Honeywell

Static Pressure Regulating Damper (SPRD)

INSTALLATION INSTRUCTIONS

APPLICATION

The Static Pressure Regulating Damper (SPRD) is a round or rectangular single-blade barometric relief damper. It is a mechanical damper with no electrical connections. The blade has a counter-balance weighted arm that can be adjusted to open when necessary. It is recommended for use on zone damper systems up to.5 in. static pressure and up to 2000 cfm. Systems above 2000 cfm may require use of the SPC static pressure control and MARD damper.

The SPRD is used on zoned systems when the automatic closing of zone dampers can create an excessive increase in the air pressure and velocity through the duct system. This increase can reduce the volume of air through the air handler and cause it to trip on high limit or to create ice on the coil.

The SPRD automatically opens as the air pressure in the duct system increases, and ducts the air into the return or dump zone. Both the position of the counterweight and the swing of the arm can be adjusted to allow the SPRD to open when necessary. See Fig. 1 and 2 for SPRD dimensions.

The counterweight arm assembly and counterweight only are available as replacement parts. See Fig. 3.

INSTALLATION

When Installing This Product…

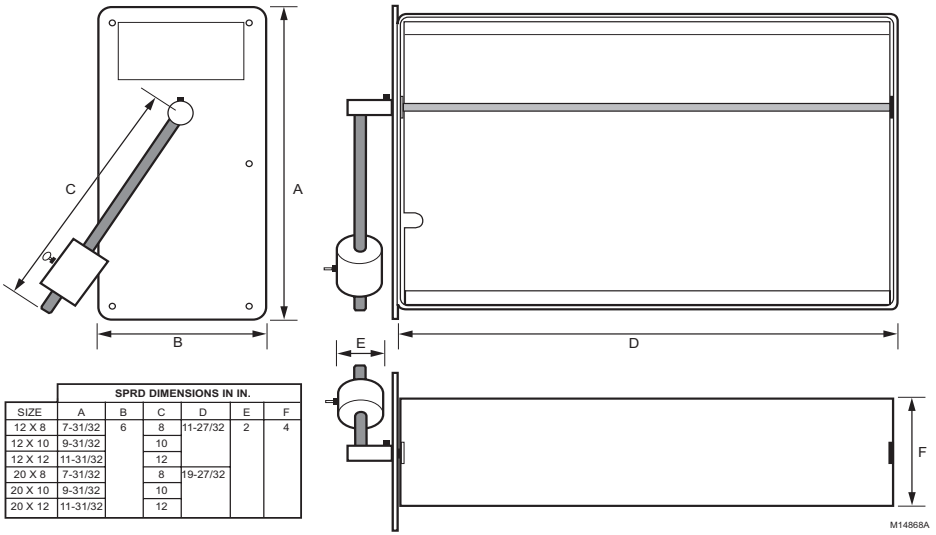
1. Read these instructions carefully. Failure to follow them could cause a hazardous condition.
2. Check that all components are included. The SPRD package includes: SPRD damper, counterweight arm assembly and installation instructions.
3. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
4. Installer must be a trained, experienced service technician.
5. After installation is complete, check out the product operation as provided in these instructions.

Selecting Damper Size

1. Size the bypass damper by subtracting the cfm of the smallest zone from the cfm of the system.
2. Consult Table 1 to determine the correct rectangular or round SPRD to use.
3. Alternately, calculate the bypass damper size using a duct-sizing calculator. Use.25 in. for a bypass zone and.1 in. for a dump zone.

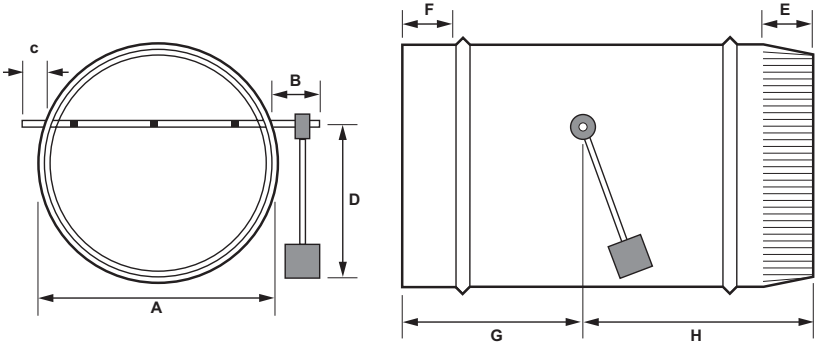
Table 1. SPRD Damper Sizing.

Rectangular	Recommended cfm	Round	Recommended cfm
12 x 8	1000	7	300
12 x 10	1200	8	400
12 x 12	1400	9	600
20 x 8	1600	10	750
20 x 10	2000	12	1200
20 x 12	3000	14	1800
—	—	16	2400



SPRD DIMENSIONS IN IN.						
SIZE	A	B	C	D	E	F
12 X 8	7-31/32	6	8	11-27/32	2	4
12 X 10	9-31/32		10			
12 X 12	11-31/32		12			
20 X 8	7-31/32		8	19-27/32		
20 X 10	9-31/32		10			
20 X 12	11-31/32		12			

Fig. 1. Rectangular damper dimensions in in.



SPRD DIMENSIONS IN IN.								
SIZE	A	B	C	D	E	F	G	H
6	6	2-3/8	3/4	8	1-3/4	1-3/4	4	4
7	7			8			4.5	4.5
8	8			10			5	5
9	9			10			5.5	5.5
10	10			12			6	6
12	12						7	7
14	14						8	8
16	16						9	9

Fig. 2. Round damper dimensions in in.

Selecting Damper Location

Install the SPRD in the ductwork or plenum upstream of any zone dampers and downstream of the air handler or furnace. Then run a duct from the SPRD into the return. It is preferable to place it as far as practical from the air handler.

The round SPRD can be mounted in vertical or horizontal ductwork. The rectangular SPRD can be mounted only in horizontal ductwork. Be sure there is adequate room for the weight arm to swing freely.

The equipment should be protected from freeze-up and from tripping the high limit with a C7735 on the TZ-3, TZ-4, EZ-2, EZ-4, EMM-3, and EMM-3U or with a C7835 on network zoning systems.

Alternatively, the SPRD can dump air from the supply to a non-critical temperature area such as a hallway, basement, or false ceiling (in commercial applications). Honeywell does not recommend using dump zones.

Mounting the Damper

Rectangular SPRD

1. Cut a 4 in. opening into the side of the air duct. Be sure the opening is cut fully to the top and bottom of the duct. (See Fig. 1 for damper dimensions.)
2. Slide the damper into the opening
3. Secure the mounting plate to the air duct using the six no. 8 18 x 1/2 sheet metal screws (included).

Round SPRD

1. Install a duct collar into the duct. See Fig. 2 for damper dimensions.
2. Slide the damper onto the duct collar
3. Secure the damper using no. 8 18 x 1/2 sheet metal screws (not included) through the damper and duct collar.

Settings/Adjustment

After the damper is installed into the duct, assemble the counter-weight subassembly into the damper:

1. Remove the counterweight subassembly from the carton.
2. Loosen the set screw on the extension so the extension can slip over the damper shaft.
3. Place the extension on the desired side of the damper shaft.
4. Adjust the angle of the counterweight to approximately 45 degrees from the vertical down position and tighten the set screw to 40+/- 10 in. lb torque.
5. Adjust the counterweight by loosening the thumb screw on the counterweight, moving the counterweight to the desired position and retightening the thumb screw.
   a. Move the counterweight toward the end of the arm to increase the damper closing force.
   b. Move the counterweight toward the damper shaft to decrease the damper closing force.
6. Set the thermostats so only the smallest zone is calling for circulation fan or air conditioning. The SPRD should be partially or fully open. The velocity from the registers should be acceptable. Adjust the SPRD, if necessary.
7. Set all thermostats to call for circulation fan or air conditioning. The SPRD should now be closed.

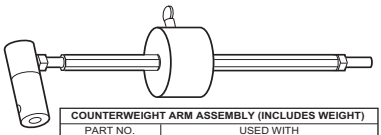
CHECKOUT

After completing the installation, be sure the equipment operates correctly:

1. The damper opens fully or partially when the smallest zone of the system is calling, then closes as the other zones call.
2. When all zones are calling, the damper is fully closed.

REPLACEMENT PARTS (FIG. 3)

Both the counterweight arm assembly and the counterweight are available as replacement parts. See Fig. 3 for part numbers. If the counterweight arm assembly is used on the rectangular SPRD, remove the coupling extension because it is used only for the round SPRD. Remove the extension from the coupling by loosening the setscrew nearest the counterweight arm using a 1/8 in. Allen wrench (not included).



COUNTERWEIGHT ARM ASSEMBLY (INCLUDES WEIGHT)	
PART NO.	USED WITH
32005981-002 (ASSEMBLY)	SPRD6, SPRD7, SPRD12X8, SPRD20X8
32005981-003 (ASSEMBLY)	SPRD8, SPRD9, SPRD12X10, SPRD20X10
32005981-004 (ASSEMBLY)	SPRD10, SPRD12, SPRD14, SPRD16 SPRD12X12, SPRD20X12
32005688-001 (WEIGHT ONLY)	ALL SPRD DAMPERS

M19643

Fig. 3. SPRD replacement parts.

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