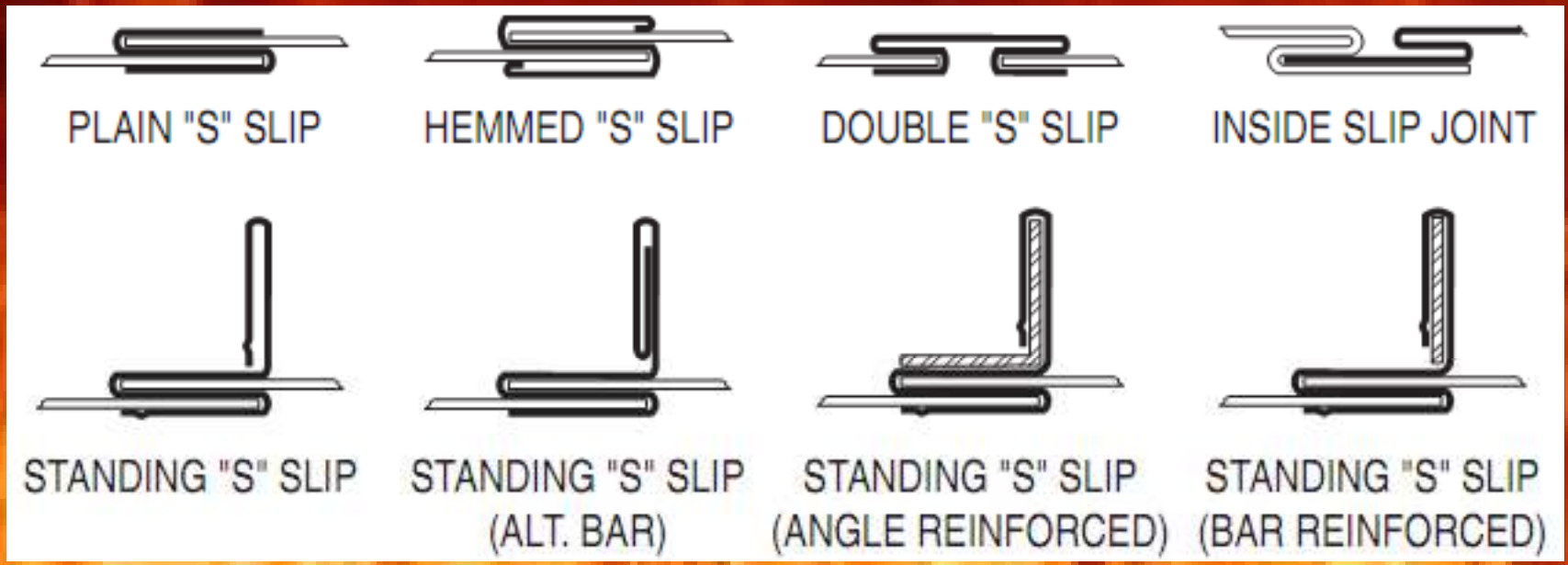
AEROVAC

Photoelectric



safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

BREAK AWAY CONNECTIONS



AEROVAC

safe-AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

BREAK AWAY CONNECTION TEST

AEROVAC

safe-AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

Fire Endurance / Hose Test

- **The damper is exposed to a prescribed and regulated fire for either 1-1/2 or 3 hours to determine hose the hourly classification of the damper assembly. Immediately after the fire exposure, the damper is hose down with a heavy stream of water. This provides an extreme shock to the damper ensuring it will withstand the severity of all fire conditions.**

AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

UL TESTING-DONE IN NORTHBROOK-USA

UL CERTIFICATION

ONLINE CERTIFICATIONS DIRECTORY

EMME.R25348
Dampers for Fire Barrier and Smoke Applications

Page Bottom

Dampers for Fire Barrier and Smoke Applications

See General Information for Dampers for Fire Barrier and Smoke Applications

PRIME AIR-CONDITIONING INDUSTRIES L L C
AL QUOZ INDUSTRIAL AREA-4
GATE NO 35
PO BOX 76345
DUBAI, UNITED ARAB EMIRATES

R25348

Fire Dampers for Use in Static Systems

Model	Hr Class	Damper Mounting Position	Single Section Damper Size, in.		Multiple Section Damper Size, in.	
			W	H	W	H
Aerovac FD-11	3	V	36	36	—	—

Fire Dampers for Use in Static Systems

Model	Hr Class	Damper Mounting Position	Single Section Damper Size In.		Multiple Section Damper Size In.	
			W	H	W	H
150, 151	1-1/2	V	60	60	120	80
		H	48	48	97	42
300	3	V	24	24	48	48
		V	36	16	—	—
		H	48	48	72	72
770	1-1/2	H, V	36	48	144	96
780	1-1/2	H, V	36	48	144	96

Fire Dampers for Use in Dynamic Systems

Dampers rated 2000 fpm / 4.0 in. WC:

Model	Hr Class	Damper Mounting Position	Single Section Damper Size In.		Multiple Section Damper Size In.	
			W	H	W	H
D-175	1-1/2	H, V	36	36	—	—

AEROVAC

safe·AIR DOWCO
DEPENDABLE PRODUCTS SINCE 1955

D-175-3	3	H, V	36	36	—	—
D-150	1-1/2	V	24	24	—	—
D-300	3	V	24	24	—	—

Smoke Dampers

Dampers rated 2000 fpm / 4.0 in. WC:

Model	Leakage Class	Damper Mounting Position	Single Section Damper Size In.				Multiple Section Damper Size In.	
			W		H		W	H
			Min	Max	Min	Max		
621	I-350	H, V	6	36	6	48	144	48
622	II-350	H, V	6	36	6	48	144	48
661	II-350	H, V	8	32	8	48	—	—
682	II-350	H, V	8	32	8	48	128	48

Combination Fire and Smoke Dampers

Dampers rated 2000 fpm / 4.0 in. WC:

Model	Hr Class	Leakage Class	Damper Mounting Position	Single Section Damper Size In.				Multiple Section Damper Size In.	
				W		H		W	H
				Min	Max	Min	Max		
771	1-1/2	I-350	H, V	8	36	6	48	144	96
		II-350	H, V	6	36	6	48	144	96
771-OP	1-1/2	I-350	V	8	36	6	42	144	42
771-3	3	I-350	H, V	8	36	6	36	144	36
		II-350	H, V	6	36	6	48	144	36
772	1-1/2	II-250	H, V	8	36	6	48	144	96
		II-350	H, V	12	36	6	48	144	96
772M	1-1/2	II-350	H, V	8	36	6	48	144	48
772-OP	1-1/2	II-350	V	8	36	6	42	144	42
772-3	3	II-250	H, V	8	36	6	36	144	36
		II-350	H, V	12	36	6	36	144	36
772-3M	3	II-350	H, V	8	36	6	36	144	36
781	1-1/2	I-250	V	12	32	8	48	128	96
		I-250	H	12	32	8	36	128	96
781-3	3	I-250	V	12	32	8	48	128	48
		I-250	H	12	32	8	36	128	48

Dampers rated 2000 fpm / 4.0 in. WC:

Model	Hr Class	Leakage Class	Damper Mounting Position	Single Section Damper Size In.	
				W	H
471	1	I-350	V, H	24	24
472	1	II-250	V, H	24	24

The following Combination Fire and Smoke Dampers have been found suitable for volume control use:

Model 772M - Single section sizes up to 36 in. wide by 48 in. high; Model 772M-3 - Single section sizes up to 36 in. wide by 36 in. high.

Note: Only certain damper and operator combinations have been evaluated and found suitable for volume control use. As such, only dampers marked "Also Suitable For Use As Volume Control Damper" should be considered suitable for volume control applications.

Last Updated on 2010-03-25

BENEFITS OVER OTHER STANDARDS

Benefits

UL	Other international standard
Two different standards UL 555, & UL 555S.	One standard for Fire, Smoke & passage of gases.
Only Smoke dampers also can be evaluated as per UL 555S.	Only Smoke dampers can not be evaluated as per this standard.
Latest standard is 2006 for UL 555 and UL555S	Latest standard is 1996
Fire & Hose stream test done together.	Only Fire Endurance Test done.
Facility available for small size (36 x 36 in) to cover both horizontal & vertical in one shot	Horizontal dampers has to be tested separately that vertical mount dampers.
Dampers can be tested on both dry gypsum wall or masonry wall.	Does not talk of damper installation in dry wall construction
Fire test is followed by hose stream test. (Cooling, Erosion & Impact)	No hose stream test required.

Benefits

UL	Other international standard
Strict requirement of clearance during fire endurance and after hose stream test for acceptance.	No requirement for clearance as passing criteria.
After Cycling test on combination dampers is put in temp degradation for 30 min	No temp degradation test required.
Combination Fire & Smoke damper can be rated at different air velocities and pressure.	Range of air velocity & pressure not available.
To rate the damper for one velocity and pressure safety factor is included for testing and test is done at higher values.	No such safety factor.
Damper opening / closing time is also criteria of acceptance.	No such opening/closing time is criteria for acceptance.


Thank You
Any questions?
AEROVAC
safe-AIR
DOWCO
DEPENDABLE PRODUCTS SINCE 1955