

METERING AIR SYSTEM (MAS-1) INSTALLATION INSTRUCTIONS

Items included:

- 1) Metering air damper
- 1) Mounting template
- 1) 6" intake hood
- 20) Small washers (2 grams each)
- 3) Large washers (50 grams each)

Installation of metering air damper:

- 1) Apply mounting template onto the side of the return air plenum of the furnace. By wetting the back side and applying to any vertical surface of the return air plenum.

Caution: Unit must be mounted on a vertical surface. Level the template horizontally by marking a line onto the plenum using a level. Then applying the edge of the template on this line.(SEE FIGURE 2)

- 2) After allowing template to dry, drill (4) 1/8 inch diameter holes at the location indicated on the template. Also, drill 4 or 5 holes along the cutting line of the 6 1/8 inch diameter hole indicated on the template to allow for a starting hole for cutting. Then cut hole with metal shears.
- 3) Mount the metering air damper using supplied sheet metal screw.(SEE FIGURE 3)

Installation of intake hood:

- 1) Locate intake hood at least 10 feet away from any device that exhaust flue gases.
- 2) Install the intake hood at least 12 inches above grade.
- 3) Cut a 6 1/8 inch diameter hole through the wall. Then mount the intake hood to the wall using suitable fastener. Then seal along the mounting plate with silicone or equivalent sealant.
- 4) Connect 6" flex duct or standard 6" duct piping from the intake hood to the metering air damper. Fasten and support piping, so no straining of the metering air damper exist.(SEE FIGURE 1)

Note: Some areas require insulation wrapped around the duct. This will be required if sweating occurs on the outside of the duct. Seal all duct joints and seams with duct tape or equivalent.

Adjusting metering air damper:

- 1) Determine building square footage. Then refer to the chart below for recommended weighing of air damper.
- 2) Attach weights to the pendent on weight lever assembly using the supplied #5 screw and nut.(SEE FIGURE 4)

Figure 1

TYPICAL INSTALLATION

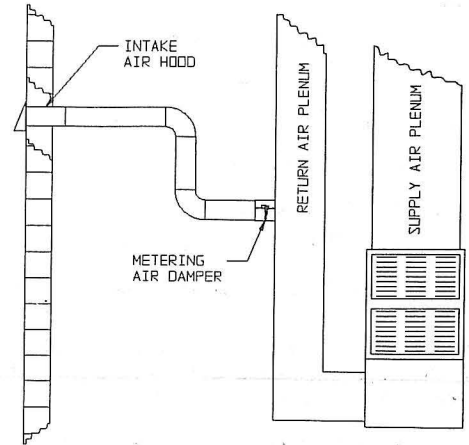


Figure 2

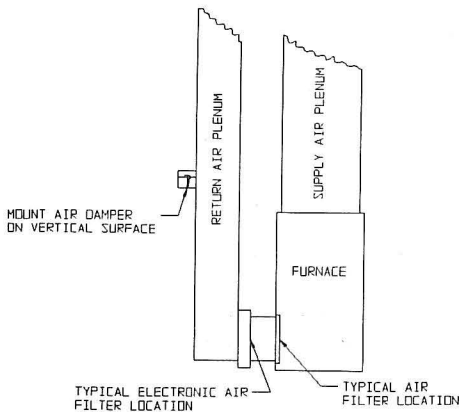


Figure 3

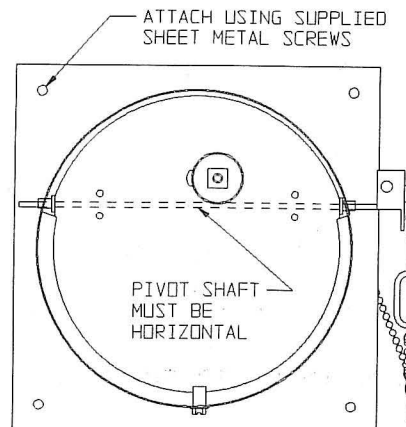
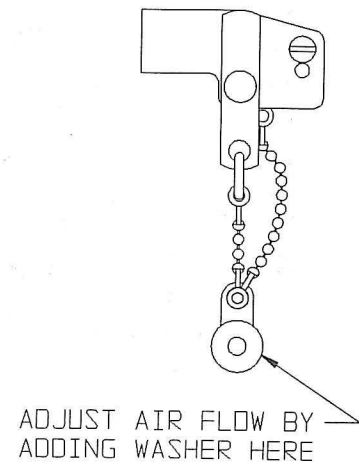


Figure 4



BUILDING SQUARE FEET	APPROXIMATE CFM OF MAKE-UP SUPPLIED TO PLENUM	NUMBER OF ADJUSTMENT WEIGHTS ADDED		
		SMALL	LARGE	GRAMS
1000	67	19	1	88
1250	83	13	1	76
1500	100	8	1	66
1750	117	2	1	54
2000	133	20	-	40
2250	150	16	-	32
2500	167	11	-	22
2750	183	3	-	6
3000	200	-	-	-

The cfm of make-up air was based on 1/2 air changes per hour in the building, an average ceiling height of 8 feet and a return air plenum pressure of .4 inches of water column.

To adjust the metering air damper for different air changes per hour, building volumes or different return air pressures refer to airflow chart.

- 1) Calculate building volume: Building square feet x average ceiling height.
- 2) Estimate desired building air change per hour (ACPH).

Example:

2,000 sq. ft. building with 8 foot high ceilings required air changes per hour = .5 ACPH. Furnace return air plenum pressure .3 inch.

1) Building volume = 2,000 sq. ft. x 8 ft. = 16,000 cu. ft.

2) Required CFM = (16,000 cu. ft. x .5) ÷ 60 = 133 CFM. Entering the chart at 133 CFM (Position A) draw a line horizontally until it intersects the .3 pressure curve. Then draw a line vertically down to the weight axis. For this example the amount of weight to add to the weight level assembly would be 20 grams or 10 small washers.

Typical ACPH for buildings:

- Tight construction -.35 to .5
- Average construction -.5 to .75
- Loose construction .75 to 1.00

- 3) Calculate required CFM of make up air: (Building volume x ACPH) ÷ 60.
- 4) Measure return air plenum pressure. In inches of water column pressure.
- 5) Refer to chart (or see example)

