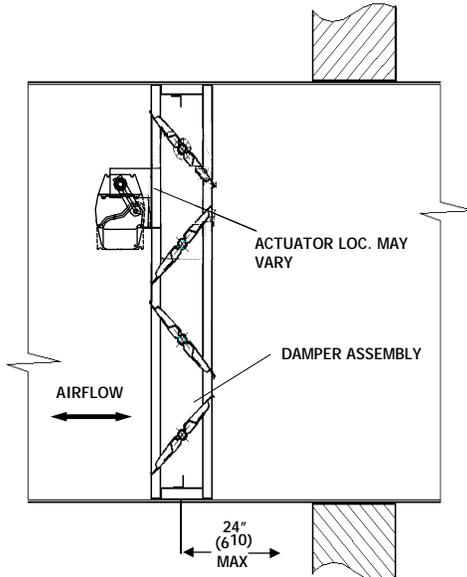
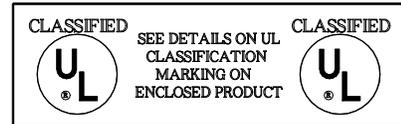


INSTALLATION INSTRUCTIONS - SMOKE DAMPER MODELS 621, 622, 622M, 662, 681, AND 682



**Damper Installed at Smoke Partition
Vertical or Horizontal Mount Shown**



Typical Installation Instructions

1. Leakage rated dampers can be installed in accordance with NFPA 90A and 92A.
2. Damper shall not be forced into the wall opening; this will cause the damper to get out of square and will not work properly. Sleeve shall not exceed more than 24" (610) beyond the face of the wall on both sides.
3. Damper shall be attached to duct / sleeve using 1/2" (13) long welds or # 10 (M5) sheet metal screws 3/4" (19) long spaced @ 6" (152) maximum on center and 2" (51) maximum from corners.
4. Smoke Dampers must be placed in the ductwork so the closed blades are within 24" (610) of the smoke barrier and before any duct inlets or outlets (access doors not included)..
5. Make sure that damper unit remains squared in its enclosure and that the blades are not obstructed and the actuator and connection linkage are free from debris.
6. The following duct-unit connections may be used: (caulked connection as needed)
 - Inside slip
 - Plain "S" slip
 - Hemmed "S" slip
 - Bar slip
 - Alternate slip (standing slip)
 - Reinforced bar slip (cleat)
7. Caulk joints between sleeve and frame with the following approved sealant.
 - Dow Corning RTV #732
 - GE RTV #108

Electric Damper Actuator Connection

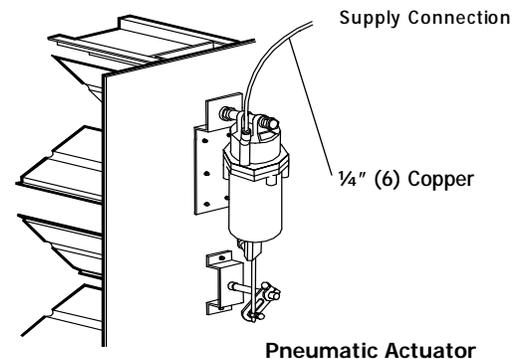
1. Before any connections are made, check the damper to be sure no physical damage has occurred during mechanical installation.
2. Bring the building electrical control wiring to the junction box (supplied by others) and connect. (Use method described in local code requirements).
3. Refer to manufacturers technical specification for electric actuators.

Pneumatic Damper Actuator Connection

1. Before any connections are made, check the damper to be sure no physical damage has occurred during the mechanical installation.
2. Install air supply to the actuator using 1/4" (6) dia. copper tubing or as required by local codes.
3. Refer to manufacturers technical specification for pneumatic actuators.

APPROVED ACTUATORS

	Honeywell	Siemens	Belimo
230 Vac -		GGD321.1U	
	ML 4115	GGD221.1U	FSNF120 US
120 Vac -	MS 4209		
	MS 4120		
	ML 8115	GGD121.1U	FSNF 24 US
24 Vac -	MS 4309		
	MS 8120		
Pneumatic -		331-2961	
		331-3060	



Trouble Shooting

Each smoke damper is fully tested in our factory before shipment and although designed for rugged, long-life service mishandling in transit may cause minor field problems.

Most problems that occur are attributable to the following:

1. The damper frame is out of square that causes binding of the blades and prevents proper opening and cycling.
2. Foreign material between blades interfaces and prevents complete cycling.
3. Mis-positioned or unsecured actuator module prevents damper operation.

The above are overcome by carefully re-squaring the damper, inspecting and cleaning the blades interfaces, or correcting the actuator mounting position.



OPERATION AND MAINTENANCE INTRUCTIONS

FIRE & SMOKE AND SMOKE DAMPERS

This operation and maintenance instructions should not serve as a standard basis for all damper products and other manufacturers, but for Safeair-Dowco damper products.

All fire smoke and smoke dampers require routine maintenance procedures in order for dampers to operate as intended in any case in which fire and smoke may occur within the building. Periodic testing of all parts linked to the damper is essential to maintaining a working damper. Check that all actuators, blades, fans, etc. are functioning properly and that nothing is preventing blades or controls from operating. Be sure to check that nothing is blocking or hindering air way passage. Safeair-Dowco recommends that each routine operation and maintenance procedure follow with NFPA92A, NFPA80 and NFPA105 requirements and local authority approvals.

MAINTENANCE:

1. Check interior and exterior sides of dampers for any major defects or material disintegration that may prevent proper functioning of damper.
 - a. In serious damage contact Safeair-Dowco <http://safeair-dowco.com/contact.php>
2. Re-tighten any loose linkage or attached equipment, such as actuator.
3. Shafts, bearings, pivot points etc. should be cleaned and lubricated with a light spray oil. Any and all access should be removed.
 - a. *Use silicone based lubricant and not petroleum based lubricant.*
 - b. *Dampers with non-metallc or carbon sleeve bearings do not require lubrication*
4. Blades should be checked for freedom of movement.
5. Blades should also be disconnected from their operators and manually checked (Blades should move freely with no binding or twisting).
6. Motors (electric or pneumatic) should be visually checked through their complete cycle for defects, binding or misalignment. Operator anchorage and fittings should also be checked.
 - a. *Damper should be operated under normal airflow conditions.*
7. If in any case actuators, blades or linkage is not properly functioning, contact Safe-Air Dowco at our given inquiry page located above to be further assisted.

TESTING PROCEDURE:

1. With the thermal disc intact, heat the thermal disc with a temperate heat source,
 - a. *Make sure not to overheat and damage the thermal disc.*
2. Check that the thermal disc functions properly as it will activate the actuator to close the damper blades.
 - a. **(Be sure to keep hands out of path while blades are closing)**
3. When testing procedure is done and all parts are working collectively and properly, allow thermal disc to cool.
4. Reset the disc located on the outside of damper, which will then re-open the damper blades allowing airflow.
5. Record date of testing procedure and label on a sheet.
6. Repeat testing procedure on a set periodic routine.