# INSTALLATION INSTRUCTIONS

## MOTORIZED FRESH AIR DAMPER

Models:

WMFADP2 WMFADP3 WMFADP5

Bard®
SINCE 1914
*Climate Control Solutions*

Bard Manufacturing Company, Inc.
Bryan, Ohio 43506

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Manual: 2100-650
Supersedes: ***NEW***
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## DESCRIPTION

The motorized fresh air damper WMFADP2, WMFADP3 and WMFADP5 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, unless wired to A terminal and using demand ventilation (see Step 8 on page 5).

## 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**
**WMFADP2, WMFADP3**
**Suitable for These Units**

| WMFADP2 | WMFADP3 | |
|---|---|---|
| W18A*-A<br>W18A*-D<br>W24A*-A<br>W24A*-B<br>W24A*-D<br>W24A*-F | W30A*-A<br>W30A*-B<br>W30A*-C<br>W30A*-D<br>W30A*-F | W36A*-A<br>W36A*-B<br>W36A*-C<br>W36A*-D<br>W36A*-E<br>W36A*-F |
| W18H*-A<br>W24H*-A<br>W24H*-B<br>W24H*-C | W30H*-A<br>W30H*-B<br>W30H*-C | W36H*-A<br>W36H*-B<br>W36H*-C |
| W24H*LA | W30H*LA<br>W30H*LB | W36H*LA<br>W36H*LB |
| | S31H*-A<br>S31H*-B<br>S31H*-C | S38H*-A<br>S38H*-B<br>S38H*-C |

* Latest Revision Level

**TABLE 1B**
**WMFADP5**
**Suitable for These Units**

| WMFADP5 | | | |
|---|---|---|---|
| W42A*-A<br>W42A*-B<br>W42A*-C<br>W42A*-E<br>W42A*-F | W48A*-A<br>W48A*-B<br>W48A*-C<br>W48A*-E<br>W48A*-F | W60A*-A<br>W60A*-B<br>W60A*-C<br>W60A*-E<br>W60A*-F<br>W72A*-A<br>W72A*-B<br>W72A*-C<br>W72A*-F | S43A*-A<br>S43A*-B<br>S43A*-C |
| W42H*-A<br>W42H*-B<br>W42H*-C | W48H*-A<br>W48H*-B<br>W48H*-C | W60H*-A<br>W60H*-B<br>W60H*-C | S49H*-A<br>S49H*-B<br>S49H*-C |
| W42H*LA<br>W42H*LB<br>W42H*LC | W48H*LA<br>W48H*LB<br>W48H*LC | W60H*LA<br>W60H*LB<br>W60H*LC | S61H*-A<br>S61H*-B<br>S61H*-C |

* Latest Revision Level

**TABLE 2**
**WMFADP2**
**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 – WMFADP3**
**Ventilation Air Supplied at Various Static Pressures**
**for Models W30A*, W36A*, W30H* and W36H***

| Blower Speed High | Ventilation Airflow (CFM) | | | | |
|---|---|---|---|---|---|
| Non-Ducted ① Return Air Static Pressure | 75<br>0.00 | 235<br>0.05 | 410<br>0.10 | 545<br>0.15 | 615<br>0.20 |
| **Blower Speed Low** | **Ventilation Airflow (CFM)** | | | | |
| Non-Ducted ① Return Air Static Pressure | 50<br>0.00 | 225<br>0.05 | 405<br>0.10 | 510<br>0.15 | N/A<br>0.20 |

**TABLE 4 – WMFADP3**
**Ventilation Air Supplied at Various Static Pressures**
**for Models S31H* and S38H***

| Blower Speed High | Ventilation Airflow (CFM) | | | | |
|---|---|---|---|---|---|
| Non-Ducted ① Return Air Static Pressure | 40<br>0.00 | 235<br>0.05 | 380<br>0.10 | 460<br>0.15 | N/A<br>0.20 |
| **Blower Speed Low** | **Ventilation Airflow (CFM)** | | | | |
| Non-Ducted ① Return Air Static Pressure | 30<br>0.00 | 225<br>0.05 | 370<br>0.10 | 450<br>0.15 | N/A<br>0.20 |

**TABLE 5 – WMFADP5**
**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 Return Air Static Pressure | 285<br>0.00 | 305<br>0.05 | 390<br>0.10 | 455<br>0.15 | 545<br>0.20 |
| **Blower Speed Low** | **Ventilation Airflow (CFM)** | | | | |
| Non-Ducted ① Return Air Static Pressure | 240<br>0.00 | 280<br>0.05 | 360<br>0.10 | 435<br>0.15 | 525<br>0.20 |

**TABLE 6 – WMFADP5**
**Ventilation Air Supplied at Various Static Pressures**
**for Models S43H*, S49H* and S61H***

| Blower Speed High | Ventilation Airflow (CFM) | | | | |
|---|---|---|---|---|---|
| Non-Ducted ① Return Air Static Pressure | 195<br>0.00 | 260<br>0.05 | 365<br>0.10 | 450<br>0.15 | 540<br>0.20 |
| **Blower Speed Medium** | **Ventilation Airflow (CFM)** | | | | |
| Non-Ducted ① Return Air Static Pressure | 170<br>0.00 | 250<br>0.05 | 355<br>0.10 | 440<br>0.15 | 530<br>0.20 |
| **Blower Speed Low** | **Ventilation Airflow (CFM)** | | | | |
| Non-Ducted ① Return Air Static Pressure | 145<br>0.00 | 240<br>0.05 | 345<br>0.10 | 430<br>0.15 | 520<br>0.20 |

① With supply grille installed

1. Disconnect all power to wall mount unit before installing WMFAD.
2. Remove service door (see Figure 1). Remove fresh air damper or blank-off plate if installed on service door. Remove one (1) screw from top of front condenser grille (see Figure 3A on page 6).
3. The exhaust cover plate ***must be*** in place when an WMFAD-2, -3 or -5 is installed (see Figure 2).
4. Install WMFAD with hole in front lip of WMFAD centered over hole in condenser partition (see Figure 3A).
5. Position WMFAD with front lip over condenser partition and under front grille as shown in Figure 3B on page 6. *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 WMFAD in position (see Figure 3A).
7. Route wires as shown in Figure 3A into unit low voltage terminal strip area. For left hand units unclip two wire ties on right half of the WMFAD. 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 in which case the motorized fresh air damper will open whenever the indoor blower is operating.
9. Check WMFAD for proper operation. The blower needs to energize whenever the WMFAD is energized.
10. Replace four (4) screws in front condenser grille and replace service door. Plug four holes in service door with plastic plugs provided.

**FIGURE 1**

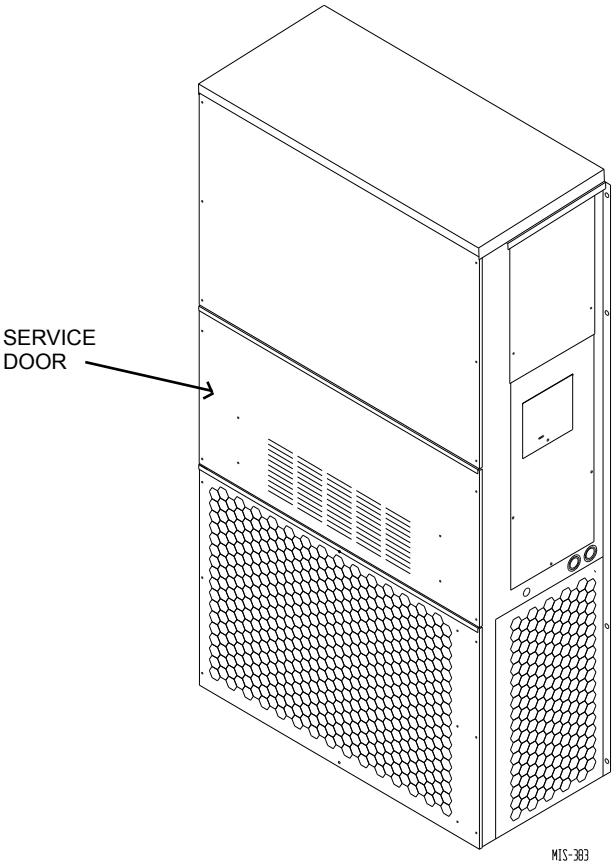


**FIGURE 2**

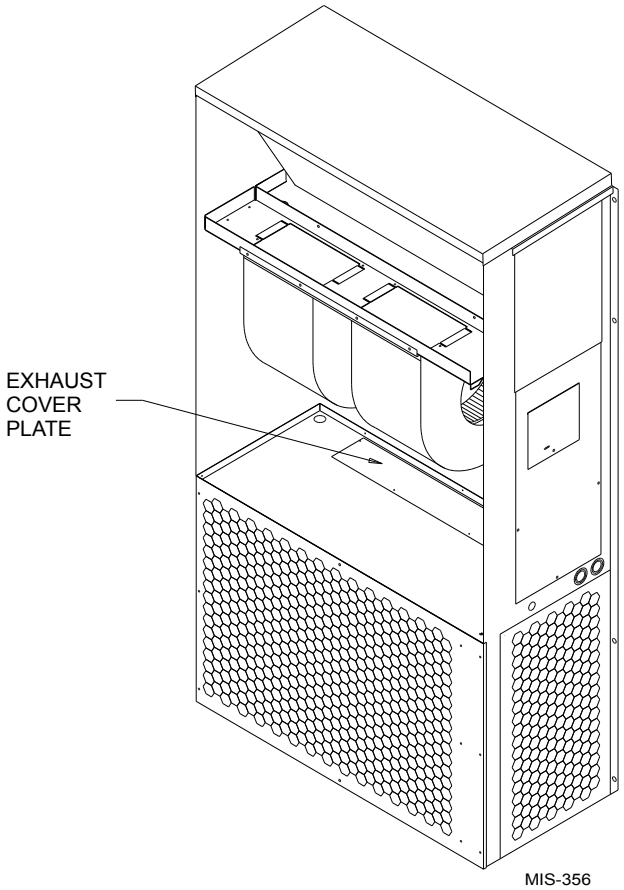

**FIGURE 3A**

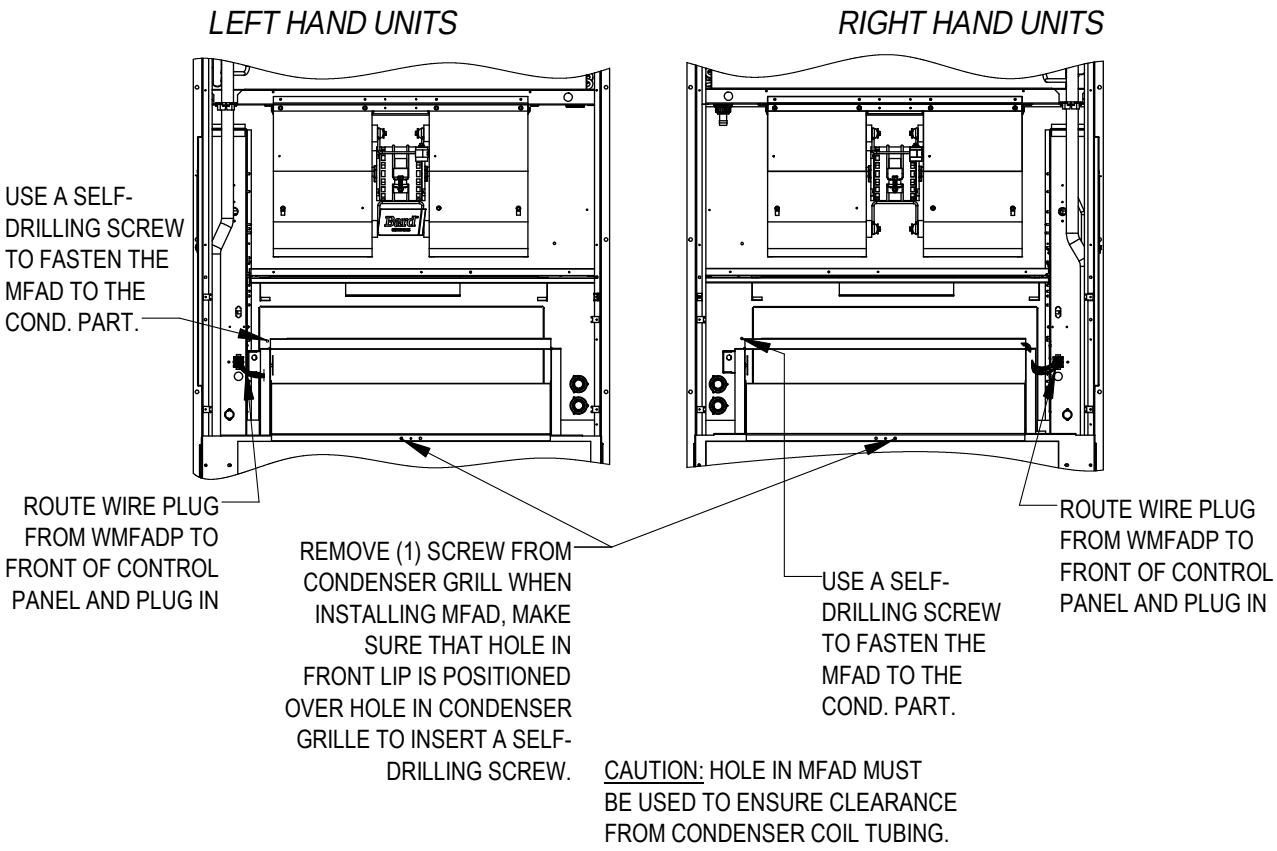


**FIGURE 3B**