

MANUFACTURED FOR:
MITSUBISHI ELECTRIC US, INC.

M-SERIES

Downflow Kit

DFK-S, DFK-M

For use with: SVZ-KP/N*XAMT Multi-position Air Handler

INSTALLATION MANUAL

FOR INSTALLER

For safe and correct use, please read this installation manual thoroughly before installing these component.

Table of Contents

- 1. Inspect Shipment 3
- 2. Safety Precautions 4
- 3. Checking Parts 5
 - DFK-S, DFK-M 5
- 4. Downflow Bracket Installation Instructions 6
 - Directions for removing panels: 6
- 5. Baffle Installation Instructions 12
- 6. Thermistor Extension Cable Installation Instructions 16
- 7. Changing Blower External Static Pressure 19
- 8. Air Filter 20
- 9. Fan Performance 21

1. Inspect Shipment

Damage claims should be filed with the carrier immediately. Claims of shortages should be filed with the seller within 5 days.

Upon receipt of equipment, carefully inspect it for possible damage. Take special care to examine the unit if the carton is damaged. If damage is found, it should be noted on the carrier's freight.

2. Safety Precautions

Carefully read this section, always observe for safety, and securely install the optional parts.

- Be sure to observe the cautions described here. They include critical contents for safety.
- The following indications show the classifications for danger and possible consequences following incorrect handling.
- After installation, perform a test run and make sure that there is no abnormality, and ask your customer to keep this installation sheet with the instruction manual at all times. Also ask the customer to transfer these manuals to a new user if the user changes.

Symbols used in the text



WARNING

This symbol denotes incorrect handling could lead to death or serious injury



CAUTION

This symbol denotes incorrect handling could lead to injury or damage the house and household articles.



WARNING

- Ask the dealer or specialist for installation. - If installed incorrectly by user, water leak, electric shock, fire, etc. could result.
- Carefully install the kit according to this installation. - Incorrect installation could cause water leak, electric shock or refrigerant leak.



CAUTION

Do not place polyethylene bags in reach of young children. - Putting them over the head will block breathing passages, which could result in suffocation.

3. Checking Parts

DFK-S, DFK-M

Downflow Bracket (A) Qty: 2	Thermistor Extension Cable (B) Qty: 1
Outer Coil Baffles Qty: 2	Screws #8-1/2" Slotted Hex Head Qty: 4
<div>DFK-S</div>	<div>DFK-M</div>
If you have DFK-S only Inner Coil Baffles Qty: 2	If you have DFK-M only Inner Coil Baffles Qty: 2

APPLICATION GUIDE

Downflow Kit	SVZ-KP/N*XAMT Capacity
DFK-S	12, 18, 24
DFK-M	30, 36

4. Downflow Bracket Installation Instructions

For downflow installation the top panel will have to be removed followed by the COIL and BLOWER panels then the back panel. The top panel is required to be removed before you are able to disassemble the back panel. Once all necessary panels are removed the coil assembly will easily be able to slide out and set aside. Once the brackets are attached the cabinet will be reassembled and rotated 180°. The coil assembly and COIL panel will remain in the same orientation as the vertical position.

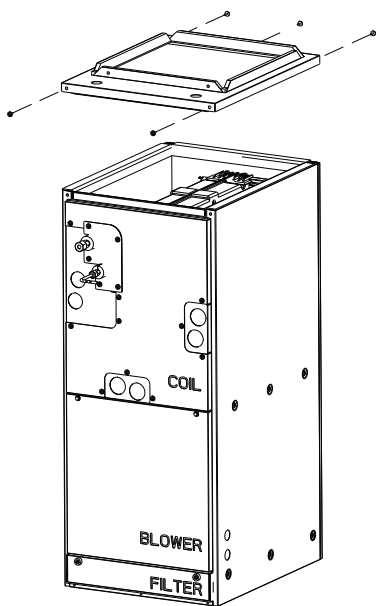
When you slide the coil assembly into the cabinet, the Thermistor Extension Cable (B) will be connected at that point.



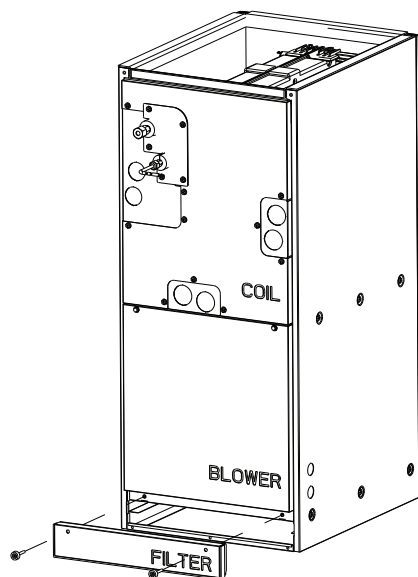
IMPORTANT

The SVZ-P/N*XAMT air handler unit installed and operated in the downflow configuration may lead to condensation blow off in certain circumstances, possibly due to environmental conditions or contaminants at the installation site.

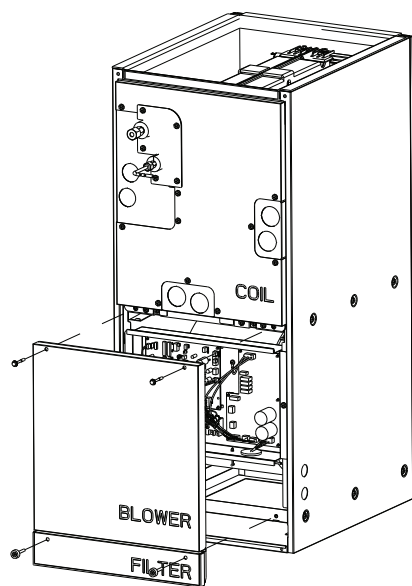
Directions for removing panels:



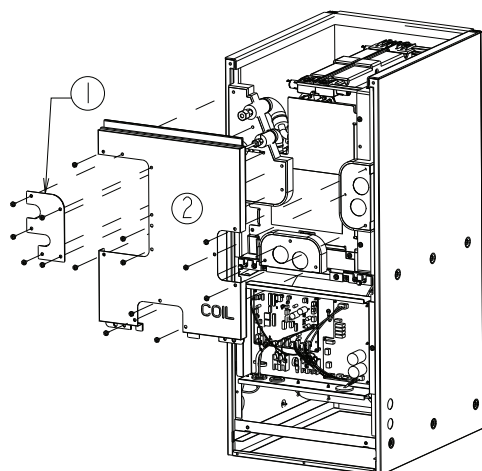
Step. 1 Remove the top panel by unscrewing (5) screws. Place screws aside for reassembly.



Step. 2 Remove the panel marked “FILTER”.



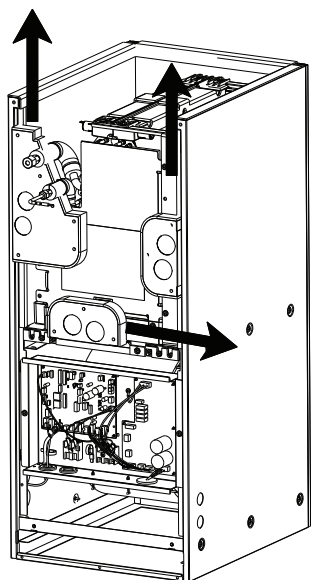
Step. 3 Remove the panel marked “BLOWER”. Place screws aside for reassembly.



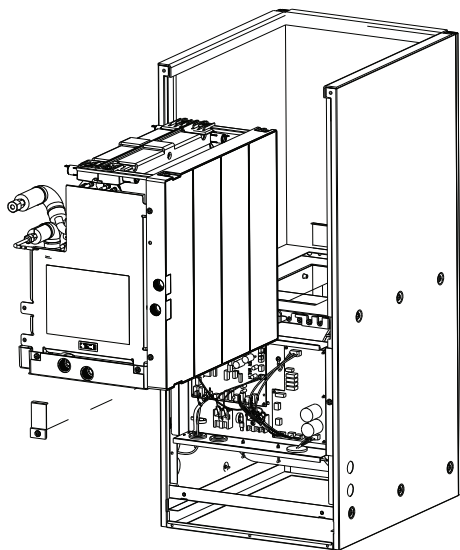
① 1st

② 2nd

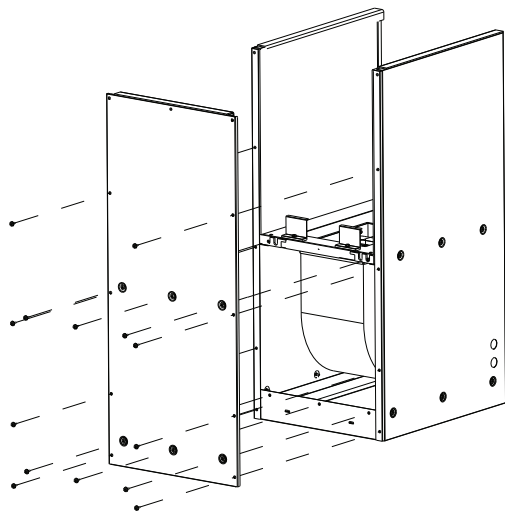
Step. 4a Remove the screws securing the COIL panel to the cabinet (shown above). Remove the “1st” panel and “2nd” panel from the cabinet. Place screws aside for reassembly.



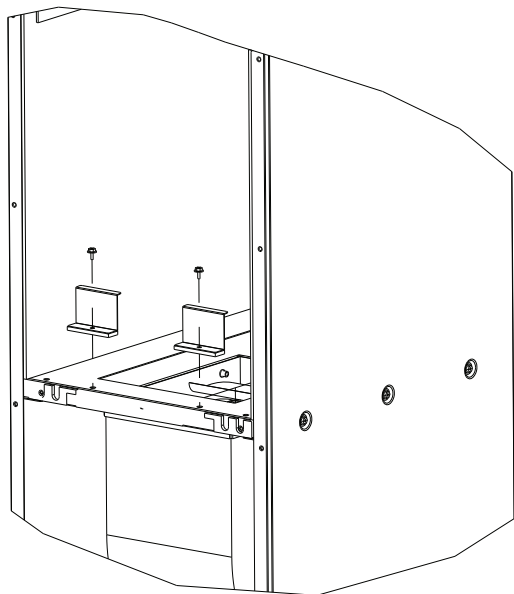
Step. 4b Remove the smaller panels (3) covering the drain holes and refrigerant lines by first sliding in the direction indicated above.



- Step. 5**
- A. Disconnect the waterproof thermistor harness inside the coil portion of the cabinet.
 - B. Remove the brackets which secure the coil assembly.
 - C. Slide the coil assembly out of the air handler cabinet.



- Step. 6** Remove back panel on air handler unit. Place screws (qty: 17) aside for reassembly.



Step. 7a Locate both small brackets and remove by taking out the (2) screws. Place screws aside to be re-used for Downflow Bracket (A).

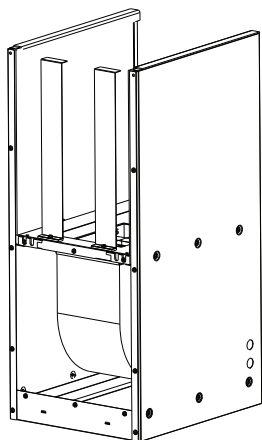


Figure 1: Downflow Bracket (A) attached to the chassis of the fan cabinet

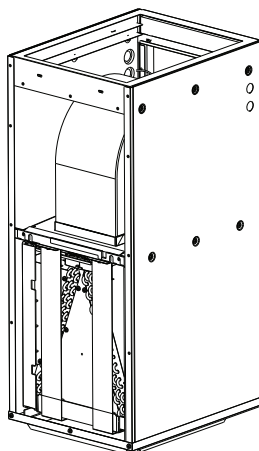
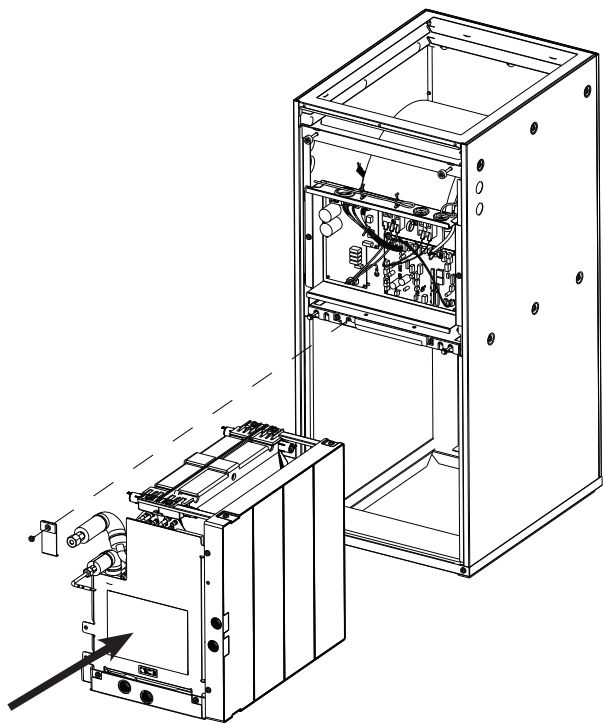


Figure 2: HEX assembly supported by Downflow Bracket (A)

Step. 7b Screw in Downflow Bracket (A) as shown in Figure 1. Figure 2 shows how the HEX assembly will be supported by the Downflow Bracket (A) when in the final installation orientation.

Note: When tightening the screw, make sure the Downflow Bracket (A) aligns with the chassis of the fan cabinet. Reinstall the back panel, then secure the top panel with original screws removed in step 1.

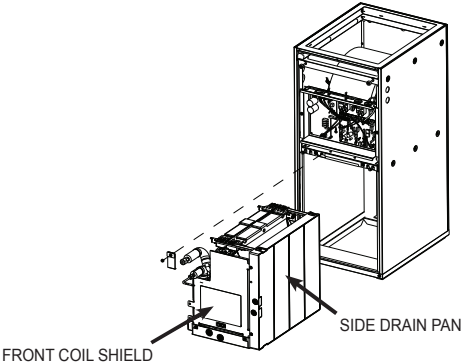





Step. 8 Rotate the cabinet 180° vertically to the downflow position. Slide the coil back into the unit. Make sure to keep the cable connector from getting wedged on the side of the coil when sliding in. Cable connection is located at the bottom right side of cabinet. Once coil is in it should be in-line with insulation.

Note: When installing Outer and Inner Coil Baffles, coil assembly needs remain outside of cabinet (Refer to Section 5).

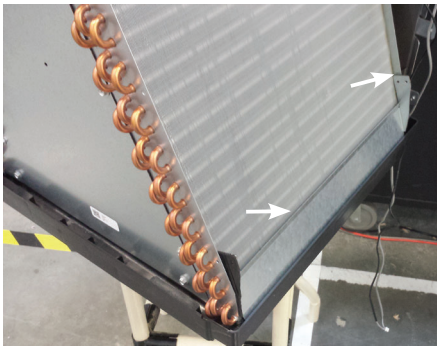
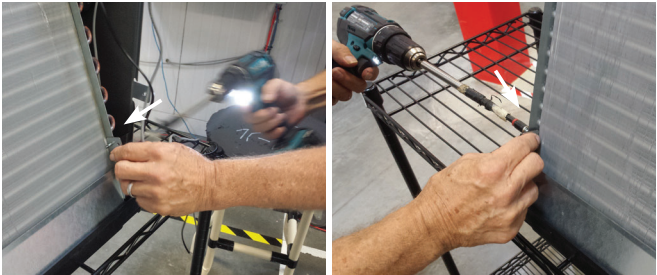
5. Baffle Installation Instructions

A. Remove the coil assembly from the unit per Section 4 of this installation manual.

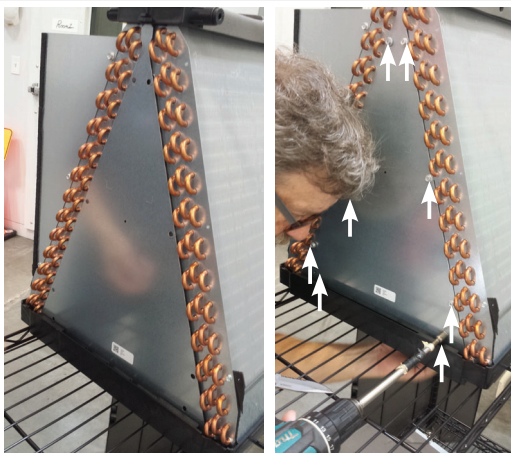



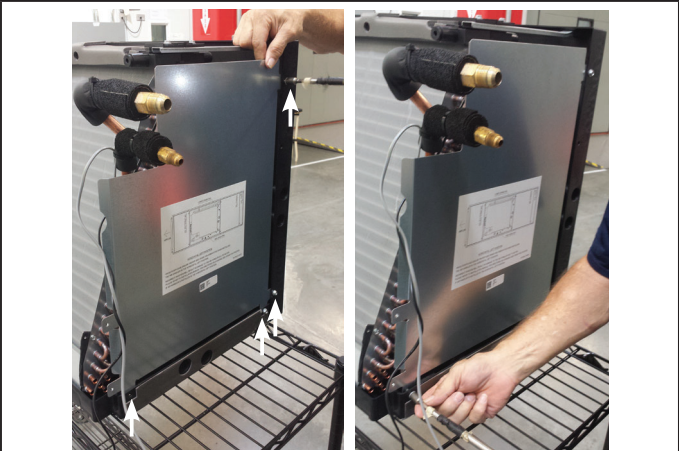
Instructions		Illustration	
A1	Remove screws and front coil shield to gain access, saving screws to put back.		
A2	Remove lower screw from rear shield and discard one screw.		
A3	Remove side drain pan to gain access, saving screws to put back.		

B. Install the outside baffles as shown below.

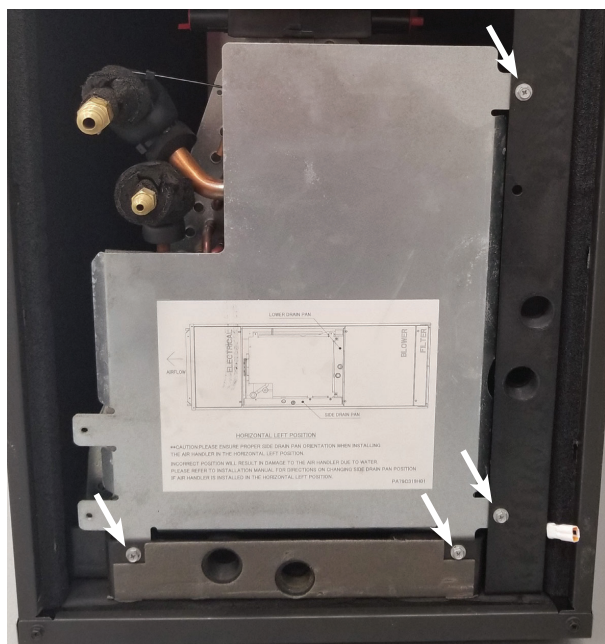
Instructions		Illustration
B1	The baffle should rest against the coil fins and the drain pan and fit tightly between the coil end plates.	
B2	Install the 2 provided screws from the outside to hold the baffle in place. Repeat the outside baffle installation on the opposite side.	

C. To install the inside baffles follow the steps below.

	Instructions	Illustration
C1	Remove rear triangle cover, remove 2 lower screws on front triangle cover, saving screws to put back.	
C2	Slide baffles over the lip of the pan on both sides and align fixing holes with lower screw clips.	
C3	Replace front triangle cover 2 lower screws sandwiching the baffles between the drain pan and the triangle cover.	
C4	Replace rear triangle cover and all screws sandwiching the baffles between the drain pan and the triangle cover.	

	Instructions	Illustration
C5	Replace side drain pan and all screws.	
C6	Replace front shield and all screws. Note: Front coil shield should remain off for Thermistor Extension Cable installation (Refer to Section 6).	
C7	Install the coil assembly into the unit per the indoor unit installation manual - downflow installation section. Set the blower external static pressure per the installation manual for downflow.	

6. Thermistor Extension Cable Installation Instructions



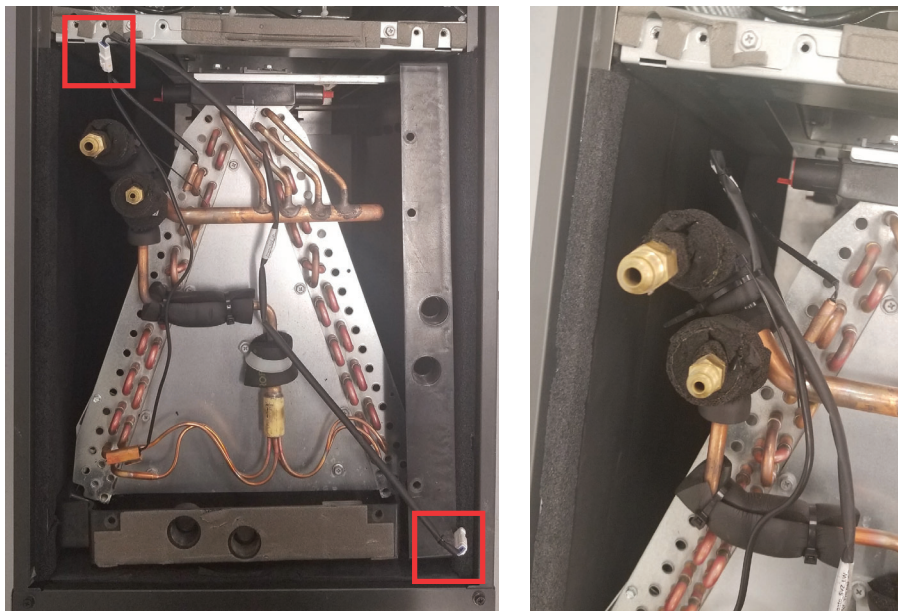
Step. 1 With the coil in place, locate the front coil shield and remove by unscrewing 4 screws (shown). Set screws and shield aside for re-installation later.



Step. 2a After removing front coil shield off connect male end of the Thermistor Extension Cable (B) to the cable connection on the bottom right side of cabinet.

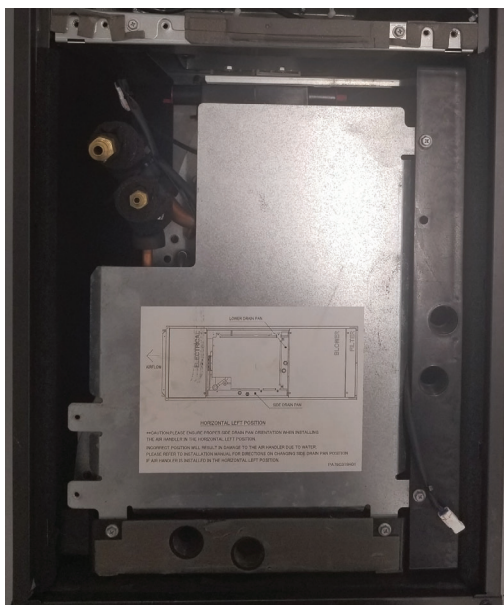


Step. 2b Connect female end of the Thermistor Extension Cable (B) to the male thermistor cable on the coil.



Step. 3 Run the Thermistor Extension Cable (B) across the heat exchanger, as shown.

Note: For SVZ-KP/N*XAMT12, 18, 24 it may be necessary to zip-tie thermistor extension cable also shown above.



Step. 4 Reinstall the front coil shield with the Thermistor Extension Cable (B) running behind it.

Step. 5 Reinstall the coil assembly along with the bracket(s) that secure(s) it. Failure to reinstall the brackets will result in capacity loss and condensation formation inside the cabinet. Refer to section 4 steps 1 to 4 to reassemble the panels. Ensure the proper knockouts are removed for drainage and electrical connections.

7. Changing Blower External Static Pressure

It is required for Setting No. of Mode/Function 10/110 be set to “2” for Downflow position.

The air handler's static pressure can be changed through the mode/function settings in the controller. Please refer to the installation manual for the controller on how to change this option. Depending on the controller used, the mode/function will be either 08 for mode (PAR-31 & Simple MA) or 108 for function (MHK1). Please notice there are different settings when installing the air handler in the downflow position.

Downflow External Static Pressure Setting

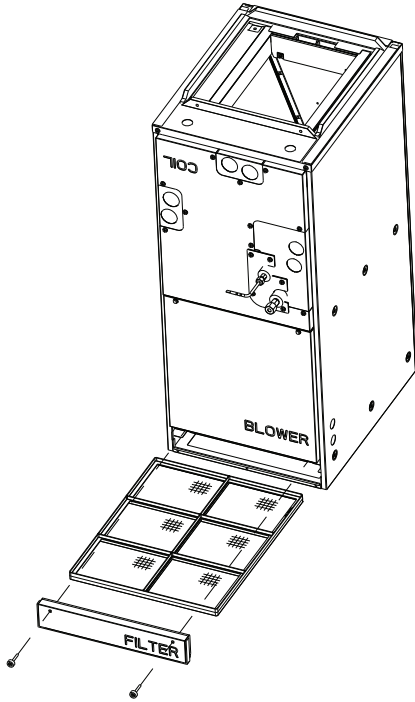
External Static Pressure	Setting No. of Mode/Function 08/108	Setting No. of Mode/Function 10/110
0.3 in. WG [75Pa]	1	2
0.5 in. WG [125Pa] ¹	2	2
0.8 in. WG [200Pa] ²	3	2

¹*Factory setting: Mode/Function 08/108 = 2, Mode/Function 10/110 = 1

²**SVZ-KP/N*XAMT36 in Downflow External Static pressure: 0.60

8. Air Filter

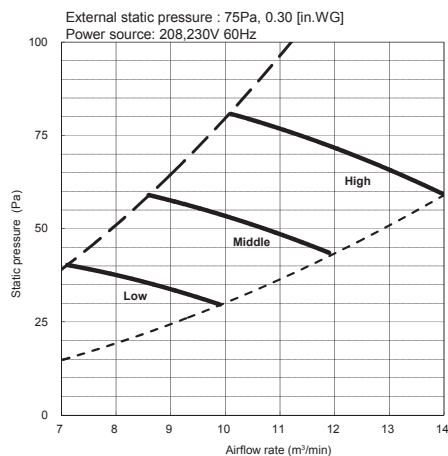
A washable (reusable) air filter is provided with the air handler unit. The filter can be installed once the unit has been removed from its packaging. It is recommended the air filter be cleaned once per month. The pressure drop is to be determined by the installing contractor based on the overall static pressure performance of the system including supply and return ductwork sizing. The factory static pressure performance is 0.50 [in. W.G.] esp. A field selectable 0.30 [in. W.G.] esp and 0.80 [in. W.G.] esp is available. See instructions for changing to 0.30 [in. W.G.] esp or 0.80 [in. W.G.] esp in the electrical section of the SVZ-KP/N*XAMT installation manual.



9. Fan Performance

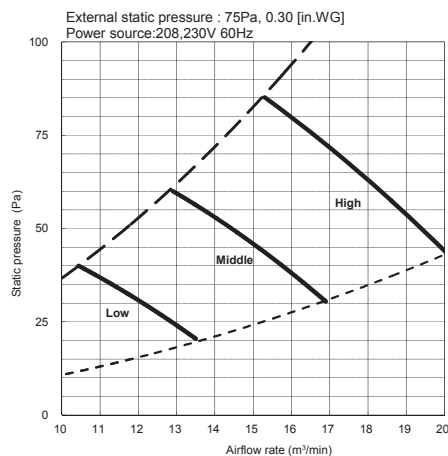
SVZ-KP/N*XAMT12

Down flow

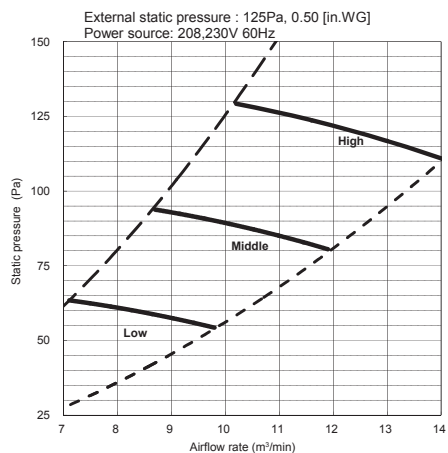


SVZ-KP/N*XAMT18

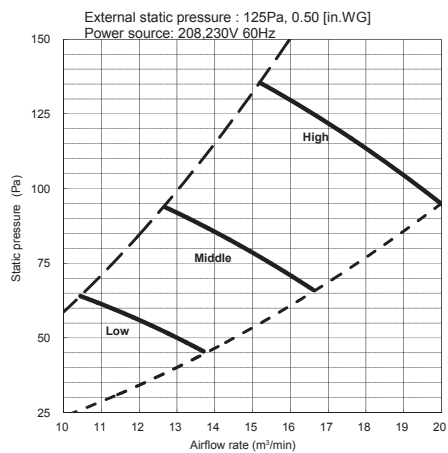
Down flow



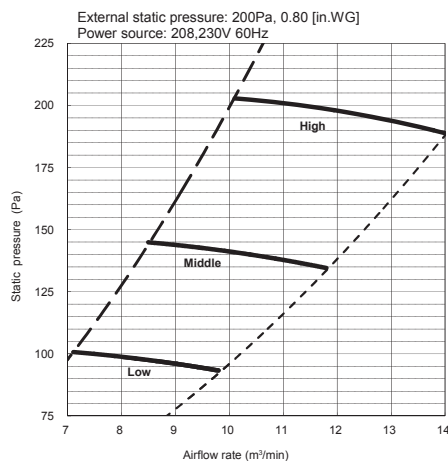
Down flow



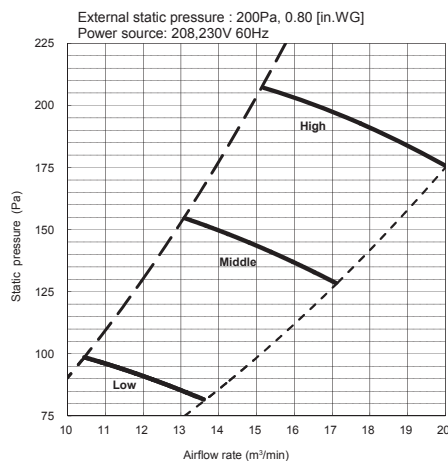
Down flow



Down flow

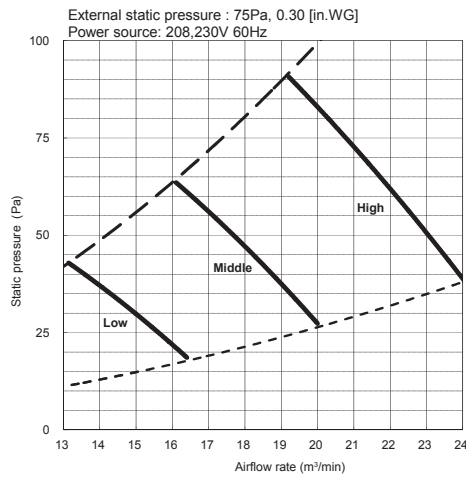


Down flow



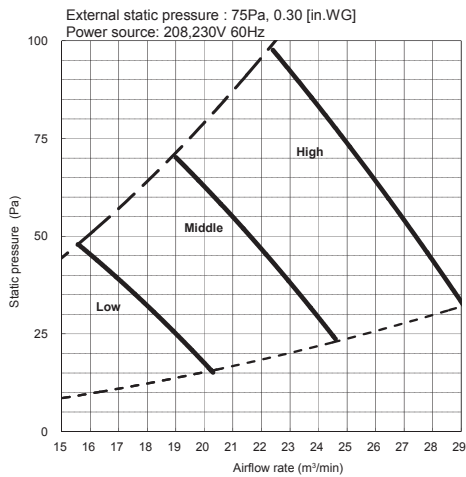
SVZ-KP/N*XAMT24

Down flow

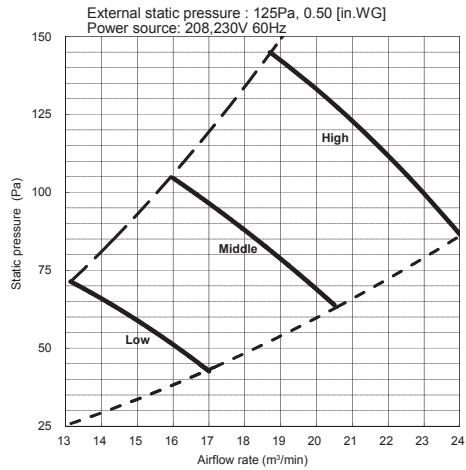


SVZ-KP/N*XAMT30

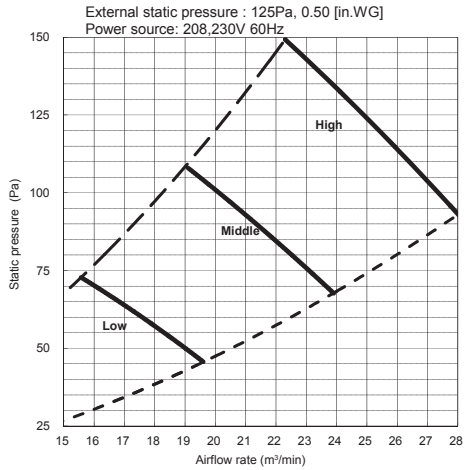
Down flow



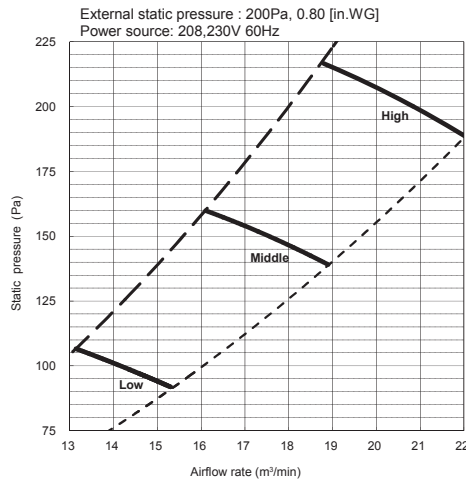
Down flow



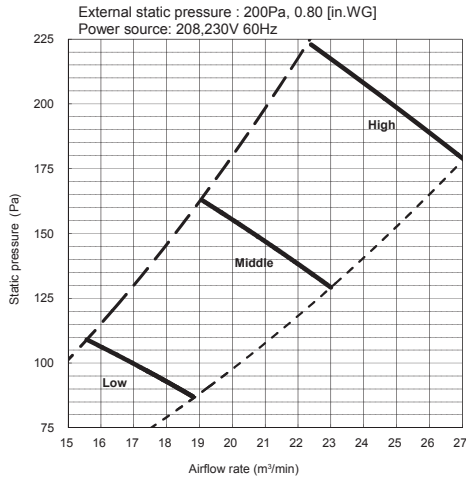
Down flow



Down flow

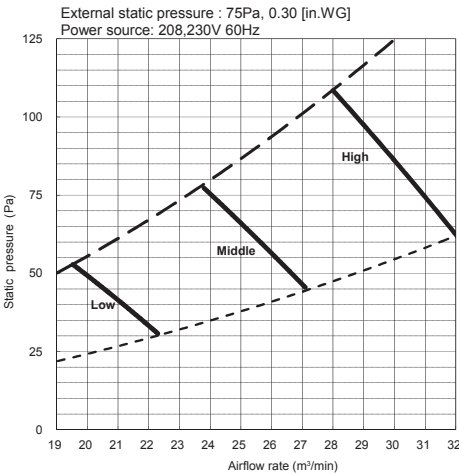


Down flow

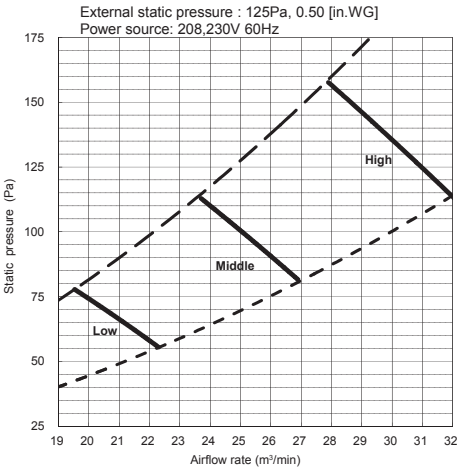


SVZ-KP/N*XAMT36

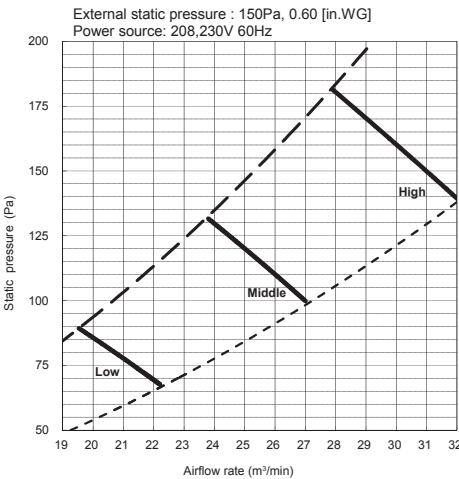
Down flow



Down flow



Down flow



This product is designed and intended for use in the residential environment.

Please be sure to put the contact address/telephone number on this manual before handing it to the customer.

Manufactured for:
MITSUBISHI ELECTRIC US, INC.

www.mitsubishielectric-usa.com

Toll Free: 800-433-4822