INSTALLATION INSTRUCTIONS

MOTORIZED FRESH AIR DAMPER

Models
MFAD-2
MFAD-3
MFAD-5

Bard Manufacturing Company, Inc.
Bryan, Ohio 43506

Since 1914 . . . Moving ahead just as planned.

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Supersedes: 2100-225D
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DESCRIPTION

The motorized fresh air damper MFAD-2, MFAD-3 and MFAD-5 are internally mounted dampers designed to bring up to 25% fresh air. The damper blade is powered by a 24 VAC motor with spring return on power loss. The damper is powered open anytime the unit blower motor is energized.

APPLICATION

The amount of outside fresh air brought into the structure is dependent on the supply and return duct static pressure present in the duct system. Refer to Tables 2 – 5 for ventilation air that will be supplied at different duct static pressures.

For duct free applications with return air filter grille and supply grille use 0.00 supply air static pressure and 0.1 return air static pressure.

TABLE 1A
MFAD-2, MFAD-3
SUITABLE FOR THESE UNITS

MFAD-2	MFAD-3	
W18A✳-A W18A✳-D W24A✳-A W24A✳-B W24A✳-D W24A✳-F	W30A✳-A W30A✳-B W30A✳-C W30A✳-D W30A✳-F	W36✳-A W36✳-B W36✳-C W36✳-D W36✳-E W36✳-F
W18H✳-A W24H✳-A W24H✳-B W24H✳-C	W30H✳-A W30H✳-B W30H✳-C	W36H✳-A W36H✳-B W36H✳-C
W24H✳LA	W30H✳LA W30H✳LB	W36H✳LA W36H✳LB
	S31H✳-A S31H✳-B S31H✳-C	S38H✳-A S38H✳-B S38H✳-C

TABLE 1B
MFAD-5
SUITABLE FOR THESE UNITS

MFAD-5			
W42A✳-A W42A✳-B W42A✳-C W42A✳-E W42A✳-F	W48A✳-A W48A✳-B W48A✳-C W48A✳-E W48A✳-F	W60A✳-A W60A✳-B W60A✳-C W60A✳-E W60A✳-F	S43A✳-A S43A✳-B S43A✳-C
W42H✳-A W42H✳-B W42H✳-C	W48H✳-A W48H✳-B W48H✳-C	W60H✳-A W60H✳-B W60H✳-C	S49H✳-A S49H✳-B S49H✳-C
W42H✳LA W42H✳LB W42H✳LC	W48H✳LA W48H✳LB W48H✳LC	W60H✳LA W60H✳LB W60H✳LC	S61H✳-A S61H✳-B S61H✳-C

✳ **Latest Revision Level**

TABLE 2
MFAD-2
VENTILATION AIR SUPPLIED AT
STATIC PRESSURES

Ventilation Air (CFM)	85	135	190	240	295
Return Air Static Pressure	.00	.05	.10	.15	.20

TABLE 3 MFAD-3
VENTILATION AIR SUPPLIED AT VARIOUS STATIC PRESSURES
FOR MODELS W30A✳, W36A✳, W30H✳ AND W36H✳

Blower Speed High	Ventilation Airflow (CFM)				
Non-ducted ①	75	235	410	545	615
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

Blower Speed Low	Ventilation Airflow (CFM)				
Non-ducted ①	50	225	405	510	N/A
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

① With supply grille installed

TABLE 4 MFAD-3
VENTILATION AIR SUPPLIED AT VARIOUS STATIC PRESSURES
FOR MODELS S31✳H AND S38H✳

Blower Speed High	Ventilation Airflow (CFM)				
Non-ducted ①	40	235	380	460	N/A
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

Blower Speed Low	Ventilation Airflow (CFM)				
Non-ducted ①	30	225	370	450	N/A
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

① With supply grille installed

TABLE 5 MFAD-5
VENTILATION AIR SUPPLIED AT VARIOUS STATIC PRESSURES
FOR MODELS W42A✳, W48A✳, W60A✳, W42H✳, W48H✳ AND W60H✳

Blower Speed High	Ventilation Airflow (CFM)				
Non-ducted ①	285	305	390	455	545
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

Blower Speed Low	Ventilation Airflow (CFM)				
Non-ducted ①	240	280	360	435	525
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

① With supply grille installed

TABLE 6 MFAD-5
VENTILATION AIR SUPPLIED AT VARIOUS STATIC PRESSURES
FOR MODELS S43H✳, S49H✳ AND S61H✳

Blower Speed High	Ventilation Airflow (CFM)				
Non-ducted ①	195	260	365	450	540
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

Blower Speed Medium	Ventilation Airflow (CFM)				
Non-ducted ①	170	250	355	440	530
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

Blower Speed Low	Ventilation Airflow (CFM)				
Non-ducted ①	145	240	345	430	520
Return Air Static Pressure	0.00	0.05	0.10	0.15	0.20

① With supply grille installed

1. Disconnect all power to wall mount unit before installing MFAD.
2. Remove service door. (See Figure 1.) Remove fresh air damper or blank off plate if installed on service door. Remove 4 screws from top of front condenser grille. (See Figure 3A.)
3. The "exhaust cover plate" ***must be*** in place when an MFAD-2, -3 or -5 is installed. (See Figure 2.)
4. Install MFAD with notch in front lip of MFAD centered over hole in condenser partition. (See Figure 3A.)
5. Position MFAD with front lip over condenser partition and under front grille. (See Figure 3B.) *This is important to insure proper drainage of any water entering damper assembly.*
6. Use a self drilling screw through hole provided in left mounting flange to secure MFAD in position.
7. Route wires as shown in Figure 3A into unit low voltage terminal strip area. For left hand units unclip 2 wire ties on right half of the MFAD. Reroute wire down the left side. Route wires into low voltage terminal strip area.
8. Connect black wire to C terminal of low voltage terminal block. Connect red wire to A terminal on air conditioners and O1 on heat pumps when the thermostat or control system has dedicated ventilation control output capability. Otherwise, connect the red wire to G and in which case the motorized fresh air damper will open whenever the indoor blower is operating.
9. Check MFAD for proper operation. MFAD should open whenever the blower is energized.
10. Replace 4 screws in front condenser grille and replace service door. Plug 4 holes in service door with plastic plugs provided.

FIGURE 1

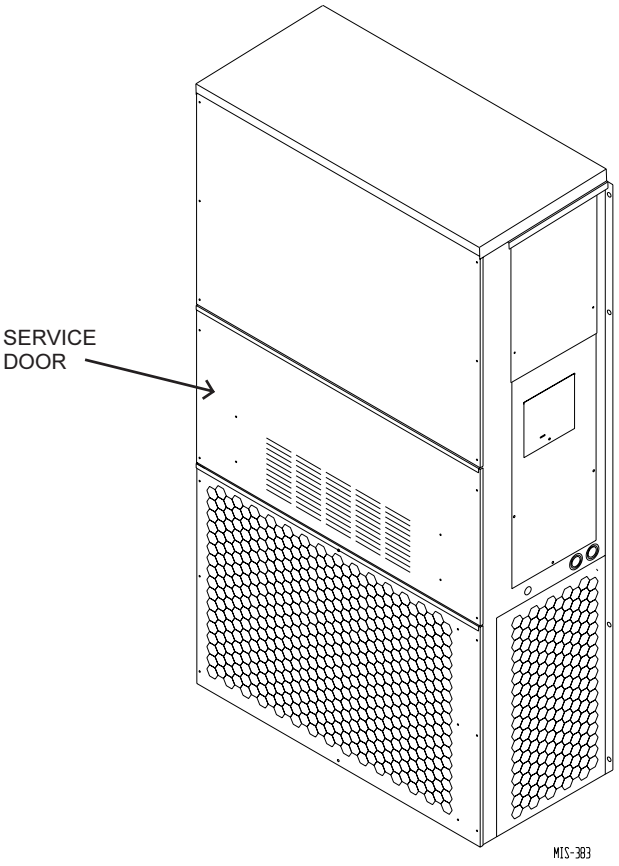


FIGURE 2

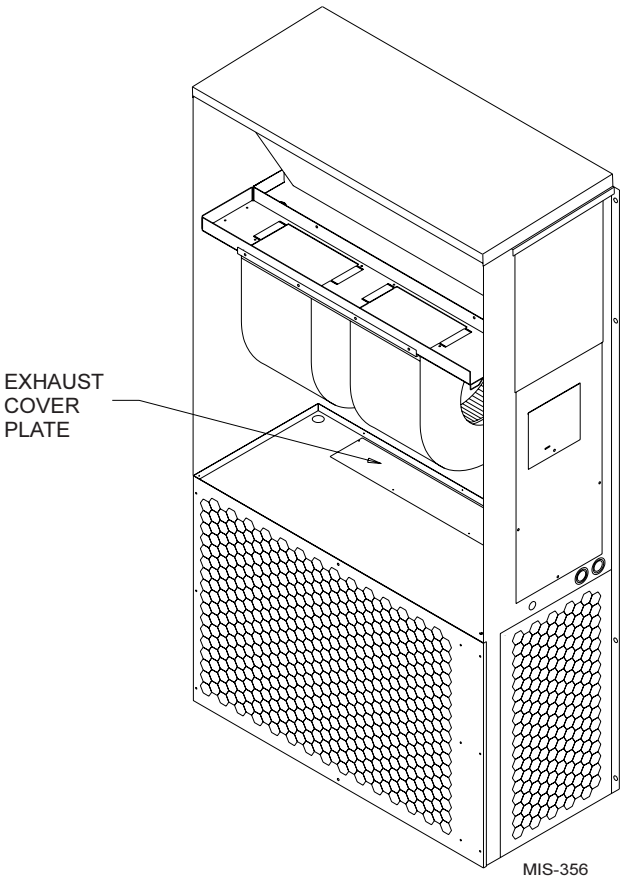


FIGURE 3A

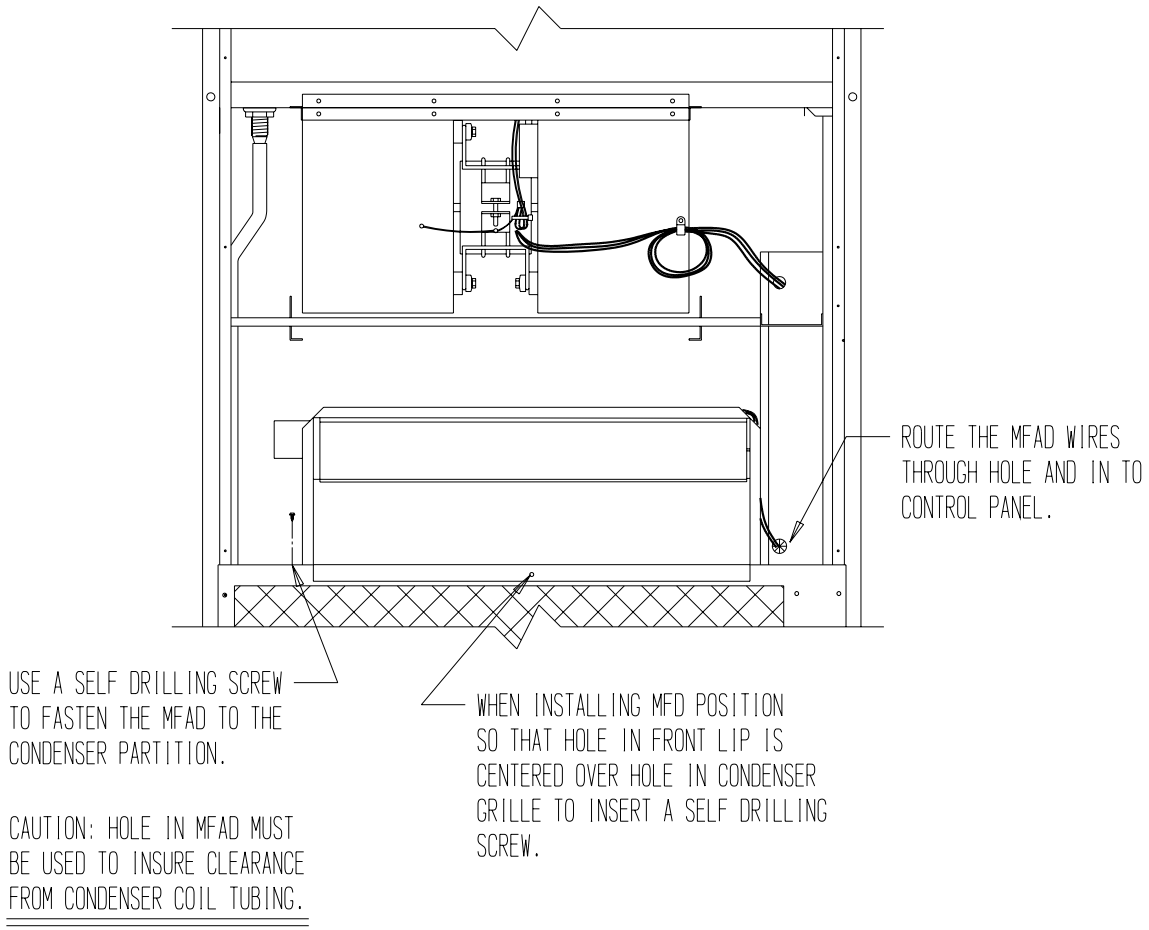
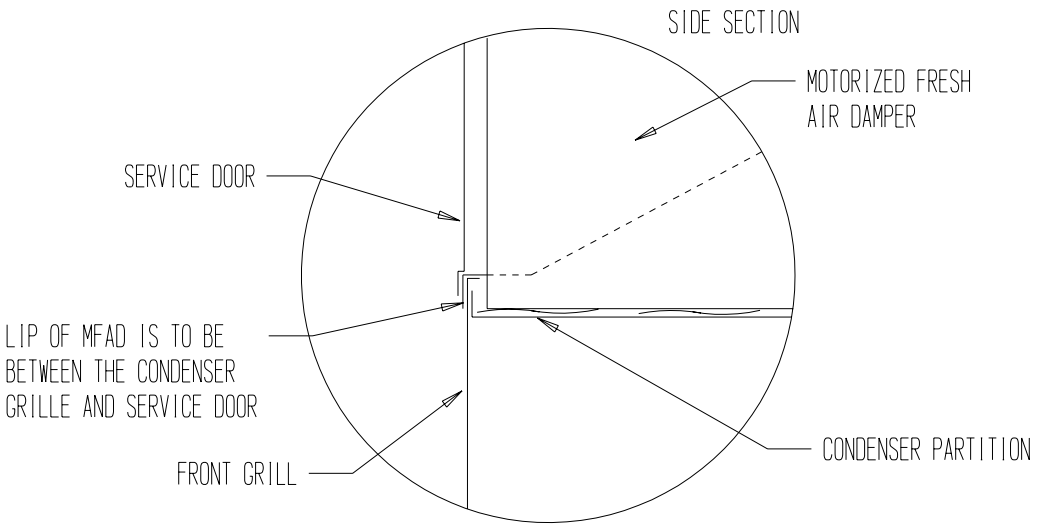


FIGURE 3B



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